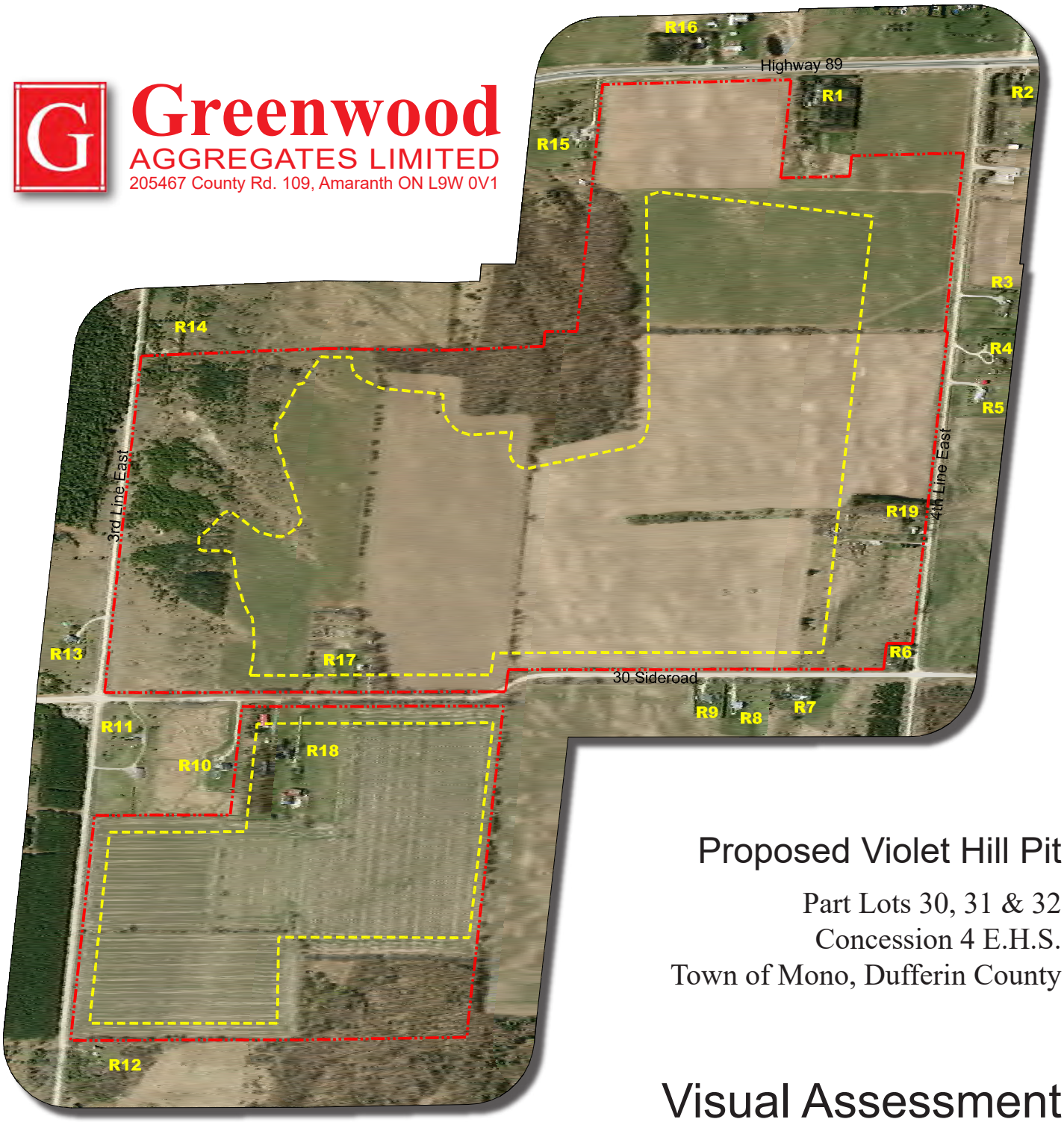
Greenwood
AGGREGATES LIMITED
205467 County Rd. 109, Amaranth ON L9W 0V1



Proposed Violet Hill Pit

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

Visual Assessment

DRAFT August 25, 2016

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Orangeville, Ontario
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Table of Contents

1. INTRODUCTION **1**
1.1 Background 1
1.2 Site Design 1
1.3 Tree Cover 1
1.4 Approach 1

2. ASSESSMENT **3**
2.1 Receptor R1 3
2.2 Receptor R2 3
2.3 Receptor R3 3
2.4 Receptor R4 5
2.5 Receptor R5 5
2.6 Receptor R7 5
2.7 Receptor R8 5
2.8 Receptor R10 6
2.9 Receptor R16 6
2.10 3rd Line Roadway 6

3. CONCLUSION **8**

List of Figures

1. Location Plan 1
2. Visual Assessment Table 2
3. Visual Assessment Sight Line Sections 4
4. Summary of Required Site Plan Revisions 7

Appendix

Visual Assessment drawing

1. Introduction

1.1 Background

Greenwood Aggregates proposes to establish the Violet Hill Pit in The Town of Mono. The lands are legally described as part of lots 30, 31 and 32, Concession 4 E.H.S., Town of Mono, Dufferin County (see Figure 1, Location Plan).

Greenwood is proposing development of an aggregate extraction operation with a licence area of 362.1 acres (146.5 hectares). Within the licence area, approximately 206.8 acres (83.7 hectares) are proposed for extraction.

This Visual Impact Assessment will analyze potential visual impact of the proposed pit on nearby roads and the 19 residential receptors which lie within 120 metres of the site. Three of these are owned by the applicant and were excluded from consideration. Where required, screening measures are proposed to address each receptor.

1.2 Site Design

The Site Plan as currently proposed includes extensive berming surrounding much of the extraction area, phased to provide acoustic shielding of each receptor during each phase of operation. In many cases, these berms, and/or the existing natural topography, are sufficient to also provide effective visual screening.

1.3 Tree Cover

Several receptors have extensive tree cover on their own properties, limiting or eliminating any views. However, as Greenwood cannot control the long-term existence of these screens, they have not been considered in assessing views. Tree cover within the proposed license area has been considered.

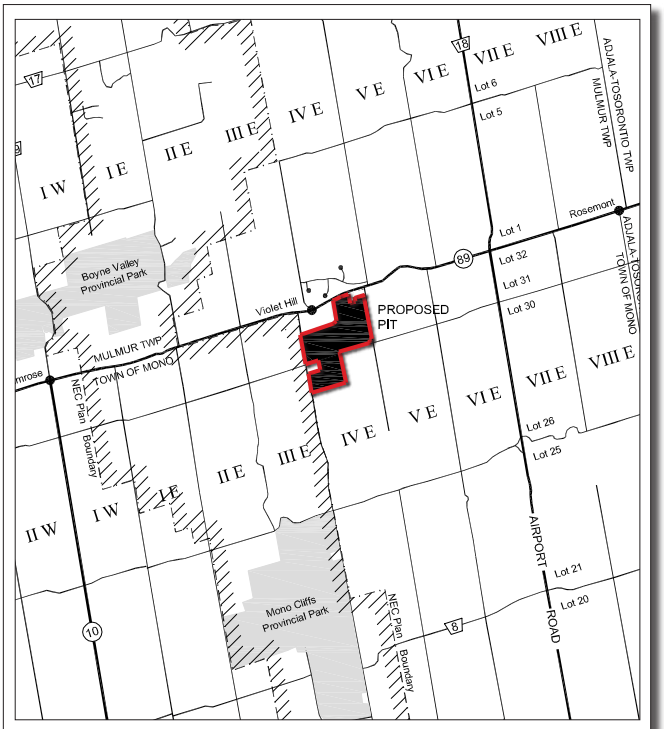


Figure 1
Location Plan

N.T.S.

1.4 Approach

The assessment was completed using a three dimensional computer model of the site and surrounding lands.

A table was prepared which combined the ground elevation of each receptor and the number of storeys in the building. Single storey receptors were given a viewing point two metres higher than grade, and two storey receptors are set at four metres above grade.

These view point elevations were then compared with proposed top-of-berm elevations adjacent to the receptors. In instances where the berm elevation was one metre higher or less, the receptor was subjected to further analysis by way of cross-sectioning from the computer model. Nine sections were prepared.

Receptor Number	Number of Storeys	Ground Elevation	View Elevation	Top of Adjacent Berm	Difference	Sight Line Section
R1	2	443	447	445	-3	Yes
R2	2	439	443	None		Yes
R3	1	440	442	441	-1	Yes
R4	2	441	445	441	-4	Yes
R5	1	440	442	441	-1	Yes
R6	2	433	442	442	11	
R7	2	435	439	440	1	Yes
R8	2	433	437	436	-1	Yes
R9	1	434	436	440	4	
R10	1	434	436	437	1	Yes
R11	1	429	431	436	5	
R12	1	427	429	435	6	
R13	2	410	414	434	20	
R14	2	408	412	431	19	
R15	1	435	437	442	5	
R16	2	443	447	439	-8	Yes
R17	2	Owned by Applicant				
R18	2	Owned by Applicant				
R19	2	Owned by Applicant				

Figure 2
Visual Assessment Table

2. Assessment

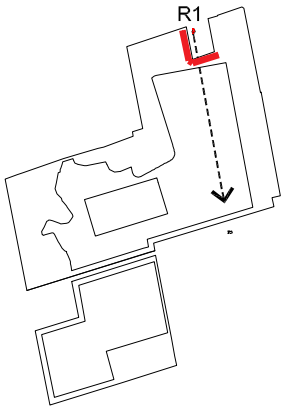
Receptors where mitigation is required are discussed below. Also refer to the Visual Assessment drawing included with this report, which provides the detailed cross sections at a larger scale.

Adjacent Berm

Tree Screen

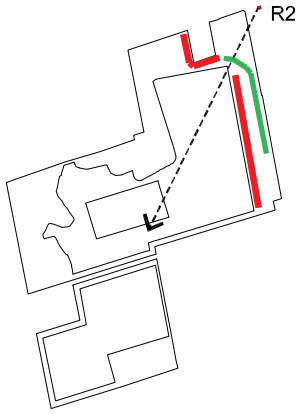
Tree screen on top of adjacent berm

2.1 Receptor R1



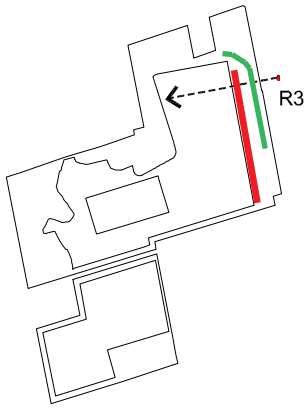
Views from R1 are effectively screened only when the proposed 7.5 metre berm is in place. As a result, Site Plan Page 5 of 5, Berm Phasing and Details, must be amended to show the berm in position throughout the life of the pit.

2.2 Receptor R2

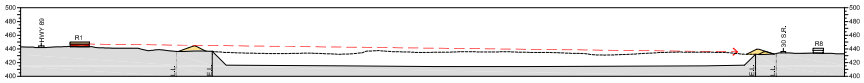


Views from R2, through a break in the proposed berming, are slight. Further, most excavation will be hidden behind the excavation face. In order to fully screen this view, a tree screen with a minimum height of 4 metres must be added to the Site Plan Page 2 of 2, Operations Plan

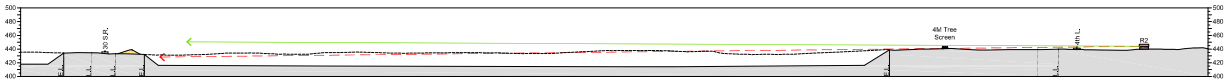
2.3 Receptor R3



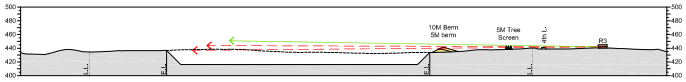
Views from R3 are slight at the proposed 5 metre berm height, and blocked at the 10 metre height. Though no tree screen is required here, a 5 metre coniferous tree screen is required for adjacent properties, and will provide additional protection here.



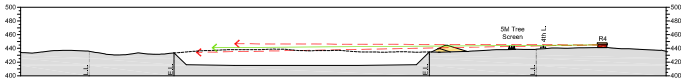
R1
7.5M Berm, 2 Storeys



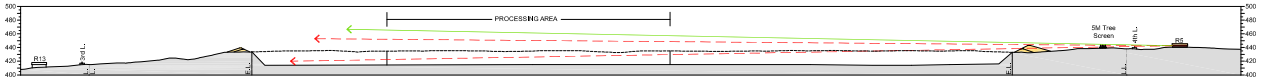
R2
No Berm, 2 Storeys



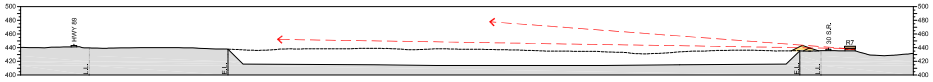
R3
5.0M Berm and 10.0M Berm, 1 Storey



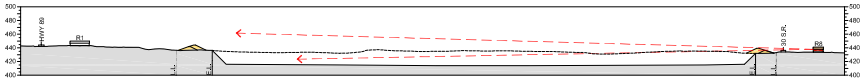
R4
5.0M Berm and 10.0M Berm, 2 Storeys



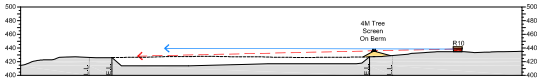
R5
5.0M Berm and 10.0M Berm, 1 Storey



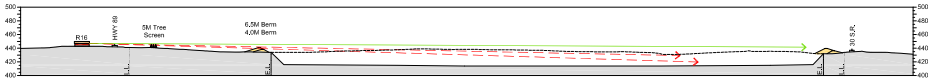
R7
4.0M Berm and 7.5M Berm, 2 Storeys



R8
4.0M Berm and 7.5M Berm, 2 Storeys



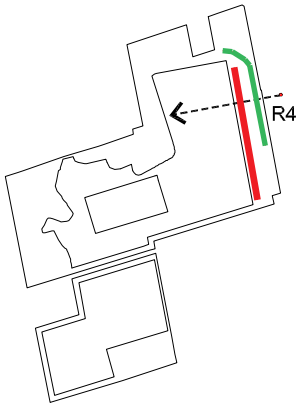
R10
7.5M Berm, 2 Storeys



R16
4.0M Berm and 6.5M Berm, 2 Storeys

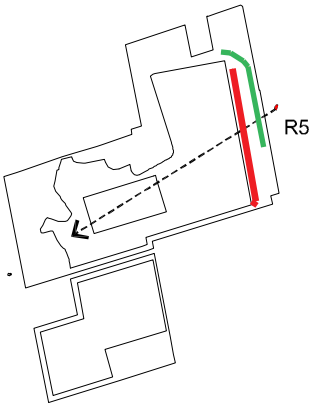
Figure 3
Visual Assessment Sight Line Sections

2.4 Receptor R4



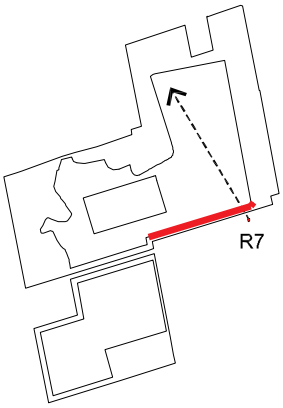
Similar to R3, receptor R4 has only slight views at the 5 metre berm height, and none at the 10 metre height. A proposed additional 5 metre high coniferous tree screen will also provide additional screening here.

2.5 Receptor R5



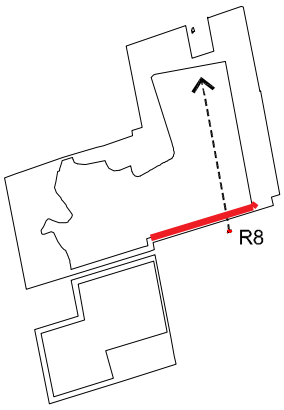
Receptor R5 does exhibit potential views when the proposed berm is at the 5 metre height, but they are blocked at the 10 metre height. Inclusion of a 5 metre high coniferous tree screen between the berm and the license limt, where it is closer to the receptor, is sufficient to screen this view.

2.6 Receptor R7



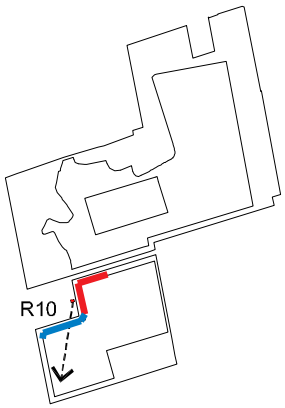
Receptor R7 was included in the analysis because the adjacent berm height is only 1 metre higher than the viewing point. However, the site line section demonstrates that this receptor has no views at either the proposed 4 metre berm height or the proposed 7.5 metre berm height.

2.7 Receptor R8



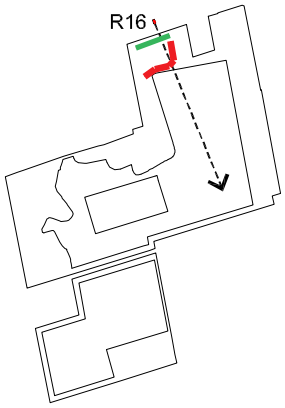
Receptor R8 does exhibit views at the proposed 4 metre berm height, but none at the 7.5 metre height. As a result, Site Plan Page 5 of 5, Berm Phasing and Details, must be revised to show that the adjacent berm along 30 Sideroad must remain at the 7.5 metre height throughout the life of the pit.

2.8 Receptor R10



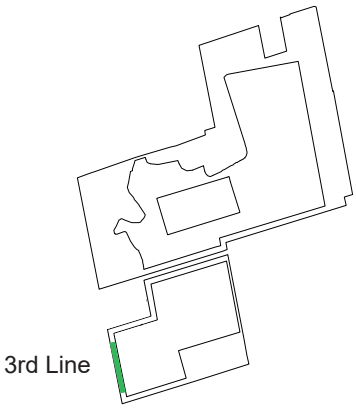
Receptor R10 has the potential for slight views with the proposed 7.5 metre berm in place. As these views will be into the working face, it is important to screen them. A 4 metre tree screen, placed on top of the adjacent berm, is sufficient to achieve this purpose.

2.9 Receptor R16



Receptor R16 exhibits views at both the proposed 4 metre berm height and the proposed 6.5 metre berm height. A 5 metre coniferous tree screen, set back 30 metres from the license limit along Highway 89, will provide adequate screening.

2.10 3rd Line Roadway



Though the majority of the excavation area will be screened from roadways by berms, one section along 3rd Line will be open. A 4 metre high coniferous tree screen is required here to prevent these views.

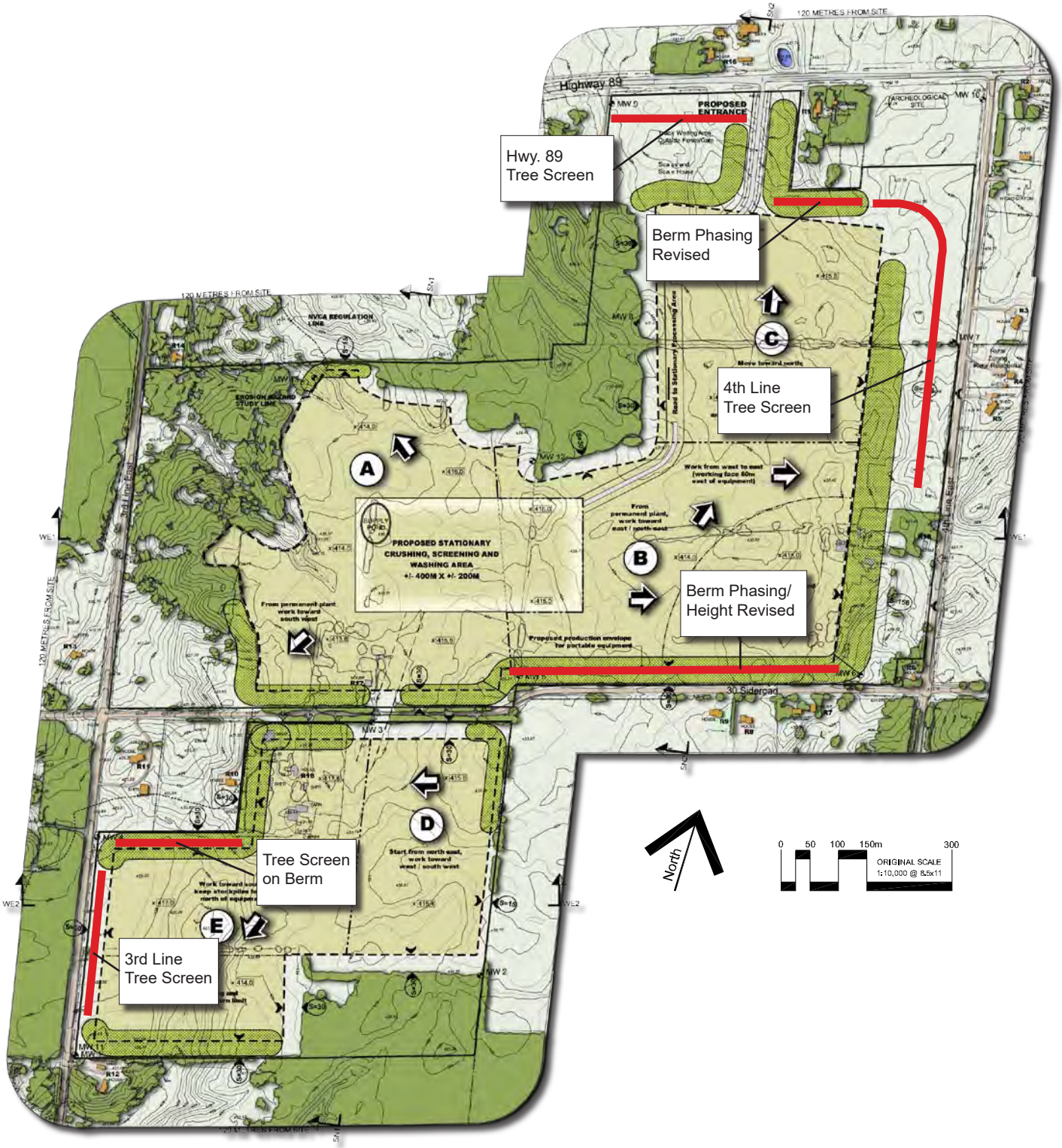


Figure 4
Summary of Required Site Plan Revisions

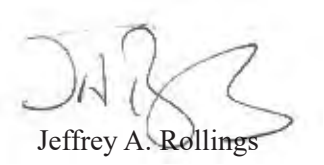
3. Conclusion

The majority of the proposed operation is screened from receptors by a series of berms. Of those receptors that do have potential views, most skim the existing surface, and would be unable to see the pit floor.

Some revision of the proposed berm phasing, and the addition of tree screens, as outlined in this report will ensure that views from all receptors are effectively screened.

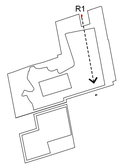
Respectfully submitted,

ROLLINGS HYLAND CONSULTING

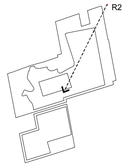


Jeffrey A. Rollings

R1
7.5M Berm, 2 Storeys

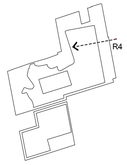


R2
No Berm, 2 Storeys

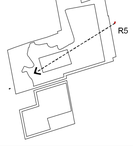


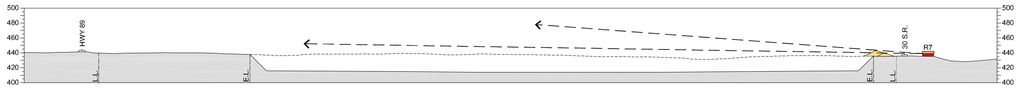
R3
5.0M Berm and 10.0M Berm, 1 Storey

R4
5.0M Berm and 10.0M Berm, 2 Storeys

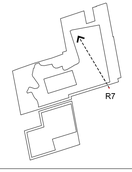


R5
5.0M Berm and 10.0M Berm, 1 Storey

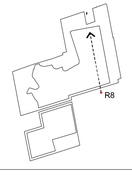


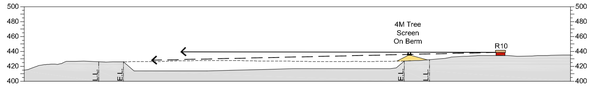


R7
4.0M Berm and 7.5M Berm, 2 Storeys

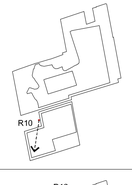


R8
4.0M Berm and 7.5M Berm, 2 Storeys

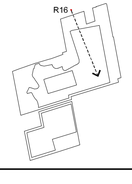




R10
7.5M Berm, 2 Storeys



R16
4.0M Berm and 6.5M Berm, 2 Storeys



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

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

Page 1 of 1

VISUAL ASSESSMENT

Visual Assessment Table

Receptor Number	Number of Storeys	Ground Elevation	View Elevation	Top of Adjacent Berm	Difference	Sight Line Section
R1	2	443	447	445	-3	Yes
R2	2	439	443	None		Yes
R3	1	440	442	441	-1	Yes
R4	2	441	445	441	-4	Yes
R5	1	440	442	441	-1	Yes
R6	2	433	442	442	11	
R7	2	435	439	440	1	Yes
R8	2	433	437	436	-1	Yes
R9	1	434	436	440	4	
R10	1	434	436	437	1	Yes
R11	1	429	431	436	5	
R12	1	427	429	435	6	
R13	2	410	414	434	20	
R14	2	408	412	431	19	
R15	1	435	437	442	5	
R16	2	443	447	439	-8	Yes
R17	2	Owned by Applicant				
R18	2	Owned by Applicant				
R19	2	Owned by Applicant				

DRAWN: J.A.R.
APPROVED: S.G.
FILE: January 2016 Site Plans.dwg
PLOTTED: **25 Aug. 2016**

AMENDMENT NO.

No.	DATE	DESCRIPTION	APP'D

Amendments

North

0 50 100 150m 300

ORIGINAL SCALE
1:4,000 @ 22x34

VERTICAL EXAGERATION: 1X

ROLLINGS HYLAND CONSULTING
Orangeville, Ontario 519.942.1961

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