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Appendix C: Arborist Report



City of Windsor

University Avenue EA Arborist Report

September 2018

B000917

SUBMITTED BY CIMA CANADA INC.

415 Baseline Road West, 2nd Floor

Bowmanville, ON L1C 5M2

T 905 697 4464

cima.ca

CONTACT

Lisa Cullen

Lisa.Cullen@cima.ca

T 905 697 4464 ext. 6915



City of Windsor
University Avenue EA
Arborist Report

Project no B000917

PREPARED BY: **Greg Bunker**
ISA Certified Arborist ON-2293A

VERIFIED BY: 
Lisa Cullen
Senior Project Manager

CIMA+
415 Baseline Road, 2nd Floor
Bowmanville, Ontario L1C 5M2

Finalized February 2022

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1. Introduction

CIMA+ has been retained by the City of Windsor (the City) to review the trees potentially affected by road work proposed along University Avenue and Victoria Avenue in downtown Windsor. The City is looking to transform a stretch of University Avenue approximately 3.75 km long and a crossing segment of Victoria Avenue 225 m long into an inviting, multimodal transportation corridor. This report will help determine the project's potential impacts on trees in the public realm as well as on trees on private property that may be affected by the work. This report will also provide general recommendations to avoid and/or mitigate tree loss and injury.

2. Limitations

The assessment presented in this report has been made using accepted standard arboriculture techniques as outlined in the Council of Tree and Landscape Appraisers *Guide for Plant Appraisal, 9th Edition* (2000). These techniques include visual examination of above ground parts of each tree or trees in each group. The trees observed were not climbed, cored, or dissected, and excavation for detailed root crown inspection was not performed. Since some symptoms may only be present seasonally, the extent of observations that can be made may be limited by the time of year in which the inspection took place.

Since trees are living organisms, their health and vigour continually change over time due to seasonal variations, changes in site conditions, and other factors. For this reason, the assessment presented in this report is valid at the time of inspection, and no guarantee is made about the continued health of trees that are deemed to be in good condition. It is recommended that the trees be re-assessed periodically to identify changes in condition. While every standing tree has the potential for failure and therefore poses some risk, a tree assessment is a good indication of present health and potential problems that could arise in the future.

CIMA+ has prepared this report for the sole use of the client. Any use of this report by a third party, as any decision based on this report, is the singular responsibility of the third party. CIMA+ will not be held responsible for eventual damages towards a third party resulting from decisions taken, or based, on this report.

3. Methodology

An ISA Certified Arborist from CIMA+ visited the site on July 5 and 6, 2018.

Trees and vegetation groups were located within the public right-of-way and along adjacent private property where effects of road work could affect trees. This would typically occur wherever a private tree's canopy may overhang into the right-of-way. Vegetation groups were also noted instead of individual trees or shrubs in certain cases: where a group of very similar trees or shrubs were located together or where significant planting beds may exist beneath tree and be affected by proposed work.

Trees and vegetation groups were uniquely numbered, identified, measured, and assessed for condition. The assessment methodology is outlined in Section 3 below. The tree inventory tables containing this information are included in Appendix A along with drawings TI-1 through TI-11 that show the the locations of the numbered trees and groups surveyed.

3.1 Tree Size

Size refers to trunk diameter (caliper or DBH) measured in centimetres at 1.4 m above the ground. Where trees had more than one trunk from the base, the size of each trunk was recorded. Where trees forked to codominant trunks, each trunk was measured or the diameter was measured under the flare and the approximate height of the measurement was noted.

3.2 Observations

Several structural defects and health problems are included in the Comments section of the tree inventory and assessment table. Following is an explanation of the short forms used in the table:

GR	Girdling roots
COD	Codominant trunks or codominant leaders
NA	Narrow branch angles
INCL	Included bark
CRB	Crossing branches
MBR	Multiple branches from the same point of attachment
DPR	Decay at pruning wounds
SMD	Small dead branches
ADV	Adventitious shoots

These observations, along with other terms related to describing tree conditions, are defined below.

Structural defects are often insignificant when a tree is small, but can pose problems when the tree grows larger and the weight of branches put added stress on defects that can cause weakness. Larger trees also have the potential to cause more damage should they fail. The following is an explanation of some of the observations included in the inventory and assessment table, and how they can affect trees over time.

- *Adventitious shoots* are vigorous growth of shoots from pruning cuts, inner branches, or along the trunk that usually occur in response to stress.
- *Codominant leaders* (2 trunks or branches of approximately equal size) often have narrow branch angles, and are associated with weak branch attachment. Strong branch attachments occur between 2 limbs of unequal size with enough space for branch enlargement and formation of a branch bark ridge.
- *Crossing branches* are often associated with narrow branch angles. Branches that cross over each other often rub, causing damage and therefore weakness to one or both branches, and crossing branches can eventually girdle each other.

- *Decay at pruning wounds* can occur when pruning (or other bark-penetrating abrasions) expose a tree's heartwood, which can then be affected by a rot-causing fungi. The decay can lead to cavities and internal decay, and potentially affect the structural integrity of the tree.
- *Exposed surface roots* can be a result of erosion and soil compaction combined with increasing root diameter. It is important to protect exposed roots from pedestrian and vehicular traffic, and lawn mowers. Damage to roots can cause stress and can result in canopy dieback.
- *Frass* is the excrement of insect larvae, with an appearance similar to sawdust or small wood chips that can be seen at the base of a tree where wood boring insects are feeding. Frass can be an indicator of internal decay.
- *Fruiting bodies* are often recognized as mushrooms or conks on trees. Presence of fruiting bodies is a positive indicator of wood decay, but depending on the species of the fruiting body, the decay can be of little significance or an indicator of imminent failure. It is important to observe decay fungi during the season in which it is growing to accurately identify the species and consider the potential associated indications of the extent of decay.
- *Girdling roots* are roots that cross over each other or around the trunk of the tree. As these roots grow larger, they can restrict the uptake of nutrients and water, and inhibit structural anchorage.
- *Included bark* is bark that has become embedded in a crotch where limbs join, and causes weakened branch attachments. As the trunk and branch increase in diameter, the bark of each stem in the tight crotch begin to push apart, increasing the likelihood of failure.
- A tree with a *lean* can be more susceptible to windthrow and soil failure. *Self-correcting lean* refers to a natural correction of the lean by development of new growth that counteracts the lean of the trunk to provide a more balanced form.
- *Lion tailing* refers to branches that have a tuft of foliage at the end like a lion's tail, due to pruning of the inner branches. Branches that have been pruned in this way are end-heavy and more likely to fail.
- *Live crown ratio* is the ratio of the live crown to the overall height of the tree. A low live crown ratio can develop when trees are growing close together in stands, or can be created by pruning or dieback. Low live crown ratio is associated with increased likelihood of failure, depending on the cause and site factors.
- When a tree has *multiple branches from the same point of attachment*, the branches usually have characteristics of weakly attached branches.
- *Narrow branch angles*, especially where there is included bark, can be a problem as trees grow larger because the inner wood is poorly attached.
- *Ribs and seams* are often associated with included bark, but can also indicate internal defects or decay that cause irregular growth.
- The *root flare* refers to the base of the trunk where it widens as it transitions to the root system.

- *Sapsucker holes* refers to holes in the trunk or branches made by birds in search of insects. This damage is a sign of insects in the tree, and can make trees more susceptible to other infection.
- *Small dead branches* are an indicator of crown dieback and can be an early sign of stress.
- *Split-gill fungus* (*Schizophyllum commune*) is an extremely common fungus that often affects trees that with recently killed bark. It can spread to healthy tissues after establishment.
- *Staghorn effect* refers to dead branches protruding through the crown of a tree, and often indicates a state of significant decline.
- *Suppressed trees* are growing under the canopies of neighbouring trees, which can diminish vigour and affect structural form.
- *Woundwood* is the thickened tissue growing around the edges of a wound. The rate of its development can be a sign of the tree's vigour.

The detailed observations made concerning tree species, size, and condition are included in the tree inventory and assessment table in Appendix A.

3.3 Tree Condition

Each tree was given a subjective rating for trunk integrity, canopy structure, and crown vigour, and an overall health condition rating of Excellent, Good, Fair, Poor, or Dead. The following is a summary of how the ratings are determined:

- **EXCELLENT (E):** no apparent health problems; good structural form
- **GOOD (G):** minor problems with health and/or structural form
- **FAIR (F):** more serious problems with health and/or structural form
- **POOR (P):** major problems with health and structural form
- **DEAD (D):** dead

3.4 Tree Protection and Compensation

The spread area (dripline, measured here as a diameter) of each tree canopy is included to help determine possible injury and branch pruning that may be required.

Tree impacts (protection, injury, or removal) will be evaluated and considered during the design process.

4. Summary

A total of 267 trees and tree groups were surveyed along University and Victoria Avenues. This total is comprised of 226 individual trees and 41 individual shrubs and vegetation groups.

4.1 Structure of the Urban Forest

The size class of trees is an important metric for managing urban tree populations, as they indicate the relative age of trees as well as tree maintenance requirements. The ideal distribution is skewed left, with the greatest number of trees in the smallest DBH class decreasing to the least number of trees in the largest DBH class. This adds longevity and resiliency to the flow of functional benefits provided by the urban tree population, including aesthetic and ecological benefits.

The graph below illustrates that the tree size distribution for University Avenue is generally skewed to the left, with a significant drop in tree counts beyond the 40 cm DBH threshold. Trees less than 40 cm DBH make up almost 75% of all trees surveyed. Generally, the graph below shows a healthy tree size distribution. The relative disparity in numbers between trees less than 40 cm DBH and those above 40 cm DBH indicates that the future forest is promising. It is possible that the difference in size class at the 40 cm DBH threshold may indicate that municipal urban forestry management practices may favour removing larger trees as their hazard potential and their maintenance cost increases over time.

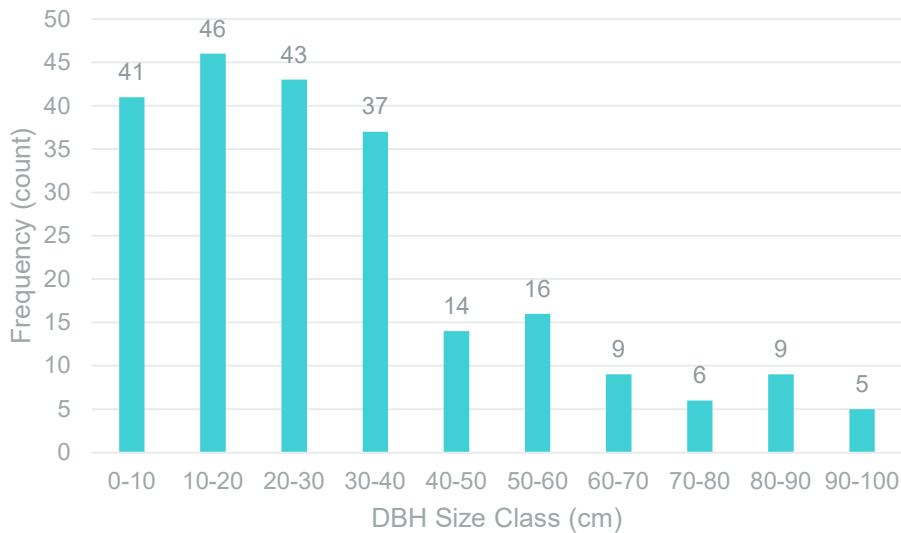


Figure 1. Tree size distribution in the study area.

4.2 Biodiversity of the Urban Forest

There were 35 tree species identified in total, with 28 genera and 18 families represented. A guideline for diversity in urban forestry is the 10-20-30 rule (as originally proposed by Frank Santamour in 1990 in his paper Trees for urban planting: Diversity, uniformity, and common sense). This rule maintains that an urban tree population should not have over 10% of any single species, over 20% of any single genus, or over 30% of any single family represented. This guideline promotes resiliency to specialized pests and disease, and offers protection against environmental stressors, as well as ecological benefits.

Following this rule, the graphs below indicate that honey locust and Norway maple both exceed the 10% species rule (at 16% and 14% respectively); that maples generally are slightly overrepresented as a genus (at 23%); and that family diversity among trees along University Avenue is well under the 30% mark, with the pine, legume, and rose families tied for the highest share at 11% each.

Compared to many urban streets, the species diversity of the trees inventoried along University Avenue is very good.

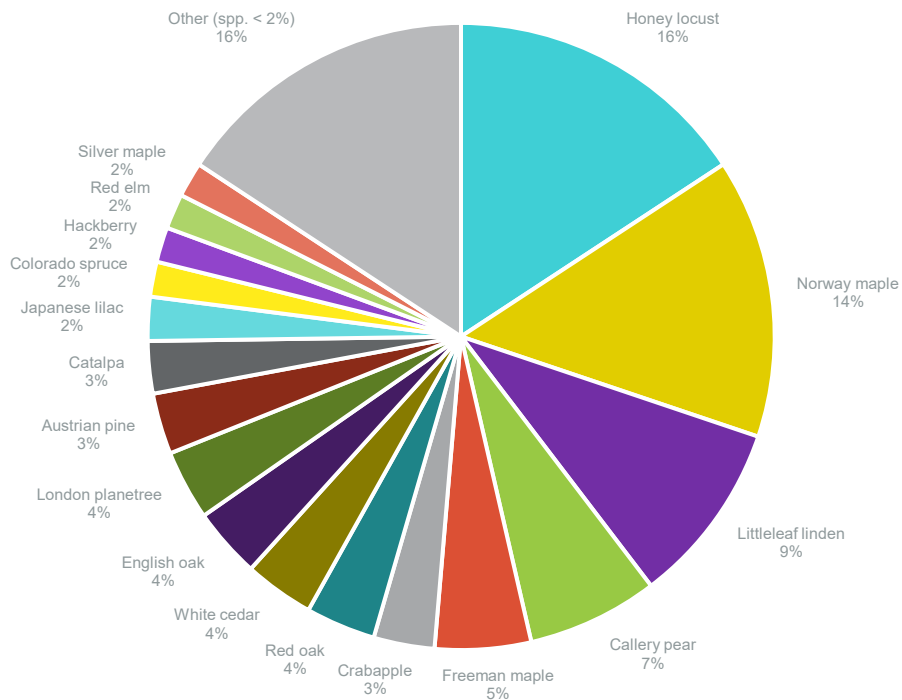


Figure 2. Tree species distribution in the study area (n=35 species).

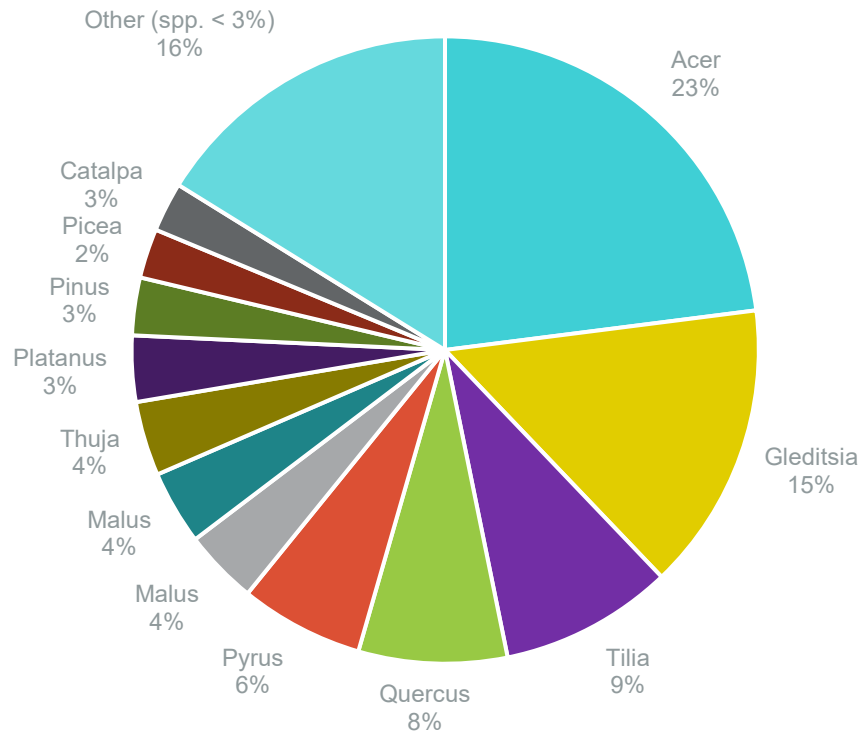


Figure 3. Tree genera distribution in the study area (n=28 genera).

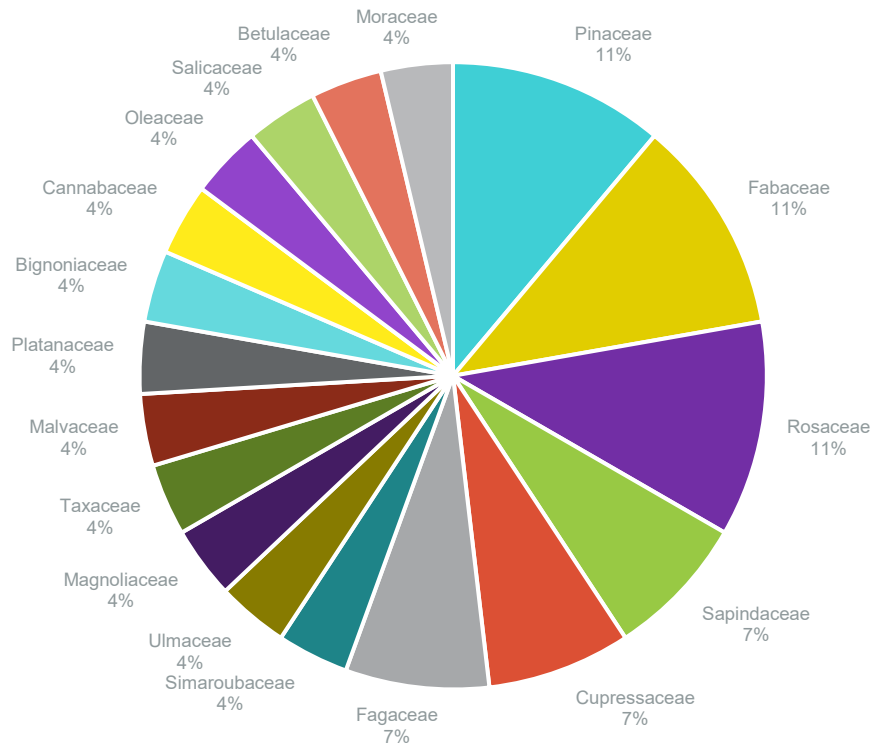


Figure 4. Tree family distribution in the study area (n=16 families).

4.3 Information About Individual Trees, Shrubs, and Vegetation Groups

Please see Appendices A and B for further descriptions and locations of each tree and vegetation group.

5. Protected Species

The *Migratory Birds Convention Act*, 1994 protects the nests of migratory birds. This effectively means that trees to be removed from the site should be removed outside of the migratory bird-nesting window, the timing of which differs regionally across Canada as determined by Environment Canada. Following Environment Canada's guidelines, the window at this site is from April 1 to August 31. Trees may be removed during this restricted period only when trees are inspected for nests of protected bird species by a qualified avian biologist immediately prior to removal.

A Kentucky coffeetree (*Gymnocladus dioicus*) was found as a specimen tree on property of the University of Windsor adjacent to the right-of-way (Tree 145). Kentucky coffeetree is a protected species under the Ontario *Endangered Species Act*, 2007, however, as a specimen tree in the landscape, it is assumed to be commercially cultivated and exempt from protection under Section 12 of O. Reg. 242/08. No other species at risk were found.

6. Recommendations

The most typical construction damage to trees is root damage from compaction and severance. While the dripline of a tree's canopy is typically thought to be associated with the root area, the root zones can actually extend significantly beyond the dripline of the tree, sometimes up to 2 or 3 times the height of the tree. Some of the trees inventoried are growing close to the edge of the potential construction area and will be at risk of contact with, and damage from, heavy equipment. It is recommended that tree protection fencing be installed around such trees once the limit of disturbance is known.

Generally, to protect trees, grade changes and construction activities that could cause soil compaction should be kept away from trees as much as possible. If soil compaction from heavy equipment is anticipated, tree protection fence can exclude equipment from areas within a tree's dripline, or, if this is not possible, plywood or iron plates can be laid on top of mulch over the rooting area to mitigate soil compaction. If roots will be damaged by excavation equipment, it is better to cut roots cleanly with sharp pruning tools rather than allow them to be torn by large equipment. Clean cuts will help to minimize decay and entry points for disease. If branches are likely to hang in the way of passing equipment, the branches should be pruned by a qualified arborist to avoid tearing and undue injury to the tree.

Equipment and materials should not be stored near trees, and equipment should not be left idling where exhaust could burn foliage.

Future delineation of construction limits throughout the study area in combination with this inventory will determine the potential tree injury, removal, and protection measures required by the proposed work.

7. Certification and Closure

We certify that all the statements of fact in this assessment are true, complete, and correct to the best of our knowledge and belief, and that they are made in good faith.

Attachments:

Appendix A TREE INVENTORY DRAWINGS TI-1 to TI-11 (11 pp.) and
TREE INVENTORY TABLES (8 pp.)

A

Appendix A

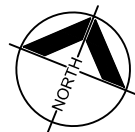
TREE INVENTORY DRAWINGS TI-1 TO TI-11
TREE INVENTORY TABLE





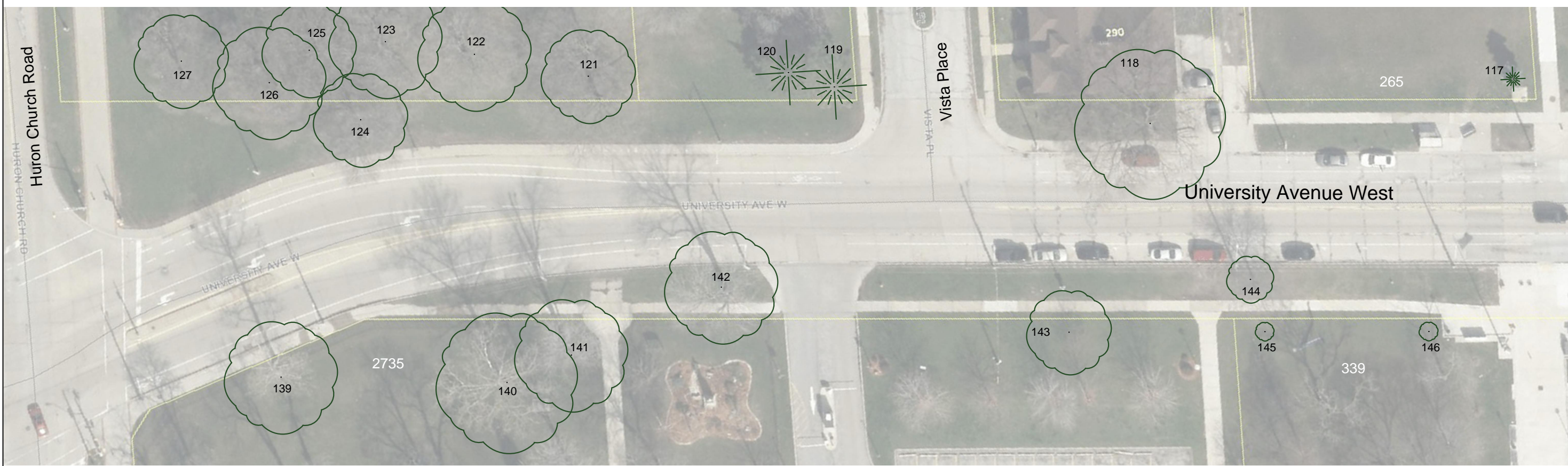
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Municipal Class Environmental Assessment Study
 University Avenue and Victoria Avenue
Tree Assessment



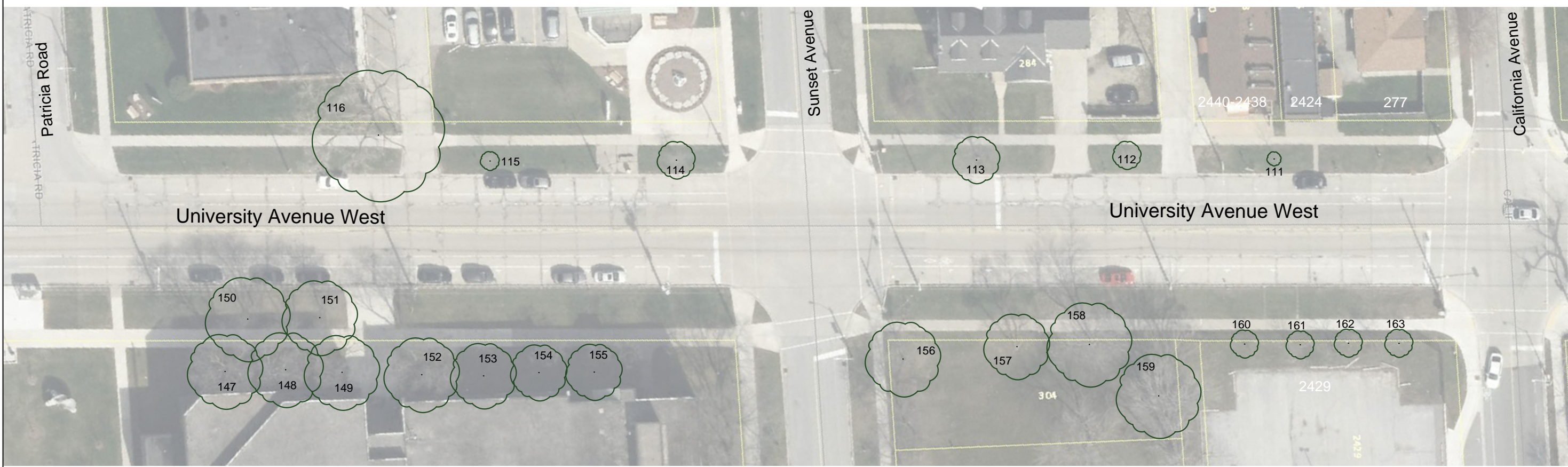
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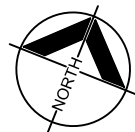
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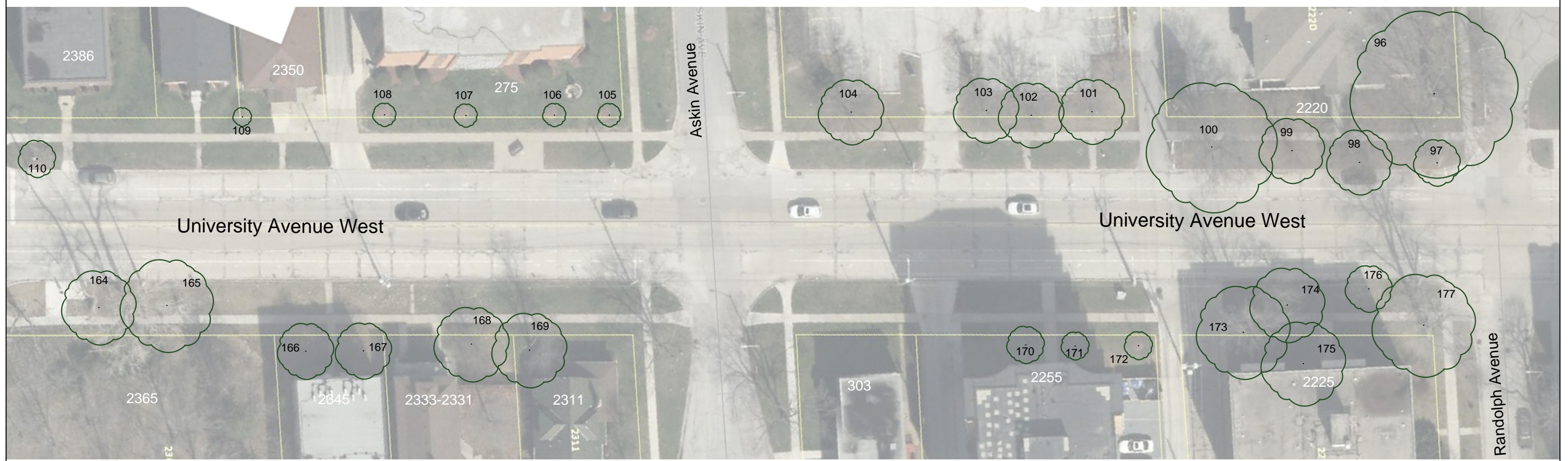
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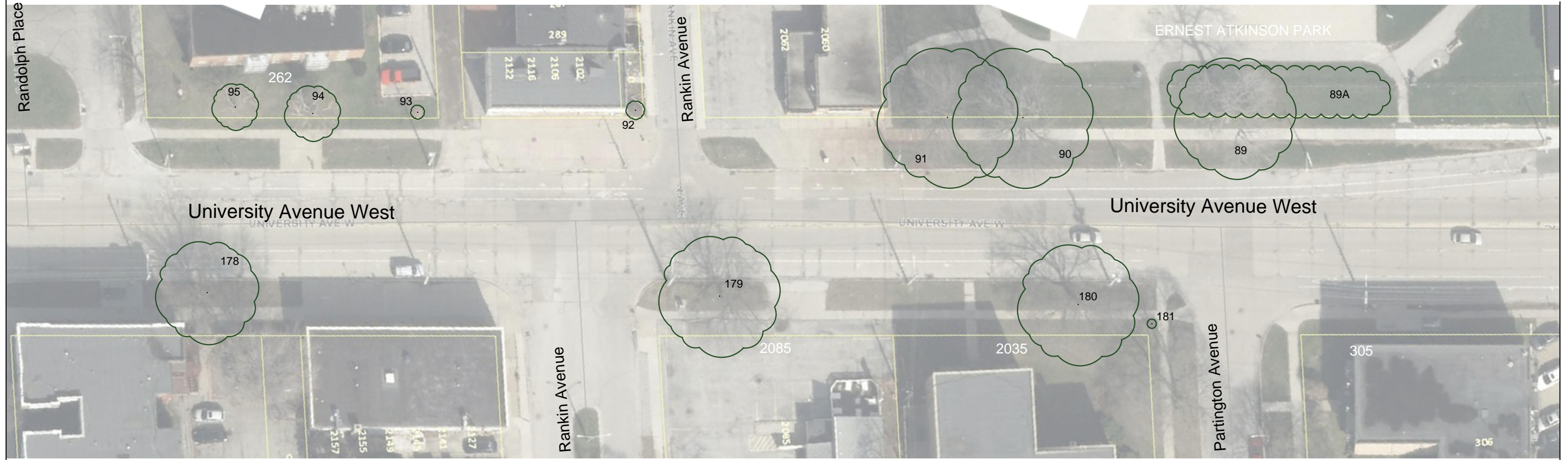
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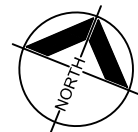
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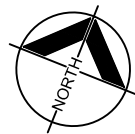
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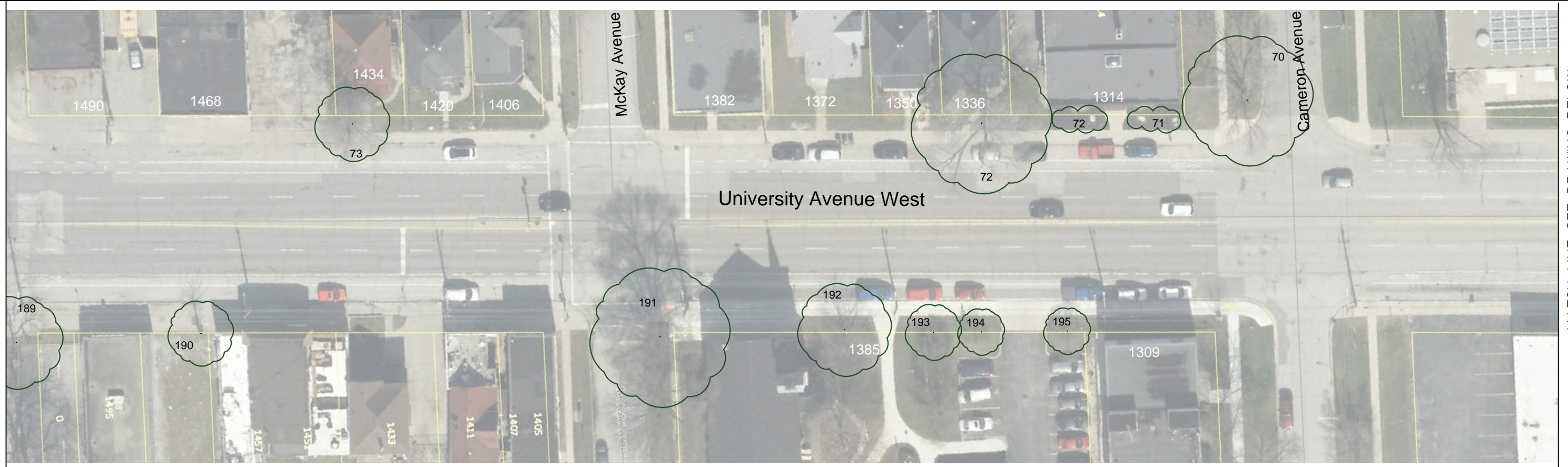
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Municipal Class Environmental Assessment Study
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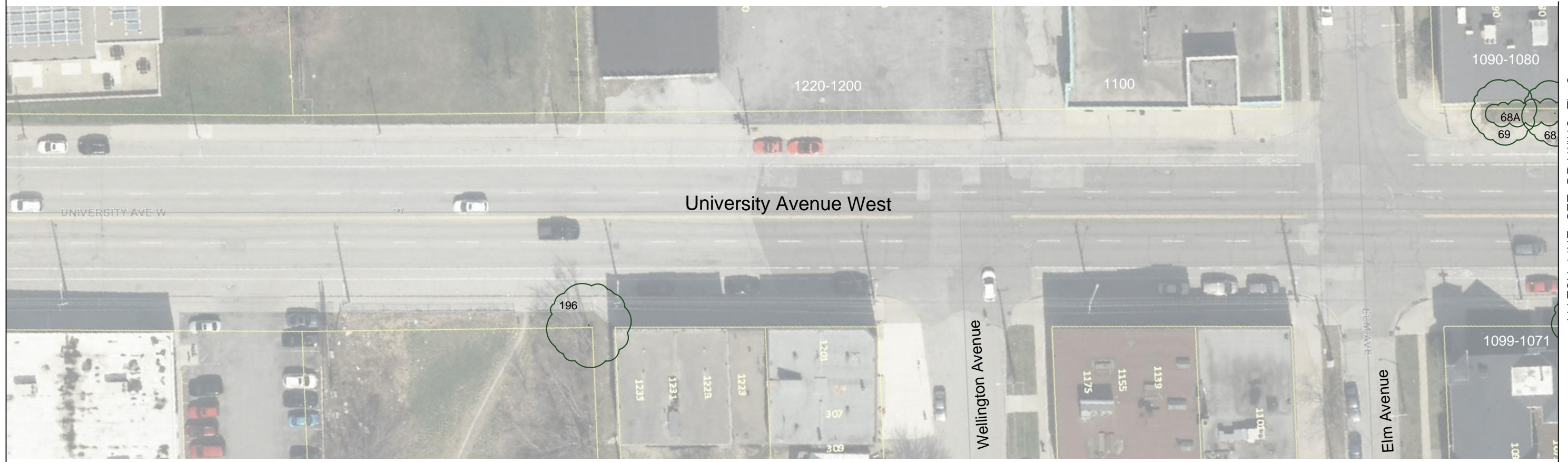
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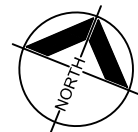
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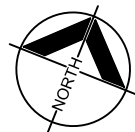
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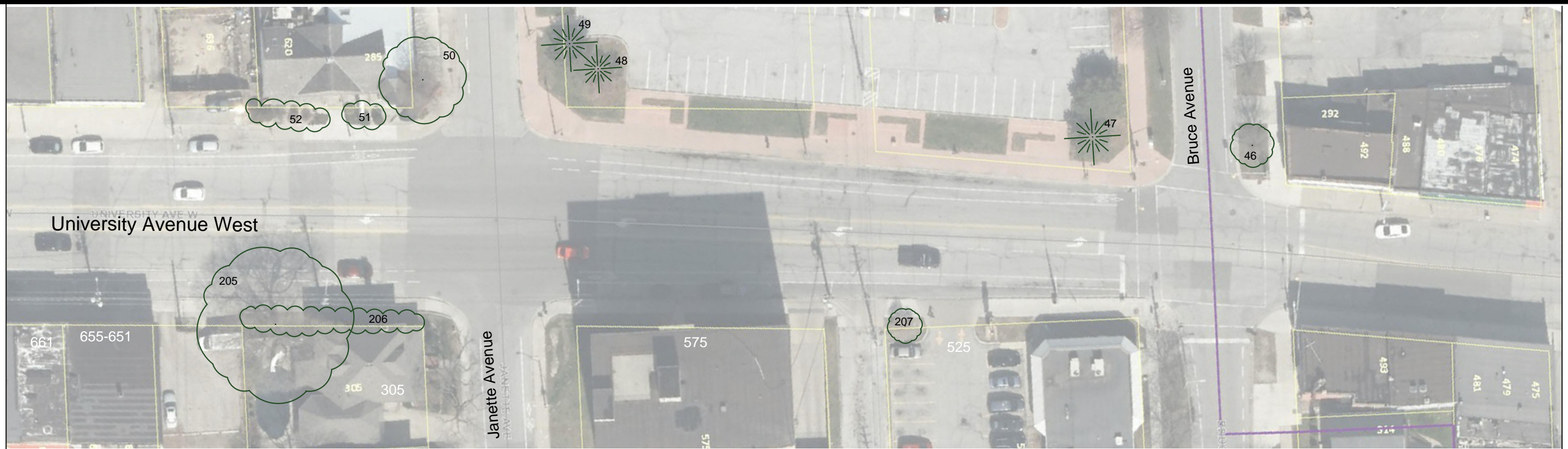
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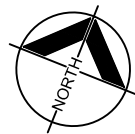
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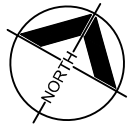


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Municipal Class Environmental Assessment Study
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Tree Assessment

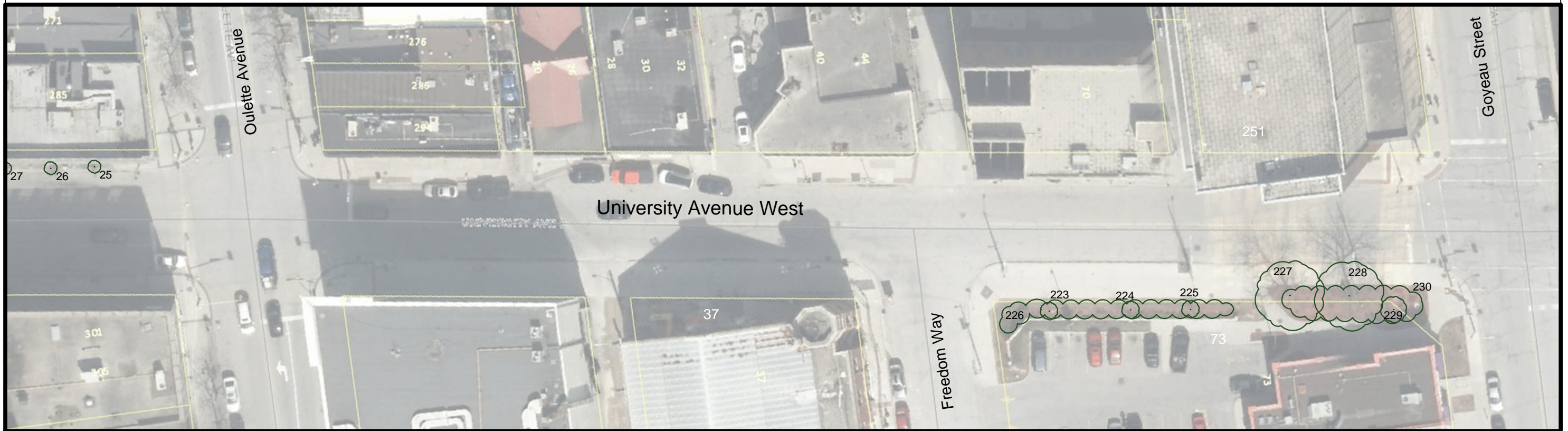


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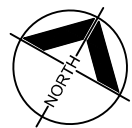


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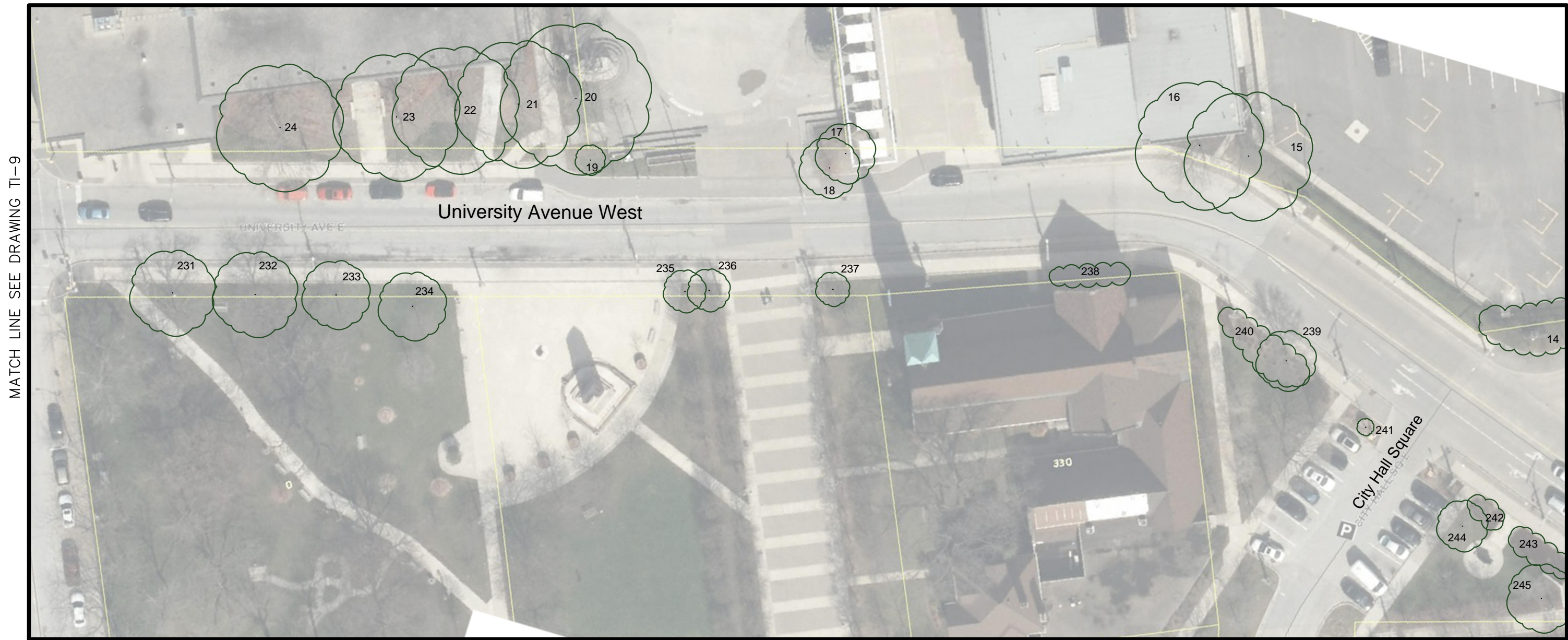


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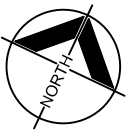
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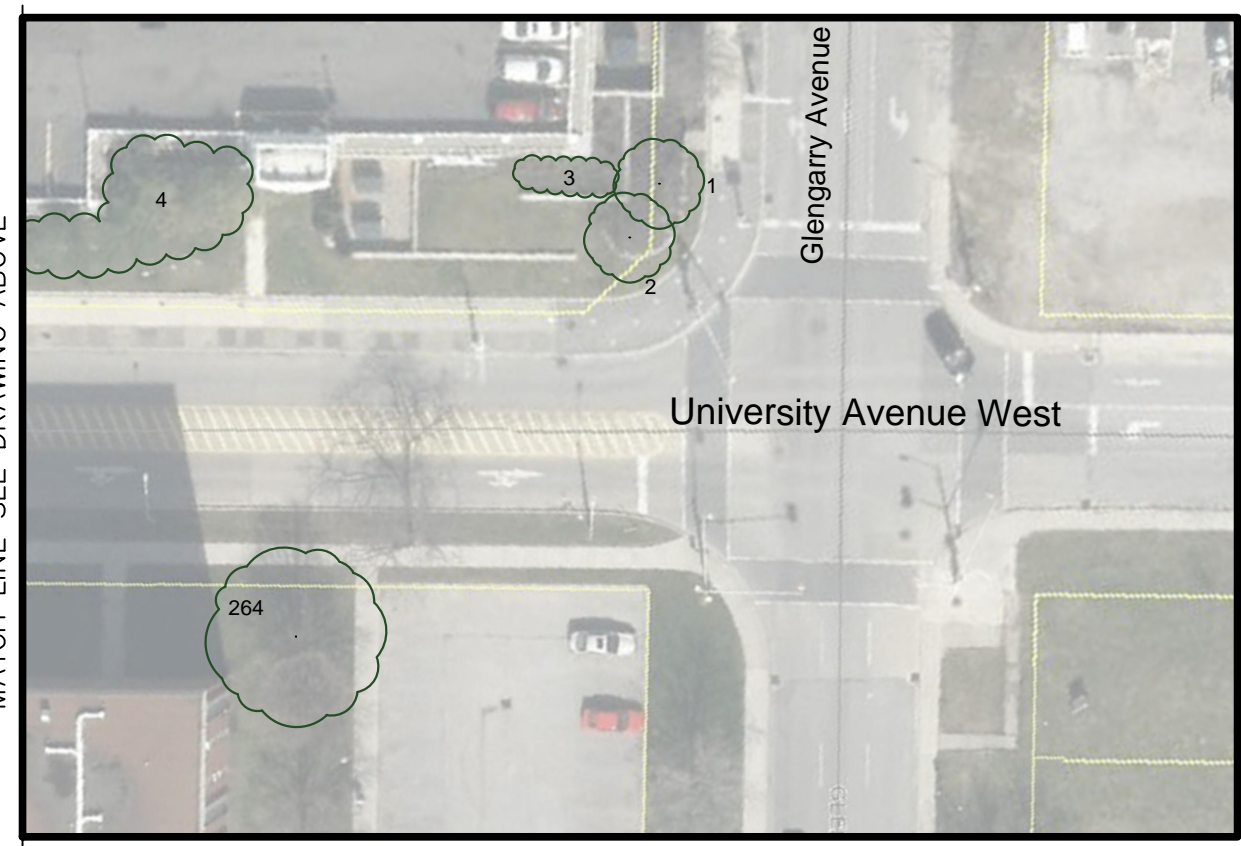
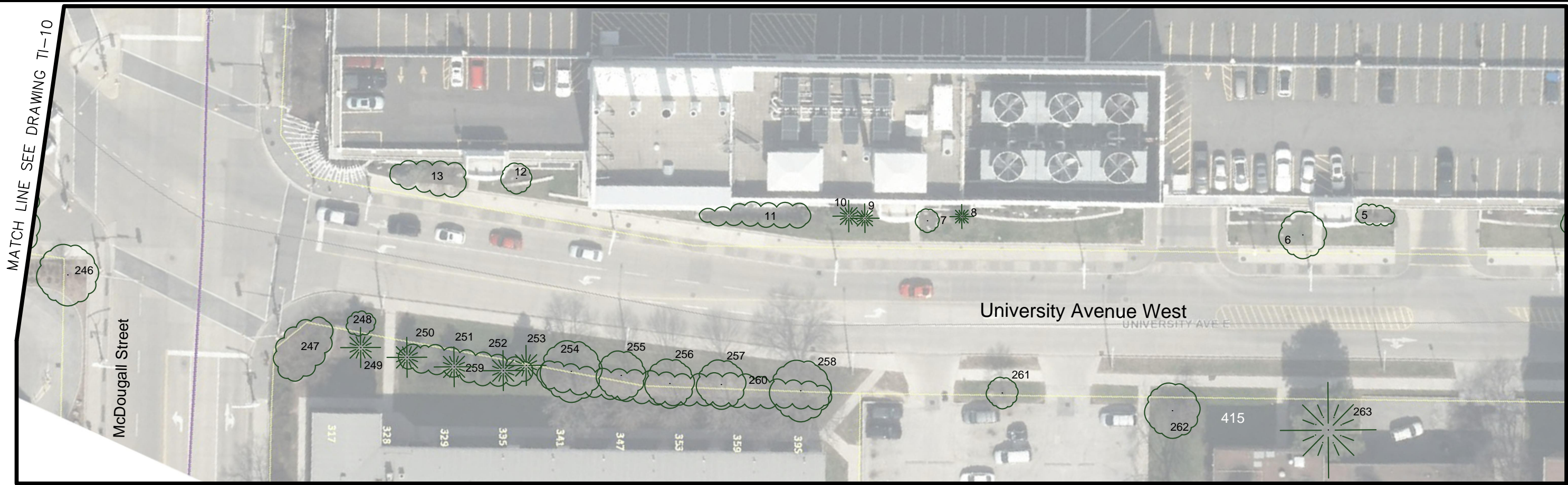
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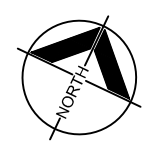
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Municipal Class Environmental Assessment Study
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TI-11	

Tree #	Common name	Scientific name	DBH (cm) * approx.	Add'l Stem DBH (cm) * approx.	Spread (m)	Overall Condition (D), (P), (F), (G), or (E)	Structural Defects (see page 4 of Arborist Report for Legend)								Comments	
							GR	COD	NA	INCL	CRB	MBR	DPR	SMD		ADV
78	Group		13	10	8	G									x	Two leaning Tree of heaven
79	Group		NA	NA	1	G										4 yew, creeping juniper, 2 Schubert cherry shrubs in landscape bed
80	White cedar	<i>Thuja occidentalis</i>	4	NA	1	G										Corner of picket fence; 1 m wide, 2 m tall
81	Freeman maple	<i>Acer x freemanii</i>	89	NA		G										Wounds with internal decay, structurally sound
82	Group		NA	NA	1	G										4 tree-form junipers 2 m tall and 1 m wide
83	Norway maple	<i>Acer platanoides</i>	30	NA	9	G		3								
84	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	43	NA	10	G										2 m over road
85	Norway maple	<i>Acer platanoides</i>	26	NA	7	F-G								X		15% dieback
86	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	39	NA	12	G		2						X	X	Lean towards road
87	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	30	NA	7	F				X				X	X	Bark damage at base, 20% dieback
88	Horse-chestnut	<i>Aesculus hippocastanum</i>	67	NA	9	G		3								Overhanging street by 2 m
89	Freeman maple	<i>Acer x freemanii</i>	87	NA	13	G								X		Overhanging street by 2 m
89A	Group		2	1	0.5	G										11 1.3 m tall saplings: 2 hickory, 1 sycamore, 1 white oak, 1 red oak, 3 hackberry, 3 blue beech
90	Freeman maple	<i>Acer x freemanii</i>	91	NA	15	G		4								Minor bark damage on lower 2 m, overhanging street by 3 m
91	Freeman maple	<i>Acer x freemanii</i>	87	NA	15	G										Minor bark damage on lower 0.2 m, overhanging street by 3m
92	Group		NA	NA	2	G										2 shrubs 3 m wide and 2 m tall
93	Japanese lilac	<i>Syringa reticulata</i>	6	NA	1.5	G										Tree form
94	White birch	<i>Betula papyrifera</i>	30	30	6	F-G		0.5	X	X	X			X		15% dieback, lean towards street
95	White birch	<i>Betula papyrifera</i>	27	NA	5	G		2								
96	Red elm	<i>Ulmus rubra</i>	81	66	18	G		?								Overhanging street by 2 m
97	Littleleaf linden	<i>Tilia cordata</i>	31	NA	5	G		3								Overhanging street by 1 m
98	Littleleaf linden	<i>Tilia cordata</i>	40	NA	7	G		2						X		Overhanging street by 3 m
99	Littleleaf linden	<i>Tilia cordata</i>	38	NA	7	G								X		Some bark decay on street side to 2m Some bark decay on street side 3m
100	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	65	NA	14	G		4								Overhanging street by 5 m
101	Norway maple	<i>Acer platanoides</i>	24	NA	7	G	X	1.5								
102	Norway maple	<i>Acer platanoides</i>	31	NA	7	G	X									
103	Norway maple	<i>Acer platanoides</i>	31	NA	7	G										
104	Norway maple	<i>Acer platanoides</i>	37	NA	7	G	X	2								
105	Littleleaf linden	<i>Tilia cordata</i>	8	NA	2.5	G										Two 0.2 m wounds on lower trunk with woundwood
106	Littleleaf linden	<i>Tilia cordata</i>	8	NA	2.5	G										
107	Littleleaf linden	<i>Tilia cordata</i>	8	NA	2.5	G										
108	Littleleaf linden	<i>Tilia cordata</i>	8	NA	2.5	G										
109	Common lilac	<i>Syringa vulgaris</i>	NA	NA	2	G										Multistem; 2 m wide and 2 m tall
110	Sugar maple	<i>Acer saccharum</i>	11	NA	4	G								X		A few broken branches; leaf scorch
111	Red oak	<i>Quercus rubra</i>	8	NA	1.5	F-G								X		Significant bark peeling 50% circumference. Staghorn effect. Leader dead.
112	Red oak	<i>Quercus rubra</i>	10	NA	3	F								X		
113	Sugar maple	<i>Acer saccharum</i>	23	NA	5	P								X		90% dieback; split-gill fungus brackets throughout tree, further decline likely

Tree #	Common name	Scientific name	DBH (cm) * approx.	Add'l Stem DBH (cm) * approx.	Spread (m)	Overall Condition (D), (P), (F), (G), or (E)	Structural Defects (see page 4 of Arborist Report for Legend)								Comments	
							GR	COD	NA	INCL	CRB	MBR	DPR	SMD		ADV
114	Red oak	<i>Quercus rubra</i>	17	NA	4	G										Chlorotic; under overhead wires
115	Crabapple	<i>Malus sp.</i>	9	NA	2	G										Chlorotic; under overhead wires
116	Cottonwood	<i>Populus deltoides</i>	89	NA	14	F							X			Broken leader at 6 m height; overhangs street by 1 m; dead fungal conks at base next to asphalt
117	Colorado spruce	<i>Picea pungens</i>	23	NA	3	G										Leader (top 1 m) bending towards road
118	Red elm	<i>Ulmus rubra</i>	82	NA	16	F-G							X		X	Some wounds with woundwood to 2 m. Overhangs street by 6 m.
119	Austrian pine	<i>Pinus nigra</i>	31	NA	8	G										Sapsucker holes
120	Austrian pine	<i>Pinus nigra</i>	33	NA	8	G										Phototropic towards street; dieback on other side; sapsucker holes
121	Norway maple	<i>Acer platanoides</i>	61	NA	10	G										Overhangs street by 2 m
122	Norway maple	<i>Acer platanoides</i>	61	NA	12	G										Small cavity at ground to 0.5 m height
123	Norway maple	<i>Acer platanoides</i>	59	NA	12	G										Lion tailing from 4-stem crotch
124	Norway maple	<i>Acer platanoides</i>	57	NA	10	G	X									
125	Norway maple	<i>Acer platanoides</i>	49	NA	10	G										
126	Norway maple	<i>Acer platanoides</i>	76	NA	12	G			2						X	Frass leading into small cavity at base
127	Norway maple	<i>Acer platanoides</i>	49	NA	10	G			2							Buried trunk flare
128	Littleleaf linden	<i>Tilia cordata</i>	35	NA	7	G	x 1.5								X	
129	London planetree	<i>Platanus x acerifolia</i>	54	NA	13	G			2							Overhangs street by 7 m
130	Tree of heaven	<i>Ailanthus altissima</i>	60	NA	12	G			5						X	Overhangs street by 1 m; trunk located on private side of chainlink fence
131	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	55	NA	13	G								X		
132	Norway maple	<i>Acer platanoides</i>	4	NA	1	G										Immediately adjacent to Bell telephone pedestal
133	Hackberry	<i>Celtis occidentalis</i>	6	NA	1	G										Staked; newly planted with no mulch and exposed feeder roots
134	Silver maple	<i>Acer saccharinum</i>	39	NA	8	G			1.5						X	Some adventitious shoots pruned and tied back to tree from sidewalk
135	Norway maple	<i>Acer platanoides</i>	18	14	7	G			0.5							
136	Callery pear	<i>Pyrus calleryana</i>	6	NA	1	G`										Staked
137	Callery pear	<i>Pyrus calleryana</i>	6	NA	1	G										Staked
138	Freeman maple	<i>Acer x freemanii</i>	66	NA	12	G			3							
139	London planetree	<i>Platanus x acerifolia</i>	70	NA	12	F-G								X	X	Overhangs street by 3 m just inside fence
140	London planetree	<i>Platanus x acerifolia</i>	75	NA	15	G										Overhangs sidewalk by 1 m
141	Freeman maple	<i>Acer x freemanii</i>	71	NA	12	G										Overhangs street by 3 m
142	Freeman maple	<i>Acer x freemanii</i>	77	NA	12	G			6					X		Overhangs street by 5 m
143	Crabapple	<i>Malus sp.</i>	17	NA	9	G								X	X	
144	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	35	NA	5	G			2.5							
145	Kentucky coffeetree	<i>Gymnocladus dioicus</i>	8	NA	2	G										
146	European beech	<i>Fagus sylvatica</i>	12	NA	2	G										Weeping form
147	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	43	NA	8	G			4							
148	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	41	NA	8	G			3							
149	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	34	NA	8	G			3							Slight lean over sidewalk
150	Norway maple	<i>Acer platanoides</i>	26	NA	9	F			2							

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							GR	COD	NA	INCL	CRB	MBR	DPR	SMD		ADV
188	Crabapple	<i>Malus sp.</i>	8	NA	2	F		1.5								30% dieback
189	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	39	NA	10	G								X		Overhangs sidewalk by 2 m; pruned for overhead wires
190	Tree of heaven	<i>Ailanthus altissima</i>	41	24	7	G		base						X		Small co-dominant stem broken at 2 m height
191	Red elm	<i>Ulmus rubra</i>	84	NA	15	G		2						X		
192	Norway maple	<i>Acer platanoides</i>	35	NA	10	G										var. 'Crimson King'
193	Japanese lilac	<i>Syringa reticulata</i>	22	NA	6	G										Tree form
194	Magnolia	<i>Magnolia sp.</i>	13	8	5	G										Multistem; crown raised to 2 m
195	Magnolia	<i>Magnolia sp.</i>	13	10, 11	35	G										Multistem; crown raised to 2 m
196	Red Elm	<i>Ulmus rubra</i>	28	NA	9	G								X		Lean towards road
197	Red cedar	<i>Juniperus virginiana</i>	37	NA	7	G										Canopy reaches sidewalk
198	Catalpa	<i>Catalpa speciosa</i>	75	NA	11	G		2.5						X		
199	Group		9	< 10	< 2	G										3 juniper; 2 euonymus; 1 spirea l; 1 Mugho pine; 1 white cedar; 1 multistem white mulberry
200	Group		18	13	4	G		0.5								1 Japanese maple; 1 smokebush; 5 holly; 2 boxwood; 2 spirea; 1 burning bush; 1 nest spruce
201	Group		NA	NA	1	G										3 Alberta spruce 1 m wide and 1.5 m tall
202	Catalpa	<i>Catalpa speciosa</i>	96	NA	11	G		2								Lean over side street, with 3m clearance
203	Callery pear	<i>Pyrus calleryana</i>	34	30	8	F-G		base								Some decay in crotch; woundwood @ 1m; growing through OH wires
204	Norway maple	<i>Acer platanoides</i>	32	NA	10	G		2								
205	Norway maple	<i>Acer platanoides</i>	75	NA	18	G										Overhangs street by 4 m
206	Group		NA	NA	1	G										Japanese barberry; potentilla; 3 euonymus; 1 Alberta spruce; 3 boxwood; 1 burning bush; 1 hydrangea; 1 short white cedar cultivar
207	White mulberry	<i>Morus alba</i>	25	NA	4	G		1.5								Weeping; seams in trunk to 1m height
208	Group		NA	NA	1-2	G										4 junipers; 1 boxwood; 2 white cedars
209	Norway maple	<i>Acer platanoides</i>	18	NA	6	F-G										var. 'Crimson King'; 40% dieback
210	Norway maple	<i>Acer platanoides</i>	19	NA	6	G	X									var. 'Crimson King'
211	Norway maple	<i>Acer platanoides</i>	22	NA	6	G	X									var. 'Crimson King'; woundwood lower scaffold branches
212	Littleleaf linden	<i>Tilia cordata</i>	38	NA	10	G								X		
213	Littleleaf linden	<i>Tilia cordata</i>	36	NA	10	G								X		Overhangs street at 2 m height
214	Littleleaf linden	<i>Tilia cordata</i>	35	NA	10	G										Overhangs street at 2 m height
215	Group		26	15, 18	1.5-3	G										White cedar specimen (1.5 m wide and 1.5 m tall), euonymus (3 m wide and 1.5 m tall), 2 globe cedar (2 m wide and 1 m tall), cedar (1.5 m wide and 2 m tall)
216	Group	<i>Ailanthus altissima</i>	28	15-28	10	G										4 tree of heaven: 3 have 1 or 2 stems, 1 has 3 stems
217	English oak	<i>Quercus robur</i>	16	NA	2	F-G								X		20% dieback, Christmas lights throughout crown
218	English oak	<i>Quercus robur</i>	12	11	2	F-G										15% dieback, Christmas lights throughout crown
219	English oak	<i>Quercus robur</i>	22	NA	3	G										Christmas lights throughout crown
220	Red oak	<i>Quercus rubra</i>	5	NA		D										Irrigation bag present
221	Hackberry	<i>Celtis occidentalis</i>	5	NA	1	P										Irrigation bag present
222	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	6	NA	2	G										Irrigation bag present

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							GR	COD	NA	INCL	CRB	MBR	DPR	SMD		ADV
223	Eastern redbud	<i>Cercis canadensis</i>	10	NA	2	G										DBH measured at 1 m height
224	Eastern redbud	<i>Cercis canadensis</i>	9	NA	2	G										
225	Eastern redbud	<i>Cercis canadensis</i>	11	NA	2	G								X		Girdled by staking wire left installed around tree
226	Group	<i>Euonymus alatus, Spirea</i>	NA	NA	1	G										1 burning bush, 28 spirea
227	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	39	NA	8	G		2			X					
228	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	45	NA	8	F-G		2								10% dieback
229	European beech	<i>Fagus sylvatica</i>	10	NA	3	G										Columnar
230	Group		NA	NA	1	G										11 spirea, 22 potentilla
231	Norway maple	<i>Acer platanoides</i>	41	NA	10	F-G	X									Dead leader, 10% dieback
232	Norway maple	<i>Acer platanoides</i>	41	NA	10	G	X									
233	Norway maple	<i>Acer platanoides</i>	24	NA	8	G		2								
234	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	19	NA	8	G		2								
235	Callery pear	<i>Pyrus calleryana</i>	20	NA	5	G		2								
236	Callery pear	<i>Pyrus calleryana</i>	20	NA	5	G		1.8								
237	Callery pear	<i>Pyrus calleryana</i>	17	NA	4	G										
238	Group	<i>Amelanchier laevis</i>	NA	NA	3	G										4 multistem serviceberry 3 m tall and 3 m wide
239	Callery pear	<i>Pyrus calleryana</i>	37	NA	7	G		1.8	X	X		X				
240	Group		NA	NA	1	G										66 spirea, 10 burning bush all in 1 m tall planter
241	Norway maple	<i>Acer platanoides</i>	10	NA	2	G										
242	Group	<i>Euonymus alatus</i>	NA	NA	1.5	G										2 burning bush 1.5 m tall
243	Group	<i>Spirea sp.</i>	NA	NA	1	G										1 m tall shrubs
244	Callery pear	<i>Pyrus calleryana</i>	20	NA	6	G										
245	Red maple	<i>Acer rubrum</i>	16	NA	8	G										Chlorotic; seam from base to 1.5 m with woundwood
246	Littleleaf linden	<i>Tilia cordata</i>	15	NA	7	G				X	X					6 yews; spirea
247	Group		12	8-12	5	G										5 crabapples with base planting of 50% yews, 50% rose
248	Group	<i>Euonymus alatus</i>	NA	NA	2	G										5 burning bush
249	White spruce	<i>Picea glauca</i>	17	NA	4	G										
250	White spruce	<i>Picea glauca</i>	17	NA	4	G										
251	Colorado spruce	<i>Picea pungens</i>	17	NA	5	G										
252	Colorado spruce	<i>Picea pungens</i>	17	NA	5	G										Lean to east
253	Colorado spruce	<i>Picea pungens</i>	17	NA	5	G										Lean to east
254	Littleleaf linden	<i>Tilia cordata</i>	54	NA	12	G		4						X		
255	Norway maple	<i>Acer platanoides</i>	29	NA	10	G	X	2								
256	Norway maple	<i>Acer platanoides</i>	31	NA	10	G	X	2								
257	Norway maple	<i>Acer platanoides</i>	27	NA	10	G										
258	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	56	NA	12	G		2						X		
259	Burning bush	<i>Euonymus alatus</i>	NA	NA	2	G										Hedge under Trees 250-254; 1.5 m tall
260	Group		NA	NA	1	G										Currant hedge and burning bush ending at Tree 258
261	Littleleaf linden	<i>Tilia cordata</i>	23	NA	4	F-G		2	X	X						Rotting heartwood up to 1 m height
262	Crabapple	<i>Malus sp.</i>	25	NA	7	G		2						X	X	
263	Austrian pine	<i>Pinus nigra</i>	49	NA	12	G										Sapsucker holes
264	Honey locust - cultivar	<i>Gleditsia triacanthos</i>	47	NA	12	G		3								15% dieback, slight lean to south

SUBMITTED BY CIMA CANADA INC.

415 Baseline Road West, 2nd Floor

Bowmanville, ON L1C 5M2

T 905 697 4464

cima.ca

CONTACT

Lisa Cullen

Lisa.Cullen@cima.ca

T 905 697 4464 ext. 6915

