

## Thornbury West Reconstruction Project

THE BLUE MOUNTAINS, ONTARIO

## Arborist Report

prepared by:

Envision-Tatham Inc.  
115 Sandford Fleming Drive, Suite 200  
Collingwood, ON L9Y 5A6

prepared for:

Town of the Blue Mountains  
February 12, 2021  
ETi File ET120013-1

# Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>2</b>
<b>2</b>	<b>Methodology .....</b>	<b>2</b>
	2.1 Tree Health and Condition.....	3
<b>3</b>	<b>Observations .....</b>	<b>4</b>
	3.1 Tree Species .....	4
	3.2 Tree Health & Condition .....	5
	3.3 Proposed Construction .....	6
	3.4 Anticipated Construction Impacts .....	6
<b>4</b>	<b>Recommendations .....</b>	<b>7</b>
	4.1 Removals.....	7
	4.2 Construction Recommendations for Tree Removals .....	8
	4.3 Tree Protection and Mitigation Of Construction Impacts .....	8
	4.4 Species Diversity .....	9
	4.5 Maintenance Practices.....	9
<b>5</b>	<b>Summary .....</b>	<b>9</b>

## Appendices

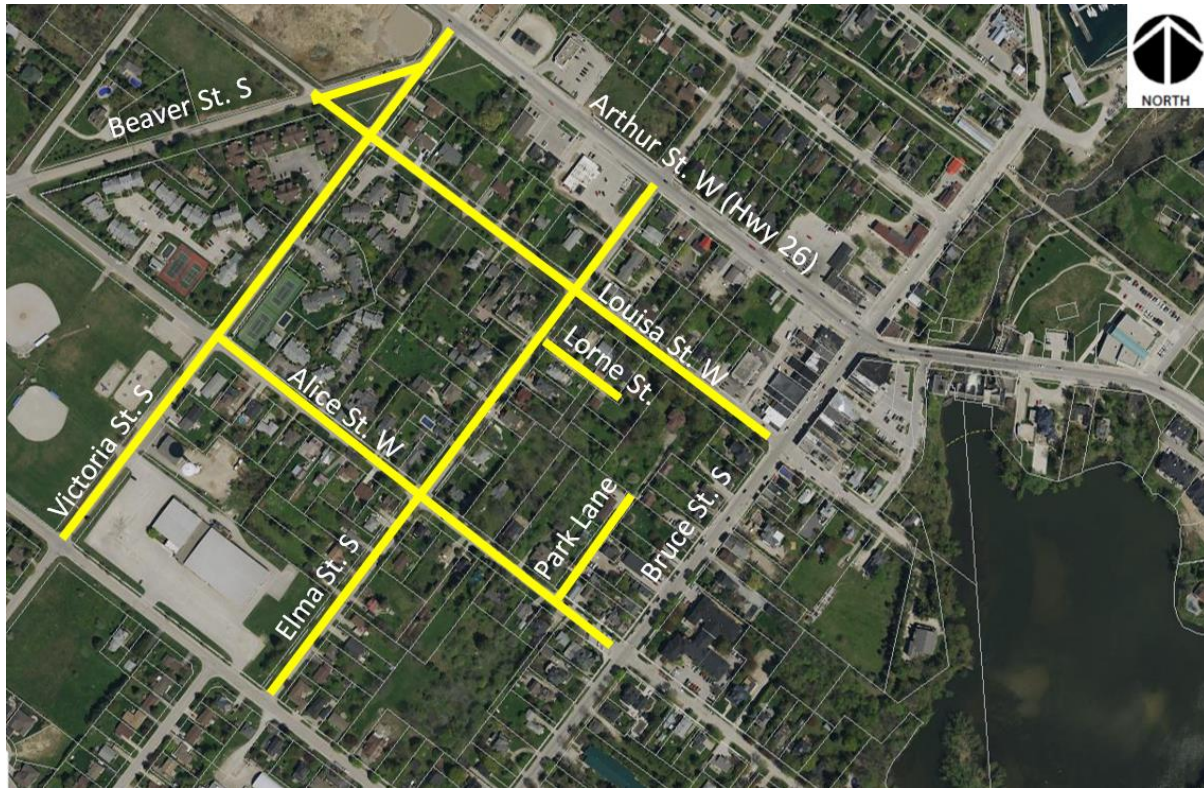
Appendix A: Tree Location Plan

Appendix B: Tree Inventory and Assessment



# 1 Introduction

The Town of The Blue Mountains, through the Thornbury West Reconstruction Project, intends to replace municipal infrastructure in the older sections of Thornbury. Envision-Tatham is retained to review existing trees located within or adjacent to the road allowance, assess potential impacts, and provide recommendations for tree protection during construction. The road allowances included in the scope of this report are shown in **Figure 1**.



**Figure 1.** Key Plan (Image from Grey County Maps).

## 2 Methodology

Following a review of the preliminary engineering drawings, we inventoried boulevard trees within or adjacent to Victoria St. S and Louisa St. W road allowances on June 15, 2020. Data collected included species, diameter-at-breast-height (dbh), canopy size, and a limited visual assessment of the general health and condition of the trees.

The scope of work was later expanded to include trees along Elma St. S, Alice St. W, Lorne St. and Park Lane, which were inventoried on October 5 and 8, 2020. It is noted that fall colouration and leaf abscission had commenced among some trees.

Tree structure was then re-assessed in leaf-off condition on November 10, 2020 (Victoria St. S and Louisa St. W) and December 22, 2020 (Elma St. S, Alice St. W, Lorne St., & Park Lane). Tree removals that occurred prior to the leaf-off inventory were also noted.

This data was then used to inform recommendations for retention or removal in context of the preliminary engineering drawings prepared by Tatham Engineering Limited. It is noted that the

recommendations in this report may be affected by future refinements to engineering design and unforeseen circumstances encountered during construction.

## 2.1 Tree Health and Condition

Tree health and condition were rated as follows:

### Good

- Full, well-balanced canopy, with less than 10% dieback
- Vigorous growth on current/previous year's twigs
- No significant diseases or insect pests
- No signs or symptoms of decay
- Minor wounds with vigorous woundwood
- Strong branch structure
- No observable root defects

### Fair

- 10-40% canopy dieback
- Bark splitting/other trunk wounds with good woundwood development, but injuries not closed and may show preliminary symptoms of decay
- Poor branch structure that could be addressed through pruning/training
- Self-corrected lean or bow

### Poor

- In severe decline (>40% canopy dieback)
- Signs or symptoms of significant insect pests, disease, or decay
- Lean associated with soil upheaval or other signs of instability
- Girdling roots or damage to roots that are larger than 75mm diameter
- Actively splitting trunks

### Dead

- None



### 3 Observations

The locations of trees are identified in Appendix A and detailed results of our tree inventory and assessment may be found in Appendix B. A summary of our inventory and assessment is provided below.

#### 3.1 Tree Species

We inventoried and assessed a total of 262 individual trees, consisting of the following species:

Species	Common Name	QTY	%
<i>Acer saccharum</i>	Sugar Maple	91	34%
<i>Picea pungens</i>	Colorado Spruce	26	10%
<i>Thuja occidentalis</i>	Eastern White Cedar	18	7%
<i>Acer platanoides</i>	Norway Maple	15	6%
<i>Picea abies</i>	Norway Spruce	14	5%
<i>Acer rubrum</i>	Red Maple	12	5%
<i>Betula papyrifera</i>	Paper Birch	12	5%
<i>Picea glauca</i>	White Spruce	12	5%
<i>Malus</i> sp.	Crabapple	7	3%
<i>Pinus strobus</i>	White Pine	6	2%
<i>Populus</i> sp.	Hybrid Poplar	6	2%
<i>Pinus nigra</i>	Austrian Pine	5	2%
<i>Acer ginnala</i>	Amur Maple	4	2%
<i>Fraxinus</i> sp.	Ash	4	2%
<i>Aesculus hippocastanum</i>	Horsechestnut	3	1%
<i>Robinia pseudoacacia</i>	Black Locust	3	1%
<i>Syringa reticulata</i>	Ivory Silk Lilac	3	1%
<i>Tilia cordata</i>	Littleleaf Linden	3	1%
<i>Liriodendron tulipifera</i>	Tulip Tree	2	1%
<i>Tilia americana</i>	Basswood	2	1%
<i>Acer negundo</i>	Manitoba Maple	1	0%
<i>Acer saccharinum</i>	Silver Maple	1	0%
<i>Chamaecyparis nootkatensis</i> 'Pendula'	Weeping Nootka Cypress	1	0%
<i>Crataegus</i> sp.	Hawthorn	1	0%
<i>Euonymus</i> sp.	Euonymus	1	0%
<i>Juglans nigra</i>	Black Walnut	1	0%
<i>Juniperus</i> sp.	Juniper	1	0%
<i>Magnolia soulangiana</i>	Saucer magnolia	1	0%
<i>Magnolia</i> sp.	Magnolia	1	0%
<i>Morus alba</i> 'Pendula'	Weeping Mulberry	1	0%
<i>Quercus robur</i>	English Oak	1	0%
<i>Quercus rubra</i>	Red Oak	1	0%
<i>Salix babylonica</i>	Weeping Willow	1	0%
<i>Sorbus</i> sp.	Mountain Ash	1	0%

It is noted that, not only does Sugar Maple dominate these streetscapes, the Maple genus (*Acer*) accounts for 47% of the trees.

### 3.2 Tree Health & Condition

In total, 144 of the inventoried trees appeared to be in good/good-fair condition, with 64 in fair condition and 54 in fair-poor, poor, or dead condition at the time of review.

Several sections of the streetscape were dominated by mature and over-mature trees, many of which were located immediately adjacent to sidewalks (**Figure 2**). Several of the inventoried trees had poor structure, decay, and other defects characteristic of poor maintenance (**Figure 3**).



**Figure 2.** Mature trees near sidewalks



**Figure 3.** Mature trees with poor structure and decay

### 3.3 Proposed Construction

Proposed construction adjacent to the trees consists of the following:

- replacement of storm and sanitary sewer and water mains plus associated services
- topsoil stripping
- sidewalk replacement, including realignment and widening to meet provincial standard, where required
- new sidewalks to address discontinuity in the pedestrian network (Elma St. S, Victoria St. S)
- widening of pavement to improve on-street parking (Louisa St. W)
- re-grading of boulevards to allow installation of new sidewalks, stabilize slopes, or improve drainage
- removal and replacement of existing driveways (within the road allowance)

### 3.4 Anticipated Construction Impacts

Several trees conflict directly with proposed removal/replacement of services, widening/installation of sidewalks, and/or necessary grading. Typically, there is no opportunity for retention of these trees, because the condition of the trees does not warrant exceptional measures (e.g., boring, re-routing services, etc.) or retention of the tree would compromise the design objectives (e.g., compromised sidewalk width or service offsets.)

For remaining trees, the primary impact resulting from road re-construction and infrastructure renewal will be through root loss. We have therefore assessed these trees based on the anticipated impacts to their Critical Tree Protection Zone and their Optimum Tree Protection Zone, as defined below.

#### 3.4.1 Critical Tree Protection Zone

It is generally accepted that, to maintain stability, a minimum (i.e., critical) Tree Protection Zone (TPZ) of three times the diameter-at-breast-height (dbh) should be maintained.<sup>1</sup> This is the 'zone of rapid taper' where buttress roots are located.<sup>2</sup> When this Critical Tree Protection Zone is not achieved, a tree's stability may be significantly compromised.<sup>3</sup>

#### 3.4.2 Optimum Tree Protection Zone

Root loss affects a tree's ability to absorb water and nutrients and can lead to drought stress and overall loss of vigour. Depending on the severity, root loss could have noticeable effects on a tree canopy. Root loss can also affect a tree's ability to overcome other stressors and the severity of impact is related to the amount of root loss and the health of the tree at the time of the impact.

---

<sup>1</sup> Smiley, E.T., Holmes, L., and Fraedrich, B.R. 2014. Pruning of Buttress Roots and Stability Changes of Red Maple (*Acer rubrum*). *Arboriculture & Urban Forestry* 2014. 40: 230–236

<sup>2</sup> Urban, J. 2008. *Up by Roots*. International Society of Arboriculture, Champaign, IL. p. 265.

<sup>3</sup> This factor is a guide for decision-making and should be taken in context of other factors which may compromise stability. Achieving the 3x factor is not a guarantee of tree stability.



An optimum tree protection zone (TPZ) is one which would allow the tree to sustain enough roots to maintain its vitality. An optimum TPZ would be determined based on age (young, mature, over-mature) and the tree species' tolerance to root loss, as per Matheny and Clarke (1998).<sup>4</sup>

## 4 Recommendations

### 4.1 Removals

Due to the constrained site conditions and the proximity of sidewalks, curbs, and services to trees, the optimum TPZ cannot be achieved for most trees unless the trees are located well onto private property. Recognizing that this optimum TPZ is an ideal and will not be achieved, we have assessed trees based on their health, the significance of the encroachment on the optimum TPZ and whether the critical TPZ has been compromised.

We have recommended removal of trees if:

1. They conflict directly with proposed works (typically located in the road allowance).
2. They are privately owned trees in good to fair condition whose Critical Tree Protection Zone either cannot or can only just barely be achieved during the proposed construction. (See below for exceptions.)
3. They are privately owned trees that are in poor condition and are likely to be impacted by construction.

In some instances, the Critical Tree Protection Zone overlaps with proposed sidewalk replacement. For privately owned trees that are in good condition, where the sidewalk edge is anticipated to match the existing sidewalk edge and there are no other significant construction impacts anticipated, we have recommended the retention of these trees, subject to review during construction. This recommendation is contingent on encountering no large roots during replacement of the sidewalk and granular base. However, should large roots be encountered and damaged during construction, these trees will likely require removal.

We have not recommended removal of trees in poor condition whose canopies do not overhang the road allowance. It is assumed that removal of these trees is the responsibility of the homeowner.

For privately owned trees, where the Tree Protection Zone is only compromised by grading (not services or sidewalks) we have recommended enlargement of Tree Protection Zones into the road allowance where possible.

Based on the above, our recommendations are as follows:

- 141 trees are recommended for removal
- 119 trees are recommended for retention

*Note: 2 trees have been removed over the course of our tree assessment.*

Of the 141 trees recommended for removal, 39 are trees on private property, while ownership of an additional 36 should be confirmed (surveyed near the road allowance boundary.)

---

<sup>4</sup> Trees and Development: a technical guide to preservation of trees during land development. 1998. Matheny, N. and Clarke, J.R. International Society of Arboriculture, Champaign, IL.

Of the 119 trees to be retained, there are 17 that may require removal, depending on whether large roots are encountered/damaged during construction.

#### **4.2 Construction Recommendations for Tree Removals**

We recommend that the contract for the Thornbury West Reconstruction Project incorporate the following requirements related to tree removals:

- a. Tree removals should conform with the requirements of the Federal Migratory Birds Convention Act, the Ontario Fish and Wildlife Conservation Act, and all municipal by-laws.
- b. Felling lines should allow trees to fall without impacting existing structures, features or branches and trunks of trees to remain.
- c. Should a clear felling line not exist, the tree should be cut incrementally from top to bottom and lowered to the ground with ropes.
- d. Where guying or pull wires are necessary to remove or fell trees, the contractor should take precautions to prevent damage to existing trunks and branches that may be used as support. Damage to limbs and bark of trees to remain should not be permitted.
- e. When working near trees to be retained and protected, the impact of vehicles and pedestrian traffic during these operations should be kept to a minimum.
- f. For tree removals occurring within Tree Protection Zones, the trunks should be cut at-grade and stumps left in place to limit disturbance to root systems of trees to remain.
- g. Where roots of nearby trees or shrubs to remain become exposed, all possible haste should be made to re-establish the soil layer over such roots to prevent drying and damage.
- h. Tree removals should be undertaken by an Arborist certified by the International Society of Arboriculture with appropriate insurance coverage for this task.

#### **4.3 Tree Protection and Mitigation Of Construction Impacts**

To protect remaining trees from impacts during construction, we recommend that continuous tree protection fencing be installed at the limit of work to define Tree Protection Zones. We also recommend that the construction contract incorporate the following construction restrictions and mitigation measures:

- a. Where equipment may be operated under the canopies of trees to remain, branches should be temporarily lifted, where possible, with flexible non-abrasive bands or orange plastic construction fencing where appropriate, so the branches do not conflict with the construction. Where this is not possible, branches should be pruned by a certified arborist in accordance with ANSI A300 and ANSI Z133 prior to construction to provide suitable clearance and reduce potential injury to the trees.
- b. Tree Protection Zones (TPZ) should be established around trees to remain that are located near the proposed construction area. Fencing to identify the TPZ limits may include heavy duty silt fence (if required by the engineering drawings) or orange plastic construction fencing supported with Paige wire.
- c. Where possible, TPZ fence barriers should be located at or outside the dripline of protected trees, which is defined as the circle that could be drawn on the soil around a tree directly under the tips of its outermost and widest branches.
- d. Location of the TPZ fence barrier should be confirmed on-site by the arborist prior to commencing tree clearing operations.

- e. For trees to remain, the whole tree (including root systems) should be protected from damage, compaction, and contamination resulting from construction.
- f. Any roots found outside TPZ's that become exposed during construction should be cleanly cut with sharp, sterilized pruners or saws.
- g. No construction activity, including grade changes, surface treatments, or excavations of any kind should be permitted within the TPZ.
- h. No root cutting, no storage of materials or fill, and no movement or storage of vehicles should be permitted within the TPZ.
- i. The enclosed fence area should be kept free of construction material and debris.
- j. Fence barriers should remain in effective condition until all site activities including landscaping are completed.
- k. During and at least one year following construction, trees should be supplied with supplemental watering to reduce potential drought stress associated with root loss due to construction.

#### 4.4 Species Diversity

This neighbourhood is dominated by Sugar Maple. While the tree is native to Ontario and is beautiful, relying so heavily on one species compromises the resilience of the urban forest and its ability to withstand pests and diseases. We recommend that any replanting within the road allowance incorporates a greater species diversity, utilizing several genera.

#### 4.5 Maintenance Practices

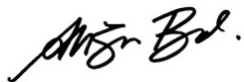
Many of the declining deciduous trees have been poorly maintained. We recommend that the Town consider allocating funds to public tree maintenance to improve the longevity of trees.

## 5 Summary

We inventoried and assessed 262 trees within the project limits. Based on preliminary engineering drawings and tree health/condition, we have made recommendations for retention or removal, supported with best practices during construction. We have noted the lack of species diversity and made recommendations for replanting.

Should you require any elaboration or additional information, we are at your disposal.

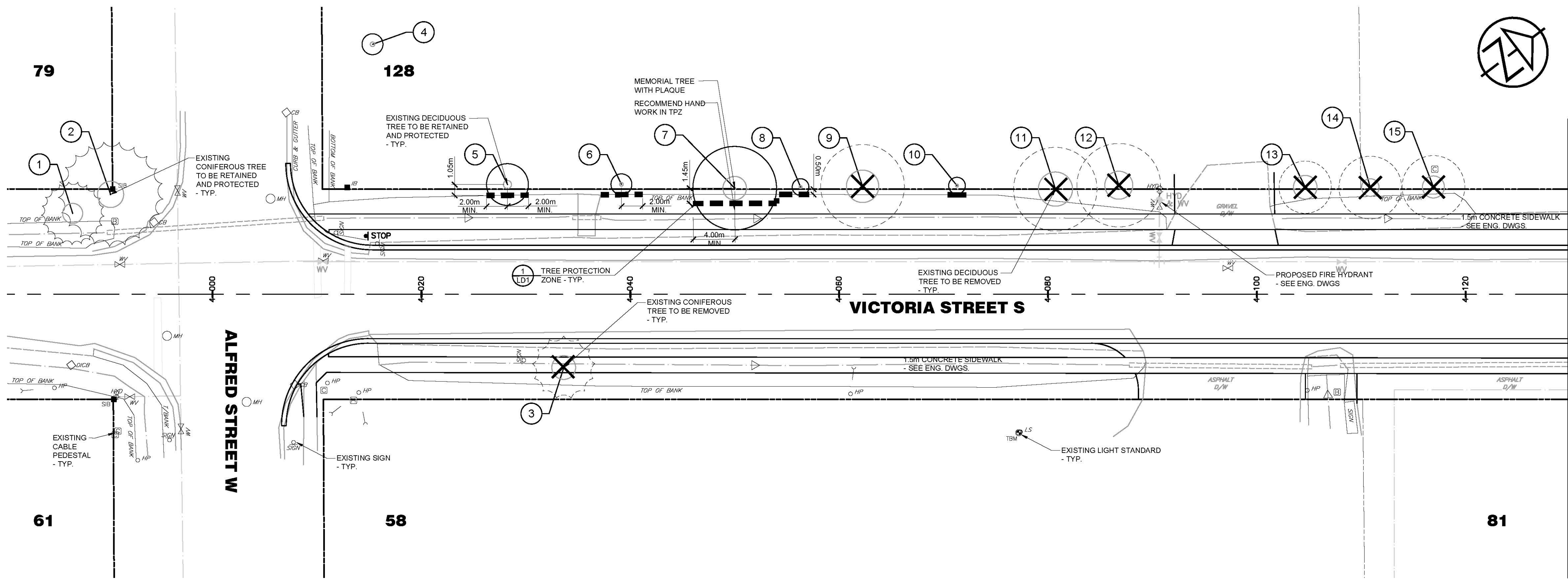
Respectfully submitted,  
**ENVISION-TATHAM INC**



Alison Bond BSc MSc BLA OALA CSLA  
ISA Certified Arborist ON-0942A, Tree Risk Assessment Qualification  
Landscape Architect

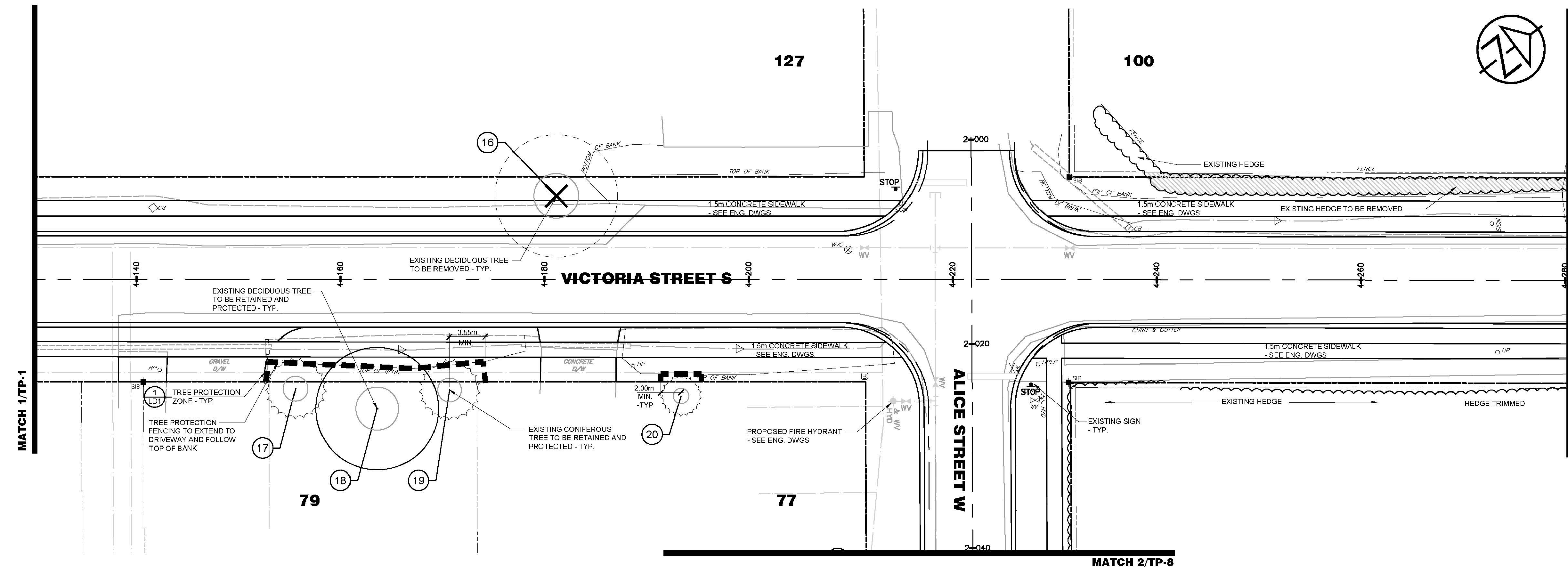


## **Appendix A: Tree Location Plan**



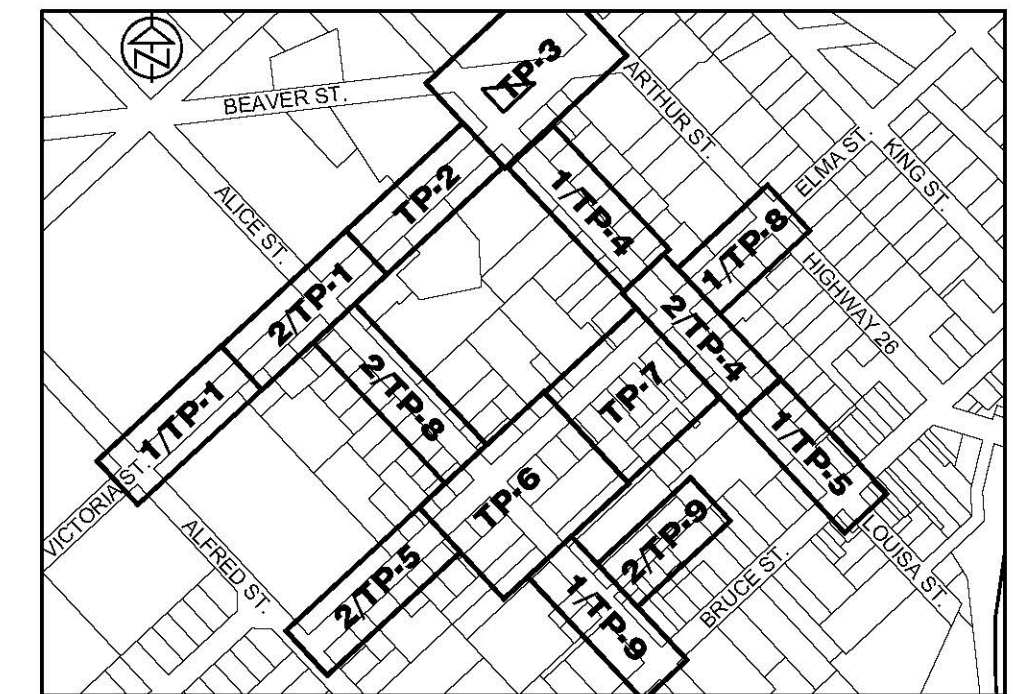
1  
TP1  
VICTORIA STREET S - STA. 4+000 TO 4+130

1:250



2  
TP1  
VICTORIA STREET S - STA. 4+130 TO 4+280

1:250



#### LEGEND

- PROPERTY BOUNDARY
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SIGN
- EXISTING MANHOLE
- EXISTING CATCHBASIN
- EXISTING HYDRO POLE & GUY WIRE
- LIGHT STANDARD
- BELL/CABLE PEDESTAL
- UNDERGROUND SERVICES - SEE ENG. DWGS
- TREE PROTECTION ZONE
- EXISTING CONIFEROUS TREE TO BE REMOVED
- EXISTING DECIDUOUS TREE TO BE RETAINED AND PROTECTED - CRITICAL ROOT ZONE
- EXISTING CONIFEROUS TREE TO BE RETAINED AND PROTECTED
- TREE ID NUMBER
- EXISTING HEDGE
- EXISTING HEDGE TO BE REMOVED
- EXISTING DECIDUOUS TREE TO BE REMOVED

#### NOTES:

- ##### 1.0 GENERAL
- FOR TREE INVENTORY TABLE AND RECOMMENDATIONS, SEE ARBORIST REPORT.
- ##### 2.0 TREE PROTECTION
- DEPICTED ON THIS PLAN ARE THE APPROXIMATE LOCATIONS OF TREE PROTECTION FENCING. FENCE LAYOUT IS TO BE ADJUSTED TO REFLECT TREE LOCATIONS AND IS TO BE CONFIRMED ONSITE BY THE ARBORIST PRIOR TO INSTALLATION. SEE TREE PROTECTION DETAILS AND NOTES ON DWG. LD-1.
  - HEAVY DUTY SILT FENCE ADJACENT TO TREE PROTECTION ZONES (TPZ) SHALL CONFORM TO THE LAYOUT AND CONSTRUCTION RESTRICTIONS ON DETAIL 1/LD1.
  - HEAVY DUTY SILT FENCE SHALL ALSO SERVE AS TREE PROTECTION FENCING WHERE ADJACENT TO TREES TO BE RETAINED.
- ##### 3.0 TREE REMOVALS
- TREE REMOVALS SHALL CONFORM WITH THE REQUIREMENTS OF THE MIGRATORY BIRDS CONVENTION ACT AND ALL MUNICIPAL BY-LAWS.
  - CUT SPECIFIED TREES AND REMOVE AND DISPOSE OF ALL STUMPS, ROOTS, WOOD AND BRUSH FROM TREE REMOVAL OPERATIONS OFF-SITE.
  - FELLING LINES SHALL ALLOW TREES TO FALL WITHOUT IMPACTING EXISTING STRUCTURES, FEATURES OR BRANCHES AND TRUNKS OF TREES TO REMAIN.
  - SHOULD A CLEAR FELLING LINE NOT EXIST, THE TREE SHOULD BE CUT INCREMENTALLY FROM TOP TO BOTTOM AND LOWERED TO THE GROUND WITH ROPES.
  - WHERE GUYING OR PULL WIRES ARE NECESSARY TO REMOVE OR FELL TREES, THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT DAMAGE TO EXISTING TRUNKS AND BRANCHES THAT MAY BE USED AS SUPPORT. DAMAGE TO LIMBS AND BARK OF TREES TO REMAIN WILL NOT BE PERMITTED.
  - WHEN WORKING NEAR TREES TO BE RETAINED AND PROTECTED, THE IMPACT OF VEHICLES AND PEDESTRIAN TRAFFIC DURING THESE OPERATIONS SHALL BE KEPT TO A MINIMUM.
  - WHERE ROOTS OF NEARBY TREES OR SHRUBS TO REMAIN BECOME EXPOSED, ALL POSSIBLE HASTE SHALL BE MADE TO RE-ESTABLISH THE SOIL LAYER OVER SUCH ROOTS TO PREVENT DRYING AND DAMAGE.
  - REMOVE AND DISPOSE OF STUMPS AND ALL ROOTS FULLY IN AREAS OUTSIDE TREE PROTECTION ZONES.
  - LEAVE THE GROUND SURFACE IN A CONDITION SUITABLE FOR IMMEDIATE GRADING OPERATIONS AND DO NOT LEAVE STUMP REMOVAL PITS OVERNIGHT.
  - DEPRESSIONS REMAINING AFTER REMOVALS SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL AND COMPACTED TO AVOID SETTLEMENT.
  - TREE REMOVALS SHALL BE UNDERTAKEN BY A QUALIFIED TREE WORKER WITH APPROPRIATE INSURANCE COVERAGE FOR THIS TASK.

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

- #### NOTES
- BASE PLAN PREPARED BY TATHAM ENGINEERING LIMITED (JANUARY 2021).
  - ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

NO.	REVISIONS	DATE	INITIAL

APPROVED

**DRAFT**  
NOT FOR CONSTRUCTION

**THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS**

**TREE INVENTORY & PROTECTION PLAN  
VICTORIA STREET S STA. 4+000 TO 4+280**

**ENVISIONTATHAM**

115 Sandford Fleming Drive,  
Suite 200, Collingwood,  
ON L9Y 5A6  
Tel: 705.445.0422  
inquiry@envision-tatham.com

SCALE: AS SHOWN

DESIGN: AB

DRAWN: EB / AL

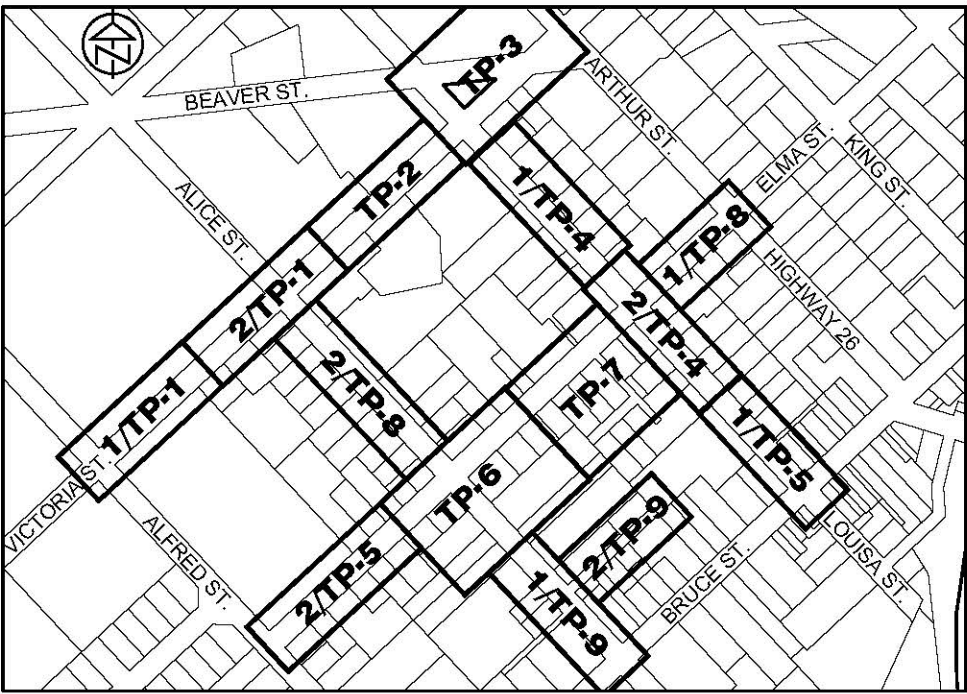
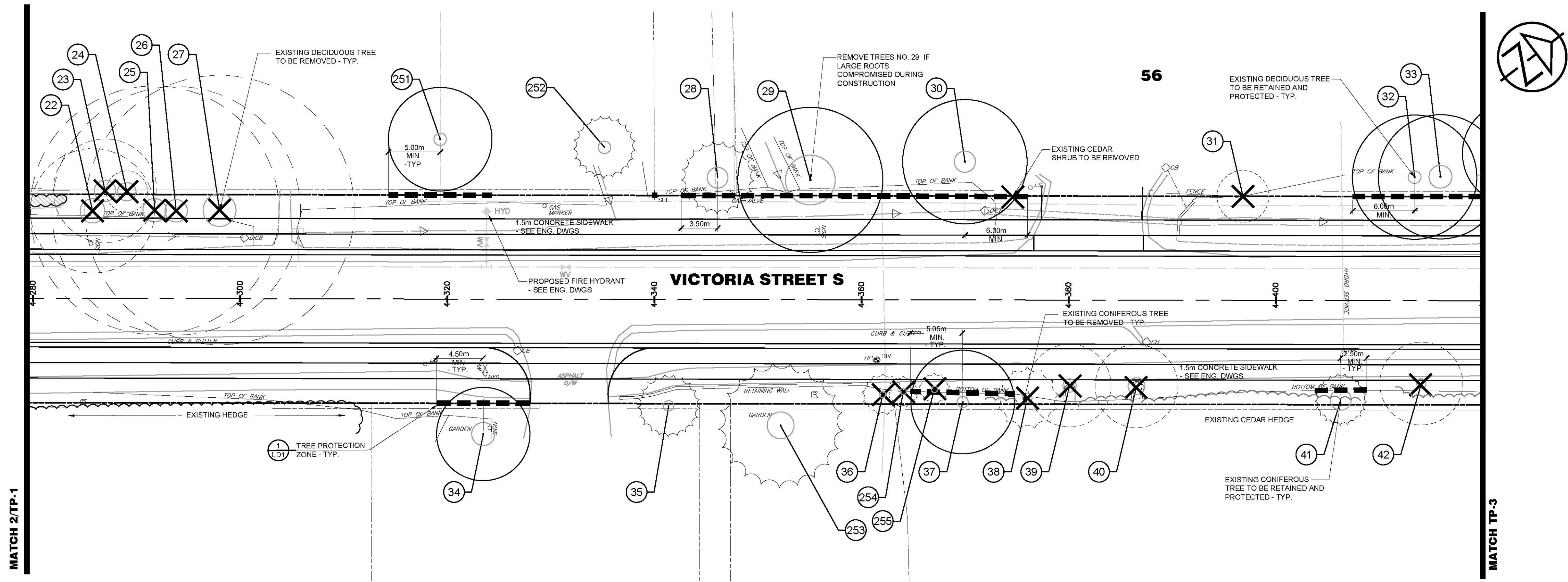
CHECKED: AB

DATE: FEB. 12, 2021

JOB NO. ET120013-1

DWG. **TP-1**





KEY PLAN NTS

- LEGEND**
- PROPERTY BOUNDARY
  - HYD EXISTING FIRE HYDRANT
  - WV EXISTING WATER VALVE
  - SIGN EXISTING SIGN
  - SAN MH EXISTING MANHOLE
  - CB EXISTING CATCHBASIN
  - HP EXISTING HYDRO POLE & GUY WIRE
  - BELL CABLE PEDESTAL
  - UNDERGROUND SERVICES - SEE ENG. DWGS
  - TREE PROTECTION ZONE
  - EXISTING DECIDUOUS TREE TO BE REMOVED
  - EXISTING CONIFEROUS TREE TO BE REMOVED
  - EXISTING DECIDUOUS TREE TO BE RETAINED AND PROTECTED - CRITICAL ROOT ZONE
  - EXISTING CONIFEROUS TREE TO BE RETAINED AND PROTECTED
  - TREE ID. NUMBER
  - EXISTING HEDGE
  - EXISTING HEDGE TO BE REMOVED

**NOTES:**

- FOR TREE PROTECTION AND REMOVAL NOTES, SEE DRAWING TP-1
- FOR TREE INVENTORY TABLE AND RECOMMENDATIONS, SEE ARBORIST REPORT.

**CONTRACT DRAWINGS**

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

**NOTES**

- BASE PLAN PREPARED BY TATHAM ENGINEERING LIMITED (JANUARY 2021).
- ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.


NO.	REVISIONS	DATE	INITIAL

APPROVED

**DRAFT**  
NOT FOR CONSTRUCTION

**THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS**

**TREE INVENTORY & PROTECTION PLAN  
VICTORIA STREET S STA. 4+280 TO 4+420**

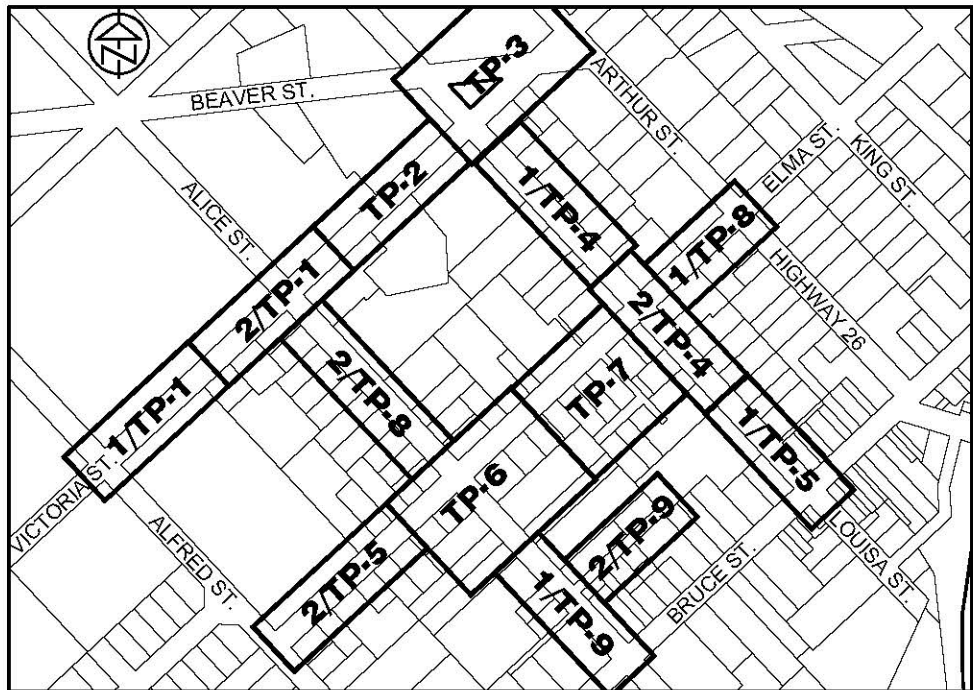
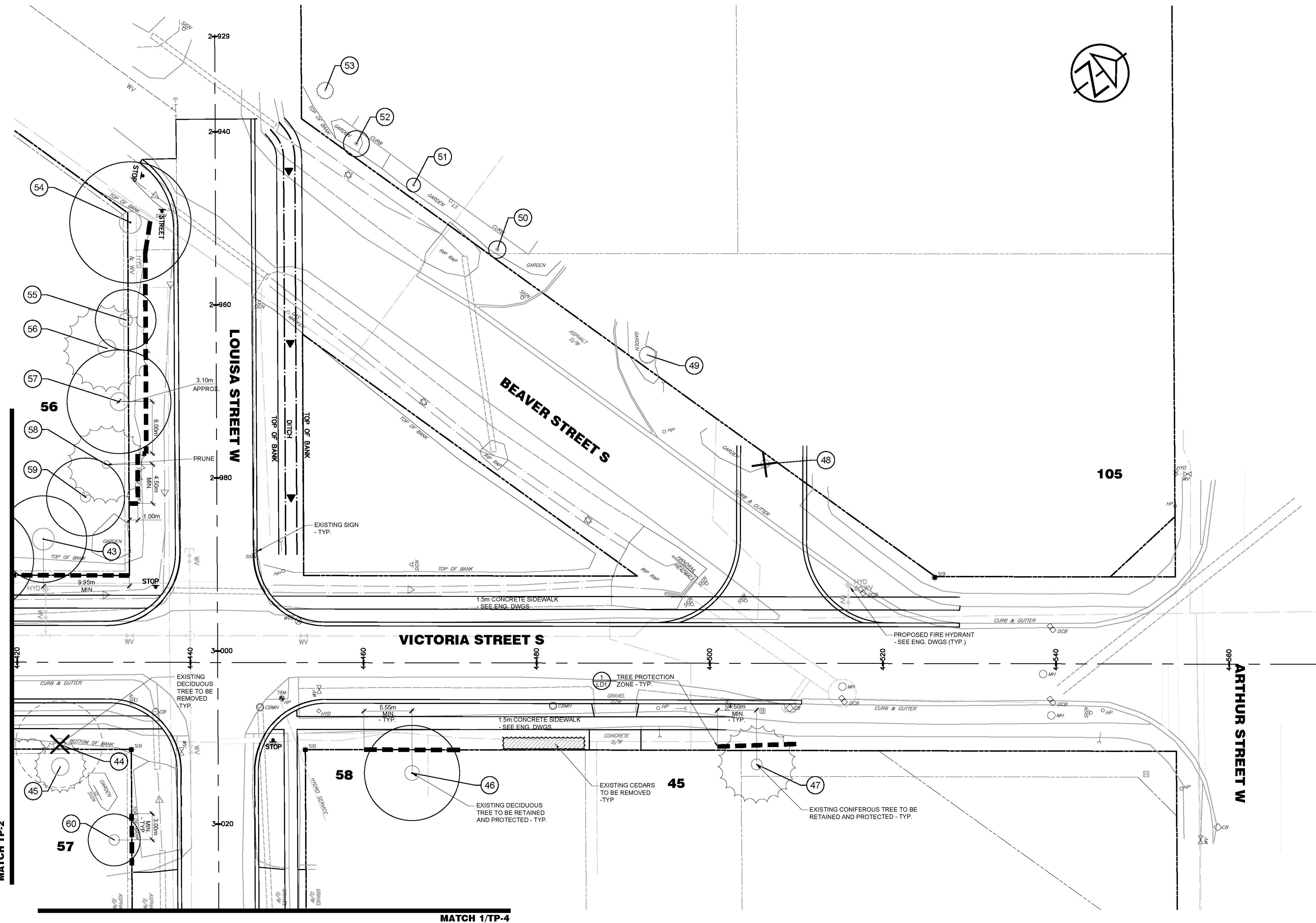


115 Sandford Fleming Drive,  
Suite 200, Collingwood,  
ON L9Y 5A6  
Tel. 705.445.0422  
inquiry@envision-tatham.com

SCALE: 1:250	JOB NO. ET120013-1
DESIGN: AB	CHECKED: AB
DRAWN: EB / AL	DATE: FEB. 12, 2021

DWG. **TP-2**





KEY PLAN NTS

LEGEND

- PROPERTY BOUNDARY
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SIGN
- EXISTING MANHOLE
- EXISTING CATCHBASIN
- EXISTING HYDRO POLE & GUY WIRE
- BELLCABLE PEDESTAL
- UNDERGROUND SERVICES - SEE ENG. DWGS
- TREE PROTECTION ZONE
- EXISTING DECIDUOUS TREE TO BE REMOVED
- EXISTING DECIDUOUS TREE TO BE RETAINED AND PROTECTED - CRITICAL ROOT ZONE
- EXISTING CONIFEROUS TREE TO BE RETAINED AND PROTECTED
- TREE ID. NUMBER
- EXISTING HEDGE TO BE REMOVED

- NOTES:
- FOR TREE PROTECTION AND REMOVAL NOTES, SEE DRAWING TP-1
  - FOR TREE INVENTORY TABLE AND RECOMMENDATIONS, SEE ARBORIST REPORT.

CONTRACT DRAWINGS

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

- NOTES
- BASE PLAN PREPARED BY TATHAM ENGINEERING LIMITED (JANUARY 2021).
  - ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

NO.	REVISIONS	DATE	INITIAL

APPROVED

DRAFT  
NOT FOR CONSTRUCTION

THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS

TREE INVENTORY & PROTECTION PLAN  
VICTORIA STREET S STA. 4+420 TO 4+570

ENVISIONTATHAM

115 Sandford Fleming Drive,  
Suite 200, Collingwood,  
ON L9Y 5A6  
Tel. 705.445.0422  
inquiry@envision-tatham.com

SCALE: 1:250

DESIGN: AB

DRAWN: EB / AL

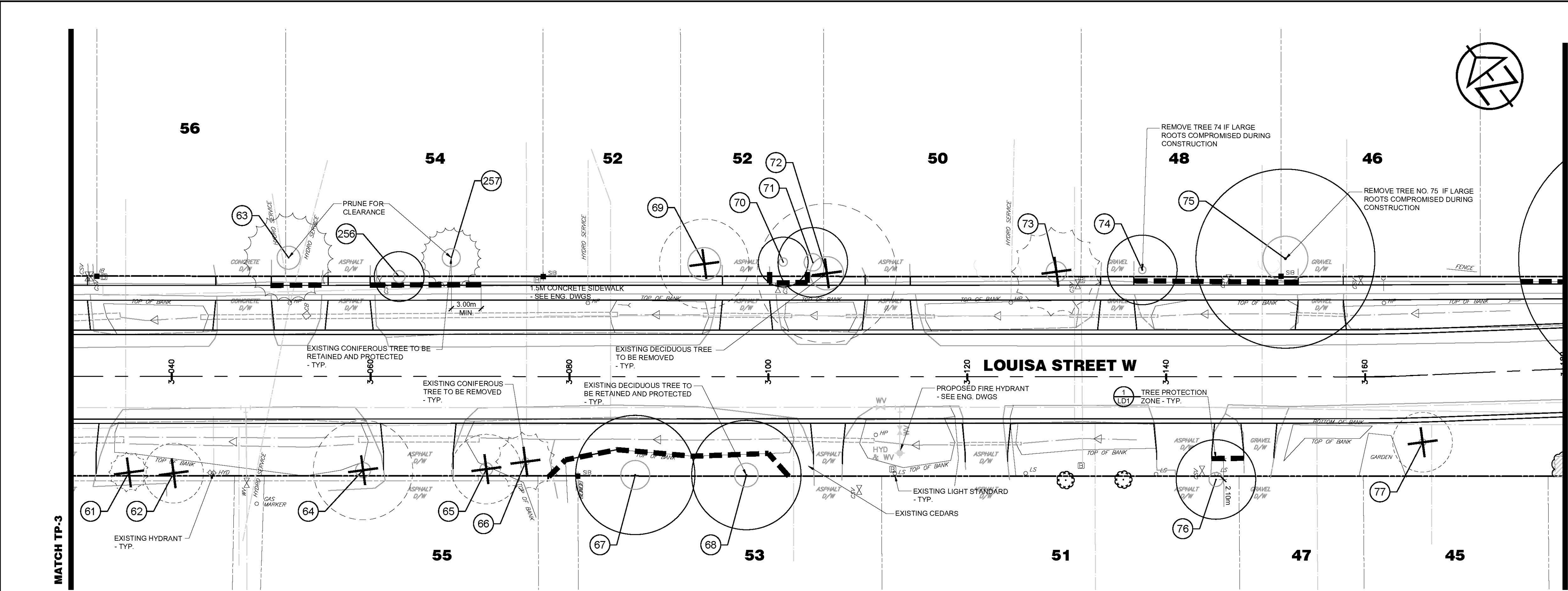
CHECKED: AB

DATE: FEB. 12, 2021

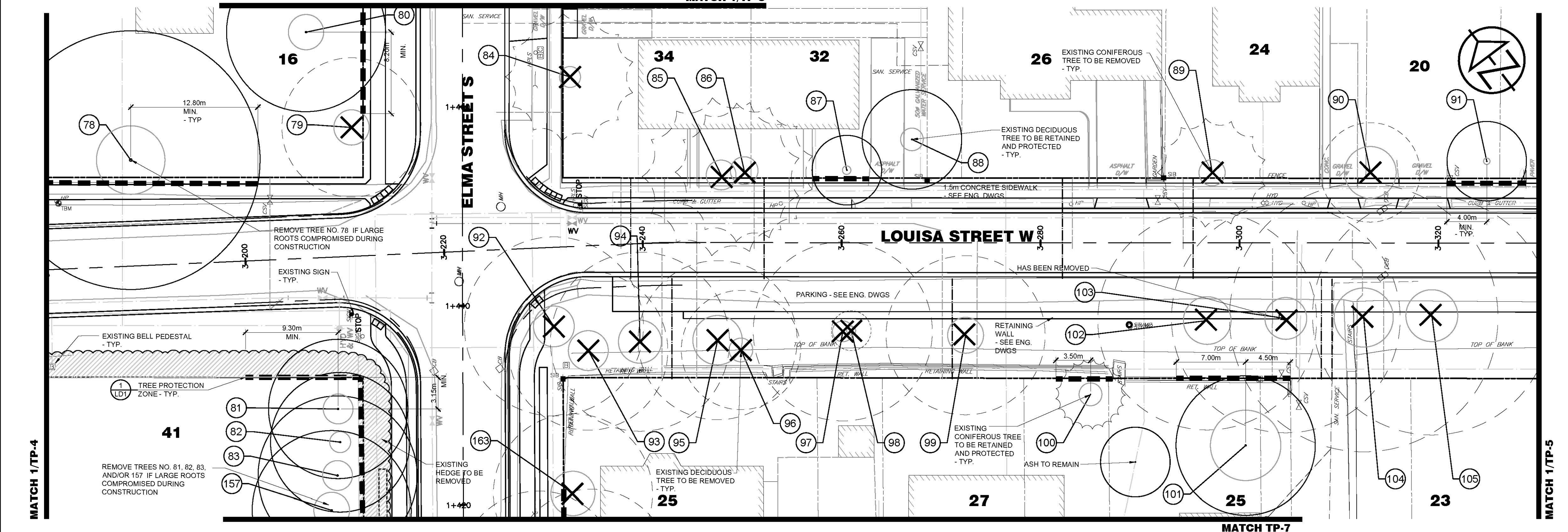
JOB NO. ET120013-1

DWG. TP-3

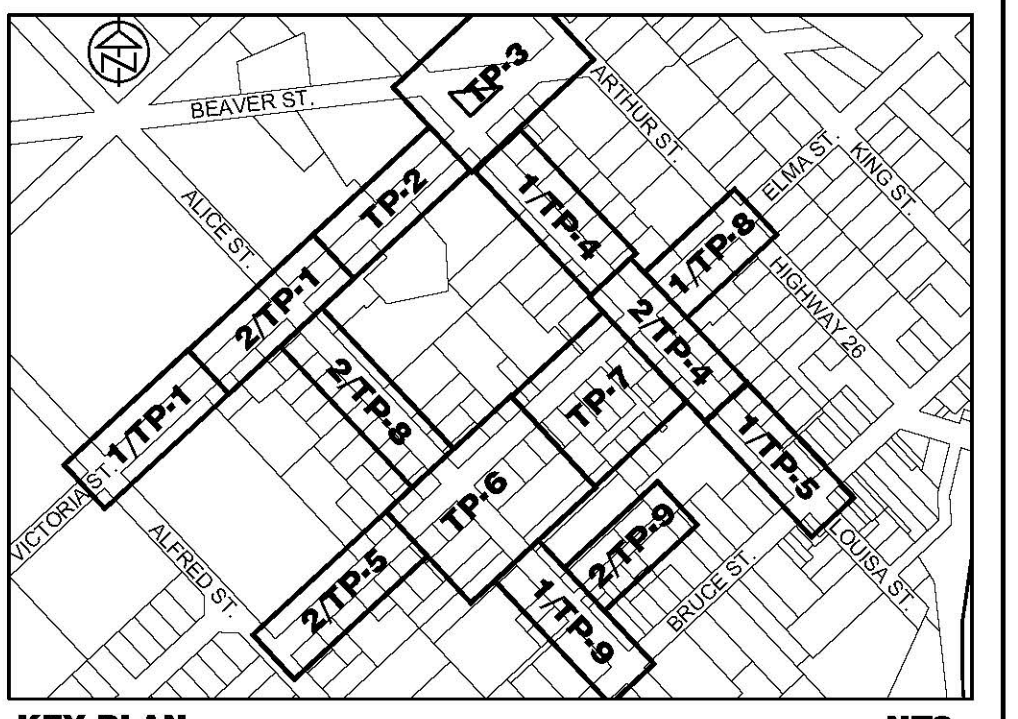




1 LOUISA STREET W - STA. 3+030 TO STA. 3+180 1:250



2 LOUISA STREET W - STA. 3+180 TO STA. 3+330 1:250



KEY PLAN NTS

- LEGEND**
- PROPERTY BOUNDARY
  - EXISTING FIRE HYDRANT
  - EXISTING WATER VALVE
  - EXISTING SIGN
  - EXISTING MANHOLE
  - EXISTING CATCHBASIN
  - EXISTING HYDRO POLE & GUY WIRE
  - BELL/CABLE PEDESTAL
  - UNDERGROUND SERVICES - SEE ENG. DWGS
  - TREE PROTECTION ZONE
  - EXISTING DECIDUOUS TREE TO BE REMOVED
  - EXISTING CONIFEROUS TREE TO BE REMOVED
  - EXISTING DECIDUOUS TREE TO BE RETAINED AND PROTECTED
  - CRITICAL ROOT ZONE
  - EXISTING CONIFEROUS TREE TO BE RETAINED AND PROTECTED
  - TREE ID. NUMBER
  - EXISTING HEDGE
  - EXISTING HEDGE TO BE REMOVED

- NOTES:**
- FOR TREE PROTECTION AND REMOVAL NOTES, SEE DRAWING TP-1
  - FOR TREE INVENTORY TABLE AND RECOMMENDATIONS, SEE ARBORIST REPORT.

CONTRACT DRAWINGS

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

NOTES

- BASE PLAN PREPARED BY TATHAM ENGINEERING LIMITED (JANUARY 2021).
- ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

APPROVED

**DRAFT**  
NOT FOR CONSTRUCTION

**THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS**

**TREE INVENTORY & PROTECTION PLAN  
LOUISA STREET W STA. 3+030 TO 3+330**

SCALE: AS SHOWN

DESIGN: AB

DRAWN: EB / AL

JOB NO. ET120013-1

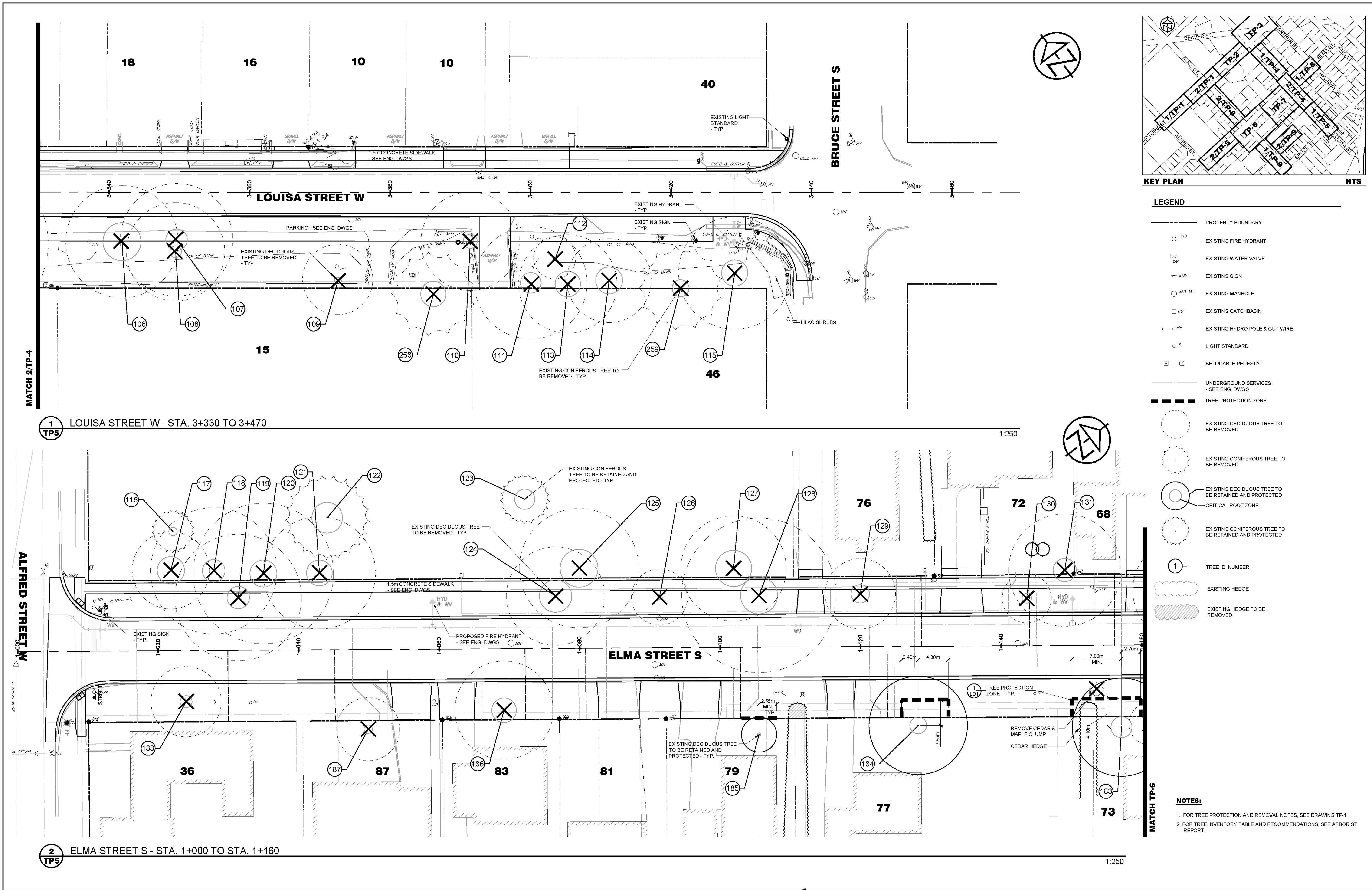
DWG. **TP-4**

CHECKED: AB

DATE: FEB. 12, 2021

115 Sandford Fleming Drive,  
Suite 200, Collingwood,  
ON L9Y 5A6  
Tel. 705.445.0422  
inquiry@envision-tatham.com





**CONTRACT DRAWINGS**

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

**NOTES**

1. BASE PLAN PREPARED BY TATHAM ENGINEERING LIMITED (JANUARY 2021).

2. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

NO.	REVISIONS	DATE	INITIAL

APPROVED

**DRAFT**  
NOT FOR CONSTRUCTION

**THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS**

**TREE INVENTORY & PROTECTION PLAN**  
**LOUISA STREET W STA. 3+330 TO 3+470 &  
ELMA STREET S STA. 1+000 TO 1+160**

SCALE: AS SHOWN

DESIGN: AB

DRAWN: EB / AL

CHECKED: AB

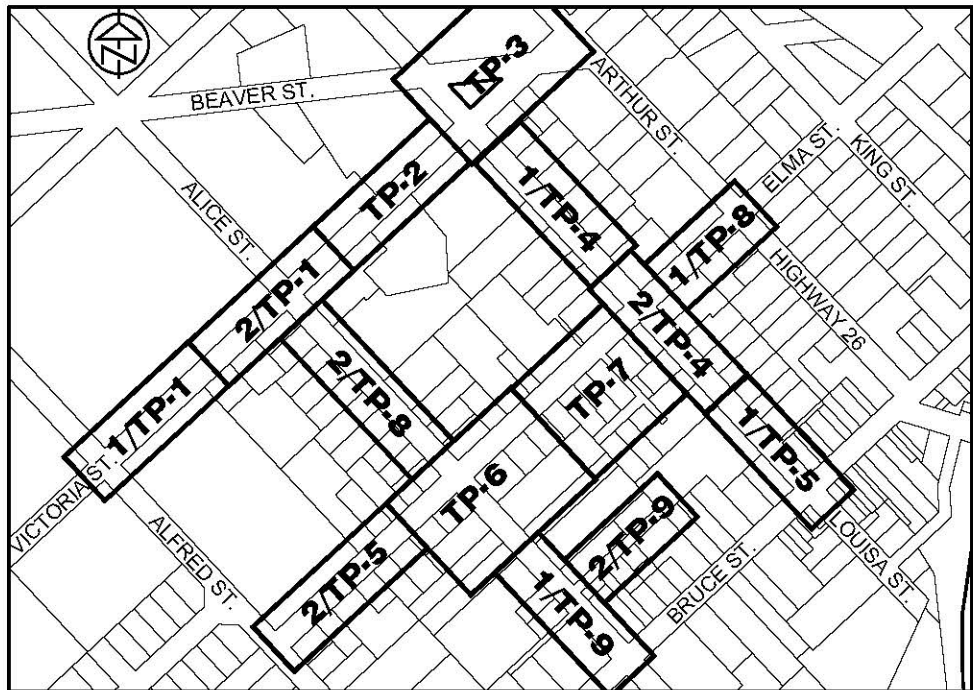
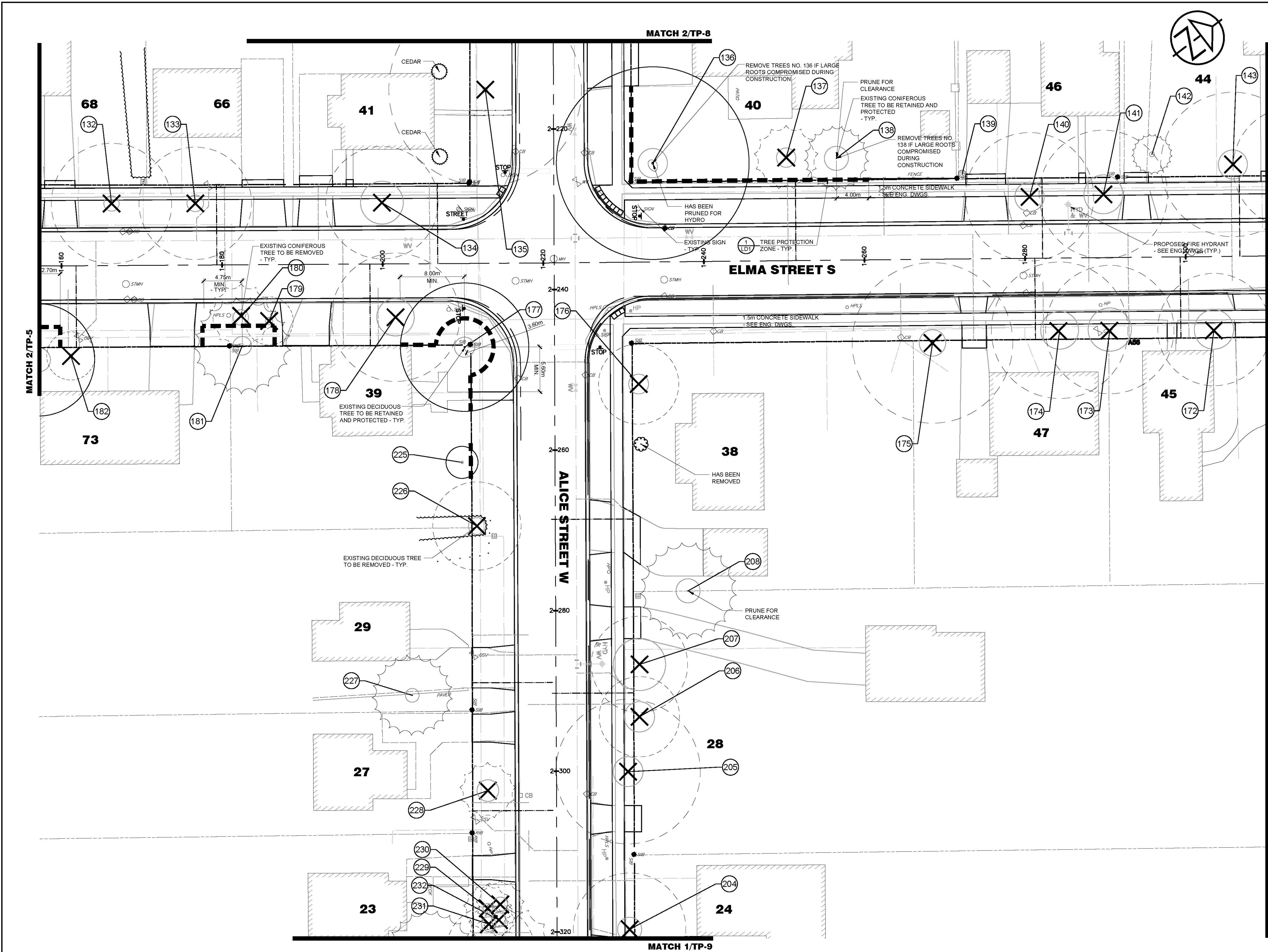
DATE: FEB. 12, 2021

JOB NO. ET120013-1

DWG. **TP-5**

115 Sandford Fleming Drive,  
Suite 200, Collingwood,  
ON L9Y 5A6  
Tel. 705.445.0422  
inquiry@envision-tatham.com





KEY PLAN

NTS

LEGEND

- PROPERTY BOUNDARY
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING SIGN
- EXISTING MANHOLE
- EXISTING CATCHBASIN
- EXISTING HYDRO POLE & GUY WIRE
- LIGHT STANDARD
- BELL/CABLE PEDESTAL
- UNDERGROUND SERVICES - SEE ENG. DWGS
- TREE PROTECTION ZONE
- EXISTING DECIDUOUS TREE TO BE REMOVED
- EXISTING CONIFEROUS TREE TO BE REMOVED
- EXISTING DECIDUOUS TREE TO BE RETAINED AND PROTECTED
- CRITICAL ROOT ZONE
- EXISTING CONIFEROUS TREE TO BE RETAINED AND PROTECTED
- TREE ID. NUMBER

NOTES:

- FOR TREE PROTECTION AND REMOVAL NOTES, SEE DRAWING TP-1
- FOR TREE INVENTORY TABLE AND RECOMMENDATIONS, SEE ARBORIST REPORT.

CONTRACT DRAWINGS

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

NOTES

- BASE PLAN PREPARED BY TATHAM ENGINEERING LIMITED (JANUARY 2021).
- ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

NO.	REVISIONS	DATE	INITIAL

APPROVED

**DRAFT**  
NOT FOR CONSTRUCTION

**THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS**

**TREE INVENTORY & PROTECTION PLAN  
ELMA STREET S STA. 1+160 TO 1+310**

**ENVISIONTATHAM**

115 Sandford Fleming Drive,  
Suite 200, Collingwood,  
ON L9Y 5A6  
Tel. 705.445.0422  
inquiry@envision-tatham.com

SCALE: 1:250

DESIGN: AB

DRAWN: AL

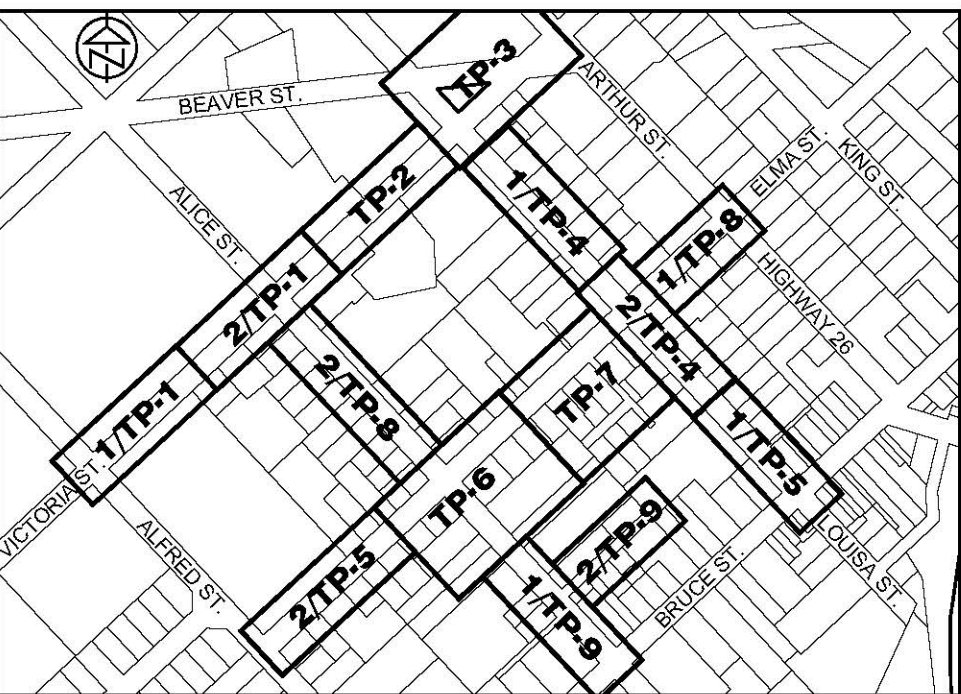
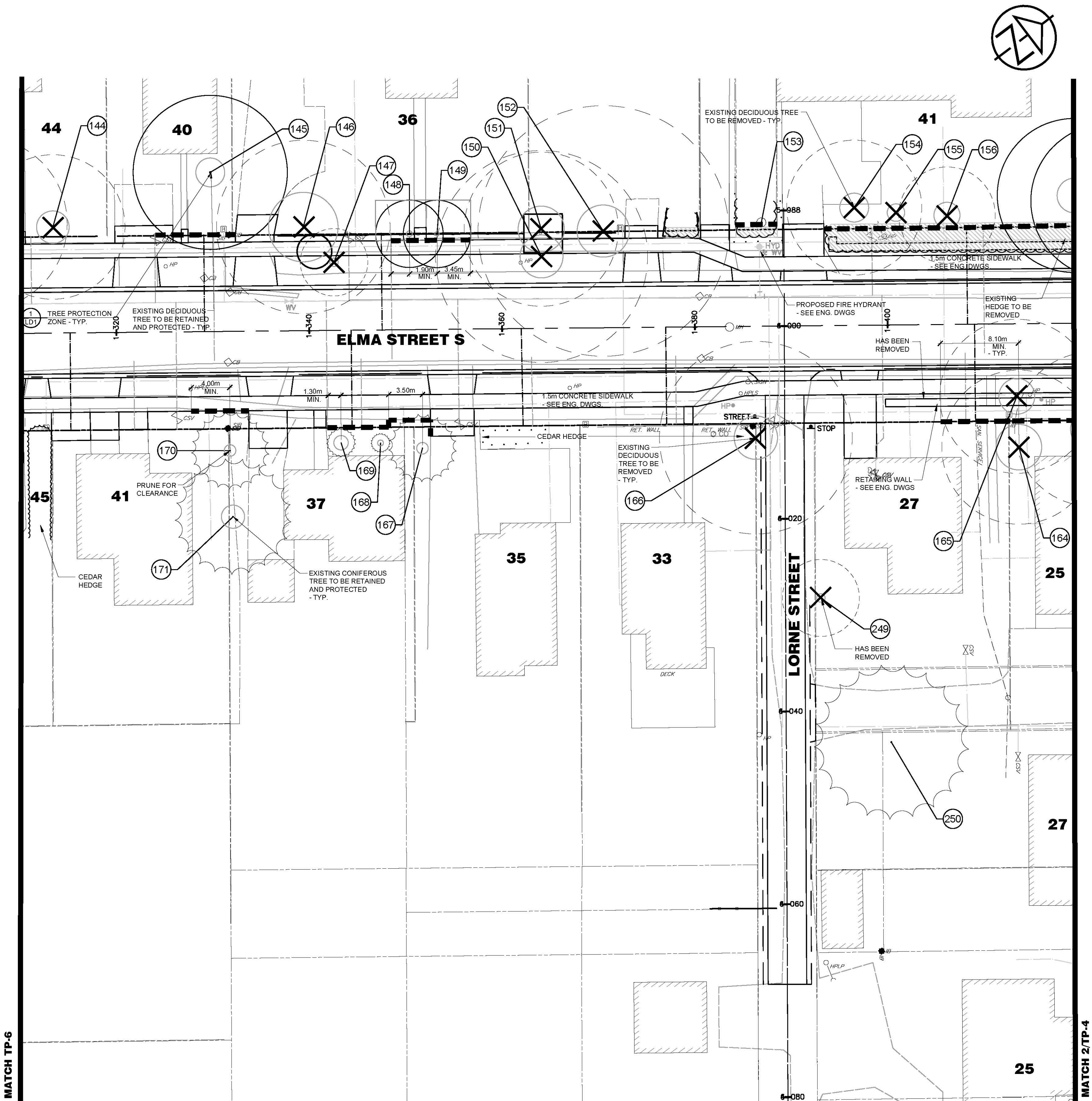
CHECKED: AB

DATE: FEB. 12, 2021

JOB NO. ET120013-1

DWG. **TP-6**





KEY PLAN NTS

- LEGEND**
- PROPERTY BOUNDARY
  - HYD EXISTING FIRE HYDRANT
  - WV EXISTING WATER VALVE
  - SIGN EXISTING SIGN
  - SAN MH EXISTING MANHOLE
  - CB EXISTING CATCHBASIN
  - HP EXISTING HYDRO POLE & GUY WIRE
  - LS LIGHT STANDARD
  - BELL/CABLE PEDESTAL
  - UNDERGROUND SERVICES - SEE ENG. DWGS
  - TREE PROTECTION ZONE
  - EXISTING DECIDUOUS TREE TO BE REMOVED
  - EXISTING CONIFEROUS TREE TO BE REMOVED
  - EXISTING DECIDUOUS TREE TO BE RETAINED AND PROTECTED
  - CRITICAL ROOT ZONE
  - EXISTING CONIFEROUS TREE TO BE RETAINED AND PROTECTED
  - 1 TREE ID. NUMBER
  - EXISTING HEDGE
  - EXISTING HEDGE TO BE REMOVED

- NOTES:**
- FOR TREE PROTECTION AND REMOVAL NOTES, SEE DRAWING TP-1
  - FOR TREE INVENTORY TABLE AND RECOMMENDATIONS, SEE ARBORIST REPORT.

**CONTRACT DRAWINGS**

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

- NOTES**
- BASE PLAN PREPARED BY TATHAM ENGINEERING LIMITED (JANUARY 2021).
  - ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

NO.	REVISIONS	DATE	INITIAL


APPROVED

**DRAFT**

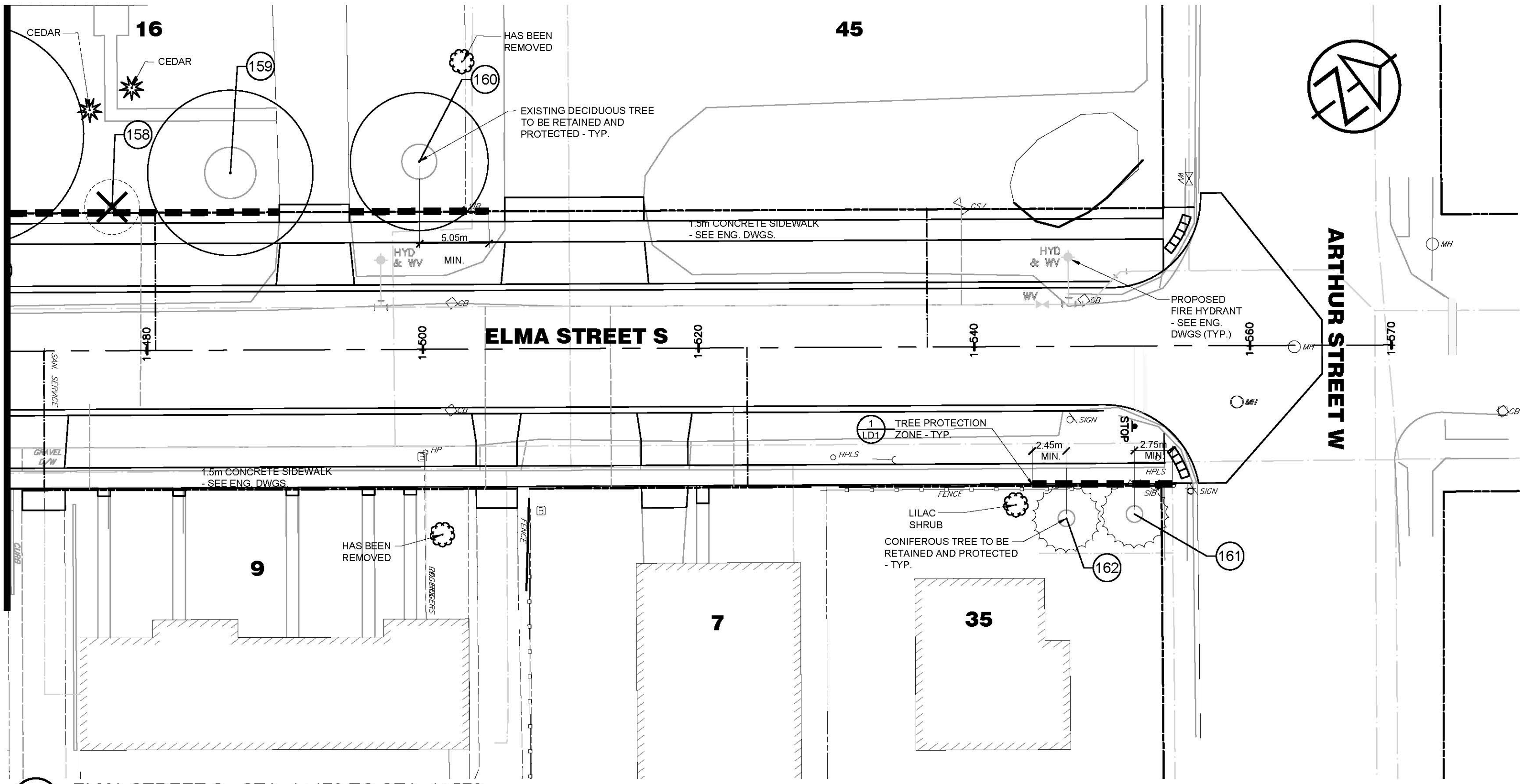
NOT FOR CONSTRUCTION

**THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS**

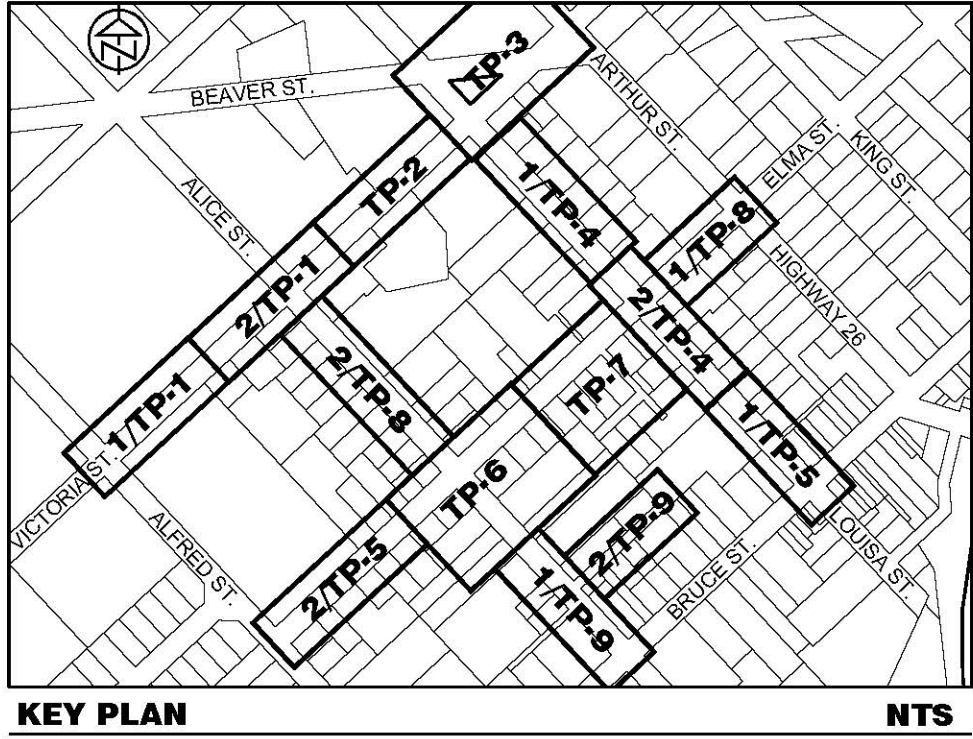
**TREE INVENTORY & PROTECTION PLAN  
ELMA STREET S STA. 1+310 TO 1+420**

 ENVISIONTATHAM		115 Sandford Fleming Drive, Suite 200, Collingwood, ON L9Y 5A6 Tel. 705.445.0422 inquiry@envision-tatham.com	
SCALE: 1:250		JOB NO.	ET120013-1
DESIGN: AB	CHECKED: AB	DWG.	TP-7
DRAWN: AL	DATE: FEB. 12, 2021		

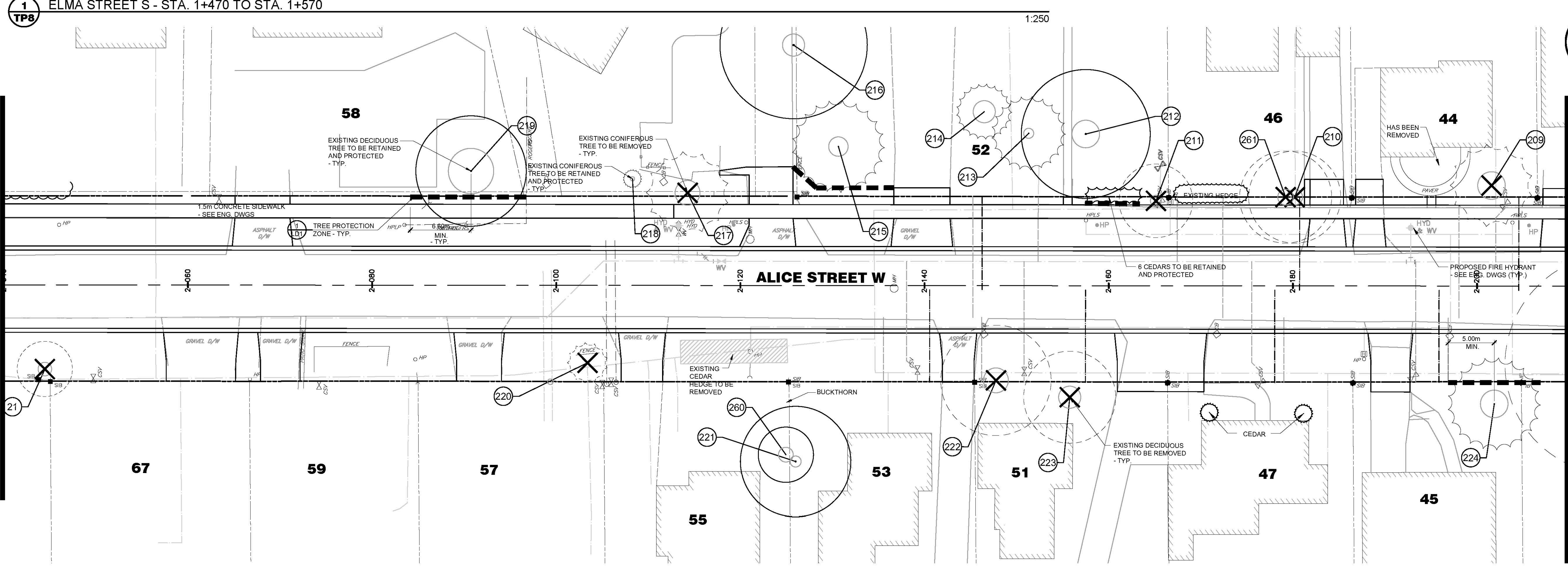




- LEGEND**
- PROPERTY BOUNDARY
  - EXISTING FIRE HYDRANT
  - EXISTING WATER VALVE
  - EXISTING SIGN
  - EXISTING MANHOLE
  - EXISTING CATCHBASIN
  - EXISTING HYDRO POLE & GUY WIRE
  - LIGHT STANDARD
  - BELL/CABLE PEDESTAL
  - UNDERGROUND SERVICES - SEE ENG. DWGS
  - TREE PROTECTION ZONE
  - EXISTING DECIDUOUS TREE TO BE RETAINED AND PROTECTED
  - CRITICAL ROOT ZONE
  - EXISTING CONIFEROUS TREE TO BE RETAINED AND PROTECTED
  - TREE ID. NUMBER
  - EXISTING HEDGE
  - EXISTING HEDGE TO BE REMOVED



- NOTES:**
- FOR TREE PROTECTION AND REMOVAL NOTES, SEE DRAWING TP-1
  - FOR TREE INVENTORY TABLE AND RECOMMENDATIONS, SEE ARBORIST REPORT.



**CONTRACT DRAWINGS**

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

**NOTES**

- BASE PLAN PREPARED BY TATHAM ENGINEERING LIMITED (JANUARY 2021).
- ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

NO.	REVISIONS	DATE	INITIAL

APPROVED

**DRAFT**  
NOT FOR CONSTRUCTION

**THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS**

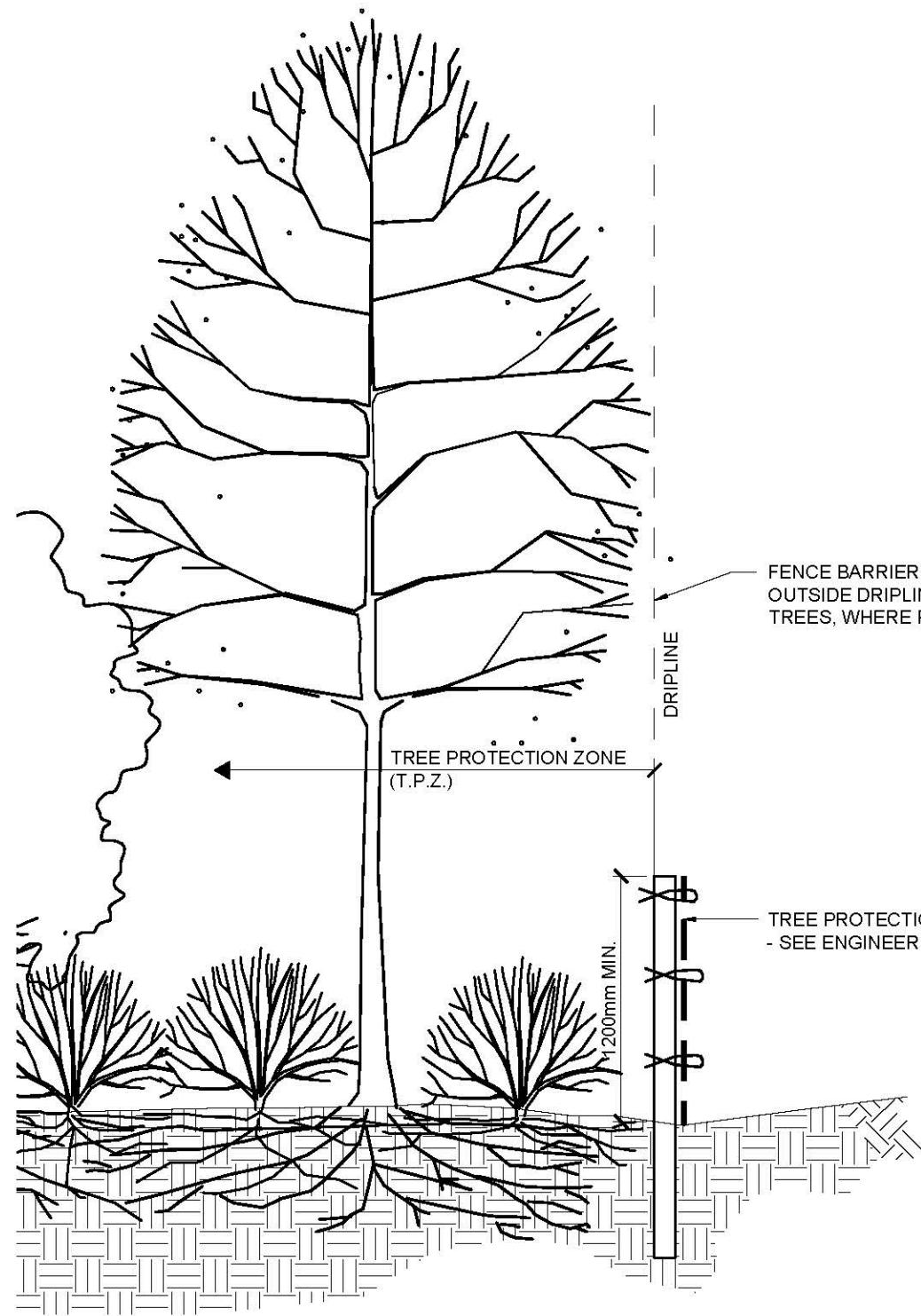
**TREE INVENTORY & PROTECTION PLAN**  
**ELMA STREET S STA. 1+470 TO 1+570 &  
ALICE STREET W STA. 2+040 TO 2+210**

115 Sandford Fleming Drive,  
Suite 200, Collingwood,  
ON L9Y 5A6  
Tel. 705.445.0422  
inquiry@envision-tatham.com

SCALE: AS SHOWN	JOB NO. ET120013-1
DESIGN: AB	CHECKED: AB
DRAWN: AL	DATE: FEB. 12, 2021
DWG. <b>TP-8</b>	







NOTES

1. ESTABLISH TREE PROTECTION ZONES (TPZ) USING A TEMPORARY FENCE BARRIER IN THE SPECIFIED LOCATIONS OR AS DIRECTED BY THE TOWN OR ARBORIST.
2. TREE PROTECTION FENCING SHALL BE AS SPECIFIED ON THE ENGINEERING DRAWINGS.
3. LAYOUT OF TPZ FENCE BARRIER SHALL BE IN ACCORDANCE WITH DRAWINGS TP1 TO TP-9. WHERE POSSIBLE, THE TPZ FENCE BARRIER SHALL BE LOCATED AT OR OUTSIDE THE DRIPLINE OF PROTECTED TREES, WHICH IS DEFINED AS THE CIRCLE THAT COULD BE DRAWN ON THE SOIL AROUND A TREE DIRECTLY UNDER THE TIPS OF ITS OUTERMOST AND WIDEST BRANCHES.
4. LOCATION OF THE TPZ FENCE BARRIER SHALL BE CONFIRMED ON-SITE BY THE LANDSCAPE ARCHITECT OR ARBORIST PRIOR TO COMMENCING TREE CLEARING OPERATIONS OR SITE WORKS.
5. FOR EXISTING VEGETATION TO REMAIN: PROTECT VEGETATION AND ROOT SYSTEMS FROM DAMAGE, COMPACTION, EROSION, SEDIMENTATION AND CONTAMINATION RESULTING FROM CONSTRUCTION.
6. NO CONSTRUCTION ACTIVITY, INCLUDING GRADE CHANGES, SURFACE TREATMENTS, OR EXCAVATIONS OF ANY KIND ARE PERMITTED WITHIN THE TPZ, UNLESS OTHERWISE INDICATED.
7. NO ROOT CUTTING, NO STORAGE OF MATERIALS OR FILL, AND NO MOVEMENT OR STORAGE OF VEHICLES IS PERMITTED WITHIN THIS AREA.
8. KEEP THE ENCLOSED FENCE AREA FREE OF CONSTRUCTION MATERIAL AND DEBRIS.
9. FENCE BARRIERS MUST REMAIN IN EFFECTIVE CONDITION UNTIL ALL SITE ACTIVITIES INCLUDING LANDSCAPING ARE COMPLETED.
10. CONTRACTOR SHALL REMOVE TPZ FENCE BARRIER AT THE COMPLETION OF THE SITE WORKS FOLLOWING WRITTEN APPROVAL BY THE TOWN.

1  
LD1 TREE PROTECTION ZONE

NTS

CONTRACT DRAWINGS

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE CONSULTANT BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

ENVISION-TATHAM CLAIMS COPYRIGHT TO THIS DOCUMENT WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNERS/CLIENT AND THE LANDSCAPE ARCHITECT WITHOUT THE EXPRESS CONSENT OF ENVISION-TATHAM

NOTES

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED.

NO.	REVISIONS	DATE	INITIAL

APPROVED

**DRAFT**  
NOT FOR CONSTRUCTION

**THORNBURY WEST  
RECONSTRUCTION PROJECT  
TOWN OF THE BLUE MOUNTAINS**

**LANDSCAPE DETAILS**

**ENVISIONTATHAM**

115 Sandford Fleming Drive,  
Suite 200, Collingwood,  
ON L9Y 5A6  
Tel. 705-445-0422  
inquiry@envision-tatham.com

SCALE: AS SHOWN

JOB NO. ET120013-1

DESIGN: AB

CHECKED: AB

DWG. **LD-1**

DRAWN: AL

DATE: FEB. 12, 2021



## **Appendix B:**

# **Tree Inventory and Assessment**

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
1	<i>Thuja occidentalis</i>	Eastern White Cedar	120, 224, 196	3.0	1.0	3 stems, center 50cm from top of ditch	Good	-	Retain
2	<i>Picea abies</i>	Norway Spruce	415	5.0	1.2	pruned for hydro	Good	-	Retain
3	<i>Thuja occidentalis</i>	Eastern White Cedar	213, 213, 165, 165	3.0	1.1	4 large stems and 3 smaller stems (<100mm)	Good	conflict with sidewalk	Remove
4	<i>Acer platanoides</i>	Norway Maple	73	1.0	0.2		Good	-	Retain
5	<i>Acer rubrum</i>	Red Maple	129	2.0	0.4	somewhat chlorotic	Good	re-grading at base of tree (to fill ditch)	Retain & match grade at top of bank
6	<i>Acer rubrum</i>	Red Maple	55	1.0	0.2		Good	re-grading at base of tree (to fill ditch)	Retain & match grade at top of bank
7	<i>Acer saccharum</i>	Sugar Maple	438	4.0	1.3	memorial tree (Ted Dudley), scalped root	Good	re-grading at base of tree (to fill ditch)	Retain & match grade min. 1.45m from base of tree. Recommend hand-work if required withint TPZ.
8	<i>Acer rubrum</i>	Red Maple	45	0.8	0.1	trunk abrasion	Good	re-grading at base of tree (to fill ditch)	Retain & match grade at top of bank
9	<i>Acer saccharum</i>	Sugar Maple	517	4.0	1.6	recent pruning upper canopy	Good	re-grading at base of tree (to fill ditch) - tree too large to achieve sufficient TPZ for retention	Remove
10	<i>Acer rubrum</i>	Red Maple	45	0.8	0.1	lean toward road, buried trunk flare, injury at base	Fair	re-grading at base of tree (to fill ditch)	Retain & match grade at top of bank
11	<i>Acer saccharum</i>	Sugar Maple	548	4.0	1.6	scalped roots, dieback throughout, crossing branches, in decline	Fair	re-grading at base of tree (to fill ditch) - tree too large to achieve sufficient TPZ for retention	Remove
12	<i>Acer saccharum</i>	Sugar Maple	446	4.0	1.3	codominant, deadwood in canopy, snags	Fair-Poor	re-grading at base of tree (to fill ditch) & hydrant/service installation	Remove
13	<i>Acer saccharum</i>	Sugar Maple	378	2.5	1.1	dieback throughout canopy	Fair	re-grading at base of tree (to fill ditch)	Remove
14	<i>Acer saccharum</i>	Sugar Maple	279	3.0	0.8	codominant, dieback throughout canopy	Fair	re-grading at base of tree (to fill ditch)	Remove
15	<i>Acer saccharum</i>	Sugar Maple	349	3.0	1.0	surface roots scalped, dieback top of canopy	Good-Fair	re-grading at base of tree (to fill ditch)	Remove
16	<i>Acer saccharum</i>	Sugar Maple	731	6.0	2.2	very congested canopy, branches grafted together	Fair	conflict with sidewalk	Remove
17	<i>Picea glauca</i>	White Spruce	403	3.0	1.2	pruned for hydro, some dieback	Good	re-grading at base of tree (to fill ditch)	Retain & match grade at top of bank
18	<i>Acer saccharum</i>	Sugar Maple	700	6.0	2.1	surface roots scalped, some mottling of foliage, crossing branches	Good	re-grading near base of tree (to fill ditch)	Retain & match grade at top of bank
19	<i>Picea glauca</i>	White Spruce	389	3.0	1.2	pruned for hydro	Good	re-grading near base of tree (to fill ditch)	Retain & match grade at top of bank
20	<i>Picea glauca</i>	White Spruce	250	2.0	0.8	appears topped, no dominant leader	Good	re-grading near base of tree (to fill ditch)	Retain & match grade at top of bank
21	<i>Acer saccharum</i>	Sugar Maple	248	3.0	0.7	healed injury at base, trunk swellings	Good	re-grading of boulevard	Remove
22	<i>Populus sp.</i>	Poplar sp.	393	6.0	1.2	scalped roots, girdling roots, dieback throughout canopy	Fair-Poor	conflicts with sidewalk	Remove
23	<i>Populus sp.</i>	Poplar sp.	343	5.0	1.0	girdling roots, scalped roots	Fair	re-grading near base of tree (to fill ditch)	Remove (confirm ownership)
24	<i>Populus sp.</i>	Poplar sp.	293	2.0	0.9	girdling roots, leaning toward northwest	Fair	re-grading near base of tree (to fill ditch)	Remove (confirm ownership)
25	<i>Populus sp.</i>	Poplar sp.	377	12.0	1.1	girdling roots, reaching over road	Good	conflicts with sidewalk	Remove
26	<i>Populus sp.</i>	Poplar sp.	361	12.0	1.1	some branches have canker	Fair	conflicts with sidewalk	Remove
27	<i>Populus sp.</i>	Poplar sp.	525	13.0	1.6	girdling roots, lean toward road	Good	conflicts with sidewalk	Remove
28	<i>Pinus nigra</i>	Austrian Pine	327	3.5	1.0	some needle desiccation	Good	grading extends to base of tree	Retain & match grade at property boundary

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
29	<i>Acer saccharum</i>	Sugar Maple	814	7.0	2.4	shallow roots, congested canopy, included bark	Fair	re-grading at base of tree (to fill ditch)	Retain & match grade at existing property boundary, but remove if large roots compromised (private tree)
30	<i>Acer saccharum</i>	Sugar Maple	340	6.0	1.0	codominant, leaning, crossing branches	Good-Fair	re-grading near base of tree (to fill ditch)	Retain
31	<i>Acer ginnala</i>	Amur Maple	60	2.5	0.2	6 stems, crossing branches	Good	re-grading near base of tree (to fill ditch)	Remove (confirm ownership)
32	<i>Acer ginnala</i>	Amur Maple	110, 115, 81, 96	6.0	0.6	4 stems	Good	re-grading near base of tree (to fill ditch)	Retain
33	<i>Acer ginnala</i>	Amur Maple	173, 171, 138, 95, 104, 130, 137, 57	6.0	1.1	8 stems	Good	re-grading near base of tree (to fill ditch)	Retain
34	<i>Betula papyrifera</i>	Paper Birch	261, 266	4.5	1.1	3 stems, galls	Good	re-grading near base of tree (to relocate sidewalk)	Retain & match grade at property boundary
35	<i>Thuja occidentalis</i>	Eastern White Cedar	150	3.0	0.5	needle dieback southwest side, girdling line	Fair-Poor	re-grading near base of tree but retaining wall is remaining	Retain
36	<i>Thuja occidentalis</i>	Eastern White Cedar	103	2.0	0.3	codominant, somewhat sparse	Good	re-grading at base of tree	Remove
37	<i>Acer rubrum</i>	Red Maple	175	5.0	0.5	chlorotic, branches overhang sidewalk	Good	re-grading at base of tree	Retain & match grade at bottom of bank, prune
38	<i>Picea glauca</i>	White Spruce	150	3.0	0.5	low canopy overhanging sidewalk	Good	re-grading near base of tree (for sidewalk)	Remove (confirm ownership)
39	<i>Acer rubrum</i>	Red Maple	213	4.0	0.6	in tree well, chlorotic, included bark	Good	conflict with sidewalk	Remove
40	<i>Acer rubrum</i>	Red Maple	270	4.0	0.8	chlorotic, black necrotic leaves (possible maple anthracnose)	Fair	conflict with sidewalk	Remove
41	<i>Picea glauca</i>	White Spruce	335	2.5	1.0		Good	re-grading at base of tree	Retain & match grade at bottom of bank
42	<i>Acer rubrum</i>	Red Maple	152	4.0	0.5	chlorotic	Good	conflict with sidewalk	Remove
43	<i>Pinus nigra</i>	Austrian Pine	420	5.0	1.3	codominant, crossing branches	Good	excavation under dripline of tree for hydrant, sidewalk	Retain
44	<i>Acer rubrum</i>	Red Maple	224	5.0	0.7	chlorotic	Good	re-grading at base of tree	Remove (confirm ownership)
45	<i>Picea pungens</i>	Colorado Spruce	336	3.0	1.0	bow in trunk, no leader	Good	re-grading under dripline of tree for sidewalk	Retain & match grade at property boundary
46	<i>Acer platanoides</i>	Norway Maple	283	5.5	0.8	spiral fissure on trunk, girdling root	Fair	re-grading under dripline of tree for sidewalk	Retain & match grade at property boundary
47	<i>Picea abies</i>	Norway Spruce	210	4.5	0.6	overhanging sidewalk (pruned sidewalk side)	Good	-	Retain
48	<i>Tilia cordata</i>	Littleleaf Linden	47	0.5	0.1	lean toward road	Good	conflict with new driveway entrance	Remove (private tree)
49	<i>Picea glauca</i>	White Spruce	30	1.0	0.1	codominant, somewhat chlorotic	Fair	-	Retain
50	<i>Tilia cordata</i>	Littleleaf Linden	58	1.0	0.2	trunk has bow	Good	-	Retain
51	<i>Tilia cordata</i>	Littleleaf Linden	42	0.8	0.1	trunk sprouts	Good	-	Retain
52	<i>Syringa reticulata</i>	Japanese Tree lilac	55	1.5	0.2	injury on leader	Good	-	Retain
53	<i>Picea pungens</i>	Colorado Spruce	40	1.0	0.1	some dieback	Good	-	Retain

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
54	<i>Acer saccharum</i>	Sugar Maple	186, 136, 70, 170, 124, 201, 72, 120, 120	7.0	1.3	9 stems, included bark, girdling roots	Fair	re-grading near base of tree	Retain & match grade at top of bank
55	<i>Betula papyrifera</i>	Paper Birch	119, 227	3.5	0.8	dieback at top of all stems	Fair-Poor	re-grading near base of tree (likely boundary tree)	Retain & match grade 2.0m inside road allowance
56	<i>Pinus nigra</i>	Austrian Pine	340	5.0	1.0	codominant, 4 stems	Fair	re-grading under dripline of tree	Retain & match grade at property boundary
57	<i>Acer saccharum</i>	Sugar Maple	260, 230	6.0	1.0	codominant, included bark, shallow roots, grafted branches	Good	re-grading near base of tree	Retain & match grade 2.0m inside road allowance
58	<i>Juniperus sp.</i>	Juniper	150	4.5	0.5	3 main stems, requires pruning	Good	re-grading under dripline of tree	Retain & match grade at property boundary
59	<i>Betula papyrifera</i>	Paper Birch	140, 140	4.5	0.6	2 stems, may be grafted, decay in one trunk	Fair	-	Retain
60	<i>Betula papyrifera</i>	Paper Birch	77, 137, 129	3.0	0.6	3 stems, branch tip dieback	Good	re-grading under dripline of tree	Retain & match grade at property boundary
61	<i>Picea abies</i>	Norway Spruce	70	2.0	0.2	sparse on driveway side	Good	re-grading at base of tree (to fill ditch)	Remove (confirm ownership)
62	<i>Quercus robur</i>	English Oak	85	3.0	0.3	very broad	Good	re-grading at base of tree (to fill ditch)	Remove (confirm ownership)
63	<i>Pinus nigra</i>	Austrian Pine	385	4.5	1.2		Good	excavation at base of tree (to replace sidewalk)	Retain & match grade at existing sidewalk
64	<i>Acer rubrum</i>	Red Maple	252	5.0	0.8	necrotic lesions on leaves (maple anthracnose?)	Good	re-grading to base of tree (to fill ditch)	Remove (confirm ownership)
65	<i>Betula papyrifera</i>	Paper Birch	119, 94, 89, 122	3.5	0.6	in decline 60% canopy dieback	Poor	re-grading at base of tree (to fill ditch)	Remove (confirm ownership)
66	<i>Picea abies</i>	Norway Spruce	120	3.0	0.4		Good	re-grading at base of tree (to fill ditch)	Remove (confirm ownership)
67	<i>Malus sp.</i>	Apple sp.	484	6.0	1.5	may have been girdled 40cm from grade	Good	re-grading under dripline of tree (to fill ditch)	Retain & match grade at top of bank
68	<i>Malus sp.</i>	Apple sp.	177, 355	5.5	1.2	low branching, minor dieback	Good	re-grading under dripline of tree (to fill ditch)	Retain & match grade at top of bank
69	<i>Betula papyrifera</i>	Paper Birch	298, 287, 363	4.5	1.7	dieback top of 2 tallest stems	Fair-Poor	conflict with sidewalk (insufficient TPZ)	Remove (private tree)
70	<i>Acer ginnala</i>	Amur Maple	75, 119	2.5	0.4	2 stems	Good	excavation at base of tree (to replace sidewalk)	Retain & match grade at existing sidewalk
71	<i>Betula papyrifera</i>	Paper Birch	205, 205	3.5	0.9	2 stems, one broken, dieback in 2nd stem	Poor		Retain
72	<i>Fraxinus sp.</i>	Ash sp.	561	7.0	1.7	nearly dead	Poor	conflict with sidewalk (insufficient TPZ)	Remove (confirm ownership)
73	<i>Picea glauca</i>	White Spruce	341	4.0	1.0	shallow surface roots	Good	water service and excavation for sidewalk at base of tree	Remove (confirm ownership)
74	<i>Acer platanoides</i>	Norway Maple	128	3.5	0.4	asymmetrical canopy, hydro above	Good	excavation at base of tree (to replace sidewalk) - critical root zone will be compromised, but sidewalk alignment is similar.	Retain & match grade at existing sidewalk, but remove if large roots compromised (likely boundary tree)

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
75	<i>Acer saccharum</i>	Sugar Maple	753	9.0	2.3	congested canopy, decay in leader/canopy	Fair-Poor	excavation at base of tree (to replace sidewalk) - critical root zone will be compromised, but sidewalk alignment is similar.	Retain & match grade at existing sidewalk, but remove if large roots compromised (private tree)
76	<i>Acer platanoides</i>	Norway Maple	234	4.0	0.7	Globe Maple	Good	excavation at base of tree (to replace sidewalk) - critical root zone may be compromised	Retain & match grade 2.1m inside road allowance
77	<i>Acer saccharum</i>	Sugar Maple	113	3.0	0.3	2 stems, codominant, included bark	Fair		Remove
78	<i>Acer saccharinum</i>	Silver Maple	1,150	13.0	3.5	lean toward home	Good	excavation at base of tree (to replace sidewalk) - critical root zone will be compromised, but sidewalk alignment is similar.	Retain & match grade at existing sidewalk, but remove if large roots compromised (private tree)
79	<i>Acer platanoides</i>	Norway Maple	590	7.0	1.8	girdling root	Fair	re-grading on two sides and installation of a new sidewalk near base of tree	Remove (private tree)
80	<i>Acer platanoides</i>	Norway Maple	589	8.0	1.8		Good	excavation for new sidewalk under dripline of tree	Retain & match grade at property boundary
81	<i>Acer saccharum</i>	Sugar Maple	500	7.0	1.5		Good	excavation for new sidewalk and hedge removal under dripline of tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
82	<i>Acer saccharum</i>	Sugar Maple	350	7.0	1.1		Good	excavation for new sidewalk and hedge removal under dripline of tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
83	<i>Acer saccharum</i>	Sugar Maple	500	8.0	1.5	heavily pruned	Good	excavation for new sidewalk, retaining wall, and hedge removal under dripline of tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
84	<i>Pinus strobus</i>	White Pine	350	6.5	1.1	some scarring on trunk	Good	excavation for widened sidewalk at base of tree	Remove (private tree)
85	<i>Pinus strobus</i>	White Pine	501	8.0	1.5	resin, pink/orange exudation, girdling root	Fair	sidewalk widening toward tree (insufficient TPZ)	Remove (confirm ownership)
86	<i>Pinus strobus</i>	White Pine	462	7.0	1.4	girdling root, branches rubbing on hydro	Good	excavation for widened sidewalk, storm, and sanitary service at base of tree	Remove (confirm ownership)
87	<i>Quercus rubra</i>	Red Oak	143	3.5	0.4	dead leader, very chlorotic	Poor	excavation for widened sidewalk at base of tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
88	<i>Acer saccharum</i>	Sugar Maple	380	7.0	1.1	codominant	Good	minimal re-grading under dripline	Retain
89	<i>Picea glauca</i>	White Spruce	440	5.5	1.3	very tall, dieback throughout canopy	Poor	excavation for new sidewalk near base of tree	Remove (private tree)
90	<i>Acer saccharum</i>	Sugar Maple	867	5.0	2.6	dieback throughout canopy, decay likely	Poor	excavation for new sidewalk near base of tree	Remove (private tree)
91	<i>Magnolia sp.</i>	Magnolia	176, 85, 86	4.0	0.6	cracks in trunks	Good	excavation for new sidewalk under dripline of tree	Retain & match grade at proposed sidewalk
92	<i>Acer saccharum</i>	Sugar Maple	683	9.0	2.0		Fair	conflict with proposed sidewalk and grading	Remove
93	<i>Acer saccharum</i>	Sugar Maple	671	8.0	2.0	included bark, significant decay, spigot	Poor	conflict with slope grading	Remove



Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
94	<i>Acer saccharum</i>	Sugar Maple	720	9.0	2.2	sparse on east side	Good-Fair	conflict with slope grading and storm/sanitary services	Remove
95	<i>Acer saccharum</i>	Sugar Maple	826	8.0	2.5	heavily pruned, crack in trunk, decay	Poor	conflict with slope grading, retaining wall, and water service	Remove
96	<i>Crataegus sp.</i>	Hawthorn	259, 300	6.0	1.2	codominant, cavities/decay in trunk	Fair-Poor	conflict with slope grading and retaining wall	Remove
97	<i>Robinia pseudoacacia</i>	Black Locust	348	9.0	1.0	hydro throughout canopy	Good	conflict with slope grading and retaining wall	Remove
98	<i>Robinia pseudoacacia</i>	Black Locust	150	4.0	0.5		Good	conflict with slope grading and retaining wall	Remove
99	<i>Acer saccharum</i>	Sugar Maple	600	8.0	1.8	congested canopy, included bark	Fair	conflict with slope grading, retaining wall, sanitary/storm/water services	Remove
100	<i>Pinus strobus</i>	White Pine	383	3.5	1.1		Good	grading near base of tree	Retain & match grade at property boundary
101	<i>Acer saccharum</i>	Sugar Maple	1,180	7.0	3.5	codominant, included bark, many burls, has had large limbs pruned	Good	-	Retain
102	<i>Acer saccharum</i>	Sugar Maple	800	11.0	2.4	burls, included bark	Fair	conflict with retaining wall	Remove
103	<i>Acer saccharum</i>	Sugar Maple	700	11.5	2.1	significant decay	Poor	has been removed	-
104	<i>Acer saccharum</i>	Sugar Maple	990	13.5	3.0	codominant, included bark, long branch overhanging road	Good	conflict with water/storm service and parking	Remove
105	<i>Acer saccharum</i>	Sugar Maple	870	12.0	2.6	included bark, codominant, 1 large buttress root	Good	conflict with parking and re-grading	Remove
106	<i>Acer saccharum</i>	Sugar Maple	900	8.0	2.7	crack in trunk, leader pruned	Fair	conflict with parking and re-grading	Remove
107	<i>Acer saccharum</i>	Sugar Maple	510	8.0	1.5	significant decay	Poor	conflict with parking and re-grading	Remove
108	<i>Robinia pseudoacacia</i>	Black Locust	173, 216	7.0	0.8	2 stems	Good	conflict with parking and re-grading	Remove
109	<i>Juglans nigra</i>	Black Walnut	155	5.0	0.5	near hydro pole	Good	conflict with slope re-grading	Remove
110	<i>Acer negundo</i>	Manitoba Maple	231, 241	7.0	1.0	some branches on hydro line, on retaining wall	Fair	conflict with parking and re-grading	Remove
111	<i>Acer saccharum</i>	Sugar Maple	491	8.0	1.5		Good	conflict with slope re-grading	Remove (confirm ownership)
112	<i>Tilia americana</i>	Basswood	75	3.0	0.2	small tree under canopy of adjacent maples	Good	conflict with slope re-grading	Remove
113	<i>Acer saccharum</i>	Sugar Maple	600	7.0	1.8		Good	conflict with slope re-grading	Remove (confirm ownership)
114	<i>Acer saccharum</i>	Sugar Maple	637	6.0	1.9		Good	conflict with slope re-grading	Remove (confirm ownership)
115	<i>Acer saccharum</i>	Sugar Maple	620	8.0	1.9		Good	conflict with slope re-grading	Remove
116	<i>Picea pungens</i>	Colorado Spruce	200	3.0	0.6	needle cast disease, lower canopy thinning	Good	-	Retain
117	<i>Acer saccharum</i>	Sugar Maple	645	5.5	1.9	roots scalped by mower, codominant, included bark, burls, may be decay as branch scars hollow and significant swelling at base of canopy	Fair	conflict with sidewalk (insufficient TPZ)	Remove
118	<i>Acer saccharum</i>	Sugar Maple	533	9.0	1.6	cavity, trunk swelling, trunk decay, broken branches, <10% canopy dieback	Fair-Poor	conflict with sidewalk (insufficient TPZ)	Remove

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
119	<i>Acer saccharum</i>	Sugar Maple	529	9.0	1.6	roots scalped by mower, codominant, lean toward road for sun, branch of adjacent maple rubbing and should be pruned, adjacent sidewalk cracked	Good	conflict with sidewalk	Remove
120	<i>Acer saccharum</i>	Sugar Maple	641	10.0	1.9	roots scalped by mower, weak woundwood	Good	conflict with sidewalk (insufficient TPZ)	Remove
121	<i>Acer saccharum</i>	Sugar Maple	611	8.0	1.8	roots scalped by mower, weak woundwood, cavity, girdling root, 2.0m crack, trunk decay, codominant, split extends from cavity to grade	Poor	conflict with sidewalk (insufficient TPZ)	Remove
122	<i>Picea pungens</i>	Colorado Spruce	725	6.0	2.2	roots scalped by mower	Good	-	Retain
123	<i>Picea pungens</i>	Colorado Spruce	477	3.5	1.4	roots scalped by mower, <10% canopy dieback,	Good	-	Retain
124	<i>Acer saccharum</i>	Sugar Maple	768	7.0	2.3	1.2m crack, branch scars may have decay, crack appears healed, adjacent sidewalk cracked	Fair	conflict with sidewalk	Remove
125	<i>Acer saccharum</i>	Sugar Maple	896	8.5	2.7	roots scalped by mower, lean away from sidewalk for light, adjacent sidewalk cracked	Good	conflict with sidewalk (insufficient TPZ)	Remove
126	<i>Acer saccharum</i>	Sugar Maple	119	4.0	0.4	string trimmer damage, injury with no woundwood: trunk decay, included bark, asymmetrical canopy,	Fair	conflict with sidewalk (insufficient TPZ)	Remove
127	<i>Acer saccharum</i>	Sugar Maple	861	7.5	2.6	roots scalped by mower, woundwood but injury not closed, burls, fungal fruiting body or burl forming	Fair	conflict with sidewalk (insufficient TPZ)	Remove
128	<i>Tilia americana</i>	Basswood	878	11.0	2.6	sweep in trunk toward road	Good	conflict with sidewalk (insufficient TPZ)	Remove
129	<i>Acer saccharum</i>	Sugar Maple	435	5.0	1.3	<10% canopy dieback, lean toward road, large branch overhanging road, significant compression wood on roadside of trunk, sidewalk panels adjacent to tree don't match, base of tree was historically damaged	Good	conflict with sidewalk (insufficient TPZ)	Remove
130	<i>Acer platanoides</i>	Norway Maple	225	3.5	0.7	5-10cm crack, asymmetrical canopy, lean toward road for sun, low branching	Fair	conflict with sidewalk and sanitary service	Remove
131	<i>Acer saccharum</i>	Sugar Maple	550	8.0	1.7	codominant, included bark, hydro line through canopy, crossing branches, canopy cabled	Good	water/storm/sanitary services and hydrant under dripline, excavation for sidewalk	Remove (confirm ownership)
132	<i>Acer saccharum</i>	Sugar Maple	316	7.5	0.9	codominant, included bark, landscape fabric at base, low branching, crossing branches, looks like a cultivar	Good	conflict with sidewalk (insufficient TPZ)	Remove
133	<i>Acer saccharum</i>	Sugar Maple	342	7.0	1.0	suspected girdling root, codominant, included bark, congested canopy, suspected cultivar	Fair	conflict with water service and sidewalk	Remove

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
134	<i>Acer saccharum</i>	Sugar Maple	887	7.0	2.7	extensive decay, 90% canopy dieback, fungal fruiting bodies	Poor	storm/sanitary services under dripline, conflict with sidewalk	Remove
135	<i>Acer saccharum</i>	Sugar Maple	102	12.0	0.3	weeping, suspected decay, mountain ash growing from upper side of tree crotch, several burls and trunk abnormalities	Fair	re-grading at base of tree	Remove
136	<i>Betula papyrifera</i>	Paper Birch	500, 350	12.0	1.8	branch tip dieback, 2 stems, branches breaking off	Poor	re-grading near base of tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
137	<i>Picea pungens</i>	Colorado Spruce	400	4.0	1.2	lower canopy thinning, dead leader	Poor	sanitary/storm services near base of tree	Remove (private tree)
138	<i>Picea pungens</i>	Colorado Spruce	500	4.0	1.5	lower canopy thinning,	Poor	excavation for sidewalk near base of tree	Retain & match grade at property boundary, but remove if large roots compromised
139	<i>Thuja occidentalis</i>	Eastern White Cedar	100	0.5	0.3	codominant, 1 double trunk dead, 1 healthy but with Virginia creeper	Fair	excavation for sidewalk near base of tree	Retain
140	<i>Acer saccharum</i>	Sugar Maple	793	8.0	2.4	roots scalped by mower, large cavity, significant decay, 80% canopy dieback, burls, fungal fruiting body	Poor	conflict with sidewalk and sanitary/water service	Remove
141	<i>Acer saccharum</i>	Sugar Maple	805	8.0	2.4	roots scalped by mower, 2.0m crack, weeping, codominant, included bark, 1 dead limb, appears to be decay in crack which extends to both sides of trunk	Poor	conflict with sidewalk and storm service	Remove
142	<i>Thuja occidentalis</i>	Eastern White Cedar	100	2.5	0.3	topped	Good	-	Retain
143	<i>Acer rubrum</i>	Red Maple	600	9.0	1.8	codominant, included bark, chlorosis, 1 dead branch, some crossing branches	Good	conflict with storm/sanitary service	Remove (private tree)
144	<i>Acer rubrum</i>	Red Maple	562	7.5	1.7	codominant, included bark, chlorosis, crowded canopy and crossing branches	Good	conflict with water service	Remove (confirm ownership)
145	<i>Acer saccharum</i>	Sugar Maple	500	8.0	1.5	woundwood but injury not closed, 30-50cm mechanical injury, weeping, codominant, included bark, splitting trunks	Poor	minor re-grading under dripline	Retain
146	<i>Acer saccharum</i>	Sugar Maple	1,200	9.0	3.6	roots scalped by mower, codominant, included bark, 30% canopy dieback, dead upper canopy branches and possibly mid canopy, extremely tall tree, pruning required to mitigate hazard, adjacent sidewalk cracked	Poor	conflict with sidewalk (insufficient TPZ)	Remove (private tree)
147	<i>Acer platanoides</i>	Norway Maple	145	3.5	0.4	vigorous woundwood, 20-30cm mechanical injury, tar spot, lean toward road for sun	Good	conflict with sidewalk	Remove
148	<i>Acer saccharum</i>	Sugar Maple	100	3.5	0.3		Good	sanitary service and re-grading under canopy of tree	Retain & match grade at edge of sidewalk
149	<i>Aesculus hippocastanum</i>	Horsechestnut	75	0.0	0.2		Good	re-grading under canopy of tree	Retain & match grade at edge of sidewalk

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
150	<i>Acer saccharum</i>	Sugar Maple	744	11.0	2.2	codominant, included bark, asymmetrical canopy, 20% canopy dieback, sidewalk cracked, large fungal fruiting body, lean toward road	Poor	conflict with sidewalk (insufficient TPZ)	Remove
151	<i>Acer saccharum</i>	Sugar Maple	800	8.0	2.4	weeping, codominant, included bark, asymmetrical canopy, may be decay where leaves collecting in crotch	Fair	conflict with sidewalk (insufficient TPZ)	Remove (private tree)
152	<i>Acer saccharum</i>	Sugar Maple	900	13.0	2.7	large cavity, significant decay, heavily pruned, some suspected additional canopy dieback (reviewed in fall)	Poor	conflict with sidewalk (insufficient TPZ)	Remove (private tree)
153	<i>Picea pungens</i>	Colorado Spruce	10	0.5	0.0	lower canopy thinning,	Good	excavation for hydrant near tree	Retain
154	<i>Acer saccharum</i>	Sugar Maple	500	7.0	1.5	large cavity, trunk swelling, trunk decay, heavily pruned, obscured by hedge	Poor	excavation for retaining wall, sidewalk, water service near base of tree, compromising stabilizing roots	Remove (private tree)
155	<i>Acer saccharum</i>	Sugar Maple	300	5.0	0.9	obscured by hedge	Good	excavation for retaining wall, sidewalk, water service near base of tree, compromising stabilizing roots	Remove (private tree)
156	<i>Acer saccharum</i>	Sugar Maple	450	5.0	1.4	50-100cm crack, weeping, codominant, included bark, asymmetrical canopy, actively crackting, obscured by hedge	Poor	excavation for retaining wall, sidewalk, compromising stabilizing roots	Remove (private tree)
157	<i>Acer saccharum</i>	Sugar Maple	600	8.0	1.8	heavily pruned, obscured by hedge, suspect decay	Fair	excavation for new sidewalk, retaining wall, and hedge removal under dripline of tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
158	<i>Morus alba 'Pendula'</i>	Weeping Mulberry	100	2.0	0.3		Good	excavation for new sidewalk under dripline of tree, canopy conflicts with sidewalk	Remove (private tree)
159	<i>Acer platanoides</i>	Norway Maple	620	6.0	1.9	roots scalped by mower, codominant, included bark,	Good	excavation for new sidewalk under dripline of tree	Retain & match grade at property boundary
160	<i>Acer platanoides</i>	Norway Maple	421	5.0	1.3	trunk split, codominant, included bark,	Fair	excavation for new sidewalk under dripline of tree	Retain & match grade at property boundary
161	<i>Picea pungens</i>	Colorado Spruce	200	2.5	0.6		Good	-	Retain
162	<i>Picea pungens</i>	Colorado Spruce	200	2.5	0.6		Good	-	Retain
163	<i>Acer saccharum</i>	Sugar Maple	740	8.0	2.2	codominant, included bark, perched on retaining wall	Fair	re-grading and retaining wall near base of tree	Remove (private tree)
164	<i>Acer saccharum</i>	Sugar Maple	790	8.0	2.4	hydro under canopy, compression wood on side next to walkway, split from crown to ground	Poor	retaining wall and re-grading under canopy (given condition, insufficient TPZ)	Remove (private tree)
165	<i>Acer saccharum</i>	Sugar Maple	620	8.0	1.9	was recently pruned to address crack	Fair	conflict with sidewalk and retaining wall	Remove
166	<i>Acer saccharum</i>	Sugar Maple	750	10.0	2.3	codominant, included bark, asymmetrical canopy, hydro through canopy	Fair	conflict with road construction	Remove (confirm ownership)
167	<i>Thuja occidentalis</i>	Eastern White Cedar	200	3.5	0.6	codominant, included bark,	Good	re-grading under dripline of tree	Retain & match grade at existing sidewalk
168	<i>Thuja occidentalis</i>	Eastern White Cedar	100	1.0	0.3	codominant,	Good	-	Retain & match grade at property boundary



Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
169	<i>Thuja occidentalis</i>	Eastern White Cedar	250	1.5	0.8	codominant, included bark, may be splitting	Fair	water service near base of tree	Retain & match grade at property boundary
170	<i>Thuja occidentalis</i>	Eastern White Cedar	200	4.0	0.6	codominant,	Good	re-grading under dripline of tree	Retain & match grade at existing sidewalk
171	<i>Acer saccharum</i>	Sugar Maple	400	6.0	1.2	small cavity, trunk decay, codominant, included bark,	Poor	-	Retain
172	<i>Acer saccharum</i>	Sugar Maple	817	7.0	2.5	buried trunk flare, trunk swelling, trunk decay, codominant, included bark, heavily pruned, large crack from crown to base	Poor	conflict with sanitary/storm service and sidewalk	Remove
173	<i>Acer saccharum</i>	Sugar Maple	897	8.0	2.7	150-300mmtrunk swelling, trunk decay, codominant, included bark, decay between 2 trunks, somewhat fused, burls	Poor	conflict with water service and sidewalk	Remove
174	<i>Acer saccharum</i>	Sugar Maple	787	8.5	2.4	codominant, included bark, asymmetrical canopy, 30% canopy dieback, pruned for hydro. suspected internal decay	Fair	conflict with sidewalk	Remove
175	<i>Fraxinus sp.</i>	Ash	550	10.0	1.7	hydro through canopy, signs of EAB not observed	Good	significant regrading (cut) and storm service near base of tree	Remove (confirm ownership)
176	<i>Betula papyrifera</i>	Paper Birch	291, 287	5.0	1.2	approx. 50cm from active home construction site (soil compaction, stockpiling of materials, etc.)	Fair	sidewalk and grading under dripline	Remove (confirm ownership)
177	<i>Acer saccharum</i>	Sugar Maple	417	8.0	1.3	extended branches	Good	re-grading under dripline	Retain & match grade 3.6m from base of tree
178	<i>Acer saccharum</i>	Sugar Maple	775	8.0	2.3	extensive decay, topped due to decay and hydro.	Poor	excavation of sanitary/storm near base of tree, re-grading at base of tree	Remove
179	<i>Euonymus sp.</i>	Euonymus	150	3.0	0.5	unknown shrub (thought to be Euonymus sp.), 6 stems to 150mm dia.	Good	re-grading at base of tree	Remove
180	<i>Picea abies</i>	Norway Spruce	321	4.0	1.0		Good	re-grading at base of tree	Remove
181	<i>Picea abies</i>	Norway Spruce	385	6.0	1.2		Good	re-grading at base of tree	Retain & match grade 2.5m inside road allowance
182	<i>Malus sp.</i>	Crabapple	75	3.0	0.2	crossing branches	Good	conflict with water/sanitary/storm services	Remove (private tree)
183	<i>Acer platanoides</i>	Norway Maple	500	7.0	1.5	codominant, included bark,	Fair	water/storm/sanitary under dripline, regrading near base of tree	Retain & match grade 2.5m inside road allowance
184	<i>Magnolia soulangiana</i>	Saucer magnolia	150 x 7	7.0	1.2		Good	water/storm/sanitary under dripline, regrading near base of tree	Retain & match grade 2.5m inside road allowance
185	<i>Malus sp.</i>	Crabapple	75	2.5	0.2		Good	sanitary/water services near tree	Retain & match grade at property boundary
186	<i>Betula papyrifera</i>	Paper Birch	400, 300, 300	7.0	1.7	small cavity, pruned for hydro, lean toward house	Fair	sanitary/storm services under dripline, re-grading at base of tree	Remove
187	<i>Malus sp.</i>	Crabapple	200	4.5	0.6	suckers from rootstock	Good	water/storm services near base of tree	Remove (private tree)
188	<i>Malus sp.</i>	Crabapple	200, 200	5.0	0.8	stem and rootstock sprouts	Good	sanitary service and re-grading at base of tree	Remove
189	<i>Syringa reticulata</i>	Ivory Silk Lilac	279	3.5	0.8	extreme lean to SE, canopy has self corrected	Good	sanitary/storm service and re-grading at base of tree	Remove
190	<i>Syringa reticulata</i>	Ivory Silk Lilac	188	2.5	0.6	moderate lean to SE	Good	re-grading at base of tree	Remove

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
191	<i>Thuja occidentalis</i>	Eastern White Cedar	150	3.0	0.5	pruned for hydro and sidewalk clearance	Good	excavation to replace sidewalk near base of tree - private tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
192	<i>Thuja occidentalis</i>	Eastern White Cedar	150	3.0	0.5	pruned for hydro and sidewalk clearance	Good	excavation to replace sidewalk near base of tree - private tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
193	<i>Thuja occidentalis</i>	Eastern White Cedar	150	3.0	0.5	multi-stem	Good	excavation to replace sidewalk near base of tree - private tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
194	<i>Picea glauca</i>	White Spruce	225	3.0	0.7	pruned for sidewalk clearance	Good	excavation to replace sidewalk near base of tree - private tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
195	<i>Picea glauca</i>	White Spruce	100	3.0	0.3	limbed up for sidewalk clearance	Good	excavation to replace sidewalk near base of tree - private tree	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
196	<i>Acer saccharum</i>	Sugar Maple	200	3.5	0.6	behind fence	Good	storm service at base of tree	Remove (private tree)
197	<i>Picea pungens</i>	Colorado Spruce	50	1.0	0.2		Good	-	Retain
198	<i>Picea pungens</i>	Colorado Spruce	75	1.5	0.2		Good	-	Retain
199	<i>Acer saccharum</i>	Sugar Maple	870	11.0	2.6	codominant, included bark,	Fair	excavation to replace sidewalk near base of tree	Remove (confirm ownership)
200	<i>Acer saccharum</i>	Sugar Maple	550	9.0	1.7	very narrow canopy, heavily pruned, suspected decay	Poor	storm service & excavation to replace sidewalk at base of tree	Remove (confirm ownership)
201	<i>Acer saccharum</i>	Sugar Maple	923	10.0	2.8	vertical crack, codominant, included bark, crossing branches, decay in leader, pronounced buttress roots against sidewalk	Poor	sanitary/water/storm services & excavation to replace sidewalk near base of tree	Remove (confirm ownership)
202	<i>Acer saccharum</i>	Sugar Maple	705	0.0	2.1	small cavity at branch scar asymmetrical canopy, <10% canopy dieback, pruned for hydro, adjacent sidewalk panel has heaved	Fair	conflicts with sidewalk	Remove
203	<i>Malus sp.</i>	Crabapple	200, 200	6.0	0.8	small cavity, trunk decay, codominant	Poor	regrading under canopy of tree	Retain
204	<i>Acer saccharum</i>	Sugar Maple	500	7.0	1.5	small cavity at branch scar trunk swelling, suspected decay in lower canopy early leaf abscission, house constructed 7 years ago (spoke with owner)	Poor	sanitary service and re-grading at base of tree	Remove
205	<i>Acer saccharum</i>	Sugar Maple	620	9.0	1.9	buried trunk flare, construction debris at base, pruned for hydro, early leaf abscission	Poor	excavation to replace sidewalk near base of tree	Remove
206	<i>Aesculus hippocastanum</i>	Horsechestnut	630	5.0	1.9	adjacent to new home construction & TPZ <0.5m, significantly pruned	Poor	sanitary/storm services & excavation to replace sidewalk near base of tree	Remove (confirm ownership)

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
207	<i>Aesculus hippocastanum</i>	Horsechestnut	1,082	6.0	3.2	vertical crack, trunk decay, asymmetrical canopy, adjacent to new home construction & TPZ <1.0m, significantly pruned	Poor	water/sanitary, hydrant, and excavation to replace sidewalk near base of tree	Remove (confirm ownership)
208	<i>Picea abies</i>	Norway Spruce	500	6.0	1.5	hedgerow, new home construction both sides, construction material stockpiled within 1.0m of base, currently appears healthy	Fair	-	Retain
209	<i>Picea pungens</i>	Colorado Spruce	500	4.5	1.5	needle cast disease, girdled by extension cord	Fair	water service at base of tree	Remove (confirm ownership)
210	<i>Acer saccharum</i>	Sugar Maple	200	5.0	0.6	immediately adjacent to second tree	Fair	sanitary service and re-grading at base of tree	Remove (confirm ownership)
211	<i>Fraxinus sp.</i>	Ash	200	4.0	0.6	codominant, included bark, geotextile and water valve at base, no signs of EAB	Good	water service at base of tree	Remove (confirm ownership)
212	<i>Acer platanoides</i>	Norway Maple	500	7.0	1.5	vertical crack, codominant, included bark, large buttress roots, hydro through canopy	Good	-	Retain
213	<i>Picea abies</i>	Norway Spruce	180	4.0	0.5	asymmetrical canopy, canopy thinning, shaded by adjacent Norway Maple	Fair	-	Retain
214	<i>Picea pungens</i>	Colorado Spruce	400	3.0	1.2	canopy thinning, may have needle cast disease, narrow canopy	Fair	-	Retain
215	<i>Picea pungens</i>	Colorado Spruce	350	5.0	1.1	lower canopy thinning,	Good	-	Retain & match grade at edge of canopy
216	<i>Acer saccharum</i>	Sugar Maple	400	8.0	1.2	vertical crack from canopy to grade, codominant, included bark, structurally weak	Poor	-	Retain
217	<i>Picea pungens</i>	Colorado Spruce	450	4.5	1.4	buried trunk flare, 80% canopy dieback,	Poor	hydrant, excavation for sidewalk and re-grading on private property	Remove (private tree)
218	<i>Thuja occidentalis</i>	Eastern White Cedar	75	1.0	0.2	dense, pruned	Good	-	Retain
219	<i>Salix babylonica</i>	Weeping Willow	820	6.0	2.5	codominant, included bark, many narrow or fused crotch angles, at risk of splitting	Fair	excavation to replace sidewalk and re-grading under dripline	Retain & match grade at property boundary, but remove if large roots compromised (private tree)
220	<i>Chamaecyparis nootkatensis 'Pendula'</i>	Weeping Nootka Cypress	100	2.2	0.3		Good	water service and re-grading near base of tree	Remove
221	<i>Fraxinus sp.</i>	Ash	200	6.0	0.6	codominant, no observed signs/symptoms of EAB	Good	-	Retain
222	<i>Betula papyrifera</i>	Paper Birch	450	6.0	1.4	codominant, included bark,	Fair	water/storm services near base of tree	Remove (confirm ownership)
223	<i>Acer saccharum</i>	Sugar Maple	400	5.0	1.2	codominant, included bark, low canopy, very congested, poor structure	Fair	water/sanitary services near base of tree	Remove (private tree)
224	<i>Picea pungens</i>	Colorado Spruce	500	5.0	1.5	codominant, needle cast disease,	Fair	re-grading under canopy of tree	Retain & match grade at property boundary
225	<i>Liriodendron tulipifera</i>	Tulip Tree	50	2.0	0.2		Good	re-grading under canopy of tree	Retain & match grade at property boundary

Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
226	<i>Acer saccharum</i>	Sugar Maple	350	5.5	1.1	codominant, included bark, splitting trunks	Fair	re-grading at base of tree	Remove
227	<i>Thuja occidentalis</i>	Eastern White Cedar	200, 200	5.0	0.8	codominant, included bark,	Good	-	Retain
228	<i>Picea pungens</i>	Colorado Spruce	450	3.5	1.4	needle cast disease, landscape fabric at base	Poor	storm/sanitary service near base of tree	Remove
229	<i>Picea pungens</i>	Colorado Spruce	200	3.0	0.6	needle cast disease, 30% canopy dieback, likely needlecast disease	Poor	re-grading at base of tree	Remove
230	<i>Picea pungens</i>	Colorado Spruce	300	3.0	0.9	50% canopy dieback, likely needlecast disease	Poor	re-grading at base of tree	Remove
231	<i>Picea pungens</i>	Colorado Spruce	300	2.5	0.9	30% canopy dieback, likely needlecast disease	Poor	re-grading at base of tree	Remove
232	<i>Picea pungens</i>	Colorado Spruce	300	2.0	0.9	50% canopy dieback, likely needlecast disease	Poor	re-grading at base of tree	Remove
233	<i>Picea abies</i>	Norway Spruce	310	5.5	0.9	<25mm injury, asymmetrical canopy,	Good	sanitary service and re-grading at base of tree	Remove
234	<i>Acer saccharum</i>	Sugar Maple	350	0.0	1.1	codominant, included bark, asymmetrical canopy,	Fair	sanitary service and re-grading at base of tree	Remove
235	<i>Picea abies</i>	Norway Spruce	300	3.5	0.9	asymmetrical canopy,	Good	water service at edge of dripline of tree	Retain
236	<i>Acer saccharum</i>	Sugar Maple	903	9.0	2.7	small cavity at branch scar, trunk swelling, codominant, included bark, many fused branches, may be decay column from several large pruning cuts	Fair	storm service near base of tree	Remove (confirm ownership)
237	<i>Betula papyrifera</i>	Paper Birch	613	4.0	1.8	codominant,	Good	water service at base of tree	Remove (confirm ownership)
238	<i>Acer platanoides</i>	Norway Maple	50, 100	4.0	0.3	codominant,	Fair	re-grading under dripline of tree	Retain & match grade at property boundary
239	<i>Liriodendron tulipifera</i>	Tulip Tree	40	1.5	0.1		Good	storm service near base of tree	Retain & match grade at property boundary
240	<i>Picea pungens</i>	Colorado Spruce	570	4.0	1.7	needle cast disease, 40% canopy dieback, only 2 year old needles left	Poor	water service near base of tree	Remove (private tree)
241	<i>Acer saccharum</i>	Sugar Maple	796	8.0	2.4	buried trunk flare, extensive decay, multiple cracks, codominant, included bark, 50% canopy dieback, leader and central branches dead	Poor	water service & re-grading near base of tree	Remove (private tree)
242	<i>Thuja occidentalis</i>	Eastern White Cedar	300	5.0	0.9	canopy thinning, may have suffered construction damage: property recently landscaped	Fair	re-grading under dripline of tree	Retain & match grade at property boundary
243	<i>Picea abies</i>	Norway Spruce	425	5.0	1.3		Good	re-grading under dripline of tree	Retain & match grade at property boundary
244	<i>Picea abies</i>	Norway Spruce	364	4.0	1.1		Good	re-grading under dripline of tree	Retain & match grade at property boundary
245	<i>Picea abies</i>	Norway Spruce	482	5.0	1.4		Good	re-grading under dripline of tree	Retain & match grade at property boundary
246	<i>Pinus strobus</i>	White Pine	159	4.0	0.5		Good	-	Retain
247	<i>Pinus strobus</i>	White Pine	282	5.0	0.8	may be shallow water, trunk decay 600mm from base	Fair	-	Retain
248	<i>Acer platanoides</i>	Norway Maple	250, 200	8.0	1.0	included bark, 20% canopy dieback, 2 trunks	Fair	-	Retain



Tree Inventory and Assessment

ID No.	Latin Name	Common Name	DBH (mm)	Canopy Radius (m)	Critical Root Zone (m)	Comments	Condition	Construction Impact	Recommendation
249	<i>Acer saccharum</i>	Sugar Maple	148	4.0	0.4	included bark, codominant in upper canopy	Good	removed	-
250	<i>Picea pungens</i>	Colorado Spruce	0	8.0	0.0	needle cast disease, 40% canopy dieback,	Poor	-	Retain
251	<i>Acer saccharum</i>	Sugar Maple	200	5.0	0.6		Good	re-grading to edge of dripline	Retain
252	<i>Picea pungens</i>	Blue Colorado Spruce	200	3.0	0.6		Good	-	Retain
253	<i>Pinus nigra</i>	Austrian Pine	445	6.0	1.3	needle dieback southwest side, trunk appears girdled	Fair-Poor	re-grading near base of tree but retaining wall is remaining (private tree)	Retain
254	<i>Thuja occidentalis</i>	Eastern White Cedar	100	1.5	0.3		Good	excavation & re-grading for sidewalk replacement	Remove
255	<i>Thuja occidentalis</i>	Eastern White Cedar	100	1.5	0.3		Good	conflict with sidewalk replacement	Remove
256	<i>Sorbus</i> sp.	Mountain Ash	200	2.5	0.6	codominant	Good	excavation at base of tree (for sidewalk)	Retain & match grade at sidewalk
257	<i>Picea glauca</i>	White Spruce	300	3.0	0.9	prune canopy	Fair	excavation under dripline of tree (for sidewalk)	Retain, match grade at sidewalk, & prune canopy
258	<i>Picea abies</i>	Norway Spruce	600	8.0	1.8	codominant	Fair	conflict with slope re-grading	Remove (confirm ownership)
259	<i>Picea glauca</i>	White Spruce	400	6.0	1.2	in line with fence	Good	conflict with slope re-grading (very steep slope)	Remove (confirm ownership)
260	<i>Acer platanoides</i>	Norway Maple	180, 180	3.0	0.8	2 stems, strong lean at base	Good	-	Retain
261	<i>Acer saccharum</i>	Sugar Maple	200	5.0	0.6	immediately adjacent to second tree	Fair	sanitary service and re-grading at base of tree	Remove (confirm ownership)
262	<i>Picea pungens</i>	Colorado Spruce	450	2.5	1.4	canopy thinning	Fair	-	Retain