



Comparative Analysis: Macleod Estate Trail Linkage Alignment and Vandervoort Drive Trail Option

Prepared by:
Resource Management Projects
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ALIGNMENT COMPARISON SUMMARY

Macleod Estate Trail Linkage Alignment	
Advantages	Disadvantages
Location serves the entire neighbourhood within a 10-minute walk	Closer proximity to sensitive natural features creates a higher risk of disturbance to these features
Connects to both an existing neighbourhood trail and the ORCCR trail system	Closer proximity to adjacent residences raises safety, privacy, and property value concerns from neighbours
Unique cultural heritage value and interpretation opportunities	More tree removals
More variety of landscapes creates a more interesting and engaging trail user experience	
Less new construction disturbance due to construction efficiencies with other projects	
Vandervoort Drive Trail Option	
Advantages	Disadvantages
Greater distance from nearby sensitive natural features reduces risk of disturbance to these features	More remote location which does not connect to the existing neighbourhood trail or serve the entire neighbourhood within a 10-minute walk
Greater presence of scenic moraine landscape views	Greater presence of stormwater management features along the trail alignment increases design complexities
Less tree removals	More direct views into the second floor windows of nearby residential homes raises privacy, safety, property value concerns from neighbours
Greater distance from nearby residences helps create a spatial buffer	Trail access from a quieter, more secluded residential street could cause on-street parking capacity and disturbance issues
	More new construction disturbance
	Presence of steep slopes along the trail alignment increases design complexities and results in a less accessible trail

INTRODUCTION

The following comparative analysis has been prepared in response to RES.#A110/18, adopted by the TRCA Board at Meeting #6/18 on July 20, 2018. The resolution was carried as follows:

THAT item 8.1 – Oak Ridges Corridor Conservation Reserve Trail Planning Projects be referred to staff;

THAT Toronto and Region Conservation Authority (TRCA) staff work with concerned residents and Town of Richmond Hill staff through detailed site planning and design of the trail implementation project to ensure an appropriate trail setback from private property and the incorporation of full season planting buffers and screening for privacy, as well as safety;

AND FURTHER THAT TRCA investigate the Vandervoort Drive entrance to the Conservation Reserve as an entrance to the spine trail.

This comparative analysis intends to address the final part of this resolution, describing staff's investigation of the Vandervoort Drive entrance for a trail connection to the Oak Ridges Corridor Conservation Reserve (ORCCR) spine trail. This analysis compares the Vandervoort Drive trail option and the Macleod Estate Trail Linkage alignment as recommended by Toronto and Region Conservation Authority (TRCA) Board approval at Meeting #6/18. The results of this comparison determine that the Macleod Estate Trail Linkage alignment as previously presented to the TRCA Board of Directors remains the recommended trail option.

PROCESS

To investigate the Vandervoort Drive trail entrance and develop the comparison between this trail option and the Macleod Estate Trail Linkage, further technical analysis and stakeholder engagement was undertaken by the project team.

An ORCCR Trail Planning Projects Technical Advisory Committee (TAC) meeting was convened on September 5, 2018 to discuss ecological and technical site constraints of the Vandervoort Drive entrance area, and discuss a potential trail corridor in comparison to the Macleod Estate Trail Linkage alignment¹. To confirm these site constraints and trail construction considerations for the Vandervoort Drive trail corridor, a site visit with relevant members of the TAC and a project team representative from the Town of Richmond Hill took place on September 13. Steep slopes, stormwater drainage routes, and the need for a construction access road were the main technical issues identified by the TAC. However, it was noted that the Vandervoort Drive access would allow for good scenic viewpoints, could likely remain further from nearby Provincially Significant Wetland (PSW), and result in less tree removal than the Macleod Estate Trail Linkage alignment.

Subsequently, a site visit took place on Friday, September 21, 2018 with Town of Richmond Hill staff and nine residents of Birchbark Court, Roderick Court, and Miles Hill Crescent, including five out of the eight residents who expressed opposition to the Macleod Estate Trail Linkage through correspondence submitted at Authority Board Meeting #6/18². The site visit included both the Vandervoort Drive trail area and the locations of their concerns along

¹ For further details regarding the composition and past involvement of the TAC as part of the Macleod Estate Trail Linkage project see Item 8.1 of Authority Meeting #6/18.

² At the Authority Board Meeting, a letter in opposition to the Macleod Estate Trail Linkage signed by eight residents was included as correspondence.

the Macleod Estate Trail Linkage alignment. The residents discussed potential advantages of locating the trail at the Vandervoort Drive access area, including the greater trail setback from most nearby homes. They also reiterated their privacy, safety, ecological, litter, and property value impact concerns, adding that there are stormwater drainage concerns with the Macleod Estate Trail Linkage alignment.³

Additionally, a site visit took place on November 12, 2018 with Town of Richmond Hill staff and 16 residents of Vandervoort Drive. These residents registered for the site visit in response to a notice delivered on October 22, 2018 to 39 addresses along Vandervoort Drive and Miles Hill Crescent, whose properties border the ORCCR near the area where the Vandervoort Drive trail option would be located or construction disturbance could occur. These residents raised privacy, security and safety, ecological, littering, parking, property value impact, trail service area, and drainage concerns. The neighbours in attendance presented TRCA staff with a petition stating their opposition to the Vandervoort Drive trail option. The petition was signed by 23 people at the time of the site visit.

Based on TAC feedback and the site visits, the preliminary Macleod Estate Trail alignment cost estimate was refined and a preliminary cost estimate was developed for the Vandervoort Drive trail access. Stormwater management and drainage issues were noted at both potential trail locations. Town of Richmond Hill Development Engineering and Water Resources staff was engaged to provide detailed input into the nature and level of design interventions required for either trail option to avoid impairing the safe functioning of stormwater management systems servicing the Macleod's Landing neighbourhood and the Town of Richmond Hill's access needs. This input helped refine the design and cost estimates for each trail option.

MACLEOD ESTATE TRAIL LINKAGE ALIGNMENT

From the ORCCR spine trail, the Macleod Estate Trail Linkage alignment passes eastwards through meadow area and new-growth conifer plantations, before turning southwards through thicker, more mature plantation forest and reaching a fence that surrounds the majority of Philips Lake. The trail will continue past this fence through a corridor of open meadow between the forest that surrounds Philips Lake and the fence-line of neighbouring properties. The trail will then pass near the Macleod Estate residence before turning sharply eastwards along the historic silver maple carriageway and connecting to Silver Maple Road, which ultimately extends by existing trail all the way east to Yonge Street. The total length of this proposed trail connection is approximately 798 metres (m). Please see Map 1 for the conceptual location of this trail alignment.

Advantages

Location and Neighbourhood Access

The Macleod's Landing neighbourhood includes over 1,000 homes and the Macleod's Landing Public School, however it is the sole neighbourhood adjacent to the ORCCR without direct trail access. An online petition for a direct trail connection to the ORCCR has garnered over 400 signatures, and a public engagement session undertaken as part of the Macleod's Landing Trail Linkage project on February 22, 2018 found general support from local residents. The 2006 Oak Ridges Corridor Park Management Plan (the Management Plan) proposes the concept of secondary trails to link neighbouring communities to the ORCCR spine trail. A trail connection that serves the entire neighbourhood

³ For full details regarding the concerns of these neighbours in opposition to the Macleod Estate Trail Linkage alignment see Item 8.1 of Authority Meeting #6/18.

fulfills the direction of the Management Plan and the needs of many residents who have been advocating for a direct trail connection. It will also improve safe access into the ORCCR for local residents and students at Macleod's Landing Public School.

The Macleod Estate Trail Linkage alignment provides direct trail access to the ORCCR in a centralized location serving the entire neighbourhood, located within a walkable distance from each address. A walkability analysis completed by Town of Richmond Hill staff demonstrates that this trail access, located off Silver Maple Road between Aspenview Drive and Birchbark Court, is located within 800 metres (m) from every address in the neighbourhood (estimated at 3,100 residents, 100% coverage) (see Figure 1). Eight hundred metres is a commonly-used metric for walkability, and represents an approximately 10-minute walk. The Vandervoort Drive trail access, by comparison, serves only 60% of the community (see Figure 1). If the existing Jefferson Sideroad ORCCR trail entrance is combined with the Vandervoort Drive trail access, 13% of the neighbourhood is still not served by the trail within a walkable distance (see Figure 2).

Notably, the Macleod Estate Trail Linkage alignment provides excellent access to and from Macleod's Landing Public School (195 Silver Maple Road) for the students and daycare as the trail entrance is almost directly across the street from the school. The school often brings students into the ORCCR at Bond Lake by walking up Yonge Street, which does not have sidewalks and therefore presents a safety concern. In contrast, the Vandervoort Drive trail entrance is approximately 850 m from Macleod's Landing Public School, and the Jefferson Sideroad trail entrance is approximately 810 m from the school.

TRCA's Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (LCP) is a policy document that guides the implementation of TRCA's legislated and delegated roles and responsibilities in the planning and development approvals process. Policy 7.4.5.1 i) recommends that trails be connected and accessible to the community or communities which they serve. The Macleod Estate Trail Linkage alignment better fulfills this policy than the Vandervoort Drive Trail option.

Connection to Existing Trails

The Town of Richmond Hill has constructed a trail that runs through the centre of the neighbourhood, along the heritage silver maple carriageway from Yonge Street to Silver Maple Road. This existing trail also passes along the north side of the Macleod's Landing Public School property and Macleod's Landing Park. The Macleod Estate Trail Linkage alignment builds off this existing trail infrastructure, continuing the trail along the remaining section of the heritage silver maple carriageway to the Macleod Estate and into the ORCCR, where it ultimately connects to the ORCCR's spine trail. By connecting to existing trails at both ends of the alignment, the Macleod Estate Trail Linkage option offers greater trail connectivity and integration than the Vandervoort Drive trail option. The trail access from Vandervoort Drive is located approximately 550 m from the existing Town of Richmond Hill trail.

As noted above, TRCA's LCP recommend that trails be "connected and accessible to the community or communities which they serve" (Policy 7.4.5.1 i)). The Macleod Estate Trail Linkage alignment connects to existing trails at both ends of the alignment, better fulfilling this policy objective than the Vandervoort Drive Trail option.

Cultural Heritage Value

The Macleod Estate Trail Linkage alignment passes beside the Macleod Estate (Drynoch Estate) and along the heritage silver maple carriageway which once led to the Macleod Estate residence from Yonge Street (see Map 1 for the location of the Macleod Estate, see Figure 3 for a photo of the Macleod Estate, and see Figure 4 for a photo of the carriageway). The Macleod Estate, located at 16 Macleod Estate Court, is one of the most historically significant

homes in Richmond Hill, and is connected to the broader history of western Canada. Both the Macleod Estate residence and the scenic silver maple carriageway have been designated for their cultural heritage value by the Town of Richmond Hill under the *Ontario Heritage Act* RSO 1990, Chapter 0.18, as amended.

The Macleod Estate Trail Linkage alignment continues the existing Town of Richmond Hill trail further along the silver maple carriageway leading to the Macleod Estate and provides a side view of the Macleod Estate residence. A cultural heritage interpretation installation is intended at this location to highlight this unique feature of the trail. Allowing trail users to experience and learn about important cultural heritage features can help connect local residents to the history of their community, the local area and the country. By completing the existing Town of Richmond Hill trail along the silver maple carriageway to the Macleod Estate, the Macleod Estate Trail Linkage alignment creates a unique place that connects trail users to the history of the area and develops these cultural heritage features as functional, engaging local landmarks. The Macleod Estate Trail Linkage alignment productively re-invigorates and repurposes the remnant carriageway, realizing its potential as a scenic public asset instead of allowing it to remain disconnected and disused.

The LCP Policy 6.9.1 states that it is the policy of TRCA: “To encourage the protection and enjoyment of cultural heritage resources, including built heritage, cultural heritage landscapes, and archaeological resources throughout our watersheds’ urban and rural landscapes.” The Macleod Estate Trail Linkage’s alignment passing through the silver maple carriageway and beside the Macleod Estate contributes to the fulfillment of this policy objective.

Variety of Landscapes

The Macleod Estate Trail Linkage alignment passes through a variety of landscapes with both natural and cultural heritage value. This trail connection crosses through undulating open meadow closer to the ORCCR spine trail before passing through progressively more mature plantation forest, skirting around the edge of a treed slope surrounding a PSW, and then reaches the cultural heritage landscape of the Macleod Estate grounds with the historic silver maple carriageway. This variety of landscapes creates a more interesting and engaging trail experience, and increases educational interpretation opportunities to share the story of the natural and cultural heritage of the area. The Vandervoort Drive trail option is located entirely in an open meadow landscape, and so does not present the same variety of interpretation opportunities or dynamic trail experience.

Construction and Environmental Disturbance Efficiencies

TRCA is working with Infrastructure Ontario to proceed with demolition of the remnant Macleod Estate boat house, located north of the Macleod Estate residence within the ORCCR on Philips Lake. This work is currently planned for 2019, and access for equipment and materials is planned along existing lines of disturbance, namely the remnant access driveway to this boathouse. Construction for the Macleod Estate Trail Linkage alignment could be scheduled and located alongside the boathouse demolition work, reducing duplication of environmental and nuisance construction disturbance. Locating a significant portion of the trail⁴ within already-disturbed area, namely the silver maple carriageway and the remnant access driveway to the boathouse, reduces environmental impacts associated with the new trail connection.

⁴ Approximately 280 m, or 35%, of the total 798 m trail connection.

TRCA's LCP recommends that trail alignments "follow existing linear disturbances (where ecologically appropriate)" (Policy 7.4.5.1 h) ii) Locating significant portion of the trail connection within already-disturbed area is consistent with this policy.

Disadvantages

Proximity to from Natural Features

The Macleod Estate Trail Linkage alignment would be located comparatively closer to significant natural features than the Vandervoort Drive trail option. The Management Plan recommends a "no-go" buffer area of 30 m around woodlands and wetlands. While the Macleod Estate Trail Linkage remains outside of this buffer distance for wetland features, this trail alignment encroaches into the buffer area for a young white pine successional woodland in the area between the trail alignment and Philips Lake. TRCA technical staff have advised that a 10 m buffer from the forest's edge would be acceptable near this specific woodland, and the trail encroaches into this 10 m buffer area for approximately 150 m. Where the trail encroaches into the 10 m woodland buffer, the area that can accommodate a trail connection at this location is constrained between residential property boundaries and the wooded slope down to Philips Lake. The proposed trail was aligned to maximize distance from the property line thereby providing as much room for a vegetated screen as possible.

The Macleod Estate Trail Linkage is comparatively closer to a PSW than the Vandervoort Drive trail corridor (the closest distances between each trail option and the PSW are approximately 35 m and approximately 45 m, respectively). Both trail options are outside the recommended 30 m buffer for PSW features.

The Macleod Estate Trail Linkage alignment is also located close to the boundary of the Philips Lake Area of Natural and Scientific Interest (ANSI) (life science), which loosely follows the edge of the 30 m PSW buffer. Concern for the environmental impacts of trails generally, including disruption of wildlife habitat and litter, has been expressed by residents in opposition to the Macleod Estate Trail Linkage option.

The proximity of the Macleod Estate Trail Linkage to Philips Lake presents a risk that trail users will leave the trail to attempt to approach the lake. This risk was emphasized by the Macleod's Landing residents in opposition to this trail option.

It should be noted that the steep slopes, thick vegetated understory, and difficult terrain that characterizes the woodland around Philips Lake will help deter trail users from encroaching into the successional woodland, the PSW, and Philips Lake. This uninviting landscape acts as a natural barrier and reduces the risk of disturbance to these features. Additional vegetative screening and fencing installation incorporated into the Macleod Estate Trail Linkage design act as further deterrents to trail users encroaching into these features, providing added environmental protection measures.

TRCA's LCP recommend that trail alignments "avoid sensitive habitats, floral and/or faunal species" (Policy 7.4.5.1 h) iii). The Macleod Estate Trail Linkage alignment is located closer to identified sensitive habitats than the Vandervoort Drive trail option, though both alignments avoid encroaching into the limits of these features. TRCA technical staff have reviewed and approved both alignments as acceptable from an environmental standpoint. TRCA's LCP allows recreational uses, including trails, within natural feature buffer areas, subject to various policy requirements (Policy 7.3.1 d)).

Proximity to Adjacent Residential Properties

For approximately 247 m, the Macleod Estate Trail Linkage alignment is located close to the rear yards of residential properties which border the ORCCR and the view from the trail into these properties is relatively unobstructed⁵ (see Map 1). See Figures 5, 6, and 7 for photos of this trail section. Trail users have a full view of these residents' rear yards. Approximately 8 properties lie adjacent to this section of the trail. These properties are generally located on Birchbark Court and Miles Hill Crescent. The distance between the conceptual trail alignment and rear lot lines within this section of trail varies from approximately 3.5 m to approximately 15 m. The neighbours who have expressed opposition to this trail option generally are residents of these streets. They have cited concerns for the privacy and safety of their homes, the loss of their natural view for which they paid a lot premium, and a decrease in their property values. TRCA staff has proposed enhanced vegetative screening between this section of the trail and the adjacent residential properties, in an effort to mitigate these privacy concerns and deter trail users from approaching these properties. While this screening will help to provide a buffer between the trail and the private properties, these plantings increase the cost of the Macleod Estate Trail Linkage alignment.

Tree Removals

The construction of the Macleod Estate Trail Linkage alignment would require approximately 165 m of tree removals within an approximately 10-year old plantation forest (15-20 year old trees), which increases the environmental impacts of this alignment. The Vandervoort Drive trail option would not require nearly as many tree removals, as this option is located entirely in open meadow.

While no LCP policy speaks specifically to the issue of trails and tree removals, it can be inferred that tree removals are undesirable through Policy 7.4.5.1 h) ii, which recommends that trails “follow existing linear disturbances (where ecologically appropriate) such as existing informal trails, sanitary easements, gas pipelines, and other infrastructure, rather than through undisturbed areas;”. The logic of aversion to new environmental disturbance within this policy could reasonably extend to tree removals.

Further LCP Policy 7.4.5.1 f) states that “when minor recreational uses [including trails]... remove a natural feature, or part of a natural feature, that compensation be provided in accordance with policies 7.4.2.1 c) and d) of this document.” It is staff's position that policy 7.4.2.1 c) and d) can be fulfilled, and compensation for the tree removals necessary for both the Macleod Estate Trail Linkage alignment and the Vandervoort Drive trail option will be achieved through the additional vegetative buffer plantings and through a restoration plan. The project team will continue to work with TRCA's ecology staff to determine the requirements for compensation due to tree removals, using the TRCA Guideline for Determining Ecosystem Compensation.

VANDERVOORT DRIVE TRAIL OPTION

From the ORCCR spine trail, the Vandervoort Drive trail option passes westwards through open meadow interspersed with new-growth conifer plantation. The trail circles around a small seasonally wet stormwater feature (see Map 2, this stormwater feature is noted as “west scour pond”) and continues through open meadow near the crest of a long berm which rises behind residences fronting portions of Miles Hill Crescent and Vandervoort Drive. The trail then descends this slope through two switchbacks and enters a narrow stormwater overland flow block between 35 and 37

⁵ The Vandervoort Drive trail option includes a length of approximately 465 m where sightlines provide visual access to the back lines of properties

Vandervoort Drive. This stormwater overland flow block is owned by the Town of Richmond Hill and drains to a small stormwater pond located approximately 20 m north of the rear property boundary of 35 Vandervoort Drive (see Map 2, this stormwater feature is noted as “east scour pond”).

Advantages

Distance from Natural Features

As discussed above, the Vandervoort Drive trail option is located comparatively further from significant natural features than the Macleod Estate Trail Linkage. The closest identified significant natural feature is a PSW to the north of the trail alignment, located approximately 45 m away (the Macleod Estate Trail Linkage is 35 m away from the nearest PSW). This PSW is additionally buffered from the PSW by a steep slope to the north of the trail, although there is no tree cover over this slope. TRCA technical staff has stated that siting a trail alignment farther from provincially significant natural features such as PSWs and ANSIs contributes to reducing the risk of disturbance to these features.

Scenic Views

Approximately 250 m of the Vandervoort Drive Trail option passes through open meadow area along a long elevated berm. This section of trail offers scenic views of the rolling moraine landscape which characterizes the ORCCR, remnant agricultural fields undergoing restoration, and a large sunken PSW to the north of the trail (see Figure 8). Rest areas could be incorporated into the trail design to highlight these viewpoints, along with natural/cultural interpretation signage to discuss the natural heritage significance of the Moraine landscape. The Oak Ridges Moraine is an ecologically important geologic landform and serves as the headwaters for the Rouge and Humber River watersheds in Richmond Hill.

While these views would be an asset to the ORCCR trail system, it should be noted that there are other locations within the existing ORCCR trail system where views of this type can be experienced.

LCP policy 6.10.1 a) states that it is the policy of TRCA to support, “programs in environmental education and stewardship that increase watershed awareness and encourage sustainable behaviours.” The opportunities for interpretive signage described above align with this policy, however the same interpretive information could be provided in other areas along the existing ORCCR trail system where views of this type can be experienced.

Tree Removals

As noted above, the Vandervoort Drive trail option requires significantly fewer tree removals than the Macleod Estate Trail Linkage alignment. Tree removals for the Vandervoort Drive trail option are also limited to a new-growth conifer plantation, while the Macleod Estate Trail Linkage alignment would necessitate tree removals within a more mature conifer plantation.

Spatial Separation from Adjacent Residential Properties

As discussed above, the Vandervoort Drive trail option is generally located comparatively further from residential properties than the Macleod Estate Trail Linkage. Along the 247 m section of trail where the Macleod Estate Trail Linkage is in proximity to adjacent residential properties with relatively unobstructed visual access, this trail alignment is less than 20 m away from the rear fenceline of these properties. Along the 465 m section of trail where the trail is within the sightlines of residential properties, the Vandervoort Drive trail option is located between 12 m and 45 m

away from the rear fenceline of these properties. Increased spatial separation between the trail and residential property boundaries can help mitigate the risk of trail users approaching and disturbing these residences.

It should be noted that along the portion of the Vandervoort Drive trail option within the narrow corridor between 35 and 37 Vandervoort Drive, the trail is located approximately 1 metre from the side yard boundaries of these residences (see Figure 9). The spatial constraints of this corridor inhibit any flexibility in increasing separation. This separation distance is less than at any point along the Macleod Estate Trail Linkage alignment. There is no room within this corridor to provide any vegetative screening. The residents of 35 and 37 Vandervoort Drive have raised safety, security, and privacy concerns as a result of this proximity and the lack of any possible vegetative barriers between the trail and their side fencelines.

Disadvantages

Remote Location and Inferior Neighbourhood Access

As discussed above, the Vandervoort Drive trail option is located near the edge of the neighbourhood and does not service nearly as many residences within a typical walkable distance as the Macleod Estate Trail Linkage. Notably, the Vandervoort Drive trail entrance is located beyond a typical walking distance for the Macleod's Landing Public School. The relatively remote location of the Vandervoort Drive trail option could lead to residents driving to the trail entrance and parking along Vandervoort Drive, which is a local residential street not designed as a collector road or for significant on-street parking. Additional parking issues are discussed below.

Stormwater Management Features

The narrow corridor between 35 and 37 Vandervoort Drive is intended as a stormwater overland flow block, leading to a small roof drain collector scour pool immediately north of 35 Vandervoort Drive (see Map 2 and Figure 8). Another scour pool is located adjacent to the trail further west, near 24 Miles Hill Crescent (see Map 2). This corridor block does not meet typical municipal public access standards to accommodate a trail. The Vandervoort Drive trail option would need to ensure the functionality of these stormwater management features are not impeded by the presence of the trail, resulting in design complexities. A culvert or swale may need to be installed, and chain-link fencing needs to be installed surrounding both scour ponds for public safety. These design needs are not rare or insurmountable, however they add additional complexity and cost to the Vandervoort Drive trail option. The Macleod Estate Trail Linkage alignment involves comparatively less interference with stormwater management features; however this option may also need to integrate a culvert into the trail design (near 27 Birchbark Court).

LCP Policy 7.4.1.1.1 a) states "that all development and site alteration, infrastructure, and recreational use meet TRCA's stormwater management criteria for water quantity, water quality, erosion control, and water balance for groundwater recharge and natural features, as demonstrated through technical reports [the scope of which is determined by TRCA staff] and as more specifically described in TRCA's Stormwater Management Criteria Document." TRCA technical staff have been involved throughout the trail planning process and expect that these criteria can be fulfilled for either the Macleod Estate Trail Linkage alignment or the Vandervoort Drive Trail option.

Views to Residential Properties and Privacy Concerns

For approximately 465 m, the Vandervoort Drive trail option is located within sightlines of residential properties south of the trail. See Figures 11, 12, and 13 for photos of this area. The trail corridor passes through open meadow near the top of a long berm rising behind these homes. In certain areas along the trail corridor sightlines provide full visual

access into neighbour's backyards and their rear windows. In some areas there is a low berm providing some visual cover for trail users; however trail users would still be able to see into second-storey windows of these residences. There are approximately 21 properties that lie within these open sightlines from the trail corridor.

The residents who attended the site visit on November 12, 2018 expressed privacy and security concerns related to the elevated location and open sightlines from the trail corridor to the nearby residences. The neighbours noted that sightlines from various locations on top of the berm along the trail corridor lead straight into the second-storey bedroom and bathroom windows of certain properties. The neighbours expressed concern that trail users could easily leave the trail for a few metres to the top of the hill and have a full view of their backyards and rooms (see Figure 14). Similarly to the neighbours in opposition to the Macleod Estate Trail Linkage alignment, the privacy and undisturbed natural view into the ORCCR from these properties was factored into a premium purchase price of their homes. They also feel that with this open landscape and easy visual access, trail users could easily intrude into their properties by jumping over their rear fences.

It should be noted that vegetative screening can be integrated into the trail design for the Vandervoort Drive trail option. As the Vandervoort Drive trail location is generally farther from nearby properties, less dense vegetation would be required than the Macleod Estate Trail Linkage alignment, however the extended length of plantings required increases the cost for the Vandervoort Drive trail option.

Parking

The neighbours who attended the site visit on November 12, 2018 expressed concern that the private and quiet nature of their streets would be compromised by people coming from outside the neighbourhood to park on their street if the proposed trail's entrance from the street is located at Vandervoort Drive. As a trail access point from Vandervoort Drive would be relatively close to the existing and busy trail entrance at Bond Lake (from Yonge Street), the residents suggested that Vandervoort Drive would become the secondary parking area and trail entrance for Bond Lake, which draws visitors from beyond the immediate area. Constructing a trail connection from Vandervoort Drive would therefore undermine the purpose of the trail to serve the Macleod's Landing neighbourhood as a local connection.

The entrance to the Macleod Estate Trail Linkage alignment is located from Silver Maple Road, a wider and more central street that functions as a collector road within the neighbourhood. The Macleod's Landing Public School fronts onto Silver Maple Road, a public bus route runs along this street, and the existing entrance to the Town of Richmond Hill trail is located from Silver Maple Road. The street does not have same degree of private residential character as Vandervoort Drive – it provides amenities that are intended to serve the neighbourhood as a whole. The central location of the Macleod Estate Trail Linkage entrance is within a reasonable walking distance for the entire neighbourhood, reducing the likelihood of people driving to the trail entrance and increasing on-street parking. Silver Maple Road is also farther from Yonge Street and Bond Lake. On-street parking is permitted along Silver Maple Road, and with the less private nature of the street any on-street parking that does occur is not expected to incur as much of an intrusion to residents.

Construction Disturbance

Vandervoort Drive and the narrow corridor between 35 and 37 Vandervoort Drive does not provide sufficient space for trail construction equipment access and stockpiling. The Vandervoort Drive trail option will require a temporary construction access road for equipment access and stockpiling materials. This road would begin at Silver Maple Road east of Yonge Street and lead north into the ORCCR, meeting the intended trail location near the stormwater pond

north of 35 Vandervoort Drive. This road will involve a small stream crossing. The Vandervoort Drive trail option necessitates environmental disturbance and construction nuisance beyond the location of the trail alignment. Construction nuisance will be temporary, restoration of temporary environmental impacts will be undertaken, and compensation for permanent environmental losses will be applied. This construction access road also increases the cost of the Vandervoort Drive trail option.

LCP Policy 7.4.5.1 j) recommends “that the number of *watercourse* crossings for trails be minimized.” The small stream crossing necessary for the construction access road described above is only a temporary feature, however the Macleod Estate Trail Linkage alignment comparatively better fulfills this policy as no watercourse crossings are needed.

Steep Slopes

In the area behind 35 and 37 Vandervoort Drive, the trail would need to climb a steep slope to the crest of a large berm (see Figure 13). This would necessitate a number of switchbacks and steeper maximum slopes than the Macleod Estate Trail Linkage alignment. These steeper slopes result in a comparatively less accessible trail than the Macleod Estate Trail Linkage alignment. Both trail options will be able to meet the design standards set by *O.Reg 413/12 Integrated Accessibility Standards* under the *Accessibility for Ontarians with Disabilities Act* (2005). These standards do not set a maximum slope requirement.

LCP Policy 7.4.5.1 h) vi recommends that trails “avoid incompatible topography, so that grading or filling is avoided or minimized.” The steep topography described above demands additional trail construction measures to contend with this slope, such as switchbacks and bench-cutting, which are not necessary for the Macleod Estate Trail Linkage alignment.

CONCLUSION

Both trail options have distinct advantages and disadvantages, and comparing these trail options involves a somewhat subjective weighing of disparate factors. Because the Town was not able to secure a trail connection between the Macleod’s Landing neighbourhood and the Oak Ridges Corridor Conservation Reserve trail system during the original construction of the neighbourhood, the area that can accommodate a functional trail linkage is constrained by the limits of the built environment and buffer distances from natural heritage features. A petition with over 400 signatures calls for a direct trail connection from the Macleod’s Landing neighbourhood to the ORCCR. The other neighbourhoods bordering the ORCCR developed at the same time as Macleod’s Landing all have at least one authorized local trail access into the ORCCR. Analyzing these two trail options underscores the need for trail planning to be integrated into the development planning process at the early stages.

It should be noted that sections of both the Macleod Estate Trail Linkage alignment and the Vandervoort Drive Trail option pass within TRCA’s Regulated Area⁶. Within the Regulated Area LCP Policies 8.4 (General Regulation Policies) and 8.10 (Recreational Use) must be fulfilled. Part of the intention for these policies is to ensure minor recreational uses (including trails) undergo proper site planning and minimize environmental impacts to the satisfaction of TRCA

⁶ Through Ontario Regulation 166/06 under Section 28 of the *Conservation Authorities Act*, TRCA regulates construction, alteration, and development activities in and around valleys, streams, and wetlands and along the Lake Ontario shoreline. The regulated area represents the greatest physical extent of combined features and hazards plus a prescribed allowance as set out in the regulation.

technical staff. TRCA technical staff have been involved in the planning process for both the Macleod Estate Trail Linkage alignment and the Vandervoort Drive and are satisfied that these policies can be fulfilled for both trail options as the detailed design and construction process moves forward.

Both trail options support TRCA's Five Year Update to Building The Living City, the TRCA 2013-2022 Strategic Plan, although the Macleod Estate Trail Linkage provides some comparative advantages. Strategy 3 – "Rethink greenspace to maximize its value" envisions a well-connected network of accessible greenspace. Both trail options provide an additional community connection to greenspace, however the Macleod Estate Trail Linkage more fully connects to existing trails and so better fulfills this outcome. Strategy 4 – "Create complete communities that integrate nature and the built environment" speaks to providing optimal access to TRCA owned or managed greenspace. Both trail options provide access to the ORCCR for the Macleod's Landing neighbourhood, however the Macleod Estate Trail Linkage alignment is more central to the community and serves the entire neighbourhood while the Vandervoort Drive trail option does not. By encouraging increased neighbourhood access to nature-based recreation provided by the ORCCR trail system, both trail options uphold Strategy 5 – "Foster Sustainable Citizenship". The Macleod Estate Trail Linkage provides unique opportunities for both natural and cultural heritage interpretation, more comprehensively supporting Strategy 6 – "Tell the story of the Toronto region."

Neither the Town of Richmond Hill's Parks and Open Space Trail Guidelines, the Oak Ridges Corridor Park Management Plan, the Oak Ridges Moraine Conservation Plan, nor TRCA's LCP stipulate minimum distances between a trail and the boundaries of private property. The Management Plan recommends avoiding placing trails next to residences but, where this occurs, provide a vegetated buffer (page 63). The Town of Richmond Hill's Parks and Open Space Trail Guidelines recommends spatial separation between trails and rear and side lots of adjacent private property where possible, recognizing that there are other factors to be considered. These design guidelines recommend that if a trail is closer than 10 metres to a rear property line, vegetative screening should be integrated into the trail design. The Macleod Estate Trail Linkage is able to meet this guideline, whereas the Vandervoort Drive trail option is not.

The Management Plan recommends providing controlled access to the Oak Ridges Corridor Conservation Reserve for neighbouring communities (page 63), and the function of secondary trail connections should be to provide this access (page 64). The Macleod's Landing Trail Linkage alignment is superior to the Vandervoort Drive trail option in fulfilling this purpose, and has unique advantages in providing cultural heritage interpretation opportunities that cannot be replicated elsewhere along the ORCCR trail system. The drawbacks to this trail option, primarily the proximity to environmental features and proximity to adjacent residential properties, can be mitigated through physical barriers and vegetative screening. The scenic advantages of the Vandervoort Drive trail option can be found elsewhere along the ORCCR trail system, and this trail option includes a location where screening cannot be provided to mitigate impacts to neighbouring residences.

In consideration of this comparison, TRCA and Town of Richmond Hill staff recommend the Macleod's Landing Trail Linkage as the preferred option for creating a neighbourhood link to ORCCR.

FIGURES



Figure 1: Comparative Service Area Analysis

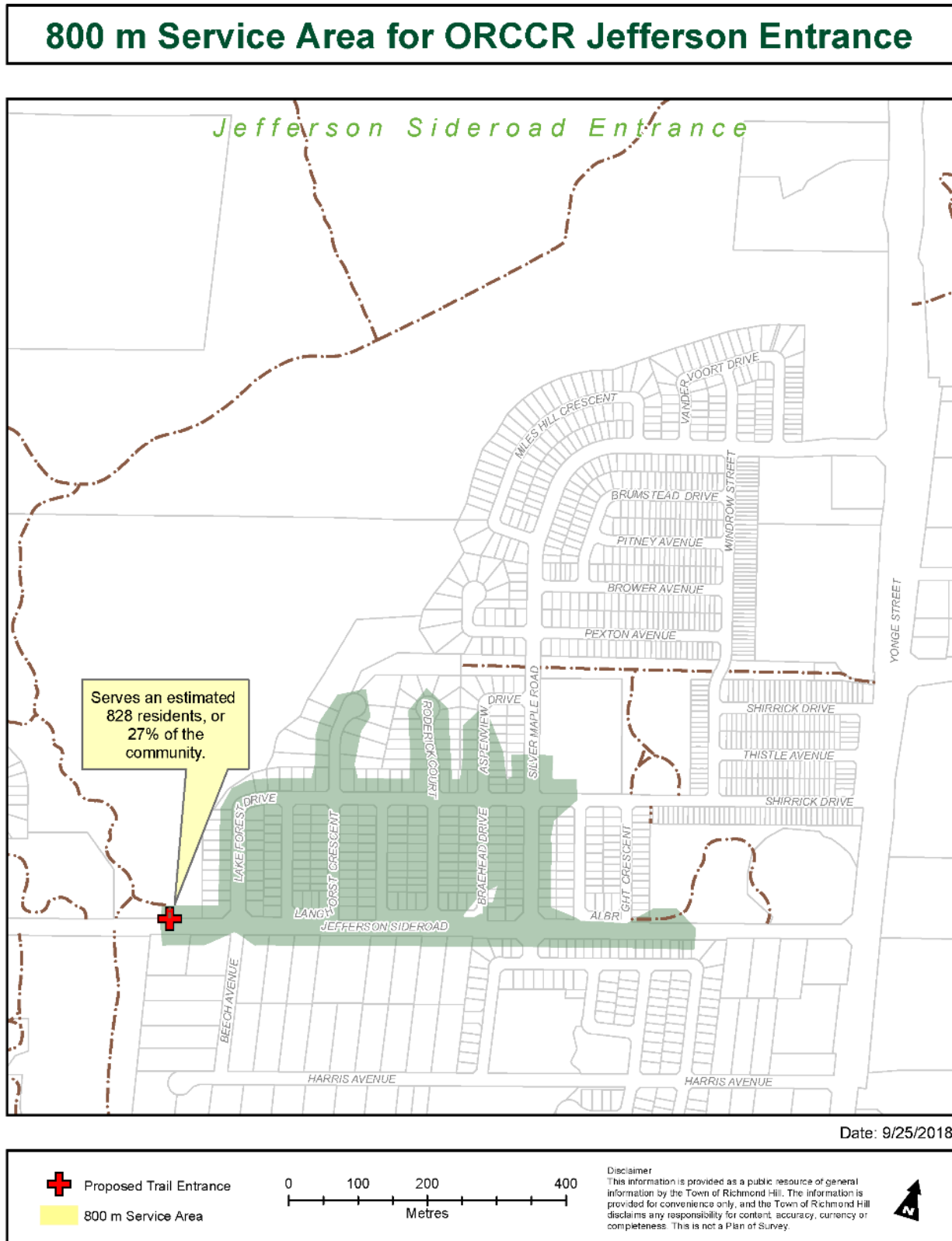


Figure 2: Jefferson Sideroad Trail Access Service Area Analysis



Figure 3: Macleod Estate Heritage Residence (looking west from proposed trail location)

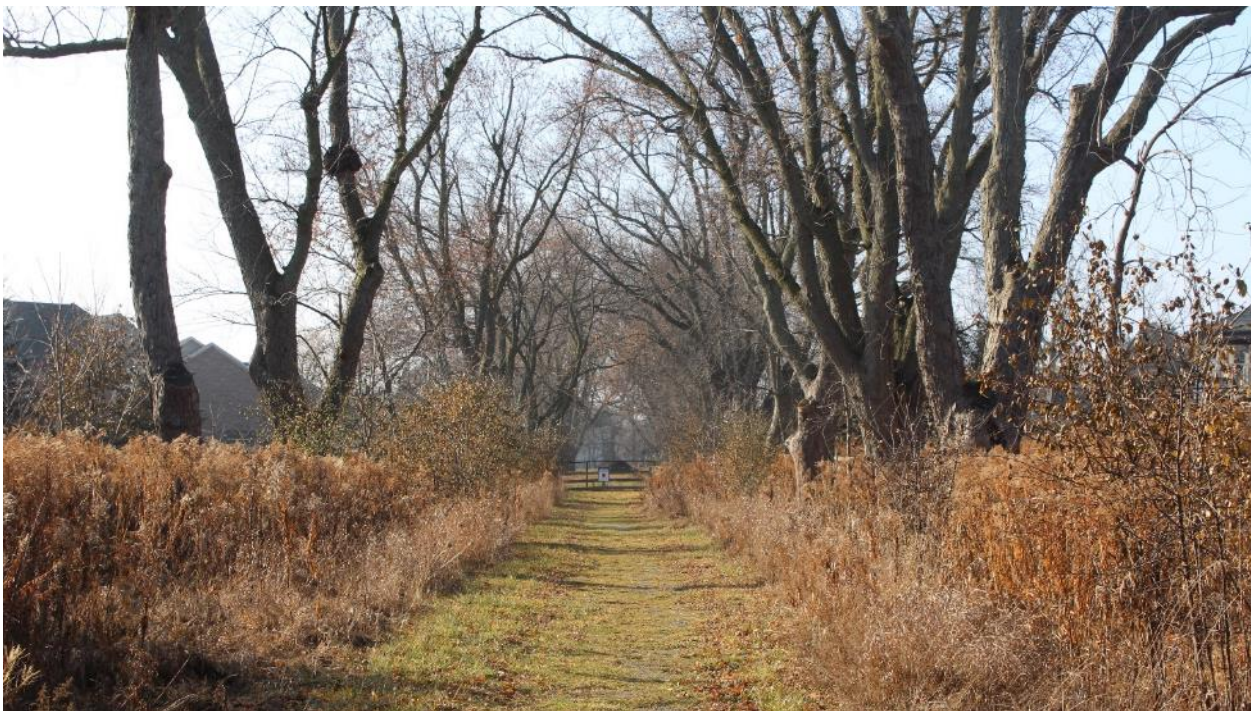


Figure 4: Heritage Silver Maple Carriageway (looking west along proposed trail location)



Figure 5: View looking north from Macleod Estate Trail Linkage alignment (see Map 1 for photo location)



Figure 6: View looking north from Macleod Estate Trail Linkage alignment (see Map 1 for photo location)



Figure 7: View looking south along Macleod Estate Trail Linkage alignment (See Map 1)



Figure 8: Example of scenic views from Vandervoort Drive trail option



Figure 9: Stormwater overland flow corridor between 35 and 37 Vandervoort Drive



Figure 10: East scour pond (see Map 2)



Figure 11: View looking northwest from Vandervoort Drive trail option (see Map 2)



Figure 12: View looking south east from Vandervoort Drive trail option (see Map 2)



Figure 13: View looking south from Vandervoort Drive trail option (see Map 2)

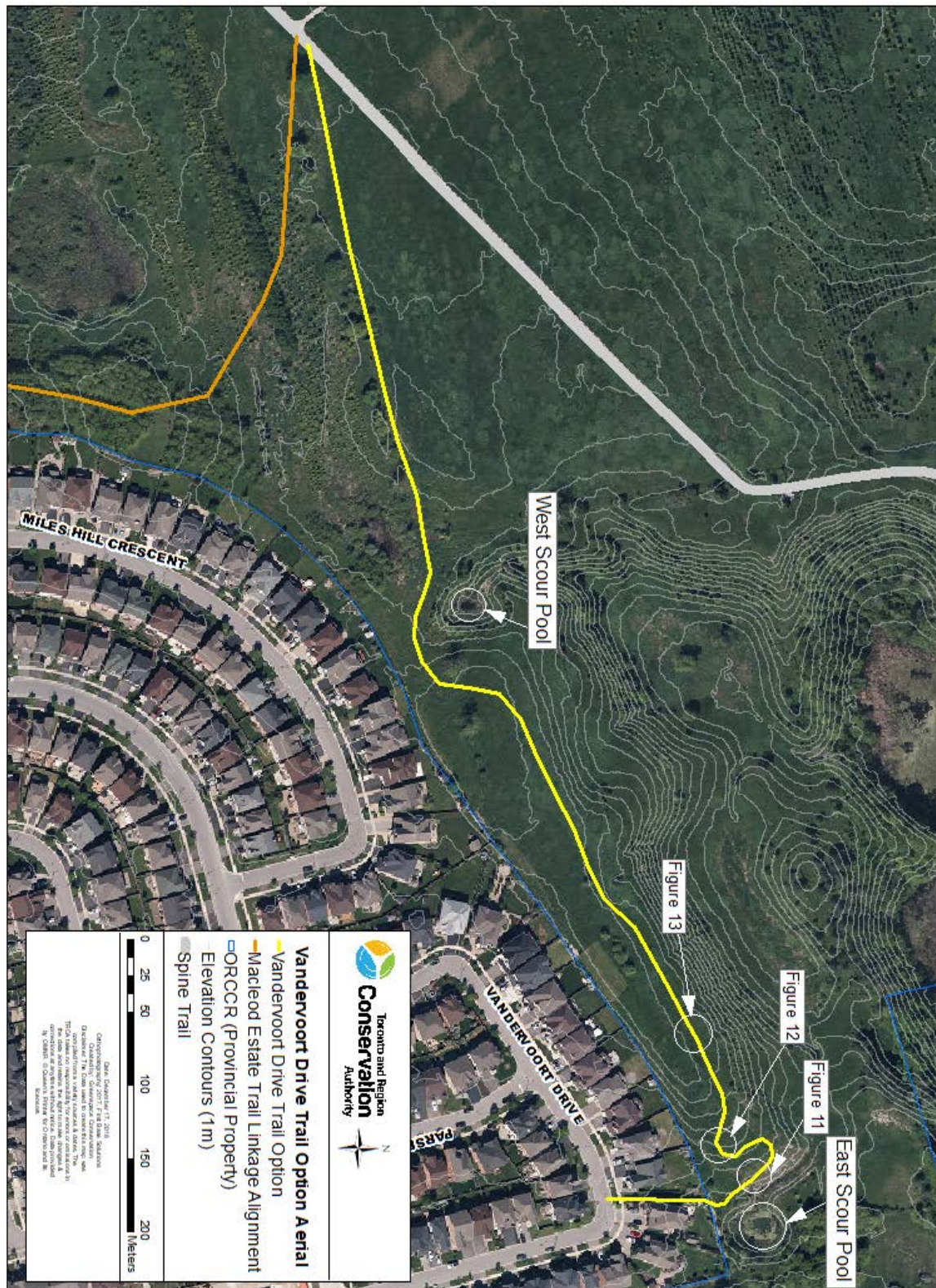


Figure 14: View looking south from top of berm north of Vandervoort Drive residences

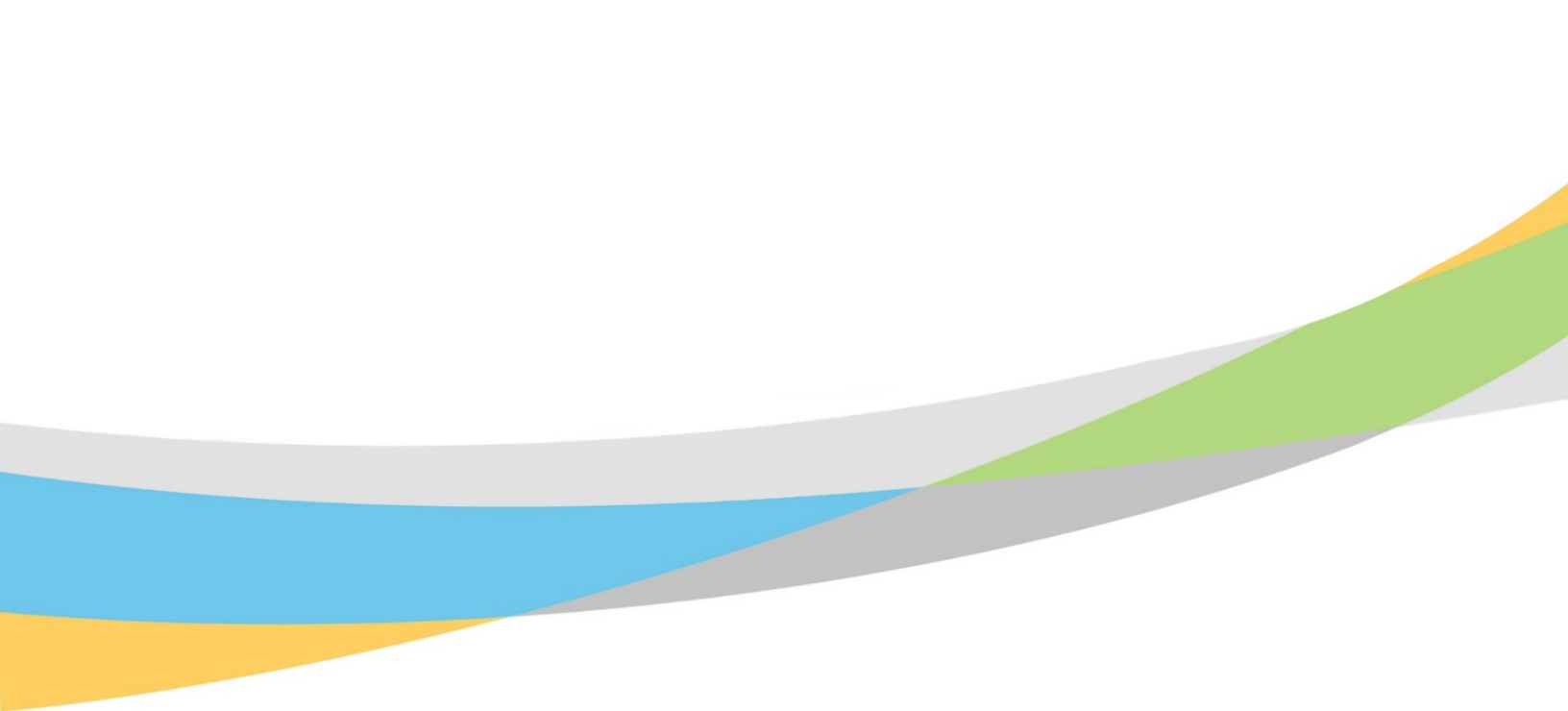


Figure 15: View looking west to berm rising adjacent to Vandervoort Drive residences





Map 2: Vandervoort Drive Trail Option Aerial



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