

May 3rd, 2022

Joe Garber 59 Rodeo Drive Thornhill, Toronto, ON L4J 4Y4

Re: Planned Construction at 226 Arnold Avenue, Thornhill

Dear Joe,

On May 2nd, 2022, I visited your property to do site assessment. Of concern to you was the large Silver Maple tree located close to the property boundary within your backyard, and how it may be affected by the planned construction on the neighbouring property located at 226 Arnold Avenue, Thornhill.

During the assessment, I collected information on the planned work, which involved studying a copy of the site plans as provided for the committee of adjustment for their approval of the construction. I utilized the measurements on the site plans to make calculations of how much of the tree's roots and branches will be affected by the work. I measured the tree's diameter at 96cm, and its distance from the property boundary at 60cm (108cm measured from the center of the trunk). This differs from the site plans which indicate a 100cm diameter and 0m distance from the center of the trunk to the property boundary. I studied the site plans and concluded that the proposed construction of the interlock patio and cabana will require bedding layer excavation at no more than 2.10m away from the tree. This close proximity would cause root loss across 19.87% of its Tree Protection Zone. In addition, the trunk of the subject tree has signs of internal decay, girdling root and significant (25°) lean to the direction of planned construction, which may increase after excavation and contribute to tree failure.

These factors suggest that were construction to continue, the tree would be injured beyond a point at which it could successfully recover to the condition in which is currently exists. Long-term stress symptoms would likely appear, including canopy dieback and water-sprout growth. The root pruning required for interlock patio and cabana construction would create a high cross-sectional area of exposed live wood within the soil where decay may enter the tree and cause long-term disease. It is my general recommendation that construction plans be revised to place cabana foundation and patio at no less than 3.6m away from this tree, which would allow for excavation to take place more than 3 times the trunk diameter distance away from it. I also recommend low impact excavation (hand-digging or air spading), excavation for patio bedding to be no more than 20-30cm and for cabana foundation no more than 60-90 cm deep. This would greatly reduce root and canopy loss, which would assure the tree's long-term recovery from any injury that would be required to accommodate such a revised construction plan.

Enclosed within this letter is a brief report detailing my findings.

Best Regards,

Rashid Azimov | Consulting Arborist

Prepared by:

Davey Resource Group Rashid Azimov



Assignment

Davey Resource Group (DRG) was contracted by Joe Garber of 59 Rodeo Drive (herein known as the Client) to inspect a mature tree located in his backyard. The arborist was to determine the potential impact on the tree from proposed construction of a new house on the neighbouring property at 226 Arnold Avenue, Thornhill and to advise on what changes to construction plans would safely minimize injury to the subject tree. Site visit was performed by ISA Certified Arborist Rashid Azimov (ON-2591A).

Limitations of Assignment

It must be understood that DRG the assessor of the trees in regard to tree condition assessment as it relates to the most current industry standards and best management practices. DRG's presence at the site pertained strictly to a visual inspection of the area surrounding a single mature Silver Maple tree located within the site property and near to the neighbouring property where construction is planned. Construction impact on the subject tree is based on site plans provided by the client.

Observations & Methods

- Site visit occurred on May 2nd, 2022 by ISA Certified Arborist Rashid Azimov (ON-2591A).
- Weather was 11°C and cloudy.
- All photographs taken are labeled copies of their originals. Some may have been cropped to fit page dimensions.
- Measurements of the tree were taken during the site assessment using a metric diameter measuring tape and a metric Biltmore Stick. Diameter at Breast Height (DBH) was measured at 1.4m above ground level from the highest elevation of the tree's base.
- The tree of concern is a 96cm DBH Silver Maple (*Acer saccharinum*). The minimum Tree Protection Zone distance from the subject tree under Vaughan By-Law chapter 185-2007 is 6.0m. No construction work may occur within this distance away from the tree without permit approval from the City of Vaughan. Overall tree condition is fair.
- Main trunk of the tree has significant lean (25°) to the direction of proposed construction. At 1.4m high from ground, the trunk has a large (30x44cm) cavity, which appeared from cutting one of major leaders. Internal wood decay can be seen from the cavity. The vertical ribs (response growth) at bottom side of the leaning main trunk are also potential evidence of internal decay.
- On the opposite side of the lean girdling roots were observed.
- The main trunk 2.3m high divides into two codominant stems. The union is V-shaped and an included bark is present.
- In upper canopy, 2 large dead limbs approximately 16-18cm in diameter and 3 hangers of 5cm diameter were observed. It was also observed 3 injures from previous broken limbs approximately 15cm diameter.

Prepared by: Davey Resource Group Rashid Azimov



- The canopy measures 18m high, and the branches of the tree extend 11m away from its center.
- The subject tree is located 60cm away from the property boundary with 226 Arnold Avenue, as measured from the top of the root flare on the trunk to the boundary fence that is aligned with the boundary as laid out on site plans.
- Construction site plans indicate that the proposed patio will primarily be located 1.10 meters away from the subject tree at the closest point to it. However, after assessment we discovered that actual tree location is 2.13m away from the planned construction.
- Total construction and excavation comprise 19.87% of the area within the subject tree's TPZ.

Discussion

Construction at 226 Arnold Avenue, as planned, would take place well within the 6.0m radius Tree Protection Zone of a 96cm DBH Silver Maple tree belonging to the neighbouring owner at 59 Rodeo Drive. As planned, excavation for building a new interlock patio and cabana would require severance of the root system belonging to the subject tree at 1.26m from its base. This distance correlates to approximately 1.3x the diameter of the tree away from it's base. According to research done by Dr. E. Thomas Smiley, trenching for construction is advised to be no less than 3 times the trunk diameter distance from the tree. This correlates to performing excavation at 2.88m away from the subject tree. This would require revised site plans to place the interlock patio at approximately 3m away from the subject tree at the closest point to it.

In addition, the subject tree has several structural defects like significant lean to the direction of proposed construction, signs of heartwood decay in main trunk and girdling roots on the opposite side of tree lean, which may lead to tree failure.

Conclusion

As planned, construction at 226 Arnold Avenue would require removal of roots within 19.87% of the subject tree's TPZ. This would cause a substantial amount of stress and injury to the tree that it would not likely fully recover from. The removal of roots at the planned proximity to the tree would likely cause a loss of its structural integrity, raising the risk of it falling during high winds. Ideally, construction should take place entirely outside of the Tree Protection Zone distance of 6.0m. However, if a compromise were to be made to permit construction inside the TPZ in a way that ensures the tree's long-term survival and stability, then it is my recommendation that site plans be revised to locate the interlock patio and cabana more than 3.6 meters away from the subject tree, which allows for some additional root space to be preserved considering the tree's lean. I also recommend low impact excavation (hand-digging or air spading), excavation for patio bedding to be no more than 20-30cm and for cabana foundation no more than 60-90 cm deep. This would reduce root and canopy loss, which would assure the tree's long-term recovery from any



injury that would be required to accommodate such a revised construction plan. Such work would still require a Permit to Injure the tree to be approved issued by the City of Vaughan, which is also subject to signature requirement from the homeowner of 59 Rodeo Drive.

References

- 1. ISA, 2001-2011. <u>Best Management Practices, Books 1-9, Companion publications to ANSI A300 Standards for Tree Care</u>
- 2. Dujesiefken, Dr. Dirk, 2012. Director of the Institute for Tree Care in Germany, <u>The CODIT Principle, research presented on cambial regrowth on trees after injury</u> at the Annual ISA Conference in Kingston Ontario
- 3. Neely and Watson, ISA, 1994 and 1998. The Landscape Below Ground 1 and 2
- 4. PNW-ISA, 2011. <u>Tree Risk Assessment in Rural Areas and Urban/Rural Interface</u>, Version 1-5
- 5. Moore, M. K., 1977. <u>Factors Contributing to Blowdown in Streamside Leave Strips on</u> Vancouver Island
- 6. Smiley, E. T. 2008. Root Pruning and Stability of Young Willow Oak
- 7. Smiley, E. T., Holmes, L., & Fraedrich, B. R. 2014. <u>Pruning of buttress roots and stability changes of red maple (Acer rubrum)</u>

Arborist Qualifications

Rashid Azimov is a Consulting Arborist for the Davey Resource Group (DRG). His formal education includes a Master of Forest Conservation from the University of Toronto. Mr. Azimov has over eight years of varied work experience in the forest conservation research and arboriculture fields. Mr. Azimov has worked for the Davey Tree Expert Company of Canada for three years as a Plant Health Care Technician, Climber and Consulting Arborist.

Designations and certificates

Registered Professional Forester (R.P.F.) #2696

ISA Certified Arborist #ON-2591A

ISA Tree Risk Assessment Qualification (ISA TRAQ)



Site Overview

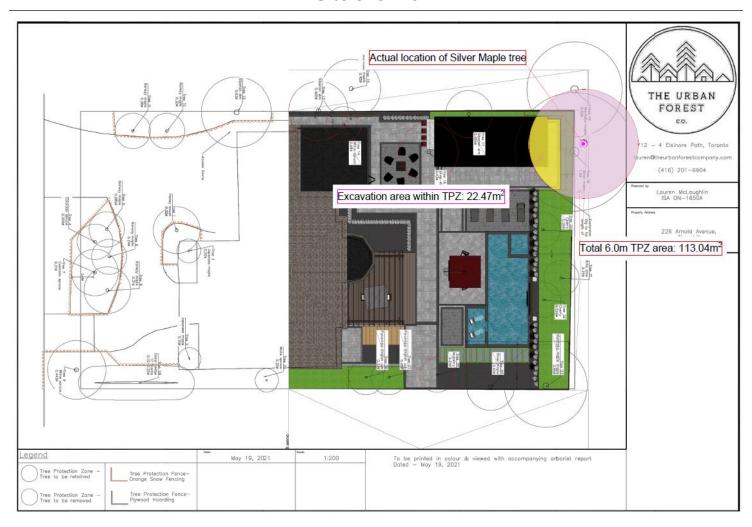


Figure 1 – Cropped Site Plan of 226 Arnold Avenue showing proposed building footprint. Approximate area of excavation within TPZ of the Silver Maple is indicated. 22.47m² equals 19.87% of the TPZ. Closest excavation distance of 2.1m from tree threatens structural instability

Prepared by: Davey Resource Group Rashid Azimov

500-611 Tradewind Dr., Ancaster, ON

(905)-981-8225



Photographs



Figure 2 – View of the subject tree as seen from the northwest corner of the client's backyard, looking south. The tree is fair condition.





Figure 3 – View of the base of the subject tree. The tree has significant lean and large cavity.





Figure 4 – Girdling roots on the opposite side of tree lean.





Figure 5 - V-shaped union and included bark.



Conditions of Assessment Agreement

This Conditions of Assessment Agreement is made pursuant to and as a provision of Davey Resource Group, a division of The Davey Tree Expert Co. of Canada, Limited ("Davey"), providing tree assessment services as agreed to between the parties, the terms and substance of which are incorporated in and made a part of this Agreement (collectively the "Services").

Trees are living organisms that are subject to stress and conditions and which inherently impose some degree or level of risk. Unless a tree is removed, the risk cannot be eliminated entirely. Tree conditions may also change over time even if there is no external evidence or manifestation. In that Davey provides the Services at a point in time utilizing applicable standard industry practices, any conclusions and recommendations provided are relevant only to the facts and conditions at the time the Services are performed. Given that Davey cannot predict or otherwise determine subsequent developments, Davey will not be liable for any such developments, acts, or conditions that occur including, but not limited to, decay, deterioration, or damage from any cause, insect infestation, acts of god or nature or otherwise.

Unless otherwise stated in writing, assessments are performed visually from the ground on the above-ground portions of the tree(s). However, the outward appearance of trees may conceal defects. Therefore, to the extent permitted by law, Davey does not make and expressly disclaims any warranties or representations of any kind, express or implied, with respect to completeness or accuracy of the information contained in the reports or findings resulting from the Services beyond that expressly contracted for by Davey in writing, including, but not limited to, performing diagnosis or identifying hazards or conditions not within the scope of the Services or not readily discoverable using the methods applied pursuant to applicable standard industry practices. Further, Davey's liability for any claim, damage or loss caused by or related to the Services shall be limited to the work expressly contracted for.

In performing the Services, Davey may have reviewed publicly available or other third- party records or conducted interviews, and has assumed the genuineness of such documents and statements. Davey disclaims any liability for errors, omissions, or inaccuracies resulting from or contained in any information obtained from any third- party or publicly available source.

Except as agreed to between the parties prior to the Services being performed, the reports and recommendations resulting from the Services may not be used by any other party or for any other purpose. The undersigned also agrees, to the extent permitted by law, to protect, indemnify, defend and hold Davey harmless from and against any and all claims, demands, actions, rights and causes of action of every kind and nature, including actions for contribution or indemnity, that may hereafter at any time be asserted against Davey or another party, including, but not limited to, bodily injury or death or property damage arising in any manner from or in any way related to any disclaimers or limitations in this Agreement.

By accepting or using the Services, the customer will be deemed to have agreed to the terms of this Agreement, even if it is not signed.

| Acknowledged by: Name of Customer: | |
|------------------------------------|---|
| | |
| Authorized Signature: | |
| | |
| Date: | - |
| Prepared by: Davey Resource Group | |

Rashid Azimov

Adriana MacPherson

Subject: FW: Public Correspondence (Addendum): A034/22 (226 Arnold Ave)

Importance: High

From: Dr. Joe Garber

Sent: Monday, July 12, 2021 12:08 PM

To: 'Howard Katz'

Subject: RE: 226 Arnold Ave (Tree Removal Permit)

Good morning Howard. It was very nice meeting you yesterday. Thank you for coming by and introducing yourself. Mazel Tov on your new home and may it bring you and your family as much joy, satisfaction, health and contentment as our home has and continues to.

I rarely get to use my personal email, and therefore, can you please forward all future communications to this address.

I had a chance to review the schematic and it looks like tree number 18 is not only lucky, but it is the only tree that needs to be dealt with in this manner. It also seems that there isn't any pressing time constraints with respect to resolving this issue. You likely are able to go on with the majority of the project until it comes to dealing with the cabana and surrounding area.

You have a GC and you probably have a team of people involved in this matter. We now have to find people to help us figure out what to do. We will need to discuss those reasonable expenses that we will incur in this process. However, perhaps we can bypass much of this.

Let me begin by asking some simple questions. Do you plan and are you able to do anything with the canopy of the tree and if so what?

We most certainly want to be reasonable however we need to protect ourselves at this time and in perpetuity from any negative consequences that may arise in the near or long-term as a result of your project, notwithstanding your best efforts to mitigate such developments.

Can you also please send me a copy of the agreement that you'd like us to sign. After that, we'll talk about the next steps.

Once again, welcome to the neighbourhood; it is a wonderful place to live and raise a family.

Best regards

Joe

Dr. Joe Garber, C. Psych., CMLE [O]

Psychologist

Clinical, Consulting and Rehabilitation Psychology

J. R. Garber Psychology Professional Corp 220 Duncan Mill Road

Suite 515 Toronto, Ontario M3B 3J5



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