



Visibility Management Plan

Round Pond Quarry
Registration 2101

JCL Investments Inc.



Table of Contents

List of Figures and Tables 2

Introduction 3

 Purpose and Scope..... 3

 Maintenance of the Plan..... 3

 Project Description..... 3

 Site Description 3

Development..... 4

Summary of Vantage Points..... 4

Mitigation Strategies to reduce Viewshed Impacts 4

 Vantage Point #1 6

 Vantage Point #2 9

 Vantage Point #3 12

 Vantage Point #4 15

 Vantage Point #5 18

Summary: 21

Contact:..... 21



List of Figures

Figure 1: Round Pond Landscape Summary – 5

Figure 2: Vantage Point #1 - Ground level view with boundaries 6

Figure 3: Vantage Point #1 - Street View heading westbound 7

Figure 4: Viewshed of Vantage Point #1 7

Figure 5: Topographic Section with sightlines for Vantage Point #1 8

Figure 6: Vantage Point #2 - Ground Level with boundaries 9

Figure 7: Viewshed of Vantage Point #2 10

Figure 8: Topographic Section with sightlines for Vantage point #2 11

Figure 9: Viewshed of Vantage Point #3 13

Figure 10: Topographic Section with sightlines for Vantage Point #3 14

Figure 11: Vantage Point #4 - Street View heading westbound 15

Figure 12: Vantage Point #4 - Ground Level view with boundaries 15

Figure 13: Viewshed of Vantage Point #4 16

Figure 14: Topographic Section with sightlines for Vantage Point #4 17

Figure 15: Vantage Point #5 - Street View 18

Figure 16: Vantage Point #5 - Ground level view with boundaries 18

Figure 17: Viewshed of Vantage Point #5 19

Figure 18: Topographic Section with sightlines for Vantage Point #5 20

Introduction

JCL Investments Inc. is committed to completing the development of the Round pond Quarry (the project) in a safe and environmentally responsible manner that will meet regulatory requirements, including development that reduces visibility in key landscapes, including the Trans Canada Highway and the Butterpot Provincial Park.

Viewshed (visibility) management is used in many different fields for both practical and aesthetic applications. It can play an important role when planning quarries or access roads especially in recreation areas where views of beautiful landscapes are highly valued and protected with great passion. As part of the ongoing development and EA commitments JCL Investment Inc. (JCL) has analyzed viewsheds near the Round Pond area, along the TCH and from Butterpot Park and explored how the development of the Round Pond Quarry would affect surrounding areas and how visible the project would be to key landscapes. We also introduce how JCL is planning on minimizing impacts to the viewshed and how we plan to develop the quarry to align with these goals by utilizing design requirements such as provision of visual screening (screening the site from adjacent lower density users) and buffers (provide visual buffers on all frontages that abut the TCH and Butterpot Park – Tree buffers)

Purpose and Scope

This visibility Management Plan has been developed to outline the required mitigation strategies for the project and to ensure they are fully implemented. The purpose of the Visibility Management Plan is to:

- Provide concise and clear instructions regarding how JCL will protect the viewscape of the area using the proper buffer and landscaping techniques to allow for limited visibility
- Outline the mitigation strategies JCL is planning on using including buffers and screening
- Ensure that JCL develops the project in a way that will reduce the visibility of this project from the Key Landscapes

Maintenance of the Plan

The JCL Visibility Plan will be Maintained by JCL Investments Inc. It is recognized that the plan is a living document that may evolve over time as new information, issues, and/ or mitigation measures are identified. The revision number is located in the header of every page. The latest revision of the visibility plan may be obtained from JCL Investments Inc.

Project Description

Site Description

The area shown in Fig 1.0 is the Round Pond landscape located in the North East Avalon of Newfoundland. Key features of the landscape include the Butterpot Park provincial Park, west of the quarry location, as well as the Trans Canada Highway and Transmission Line. The area to be developed is a 34.8-hectare project area located approximately 800 meters east of the Butter Pot Provincial Park interchange at the Trans-Canada Highway (TCH) and the highest elevation within the boundary is 245 m.

Access will be via an existing gravel trail that intersects the eastbound lane of the TCH approximately 1.8 kilometers north of the Butter Pot Park interchange and south of Round Pond. There is currently an established access trail off the TCH and approximately 800 meters of new trail will be required to access the site.

Development

The development of the proposed quarry area will occur in a number of phases:

- Access: Upgrading of existing gravel trail from the TCH to the project area. Approximately 800 meters of new access will be developed from the trail to the project area
- Quarry Area: stripping of vegetation and organic material- Trees will be harvested as directed by the Forestry Services Branch in the Department of Fisheries and Land Resources
- Stockpiling of organic material (including topsoil and grubbing) for rehabilitation and
- Phased development of quarry operations
- Excavation, drilling, blasting, crushing/screening, washing (if required), stockpiling and loading of quarry materials (rock, sand and gravel).
- Transportation of product to market

Summary of Vantage Points

JCL has analysed how this development will be least visible to the public, including from the Trans Canada Highway and from within the Butterpot Park. Viewshed analysis will show the vantage point from multiple areas, covering the key features within the area and represent the points most susceptible to visibility impacts. During this analysis, five vantage points were determined using line of site and interpreted to determine what amount of visibility the project will have on these points. The points cover a comprehensive area including heading Westbound and Eastbound on the Trans Canada Highway from multiple locations and elevation, as well as the highest point in the Butterpot Provincial Park, to ensure the development impacts are minimized.

JCL then used this data to implement management and development strategies to limit or completely reduce visibility of this project from these described vantage points and implement visual screens as well as topographic and vegetation buffers in and around the development to prevent visibility to the key landscapes. Table 1.0 summaries locations, elevations and coordinates for said points.

Mitigation Strategies to reduce Viewshed Impacts

As a way to reduce visibility of the project, JCL will utilize existing tree screens and topography in multiple areas. In order to consider the vantage points successfully, it is important to understand what measures JCL will implement to make sure the project will meet the EA commitments. JCL has determined that these following mitigations will be implemented to manage visibility around the described project.

1. An 11 Hectare topographic non development buffer will be maintained throughout the lifespan of the quarry. This buffer was determined by analysing all five vantage points and put together to limit the visibility of these points and will be identified as the blue outline in the mapping. A non- development buffer means that there will be no work done within this area and will remain fully treed
2. Development will be done in the opposing direction of the key landscapes as an additional measure to prevent visibility;
3. Natural tree buffers will be in pace along the quarry boundary to ensure areas where the topographic non development buffer is not is protected and will be identified as the purple outline in the mapping;
4. Utilize access that is already established with expansion to the exact location to limit the amount of disturbance and keep the current viewscape as it. Outlined as Orange buffers (existing access) and new access (red).

JCL will summaries five vantage points to show that the measures discussed will protect the surrounding viewscape and be least visible to the public. The viewshed analysis was obtained though Google Earth and the green shaded areas on the below maps (Figure 4, 6, 9, 12, and 13) show what can be seen from each Vantage Point. This was used to determine what would potentially be visible and help outline mitigations that will be implemented.

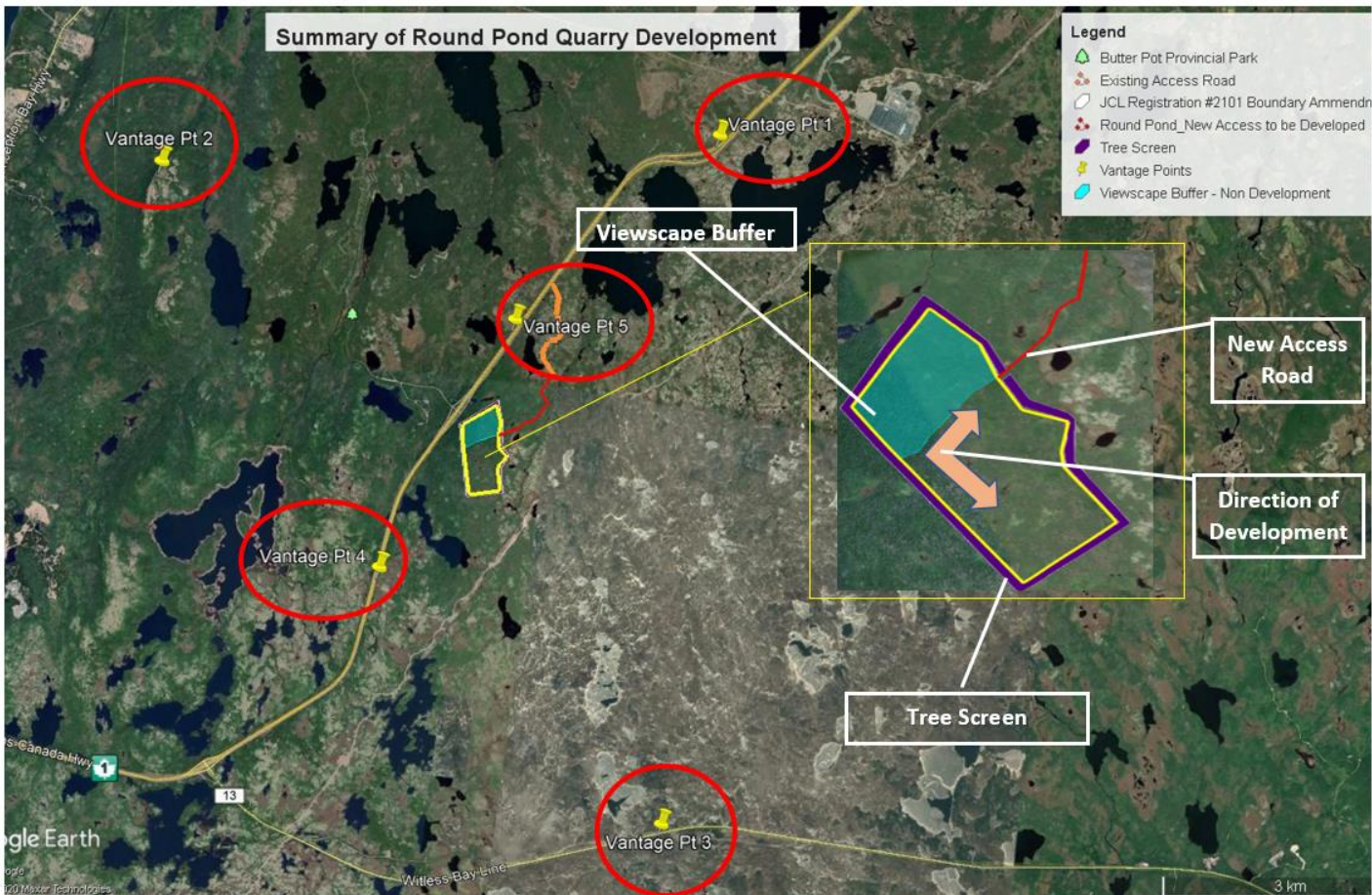


Figure 1: Round Pond Landscape Summary – All five vantagepoints are outlined along with the mitigation measures in place

Table 1: Summary of Vantage Points for Visibility management

Vantage Point	Location	Distance from Site	Elevations	Coordinates
#1	North of the Quarry Heading West on TCH	4 Km	184 m	47° 24' 45.04" N 53° 00' 20.74" W
#2	North East from the Quarry on the Top of Butter Pot Hill	4.35 Km	304 m	47° 24' 19.84" N 53° 05' 16.02" W
#3	South East from the quarry, Heading East on TCH	4.35 KM	212 m	47° 20' 32.71" N 53° 00' 01.78" W
#4	South of the Quarry heading east on the TCH	5.98 Km	235 m	47° 21' 55.22" N 53° 02' 53.27" W
#5	North of the quarry Heading west from the TCH	900 m	170 m	47° 23' 33.71" N 53° 01' 58.04" W

Vantage Point #1

The below demonstrates the viewshed of Vantage Point #1. This point is located westbound the on Trans Canada Highway. This area has the largest viewshed of all vantage points and was analysed using Google Earth Pro. The green shading outlines what is visible from this particular vantage point. In order to limit the visibility of the development, JCL will implement a viewscape Buffer (Blue) around the site (Yellow), and development will fall within the area that is not within the viewshed as shown in Figure 4. This should shelter the quarry from the motoring public as they approached from vantage point #1. The existing access road is visible from this point and is used to access the existing Transmission Line in the same area. Figure 4 show what buffers can be seen from the roadway and Figure 3 is the Google street view of this area, which shows the existing access, along with the topography of the area which consists of forested and rocky substrate.



6 Figure 2: Vantage Point #1 - Ground level view with boundaries

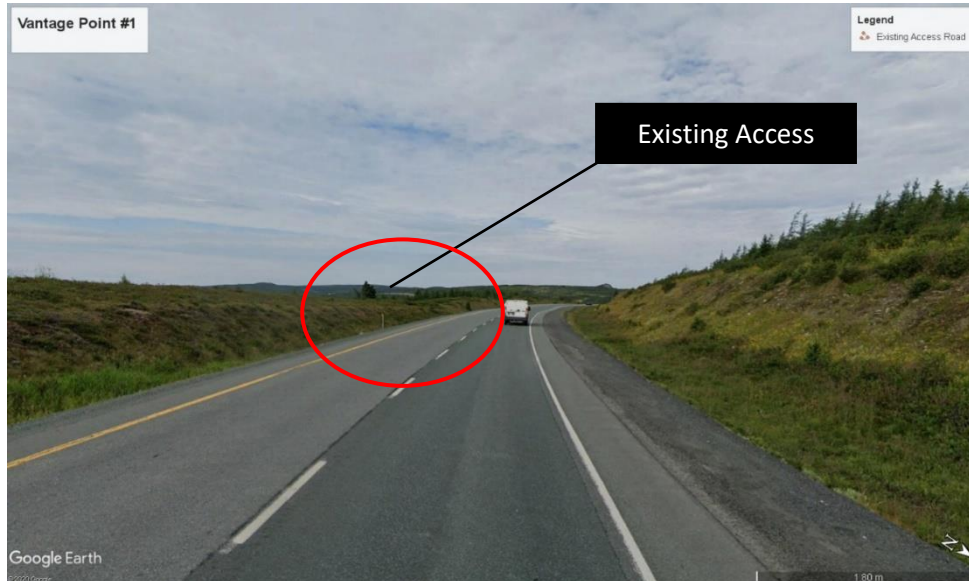


Figure 3: Vantage Point #1 - Street View heading westbound. As identified, the existing access is currently visible from Google Street view

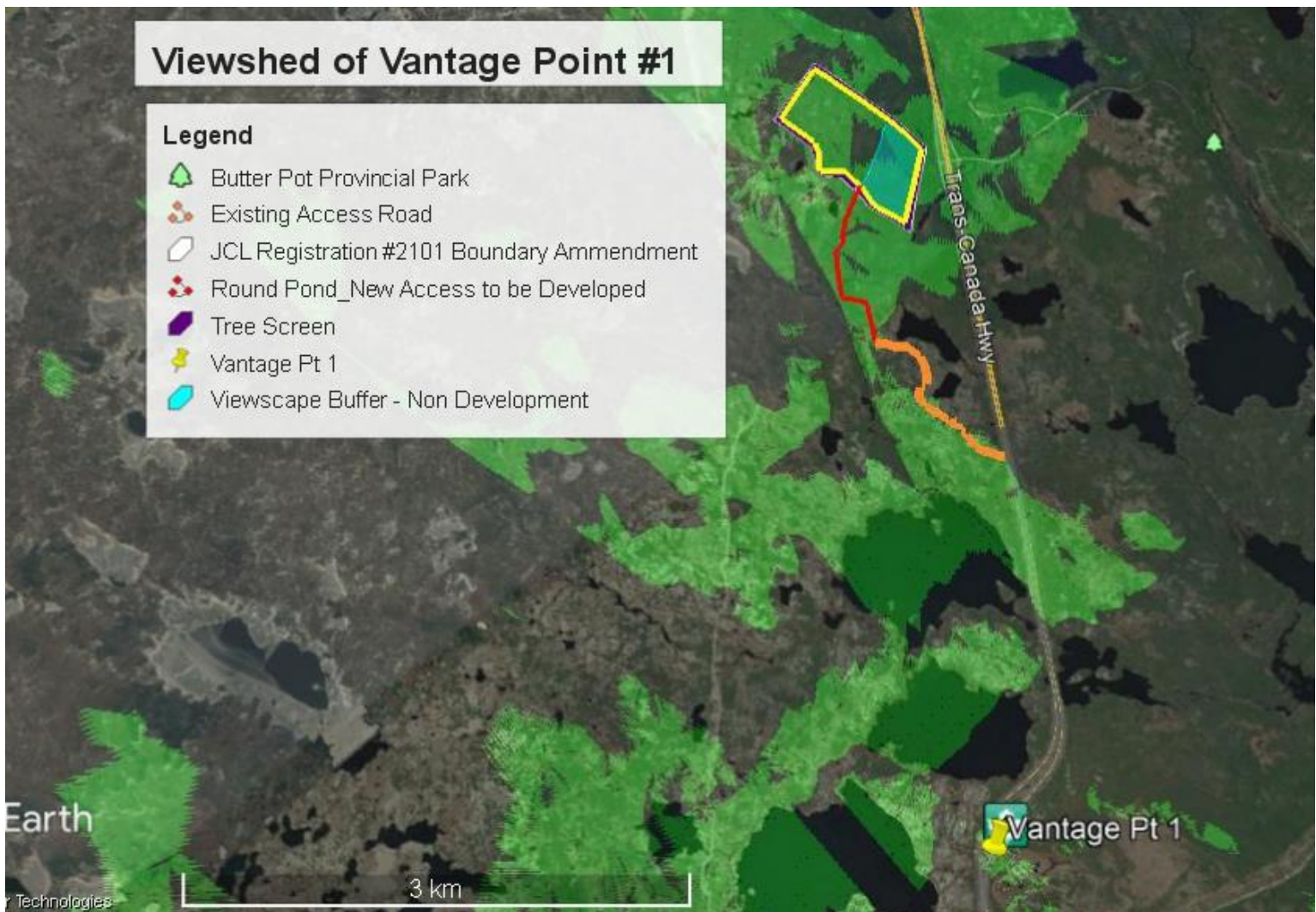
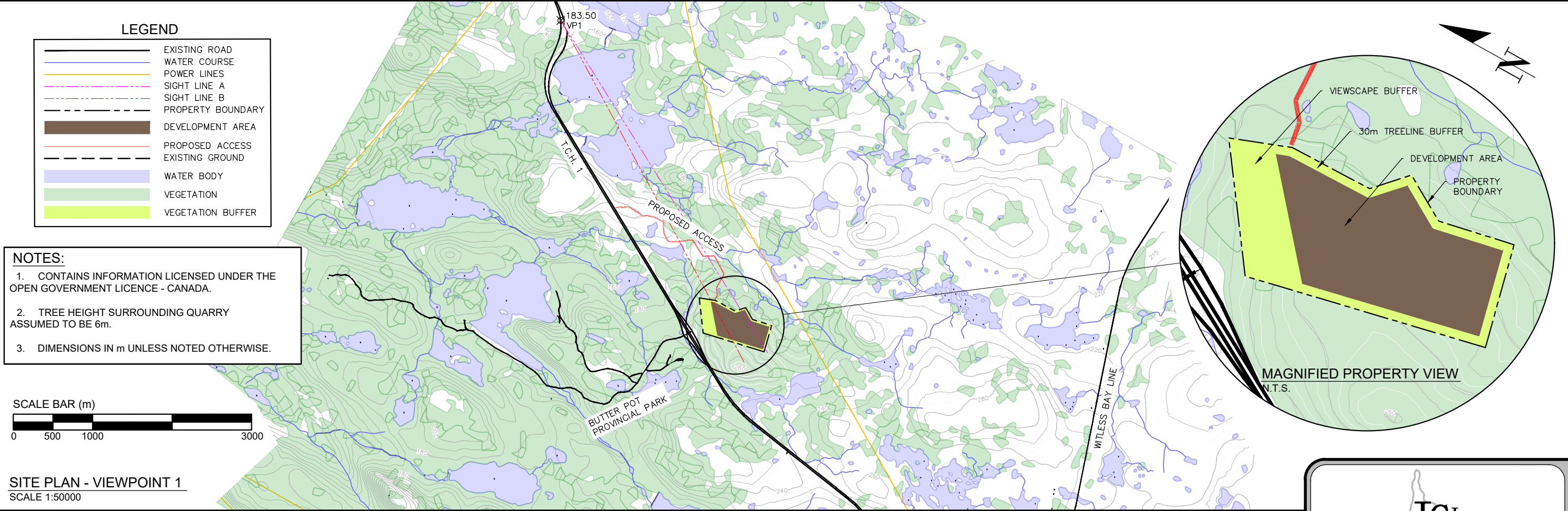
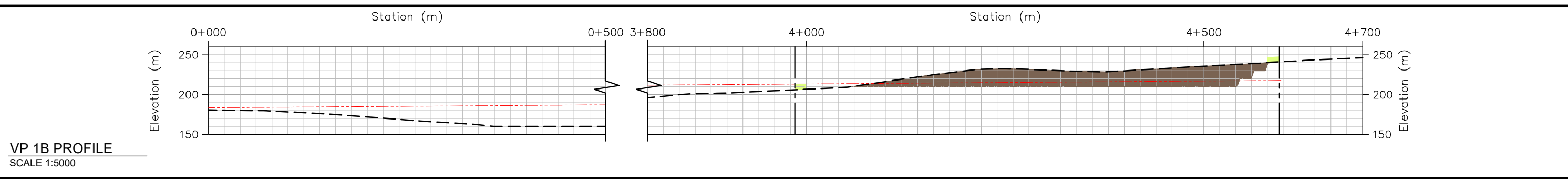
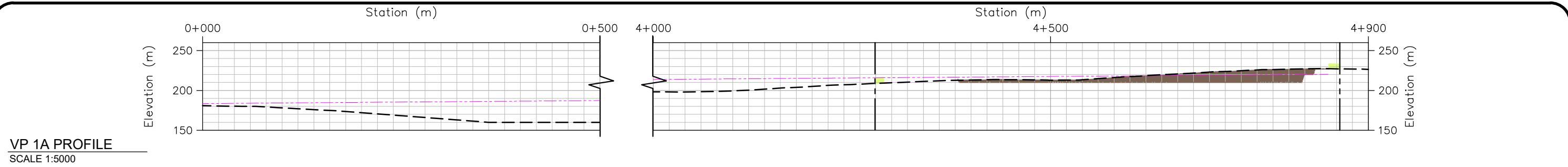


Figure 4: Viewshed of Vantage Point #1



ENGINEERING STAMP/PERMIT :

DRAWING TITLE :
VP1 SIGHT LINES AND PROFILES

PROJECT :
JCL #2101 QUARRY DEVELOPMENT

SCALE :		AS SHOWN	
PROJECT No.		-	
DRAWING No.		-	
REVISIONS :			
2	09/03/2021	REVISED TREE HEIGHT TO 6m	TW
1	02/02/2021	ISSUED FOR REVIEW	TW
NO.	DATE	DESCRIPTION	BY

JCL

APPROVED BY :	DATE :
CHECKED BY :	REV :
DRAWN BY :	SHEET :

09/03/2021
2
TW
1 OF 5

Vantage Point #2

Vantage Point #2 is the most important point to consider. This one is located on the highest point of Kelly’s Mountain within Butterpot Provincial Park, with an elevation of approximately 304 m, the highest of all vantage points. This area is dependent on local and out of province tourism which is why it is important to ensure that you are unable to see the described Round Pond development from this area. Figure 5 show what buffers can be seen from this point. Currently all you can see is the already established access (orange) along with the Viewscape Buffer (Blue) the and tree buffer (purple). JCL will establish during development. This will make sure that the project is not visible in the area. The viewshed that can be seen from the vantage point (green) was collected from Google Earth and demonstrates that the Viewscape Buffer shields the development from this vantage point, which in turn shields the development from the entire Provincial Park. Please refer to Figure 6.

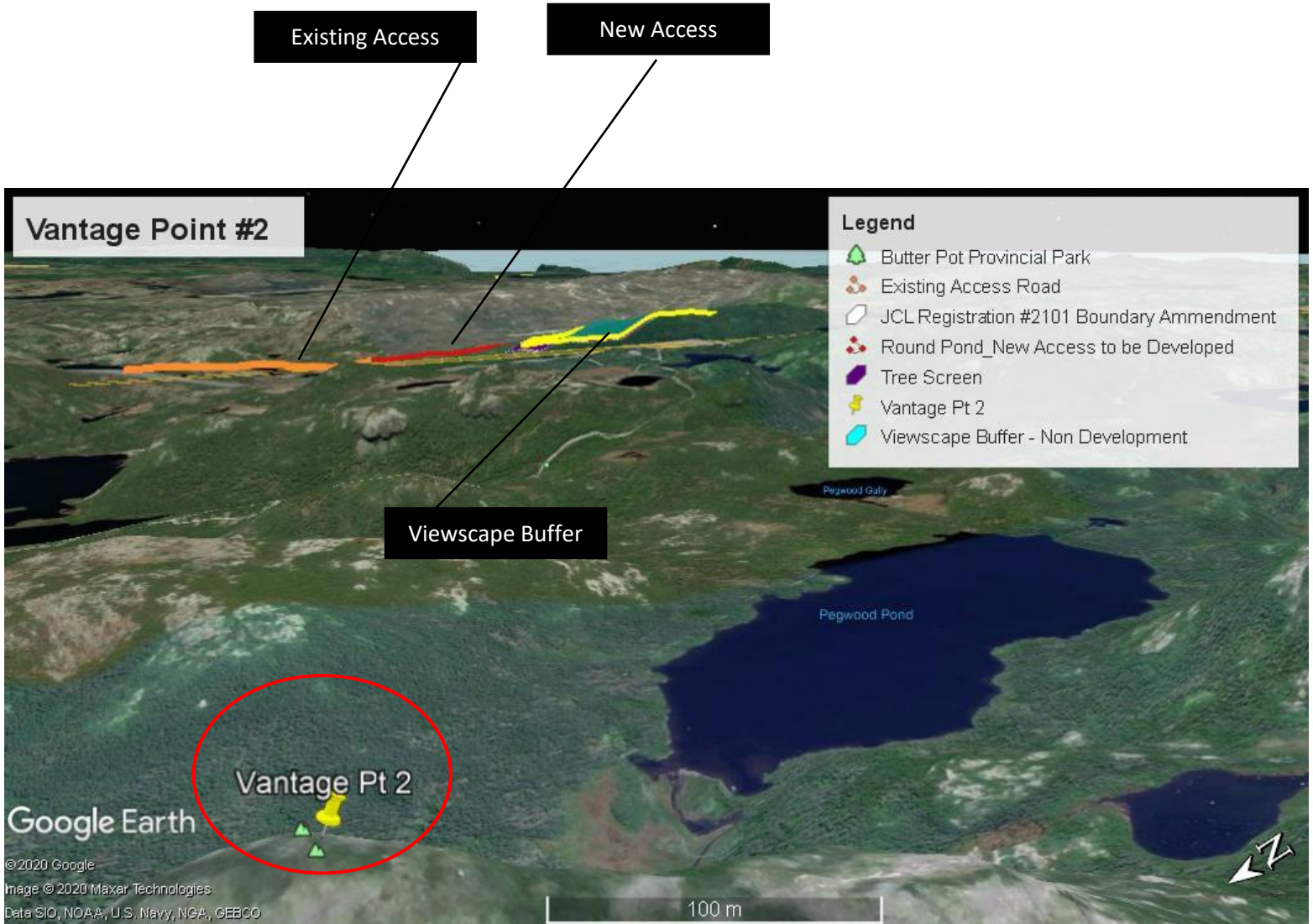


Figure 6: Vantage Point #2 - Ground Level with boundaries

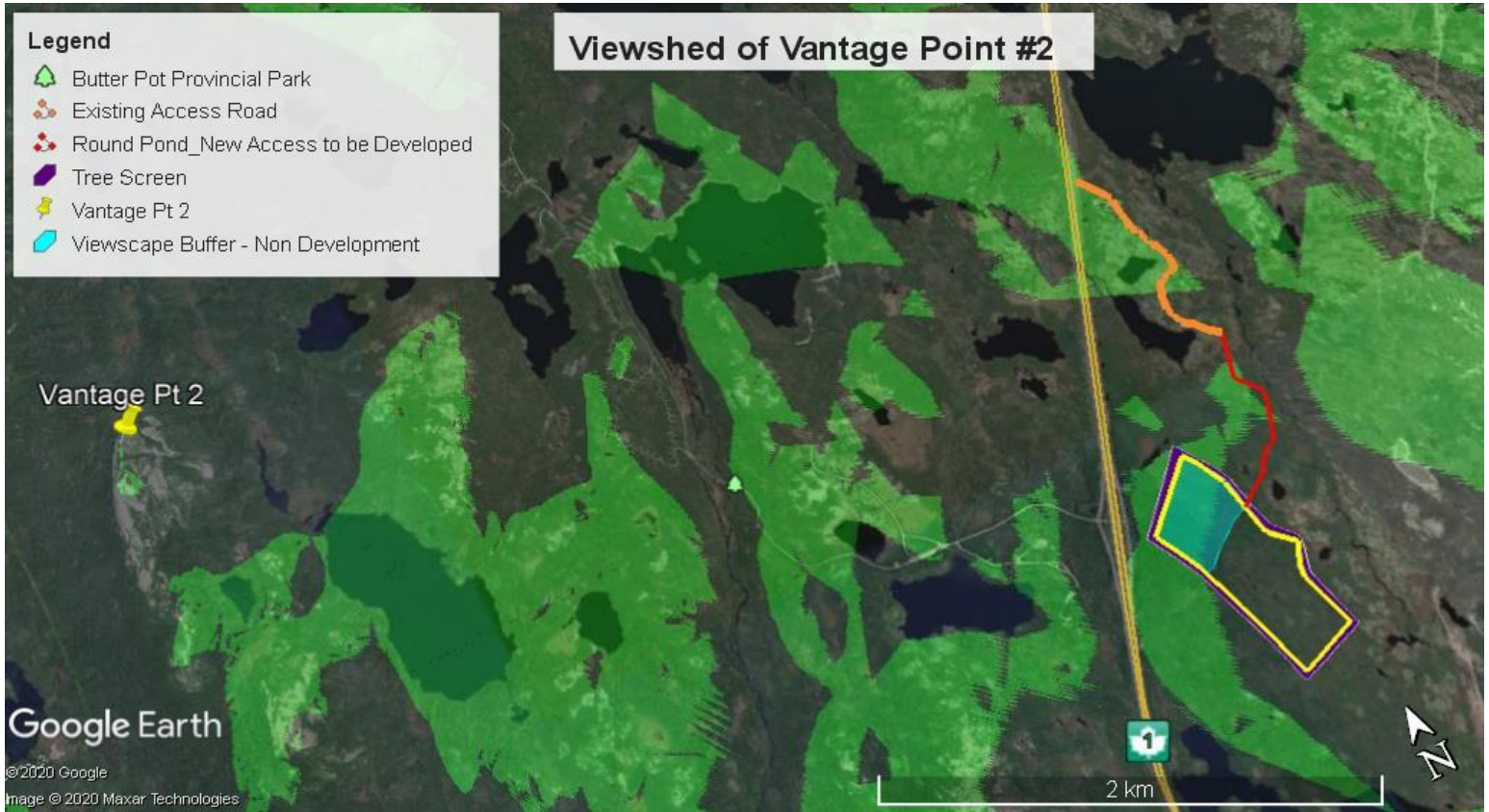
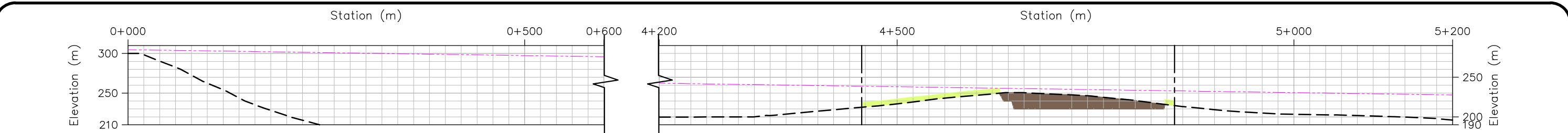
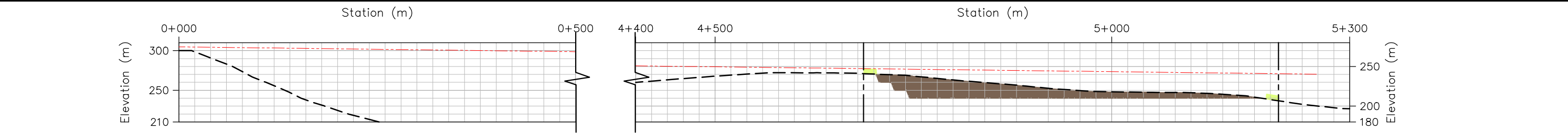


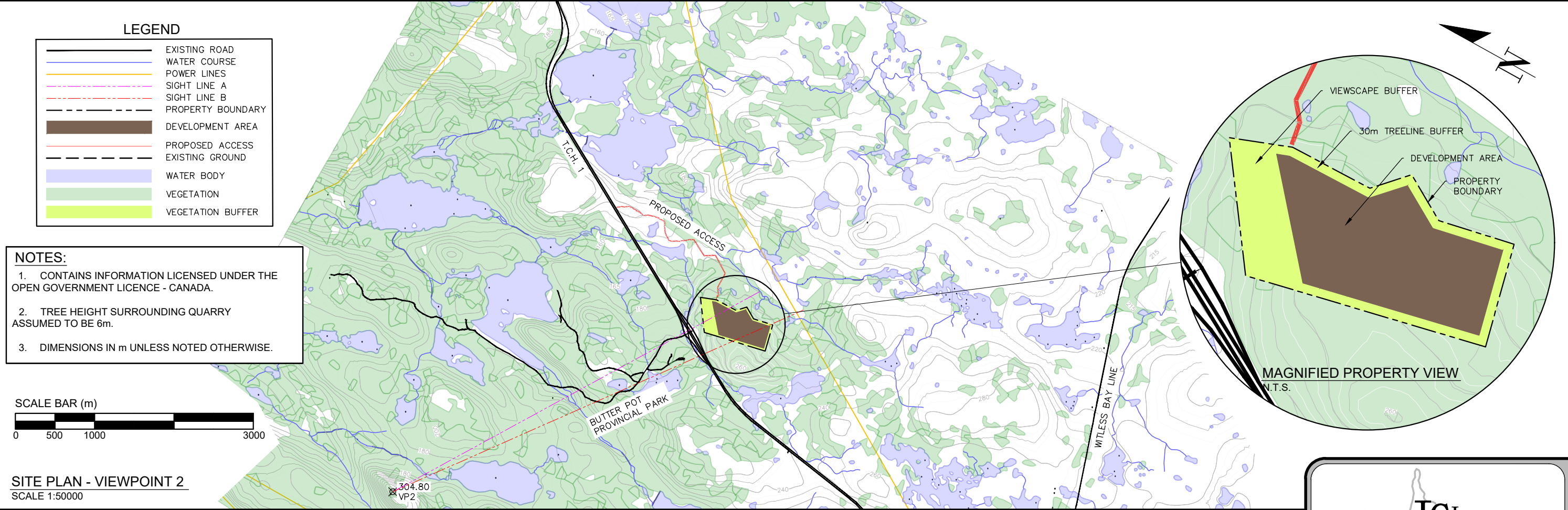
Figure 7: Viewshed of Vantage Point #2



VP 2A PROFILE
SCALE 1:5000



VP 2B PROFILE
SCALE 1:5000

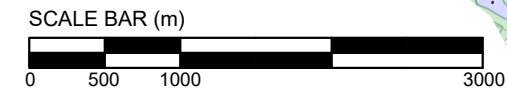


LEGEND

	EXISTING ROAD
	WATER COURSE
	POWER LINES
	SIGHT LINE A
	SIGHT LINE B
	PROPERTY BOUNDARY
	DEVELOPMENT AREA
	PROPOSED ACCESS
	EXISTING GROUND
	WATER BODY
	VEGETATION
	VEGETATION BUFFER

NOTES:

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - CANADA.
2. TREE HEIGHT SURROUNDING QUARRY ASSUMED TO BE 6m.
3. DIMENSIONS IN m UNLESS NOTED OTHERWISE.



SITE PLAN - VIEWPOINT 2
SCALE 1:50000

ENGINEERING STAMP/PERMIT :

DRAWING TITLE :
VP2 SIGHT LINES AND PROFILES

PROJECT :
JCL #2101 QUARRY DEVELOPMENT

SCALE :		AS SHOWN	
PROJECT No.		-	
DRAWING No.		-	
REVISIONS :			
2	09/03/2021	REVISED TREE HEIGHT TO 6m	TW
1	02/02/2021	ISSUED FOR REVIEW	TW
NO.	DATE	DESCRIPTION	BY

JCL

APPROVED BY :	DATE :
	09/03/2021
CHECKED BY :	REV :
	2
DRAWN BY :	SHEET :
TW	2 OF 5

Vantage Point #3

Vantage Point #3 is located south east of the project on the Witless Bay Line. JCL wanted to demonstrate the line of sight within the development is not a concern for users of the Witless Bay Line. As per Figure 9 the viewshed (green) clearly demonstrates this project is well outside any concern. The elevation of this point is at 212 m and as you can see by Figure 8 there are no visible buffers or boundaries. Due to the topography of the area and JCL’s plan to develop the area to face east, the area is not of a concern for visibility and development. Figure 7 is the Google Street view which shows the landscape of the area which consists of a mostly rocky and barren substrate with hilly terrain



Figure 9: Google Street View of Vantage Point #3

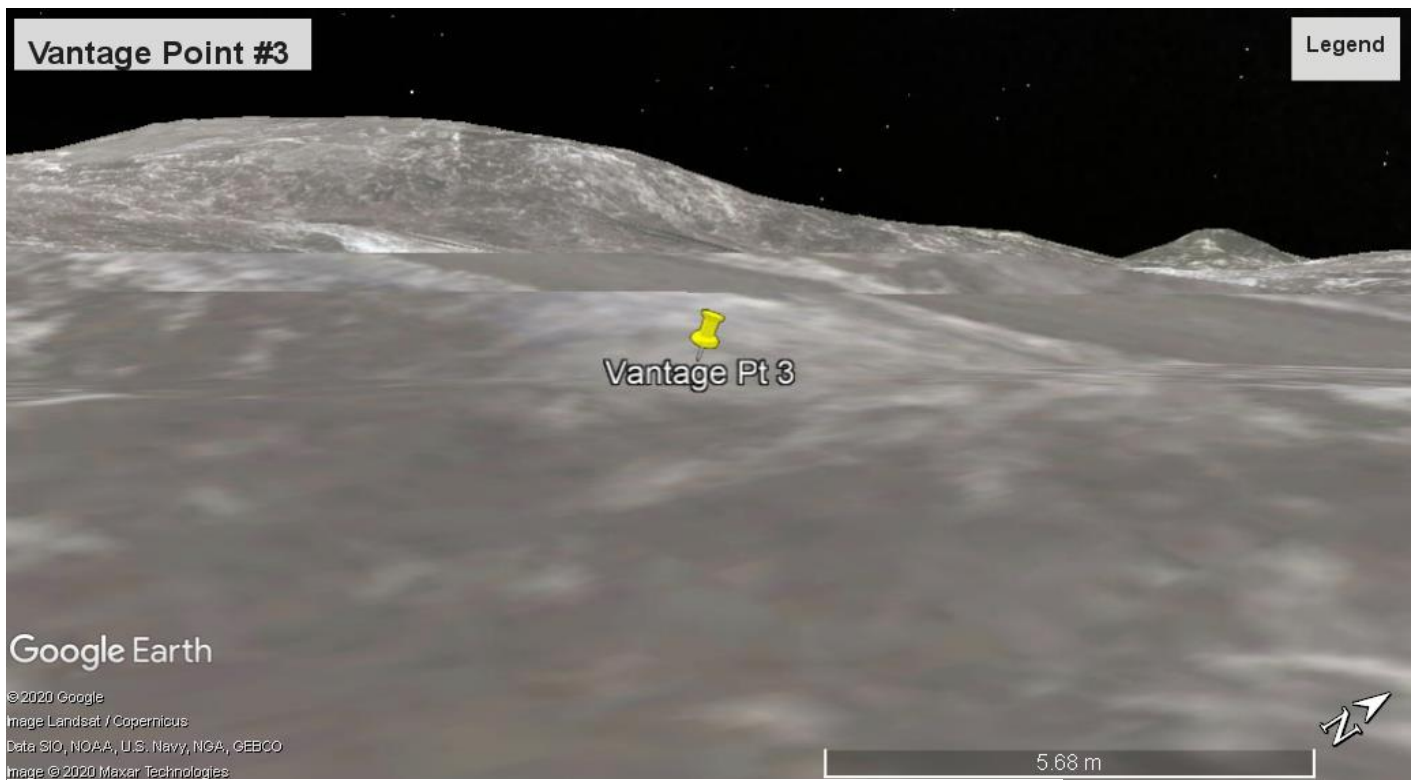


Figure 10: Vantage Point #3- Ground Level view with boundaries

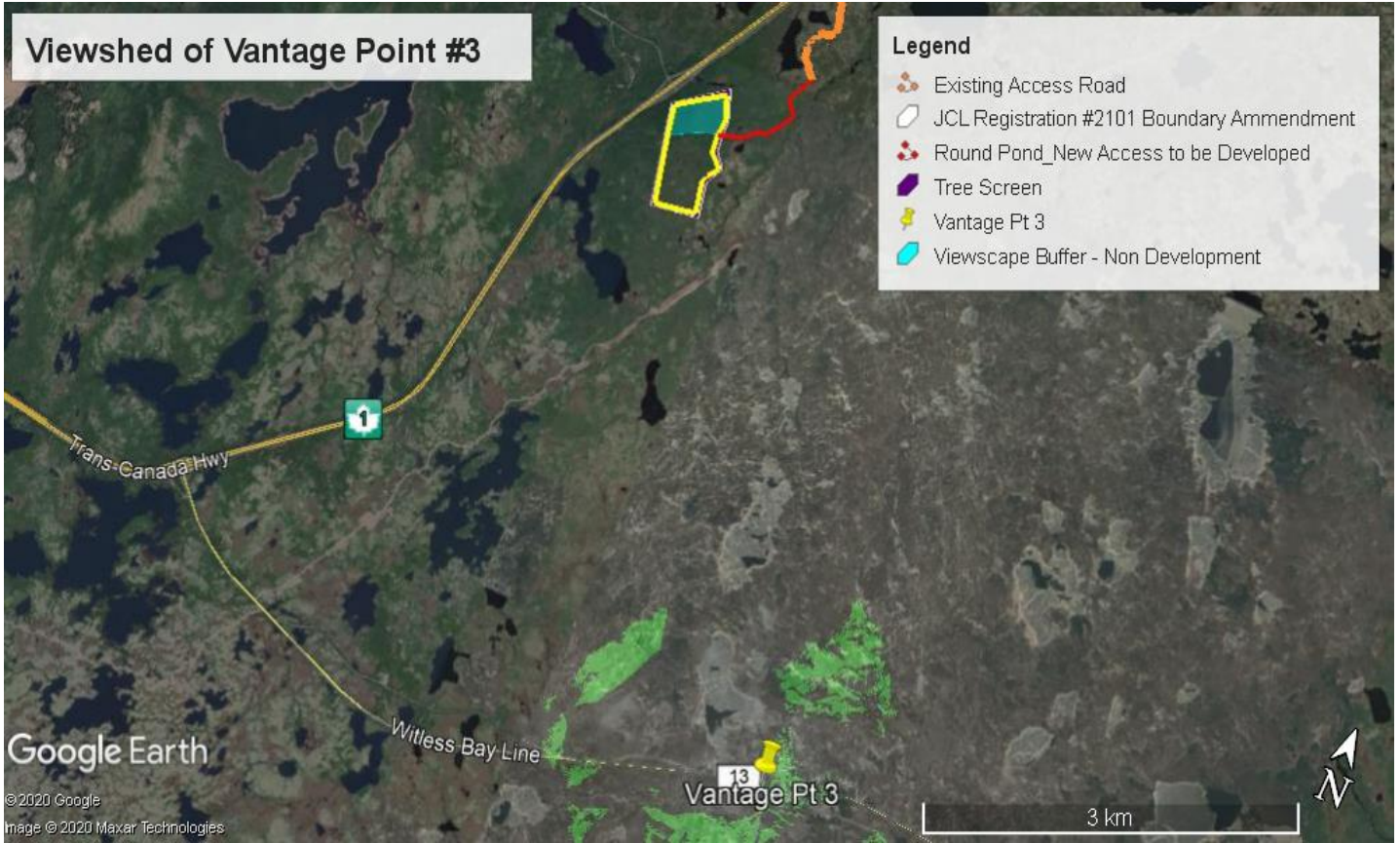
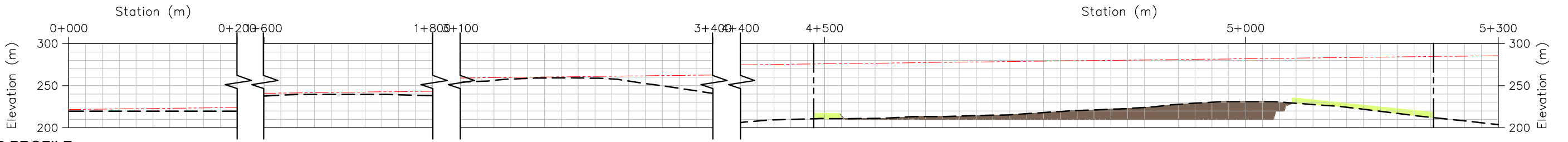
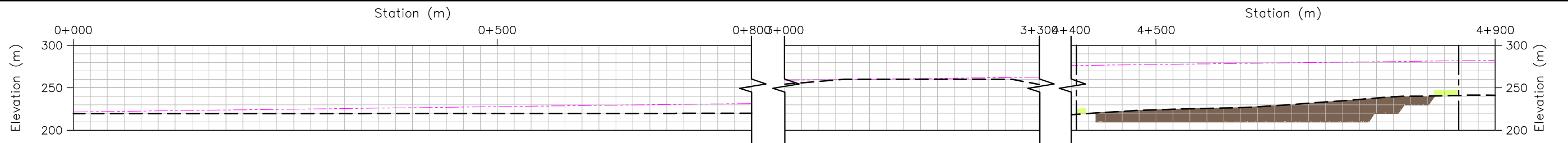


Figure 11: Viewshed of Vantage Point #3



LEGEND

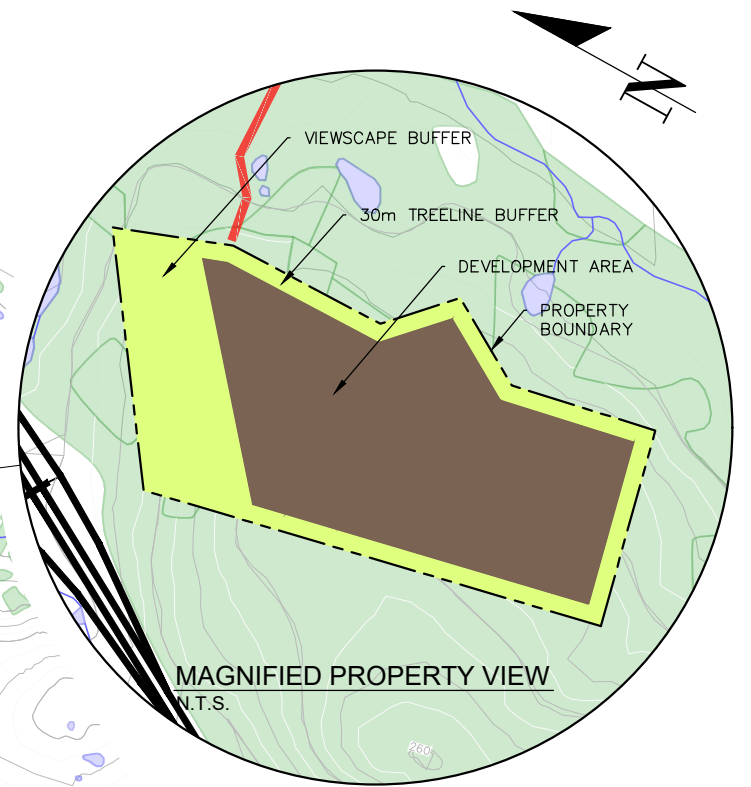
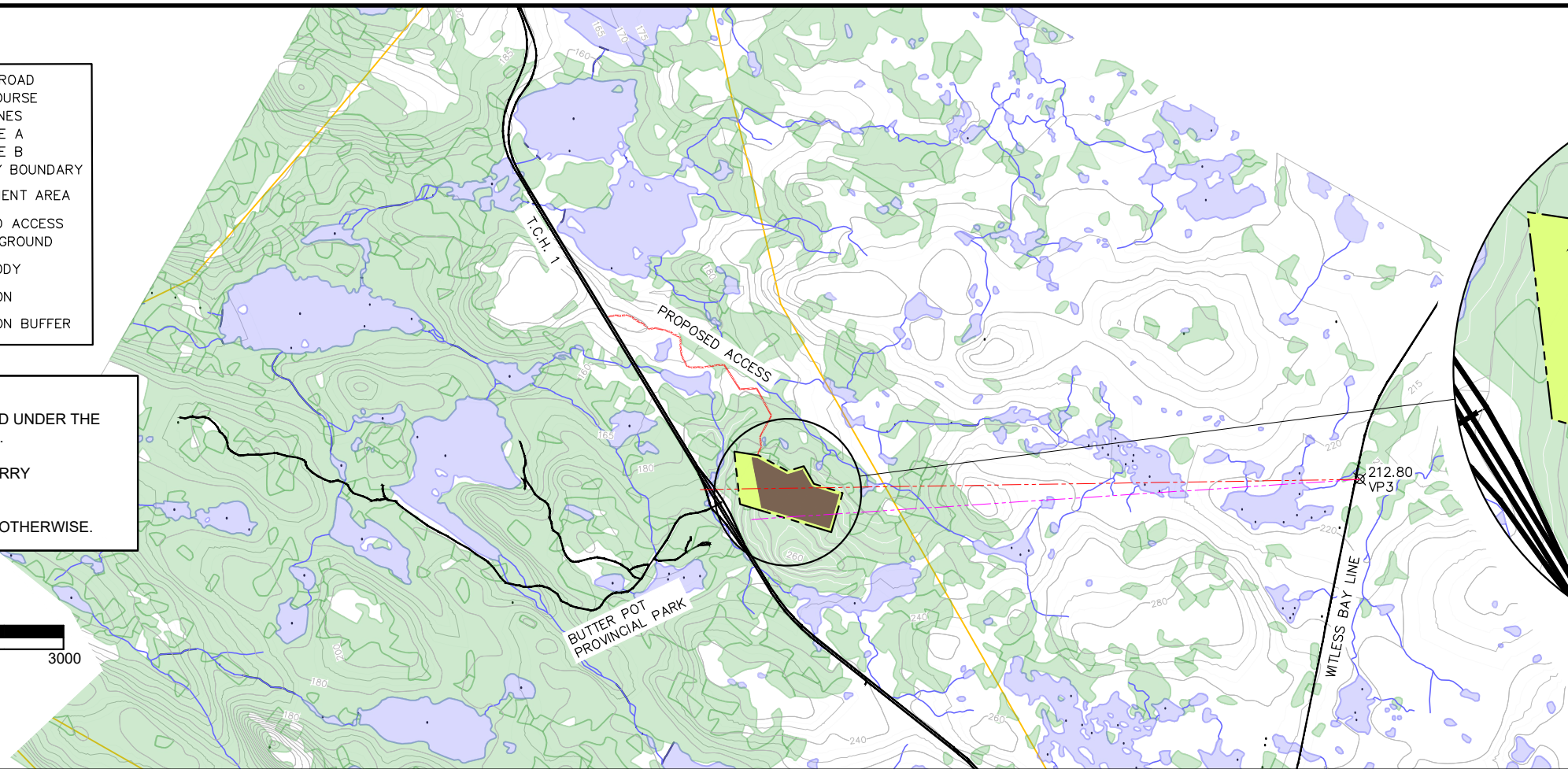
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	SIGHT LINE A
	SIGHT LINE B
	PROPERTY BOUNDARY
	DEVELOPMENT AREA
	PROPOSED ACCESS
	EXISTING GROUND
	WATER BODY
	VEGETATION
	VEGETATION BUFFER

NOTES:

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3. DIMENSIONS IN m UNLESS NOTED OTHERWISE.



SITE PLAN - VIEWPOINT 3
SCALE 1:50000



ENGINEERING STAMP/PERMIT :

DRAWING TITLE :
VP3 SIGHT LINES AND PROFILES

PROJECT :
JCL #2101 QUARRY DEVELOPMENT

SCALE :		AS SHOWN	
PROJECT No.		-	
DRAWING No.		-	
REVISIONS :			
2	09/03/2021	REVISED TREE HEIGHT TO 6m	TW
1	02/02/2021	ISSUED FOR REVIEW	TW
NO.	DATE	DESCRIPTION	BY

APPROVED BY :	DATE :
CHECKED BY :	REV : 2
DRAWN BY : TW	SHEET : 3 OF 5

Vantage Point #4

Vantage Point #4 is located south west of the project. This is heading Eastbound on the Trans Canada Highway approximately 5.98 km from the proposed development and the elevation of this point is at 235 m. As you can see by Figure 12 the Google Earth Viewshed analysis (green) has identified that the viewscape does not fall within the development and is protected by the ridge that runs along the proposed quarry. JCL is looking to use this natural ridge to shield from the highway as identified in Figure 11. The topography in the area means there is no concerns for visibility and development. Google Street View shows the topography is comprised of forested areas along the ridge and grassy vegetation along the Trans Canada Highway as outlined in Figure 10

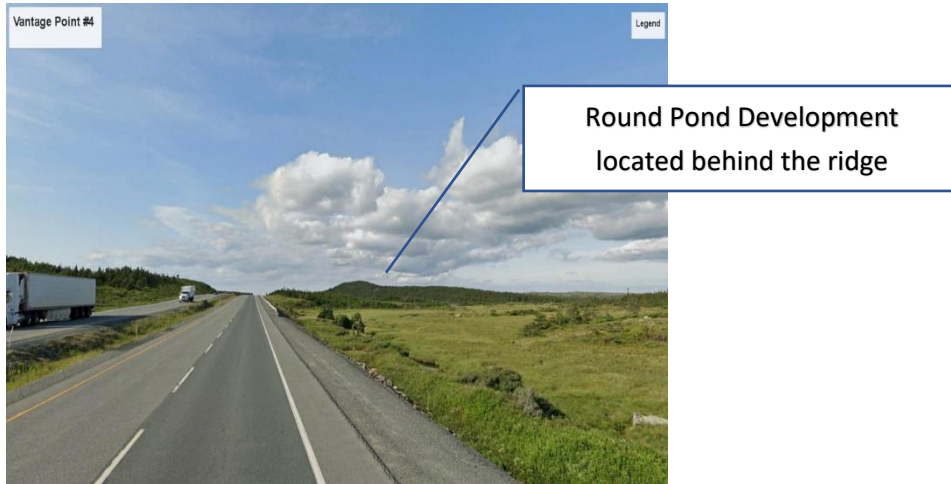


Figure 13: Vantage Point #4 - Street View heading westbound

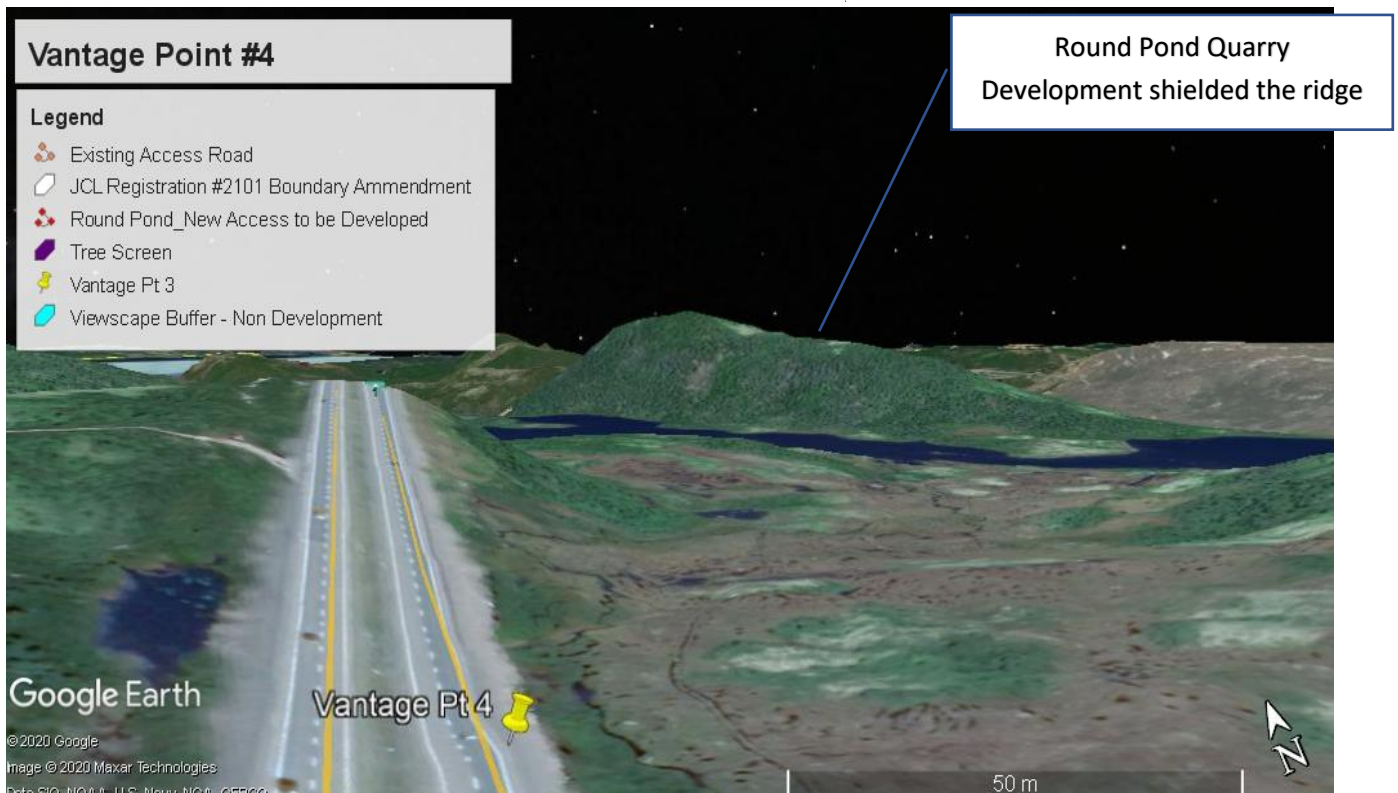


Figure 14: Vantage Point #4 - Ground Level view with boundaries

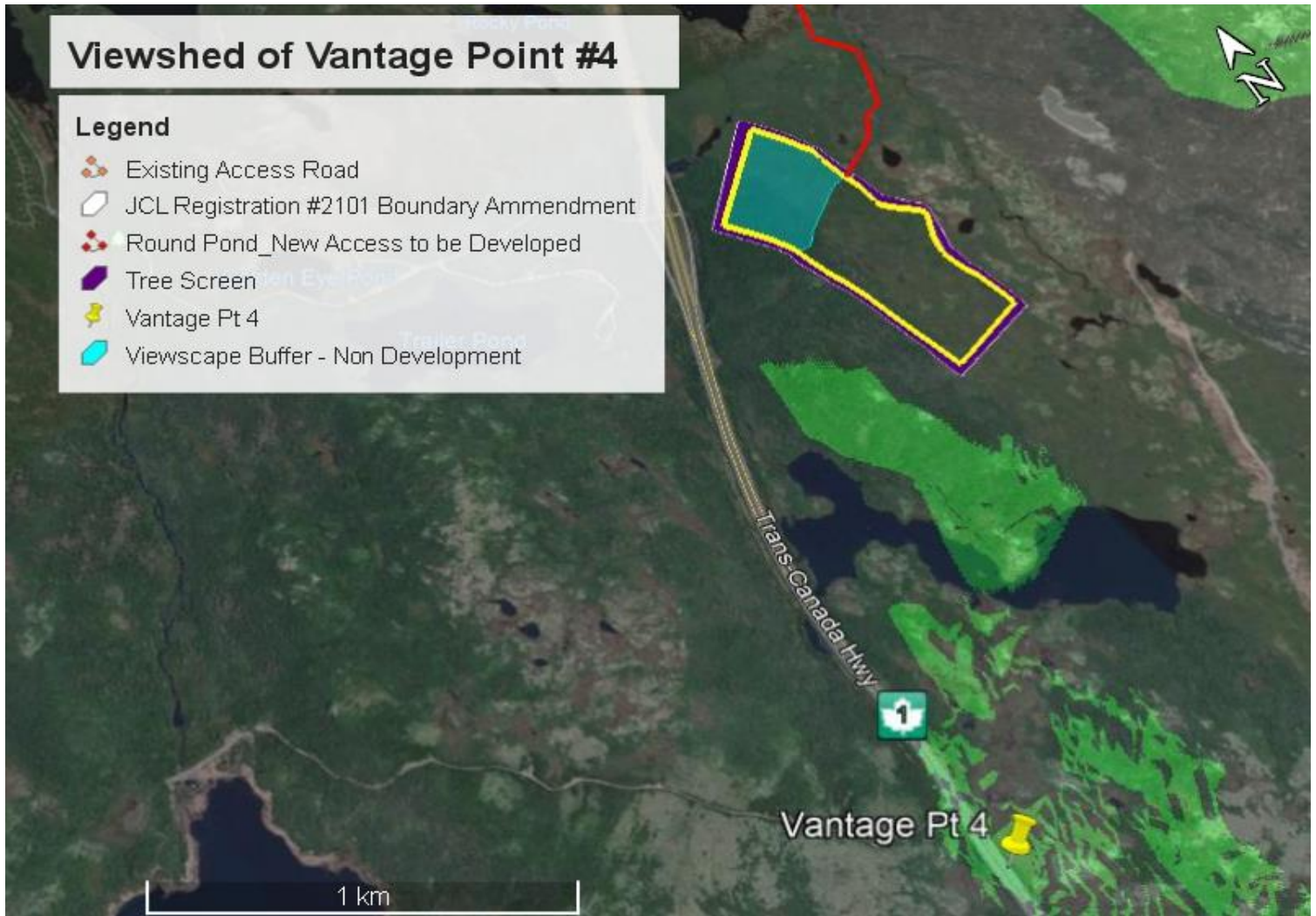
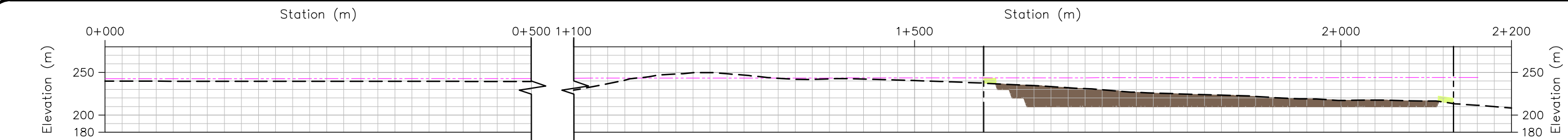
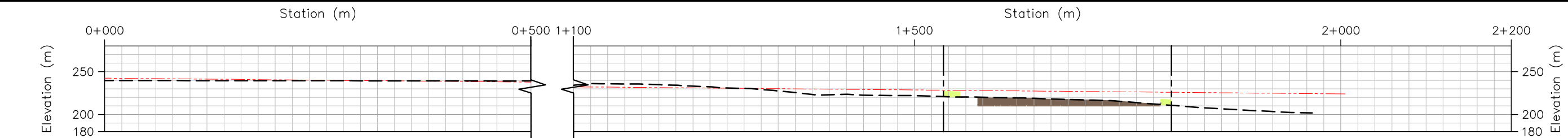


Figure 15: Viewshed of Vantage Point #4



VP 4A PROFILE
SCALE 1:5000



VP 4B PROFILE
SCALE 1:5000

LEGEND

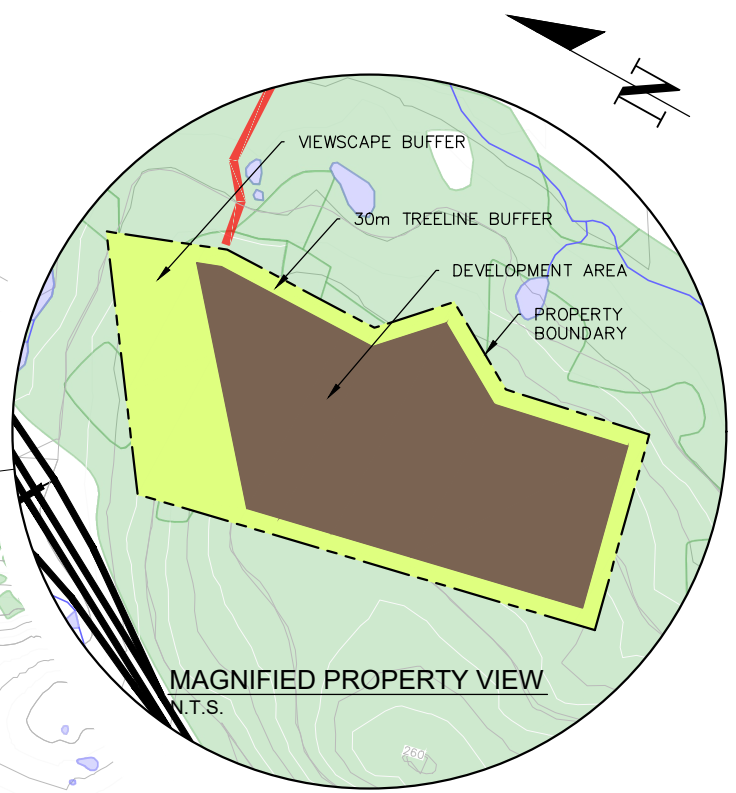
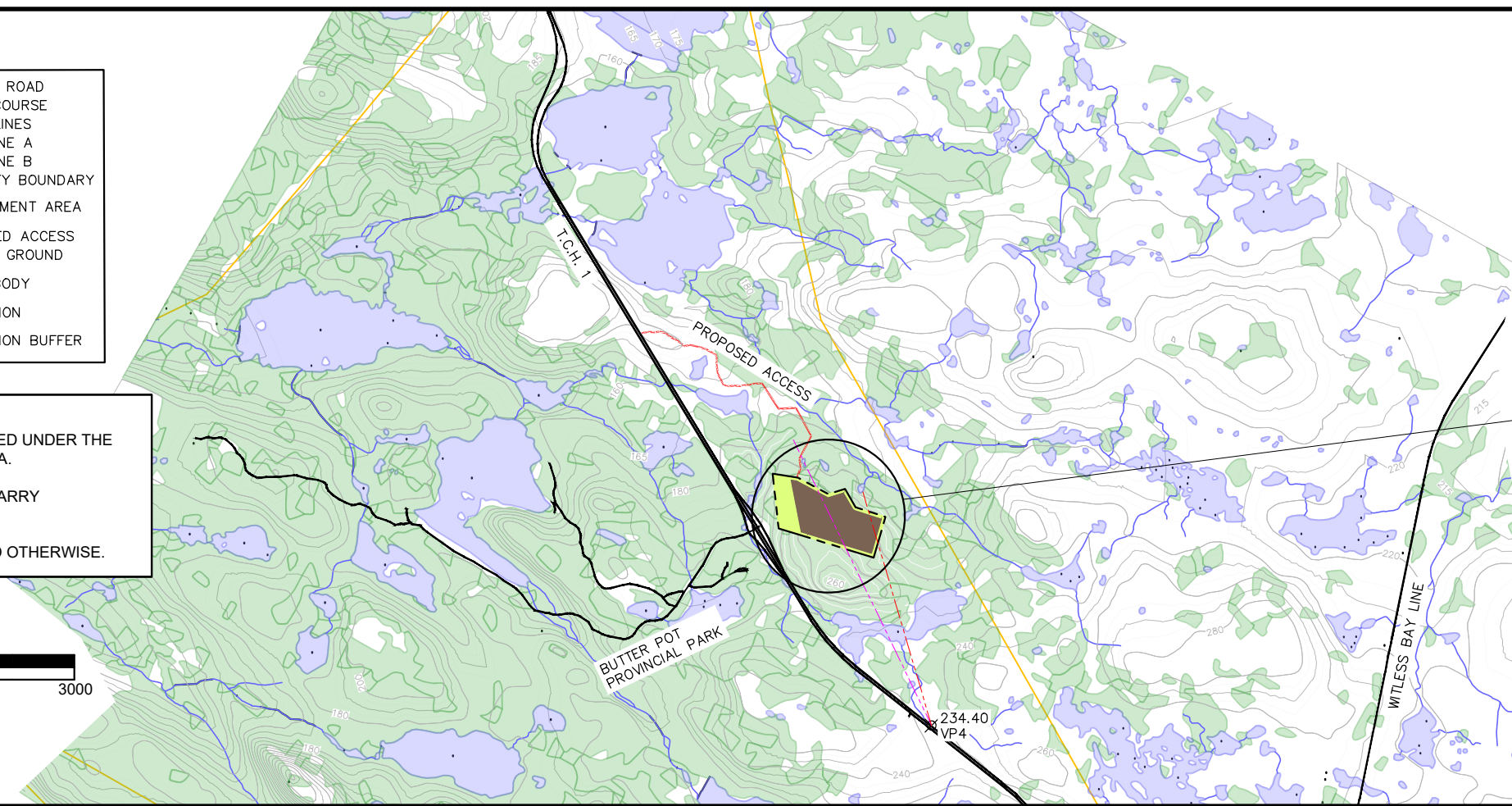
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	SIGHT LINE B
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	DEVELOPMENT AREA
	PROPOSED ACCESS
	EXISTING GROUND
	WATER BODY
	VEGETATION
	VEGETATION BUFFER

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SITE PLAN - VIEWPOINT 4
SCALE 1:50000



ENGINEERING STAMP/PERMIT :

DRAWING TITLE :
VP4 SIGHT LINES AND PROFILES

PROJECT :
JCL #2101 QUARRY DEVELOPMENT

SCALE :		AS SHOWN	
PROJECT No.		-	
DRAWING No.		-	
REVISIONS :			
2	09/03/2021	REVISED TREE HEIGHT TO 6m	TW
1	02/02/2021	ISSUED FOR REVIEW	TW
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Vantage Point #5

The final area JCL analysed was Vantage Point #5. This area is located on the westbound lane and is the closest point to the development just 900 m from the proposed development with an elevation of 170 m. The Google Street View in Figure 13 shows the development located behind the ridge and the only area currently visible would be a small portion of the new access as is seen in Figure 14. The viewshed analysis (green) done by Google shows that viewscape buffer (blue) put into place will prevent any areas within the development to be visible. Figure 15 shows the only portion within the viewshed analysis that would be visible from the location would be the viewscape buffer and tree buffer.



Figure 16: Vantage Point #5 - Street View

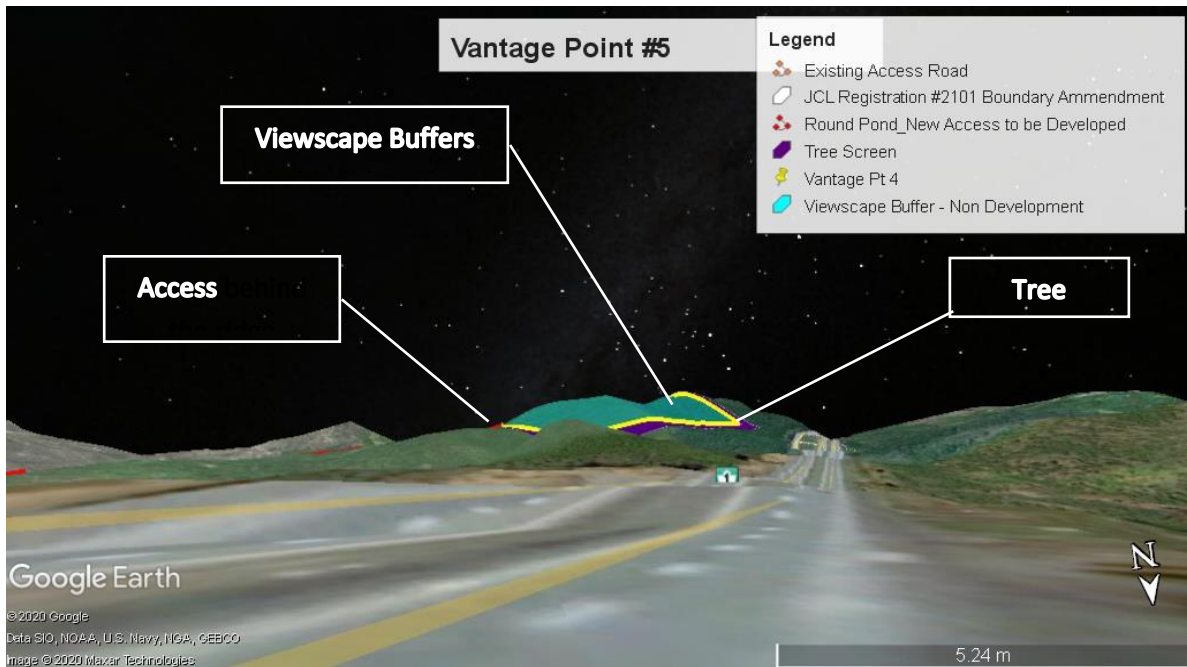


Figure 17: Vantage Point #5 - Ground level view with boundaries

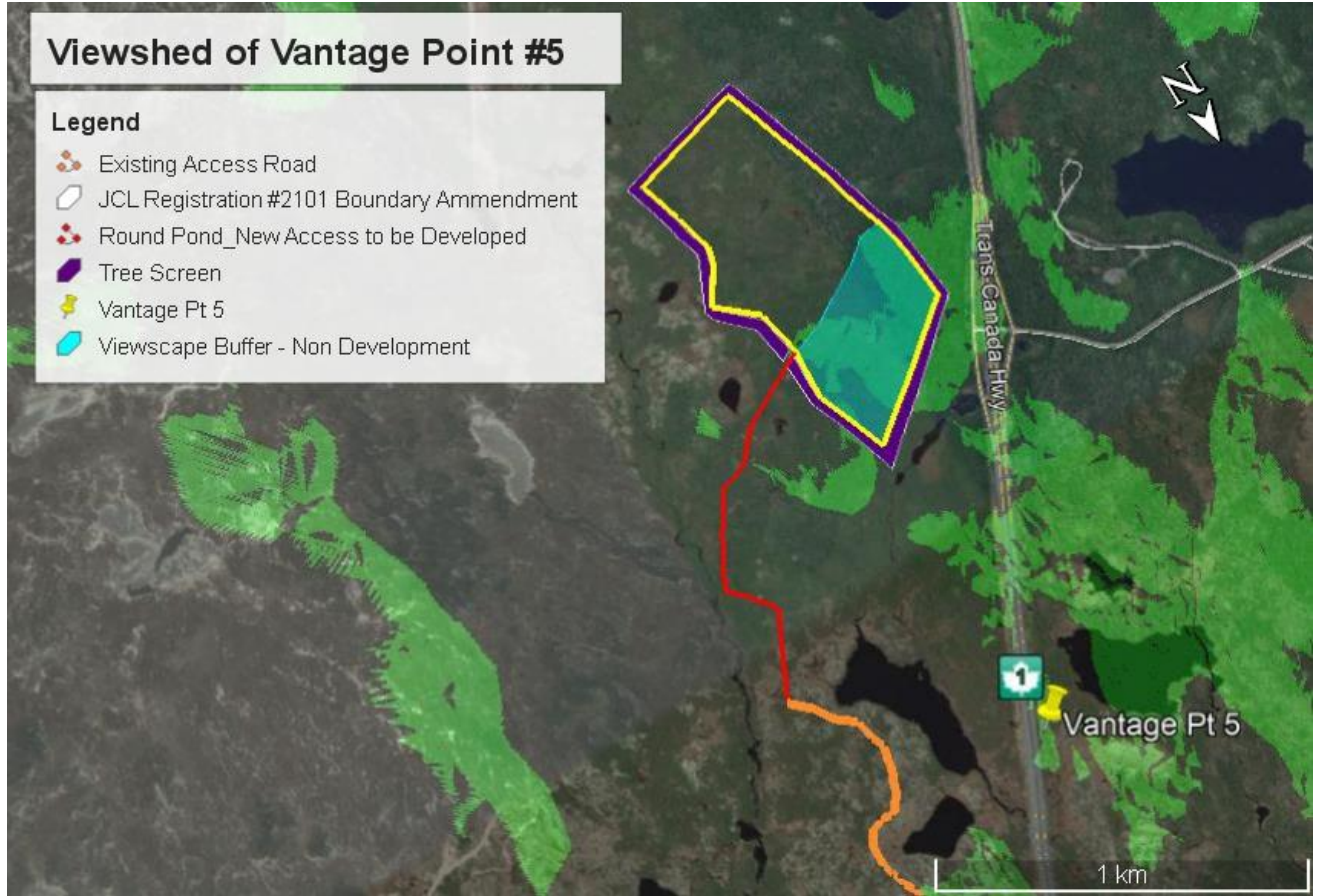
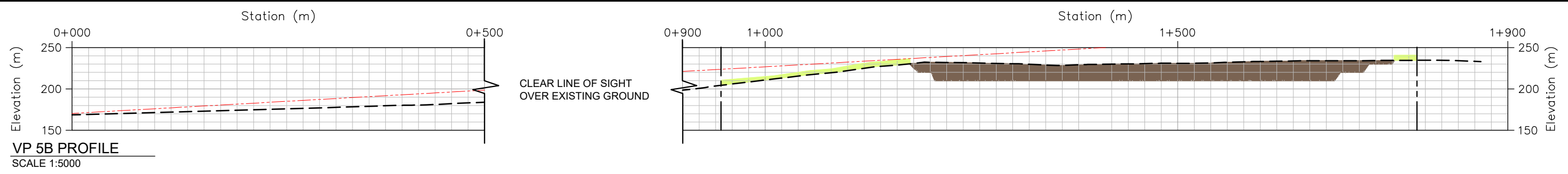
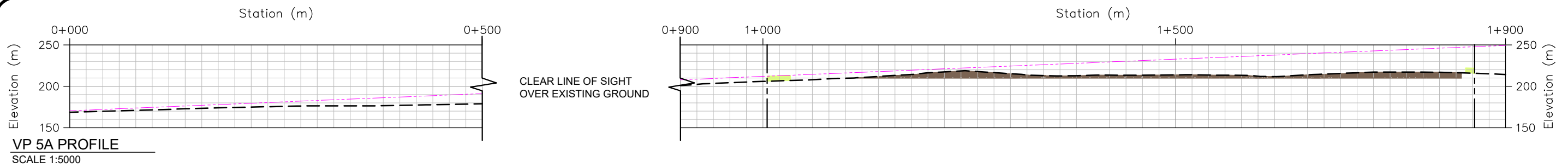


Figure 18: Viewshed of Vantage Point #5



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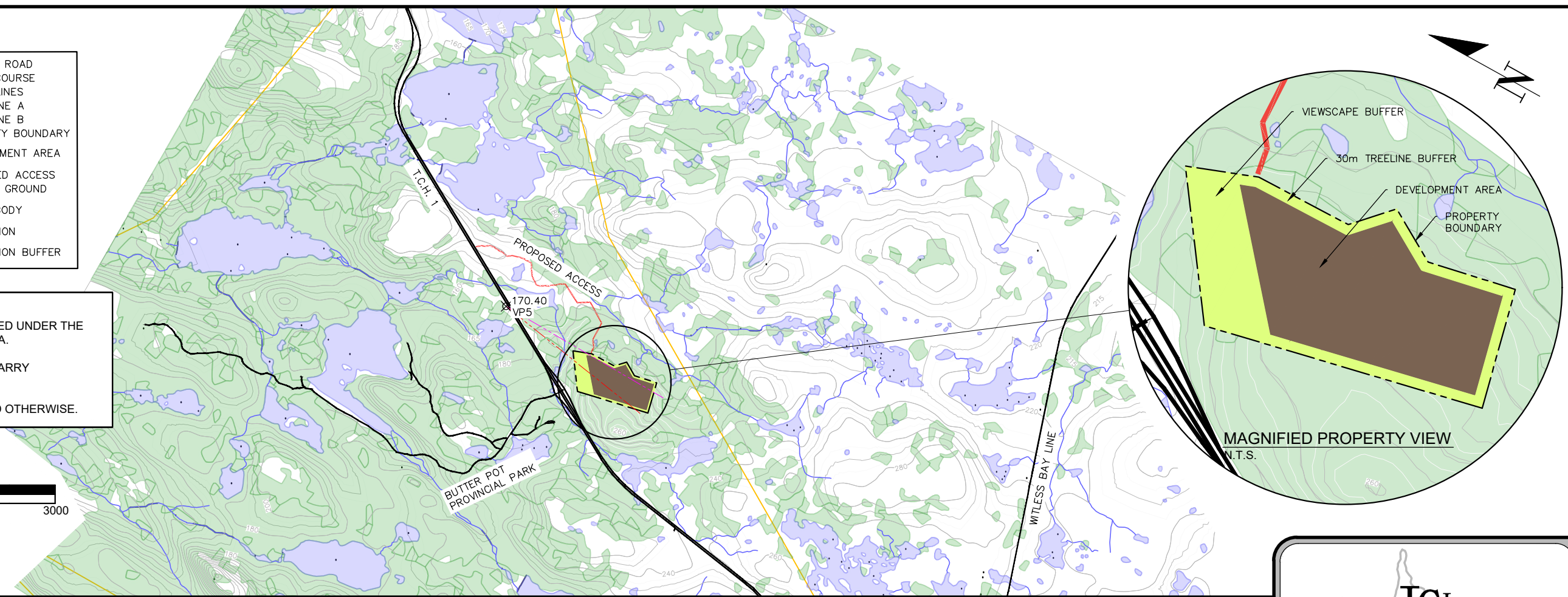
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	PROPERTY BOUNDARY
	DEVELOPMENT AREA
	PROPOSED ACCESS
	EXISTING GROUND
	WATER BODY
	VEGETATION
	VEGETATION BUFFER

NOTES:

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2. TREE HEIGHT SURROUNDING QUARRY ASSUMED TO BE 6 m.
3. DIMENSIONS IN m UNLESS NOTED OTHERWISE.



SITE PLAN - VIEWPOINT 5
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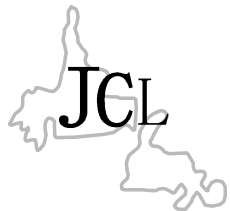


ENGINEERING STAMP/PERMIT :

DRAWING TITLE :
VP5 SIGHT LINES AND PROFILES

PROJECT :
JCL #2101 QUARRY DEVELOPMENT

SCALE :		AS SHOWN	
PROJECT No.		-	
DRAWING No.		-	
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2	09/03/2021	REVISED TREE HEIGHT TO 6m	TW
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NO.	DATE	DESCRIPTION	BY



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DRAWN BY : TW	SHEET : 5 OF 5



Summary:

JCL believes with these described measures in place, visibility from any one of these key vantage points will be protected from the public. Care will be taken when developing the quarry and the area will be developed at the eastern face within the protection buffers established at the northern, western and southern corners of the boundary. JCL is open to ongoing communication with the regulatory bodies to ensure all parties are happy with the development of the quarry and to allow for long term sustainable development in this area.

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Phone: (709) 640-6897