Baker Turner inc

Landscape Architecture | Site Design

Edwin S. Baker BLA.OALA.FCSLA
Timothy Turner BLA.OALA.CSLA
Michael Thistle MLA.OALA.CSLA

Suite 200, 2nd Floor
2010 Winston Park Drive
Oakville ON L6H 5R7

Tel: (289) 291.7620
E: tba@bakerturner.com
www.bakerturner.com

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Niagara Escarpment Commission
232 Guelph Street
Georgetown, ON
L7G 4B1
Attention: Ms. Karen Bannister, Landscape Architect

RE: VISUAL IMPACT ASSESSMENT STUDY for HORNING'S MILL'S DEVELOPMENT RESULTS OF LEAF OFF STUDY (STAGE 2)

Dear Ms. Karen Bannister:

We are pleased to submit to the Niagara Escarpment Commission (NEC) the results of our fieldwork for the examination of the viewpoint locations during **leaf-off** conditions for the viewshed mapping of the proposed Horning's Mill's Development (the Property). This work is pursuant to the Stage 2 Terms of Reference (**TOR**) of the Visual Impact Assessment (**VIA**) study, which is comprised of further viewshed mapping, photographic capture of existing conditions, production of a line-of-sight cross section, and the related analysis.

Prior to undertaking this fieldwork, BTi requested NEC's input and approval of revised viewpoints #1, #3, and #4, and target objects #1 and #2. All a result of the leaf on study, the NEC requested that these three viewpoint locations be modified to better capture public views to the property. Target object locations #1 and #2 were revised slightly due to a change in the Draft Plan of Subdivision. All other viewpoints, and target object #3 remain unchanged from the leaf on study. These changes were all addressed in the updated Stage 2 TOR which was approved by the NEC on March 1, 2024 via email. It was at this time we understood we had approval to proceed with the next stage of this VIA; the leaf off photographic study and a line-of-sight cross section.

BTi carried out the photographic work of the viewsheds from the pre-approved selected viewpoint locations on March 7, 2024, during leaf-off conditions. As a result of this field work, BTi is providing its recommendations for planted mitigation where required as discussed in the attached field sheets. Based on this submission, BTi requests NEC input and approval to confirm if any further work is required. Should further work be required, BTi will consult with NEC on this VIA study prior to commencing.

Yours sincerely,

Michael Thistle, Landscape Architect OALA, CSLA

Stage 2 Work

Field Work

a) General Reconnaissance

Prior to locating the revised viewpoints and target objects, BTi once more undertook a general reconnaissance of the Horning's Mill's area to familiarize itself with the landscape surrounding the Property. BTi travelled by vehicle on the public roads adjacent to and surrounding the Property. The key roads travelled during this phase of the study were Main St. (Hwy 14) and Dufferin Road 124.

b) Locating Viewpoints and Target Objects in the Field

BTi visited each of the revised Viewpoint and Target Object locations in the field. The location of the new Viewpoints and Target Object loctions was guided by the previously submitted and approved **Viewshed Map (VM1)** with the Stage 2 **TOR** dated Feb 29, 2024. BTi found, as close as possible, the GPS coordinates position of each of the new Viewpoint and Target Object locations. BTi recorded each of the revised Viewpoint and Target Object location's *actual* GPS coordinates and elevation information. The procedures that were applied for locating Viewpoint and Target Objects in the field are as described in the Stage 2 **TOR**.

c) Photographic Capture of Viewsheds from Viewpoint Locations

Photographs from the selected Viewpoints of the viewsheds were taken during leaf-off conditions on March 7, 2024. At the Viewpoint location, the camera tripod was set up and the iPhone was set at camera level (1.5 m above ground). The actual GPS coordinates and elevation information was then captured at ground level. A digital Canon EOS 60D camera with a 50 mm wide aperture lens was used to take the photographs.

With the actual GPS coordinates information for the Viewpoint and Target Object locations, BTi was able to calculate the actual bearing for each Viewpoint location in the field, using the Coord Calc App, as described in the Stage 2 Work **TOR**. This App was also able to provide the actual distance from the Viewpoint location to the Target Object based on their GPS coordinates information.

In the field, the camera tripod was placed at position A1. A centre pylon was placed at an appropriate distance away from A1 at position C1 and directly in line with the bearing direction towards the property. The distance from A1 to C1 was measured (d1 distance). Then pylons were placed to the right and left of the centre pylon at positions B1 and B2. The distances from B1 to C1 and from B2 to C1 (d2 distance) were made to be equal and measured (distances from A1 to B1 and from A1 to B2 were also made to be equal and measured (d3 distance)). At certain Viewpoint locations it was not possible to have both B1 and B2 pylon locations. However, the desired configuration of the pylons was still maintained. Reference should be made to Pylon Layout in the Stage 2 **TOR** for the placement and configuration of the pylons in the field.

The procedures that were applied by BTi in the field for carrying out the photographic capture of the Viewsheds from the Viewpoint locations are more fully described in the Stage 2 Work **TOR**.

Documentation of Work, Findings, Recommendations

a) Viewpoint Field Sheets – Leaf-Off Conditions

For each Viewpoint location, the following information from the field work carried out during leaf-on conditions was recorded on a Viewpoint Field Sheet:

- Date of field work for the Viewpoint location
- The photographic capture of the viewshed towards the Target Object from the Viewpoint location, during leaf-off conditions (photograph shows the centre line direction of view). This is the panoramic picture of the viewshed created with the pictures taken from the Viewpoint location
- A general description of the Viewpoint location, e.g. location, character
- Actual GPS (latitude, longitude) coordinates and elevation information for the Viewpoint location, point A1
- Actual GPS (latitude, longitude) coordinates and elevation information for the Target Object for the Viewpoint location
- Actual bearing direction from the Viewpoint location towards the Target Object
- The distance between the Viewpoint location and the Target Object
- The distance (d1) from Viewpoint location, position A1, to the centre pylon, position C1
- The distance (d2) from pylons at positions B1 and B2 to the centre pylon, position C1
- The distance (d3) from Viewpoint location, position A1, to the pylons at positions B1 and B2
- Observations of viewshed seen from Viewpoint location, e.g. direction/orientation of view and what elements in the landscape are seen in the foreground, midground and/or background
- A determination of whether during leaf-on conditions the Property can be seen in the viewshed from the Viewpoint location. No change since the Stage 1 Leaf-on Study
    - Yes or No
- A determination of whether during leaf-off conditions the Property might be seen in the viewshed from the Viewpoint location?
    - Yes or No
- A recommendation as to whether further study of the viewshed from the Viewpoint location is required.

b) Individual Viewshed Maps

Following the field work, the actual GPS coordinates and elevation information recorded for the Viewpoint locations and the Target Objects that were visited in the field were pinpointed, as accurately as possible, within the AutoCAD drawing. This was done by reference to the panoramic photographs taken and the identification of existing features, such as buildings and vegetation, seen in the photographed viewshed. A similar process was done, as well as by referring the Google Earth Pro aerial image, to locate the GPS

coordinates and elevation information for the Target Object locations. As a cross-check, the bearing line was drawn between each Viewpoint location and its Target Object.

BTi updated the individual 8 (2 were no longer required per the leaf on study) **Viewshed Maps** showing and identifying the field verified Viewpoint and Target Object location, the bearing direction from the Viewpoint location to the Target Object, the viewshed, and the field of view from the Viewpoint location captured by the digital camera in the field. As well, each map shows for the field of view the horizontal angle of view from the Viewpoint location and the 2-D surface area that the viewshed captured.

c) Line-of-sight Cross Section

As requested by the NEC, BTi carried out a single line-of-sight cross section from Viewpoint #1, through Target Object #1 and on through the rest of the property.

A line-of-sight cross section illustrate in a 2-dimensional way a cross section view of an individual viewshed from a Viewpoint. The alignment of the lines of sight on the Cross Section drawing follows the middle of the view as seen in the viewshed (i.e., centre of the panoramic pictures) for the Viewpoint. The line-of-sight originates from the Viewpoint location, crosses the Property boundary and continues in a straight line to the Viewpoint's Target Object (centre of a lot) and then beyond the Property.

The Line-of-Sight Cross Sections drawing depicts what is seen of the existing landscape conditions in the path of the line-of-sight: topography, elevation and grade changes, wooded areas, buildings, and public roads/streets. The drawing also depicts what is seen within the property line boundary, being the Viewpoint's Target Object, the proposed internal roadway, and the park block.

Per the approved Stage 2 TOR, the line-of-sight cross section was prepared in a 2-D sectional view using a vertical (elevation) and horizontal (ground level) ratio of 1:1, and a viewing height of 1.5 metres above ground level.

A Key Plan (showing the Property and the surrounding lands) accompanies the Cross Section drawing. The Key Plan shows more clearly the lines of sight for the selected Viewpoint studied in the Line-of-sight Cross Section. Also visible on the Key plan is the existing vegetation that surrounds the subject property which is to remain.

The results of the work carried out, as shown in the Line-of-sight Cross Sections for the selected Viewpoints, are summarized below.

d) Findings and Recommendations – Leaf Off Photographic Capture

BTi has completed its field work of the viewsheds during leaf-off conditions.

Based on the field work carried out, BTi proposes and recommends that further work is NOT necessary for the following Viewpoint locations:

- Viewpoint #1 due to existing vegetation and the sharply raised topography in the foreground, blocking the view of the subject property beyond
- Viewpoint #3 due to the existing vegetation in the foreground, blocking the view of the subject property beyond
- Viewpoint #4 due to the dense nature of the existing vegetation in the foreground, blocking the view of the subject property beyond

e) Finding and Recommendations - Line-of-sight Cross Section

Viewpoint #1 is located on Main St. (Hwy 14) northeast of the Property. Viewpoint #1 is directed at Target Object #1.

As can be seen from the Key Plan and the Line-of-sight Cross Section, there is an existing woodlot between Viewpoint #1 and the subject property. There is also a significant grade change as Viewpoint #1 is approximately 6m lower than the target object in Lot #1. The Line-of-sight Cross Section and the leaf off photo capture for Viewpoint #1 illustrates that the existing woodlot and change in elevation together provides a strong visual buffer of the development from this Viewpoint location.

Based on the line of sight cross section produced during this phase of work, BTi proposes and recommends that further work is NOT necessary for the following Viewpoint #1 which is consistent with the findings and recommendations made with the photo capture work for Viewpoint #1.

f) Stage 2 Summary

BTi is submitting its work, findings and recommendations to NEC for review. Accordingly, we are enclosing for your review the following information:

- Updated Individual Viewshed Maps – Viewpoints #1, #3, #4, #5, #6, #7, #8 and #9 (dated March 28, 2024)
- Updated Schedule of Viewpoints and Related Target Objects - Coordinates, Elevations and Bearing information
- Viewpoint Field Sheets – Leaf-Off Conditions - Viewpoints #1, #3, #4, #5, #6, #7, #8 and #9 (dated March 28, 2024)
- Line of sight Cross Section – Viewpoint #1 (dated March 28, 2024)
- Draft Plan of Subdivision (dated September 22, 23)

BTi understands that further work will likely be required for Viewpoints #5, #6, #7, #8 and #9 whether its photo simulations or a detail mitigation plan. We would like to obtain input and approval from NEC for this work if necessary. At that time, we would be happy to review and discuss this with NEC.

END OF LEAF OFF STUDY