

Vegetation Maintenance
Marchwood TS to the Queensway
Ward 4 Kanata

Community Meeting

October 30, 2017

Agenda

1. KBCA Introduction
2. Hydro One Presentation
 - » About Hydro One
 - » Vegetation maintenance practice and principles
 - » Proposed maintenance approach
 - » Communication approach
 - » Work Execution
 - » Timeline and next steps
3. Questions and answers
4. Group conversations

Why We Are Here

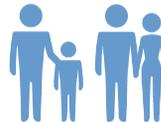
- **Present** on Hydro One's vegetation maintenance programs and planned future work 115kV transmission corridor between Marchwood TS and the Queensway (Highway 417)
- **Listen** to your feedback
- **Our goal:** Develop short-term and long term maintenance plan that balances the community interests and allows Hydro One to meet its operational needs

Who we are

Hydro One at a glance



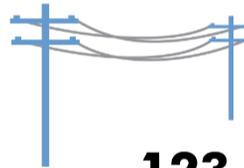
640,000 KM²
SERVICE TERRITORY



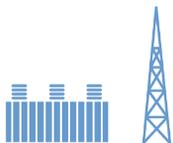
1.3 MILLION
RESIDENTIAL AND BUSINESS
CUSTOMERS ACROSS ONTARIO



30,000 KM
OF HIGH-VOLTAGE
TRANSMISSION LINES



123,000 KM
OF LOCAL DISTRIBUTION LINES

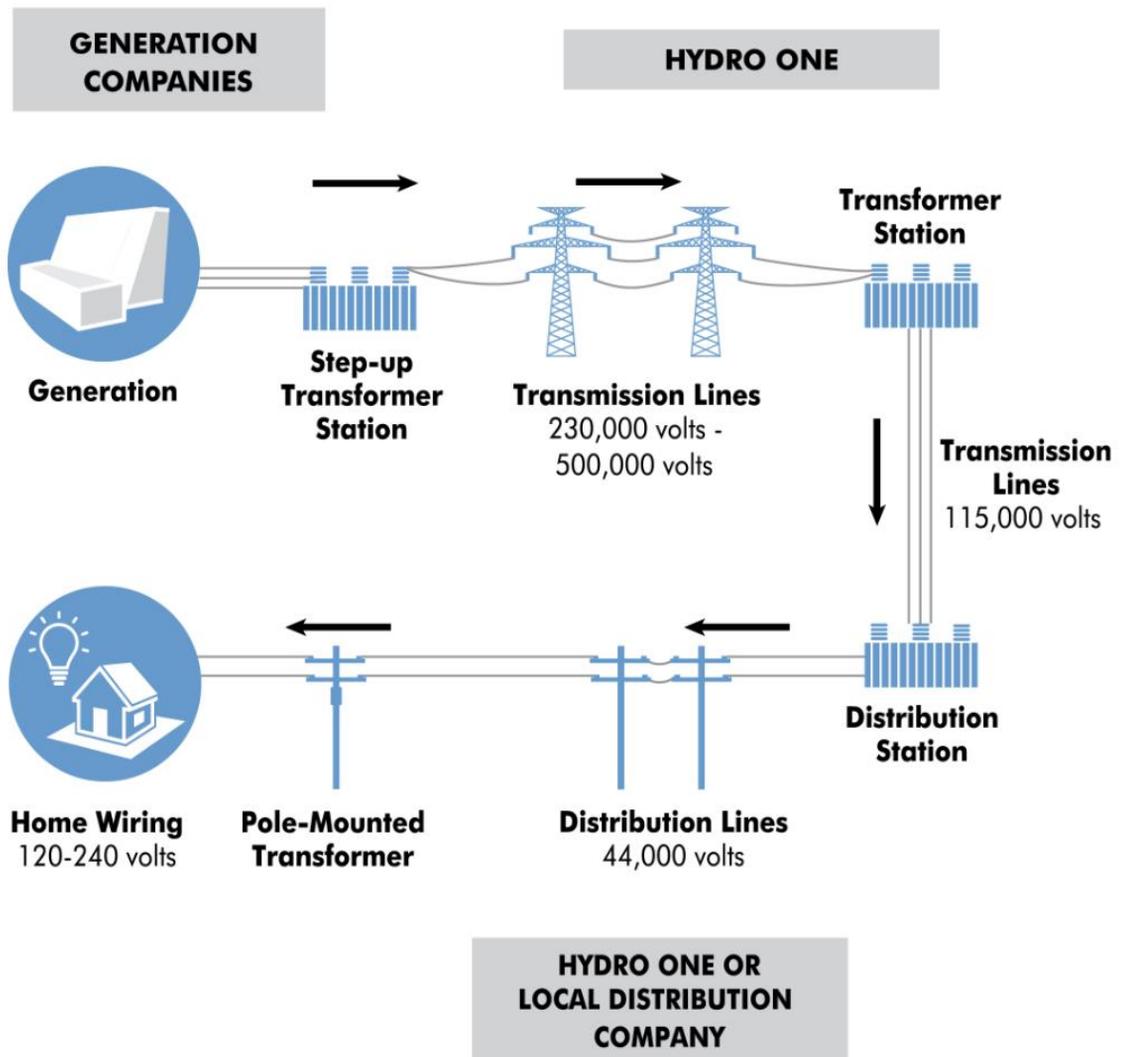


306
TRANSMISSION STATIONS



1.6 MILLION
DISTRIBUTION POLES

How the system works



Fundamentals of Hydro One's Vegetation Maintenance Program

Why Vegetation Maintenance is Needed

- To maintain reliability
- To protect against outages
- Imminent risk with some vegetation
- Incompatible newly-planted vegetation
- Worker and public safety concern
- Comply with industry and regulatory standards

Legislation

Electricity Act, 1998

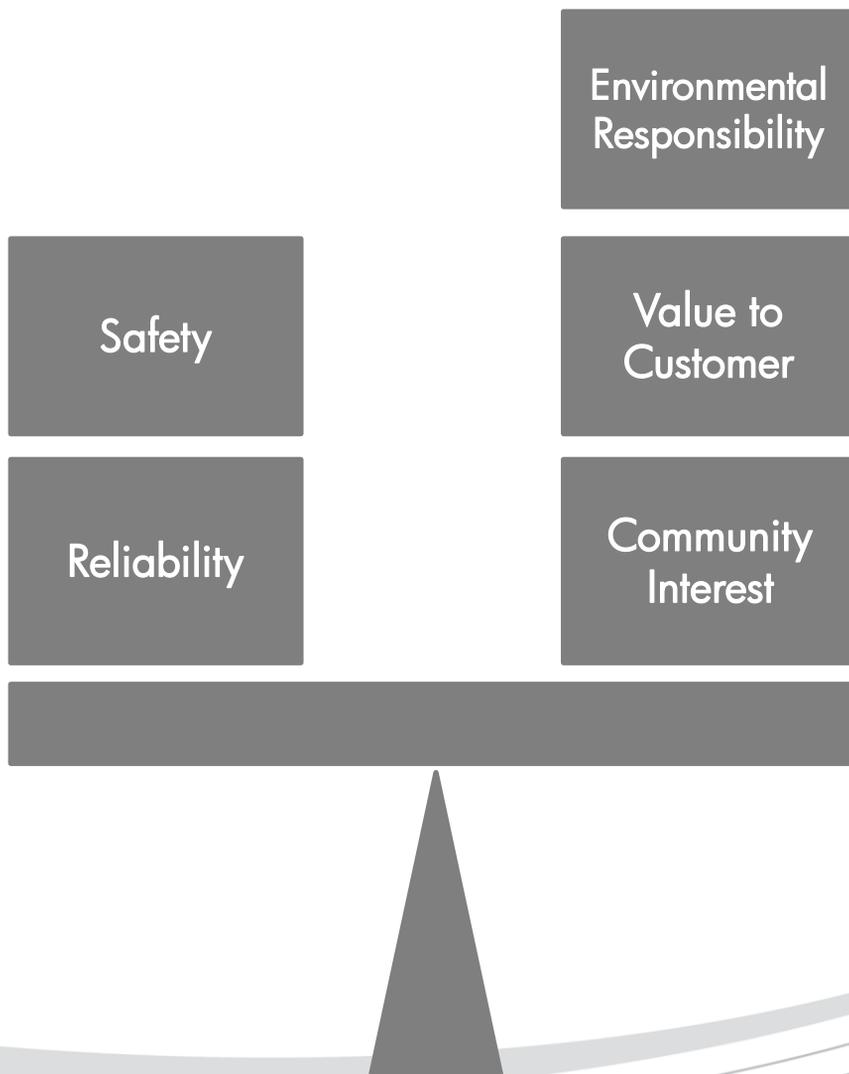
- Grants Hydro One the primacy of the use over the transmission corridors for the purposes of operating the system and maintenance.
- This includes vegetation maintenance.

Easement Agreements

- Transmission corridors are comprised of either provincially owned, municipally owned or private property owned lands.
- In all cases, Hydro One has an easement over the lands and has various land rights to complete maintenance, including vegetation maintenance on our transmission corridors.

Guiding Principles

We are committed to striking the right balance:



Maintenance Cycles

Line Type	Annual Patrol	Condition Patrol	Maintenance
115KV		3 Years	6 Years
230KV	X	3 Years	6 Years
500KV	X	3 Years	6 Years

Maintenance Approach is based on:

- Tree's proximity to equipment
- Growth habits of species
- Weather
- Topography
- Line voltage and wire sag
- Maintenance cycle
- Input from stakeholders

Determining Tree Clearance

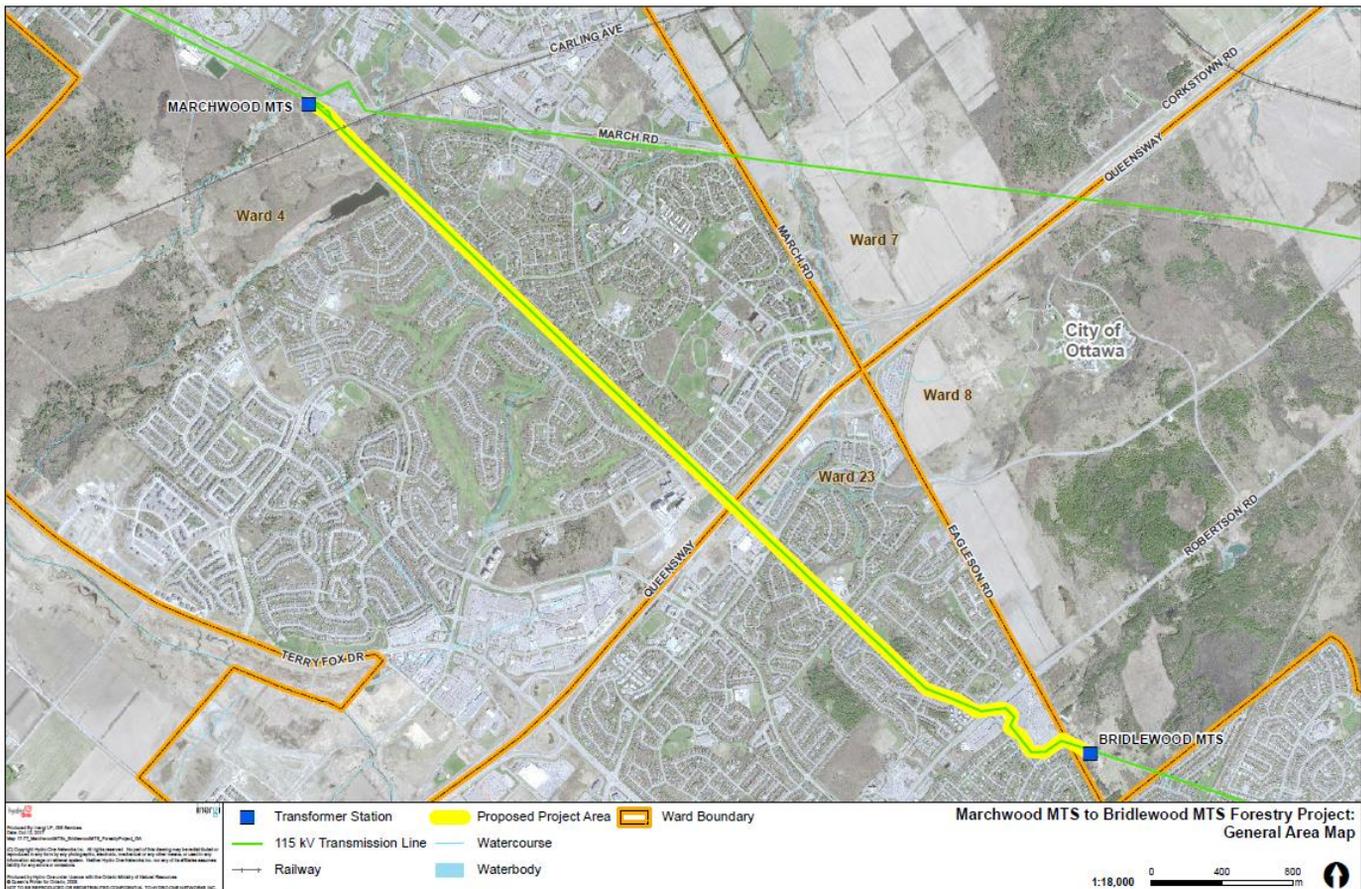
Voltage Class	Standard Clearances	Falling Clearances	
		Sound Trees	Danger Trees
27.6 kV - 44 kV	1.0 m(3 ft)	Not Required	1.0 m(3 ft)
115 kV	3.0 m(10 ft)	Not Required	1.0 m(3 ft)
230 kV	4.5 m(15 ft)	Not Required	2.0 m(7 ft)
500 kV	6.0 m(20 ft)	3.0 m (10 ft)	3.0 m(10 ft)

- Standing and falling clearances between vegetation and energized equipment (towers and wires) are vital to ensure safe and reliable operation
- Standing and falling clearances different based on the line voltage

Project Description

Marchwood TS to the Queensway (Highway 417)

Map



The entire project extends over two wards:
 Ward 4: Marchwood TS to the Queensway
 Ward 23: Queensway to Bridlewood TS

Project Profile

- 115kV transmission line
- Extends through residential properties and municipal lands
- Access to the transmission corridor is restricted in residential areas
- Vegetation are overgrown and interfere with the safe and reliable operation of the transmission line
- Emergency maintenance was required in September to address the immediate danger trees
- Since August 2017, Hydro One has been working with the KBCA to develop a maintenance plan for this project area
- The proposed plan takes a phased approach to transitioning the transmission corridor to a sustainable state, balancing the community needs and Hydro One's operational needs

Proposed Future Maintenance Approach

Short-term and Long-term

Future Maintenance Marchwood TS x Queensway

The plan is developed with input from KBCA

- More frequent vegetation maintenance in the short-run
- Wire zone and border zone maintenance approach
- Lead time for transplanting
- Maintainable vegetation agreements
- Provide a list of compatible species
- Remove unhealthy and hazardous trees
- Ongoing discussion with home owners

More Frequent Maintenance

- Transition the transmission corridor to a sustainable state through a phased approach
- Three-year vegetation maintenance cycles in 2018 and 2021 to allow residents to replant with compatible vegetation on private properties.
- Starting in 2024, return to standard six-year maintenance cycle

Transferable Vegetation

- Hydro One will meet with individual property owners to identify transferable vegetation from the transmission corridor

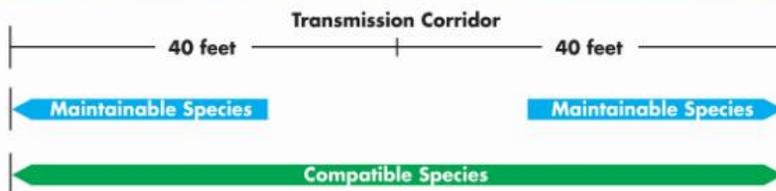
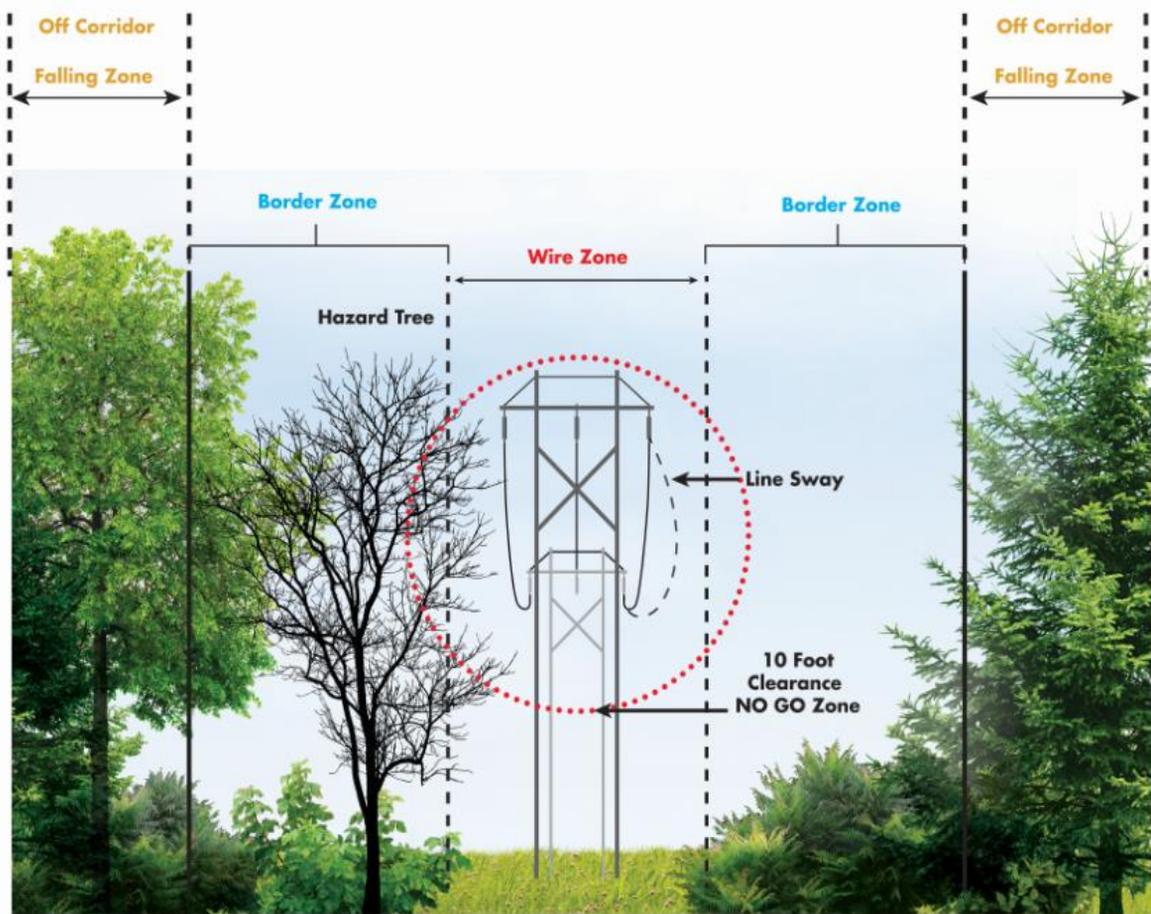
Lead Time to Transplant

- Hydro One will identify incompatible vegetation on the transmission corridor and allow residents an opportunity to transplant
- Residents are responsible for transplanting by June 1, 2018 as per agreement with Hydro One

Maintainable Vegetation

- Site specific.
- Maintainable vegetation may vary from property to property
- Factors considered will be type of vegetation species, its current height, line sag and sway
- Maintainable species must be approved by Hydro One
- Homeowner is responsible for the maintenance

Wire zone and Border Zone Beaverbrook corridor



Compatible Species List For This Project Only

- Site specific
- Only suitable for transmission corridor between Marchwood TS to the Queensway
- Available on the project website

Types of Vegetation on transmission corridors

1. Compatible Species

- Will not affect equipment or impede access

2. Incompatible Species

- Will require maintenance at some point

Communication and Work Execution

Residents with Easements

Communication Approach:

- Open and transparent communication

Work Execution Approach:

- Customized for each home owner
- Manual equipment
- Remove stumps where accessible with a machine
- Clean debris
- Address unhealthy and hazardous trees

Adjacent Property Owners

Communication Approach:

- Open and transparent communication

Work Execution Approach:

- Available to meet with homeowners to answer questions
- Manual equipment
- Remove stumps and debris

Community Members

Communication Approach:

- Hydro One website:
 - project information and timelines
- Email, phone, or in-person meetings with Forestry and Community Relations representatives

Next Steps

**Early
Nov**

Community
notice

Nov

One-on-one
meetings

**Nov-
June 1**

Residents
transplant

**Jan/Feb
2018**

Work
begins

June 1

Final day to
transplant

Feedback

Thank you

Questions can be directed to:

Community.Relations@HydroOne.com or

1-877-345-6799