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Item No. 15.1.5
Halifax Regional Council
November 28, 2023

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original Signed

Cathie O'Toole, Chief Administrative Officer

DATE: October 3, 2023

SUBJECT: **Westwood Hills Egress**

ORIGIN

June 6, 2023 Halifax Regional Council motion (Item No. 18.1):

MOVED by Councillor Lovelace, seconded by Councillor Blackburn:

THAT Halifax Regional Council direct the Chief Administrative Officer (CAO) to provide a staff report on developing egress for Westwood Hills subdivision in Upper Tantallon.

MOTION PUT AND PASSED UNANIMOUSLY

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter, SNS 2008, c. 39

61(5) The Municipality may ... (a) acquire property, including property outside the Municipality, that the Municipality requires for its purposes or for the use of the public;

322(1) The Council may design, lay out, open, expand, construct, maintain, improve, alter, repair, light, water, clean, and clear streets in the Municipality.

Public Highways Act, RSNS 1989, c. 371

22(1) Where a highway or portion thereof or any land has been designated as a controlled access highway, no person shall, without a written permit from the Minister, ... (a) construct, use or allow the use of, any private road, entrance-way or gate which or part of which is connected with or opens upon the controlled access highway;

22(5) For the purposes of this Section, the expression "private road" includes a street, road or highway in a city, town or municipality other than a highway to which this Act applies.

RECOMMENDATION

It is recommended that Halifax Regional Council direct the Chief Administrative Officer to proceed with the planning, design, and stakeholder engagement required to develop an emergency-only connection to Highway 103 from the Westwood Hills subdivision.

BACKGROUND

In late May 2023, wildfires swept through Hammonds Plains and Upper Tantallon, destroying more than 150 structures and inflicting major damage to several more. The areas most impacted by the wildfires were residential subdivisions including Westwood Hills, Highland Park, and Stillwater Lake. Soon after wildfires started on the afternoon of May 28, mandatory evacuation orders were put in place and were expanded geographically over the following days as the fires continued to burn out of control. A local state of emergency was declared on the evening May 28 in the Hammonds Plains / Upper Tantallon area.

Although no serious injuries or fatalities resulted from the wildfires, many houses were lost to the fire and the situation posed a serious risk to the safety of area residents. Residents evacuating the area were challenged by rapidly worsening conditions and were constrained by limited subdivision access points and roadway capacity on Hammonds Plains Road.

During the local state of emergency, gated emergency access roads were constructed by HRM to provide additional access to the Stillwater Lake and Highland Park subdivisions. These gravel emergency only access roads, built on municipally owned land, provide connections from Stillwater Lake to Highway 103 (via Buckingham Commons) and from Highland Park to Hammonds Plains Road (via an extension of Sylvania Terrace).

In the aftermath of the wildfires (and subsequent flooding that occurred in July in various locations throughout HRM), emergency access has been an important concern of the community and of Regional Council. On June 6, 2023, Regional Council requested a staff report on developing egress for Westwood Hills subdivision (this report), and on August 22, 2023, Council requested a staff report focused on the development of wildland urban interface preparedness strategies.

DISCUSSION

Westwood Hills is a residential subdivision located on the north side of Hammonds Plains Road in Upper Tantallon. The subdivision includes more than 700 single family homes on approximately 1,500 acres of land in a heavily wooded area. Access to the subdivision is directly from Hammonds Plains Road via two access points – Westwood Boulevard and Winslow Drive – which are located approximately 300m apart near the Highway 103 (Exit 5) interchange. The roadway network within the subdivision is served by one major collector road – Westwood Boulevard – which extends 5.5km north of Hammonds Plains Road, and multiple local streets that stem from it.

Municipal Access Requirements for Residential Subdivisions

Provision of adequate access and egress between a residential subdivision and the road network is necessary to enable the safe and efficient movement of people. Access requirements for new developments are identified in Section 2.2.1 (Network Layout) of the HRM's *Municipal Design Guidelines* (2021). These requirements stipulate that:

- (k) Where there is an approved phasing plan and subdivision agreement in place confirming *that a second street access will be provided within a specified time approved by the Municipal Engineer, up to 300 lots containing a maximum of 300 dwelling units may be approved prior to the second access being provided.*

- (l) *Where, in the opinion of the Municipal Engineer, it is impractical to provide a second access, up to 100 lots containing a maximum of 100 dwelling units may be approved with a single access.*

These standards have evolved over time, and most of the developments in the Upper Tantallon area pre-date the current requirements. Responsibility for the ownership and maintenance of subdivision roads within the “Urban Core” formally transferred to the former County of Halifax in 1995. Prior to this, there was no requirement to provide a second access to a subdivision. There was, however, a requirement to leave a “road reserve” to which a subsequent development could connect. In this manner, connectivity was established between developments over time which MAY establish a second means of access.

Effective March 30, 1996, the former Municipality of the County of Halifax amended their subdivision road standards to include a requirement for a second access for any subdivision containing “more than 100 lots”, located at opposite ends of the subdivision where possible.

This was further strengthened by HRM amending the design standards to require every lot to have at least two independent street accesses to the existing street system. This helped with the internal connectivity for a large development but did not stipulate the street classification to which a development must access. Often, developments were built with two accesses to an older development, which itself only had a single connection to an arterial, major collector, or trunk highway.

The amount of new road construction that has occurred in the Wilderness Urban Interface has significantly decreased with the introduction of the Regional Plan in 2006. Additionally, the Municipal Design Guidelines were amended in 2021 to require new street networks to be based on a grid pattern to provide for emergency access and egress. Planned updates to the Municipal Design Guidelines, which are expected to occur in 2024/25, will provide further opportunity to revisit and strengthen access requirements for residential subdivisions.

Westwood Hills: Existing Access Configuration

Based on HRM’s *Municipal Design Guidelines* (2021), Westwood Hills – which includes more than 700 dwellings – requires a minimum of two access points. With two street connections to Hammonds Plains Road (via Westwood Boulevard and Winslow Drive), municipal access requirements are technically met for the subdivision; however, there are limitations associated with the existing street network configuration that can potentially compromise access in the event of an emergency:

- The proximity of the two access points (300m apart on Hammonds Plains Road and as close as 170m apart near the St. Margaret’s Centre) increases the potential that both could be impacted simultaneously, in which case access to/from the subdivision would be severely compromised.
- Both subdivision access points are to Hammonds Plains Road, which has capacity constraints that could create a bottleneck and limit the ability of people to evacuate in a timely manner.

Potential Access Improvement Options for Westwood Hills

Options for improving access to the Westwood Hills subdivision has been reviewed to develop an understanding of the opportunities that exist and their operational effectiveness, feasibility (constructability, cost, property requirements, environmental impacts), and consistency with land use policy. This review has focused on two egress types: (i) emergency-only connections and (ii) new community connector roadways.

Emergency-Only Connections to Highway 103

Emergency-only connections are access controlled and impassible by general purpose traffic except in emergency situations. These types of connections are typically blocked by gates or bollards, which can be opened by authorized personnel as needed. Gated emergency connections can be beneficial in providing a ‘relief valve’ as needed and can be more economical than a permanent roadway connection.

The focus of the review of emergency-only egress options for Westwood Hills has been on connections to the southwest to Highway 103. Highway 103 is an attractive option for an emergency egress for Westwood Hills due to its high-capacity nature – during an emergency, with appropriate traffic control, a connection to Highway 103 would have the potential to enable a significant number of residents to evacuate the subdivision with a low risk of encountering congested traffic conditions.

A review of potential connection options to facilitate an emergency-only egress connection from Westwood Hills to Highway 103 has been completed considering the following factors:

- *Topography:* The terrain between Westwood Hills and Highway 103 is generally hilly and heavily wooded, and there are areas along Highway 103 with significant grade change between the highway and adjacent rock walls. Although most of the area is forested, there are significant areas that have been cleared including a Nova Scotia Power corridor just north of the Exit 5 Interchange and informal access roads that were developed on private property during the twinning of Highway 103.
- *Connection Length:* The length of the connection is an important consideration, as it has a significant impact on the construction cost, property requirements, and ongoing maintenance needs. Increased distance for an emergency connection also has important implications for public safety, particularly through a wooded area – if the connection is made through an area that is susceptible to wildfires or potential blockages, the connection itself could pose a risk to residents attempting to evacuate.
- *Property Ownership:* The majority of lands between Westwood Hills and Highway 103 are privately held by more than 20 individual landowners. HRM does not own any lands in the area except for two very short road reserves and one open space parcel (all shorter than 100m) extending west from Westwood Boulevard. The Province of Nova Scotia also does not own property aside from the Highway 103 corridor itself. Nova Scotia Power owns a significant amount of property west of Westwood Hills – these lands surround bodies of water and dams that are associated with the St. Margaret's Bay Hydroelectric System.
- *Design Standard:* HRM's Municipal Design Guidelines do not currently include design guidance specific to emergency access roadways, though it is expected that such a roadway would be built to an appropriate standard given its expected rare usage. The design standard, which influences cross section width, acceptable grades, and subsurface / surface materials (among others), is an important consideration in the development of potential alignment options.
- *Highway Access:* To pursue an emergency egress connection to Highway 103, permission would be required from the Nova Scotia Department of Public Works (NSDPW). NSDPW does not generally support allowing access to the 100-series highway network at locations other than interchanges, as it is inconsistent with policies and guidelines for controlled access highways. Although there are examples of gated connections to 100-series highways in Nova Scotia, they are rare and are typically used to provide access to utility infrastructure (e.g. power, water facilities) rather than for public emergency egress.
- *Operations:* Operations is an important consideration for emergency-only connections. For a connection of this type to serve its intended purpose in the event of an emergency, it needs to be adequately maintained and accessible, and the appropriate personnel need to be available to open it up to vehicular traffic and manage traffic control.

Given that all current access to Westwood Hills is concentrated at the east end of the subdivision at Hammonds Plains Road, an emergency egress would be most beneficial from a network perspective the further west it is located, providing more separation from existing access points and reducing the potential that all access points are impacted simultaneously by the same blockage. However, the western end of the subdivision is considerably farther from Highway 103 than the eastern end, making a potential egress road

longer and less practical.

Conceptual alignment options for emergency connections to Highway 103 have been developed based on existing topography and in consideration of current property ownership (see Figure 1). Despite the challenging terrain in the area, it does appear to be physically feasible to develop a roadway connection between Westwood Hills and Highway 103. The easternmost option, approximately 500m in length, provides the shortest and most direct connection. The two other options would increase the length to approximately 1km. There are other potential options further west; however, the required length would increase considerably, likely limiting their practicality.

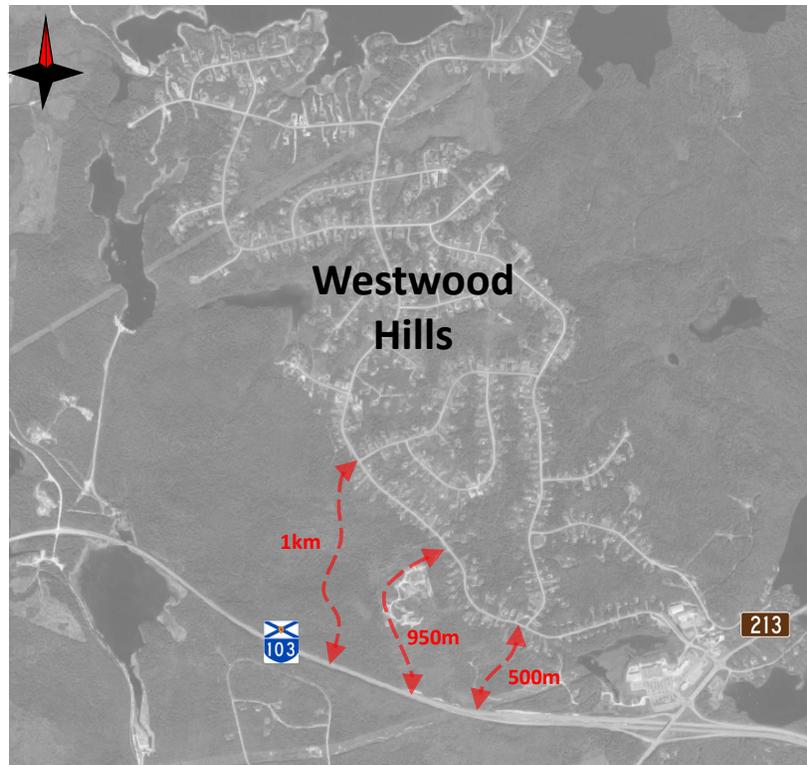


Figure 1: Potential Emergency-Only Connection Alignment Options to Highway 103

Community Connector Roadway(s)

Adding new connection(s) to the regional roadway network can improve community connectivity and road network capacity, as well as provide additional access redundancy that can be beneficial in the event of an emergency evacuation. The Westwood Hills subdivision was built out incrementally over multiple years, and although it was done so in a manner consistent with municipal access requirements, the resulting road network is not ideal in terms of external connectivity. Given the lack of planned road connections to existing communities, the addition of new roads and all associated costs (design, land acquisition, and construction) would be the responsibility of HRM, unless the municipality allowed the land to be subdivided and enabled a developer to build the roads.

Due to the isolated nature of Westwood Hills and the surrounding geography, there are limited available options for new roadway connections between the subdivision and adjacent communities or to higher order roads. Options that could be considered include:

- *Highland Park*: The nearest subdivision on the north side of Hammonds Plains Road is Highland Park. A road connection to Highland Park would be at least 2km in length across undeveloped, wooded terrain. There are more than five individual property owners from whom a ROW corridor

would need to be acquired to make the connection.

- *Upper Hammonds Plains:* A connection north to Upper Hammonds Plains at Pockwock Road would be approximately 3km in length across mostly undeveloped, wooded terrain, and would require the acquisition of a ROW corridor from at least five private property owners. There is also a Nova Scotia Power utility corridor that traverses these lands.

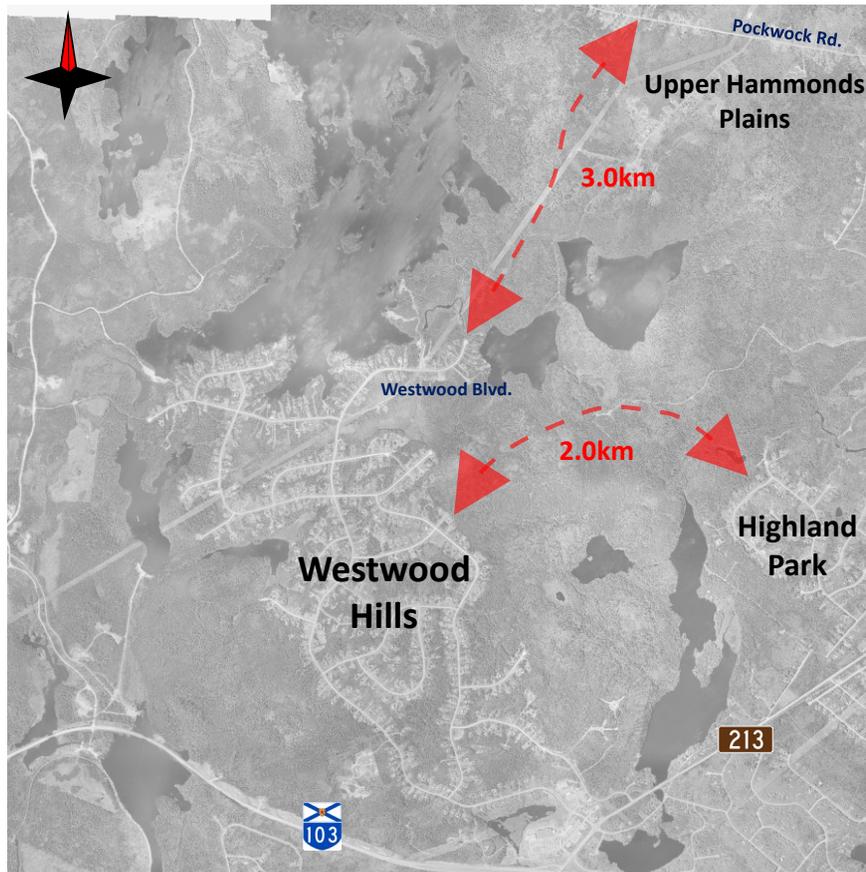


Figure 2: Potential Roadway Connection Alignments to Adjacent Communities

Additional factors that should be considered when assessing the potential for these roadway connections include:

- *Land Use Planning:* The lands required to make either of these connections are privately owned; therefore, the municipality would need to purchase a ROW corridor and design and build the roadway and any associated infrastructure. Alternatively, the municipality could consider an agreement with the owners and/or property developers to have them construct the roadway on the basis that the abutting lands be subdivided into lots with development rights.

At present, the lands that are likely candidates for these potential egress routes are subject to growth control mechanisms that limit subdivision in the Beaver Bank / Hammonds Plains areas. The Regional Plan contains direction under Policy S-24 that limits residential subdivision activity in these areas until transportation infrastructure capacity is increased. The policy also prohibits the creation of new roads to generate residential development except where new roads can be demonstrated to improve traffic safety or achieve better regional network connectivity. Policy S-24 is implemented through Sections 11(1) and 11(1a), and [Schedule J](#) of the Regional Subdivision By-Law.

As part of the Regional Plan Review, several requests for development have been received regarding potential development of properties located within the Schedule J area. In accordance with the approach endorsed by Regional Council on [June 20, 2023](#), staff do not recommend amending Regional Plan policy to permit additional residential development on lands within Schedule J until further study of future community development and required infrastructure in this area is completed together with a Strategic Growth and Infrastructure Priority Plan.

Enabling additional residential development for the purpose of improving access could inadvertently have adverse consequences for public safety. It would increase the number of people living in the Wildland Urban Interface, putting more residents at risk. Further development in this area without broader expansion of the transportation network would also place additional demand on Hammonds Plains Road, increasing the potential for traffic congestion in the area and further exacerbating the risk to residents in the event of an emergency evacuation.

- *Design Standard:* Due to the length of potential connector roads to Highland Park and Upper Hammonds Plains and the heavily wooded surrounding terrain, their use as emergency-only connections is not appropriate and the design standard would need to be in accordance with HRM's Municipal Design Guidelines. Special consideration would also be required for such a roadway (and surrounding land uses, if applicable) to incorporate wildfire resistance best practices including vegetation management, fuel breaks, and fire-resistant building materials.
- *Green Network Plan:* The Halifax Green Network Plan (HGNP) identifies the areas between Westwood Hills and Upper Hammonds Plains as part of a potentially important ecological corridor. The HGNP encourages that such areas be retained, and if they are not available or restoration is not possible, then the largest possible remnant patches should be maintained, and best management practices should be used to intervene and provide opportunities for wildlife movement and provide wildlife crossings. Ultimately, the goal of the HGNP would be to preserve the corridor and not disturb it.

Other Potential Egress Options

Other options that were considered include connections to the west to Highway 103 via Nova Scotia Power service roads that provide access to facilities associated with the St. Margaret's Bay Hydroelectric System. There is a network of service roads that extend north from Highway 103, connecting to dams at various lakes in the area. The service roads are in varied condition, and Nova Scotia Power has indicated that they would require significant upgrades to be capable of serving as part of an emergency egress route. Their potential as an emergency egress route is further challenged by their length (at least 1.65km, and up to 4km), wooded/hilly terrain, and the lack of direct access to Highway 103 (the service roads extend over the highway, and do not provide access to it).

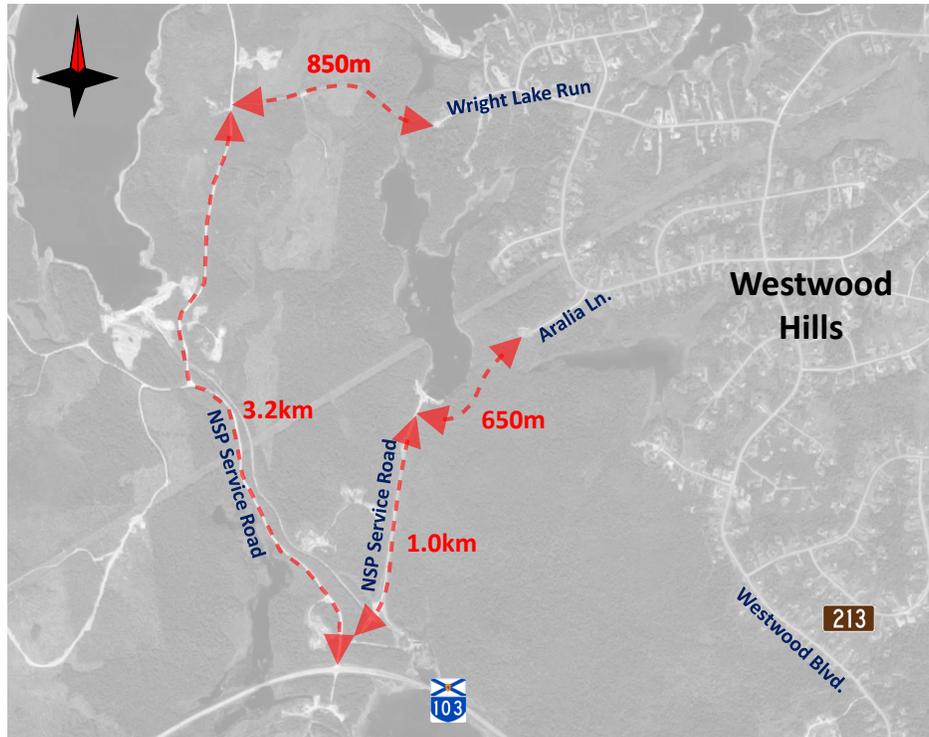


Figure 3: Potential Emergency-Only Connection Options to Nova Scotia Power Service Roads

Next Steps

With Council's endorsement of the recommendation to further investigate a connection from the Westwood Hills subdivision to Highway 103, staff will proceed with the following:

- Engagement with property owners associated with the identified connection alignment options.
- Engagement with NSDPW to request approval in principle for a connection to Highway 103 and to develop an approach to Highway 103 access, including the development of a proposed service framework that considers maintenance, access, enforcement, traffic control, etc.
- Preliminary and detailed design.

A recommendation will be made to Halifax Regional Council on a proposed approach to providing emergency egress from Westwood Hills to Highway 103. The timeline and budget required for potential construction will be dependent on the selected alignment. Staff will explore and provide recommendations on the proposed funding sources and opportunities for cost sharing. It is anticipated that the project could be a strong candidate for Infrastructure Canada's Disaster Mitigation and Adaptation Fund.

Residential Subdivision Access Study

Staff are currently in the process of developing a framework by which locations in HRM with secondary access challenges can be identified, assessed, and prioritized. If such a framework proves viable, a region-wide assessment will be completed, and staff will return to Regional Council with further information and a recommended approach to the planning, design, and implementation of any secondary access interventions that may be deemed necessary for established residential subdivisions.

It is anticipated the Westwood Hills will be a high priority in any framework or methodology that is developed.

FINANCIAL IMPLICATIONS

Consulting engineering costs for required design work are estimated at approximately \$100,000. Estimated costs will be divided with a ratio of 20 percent for the 2023/24 budget and 80 percent for the 2024/25 proposed budget. Costs related to 2023/24 can be carried out within the approved 2023/24 budget in R951-6303, while 2024/25 costs will be incorporated in the proposed budget.

Land acquisition costs will be dependent on the alignment that is proposed. The funds required to complete land acquisition are not currently budgeted. If land acquisition is necessary, a recommendation and funding request will be made to Regional Council.

RISK CONSIDERATION

Staff's recommendation to pursue an emergency egress connection from Westwood Hills to Highway 103 is intended to improve the efficiency with which the community can evacuate during a potential emergency and thereby mitigate public risk.

COMMUNITY ENGAGEMENT

No community engagement was required.

ENVIRONMENTAL IMPLICATIONS

Development of an emergency egress connection between Westwood Hills and Highway 103 will require construction of a new roadway on undeveloped lands. Any potential environmental impacts will be identified during the design phase and will be presented for Council's consideration prior to construction.

ALTERNATIVES

Regional Council could choose to recommend that the staff recommendation not be approved. Potential alternatives are identified below:

1. Regional Council may direct the CAO not to pursue further efforts to make an emergency egress connection from Westwood Hills to Highway 103. This alternative is not recommended, as it does not help to mitigate the evacuation risk to the community.
2. Regional Council may direct the CAO to proceed with further investigation into the development of potential community connector roadways to adjacent communities such as Highland Park and/or Upper Hammonds Plains. This alternative is not recommended, as it is inconsistent with Regional Plan Policy S-24 and may pose a further public safety risk. In accordance with the approach endorsed by Regional Council on June 20, 2023, Regional Plan policy for lands within Schedule J should not be amended until further study of future community development and infrastructure in this area can be completed.

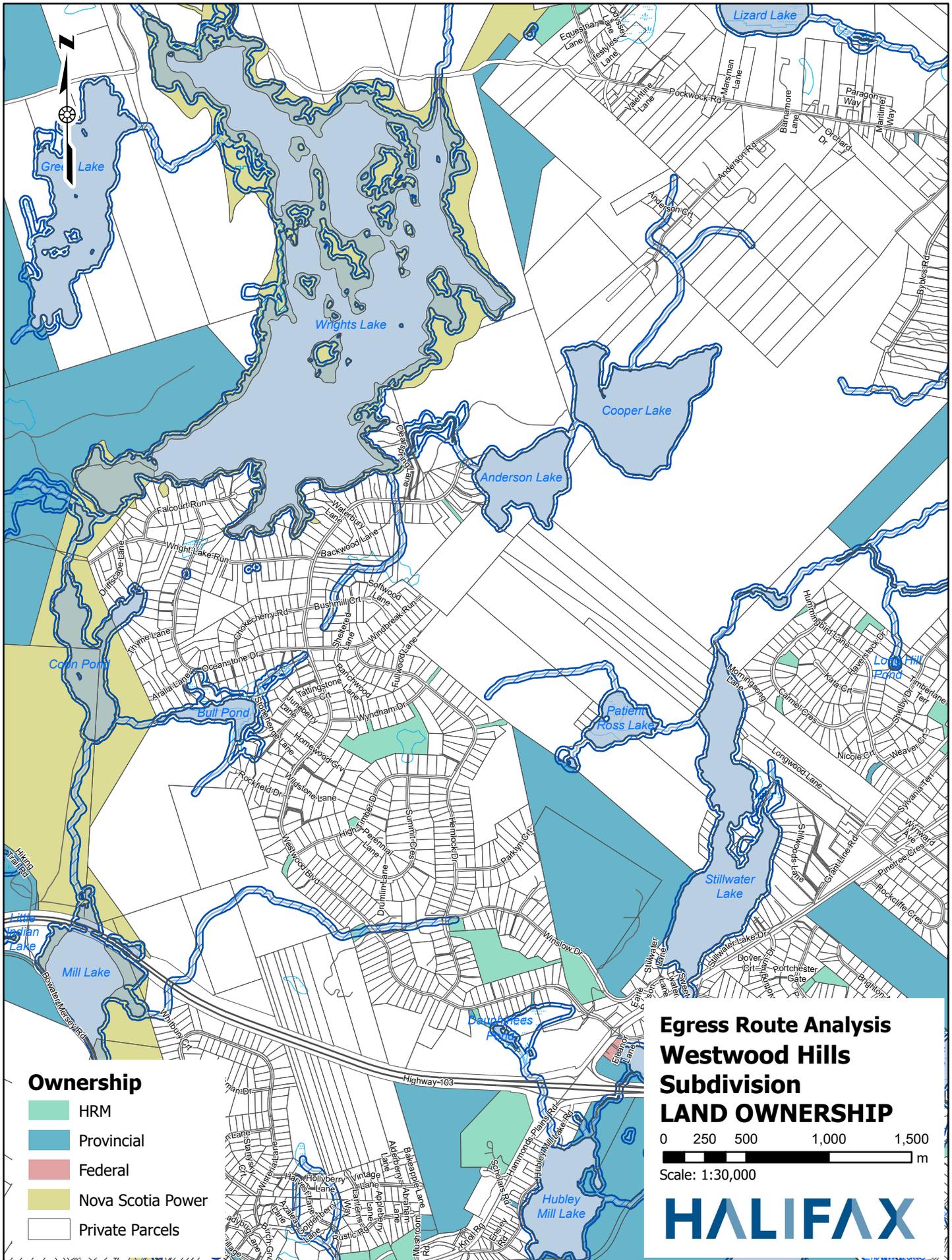
ATTACHMENTS

Attachment A: Area Mapping

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Mike Connors, MScE, P.Eng., Manager – Transportation Planning, Planning & Development, 902.817.0795

ATTACHMENT A: AREA MAPPING



Ownership

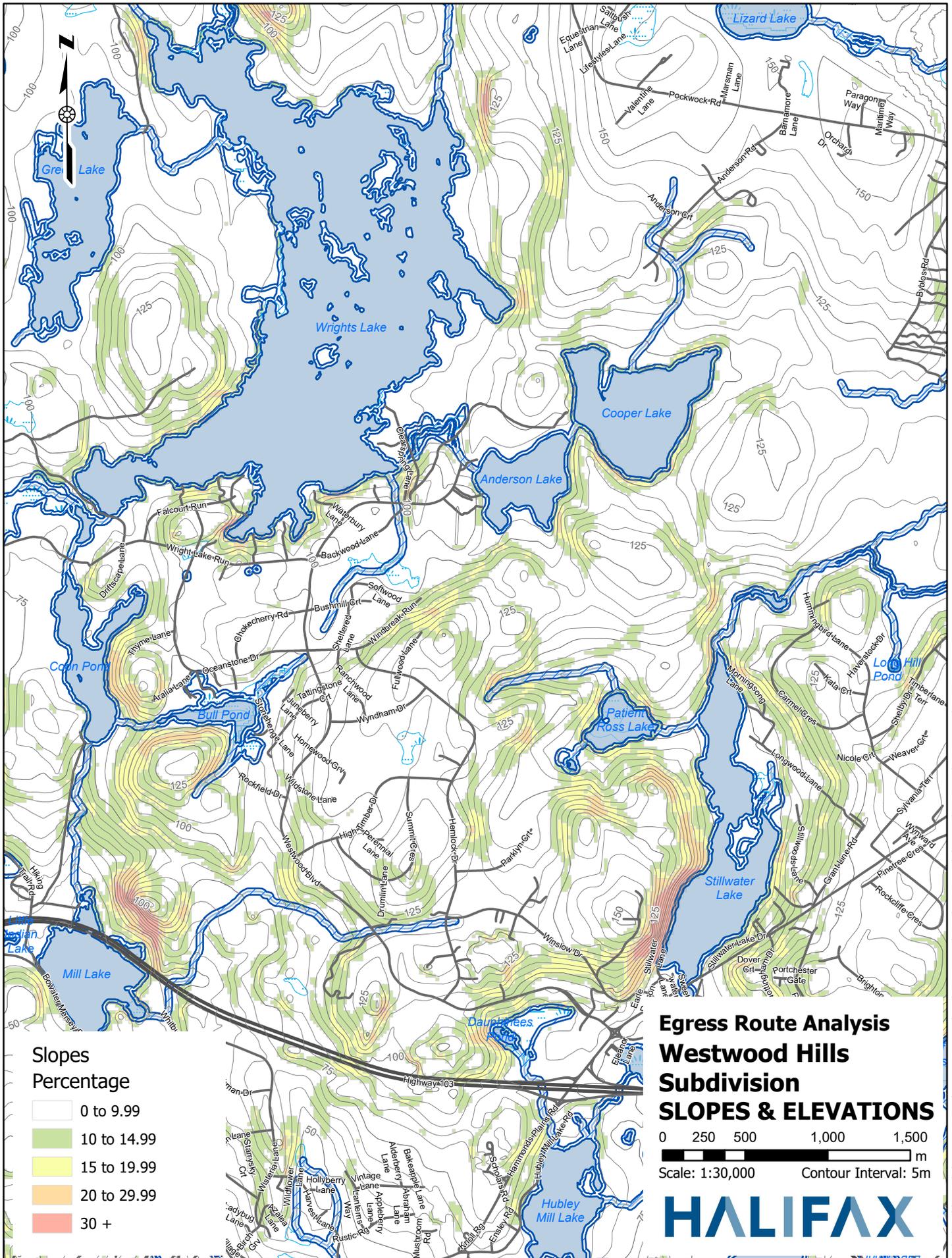
- HRM
- Provincial
- Federal
- Nova Scotia Power
- Private Parcels

Egress Route Analysis Westwood Hills Subdivision LAND OWNERSHIP

0 250 500 1,000 1,500
Scale: 1:30,000

HALIFAX

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