Prepared By:

Summary Statement - Proposed Class 'A' Aggregate Pit

Watson Pit
Teeswater Concrete Ltd.
311804 Highway 6, Mount Forest
Municipality of West Grey

GMBP File: 218045-1

February 25, 2025

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Full-Size Drawings are enclosed at end of this Report:

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311804 HIGHWAY 6, MOUNT FOREST

SUMMARY STATEMENT - PROPOSED CLASS 'A' AGGREGATE PIT
TEESWATER CONCRETE LTD.

FEBRUARY 25, 2025

GMBP FILE: 218045-1

1.0 INTRODUCTION

This Summary Statement is prepared to accompany an application for a Class "A" Pit Above Water with 750,000 tonnes per year proposed for the property on Part Lots 19 and 20, Concession 1 West of Owen Sound Road, Geographic Township of Normanby, now Municipality of West Grey. The civic address of the property is 311804 Highway 6, Mount Forest. The following drawings have been prepared to detail the proposed pit development:

Drawing No. (of 6)	Title
1	Existing Features Plan
2A	Operations Plan
2B	Operations Plan
3	Rehabilitation Plan
4	Cross-Sections A
5	Cross-Sections B

This Summary Statement and enclosures are to be circulated to agencies reviewing the license application and are to be included with the application for Official Plan and Zoning amendments required for the site.

2.0 EXISTING CONDITIONS

2.1 Physiography and Geology

The site is located within the physiographic region of the Horseshoe Moraines. In general, the Horseshoe Moraines are characterized by drumlinized till plains, kame moraines, and outwash deposits (Chapman and Putnam, 1984).

The soils on the subject site are identified as well sorted gravelly outwash of the Burford series (Soil Survey Report No. 17). The physiographic mapping (Map 2225) indicates that the subject property is located in an area of kame moraines in the western, northern, and central portions of the Site, with the eastern and southernmost portions of the Site consisting of glacial outwash deposits. This is consistent with the Ontario Geological Survey's Surficial Geology of Southern Ontario dataset, which identifies the majority of the property as glaciofluvial ice-contact deposits and the southern and eastern portions of the property as glaciofluvial outwash deposits.

The bedrock underlying the Site is reported to consist of dolostone of the Salina formation. Based on the mapping provided by the Grey and Bruce Groundwater Study and an analysis of MECP registered water well logs in the

area, the depth to bedrock in the vicinity of the subject property is reported to be greater than 71 meters below ground surface (mbgs) (i.e. 236 feet bgs).

As discussed, the ground surface across the Site is generally hummocky with low, rolling hills. The elevation moderately declines in the southern portion of the property, south of the access roadway, toward the Letterbreen Bog and to the east toward the Highway 6 Right-of-Way.

2.2 Surface Water Features

The area of the property proposed for licensing is the elevated portion of the property set back from ponds/seasonally wet areas of the Site and the boundary of the Letterbreen Bog. No permanent surface water features are located within the licensed area.

2.2.1 Letterbreen Bog

The northerly margin of the Letterbreen Bog is situated in the southern portion of the property. Based on our onsite groundwater elevation measurements, it is inferred that the surface water elevation in the bog is generally consistent with the water table elevation. Further, it has been determined that the potentiometric surface across the Site declines in a northerly direction, driving shallow groundwater flow towards the north, and away from the Letterbreen Bog. This northerly groundwater flow is expected to significantly reduce the potential for negative impacts to the water balance of the bog.

In order to reduce the potential for impacts to this feature, a setback of 30 metres from the wetland's edge has been established for aggregate extraction. The edge of the wetland was determined by Ken Dance of Dance Environmental Inc. (the ecological consultant for this application) and was subsequently surveyed by GMBP personnel. It is noted that SVCA representatives were also onsite for the delineation of the wetland and 30 metre setbacks. Further, Grey County ecologists Michael Cook and Natalie Mechalko have attended the Site and been pre-consulted with respect to the wetland setbacks.

The proposed onsite pit operations are required to have a setback from the areas of the property designated as Hazard Lands as part of the Grey County Official Plan. It is noted that the SVCA regulated screening area extends approximately 50 to 100 metres beyond the noted Hazard Land boundary. It is our understanding that development within the area designated as an SVCA screening area is permitted as long as suitable consultation with the SVCA has been conducted and written permissions or permits (if required) have been obtained.

It is of particular note that the proposed operations are to be above the water table. No dewatering or water diversion will take place onsite as part of aggregate extraction operations. Based on the occurrence of coarse-grained soils (i.e., the sand and gravel) below the groundwater table, the pre- to post-development groundwater flows are expected remain similar to the present conditions. Considering both the water budget and flow direction is expected to remain unchanged from pre-extraction to post-extraction when appropriate setback distances are maintained, no impacts to this area is anticipated.

2.3 Current Use

The subject property is currently being used for agricultural purposes. Two residential dwellings are situated on the southeastern portion and eastern portions of the property, respectively. Additionally, a number of auxiliary agricultural buildings are also present along the eastern property boundary, adjacent to the western side of the Highway 6 Right-Of-Way (ROW).

The western portion of the property (i.e. the eastern portion of Lot 46, Concession 2W of Owen Sound Road) is currently licenced under ALPS 5110 as a Class “A” licenced aggregate pit. It is noted that this existing pit licence was issued in February 2014, but had not undergone any aggregate extraction operations between 2014 and 2023. Teeswater Concrete Ltd. commenced aggregate extraction in this licenced area in summer of 2023.

2.4 Nature and Occurrence of Aggregate - Viability

The quality, quantity, and approximate limits of the sand and gravel deposits were confirmed during a preliminary Aggregate Resource Assessment completed in February 2023, which involved the excavation of twenty-two (22) testholes and eight (8) boreholes across the Site. The nature of the aggregate materials was assessed in the field and selected samples were submitted for grain size analysis to further characterize the aggregate materials. The aggregate materials were further assessed during the drilling of the boreholes in March 2023 for the installation of the onsite monitoring well network.

From the observations made during the above investigations, the primary material across the Site consists of sand and gravel. However, interbedded layers of silty sand and other fine-textured soils were observed to be present in most of the boreholes. The cumulative thicknesses of the sand and gravel aggregate layers were observed to be between 4 metres and 21 metres in thickness.

According to the Surficial Geology of Southern Ontario (Ontario Geologic Survey), the subject property is situated in an area of ice-contact stratified deposits (i.e. kame moraine) of sand and gravel (OGS, 2000) across the majority of the Site, with the lower, southeastern corner of the Site reported to consist of glaciofluvial outwash deposits. This is generally consistent with the observations made during the onsite investigations. Under Schedule B the Grey County Official Plan, the majority of the proposed licensed boundary of the aggregate pit is within the Aggregate Resource Area designation.

Based on the quality of the sand and gravel with limited silt and clay content throughout large portions of the property, the deposit is considered to be of “good quality” and as such, viable for operation of a Sand and Gravel Pit. Additional certainty regarding the viability of the proposed resource is provided through the viable extraction of sand and gravel from the adjacent existing pit, where is extraction is currently occurring.

2.5 Planning and Land Use Considerations

The overall property is zoned Highway Commercial with the southernmost portion of the property associated with the Letterbreen Bog zoned Wetland and Natural Environment and Natural Environment 2 under Municipality of West Grey Zoning By-law Number 2006-37. The western portion of the property is zoned Extractive Industrial, which is reflective of the existing ARA licenced are (ALPS 5110).

The proposed licensed boundary of the aggregate pit falls within the Highway Commercial zone. Under Schedule B the Grey County Official Plan, the majority of the proposed licensed boundary of the aggregate pit is within the Aggregate Resource Area designation. We understand that an amendment to the zoning bylaw (to obtain an Extractive Industrial zoning) is required.

Properties surrounding the proposed pit also include Agricultural, Rural, and Natural Environment Zones,

The subject Site is situated in the Saugeen Valley Source Protection Area. However, this Site is not situated in a designated drinking water source protection area. Therefore, source water protection policies do not apply to this Site.

Based on the Canada Land Inventory Soil Capability for Agriculture (Department of Energy, Mines and Resources 1967), the proposed extraction area on the subject property is associated with Class 3 and 5 Soils with moderate-to-very severe limitations that restrict the range of crops that would be suitable for the Site. More specifically, the soil on the Site is reported to have limitations associated with topography and stoniness.

The total area of the proposed area of extraction is currently being utilized as agricultural crop land with the exception of the onsite structures. As part of the development and restoration, existing topsoil shall be sequentially stripped and used to create berms, as shown on the plan. Portions of the Site that are not undergoing active extraction, excluding the Phase 1A, 1B, and 1C areas, shall continue to be used for agricultural crop use pre-extraction and post-extraction following progressive rehabilitation. More specifically, as noted in the Site plans, no more than 32 ha shall remain open for extraction (excluding the Phase 1A, 1B, and 1C areas), with all other portions of the proposed extraction area to continue agricultural crop operations.

Any remaining topsoil is to be maintained in stockpiles on site with vegetative cover, then replaced as part of remediation. Upon restoration and return to use as agricultural lands, the soil quality is expected to be similar to existing conditions. It is of particular note that since it is expected that the sand and gravel aggregate strata extends below the water table across the proposed area of extraction, the post-extraction rehabilitated portion of the subject property is expected to have the same or similar drainage to pre-extraction.

2.6 Site Access and Haul Route

Primary Site access will be achieved from the northern portion of the site from the southern side of the Grey Road 9 ROW. The existing entrance on the southern side of the Site from the Highway 6 ROW is proposed to be used as a secondary access and is currently used as a primary access to aggregate extraction operations on the existing licenced area on the western portion of the Site. No additional entrance/exit permits are expected to be required from the Municipality.

The primary haul route is east on Grey Road 9 to Highway 6. Local deliveries may take alternate routes (i.e. west on Grey Road 9.

3.0 TECHNICAL REPORTS

Technical reports completed by specialist consultants have been prepared to accompany this application and support the proposed pit development as follows:

- A Maximum Predicted Water Table Elevation and Hydrogeological Assessment Report,
- A Level 1 and 2 Natural Environment Technical Report,
- A Stage 1, Stage 2, and Stage 3 Archeological Assessment,
- A Cultural Heritage Evaluation Report
- A Noise Impact Study,

- A Transportation Impact Study, and
- An Air Quality Assessment

Each of the completed Technical Reports is described in more detail in the following sections.

3.1 Maximum Predicted Water Table Elevation and Hydrogeological Assessment Report

The study entitled "*"Maximum Predicted Water Table and Hydrogeological Assessment Report - Proposed Class 'A' Aggregate Pit Above Water – Watson Pit – 311804 Highway 6, Mount Forest, Municipality of West Grey – Teeswater Concrete Ltd."* was prepared by GM BluePlan Engineering Limited in November 2023. A copy of this report is enclosed with this Summary Statement.

This investigation has determined that the pit would have no impact on the ground water or surface water features within the area. Based on the geologic mapping, MECP well records, the Grey and Bruce Counties Groundwater Study, and on the site-specific investigations completed to date, it is observed that the groundwater table roughly mimics the topography of the site, with the highest groundwater elevation onsite in the southern portion of the property. More specifically, the high water table is considered to be situated at approximately 395.0m in the southern portion of the property adjacent to the Letterbreen Bog and descends in a generally northward direction to an elevation of approximately 389.0m in the northern portion of the Site (based on water levels measured in March 2023).

As part of the Hydrogeological Study, the following operational measures were recommended to protect the sensitive features:

- The surface water features, including outlet elevations and controls are not to be adjusted as part of the pit development.
- To generally maintain surface water flows to the same low-lying locations, sloping of the restored grades to maintain similar catchment areas (pre- and post-development) shall be conducted.

3.2 Natural Environmental Technical Report

The combined report entitled "*Natural Environment Level 1 & 2 Reports and E.I.S. For Aggregate Licence Application – 311804 Highway 6, Concession 1, Division 1 to 3 Part Lot 19 & 20, Concession 2, Part Lot 46 Normanby, West Grey, County of Grey"* was prepared for Teeswater Concrete Ltd. by Dance Environmental Inc., dated February 5, 2024. A copy of this report is enclosed with this Summary Statement.

Several features were identified that require mitigative measures, including:

- Butternut Trees on the periphery of the proposed licenced area,
- Bank Swallows,
- Barn Swallows,
- Turtle Nesting Areas,
- Provincially Significant Woodlands south of the proposed extraction area and north of Grey Road 9.

- Provincially Significant Wetlands in the southernmost portion of the Site associated with the Letterbreen Bog.

To address these features, the following mitigative measures were recommended:

- Clearing of any vegetation within the limit of extraction shall occur between October 1 and April1 to prevent any destruction of birds, eggs or nests.
- Equipment fueling, maintenance and fuel storage shall be located near the central portion of the site, away from the ponds, woodlands, and wetlands.
- Extraction shall be kept 1.5m above the shallow ground water elevation, so that there are no impacts on the off site natural features.
- Silt control fence shall be installed to protect the woodland and wetlands to the south, and the woodlands to the west and southwest.
- The southern and western boundaries of the licence margin shall be fenced with post and wire fencing to prevent equipment from impacting the adjacent woodlands and wetlands.
- If in the future, the houses, barns and sheds are to be removed, MECP regulations in force at the time shall be reviewed to ensure that the methods and timing of building removals are in compliance with requirements pertinent to Barn Swallows.
- Subject to review by, and advice from MECP, a suitably-sized Barn swallow nest structure shall be erected in the southeastern corner of the licenced area, adjacent to the turtle nesting and overwintering and Eastern Meadowlark habitat. The structure shall be installed one nesting season prior to removal of the existing Location A barn where nesting occurs.
- A 15m setback from the property boundary shall be left ungraded and be allowed to naturalize in the area of the west-central woodland where butternut saplings have been found. Since extraction here is to occur in the last Phase (6), which will be many decades from now, this area could be farmed until the year before extraction is to occur.
- Three years prior to extraction in Phase 6, the health of the Butternuts shall be checked and regulations pertaining to Butternuts that are in effect at the time shall be followed. Presuming that there are healthy Butternuts present and regulations require their protection, prior to stripping topsoil on the lands to be extracted during Phase 6, silt fence shall be erected and monitored periodically. The 15m setback shall be allowed to naturalize, or whatever prescription to protect Butternuts is required, shall be implemented.
- A 15m wide ungraded setback from Butternut 1 shall separate the trunk of the tree from the proposed limit of extraction of the new pit. This setback shall be protected by silt and post and wire fencing one year prior to extraction of the southern portion of Phase 6 lands.
- If Bank Swallows begin to nest in the new pit margins, pertinent regulatory requirements shall be followed to avoid impacts on this species.
- A minimum 30m wide ungraded setback from the wetland edge shall be provided. A post and wire and silt fence shall be erected along the northern boundary of the setback from the wetland and from the other natural heritage features that are present in the southeastern area of the study area.
- Silt fence shall be installed prior to topsoil stripping in the Phase 1B and 1C areas. The minimum 30m setback shall be allowed to naturalize, except in specific areas where management of trees and shrubs is undertaken to maintain shade-free areas for turtle nesting.
- The ecological monitoring plan shall include the following:
    - counting the numbers of active nests and pairs of Barn Swallows using the artificial nesting structure;
    - counting and mapping the numbers of sunning and nesting turtles in the area adjacent to Pond FRG3 and the PSW setback; every 3 years a monitoring visit shall be made to the turtle nesting area to determine if any trees or shrubs should be removed to ensure the long-term availability of open sunny habitat where turtle nesting would be successful. Any tree or shrub removals shall be completed using hand tools, to ensure that nesting substrates are not compacted by heavy equipment; every 5 years, two monitoring visits (one in early and one in late July) shall be

conducted to count and map numbers of turtle nests. A brief report shall be submitted which documents the nest monitoring results;
    - document any use of the meadow habitat adjacent to FRG3 by Eastern Meadowlark (EAME): record dates, behaviour, and numbers of EAME and map locations;
    - estimate numbers of Common Milkweed plants and map locations;
    - count and map Monarchs present during monitoring visits;
    - a baseline year monitoring shall occur the year following topsoil stripping in the Phase 1A area;
    - Annual monitoring shall occur as soon as topsoil stripping occurs within 150m of the northern setback from the PSW/SWH;
    - Annual monitoring shall continue during the Phase 1B and 1C extraction and shall continue until the southern Phase 1B area and the entire Phase 1C area have been progressively rehabilitated;
    - Monitoring of the effectiveness of the tree and shrub management to maintain sunny turtle nesting areas shall be reported in each annual report.
    - Any annual data summary and interpretation report shall be prepared and provided to the client and all relevant agencies during years when monitoring is specified.
- Progressive rehabilitation shall be undertaken. Re-vegetating portions of the pit as quickly as feasible would potentially benefit vegetation and wildlife populations in the study area.
- Dust control effectiveness shall be monitored on an on-going basis, with mitigation measures to be taken as required, to achieve effective dust control.

3.3 Cultural Heritage Resources Investigations

The combined report titled "*Stage 1 and 2 Archaeological Assessment, 311804 Highway 6, Mount Forest Part Lots 19 and 20, Concession 1 West of Owen Sound Road, Part Lot 46, Concession 2 West of Owen Sound Road, Geographic Township of Normanby, now Municipality of West Grey, Grey County, Ontario"* was prepared by Parslow Heritage Consultancy Inc., dated November 10, 2023. A copy of this report is enclosed with this summary statement.

The Stage 1 and 2 Archaeological Assessments resulted in the discovery of three locations containing cultural heritage value of interest (CHVI) (i.e. Indigenous Site 1, Historic Site 1, and Historic Site 2). Historical Site 1 and 2 and their recommended setbacks are outside of the proposed extraction areas on the Site with the exception of Indigenous Site 1, which was subject to a pending Stage 3 Archaeological Assessment.

A Stage 3 Assessment was completed in consultation with the Saugeen Ojibway Nation (SON) and no additional CHVI was identified associated with Indigenous Site 1. As such, PHC Inc. and SON are reported to have no concerns with aggregate extraction in the location of Indigenous Site identified.

As such, the following recommendations have been made in the report:

- Historic Site 1 (BaHe-17) and Historic Site 2 (BaHe-18) are considered to have CHVI and Stage 3 archaeological assessment is recommended. It is understood the Proponent intends to employ a long-term avoidance and protection strategy for these sites. The long-term avoidance and protection strategy for Historic Site 1 (BaHe-17) and Historic Site 2 (BaHe-18) will include the following:
    - A 20 m protective buffer be applied around the limits of each site, as identified in Map A, Supplementary Documents. No ground disturbance is permitted within the site area or within the 20 m protective buffer other than what would be considered normal agricultural activities (e.g. ploughing, planting, harvesting).
    - A 50 m construction monitoring buffer be applied beyond the 20 m protective buffer for each site. Archaeological construction monitoring is recommended within this buffer during initial ground disturbance and grading activities within this portion of the study area. Construction

monitoring should be undertaken by a licensed archaeologist and reported on to the MCM in a license report. Should archaeological materials be encountered during construction monitoring, construction activities within the monitoring buffer should cease until the artifacts are investigated to the satisfaction of the licensed archaeologist and MCM.

- The site areas and associated protective and monitoring buffers be added to Site Plan maps, and their locations communicated to all on-site personnel.
- Given the site areas will remain agricultural for the foreseeable future, no fencing is recommended for the site areas or protective buffers.

As part of the MNRF application process, building more than 40 years old were noted to exist on the property. This triggered the need for a built Cultural Heritage Evaluation Report (CHER). To support the assessment, Parslow Heritage Consultancy Inc. completed the report entitled "*Cultural Heritage Evaluation Report 311804 Highway 6, and 311860 Highway 6, Geographic Township of Normanby, now Municipality of West Grey, Grey County, Ontario*" dated April 17, 2024.

The CHER Report findings indicate that: *Neither 311846 or 311860 Highway 6 is rare or unique. While constructed in the vernacular Gothic Revival style based on the 1864 article 'A Cheap Farmhouse", the design is prolific in the surrounding area and the larger Province of Ontario, and better more representative examples continue to be found in abundance in the Municipality of West Grey and the County of Grey. The condition of the properties ranges from poor to fair, with the structures at each property exhibiting significant modification.*

The CHER Report recommends *that no further heritage assessment of 311846 or 311860 Highway 6 be undertaken and that this report be circulated to the Municipality of West Grey for review* since the decision making is upto the CHVI of the Municipality. The circulation of this report to West Grey will be completed as part of the consultation process for the ARA and re-zoning.

3.4 Noise Impact Study

The report titled "*Noise Impact Study (Project 23153.00), Watson Mount Forest Pit, Noise Impact Study – Mount Forest, ON"* was prepared by Aercoustics Engineering Ltd., dated January 11, 2024. A copy of this report is enclosed with this summary statement.

As part of this study, detailed technical, developmental, and operational recommendations were made in consultation with Teeswater Concrete Ltd. associated with phasing, setbacks, and noise buffering berms. These recommendations were incorporated into the Phasing notes and other aspects of the operational plans. The recommendations are provided in Appendix "A" of the attached Noise Impact Study Report.

3.5 Transportation Impact Study

The report titled "*Watson Pit – 311804 Highway 6, Mount Forest, ON – Transportation Impact Study"* was prepared by Paradigm Transportation Solutions Ltd., dated October 2023. A copy of this report is enclosed with this summary statement.

The following recommendation was made in this report:

- It is recommended that the Site access on Grey Road 9 be located 400 metres west of Highway 6 and the operations be considered for approval.

3.6 Air Quality Assessment

The report titled *"'Teeswater Concrete – Watson Pit Application – Mount Forest, ON – Air Quality Assessment, RWDI #2401387"* was prepared by RWDI Air Inc. and was dated January 23, 2023. A copy of this report is enclosed with this summary statement.

The following recommendations were made in this report:

- The licensee or permittee shall apply water or another provincially approved dust suppressant to internal haul roads and processing areas, as necessary to mitigate dust, if the pit or quarry is located within 1,000 metres of a sensitive receptor.
- The licensee or permittee shall equip any processing equipment that creates dust with dust suppressing or collection devices if it is located within 300 metres of a sensitive receptor.
- The licensee or permittee shall obtain an environmental compliance approval under the Environmental Protection Act where required to carry out operations at the pit or quarry.
- The site will operate in accordance with Teeswater's Best Management Practices Plan for The Control of Fugitive Dust Emissions, which may be amended from time to time, considering actual impacts and operational considerations. The recommendations in the BMPP are based on the maximum daily production rates. At lower production rates, the control measures specified in the BMPP can be reduced accordingly, provided dust remains mitigated on site.

4.0 OPERATIONAL PLAN

The Operational Plan for the proposed pit has been developed based, in part, on the results and recommendations made in the Maximum Predicted Water Table and Hydrogeological Assessment Report, the Natural Environment Technical Report, Cultural Heritage Resources Investigation, Noise Impact Study, and Transportation Impact Study.

4.1 Extraction Operations

4.1.1 Depth of Extraction

The pit is designed for extraction above the water table. Based on the findings of the Hydrogeological Report (GM BluePlan, November 2023), the maximum water table elevation in the portion of the site where extraction is proposed (i.e. the elevated area) was inferred to decline from approximately 395.0m in the southern portion of the property adjacent to the Letterbreen Bog and descending in a generally northward direction to an elevation of approximately 389.0m in the northern portion of the Site.

Based on the requirement for extraction to be 1.5 m above the high water table, **the maximum elevation of extraction in the southern portion of the area of extraction is 396.5m the southern portion of the area of extraction and sloping downward to approximately 390.5m in the northern portion of the Site.**

Although the depth of the water table has been established via the Hydrogeologic Investigation, it is possible that subsurface conditions can vary from those identified. As such, no excavation below the water table, or in standing water is to occur during operations.

4.1.2 Water Diversion and Surface Water Management

Wash ponds are proposed to be used in Phases 1B and 1C to facilitate aggregate washing operations. Surface water is to continue to be subject to overland flow and infiltration within the licensed area.

As part of aggregate washing operations, it is our understanding that a Ministry of Environment, Conservation and Parks (MECP) Permit to Take Water (PTTW) will be required for the Site. This will be applied for and obtained prior to any aggregate washing operations or pond excavations on the Site.

4.1.3 Equipment

Extraction of aggregate is proposed to take place year round with the majority of extraction from April to November during each year of operation at the pit. The mined material is primarily intended for use as aggregate. Extraction is proposed to occur via excavation equipment, including excavators, loaders, skid-steers, dozers, and trucks with potential processing equipment, such as graders, crushers, screeners, generators, air compressors, sorting equipment, and conveyor belts.

4.1.4 Aggregate Quality

The soils on the subject site are identified as well sorted gravelly outwash of the Burford series (Soil Survey Report No. 17). The physiographic mapping (Map 2225) indicates that the subject property is located in an area of kame moraines in the western, northern, and central portions of the Site, with the eastern and southernmost portions of the Site consisting of glacial outwash deposits.

Kame moraines generally consist of poorly sorted sand and gravel with some interbeds of silt or clay. Glacial outwash deposits generally consist of poorly sorted coarse-textured sand, gravel, and/or cobbles with relatively low silt and clay content. The nature of this soil makes it suitable for a variety of potential aggregate applications depending on the processing (i.e. crushing, screening, washing etc) that is deemed necessary to meet specific construction/engineering standards.

Observations documented during the onsite drilling investigation and monitoring well installations that were conducted on the Site to support the hydrogeological assessment indicate that the aggregate onsite consists of generally coarse gravel and sand with varying cobble content across the area of proposed extraction, with some thinner interbeds containing elevated concentrations of fine-textures soil (i.e. silt and clay). The which is expected to be generally consistent with material that is suitable for various uses as engineered granular fill materials.

4.1.5 Extraction Phases and Quantities

The total area to be licenced comprises 93.30 ha. The total area within the setback limits that is proposed for extraction is 77.45 ha. The maximum annual tonnage applied for is 750,000 (i.e., 750,000 tonnes per year). The remaining 15.85 ha is comprised primarily of buffer lands, visual screening, environmental buffer, set-backs, wetland, and the access roads. Based on available information, assuming associated processing, crushing, screening, and washing is performed to meet specific gradation requirements (if required), the aggregate onsite is expected to be suitable to be used as granular ‘A’, granular ‘B’, concrete mixes, or other various granular fill materials. It is proposed to conduct the extraction operations in a series of six (6) phases, commencing as follows:

Phase 1A: Progression from the north-central portion of the Site in a southerly direction. This phase shall be primarily maintained as a traffic corridor, truck scale, scale office, and may be used for equipment parking.

Phase 1B: Situated in the central portion of the Site, progression shall be from north to south and the phase shall remain open as the primary processing, equipment storage, and wash plant area.

Phase 1C: Progression in a southwesterly direction from the boundary of Phase 1B. A series of additional source water / wash ponds are proposed to be excavated in this Phase. Phase 1C shall be maintained as an additional source water / wash pond area throughout pit operations.

Phase 2: Progression from the eastern boundary of Phase 1A toward the northeast and the intersection of Highway 6 and Grey Road 9.

Phase 3: Progression in a westerly direction from the western boundary of Phase 1B to the margins of the existing onsite natural gas easement.

Phase 4: Progression in a northwesterly direction from the central portion of the Site toward the northwesterly licence boundary.

Phase 5: Progression in a southeasterly direction from the eastern boundary of Phase 1B toward the southeasterly extraction boundary.

Phase 6: Progression in a northerly direction from the southwestern licence boundary to the northwestern licence boundary between the western property boundary and the existing onsite natural gas easement.

Each phase includes a relatively similar portion of the overall extraction area of the Site. Generally, extraction of suitable aggregate would be generally completed in each phase before extraction in the adjacent area would start. Multiple phases may be open at one time in order to achieve extraction of differing materials that meet blending requirements, so long as the required berms are in place prior to extraction in the associated areas. No more than 32 ha shall remain open at once, excluding the Phase 1A, 1B, and 1C areas.

The limits of extraction proposed in each phase are indicated on the Operational Plan (Drawing No. 2A and 2B).

Across all of the phases of the proposed pit, a total of 8 million to 11.5 million tonnes of aggregate are estimated to be present on the Site using an inferred in-place aggregate density of 2.2 tonnes/m^3. However, an unknown percentage of the total aggregate volume is expected to be lost due to unsuitable materials.

The sequence of material movement and extraction operations within each extraction phase is described in the following:

- Phase 1A, 1B, and 1C
    i. Stripping of topsoil and extraction of the overburden (where present) to the top of the aggregate would be completed in Phase 1A, 1B, and 1C. The topsoil and overburden materials from Phase 1A. 1B, and 1C are to be used in the construction of berms identified as Barrier A, Barrier B, and Barrier C.
    ii. Prior to extraction in Phase 1A, Barrier A shall be established along the northern licence boundary. This barrier shall remain in place for the duration of extraction and processing operations within the pit.
    iii. A truck scale and scale office shall be constructed in Phase 1A
    iv. Prior to extraction in Phase 1B, Barrier B shall be established along a portion of the eastern extent of the Phase 1B area This barrier shall remain in place until extraction commences in Phase 5.
    v. Prior to extraction in Phase 1C, Barrier C shall be established on the western and southern boundary of Phase 1C. This barrier shall remain in place for the duration of extraction and processing operations in the pit.
    vi. Interim storage of the extracted aggregate would occur until extraction to the Pit Floor is established in Phase 1B. Once sufficient storage area in the floor of Phase 1B is established,

future stockpiling of aggregate would remain in Phase 1B and the floor of the pit in the active area.

vii. Phase 1B shall be maintained as a processing plant, wash plant (including wash ponds), and equipment storage area.

viii. Phase 1C shall have the area of the phase containing the extraction/infiltration ponds maintained throughout extraction, processing, and wash plant operations.

ix. Excess stockpiled overburden not used in berm construction (if any) would be utilized for progressive rehabilitation of Phase 1A (excluding the haul route), portions of Phase 1C (excluding the wash pond areas), or stockpiled for future progressive rehabilitation of subsequent phases.

- Phase 2
  i. Stripping of topsoil and extraction of the overburden (where present) to the top of the aggregate would be completed in Phase 2. The topsoil and overburden materials from Phase 2 are to be used in the rehabilitation of portions of Phase 1A and 1C and/or in the construction of the berms.
  ii. Prior to extraction in Phase 2, the height of Barrier A shall be increased by 2 m to a height of 6 m across the full length of the berm and Barrier D with a height of 5 metres shall be established along the northern extent of the Phase 2 area. This barrier shall remain in place for the duration of extraction commences in Phase 6.
  iii. Excess overburden shall be stockpiled in the southern portion of Phase 2 and used for Phase 2 rehabilitation following extraction.

- Phase 3
  i. Stripping of topsoil and extraction of the overburden (where present) to the top of the aggregate would be completed in Phase 3. The topsoil and overburden materials from Phase 3 are to be used in the rehabilitation of Phase 2 and/or in the construction of berms (where required).
  ii. Excess overburden not used in berm construction or Phase 2 rehabilitation shall be stockpiled in the western portion of Phase 3 and used for Phase 3 rehabilitation following extraction.

- Phase 4
  i. Stripping of topsoil and extraction of the overburden (where present) to the top of the aggregate would be completed in Phase 4. The topsoil and overburden materials from Phase 4 are to be used in the rehabilitation of previous phases and/or in the construction of berms (where required).
  ii. Prior to extraction in the Phase 4 area, Barrier E shall be established along the western extent of Phase 4, extending southward with an approximate length of 150 m. This barrier shall remain in place for the duration of extraction and processing operations in the pit.
  iii. Excess overburden not used in berm construction or Phase 3 rehabilitation shall be stockpiled in the southeastern portion of Phase 4 and used for Phase 4 rehabilitation following extraction.

- Phase 5
  i. Stripping of topsoil and extraction of the overburden (where present) to the top of the aggregate would be completed in Phase 5. The topsoil and overburden materials from Phase 5 are to be used in the rehabilitation of previous phases.
  ii. During extraction in Phase 5, the Portable Processing Plant shall operate within 60 m from the southern Phase 5 extraction limit.
  iii. Excess overburden not used in Phase 4 rehabilitation shall be stockpiled in the southeastern portion of Phase 5 and used for Phase 5 rehabilitation following extraction.

- Phase 6

i. Stripping of topsoil and extraction of the overburden (where present) to the top of the aggregate would be completed in Phase 6. The topsoil and overburden materials from Phase 6 are to be used in the rehabilitation of previous phases.
ii. Excess overburden not used in Phase 5 rehabilitation shall be stockpiled in the southern portion of Phase 6 and used for Phase 6 rehabilitation following extraction.

- Stockpiles will be located in the active phase proximal to the working face or in Phase 1B (processing area).

- Regardless of the phasing sequence, multiple phases may be open at one time in order to achieve extraction of differing materials that meet the blending requirements, so long as the required berms are in place prior to extraction in the associated areas. No more than 32 ha shall remain open at once (excluding Phases 1A, 1B, and 1C).

4.1.6 Visual Screening

Visual screening from Highway 6 will be provided along the eastern side of the licensed limit via construction of a topsoil berm (refer to Drawing 2A/B). This berm is to be 3 metres high.

Visual and noise screening is required along portions of the northern, northwestern, and southwestern boundaries, as discussed in the phasing sequencing.

The closest residential dwellings are situated on the east side of Highway 6 and the north side of Grey Road 9. These properties have been considered during the proposed berm construction and are expected to have sufficient visual buffers in place during onsite operations to mitigate impacts.

4.2 Access and Haulage Route

As discussed, the primary haul route is east on Grey Road 9 to Highway 6. Local deliveries may take alternate routes.

The northerly Site entryway and southeasterly secondary access shall be maintained to accommodate the associated truck traffic and be in compliance with applicable Municipality of West Grey By-Laws.

4.3 Operational Setbacks

Operational setbacks have been provided to mitigate potential concerns caused by operations including, but not limited to, noise, visual buffer, and ecological and environmental disruption. Prior to extraction in each Phase, the limits of extraction are to be staked/demarked.

The following setbacks are shown on the Operational plans and were developed based on standards developed through the ARA or support studies:

- 10 m setback from property limits.
- 15 m setback from existing tree lines of significant woodlands.
- 30 m setback from property boundaries for soil and overburden stockpiles (not including berms).
- 3 m setback for berms from property boundary.
- 30 m setback from treeline of identified wetland feature.

4.4 Progressive and Final Rehabilitation

Rehabilitation is to occur progressively throughout development of the proposed Pit. Rehabilitation of the phases is to be initiated upon completion of each successive phase so that no more than one Phase is exposed at one time, with the exception of internal haul roads, during transition from one Phase to the next, and the Phase 1A, 1B, and 1C area, which will be used for processing, equipment storage, and wash plant areas throughout onsite operations.

Excess and/or unsuitable overburden may be used to complete Site restoration. If imported fill is required for the rehabilitation of the Site, excess soil may be imported for rehabilitation/grading purposes as long as it meets the soil quality standards outlined in Drawing 3 (Rehabilitation Plan). After extraction, and as part of rehabilitation, the final grade of the side slopes are to be no steeper than 3:1 (horizontal to vertical). The side sloping may be achieved via extraction methodology or by filling with excess soils and/or inert fill.

As part of the development and restoration, existing topsoil is to be stripped, maintained in stockpiles on site with vegetative cover, or used for the construction of berms, then replaced. Replaced topsoil shall be vegetated with grasses or agricultural crops such as wheat, beans, corn, or native grass mix. Additional seeding is to occur on a regular basis until sufficient vegetative cover is achieved. Upon restoration and return to use as agricultural lands, the soil quality and drainage is expected to be similar to existing conditions. After restoration, and where harvest is not planned for the next season, the field is to be seeded with standard cover crop to promote soil fertility.

All of which is respectfully submitted,

GM BLUEPLAN ENGINEERING LIMITED

Per:

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MN/cjs

DRAWINGS: