

Notes

1. Groundwater elevations vary from a high of 413.6 in the northwest to a low of 407.0.

Draft 13 July, 2016

References

 Topographic base mapping derived from 2010 airphoto as prepared by First Base Solutions Inc. Contour interval is 1 metre. Mapping supplemented with additional information from local planning documents.

- Survey of Monitoring Well locations 1 to 11 by Van Harten Surveying and Engineering.
- West boundary of northerly excavation area from Erosion Hazards Study by C.C. Tatham & Associates Ltd., June 2015.
- 4. *Traffic Review*, C.C. Tatham & Associates Ltd., June 2015.
- 5. Sound Impact Analysis Violet Hill Pit, Valcoustics Canada Ltd., June 2015.
- Aggregate Investigation, Geological Investigations, undated.

December, 2015.

- 7. Agricultural Impact Assessment, DBH Soil
- Services Inc., March 2015.

 8. Air Quality Assessment, Trinity Consultants Inc.,
- 9. Stage 1 and 2 Archaeological Resource Assessment, Archaeological Consultants and Contractors, April 2013
- 10. Town of Mono Zoning Bylaw 78-1, as Amended.
- 11. Proposed Violet Hill Pit Combined Level 1 and 2
 Hydrogeological Assessment, Whitewater
 Hydrogeology Ltd., November 2015.



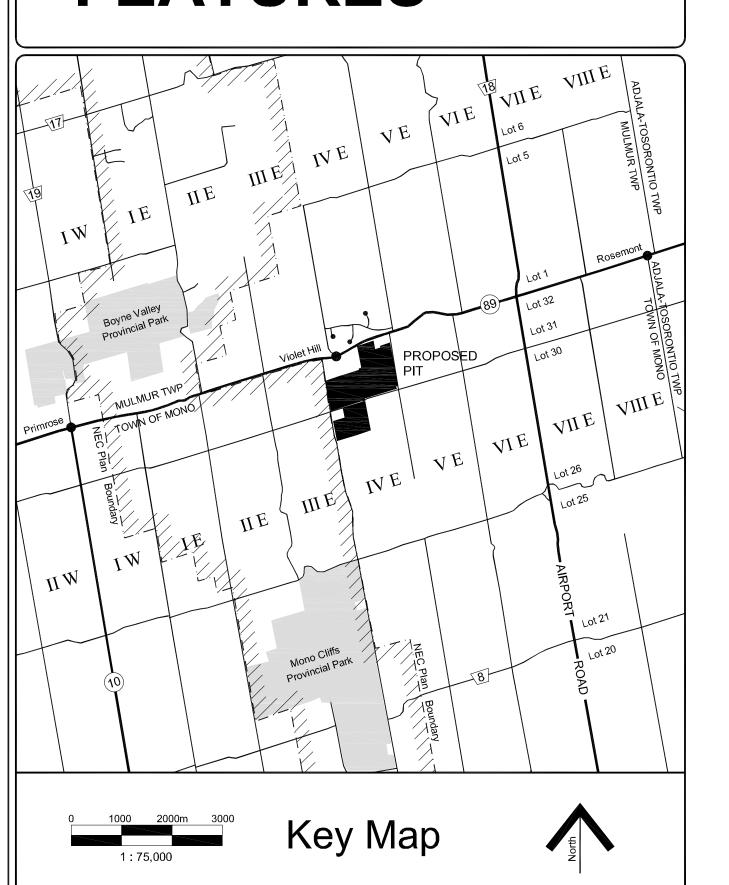
VIOLET HILL PIT

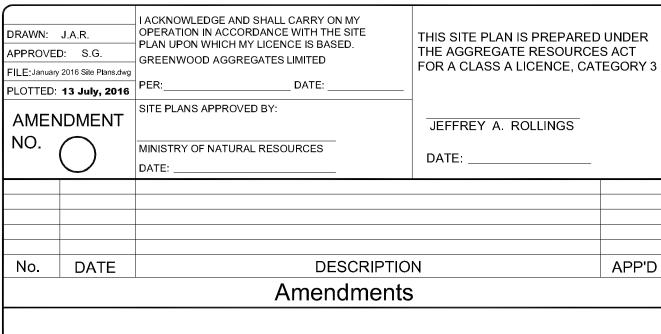
Part Lots 30, 31 & 32, Conc. 4 E.H.S.

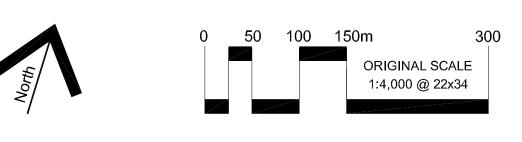
Town of Mono

Dufferin County

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EXISTING
FEATURES

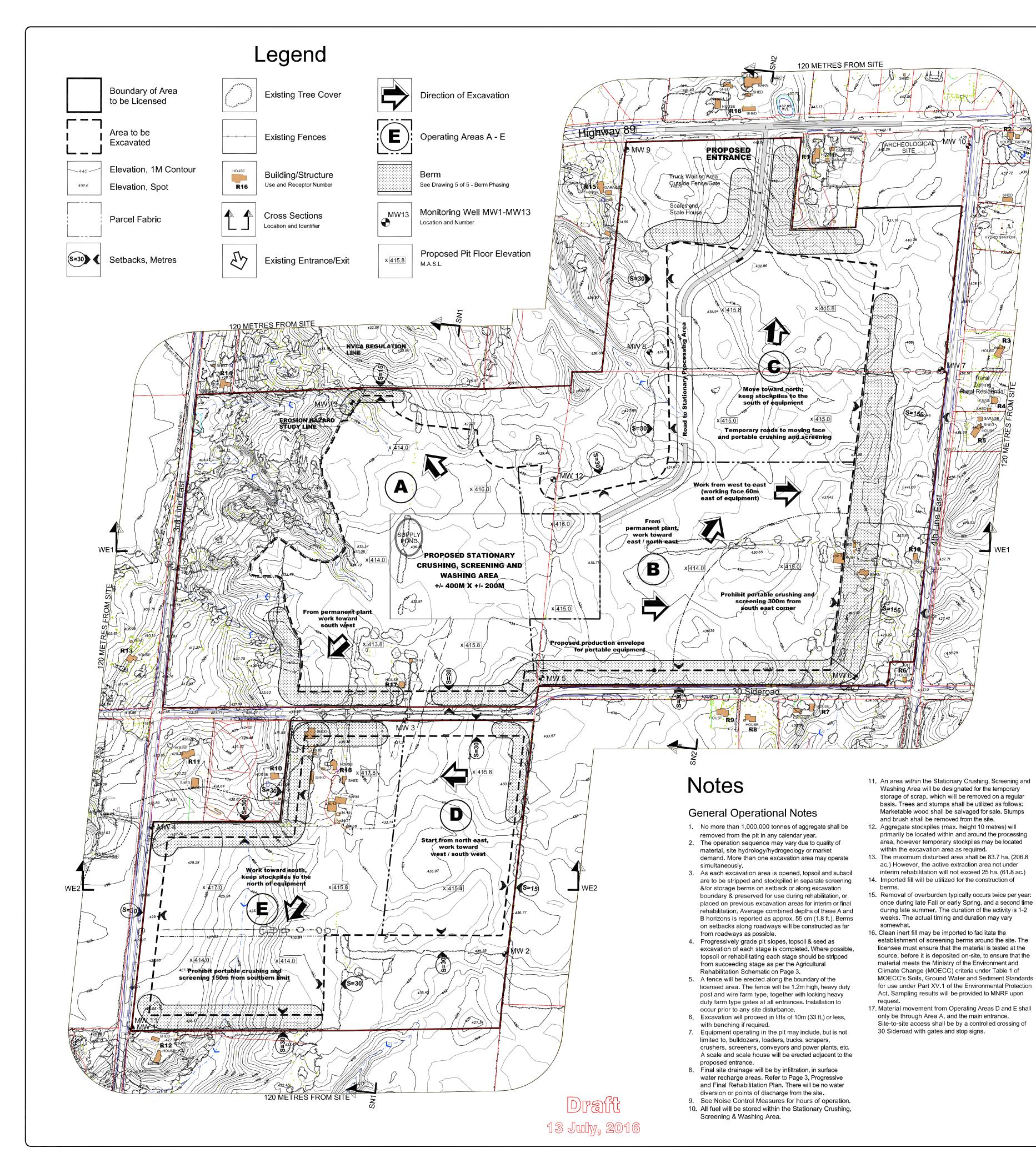






ROLLINGS HYLAND CONSULTING
Orangeville, Ontario 519.942.1961

CERTIFIED TO PREPARE SITE PLANS UNDER SECTION 8(4) OF THE AGGREGATE RESOURCES ACT



Natural Heritage Mitigation

The following actions are recommended and are included on the site plans to mitigate and protect natural features on and within 120m of the Greenwood Violet Hill Pit site:

Provincially Significant Wetlands

• The extraction limit will be set back a minimum of 150 m from the wetland boundary

Endangered and Threatened Species

- The Species at Risk List for Ontario will be reviewed annually to determine if newly listed species are present or have the potential to be found within the extraction
- Prior to striping the area to be cleared will be surveyed during appropriate survey time periods by a qualified professional for the presence of endangered and threatened species.
- A report of the above described surveys will be kept on file at the pit site and will be provided to OMNRF if an endangered or threatened species is found. If required, approvals/authorizations will be obtained under the Endangered Species Act and/or amendments made to the site plan as necessary.

- Each of the 30 known Butternut will be clearly marked and numbered to assist with future identification and the
- establishment of appropriate setbacks • A minimum 25 m setback between the extraction limit and the drip line of the north woodland where 26 Butternut were found will be established and clearly
- · Prior to any operation occurring within the licenced area, the operator will demonstrate to the satisfaction of OMNRF, that the Endangered Species Act and all requirements related to protecting Butternut and their habitats have been met.
- This will accomplished by A search for new and previously identified Butternut both within and within 25 m of the proposed extraction limit by a qualified professional using OMNRF search
- Numbering and clearly marking all Butternut found. Completing a health assessment by a qualified Butternut health assessor on all Butternut found.
- the assessments Seeking appropriate authorization under the Endangered Species Act prior to removing any

assessments to OMNRF within 30 days of completing

Submitting the results of the Butternut health

- Greenwood Aggregates Limited has registered with the OMNRF a Notice of Activity, to "Alter a Structure" that is Barn Swallow habitat, under Endangered Species Act exemption guidelines O. Reg. 242/08 23.3, certificate # X-102-0000000340
- Prior to any land clearing within the licenced area and prior to removing the barn, all the exemption guidelines to protect Barn Swallow habitat outlined in the Endangered Species Act O. Reg. 242/08 Section 23.5 will be adhered to.

Bobolink and Eastern Meadowlark

 Exclude the natural vegetation communities including the cultural meadows along the north-west and west boundaries of the licenced area from the extraction limit.

Bat Species Exclude the on site north and south woodlands and

potential bat maternity habitats from the extraction limit. Ensure a minimum 30 m setback between the extraction limit and the drip lines of any woodland community on or adjacent to the site.

Significant Woodlands

- Exclude the north and south woodlands from the extraction limit.
- Ensure a minimum 30 m setback from the drip lines of all woodlands on the site and their adjacent components Implement dust control measures as required to protect vegetation and wildlife within woodlands.

Significant Wildlife Habitat

area from the extraction limit.

Shrub/Early Successional Bird Breeding Habitat Exclude the natural vegetation communities including the cultural thickets along the west boundary of the licenced

- **Eastern Wood Pewee** • Exclude the north and south woodlands from the
- extraction limit. • Ensure a minimum 30 m setback from the drip lines of all woodlands on the site and their adjacent components. Implement dust control measures as required to protect

Fish Habitat

 Store fuel and maintain equipment in a fuel and maintenance area in accordance with Provincial

vegetation and wildlife within woodlands.

and enforced to protect water quality Monitor groundwater as described in the "Proposed Violet Hill Pit Combined Level 1 Level 2 Hydrogeological Assessment" by Whitewater Hydrogeology Ltd., 2015.

• Prepare a Spills Response Plan that will be implemented

Recycling

- 1. Recycling of asphalt and concrete will be permitted on
- 2. Recyclable asphalt materials will not be stockpiled within: • 30m of any water body or man-made pond; or 2m of the surface of the established water table. Any rebar and other structural metal must be removed
- from the recycled material during processing and placed in a designated scrap pile on site which will be removed on an on-going basis Removal of recycled aggregate is to be ongoing.
- 5. Once the aggregate on site has been depleted there will be no further importation of recyclable materials 6. Once final rehabilitation has been completed and
- approved in accordance with the site plan, all recycling operations must cease.

Hydrogeology

Gravel pit extraction will remain 5 metres above the established water table. As a result, there is no risk of an interference with any existing private water wells.

Pit Floor Elevation

The water table elevation across the site ranges between 406.1 masl in the south to 413.5 masl in the north. Due to the geological conditions, the pit floor will range at elevations between 411 masl in the south and 420 masl in the north.

Aggregate Washing

Site operations will include an on-site washing facility consisting of a lined closed loop system, which will recycle water in ponds perched above the water table. Appropriate approvals under the Ontario Water Resources Act will be obtained to allow for the use of water in day-to-day operations.

Compliance Monitoring Program

- Manual water levels shall be completed monthly at all on-site groundwater monitoring wells between March and November of each operating year.
- 2. Continuous water levels and temperatures shall be collected at groundwater monitoring wells MW2, MW5, MW11, and MW13 between March and November of each operating year.
- A selection of representative domestic water wells located within 500 m of the extraction area should be included in the groundwater monitoring program if they meet the selection criteria, which includes: wells are in compliance with Ontario Regulation 903 (as amended), are accessible, and constructed in the overburden aquifer. Prior to operations, water samples shall be collected from the participating domestic water wells and analyzed for general chemistry, major anions, oil and grease, and bacteria Subsequent samples should be collected and analyzed on an annual basis at the end of the operational season (late fall). Continuous water levels should be collected from each domestic well and the data retrieved on a semi-annual basis.
- 3. An annual report summarizing the findings of the groundwater monitoring program for the operational season shall be prepared and submitted to the MNRF by June 1st of the following year.

Dust Control Measures

- 1. Travel speeds for trucks, scrapers, loaders, and any other equipment at the site will remain below 35 km/hr on paved roads and 20 km/hr on unpaved roads. 2. All truck loads will be tarped/covered before leaving the
- 3. The site entrance and exit will be swept as necessary to
- minimize tracking of dust off-site 4. In the event of dust complaints, the complaint will be directed to the Site Supervisor, who will follow the

protocols outlined in the Greenwood Complaints

- Procedures document which is kept on-site. 5. A water truck will be employed to moisten ground surfaces to minimize dust. Additional watering will occur when significant dust plumes are observed trailing from
- trucks or otherwise migrating off-site. 6. Other commercial dust suppressants may be employed at the discretion of the Site Supervisor should dust
- issues persist. 7. Extraction shall be suspended at the discretion of the Site Supervisor if the condition of the pit is dry and dusty
- and the wind is sufficient to cause wide-spread visible erosion of the open face with plumes directed off-site. 8. The site will maintain all water truck and water spray equipment in good working order to ensure reliability of
- operation.
- 9. Weather reports will be checked daily to plan for next-day operations and watering needs. 10. The dust control measures listed here serve as a

standard operating procedure and should be kept on site

in a conspicuous location and used for staff training and

Spill Contingency Plan

- (Applies uniformly to all Greenwood operations)
- 1. In case of accidental spill of petroleum products, the
- following contingency plan will be activated: A) The Ministry of Environment and Climate Change and surrounding landowners will be notified.
- B) For a leakage, immediate action will be taken to stop it. At the same time, measures will be taken to prevent the spread of the leak (i.e., construction of a berm, digging of a ditch). If it is a spill, similar measures as mentioned for preventing the spread of a leak will be
- C) Greenwood Aggregates Limited will commence recovery procedure by pumping the spilled liquid into containers. The spilled liquid may have to be recovered from an open water body or land or from both. For a spill contained in an open water body, recovery may require
- pumping or skimming or both. D) The soil in the area affected by the spill or leak will be E) The contaminated soil, the recovered spill and water
- will be disposed of by Greenwood Aggregates Limited at locations prescribed by the Ministry of Environment and Climate Change. 2. The following will be available at the site:
- i) A skimming device (where open water exists) ii) A diesel pump iii) Portable containers
- 3. All liquid petroleum products will be stored onsite in accordance with applicable regulations. 4. Fuel storage will be inspected for leaks on a weekly
- 5. During the fueling of equipment, the area in question will be inspected for leaks and spills.
- 6. If a spill volume of 5 litres or more, the Spills Action Centre established by the M.O.E.C.C. 1-800-268-6060
- will be contacted immediately. 7. The licensee shall take reasonable measures to stop or control the spill. 8. A qualified person shall inspect the spill site and
- complete a general assessment of the area affected. 9. The licensee shall implement remedial measures recommended by the qualified person and/or the M.O.F.C.C.
- 10. A written report of the incident will be prepared and submitted to the M.O.E.C.C., Town and M.N.R.F.



VIOLET HILL PIT

Part Lots 30, 31 & 32, Conc. 4 E.H.S. Town of Mono **Dufferin County**

Page 2 of 5 **OPERATIONS**

Noise Control Measures

- 1. Hours of operation are 7:00 to 19:00 Monday to Friday. 2. Loading and shipping only is allowed beginning at 6:00 am Monday to Friday and 6:00 to 12:00 on Saturdays.
- 3. Receptor 17 must be vacated prior to commencing any extraction activities on the site.
- 4. Receptor 18 must be vacated prior to commencing extraction activities in the south portion of the site.
- 5. 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 MOECC Publication NPC-115, "Construction Equipment"
- 6. Construction and rehabilitation activities can only occur during the daytime period (i.e. 0700 to 1900 hours), Monday to Friday. There is to be no construction on
- weekends or on Statutory holidays . Berms must be constructed as shown on the Operations Plan. The berms can be constructed and removed
- according to the timings shown on the berm sequencing details. The berms required for any area must be constructed prior to extraction commencing within that area. For example, if extraction is to commence in Area A, then the berms required for Area A must be constructed prior to this extraction. If extraction were to
- move to Area B prior to extracting all of Area A, then the berms for both Areas A and B are required prior to extraction commencing in Area B. B. Portable crushing and screening activities cannot occur
- within 300 m of the southeast corner of Area B and within 150 m of the southern limit of Area E. See Operations Plan. 9. Permanent processing plant is to only operate within the area shown on the Operations Plan. The permanent
- of 422 masl to take advantage of the acoustical screening provided by having the plant below existing

processing plant is to be installed at a ground elevation

- 10. The direction of extraction is to be as shown on the
- Operations Plan. 11. The amount of equipment and the corresponding maximum sound emission levels are not to exceed the

values indicated in the table below.

noise impact assessment needs to be updated and any mitigation recommendations implemented prior to this equipment operating on the site. 13.One off-site noise audit measurement is to be completed

12.If additional or other equipment is to be used on the site

for non-construction or non-rehabilitation activities, the

at the commencement of the operation and after reaching a depth of elevation 422 masl, when processing is being done on the site to confirm the MOECC noise guideline limits are met. The audit measurements must be done by a qualified acoustical engineer.

Archaeology

 Should deeply buried archaeological/heritage remains be found on the property during site preparation and/or extraction activities, the Ministry of Tourism and Culture should be notified immediately. In the event that human remains are encountered during site preparation and/or extraction, activities associated with the proposed development of the license area, the project proponent, Greenwood Aggregates Limited, should immediately contact the police, the Ministry of Tourism and Culture and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Commercial Relations at 416-326-9382.

Variations from the **Operational Standards**

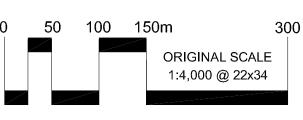
The following conditions illustrated on this plan vary from the requirements of the provincial standards that apply to licensed pits in Ontario:

5.1 Fences Fence will be located along edge of treeline in forested areas, and adjacent to access road at entrance to create truck waiting area

Туре	Number	Maximum Sound Emission Level at 15m Reference Distance (dBA)	
Front End Loader at Extraction Face	1	75	
Portable Crushing Plant at Extraction Face	1	84	
Portable Screening Plant at Extraction Face	1	88	
Dedicated On-Site Haul Trucks	4	82	
Permanent Processing Plant which includes	1	90	
crushers, screens and a wash plant			
Front End Loaders at the Permanent Processing Plant	2	75	

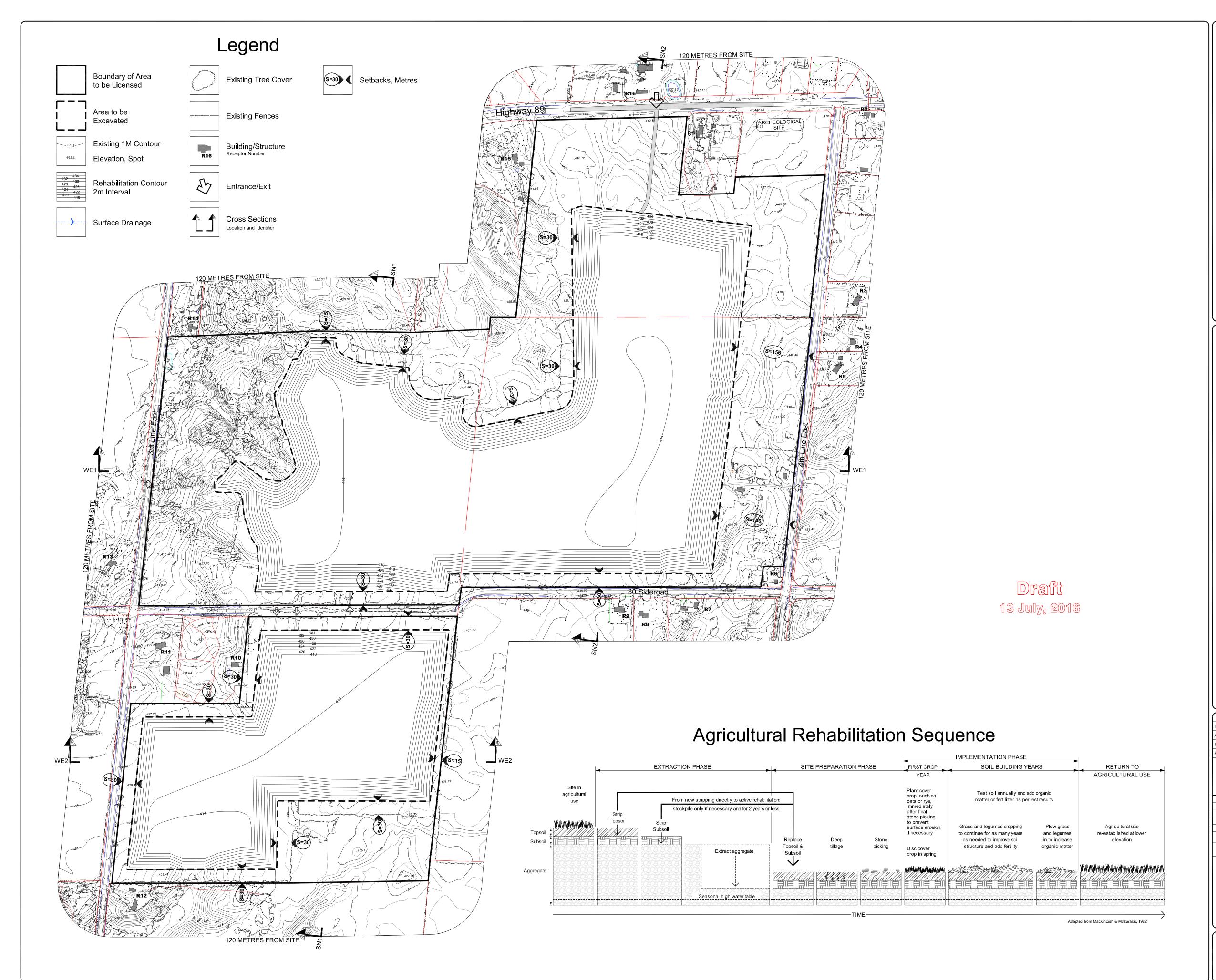
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		DESCRIPTION		
NO.	\bigcirc	MINISTRY OF NATURAL RESOURCES DATE:	DATE:	
	NDMENT	SITE PLANS APPROVED BY:	JEFFREY A. ROLLINGS	
PLOTTED	: 13 July, 2016	PER: DATE:		
APPROVED: S.G. FILE: January 2016 Site Plans.dwg		GREENWOOD AGGREGATES LIMITED	FOR A CLASS A LICENCE, CATEGORY	
DRAWN: J.A.R.		I ACKNOWLEDGE AND SHALL CARRY ON MY OPERATION IN ACCORDANCE WITH THE SITE PLAN UPON WHICH MY LICENCE IS BASED.	THIS SITE PLAN IS PREPARED UNDE	







CERTIFIED TO PREPARE SITE PLANS UNDER SECTION 8(4) OF THE AGGREGATE RESOURCES ACT





VIOLET HILL PIT

Part Lots 30, 31 & 32, Conc. 4 E.H.S.

Town of Mono

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PROGRESSIVE
AND FINAL
REHABILITATION

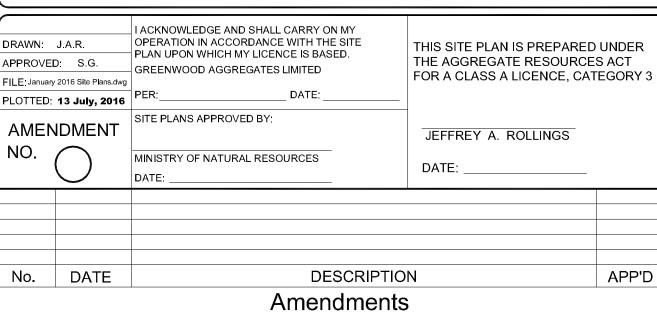
Notes

- Progressive rehabilitation to occur within one full growing season after excavation of edges.
- 2. Rehabilitation shall be undertaken in two phases. Following removal of the gravel layer (a minimum depth of 6 metres below existing grade), the surface will be lightly topsoiled and seeded. Edge rehabilitation down to the sand layer will be completed. Later, the sand layer will be removed, and final rehabilitation will be completed at final pit floor elevations..
- 2. Pit floor to be excavated and graded to proposed rehabilitation elevations, or a minimum of five metres above the watertable. Topsoil and subsoil are to be progressively reclaimed from new stages and/or berms, in sequence, and placed on prepared (graded) areas. Average depth of topsoil available for rehabilitation is approx 55cm (22").

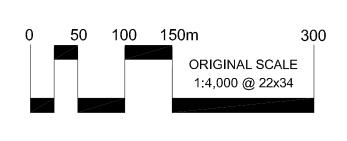
Rehabilitation soils will have compaction and fertility tested, prior to seeding, to confirm soil restoration and revegetation requirements.

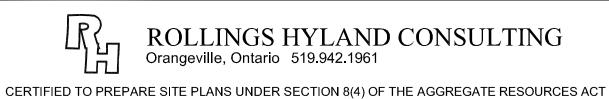
All field areas to be rehabilitated in accordance with Ministry of Natural Resources and Forestry Guidelines for Rehabilitation to an Agricultural After Use.

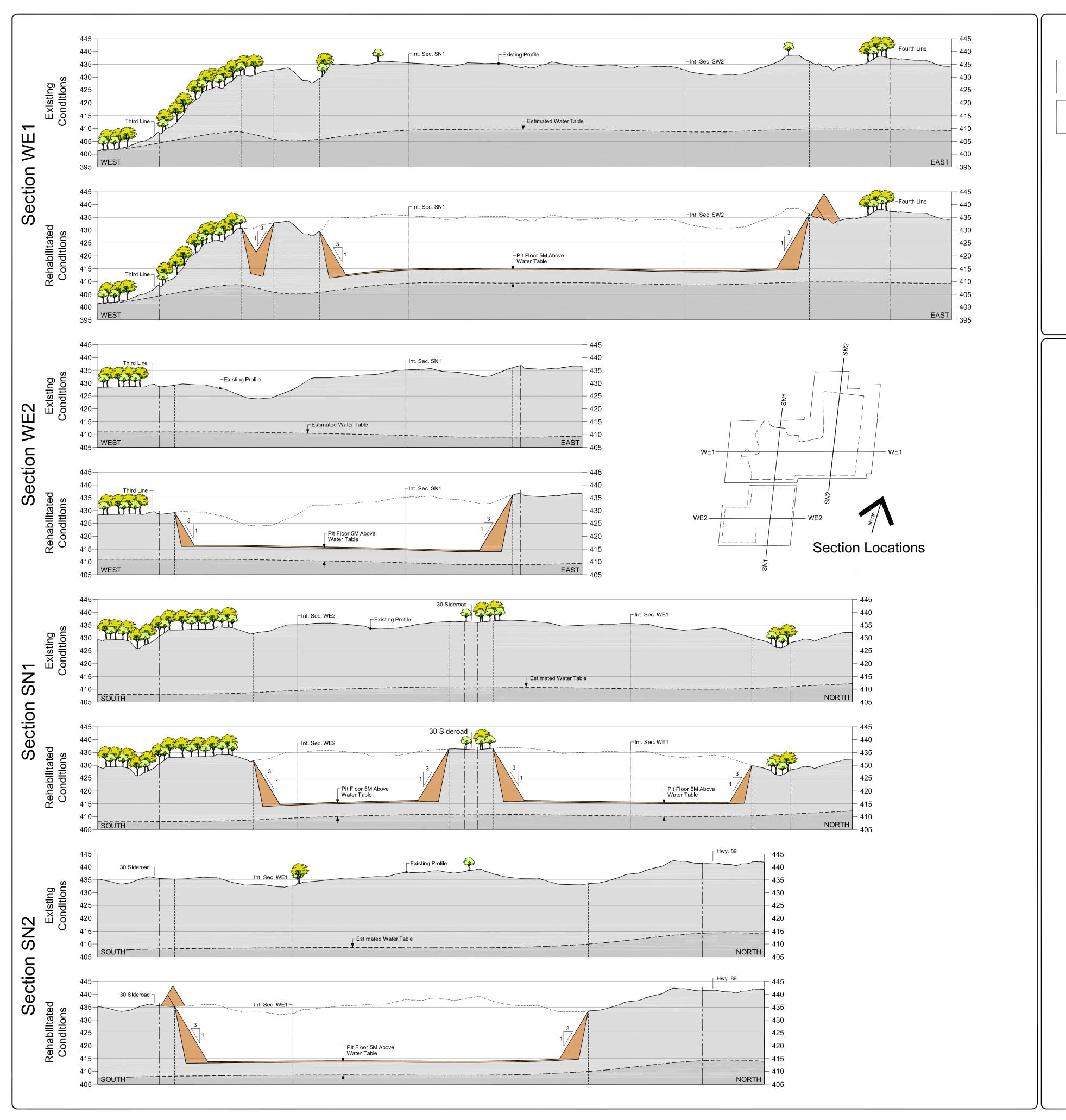
- 3. Complete edge rehabilitation by filling slopes with overburden reclaimed from storage berms, or where possible, with material stripped from current stages.
- 4. After use of the proposed license area is agricultural and open space conservation.
- 5. Ultimate rehabilitation contours will vary as a result of actual site conditions, unsuitable granular material, and groundwater levels.
- 6. Side slopes will be permitted to revegetate with woody species.
- 7. Site drainage will be by infiltration into the ground.



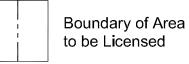












Area to be Excavated





VIOLET HILL PIT

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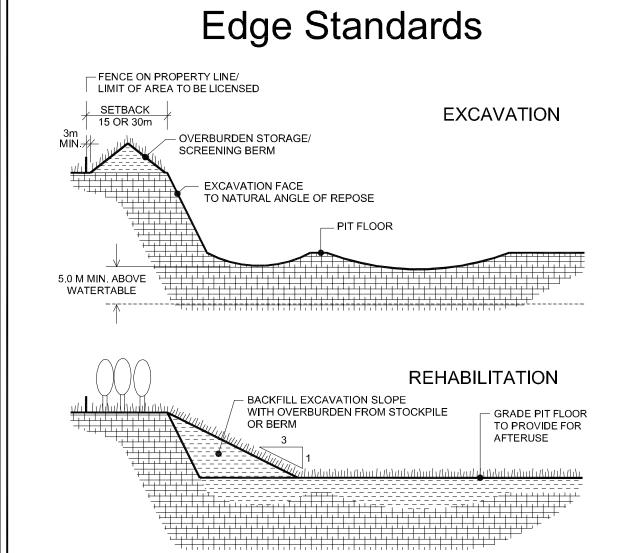
Town of Mono

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SECTIONS

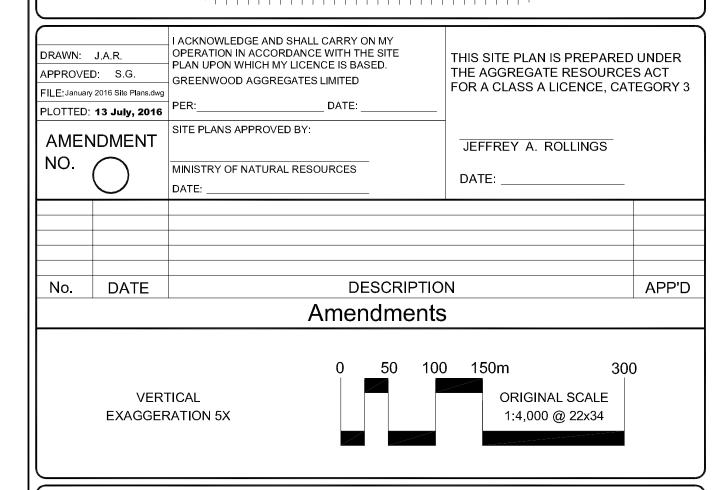
Notes

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IN SETBACK

FORM SMOOTH



- VEGETATED SLOPE

AFTER USE

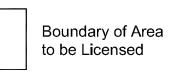
- FINAL SURFACE PER MNRF AGRICULTURAL AFTERUSE STANDARDS

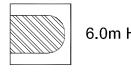
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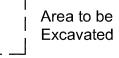








6.0m High Berm



6.5m High Berm



7.5m High Berm



5.0m High Berm



10.0m High Berm

Greenwood AGGREGATES LIMITED 205467 County Rd. 109, Amaranth ON L9W 0V1

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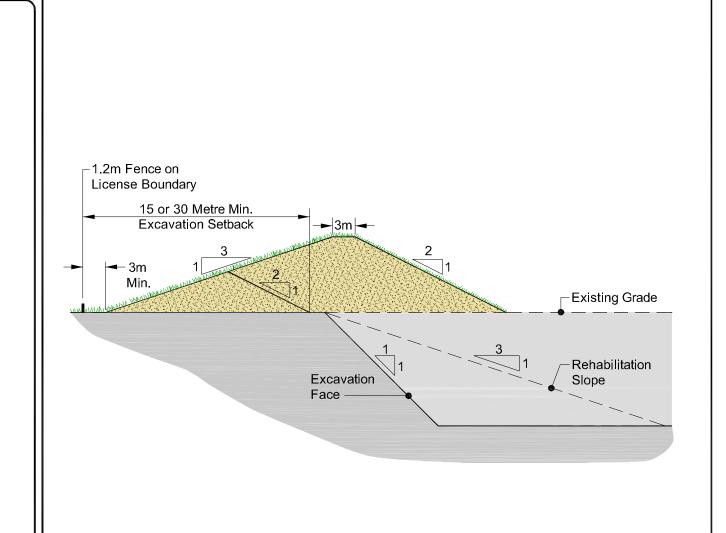
BERM PHASING
AND DETAILS

Berm Detail

Notes

- Berms to be constructed with either onsite or imported overburden and subsoil. Topsoil to 0.10m depth and seed. Refer to General Operational Notes 17 and 18 on Page 2 Operations Plan for details regarding the importation of fill.
- 2. Berm vegetation to be maintained for the duration of the pit.
- 3. Berms to be constructed to heights shown on this drawing, and may extend into the excavation area.

Draft 13 July, 2016



		I ACKNOWLEDGE AND SHALL CARRY ON MY OPERATION IN ACCORDANCE WITH THE SITE PLAN UPON WHICH MY LICENCE IS BASED. GREENWOOD AGGREGATES LIMITED PER: DATE:	THIS SITE PLAN IS PREPARED THE AGGREGATE RESOURCE FOR A CLASS A LICENCE, CAT	S ACT			
	IDMENT	SITE PLANS APPROVED BY: MINISTRY OF NATURAL RESOURCES DATE:	JEFFREY A. ROLLINGS DATE:				
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Amendments							
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