



The Corporation of
THE TOWNSHIP OF MELANCTHON
157101 Highway 10, Melancthon, Ontario, L9V 2E6

MEMORANDUM

Date: November 6, 2025
To: Mayor White and Members of Council
From: Liam Morgan, Acting Planning Manager
Report: P2025-07
Re: Strada Aggregates Inc. – Aggregate Resource Act (ARA) Application – Township of Melancthon Letters of Objection

Recommendation(s)

Be it resolved that Township of Melancthon Council receive Report P2025-07 as information;

And be it resolved that Township of Melancthon Council direct staff to submit the letter provided in *Appendix A* to the applicant, Ministry of Natural Resources staff, and to ERO # 025-1005 commenting portal on behalf of the Township of Melancthon.

Background

In July and September of 2025, Strada Aggregates Inc. submitted applications to provincial ministries as a means to further progress the approvals process required to begin the proposed deepening of the existing above-water pits into below-water quarries. The first application, which was submitted on July 10th, 2025, was an application under the *Aggregate Resources Act* for a licence to operate a pit and quarry below the water table, with this application being submitted to the Ministry of Natural Resources (MNR). The second, and final, provincial application was submitted under the *Ontario Water Resources Act* for an amendment to an existing Permit to Take Water (No. 3210-AKRL9C) for aggregate washing purposes, and was submitted to the Ministry of the Environment, Conservation and Parks (MECP). Strada's representatives have explained that the Permit to Take Water amendment application is related to existing operations and not to the proposed quarry licence. The Township's peer reviewers have questioned this relationship. Regarding the licence application, Ministerial approval is paramount for the quarry project to proceed. Strada has also filed applications under the *Planning Act*, which are not being dealt with in this report.

Intent of Current Report

The purpose of the following report is to provide Council with an overview of the current applications that Strada Aggregates Inc. has submitted to the MNR and MECP, respectively. In addition, Council will also have the ability to review the objection letters prepared by Township staff that will be submitted to the respective Ministry through the associated Environmental Registry of Ontario (ERO) portal. Using this report Council will be able to offer comments, request clarification, and engage in dialogue regarding the applications submitted by Strada Aggregates Inc.

Description of Subject Lands

The subject lands are municipally known as 437031 and 437075 4th Line and legally described as West Half of Lots 11 and 12, Concession 3.

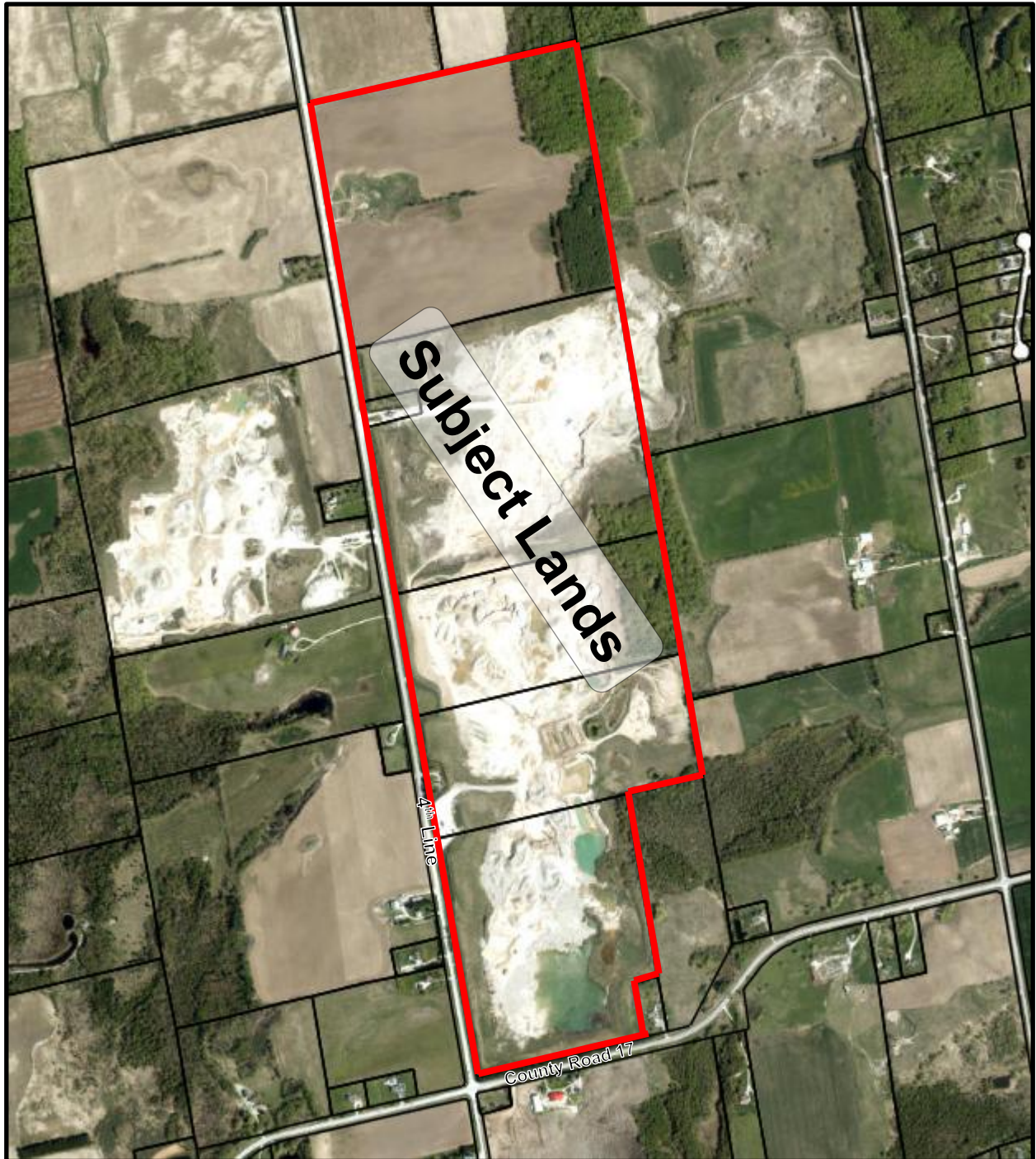
The aggregate operations are proposed to occur in an area approximately 149 hectares in size, with an extraction area of approximately 123.7 hectares. The lands are confined by County Road 17 and 4th Line where they have a lot frontage of 883 metres.

An aerial of the subject lands has been provided for reference below in *Figure 1*.



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Figure 1: Aerial of Subject Lands



Application(s) Details

Licence to Operate a Pit and Quarry Below the Water Table

Strada Aggregates Inc.'s application for a licence to operate a pit and quarry below the water table was submitted to the MNR under the *Aggregate Resources Act*. The application was posted for comment under [ERO # 025-1005](#) on September 18th, 2025, with a commenting period of 60-days. This application is for a Class A licence, which means that the operation will excavate more than 20,000 tonnes of aggregate annually, with the proposed annual tonnage limit being 2,000,000 tonnes. As part of this application, Strada Aggregates Inc. submitted the following materials to the MNR and commenting agencies, including the Township, for their comment and review:

- Planning Justification Report and Aggregates Resources Act Summary Statement;
- Site Plans;
- Level 1 and 2 Hydrogeological Assessment;



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- Maximum Predicted Water Table Report;
- Natural Environment Assessment;
- Traffic Impact Study;
- Noise Impact Study;
- Stage 1 Archaeological Assessment and Clearance Letter;
- Cultural Heritage Screening Report;
- Cultural Heritage Screening Checklist;
- Blast Impact Analysis;
- Agricultural Impact Assessment; and,
- Air Quality Assessment.

In response to Strada Aggregate Inc.'s application to the MNR, Township staff prepared a letter outlining all of the Townships concerns with the proposed development, which can be found in *Appendix A*. This letter, if accepted by Council, will be submitted to the ERO commenting portal by the deadline of **November 17th, 2025**.

Further to the above, the letter prepared by Township staff will also be circulated to both staff from the MNR and Strada Aggregates Inc. by **November 10th, 2025**. The circulation of this letter to the MNR and Strada Aggregates Inc. is a separate, standalone process beyond that of the ERO process established by the province; however, submission to the aforementioned parties by the provided deadline is critical for future involvement in the engagement process. Therefore, Township staff will be submitting the letter to the respective parties by the provided deadline, in addition to the ERO commenting deadline of November 17th, 2025.

Amendment to Permit to Take Water (No. 3210-AKRL9C)

Strada Aggregates Inc.'s application for an amendment to Permit to Take Water No. 3210-AKRL9C was submitted to the MECP under the *Ontario Water Resources Act*. The proposed amendment was posted for comment under [ERO # 025-1082](#) on October 2nd, 2025, with a commenting period of 30-days. This application falls under a Category Three (3) permit and, therefore, means that the water takings are anticipated to have the highest potential of causing unacceptable environmental impactor interference. There were no technical materials provided in the ERO posting.

In response to the application for an amendment to the existing Permit to Take Water, Township staff submitted a letter (see *Appendix B*) to the ERO commenting portal, which was prepared by the Township's retained hydrology consultant. The deadline for submission to that ERO was **November 1st, 2025**, and, as such, the letter was submitted prior to this report being presented to Council. Following receipt of the Township peer reviewer's comments, the Ministry provided an extension until December 1st, 2025, for the Township to provide further comments.

Conclusion

Township planning staff understand the urgency and magnitude of the ministerial applications submitted by Strada Aggregates Inc. It is our belief that the letters outlined in Appendices A and B are representative of the best interests of the Township and, therefore, recommend that Council direct staff to submit the letter in *Appendix A* as it is written.



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Prepared by:

A handwritten signature in black ink, consisting of the letters "LM" in a stylized, cursive font.

Liam Morgan, MCIP, RPP
Acting Planning Manager
Phone: 519-941-2816 Ext. 2511
lmorgan@melancthontownship.ca

List of Appendices:

- Appendix A – Township Letter for Strada Aggregates Inc. ARA Application
- Appendix B – Township Letter for Strada Aggregates Inc. Permit to Take Water Application



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Appendix A – Township Letter for Strada Aggregated Inc. ARA Application



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November 10, 2025

Mr. Greg Richards
Strada Aggregates Inc.
30 Floral Parkway
Concord, ON
L4K 4R1
ARAComments@stradaquarry.com

Integrated Aggregate Operations Section
Ministry of Natural Resources and Forestry
300 Water Street
Peterborough, ON
K9J 3C7
ARAapprovals@ontario.ca

Dear Mr. Richards,

**Re: Proposed Strada Pit and Quarry – Class A, Below Water
Pit and Quarry
West Half of Lots 11 to 14, Concession 3 OS, Township of
Melancthon, County of Dufferin
(Licence No. 626676)**

On behalf of the Township of Melancthon I am writing this letter to formally provide the Township's objection to the recent Aggregate Resources Act (ARA) application that was submitted by Strada Aggregates Inc.

The Township has received Strada's submission in support of a Class A licence under the Aggregate Resources Act to permit below water table extraction on the site of Strada's currently licenced pits in the Township.

On initial review of the application and supporting studies, the Township has identified a number of areas of concern with the application. Please note that these concerns represent the results of the Township's initial review, and that the Township reserves the right to identify further concerns, to provide more detail and to provide additional recommendations for the resolution of any concerns identified as the review of this application continues.

The Township has retained peer reviewers in the areas of hydrogeology, surface water, noise and vibration, blasting, air quality, agricultural impact, natural heritage and land use planning. With respect to transportation impacts, the Township relies on review undertaken by the County of Dufferin.

The Township's peer review process is ongoing. The Township is committed to working through that process with Strada to continue to identify, scope, mitigate and potentially resolve concerns to the extent possible.

Areas of outstanding concern include:

The potential effects of the proposed pit and quarry on the natural environment have not been adequately addressed

1. Characterization of natural heritage features and functions on and in the vicinity of the subject lands is insufficient;
2. Field data in support of the natural heritage assessment is insufficient, incomplete and/or out of date;
3. No assessment of bat maternity habitat has been undertaken;
4. The assessment of impacts to natural heritage features and functions is incomplete;
5. Little to no ecological rationale has been provided to support conclusions regarding ecological impacts;
6. Monitoring and mitigation measures recommended to address natural heritage impacts are insufficient;
7. Natural heritage policy discussions and concluding statements have not been included; there is no acknowledgement whether or how conformity with Township or County official plans and consistency with the Provincial Planning Statement have been met.

The potential effects of the proposed pit and quarry on ground and surface water resources, including headwaters streams and private wells, have not been adequately addressed

1. There is insufficient analysis to determine whether overburden and bedrock groundwater are hydraulically connected across the site;
2. Conclusions regarding the perched nature of surface water features do not appear to be supported by the stratigraphy of the site;

3. Only a limited amount of the available data has been used to support transient modeling scenarios for the site;
4. Insufficient detail and analysis has been provided regarding the proposed groundwater inflow control barriers and their design, construction and function;
5. Insufficient detail is provided to demonstrate the mechanism and/or feasibility of rerouting water throughout the site for mitigation purposes;
6. Insufficient detail is provided regarding the feasibility of other mitigation measures, including injection wells;
7. The potential for heaving of the unexcavated aquitard layer has not been addressed;
8. The application has the potential to impact groundwater quality, including bedrock aquifers utilized by private water supply wells, both during operations and post-rehabilitation;
9. There appears to be a lack of consistency between predicted reductions in stream inflow and monthly surface water budgets;
10. Insufficient assessment has been provided of the potential for groundwater mounding to impact private effluent leaching beds;
11. Proposed water resources monitoring and mitigation measures are not sufficient to identify or address potential impacts;

The potential effects of the proposed pit and quarry on nearby residents and communities have not been appropriately addressed

1. No safety analysis has been completed as part of the transportation study;
2. The noise and air quality studies have failed to consider potential contribution of recycling activities, storage piles and other factors.
3. The noise and air quality studies have failed to properly consider the cumulative impact of the proposed quarry alongside nearby licensed aggregate operations;
4. The potential impacts on nearby agricultural lands and operations, including specialty crop areas have not been adequately assessed;
5. The broader potential effects of the proposed quarry on human health have not been assessed;
6. Insufficient analysis and recommendations have been provided to address blasting impacts, including potential flyrock impacts;

The suitability of the progressive and final rehabilitation plans for the site have not been adequately addressed

1. Insufficient detail has been provided on long-term and/or post-rehabilitation mitigation and management measures that may be required;
2. Insufficient consideration has been provided of the long-term impacts of different rehabilitation scenarios;

Planning and land use considerations require further assessment

1. Amendments to the Township Official Plan and Zoning By-law are required prior to the Licence being issued. In this context, a variety of land use planning considerations must be addressed, including consistency with the Provincial Planning Statement, the County Official Plan and the Township Official Plan;

Other matters that are appropriate to address

1. The financial impacts of the proposal for the Township have not been adequately addressed. The net financial impact to the Township cannot be estimated based on the information provided;
2. Insufficient information has been provided regarding the quality and quantity of the available aggregate resource on the subject lands;

Conclusion

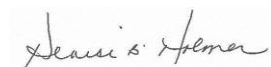
Given the volume and technical detail of the material provided in support of this application, the Township and its peer review team have not had sufficient time to fully analyze and assess the potential impacts of the quarry as proposed. The Township therefore reserves the right to raise further issues and make further recommendations as its review progresses.

The Township and its peer review team look forward to engaging with the proponent through the review process alongside the County and other agency and municipal partners.

The Township requests notification of any further meetings or updates on the review of this file.

For further questions and correspondence, please contact Denise B. Holmes, CAO/Clerk (dholmes@melanctontownship.ca, 519-925-5525 ext. 101).

Yours truly,



Denise B. Holmes, AMCT
CAO/Clerk



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Appendix B – Township Letter for Strada Aggregates Inc. Permit to Take Water Application



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Township of Melancthon Submission to Strada Aggregates PTTW ERO #025-1082

The Township of Melancthon does not support the approval of the proposed PTTW Amendment at this time.

As Ministry staff are aware, the subject site is also the subject of an ongoing licence application under the Aggregate Resources Act. It would be inappropriate for the MECP to reach conclusions on the PTTW Amendment that would prejudice technical questions that are still under review in the context of the ARA application.

In addition, there are inconsistencies between what is proposed in the PTTW Amendment and the current ARA licence. These discrepancies should be clarified prior to any approval.

For example, the PTTW Amendment would permit 365 days of taking per year whereas the current aggregate license only permits processing 6 days a week and excludes holidays (i.e. less than 365 days a year). The current PTTW authorizes takings up to 230 days per year. Also, the maximum volume sought per day (5,000,000L) does not appear to line up with the proposed rate of taking which is 6000L/min for 11 hours per day, equalling to 3,960,000L per day. Based on these discrepancies, the PTTW Amendment appears to go beyond what would be needed under the current licence. Finally, the application does not explain why more than double the current rate of water taking is required to support continued operations under the current licence.

The Township's hydrogeology consultants have undertaken a preliminary peer review of the PTTW Amendment supporting documentation (see attached) and have raised a number of technical questions. In particular, while aggregate washing operations are stated to be "above the water table", the wash ponds are described in the supporting documentation as being constructed below/within the overburden groundwater table, and the existing/proposed water taking is in fact from the shallow overburden aquifer (which is exposed by the excavated wash ponds).

In the context of the ARA application, the Township's peer reviewers are also considering the supporting documentation's conclusion that nearby natural ponds are perched above the water table. Given the described stratigraphy in the area they are still considering whether or not this is a supportable conclusion. In their opinion, there is insufficient information in the PTTW Amendment application to justify the MECP reaching any conclusion on this point until the full ARA review process has run its course.

The process of reviewing this application has been complex and time consuming because of the potential for interconnection with the ARA application, inconsistencies in the

application itself, the volume of information submitted in support of the ARA application and the questions coming out of our review so far. As a result, the Township is requesting sufficient time extensions to allow for fulsome and thorough review of the two applications to facilitate a full understanding of any interconnection and to ensure the information presented in both applications is clear, consistent, and accurate.

In summary, the proposed PTTW Amendment is not consistent with the current ARA licence for the Strada site. No justification has been provided for the proposed PTTW Amendment in the context of the current licence. The Township is concerned that approval of the proposed PTTW Amendment could be seen as an endorsement of certain opinions and conclusions regarding the local groundwater regime that are important to the ARA licence application (e.g. the perched nature of wetlands) without the benefit of a complete review under the ARA process. For these reasons, the Township suggests that the PTTW Amendment should be deferred to be considered together with the proposed ARA licence application.



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October 24, 2025

Corporation of the Township of Melancthon
157101 Highway 10
Melancthon, ON
L9V 2E6

Re: Peer Review of Hydrogeological Assessment Report
Strada Shelburne Pit/Quarry
437159 4th Line
Shelburne, Ontario

BACKGROUND

This peer review has been conducted at the request of the Corporation of the Township of Melancthon. The report being reviewed, entitled “Strada Shelburne Hydrogeological Assessment” was prepared for Strada Aggregates Inc. by Alicia Kimberley and Alyssa Flaherty of Tatham Engineering Limited on July 30, 2025.

This peer review was completed in accordance with the Professional Geoscientists Ontario (PGO) Professional Geoscientists Reviewing Work Prepared by Another Professional Geoscientist guideline document (2024).

The purpose of this peer review is an unbiased and independent Technical Review of the geoscience content presented in the hydrogeological assessment report.

The intent of the review is to assess:

- Whether the objectives set out for the work were reasonable;
- Whether the completed work has met the objectives;
- The validity of any assumptions, conclusions, and/or calculations made in the report;
- The validity of any recommendations made and their appropriateness to the project objectives; and,
- Whether there were other options that should have been considered in the report.

Chris F Helmer of Hydrogeology Consulting Services Inc. (HCS) is a licensed and practicing geoscientist under the Professional Geoscientists of Ontario specializing in the field of hydrogeology. With more than 22 years of career experience in the field of hydrogeology, Mr. Helmer has worked on numerous hydrogeological investigations throughout Southern Ontario.

Chris F Helmer and HCS have no direct or potential conflict of interest with the Corporation of the Township of Melancthon, with Strada Aggregates Inc., with Tatham Engineering Limited, or with the authors of the report.

TECHNICAL REVIEW OF REPORT

The Tatham Engineering Limited Hydrogeological Assessment Report (the Report) describes the location and physical setting of the subject property (the Site), and identifies the current licensing for the quarry. The Report notes the three properties comprising the Site are integrated, including an existing closed loop washing facility supported by an existing Permit to Take Water (PTTW).

The purpose of the investigation is described as supporting a PTTW for extraction of groundwater and surface water from an unlined closed-loop wash pond system that includes a re-circulation process that treats and re-uses process water with on-site infiltration and no off-site discharge.

The scope of work is described as establishing local and regional geology and hydrogeology; assessing impacts to drinking water wells; and, preparation of a hydrogeological assessment report through completion of desktop review of available resources.

The Report references previously completed annual compliance monitoring reports from 2019-2024, with the 2023 and 2024 monitoring data relied upon for the Report.

The Report notes the existing PTTW was issued in 2017, authorizing takings of up to 2,400,000 L/day over a maximum 10 hour period at rates of up to 4,000 L/min, for up to 230 days per year.

Water taking reports submitted to the MECP between 2017 and 2024 were reviewed, and the Report correctly notes apart from one day (October 17, 2017) during this period all water takings were below permitted volumes.

It is noted; however, the water taking records include many days with no data recorded. Additionally, the water taking records do not indicate durations of the takings or maximum water taking rates. Mathematical calculations indicate on a number of days a 4,000 L/min rate would need to be maintained for 10 hours continuously to withdraw the 2,399,690 L/day reported volume.

SECTION 2

Section 2 of the Report (**Site Setting**) summarizes the findings of the operational plans for the pit/quarry, noting there is no off-site discharge of surface water with stormwater evaporating or infiltrating through the pit floor; fuel is stored in above-ground storage tanks; and maximum predicted groundwater levels range from 498.5-500 mASL to 482.2-489.5 within the three properties that make up the Site.

The Report indicates excavation below the water table will not occur. However, HCS has recently peer reviewed the Tatham Engineering Limited Maximum Predicted Water Table Report (January 13, 2025) for the Site and notes this report describes the proposed implementation of groundwater inflow control barriers along the overburden (and bedrock) benches as pit/quarry development progresses during the proposed pit/quarry expansion, along with proposed groundwater (and surface water) capture and infiltration. The Maximum Predicted Water Table Report describes and illustrates overburden removal to approximate elevations of 490-495 mASL, with overburden groundwater control barriers installed at these elevations. This apparent contradiction may be based on the concept of extraction below an open (exposed) water table vs. extraction from a dewatered/unwatered area where the water table is not exposed, but should be clarified.

The Report correctly describes the physiographic and geologic setting of the Site based on regional mapping, along with a description of the general topography of the Site.

The Report summarizes available MECP water well records, correctly listing sixteen wells identified as domestic/livestock wells and listing six wells identified as commercial/industrial wells. Of the list of fourteen wells with no specified use it is noted four have a diameter of 0.15 m or more, likely indicating they are also supply wells (rather than monitoring wells). Water well record details are generally reasonably summarized; however, it is noted one domestic well (1701316) is completed in overburden at a depth of 15.8 m, and none of the commercial wells identified in the appended list of MECP water well records are completed in overburden (they are all bedrock wells).

The Report correctly notes the Site is not located within a municipal Wellhead Protection Area (WHPA) or Intake Protection Zone (IPZ), but does lie within a Significant Groundwater Recharge Area (SGRA) and Highly Vulnerable Aquifer (HVA) area. The Report reasonably describes the geologic reasoning behind the SGRA and HVA designations.

SECTION 3

Section 3 of the Report (**Groundwater Monitoring**) summarizes the locations and general construction information for on-site and off-site monitored wells, separating the wells into overburden aquifer wells, overburden aquitard wells, and bedrock wells. The Report describes continuous water level data collection using dataloggers along with periodic manual measurements.

The Report describes buried bedrock valley conditions in the southeastern portion of the study area resulting in permanent unsaturated (dry) conditions at OW3A, OW10A, OW14A, OW19A, and OW20A. However, the borehole logs included in the Tatham Engineering Limited Maximum Predicted Water Table report indicate:

- OW3 does not have a well “3A” screened in the sand and gravel aquifer, only a well “3B” screened at the till aquitard/bedrock interface. The borehole log notes the sand and gravel exhibiting dry to wet conditions.
- OW10 does not have a well “10A” screened in the sand and gravel aquifer, only a well (unlabeled) screened in the till aquitard. The borehole log notes the sand and gravel exhibiting dry to wet conditions.
- The borehole log for OW14 notes the sand and gravel exhibiting dry to wet conditions.
- OW19 does not have a well “19A” screened in the sand and gravel aquifer, it is screened in the till aquitard. The borehole log notes the sand and gravel exhibiting dry to wet conditions.
- The borehole log for OW14 notes the sand and gravel exhibiting dry to wet conditions.

Additionally, no manual groundwater measurements for any wells are tabulated in the Report.

The Report reasonably describes seasonal trends in groundwater levels with peaks observed during spring thaw conditions in April and May.

The appended Figure 6 in the Report provides an overburden aquifer groundwater contour map. It is noted the measured groundwater elevation at OW8A and the measured groundwater elevation at OW4A do not seem to correlate with the reported dry condition at OW3A (not shown on the Figure); although this may be the result of the differing stratigraphy of OW3A.

The Report describes groundwater conditions in the underlying till and the weathered bedrock as exhibiting more muted seasonal trends.

The Report describes groundwater levels in domestic supply wells completed in the bedrock aquifer as not exhibiting interference from on-going aggregate operations; however, the appended hydrographs for supply wells DW1-DW5 only include two years of data, making assessment of historical trends impractical. Multiple years of data would be required to evaluate whether a trend in water levels is occurring.

Surface water monitoring locations are also summarized, with surface water hydrographs provided. The Report describes water levels in the North Pond and South Pond also exhibiting typical seasonal trends, and noted observations are consistent with historical trends observed at the Site.

The Report assumes the North Pond and South Pond are perched above the overburden aquifer. It is noted; however, that the borehole log for OW12 included in the Tatham Engineering Limited Maximum Predicted Water Table report (located in proximity to the locations of the North Pond and South Pond shown in the Hydrogeological Assessment Report) indicates at least 12 m of sand/sand and gravel deposits; and, the borehole log for OW10 included in the Maximum Predicted Water Table report (located in proximity to the locations of the North Pond and South Pond shown in the Hydrogeological Assessment Report) indicates approximately 10 m of sand/sand and gravel deposits bisected by an approximately 3 m thick silty clay layer.

Additionally, HCS has recently peer reviewed the EarthFX Incorporated Impact Assessment Report (January, 2025) for the Site and notes the appended North West – South East Cross Section C prepared by EarthFX Incorporated (September 23, 2024) included in the Gemtec (October 4, 2024) Geotechnical Feasibility Study as an addendum to the Impact Assessment Report, which extends through the general area of the North and South Ponds, illustrates vertically extensive sand and gravel deposits where the shallow aquifer is assumed to exist.

Further, the appended Figure 6 in the Report illustrates shallow groundwater elevations at/above the water levels noted in the North and South Ponds; and, the appended Figure 7 in the Report illustrates the wash ponds (in relative proximity to the North and South Ponds) as having groundwater elevations of 492+ mASL, and describes the wash ponds as "...constructed into the groundwater table and shallow aquifer...".

In the absence of a cross section illustrating the stratigraphy beneath and surrounding the North and South Ponds it is challenging to conclusively determine whether the assumption of perched conditions above the overburden aquifer is correct.

SECTION 4

Section 4 of the Report (**Discussion and Analysis**) identifies the required water taking for the proposed aggregate washing facility as 5,000,000 L/day from a closed-loop wash pond system consisting of three settling ponds and one wash/freshwater pond.

It is noted the proposed water taking is slightly more than double the currently permitted taking of 2,400,000 L/day. The reason(s) for the requested increase in the daily water taking volume are not explicitly stated in the Report, although HCS' recent peer review of the EarthFX Incorporated Impact Assessment Report provides the knowledge that significant expansion of the pit/quarry operations is proposed. A "Water taking Needs Attachment" PDF document provided with the Report indicates the proposed increase is intended to support an increase in aggregate production; however, this document has no reference or other association to the Report.

The Report describes the wash process water as discharging to the first settling pond, then draining to the second and third ponds in sequence, and finally draining into the freshwater pond.

The Report explains groundwater feeds the wash ponds and washing operation, with process water re-circulated through the ponds for re-use. While the Report reasonably states the majority of supply water is re-circulated back into the wash pond through the settling ponds and not discharged off-site, the consumptive use of groundwater (i.e. the water that leaves the site via wet aggregate and/or evaporation from the ponds) is not specified.

The Report reasonably notes the wash ponds use groundwater from the shallow overburden aquifer, while identified private water supply wells are using water from the underlying limestone bedrock aquifer (apart from the one overburden supply well noted previously in Section 2 of this peer review report) and as a result would not be expected to be impacted by the expanded aggregate washing operations. As HCS has recently peer reviewed the EarthFX Incorporated Impact Assessment report for the proposed quarry expansion, it is understood mitigation measures are proposed to protect bedrock groundwater resources from the proposed bedrock quarrying operations.

The Report concludes surface water features SW1 and SW2 and the Boyne River would not be expected to be impacted by the proposed expanded aggregate washing operations. While the large open wash ponds are described as being separated by an earth berm, a detailed description of how runoff of contaminants (e.g. fuel spills from heavy equipment operating near the wash ponds) would be prevented from entering the ponds and thereby potentially contaminating the shallow groundwater aquifer that is anticipated to support the identified provincially significant wetland (PSW) and the Boyne River is not provided.

SUMMARY OF ITEMS TO BE ADDRESSED

As a result of the technical peer review, the following items are recommended to be addressed by the author(s) of the Report:

1. Clarification whether data gaps in the reported water taking volumes are non-taking days (i.e. zero water taking), or missing data.
2. Confirmation whether water taking rate and duration information exists for the pit operations.
3. Assessment of the overburden extraction depths reported in the Maximum Predicted Water Table Report, and the requirement for overburden control barriers, vs. the statement in the Hydrogeological Assessment report that extraction will not take place below the water table, with clarification provided as required.
4. Assessment of the location of supply well 1701316 in comparison to the proposed aggregate washing operations, and of whether the overburden supply well could be impacted by the proposed aggregate washing operations.
5. Clarification regarding the well construction details for OW3A, OW10A, OW14A, OW19A, and OW20A with respect to the sand and gravel overburden aquifer, and provision of manual water level measurements from these wells.
6. Assessment of whether the North Pond and South Pond are in fact perched above the overburden aquifer (vs. connected to it); and, if connected whether they could be impacted by the proposed water taking and aggregate washing operations.
7. Confirmation of the reason(s) for the proposed increase in the daily water taking volume.
8. Confirmation of the quantity of the total proposed daily water taking volume that will be consumptive (i.e. lost via off-site hauling of wet aggregate and evaporation); and, whether the consumptive loss has the potential to impact shallow groundwater resources and the surface water features which depend on those resources.
9. Confirmation how runoff of contaminants into the wash ponds will be prevented/mitigated to minimize the potential for impacts to shallow groundwater resources and the surface water features which depend on those resources.

CLOSURE

The Hydrogeological Assessment Report generally provides a reasonable overview of the proposed water taking, and reasonably notes the majority of the proposed water taking is recycled back to the shallow groundwater aquifer through the settling pond process.

The described and implemented scope of work generally provides a satisfactory methodology to accomplish the goal of the Report; however, the Summary of Items to be Addressed above identifies areas where additional information may be beneficial to the overall assessment of the potential for impact from the proposed increase in water taking and washing operations.

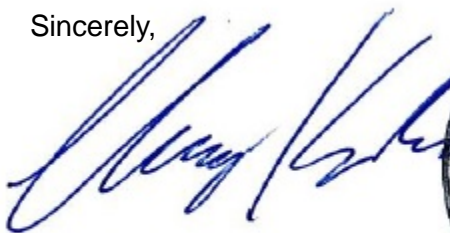
The comments provided in this peer review do not necessarily change the overall conclusions and recommendations made in the Report; rather, the recommended Items to Be Addressed will help to confirm and ensure the proposed water taking is sustainable and does not pose a significant threat to shallow groundwater resources and the surface water features which depend on those resources.

The involvement of HCS on this project is limited to review of the existing information provided in the Tatham Engineering Limited Hydrogeological Assessment Report. No field verification of data or duplication of investigations/analyses was conducted.

HCS and Chris F Helmer assume no responsibility or liability, and shall not be held responsible or liable, for any actions or inactions or decisions, or the consequences of any actions or inactions or decisions, made by any individuals or parties in relation to this project.

We trust that this peer review report satisfies your present requirements, and we thank you for this opportunity to be of service. If you have any questions, or require further hydrogeological consulting services, please feel free to contact the undersigned directly.

Sincerely,



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