

YOUR TREES ARE IMPORTANT.

We know your trees are extremely important to you.

We understand that many of your trees are nearing the end of their lifecycle and are therefore vulnerable. There are options for reducing the impact of our renewal project on your trees.

WNH considers trees extensively by:

- » Developing alternate design standards that have less impact on the tree canopy
- » Walking the neighbourhood to get a sense of the impact of our proposed projects on trees
- » Designing our lines to reduce or eliminate tree removal

- » Offering a tree replacement program (should a tree need to be removed)
 - Up to \$600 in value
 - Can be planted anywhere on municipal or home-owner's property
 - Tree-size depends on the chosen location

Some context:

- » Some lines and poles in your neighbourhood are nearing end of life and need to be replaced
- » New standards require increase in pole height by 10 ft (3 m) in most cases
- » Several options are available for reducing pole height and consequently their impact on the tree canopy

What we need from you:

- » We need your input to determine which options and attendant consequences are acceptable
- » Several options may need to be combined to reduce impact on the tree canopy



Waterloo North Hydro Inc.

OPTION 1:

MINIMALIST APPROACH

This is achieved by using options such as reducing working space, reducing equipment space and reducing tree trimming clearances.

Reduce Working Space:

- » Currently the distance between wires are sized to fit the bucket from a bucket truck for ease of work crews, this distance can be reduced

Impacts:

- » Having the wires closer together reduces tree trimming clearances
- » It is more difficult for work crews to access the wires, clamps & bolts, resulting in increased time required to address issues such as power outages

Costs:

- » When this working space is reduced, it takes longer for WNH crew to make repairs or new connections
- » The cost of additional time for work crews to address issues in the neighbourhood is passed on to customers through increased rates

Uneven Pole Lines:

- » Currently all lines are attached at the same height on the pole, whether the pole has additional equipment or not. This results in even lines
- » Different size poles can be used depending on the equipment attached to the pole. This means that different poles heights can be used along the same street, resulting in uneven lines

Impacts:

- » When lower poles are used, tree trimming clearances are reduced
- » Some find the uneven lines visually displeasing

Costs:

- » There are no additional costs associated with uneven lines

Reduce Tree Trimming Clearances:

- » Currently we trim trees for safety distance, plus the 3-year growth rate
- » The distance trimmed for growth rate depends on the species of tree
- » We could reduce tree trimming by trimming for the safety distance, plus the 2-year growth rate

Impacts:

- » Reduced impact on trees and the tree canopy
- » More frequent trimming would be required (every 2 years instead of every 3 years)

Costs:

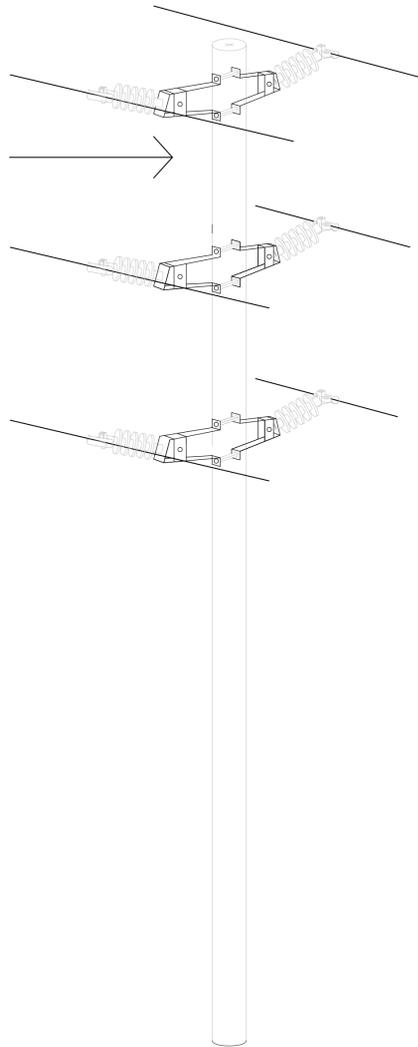
- » There are increased costs associated with more trimming.

OPTION 1: MINIMALIST APPROACH

This is achieved by using options such as reducing working space, reducing equipment space and reducing tree trimming clearances.

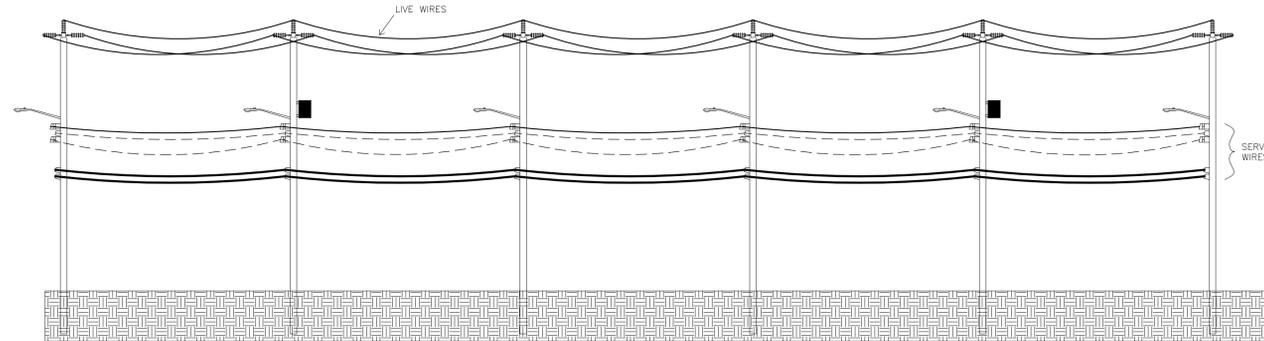
Reduced Working Space:

Sized so bucket fits here and worker has 6" (15cm) room to make repairs

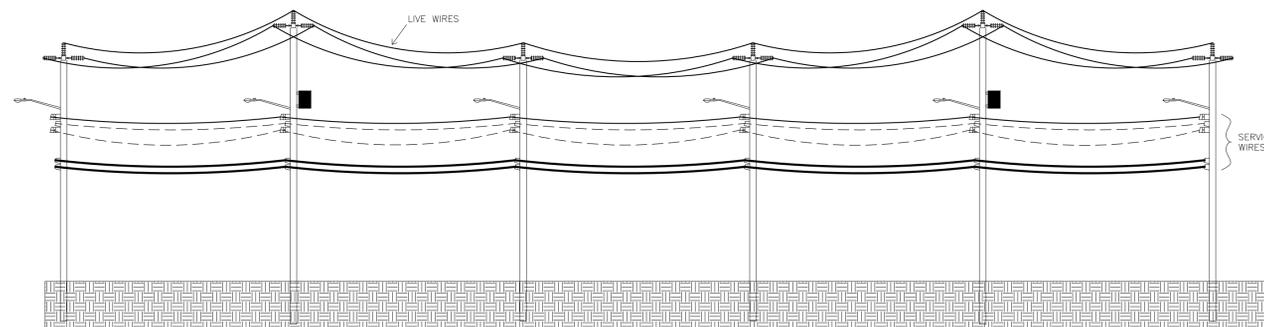


Reduced Equipment Space:

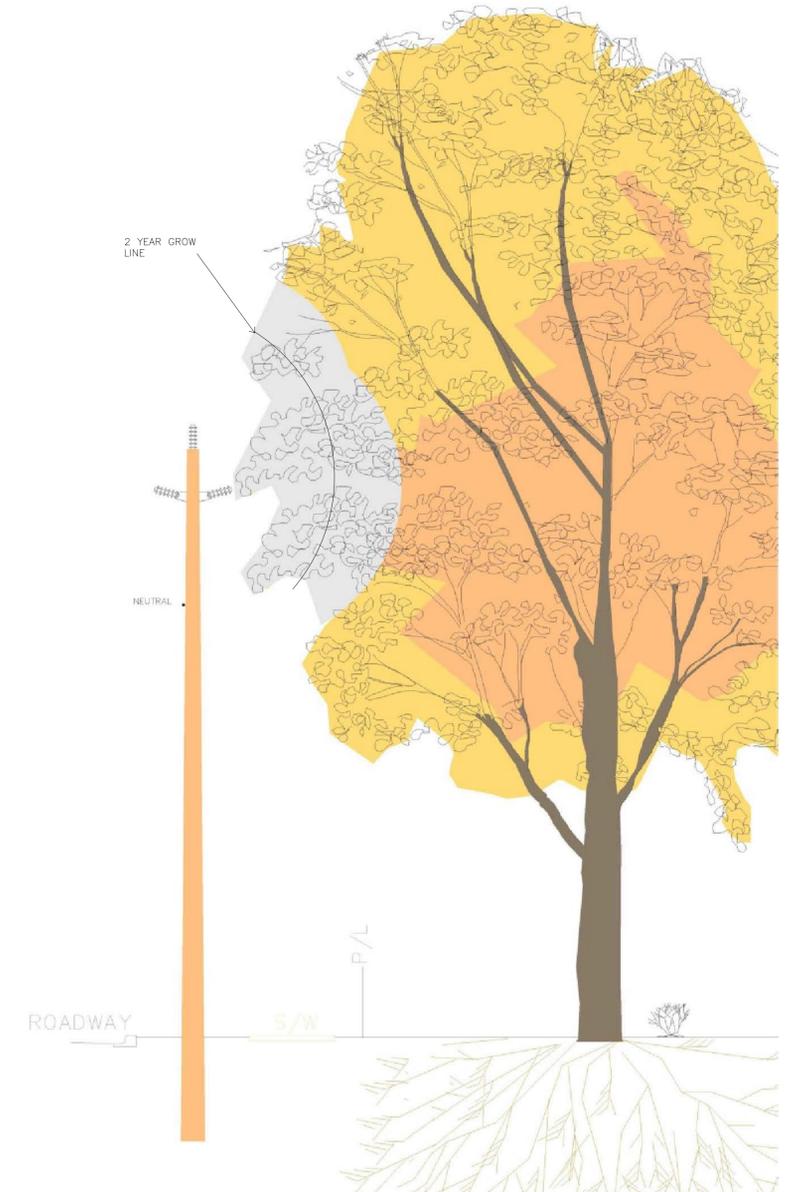
Even lines – normal practice



Uneven lines – minimal equipment space



Reduced Tree Trimming Clearances:



OPTION 2: COMMUNICATION LINE REMOVAL

- » In some areas of your neighbourhood, communication lines run on hydro poles. This increases the height of poles by requiring a certain amount of space on the pole and specific clearances
- » We can ask communication companies to vacate our poles

Impacts:

- » Reduced pole height, reduced tree trimming
- » Communication companies will need to bury their lines in boulevards, driveways and private properties

Costs:

- » There are no costs associated with the removal of communication lines

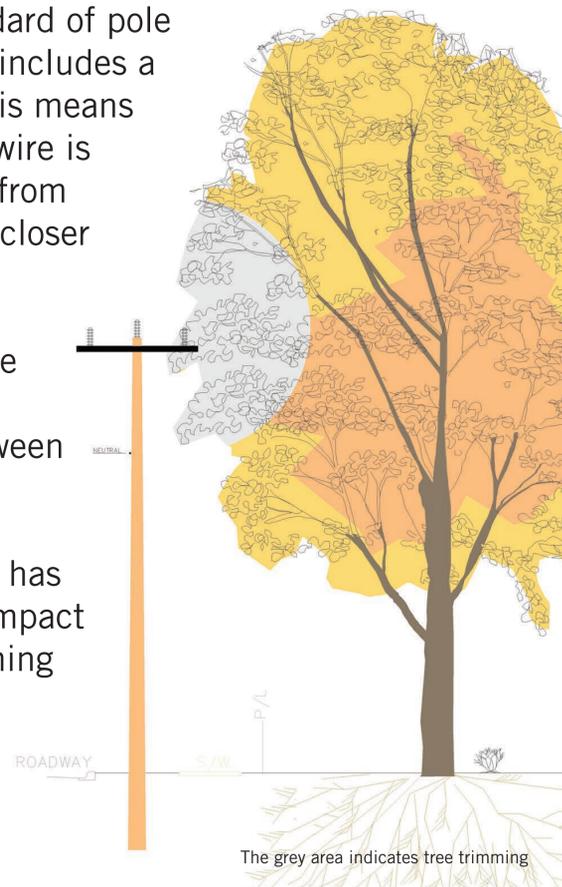


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OPTION 3: CHANGE WIRE ARRANGEMENT

A change to the way we arrange the wires on the poles has an impact on tree-trimming requirements. The old standard pole construction has a significant impact on trees, which is part of the reason it is no longer used.

- » The old standard of pole construction includes a cross arm, this means that the live wire is further away from the pole and closer to trees
- » As safety clearances are based on the distance between trees and the live wire, this standard has the highest impact on tree trimming

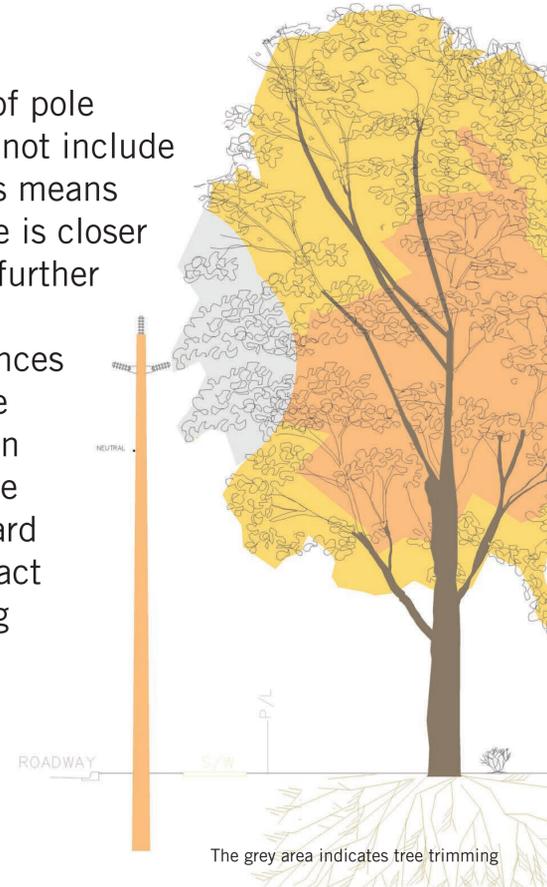


New Standards

New standards reduce the impact to the tree canopy.

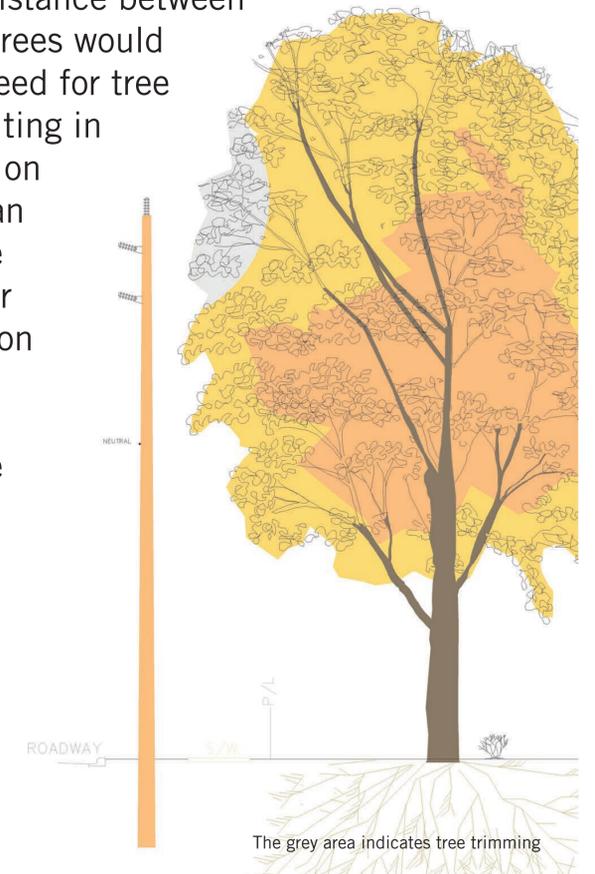
New Standard – Typical wire arrangement

- » New standards of pole construction do not include a cross arm, this means that the live wire is closer to the pole and further away from trees
- » As safety clearances are based on the distance between trees and the live wire, this standard has a lower impact on tree trimming than the cross arm standard



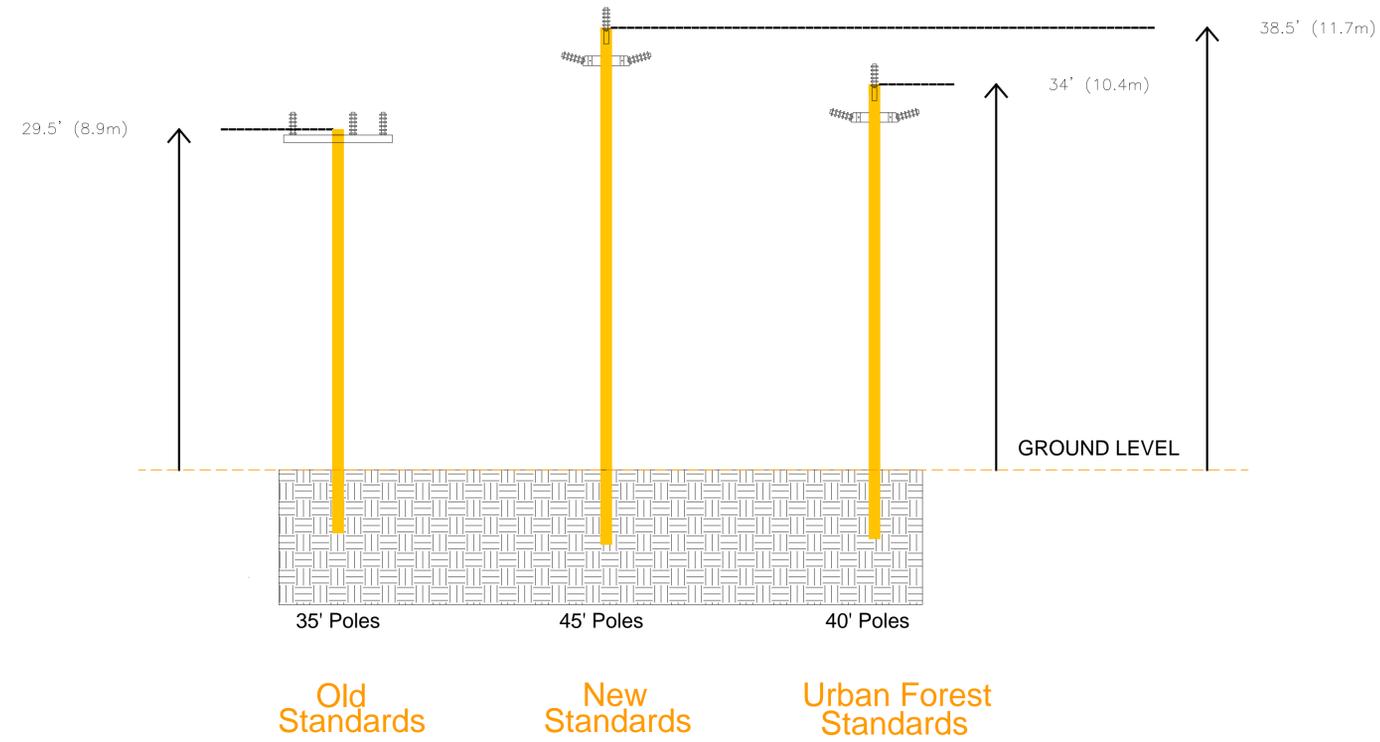
New Standard - Alternate wire arrangement

- » An alternate wire arrangement would include putting all the wires on the road side of the pole to move live wires even further away from trees
- » An increased distance between live wires and trees would decrease the need for tree trimming, resulting in a lower impact on tree canopy than the typical wire arrangement for pole construction
- » This requires a taller pole than the typical wire arrangement

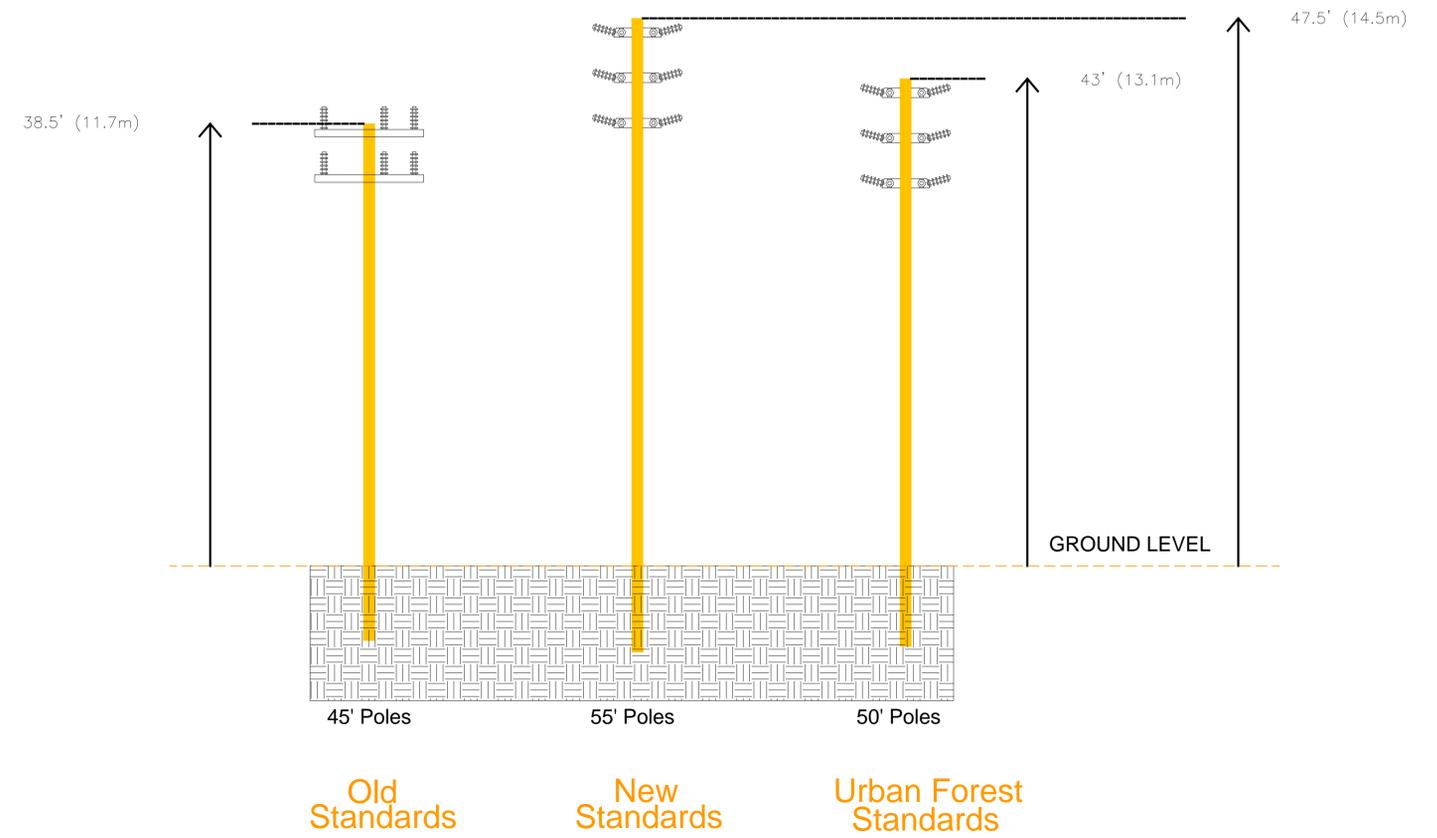


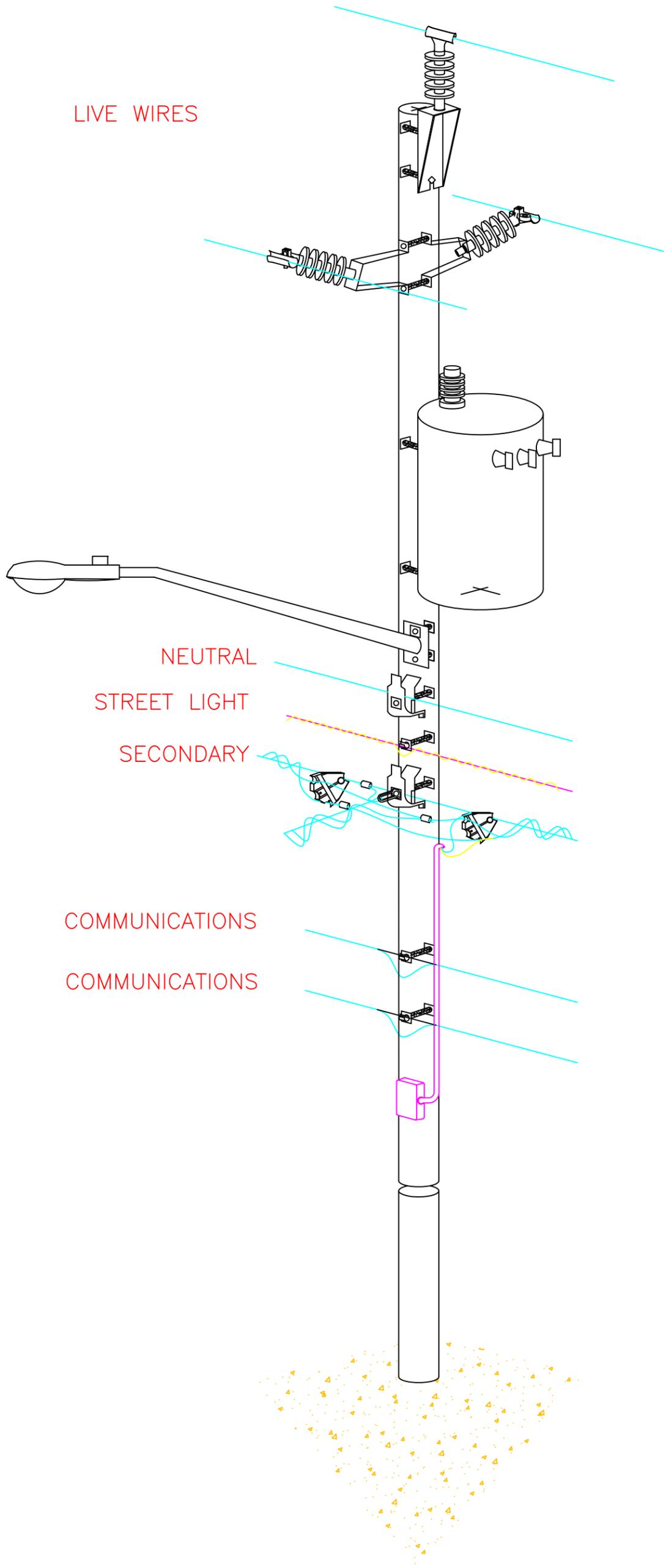
COMPARISON OF POLE STANDARDS

Single Circuit Lines



Double Circuit Lines





LIVE WIRES

NEUTRAL

STREET LIGHT

SECONDARY

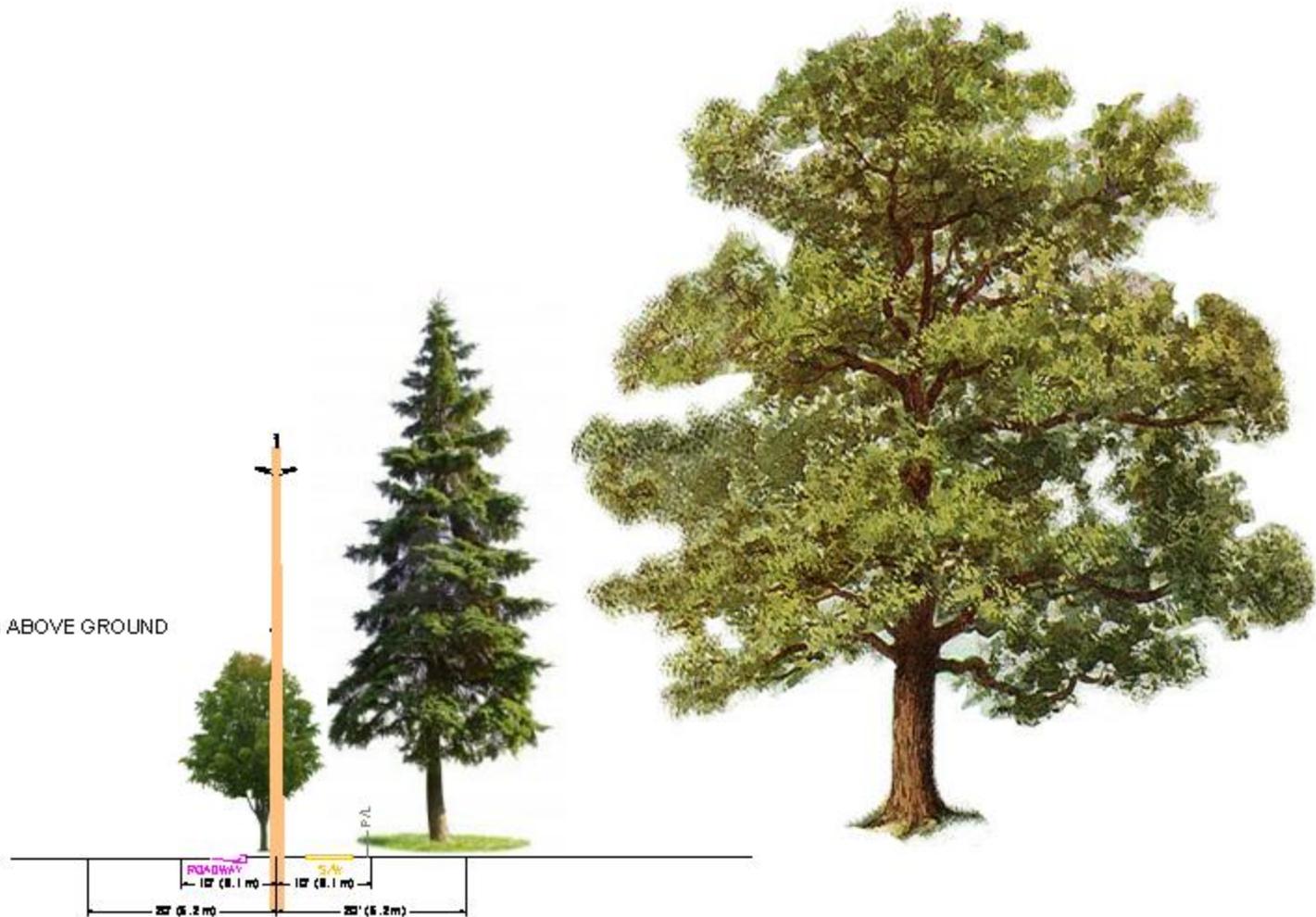
COMMUNICATIONS

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SAMPLE OF WNH ALLOWABLE TREE SPECIES NEAR POWER LINES

NEUTRAL 25FT (7.6m) ABOVE GROUND

GROUND LINE



DIRECTLY UNDER LINES

GLOBE MAPLE*

IVORY SILK

ANY DWARF SPECIES

10'-20' AWAY FROM LINE

PYRAMIDAL OAK

SPRUCE

COLUMNAR MAPLE

>20' AWAY FROM LINE

OAKS, MAPLES

LOCUST

NATIVE VARIETIES

*FOR POLY-ESTER TOPS 11.7M AND ABOVE
NO TRIP TRIPPING IS EXPECTED.



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