

1 General

1.1 RELATED WORK

.1 Coordinate the requirements of this section with all other sections, including but not limited to:

1. Section 01560 Environmental Protection
2. Section 02210 Rough Grading
3. Section 02212 Topsoil
4. Section 02998 Landscape Maintenance

1.2 QUALITY CONTROL

.1 Approval from **City of Saskatoon, Parks Branch** required for proposed plant material species and sizes.

.1 Submit name of plant material source and supplier, species and quantity before shipment.

1. Imported plant material require necessary permits and import licenses, conforming to federal and provincial regulations.

.2 Submit Letter of Certification for Elm Trees, specifying supplier.

.2 Ensure plant material complies with the current edition of Canadian Nursery Landscape Association (C.N.L.A.) **Canadian Standards for Nursery Stock**.

.3 Dutch Elm Disease: To prevent the spread of Dutch Elm Disease (DED), importing of elm trees into Saskatoon from an area where Dutch Elm Disease has been confirmed is prohibited (governed by federal and provincial legislation).

.1 Transportation of elm trees must comply with all Provincial DED regulations.

.2 Before shipment of trees, submit a "Letter of Certification" stating that all elm trees imported to the City of Saskatoon area are free of disease, and have been sprayed with Dursban Turf or another approved insecticide to control the elm bark beetle, before shipment of trees.

.4 Planting Season:

.1 Plant deciduous plant material between April 01 and October 31.

.2 Dig coniferous plant material during Spring dormancy only and plant before August 15. Planting after August 15 is subject to the approval of the **City of Saskatoon Parks Branch Design Section**, and will require additional watering as directed.

PLANT MATERIAL

.5 Mulch:

.1 Submit one (1) litre sample of mulch before delivery to site.

1.3 SUBSTITUTIONS

.1 Species and / or size (smaller or larger) substitutions of plant material is prohibited unless written approval is obtained from the Consultant.

1.4 INSPECTION

.1 Notify **City of Saskatoon, Parks Branch, Design Section** and **Urban Forestry** for inspection and approval of nursery plant material at source before delivery of plant material to site.

.2 Notify **City of Saskatoon, Parks Branch, Design Section** for inspection of layout before planting.

.3 Notify **City of Saskatoon, Parks Branch, Design Section** and **Urban Forestry** for inspection of plant material and plant installation methods before and during planting procedures.

.4 Inspections of plant material may occur at any time before, during or after planting, and during the warranty and maintenance period. Inspection and approval at any point does not preclude rejection at a later time.

1.5 DELIVERY AND STORAGE

.1 Coordinate shipping of plants and site preparation to minimize time lapse between transport and planting.

.2 During shipment, protect plant material from frost, excessive heat, sun and wind with tarpaulin covering all plants, to prevent loss of moisture.

.1 Protect plants from damage during shipping.

.2 Damaged trunks, branches and leaders are unacceptable. Damaged plant material will be rejected.

.3 Pack plants in damp peat moss, place in bales or boxes, and keep damp during transportation and storage until planted.

.3 If plant material cannot be planted within 4 hours of arrival on site, provide necessary protection to keep plants at optimum health:

.1 Keep roots moist and protected from sun, wind and mechanical damage.

.2 Protect root balls against sudden temperature changes and exposure to heavy rainfall.

PLANT MATERIAL

- .3 Dropping, dragging or other action that may damage the integrity of root-balls at any time during handling is not acceptable.
- .4 If plants can not be planted on same day of arrival to site, heel in plant material in shaded areas and water well. Provide extra protection from construction, sun and wind. Ensure close monitoring of plants watering needs.

1.6 WARRANTY

- .1 The Contractor hereby warrants plant material will remain acceptable until Final Acceptance.
- .2 The Consultant reserves the right to extend the Contractor's warranty responsibilities for an additional period of time if, at the end of the initial warranty period, leaf development and growth is questionable or the plant shows signs of stress. The length of the additional warranty period will be determined by the Consultant.
- .3 The Contractor warrants invasive or unwanted plant species will not be imported into the site with the plant material.

1.7 REPLACEMENTS

- .1 During the construction, maintenance and warranty period the project site is not to contain rejected plant material at any time. Remove and replace rejected plant material as required.

2 Products

2.1 PLANT MATERIALS

- .1 Plant material will be nursery grown in accordance with good horticultural practices.
- .2 Plant material will conform to:
 - .1 Specified quantity, species and variety.
 - .2 Specified caliper or height.
 - .3 Sufficient root-ball size relative to caliper or height.
 - .4 Specified layout and spacing.
- .3 Plant material will have:
 - .1 A well developed, strong, fibrous root system that effectively supports the plant within the full extent of the soil mass, characteristic of the species.
 - .2 A root-ball with a depth of a minimum 65% of its diameter (after removal of soil over the structural root / collar).

PLANT MATERIAL

- .3 Well developed and uniform trunk, branching and foliage, with a habit of growth characteristic of the species.
- .4 Healthy and vigorous growth.
- .5 A straight, vertical, symmetrical trunk and central leader (except where otherwise specified).
- .6 A visible root collar at its base (trees).
- .7 A firm and rigid, consistently moist, weed-free rootball.
- .8 The trunk or plant base centred within the root-ball, plus or minus 10%.
- .4 Plant material will be free of / will not contain:
 - .1 Diseases and/or insects (adults, eggs, pupae or larvae); or pre-existing damages resulting from diseases or insects.
 - .2 Stress induced growth habits, including over-elongated branches.
 - .3 A loose, unstable or disturbed root-ball.
 - .4 Invasive or unwanted species.
 - .5 Roots growing in a circular direction within the root-ball (girdling).
 - .6 More than 25mm of soil on top of the main structural roots.
 - .7 Physical damage including sunscald, frost cracks, rodent damage, or other mechanical damage.
 - .8 Die-back or tip-kill adversely affecting tree structure, including a damaged or dead central leader.
 - .9 Included bark.
 - .10 Sparse or under-developed foliage.
 - .11 Indicators of nutrient deficiencies.
 - .12 Excessive pruning or shearing that adversely affects the mature form.
 - .13 Excessive scarring from previous physical damage, including damage from poor pruning practices.
 - .14 Co-dominant or forked central leader.

PLANT MATERIAL

.5 Plants dug from native stands, woodlots, Christmas tree lots, orchards or neglected nurseries, and have not received proper maintenance per Section 02950 1.2.2, are designated "collected" plants.

.1 "Collected" plants are unacceptable unless inspected and approved.

.6 Deciduous Trees: Black Ash trees are required grafted on to Green Ash rootstock.

2.2 WOOD MULCH

.1 Approved clean untreated shredded wood chips.

.2 Ensure wood mulch is well shredded. Wood chunks greater than 15cm in length are not acceptable.

2.3 OTHER MATERIALS

.1 Water:

.1 Potable and free of minerals detrimental to plant growth.

.2 Non potable water:

.1 Location and source of water is required.

.2 Water test is required and test results submitted to City of Saskatoon, Parks Branch for approval before use.

.2 Tree Support for Park trees: Wood posts, supplied by Contractor.

.1 1800 mm long (minimum), 75mm to 100mm diameter, treated with preservative (creosote unacceptable).

.3 Tree Support for Boulevard and Median trees: supplied by Contractor.

.1 Punched heavy-duty steel 'T-Post', 1800 to 2400mm long, 35mm gauge, clean, straight.

.4 Accessories: Use 14 gauge galvanized wire inserted into 2 ply reinforced 12mm diameter rubber hose. Ensure sufficient hose length to go around the tree.

3 Execution

3.1 LAYOUT

.1 Establish and maintain line and grade controls using appropriate survey personnel and equipment.

.1 Contractor is responsible for layout accuracy.

PLANT MATERIAL

- .2 Stake locations of trees and obtain approval before planting.
- .3 Spray-paint edge of planting bed and obtain approval before start of planting operations.

3.2 UTILITIES AND SETBACKS

- .1 Underground utilities and irrigation mainline must be located and clearly flagged or marked within 5 metres of proposed planting sites.
 - .1 Identify all discrepancies in existing conditions, including locations of underground utilities affecting proposed plant material locations.
- .2 Trees require a set back of min. distance, measured from centre of tree trunk, from utilities and other objects:

0.6m	120 - 240 voltage lines (e.g., streetlight power lines), traffic control lines
1.0m	sidewalks, pathways
1.5m	local road curb face, driveways and private walks
2.0m	buried high voltage power lines, overhead power lines (small species of tree only allowed), SaskTel/AT&T/telephone lines, Sask Energy/gas distribution lines, Shaw/telecable lines, utility pedestals, curb face of arterial or collector roadways, roadway signs except from the front of stop and yield signs
5.0m	adjacent non-public properties, fibre optic lines, water and sewer lines, electrical transformers, street lights, fire hydrants, structures (e.g., houses, garages), side and back of bus stop signs, front of bus stop signs where tree is more than 3.0m from curb face
7.0m	street corners, front of stop and yield signs
10.0m	Trans gas/gas transmission lines
12.0m	front of bus stop signs where tree is less than 3.0m from curb face, railway tracks

3.3 TREE SPACING

- .1 Min. distances between / from existing trees measured from centre of tree trunks:

5.0m	small tree species less than 6.0m spread at maturity
6.0m	trees species 6.0 - 7.5m spread at maturity
7.0m	coniferous trees.
9.0m	tree species with greater than 7.5m spread at maturity.

3.4 EXCAVATION

- .1 Tree Spade material: Dig tree hole with same mechanical equipment as used to transplant tree spade plant material.
 - .1 Ensure planting hole is upright.
- .2 Scarify wall of planting holes to 100mm before installing plant material.

- .1 Remove excess soil and all water from planting hole before placing tree.
- .3 Excavation and planting procedures are not permitted during extreme weather conditions including high moisture, high temperatures, high winds, sub-zero temperatures or other poor conditions as directed by the Consultant.

3.5 PLANTING

- .1 Install plant material in centre of planting hole, plumb, per drawings.
 - .1 Consider existing sub grade soil conditions and further settlement of newly planted material at this stage of planting.
 - .2 Water each plant immediately after planting.
- .2 Park, Balled and Burlapped plant material:
 - .1 Examine root ball and if necessary remove excess soil up to a maximum of 75mm from top of structural root.
 - .2 Place top of structural root at finished grade (tolerance: +/- 25mm), allowing for future settlement.
 - .1 If tree location is in heavy clay soil, install main structural root 50mm above finished grade (tolerance 25mm +/-).
 - .3 Install root ball on undisturbed/compacted sub grade. Place topsoil at edges of excavation to support root ball.
 - .4 Place planting soil around root system in layers of 150mm, eliminating air voids.
 - .1 When planting soil is installed up to half the root ball height, cut ties, cut and remove the top 1/3 of burlap and wire basket, ensure 2 lacing loops are left intact and folded down.
 - .2 When 2/3 of planting soil has been placed, fill hole with water, allowing the water to settle the soil into all air voids. Do not complete backfill until water has completely penetrated into soil. Complete backfilling. Do not cover root-ball with soil.
 - .5 Build soil ring outside the perimeter of excavation to assist with maintenance watering.
 - .6 Apply 140 litres (30 gal) of water slowly per tree immediately after planting.
- .3 Hardscape Balled and Burlapped plant material:
 - .1 Excavate and remove existing soil from tree well.

PLANT MATERIAL

- .2 Install root ball on undisturbed/compacted sub grade, ensure root-ball is installed on centre in tree well. Place topsoil at edges of excavation to support root ball.
- .3 Place top of structural root at the finished grade (allowable tolerance: +/- 25mm), allowing for future settlement.
- .4 Place planting soil around root system in layers of 150mm, eliminating air voids.
 - .1 When planting soil is installed up to half the root ball height, cut ties, cut and remove the top 1/3 of burlap and wire basket, ensure 2 lacing loops are left intact and folded down.
 - .2 When 2/3 of planting soil has been placed, fill hole with water, allowing the water to settle the soil into all air voids. Do not complete backfill until water has completely penetrated into soil. Complete backfilling.
- .5 Install tree grates, if required. Wait five days and saturate the well again with water. Add topsoil as necessary to maintain finished grade. Do not cover root-ball with soil.
- .6 Apply 140 litres (30 gal) of water slowly per tree immediately after planting.
- .4 Container stock plant material:
 - .1 Remove container.
 - .1 Slice the root-ball vertically and gently ease apart the root-ball to expose the entire root system
 - .2 Remove any soil on top of or below the main structural root mass.
 - .3 Do not plant if girdling roots are apparent.
 - .2 Install root ball on undisturbed/compacted sub grade, ensure root-ball is installed on centre in tree well. Place topsoil at edges of excavation to support root ball.
 - .3 Position top of main structural root flush with finished grade.
 - .4 Place planting soil and compact firmly around plant. Do not cover root ball with soil.
 - .5 For vine installation along mesh fence: carefully guide branches through mesh without breaking.
 - .6 Apply 90 litres (20 gal) of water slowly per small tree immediately after planting. Apply proportionally less water for shrub material in smaller containers.
- .5 Bare root plant material:
 - .1 Ensure sub-grade is undisturbed/compacted.

PLANT MATERIAL

- .2 Position top of root system, indicated by trunk flare or dark stain on trunk, at finished grade.
- .3 Spread out roots to prevent future girdling of root system.
- .4 Cut back damaged or broken roots with sharp tool to living wood.
- .5 Place planting soil and compact firmly around plant.
- .6 Build soil ring outside the perimeter of the excavation to assist with maintenance watering, as indicated.
- .7 Apply 90 litres (20 gal) of water slowly per tree immediately after planting.
- .6 Tree Spade plant material:
 - .1 Using hydraulic tree spade, dig plant material with a firm natural cone of root system of sufficient diameter and depth to ensure full recovery of the plants.
 - .2 Refer to Section 02065, 3.4.4 for tree spade minimum size requirements.
 - .3 Dig tree hole with same mechanical equipment as used to dig plant material.
 - .1 Ensure planting hole is upright.
 - .4 Scarify top half of planting hole to 100mm depth.
 - .5 Install tree plumb and per drawings with the main structural root at finished grade (allowable tolerance: +/- 25mm).
 - .1 Backfill crevices with planting soil, water immediately with quantity of water specified by plant size.
 - .2 Repeat until soil is flush with finished grade.
 - .6 Apply 140-460 litres (30-100 gal) of water slowly per tree depending on tree size, immediately after planting
- .7 Remove remaining shipping materials, wire, burlap and protective coverings from plant material and beds.

3.6 TREE SUPPORT POSTS AND WIRE

- .1 Install 1 support post per tree after planting. Ensure support post does not disturb root ball.
- .2 Locate tree support upwind (of prevalent wind direction), or up-slope (for trees on slopes), or as directed by Consultant.

- .3 Install tree support into sub-grade to a depth of:
 - .1 300mm for wood supports.
 - .2 450mm for metal T-posts.
- .4 Paint top 200mm of metal T-post stake to match City of Saskatoon, Parks Branch annual colour codes. Contact **Urban Forestry** for current colour code.
- .5 Install wire securely around support post and tree, ensuring hose protects the tree from wire damage. Do not over-tighten wire support. Allow for trunk movement (25mm).

3.7 PRUNING

- .1 Pruning of Elm trees during the annual pruning ban from April 1 to August 31 is prohibited.
 - .1 Dispose of Elm tree cuttings at approved waste facility.
- .2 Prune dead, injured, damaged branches or branches that rub against bark.
 - .1 Remove projecting stubs back to branch collar.
 - .2 Postpone pruning of trees until in full leaf to prevent heavy bleeding.
- .3 Prune all suckers from the base and trunk.

3.8 WOOD MULCH

- .1 Wood mulch is required for all planting beds and individual trees and shrubs.
- .2 Min. mulch depth including uniform compaction:
 - .1 Irrigated areas 100mm.
 - .2 Non-Irrigated areas 100mm.
- .3 Install mulch immediately after planting.
 - .1 Do not install mulch over tree root-ball, per details.
 - .2 Taper mulch layer at base of shrubs to provide saucer centred on plant material stem(s), with no mulch directly at the base of stem(s), per details.
- .4 Compact mulch by spraying gently with water.

3.9 PLANT BED EDGING

- .1 Edging is required for all planting beds.
 - .1 Trim planting bed edge with sharp flat spade or edging tool.
 - .2 Cut clean crisp edge.
 - .3 Remove excess material before reinstating or placing mulch.
- .2 Ensure edge of planting bed has clean crisp edge and smooth continuous shape per drawings.

3.10 PLANT TAGS OR FLAGGING TAPE

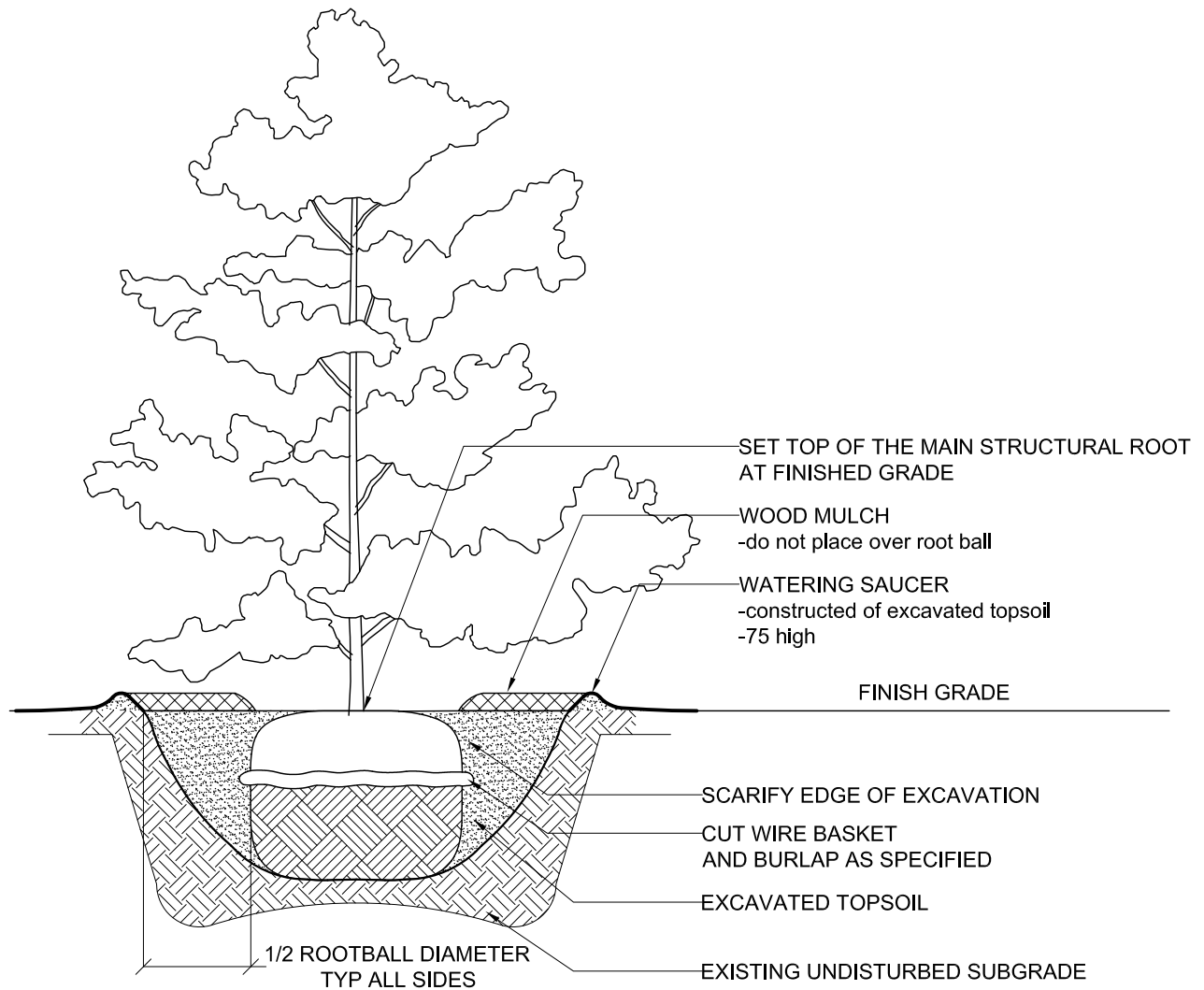
- .1 Remove flagging tape and ribbons at time of planting.
- .2 Retain plant identification tags on plants until Final Acceptance.
- .3 Remove plant identification tags at Final Acceptance.

3.11 CLEAN-UP

- .1 Clean adjacent areas, walks and road surfaces at the end of each working day.
- .2 Remove remaining shipping and construction debris from planting.
- .3 For trees to be removed and not replaced:
 - .1 Remove and dispose of the rootball and associated basket, burlap, and staking.
 - .2 Backfill with topsoil, compact and grade to match the adjacent area.
 - .3 In turf areas seed with specified seed mixture for that area.
 - .4 In beds install the specified depth of mulch.

END OF SECTION

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NOTE:
1. All units are in millimeters U.N.O.



**City of
Saskatoon**
Parks Branch

Drawing Title

Parks
(B&B) Coniferous Trees

Drawn: MLS

Checked: AO

Date Y/M/D

10/12/20

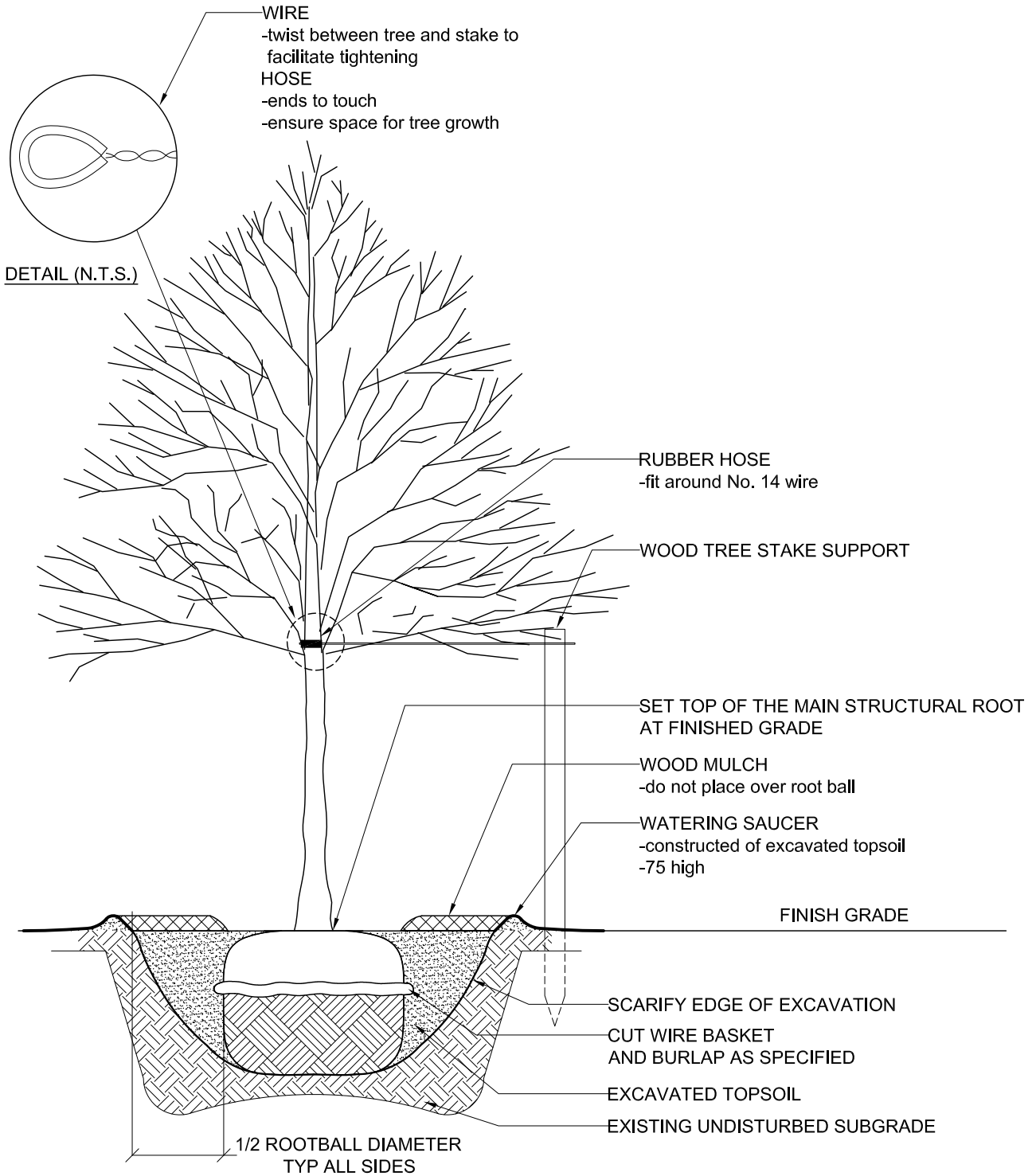
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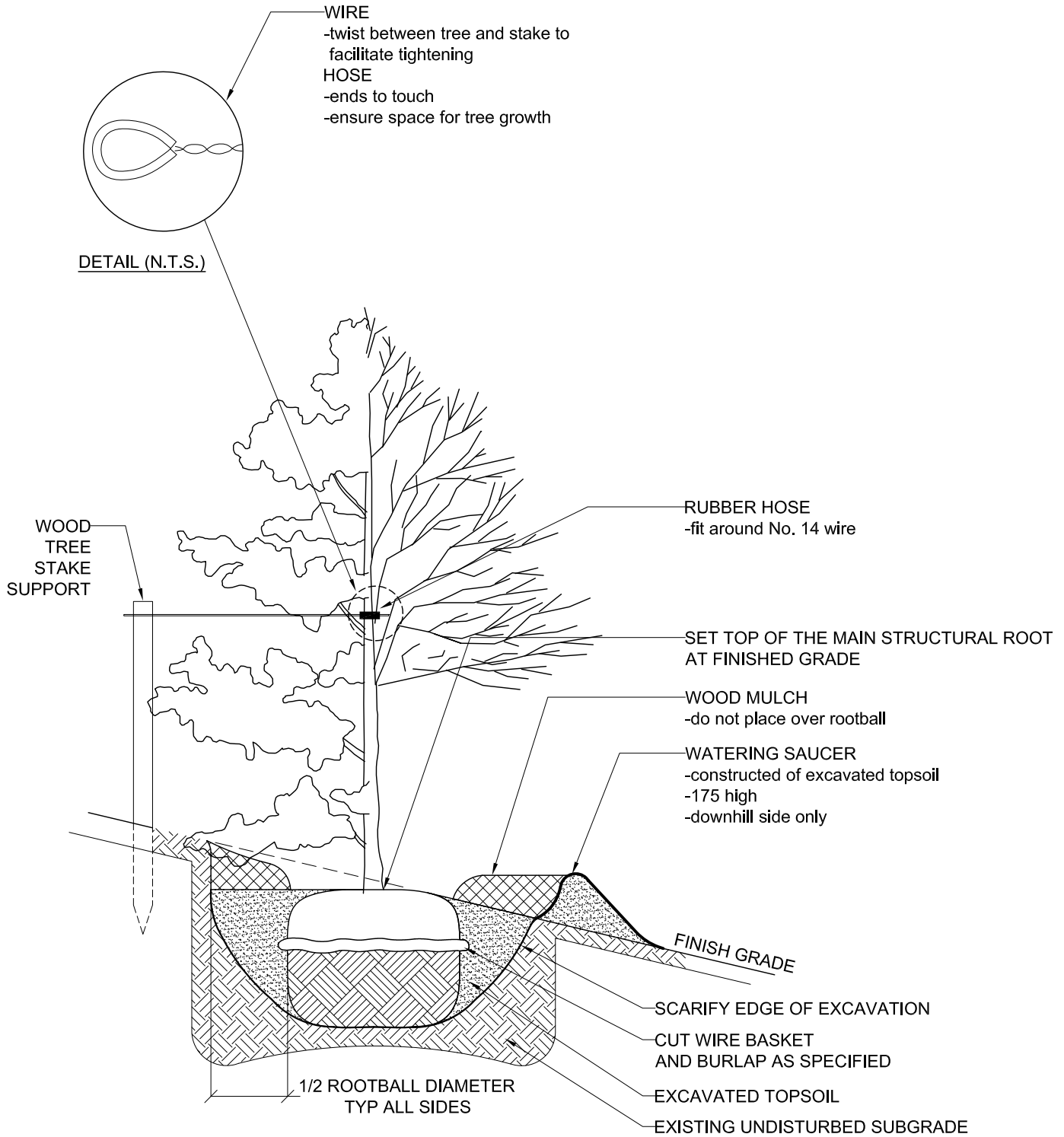
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NOTE:
1. All units are in millimeters U.N.O.

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NOTE:
1. All units are in millimeters U.N.O.



City of Saskatoon
Parks Branch

Drawing Title

Parks (B&B)
Con/Dec Trees on slope

Drawn: MLS

Checked: AO

Date Y/M/D

10/12/21

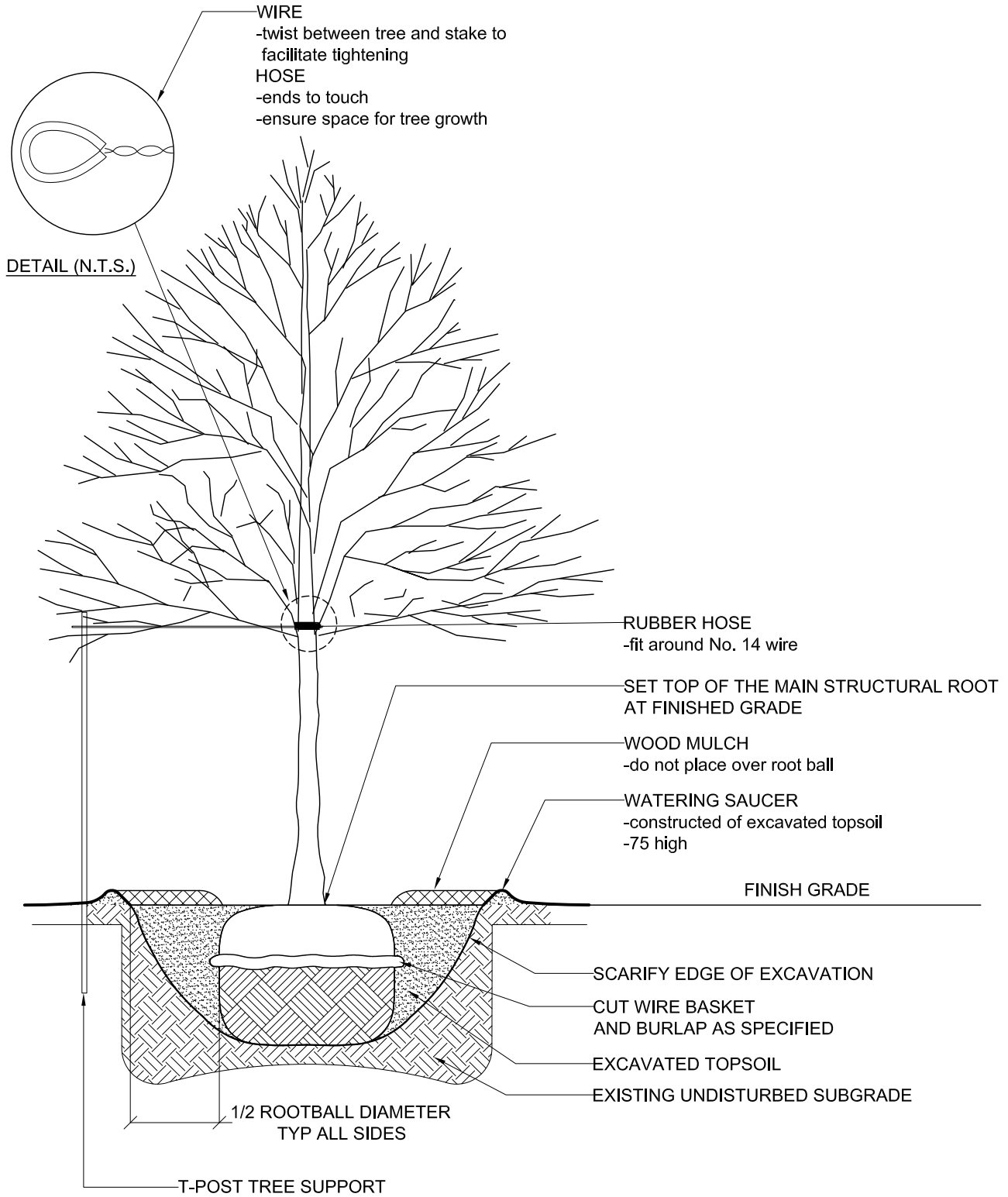
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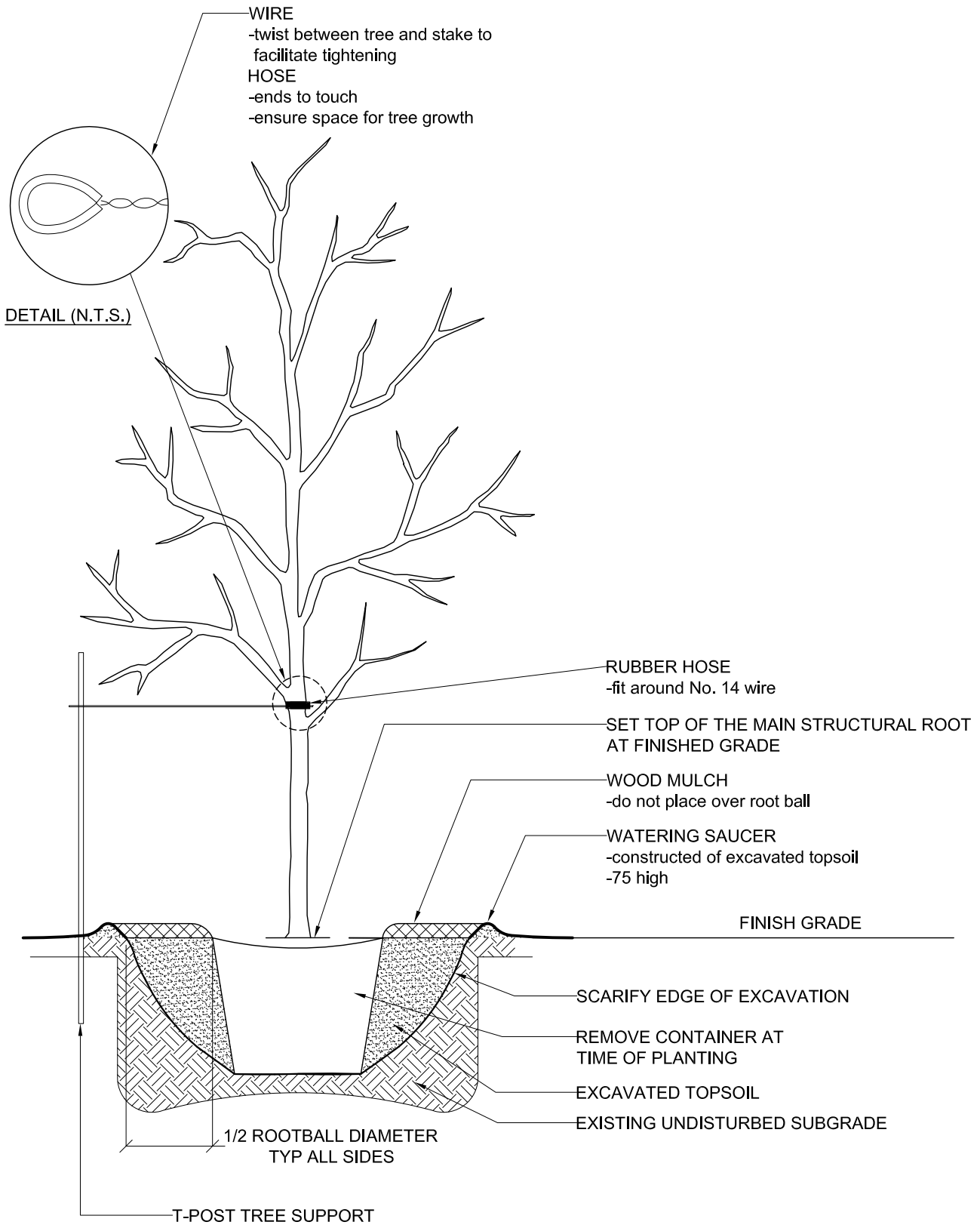
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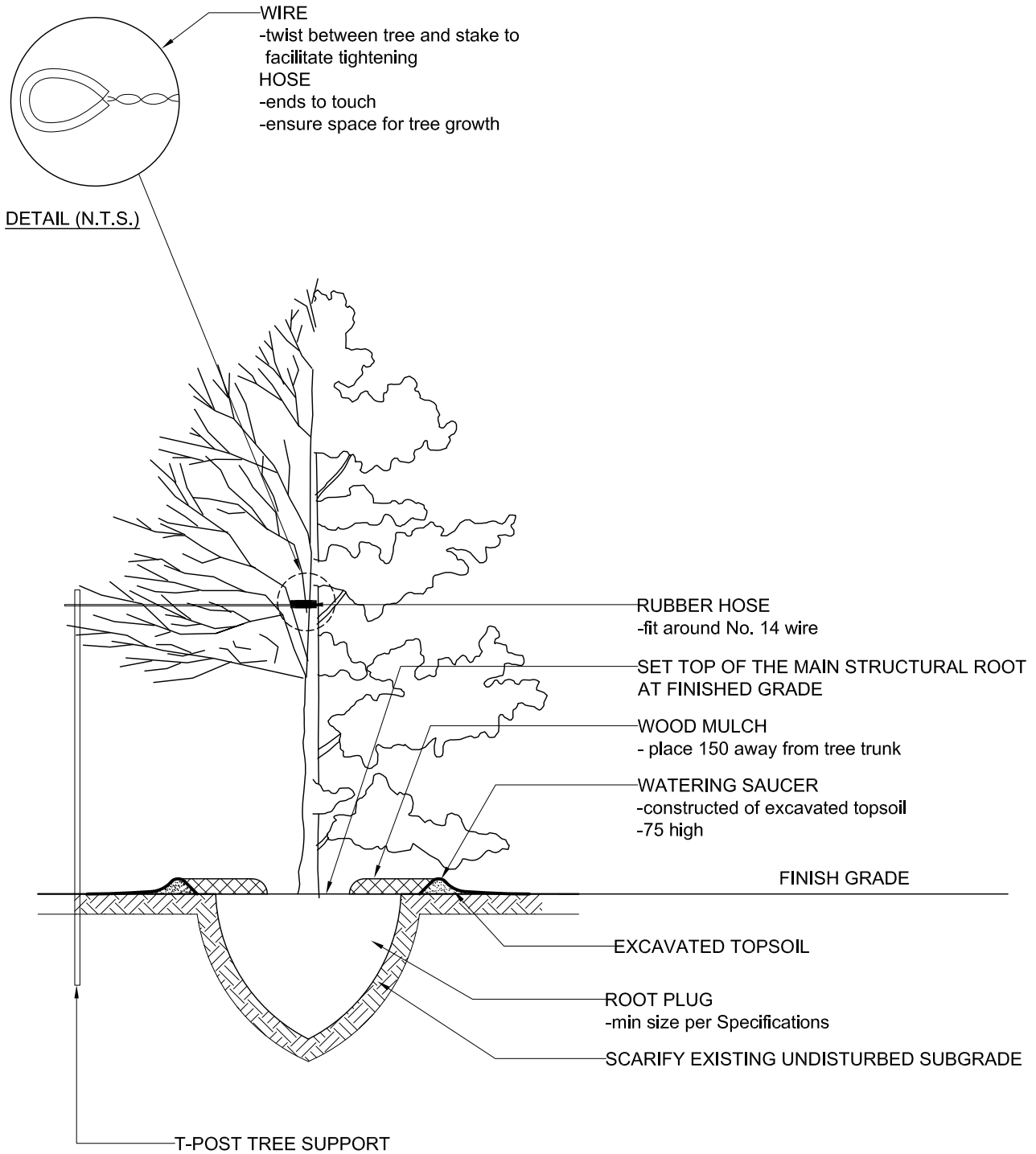


NOTE:
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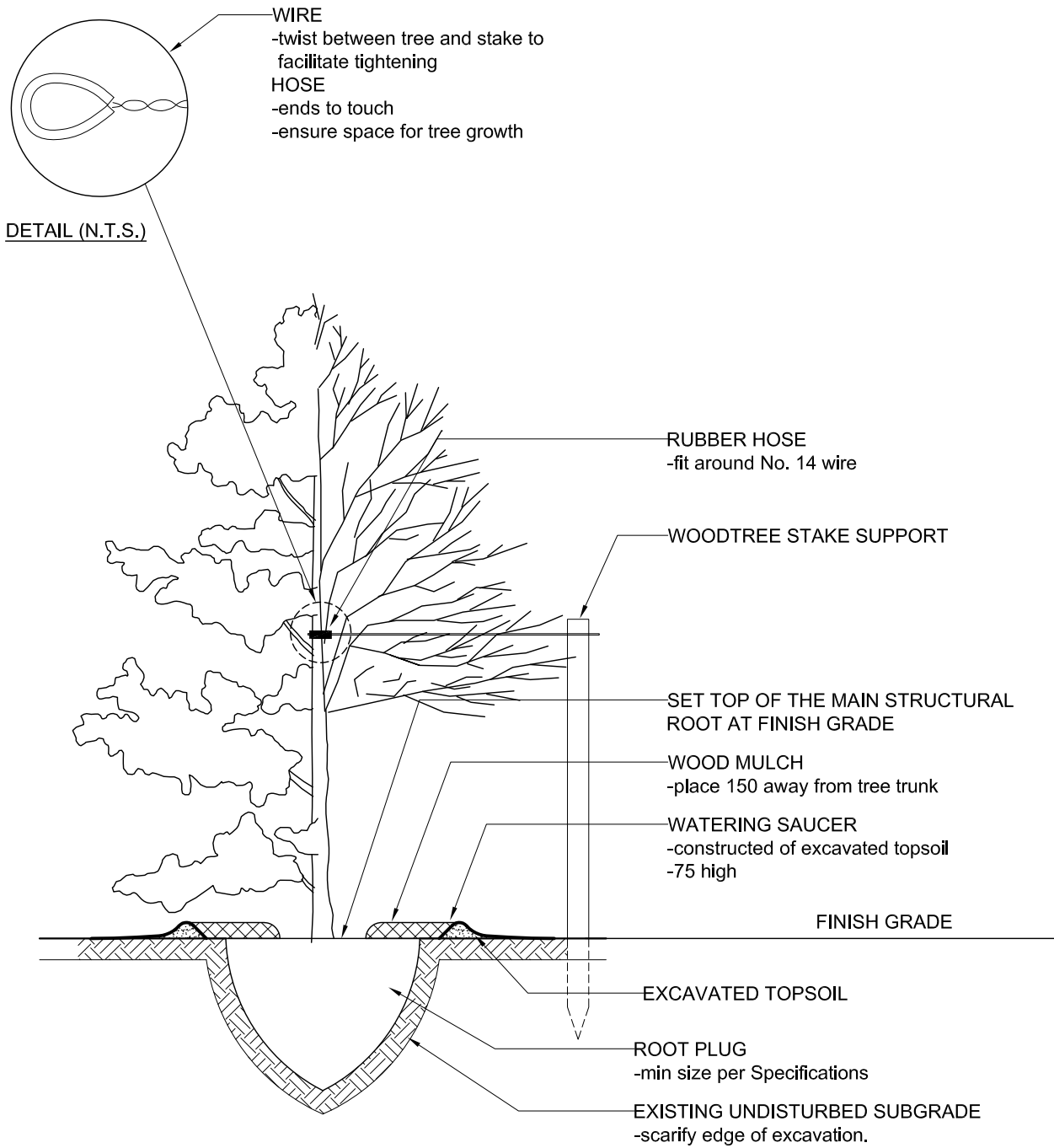


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NOTE:
1. All units are in millimeters U.N.O.



City of Saskatoon
Parks Branch

Drawing Title

Parks
(Tree Spade) Con/Dec Trees

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Checked: AO

Date Y/M/D

10/12/21

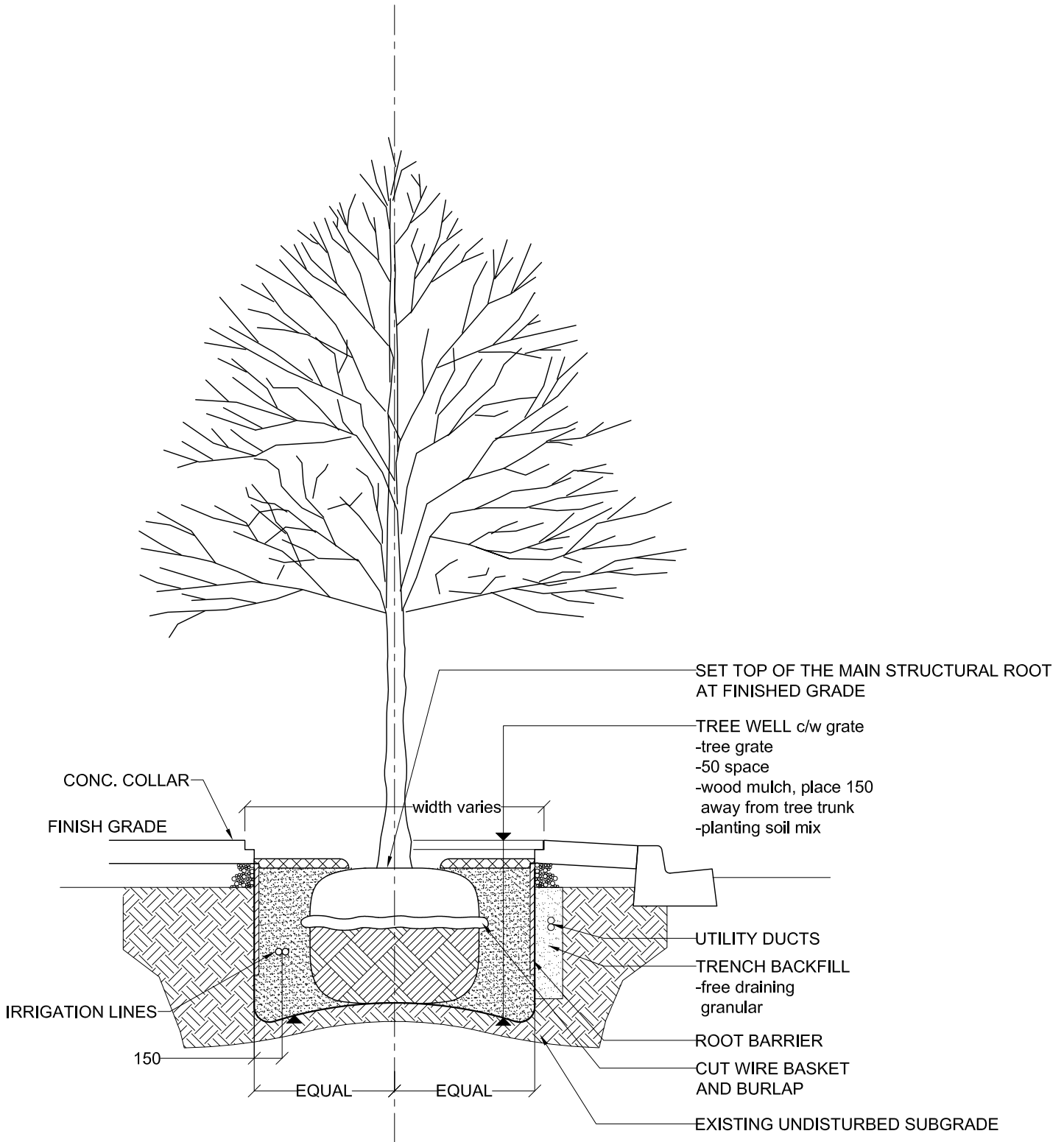
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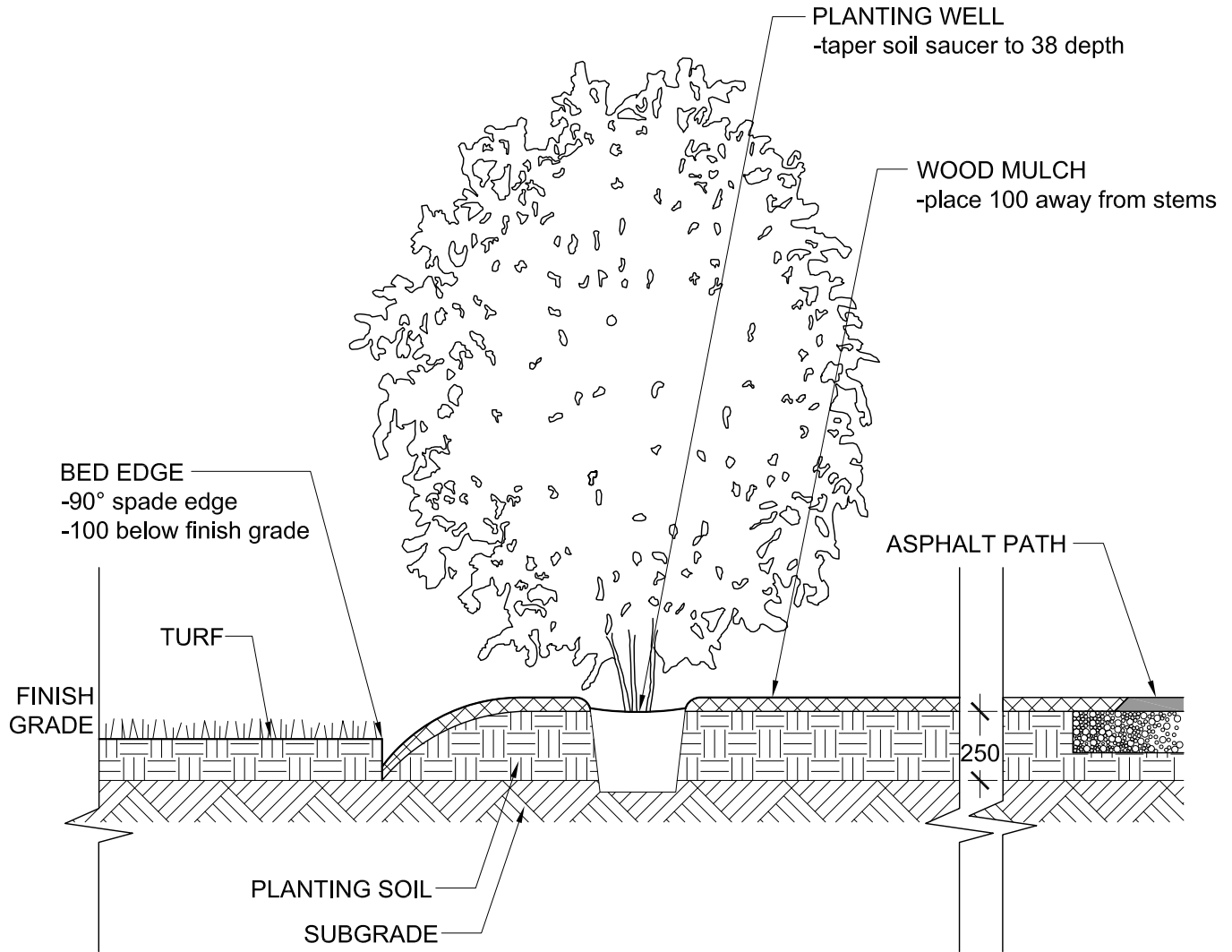
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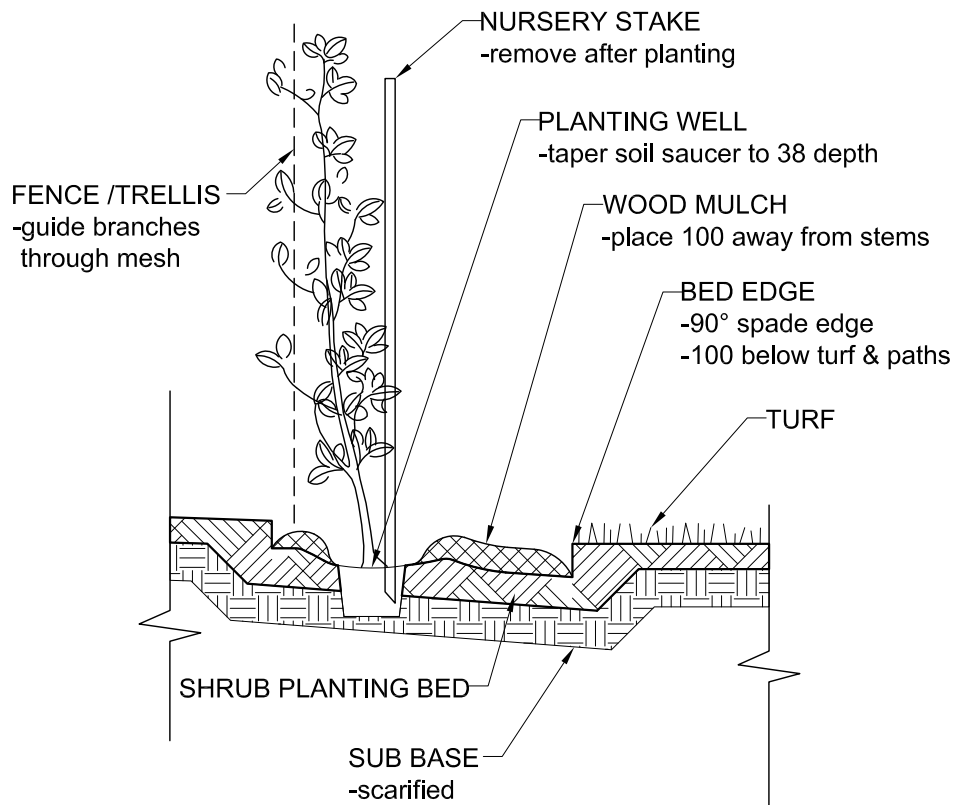
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NOTE:

1. All units are in millimeters U.N.O.

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