

AUDITOR GENERAL'S REPORT

Review of Urban Forestry –

Permit Issuance and Tree Bylaw Enforcement Require Significant Improvement



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EXECUTIVE SUMMARY

Urban Forestry's mandate is to protect, maintain, and enhance the urban forest

The Auditor General's 2017 Work Plan included an audit of the Urban Forestry Branch, Parks, Forestry and Recreation Division. Urban Forestry provides the services needed to protect, maintain, and enhance the urban forest both on public and private properties. The three main areas of its operations are tree planting, ongoing tree maintenance (e.g. pruning, storm cleanup and tree removal), and permit issuance and bylaw enforcement.

Urban Forestry's 2017 gross expenditures were \$64 million and its total revenue was \$23 million. There was an approved staff complement of 337 for the year 2017.

Focus of this report is on permit issuance and bylaw enforcement

The focus of this report is on Urban Forestry's permit issuance and bylaw enforcement functions. We are continuing our review of the tree planting and maintenance programs. Depending on our audit findings, we may issue a subsequent audit report in 2019 on the planting and maintenance programs.

A significant challenge we faced in reviewing Urban Forestry's permit functions was the lack of system data. Many basic permit data are either not available or not systematically tracked in the Division's Toronto Maintenance Management System (TMMS).

No adequate data to allow for data analysis on the whole set of permit data

As a result, audit staff had to manually read through a large volume of individual application files and staff comments just to extract a small sample of relevant files in order to complete audit procedures. This limited our ability to use our normal auditing software to analyze the entire permit data set, and it also delayed our audit process.

Despite the challenges, we were able to identify a number of significant issues and areas for improvement through reviewing many sets of sampled files and the existing management processes.

Risk arising from a lack of basic controls

Overall we found weak controls and insufficient management oversight over permit issuance and collection of payments and deposits. There is a lack of follow-up efforts to verify compliance with permit conditions. We also found that the current tree bylaw provisions regarding contraventions are not conducive to compliance with permit requirements.

Our key findings are briefly discussed below:

Removal of protected trees or construction work near the trees require permits

To remove or undertake construction work near a City tree or a private tree (with a diameter of 30 cm or more) in the City, a person must obtain either a Tree Removal Permit or a Tree Injury Permit from Urban Forestry. The permit requirements are different for trees on City properties and trees on private properties. See Exhibit 1 for the permit requirements.

Compared to six other cities we reviewed, Toronto's permit requirements appear to be the most comprehensive and stringent. Our comparative results are shown in Exhibit 2 and 3.

Lack of controls over permit issuance

Lack of adequate system controls to prevent and detect unauthorized permit

Urban Forestry does not have an adequate information system to support its permit functions. TMMS does not have a permit generation function. When an application is approved by a district office, staff use an Excel spreadsheet to print a copy of the permit. There is no pre-printed sequential permit number on a permit. Multiple staff members in each district office have access to the Excel spreadsheet. An Excel spreadsheet can be easily copied, and the number of permits printed cannot be tracked. This, combined with the lack of sequential permit numbers, makes it difficult to prevent or detect unauthorized permits.

Risk of missed collection of permit payments and deposits

The City's tree bylaw requirements are complex involving various payments and guarantee deposits for tree removal and injury permits. In addition to permit application fees, Urban Forestry collects three different types of payments and deposits:

- Cash-in-lieu of planting
- Appraised tree value
- Refundable deposits (comprised of Tree Planting Security Deposit and Tree Protection Guarantee)

Complex permit requirements increase the risk of missed collection of permit payments

The complex set of requirements increases the chance of errors in determining or collecting the required payments. We noted instances of missed calculations and collection of permit payments and deposits by staff in our sample review. The payment collection errors, if not identified and corrected, could result in missed collection of payments and deposits. Correct collection of permit payments and deposits is also key to fair and consistent administration of the tree bylaws.

Lack of an ongoing quality assurance process

Quality assurance measures such as supervisory review of a sample of files can help detect staff errors and improve performance

We recognize that Urban Forestry is operating without a proper information system. This limits management's ability to efficiently identify questionable files for review. However, much of the issues we observed stem from the fact that it does not have an established quality assurance process. For instance, it does not have any requirements for supervisors to routinely review a sample of permit files to ensure they are properly administered by staff. This, combined with the lack of system controls, in our view, presents a major gap in its management oversight efforts.

No requirement for staff to check compliance with replanting requirement

No active follow-up efforts to verify compliance

One of the Tree Removal Permit conditions is for applicants to replant a certain number of trees for every tree removed. Urban Forestry's procedures do not require staff to check compliance with replanting requirements, or request evidence of replanting such as receipts from plant nurseries or photos of tree(s) replanted. They rely solely on the applicant to abide by the replanting requirements. Without any follow-up efforts, non-compliance with tree replanting requirements is unlikely to be detected.

Urban Forestry has not conducted any formal review of the compliance rate with the planting requirements, but front-line and supervisory staff indicated that they believe there is a high percentage of non-compliance.

\$29.3 million in deposit money

Policy is needed to address large amount of deposit balance

As of February 2018, Urban Forestry had a balance of \$29.3 million from refundable tree security and guarantee deposits collected between 1994 and 2017. Some of these deposits, particularly those collected in 2012 or prior years, may no longer be refundable for various reasons. In our file review, we noted instances where the money was not refunded due to a lack of action on the part of staff.

A divisional policy is needed to address the old unclaimed deposits

Urban Forestry does not have a policy in place to address old unclaimed deposits, even though each City division is expected to develop its own policy. All divisional policies should adhere to the general principle that once all efforts to locate applicants have been exhausted, any unclaimed deposits are transferred to the City's revenue account. Urban Forestry has recently started a process to review and address these old unclaimed deposits.

Bylaws do not appear to include provisions to require appraised tree value and Tree Protection Guarantee for contraventions

Lack of effective bylaw provisions for contraventions

It appears that under the current tree bylaws, staff could only request individuals who illegally remove City trees to pay the appraised value on a voluntary basis, whereas the appraised tree value is part of the permit condition for people who duly apply for a City tree removal permit. Similarly, the bylaws do not appear to provide authority for staff to require a Tree Protection Guarantee for injuring a City tree without a permit, even though the Guarantee is required from individuals who apply for a Tree Injury Permit. In our view, the current tree bylaw provisions are not conducive to compliance with permit requirements and protection of trees in the City.

This first audit report focuses on Urban Forestry's permit issuance and bylaw enforcement functions

Conclusion

This is the Auditor General's first review of the Urban Forestry Branch. The focus of this report is on Urban Forestry's permit issuance and bylaw enforcement functions.

Trees are an important asset to the City and provide immense benefits to the environment and our community. Effective administration and enforcement of the City's tree bylaws and permit requirements is key to protecting trees and preserving the City's tree canopy.

We provided 12 recommendations in this report to help strengthen controls over permit issuance, management oversight, compliance with permit requirements as well as inventory management at the Branch's tree nursery.

We express our appreciation for the co-operation and assistance we received from management and staff of the Urban Forestry Branch within the Parks, Forestry and Recreation Division.

BACKGROUND

Toronto's urban forest is composed of trees along city streets, in parks, ravines and natural areas, in residential and commercial areas, and in landscaped open spaces. This includes all trees, other vegetation and their habitat within the City's boundaries.

10.2 million trees in the City; 60% are on private property

The City has approximately 10.2 million trees, which provide 18,000 hectares of canopy cover. About 60 per cent of the trees are on private property and the remaining are on public property.

Trees provide many benefits in urban settings. Among the benefits, trees clean the air, reduce storm water runoff, and reduce heating and cooling costs.

City's target is to increase tree canopy from currently 28% to 40%

The City has a target to increase the tree canopy cover from currently between 26.6 and 28 per cent to 40 per cent. The Division developed a strategic management plan in 2013 to provide goals and recommendations to achieve the tree canopy cover target. In 2016, an external consultant report provided 16 recommended actions to direct future investment towards achieving the target through increased tree planting and stewardship on private property.

The Auditor General's 2017 Work Plan included an audit of the Urban Forestry Branch within the Parks, Forestry and Recreation Division. The Urban Forestry Branch maintains the City's urban forest and natural environment. It provides the services needed to protect, maintain, and enhance the urban forest both on public and private properties.

Three units within Urban Forestry perform these roles and responsibilities:

- Tree Protection and Plan Review
- Urban Forest Renewal and Natural Area Management, and
- Forestry Operations

Table 1 provides a breakdown of the delivered services from 2015-2017.

Table 1: Services Statistics, Urban Forestry, 2015 to 2017

	2015	2016	2017
Tree Protection			
# of trees included in permit applications	6,798	7,795 ¹	10,794 ²
Tree Planting			
# of trees planted	106,829	113,510	120,307 ³
Tree Maintenance			
# of trees inspected	158,522	176,623	176,165
# of trees pruned	89,345	100,427	85,785
# of trees removed	38,829	26,439	20,059
# of tree stumping	16,235	13,394	8,698

Source: Performance measures and permit information from Urban Forestry

¹ Number includes 526 trees from Metrolinx's applications

² Number includes 2,886 trees from Metrolinx and Enbridge's applications

³ Urban Forestry received an additional \$1 million in 2017 to increase tree plantings to 120,000 trees

Urban Forestry's 2017 gross expenditures were \$64 million and its total revenue was \$23 million (including transfer from reserve fund). There was an approved staff complement of 337 for the year 2017.

Focus of this report is on permit issuance and bylaw enforcement

The focus of this report is on Urban Forestry's permit issuance and bylaw enforcement functions. We are continuing our work on the tree planting and maintenance programs. Depending on our audit findings, we may issue a subsequent audit report in 2019 on the planting and maintenance programs.

An overview of the tree bylaw requirements

The TPPR Unit is responsible for administering and enforcing the bylaw requirements

The City has various bylaws to regulate the removal and protection of trees and natural features. Urban Forestry's Tree Protection and Plan Review (TPPR) Unit is responsible for administering and enforcing the following tree bylaws:

- Street Tree By-law, Chapter 813, Article II
- Private Tree By-law, Chapter 813, Article III
- Ravine and Natural Feature Protection, Chapter 658
- Parks, Chapter 608, Article VII

In addition, the Unit can issue an order to a private property owner to remove a tree it deems dangerous under Subsection 632-5 of the Property, Vacant or Hazardous By-law.

In order to remove or undertake construction work near a City tree or a private tree of a certain size in the City, a person must obtain either a Tree Removal Permit or a Tree Injury Permit from the TPPR Unit. The permit requirements are different for trees on City properties and trees on private properties.

Applicants are required to pay the application fees and payments at a district office by certified cheque, money order, credit card or debit card. Cash is not accepted.

Tree Removal Permit

A permit must be applied for the removal of a City tree of any size. For private trees, a permit is required for a tree with a diameter of 30 cm or more, measured at 1.4 m above ground level. The specific permit requirements for removing City vs. private trees are outlined in Table 2.

Table 2: Requirements for Tree Removal Permits

	City Tree	Private Tree	
		Construction-related	Non-construction
Application fee (2017)	• \$334.06 per tree	• \$334.06 per tree	• \$111.67 per tree
Other payment	• Appraised tree value • Refundable Tree Planting Security deposit (\$583/ tree)	n/a	n/a
Tree replanting ratio	• 1:1 ratio or cash-in-lieu of replanting at \$583/tree	• 3:1 ratio or cash-in-lieu of replanting at \$583/tree	• 1:1 ratio or cash-in-lieu of replanting at \$583/tree

Source: Application form to injure or remove trees, tree bylaws, Tree Protection Policy and Specifications for Construction Near Trees, and various TPPR procedure bulletins.

Note: Ratios for replanting compensation are standardized in Urban Forestry's Procedure; however, they are not specified in the Municipal Code and remain at the discretion of the General Manager, Parks, Forestry and Recreation.

Tree Injury Permit

A Tree Injury Permit must be obtained if the minimum tree protection zone cannot be provided. The tree protection zone is the required minimum distances of a tree where no work can be performed. The protection zone is based on the size and type of the tree. For example, a City or private tree with 30 to 40 cm in trunk diameter measured at 1.4 m above ground level would need a minimum protection zone of 2.4 m from the outside edge of the tree base. Photo 1 below display different types of tree protection measures.

Photo 1: Examples of Different Types of Tree Protection Measures



An Injury Permit is also required if a person wants to perform any activity that could result in injury or destruction of a protected tree or alteration of grade within a ravine protection area. Table 3 outlines the requirements for a Tree Injury Permit for City vs. private trees.

Table 3: Requirements for Tree Injury Permits

	City Tree	Private Tree	
		Construction-related	Non-construction
Application fee (2017)	• \$334.06 per tree	• \$334.06 per tree	• \$111.67 per tree
Other payment	• Refundable Tree Protection Guarantee	• n/a	• n/a

Source: Application form to injure or remove trees, tree bylaws, Tree Protection Policy and Specifications for Construction Near Trees, and various TPPR procedure bulletins.

A full list of permit requirements for City and private trees is provided in Exhibit 1.

We reviewed the permit requirements of six other Canadian cities - Mississauga, Hamilton, London, Ottawa, Calgary, and Vancouver. Comparatively, Toronto's permit requirements appear to be the most comprehensive and stringent. For example, most other cities do not require a tree deposit to ensure protection of the tree in question. Refer to Exhibit 2 and 3 for a summary of our comparative results.

AUDIT RESULTS

This section of the report contains the findings from our audit work followed by specific recommendations.

Areas where Urban Forestry performs well:

Of its permit issuance and bylaw enforcement functions, Urban Forestry developed a number of procedures to standardize the administration of bylaw requirements in 2015 and 2016, including the requirements for tree replacement ratios and procedures for handling bylaw contraventions.

Urban Forestry also established a designated enforcement team in 2017, which helps to improve complaint response time and frees up staff resources to focus on permit application reviews.

A. PERMIT ISSUANCE

A.1. Lack of Controls Over Permit Issuance

Risk of unauthorized permits not being detected

The Division lacks an adequate system to support permit functions

Urban Forestry does not have an adequate information system to support its permit functions. The Division's Toronto Maintenance Management System (TMMS) has been in place since 1998, and was not originally designed for permit processing. In addition, not all existing TMMS functions are being fully used, including the function to track approval status of a permit, and the function to attach key documents to an application.

Permits are printed from an Excel spreadsheet

As TMMS does not have a permit generation function, when an application is approved by a district office, staff uses an Excel spreadsheet to complete and print a copy of the permit. There is no pre-printed sequential permit number on a permit. Instead staff manually enter the Service Request number on the permit spreadsheet as the permit number. Multiple staff members in each district office have access to the Excel spreadsheet. Staff members who are responsible for reviewing applications for approval are also responsible for issuing and printing the permits using the Excel spreadsheet.

Lack of adequate controls to prevent and detect unauthorized permits

An Excel spreadsheet can be easily copied, and the number of permits printed cannot be tracked. This, combined with the lack of sequential permit numbers, makes it difficult to control or detect unauthorized permits. Although verification of a permit's authenticity can be done by comparing the information on a permit with TMMS records, Urban Forestry currently does not have any way to systematically identify questionable permits in the City.

Due to the system deficiencies, there is no systematic method that we could use to assess the occurrence or magnitude of unauthorized permits.

Basic permit data are not properly tracked

In addition, much of the expected basic permit data are not properly tracked in the system. Basic data such as the number of trees included in a permit application, approval status, the amount of fee and payments to be collected (which varies from permit to permit), and follow-up actions to confirm compliance with permit conditions, are not tracked in the system under separate "fields". All of this information is buried in inspection notes and comments under "Inspection Report".

System limitation prevents proper oversight and performance review

Consequently, even the very basic information, such as the number of permits approved per year per staff, cannot be extracted from the system to allow for proper oversight and performance review.

To compensate for the system deficiencies, Urban Forestry developed and refined a set of standardized Excel spreadsheets in 2017 to aid in the collection and tabulation of some permit data. The ability to collect and analyze the data is still not ideal, and the data collected to date is limited and incomplete.

Cannot ensure all fees and payments are collected

Despite the additional spreadsheets, it is still difficult to reconcile the amount collected in the City's financial system (SAP) with permit issuance data in TMMS to ensure all the applicable fees and payments are collected.

Management staff advised that they are currently in the process of replacing TMMS with a new Enterprise Wide Management System. It is important that all of the key permit processing and issuance functions are included in the new system in order to improve controls and daily administration.

Recommendation:

1. **City Council request the General Manager, Parks, Forestry and Recreation Division, to ensure that the new Urban Forestry information system consists of all key permit issuance functions to enable adequate system controls over permit issuance and the collection of fees, payments, and deposits.**

A.2 Risk of Missed Collection of Permit Payments and Deposits Not Being Identified or Corrected

No adequate data to allow for data analysis on the whole set of permit data

The TMMS system issues also presented a significant challenge to our audit, to the extent that we could not use our auditing software to extract or analyze the whole set of permit data. To complete our work, audit staff had to resort to manually reading through a large volume of individual application files just to extract a small sample of relevant files for various testing procedures.

Risk that a portion of permit payments are not collected

Despite the small samples of files we reviewed, our overall results point to a risk that a portion of permit payments and deposits are not collected.

In addition to permit application fees, Urban Forestry collects three different types of payments:

- cash-in-lieu of planting,
- appraised tree value, and
- refundable deposits (comprised of Tree Planting Security Deposit, and Tree Protection Guarantee).

Table 4 outlines the revenue collected from 2015 to 2017.

Table 4 Permit Associated Fees, Payments, and Deposits Collected by Urban Forestry, 2015 to 2017

	Fees, payments, and deposits (\$ in millions)			
	2015	2016	2017	% increase (from 2015 to 2017)
Application fees				
- City tree applications ¹	\$0.5	\$0.7	\$1.6	220% ²
(# of trees – estimated) ³	1,605	2,303	4,971	
- Private tree applications ¹	\$1.2	\$1.4	\$1.6 ⁴	33%
(# of trees – estimated) ³	5,194	5,492	5,823	
Subtotal	\$1.7	\$2.1	\$3.2	88%
Payments and deposits				
Cash-in-lieu of planting	\$2.2	\$2.3	\$2.7	23%
Appraised tree value	\$1.1	\$1.4	\$1.3	18%
Refundable deposits:				
- Tree Planting Security Deposit	\$0.5	\$0.7	\$0.7	40%
- Tree Protection Guarantee ⁵	\$11	\$4.5	\$5.6	-49%
Subtotal	\$14.8	\$8.9	\$10.3	-30%
Total fees, payments, and deposits	\$16.5	\$11	\$13.5	-18%

Source: revenue information provided by TPPR unit

¹ There has been an increase in application fees over the years to reflect inflation. The fees increased 8% from 2015 to 2017 (\$307 to \$334 for private tree construction and City tree application, and \$102 to \$111 for private tree non-construction application).

² A large portion of the increase in applications for City trees was from Metrolinx and Enbridge as their projects impacted City trees. Since 2016, Metrolinx and Enbridge have paid a total of \$971,305 for City tree application fees.

³ The number of trees is estimated from dividing the total application fees received by the applicable application fee (e.g., \$334) for the year.

⁴ As of May 8, 2017, there is a new fee for boundary/ neighbour tree applications of \$233.1 per tree (non-construction related) and \$699.31 per tree (construction related).

⁵ The significant decrease since 2016 in the collection of the refundable Tree Protection Guarantee is due to the amendments to the Street Tree By-law and policy updates in December 2015. After the amendments, the Tree Protection Guarantee would only be collected on City trees that require City tree injury permits. Prior to the 2015 amendments, guarantees were collected on Committee of Adjustment applications that had the potential to impact City trees.

Cash-in-lieu of replanting

For both City and private tree removal permits, applicants may pay \$583 cash-in-lieu of replanting for each tree when there is no space to plant the tree. This amount represents the cost to plant and maintain a tree for two years by Urban Forestry and has been in place since 2006. Urban Forestry reviewed the amount in 2011 and did not make any adjustment at the time.

\$2.7 million collected in 2017 in lieu of replanting 4,631 trees

The cash-in-lieu collected was about \$2.7 million in 2017. Based on the \$583 cash-in-lieu amount per tree, this represents 4,631 trees that could not be replanted by applicants.

In a basic permit system, the number of trees approved for removal, the required number of replacement trees, and the amount of cash-in-lieu required for each application would be recorded in the system such that the amount collected can be reconciled with the permit information to ensure all of the applicable cash-in-lieu has been collected.

No tracking of basic information to check cash-in-lieu collected

Basic permit information and data are stored as text in TMMS. None of these basic permit data are systematically coded or recorded in the system, making it difficult for Urban Forestry to determine the completeness and accuracy of the amount collected.

Incorrect amount of cash-in-lieu collected due to calculation errors

We reviewed a sample of 28 tree removal applications consisting of City trees, private trees, and ravine trees. In four of the 28 files (14 per cent), the required cash-in-lieu amount determined by staff was incorrect. See Table 5 for examples.

20% of cash-in-lieu value was not collected in our review of 28 files

Based on the standard replacement ratios, the correct cash-in-lieu payments from the 28 samples should have been \$51,304. Only \$40,810 was collected because staff missed or inaccurately calculated the required cash-in-lieu payments. This resulted in missed collection of \$10,494 for 18 replacement trees, representing 20 per cent of missing cash-in-lieu payments.

Table 5: Examples of Incorrect Collection of the Required Cash-in-Lieu Amount

Examples of File Review Results:	
An applicant removed four City trees at the required replacement ratio of 1:1. <ul style="list-style-type: none"> ➤ The applicant was required to pay cash-in-lieu of replanting due to a lack of space. ➤ But the applicant was asked to pay cash-in-lieu for only three trees instead of four. This appears to be caused by a misunderstanding of the form by the staff member. 	
An applicant removed four City trees at a replacement ratio of 1:1 and four park trees at a ratio of 3:1. <ul style="list-style-type: none"> ➤ Hence in total, the applicant should have replaced 16 trees. ➤ The applicant wanted to replant four trees and pay cash-in-lieu for the 12 remaining trees. ➤ The staff member instead asked for cash-in-lieu for eight trees, and mistakenly calculated that amount to be \$2,332 (correct amount should be \$4,664; 8 times \$583). ➤ In total, Urban Forestry missed \$4,664 in cash-in-lieu. 	

Appraised tree value

Under Urban Forestry's policy, applicants must pay the appraised tree value as determined by staff of the TPPR Unit for a permit to remove a City tree.

Appraised tree value varies significantly from tree to tree

For the year 2017, the TPPR Unit collected about \$1.3 million in appraised tree values. As this value varies significantly from tree to tree and there is no centralized tracking aside from case notes embedded in TMMS, we cannot estimate the number of City trees removed that required payments of appraised value.

Appraised value is determined based on established method

Each appraised tree value is determined by TPPR staff based on a method developed by the Council of Tree and Landscape Appraisers (CTLA) and supplementary information by the International Society of Arboriculture Ontario¹. The appraised value is based on the tree species, tree size, condition and location of the tree.

¹ The appraised value is based on the method prescribed in the Guide of Plant Appraisal developed by the Council of Tree and Landscape Appraisers (CTLA). To further guide the determination of tree value in Ontario, the International Society of Arboriculture Ontario has published a Ontario Supplement to the Guide of Plant Appraisal that includes species rating and basic price per square centimeter. Urban Forestry modified the species rating and the basic price in the Ontario Supplement for calculation of appraised value for trees in the City.

The value for each tree can be substantial in some cases

Depending on a tree's species and condition, the appraised value can be substantial. For example, an American Beech of 40 cm dbh (diameter at breast height) in excellent condition and location would have an appraised value of about \$7,400 compared to one with the same size in a fair condition and location would have a value of about \$3,200.

Tree value not always collected for City tree removal

We reviewed a sample of nine approved applications for the removal of City trees. All of them should have required applicants to pay for an appraised tree value. We found that in three samples, the appraised tree value was not requested by staff. A summary of our review results is provided in Table 6.

Table 6: Incorrect Collection of the Required Appraised Tree Values

Examples of File Review Results:	
An application involved the removal of four City trees but the appraised values were not requested by staff. <ul style="list-style-type: none"> ➤ In response to our query, the staff member indicated that the values were not requested because he had a backlog of work. ➤ By our estimate, approximately \$2,150 in appraised values for four trees (excluding one infested tree) were not collected. 	
An application from Enbridge for the removal of one City tree. <ul style="list-style-type: none"> ➤ Staff requested cash-in-lieu of replanting but not the appraised tree value of \$583 for a 5 cm dbh tree. There was no specific reason for not collecting the appraised value. 	
In an application for the removal of four park trees, the applicant was not asked to pay for the appraised tree values. <ul style="list-style-type: none"> ➤ This was because the staff member was not aware that the appraised tree value could be collected for the removal of park trees. ➤ The estimated missing appraised value was \$2,555. 	

Tree Protection Guarantee for Tree Injury Permits (refundable)

Urban Forestry can collect a Tree Protection Guarantee in issuing Tree Injury Permits

Under the City tree bylaws, Urban Forestry can require applicants of Tree Injury Permits to pay a Tree Protection Guarantee to ensure compliance with permit conditions. The guarantee amount is based on the appraised tree value (as discussed in the previous section), plus the costs to remove and replace the tree.

Guarantee should be refunded after staff confirm compliance

The guarantee should be refunded once all construction activities are complete and compliance with all permit terms and conditions have been verified by staff.

According to Urban Forestry's internal document on policy interpretation and procedures (August 2015):

No waiving of guarantee unless there is a manager approval

- The full appraised value for trees is required as a guarantee deposit in all cases where construction may have an impact on City trees.
- No reduction of required guarantee on any single tree is allowed. It is the full value always.
- Waiving this requirement may be recommended through the Supervisor for Manager approval.

We reviewed a sample of seven tree injury permit files for which a Tree Protection Guarantee should be collected. We noted instances where the required guarantee was either not collected by staff or an incorrect amount was collected. We also noted one instance where there was no verification of compliance with permit conditions prior to refunding the guarantee. Our review results are summarized in Table 7.

Table 7: Sample Review Results Regarding the Collection and Release of Tree Protection Guarantees

What we expected	What we found
A Tree Protection Guarantee is collected unless there is manger approval to waive the requirement	<ul style="list-style-type: none"> ➤ Of the seven samples reviewed, one did not collect the Tree Protection Guarantee for the injury of three healthy park trees because the staff member was not aware of the authority to collect such deposit for park tree injury.
Staff document how the guarantee amount is determined based on the tree condition and location rating	<ul style="list-style-type: none"> ➤ Of the seven samples, six collected the Tree Protection Guarantee. ➤ Only one of the six files documented how the guarantee amount was determined based on the tree condition. The remaining five files did not show how the guarantee amount was determined by staff.
Correct amount of Tree Protection Guarantee is collected	<ul style="list-style-type: none"> ➤ Of the one file where staff documented how the required guarantee amount was determined, the correct tree guarantee based on the ratings should be \$4,351 but staff collected \$3,548 from the applicant. ➤ Staff did not provide any specific reason for the discrepancy upon our inquiry. ➤ For the remaining five files with no documentation on how the guarantee amount was determined, there is no information on file for us to assess whether the collected amount was correct.
Staff verify compliance with permit terms and conditions before release of the guarantee	<ul style="list-style-type: none"> ➤ In three of the six files (where a guarantee had been collected from the applicants), the guarantee was refunded to the applicants. ➤ Among the three files where the guarantee was refunded, one did not have inspection notes that staff had assessed the condition of the trees prior to releasing the guarantee. This file involved a Tree Protection Guarantee of \$3,548 for two City trees.

Summary of our sample review results and observations

Complex permit requirements increase the risk of missed collection of permit payments

The City's tree bylaw requirements are complex involving various payments and guarantee deposits for tree removal and injury permits. This increases the chance of errors in determining or collecting the required payments or deposits. Instances of incorrect collection of payments were noted in our sample review. These errors, if not detected and corrected, can result in missed collection of payments and deposits. Incorrect collection of permit payments and deposits can also result in unfair and inconsistent administration of the tree bylaws.

We recognize that Urban Forestry is operating without a proper permitting information system. This limits management's ability to efficiently identify questionable files for review.

Quality assurance measures such as supervisory review of a sample of files can help detect staff errors and improve performance

Our review of Urban Forestry's management process also found that much of the issues we observed stem from the fact that it does not have an established quality assurance process. For instance, it does not have any requirements for supervisors to routinely review a sample of permit files to ensure they are properly administered by staff. This, in our view, presents a major gap in management's oversight efforts.

Adequate training and communications on updated bylaw requirements are needed

Adequate training and communications to staff to ensure they are clearly aware of the updated bylaw and policy requirements will also help to ensure consistent administration of the bylaw and policy requirements.

Recommendation:

- 2. City Council request the General Manager, Parks, Forestry and Recreation Division, to develop and implement effective management measures for permit issuance including secondary review of permit files by supervisory staff and adequate staff training.**

A.3. Lack of Inspection and Other Efforts to Verify Compliance with Permit Conditions

Requirements for replacement tree planting

Applicants of Tree Removal Permits are required to plant a certain number of replacement trees. Applicants can pay cash-in-lieu as a means of meeting the tree planting requirement when there is a shortage of space for planting. For example, three replacement trees are required for each private tree removed as a result of construction activity. For a permit to remove a City tree, a Tree Planting Security is also required according to Urban Forestry management staff.

In addition, Tree Injury Permits issued under the Ravine and Natural Feature Protection By-law also come with the condition of tree replacement. Table 8 outlines the standard replanting ratios for different types of permit. According to staff, these ratios are not fixed and can be changed by management.

Table 8: Replanting Ratios by Permit Type

City Tree Removal Permit	Private Tree Removal Permit
<ul style="list-style-type: none"> • Replant a tree for every City tree removed • Provide a Tree Planting Security at \$583 per tree <ul style="list-style-type: none"> ➤ The deposit is refunded after two years of planting and the trees are verified as being in good condition • If the applicant does not have enough space to meet the replanting requirement, the applicant can pay \$583 cash per tree in lieu of replanting. 	<ul style="list-style-type: none"> • Replant a tree for every tree removed for non-construction purpose; or • Replant 3 trees for every tree removed for construction purpose • If the applicant does not have enough space to meet the replanting requirement, the applicant can pay \$583 cash per tree in lieu of replanting. <p>For private trees within a ravine area:</p> <ul style="list-style-type: none"> • Replant 3 trees or 10 shrubs or a combination for every tree removed • Replant at least 1 tree or 3 shrubs for every tree injury • Replant 1 tree for each additional 25 square meter of hardscaping (i.e., increased footprint of dwelling, deck, pool or patio)

Requirement for Signing an "Undertaking and Release" for private tree removal permit

No requirement for a Tree Planting Security for private tree removal

Urban Forestry currently does not exercise its authority to require a Tree Planting Security for private tree removal outside of ravine designated areas. Instead, it requires applicants to sign an "Undertaking and Release" which specifies the number of trees and species to be replanted and when the replanting should take place. The form also states that:

"failure to adhere to this agreement would result in the owner being considered guilty of an offence, and could result in the required remedial work being completed by the City at the owner's expense, or the owner being legally charged of an offence".

Onus lies with applicants to inform Urban Forestry of replanting

The Undertaking and Release form also indicates that an applicant needs to notify the TPPR Unit once the required tree(s) have been planted, and in the event the replanted trees are not in good health two years from the date of replanting, the owner is responsible for planting another replacement tree(s) and must notify the Unit.

Importance of preserving trees on private land

Private tree planting is important to sustain and expand City's tree canopy coverage

According to the Division's Strategic Forest Management Plan, 2012 - 2022, various studies have shown the importance of tree establishment on private land in sustaining and expanding the City's tree coverage. In addition, about 60 per cent of all trees in the City are on private property. Therefore it is important that Urban Forestry undertakes follow-up efforts to ensure applicants' compliance with the replanting requirements.

No active inspection efforts to confirm compliance

No requirement for staff to check compliance with replanting requirement

Urban Forestry's procedures do not require staff to check compliance with replanting requirements, or request evidence of replanting such as receipts from plant nurseries or photos of the tree(s) replanted. Compliance is therefore solely relying on the applicant to abide by the replanting requirements.

Non-compliance is unlikely to be detected

An example of non-compliance

Without any inspection effort or request for purchase receipts or photos from applicants, non-compliance with tree replanting requirements is unlikely to be detected. For instance, in one of the ravine tree applications we reviewed, the applicant did not replant the six required trees from a permit issued in April 2007. It was only until the applicant applied for another ravine tree removal permit in 2015 that staff followed up on the missing trees which were then planted in 2016, nine years after the permit issuance. If the applicant did not apply for another tree removal permit, the six required replacement trees would have never been replanted.

While Urban Forestry had not conducted any review of the compliance rate with the planting requirement, front-line staff and supervisors indicated that they believe there is a high percentage of non-compliance with this requirement. However, staff advised that they lack resources to conduct either proactive or reactive inspections to verify compliance.

Tree protection plan requirements for Tree Injury Permit

Submission of a tree protection plan is required for a Tree Injury Permit

Under the tree bylaws, a tree protection plan is required when applying for a Tree Injury Permit. It is *"a plan prepared in conjunction with an arborist report that identifies the location, species and size of trees, identifies the extent of injury, where applicable, and illustrates details of protection measures including the location of protective barriers"*.

Policy requires site inspection to approve the tree protection requirements

Urban Forestry's policy requires applicants to contact staff to arrange for a site inspection and approval of the tree/site protection requirements once all trees/ site protection measures have been installed. Photographs that clearly show the installed tree/site protection shall also be provided for Urban Forestry review.

10 of 25 samples had no record of inspection or photos to verify compliance with tree protection plan

To assess whether the policy requirements are consistently followed to ensure compliance with approved tree protection plans, we reviewed a sample of 25 files and noted that staff did not always follow the policy requirements to verify compliance. Of the 25 files reviewed, we noted that:

- 3 files contained records of an onsite inspection by staff
- 12 files had no record of inspection but photos of installed protection to show compliance with the approved tree protection plans
- 10 had no record of inspection or photos

Efficient follow-up efforts are needed to ensure compliance

We recognize that, given the level of resources, it is not reasonable to expect staff to conduct a site visit for each file to ensure compliance with replanting requirement and/or compliance with the approved protection plan. There are, however, more efficient methods, such as requiring photos of protection or site visits of high risk locations, that can be part of the procedural requirements to obtain some level of assurance of compliance.

Recommendation:

- 3. City Council request the General Manager, Parks, Forestry and Recreation Division, to develop and implement effective and efficient procedural requirements to verify compliance with tree replanting and tree protection permit requirements.**

A.4. Lack of Controls Over the Issuance of Exception for Permit

Bylaws have specific exception criteria

Both the Private Tree and the Ravine Tree By-laws contain provisions to exempt the requirement of a permit under specific circumstances. For example, Section 13 of the Private Tree Bylaw states that a permit is not required for a removal of a *"terminally diseased², dead or imminently hazardous tree³ certified as such by the General Manager (of the Division)"*.

² "Terminally diseased" is defined in the By-law as *"advanced an irreversible decline in tree health that has resulted in the majority of crown die back or failure, due to severe infestation or infection by a pathogen"*.

³ "Imminently hazardous tree" is defined in the By-law as *"a destabilized or structurally compromise tree that is in imminent danger of causing damage or injury to life or property"*.

	Where an exception is granted, applicants may remove the trees without paying any application fees and related payments, and are not required to plant a replacement tree.
Exception requests are not separately tracked	Requests for permit exceptions are usually submitted via email to the TPPR Unit by arborists or homeowners. These requests are recorded together with all other permit applications in the TMMS system without a separate code, making it difficult to identify all of the exception requests. To extract the relevant files, we had to use certain key words to filter the records and we identified about 700 exception requests each year. Note that the actual number of exception requests could be higher.
Our analysis identified about 700 exception requests each year	
Sample found timely response for exception requests for imminently hazardous tree	According to the TPPR procedure on private tree exceptions, effective January 10, 2017, requests for exceptions for imminently hazardous trees are <i>"to be either approved immediately (given sufficient and plausible evidence) or inspected within 24 hours"</i> . We reviewed a sample of exception requests for imminently hazardous trees and found that most were responded to in a timely manner; either within or close to the 24-hour time frame.
	The TPPR procedures are not clear on the level of documentation required as the procedures only state that <i>"... ideally, a TRAQ [Tree Risk Assessment Qualification] inspection is performed and TRAQ documentation produced"</i> .
Inconsistent documentation by staff on rationale for approving or denying exception requests	Consequently, we noted differences in the level of documentation by staff in reviewing a sample of files. While some files contain no specific details on the imminent hazard, other files contain detailed descriptions of the hazardous tree conditions to support staff's approval or denial decision (e.g. bark with a crack emanating from ground level, carpenter ant infestation, decay spots, and hollowed pockets).
Reasons for the approval of an exception should be documented	Since an assessment of "imminently hazardous" criteria would require staff's professional judgement, the reasons to grant an exception should be documented. Documentation of the assessed tree condition by staff is particularly important when the photo of the tree submitted by a homeowner does not clearly justify an exception approval or denial.

Sample found trees were granted the exception but appeared to not meet the exception criteria

Moreover, in our review of 31 approved exception requests, we noted in three files, based on the photos of trees on files, these trees appeared to be in poor condition but did not appear to be "*destabilized or structurally compromised*" that would present imminent danger or damage. And in another file, an exception was approved for five trees but the Unit only received photos of four trees.

Staff agreed that the exempted trees were in poor condition but not presenting imminent danger

We consulted the staff member responsible for granting the approval or the supervisors in charge. They agreed that these trees did not meet the exception criteria even though they were in poor condition, but staff granted the approval for the exception requests. Had the exception permits not been granted, the applicants would have been required to pay for application fees and meet the replanting requirements.

Photos of the trees that were exempted from the permit requirements but did not appear to present imminent danger are provided in the following Photo 2 below.

Photo 2: Examples of Trees Approved for Exception but did not Appear to Present Imminent Danger



Recommendation:

- 4. City Council request the General Manager, Parks, Forestry and Recreation Division, to ensure that the approval for tree permit exceptions are supported with valid reasons and consistently applied across all district offices. Steps to be taken include:**
 - a. Clear requirements for staff to provide sufficient documentation on file detailing the tree condition assessment results, and what constitutes the imminent hazard**
 - b. Adequate training to staff**
 - c. Regular supervisory review to ensure trees approved for exception meet the bylaw and Division's criteria.**

A.5. Inconsistent Practices Across District Offices

In 2015, the City Ombudsman released a review of Urban Forestry highlighting the issue of inconsistent practices by staff across the City. Following the Ombudsman's review, Urban Forestry put in place additional policy procedures to address the Ombudsman's concerns.

Throughout the audit, we noted inconsistent practices among the different district offices in a number of areas. For instance, we noted inconsistent methods for how staff in different district offices determine the appraised tree value. This is particularly worth noting as the appraised tree value can be significant in some permits (e.g. \$56,000 in one case), and the appraised value is also used to determine the Tree Protection Guarantee. It is therefore important to make sure the appraised values are determined in a consistent and fair manner. Our detailed observations are discussed below.

Appraised tree value varies based on professional assessment of tree and location condition

Inconsistent practices in the determination of the appraised tree value

City trees are assets that provide benefits to the general public. As with any asset, there is a monetary value for each tree. The tree species, tree size, condition rating and location rating of a tree determine its monetary value. Of these four elements, the tree condition rating is the most subjective depending on an individual staff member's assessment of three conditions: trunk integrity, crown structure, and crown vigour.

Urban Forestry uses the standard CTLA method as the basis for assessing appraised values (as previously discussed in Section A.2). The TPPER Unit has a tree evaluation form to guide staff in determining tree condition ratings. A section of the evaluation form is shown in Figure 1.

Figure 1: A Section of the Evaluation Form

(circle your 3 ratings for condition factors below and add)

CONDITION RATING		
CLASS	ACCUMULATED POINTS	MODIFYING RANGE (%)
Excellent	11 – 12	84 – 100
Good	9 – 10	67 – 83
Fair	7 – 8	51 – 66
Poor	4 – 6	26 – 50
Dead or Dying	0 – 3	0 – 25

Staff should assign a specific percentage within the range, which will be used as part of the calculation to determine tree value

CONDITION FACTORS - 1. TRUNK INTEGRITY	
4	Sound, no blemishes
3	Minor branch cuts with minor decay
2	Decay, frost cracks, swellings, cankers
1	Large decay, frost cracks, swellings, cankers, visible girdling root, leaning more than 30°
0	Extensive decay or hollows, dead or cut anchor roots, leaning more than 45°
Comment:	

Various assignment of ratings used by different district offices

Not all district offices used the evaluation form in the same way. For example, in the South district, staff are given a pre-determined fixed percentage for each Modifying Range (e.g. 97 percentage for the range 84 -100) so that they don't need to assign a specific percentage. Staff in the other districts assign a specific percentage within the Modifying Range.

One District office consistently requests photos of hoarding but others don't

Inconsistent practice to verify compliance with approved tree protection plan among district offices

We also noted inconsistent practices among the district offices in requesting applicants to provide photos of tree protection. In the North district, it is part of its standard correspondence to applicants to request photos prior to permit approval. And we found all sampled files from this office contain photos of protective measures installed prior to issuance of the permit.

However, the requirement for photos is not a standard practice in the South and West districts, where we found photos in only some of the sampled files. Staff from these two district offices indicated that they lacked resources to follow up.

Recommendation:

- 5. City Council request the General Manager, Parks, Forestry and Recreation Division, to provide sufficient staff training and implement adequate oversight measures to ensure tree condition assessment and location rating are determined in a consistent manner across the City, and are sufficiently documented to support the determination of an appraised tree value.**

B. REFUND OF DEPOSITS

B.1. Large Amount of Old and Unclaimed Deposits

\$29.3 million in deposit balance

As of February 2018, Urban Forestry had a balance of \$29.3 million in refundable Tree Planting Security and Tree Protection Guarantee deposits collected between 1994 and 2017. Table 9 provides a breakdown of the deposits and the associated accounts.

Table 9: Unclaimed Tree Planting Guarantee and Security Deposit

	Tree Planting Security deposit – Tree Removal Permit		Tree Protection Guarantee – Tree Injury Permit	
	# of records	\$ on hold	# of records	\$ on hold
1994 to 2005	6	\$15,282	52	\$368,174
2006 to 2012	732	\$1,737,469	1,611	\$6,786,940
2013 to 2015	558	\$1,502,616	1,754	\$10,047,321
2016 to 2017	317	\$1,271,655	1,033	\$8,553,379
Total	1,613 ¹	\$4,527,022	4,450 ¹	\$25,755,814
Partial refund or transferred to deferred revenue		(\$73,823)		(\$895,033)
Net total		\$4,453,199		\$24,860,781

¹ A property address can have both Tree Planting Guarantee and Tree Protection Security deposit. Based on information provided from TPRR, the total unique property addresses is estimated to be 5,933.

A portion of the \$19.5 million in old deposits may no longer be refundable

Of the \$29.3 million, much of the deposits held for less than two years, approximately \$9.8 million (33 per cent), will probably need to be refunded to the applicants. Of the remaining balance of approximately \$19.5 million, some may still be active files such as deposits collected from large development projects that can take years to complete. But many of the old deposits, particularly those collected in 2012 and prior years, may no longer be refundable for various reasons.

Currently no policy on old unclaimed deposits

We analyzed the Planting Security Deposits received between 1994 and 2012 that were still on-hold as of February 2018. We found that 63 per cent of them involved replanting of one or two trees. These deposits do not appear to be associated with large developments where it may take years to complete the construction and replanting of the trees.

Many of the old deposits maybe from inactive files

Based on our analysis, many of the old and unclaimed deposits maybe from inactive files and they need to be followed up by staff to determine the appropriate course of action.

Refund process for the Tree Planting Security and Tree Protection Guarantee Deposits

In general, the requirement for Tree Planting Security (at \$583 per tree) applies only to the removal of City trees and trees in a ravine area. Urban Forestry does not require Tree Planting Security for the removal of private trees.

Onus is on an applicant to request the refund from the Division

Currently, the onus of the refund process is placed on the applicant. According to Urban Forestry's policy, *"it is the applicant's responsibility to advise Urban Forestry that trees have been planted in accordance with approved plans"*.

The deposit can be released if the trees planted *"have been maintained, are healthy and in a state of vigorous growth upon inspection, two years after planting"*.

Applicants need to wait for two years after the trees have been planted to submit a written request for refund

Two years after the required trees have been planted, applicants may submit a written request for the refund. The deposit will be refunded once staff have inspected the tree(s), are satisfied with the tree(s) planted, and confirm that all permit conditions have been met.

If the permit conditions have not been met or have only been partially met, the Tree Planting Security deposit may be withheld completely or in part until compliance has been confirmed.

For the requirements to plant trees in ravine protected areas, there is no bylaw requirement for the two-year wait period, and therefore the Tree Planting Security can be released at the completion of planting after staff have inspected the trees.

A written request for refund of a Tree Protection Guarantee can be submitted as soon as construction is complete

Like the refund process for the Tree Planting Security Deposit, to obtain the refund for the Tree Protection Guarantee for City tree Injury Permit, it is the applicant's responsibility to submit a written request to Urban Forestry for the refund as soon as construction and landscaping is complete.

Once compliance with all permit terms and conditions has been verified, no encroachment into the minimum tree protection zone, and the tree(s) are healthy and in a state of vigorous growth, the deposit should be released.

If irreparable damage has been done on the protected tree or it is not in compliance with the permit condition, the Tree Protection Guarantee will be retained in whole or in part until remedial work has been done.

From our review of the current refund process and sampled files, we identified the reasons for the large balance of old unclaimed deposits, and they are discussed in the following section.

B.2. No Specific Policy and Process to Identify and Follow-up on Old Deposits

Currently no policy on old unclaimed deposits

Urban Forestry does not have a policy on addressing old unclaimed deposits. Management staff indicated this should be addressed by a corporate policy. Our review of corporate policies and consultation with Accounting Services found that a corporate policy on unclaimed deposits does not exist.

Each City division is expected to develop its own policy regarding old unclaimed deposits

According to Accounting Services, a corporate policy would not be appropriate because each division needs to develop its own policy based on its refund process and requirements. The divisional policy should adhere to the general principle that once all efforts to locate applicants have been exhausted, any unclaimed deposits are transferred to the City's revenue account.

Urban Forestry currently relies on district staff to conduct follow-up on unclaimed deposits when resources allow. There is no regular reporting to determine when and how many of the aged deposits have actually been followed up on by staff.

Urban Forestry needs to develop a clear policy and procedure on the handling of old unclaimed deposits. Important criteria, such as when an outstanding deposit should be considered "aged" and the specific follow-up steps to be performed by staff (e.g., contacting the applicant to inquire about the status of tree planting requirements and scheduling an onsite inspection where needed), need to be clearly defined in the policy.

B.3. No Comprehensive Review of Old Unclaimed Deposits Since 2008

The last comprehensive review was done in 2008 for deposits collected in 2005 or earlier

According to Urban Forestry staff, a comprehensive review of the unclaimed deposits was conducted in 2008 in response to a request from the City's Accounting Services Division. Files with deposits made in 2005 or earlier were reviewed at the time to determine the project status, and staff conducted site inspections where necessary to determine whether the deposit should be refunded.

As a result of the 2008 review, Urban Forestry identified about \$20,000 of unclaimed deposits that should be refunded, but was unable to locate the applicants. As of February 2018, the \$20,000 in deposits remained on-hold.

The City published a list of unclaimed deposits to the City's online database (Open Data website) in 2013 as a means to provide information to the public on all kinds of unclaimed deposits with the City. Urban Forestry staff advised that as of May 2018, they are working with Accounting Services to post the unclaimed Tree Security and Guarantee deposits to the database.

Staff have started the process in 2018 to address the old unclaimed deposits

Since the 2008 initiative, there has not been another comprehensive review. Recently Urban Forestry staff have started a review process of all unclaimed deposits from 2012 and earlier to determine the status of the unclaimed accounts.

B.4. Lack of Policy Criteria for Unclaimed Deposits Can Lead to Multiple Inspections

Urban Forestry's current policy does not provide staff with clear guidelines or criteria for determining whether a deposit should be considered forfeited by an applicant. Its policy only indicates that "*the City will not release security deposits where trees are not in good condition, or if there are encroachments*". Without specific criteria, in some complex cases, staff may need to conduct multiple inspections to verify the status of the deposits. This can result in inefficient use of staff resources. An example of this is provided in Table 10.

Table 10: An Example of A Case with Repeated Inspections by Staff to Determine the Status of the Replanted Trees and Deposits

When	What happened
2005	➤ The applicant paid \$2,940 planting security deposit for planting 5 trees at a cost of \$588 per tree.
November 2006	➤ Urban Forestry staff inspected the site and noted the five trees were planted as required.
October 2007	➤ The applicant asked for a refund and was told to call back in October 2008 at which time Urban Forestry staff would inspect the trees.
May 2009	➤ Urban Forestry staff <u>inspected</u> the trees and noted deficiencies and advised the applicant of the corrective actions.
September 2010	➤ Urban Forestry staff <u>re-inspected</u> the trees and noted one tree had a fair condition but the rest had a fair to poor condition. ➤ Noted to re-inspect in 2011.
June 2011	➤ Urban Forestry staff <u>re-inspected</u> the trees and noted all 5 trees were in poor condition. Staff notified the applicant of the noted deficiencies in January 2012.
August 2012	➤ Urban Forestry staff <u>re-inspected</u> the trees and noted the 5 trees were in fair to poor condition and notified the applicant.
June 2013	➤ Urban Forestry staff <u>re-inspected</u> the trees and noted 4 trees were in poor condition and 1 tree was in very poor condition and almost dead. It was noted that trees needed either maintenance or to be replaced.
July 2016	➤ Urban Forestry staff <u>re-inspected</u> the trees and noted 3 trees and 1 new tree were in fair condition. No note on TMMS about the one missing tree.
As of February 2018	➤ Deposit of \$2,940 received in 2005 remained on hold.

Source: record information stored in TMMS

B.5. Instances of Deposits Not Refunded Due to a Lack of Action by Staff

We reviewed 36 files with unclaimed Tree Planting Security deposits as of February 2018 to assess why they were still on-hold. These deposits were received between 2006 and 2016. Based on our file review, there are four main reasons for the unclaimed deposits:

1. Large developments took place prior to 2008 for which the deposit information is not recorded in TMMS.
2. Permit applicants did not contact Urban Forestry for the refund.

3. The deposits were partially refunded but no follow-up action was taken by staff for the remaining amounts of the deposits.
4. The deposits were not refunded due to a lack of action by staff.

The results of our file review are summarized in Table 11.

Table 11: Results of File Review of Unclaimed Tree Planting Security Deposits

Issue noted	Details of the issue
Files with no information of the deposits on TMMS	<ul style="list-style-type: none"> ➤ 8 files (from 2001 to 2008) have no information in TMMS; these files have deposits on hold ranging from \$1,158 to \$21,571. ➤ We were informed that these files are primarily large development sites that are still active projects as of February 2018.
Applicants did not contact staff to verify they met the replanting requirement and ask for the refund of the deposit	<ul style="list-style-type: none"> ➤ 19 files (from 2007 to 2016) where applicants did not contact staff to verify the replanting of trees after paying the planting deposits. ➤ Many of them involved 1 to 3 trees and were required to plant the tree(s) in 2011 or earlier. ➤ Given the years these deposits were made, they could potentially be forfeited by the applicants.
Files with no further action after receipt of partial refund	<ul style="list-style-type: none"> ➤ 3 files (deposits received from 2006 and 2009) where the applicant had planted some of the required trees and received a portion of the refund. ➤ No further action on the rest of the deposits. ➤ For example, in a file with \$19,239 in deposits for the remaining 16 replacement trees, it was noted in TMMS in 2013 that the applicant was to inform Urban Forestry whether to forfeit the deposit or plant the trees. No further staff action on this file.
Instances of money not refunded due to a lack of follow-up actions by inspectors	<ul style="list-style-type: none"> ➤ In one file with a deposit of \$8,162 received in 2010, the staff member inspected the trees and confirmed they were in good condition once a year from 2011 to 2013. Inspections performed in 2014 found many of the trees in fair to good condition, and inspection in 2017 found the majority in good condition. But there was no action taken by staff to refund the deposit money to the applicant. Urban Forestry indicated they will follow up on this case. ➤ In another file, the applicant requested a refund in June 2015 but there was no record of inspection by staff. The deposit was still on hold as of February 2018. ➤ In another file the \$9,408 deposit was incorrectly recorded as a Tree Protection Guarantee. In 2012, the applicant requested a follow-up inspection of the 16 replanted trees to

Issue noted	Details of the issue
	release the deposit. No action was taken by staff and the deposit was still on hold as of February 2018.
Other concerns	<ul style="list-style-type: none"> ➤ Coding errors between the Tree Security deposits and Tree Protection Guarantee deposits. ➤ Construction completed and the Tree Protection Guarantees have been refunded but no indication of tree planting.

Lack of action to forfeit the deposit even though non-compliance was noted

Our review of files with old unclaimed Tree Protection Guarantee deposits found similar issues as those with Tree Planting Security deposits. We also noted a case where a tree appraised value of about \$4,000, which should be the City's revenue, was mistakenly held as a Tree Protection Guarantee deposit.

Early review results by staff indicate duplicated refunds, and delays in actions to process the refunds or transfer the deposits

Starting in 2018, Urban Forestry staff have begun to review files with deposits received in 2012 or earlier. We analyzed the results of 703 files that have been reviewed by staff thus far and noted:

- 2 cases of duplicated refunds, totalling \$8,000, were issued and these cases have recently been addressed by staff;
- 35 files with a total of about \$78,000 had already been approved for a refund in the past but the deposits had not been refunded; some of these were due to not being able to locate the applicants;
- 49 files with a total of about \$74,000 had already been identified previously for transfer to the deferred revenue account, but the transfer had not taken place and the money remained in the deposit balance.

Recommendations:

- 6. City Council request the General Manager, Parks, Forestry and Recreation Division, to develop a clear policy and process to address old unclaimed Tree Security and Tree Protection Guarantee deposits. The policy should specify when an outstanding deposit should be classified as aged or forfeited, and the appropriate follow-up steps to verify the status of the deposits. Where all reasonable efforts to locate the applicants have been exhausted, the unclaimed deposits should be transferred to the City's revenue account.**
- 7. City Council request the General Manager, Parks, Forestry and Recreation Division, to put in place an effective management review process to ensure adequate and appropriate actions are undertaken by staff to respond to applicants' requests for refund of Tree Security and Tree Protection Guarantee deposits.**

C. BYLAW CONTRAVENTIONS

Tree bylaws are enacted to prevent irreversible damage to protected trees caused by unauthorized removal and/or injury in the City. These bylaws are only effective when there are adequate enforcement efforts to deter and detect cases of non-compliance.

Most of the complaints are made by the public

The TPPR Unit is responsible for investigating complaints of bylaw violations, most of which are by members of the public who contact Toronto 3-1-1 to report alleged illegal removal of trees, or construction materials piling up around trees. Upon receiving a complaint, Toronto 3-1-1 generates a Service Request in the TMMS system for the Unit to investigate.

In addition, Urban Forestry is part of the City's interdivisional task team introduced in 2017 to proactively review and inspect infill housing sites to ensure compliance with applicable municipal codes.

Where a bylaw contravention has been confirmed, TPPR inspectors may:

- charge a contravention inspection fee (effective December 9, 2015),
- issue an order to discontinue the unauthorized activity,
- request the individual to pay the appraised tree value,
- request the individual to pay Tree Protection Guarantee,
- request a certain number of trees be replanted, and
- initiate remedial work to correct the damage caused by the activity if necessary.

An enforcement team was set up in 2017

Urban Forestry created a six-person pilot bylaw enforcement team in January 2017 to address enforcement issues and the backlog of complaints. In its 2018 budget, Urban Forestry received budget approval for permanent establishment of the enforcement team. Examples of tree bylaws contraventions are illustrated in Photo 3 below.

Photo 3: Examples of Tree Bylaw Contraventions



C.1. Lack of Incentive for Compliance

Fees and payments for contraventions should be at least the same or more than the permit requirements

Applicants are required to pay certain fees and abide by replanting requirements as part of the permit conditions. The authority to require these fees is outlined in the City's Municipal Code. For individuals who contravene bylaws, one would expect the level of fees and payments would be at least the same or more than the permit requirements. This is not necessarily the case based on a comparison of fees and payments between permit applications and contraventions. Table 12 outlines our comparison results.

Table 12: Comparison of Fees and Payments between Permit Conditions and Contraventions Involving a City Tree

	What Urban Forestry has the legal authority to require applicants to pay when applying for a permit	What Urban Forestry has the legal authority to require individuals to pay when found non-compliant with the tree bylaws
Application fee (per tree) - construction related: \$334.06 - non-construction related: \$111.67	Yes	N/A
Contravention inspection fee (per tree) - construction related: \$699.31 - non-construction related: \$233.1	N/A	Yes
Appraised tree value	Yes	No
Tree Protection Guarantee	Yes	No
Tree Planting Security Deposit (\$583 per tree)	Yes	No
Cash-in-lieu of replanting (when replanting cannot be done by applicants - \$583 per tree)	Yes ¹	No

¹ According to staff, refusal to pay cash-in-lieu cannot be added to the tax roll; Urban Forestry staff will not issue a permit until replanting requirements are met.

Tree Bylaws do not appear to include provisions to require appraised tree value and Tree Protection Guarantee for contraventions

It appears that the City's tree bylaws (Municipal Code, Chapter 813 Article II) do not provide authority for staff to require payment of an appraised tree value in the context of unauthorized City tree removal. Consequently, although appraised tree value is part of the permit condition for people who apply for a City tree removal permit, it appears staff can only **request** that individuals who illegally remove City trees pay the appraised value on a voluntary basis.

For example, in one of the contravention file we reviewed, an individual was found to have removed a City tree without a permit in August 2017. The appraised value of the lost City tree was \$7,324. No payment was collected because, according to the notes on file, the payments was only requested. Enforcement staff indicated to the person that payment was voluntary, and the person chose not to pay.

Similarly, the bylaws do not appear to provide authority for staff to require a Tree Protection Guarantee for injuring a City tree without a permit, even though the Guarantee is required from individuals who duly apply for a Tree Injury Permit.

One of the conditions for a tree removal permit (for both City or private trees) is the replanting requirement. In the event an applicant has no space to plant the replacement tree(s), the bylaws provide the applicant with the option to plant the required tree(s) at another suitable location or pay \$583 cash-in-lieu for every tree that cannot be replanted on site.

Current By-laws appear to have no requirement for cash-in-lieu of replanting for illegal removal of protected trees

However, in situations where trees are removed without a permit, the current bylaws contain requirements for replanting but **do not** appear to have specific requirements for the individuals to pay cash-in-lieu of replanting if the individuals do not have sufficient space to meet the replanting requirements.

Enforcement staff appear to have no authority to collect the cash-in-lieu from individuals who remove protected trees without a permit

As a result, it appears enforcement staff can, under the current bylaws, only **request** an individual to pay cash-in-lieu of replanting and any outstanding cash-in-lieu cannot be added to the tax roll.

In one case where an individual was found to have removed three City trees without a permit, the individual was required to replant 15 trees (at 5 to 1 ratio for illegal removal of trees). However, the individual only replanted three trees in the space available. Enforcement staff considered this as compliance with the order and did not require the individual to pay \$6,996 in cash-in-lieu for the remaining 12 trees that were not planted. Staff explained that they have no authority to require the cash in lieu due to the existing gap in the bylaw.

Certain provisions in the bylaws are not conducive to compliance and tree protection

In our view, the existing bylaw provisions for contraventions are not conducive to compliance with permit requirements and protection of trees in the City. Staff need to take actions to address the gaps in the bylaws.

Recommendation:

- 8. City Council request the General Manager, Parks, Forestry and Recreation Division, in consultation with the City Solicitor, to review and where appropriate amend the provisions in the tree By-laws, to ensure effective enforcement and fee and payment requirements for contraventions of the bylaw requirements.**

C.2. Complaint Response and Investigation Require Improvement

Since the Service Request relating to bylaw contravention was recorded under the same code as a permit application in the system prior to March 2017, we can only estimate the number of alleged contraventions between 2015 and 2016. In total, from September 2015 to September 2017, there were about 4,764 tree bylaw contravention Service Requests made on 3,893 unique properties.

Outstanding cases of complaints

Table 13 shows the results of our analysis of outstanding or incomplete cases of complaint investigations reported in 2015, 2016 and the first nine months of 2017.

Table 13: Number of Outstanding or Incomplete Alleged Contravention Files as of September 2017

Year the complaints were created	Number of complaints*	Outstanding or incomplete cases (%)
2015	1,180	110 (9%)
2016	1,663	126 (8%)
2017 (up to September)	1,921	545 **
Total	4,764	781

*Not including complaints relating to the Ravine and Natural Feature Protection By-law

**Percentage not comparable without year-end statistics

8% to 9% of complaints from 2015 and 2016 remained open

The number of complaints over the past three years continued to rise, from nearly 1,200 in 2015 to over 2,000 in 2017. As of September 2017, about nine per cent of complaints reported in 2015 and eight per cent reported in 2016, remained open. While a file could stay open due to an outstanding matter, a complaint without proper investigation for an extended period of time would be difficult to follow-up for evidence of contravention to the bylaw.

24% of the closed complaints do not appear to have been properly investigated or followed up

We reviewed 100 complaint files received between 2015 and September 2017 that have been closed as of September 2017. We have no concern on 76 of the files. Of the remaining 24, we noted:

- Two files where Urban Forestry staff did not appear to perform the adequate action (e.g., issuance of order) to address the contravention-related complaint made in 2017. For example, in one case (August 2017 investigation), the inspector found significant root severance (i.e., cutting of roots with 10 cm in size) and soil compaction, but did not issue an order or require the contravention inspection fee.

8 were closed without investigation efforts

- Eight cases were closed without performing any investigation to address the complaints. These complaints were initiated in 2015 and 2016 when Urban Forestry was not able to investigate all contravention related complaints due to limited resources.

11 were closed without adequate follow-up actions

- Eleven cases were closed without any follow-up actions by inspectors to ensure the orders were complied with or the required remedial work were completed. For example,
 - An order was issued to prune in order to correct damaged roots, and to restore the area with top soil to reach the surrounding grade level. No follow-up action was noted on file.
 - An order was issued to the homeowner to replant 5 trees for the removal of a City tree without a permit. The homeowner was also requested to pay the appraised tree value of \$2,182. The trees have not been planted and no payment has been made for the appraised tree value, as it was a voluntary payment. The file was closed without making sure the five trees were replanted.

3 were closed even though there were outstanding fees or payments

- The remaining three files were closed but they had outstanding payments including the contravention inspection fee for which the individual refused to pay, and the appraised tree value for trees removed without a permit.

We also reviewed 55 complaints that had an open status as of September 2017. We have no concern for 15 (27 per cent) of them.

Most complaints do not appear to have been investigated or properly followed up

For the remaining 40 complaints, most of them do not appear to have been properly addressed by staff:

- A total of 21 complaints (2 from 2017; 19 from 2015 and 2016) had no investigation record. It could be difficult to investigate the alleged illegal activities more than a year after they had been reported.
- 19 complaints had no follow-up actions by enforcement staff to ensure compliance with orders or the remedial work, including replanting of trees.

An adequate complaint handling and monitoring process needs to be in place

We recognize that the new enforcement team has only been operating since January 2017, and it will take time for the team to address the outstanding cases and improve work efficiency. Based on the case management statistics and our review results, management needs to assess the work load and complaint handling and follow-up process to ensure each complaint is properly investigated and followed up, and to identify ways to improve efficiency.

Duplicate records and complaint status

Complaint data integrity issues

Our review of the complaint files noted a number of data integrity issues, such as duplicate Service Requests created for the same complaint, and closing Service Requests without actually performing any investigation. Periodic reviews of exception reports of duplicated records and investigation status should be part of the ongoing management process.

Complaint response time has improved significantly

Response time has improved significantly since 2015

In 2017, Urban Forestry established a service delivery standard of seven days to respond to contravention-related complaints. Based on our analysis⁴, the average time to respond to a complaint was about 53 days in 2015, improved to 48 days in 2016, and further improved to seven days for the first nine months of 2017.

⁴ Accuracy of our analysis results could be affected by the data integrity issues

The improved complaint response time could be due to a number of factors including the amendments to the bylaws in December 2015 to clarify procedures for boundary and neighbour trees, collection of Tree Protection Guarantees, and delegation of authority to issue permit for "as-of-right" construction, as well as the creation of the enforcement team in 2017.

Recommendation:

- 9. City Council request the General Manager, Parks, Forestry and Recreation Division, to review and improve the current complaint handling and investigation process by:**
 - a. putting in place a regular supervisory review and training process to ensure contravention related complaints are properly investigated and orders are issued as needed**
 - b. implementing ongoing monitoring measures through periodic reviews of exception reports on duplicated records, investigation status, and follow-up actions by staff to ensure compliance with orders issued**
 - c. ensuring the new Work Management System has controls in place to minimize and prevent data entry errors and the ability to run exception reports to identify anomalies for follow-up. Staff should be provided with adequate training and procedure in recording information in the new system.**

C.3. Manual Tracking of Contravention Inspection Fees

Contravention inspection fee was added to the bylaws in December 2015

A contravention inspection fee, \$699.31 per tree for construction related contravention and \$233.1 per tree for non-construction related contravention, was added to the tree bylaws in December 2015.

Unpaid fee after 90 days of notification can be added to tax roll

This inspection fee is a fee for service, not a fine, as it is the cost that needs to be recovered by the City for undertaking inspections and corrective actions and should therefore be borne by the individual who contravenes the bylaws. Any fee that is unpaid after 90 days of notification can be added to the tax roll by Urban Forestry under the authority of the bylaws, including any remedial costs incurred by the City.

According to Urban Forestry's policy, a contravention inspection fee can be charged when:

- The contravention resulted in tree destruction or injury
- The injury is significant enough to require correction
- Multiple technical contraventions have occurred

Although the contravention inspection fee has been in place since December 2015, we noted several issues in the collection of this fee by Urban Forestry:

1. Delays in setting up a system to track the fee

Urban Forestry did not have a system in place until September 2016 to track orders issued, inspection fees issued and paid, and remedial costs incurred and paid in relation to the City tree and private tree bylaws. The tracking of fees in relation to ravine tree contravention did not start until July 2017.

2. Not exercising the authority to add unpaid fees to the tax roll during first year of implementation

Although Urban Forestry has had the authority since December 2015 to add outstanding contravention inspection fees to a person's property tax, it decided to leave the contravention inspection fees issued in 2016 (first full year of new fee requirement) as voluntary fees and did not add the unpaid inspection fees to the tax roll. We cannot estimate the unpaid fee amount in 2016 due to a lack of data in the system.

We were informed that as of June 2018, about \$342,000 in outstanding contravention inspection fees have been added to the tax roll; \$15,000 outstanding contravention inspection fees were under review and \$6,500 outstanding remedial costs have yet to be added to the tax roll.

3. The current manual process to track fee and remedial costs can be prone to errors

The tracking list for outstanding contravention inspection fees and remedial costs is manually maintained and updated by staff. It is very important that this list be complete and accurate as there is no other document keeping track of this information, including individual unpaid amounts.

Manual tracking of unpaid fees can be prone to errors

A manual tracking process is prone to human error and the potential risk of fraud. In our review of various contravention files, we noted two cases of missed contravention inspection fees on this list. In addition, the outstanding remedial cost has not been fully tracked on the list as of February 2018.

At the time of this audit, it is unknown whether or not the new management system will track the outstanding contravention inspection fee and remedial cost.

Recommendation:

10. **City Council request the General Manager, Parks, Forestry and Recreation Division, to review and improve the tracking and processing of outstanding contravention inspection fees and remedial costs incurred by the City to ensure complete and efficient collection of all unpaid fees in accordance with the tree bylaws.**

D. OTHER ISSUES

D.1. Lack of Proper Inventory Controls at the City's Tree Inventory

City's nursery stores trees for residential planting, downtown core sidewalk planting and special parks projects

Urban Forestry operates a nursery in Toronto for temporary storage of trees purchased from suppliers. Trees are stored in a fenced yard in an open space (see Photo 4).

Contractors pick up the trees from the City's nursery and return any unplanted trees at the end of the day.

The City nursery stores mostly smaller trees (30 mm in diameter). These trees are mainly used for planting in residential areas. A small quantity of larger trees (60 mm in diameter) are also stored at the nursery for non-residential planting.

Photo 4: The City's Nursery for Temporary Storage of Trees



	<p>The nursery is operated by a tree technician and one part-time support staff member. The technician is responsible for ordering trees and performing stock counts. The support staff member is responsible for creating work order packages for contractors, and recording tree receipts and returns on an inventory tracking sheet.</p>
<p>About \$900,000 in inventory value was processed through the nursery in 2017</p>	<p>During each planting season, the technician orders trees from the suppliers based on planting requests from forestry resource specialists. In 2017, the overall value of the inventory handled by the nursery was approximately \$900,000 for about 7,200 trees.</p>
<p>8% stock loss over winter</p>	<p>Trees that are not planted at the end of the season are stored outdoors (with mulch) in the fenced yard over winter. Comparing the 2017 end of year balance (526 trees) and 2018 beginning balance (486 trees), about 8 per cent of trees were lost over the winter.</p>
<p>Staff are not given a proper tool to manage the inventory</p>	<p>It was evident during our site visit that proper inventory management is not being carried out. Staff at the nursery are not provided with a basic inventory management system for daily operations. Staff use an Excel spreadsheet to track a running total of the tree inventory on hand by species. Inventory counts are performed at the beginning and end of each planting season without supervisory approval of the counts or discrepancies noted. Adjustments to the inventory records are not tracked or approved.</p>
<p>More than half of the inventory items needed adjustments during a physical count in 2017</p>	<p>During an inventory count in October 2017, out of a total of 113 tree species (i.e. inventory items) on hand, staff needed to make adjustments to 58 tree species, more than half of the entire inventory.</p>
<p>2 of the 5 physical count items audited did not match the inventory records</p>	<p>We conducted an inventory count of five tree species at the nursery. Three of the five species matched the spreadsheet total with no discrepancy. For the remaining two tree species, there were more trees in the nursery than what was recorded on the spreadsheet.</p>
<p>Number of trees ordered was found to be reasonable</p>	<p>As part of our audit, we compared the number of trees ordered to the trees planted and found the number of trees ordered was reasonable.</p>

No reconciliation to ensure all trees issued from the nursery were all planted

There is no reconciliation between the number of trees issued from the nursery and the number of trees planted to confirm the trees issued from the nursery were all planted.

6% of trees issued from the nursery were not planted and not accounted for

By comparing the total number of trees planted in the fall of 2017 (2,682 trees) to the number of trees picked up by contractors from the nursery for planting (2,858 trees), we noted 176 trees (6 per cent) were not planted. There was no record that the missing trees were returned to the nursery. As a result, the 176 trees were not accounted for in the fall 2017 planting season. Using the full average cost of a residential tree of \$245 in 2017, the unaccounted trees had an estimated value of \$43,000. As there are two planting seasons in each year, the annual cost of unaccounted trees could potentially be around \$80,000.

We were informed that the new Enterprise Wide Management System would include an inventory module when it goes live in 2019.

Recommendation:

- 11. City Council request the General Manager, Parks Forestry and Recreation Division, to ensure adequate inventory management processes and controls are implemented at the City's tree nursery, including providing staff an adequate inventory management system and training, supervisory review and approval of physical count results and adjustment to inventory records, and regular reconciliation between purchase and planting document.**

D.2. Assess Alternate Models for Residential Planting

Currently, Urban Forestry uses two different models for residential and arterial road planting programs. There has been no cost benefit analysis comparing the two different models.

For residential planting, Urban Forestry purchases the trees from suppliers, temporarily stores the trees at the City nursery, and then supplies these City-owned trees to the contractor to plant the trees at specific residential locations (mostly for replacement trees). There is no warranty for these trees, and they are the smaller sized trees (30 mm). The average cost per tree, including the material, labour and overhead costs, is \$245.

Homeowners need to maintain the trees after planting

The initial responsibility to maintain the tree lies with the homeowners, including watering the tree after planting. Forestry Operations does not start to regularly maintain these trees until the fourth year after being planted.

Arterial road trees come with 2-year contractor warranty

For arterial road planting, the contractors supply and plant larger sized trees (60 mm) for the City and offer a two-year warranty at an average of \$320 per tree. The contractors are responsible for maintaining the trees during the first two years.

At first glance, it is more economical for the residential planting model based on the unit price per tree (material and labour). However, the lower price does not come with a warranty, and potentially has a lower survival rate.

Staff informed us that the current model for residential tree planting is necessary because it allows Urban Forestry staff to better monitor the tree quality before they are planted by contractors. However, there has been no formal review of the tree quality and the survival rate between the residential and arterial planting programs.

In fact, reliance on homeowners to care for a tree may impact the survival rate if the homeowners neglect to care for the trees. Staff indicated that an RFQ is to be issued in 2018 for a survival rate study.

A cost benefit analysis will be helpful to determine the best model of service delivery

Based on our review, there is value for staff to conduct a detailed cost benefit analysis between the two models in order to make sure the planting programs are delivered in a cost effective manner.

Recommendation:

- 12. City Council request the General Manager, Parks Forestry and Recreation Division, to conduct a cost benefits analysis of the residential tree planting model, including an assessment of warranties, survival rates and the cost of operating the City's nursery.**

CONCLUSION

This first audit report focuses on Urban Forestry's permit issuance and bylaw enforcement functions

This is the Auditor General's first review of the Urban Forestry Branch. This report provides our findings and recommendations relating to Urban Forestry's permit issuance and bylaw enforcement functions, as well as the City's nursery.

Trees are an important asset to the City and provide immense benefits to the environment and our community. Effective administration and enforcement of the City's tree bylaw and permit requirements is key to protecting trees in the City and preserving the City's tree canopy.

Audit recommendations to help improve controls, management oversight, and compliance with permit requirements

Implementation of the 12 audit recommendations will assist Urban Forestry in strengthening its controls over permit issuance, ensuring correct collection of the required permit payments and deposits, improving compliance with permit requirements, as well as improving the effectiveness of enforcement efforts.

We also identified the need for Urban Forestry to develop a policy to address old unclaimed deposits, and for City staff to review the current bylaw provisions for contraventions to ensure they are conducive to compliance with permit requirements. The recommendations will also assist Urban Forestry in strengthening its control over the management of tree inventory at the City's nursery.

AUDIT OBJECTIVES, SCOPE AND METHODOLOGY

The Auditor General's 2017 Work Plan included an audit on Urban Forestry, under the Parks, Forestry and Recreation Division.

The objective of this audit was to assess whether Urban Forestry has adequate systems and procedures in place to:

- ensure compliance with related City bylaws and policies (including application processing)
- plant and maintain trees in the City's urban forest effectively and efficiently, and
- reliably measure and report on its effectiveness in protecting, maintaining and enhancing the City's urban forest.

The audit covered the period from January 1, 2015 to September 30, 2017.

Our audit methodology included the following:

- Review of relevant legislation, policy, procedures or guideline requirements for tree planting, maintenance, protection, and enforcement
- Review of literature and reports relating to Urban Forestry
- Review of complaints received by the City's Fraud and Waste Hotline
- Meetings and interviews with staff of Urban Forestry and other relevant City Divisions
- Conducted site visits to understand the key aspects of planting and maintenance activities

- Performed site visit on samples of trees planted under the residential program, on arterial roads, and naturalization area to confirm existence of tree planted
- Conducted a site visit to the City nursery and performed a surprise inventory count
- Review of different planting plans and planting contracts
- Selection of audit samples for invoices and contract payment testing
- Analysis of tree maintenance data
- Conducted site visits on samples of trees pruned to confirm anomalies identified from audit analysis
- Selection of audit samples for a more detailed examination
- Analysis of tree permit application, complaint investigation, and related data
- Selection of audit samples for detailed file examination on tree permit applications for City trees, private trees and for ravine trees including a review of the application fees received, application document, other payments such as appraised tree value, Tree Protection Guarantee, Tree Planting Security deposit, tree replacement requirement, and cash in lieu
- Selection of audit samples for detailed file examination on tree exception requests
- Selection of audit sample on investigation files for alleged tree bylaws contraventions, and for Dangerous Private Tree requests for detailed file examination
- Analysis and selection of audit samples of Tree Protection Guarantee, Tree Planting Security deposits, aged deposits, and refunds
- Review management performance report and other relevant report.

The City's Internal Audit Division completed an audit on tree pruning and removal contracts in 2016. As part of our audit planning, we have reviewed the IA report and have discussed with IA management staff their audit findings to avoid duplication of audit efforts.

**Compliance with
generally accepted
government auditing
standards**

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

EXHIBIT 1: Fees, Payments, and Deposits for Tree Permits and Contraventions

	City Tree	Private Tree	
Size	<ul style="list-style-type: none">any size	<ul style="list-style-type: none">private: trees with diameter of 30cm or more, 1.4m above ground levelRavine: any size, and filling, grading and dumping within City's designated areas	
Location	<ul style="list-style-type: none">City-owned property and parkland, including City road allowance	<ul style="list-style-type: none">Private: on or within 6m of subject's private propertyRavine: within City's designated areas	
Relevant Bylaws	<ul style="list-style-type: none">City Street Tree By-lawToronto Parks By-law	<ul style="list-style-type: none">Private Tree By-lawRavine and Natural Feature Protection By-law,	
Tree Removal Permit			
Application fee (2017)	<ul style="list-style-type: none">\$334.06 per tree	Construction-related <ul style="list-style-type: none">\$334.06 per tree ¹	Non-construction <ul style="list-style-type: none">\$111.67 per tree¹
Other payment	<ul style="list-style-type: none">Appraised tree valueRefundable Tree Planting Security deposit (\$583/ tree)	n/a	n/a
Tree replanting ratio	<ul style="list-style-type: none">1:1 ratio or cash-in-lieu of replanting at \$583/tree	<ul style="list-style-type: none">3:1 ratio or cash-in-lieu of replanting at \$583/tree	<ul style="list-style-type: none">1:1 ratio or cash-in-lieu of replanting at \$583/tree
Tree Injury Permit			
Application fee (2017)	<ul style="list-style-type: none">\$334.06 per tree	<ul style="list-style-type: none">\$334.06 per tree	<ul style="list-style-type: none">\$111.67 per tree
Other payment	<ul style="list-style-type: none">Refundable Tree Protection Guarantee	<ul style="list-style-type: none">n/a	<ul style="list-style-type: none">n/a
Bylaw Contravention Payments			
Removal	<ul style="list-style-type: none">Contravention Inspection fee \$699.31 per treeAppraised tree valueTree replanting at 5:1 ratio or cash-in-lieu at \$583/ tree	<ul style="list-style-type: none">Contravention Inspection fee \$699.31 per treeTree replanting at 5:1 ratio or cash-in-lieu at \$583/ tree	<ul style="list-style-type: none">Contravention Inspection fee \$233.1 per treeTree replanting at 5:1 ratio or cash-in-lieu at \$583/ tree
Injury	<ul style="list-style-type: none">Contravention Inspection fee \$699.31 per treeRefundable Tree Protection Guarantee	<ul style="list-style-type: none">Contravention Inspection fee \$699.31 per tree	<ul style="list-style-type: none">Contravention Inspection fee \$233.10 per tree

Source: City Street Tree By-law, Private Tree By-law, Ravine and Natural Feature Protection By-law, Toronto Municipal code Chapter 441 – Fees and Charges, Tree Protection Policy and Specifications for Construction Near Trees, and various TPPR procedure bulletins

¹ No application fees for injury or removal of private trees under the Ravine and natural Feature Protection By-law

EXHIBIT 2: Comparison of Trees on Public Properties with Other Jurisdictions

(based on review of publicly available information obtained from each City's website including bylaws, policies and guidelines)

Public Properties	Toronto	Hamilton	Mississauga	Ottawa	London	Vancouver	Calgary
Replacement Planting	Yes	Yes	To the satisfaction of the City	Yes	Yes	Not explicitly discussed	Not explicitly discussed
Cash in Lieu of Replanting	\$583/ tree	Full cost recovery plus 7% administration fee	Replacement of damaged or destroyed street tree at \$721.78	City-wide compensation guidelines being developed currently	Amount varies depending on size of a boulevard tree or \$350/tree for other trees	Not explicitly discussed	Not explicitly discussed
Payment of Appraised Value of Removed tree	Yes	Not explicitly discussed	Not explicitly discussed	Yes	Not explicitly discussed	Not explicitly discussed	Yes
Tree Planting Security Deposit (for Tree Removal)	<ul style="list-style-type: none"> Cost of planting and maintenance for two years (\$583/ tree) Refundable 	Before the permit may be issued, applicant shall pay replacement cost for any public trees to be removed	Not explicitly discussed	<ul style="list-style-type: none"> Yes, \$700 for infill development Refundable 	Permit may require provision of any security necessary to ensure tree planting is implemented	Not explicitly discussed	Not explicitly discussed
Tree Protection Guarantee (for Tree Injury)	<ul style="list-style-type: none"> Amount equal to the appraised value of tree to be protected, the removal costs and tree replacement costs Refundable 	<ul style="list-style-type: none"> Does not ask for upfront payment explicitly If a public tree died or declined within 24 months of the expiry of the permit because of non-compliance, the permit holder shall be responsible for the removal cost and replacement cost. 	Not explicitly discussed	<ul style="list-style-type: none"> Does not ask for upfront payment explicitly In the event of injury, to reimburse the City for the cost of treatment for the tree 	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed
Contravention Inspection Fee	Imposed (\$699.31 for construction related; \$233.1 for non-construction)	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed

EXHIBIT 3: Comparison of Trees on Private Properties with Other Jurisdictions

(based on review of publicly available information obtained from each City's website including bylaws, policies and guidelines)

Private Properties	Toronto	Hamilton	Mississauga	Ottawa	London	Vancouver	Calgary
Replacement Planting	Yes	Yes – proposed development site	Yes	Yes	Yes	Yes	Calgary currently does not have a bylaw that pertains to the management of trees located on private property.
Cash in Lieu of Replanting	\$583/ tree	Cash in lieu is accepted but amount is not specified	Cash in lieu is accepted but amount is not specified	Not explicitly discussed	\$350/ tree up to \$35,000	Not explicitly discussed	
Payment of Appraised Value of Removed tree	Not required	Required for proposed development site	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	
Tree Planting Security Deposit (for Tree Removal)	Not required	Not explicitly discussed	Monies or a letter of credit to cover the replacement trees and the maintenance of the tree for a period up to 2 years	<ul style="list-style-type: none"> • Conditional on the size of the land and the size of the tree • Deposit of security in an amount determined by the City to guarantee for a specified period, the cost of maintaining or replacing a replacement tree 	Provision of any security necessary to ensure tree planting is implemented	Not explicitly discussed	
Tree Protection Guarantee (for Tree Injury)	Not required	<ul style="list-style-type: none"> • Required for proposed development site • 75% of the deposit will be released once Tree Protection Plan has been implemented • 25% will be held for a two-year maintenance period. 	<ul style="list-style-type: none"> • Tree Preservation Security is required to ensure trees are not removed, injured or destroyed during the development process • Refundable 	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	
Contravention Inspection Fee	Yes	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	Not explicitly discussed	

APPENDIX 1: Management's Response to the Auditor General's Report Entitled: "Review of Urban Forestry– Permit Issuance and Tree Bylaw Enforcement Require Significant Improvement"

Recommendation 1: City Council request the General Manager, Parks, Forestry and Recreation Division, to ensure that the new Urban Forestry information system consists of all key permit issuance functions to enable adequate system controls over permit issuance and the collection of fees, payments, and deposits.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. The Tree Protection and Plan Review requirements for permitting were documented in detail and have been identified as part of the initial phase of EWMS implementation (Work Package A). These requirements include calculation and tracking of fees, guarantee deposits, inspections, tree valuation etc. It has been determined that the permit functions should be included in EWMS rather than developed as a stand-alone system given the strong links to other business processes such as contravention management, tree maintenance, planting etc. The development of the solution will require customization and the capability to fulfil the business requirements will be determined as part of Work Package C.

Timing: We expect the time frame for WPC start date to be between December 2018 and March 2019.

Recommendation 2: City Council request the General Manager, Parks, Forestry and Recreation Division, to develop and implement effective management measures for permit issuance including secondary review of permit files by supervisory staff and adequate staff training.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree, however current staffing levels are already challenged to meet service standards and timelines with application review. Review and improvements to training and some supervisory oversight can be implemented, however additional staff will be required to meet the full scope of the recommendation

Timing: Review and Training Q4, 2018; Implementation 2019

Staffing: 2019 budget process

Recommendation 3: City Council request the General Manager, Parks, Forestry and Recreation Division, to develop and implement effective and efficient procedural requirements to verify compliance with tree replanting and tree protection permit requirements.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. Historically, staff have had insufficient time to follow up and verify compliance with permit conditions. The priority was new application processing rather than follow up on permit conditions.

Some procedural changes can be implemented to ensure applicants have met conditions of the permit, such as supplying a photo before permits are released. However, additional staff will be required to track and follow up on tree planting requirements.

Timing: Procedure Q4, 2019, implementation 2020

Staffing: 2019 budget process

Recommendation 4: City Council request the General Manager, Parks, Forestry and Recreation Division, to ensure that the approval for tree permit exceptions are supported with valid reasons and consistently applied across all district offices. Steps to be taken include:

- a. Clear requirements for staff to provide sufficient documentation on file detailing the tree condition assessment results, and what constitute the imminent hazard
- b. Adequate training to staff
- c. Regular supervisory review to ensure trees approved for exception meet the bylaw and Division's criteria.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree.

Items a. and b.: The current tree assessment form can be expanded to include provisions for exception related criteria. Further training on its use can also be provided.

Timing: Procedure Q4, 2018; implementation 2019

Item c.: Current staffing levels are already challenged to meet service standards and timelines with review of tree permit exceptions. Additional staff will be required to meet the full scope of the recommendation.

Staffing: 2019 budget process; implementation 2019

Recommendation 5: City Council request the General Manager, Parks, Forestry and Recreation Division, to provide sufficient staff training and implement adequate oversight measures to ensure tree condition assessment and location rating are determined in a consistent manner across the City, and are sufficiently documented to support the determination of an appraised tree value.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree, The "%" ratings information is currently stored within the electronic file, however the rationale for determining "%" condition and location should be better documented and consistently applied using the method.

A training plan can be developed to include the method described in Chapter 813 and proper documentation within the file. Note that the CTLA version 10 is imminent and may also impact the way evaluations are currently performed and tracked.

Timing: Procedure Q4, 2018; implementation 2019

Recommendation 6: City Council request the General Manager, Parks, Forestry and Recreation Division, to develop a clear policy and process to address old unclaimed Tree Security and Tree Protection Guarantee deposits. The policy should specify when an outstanding deposit should be classified as aged or forfeited, and the appropriate follow-up steps to verify the status of the deposits. Where all reasonable efforts to locate the applicants have been exhausted, the unclaimed deposits should be transferred to the City's revenue account.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. Urban Forestry will consult with Legal Services and Accounting Services as appropriate to develop a policy and process.

Timing: Policy Q1 2019; implementation 2019

Recommendation 7: City Council request the General Manager, Parks, Forestry and Recreation Division, to put in place an effective management review process to ensure adequate and appropriate actions are undertaken by staff to respond to applicants' requests for refund of Tree Security and Tree Protection Guarantee deposits.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. An administrative review of files that will identify outstanding applicant requests is currently underway. Current staffing levels are already challenged to meet service standards and timelines. Additional staff will be required to meet the full scope of the recommendation.

Timing: Policy Q1 2019; implementation 2019

Staffing: 2019 budget process; implementation 2019

Recommendation 8: City Council request the General Manager, Parks, Forestry and Recreation Division, in consultation with the City Solicitor, to review and where appropriate amend the provisions in the tree By-laws, to ensure effective enforcement and fee and payment requirements for contraventions of the bylaw requirements.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. Additional consultation with City Solicitor will be beneficial in the effective and consistent enforcement of the cash-in-lieu of planting requirements for contraventions of the tree By-laws. However, amendments to the By-law will be required to achieve additional authority. Possible amendments will be deferred until a review of the provisions of the By-laws can be completed.

Timing: Review of Provisions Q1, 2019; potential staff report for By-law amendments, Q4, 2019; implementation pending results of review and potential staff report

Recommendation 9: City Council request the General Manager, Parks, Forestry and Recreation Division, to review and improve the current complaint handling and investigation process by:

a. putting in place a regular supervisory review and training process to ensure contravention related complaints are properly investigated and orders are issued as needed

b. implementing ongoing monitoring measures through periodic reviews of exception reports on duplicated records, investigation status, and follow-up actions by staff to ensure compliance with orders issued

c. ensuring the new Work Management System has controls in place to minimize and prevent data entry errors and the ability to run exception reports to identify anomalies for follow-up. Staff should be provided with adequate training and procedure in recording information in the new system.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. Enforcement team existed as a pilot project until February 2018. Refinement of procedures, training and supervisory review will be addressed.

A protocol for detecting anomalous data will be reviewed for inclusion into the new work management system. We are also reviewing TMMS data to fix any errors to ensure they fit with the new parameters.

The roll out of EWMS will include appropriate training.

Timing: Procedure for Q4, 2019, implement 2020; remaining to coincide with roll out of EWMS in 2019

Recommendation 10: City Council request the General Manager, Parks, Forestry and Recreation Division, to review and improve the tracking and processing of outstanding contravention inspection fees and remedial costs incurred by the City to ensure complete and efficient collection of all unpaid fees in accordance with the tree bylaws.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. Review and improvements to tracking currently underway. EWMS will play a role with respect to improvement of future tracking.

Timing: Will coincide with roll out of EWMS

Recommendation 11: City Council request the General Manager, Parks Forestry and Recreation Division, to ensure adequate inventory management processes and controls are implemented at the City's tree nursery, including providing staff an adequate inventory management system and training, supervisory review and approval of physical count results and adjustment to inventory records, and regular reconciliation between purchase and planting document.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. Currently, there are 2 spreadsheets tracking the inventory at the tree nursery. The audit has identified that there are gaps in these systems and that they need to be co-ordinated. Management recognizes that part of the issue is that the nursery has been understaffed but the hiring process has been initiated.

Staff will continue to work with the EWMS team to review inventory monitoring processes and to develop a solution for tracking and overseeing all operations at the nursery as well and ensuring appropriate training is provided. In the interim staff will review the current spreadsheets and supervisory review process.

Timing: interim measures Q4, 2018; implementation of long term solution to coincide with roll out of EWMS

Recommendation 12: City Council request the General Manager, Parks Forestry and Recreation Division, to conduct a cost benefits analysis of the residential tree planting model, including an assessment of warranties, survival rates and the cost of operating the City's nursery.

Management Response: ☒ Agree ☐ Disagree

Comments/Action Plan/Time Frame:

Agree. UF is currently conducting a survival study of all newly planted trees, which is scheduled to be completed in Q4, 2018. The results of the study will provide a base line for the cost benefit analysis.

Timing: survival study Q4, 2018; cost benefit analysis 2019; implementation 2020