

SITE SPECIFIC PRE-CONSTRUCTION ROOT EXPLORATION NOTES

- Demolition, excavation, and construction work within the dripline of Trees # 1, 2, 3, 4, 5, 6, 10, 12, 14 and 14 where tree roots have the potential to be impacted is to be performed under the observation of an ISA Certified Arborist retained by the Contractor
- The ISA Certified Arborist will observe, document, and respond to Contractor requests for information related to trees, tree roots, and root pruning while the General Contractor and their subcontractor(s) use dry-vac excavation technology within the dripline of Tree #s listed above. The ISA Certified Arborist will prepare a report documenting above and below grade conditions related to trees, recommended best management practices and next steps based on project requirements including site specific permit conditions, reports, drawings, and specifications.
- If, during the dry-vac excavation procedure, the ISA Certified Arborist observes the potential for impacts to the roots of Tree #s listed above that are such that root pruning will be detrimental to the health and structure of the tree, they will contact a the City of Waterloo Urban Forestry Staff Member for further review and recommendation. All demolition and excavation work is to stop and exposed tree roots are to be covered by General Contractor and their subcontractors(s) within 30 minutes with untreated burlap or alternative material acceptable to ISA Certified Arborist, and wet with potable water, free of impurities that may harm trees/tree roots. Maintain moisture until such time that the recommendation to proceed is received in writing.

GENERAL TREE NOTES

- All arboricultural work performed on trees such as pruning of branches and roots shall be conducted by an ISA Certified Arborist.
- Prune and mitigate limbs and roots damaged by construction work in accordance with ANSI A300 (Part 1) - 2008 Pruning and the Best Management Practices companion publication (revised 2008).
- Tree Protection Fence to be erected prior to the commencement of any construction or grading, and maintained throughout the duration of the work.
- Tree Protection Zone is delimited by Tree Protection Fence shown on the drawings.
- No construction or activities including the following to occur within Tree Protection Zone: equipment parking or access, storage of supplies, topsoil or fill, and refueling.
- Tree removals (if required) will be undertaken in compliance with the Migratory Birds Convention Act. Efforts will be made to remove vegetation outside the General Nesting period (April 1 - Aug 31) for regions C1 and C2 of Ontario. In the event vegetation must be removed within the General Nesting Period, a qualified avian biologist is to review the site prior to removal to ensure compliance with the Migratory Birds Convention Act.
- Any soils and vegetation within tree protection zone damaged by the Contractor shall be restored to the satisfaction of the Municipality by the Contractor at no additional cost to the Owner.

CONSTRUCTION WITHIN MINIMUM TREE PROTECTION ZONE

- An ISA Certified Arborist must be present on site during construction activities within MTPZ to confirm and/or modify mitigation measures for trees to be preserved.
- Use trenchless methods (e.g. horizontal directional drilling) to install underground services (e.g. sanitary sewers and water lines) within Minimum Tree Protection Zones.

EXISTING UNDERGROUND SERVICES WITHIN TREE PROTECTION ZONES

- Existing sanitary/storm sewers and water mains to be discontinued within tree protection zones will be filled (as needed) and abandoned.
- Excavation and access for construction/removal of abandoned underground services will be conducted outside of tree protection zones.

FINISH GRADING WITHIN TREE PROTECTION ZONES

Where finish grading of cuts and fills, and including swales occurs within tree protection zones, the following steps are required.

Grade Cut:

- Excavate by hand or Air-spade technology to a maximum depth of 100mm.
- Roots encountered are to be assessed by the Project Arborist to determine the extent of roots to be pruned. Based on findings, other treatments may be required (e.g. crown reduction, tree removal), and which may require approval from the City.
- Based on root findings, local, minor adjustments to grading within the tree protection zone may be required based on field consultation between the Project Arborist and Project Engineer.
- No access by heavy equipment into tree protection zone is permitted. Fine grading to be carried out using light equipment and/or by hand.

Grade Fill:

- Add topsoil to meet grade requirements to a maximum of 150mm.
- No topsoil to be added onto trunk base or above-ground section of trunk base flare.
- Based on local conditions (e.g. surface drainage), local, minor adjustments to grading within the tree protection zone may be required based on field consultation between the Project Arborist and Project Engineer.

TREES OWNED BY OTHERS

- Trees owned by others require permission (i.e. written consent) from the land owner(s) prior to activities that may damage or destroy trees. Trees owned by others are Offsite Trees and Shared Trees:
 - Offsite Trees - Trees on property adjacent to the subject property;
 - Shared (Boundary) Trees - Trees whose trunk including the basal trunk flare growing on the boundary between the subject property and adjoining property (from Ontario Forestry Act).

The Provincial Forestry Act, R.S.O. 1990 (Section 10):

- (2) Every tree whose trunk is growing on the boundary between adjoining lands is the common property of the owners of the adjoining lands. 1990, c. 18 Sched. 1, s. 21.
- (3) Every person who injures or destroys a tree growing on the boundary between adjoining lands without the consent of the land owners is guilty of an offence under this Act. 1998, c. 18, Sched. 1, s. 21.

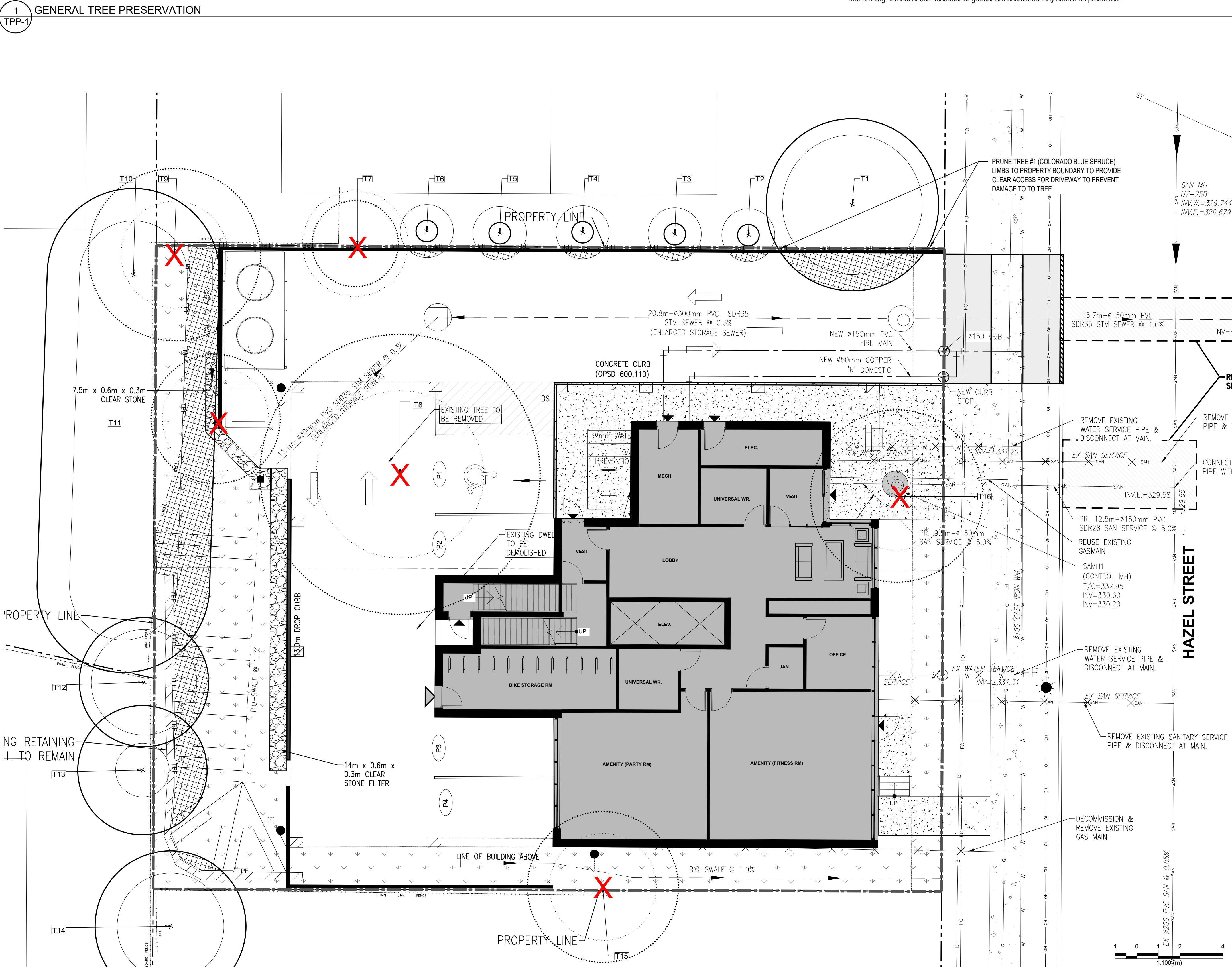
ROOT SENSITIVE EXCAVATION

A preliminary excavation at the limit of work is recommended to determine the potential magnitude of the impacts posed by the planned work. For excavation in turf or permeable surfaces, the final excavation limit should be marked in the field and arborist supervised excavation shall be performed using air-spade, dry-vac truck, hydro-vac truck or hand tools. For excavation of existing impermeable surfaces, the impermeable top layer may be broken up by machine to allow access to the permeable base layers. The permeable base layers may need to be excavated further to expose existing roots, in which case this excavation shall be performed using air-spade, dry-vac truck, hydro-vac truck or hand tools. All root sensitive excavation must be performed under the supervision of a qualified arborist. All roots exposed must be documented by the supervising arborist. Every effort should be made to preserve as many exposed roots as possible. Roots approved for pruning should be cleanly cut with a sharp, non-vibrating tool such as a handsaw, secateurs, chainsaw, or face of trench such that no further disturbance of the roots are to be expected once mechanical excavation begins. All root pruning is to be performed by the arborist only, as per guidelines below.

- When root sensitive excavation is performed in regards to the installation of a deep site feature such as a foundation, roots of less than 5cm diameter can be cut sharply. If necessary, unless an abundance of smaller roots are involved. If roots of 5cm diameter or greater or an abundance of smaller roots are exposed in the excavation areas inside or just outside the Tree Protection Zone (TPZ) of bylaw trees they should be preserved.
- When root sensitive excavation is performed in regards to the installation of site features such as post holes, all roots exposed of under 5cm diameter may be cleanly cut at face of hole such that no further disturbance of the roots are to be expected once mechanical excavation begins for the lower portion of the holes (below hand dug area). If roots of 5cm diameter or greater are uncovered they should be preserved, the post holes filled in with viable soil and the hole moved at least 0.5 metre away to avoid significant roots.
- When root sensitive excavation is performed in regards to the installation of site features such as driveways, walkways, curbs, etc. roots of less than 5cm diameter can be cut sharply. If necessary, unless an abundance of smaller roots are involved. If roots of 5cm diameter or greater or an abundance of smaller roots are exposed in the excavation areas inside or just outside the TPZ of bylaw trees they should be preserved.
- When root sensitive excavation is performed in regards to the installation of utilities such as water lines or sewers, every effort should be made to preserve as many exposed roots as possible by installing the utilities underneath the roots without root pruning. If roots of 5cm diameter or greater are uncovered they should be preserved.

LEGEND:

- EXISTING TREE
ID NUMBER / OUTER CIRCLE DENOTES APPROX. CROWN RESERVE, INNER CIRCLE DENOTES MINIMUM TREE PROTECTION ZONE (MTPZ)
- PRESERVE TREE
TREE HAS MODERATE TO HIGH BIOLOGICAL HEALTH AND/OR STRUCTURAL CONDITION AND CAN BE INCORPORATED INTO THE PROPOSED DEVELOPMENT
- DISCRETIONARY PRESERVATION
TREE HAS LOW BIOLOGICAL HEALTH AND/OR STRUCTURAL CONDITION, BUT IS NOT IN CONFLICT WITH DEVELOPMENT. PRESERVATION OR REMOVAL OF TREE IS AT THE OWNER'S DISCRETION
- REMOVE TREE
TREE HAS LOW BIOLOGICAL HEALTH AND/OR LOW STRUCTURAL CONDITION AND/OR IS IN CONFLICT WITH PROPOSED DEVELOPMENT
- TPF TREE PROTECTION FENCE
- ROOT SENSITIVE EXCAVATION
REFER TO NOTES ON THIS DRAWING



INFORMATION SOURCES

- Site Plan prepared by Khalsa Design Ltd., received March 11, 2025.
- Grading and Servicing Plans prepared by Luban Engineering Ltd., received March 11, 2025.
- Tree inventory and preservation plan prepared by Aboud & Associates Inc. dated February 28, 2025.

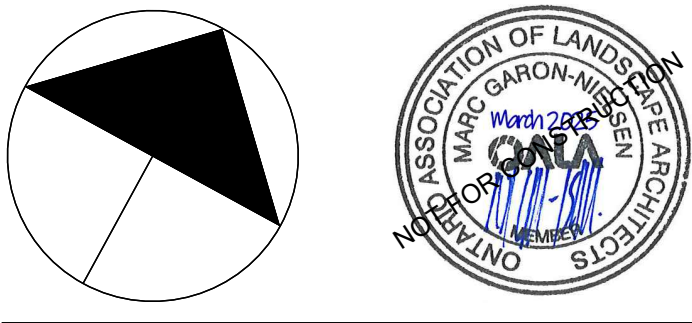
No.	Description	By	Date
0	ISSUED FOR SITE PLAN APPROVAL		17 MAR-25
REVISIONS: All previous issues of this drawing are superseded			

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TREE PRESERVATION PLAN,
DATA & NOTES

Project:
**6-STORY RESIDENTIAL BUILDING
277-279 HAZEL STREET . WATERLOO**

Date: MARCH 2025 Designer: NB . MGN
Project: AA25-025A Drawn: NB
Scale: 1:100 Checked: MGN

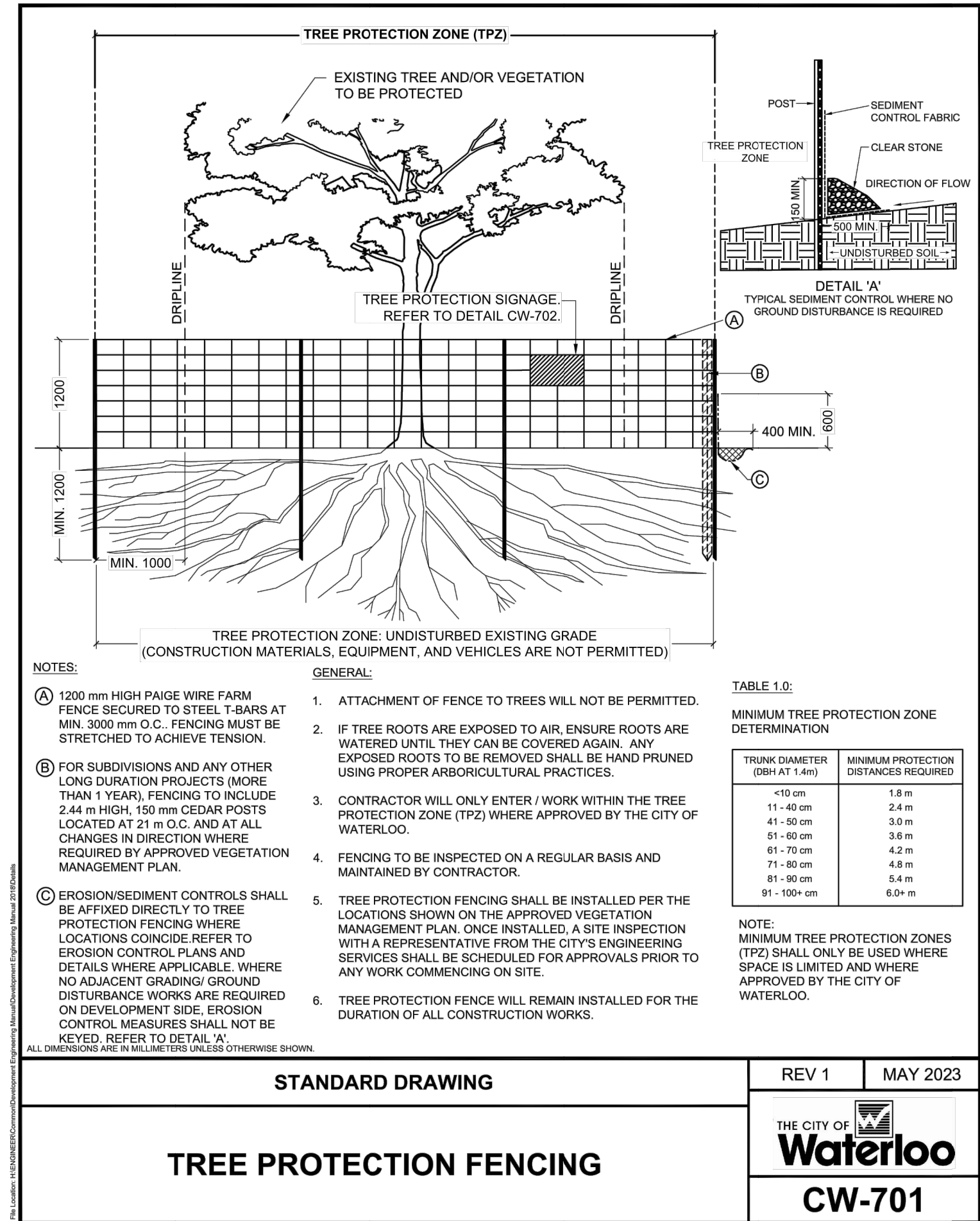


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TPP-1

1. DBH (Diameter at breast height): Measurement of tree stem diameter at 1.4 meters above ground.
2. [] Denotes DBHs of Each Stem of Tree with Multiple Stems
3. Tree Protection Zones; taken from City of Waterloo Standard Drawing CW-701 Tree Protection Fencing Revision 1, May 2023

Removal of trees owned by others (e.g. private off-site, municipal or shared boundary trees) require approval from the owner.



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Title:

TREE PRESERVATION DATA & DETAILS

Project:

6-STOREY RESIDENTIAL BUILDING
277-279 HAZEL STREET . WATERLOO

Date: MARCH 2025	Designer: NB . MGN
Project: AA25-025A	Drawn: NB
	Checked: MGN



File No:

Drawing No:

TPP-2