

## ARBORIST REPORT

DATE: OCTOBER 23, 2017

1315 SILVER SPEAR ROAD  
CITY OF MISSISSAUGA

MBTW PROJECT No: SIS 001

Inspection date: October 06, 2017

### INTRODUCTION:

This Arborist Report has been prepared by the MBTW Group in support of the Re-Zoning Application for 1315 Silver Spear Road in the City of Mississauga. The Site at 1315 Silver Spear Road consists of an 8 storey high-rise apartment complex with underground and surface parking areas and sodded open space with tree clusters. The building is situated on the south limit of the site along Silver Spear Road and the parking lot is located along the north limit of the property facing Burnhamthorpe Road East. The existing tree clusters are located primarily on the north and east side of the site with isolated trees documented along the south and east property boundary. In the proposed site plan, an infill residential townhouse and associated underground parking lot is proposed on the north limit of the site between the existing high rise and the south side of Burnhamthorpe Road East. The proposed construction work will require the reconfiguration of the existing parking lot on the west and north limit of the property and the removal of existing trees. This Arborist Report was conducted to provide the condition of existing trees and information of existing trees that will be impacted by the redevelopment, governed under the City of Mississauga By-law (0254-2012).

### NATURE OF WORK:

The purpose of this report is to provide an inventory and assessment of all trees at the 1315 Silver Spear Road property. This Arborist Report provides the following information:

1. Identification of vegetative species / groupings;
2. Identification of general condition and trunk diameter size of both individual trees and vegetative groupings;
3. Provide site specific vegetative mapping (in the form of a Tree Protection Plan) which illustrates the location of individual trees and boundaries of vegetative groupings;
4. An assessment of the quality of each unit with consideration for the general condition, health and size;
5. An assessment of the potential for preservation (based on land use objectives);
6. Recommendations (if required) for preservation requirements related to site development and construction.

### OVERVIEW OF FIELD WORK AND MAPPING PROCEDURES:

Base information for this report has been obtained from a site survey (digital mapping indicating existing topography and vegetation within the immediate and surrounding site), and reconnaissance field

investigations. At the time of the Arborist inspection, a total of 81 privately owned trees were identified on site and on the shared property line with Burnhamthorpe Library to the east and the #1275 Silver Spear Road apartment complex to the west.

**DETAILED TREE INVENTORY**

The Arborist inspection was conducted on October 06, 2017 to obtain information on the existing trees on site. The trees on site were tagged and measured at 1.4m from grade to obtain the trunk diameter at breast height (dbh) with a tape caliper measurer. The trees were tagged with an identification number, identified as to their species and ranked as being good, fair, poor, terminal decline, hazardous or dead, in reference to their health and structural condition. Please refer to drawing TP-1 for tree location information, tree protection fencing location and the Tree Inventory Table in Appendix A for detailed information of tree species, size and condition information.

The tree species composition is provided in the Tree Species Composition Table.

Tree Species	Common Name	Quantity	Percentage of Occurrence (%)
<i>Acer platanoides</i>	Norway Maple	5	6.2
<i>Acer saccharum</i>	Sugar Maple	34	42
<i>Betula papyrifera</i>	Paper Birch	2	2.5
<i>Carya cordiformis</i>	Bitternut Hickory	1	1.2
<i>Fagus grandifolia</i>	American Beech	5	6.2
<i>Fraxinus americana</i>	White Ash	1	1.2
<i>Juniperus virginiana</i>	Red Cedar	1	1.2
<i>Malus domestica</i>	Common Apple	1	1.2
<i>Pinus nigra</i>	Austrian Pine	4	4.9
<i>Quercus alba</i>	White Oak	1	1.2
<i>Quercus rubra</i>	Red Oak	17	21
<i>Robinia pseudoacacia</i>	Black Locust	1	1.2
<i>Tilia cordata</i>	Little Leaf Linden	7	8.6
<i>Ulmus pumila</i>	Siberian Elm	1	1.2
	<b>Total</b>	<b>81</b>	<b>100%</b>

Table 1: Tree Species Composition Table

**TREES LOCATED ON DEVELOPMENT PROPERTY**

The site at 1315 Silver Spear Road is a high-rise apartment complex with an existing underground and surface parking structure. The tree clusters documented on site are established in sod located in the open spaces throughout the site. The dominant tree species on site consist of Sugar Maple and Red Oak trees with the Sugar Maple forming 42% and the Red Oak forming 21% of the total tree species composition on site. Other tree species were observed to occur as isolated trees that are scattered in species clusters either form natural or planted origins.

In the proposed site plan the driveway realignment and associated underground parking lot is proposed on the west limit of the site and an infill townhouse complex proposed along the north frontage of the site facing onto Burnhamthorpe Road. The trees located outside of the proposed infill development (# 538, 539, 545, 547 to 566 and 572 to 581) will be preserved and protected.

In order to facilitate the construction of the proposed parking and infill townhouse complex, a total of 33 trees in good to poor condition, located on the subject property will require removal (tree # 507 to 520, 522 to 524, 526 to 531, 534 to 537, 540 to 542, 567 to 569 and 571). A dead tree (# 525) and five trees in Terminal Decline (tree # 521, 537, 543, 544 and 570) will also require removal.

The three trees numbered 501, 532 and 546 can be retained but it is anticipated that they will be injured due to proposed excavation located within the dripline of their canopy. It is recommended that tree root pruning and canopy reduction be conducted by an ISA Certified Arborist prior to construction so that the likelihood for machinery damage to the tree roots and canopy can be reduced.

### **TREES LOCATED ON SHARED PROPERTY LINE**

A total of 5 boundary trees were documented to be growing along the shared property line with 1275 Silver Spear Road (#502 to 506). The removal of any trees located on the shared property boundary must be coordinated with the adjacent land owner. A letter of consent must be provided by the adjacent landowner to with the approval for the removal of trees located on the shared property boundary due to the proposed construction.

The tree # 502 is a clump form Common Apple tree at 14cm dbh. This tree is located away from the proposed limit of site disturbance and can be protected and preserved.

Trees # 503, 504, 505 and 506 are located adjacent to the west limit of excavation of the underground garage wall.

Tree # 503 is a 24cm dbh Norway Maple that is growing through the existing chain link fence and the trunk is girdled as a result. It is recommended that this tree be removed due to its existing trunk damage.

The tree #505 is a 48cm dbh Red Oak tree located on the west side of the chain link fence. This tree will be severely damaged by the proposed parking lot structure as the excavation and grading work will necessitate the removal of the eastern half of the root plate of this tree. The anticipated scope of injury is very severe and it is anticipated that the loss of the root ball will likely cause the tree to die and predispose the tree to collapse during high wind events. It is the recommendation of the arborist the tree #505 be removed due to conflicts with the proposed underground parking layout.

Two trees below 15cm in dbh were documented to be growing along the shared property boundary with 1275 Silver Spear Road. The Sugar Maple # 504 at 12cm in dbh was observed to be damaged due to girdling of the trunk by the adjacent chain link fence. It is recommended that this tree be removed.

Tree # 506 is a White Ash tree at 12cm in dbh that is located on the shared property boundary with 1275 Silver Spear Road. This tree is infected with the Emerald Ash Borer at the time of inspection and it is anticipated that this tree will die from the feeding activities of the borer in 2 to 3 years. It is the professional opinion of the arborist that this tree be removed.

The trees located on the shared property boundary and adjacent property with Burnhamthorpe Library on the east limit of the site will not be impacted by the proposed construction work as indicated in the Tree Protection Plan TP-1.

## **STREET TREES LOCATED ON CITY PROPERTY**

No trees were documented on City owned Right of Way in association with the proposed infill development at 1315 Silver Spear Road.

### **A. Tree maintenance program**

#### **I. Pre-Construction**

- Ensure that Tree Protection Zone (TPZ) as identified in Tree Protection Plan, TP-1, is provided. Install tree protection fence according to the approved Tree Protection Plan TP-1 and details.
- Ensure that no personnel, materials, equipment or garbage are allowed within TPZ during construction.
- Root pruning and canopy reduction is required for trees 501, 532 and 546. It is recommended that a hydrovac excavator be used to construct a trench along the line of excavation to identify the tree roots that are in conflict with the proposed construction. The exposed roots should be cut cleanly at the limit of excavation by a Certified Arborist to prevent damage to the tree from the excavation process. Any wayward branches that extend over the construction area that can be damaged by construction equipment should be pruned off by a Certified Arborist.
- The removal of all trees located on the shared property boundary must be coordinated with the adjacent land owner. A letter of consent signed by the adjacent land owner must be made available to the City to confirm that the adjacent land owner provides consent for the removal of trees located on the shared property line.

#### **II. During Construction**

- Provide irrigation to protected trees to compensate for root loss during periods of drought. Top up soil moisture level with irrigation to provide the equivalent of 5cm depth of natural rainfall per week during May to September.
- Provide a one year slow release low nitrogen fertilizer such as 8-30-30 to promote root regeneration and plant vigor. Apply fertilizer during the active growing season from April to end of July. Do not apply additional fertilizer from August onwards to prevent formation of soft new growth that will be damaged by cold weather.
- Root and canopy reduction pruning should be conducted under the supervision of a ISA certified arborist. The root and canopy pruning exercise is required to remove roots and branches that may be damage by excavation or other construction equipment.
- Backfill excavated trenches located adjacent to tree protection zones with good quality topsoil to encourage the establishment of new roots following root pruning operations.

#### **III. Post -Construction**

- Ensure that the tree protection fences are intact until the completion of the project.
- Provide a one year slow release low nitrogen fertilizer such as 8-30-30 to promote root regeneration and plant vigor. Apply fertilizer during the active growing season from April to end of July. Do not apply additional fertilizer from August onwards to prevent formation of soft new growth that will be damaged by cold weather.
- The contractor should ensure that the trees are irrigated weekly so that they are provided with evenly moist soil throughout the growing season (between the months of April to the end of October) during the 2 year warranty period. Irrigation should be provided at least once a week if rain fall is insufficient to ensure an adequate soil moisture level to allow for root establishment. Irrigation twice a week may be required in periods of extreme drought and heat.

## CONCLUSIONS

Due to the proposed construction for the construction of the townhouse addition and underground parking lot, a total of 34 permit sized trees will require removal (trees # 503, 505, 507 to 520, 522 to 524, 526 to 529, 531, 534 to 536, 540 to 542, 567 to 569 and 571), five permit sized trees in Terminal Decline (#521, 537, 543, 544, and 570) and an Ash tree at 12cm in dbh infected with EAB (#506) will require removal. One Dead tree (# 525) will also require removal. A total of three trees will be injured due to the proposed excavation and parking area reconfiguration (trees # 501, 532 and 546)

The majority of the trees identified for removal are located between the existing parking lot and Burnhamthorpe Road. The trees located along the east and south limit of the property will not be impacted by the proposed site development.

In order to satisfy the conditions required *on* the issuance of a Tree Removal Permit, the planting of 34 new trees will be required to replace all non-hazardous/diseased trees to be removed due to development. The minimum size of the replacement trees should be at and above 60mm in dbh and be balled and burlapped. All trees to be maintained and irrigated for a minimum of 2 years until the end of the warranty period. Any compensation trees that cannot be installed will be compensated in the form of payment to the City of Mississauga's replacement tree planting fund.

## LIMITATIONS OF ARBORIST INSPECTION REPORT

The trees identified in the Arborist Inspection Report has been made using accepted ISA arboricultural techniques including visual review of above ground parts, defects, scars, decay, fungal fruiting bodies, foliage color, insect damage, lean of tree canopy, visible root structures and condition of the trees in conjunction with the tree location, land use, site users and context. Except where noted, trees in this arborist report have not been cored, probed, excavated or climbed during the assessment process.

Notwithstanding the observations and recommendations in this report, it must be noted that trees are living organisms that react to their environment, and their conditions will change over time. It is recommended that trees should be re-assessed periodically. The tree assessment information presented in this report is representative of the tree conditions at the time of inspection.

## REPORT

### PREPARED BY:



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## Appendix A – Tree Inventory Table

TAG #	BOTANICAL NAME	COMMON NAME	DBH (cm)	SPR (m)	CONDITION	REMARKS	STATUS	LOCATION	TPZ
501	Quercus rubra	Red Oak	98	18	Good	Tree is in good condition	Injure	West Property Line	9
502	Malus domestica	Common Apple	12+14	4	Poor	2 Trunk clump. Canopy dieback-boundary tree	Preserve	West Property Line	2
503	Acer platanoides	Norway Maple	24+16	6	Poor	2 Trunk clump. Boundary Tree. Tree growing through chain link fence. Trunk girdled.	Remove	West Property Line	3
504	Acer saccharum	Sugar Maple	12	4	Fair	Tree girdled by chainlink fence. Boundary Tree	Remove	West Property Line	2
505	Quercus rubra	Red Oak	48	8	Good	Boundary tree. Trunk originates on neighboring property. Canopy form good. Foliage exhibits anthracnose fungal damage.	Remove	West Property Line	4
506	Fraxinus americana	White Ash	12	6	Poor	EAB damage. Tree leaning east.	Remove	West Property Line	3
507	Acer saccharum	Sugar Maple	28+27	6	Poor	2 trunk clump. South trunk exhibits cavity decay, top 75% of canopy dead. North trunk in good condition. Included bark.	Remove	West Property Line	3
508	Acer saccharum	Sugar Maple	30	6	Fair	Bark decay on N.W side of trunk. Canopy lopsided. Favouing North side of trunk.	Remove	North West Corner	3
509	Carya cordiformis	Bitternut Hickory	49	12	Good	Sugar maple sapling growing at North Side of trunk.	Remove	North West Corner	6
510	Acer saccharum	Sugar Maple	28	6	Good		Remove	North West Corner	3
511	Acer saccharum	Sugar Maple	46	10	Good	Canopy leaning east.	Remove	North West Corner	5
512	Acer saccharum	Sugar Maple	22	6	Poor	Severe cavity decay. Top 50% of canopy is dead.	Remove	North West Corner	3
513	Pinus nigra	Austrian Pine	23	3	Fair	Slight lean SW. Canopy lopsided due to shade from adjacent trees.	Remove	North West Corner	1.5

TAG #	BOTANICAL NAME	COMMON NAME	DBH (cm)	SPR (m)	CONDITION	REMARKS	STATUS	LOCATION	TPZ
514	Acer saccharum	Sugar Maple	36	6	Good	2 Co-dominant leaders	Remove	North West Corner	3
515	Acer saccharum	Sugar Maple	32	6	Good	Canopy on South and East side only.	Remove	North West Corner	3
516	Acer saccharum	Sugar Maple	28	6	Fair	Minor cavity decay in trunk. Canopy health good.	Remove	North West Corner	3
517	Acer saccharum	Sugar Maple	26	6	Good		Remove	North side of site.	3
518	Acer saccharum	Sugar Maple	24	6	Good	Slight lean south.	Remove	North side of site.	3
519	Acer saccharum	Sugar Maple	30	6	Good		Remove	North side of site.	3
520	Acer saccharum	Sugar Maple	32	6	Good		Remove	North side of site.	3
521	Acer saccharum	Sugar Maple	42	6	Terminal Decline	Trunk leaning north across chainlink fence. Insect boreholes on trunk. Canopy sparse. Severe bark decay on south side of tree.	Remove	North side of site.	3
522	Acer saccharum	Sugar Maple	46	8	Good	Top of canopy sparse.	Remove	North side of site.	4
523	Quercus rubra	Red Oak	60	12	Good		Remove	North side of site.	6
524	Quercus rubra	Red Oak	64	12	Good		Remove	North boundary.	6
525	Quercus rubra	Red Oak			Dead		Remove	North east corner	0
526	Acer saccharum	Sugar Maple	26	6	Good		Remove	North east corner	3
527	Quercus rubra	Red Oak	56	12	Good		Remove	North east corner	6
528	Acer platanoides	Norway Maple	29	6	Good	Top of crown is missing.	Remove	North east corner	3
529	Quercus rubra	Red Oak	56	10	Fair	Dieback at top of canopy.	Remove	North east corner	5
530	Robinia pseudoacacia	Black Locust	8,14,4,11	4	Poor	Stump sprout regeneration. Main trunk cut/girdled by chainlink fence.	Remove	North east corner	2
531	Acer saccharum	Sugar Maple	23	6	Good		Remove	North east corner	3
532	Quercus alba	White Oak	55	12	Good	Canopy growth in good condition. Canopy lean east due to shading of adjacent trees.	Injure	North east corner	6

TAG #	BOTANICAL NAME	COMMON NAME	DBH (cm)	SPR (m)	CONDITION	REMARKS	STATUS	LOCATION	TPZ
533	Ulmus pumila	Siberian Elm	32	6	Poor	Tree cut at 1.5m from grade. Stump sprout regeneration.	Preserve	North east corner	3
534	Acer saccharum	Sugar Maple	30	6	Fair	Canopy topped. Minor branch tip dieback.	Remove	North east corner	3
535	Quercus rubra	Red Oak	56	12	Good	Canopy health good. Canopy shape lopsided, favouring south side of trunk.	Remove	East Boundary	6
536	Acer platanoides	Norway Maple	38	8	Poor	Canopy lopsided. West 1/2 of canopy removed. Severe surface root damage.	Remove	East Boundary	4
537	Acer platanoides	Norway Maple	37	8	Terminal Decline	Canopy health is good. 2 co-dominant leaders. Large injury on west side of trunk. Severe decay and carpenter ant damage observed in bark.	Remove	East Boundary	4
538	Acer platanoides	Norway Maple	21	6	Good	Tree growing at fence line	Preserve	East Boundary	3
539	Acer saccharum	Sugar Maple	49	12	Fair	Cavity at SW side of root flare. Canopy growth good	Preserve	East Boundary	6
540	Acer saccharum	Sugar Maple	34	8	Poor	Top 25% of canopy is dead.	Remove	South of parking lot	4
541	Pinus nigra	Austrian Pine	38	6	Fair	Leaning north. Sapsucker holes on trunk.	Remove	South of parking lot	3
542	Pinus nigra	Austrian Pine	36	6	Fair	Leaning north. Canopy sparse, sapsucker holes on trunk	Remove	South of parking lot	3
543	Betula papyrifera	Paper Birch	16	2	Terminal Decline	Canopy sparse. Cavity decay at base. Branch tip dieback	Remove	North of existing building	1
544	Betula papyrifera	Paper Birch	17	2	Terminal Decline	Canopy sparse. Cavity decay at base. Branch tip dieback	Remove	North of existing building	1
545	Acer saccharum	Sugar Maple	42	12	Good		Preserve	North of existing building	6



TAG #	BOTANICAL NAME	COMMON NAME	DBH (cm)	SPR (m)	CONDITION	REMARKS	STATUS	LOCATION	TPZ
546	Acer saccharum	Sugar Maple	35	12	Good		Injure	North of existing building	6
547	Acer saccharum	Sugar Maple	44	10	Good		Preserve	East Boundary	5
548	Acer saccharum	Sugar Maple	41	10	Good	Canopy leaning south.	Preserve	East Boundary	5
549	Acer saccharum	Sugar Maple	19	6	Good		Preserve	East open space	3
550	Fagus grandifolia	American Beech	57	8	Poor	Advanced Beech bark disease. Canopy dieback	Preserve	East open space	4
551	Acer saccharum	Sugar Maple	44	8	Good	Canopy favouring east side of trunk.	Preserve	East open space	4
552	Fagus grandifolia	American Beech	56	12	Fair	Minor Beech bark disease damage. Canopy is in good condition.	Preserve	East open space	6
553	Fagus grandifolia	American Beech	36	12	Fair	Minor Beech bark disease.	Preserve	East open space	6
554	Acer saccharum	Sugar Maple	28	8	Good	Trunk leaning south east	Preserve	East open space	4
555	Quercus rubra	Red Oak	74	16	Good	Canopy lopsided favouring east side of trunk.	Preserve	East Boundary	8
556	Fagus grandifolia	American Beech	27	4	Poor	Severe Beech bark disease; canopy dieback.	Preserve	East open space	2
557	Fagus grandifolia	American Beech	25	6	Fair	Minor Beech bark disease, canopy growth in in good condition.	Preserve	East open space	3
558	Acer saccharum	Sugar Maple	37	8	Good		Preserve	East open space	4
559	Acer saccharum	Sugar Maple	37	6	Good		Preserve	East open space	3
560	Quercus rubra	Red Oak	59	8	Good	Canopy growth narrow. Minor branch tip dieback	Preserve	East open space	4
561	Acer saccharum	Sugar Maple	49	10	Good		Preserve	East Boundary	5
562	Quercus rubra	Red Oak	81	12	Good		Preserve	East open space	6
563	Quercus rubra	Red Oak	61	10	Good	Canopy lopsided. Favouring south and west side of trunk.	Preserve	South east corner of existing building	5
564	Acer saccharum	Sugar Maple	29		Good	2 co-dominant leaders in canopy	Preserve	South east corner of existing building	0

TAG #	BOTANICAL NAME	COMMON NAME	DBH (cm)	SPR (m)	CONDITION	REMARKS	STATUS	LOCATION	TPZ
565	Quercus rubra	Red Oak	77	12	Good		Preserve	East Boundary	6
566	Acer saccharum	Sugar Maple	36	8	Good	Adjacent tree.	Preserve	Neighboring east boundary	4
567	Pinus nigra	Austrian Pine	33	6	Fair	Minor diplodia tip blight damage.	Remove	North west of existing building.	3
568	Acer saccharum	Sugar Maple	47	8	Fair	Minor branch tip dieback on East side of canopy.	Remove	North west of existing building.	4
569	Tilia cordata	Little Leaf Linden	36	6	Good		Remove	South of existing parking lot	3
570	Tilia cordata	Little Leaf Linden	16	4	Terminal Decline	Severe canker infection on bark, canopy decline	Remove	South of existing parking lot	2
571	Quercus rubra	Red Oak	69	10	Good		Remove	South west corner of existing building	5
572	Tilia cordata	Little Leaf Linden	40	6	Good	Trunk is leaning slightly south	Preserve	South of existing building	3
573	Tilia cordata	Little Leaf Linden	37	6	Poor	Canopy sparse. Root flare severely injured by lawn care equipment.	Preserve	Main entrance to existing building	3
574	Tilia cordata	Little Leaf Linden	32	6	Good	Canopy health is good. Tree is leaning South east.	Preserve	South of existing building	3
575	Tilia cordata	Little Leaf Linden	38	6	Fair	Canopy sparse. Leaning south east. Surface root damage.	Preserve	South of existing building	3
576	Tilia cordata	Little Leaf Linden	39	6	Poor	Canopy decline. Heartwood decay. Surface root damage.	Preserve	South of existing building	3
577	Quercus rubra	Red Oak	61	10	Fair	Tree topped. Branch dieback observed at top of canopy.	Preserve	South east corner	5
578	Quercus rubra	Red Oak	60	10	Good		Preserve	South east corner	5
579	Acer saccharum	Sugar Maple	39	12	Good	Canopy lopsided. Favouring east side of trunk.	Preserve	South east corner	6
580	Quercus rubra	Red Oak	68	12	Good		Preserve	South east corner	6
581	Juniperus virginiana	Eastern Red Cedar	21	4	Good		Preserve	Front garden	2

Appendix B - Arborist Inspection Images



Image #1: View south of trees #571 (left) and #501 (right)



Image #2: View southwest to trees #501 (left) to #504 (right).



Image #3: View west to tree #505.



Image #4: View northwest of trees #506 to #508



Image #5: view north of trees #507 to #513.



Image #6: View north of trees #514 (left) to #521 (far right)



Image #7: View north of trees #522 (left) to #532 (far right)



Image #8: View north of trees #523 (middle) and dead tree #525 (right)



Image #9: View northeast of trees #526 (left) to #535 (right)



Image #10: View east of trees #534 (left) to #537 (right)



Image #11: View south of trees cluster #538 to #566, east of existing apartment building.



Image #12: View of southeast of tree cluster around existing BBQ station (trees #559 to #565)





Image #13: View east from of circular driveway on the south entrance of apartment complex (trees #572 to #576 and #581)



Image #14: View north of trees along Silver Spear Road frontage of property. Trees #577 (left) to #580 (right).