

Recommendation

That the May 21, 2025, City Operations report CO02744, be received for information.

Requested Action		Information only	
ConnectEdmonton's Guiding Principle		ConnectEdmonton Strategic Goals	
CONNECTED This unifies our work to achieve our strategic goals.		Climate Resilience	
City Plan Values	PRESERVE.		
City Plan Big City Move(s)	Greener as we grow	Relationship to Council's Strategic Priorities	Conditions for service success
Corporate Business Plan	Serving Edmontonians		
Council Policy, Program or Project Relationships	 2025 Dutch Elm Disease Management Plan C594 - Open Space Policy C501A - Integrated Pest Management Policy C456C - Corporate Tree Management Policy C505 - Edmonton's Environmental Management System Policy C512 - Environmental Policy C531 - Natural Area Systems Policy Bylaw 18825 - Public Tree Bylaw Urban Forest Asset Management Plan Urban Forest Management Plan 		
Related Council Discussions	 September 10, 2024, CO02685, Dutch Elm Disease in Edmonton - Verbal report, City Council October 22, 2024, CO02697, Monthly Update on Dutch Elm Disease in Edmonton - Verbal Report, City Council December 10, 2024, CO02763, Dutch Elm Disease Update - Verbal report, City Council February 25, 2025, CO02827, Monthly Update on Dutch Elm Disease in Edmonton - Verbal Report, City Council March 18, 2025, CO02828, Monthly Update on Dutch Elm Disease in Edmonton - Verbal Report, City Council 		

Previous Council/Committee Action

At the October 22, 2024, City Council meeting, the following motion was passed:

That Administration provide a verbal report to Council in May 2025 on the status of Dutch Elm disease in Edmonton.

Executive Summary

- Administration has implemented a multi-faceted response to the 2024 detection of Dutch Elm Disease (DED) in Edmonton. It is a significant concern given the city's previously DED-free status and substantial elm tree population (90,000, 22 per cent of municipal trees crucial for urban forest health and climate goals).
- The City is collaborating with the Canadian Food Inspection Agency (CFIA) and provincial partners, in alignment with the Society To Prevent Dutch Elm Disease (STOPDED) "Presence of DED" (Risk Category 2) protocols (see Attachment 1). Immediate actions under the activated Integrated Pest Management (IPM) plan include assessment, testing and removal of infected trees.
- Administration's comprehensive 2025 DED Management Plan prioritizes rapid identification, targeted treatments, proactive pruning, and public communication to control the disease's spread and preserve Edmonton's vital elm population.
- Success hinges on sustained vigilance, community involvement and effective implementation of these strategies.

REPORT

Dutch Elm Disease (DED) is caused by a fungus and has resulted in significant elm loss in other municipalities in the 81 years that it has been present within Canada. The potential impact on Edmonton's urban forest is substantial, as the City manages about 90,000 public elm trees (22 per cent of City inventory), with additional elms on private property.

DED spreads in two ways:

- Elm bark beetles transfer the fungus from sick trees to healthy trees.
- The fungus travels between trees underground through connected roots (i.e. root grafting).

Efforts to prevent and treat DED are strategically scheduled throughout the year to maximize effectiveness. Year-round, trees can be tested as needed; samples are submitted to the provincial lab if a tree exhibits signs of beetle activity, is located near a known DED site or displays symptoms consistent with the disease. Enhanced surveillance and elm tree condition assessments take place from May to October, aligning with the trees' active growing season and the period of beetle activity, which allows for better visual identification of the disease. To target potential beetle habitats, elm firewood checks occur from April to November. Deadwood pruning on elms is conducted during the dormant season, specifically between October 1 and March 31, in compliance with the provincial elm pruning ban. Elm trees are removed when necessary, either

following a positive DED test result or if a tree is assessed to be in poor condition, with elm removals prioritized over other tree species.

Response to DED: Management Plan

The 2025 DED Management Plan uses several methods together – an approach called Integrated Pest Management (IPM). Key parts include:

Checking for the Disease (Monitoring)

Checking for the disease involves city-wide monitoring, where crews survey trees from May to October. Higher-risk areas within the one kilometer protocol zone where trees have been confirmed to have DED are surveyed more frequently. Traps and visual checks are used to monitor the beetles that spread DED. If a tree has evidence of beetle activity, is near the location where a positive case has occurred, or is showing signs and symptoms of DED, samples are tested in a provincial lab. Condition assessments of City-owned Open Space and Boulevard trees are being performed city-wide in 2025. Elms in naturalized and Natural Areas will also be assessed in 2025, starting with the northeast quadrant.

Preventative Inspections & Surveillance

Enhanced city-wide elm surveys are conducted from May to October, prioritized by risk:

- Zone 1 (DED Protocol Zone) is surveyed every three weeks,
- Zone 2 (Adjacent to DED Protocol Zone) every month,
- Zone 3 (Next Adjacent to DED Protocol Zone) twice per season, and
- Zone 4 (Rest of City) once per season.

Intensified monitoring includes increased elm bark beetle trapping and ground surveys in high-risk Zones 1 and 2; this monitors the movement of the beetles that can spread DED. DED testing is performed on suspect trees.

Annual health assessments of all City-managed elms during the growing season identify elms in poor condition that may need to be proactively removed; this removal decreases habitat where beetles can live and breed. Ongoing updating of the private elm tree inventory identifies the location of all elms to best manage DED.

Removals, Prevention and Waste Handling

Trees that test positive with DED are quickly removed. The goal is removal within five business days for City-owned trees and 14 business days for privately owned trees. Healthy City trees may be removed if they are in close proximity (within 20 meters) to a positive tree, as their roots may be connected. Additionally, City-owned elm trees that are marked for removal during their annual assessments will be prioritized for removal to reduce beetle habitat. Stumps are debarked at removal, with grinding scheduled operationally to remove beetle habitat. When stump grinding is not feasible, the stumps are chemically treated by the IPM team. Since DED was confirmed in Edmonton, 17 elm trees have been removed in the DED Protocol Zone, including the five trees which tested positive. Currently, 38 elm trees are scheduled for removal due to poor condition.

Prevention efforts include preventative pruning. Public elm trees were pruned with a focus on removing deadwood greater than one inch in diameter between October 1 and March 31, as this

removes habitat where beetles can live and breed. Specifically, 5,638 elm trees were pruned between October 1, 2024 and March 31, 2025, city-wide (both inside and outside of the DED Protocol Zone). Targeted treatments for select elm trees will also occur and communications about moving firewood are ongoing.

Disposal of elm wood is managed in two ways. The Edmonton Waste Management Centre handles the disposal of elm wood primarily from businesses and residents. For residential disposal the fee is waived, while fees apply for commercial disposal. The wood is buried quickly and deeply (at least 25 cm) to prevent beetles from escaping. Additionally, the City has a contract with a wood disposal service provider. This provider handles the disposal of elm wood and chips primarily from municipal operations, and all elm debris and wood are incinerated quickly to destroy beetles.

Treatment Plan

Treatment is one part of a comprehensive IPM strategy. Key components include targeted use: systemic trunk injections with Arbotect 20-S fungicide and TreeAzin insecticide are applied strategically, not universally. Arbotect is prioritized for healthy elms near DED-positive trees and is the industry standard fungicide for the prevention of DED. The fungicide is injected directly into the tree and lasts for 24 to 36 months; the size and condition of the tree determine if application is suitable. TreeAzin targets European elm scale to reduce overall tree stress. Treatments follow label instructions, and as are directly injected into the trees, will not have secondary effects to people and animals, and work best when integrated with other actions like surveillance, deadwood pruning and removals.

Treatments cannot save trees that are already infected, though treatments may reduce the number of new infections. Tree suitability is a factor, as tree assessments evaluating tree size, vitality and trunk condition are necessary before injection and not every elm is a candidate for treatment. Preventative treatments like Arbotect require re-application every 24 to 36 months to maintain efficacy. Additionally, elm trees within the DED Protocol Zone will receive supplemental watering to enhance treatment efficacy.

Communication Plans

Public awareness and participation are vital. Communication efforts include digital outreach via active social media campaigns (36 posts scheduled from March to October), regular updates to edmonton.ca/dutchelm, articles in City IPM and Canopy newsletters, updated 311 scripts and informational door hangers on properties with inventoried privately owned elm trees present. The community role involves encouraging residents to avoid transporting firewood, remove potential beetle breeding sites (e.g., dead elm wood) and report potential DED sightings.

Next Steps and Reporting

Work is underway, as the 2025 DED Management Plan is being implemented. Administration is working to set clear action thresholds for longer term DED management (for instance, scaling up or down elm treatment efforts such as fungicide injections). These will help determine when specific future actions should occur and to what degree, based on how the disease is spreading

and what resources are available. Future project updates and reporting frequency will be determined as conditions and planning evolves.

Budget/Financial Implications

The 2025 DED Management Plan activities by the IPM and Forestry teams (including monitoring, prevention, pruning, assessments and proactive removals) are currently funded by existing approved budgets. However, increased focus on DED may require some internal reallocation of resources within these teams, potentially rebalancing service levels for other IPM and Forestry programs or initiatives.

The future level of DED spread and the full scope of additional reactive measures and costs are currently undetermined. For responsive actions specifically triggered by confirmed DED cases (like DED removals and stump work), a portion of the Tree Reserve funds are available, if needed. The Tree Reserve also supports Naturalized and Natural Areas elm condition assessments for 2025. Trees assessed below 50 per cent condition in these areas are marked for removal, and the Tree Reserve will be considered as a possible funding source for this removal work.

While the Tree Reserve fund provides some short-term capacity for the current response, it may not be sufficient to cover all potential costs if a large-scale outbreak were to occur. In such an event, further funding would be necessary to support both responsive and preventative actions, as the Tree Reserve is intended to be used for the replacement of canopy.

Legal Implications

Pursuant to section 6 of the *Agricultural Pests Act*, RSA 2000, c A-8, a municipality has a duty to take active measures to prevent the establishment of or to control or destroy pests in the municipality.

Community Insight

To develop the 2025 DED Management Plan, Administration gathered information through research and ongoing consultations with experts. Research included reviewing how other cities handle DED, industry best practices, government regulations and scientific studies on the disease, its spread and treatments. Administration also held meetings with internal and external subject matter experts from the City of Edmonton, the IPM Advisory Committee, federal and provincial agencies (CFIA, STOPDED), universities (University of Alberta, Olds College), industry (Lallemand Inc.) and other municipalities to gain diverse scientific, practical, regulatory and historical perspectives.

The insights gained from this research and expert engagement were essential in shaping the 2025 DED Management Plan. This information helped confirm effective control methods, select appropriate treatments like Arbotect, refine operational details for surveillance, removals, and waste handling, ensure compliance with regulations, and incorporate the most current knowledge and best practices into Edmonton's DED response strategy.

GBA+

Administration approached the development of the 2025 DED Management Plan considering diverse perspectives, drawing on broad stakeholder engagement, research, input from the IPM Advisory Group and learnings from past public engagement related to Edmonton's urban forest. While GBA+ analysis is and has been applied to higher-level urban forest conservation and growth strategies, the specific operational protocols and priorities within the 2025 DED Management Plan are primarily guided by scientific principles for effective disease control and by available resources. This science-based approach aims to minimize the overall impact of DED on the entire urban forest canopy across Edmonton. By focusing objectively on the holistic health of the canopy, this approach provides an equitable foundation for operational decisions, ensuring actions are guided by disease control and regulatory requirements rather than other factors.

Features of the DED response, such as broad public communication efforts and providing free elm wood disposal for residents, support accessibility. Opportunities for more detailed GBA+ analysis exist (like equitable treatment deployment) should the City experience multiple separate protocol zones simultaneously in the future. Administration has also identified the incorporation of Indigenous traditional ecological knowledge and engagement as another important consideration for future work and broader urban forestry initiatives.

Environment and Climate Review

The City Plan reflects the value that is placed on Edmonton's tree canopy as exemplified by the intentions to expand and enhance a healthy and sustainable forest (1.4.2.3) and to adapt management practices in response to changes in native and invasive species (5.4.1.4).

The potential loss of elms from the City's tree inventory, given the ability of DED to spread, pose a substantial threat to the valuable ecosystem services provided by the urban forest. The urban canopy helps lower net greenhouse gas emissions by protecting natural carbon stores and vegetation's carbon storage capacity, mitigates urban heat island effects with shading and cooling and supports healthy and diverse ecosystems more resilient to environmental changes.

In 2019, City Council approved the Integrated Pest Management Policy C501A, which provides the guiding principles for management of diseases and their vectors. The 2025 actions for the management of DED, that are outlined herein, were developed with an integrated approach in accordance with the Policy and through consultation with the Integrated Pest Management Advisory Group. These actions apply to City-owned trees only, and while education and private tree inventory help mitigate risk on private trees and stored firewood, sustained and comprehensive monitoring is needed.

Adherence to environmental City Policies and other or environmental regulations during implementation will be achieved through existing City processes, procedures and standards. The City of Edmonton adheres to label restrictions under its pesticide registration, including training, spill prevention, response, and other provincial and federal protocols.

In the Edmonton region, milder winters and warmer summers with variable precipitation will likely expand invasive insects and diseases, increasing urban forest stress. Building resilience against these anticipated changes requires planting diverse, drought-tolerant species adapted to

the predicted local climate to increase resilience. Continuation of the current ongoing programs to detect, prevent, and control invasive species and diseases will support rapid identification of pests and disease and effective responses.

Attachments

1. Alberta Dutch Elm Disease (DED) Response Plan