

June 29, 2021

Joe Nethery
Halton Region
Manager, Priority Development Projects
Legislative & Planning Services
1151 Bronte Road
Oakville, Ontario L6M 3L1

Dear Mr. Nethery:

RE: Burlington Quarry Extension – Nelson Response to JART’s Comments on the Progressive and Final Rehabilitation Report
OUR FILE 9135D

On behalf of Nelson Aggregate Co., MHBC is pleased to provide the Joint Agency Review Team (JART) with a response to JART’s comments regarding the progressive and final rehabilitation report.

We trust the enclosed addresses the comments provided by JART. If there are any outstanding issues or clarification needed, Nelson would be pleased to meet with JART to discuss.

Yours truly,

MHBC



Brian Zeman, BES, MCIP, RPP
President

cc. Gina Ali, Region of Halton
Janice Hogg, Region of Halton
Betty Pakulski, Region of Halton
Kyle Plas, City of Burlington
Gordon Dickson, City of Burlington
Debbie Ramsay, NEC
Jessica Bester, Halton Region Conservation Authority
Quinn Moyer, Nelson Aggregate Co.
Peter Graham, Nelson Aggregate Co.
Tecia White, Whitewater Hydrogeology Ltd.
Kevin Powers, Project Advocacy Inc.
Dirk Kassenaar, Earthfx
Daniel Twigger, Tatham Engineering
Shannon Catton, Savanta

Proposed Burlington Quarry Expansion JART COMMENT SUMMARY TABLE – Progressive and Final Rehabilitation Monitoring

Please accept the following as feedback from the Burlington Quarry Joint Agency Review Team (JART). Fully addressing each comment below will help expedite the potential for resolutions of the consolidated JART objections and individual agency objections. **Additional, new comments may be provided once a response has been prepared to the comments raised below and additional information provided.**

	JART Comments (February 2021)	Reference	Source of Comment	Applicant Response (June 2021)	JART Response
Report/Date: Progressive and Final Rehabilitation Monitoring Study, April 2020				Author: MHBC	
1.	Among other impacts, the proposed after-use should address whether the use generates vehicular traffic impacts, demands for additional water and wastewater services, and demands parking on site or nearby.	General	City of Burlington	<p>The proposed Burlington Quarry Extension application only proposes to create a land form as part of the rehabilitation plan for the site. The rehabilitation plan does not permit any after uses, however the site has been designed to be suitable for recreation, conservation and water management after uses.</p> <p>Any future after uses would be determined after the Aggregate Resources Act license is surrendered. The proposed after use would be proposed by the owner of the site following surrender of the license. As required by the Niagara Escarpment Plan, Region of Halton Official Plan and City of Burlington Official Plan future approvals will be required to permit after uses on the site (e.g. NEPA, ROPA, LOPA and NEC DP). As part of these applications any potential impacts will be evaluated as part of that process.</p>	
2.	Both the AIA and the Rehabilitation and Monitoring Study should assess the impact of the future use of the subject lands, once proposed extraction activities have been exhausted. How would compatibility with surrounding agricultural operations and normal farm practices be achieved? How would it impact MDS requirements?	General	City of Burlington	See response to Comment # 1.	
3.	Reliance on ongoing dewatering should be further detailed with respect to the financial and operational impacts of such a plan, as well as costs and other potential risks in the event of system failure.	General	City of Burlington	<p>The Burlington Quarry Extension application does not rely on ongoing dewatering of the site. As JART is aware the existing approved rehabilitation plan for the Burlington Quarry requires dewatering to stop and the site to naturally flood to a lake with no off-site discharge.</p> <p>As part of the Burlington Quarry Extension application, Nelson has agreed to modify the existing quarry rehabilitation plan to maintain off-site pumping to improve conditions for surrounding lands compared to existing approvals and maximize land area for future after uses. The proposed modification to the existing quarry rehabilitation also results in the West extension being maintained in a dewatered state.</p>	

				<p>The proposed South Extension will not be maintained in a dewatered state and will be rehabilitated to a lake.</p> <p>The operation of the existing quarry and west extension in a dewatered state is straight forward and consistent with current operations. Water is discharged to the north and south of the site at the existing approved discharge points by two pumps. The costs associated with dewatering will be maintained by Nelson until such time as the license is surrendered. Following license surrender the cost of operating two pumps will be the responsibility of the owner at the time. There is no safety risk to off-site properties in the event of a system failure. Due to the topography all water would be maintained on-site if the pumps were to fail.</p>	
4.	While it is understood that it is a requirement to plan for after use of the subject lands, there is no interest by Burlington, at this time, to entertain discussions of future transference of ownership to a public authority.	General	City of Burlington	Comment noted.	
5.	It is noted that a property not currently in agricultural use does not restrict it from such a use in the future, especially if it is located within a prime agricultural area.	General	Niagara Escarpment Commission	Comment noted.	
6.	Whether or not the proposed after-uses are appropriate or possible will be predicated on the effectiveness of the progressive rehabilitation program. As the report notes once a quarry license is surrendered it must be re-designated through a subsequent NEPA application. It is at this time that the lands are assessed against the criteria for designation found under Part 1 of the NEP and an appropriate designation applied.	General	Niagara Escarpment Commission	Comment noted. Also see response # 1.	
7.	The report notes that it is anticipated by the applicant that the lands resulting from the rehabilitation would achieve a mix of land uses designations (ENA, EPA, ERA). It is noted that a number of uses proposed within the after-use plan would not be permitted within these designations. While inclusion within NEPOSS and the submission of a Park Management Plan could be a path to address this, it is noted that NEPOSS lands must be within the public realm necessitating ownership of the lands by a public body. On-going discussions and assessment of the rehabilitation would be required throughout the foreseeable future; the after-uses will be reasonably considered through this work and once the license has been abandoned.	General	Niagara Escarpment Commission	Comment noted. Also see response # 1.	
8.	Staff recommends the Progressive and Final Rehabilitation/Monitoring Study be revisited and updated once significant issues with the Level 1 and Level 2 Natural Environment Technical Report, Surface Water Assessment, Phase 1 and 2 Hydrogeological and Hydrological Study, other reports and After Use have been resolved.	General	Conservation Halton	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	
9.	Ecological monitoring should be undertaken to ensure that mitigation measures are working as proposed and to ensure that the quarry is not impacting the natural environment. As per the Region's Aggregate Resources Reference Manual, monitoring of the NHS should be included. Current monitoring of ecological features that may be impacted and mitigated for by the proposed development is not included. Recommend that this be incorporated into the report.	General	Conservation Halton	The ecological monitoring is focussed on water based impacts since the adjacent features that have the potential to be impacted are water dependant features. Other ecological features (e.g. woodlands) include the required buffers / setbacks to ensure no negative impact to adjacent features.	

				If there are any monitoring requirements that the agencies would like included please provide the specific monitoring note for Nelson's consideration and the rationale for inclusion. If appropriate, these monitoring requirements can be included on the ARA Site Plan or the AMP since these documents will ultimately govern the monitoring of the site.	
10.	The report identifies Conservation Halton as a potential future landowner for the rehabilitated site. No formal discussion has taken place with Conservation Halton on future land ownership, and consideration for any future CH park land has no bearing on Conservation Halton's review role as a member of the JART team.	General	Conservation Halton	Comment noted. Nelson believes Conservation Halton is an ideal partner for long term ownership of the site for numerous reasons. Nelson understands that any future conveyance of the site to Conservation Halton has no bearing on Conservation Halton's review role as a member of the JART team. Regardless of Conservation Halton's position on the application, if the application is ultimately approved Nelson commits to convey the land to Conservation Halton if Conservation Halton has a long term interest in the site.	
11.	Recommended rehabilitation option RHB1, as shown on the Site Plan, requires perpetual pumping to maintain artificially low groundwater levels. An alternative (RHB2) has been proposed with resulting fish habitat impact concerns. No cost benefit analysis of impacts of the alternative rehabilitation scenario has been provided. The overall impact of the two rehabilitation scenarios on the subwatershed does not appear to have been considered in this analysis nor has the cumulative impact of the existing quarry been considered.	General	Norbert M. Woerns	Disagree. The overall impact of the two rehabilitation scenarios on the watershed have been considered. Based on this impact analysis RHB1 has been recommended to maintain discharge off-site since the existing approved rehabilitation plan discontinues off-site discharge. As part of the Burlington Quarry Extension application, Nelson has agreed to modify the existing quarry rehabilitation plan to maintain off-site pumping to improve conditions for surrounding lands compared to existing approvals.	
12.	No discussion on the need to integrate the rehabilitation and closure plan of the proposed expansion with that of the existing quarry. The Progressive and Final Rehabilitation Monitoring Study provides detailed information on the rehabilitation of the proposed extension. Information is lacking on the relationship of the proposed extensions to the approved rehabilitation plan for the existing quarry.	General	Norbert M. Woerns	As noted in the application an amendment to the existing quarry rehabilitation plan will be required to integrate the proposed extension. Nelson has now submitted this application to MNRF. Attached is a copy of the revised rehabilitation plan that has been submitted to MNRF.	
13.	There is no discussion of the maintenance requirements of the proposed land use for the preferred recommended rehabilitation option and the potential affects on surface water and groundwater quality.	General	Norbert M. Woerns	See response to Comment # 1.	
14.	The rehabilitation plan does not explain how the West Extension area will be integrated with the existing quarry to achieve the preferred rehabilitation Scenario 1 (RHB1).	General	Norbert M. Woerns	See response to Comment # 12. A revised rehabilitation plan for the existing quarry has been submitted to MNRF to achieve the preferred rehabilitation scenario.	
15.	The rehabilitation monitoring plan includes only monitoring of surface and ground water – no terrestrial monitoring of habitat or monitoring of wildlife to determine if the rehabilitated wildlife habitat features are functioning according to their specified purposes. Monitoring of biota should be included.	General	North-South Environmental Inc.	Monitoring of the site will be completed in accordance with the AMP until rehabilitation is complete and the license is surrendered. The license cannot be surrendered until MNRF is satisfied that the proposed land form as shown	

				<p>on the ARA Site Plans have been created which includes the required terrestrial habitat.</p> <p>The monitoring being referenced by North-South Environmental Inc. is not typically required for rehabilitated aggregate sites. If there are any monitoring requirements that the agencies would like included please provide the specific monitoring note for Nelson's consideration and an example where it has been included on other sites. If appropriate, these monitoring requirements can be included on the ARA Site Plan and / or the AMP since these documents will ultimately govern the monitoring of the site.</p>	
16.	The Plan relies heavily on pumping of water from the quarry to replace any surface water deficits that may affect wetlands in the future. This is discussed in the Adaptive Management Plan comments.	General	North-South Environmental Inc.	Comment noted. The AMP is the appropriate document to address any comments since the AMP includes the mitigation and monitoring requirements to prevent negative impacts to surrounding wetlands.	
17.	<p>Unclear on why the revision of the current rehabilitation plan is contingent on the approval of the extension- further details regarding this connection would be appreciated.</p> <p>Neither the current nor the proposed rehabilitation plans include any agricultural lands- please provide an explanation. For example, there are 162.0 hectares of grasslands proposed- why isn't this proposed for agricultural use?</p> <p>A number of the uses proposed in the after-use vision in Figures 6 to 9 are active, not passive, recreational uses (i.e. soccer/baseball fields, amphitheatre, volleyball courts, skate park etc.) and would not be considered compatible with the City's land use objectives for the Rural Area. For example, subsection 2.1.2 e) of the Burlington Official Plan, 1997: To allow only passive recreational uses that are compatible with rural land uses and the preservation of natural features and prime agricultural areas.</p>	Page 4 Section 2.0. Overview of the Burlington Quarry Extension, Last 2 Paragraphs	City of Burlington	<p>The existing approved quarry has an approved rehabilitation plan (e.g. lake with no off-site discharge). If the Burlington Quarry Extension is not approved Nelson will be completing rehabilitation in accordance with the approved rehabilitation plan.</p> <p>As per our recent meeting with JART, Nelson is exploring the possibility of restoring a portion of the existing quarry to agricultural with the agricultural soils from the proposed South Quarry Extension. This will be confirmed as part of Nelson's response to JART's agricultural comments.</p> <p>Regarding potential after uses please see response to Comment # 1.</p>	
18.	<p>The report notes that the 4.0 hectares proposed for an off-site ecological enhancement plan are currently in active agricultural production. Are these lands within a prime agricultural area? If they are to be permanently taken out of production through the creation of habitat for endangered species, these lands should be included within the Agricultural Impact Assessment.</p> <p>Given the lack of proposed agricultural uses within the rehabilitation plan, why are there no proposed off-site agricultural enhancements to mitigate the adverse impacts to the Agricultural System?</p>	Page 17 Section 4.0. Rehabilitation and After Use Policy Analysis, 2 nd Bullet	City of Burlington	<p>Map 1 of the Region of Halton Official Plan designates the 4.0 ha area as part of the Regional Natural Heritage System and the area is also mapped by MNRF as habitat for Jefferson Salamander. While the area is also considered a prime agricultural area, the lands have a planned function to provide for natural heritage uses. In addition the ecological restoration does not remove the agricultural soils within this area and there are numerous areas mapped as prime agricultural area that also contain key natural heritage features.</p> <p>As per our recent meeting with JART, Nelson is exploring the possibility of restoring a portion of the existing quarry to agricultural with the</p>	

				agricultural soils from the proposed South Quarry Extension. This will be confirmed as part of Nelson's response to JART's agricultural comments.	
19.	<p>The rehabilitation plan notes that rehabilitation back to an agricultural use is not required based on the applicable policies, but does not speak to the following Niagara Escarpment Plan policy: in prime agricultural areas, where rehabilitation to the conditions set out in (g) and (h) above is not possible or feasible due to the depth of planned extraction or due to the presence of a substantial deposit of high quality mineral aggregate resources below the water table warranting extraction, agricultural rehabilitation in the remaining areas will be maximized as a first priority.</p> <p>The report only quotes the amount of prime agricultural land in production (12.7 hectares). The policy framework for the protection of prime agricultural lands is not contingent on whether the lands are in active production. In the absence of a refinement to the Provincial and Regional prime agricultural area mapping, the City continues to consider the golf course lands in the Western Extension as prime agricultural, regardless of their current use. Further, it has not been established that the golf course lands are beyond rehabilitation to an agricultural use in future. The full amount of prime agricultural lands being removed should also be referenced here, for complete context.</p>	Page 17 Section 4.0. Rehabilitation and After Use Policy Analysis, 1 st Paragraph (after bullets)	City of Burlington	<p>As per our recent meeting with JART, the agencies do not dispute that rehabilitation to agricultural in the West Extension and South Extension is not feasible based on the policies of the Niagara Escarpment Plan. The agencies determined that rehabilitation in the "remaining areas" refers to rehabilitation to agricultural in the existing quarry since the rehabilitated land form is proposed to change from a lake to also include areas of terrestrial habitat.</p> <p>As per our recent meeting with JART, Nelson is exploring the possibility of restoring a portion of the existing quarry to agricultural with the agricultural soils from the proposed South Quarry Extension. This will be confirmed as part of Nelson's response to JART's agricultural comments.</p> <p>Regarding the West Extension it is Nelson position that the West Extension does not contain prime agricultural land and therefore that portion of the application does not remove prime agricultural land.</p>	
20.	<p>This section indicates that during operations and until surrendering the licence, the licensee is required to operate in accordance with the Adaptive Management Plan, prepared by EarthFX Inc., Savanta and Tatham Engineering, dated April 2020, as may be amended from the time to time with approval from MNRF, in consultation with NEC, Region of Halton, City of Burlington and Conservation Halton.</p> <p>It is being noted that all JART comments related to natural environment, surface water, hydrologic, hydrogeologic and related assessments, and all respective comments concerning adaptive management plan (AMP) and site plan would need to be addressed first. As such, tables included in Section 6 of this report are considered preliminary/incomplete [refer to some comments/examples below].</p>	Page 22 Section 5.1.6. Adaptive Management Plan	Halton Region	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	
21.	There is no discussion on how the applicant will provide 'confirmation that any long-term monitoring, pumping or mitigation will not result in a financial liability to the public.' This appears to be a requirement of surrendering the ARA Aggregate Licence. Given uncertainties of the effectiveness of proposed mitigation measures this should be demonstrated prior to approval of the licence application for quarry expansion.	Page 22 Section 5.2. Final Rehabilitation, Point 8	Norbert M. Woerns	See response to Comment # 3.	
22.	The groundwater monitoring (Table 2) corresponds to Table 10: On-Site Groundwater Monitoring and Evaluation Program in Section 7.1 of the AMP (April 2020); both tables itemize proposed monitoring locations for the proposed South and West Extension areas. Any comments related to groundwater monitoring program in the assessment studies, AMP, and site plan should be addressed and applied accordingly to respective tables and text in this study.	Page 26 Section 6.1 Groundwater Monitoring Program, Table 2	Halton Region	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and / or the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	
23.	Table 3 in this study correspond to Table 11 - Groundwater Quality Parameters in the AMP (April 2020). Any comments related to groundwater monitoring program in the	Page 27 Section 6.1	Halton Region	Comment noted. If changes are required to the monitoring program or proposed rehabilitation	

	assessment studies, AMP, and site plan should be addressed and applied accordingly to respective tables and text in this study.	Table 3		land form these revisions will be reflected on the ARA Site Plans and / or the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	
24.	Information contained in Section 6.2 and Tables 4, 5, 6 of this study reflect information in Section 7.2 –Surface Water Monitoring Program and Tables 13, 14, 15 in the AMP (April 2020). Both sets of tables are essentially the same as the AMP’s Tables 4, 5, 6 concerning the existing monitoring program. In designing monitoring programs for natural features, there should be close interlinkage between a receptor [specific wetland, stream, creek, spring, vernal pool, etc.] and designated surface water monitoring location. As such, any comments related to surface water monitoring program in the applicable assessment studies, AMP, and site plan should be addressed and applied accordingly to respective .text in this study. Ecological/biological-type monitoring is missing in the proposed monitoring plan and is considered a major gap. Any monitoring associated with natural environment should be linked to its features and functions and should include monitoring of efficacy of any potential/acceptable water management system designed to protect or provide support to key natural systems components as per relevant comments concerning the applicable assessment studies, AMP, and site plan.	Pages 27-28 Section 6.2 Surface Water Monitoring Program Tables 4, 5, 6	Halton Region	The ecological monitoring is focussed on water based impacts since the adjacent features that have the potential to be impacted are water dependant features. Other ecological features (e.g. woodlands) include the required buffers / setbacks to ensure no negative impact to adjacent features. If there are any monitoring requirements that the agencies would like included please provide the specific monitoring note for Nelson’s consideration and the rationale for inclusion. If appropriate, these monitoring requirements can be included on the ARA Site Plan or the AMP since these documents will ultimately govern the monitoring of the site.	
25.	It is also noted that Streamflow and Water Temperature Thresholds (AMP’s Table 7) and Wetland Hydroperiod Thresholds (AMP’s Table 8) are not included in AMP’s Section 7 - Compliance Monitoring and Assessment or Section 6.2 of this study.	Pages 27-28 Section 6.2 Surface Water Monitoring Program Tables 4, 5, 6	Halton Region	Comment noted. If changes are required to the monitoring program these revisions will be reflected in the AMP since this document will ultimately govern monitoring of the site.	
26.	Information contained in Section 6.3 in this study corresponds to Section 7.3 – Post-Extraction Monitoring Program in the AMP (April 2020). Any comments related to post-extraction monitoring program in the assessment studies, AMP, and site plan should be addressed and applied accordingly to respective text in this study.	Page 29 Section 6.3 Post-Extraction Monitoring Program Page 29	Halton Region	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and / or the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	

April 20, 2021

Ms. Calinda Manning
Integrated Aggregate Operations Section (IAOS)
Ministry of Natural Resources and Forestry

435 James St. South
Thunder Bay, ON P7E 6S8

Dear Ms. Manning:

RE: Nelson Aggregates, Burlington Quarry Site Plan Amendment Application - Licences #5499 & #5657
City of Burlington, Region of Halton

On behalf of Nelson Aggregate Co., MHBC is pleased to submit an application for a major site plan amendment to their existing Burlington Quarry operation (Licences #5499 & #5657), in the City of Burlington, Region of Halton. On May 14, 2020 Nelson Aggregate Co. submitted an application (License #626477) to extend the Burlington Quarry into lands to the south and west of the existing quarry operation. On December 14, 2020 the IAOS provided a letter to Nelson as part of their review of the application. The letter included a request that a site plan amendment application also be submitted for the existing Burlington Quarry operation which would include all proposed changes sought to the existing quarry Site Plans in order to integrate the existing operation with the extension application, if approved. This amendment application is submitted in accordance with that request, and includes the following submission materials:

- Redlined and updated existing quarry Site Plan drawings dated April 2021; and
- Track-changed existing quarry Site Plan notes dated April 2021.

Under separate cover, Nelson has submitted a cheque in the amount of \$500.00 for a major site plan amendment for a Class A license made payable to the Minister of Finance. The cheque has been sent to the attention of Ms. Katie O'Connell at the Peterborough office, and was confirmed as delivered on April 15, 2021.

The updated Site Plans identify all changes to the existing quarry Site Plan drawings in redline, with the exception of revisions to the Site Plan notes. A track-changed copy of the Site Plan notes has also been included as a separate submission document. The Site Plan notes shown on the attached drawings reflect the revisions shown in the track-changed site plan note document. The following is a summary of the proposed changes to the existing ARA Site Plan:

- Removal of the 15 metre setbacks adjacent to the proposed extraction area in the west extension;
- Adding permissions for material extracted within the extension to be transported to the existing quarry for processing and shipping;
- A new entrance/exit and access ramp adjacent to No. 2 Sideroad to transport material from the south extension into the existing quarry;
- Requests for provincial overrides to facilitate an integrated operations and rehabilitation between the extension and existing quarry;
- A revised rehabilitation plan to facilitate cohesive rehabilitation with the proposed quarry extension;
- Added noise attenuation recommendations identified through the quarry extension application process that relate to the existing quarry; and
- Minor housekeeping items.

We look forward to MNRF's review of the application, and look forward to the MNRF's direction regarding circulation of the major site plan amendment.

Yours truly,

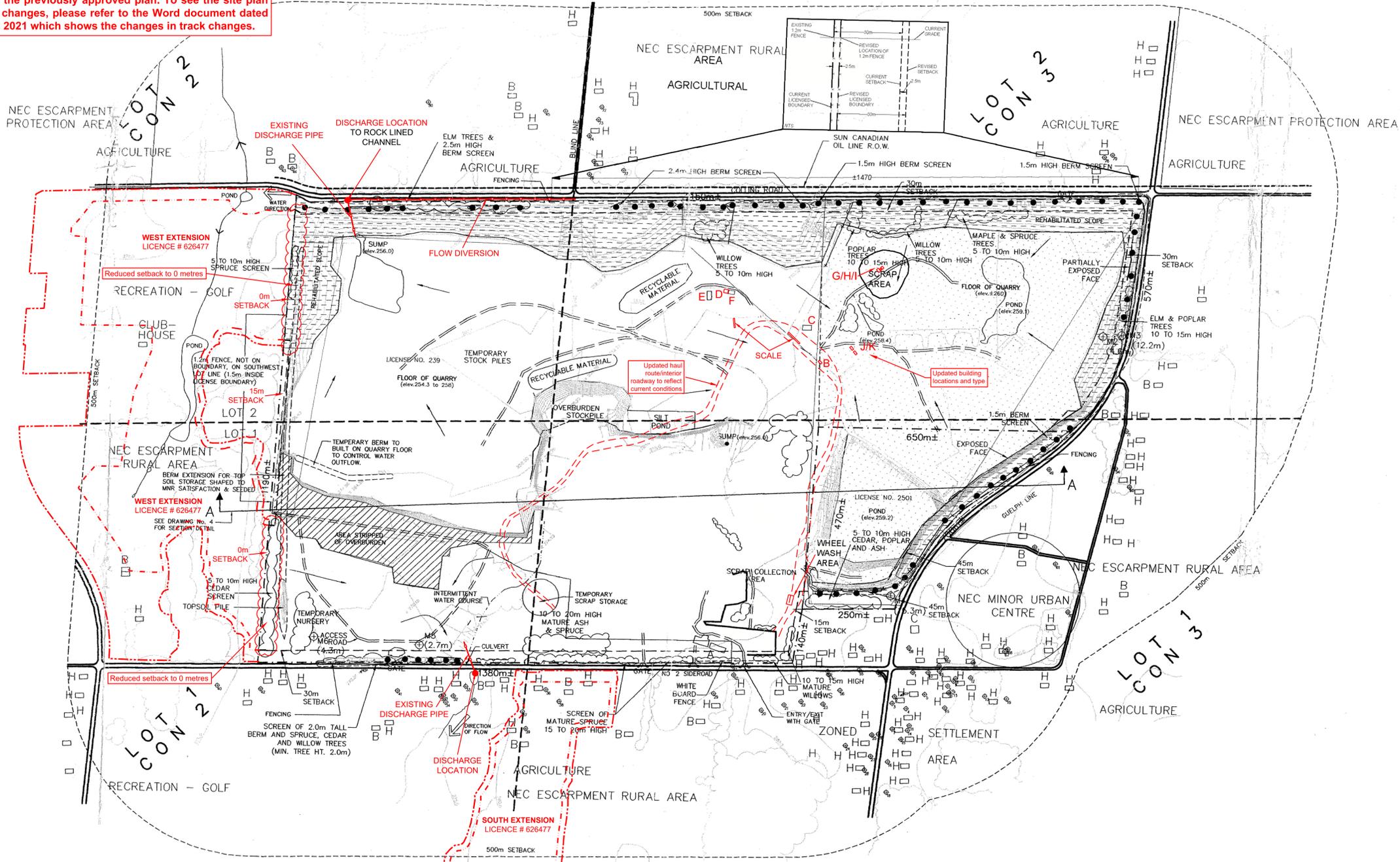
MHBC

A handwritten signature in black ink that reads "Brian Zeman". The signature is written in a cursive, flowing style.

Brian Zeman, BES, MCIP, RPP
President

cc. *Katie O'Connell, IAOS (MNRF)*
Quinn Moyer, Nelson Aggregate Co.
Peter Graham, Nelson Aggregate Co.
Nick Heap, Nelson Aggregate Co.
Tecia White, Whitewater Hydrogeology Ltd.

This site plan identifies all of the drawing changes in red from the previously approved plan. To see the site plan note changes, please refer to the Word document dated April 2021 which shows the changes in track changes.



WELL INFORMATION		M.O.E. No. (28-) Elev.(m)		Static Elev.(m)		M.O.E. No. (28-) Elev.(m)		Static Elev.(m)			
Key	No.	Elev.(m)	Key	No.	Elev.(m)	Key	No.	Elev.(m)	Key	No.	Elev.(m)
1	105	283.5	278.9	28	5572	283.5	276.8	55	488	277.4	276.5
2	99	281.9	277.4	29	124	278.0	276.6	56	496	277.4	277.4
3	101	281.9	277.4	30	5454	274.3	265.2	57	493	283.5	275.5
4	5454	286.5	277.4	31	126	274.3	271.0	58	5392	280.4	273.7
5	5461	283.5	274.3	32	125	274.3	272.8	59	5566	280.4	267.9
6	103	284.1	278.6	33	128	274.3	271.9	60	5463	280.4	272.8
7	5565	286.5	278.3	34	5110	274.3	266.4	61	4299	283.5	266.7
8	5391	288.4	280.4	35	5434	274.3	264.6	62	5460	283.5	274.3
9	5455	288.4	278.9	36	129	280.4	268.2	63	491	281.9	277.7
10	100	283.5	277.4	37	5564	283.5	270.7	64	484	283.5	278.9
11	6570	286.5	277.7	38	4172	260.4	278.3	65	465	283.5	274.6
12	5433	286.5	276.8	39	3696	280.4	269.4	66	492	283.5	274.6
13	4735	283.5	281.9	40	3646	274.3	268.8	67	3552	289.6	281.6
14	4859	282.2	278.9	41	5313	274.3	266.7	68	5738	286.5	274.3
15	102	281.0	278.0	42	137	272.2	268.5	69	5432	280.4	268.5
16	5714	286.5	279.2	42	5789	277.4	268.2	70	3143	283.5	281.3
17	5709	288.4	274.9	44	5622	277.4	273.7	71	5373	280.4	272.2
18	3015	281.9	280.7	45	5705	277.4	265.2	72	5109	278.9	268.8
19	5459	289.6	276.8	46	5569	280.4	275.2	73	497	279.8	270.4
20	115	275.0	272.8	47	490	277.4	259.1	74	2820	278.9	267.3
21	5588	280.4	272.2	48	487	277.4	275.2	75	5861	277.4	260.3
22	3115	280.4	278.0	49	486	281.0	275.6	76	3516	277.4	261.6
23	5706	283.5	276.5	50	5589	280.4	268.5	77	4229	280.4	263.7
24	5466	283.5	279.8	51	5713	280.4	269.1	78	5311	278.9	263.3
25	3230	280.4	278.8	52	4281	278.9	273.7	79	4744	278.0	263.7
26	110	291.0	279.8	53	4281	278.9	273.7	80	3545	280.4	271.3
27	121	280.4	277.4	54	5550	280.4	272.8				

LEGEND:

- EXISTING SPOT ELEVATIONS
- EXISTING CONTOURS
- BOUNDARY OF LICENSED AREA
- SETBACK LIMITS
- EXISTING 1.2m FENCE ON BOUNDARY
- ENTRANCE GATES
- ACTIVE QUARRY FACE
- TREED AREAS/WOODLOTS/SCREENS
- HAUL ROUTES/INTERIOR ROADWAYS
- EXISTING WATER WELL (WITH KEY No.)
- MONITORING WELL (WITH KEY No. M6) and DEPTH TO WATER AS OF MARCH 30, 1992
- AREA STRIPPED OF TOPSOIL/OVERBURDEN
- SURFACE DRAINAGE
- EARTH BERM SCREEN
- REHABILITATED AREA
- INTERIM REHABILITATED AREA
- EXTENSION LICENCE BOUNDARY
- EXTENSION LIMIT OF EXTRACTION
- FLOW DIVERSION / DISCHARGE PIPE

Official Plan & Zoning Information:

As per the Niagara Escarpment Plan, which is included as part of the Halton Official Plan, Quarry Site is designated as a Mineral Resource Extraction Area. The designation of areas adjacent to the quarry is Escarpment Rural. The Official Plan for Halton Region designates the site as Mineral Resource Extraction Area.

Water table Information:

The water table is located approximately ±4.9m (269.0m ASL) below undisturbed grade. De-watering takes place continuously, and has been in place for approximately 50 years.

Fencing:

The licensed area is enclosed by a 1.2m fence with the exception of the area around the office which has a three rail wooden fence.

Site Description:

Part of Lots 1 and 2, Concessions 2 and 3, City of Burlington, Regional Municipality of Halton.

Information Compiled From

- 1990 Aerial Photography at 1:5000 Scale
- 1988 Official Plan for the Halton Planning Area, Regional Municipality of Halton
- 1985 Niagara Escarpment Plan
- Ministry of Environment, Water well records
- 1991 Reinders Field Survey
- Ontario Base Mapping (Air Photography 1982, Published 1983)
- 1985 Plans by Nelson
- 1997 Mark-Ups Provided by Nelson
- Rehabilitation contours utilized the City of Burlington's Open Data Catalogue which contains 2017 contour data and are displayed in one metre intervals
- Elevations shown are in metres above sea level (masl)
- On-site haul roads, stockpile locations, buildings and structures were updated based on July, 2020 aerial photography

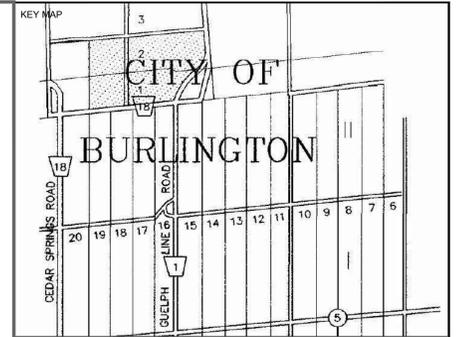
ORIGINAL SITE PLANS PREPARED BY:

REINDERS

F.J.Reinders and Associates Canada Limited
Architects, Engineers, Planners, Project Managers
BURLINGTON (416)457-1818

PROFESSIONAL ENGINEER
P. D. W. CHURCH
PROVINCE OF ONTARIO

DATE: MAR.05/99 PROJECT NO.: 4792 DRAWN BY: C.G./S.B. CHECKED: T.M.J.



SITE DESCRIPTION AND STATISTICS
PT. LOTS 1 & 2, CONC. 2 & 3
CITY OF BURLINGTON
REGIONAL MUNICIPALITY OF HALTON

LICENCE NO.	LICENSED AREA (ha)
5499	202.1
5657	16.2
TOTAL	218.3

TOTAL AREA TO BE EXTRACTED (both licenses) 211 ha

BUILDINGS WITHIN QUARRY BOUNDARY

Letter	Description	Dimensions
A	OFFICE	40mX15mX5m
B	PORTABLE SCALE HOUSE	15mX7m
C	FUEL PUMPS	30mX10mX4m
D	LUNCH ROOM	5mX5mX5m
E	ASPHALT PLANT	120mX30mX15m
F	ASPHALT CONTROL ROOM	30mX15mX8m
G	STORAGE SHED #1	5mX10mX3m
H	STORAGE SHED #2	4mX5mX3m
I	STORAGE SHED #3	7mX5mX3m
J	PORTABLE OFFICE TRAILER	10mX5mX3m
K	PORTABLE OFFICE TRAILER	10mX5mX3m

LEGEND OF BUILDINGS WITHIN 500m OF QUARRY BOUNDARY

Letter	Description
H	HOUSE
B	BARN
C	COMMERCIAL BUILDING i.e. GAS BAR
R	RECREATION BUILDING i.e. GOLF CLUBHOUSE

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MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
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MHBC PLANNING DRAFTED SITE PLAN AMENDMENTS NO. 6 TO 11

Stamp: **DRAFT**

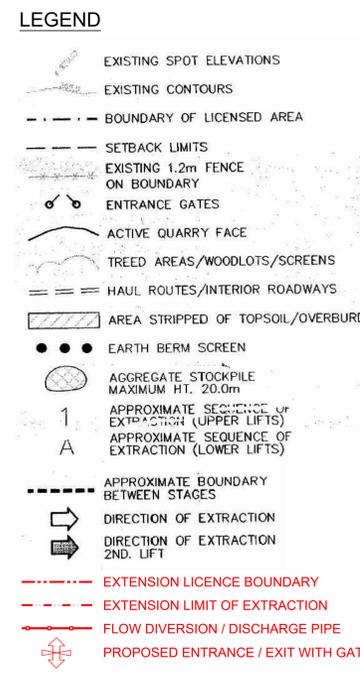
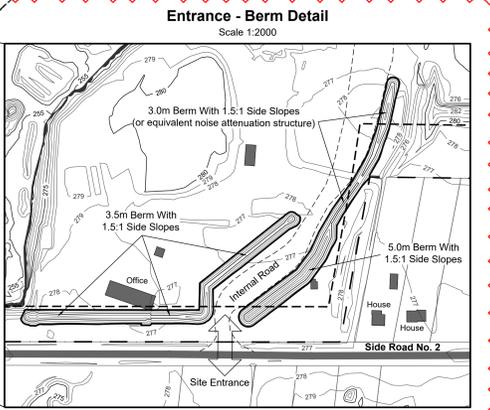
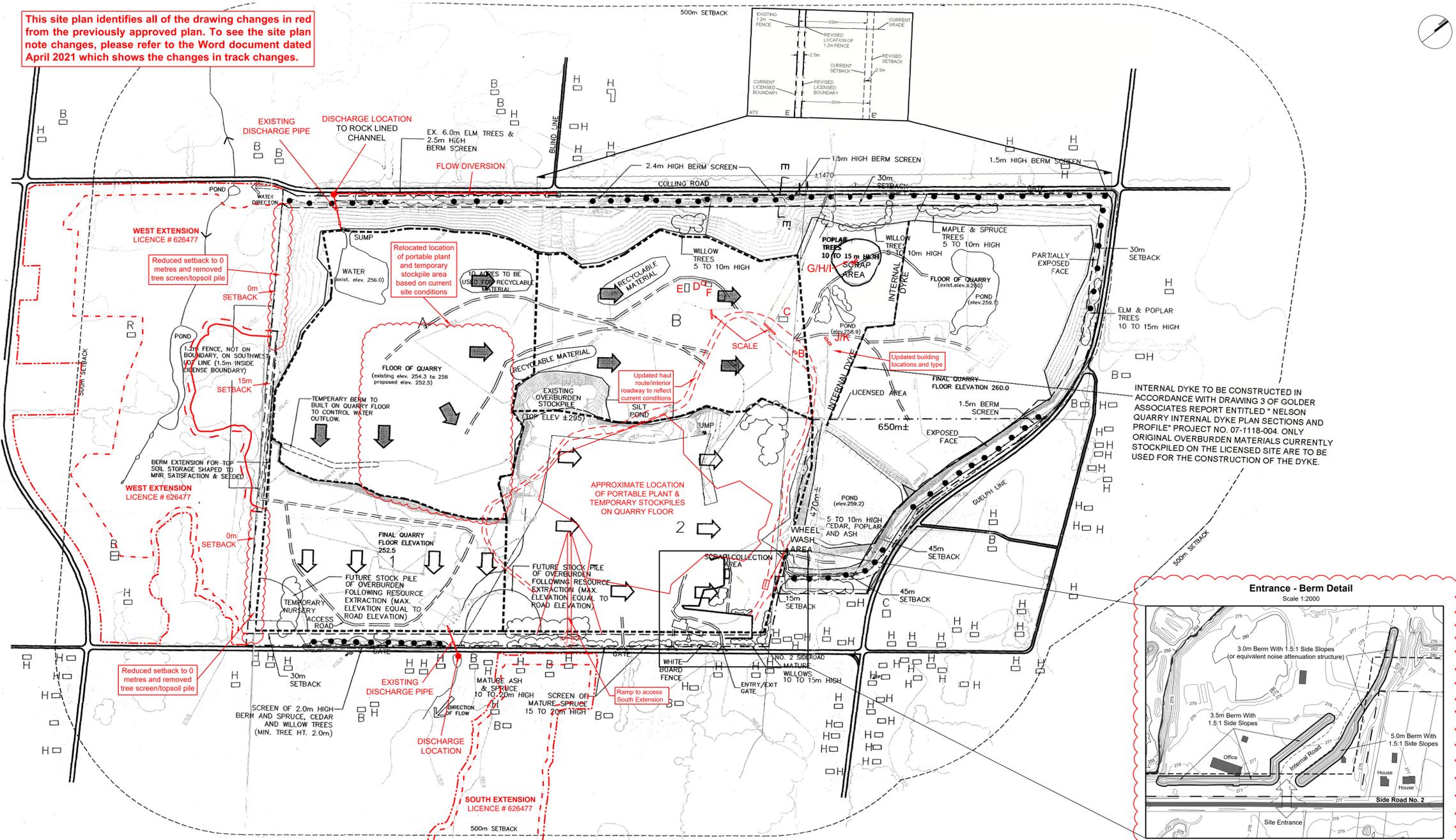
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EXISTING FEATURES
1 OF 4

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General Notes

Recycling Area:

- This site plan specifies the additional storage size (10 acres) for recyclable materials.
- This site plan specifies that the storage only includes asphalt and concrete for the purpose of aggregate recycling (for this to be considered accessory to the aggregate operation. The materials should be restricted to aggregate based materials).
- This site plan specifies that this use only continues so long as the site is licensed.

Aggregate Extraction

- This plan depicts an operation plan for this property based upon the best information available at the time of preparation. Phases are schematic and may vary slightly with demand. Phases do not represent any specific or equal time period. Any major deviations from the operational sequence will require approval of the MNR.
- Topsoil and overburden will be removed approximately 100 to 200 metres in advance of aggregate extraction.
- Phase 1 will be excavated in a single lift (20-25m) down to the shale layer. A slot may be advanced southward in the centre of Phase 1. Extraction will occur simultaneously from the east, west and south faces within the slot and from the south face on either side of the slot opening.
- Phase 2 will be extracted in an easterly direction in a single lift (20-25m) down to the shale layer.
- As required, the existing processing plant will be removed and a new portable plant will be established on the quarry floor (as shown).
- A section lift (4-5m) in areas A and B will be extracted down to the shale layer. Extraction may begin in the northwest corner of the quarry floor and proceed simultaneously south and eastward this lift will be undertaken at the same time as phases 1 and 2.
- This plan permits aggregate extracted at the Burlington Quarry Extension to be transported on-site for processing and shipping. The Burlington Quarry South Extension will transport aggregate from an at-grade crossing on No. 2 Sideroad in the location shown on this Plan. The Burlington Quarry West Extension will transport aggregate on the quarry floor within the extraction area connecting the two sites. The final area to be extracted on-site is the southeast corner of Licence No. 5499 after the completion of extraction of the Burlington Quarry Extension.
- Fuel storage tanks will be installed and maintained in accordance with the Liquid Fuels Handling Code under the Technical Standards and Safety Act.

On-site Operations

- Existing equipment includes:
 - Portable crushing plant
 - Trucks and graders
 - Loaders
 - Hydraulic shovels
 - And general equipment required to extract and ship aggregates
- The processing of extracted materials shall occur between 7:00 and 19:00 only.

- The loading and shipping of products may occur 24 hours.
- The asphalt plant may operate 24 hours.
- No drilling or extraction activities will occur within this quarry simultaneously with extraction activities within the Burlington Quarry Extension.
- The maximum sound power level of equipment operated within the quarry will be as follows:

Source	Sound Power Level (dBA re: 10 ⁻¹² Watts)
Front-end Loader - Processing Area	101
Jaw Crusher	113
Cone Crusher (a set of two)	117
Screen Plant	123
Power Generator	109
Moving Haul Truck	114
Moving Highway Truck	101

- Up to three haul trucks will be used to transport material from the Burlington Quarry Extension to the processing area, with a posted speed limit of 35 km/hr along this route.
- Up to 30 highway trucks can arrive and depart the site per hour, travelling between the No. 2 Side Road access and the processing area, with a posted speed limit of 20 km/hr along this route.
- The asphalt plant will be equipped with noise control measures and operate within the conditions stipulated in the ECA issued by the MECP.
- Equipment used for site preparation and rehabilitation shall satisfy the noise emission levels of the MECP guideline NPC-115, "Noise Construction Equipment".
- Existing perimeter berms along the north, east and south property lines shall be retained and a new berm/acoustic barrier shall be constructed at the entrance/exit in the southeast corner of the site. See berm detail on this page.

Overburden and Topsoil

The existing terrain features along the north, east, and south property lines, including perimeter berms, will be maintained. Overburden and topsoil will be stripped prior to extraction and will be used for backfilling of selected slopes to affect the rehabilitation measures outlined on dwg No. 3 - Progressive and Final Rehabilitation Plans. Overburden stockpiles along No. 2 sideroad shall not be any higher than the existing road grade.

Water Discharge

Water discharge points are to remain as shown on dwg No. 1 and may also include the flow diversion in the northwest corner of this Plan. Dewatering will occur to maintain a dry quarry floor while the quarry is in operation. The northwest discharge is to a rock lined ditch adjacent to Colling Road where it drains westward and to the southeast if the flow diversion is installed. The south discharge is to a ditch which crosses No. 2 Sideroad and proceeds southward. Discharge of water will be in accordance with permits issued by the MECP.

Tree Planting

Tree planting and seeding of backfilled slopes will be conducted progressively as described in note #6 on dwg No. 3 - Progressive and Final Rehabilitation Plans. Should any tree planting or seeding fail to become established, replacement of trees or seeding will be conducted and maintained to ensure proper success rates.

Fencing

The licensed area is enclosed by a 1.2m fence with the exception of the area around the office and main site access area which has a three rail wooden fence. No fencing is required adjacent to the Burlington Quarry West Extension.

Aggregate Stockpiles

Existing aggregate stockpiles will remain in the locations as shown on this plan during the extraction of areas 1, A and B. These stockpiles will be removed as required as the operation enters into these areas. The proposed stockpiles associated with the portable processing plant will be located on the quarry floor within the processing area, (as shown on the plan)

Temporary aggregate stockpiles may be located on the quarry floor as required.

Provision

Internal roads on quarry floor are temporary and can be relocated as required.

Variations from Provincial Standards

Provincial Standard	Variation	Rationale
5.1	The west licence boundary will not be fenced.	The west licence boundary abuts adjacent Licence # 626477 and additional land which are owned by the same licensee.
5.2	Gates will not be required where haul roads cross the common boundary with the West Extension (Licence # 626477).	This will eliminate constraints to the movement of equipment between licences and access to additional lands owned by the same licensee.
5.10	A 0 metre setback will be provided where the licence boundary abuts the West Extension (Licence # 626477).	This will enable material to be extracted along the common boundary and for rehabilitation to transition between licences.
5.11	Excavation within the setback will occur to construct hydrological features and an access point for the South Extension.	Setbacks shall be temporarily excavated and disturbed to install diversion and discharge pipes as well as to construct an at grade roadway crossing on Side Road No. 2.
5.13	Topsoil and overburden may be temporarily located within 30m of the West Extension (Licence # 626477).	The adjacent Licence # 626477 is owned by the same licensee.
5.16	Topsoil and/or overburden may be transferred between this licence and the West and East Extensions (Licence # 626477).	This will allow stripped material from site preparation to be used immediately for progressive rehabilitation in other parts of this licence or the extensions.
5.19	Portions of the quarry face shall remain vertical.	Vertical faces above and below the final lake level will create a more diverse habitat and visually appealing rehabilitated landform.

Information Compiled From

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- 1988 Official Plan for the Halton Planning Area, Regional Municipality of Halton
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- Ministry of Environment, Water well records
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- Rehabilitation contours utilized the City of Burlington's Open Data Catalogue which contains 2017 contour data and are displayed in one metre intervals
- Elevations shown are in metres above sea level (masl)
- On-site haul roads, stockpile locations, buildings and structures were updated based on July, 2020 aerial photography

PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

MHBC

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DRAFT

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Project: **OPERATIONAL PLAN**
Drawing No: **2 OF 4**

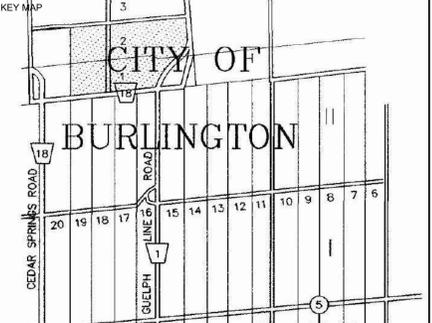
Scale: 1:4000

Drawn By: L.H./C.B. File No: 9135N
Checked By: B.Z. Date: APRIL 2021

DATE: MAR.05/99 PROJECT NO.: 4792 DRAWN BY: C.G./S.B. CHECKED: T.M.J.

F.J.Reinders and Associates Canada Limited
Architects, Engineers, Planners, Project Managers
Burlington (416)57-1018

PROFESSIONAL ENGINEER
P. O. M. CHAMBERLAIN
PROVINCE OF ONTARIO



SITE DESCRIPTION AND STATISTICS
PT. LOTS 1 & 2, CONC. 2 & 3
CITY OF BURLINGTON
REGIONAL MUNICIPALITY OF HALTON

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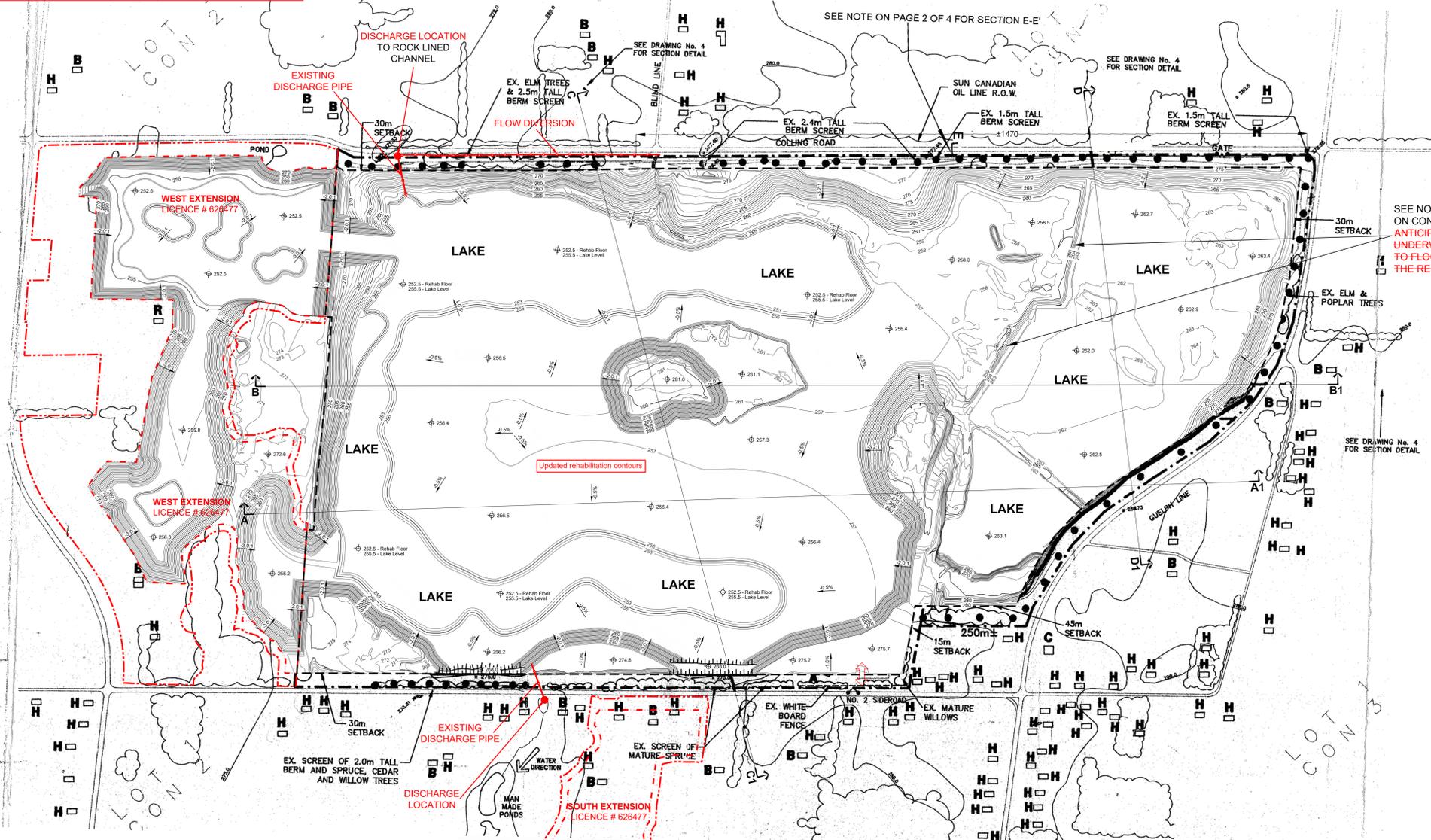
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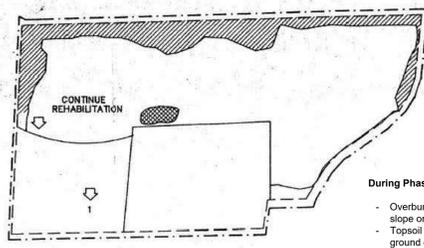
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- LEGEND:**
- GENERAL DIRECTION OF REHABILITATION
 - BOUNDARY OF LICENSED AREA
 - SETBACK LIMITS
 - EXISTING 1.2m POST & WIRE FENCE ON BOUNDARY
 - EXISTING CONTOURS
 - PROPOSED CONTOUR
 - × 27.0 PROPOSED SPOT ELEVATION
 - ACTIVE PIT FACE
 - EXPOSED QUARRY FACE
 - EXISTING TREES
 - PROPOSED TREES
 - EXISTING REHABILITATED AREA
 - APPROXIMATE EDGE OF WATER
 - EXTENSION LICENCE BOUNDARY
 - EXTENSION LIMIT OF EXTRACTION
 - FLOW DIVERSION / DISCHARGE PIPE
 - ▽ 256 FLOOR ELEVATION (MASL)
 - ▽ 255 FINAL GRADE AND SLOPE
 - ↕ ENTRANCE / EXIT

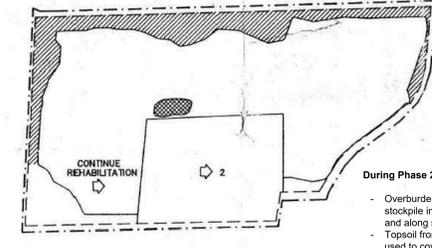


COMPLETED REHABILITATION

TEMPORARY OVERBURDEN AND TOPSOIL STOCKPILE

During Phase 1

- Overburden used to construct slope on the west face of quarry
- Topsoil place on overburden and ground cover and trees established
- Excess overburden and topsoil stockpiled on floor of quarry

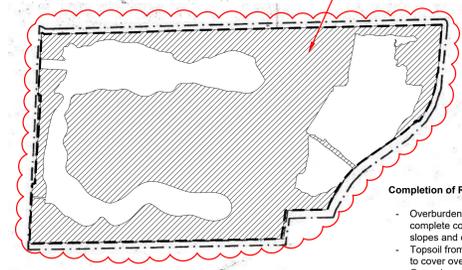


COMPLETED REHABILITATION

TEMPORARY OVERBURDEN AND TOPSOIL STOCKPILE

During Phase 2

- Overburden in Phase 2 used to create stockpile in southwest corner of quarry and along south face of quarry
- Topsoil from Phase 2 and stockpiles used to cover overburden placed on completed faces
- Ground cover and trees established on new slopes



COMPLETED REHABILITATION

TEMPORARY OVERBURDEN AND TOPSOIL STOCKPILE

Completion of Restoration

- Overburden used to complete construction of slopes and quarry floor
- Topsoil from stockpile used to cover overburden
- Ground cover and vegetation established on topsoil

Rehabilitation Notes

- 1) Final rehabilitation of the site is for a lake, ponds and wetlands with vegetated slopes and quarry floor. The final rehabilitated landform may also include an access road from the entrance/exit to the rehabilitated quarry floor and access roads on the quarry floor to provide access to the sump locations.
- 2) Notwithstanding a) above, the owner reserves the right to develop the site for other uses, including estate residential, public and/or private recreational uses (ie: sports fishing, swimming and boating). Depending on the final ownership of the rehabilitated site, these shall be subject to all applicable legislation and by-laws.
- 3) In accordance with b) above, the licensee has committed to conveying the site into public ownership and to maintain this quarry in a dewatered state by maintaining the pumping regime to provide long-term public water management benefits and mitigate impacts on natural heritage features which depend on quarry discharge from this license.
- 4) The contour shaping of the remaining areas to be rehabilitated, will be done in a manner to create a diverse waters edge. Areas where the waters edge meets a vertical quarry face will be blended into softer slopes and areas just under the waters surface will be created to establish the potential for naturally occurring wetland areas for fish and wildlife habitat. (See typical sketch on sheet 4).
- 5) Waste rock, overburden topsoil and any MECP approved excess soil will be used to develop suitable safe slope angles as shown. If insufficient overburden and topsoil exists on the site, the owner reserves the right to import excess soil from offsite sources.
- 6) Except for vertical faces, rehabilitated slopes of the quarry shall not exceed 2:1 and shall vary from 2:1 to 5:1 slopes. Tableland areas for development will be graded from 0.3% to 3.0% slope angles.
- 7) Islands may be left in the lake should sufficient material remain on the site at the completion of operations. The size of the island shown on the plan is approximate based on current earth quantities. The owner reserves the right to adjust the size depending on the final quantities.
- 8) In the final stages, the existing berms may be used in the final rehabilitation of the slopes.
- 9) Regraded slopes will be vegetated with a maintenance free ground cover (ie: trefol, crown vetch) and deciduous and coniferous trees of varieties indigenous to the area. Installed heights for deciduous trees will be 2.0 metres and for coniferous trees will be 1.0 metre. Tree fatalities will be replaced at seasonally opportune times. Trees and shrubs will be planted for slope stabilization, habitat enhancement and aesthetics.
- 10) The regraded quarry floor will be vegetated with a grass legume mixture.
- 11) For safety a post and wire fence must be installed at the top of all exposed quarry faces and shall run along the top to the point where the quarry face flares into the rehabilitated slope.
- 12) Phasing of rehabilitation to follow sketches shown above and as set out in dwg No.2.
- 13) If the site is to be maintained in a dewatered state, prior to the surrender of the Aggregate Resource Act Licence, the licensee shall define the transition of the site to another party and the pre-requisite for license surrender to the satisfaction of the MNRF.

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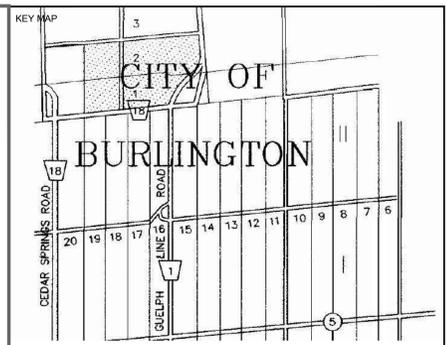
ORIGINAL SITE PLANS PREPARED BY:

REINDERS

F.J. Reinders and Associates Canada Limited
Architects, Engineers, Planners, Project Managers
Burlington (416) 657-1618

MINISTRY OF NATURAL RESOURCES
AURORA DISTRICT
SITE PLAN APPROVED
Under the Aggregate Resource Act
DATE: March 31/19

DATE: MAR.05/99 PROJECT NO. 4792 DRAWN BY: C.G./S.B. CHECKED: T.M.J.



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Stamp

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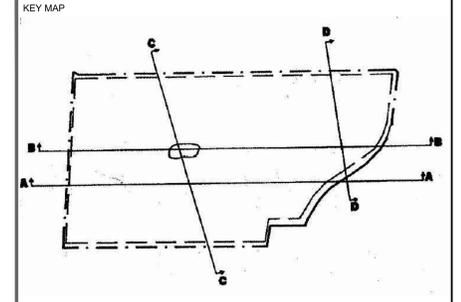
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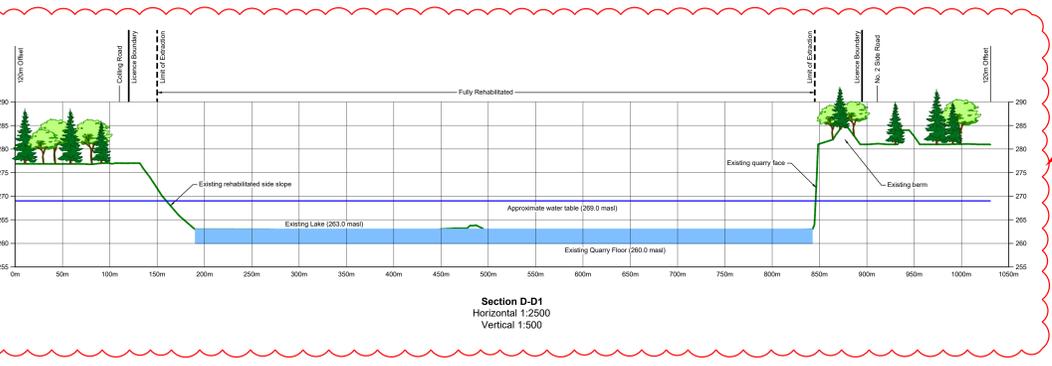
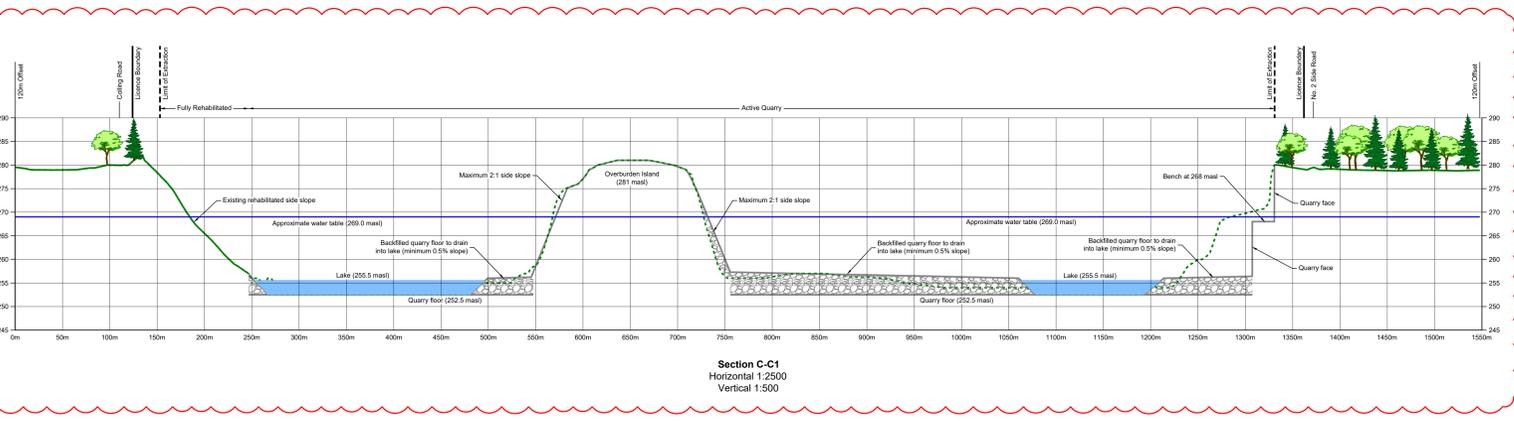
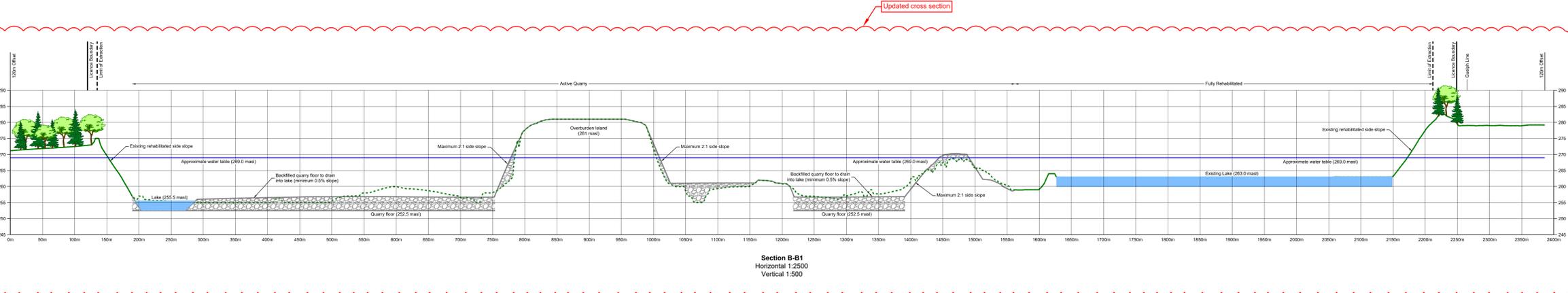
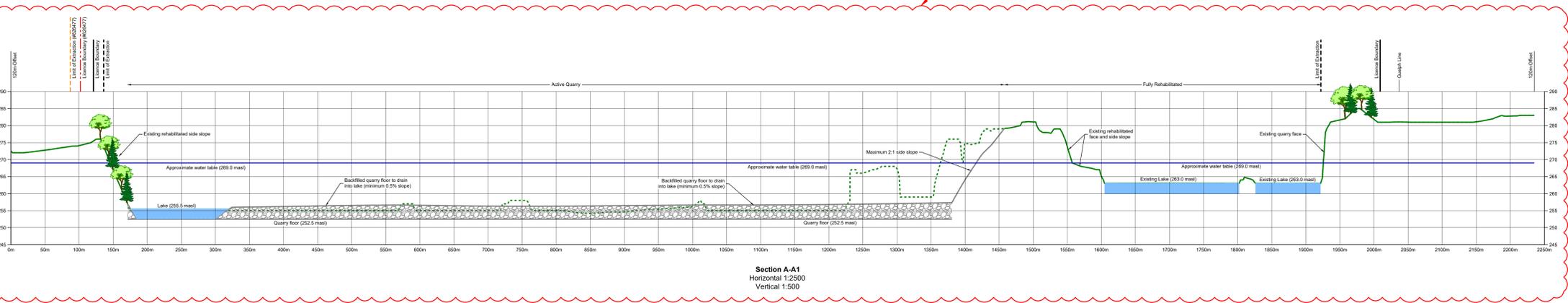
PROGRESSIVE & FINAL REHABILITATION PLAN

3 OF 4

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- Legend**
- Licence Boundary
 - Limit of Extraction
 - Licence Boundary (#626477)
 - Limit of Extraction (#626477)
 - 120m Offset From Licence Boundary
 - Existing Grade - Removed / Altered
 - Existing Grade - Undisturbed
 - Quarry Floor / Face
 - Backfilled
 - Lake or Pond



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All distances on this plan are shown in metres unless otherwise stated.

Site Plan Amendments

No.	Date (YYYYMMDD)	Description	By
11	21/04/19	INTEGRATION OF BURLINGTON QUARRY EXTENSION (LICENCE # 626477)	C.P.
10	19/07/14	REMOVAL/RELOCATION OF BUILDINGS/STRUCTURES ON-SITE	L.H.
9	12/01/20	REVISE FUEL STORAGE NOTE #8 ON PAGE 2 OF 4	L.H.
8	07/12/03	REVISE INTERNAL DYKE	L.H.
7	06/11/02	REDUCTION OF LICENSED BOUNDARY	L.H.
6	06/09/18	REVISE LOCATION OF SCRAP AREA	P.C.
5	08/10/26	ADDITIONAL RECYCLABLE MATERIAL STORAGE	P.C.
4	97/03/05	REVISED AS PER MINISTRY COMMENTS	P.C.
3	03/06/15	REVISED AS PER MINISTRY COMMENTS	K.C.
2	62/10/16	REVISED AS PER CLIENT COMMENTS	G.M.
1	92/10/08	REVISED PLANS AS PER MNR COMMENTS	G.M.

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
113 COLLIER STREET BARRIE, ON, L4M 1H2 | P: 705 728 0045 F: 705 728 2010 | WWW.MHBCPLAN.COM

MHBC PLANNING DRAFTED SITE PLAN AMENDMENTS NO. 6 TO 11

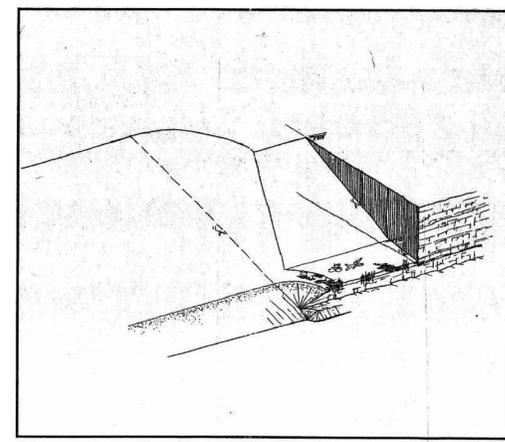
DRAFT

Mr. Brian Zeman is authorized by the Ministry of Natural Resources and Forestry to prepare and certify site plans for license applications.

Burlington Quarry
Part of Lots 1 & 2, Conc. 2 & 3
(former township of Nelson) City of Burlington, Region of Halton

NELSON AGGREGATE CO.
2433 No. 2 Sideroad
P.O. Box 1070 Burlington Ont. L7R 4L8
phone: (905) 335-5250

Drawn By	L.H./C.P.	File No.	9135N
Checked By	B.Z.	Date	APRIL 2021
CROSS SECTIONS			
4 OF 4			



MINISTRY OF NATURAL RESOURCES
AURORA DISTRICT
SITE PLAN APPROVED
Under the Aggregate Resources Act

[Signature]
DATE: March 31/19

ORIGINAL SITE PLANS PREPARED BY:

REINDERS
F.J.Reinders and Associates Canada Limited
Architects, Engineers, Planners, Project Managers
BRAMPTON (416)457-1618

PROFESSIONAL ENGINEER
P. G. W. CHILWING
P. ENG. REG. NO. 10000
PROVINCE OF ONTARIO

DATE	PROJECT NO.	DRAWN BY	CHECKED
MAR.05/99	4792	C.G./S.B.	T.M.J.

**NELSON BURLINGTON EXISTING QUARRY SITE PLAN AMENDMENT
ARA SITE PLAN NOTES
April 2021**

The following are the (Existing) Nelson Burlington Quarry Aggregate Resources Act Site Plan notes dated February 2021. This document identifies changes made to the July 24, 2019 Nelson Burlington Quarry Site Plan notes in “track change”. These changes have been made as part of an amendment to the Nelson Burlington Quarry Site Plan, to address the Ministry of Natural Resources and Forestry’s letter dated December 09, 2020.

PAGE 1 OF 4: EXISTING FEATURES

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Site Description and Statistics

PT. Lots 1 & 2, Conc. 2 & 3
City of Burlington
Regional Municipality of Halton

Licence Areas:
Licence No. 5499 202.1 ha
License No. 5657 16.2 ha
Total 218.3 ha

~~Disturbed Areas:
License No. 5499 54.75 ha~~

License No. 5657 ————— 5.25 ha
 Total ————— 60.0 ha

Total Area to be Extracted (both licenses) 2110 ha

~~Remaining Area to be Extracted (both licenses) ————— 67 ha~~

Buildings within Quarry Boundary:

A	Office	40mx15mx5m
B	Portable Scale House	15mx7m
FC	Fuel Pumps	30mx10mx4m
G	Main Shop	30mx40mx10m
HD	1' Lunch Room	5mx5mx5m
I	1' Crusher	120mx10mx7m
JE	Asphalt Plant (including stockpiles)	120mx30mx15m
KF	Asphalt Control Room	30mx15mx8m
LG	Storage Shed Explosive Mag. #1	5mx10mx3m
MH	Storage Shed Explosive Mag. #2	4mx5mx3m
NI	Storage Shed Explosive Mag. #3	7mx5mx3m
O	Explosive Mag. #4	15mx5mx3m
P	Explosive Mag. #5	5mx5mx3m
Q	Explosive Mag. #6	5mx7mx3m
R	1' #1 Building	20mx20mx13m
S	2' Transfer Building	5mx5mx5m
T	2' #2 Building	20mx15mx15m
U	2' #2 Building	15mx15mx15m
V	2' HL6 Plant	10mx10mx8m
J	Portable Office Trailer	10mx5mx3m
K	Portable Office Trailer	10mx5mx3m

Legend of Buildings within 500m of Quarry Boundary:

- H House
- B Barn
- C Commercial Building i.e., Gas Bar
- R Recreation Building i.e., Golf Clubhouse

Official Plan & Zoning Information:

As per the Niagara Escarpment Plan, which is included as part of the Halton Official Plan, Quarry Site is designated as a Mineral Resource Extraction Area. The designation of areas adjacent to the quarry is Escarpment Rural. The Official Plan for Halton Region designates the site as Mineral Resource Extraction Area~~Extractive Industrial~~.

Watertable Information:

The watertable is located approximately $\pm 4.9\text{m}$ (269.0m ASL) below undisturbed grade. De-watering takes place continuously, and has been in place for approximately ~~20~~50 years.

Fencing:

The licensed area is enclosed by a 1.2m fence with the exception of the area around the office which has a three rail wooden fence.

Site Description:

Part of Lots 1 and 2, Concessions 2 and 3, City of Burlington, Regional Municipality of Halton.

PAGE 2 OF 4: OPERATIONAL PLAN

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City of Burlington

Regional Municipality of Halton

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Legend of Buildings within 500m of Quarry Boundary:

- H House
- B Barn
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- R Recreation Building i.e., Golf Clubhouse

General Notes

Recycling Area:

- 1) This site plan specifies the additional storage size (10 acres) for recyclable materials,
- 2) This site plan specifies that the storage only includes asphalt and concrete for the purpose of aggregate recycling (for this to be considered accessory to the aggregate operation. The materials should be restricted to aggregate based materials),
- 3) This site plan specifies that this use only continues so long as the site is licensed.

Aggregate Extraction

- 1) This plan depicts an operation plan for this property based upon the best information available at the time of preparation. Phases are schematic and may vary slightly with demand. Phases do not represent any specific or equal time period. Any major deviations from the operational sequence will require approval of the MNRE.

- 2) Topsoil and overburden will be removed approximately 100 to 200 metres in advance of aggregate extraction.
- 3) Phase 1 will be excavated in a single lift of (20-25m) down to the shale layer. A slot may be advanced southward in the centre of Phase 1. Extraction will occur simultaneously from the east, west and south faces within the slot and from the south face on either side of the slot opening.
- 4) Phase 2 will be extracted in an easterly direction in a single lift (20-25m) down to the shale layer.
- 5) As required, the existing processing plant will be removed and a new portable plant will be established on the quarry floor (as shown).
- 6) A section lift (+/- 5m) in areas A and B will be extracted down to the shale layer. Extraction may begin in the northwest corner of the quarry floor and proceed simultaneously south and eastward this lift will be undertaken at the same time as phases 1 and 2.
- 7) ~~Prior to final extraction and final rehabilitation taking place, the owner reserves the right to discuss the possibility of future underground mining (under the rules and regulations of the Mining Act) with the Ministry of Natural Resources and other appropriate Agencies~~ This Plan permits aggregate extracted at the Burlington Quarry Extension to be transported on-site for processing and shipping. The Burlington Quarry South Extension will transport aggregate from an at-grade crossing on No. 2 Sideroad in the location shown on this Plan. The Burlington Quarry West Extension will transport aggregate on the quarry floor within the extraction area connecting the two sites. The final area to be extracted on-site is the southeast corner of Licence No. 5499 after the completion of extraction of the Burlington Quarry Extension.
- 8) Fuel storage tanks will be installed and maintained in accordance with the Liquid Fuels Handling Code under the Technical Standards and Safety Act.

Aggregate Processing Equipment On-site Operations

- 1) Existing equipment includes:
 - Portable crushing plant
 - Trucks and graders
 - Loaders
 - Hydraulic shovels
 - And general equipment required to extract and ship aggregates
- 2) The processing of extracted materials shall occur between 7:00 and 19:00 only.

- 3) The loading and shipping of products may occur 24 hours.
- 4) The asphalt plant may operate 24 hours.
- 5) No drilling or extraction activities will occur within this quarry simultaneously with extraction activities within the Burlington Quarry Extension.
- 6) The maximum sound power level of equipment operated within the quarry will be as follows:

<u>Source</u>	<u>Sound Power Level [dBA re: 10⁻¹² Watts]</u>
<u>Front-end Loader – Processing Area</u>	<u>101</u>
<u>Jaw Crusher</u>	<u>113</u>
<u>Cone Crushers (a set of two)</u>	<u>117</u>
<u>Screen Plant</u>	<u>123</u>
<u>Power Generator</u>	<u>109</u>
<u>Moving Haul Truck</u>	<u>114</u>
<u>Moving Highway Truck</u>	<u>101</u>

- 7) Up to three haul trucks will be used to transport material from the Burlington Quarry Extension to the processing area, with a posted speed limit of 35 km/hr along this route.
- 8) Up to 30 highway trucks can arrive and depart the site per hour, travelling between the No. 2 Side Road access and the processing area, with a posted speed limit of 20 km/hr along this route.
- 9) The asphalt plant will be equipped with noise control measures and operate within the conditions stipulated in the ECA issued by the MECP.
- 10) Equipment used for site preparation and rehabilitation shall satisfy the noise emission levels of the MECP guideline NPC-115, “Noise Construction Equipment”.
- 11) Existing perimeter berms along the north, east and south property lines shall be retained and a new berm/acoustic barrier shall be constructed at the entrance/exit in the southeast corner of the site. See berm detail on this page.

~~Existing processing equipment, including crushers, screens, conveyors etc. will be maintained. All equipment is permanent equipment. This may be subject to relocation as indicated in phasing.~~ Overburden and Topsoil

The existing terrain features along the north, east, and south property lines, including perimeter berms, will be maintained. Overburden and topsoil will be stripped prior to extraction and will be used for backfilling of selected slopes to affect the rehabilitation

measures outlined on dwg No. 3 – Progressive and Final Rehabilitation Plans. Overburden stockpiles along No. 2 sideroad shall not be any higher than the existing road grade.

Berming and Progressive Rehabilitation

~~It is not anticipated that additional berming or tree screening will be required along No.2 Sideroad. Should conditions change that may require berming or tree screening, berms will be constructed to existing specifications (max height 2.0m with min side slopes of 3:1. Berms shall be seeded with an appropriate seed mixture).~~

Water Discharge

Water discharge points are to remain as shown on dwg No.1 and may also include the flow diversion in the northwest corner of this Plan. Dewatering will occur to maintain a dry quarry floor while the quarry is in operation. The northwest discharge is to a rock lined ditch adjacent to ~~colling~~Colling road-Road where it drains westward and to the southeast if the flow diversion is installed. The south discharge is to a ditch which crosses No.2 ~~sideroad~~Sideroad and proceeds southward. Discharge of water will be in accordance with permits issued by the MECP.

Tree Planting

Tree planting and seeding of backfilled slopes will be conducted progressively as described in note #6 on dwg No. 3 – Progressive and Final Rehabilitation Plans. Should any tree planting or seeding fail to become established, replacement of trees or seeding will be conducted and maintained to ensure proper success rates.

Fencing

The licensed area is enclosed by a 1.2m fence with the exception of the area around the office and main site access area which has a three rail wooden fence. No fencing is required adjacent to the Burlington Quarry West Extension.

Aggregate Stockpiles

Existing aggregate stockpiles will remain in the locations as shown on this plan during the extraction of areas 1, A and B. These stockpiles will be removed as required as the operation enters into these areas. The proposed stockpiles associated with the portable processing plant will be located on the quarry floor within the processing area. (as shown on the plan)

Temporary aggregate stockpiles may be located on the quarry floor as required.

Provision

Internal roads on quarry floor are temporary and can be relocated as required.

Variations from Provincial Standards

<u>Provincial Standard</u>	<u>Variation</u>	<u>Rationale</u>
<u>5.1</u>	<u>The west licence boundary will not be fenced</u>	<u>The west licence boundary abuts adjacent Licence #626477 and additional land which are owned by the same licensee.</u>
<u>5.2</u>	<u>Gates will not be required where haul roads cross the common boundary with the West Extension (Licence #626477).</u>	<u>This will eliminate constraints to the movement of equipment between licences and access to additional lands owned by the same licensee.</u>
<u>5.10</u>	<u>A 0 metre setback will be provided where the licence boundary abuts the West Extension (Licence #626477).</u>	<u>This will enable material to be extracted along the common boundary and for rehabilitation to transition between licences.</u>
<u>5.11</u>	<u>Excavation within the setback will occur to construct hydrological features and an access point for the South Extension.</u>	<u>Setbacks shall be temporarily excavated and disturbed to install diversion and discharge pipes as well as to construct an at grade roadway crossing on Side Road No. 2.</u>
<u>5.13</u>	<u>Topsoil and overburden may be temporarily located within 30m of the West Extension (Licence #626477).</u>	<u>The adjacent Licence #626477 is owned by the same licensee.</u>
<u>5.16</u>	<u>Topsoil and/or overburden may be transferred between this licence and the West and East Extensions (Licence #626477).</u>	<u>This will allow stripped material from site preparation to be used immediately for progressive rehabilitation in other parts of this licence or the extensions.</u>
<u>5.19</u>	<u>Portions of the quarry face shall remain vertical.</u>	<u>Vertical faces above and below the final lake level will create a more diverse habitat and visually appealing rehabilitated landform.</u>

PAGE 3 OF 4: PROGRESSIVE & FINAL REHABILITATION PLAN

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Total Area to be Extracted (both licenses) 211~~0~~ ha

~~Remaining Area to be Extracted (both licenses) 67 ha~~

~~Buildings within Quarry Boundary:~~

~~A Office 40mx15mx5m~~

~~Note~~

~~The intent is to remove the existing office building but the owner reserves the right to retain the building if he deems it necessary.~~

Legend of Buildings within 500m of Quarry Boundary:

H	House
B	Barn
C	Commercial Building i.e., Gas Bar
R	Recreation Building i.e., Golf Clubhouse

During Phase 1

- Overburden used to construct slope on the west face of quarry
- Topsoil placed on overburden ~~above water~~ and ground cover and trees established
- Excess overburden and topsoil stockpiled on floor of quarry

During Phase 2

- Overburden in Phase 2 used to create stockpile in southwest corner of quarry and along south face of quarry
- Topsoil from Phase 2 and stockpiles used to cover overburden placed on completed faces
- Ground cover and trees established on new slopes

Completion of Restoration

- Overburden used to complete construction of slopes and quarry floor
- Topsoil from stockpile used to cover overburden ~~above water line~~
- Ground cover and vegetation established on topsoil

Rehabilitation Notes

- 1) a) Final rehabilitation of the site is for a lake, ponds and wetlands with vegetated slopes and quarry floor. The final rehabilitated landform may also include an access road from the entrance/exit to the rehabilitated quarry floor and access roads on the quarry floor to provide access to the sump locations.
b) Notwithstanding a) above, the owner reserves the right to develop the site for other uses, including estate residential, public and/or private recreational uses (ie: sports fishing, swimming and boating). Depending on the final ownership of the rehabilitated site, these shall be subject to all applicable legislation and by-laws.
c) In accordance with b) above, the licensee has committed to: conveying the site into public ownership and to maintain this quarry in a dewatered state by maintaining the pumping regime to provide long-term public water management benefits and mitigate impacts on natural heritage features

which depend on quarry discharge from this license.

The contour shaping of the remaining areas to be rehabilitated, will be done in a manner to create a diverse waters edge. Areas where the waters edge meets a vertical quarry face will be blended into softer slopes and areas just under the waters surface will be created to establish the potential for naturally occurring wetland areas for fish and wildlife habitat. (See typical sketch on sheet 4).

- 2) Waste rock, overburden topsoil and any MOE-MECP approved clean fill/excess soil will be used to develop suitable safe slope angles as shown. If insufficient overburden and topsoil exists on the site, the owner reserves the right to import material/excess soil from offsite sources.
- 3) Except for vertical faces, Rrehabilitated slopes of the quarry shall not exceed 2:1 and shall vary from 2:1 to 5:1 slopes. Tableland areas for development will be graded from 0.3% to 3.0% at 2-10% slope angles.
- 4) Islands may be left in the lake should sufficient material remain on the site at the completion of operations. The size of the island shown on the plan is approximate based on current earth quantities. The owner reserves the right to adjust the size depending on the final quantities.
- 5) In the final stages, the existing berms may be used in the final rehabilitation of the slopes.
- 6) Regraded slopes will be vegetated with a maintenance free ground cover (ie: trefoil, crown vetch) and deciduous and coniferous trees of varieties indigenous to the area. Installed heights for deciduous trees will be 2.0 metres and for coniferous trees will be 1.0 metre. Tree fatalities will be replaced at seasonally opportune times. Trees and shrubs will be planted for slope stabilization, habitat enhancement and aesthetics.

7) The regraded quarry floor will be vegetated with a grass legume mixture.

7)8) For safety a post and wire fence must be installed at the top of all exposed quarry faces and shall run along the top to the point where the quarry face flares into the rehabilitated slope.

8)9) Phasing of rehabilitation to follow sketches shown above and as set out in dwg No.2.

10) If the site is to be maintained in a dewatered state, prior to the surrender of the Aggregate Resource Act Licence, the licensee shall define the transition of the site to another party and the pre-requisite for license surrender to the satisfaction of the MNRF.

PAGE 4 OF 4: CROSS SECTIONS

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