TOWN OF CALEDON

PEER REVIEW
Visual Impact Assessment of CBM Quarry

ANALYSIS AND RECOMMENDATIONS

WAVE FRONT
Planning and Design

CONTENTS

EXECUTIVE SUMMARY

CBM Quarry has submitted an application for an Official Plan and Zoning By-law amendment to the Town of Caledon to permit a mineral extraction operation on a 323-hectare site. A Visual Impact Assessment (VIA) was prepared by Golder and Associates to evaluate the visual impact of the proposed quarry and its influence on the surrounding landscape. As part of the review process, the Town of Caledon requested a peer review to be conducted to critically analyze the methodology and findings in the Golder VIA, the Landscape Plans prepared by MHBC and in the Planning Justification Report. The Peer Review is the subject of the following report.

Key Findings:

- There is a lack of coordination and consistency in the information presented amongst the VIA Report, the Landscape Plans and the Planning Justification Report.
- The Golder VIA Report lacks critical elements required under the Niagara Escarpment Commission (NEC) VIA Technical Requirements, including a detailed site plan showing quarry entries,, clear cross-sections, and architectural renderings of proposed structures.
- The Golder VIA methodology primarily relies on GIS and Digital Terrain Models (DTM), resulting in inconsistencies in the depiction of viewsheds compared to field observations.
- The proposed mitigation strategy of constructing grassy berms of 4 - 6 m in height will generally be of sufficient height to block views into the quarry, but the character and quality of the uniformly shaped berms would have a negative impact on visual quality and user experience.
- The Landscape Plans do not illustrate an interim or end-result landscape that complies with relevant policies, including Provincial Policy Statement 2024, Greenbelt Plan, the Niagara Escarpment Plan and Town of Caledon Official Plan regarding landscape connectivity and 35% naturalization requirement; not complying with these policies results in a landscape of reduced visual quality
- The VIA does not consider potential development within Cataract MUC such that the proposed visual impact mitigation adjacent to Cataract would be insufficient if it was fully built-out.
- The quarry entrance design is not accurately shown regarding the positioning of the grassy berms and the vertical alignment of the quarry entrance road and will result in significant views into the quarry if constructed as shown. Alternative options are shown in Appendix B of this report.
- The proposed mitigation measures do not adequately consider seasonal variations in vegetation cover and visibility relevant to the sequencing of extraction phases
- The Landscape Plan provides information for an end-condition landscape, and does not indicate the location of plantings or other visual screening for each of the extraction phases or trees to be preserved, making it impossible to assess if sufficient planting and mitigation will be in place prior to extraction in each of the phases.
- There is insufficient public consultation and stakeholder engagement in the submitted documents to assess community concerns about visual impacts.

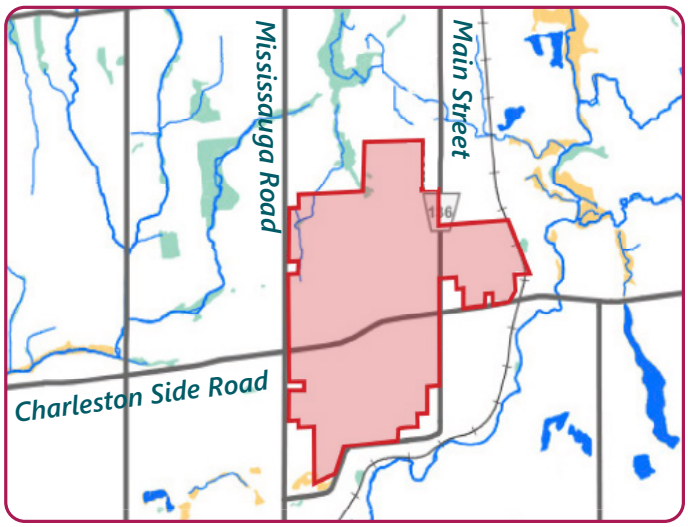
To address the inadequacies in the material presented, a list of 16 recommendations to improve the content of the submitted documents and plans is provided. A carefully considered landscape approach to naturalization and enhancing visual quality over a 50-year time frame is recommended, one that builds a productive working relationship between CBM Quarry and the community.

SECTION 1
INTRODUCTION

.1 Background

Golder Associates Ltd. (Golder), on behalf of CBM Quarry, has submitted an application for an official plan amendment and a zoning by-law amendment to the Town of Caledon to permit a mineral extraction operation on its land holdings of 323 hectares situated northwest, northeast and southwest of the intersection of Regional Road 24 (Charleston Side Road) and Regional Road 136 (Main Street). Approximately 261 hectares are proposed to be licensed under the Aggregate Resources Act for mineral extraction that will extend below the water table. The proposed quarry would remain in operation for a 50-year period, and the intended final landscape would be a series of lakes in the former extraction areas surrounded by reforested areas and meadows.

Figure 1: Key Map



One of the studies prepared in support of the application is a Visual Impact Assessment (Revised July, 2023), which will be referred to as the Golder VIA Report. A Peer Review of the Golder VIA Report, the Planning Justification Report and the Landscape Plans by MHBC was requested by the Town of Caledon, and is the subject of this document. A summary of recommendations is included in Section 6.

.2 Purpose

The purpose of the Peer Review is to assess the technical competency of the Golder VIA Report and evaluate the proposed findings and mitigation measures. The documents included in the Peer Review are the following:

- **Proposed CBM Caledon Quarry Terms of Reference – Visual Impact Assessment, dated August 19, 2022, by Golder Associates Ltd.**
- **Visual Impact Assessment Report Proposed Caledon Pit / Quarry, dated December 16, 2022 (revised July, 2023), by Golder Associates Ltd. (Golder VIA Report)**
- **Landscape Drawings by MHBC, dated August, 2023**
  - A001 Existing features, Drawing 1 of 4
  - A002 Operational Plan, Drawing 2 of 4
  - A003 Technical Recommendations, Drawing 3 of 4
  - A004 Rehabilitation Plan, Drawing 4 of 4
- **Planning Justification Report and Aggregate Resources Act Summary Statement, Proposed CBM Caledon Pit / Quarry, dated December 2022 (revised July 2023), by GSAI**

In addition, the Town of Caledon provided a copy of the Niagara Escarpment Commission comments on the Golder VIA Report, and the applicant's response to the comments, and this document became part of the peer review.

A specific requirement for the Peer Review is to assess the visual impacts of the quarry operations and the proposed rehabilitated landscape with regard to the policy requirements of the Town of Caledon Official Plan and any other relevant documents. Other requirements include the following:

- ***Review the Terms of Reference*** *to assess the accuracy and validity of the methodology assumptions in the Golder VIA Report and conclusions reached by the consultant with respect to provincial and municipal standards*
- ***Attend on site,*** *as deemed necessary and within the appropriate field season, to validate any subsequent peer review comments and recommendations.*
- ***Provide recommendations*** *on the appropriateness of the proposal with respect to visual impacts and identify any issues of concern that need to be addressed, including any potential impacts that may not have been sufficiently addressed by the Applicant's report.*

In addition, a Case Study Review of the final result of the Peer Review is to provide a conclusion on the technical competency and recommendations for moving forward.

.3 Methodology

To establish a benchmark for an adequate visual impact assessment methodology, a Case Study Review was conducted of the following two VIA review documents:

- Aesthetic and Visual Impact Assessment of a Quarry Expansion, Bibiana Ramos and Thomas Panagopoulos, Department of Landscape Architecture, Faculty of Natural Recourses, University of Algarve, 2006, (Portugal).
- Guidelines for Quarry Landscape and Visual Impact Assessment, Simon Higson, Quarry Management, October, 2013, (United Kingdom).
- A Comprehensive Methodology for the Visual Impact Assessment of Mines and Quarries, Environmental Impact Assessment Review, Dentoni, V., et. al, 2023.

Based on the above benchmarks and other visual impact assessments for quarry operations in Ontario, there are five main visual impacts that should be assessed:

a) Assess Visual Impact – Identify how the quarry will alter the existing natural or built environment, considering factors like topography, vegetation, and existing land uses, and to determine if those impacts are minimal, moderate or have a significant visual impact

b) Protection of Scenic and Cultural Resources – determine if existing landscapes of scenic, heritage or cultural value will be adversely impacted by the proposed quarry operation

c) Regulatory Compliance – evaluate the requirements of local planning policies, environmental regulations, and permitting processes and determine if the proposed quarry operations are compliant

d) Minimize Negative Effects – recommend mitigation strategies such as tree planting, berm construction, habitat enhancement, reforestation, reduced scale of quarry operations, or progressive rehabilitation to reduce visual disturbances.

e) Long-term planning - assess if the proposed mitigation measures will have negative consequences or potential adverse impacts on nearby properties, tourism, and recreational areas.

In some cases, public engagement is an important consideration, but since it was not included in the Golder methodology, our assessment does not consider it.

After identifying benchmarks and protocols for a VIA assessment of a quarry, a thorough review of the applicant's submitted documents listed above was initially undertaken, followed by a review of the Town of Caledon Official Plan, the Region of Peel Official Plan, the Niagara Escarpment Plan, the Greenbelt Plan and the Aggregate Resources Act. A site visit to examine the existing landscape character and extent of viewsheds as mapped in the Golder report was then conducted. Two meetings were held with government stakeholders to discuss their issues and concerns and to obtain details regarding the applicant's submitted documents, long-term plans for the site and surrounding rural area, and to discuss public reaction and stakeholder consultations.

The following report was prepared based on the above investigation.

SECTION 2
TOR ANALYSIS

An analysis of the Terms of Reference (TOR) prepared by the applicant was conducted to analyse the adequacy and completeness of the scope of the TOR to address visual impacts of a quarry, and to determine if the Golder VIA Report addressed the issues within the TOR. The benchmark used for the comparison was the NEC VIA Technical Requirements document which outlines the requirements for any type of VIA conducted within the NEC boundary. Table 2 illustrates a comparison of the contents of the NEC requirements to Golder's TOR and VIA reports.

Table 2 - Comparison of Terms of Reference: Scope

NEC Visual Impact Assessment Technical Requirements	Included in Golder TOR	Included in Golder VIA Report
A Documentation of Baseline Conditions		
.1 Applicant to prepare a TOR	✓	✓
.2 Establish viewpoints to include in the Assessment	✓	✓
.3 Digital Visibility Map (DVM)	✓	All viewsheds on same map, difficult to follow
.4 Viewpoint locations map (plan view)	✓	✓
.5 Viewpoint photographs for all numbered viewpoints	✓	✓
.6 GIS/survey coordinates of each viewpoint		✓
B Demonstration of Proposed Physical Changes		
.1 Site plan(s) to scale showing layout/development	✓	No plan showing entry points, internal roads, location of permanent and temporary structures
.2 Architectural plans and renderings		No arch. drawings of structures, roads
.3 Viewpoint photographs for selected viewpoints	✓	✓
.4 Field demonstration using cranes or balloons		
.5 Photo simulations	✓	✓
.6 Line-of-sight cross sections	✓	✓
C Evaluation of Visual Impacts		
.1 Impact analysis	✓	✓
.2 Visibility analysis	✓	✓
.3 Analysis of NEP policies and relevant background		
D Development of Accurate Line-of-Sight Cross Sections		
.1 Provide scaled map showing extent/orientation of cross section		MHBC letter contains map of all viewpoint cross-section lines on same map
.2 Indicate viewpoint number and location	✓	✓
.3 Provide photographs of existing conditions	✓	✓
.4 Create section line drawn to scale	✓	✓

Table 2 - Comparison of Terms of Reference: Scope		
NEC Visual Impact Assessment Technical Requirements	**Included in Golder TOR**	**Included in Golder VIA Report**
.5 Delineate roads, trails, grades, vegetation,+ built form	✓	Entry road, permanent + temporary structures not shown on operational map
.6 Draw sight line from viewer's eye level to top of structure	✓	Only 1.5m ht. sight lines
.7 Indicate vegetation for mitigating visibility	✓	✓
E Recommendation of Visual Impact Mitigation Measures		
.1 Mitigation measure design drawings	✓	Landscape Plan of entire site only, insufficient detail to assess if visual buffers will be sufficient prior to phased quarry extraction
.2 Design drawings illustrating mitigation measures	✓	
.3 Line-of-sight cross sections or photo simulations illustrating mitigation	✓	✓

In addition to the missing or inadequate information listed in the chart above, the following observations can be made:

A.6 GSP / survey coordinates of each viewpoint ... Although not part of the TOR, survey coordinates for each viewpoint are included in the Golder VIA Report

B.2 Architectural Plans and Renderings ... these drawings are not considered to be necessary if the location, area and height of permanent and temporary structures and the timing of construction is provided; however, this information is only partially shown in plan view on the Noise Mitigation Map on A003 MHBC Technical Recommendations Drawing and not in the Operational Plan or the cross-sections. It is unclear where structures will be located, the timing of their construction, the size, scale, massing, materials, colour or roofline. Therefore, architectural plans should be provided.

B.4 Field Demonstration Using Cranes or Balloons ... not yet able to determine if this is necessary because the locations of permanent and temporary structures are not shown

C.3 Analysis of NEP Policy and Relevant Background ... although an analysis of NEP policy is included in the Planning Justification Report, there are only brief references to it in the Golder VIA Report. Similarly, there are only brief references to the Town of Caledon and Region of Peel Official Plans in the VIA report. Therefore, there is inadequate information in the VIA report to make an assessment of whether the visual impacts of the quarrying operations are in compliance with planning documents.

D.1 Provide scaled map showing extent / orientation of cross-section ... Although the applicant provided a map in their response to NEC comments that shows all cross-section extents on one map, it is not part of the Golder VIA Report. Showing all cross-section extents on a single map is confusing. A preferred solution is to map the extent of the viewshed in plan view and indicate the cross-section line for each viewpoint individually.

As shown in Table 2, the following five items are missing from the Golder VIA Report compared to the NEC VIA Technical Requirements:

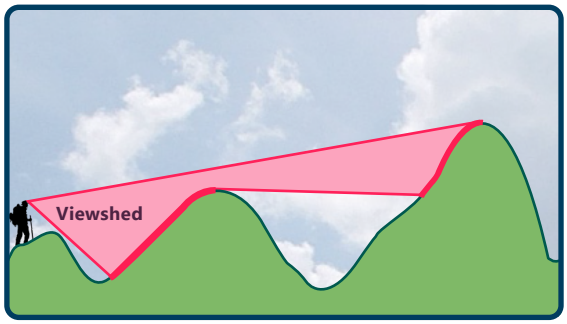
A.3 Digital Visibility Map ... Figure 5 Cumulative Visibility Analysis includes the extent of all viewsheds on one map and is unreadable. The viewshed for each viewpoint should be mapped individually and at a scale that shows relevant detail

B.1 Site Plans to Scale ... a site plan indicating the quarry operations is not provided. The map should include the location of the entry and internal roads, underground tunnels, noise barriers, temporary and permanent buildings

C.3 **Field Demonstration Using Cranes or Balloons ...** not yet able to determine if this is necessary because the locations of permanent and temporary structures are not known.

D.6 **Sight-line from viewer to top of structure...** The cross-sections showing the sight lines are difficult to understand. The visible and non-visible site features in the cross-sections is confusing. Showing the visible portions could be accomplished through shading or through indicating the angle of the line of sight as shown in the example to the right.

Figure 2: Example of the visible area in a cross-section



E.1 **Mitigation Measure Design Drawings ...** Information in the MHBC final landscape drawings A001 to A004 and information in the Golder VIA Report and the Planning Justification Report is inconsistent. Conflicting accounts of the location of landscape plantings, size, spacing and species of plant materials, and planting techniques are found in all three documents. Further, there is little information, except for vague references in the Noise Mitigation Scheme on A003 MHBC Technical Recommendations Drawing, as to the timing of the landscape mitigation measures with reference to the excavation phasing. We are unable to determine if planting as a visual screening technique will be of sufficient size to provide effective screening since the timing of planting is not clearly shown or described. For each viewpoint, the applicant should indicate the timeframe for planting of visual screens, as well as size, species, and spacing relative to the seven proposed extraction phases. A map similar to the Noise Mitigation Scheme mentioned above could also be prepared to show the timing of the construction of the landscape mitigation measures with reference to the extraction phasing, including planting details (species, size, spacing) at the time of installation.

SUMMARY OF UPDATES NEEDED BASED ON TOR ANALYSIS :

1. **Analysis of the VIA policies in the NEP, Town of Caledon Official Plan and Region of Peel Official Plan (as adopted into the Town of Caledon Official Plan) should be included, and a demonstration of how the Golder VIA Report addresses the visual impact policy requirements.**
2. **For each viewpoint, a distinct viewshed map in plan view and a line indicating the extent of the cross-section should be provided.**
3. **Cross-sections should be updated and new ones added to clearly indicate the extent of the visible and non-visible site elements.**
4. **The Landscape Plan included in the Golder VIA Assessment and the MHBC Landscape Plans and planting notes/specifications should be updated to include all relevant information and remove conflicting information.**
5. **A phasing plan of landscape mitigation relative to the extraction phases**
6. **Remove inconsistencies from all documents.**

SECTION 3
CASE STUDIES ANALYSIS

.1 VIA Scope and Requirements

A Case Study Analysis was conducted of three examples of VIA Requirements for Quarries, found through google search. The purpose is to compare the scope, techniques, and expected results of the VIA Requirements, and identify any gaps with respect to the Golder VIA Report, as shown in Table 3:

Table 3 - Comparison of VIA Requirements: Scope

	Category	Aesthetic and Visual Impact of a Quarry Expansion	Guidelines For Quarry Landscape and Visual Impact Assessment	Comprehensive Methodology for VIA of Mines and Quarries
1	**Landscape Type Assessed**	Rural/ industrial limestone quarry in Portugal	Various types of quarry landscapes	Natural and developed landscapes around quarries
2	**Purpose of Assessment**	Evaluate landscape quality, sensitivity, visual absorption capability; minimize visual impacts of quarry expansion	Reduce visual impact, ensure public engagement, integrate project aesthetically with the surrounding landscape	Assess visual impact from key viewpoints, evaluate aesthetic quality, analyse community impact
3	**Type of Visual Assessment**	Visibility, visual quality, visual sensitivity	Visual contrast, visual sensitivity, visual public perception	Visibility, visual quality, visual contrast
4	**Data Sources**	GIS data, aerial photographs, field observations, Digital Terrain Model (DTM)	Field surveys, photographic data, 3D modeling tools, public input	Field observations, GIS data, photo graphic evidence, 3D visualizations
5	**Stakeholder Involvement**	Minimal - focus on technical assessment with expert involvement	High - involves public consultation and feedback as part of the assessment	Moderate - includes field surveys and analysis with some public input
6	**VIA Technique Used**	Geographic Information System (GIS), computer simulations, Digital Terrain Model (DTM), viewshed analysis, photo montages, digital fly-over videos	Photo montages, wireframe models, 3D visualization, public consultation, sensitivity analysis	Field surveys, photographic manipulations, viability analysis, viewpoints analysis, digital 3D models
7	**Evaluation Criteria**	Visual sensitivity, landscape quality, viewshed analysis, visibility from key viewpoints	Public visual perception, landscape sensitivity, aesthetic compatibility	Visibility from key viewpoints, aesthetic quality, visual sensitivity
8	**Landscape Mitigation Measures**	Visual barriers (eg. fast-growing trees), re-profiling of quarry landforms, aesthetic modifications with GIS analysis	Design adjustments based on public feedback, landscape integration techniques, use of natural materials	Re-vegetation strategies, visual screening, modify quarry operations to reduce visual impact
9	**Implementation Complexity**	High-requires advanced GIS and computer modeling expertise	Medium - Requires 3D Modelling and public consultation tools	Medium - Fieldwork is labour intensive but does not require highly specialized software

Citations for the three documents in the comparison columns can be found on page 2.

Table 3 - Comparison of VIA Requirements: Scope				
Category		Aesthetic and Visual Impact of a Quarry Expansion	Guidelines For Quarry Landscape and Visual Impact Assessment	Comprehensive Methodology for VIA of Mines and Quarries
10	Effectiveness in Different Environments	Highly effective in rural and industrial landscapes with significant topographical variation	Effective across various environments, particularly where public perception is a significant concern	Effective in mixed landscapes, particularly in balancing natural and developed areas
11	Cost Implications	Medium -Costs are associated with software, technical expertise, and data acquisition	Medium to High - Costs depend on the extent of public consultation and the complexity of 3D models	Low to Medium - Field surveys and basic visualization techniques are relatively affordable

The results of the Case Study Analysis indicate high variability in the techniques used for VIA. The range of techniques includes GIS and computer simulations, digital terrain models, photo montages, visibility analysis and viewpoint analysis, all techniques that are used in the Golder VIA Report. The Golder VIA Report is most similar to Column 1 "Aesthetic and Visual Impact of Quarry Expansion", with regard to the digital simulations used and absence of public input. As indicated in the table, digital techniques are highly effective in steeply sloping terrain, which could possibly explain some of the difficulties in mapping the extent of viewsheds for the CBM quarry site as the terrain is quite level within the applicant's lands holdings - see next page for more details.

.2 Detailed Analysis - Upper's Quarry VIA

A google search of VIAs for quarries in Ontario has revealed that most were prepared by the same consulting firm, MHBC, over the last decade. Although there are some variances, the scope, final landscape plans and VIA techniques in the MHBC documents are relatively the same. Therefore, to reduce redundancy, we have selected one example for a detailed analysis - Upper's Quarry, Niagara Falls, ON.

To assess the technical competence and completeness of the Golder VIA Report, we have selected the same assessment criteria used in Table 3, and applied it to the Upper Quarry Expansion VIA Assessment and the Golder VIA Report, the results of which are shown in Table 4:

Table 4 - Comparison of VIA Assessments for Quarries in Ontario			
Category		Upper Quarry Expansion VIA (MHBC)	Golder VIA Report
1	Landscape Type Assessed	Rural/agricultural landscape with significant cultural and natural features	Ecoregion 6E (Lake Simcoe - Rideau), rolling terrain with drumlin fields, forests, and cropland
2	Purpose of Assessment	Assess potential visual impacts of quarry expansion on the surrounding landscape	Evaluate visual impacts of the proposed quarry,and provide landscape mitigation strategies
3	Type of Visual Assessment	Qualitative and photographic analysis	Qualitative, supported by 3D modelling and photographic simulations
4	Data Sources	Field surveys, topographic maps, and digital elevation models	Ministry of Natural Resources and Forestry data, Land Information Ontario, ESRI Imagery

Table 4 - Comparison of VIA Assessments for Quarries in Ontario			
Category		Upper Quarry Expansion VIA (MHBC)	Golder VIA Report
5	Stakeholder Involvement	Public consultations, feedback from local residents and stakeholders	Stakeholder consultations, including comments from DART (Development Approval Review Team)
6	VIA Technique Used	Photographic simulations, field surveys, and desktop analysis	3D landscape modelling using Visual Nature Studio, photo simulations from selected viewpoints
7	Evaluation Criteria	Visibility, visual contrast, and integration with existing landscape	Visual contrast (form, line, texture), visibility from key viewpoints, landscape compatibility
8	Landscape Mitigation Measures	Berms, vegetation, and other design features to minimize visual impact	Berms, vegetation, entrance design; aimed at reducing visual impact
9	Implementation Complexity	Moderate complexity, involving physical alterations like berms and replanting	High complexity, involving phased extraction and progressive rehabilitation
10	Effectiveness in Different Environments	Effective in rural and agricultural settings with open visibility	Effective in mixed landscapes, with consideration of distance and visibility zones
11	Cost Implications	Costs associated with physical modifications and ongoing monitoring	High costs due to advanced modelling, phased operations, and comprehensive mitigation

Although the purpose of the VIA and evaluation criteria (visibility, visual quality, visual contrast) are similar for the two VIAs compared in Table 4, the data sources, visual assessment techniques, and degree of stakeholder involvement are quite different. Both VIAs use visual assessment techniques that are within the realm of techniques listed in Table 3, Line 6 Techniques Used, so both have an acceptable methodology.

However, the differences in the methodologies do affect the accuracy of defining the viewsheds. The Upper Quarry Expansion VIA uses photographic simulations, desktop analysis and field surveys to verify visual impacts, whereas the Golder VIA Report entirely relies on GIS and DTM technology and there is little evidence of field verification used in the methodology.

As a result there are a number of inaccurately mapped viewsheds in the Golder VIA Report that are inconsistent with the Peer Review field investigations. GIS and DTM technology are not particularly well-suited for a slightly undulating agricultural landscape with scattered hedgerows and forest stands because the interpretation of the data picks up the scattered trees and landscape and sometimes defines a shortened viewshed, and other times depicts a more extensive viewshed. These technologies are better suited for a steeply sloping terrain.

From our observations on site, the viewsheds in the Golder VIA Report are not correctly illustrated in Figure 5 Cumulative Visibility Analysis from Key Viewpoints with No Mitigation During Operations (Year 38) at Viewpoint 9, 10, 13, 21, 22, 25, 26, 28. These views are either more extensive than shown based on field observation and google streetview,or they are too elongated as existing landscape elements in the fore and mid ground are preventing an extensive view. We also disagree with the extent of the viewshed in the revised mapping for Viewpoint 10 on Figure 4, Appendix F in the MHBC response letter to NEC comments dated June 25, 2024.

All of the above can be resolved by verifying each viewshed in the field and adjusting the extent of the viewshed accordingly.

To increase legibility and the ability to assess the visual impact, all viewsheds should be mapped individually in plan view, rather than having a comprehensive map that contains many. A cross-section would also benefit, but the extent of the cross-section should be limited to the extent of the view rather than extending across the entire extraction area. However, it should include the location and height of proposed structures and illustrate the extent of visibility.

Instead of pre-determined timeframes (0, 6, 38 and post-extraction), the viewpoints should be rendered at timeframes that relate to extraction phasing. For instance, if extraction is scheduled to begin in Phase C on Year 15, and mitigation measures such as berming and planting are scheduled to be installed in Year 3, then only three viewsheds are needed:

1. Extent of view prior to construction or mitigation
2. Extent of view one-year prior to extraction (year 14) to illustrate that mitigation measures are of sufficient size, height, material, density to effectively screen the view
3. Extent and quality of view post construction

Further viewpoints should be added if there are any changes that would affect visual quality such as planned tree removal, construction of towers or buildings, etc. All viewpoints that are affected by Phase C extraction could be grouped together in the report.

Any other methodologies that take into consideration the timing of extraction and that demonstrate mitigative measures will be installed and planted so they are of sufficient height and density to screen views would also be acceptable.

SUMMARY OF UPDATES NEEDED BASED ON CASE STUDY ANALYSIS COMPARISON

1. **The Site Plan should indicate the location and proposed grading for the quarry entrance, tunnels, locations of permanent and temporary structures, noise barriers, and the timing of construction of each relative to the extraction phasing.**
2. **Analysis of the VIA policies in the NEP, Town of Caledon Official Plan and Region of Peel Official Plan (as adopted into the Town of Caledon Official Plan) should be included in the Golder VIA report, and a strategy to comply with said policies.**
3. **For each viewpoint, a distinct viewshed map in plan view and a line indicating the extent of the cross-section should be provided.**
4. **Cross-sections should be updated to accurately indicate the extent of the visible and non-visible site elements.**
5. **The time frame for viewsheds should be relevant to the extraction phasing so that an assessment can be made that the mitigation strategies will be adequate for visual screening**
6. **The Landscape Plan included in the Golder VIA Assessment and the MHBC Landscape Plans and planting notes/specifications should be updated to include all relevant information and remove conflicting information.**

SECTION 4
POLICY ANALYSIS

.1 Overview

Visual quality and visual impact policies for quarries are found in provincial, regional and municipal planning documents. These policies generally seek to protect natural, heritage and cultural visual resources. For a proposed quarry, visual impact policies help to mitigate negative visual effects on surrounding landscapes during the quarry operation and to ensure that the rehabilitated landscape is of high visual quality.

The Provincial Policy Statement 2024, passed in October, replaces PPS 2020 and rescinds the Growth Plan for the Greater Golden Horseshoe (2020). Therefore, our analysis does not include the latter two documents.

Policy Documents with VIA, Landscape Protection and/or Landscape Restoration Policies

- **Provincial Policy Statement 2024**
- **Greenbelt Plan (2017)**
- **Niagara Escarpment Plan (2017)**
- **Region of Peel Official Plan (2022)**
- **Town of Caledon Official Plan (2024)**

PPS 2024

For the CBM Quarry site, there are no specific policies for visual quality, visibility or visual impact in PPS 2024, however, there are several that support landscape restoration:

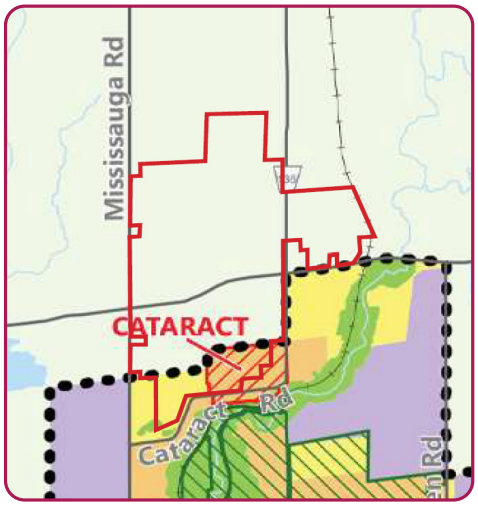
- Section 4.1.1 requires planning authorities to protect natural features and areas for the long term. Development and site alteration are restricted in significant natural areas unless it can be demonstrated that there will be no negative impacts on their ecological functions.
- Section 4.1.2 encourages the maintenance, restoration, and improvement of biodiversity and connectivity of natural heritage systems

Connectivity of natural heritage systems is not only important for long-term ecological functioning of wildlife in an agricultural landscape, but it also affects visual quality. A connected landscape, as detailed in the Region of Peel Official Plan, is one in which landscape patches and corridors are no further than 240 m apart. The resulting landscape is one in which long expanses of grassy berms would not be permitted and would need to have frequent tree planting and reforestation, which would result in a landscape of higher visual quality than proposed in the CBM quarry landscape plans. The requirement for landscape connectivity applies to both the quarry operation phase and the restored landscape.

.2 Niagara Escarpment Plan

The southern portion of the applicant's landholdings is located within the Niagara Escarpment Plan (NEP) boundary as shown in Figure 3. The Niagara Escarpment Commission (NEC) issued comments on the Golder VIA Report which represent the NEC's position on conformity with NEP's visual impact policies. The applicant's consultant, MHBC, then prepared a letter that responds to the NEC's comments, dated June 25, 2024. As part of this Peer Review, we have prepared comments on the June 25, 2024 MHBC letter, and it represents our comments on the Golder VIA Report's conformity with the NEP. Our comments also apply the same principles to the remainder of the site.

Figure 3: Niagara Escarpment Plan



Highlights of the Peer Review's detailed analysis of the NEC's and applicant's comments on the Golder VIA Report include the following **(see Appendix A for a detailed description):**

- **Visual Buffer for Minor Urban Centre (Cataract)** We agree with the NEC that the visual buffer for the MUC should be located on lands currently proposed for quarry extraction to enable potential future expansion of Cataract Village and that the quarry extraction area should be re-configured to accommodate the potential expansion. The alternative is for the applicant to apply to modify the MUC boundary.
- **Planting Details** We agree with the NEC that a clear indication of plant size, species and spacing needs to be defined for woodland and visual planting. To accelerate woodland planting, large calliper size trees should be accompanied by saplings, seedlings, and seed mixes to promote forest growth. A landscape detail should be prepared to illustrate the woodland and visual planting strategies. Consistency in planting details needs to be updated in reports and drawings to enable proper visual impact assessment.
- **Scale of Cross-sections** We agree with the NEC that the vertical and horizontal scales need to be equal for a visual impact assessment. Cross-sections with differing scales are misleading.
- **Cross-section Details** We agree with the NEC that the visible and non-visible portions need to be more clearly defined as it is unclear in many cross-sections. The extent of many of the cross-sections can be reduced to display the extent of the view rather than extending across a large portion of the site that is not visible before, during or after extraction. The reduced viewing length will allow greater detail of the viewshed to be rendered.
- **Plan View Visibility Mapping** We agree with the NEC that illustrating all viewsheds on one drawing (Figure 5) is confusing and does not provide useful information. An individual plan-view map of the viewshed and the location of the cross-section line should be prepared for each individual viewpoint. The extent of each viewpoint should be verified in the field as many of the viewsheds appear to be inaccurately rendered.
- **Phasing Plan** We agree with the NEC that the documents do not provide sufficient information to assess whether proposed planted visual screens will have adequate height at the beginning of the seven extraction phases. An extraction phasing map is missing from the Golder VIA Report, although it is found in the Planning Justification Report. A landscape phasing / installation map or text needs to be added to provide an understanding of the effectiveness of proposed visual screening techniques.
- **Visibility** We agree with the NEC that **most** views to the extraction site will be blocked by the proposed 5-7 m ht. seeded berms. An unknown is the quarry entrance because insufficient detail has been provided.
- **Visual Quality** We agree with the NEC that the long extents of seeded berms (that will largely remain intact for the 50 years of extraction) create a low quality landscape. An area of particular concern is the intersection of Mississauga Rd. and Charleston Side Road where the seeded berms are the most visually prominent features and are shaped at unnatural right-angles. Long seeded berms as indicated in the landscape plans do not support connectivity in the landscape, and an updated and phased landscape plan is needed.

.3 Former Region of Peel Official Plan

The dissolution of the Region of Peel was enacted in 2023 and is expected to be complete in 2025. Policies in the current Region of Peel Official Plan (2024) have been endorsed by the Town of Caledon and officially are part of the Town of Caledon Official Plan. For sake of clarification, we will refer to the former regional policies as the Region of Peel Official Plan, but recognize that they are part of the approved Town of Caledon Official Plan.

Region of Peel policies direct the Town of Caledon to support connectivity and linkage, which are also requirements in provincial planning documents.

According to Section 2.12.13.1.4, landscape connectivity between key natural and hydrological features is expected to be achieved by having no more than 240 m between such features to enhance the movement of native plants and animals across the landscape. A further defining feature is that 35% of a landscape used for mineral resource extraction is to be rehabilitated, according to Section 2.12.16.20.

The application of the above two policies would result in a landscape with a series of forest patches and landscape corridors that are no more than 240 m apart in the operational stage of the quarry and in the rehabilitated landscape.

Connectivity is defined in the Region of Peel Official Plan as, "the degree to which natural heritage features or hydrological features are connected to one another by links such as plant and animal movement corridors, hydrological and nutrient cycling, genetic transfer and energy flow through food webs".

Linkage is defined in the Region of Peel Official Plan as, "an area providing connectivity to support a range of community and ecosystem process and enable plants and animals to move between natural heritage features and areas over multiple generations. Linkages can include aquatic, riparian and terrestrial corridors that provide pathways for plants and animals to move or support functional processes between natural heritage features and areas, surface water features and grown water features. The location, width, length, structure and function of linkages should be determined in accordance with a natural heritage evaluation, hydrological evaluation, environmental impact study or natural heritage system study."

An analysis of the MHBC proposed Landscape Plans reveals that it does not currently comply with the Region of Peel policies for landscape connectivity because there are long extents of seeded berms that do not support the idea of connectivity or linkage. To successfully apply the landscape connectivity model, a series of forested patches (typically a minimum 2 ha area) needs to be installed at appropriate intervals with landscape corridors (typically a hedgerow with a minimum width of 10 m) extending between them. At appropriate locations there can be a 240m gap between landscape connections.

A quick calculation of the MHBC proposed Landscape Rehabilitation Plan indicates that the amount of reforestation and landscape corridors fall short of the above target of 35%. Further, most of the proposed woodland reforestation is located on the downslope of the proposed extraction area, so it could not be planted until extraction operations are finished, meaning that the interim landscpe for the first 50 years would not have sufficient reforestation. The MHBC Landscape Plans should be updated to comply with the above noted policies and demonstrate that the concepts of landscape connectivity and linkage are applied through both the operational period and the final rehabilitated landscape. Sequencing and timing of planting will be an important consideration to ensure that visual screening is well-established prior to beginning extraction.

The landscape plans should illustrate existing vegetation to remain, new wooded stands and landscape corridors and areas to be harvested and replanted elsewhere in response to the extraction phases. Landscape connectivity could be achieved by temporarily planting trees on berms that will later be

harvested when the berm is removed, or permanently planting berms with trees and shrubs to remain in the rehabilitated landscape. New forest patches will need to be planned for and planted, and may result in a reconfiguration of the extraction area to achieve a connected landscape. Another acceptable option would be to plant 10m wide landscape corridors adjacent to roadways, with removable berms adjacent, allowing topsoil to remain on site and be re-used, but also creating tree-lined roadways. Many combinations of patches, corridors and berms, as well as adding terraces, rockeries, or other attractive landscape features are possible and expected to be in the final landscape plans.

A carefully considered landscape approach to naturalization and enhanced visual quality over a 50-year timeframe will transform the CBM Quarry into a thriving, ecologically rich environment, benefiting both the company and the surrounding community.

.4 Town of Caledon Official Plan

Visual impact assessment requirements for proposed mineral extraction operations can be found in Section 5 Land Use Policies **(5.11.2.4.11, pg 5-158)** of the Town of Caledon Official Plan. An analysis of the Golder VIA Report's compliance with this policy is as follows:

a) Assess the significant views and how they might be affected by the proposed extractive operation;

Further detail needs to be provided in the Golder VIA Report and the MHBC proposed Landscape Drawings. A plan view of the extent of each viewshed should be provided to accompany the cross-sections, and the path of the cross-section could be shown in the plan view of the map. Timing of plantings for visual screens needs to be coordinated with the extraction phasing plan so that the effectiveness of visual screens at the beginning of each extraction phase can be assessed.

b) Assess changes to the natural landscape and the cultural landscape that result from the operation;

The likelihood of a decrease in biomass is not adequately addressed in the Planning Justification Report or the Golder VIA Report, nor is the associated visual impact of such a loss. The implications of removing existing hedgerows that provide landscape connectivity is not addressed. The visual quality of the interim and rehabilitated landscape is below par because insufficient forest patches and landscape corridors have been provided. Mostly seeded berms are proposed to reduce visibility to the quarry operations, but they create a landscape of low visual quality.

c) Identification of any required mitigation measures, and the visual character of such measures. This may include berms, entrance designs, vegetation, landscaping, and operational matters such as small phases, screening of equipment, direction of extraction which would seek to minimize visual impacts.

Sufficient detail for a majority of mitigation measures are adequately provided, but the following are not, and require more detail so that the adequacy of mitigation measures can be properly assessed as to whether the visual impact concerns have been properly addressed.

- The Operational Plan should include the location of the quarry entrance including any treatment that blocks views into the extraction area, as well as internal roads, permanent and temporary structures (height, sq. footage, location), noise barriers and any other constructed element.
- Cross-sections for all roads that demonstrate mitigation measures at interim and final stages should be added so reviewers can assess the visual experience along roadways during and after extraction
- The landscape character of the two major road intersections - Mississauga Road and Charleston Side Road, and Main Street and Charleston Side Road - should be updated to achieve a higher degree of visual quality
- Landscape connectivity and 35% Naturalization need to be demonstrated

It is clear that the proposed quarry,, VIA Assessment and Landscape Plans do not comply with current policy documents as noted above and drawings and reports should be updated.

Table 5: Comparison Table of Required VIA Mitigation Strategies for the CBM Quarry

Visual Impact Assessment Policies Comparison Table

MITIGATION STRATEGY	Provincial Policy Statement 2024	Greenbelt Plan 2017	Former Region of Peel Official Plan 2022	Niagara Escarpment Plan 2017	Town of Caledon Official Plan 2024
A Planning					
.1 Community Engagement		✓	✓	✓	✓
.2 Long-term planning	✓		✓	✓	✓
.3 Phased Operations			✓	✓	✓
B Remediation					
.1 Buffer Zones and Setbacks		**implied**	**implied**	**implied**	✓
.2 Dust Suppression	✓		✓	**implied**	✓
.3 Lessen Impact on Surrounding Landscape		✓	✓	✓	
.4 Screening		**implied**		✓	
C Restriction					
.1 Building Height		**implied**			
D Sustainable					
.1 Landscape Restoration	✓		✓	✓	✓
.2 Landscape Connectivity	✓		✓	✓	✓
.3 Landscape Naturalization	✓		✓	✓	
E Visual Enhancement					
.1 Historic and Cultural Integration	✓	✓	✓	✓	
.2 Quarry Entry Points Visual Quality					✓
.3 Recontouring and Grading			✓	**implied**	✓
.4 Road and Intersection Appearance		**implied**		✓	✓
.5 Signage and Wayfinding					✓
.6 Strategic Location					✓
.7 Viewpoint Protection		✓	✓	✓	✓
.8 Visual Impact Assessment required				✓	✓
.9 Rehabilitation Plan required	✓	✓			✓

SECTION 5
KEY GAPS AND AMENDMENTS

The following section outlines visual impact issues and concerns that have not been listed in previous sections of this report, key gaps, and suggested amendments to the Golder VIA Report.

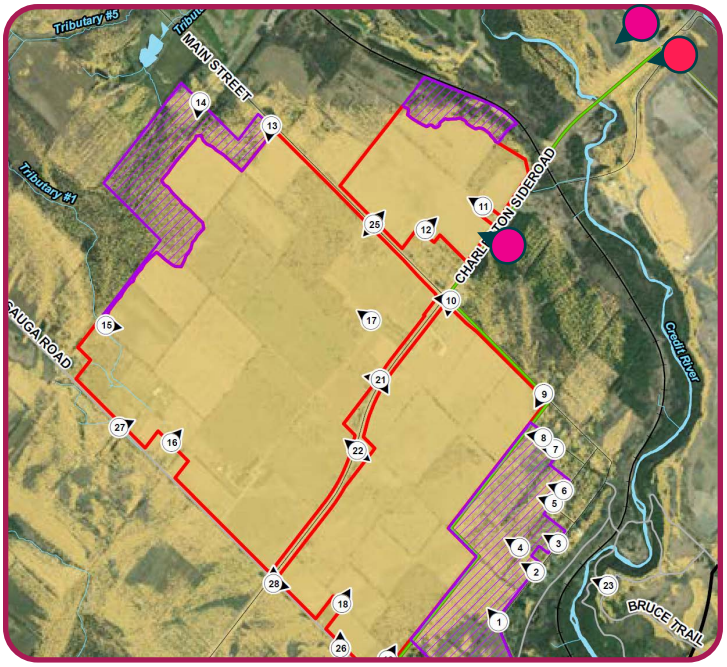
.1 Additional Viewpoints

Two important sites that provide panoramic views of the applicant's landholdings are located northeast of the Credit River as shown in Figure 4. In the east locations, public parking lots are located on both sides of Charleston Side Road and provide direct panoramic views of the North Extraction Area and potentially the Main and South Extraction Areas. These viewpoints should be added to the Golder VIA Report.

Another viewpoint at the south boundary of the North Extraction Area is significant and should be added as it includes views from the roadway and the backs of the properties at Charleston Side Road and Main Street.

Location of new viewpoints

Figure 4: Additional Viewpoints



.2 Mapping

.1 Boundary

The full extent of the applicant's holdings is not clearly shown in the Golder VIA Report and the MHBC proposed Landscape Drawings. This means that it is difficult for reviewers to determine if due diligence has been applied for visual impact mitigation in terms of screening, interim and final landscape forms, and interim and final visual quality. All documents and drawings need to be updated to show the full extent of the applicant's holdings as well as the limit of extraction and all landscape remediation areas. In some places, landscape treatment is proposed outside of the extraction area boundary, and in many instances the extent of the landscape mitigation is not consistently shown in the documents and maps.

.2 Existing Features to Remain

A clear indication of existing natural features to be preserved within the full extent of the applicant's holdings, including roadside vegetation, tree stands, home gardens, plantations, wetlands, should be clearly indicate the Golder VIA Report and MHBC Landscape Drawings.

.3 Quarry Entrance

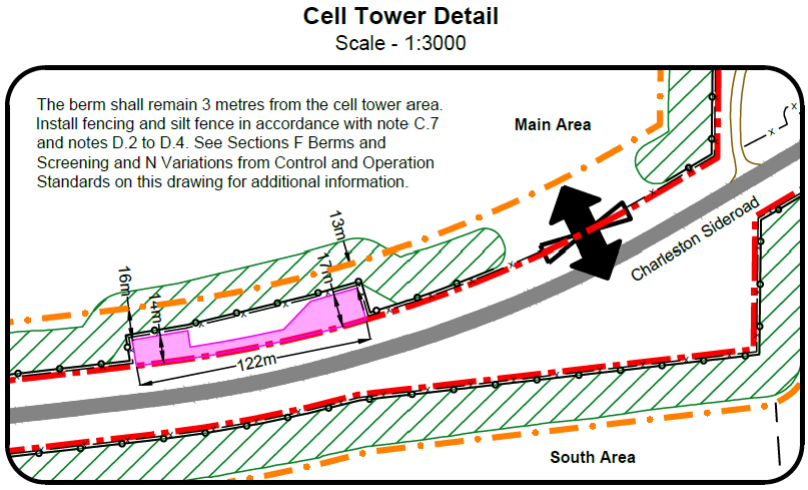
The quarry entrance is one of the most critical features that must be properly designed to restrict views into the quarry. There are a number of instances of nearby quarries in Caledon where the quarry entrance has not been well-designed resulting in unsightly views with a high degree of dust pollution.

The proposed quarry entrance treatment as shown in MHBC Landscape Drawing A003 and at Viewpoint 22A in the Golder VIA Report is misleading and will result in unsightly views into the quarry. Assuming the quarry entrance road is constructed at an 8 - 10% maximum grade, the length of road needed to achieve the berm height of 5-7m is 40 - 56m in length; however, the berms (with a 3:1 slope) will achieve this height in half the distance, resulting in many views into the quarry operations. The only way to have a perpendicular entrance road that angles upward to block views into the quarry is to have the entry berms extend farther back into the quarry, however, this treatment is not shown in Figure 6 below. A grading plan in plan view and 3D plans using Sketchup, Civil 3D, or the like, should clearly indicate that views into the quarry at the entrance are completely blocked. Examples of alternative layouts, using a combination of curved quarry entry roads and adequately sized and shaped berms that would be acceptable are shown in Appendix B.

Nearby quarry entrance in Caledon does not screen views into the quarry

Figure 5: Simulation of Quarry Entrance on MHBC Technical Recommendations Drawing A003

Figure 6: Quarry Entrance on MHBC Operational Plan A0002



A detailed grading plan for the quarry entrance road, berms and landscape mitigation design for all quarry entrances needs to be provided to enable a proper assessment of the visual impact.

.4 Coulterville Special Study Area

The extent of the Coulterville Study Area is shown in the Town of Caledon Official Plan. It is envisioned in the Official Plan as a centre for recreation and tourism. At present, the Town of Caledon has not initiated detailed studies for this area, but may do so in future.

If it is developed for recreation and tourism, it is likely that the intersection of Charleston Side Road and Main Street could become a hub of related service uses, such as banks, fuel, restaurant, convenience, fishing tackle, arts and crafts, and other related tourism uses. If this intersection were to develop as a tourism hub, the proposed landscape rehabilitation is counter-intuitive to its development.

For instance, the extended area of extraction to the east of the heritage home would be better suited to be rehabilitated to level ground so that service uses can be constructed. Similarly, installing a woodland at this intersection is contrary to its potential as a hub.

Figure 7: Boundary of Coulterville Special Study Area

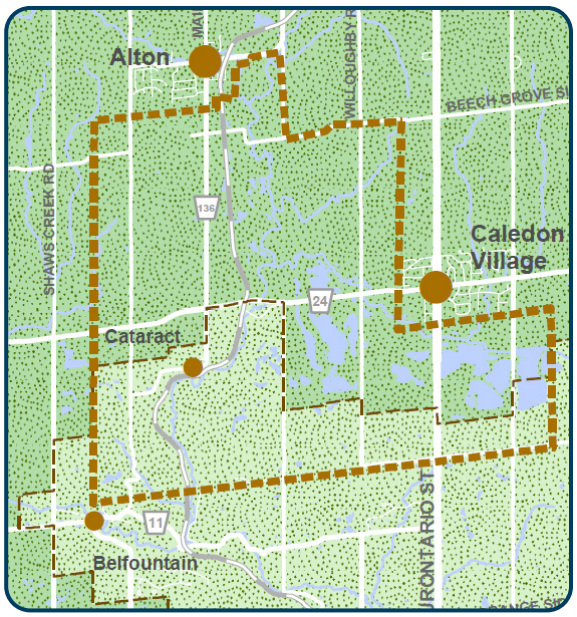
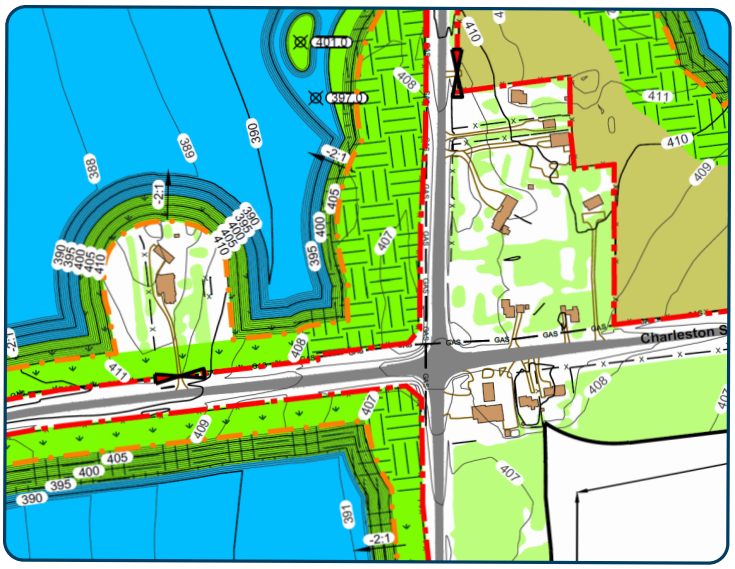


Figure 8: Rehabilitation Plan for the Intersection of Charleston Side Road and Main Street



A more insightful plan for this intersection that anticipates potential tourism growth is needed. This type of plan requires the Town of Caledon to develop a vision for the Coulterville and for the applicant to then develop appropriate mitigation measures for the quarry operations.

To allow the appropriate planning to be completed, we recommend the following:

- That the intersection be demarcated as an interim study area that is not bound to the extent of quarry extraction and landscape rehabilitation shown to the left
- That the applicant not be permitted to extend the limit of extraction into this area until the plans for the Coulterville Study Area have been finalized
- That this intersection not be designated as a woodland planting area until the Coulterville Study Area plans are finalized

.5 Intersection of Mississauga Rd. and Charleston Side Road

This intersection will act as both a gateway and an exit for viewers who will experience the CBM Quarry site. The operational landscape treatment (Year 0 - 50) shown in Figure 9 is of low quality as it consists of two steeply sloping seeded berms that form an unnatural right-angle shape on both corners. The rehabilitated landscape (Year 50+) is only slightly better in the southeast corner as it has a more natural shape with a proposed island which creates a point of interest; however, the northern corner is quite harsh.

A landscape treatment similar to the natural shape shown in the southeast corner of Figure 10 should also be shown on the northeast corner, during the operational stage and the rehabilitated stage. Changes to the contouring during the operational stage will likely require a change to the limit of extraction so that a better corner treatment can be created.

Figure 9: Operational Landscape Mitigation Shown on A002 MHBC Drawing 2 of 4

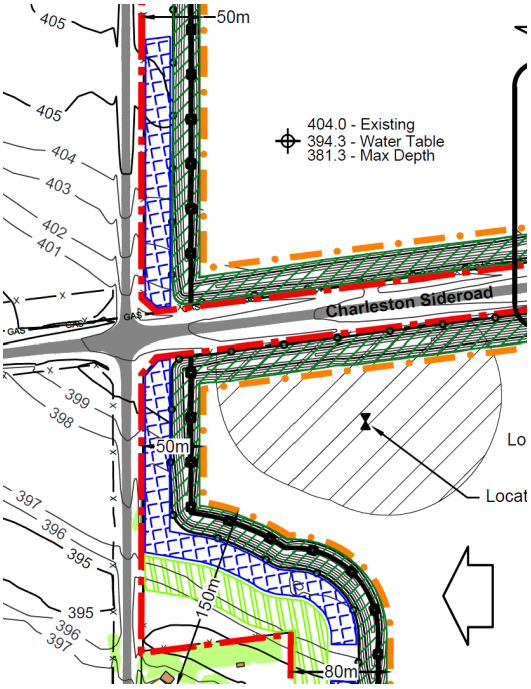


Figure 10: Proposed Rehabilitated Landscape Shown on A004 MHBC Drawing 4 of 4

Figure 11: Quarry Entrance at Walker Aggregates, Vineland ON. Trucks enter the quarry from a serpentine road that winds downward to a gap in the trees, and is completely hidden from view.

.6 Roadway Landscape Mitigation

Landscape mitigation for the roadways is largely unclear and appears to be inconsistent between the submitted plans and documents. Sections and plan views of the different roadway treatments should be provided so that the visual impact can be assessed. The extent and locations of other streetscape mitigation measures such as infiltration trenches, visual planting, wooded areas, etc. should be included.

Potential road widening and installation of active transportation should also be envisaged as part of the landscape design and visual quality mitigation, as well as the possibility of these roadways becoming tree-lined boulevards with public transit. An attractive streetscape along Main Street is expected due to this road being a gateway to Alton and adjacent to the golf course. The landscape plans should be modified to show adequate distance for road widenings, active transportation, and a high quality streetscape with visual interest.

.7 Connectivity and Reforestation Requirements

As mentioned previously, the landscape plan needs to be revised so that it complies with connectivity and reforestation (35% coverage) requirements, and it should be shown in phases relating to the extraction phases. Designing a connected landscape in rural areas enhances visual quality, biodiversity, supports wildlife movement, and strengthens ecosystem resilience. Complying with these planning policies will result in a network of naturalized patches and corridors that supports ecological health and creates a visually appealing landscape.

Connectivity not only creates a visually appealing naturalized corridor, but it also prevents habitat fragmentation, and ensures the flow of species, seeds, and nutrients. A sequence of naturalized areas—forests, meadows, and wetlands—creates a visually appealing landscape, and helps sequester carbon, improves water filtration, supports pollination, enhances soil health, reduces erosion, and mitigates flood risks, contributing to long-term land sustainability and high visual quality.

To align with the Town of Caledon and Region of Peel Official Plan (OP) standards for connectivity, the landscape design must demonstrate that naturalized patches are no more than 240 meters apart to maintain ecological connectivity, and this would likewise be an appropriate distance for visual quality. Satisfying requirements for landscape connectivity and 35% reforestation should also demonstrate a landscape with high visual quality, create scenic vistas, naturalized corridors, and a more harmonious integration of built and natural environments.

Connectivity and naturalization must be achieved for both the operational and post-extraction phases. Landscape plans for the first 10 years should illustrate a coordinated and sequenced approach. The post-operations landscape will consist of a series of lakes and views into these scenic features should be evident in the final landscape plans to assure high visual quality.

SECTION 6
RECOMMENDATIONS

The Peer Review of the visual impacts of the proposed CBM Quarry has identified that the submitted plans and drawings do not at present comply with visual impact policies of the Town of Caledon Official Plan, Region of Peel Official Plan and the Niagara Escarpment Plan. Therefore, we recommend that the applicant revises the proposed plans according to the following 16 recommendations to achieve compliance and to assist with the review of visual impacts. As noted in the report there are many instances where information is misleading or conflicting, and these need to be resolved to enable a proper VIA assessment.

1. **Analysis of VIA Policies** An analysis of the VIA policies in the NEP, Town of Caledon Official Plan and Region of Peel Official Plan (as adopted by the Town of Caledon Official Plan) should be included in the Golder VIA Report, and a demonstration of how the proposed landscape approach and solution complies with the VIA requirements.
2. **Boundary** All maps, including in reports, should be updated to indicate the full extent of the applicant's landholdings, unless an application for land severance will remove portions of it.
3. **Update Site Plan** The location and proposed grading for all quarry entrances, tunnels, locations of permanent and temporary structures, noise barriers, and the timing of construction of each relative to the extraction phasing should be indicated on operational drawings.
4. **Existing Vegetation to Remain** Drawings and reports should be updated to provide a clear indication of the extent of all planting areas to remain, and they should be labelled as such in all drawings.
5. **Visibility Mapping** An individual plan-view map of the viewshed and the location of the cross-section line should be prepared for each individual viewpoint. The extent of each viewshed should be verified in the field as many appear to be inaccurately rendered.
6. **Cross-sections** Updated cross-sections should provide a clear indication of the extent of the visible and non-visible site elements, include permanent and temporary structures that would be visible, have an equal vertical and horizontal scale, and be reduced in length to only show the extent of the visible areas and immediately beyond.
7. **New Viewpoints** The Golder VIA Report should include the additional viewpoints shown on page 15.
8. **Consistency in Landscape Plans** Drawings included in the Golder VIA Assessment and the MHBC Landscape Plans and planting notes/specifications should be updated to include all proposed landscape mitigation and remove conflicting information.
9. **Phasing Plan** A landscape phasing / installation drawing needs to be added to provide an understanding of the effectiveness of proposed visual screening techniques at each of the seven extraction phases. This can be combined with the landscape plans required for landscape connectivity (see below).
10. **Landscape Connectivity and 35% Naturalization** The Landscape Rehabilitation Plan should be updated to indicate operational and final rehabilitated landscapes that achieve landscape connectivity and linkage requirements of the Town of Caledon and Region of Peel Official Plans and provincial planning documents. A landscape plan at the beginning of each of the seven extraction phases should demonstrate changes needed to maintain landscape connectivity throughout the 50-year operational stage of the quarry.

11. **Planting Details** Update all documents to remove inconsistencies in the details for woodland and visual planting, infiltration trench and other planting areas to enable proper visual impact assessment. To accelerate woodland planting, large calliper size trees should be accompanied by saplings, seedlings, and seed mixes to promote forest growth. A landscape detail should be prepared to illustrate all planting strategies.
12. **Visual Buffer for Minor Urban Centre (Cataract)** The visual buffer for the MUC should be located on lands currently proposed for quarry extraction to enable potential future expansion of Cataract Village and that the quarry extraction area should be re-configured to accommodate the potential expansion.
13. **Visual Quality** The long extents of seeded berms (that will largely remain intact for the 50 years of extraction) should be replaced with a series of forest patches and landscape corridors that comply with the landscape connectivity and linkage requirements of the Caledon Official Plan. The landscape character and visual quality of berms should emulate the beauty and biodiversity of the surrounding natural areas during both the operational phase and the restored landscape. Views into the rehabilitated lakes can be accommodated in the 240 m gaps permitted between landscape patches and corridors. The end result will be a landscape of acceptable visual quality.
14. **Quarry Entrance** Additional details to assess the visual quality of all quarry entrances should include a grading plan and sections showing the grade of the berms and quarry entrance road, location of plantings, fencing or other visual screens, and 3D renderings to indicate that views into the quarry extraction area are blocked from all viewing angles from the public roadway.
15. **Coulterville Special Study Area** The extent of the extraction area should be less intrusive at the intersection of Charleston Side Road and Main Street to allow the potential of this area to develop as a potential tourism hub in keeping with the vision for Coulterville.
16. **Intersection of Mississauga Road and Charleston Side Road** An improved landscape treatment than shown in the Operational and Final Rehabilitation Plans should be created at this visually prominent intersection to enhance visual quality.

Improvements to the technical competency and mitigation measures of the Golder VIA Report and other documents, as noted above, should result in drawings and reports that achieve compliance with visual impact policies.

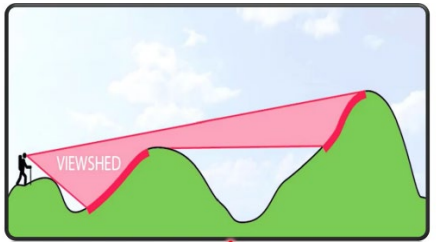
APPENDIX A

Peer Review Comments on MHBC Letter, dated June 25, 2024

	NEC Comments	MHBC Response	Wavefront Comments
1	**Cataract designated as a minor urban centre in the NEP**		
	The proposed quarry should not limit the function, sustainability, or objectives of the MUC including both developed and undeveloped lands and the future development potential of these lands	The MUC lands are … proposed to be protected from aggregate extraction and enhanced from a natural heritage perspective Creating an upland forest within this portion of the MUC achieves these policy directives by not proposing new growth and development within the "Escarpment Protection Area' designated lands within the MUC and by introducing screening and separation from the proposed quarry in the form of an upland forest.	MHBC Landscape Plan shows reforestation in the MUC designated lands. Although reforestation creates a visual buffer for existing Cataract residents, it is contrary to the potential future development of the MUC. The Landscape Plan should instead indicate a suitable visual buffer that respects the boundary of the undeveloped lands in the MUC. In the NEP, all MUC boundaries are indicated with a hatched line overtop of NEP designations such as Escarpment Natural, Escarpment Protection and Escarpment Rural. The intention of having NEP designations under the MUC hatched boundary is not to prevent growth in the MUC, but to regulate land use prior to development in the MUC. Therefore, visual impacts of the quarry should be mitigated based on the undeveloped boundary of the MUC shown in the NEP.
2	**Conveyance of undeveloped MUC lands for long-term conservation**		
	The applicant has indicated interest in conveying the additional lands to a public body for long-term protection and conservation … NEC staff advise that the Objectives of the MUC designation recognize these lands as concentration points for development and growth in rural areas. Consideration should be given to whether conveying these lands for conservation purposes is in keeping with the overall Objectives of the designation.	Further, the NEP contains objectives and policy directives to ensure the provision of adequate outdoor recreation and adequate public access to the Niagara Escarpment. Creating the proposed upland forest within the MUC portion of the lands and meadow on the adjacent lands and exploring opportunity to convey these lands to a public authority is appropriate and is in keeping with the overall objectives for the land use designations within and adjacent to the MUC.	As indicated above, if conveying the lands for conservation is acceptable to the NEC and Town of Caledon, and if the extent of the undeveloped MUC lands are suitably reforested, an effective visual buffer will be created for existing Cataract residents. However, if the Town of Caledon prefers to direct additional development to the full extent of the MUC boundary, a visual buffer that respects this boundary is needed to be installed within lands designated as extraction area.
3	**MUC considered in Planning Justification Report**		
	NEC staff respectfully request that the planning justification report be updated to consider these matters as they relate to the policies of Minor Urban Centers found in Part 1.6 of the NEP, as well as relevant Development Criteria found in Part 2 of the NEP as they relate to potential impacts on Water Resources, Natural Heritage and	A response and review of the Minor Urban Centre policies found in Part 1.6 of the NEP and relevant Development Criteria is addressed in this letter response.	Other than indicating that the applicant currently does not have the intention to develop the MUC lands and could potentially convey the land for conservation, the Planning Justification Report does not adequately address that the NEP clearly directs growth to MUCs, nor does it address whether the applicant would seek to have the MUC boundary amended to reflect the intended conservation.

	NEC Comments	MHBC Response	Wavefront Comments
	Scenic Resources (see comments in next two sections).		
4 and 5	**Proposed groundwater mitigation system**		
		WSP has initiated a mitigation system design study that will be shared with the approval agencies, when completed later this year.	Cannot evaluate visual impacts until design details are known.
6 a)	**VIA photos**		
	Photos were not provided for all 28 viewpoints. NEC staff are interested in seeing baseline photos and photo simulations for views 1 and 20 which are located on Main St S/Cataract Road and are within the NEP Area.	Baseline photos for all viewpoints not included in the Visual Impact Assessment (VIA) report, including viewpoints 1 and 20 are provided in **Attachment B**. The subset of 14 viewpoints that were chosen for simulations depict the most significant visual changes to the landscape. It was determined that the other viewpoints would have a lesser impact to the visual landscape, so simulations were not generated for those and the quarry is not proposed within the NEP area. As such, a simulation for viewpoints 1 and 20 will not change the overall weak level of visual contrast rating for the views within the NEP area.	The number of viewpoints is appropriate, except two additional viewpoints are recommended, see attached map. Viewpoint VN1 is located on both sides of Coulterville Road in the parking lots of the trailheads east of the Credit River on both sides of the road. These are important viewpoints because they provide panoramic views to the North Extraction Area. Since information on the location of permanent and temporary buildings, noise barriers and other structures has not been provided, we cannot assess if these panoramic views will be impacted. This could be a potential location for a balloon simulation if there are structures that could potentially be visible. Viewpoint VN2 is located east of Main Street and north of Coulterville Road. This viewpoint will capture the view toward the south boundary of the North Extraction Area and will capture visibility from the back of the homes located at Coulterville and Main Street.
6 b)	**Planting information**		
	The report refers to different planting areas (woodland planting, meadow planting, visual planting, and tree planting associated with the infiltration trenches) but there is no one figure that clearly depicts all of these areas. As they are referenced in the VIA and are being recommended as visual impact mitigation, there should be an associated figure.	Figure 1 in **Attachment C**, depicts all of the planting areas for the project, including those recommended as visual impact mitigation.	We agree that Attachment C indicates the location of woodland planting, meadow, visual and tree planting. However, there is no consistency in the text and insufficient detail for woodland planting. For example, on page 14 for Viewpoint 2, woodland planting is described as deciduous trees planted 10 m apart on either side of an infiltration trench. In the Technical Recommendations Section on page 35 – 37, there is no mention of woodland planting, only deciduous tree planting at 10 m spacing. Woodland planting requires more than deciduous trees planted at 10 m spacing. To stimulate reforestation, saplings and seedlings should also be planted, as well as seeding that includes

	NEC Comments	MHBC Response	Wavefront Comments
			deciduous tree seeds. Timing of the proposed visual planting (mix of trees and shrubs at 50 cm ht. and 5 m spacing as indicated on page 36) is planned to be installed within the first year for the main extraction area and after year 5 for the North and South extraction areas. This planting specification will not create an effective visual screen for at least 10 years, and the timing of this planting should be considered for each viewpoint. There also is no indication of when woodland planting will be installed, so there is no way to assess whether the woodland planting will screen views or enhance the landscape in Year 1 or post-extraction. Most of the woodland planting, except lands within the MUC boundary, appears to be located on the downward slope of the extraction area, so we must assume that it will not be planted until post-extraction. Therefore, the impact of these areas for visual screening, visual enhancement and ecological habitats will not be realized until approximately 70 years from now. For year 0 – 50, the only planting scheduled to occur is the Visual Planting Areas which are very small and will not create a visual or wildlife corridor for 10 years or more. We need to be convinced that plantings and berming will be installed to give sufficient time for trees to grow to an adequate size to provide effective screening. The Landscape Plan also does not show the location of infiltration trenches, and it should indicate the location of woodland areas, wetlands, hedgerows and meadows to be retained in their existing condition or enhanced. The legend or notes should indicate when the visual plantings and woodland plantings will be installed.
6 c)	**VIA Cross Sections**		
	Cross sections are shown with an exaggerated vertical scale and the resulting sight lines (shown in red) are, therefore, not precise. Horizontal and vertical scales in cross sections must match to accurately indicate the true line-of-sight and visual shadow areas. Additionally, no key plan is provided showing where cross section lines are located. Lastly, the view 2 cross section shows visual planting but there is none proposed in that area. Cross sections of	An exaggerated vertical scale in the cross sections was used to make the landscape features and shadow areas more visible in the cross-section figures. An exaggerated vertical scale does not affect the precision of cross sections. The key plan of site cross-sections is included in **Attachment D**. Updated cross-sections for viewpoints 2, 5, 9, 10a and 10b are included in **Attachment E**.	We agree with the NEC that the vertical and horizontal scales for a visual impact assessment must be equal, and the cross-sections should be redone. The key plan shows all cross-sections on the same map and is not helpful to the analysis. Instead, a plan view of each cross-section that shows the extent of the viewshed should be provided for each viewpoint. This includes the updated cross-sections provided by the applicant. Other amendments to the cross-sections needed are as follows: - indicate whether trees are existing or planted, the date planted, and whether they are coniferous or deciduous

	NEC Comments	MHBC Response	Wavefront Comments
	interest to NEC include 2, 5, 9, 10a and 10b.		- indicate date that berms are installed to mitigate the view and the berm height - show only the extent of the view. Eg. In Section 2-2 Charleston Side Road cannot be seen from the viewpoint and should not be shown if existing trees are to remain. Showing the non-visible portions of the quarry is not necessary except to indicate visibility of noise barriers and structures in the quarry. A better indication of the visible and not visible portions needed. This can be done by shading in the view angle. The view line assumes that the viewer will not look above or below 1.5m. The view angle indicates the full extent of visibility above and below 1.5m. 
6d) and e)	**Visibility Mapping**		
	Baseline Visibility Analysis (Figure 1) was not accompanied with any explanation of methodology or assumptions. Yellow visible areas are mapped throughout the NEP Area. What do these areas represent? Were these areas investigated in the field?	The visual effects modelling for the Project included conducting a visibility analysis (often referred to as a viewshed) with a Geographic Information System (GIS) to identify areas across a landscape that can be seen from the existing ground surface within the proposed licence boundary. The MNRF Digital terrain Model (DTM), or ground surface, within the proposed licence boundary was first combined with the MNRF Digital Surface Model (DSM) that covered the remainder of the study area. Visibility analysis from the ground surface within the proposed licence boundary was then conducted over the entire DSM to a distance of 2 km (Figure 1 in the VIA report). The yellow areas on Figure 1 in the VIA report represent	Visibility from each viewpoint should be mapped in plan view separately and included with the analysis for each viewpoint. The extent of visibility from each viewpoint should be verified in the field. For example, the viewshed from Viewpoint 10 in Appendix F is not accurate, the actual visible area is much less extensive; the viewshed from Viewpoint 9 is not accurate, the actual visible area is much greater. Field verification will resolve these issues for all viewpoints. The extent of the cross-sections should be revised to show the extent of the visible areas from the viewpoint and not extend throughout the entire quarry if it is not visible from the viewpoint.

	NEC Comments	MHBC Response	Wavefront Comments
		the current visible areas from within the proposed licence boundary. Many of the visible areas mapped in the NEP area are trees that provide effective visual screening. Overall, the majority of the visible areas within the NEP are trees, which means it is difficult to see into the proposed licence boundary. The yellow visible areas on the map helped to determine the areas/ viewpoints where the field investigation would be conducted.	
7 a)	**Screening – tree size**		
	There are some questions and concerns with the appropriateness and effectiveness of the proposed screening measures described in the VIA and shown on the Site Plan: There is no information provided on the proposed size of trees being planted along the infiltration trenches and visual planting is described as seedlings (50 cm high), which is quite small. It is also unclear when ecological enhancement plantings, visual planting, and infiltration trench planting are scheduled to occur and if there will be time for them to grow into an effective screen.	The vegetation, including trees planted along the infiltration trench and for ecological restoration may provide visual screening, but are not designed to function solely as such. It is anticipated that the trees will be approximately 5 to 8 cm caliper or 1.8 to 2 m high to allow more time for growth. All visual plantings in the Main Area will occur within one year of issuance of the licence and for the North and South Areas within 5 years of issuance of the licence. These plantings in combination with the berms are expected to provide an effective screen during operations.	VIA and Landscape Plans should be updated to reflect WSP's comments that the minimum tree caliper size will be approximately 5 to 8 cm caliper or 1.8 to 2 m high. An indication of when planting will occur relative to the Extraction Phases should be provided as there is no indication that.plantings will provide effective visual screening at the beginning of each Extraction Phase. MHBC Drawing 2 of 4 dated August, 2023, includes notes describing the extraction activities for all phases. Planting and construction of visual screening and any other mitigation should be added to the construction notes for each phase so that the timing of landscape mitigation is coordinated with the extraction phases. Depending on the tree species, placement and spacing, a visual barrier may not be effective for 5 to 10 years after installation. Planting details to provide an effective mix of low branching coniferous trees and higher branching deciduous trees, spacing, and tree species is lacking.
7b)	**VIA Buffer Tree Size**		
	NEC's size criteria for screen planting is min. 50 mm caliper dbh for deciduous trees and 1.8 m high for coniferous trees. As proposed, 50 cm high planting stock will take a very long time to grow to a size that will provide any screening function. Larger sized trees are recommended, particularly in areas abutting the NEP Area, such as	The trees in the South Area will be planted within 5 years of issuance of the licence and therefore have additional time to grow prior to extraction in the South Area. As a result, WSP does not believe larger size trees are required in this area.	An effective visual screen can be planted with a mixture of tree sizes depending on the species, sizing and spacing. Insufficient detail has been provided to properly assess it. Seedlings that are 50 cm high and planted 1.0 -1.5m o.c. in a staggered pattern can provide an effective screen approximately 10 years after installation. A planting detail indicating typical visual buffer plantings, the location where they will be installed, and the timing of installation including species, size and spacing is needed. Also, a plan indicating the year of installation for

	NEC Comments	MHBC Response	Wavefront Comments
	along Main St/Cataract Rd south of Charleston Sideroad.		each planting type in Section 5 is needed to assess if visual impacts will be effectively mitigated.
7 c)	**Seeded berms**		
	The visual planting does not create a continuous planted screen around the entire licensed area and no explanation has been provided for why long stretches of roadway have no visual planting. NEC has a particular interest in the stretch of Main St/Cataract Rd (south of Charleston Sideroad) where there is no planting between the berm and road. The berm, which will be prominent in the public viewshed, is not compatible with the natural scenery of the Escarpment Environment. Enhanced screening is recommended in this area to limit views of the berm.	Currently, NEC lands that lie south of the Project are not visible across the fields from the stretch of road along Main St/Cataract Rd (south of Charleston Sideroad), there are numerous hedgerows and vegetation screening the view into the proposed licence boundary. Tree planting is not necessary when a berm is also being proposed for mitigation as the berm mitigates visual effects. Note that the berm will seeded. The stretch of road along Main St/Cataract Rd/ (south of Charleston Sideroad) is outside of the NEC lands and any potential effects will be limited to motorists and pedestrians travelling along public roads.	Using long extents of seeded berms is a bare-minimum approach to visual screening and it does not create an attractive rural landscape experience for the viewer. Further, the long extents of grassy berms are not in compliance with Regional OP policies regarding landscape connectivity. Section 2.12.13.1.4, pg. 56 indicates that »***Connectivity*** along the system and ***between key natural heritage features*** and key hydrological features located ***within 240 metres of each other is maintained*** or where possible enhanced for the movement of native plants and animals across the landscape." Further interpretation of the definitions of connectivity and linkage that indicates minimum forest patch sizes are clear indications that the final landscape must consist of a system of forest patches and tree-planted corridors that are separated by no more than 240 m. The current landscape plan in Appendix C does not conform with Regional OP policies since the Plan displays forest patches that are greater than 240 m separation with the only connections being the long extent of seeded berms. Section 2.12.16.21, pg. 64 states »Where there is extraction below the water table? ***no less than 35 per cent of the non-aquatic portion*** of the land subject to each license in the Natural Heritage System is to be rehabilitated to forest cover? which shall be representative of the natural ecosystem in that particular setting or ecodistrict ..." Again, the Landscape Plan in Appendix C does not conform with this requirement. We recommend that the Landscape Plan be updated to comply with the Regional Plan policies of 240mm max. separation distance and 35% forest cover. If this is successfully applied, it is likely to mitigate the visual impact concerns with large extents of seeded berms. If, after berms are removed so the stockpiled topsoil can be used in the final landscape, the intention is to have views toward the quarry lakes, this would be acceptable from a visual standpoint, but the viewing distance should not exceed 240 m to comply with the Regional OP policies for landscape connectivity.

	NEC Comments	MHBC Response	Wavefront Comments
7 d)	**Tree species**		
	Visual planting areas are proposed to be planted with 70% conifers, 20% small trees/shrubs, and 10% deciduous trees (aspen). What is the rationale for this species selection and composition?	The rationale for choosing the tree species for the planting areas is based on the native tree species found in the study area during investigations by the natural environment component. The percentages of trees to be planted were compiled with subject appropriate to provide a high level of visual screening matter experts and deemed	The site is within the Eastern Deciduous Forest region that typically consists of 80-90% deciduous trees and 10 -20% coniferous trees. If the observed tree composition is as indicated, that is likely due to human interventions such as plantings for hedgerows, farmsteads or for tree harvesting. From a visual perspective, we would like to see a mixed species composition that more closely resembles the Eastern Deciduous Forest region, but understand that low-branching coniferous trees such as pine and spruce can provide a more effective visual screen at ground level in the first 10 – 20 years, but at year 30 or more the lowest branches tend to be at least 3- 4 m from ground level in a planted forest. Planting details that are specific to each planting area are needed to determine if the pattern and spacing of deciduous and coniferous trees will provide an effective screen during the extraction phase for the different phases of extraction.
7 e)	**Berm height, scale**		
	Proposed berms are very high at 5-7 m tall and proposed shaping is very linear. Berms should be given a more natural appearance with an undulating crest and variable side slopes for greater compatibility with the natural scenery. NEC has a particular interest in the berm facing Main St/Cataract Rd (south of Charleston Sideroad), especially since there is no visual planting in the foreground of views from a long stretch of this road.	The berms have been designed specifically for this proposed project based on recommendations from noise and visual assessments. The berms will also be seeded to blend with the natural landscape.	Long extents of uniform seeded berms do not comply with a desire to create an attractive visual landscape, see comments in 7 c).
7 f)	**Setbacks**		
	The VIA recommends the protection of perimeter trees but there does not appear to be any setback between the property line and the toe of the berm. How will vegetation protection be achieved where there is no setback? Similarly, at the southern edge of the license boundary there are existing hedgerows and an	As shown on the ARA Site Plans, not all berms are proposed to be constructed at the perimeter of the property and therefore these trees can be maintained. For berms that are located directly adjacent to the licenced ' boundary there is still the ability to retain trees along the perimeter because the berm	A Landscape Plan that shows tree preservation would be helpful to understand the extent of retained woodlot, hedgerows and meadows. As previously indicated, the extent of the applicant's land holdings should be shown. The MHBC Drawing 1 of 4, dated August 2023, shows the extent of existing vegetation, but does not indicate which of the existing vegetation is to be retained.

	NEC Comments	MHBC Response	Wavefront Comments
	existing woodlot but there does not appear to be any setback between the license boundary and the infiltration trench. Will any of this vegetation be protected? If so, how? The hedgerows and woodlot are prominent in views from Cataract Road and the protection of some or all of this vegetation will help to minimize changes to these public views. Tree protection fencing is recommended to best protect perimeter and woodlot vegetation.	is required to be setback a minimum of 3 metres from the licenced boundary. In the limited areas where the infiltration trench is directly adjacent to the licenced boundary, it is anticipated that perimeter trees will be removed however in these locations, there is a berm to be installed to screen the operation from surrounding lands. Furthermore, these locations are outside of the Niagara Escarpment Plan. Where the licenced boundary is adjacent to Cataract Road there are currently no hedgerows or woodlots. The area consist of clear agricultural fields and the ARA Site Plans include both visual planting areas and a berm to screen the operation from public views along Cataract Road.	
7 g)	**Monitoring Plan**		
	A more robust monitoring plan is recommended for plantings to ensure that visual screening is maintained. One year of monitoring, as proposed, is insufficient. Additionally, as plants die and are replaced, those replacement plantings should also be monitored.	The visual recommendation included on the site plan states: "Monitoring of trees survival shall be conducted within the first year following planting and equivalent replacement planting shall be carried out if more than 20% of the trees did not survive." Based on the NEC comment, this monitoring program will be modified to require another year of monitoring for trees that need to be replaced. Also as part of the operation, this is the requirement for an annual Compliance Assessment Report. This assessment will also ensure that the required visual tree screens are being maintained as per the requirements of the site plans.	A 2-year maintenance period for any landscape installation is a standard treatment, with some municipalities increasing this to 3-years. Inclusion of an assessment of tree health and replacement in the Compliance and Assessment Report should take care of concerns with monitoring.

	NEC Comments	MHBC Response	Wavefront Comments
7 h)	**Cell Tower**		
	There is mention of a cell tower on the Site Plan but a tower footprint and height is not shown. Is this a future cell tower? NEC has an interest in reviewing any proposal for a tower that may impact scenic resources in the NEP Area.	The previous landowner had an agreement with a cellular company to potentially provide a cell tower on this property which has been accommodated for on the proposed ARA Site Plans. There is no active application for a cell tower and when and if there is it will be circulated for comments in accordance with the regulatory requirements. Also, please note that this potential location is not located within the Niagara Escarpment Plan. The NEP is located 750 metres at its closest point.	From the applicant's response, the cell tower is not part of the current application and we assume that a separate Site Plan application would be needed for its approval. A separate visual impact assessment would be needed as part of the Site Plan application. All references to the cell tower should be removed if no longer part of the development application.
7 i)	Simulations for viewpoints 5 and 7 show that the only screening proposed for the south limit of the quarry is provided by the tree planting on the adjacent lands. Screening would be more appropriately located on the quarry lands rather than the adjacent lands which are designated Minor Urban Centre. See other comments on the appropriateness of the proposed use of the adjacent settlement lands in the planning report section above.	Screening and ecological enhancement in the form of upland forest is proposed on approximately 15.5 ha of the 36 ha of lands that are owned/controlled by CBM, which separate existing residences within Cataract from the proposed quarry. This is proposed to be planted within 5 years of the licence being issued. Natural Environment and ecological enhancements such as this are permitted within the NEP and are encouraged on lands designated 'Escarpment Protection Area'. This is an appropriate use of the land and will enhance screening from the quarry to existing residences in Cataract. The proposed upland forest and meadow on the lands owned/ controlled by CBM (separating the Site from Cataract), coupled with the proposed buffers and setbacks around the perimeter of the Site, provides good separation and screening from Cataract, other existing rural residences, existing farms and major public roads.	See previous comments on Minor Urban Centre. Visual screening should be provided for the proposed boundary of the MUC and will therefore extend into the "quarry extraction area". We recommend the size of the quarry extraction area be revised to provide sufficient visual screening for the full extent of the proposed MUC boundary.

	NEC Comments	MHBC Response	Wavefront Comments
8	**Visual impacts**		
	With respect to VIA conclusions, NEC staff concur that proposed berm and screen planting features will be successful at eliminating the visibility of the aggregate extraction activities, however, NEC staff disagree with the conclusion that there are no unacceptable visual impacts on surrounding land uses. NEC staff are of the opinion that the exposed berm and the removal of south hedgerows and woodlot will have a negative impact on the scenic resources of the Escarpment and that some additional information (described above) is needed to fully understand the impact and the proposed mitigation measures.	The VIA conclusions are based on the level of visual effect for the subset of viewpoints. WSP has taken into consideration the visual impacts to each viewpoint within the NEC lands. WSP determined that there will be no unacceptable impacts on surrounding land uses, however, the overall level of visual contrast is weak for the viewpoints located on NEC lands. Berms will be planted with a mixture of grass species. The south hedgerows and woodlot will not be removed until the extraction phase reaches that area. Additional plantings, as part of ecological rehabilitation, as shown on Figure 1 (**Attachment C**) will help to improve the viewshed of the final landform.	We agree with the NEC assessment that the applicant may have successfully reduced the **visibility** of the quarry operations through the construction of seeded berms and other visual plantings (although we need more details on the timing of the plantings, species composition, size and spacing to confirm this). We also agree with the NEC comments that the **visual quality** of the operational and post-extraction landscapes is below par. The long extents of uniform seeded berms and the lack of landscape connectivity will does not create a landscape of visual quality. Other areas of concern are the quarry entrance, the intersection of Mississauga Road and Charleston Side Road and Coulterville. The Landscape Plan should be updated to create a rehabilitated landscape based on the requirements for "landscape connectivity" as required in the Region of Peel Official Plan, whose policies are now part of the Town of Caledon Official Plan. Once a system of landscape patches and corridors is applied to the site, and it is installed both during and after extraction, the resulting landscape is likely to achieve an acceptable degree of visual quality as there will be a considerable decrease in the extent of long, uniform treeless, seeded berms.

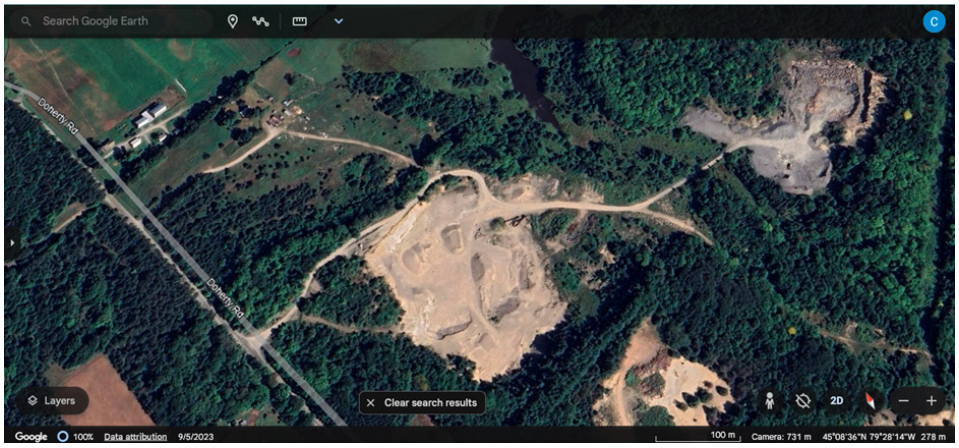
APPENDIX B

Quarry Entrance Examples

Windermere Quarry

1500 Doherty Road, Muskoka Lakes, ON

Entrance road is curved, tree lined, slightly elevated, and completely blocks views into the quarry.

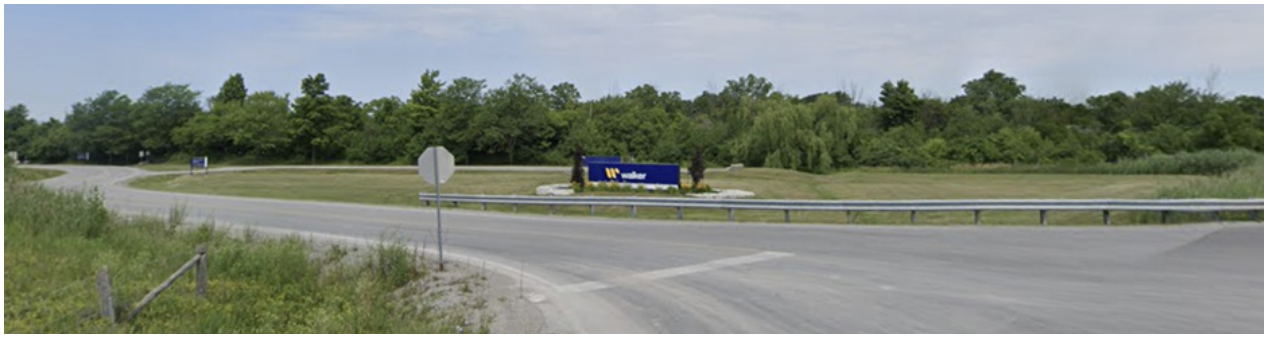


Walker Industries

2800 Thorold Townline Road, Thorold, ON L2V 3Y6

Entrance road is curved at close to a 90 degree angle, trees and tree-lined berms block views to the quarry.

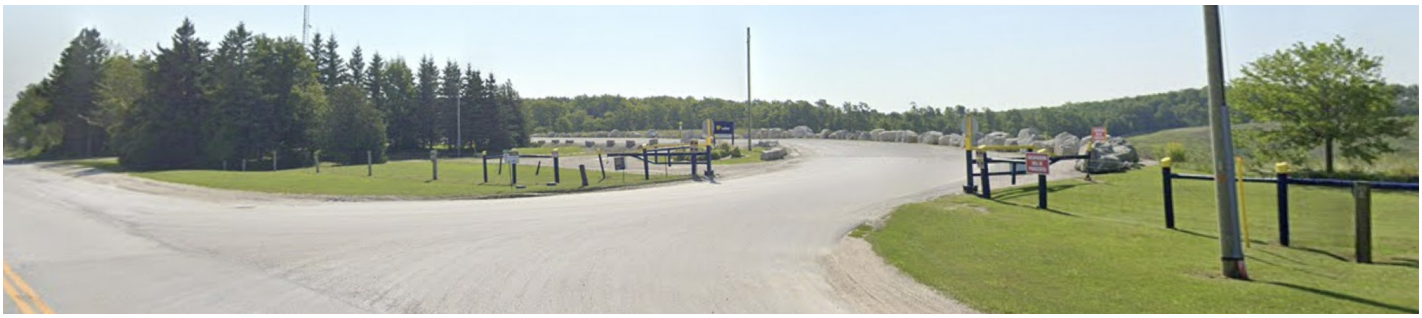
A secondary entrance has a landscape area with corporate signage



Walker Industries Duntroon Quarry

9861 County Rd 91, Duntroon, ON L0M 1H0

Entrance has a curved entrance with berms and boulders that block views into the quarry



Nelson Aggregate

515 Dry Lake Road, Haldimand, ON

Curved road and a berm block views into the quarry extraction area.