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David Welwood
File: C14-60/7 WOO

May 5, 2021

Mr. Jeremy Vink,
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Township of Woolwich
24 Church Street West
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And

Seana Richardson, Aggregate Technical Specialist
Ministry of Natural Resources and Forestry
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Dear Mr. Vink and Ms. Richardson:

Re:

**Zone Change Application ZCA 9/2019
Official Plan Amendment Application 3/2019
Aggregate Resources Act Application
1226 Maryhill Rd, 1175 & 1195 Foerster Rd, 1472 Village View Rd
Capital Paving Inc. on behalf of Janet Cox, Roger Hogan, Fred
Wagner, and Wagner Farm Inc. (Shantz Station Pit)
Township of Woolwich**

This Region has completed its review of the applications for zone change and official plan amendment, and for a license under the Aggregate Resources Act (ARA) for a Category 3, Class 'A' license to excavate aggregate from a proposed above-water table pit in Woolwich Township. Based on staff and peer reviews, a number of conditions have been identified to include in the ARA site license and other items have been recommended to be addressed through the zoning by-law amendment.

In addition to the comments below, the recommendations in previous Regional comments and recommendations from Monirul Islam to Paradigm Transportation related to the Transportation Impact Study dated August 21, 2019 and September 30, 2020 continue to apply.

Based on the reviews undertaken to date, the following matters and recommendations determined through the peer review processes must be addressed:

A. Agricultural Impact Assessment

Regional staff have reviewed “Agricultural Impact Assessment: Capital Paving Ltd., Shantz Station Pit” (the AIA) dated March 2019, prepared by MHBC Planning Limited. Regional staff also reviewed the following:

- “Peer Review – Agricultural Impact Assessment for Shantz Station Pit” (the Peer Review), dated February 5, 2020, prepared by Colville Consulting Inc.;
- “Response to Colville Consulting Peer Review of Agricultural Impact Assessment: Capital Paving Inc., Proposed Shantz Station Pit”, dated May 4, 2020, prepared by MHBC Planning, Urban Design & Landscape Architecture; and
- “Analysis of MHBC Response to Peer Review of Shantz Station Pit”, dated July 17, 2020, prepared by Colville Consulting Inc.

The Region does not object to the recommendations in the AIA as revised through the peer review process, provided that they are included on the ARA Site Plans as follows:

1. Extraction will occur in phases to minimize the amount of disturbed area. Later phases of the operation that are not currently in extraction should remain in agricultural production for as long as reasonably possible.
2. The recommended agricultural rehabilitation sequence shown in Figure 11 of “Agricultural Impact Assessment: Capital Paving Ltd., Shantz Station Pit” dated March 2019, prepared by MHBC Planning Limited should be included in the ARA site plan and rehabilitation plans to ensure best practices are implemented through progressive rehabilitation.
3. Implementing progressive rehabilitation procedures that avoid substantial storage of topsoil and minimize store of subsoil are encouraged. Stripped soils should be moved directly to depleted areas where they will be immediately used for agricultural rehabilitation. Stripping areas should also be limited to what is required for the season of operation.
4. Soil materials should only be handled under dry conditions and a wet weather shutdown procedure should be put in place for stripping operations. Travel over soils

and rehabilitated areas should be minimized to reduce compaction. Where required, ripping/tilling the soils should be undertaken to alleviate soil compaction. The mixing of soil materials/layers should be avoided.

5. The depths of soil being removed during stripping should be monitored and compared to the pre-extraction depths as found in “Soil Survey and Canada Land Inventory (CLI) for Part Lots 81 & 82 German Company Tract, Township of Woolwich, Regional Municipality of Waterloo” prepared for Capital Paving Inc. by DBH Soil Services Inc., March 19, 2019. Topsoil and subsoil should be replaced at generally the same pre-extraction depth.
6. Prior to site stripping, a vegetative grass/legume cover such as perennial crop should be established in order to reduce erosion and also add organic matter to the soil and improve soil structure. Immediately following the replacement of soils as part of rehabilitation, either a perennial or an annual grass-legume cover crop should be established and maintained for up to five years. The establishment of the post-rehabilitation cover crop will be managed in consultation with the land owner (i.e. ploughed under annually, drill-seeded, or left in place)
7. Prior to the replacement of overburden, subsoil and soil, the final pit floor should be ripped to alleviate compaction if required. Side slopes should be graded to the desired slope (3:1) prior to the replacement of topsoil and subsoil, and permanent vegetative cover should be provided to stabilize the slopes and prevent erosion.
8. A qualified professional will be retained to develop and undertake a soil testing program for any rehabilitated lands at the beginning of each growing season to analyze soil fertility and structure. Based on the results of the soil testing program, adjustments to cropping practices and or soil amendments may be required based on the results of the soil testing program.
9. An Annual Agricultural Rehabilitation Monitoring Program Report should be completed in order to document agricultural rehabilitation activities and demonstrate compliance in relation to soil stripping, handling and storage; rehabilitation progress, methods and best practices; soil tests; and post rehabilitation soil capability and farming activity. The details on the Report should be identified in the site plan notes, as described in Recommendation No. 13 in “Response to Colville Consulting Peer Review of Agricultural Impact Assessment: Capital Paving Inc., Proposed Shantz Station Pit”, by MHBC (File 16313D), dated May 4, 2020 subject to the modified text proposed in “Analysis of MHBC Response to Peer Review of Shantz Station Pit” by Colville Consulting Inc., dated July 17, 2020.

10. Capital Paving will install signage at the pit exit and provide truck operators with specific directions for when they will encounter farm traffic.

11. Site Plan Recommendations:

- a. Site Plan 4 of 5 (Rehabilitation Contour Plan) will be updated to include the following recommendation: *“as shown on the Rehabilitation Contour Plan, the final pit floor will be graded as uniformly as possible to create no more than a 2-5% slope. Final grading and landform creation shall ensure that there are no irregular undulation or depressions areas on the rehabilitated pit floor.”*
- b. *(from Response to Peer Review, Recommendation 11)*
- c. The site plan notes will be revised to include the word “subsoil” IN THE headings for Notes 1.2.2; 1.2.10; and 1.3.2 on Site Plan 3 of 5. *(from Response to Peer Review, Recommendation 11)*
- d. Site Plan Note 1.3.2 will be revised to reflect the 0.15 metre topsoil/subsoil for the side slope areas. (E-mail from Pierre Chauvin to Sean Colville, June 30, 2020, “Response to MHBC Comments – Shantz Station Pit AIA June 18 2020.pdf)
- e. Site Plan note 1.2.16 on Site Plan 3 of 5 and cross-sections on Site Plan 5 of 5 will be updated to clarify that the final rehabilitated pit floor will remain at least 1.5 metres above the water table (E-mail from Pierre Chauvin to Sean Colville, June 30, 2020, “Response to MHBC Comments – Shantz Station Pit AIA June 18 2020.pdf)

B. Air Quality Assessment

Regional staff have reviewed the report entitled “Air Quality Assessment” by RWDI (Project 1803181) for Capital Paving Inc., dated May 14, 2019. Regional staff have also reviewed the following documents:

- “Shantz Station Pit Air Quality Assessment – Technical Peer Review” (the Peer Review), dated December 19, 2019, prepared by Dillon Consulting;
- “Response to Shantz Station Pit Air Quality Assessment – Technical Peer Review”, dated February 4, 2020, prepared by RWDI;
- “Shantz Station Pit Air Quality Assessment, Response to Air Quality Peer Review – Technical Response”, dated April 15, 2020, prepared by Dillon Consulting;
- “Response to Shantz Station Pit Air Quality Assessment – Technical Peer Review”, dated May 4, 2020, prepared by RWDI; and
- “Shantz Station Pit Air Quality Review” (final letter), dated August 21, 2020, prepared by Dillon Consulting.

Regional staff do not have any objections to the proposed mitigation measures in the Air Quality Report, as revised through the peer review process, provided that they are reflected on the ARA site plans, as follows:

1. Dust shall be mitigated on site;
2. Water or another provincially approved dust suppressant shall be applied to internal haul roads and processing areas as often as required to mitigate dust;
3. Stripping, excavation and loading operations shall be monitored hourly when all of the following criteria are met:
 - a. Dry weather is anticipated;
 - b. Excavation and loading activities are within 200 m of a residence; and
 - c. Winds are anticipated to be blowing towards the residence.

If visible dust is observed under these conditions, these operations shall be reduced, or additional mitigation measures shall be undertaken, such that visible dust is prevented from leaving the site.

4. A row of conifers shall be planted along the top of the berm adjacent to Receptor R3, on the portion of that berm located in Phase 1. This dwelling is owned by the owner of the gravel pit lands. If it could be ensured that this dwelling becomes and remains vacant during the life of the site, then R3 could be removed as a receptor location and the need for the conifer trees will not be required.
5. This tree screen shall:
 - a. Consist primarily of coniferous trees, with an initial planted height of at least 1.25 metres;
 - b. Be planted to a thickness of at least 10 metres (i.e., a minimum of 2 rows of trees spaced 4.5 metres apart);
 - c. Be planted upon completion of the berm construction, such that the trees will be effective as a supplementary screening measure as soon as possible.”
6. The licensee shall maintain and implement the Best Management Practices Plan for Dust (BMPP). The BMPP shall be reviewed annually at minimum and updated if required.

7. Regarding the BMPP, staff have the following recommendations:

- a. The items noted in the BMPP with respect to the paved on-site roadway (i.e., monitoring, sweeping, and flushing based on the presence of visible track-out) should be extended to the public roadway in proximity to the site entrance (Dillon Consulting, April 15, 2020, Recommendation 4).s

The BMPP should include operational limitations including all assumptions included in emissions calculations which would impact site operation (e.g., minimum emissions ratings from on-site vehicles and equipment). (Dillon Consulting, December 19, 2019, Recommendation 7).

- b. The site plans should and the BMPP should include the requirement for monitoring and control when an activity is within 200 metres of a residential property. (Dillon Consulting, December 19, 2019 Recommendation 12; RWDI, February 4, 2020; and Dillon Consulting, April 15, 2020, Section 6).

C. Hydrogeological Review

Regional staff have reviewed the report entitled “Level 1 and Level 2 Hydrogeological Investigation, Proposed Category 3 Class ‘A’ Pit Above-Water-Table”, by MTE Consultants Inc. (Project 43294-100), for Capital Paving Inc. dated May 10, 2019. Regional staff have also reviewed the following documents:

- “Shantz Station Aggregate Pit, Township of Woolwich – Hydrogeological Review” (the Peer Review), dated January 7, 2020, prepared by BluMetric Environmental Inc.;
- “Response to Region of Waterloo Peer Review Comments, January 7, 2020, Level 1 and Level 2 Hydrogeological Investigation Report, Proposed Shantz Station Pit”, dated February 7, 2020, prepared by MTE Consultants Inc.;
- “Shantz Station Aggregate Pit, Township of Woolwich Hydrogeological Review – Reply to MTE Response”, dated April 7, 2020, prepared by BluMetric Environmental Inc.;
- “Capital Paving Shantz Station Pit Response to BluMetric’s April 7, 2020 Hydrogeology Comments”, dated April 15, 2020, prepared by MHBC; and
- E-mail from proponent confirming temperatures added to monitoring requirements, from Neal Deruyter to David Welwood, April 15, 2020.

Regional staff do not have any objections to the proposed mitigation measures in the Hydrogeological Study, as revised through the peer review process, provided that they are reflected on the ARA site plans, as follows:

1. Prior to extraction, baseline groundwater samples shall be collected from MW3 and MW5 for hydrocarbons (F1-F4 + BTEX). Future sampling will occur in relation to the Spills Contingency Plan and the recommendations of a retained qualified person in the event of a spill shall occur. Monthly inspections of the integrity of any on-site fuel tanks or containers will be documented in the annual monitoring report.
2. Manual water levels shall be collected on a seasonal basis, three times per year, once in the spring, summer and fall, at all on-site monitoring wells and participating domestic wells and surface water temperature monitoring of Hopewell Creek;
3. Monitoring of MP5 and MP6 shall occur three times per year to track water level trends throughout the pit operation relative to the adjacent wetlands. In conjunction, monitoring of surface water levels in the Northern Pond will occur.
4. Groundwater samples will be collected for geochemical analysis from all on-site monitoring wells. The wells will be sampled in the spring and late summer on an annual basis which may be progressively decreased over time. Background conditions shall be established prior to the pit operating.
5. The annual groundwater monitoring program shall extend throughout the life of the operation so that confirmatory water table elevations can be obtained as the pit develops. A monitoring report summarizing and interpreting groundwater and geochemical data shall be provided to the Township and Region on an annual basis by March 31 of the following year. Reporting requirements will be reviewed on an annual basis and may be decreased in frequency pending agreement from the Region.
6. The results of the monitoring shall provided to the Region of Waterloo on an annual basis summarizing and interpreting groundwater and geochemical data from all five groundwater monitoring wells. Wells will be sampled in the spring and late summer on an annual basis, this may be progressively decreased over time. Reporting requirements will be reviewed on an annual basis and may change pending agreement from the Region of Waterloo. This requirement will be added to the site plans.
7. Monitoring wells which may be destroyed by extraction activities shall be decommissioned according to the Wells Regulation (O.Reg. 903) and subsequently replaced at a location that will ensure the new monitoring well will remain intact to allow groundwater monitoring to continue;

8. The proponent shall follow the Well Interference Complaint Procedure described in Section 9.1 of the Hydrogeological Investigation; and
9. The proponent shall adopt the proposed Spill Contingency Plan for the Site and a qualified person.
10. In the event that on-site tile drains are removed during extraction, the proponent shall re-install tile drains in suitable locations, if required.

D. Natural Environment Study

Regional staff have reviewed the report entitled “Natural Environment Report, Level 1 & 2 Assessment”, by Riverstone Environmental Solutions Inc. (Project RS#2017-098), for Capital Paving Inc. dated May 13, 2019 (the EIS). Regional staff have also reviewed the following documents:

- “Peer Review of Natural Environment Report & Access Road Management/Ecological Enhancement Compensation Plan for the Proposed Shantz Station Pit Township of Woolwich, Region of Waterloo” (the Peer Review), dated April 29, 2020, prepared by Beacon Environmental Limited;
- “Response to Peer Review Completed by Beacon Environmental (April 29, 2020), Shantz Station Pit Aggregate Licence Application, Township of Woolwich”, dated August 28, 2020, prepared by Riverstone Environmental Solutions Inc.;
- “Access Road Analysis, Proposed Shantz Station Pit”, dated September 2020, prepared by MHBC Planning Limited;
- “Reply to Riverstone Environmental Solutions Inc. Response Letter (August 28, 2020) to Beacon Environmental Limited Peer Review of Natural Environment Report & Access Road Management/Ecological Enhancement Compensation Plan (April 29, 2020), Proposed Shantz Station Pit (Capital Paving), Township of Woolwich, Region of Waterloo”, dated January 20, 2021, prepared by Beacon Environmental Solutions Inc.;
- E-mail response to January 20, 2021 Peer Review follow-up, from Neal Deruyter, dated March 5, 2021 (including “Shantz Station Pit, Final Revised Management Plan, March 2021” and “Shantz Station Management Plan, February 21, 2021, Redline Version”; and “MNR Comments – Road Design and Management Plan, October 20, 2020);
- “Capital Paving Shantz Station Pit, Township of Woolwich Clarification on Proposed Shrub Plantings”, dated March 23, 2021; prepared by MHBC Planning Inc.; and
- “Proposed Shantz Station Pit (Capital Paving), Township of Woolwich, Region of Waterloo Response to Access Road Management/Ecological Enhancement

Compensation Plan (Revised March 2021)", dated March 24, 2021, prepared by Beacon Environmental Solutions Inc.

Regional staff do not have any objections to the proposed mitigation measures in the Natural Environmental Report, as revised through the peer review process, provided that they are reflected on the ARA site plans, as follows:

1. The site plan and zoning will implement the recommendations and plans of, and include reference to, the following documents:
 - a. "Access Road Management/Ecological Enhancement Compensation Plan, Shantz Station Pit", prepared by MHBC, RiverStone Environmental Solutions Inc., and MTE (last Revised March 2021);
 - b. Shantz Station Pit Site Plan drawings and notes, Capital Paving Inc., last updated January, 2021.
 - c. Natural Environment Report, Level 1 & 2 Assessment, Shantz Station Pit Application, Township of Woolwich, May 2019 by RiverStone Environmental Solutions Inc. (and associated updates)
2. Proposed pit extraction activities shall be setback a minimum of 30 m from the boundary of all PSW units (except the existing laneway in the northwest corner of the site).
3. The 30 m setback will be well-marked prior to the commencement of pit operations.
4. The 30 m wetland setback area shall be undisturbed by pit operations and remain as natural self-sustaining vegetation.
5. Sediment and erosion control measures shall be employed where appropriate to prevent the erosion of unstable soils and the movement of sediment and/or other deleterious substances into the adjacent PSW (and other identified wetlands). These measures shall be in place prior to the onset of site preparation.
6. Sediment fencing must be constructed of heavy material and solid posts and be properly installed (trenched in) to maintain its integrity during inclement weather events.
7. Once installed, sediment fencing must be routinely monitored and maintained.
8. All stockpiled aggregates shall be stored in a location that will prevent the movement of sediment laden runoff into the PSW units (and other identified wetlands) and their setbacks.

9. Proposed pit extraction activities shall be setback a minimum of 30 m from the dripline of the Significant Woodlands. The 30 m dripline setback will be well-marked prior to the commencement of pit operations.
10. The proposed access road shall be laid out and staked with qualified biologists to avoid key tree specimens where possible.
11. Tree removal will be timed to avoid Breeding Bird and potential SAR bat roosting (April 1 to October 15) seasons. If limited vegetation removal must occur early during this period (i.e., between April 1-April 15), additional bat and/or bird surveys will be required.
12. The mitigation and protection measures outlined in the Tree Inventory and Preservation Plan (August 2020) shall be implemented for the construction of the proposed access road.
13. The habitat compensation measures developed by RiverStone and incorporated in the rehabilitation plan and Access Road Management / Ecological Enhancement Plan (March 2021), shall be implemented in full to offset potential impacts associated with the construction of the proposed access road through the significant woodland.
14. The 30 m Significant Woodland setback area shall be undisturbed by pit operations and remain as natural self-sustaining vegetation.
15. Any proposed rehabilitation/compensation activities proximate to or within the identified habitat will be reviewed to ensure compliance with the ESA.
16. Jersey barriers shall be erected adjacent to the PSW along the existing driveway. Specialized barrier fencing for reptiles shall be erected between extraction areas and natural features as indicated on the Operational Plan. The designs of both the barriers and fencing shall be subject to MNR review and approval.
17. A qualified person will be retained to confirm the adequacy of the specialized barrier fence. The fence will be inspected to ensure any necessary repairs are made on a routine basis (monthly from April through October).
18. Proposed pit extraction activities shall not occur within the dripline of the non-significant FOD6-1 woodlands that are outside of the proposed extraction area and adjacent to wetland features (i.e. FOD6-1 east of the Northern Ponds and east of the

site in the Hopewell Creek valley). To protect the FOD6-1 communities, a 5 m setback from the dripline shall be undisturbed by pit operations and remain as natural self-sustaining vegetation.

19. Proposed pit extraction activities shall not occur within the CUT1-1 thicket adjacent to the site to protect potential shrub/early successional bird breeding habitat within these vegetation communities.

20. At pit closure, site rehabilitation will be required. The list of plant species provided on the Rehabilitation Plan (page 4 of 5) will be used in the final rehabilitation plan in areas subject to naturalization that blends with the adjoining vegetation communities.

E. Noise Impact Assessment

Regional staff have reviewed the report entitled “Noise Impact Analysis: Shantz Station Pit”, by Valcoustics Canada Ltd. (File 118-0188), for Capital Paving Inc. dated May 10, 2019 (the Noise Study). Regional staff have also reviewed the following documents:

- “Peer Review – Noise Impact Assessment of Above Water Extraction Shantz Station Pit Proposed Gravel Pit, Township of Breslau, Regional Municipality of Waterloo. SSWA File No.: WA19-031” (the Peer Review), dated September 13, 2019, prepared by S.S. Wilson Associates;
- “Response to Peer Review Comments, Shantz Station Pit, Part of Lots 81 and 82, German Tract Company, Breslau, Ontario”, dated November 20, 2019, prepared by Valcoustics Canada Ltd.;
- “Peer Review # 2 – Noise Impact Assessment of Above Water Extraction Shantz Station Pit Proposed Gravel Pit, Township of Breslau, Regional Municipality of Waterloo. SSWA File No.: WA19-031”, dated January 8, 2020, prepared by SS Wilson Associates;
- “Response to Peer Review Comments #2, Shantz Station Pit – Noise Impact Assessment, Part of Lots 81 and 82, German Tract Company, Breslau, Ontario”, dated March 10, 2020, prepared by Valcoustics Canada Ltd.;
- “Final Peer Review # 3 –Noise Impact Assessment of Above Water Extraction Shantz Station Pit Proposed Gravel Pit, Township of Breslau, Regional Municipality of Waterloo. SSWA File No.: WA19-031” (clearance letter), prepared by SS Wilson Associates;
- “Final Impact Analysis – Shantz Station Pit, Proposed Gravel Pit” by Valcoustics Canada Ltd. (File 118-0188), for Capital Paving Inc. dated June 23, 2020.

Regional staff do not have any objections to the proposed mitigation measures in the Noise Study, as revised through the peer review process, provided that they are reflected on the ARA site plans, as follows:

1. Mitigation recommendations:

a. Phase 1

i. Prior to the extraction in Phase 1

1. Construct a 1.2 m high berm along the northern property line (close to the Processing Plant); and
2. Construct a 7.5 m high berm in the vicinity of POR03.

ii. Prior to the operation of the processing plant and portable crusher,

1. Construct a 11 m high localized berm for screening the processing plant; and
2. Construct a 7.5 m high sound barrier for the portable crusher

The above sound barriers are shown on Figure A9 of “Noise Impact Analysis” by Valcoustics Canada Ltd. (File 118-0188), for Capital Paving Inc. dated June 23, 2020.

b. Phase 2

i. Prior to the start of extraction in Phase 2,

1. Construct a 2.8 m high berm along the northwest property line;
2. Construct a 2.5 m high berm along a portion of the south property line; and
3. Construct a 5.5 m high berm for POR03

Maintain the localized berm (11 m high, constructed in Phase 1) at the processing plant; and

ii. Maintain a portion of the 1.2 m high berm along the northern property line.

The berms needed prior to the start of Phase 2 are shown on Figure A10 of “Noise Impact Analysis” by Valcoustics Canada Ltd. (File 118-0188), for Capital Paving Inc. dated June 23, 2020.

c. Phase 3

i. Prior to the start of extraction in Phase 3,

1. Construct a 4.0 m high berm along a portion of the Phase 3 perimeter; and
2. Construct a 5.8 m high berm along for POR03;

ii. Maintain the localized berm (11 m high, constructed in Phase 1) at the processing plant and the 1.2 m high berm along a portion of the north boundary of the site.

The berms needed prior to the start of Phase 3 are shown on Figure A11 of “Noise Impact Analysis” by Valcoustics Canada Ltd. (File 118-0188), for Capital Paving Inc. dated June 23, 2020.

d. Phase 4

- i. Prior to the start of extraction in Phase 4,
 1. Construct a 1.5 m high berm along the south property line;
 2. Construct a 7.5 m high berm along the east property line adjacent to POR02;
 3. Construct a 2.0 m high berm along the east property line (adjacent to POR03); and
 4. Construct a 7.5 m high berm for POR03.
- ii. The portable crusher operating near the working face is permitted to operate no more than 100 m east of the Phase 3 boundary. In addition, a 6 m high localized berm is needed at the portable crusher location; and
- iii. Maintain the localized berm (11 m high, constructed in Phase 1) at the processing plant and the 1.2 m high berm along a portion of the north property line.

The berms needed prior to the start of Phase 4 are shown on Figure A12 of “Noise Impact Analysis” by Valcoustics Canada Ltd. (File 118-0188), for Capital Paving Inc. dated June 23, 2020.

e. Phase 5

- i. Prior to the start of extraction in Phase 5,
 1. Construct an 8.5 m high berm for POR03;
- ii. Portable crushing near the working face is only permitted within 405 m of the Phase 2 boundary. In addition, a 6.5 m high localized berm at the portable plant is needed;
- iii. The height of the berm along the east property line adjacent to POR02 can be reduced to 3.7 m; and
- iv. Maintain the localized berm (11 m high, constructed in Phase 1) at the processing plant and a 1.2 m high berm along a portion of the north property line. The berms needed prior to the start of Phase 5 are shown on Figure A13 of “Noise Impact Analysis” by Valcoustics

Canada Ltd. (File 118-0188), for Capital Paving Inc. dated June 23, 2020.

2. The above mitigation measures are the bare minimum requirements for each phase. If a berm constructed for a previous phase is higher than that required for the subsequent phase, it is likely that the higher berm constructed in the earlier phase will remain with no reduction in the berm height.
3. The local berms recommended above can be constructed using aggregate stockpiles and shall be no more than 30 m from the portable crusher or processing plant locations.
4. It should be noted that the highest sound barrier is needed to protect POR03. It is our understanding that this dwelling is owned by the owner of the gravel pit lands. If it could be ensured that this dwelling could remain vacant over the life of the site, then POR03 could be removed as a receptor location and the barrier height requirements reduced.
5. The sound barrier configurations are considered conceptual and can be modified to account for grading and drainage requirements. However, the final sound barrier design must be reviewed by a qualified acoustical engineer to ensure the MECP noise guideline limits will be met at all off site receptor locations.
6. The sound emission level for all pieces of equipment used for construction activities including site preparation and rehabilitation must comply with the limits outlined in MECP Publication NPC-115, "Construction Equipment".
7. Construction activities should only occur during the daytime (i.e. 0700 to 1900 hours) period, Monday to Friday. There should be no construction on weekends or on statutory holidays unless required due to an emergency.
8. The perimeter berms should be constructed as early in the construction process as possible to minimize the off-site noise impacts from the construction activities.
9. Sound emissions from equipment to be used on-site should be measured to confirm that they comply with the levels outlined within this report. Alternatively, for equipment brought on-site on an as-needed basis, they should have appropriate portable C's of A or ECA's.

10. Sound barriers are recommended to be constructed as shown in Figures A9 to A13 of “Noise Impact Analysis” by Valcoustics Canada Ltd. (File 118-0188), for Capital Paving Inc. dated June 23, 2020). The sound barriers need to be constructed prior to commencing extraction in each phase except the 11 m high berm at the processing plant and the 7.5 m high sound barrier at the portable crusher in Phase 1 which are required prior to the operation of the processing plant and portable crusher respectively. The extraction plan is included in Appendix B of the Noise Study.
11. Aggregate extraction operations must be done in accordance with the ARA Site Plans. The pit equipment must operate on the pit floor following the initial operations in Phase 1.
12. Back-up beepers are exempt from assessment by the MECP stationary noise source guidelines. However, to reduce off-site noise impacts, where possible, alternative technologies will be used on all equipment operating at the site. Details regarding a potential alternative technology are included in Appendix E.
13. Extraction and processing operations should only occur Monday to Friday during the daytime (i.e. 0700 to 1900 hours) period. Loading and shipping of material off-site can occur between 0600 to 1900 hours on Monday to Friday and 0700 to 1500 hours on Saturday. Work outside these hours will require a specific contract and will be subject to notifying the Township.
14. Off-site noise audit measurements should be completed when operations are underway on the site to confirm the MECP noise guideline limits are met. The audit measurements must be done by a qualified acoustical engineer. The noise audit report will be provided to the Township and Region and will be completed once operations are fully commenced in Phase 1 followed by subsequent audits in Phases 2, 3 and 4. If necessary, any required remedial actions for noise mitigation will be provided.
15. The acoustical engineer should check/verify that the onsite noise control measures required by this noise assessment are in place as part of the noise audit.
16. If other or new equipment is brought to the site, the sound emissions should be checked to ensure compliance with this noise study.
17. If alternate noise mitigation measures are to be implemented, they should be reviewed by a qualified acoustical consultant to ensure the MECP noise guideline limits will be met.

F. Archaeological Assessment

Regional staff have reviewed the report entitled “Stage 1 and 2 Archaeological Assessments, Shantz Station Pit, 1175, 1195 Foerster Road and 1472 Village View Road, Township of Woolwich, Regional Municipality of Waterloo, Part of Lots 81 and 82, German Company Tract, Geographic Township of Waterloo, Waterloo County, Ontario”, by Archaeological Research Associates Ltd. (File 2018-0098 and 2018-0174), for Capital Paving Inc. dated August 15, 2019 (the Archaeological Assessment) Regional staff have also considered the Acknowledgement Letter from the Ministry of Heritage, Sport, Tourism, and Culture Industries (MHSTCI) dated April 3, 2020. The recommendations in the Archaeological Assessment, in accordance with the Ministry’s acknowledgement letter, require the inclusion of a Holding Provision within the Zoning By-law as well as several measures within the Aggregate Resources Act site plans. The measures to be included in the site plans are as follows:

1. That a 20m protective buffer and a 50m monitoring buffer be placed around the Registered Archaeological Sites 2 (AjHc-40) and 5 (AjHc-41) as shown on Maps 10 and 11 of the Archaeological Assessment within the site plan. All lands comprising the site extents and the 20 m protective buffers must be considered ‘protected areas’ to be avoided; and
2. That a temporary barrier be established around each protected area in advance of site alteration . All soil disturbing activities within the 50 m monitoring buffer must be monitored by a licensed archaeologist to ensure the effectiveness of the avoidance strategy. The archaeologist must ensure that the temporary barrier is in the appropriate location and must be empowered to stop site alteration if there is a concern for impacts to an archaeological site. ‘No go’ instructions must be issued to all on-site work crews and engineers for the protected areas, and the location of the protected areas must be shown on all appropriate site plans and contract drawings.

Given that there are no further Archaeological concerns for the majority of the subject lands, the Archaeological Assessment recommended a partial clearance to allow development/extraction activities to proceed while outstanding concerns for Archaeological Sites 2 and 5 continue to be addressed. As such the Region of Waterloo will require the inclusion of a Holding Provision within the Zoning By-law for the protected areas around Archaeological Sites 2 and 5. The protected area represents all the lands within the 20m protective buffers identified on Maps 10 and 11 of the Archaeological Assessment. Prior to the lifting of the Holding Provision, the recommended Stage 3 (and possible Stage 4) Archaeological Assessment(s) for Sites 2 (AjHc-40) and 5 (AjHc-41) and the associated MHSTCI Acknowledgment letter(s) must be submitted to the satisfaction of the Region of Waterloo.

General Comments

Regional staff acknowledges the receipt of the Regional fees of \$15,000 for the review of the aggregate application. Please note that the Region's fee for the approval of the proposed Official Plan Amendment is \$5,750. The fee is to be provided to the Region once the Amendment has been adopted by Township Council and submitted to the Region for approval.

Any issuance of a building permit for future development on this property will be subject to provisions of Regional Development Charge By-law 19-037 or any successor thereof. Please accept this letter as our request for a copy of the staff reports, decisions and minutes pertaining to each of the consent applications noted above.

Please accept this letter as our request for a copy of the decision and minutes pertaining to the applications noted above. Should you require Regional Staff to be in attendance at the meeting or have any questions, please do not hesitate to contact the undersigned.

Yours truly,

A handwritten signature in blue ink that reads "Dave Welwood". The signature is written in a cursive, flowing style.

David Welwood, MCIP, RPP
Principal Planner
dwelwood@regionofwaterloo.ca
(519) 575-4400 Ex. 3120

cc: Neal DeRuyter, MHBC Planning, Urban Design and Landscape Architecture
(nderuyter@mhbc.com)