



MEMORANDUM

July 5, 2024

TO: Mayor and Council

FROM: Community Planning and Development Services & Recreation and Parks

SUBJECT: Native vs. Non-Native Tree Plantings

Recent discussions with members of the Mayor and Council have raised concerns regarding the use of non-native tree species within the City of Rockville. The concern arose during a discussion regarding proposed amendments to Chapter 10.5 of the City Code, the Forest and Tree Preservation Ordinance (FTPO).

Staff have evaluated this concern through the lens of the various tree planting requirements within the City. As such, Community Planning and Development Services (CPDS) has worked closely with Recreation and Parks (RPD), to provide a comprehensive response.

Chapter 10.5

Chapter 10.5 of the City Code, the Forest and Tree Preservation Ordinance (FTPO) has a variety of requirements that require tree plantings for subject development applications, consistent with Chapter 10.5-11.

In summary, the FTPO has requirements, that result in tree plantings for the following:

- Forest Conservation
 - Afforestation
 - Forest Retention
 - Reforestation
- Minimum Tree Cover
- Significant Tree Replacement

While the FTPO outlines the requirements for applicable development applications to complete through the administration of Natural Resources Inventories/Forest Stand Delineations (NRI/FSD) and Forest Conservation Plans (FCP), the Forest Conservation Manual (FCM) further articulates how to comply with the requirements of the FTPO. The FCM is adopted by resolution, consistent with Chapter 10.5-4.

Native Requirements in the FTPO

The FTPO's only reference to the use of native plant material is in Chapter 10.5-23, where prioritizes the use of native plant material (trees, shrubs, and groundcover) to meet afforestation and reforestation requirements (see excerpt below).

Sec. 10.5-23. - Preferred sequence and priorities for tree replacement, reforestation and afforestation.



- (a) Tree replacement, reforestation and afforestation, where possible, shall be provided for in the following preferred sequence:
 - (1) Selective clearing and supplemental planting on-site;
 - (2) Onsite planting using transplanted or nursery stock that is equal to or greater than one inch caliper;
 - (3) Landscaping of areas on-site under an approved landscaping plan.
- (b) The following are considered a priority for reforestation and afforestation, and are to be employed in the following preferred sequence:
 - (1) Establish or enhance stream buffer areas;
 - (2) Establish or enhance forested areas on 100-year floodplains;
 - (3) Establish or increase connections between forested areas;
 - (4) Establish or enhance forest buffers adjacent to critical habitats;
 - (5) Stabilize steep slopes;
 - (6) Increase the overall area of contiguous forest cover;
 - (7) Enhance nontidal wetlands;
 - (8) Use native plant materials;
 - (9) Establish or enhance buffers between differing land uses or adjacent to highways or utility rights-of-way;
 - (10) Establish or enhance forested buffers adjacent to parkland.

(Ord. No. 12-07, 7-16-07)

Discussion/Summary

Staff finds the current language in the FTPO, requiring the prioritization of native plantings to meet the requirements of afforestation and reforestation is most appropriate. This language affords staff the flexibility to utilize superior plant material, based on a variety of characteristics such as location, adjacent improvements, and general site constraints (soil, drainage, etc.) in addition to disease and pest resistance, growth habit, branching structure, ecological and aesthetic value, as well as many other considerations.

Staff notes that for traditional reforestation projects, staff has exclusively utilized native plant materials. In a traditional reforestation setting, urban constraints and other factors are less pervasive, resulting in a native plant palette being the most appropriate selection.

Staff agrees with the pros and cons clearly articulated further in the memo, in reference to street trees and the Master Street Tree Plan. Those same factors apply when reviewing a forest conservation plan, or other tree save plan in an urban setting (the vast majority of development applications in the City).

Chapter 25.21.21 and Landscape, Screening, & Lighting Manual

Within the Zoning Ordinance (Chapter 25 of the City Code) Article 21, regarding Plats, and Subdivision Regulations, Section 21 addresses tree planting regulations when subdivision is occurring. This includes lot tree requirements, wherein a subdivider is required to provide a minimum of one tree on each residential lot per 2,000 square feet, not to exceed 3 trees per lot. Existing trees may be counted towards the lot tree requirement. Any newly planted trees used to meet the lot tree requirement must be native, per Article 21. There is no further definition or explanation of native plants.

The City's Landscape, Screening, and Lighting Manual outlines landscaping requirements for any development subject to Site Plan review or Project Plan review per Article 7 of the Zoning Ordinance. The Manual states that existing native vegetation that is deemed suitable per the requirements of the manual may be used to meet required landscape plantings. This is the only mention of native plants in the Manual.

Master Street Tree Plan

The City of Rockville acknowledges its legal and moral responsibility to plant and maintain safe healthy trees on municipal lands and public streets. The Master Street Tree Plan aims to enhance the city's aesthetic appeal and mitigate tree-related issues while providing numerous benefits from trees. Tree species selected for planting on streets and municipal lands are chosen based on their growth habits, width of tree lawn, presence of utilities, aesthetics, availability of species for purchase, and size at maturity to help avoid future conflicts with roadway use. While the city prioritizes native species to support local habitats, not all native species are suitable for right-of-way planting. For instance, Silver Maple have weak branching, Black Walnut produce large heavy fruit, and Hickory species do not transplant well and are not readily available from nursery growers. Consequently, non-invasive, non-native trees are selected to provide diversity. City staff remain informed about environmental and climate research that could impact municipal and street trees, ensuring appropriate care and planting. For example, we no longer plant native Ash trees due to Emerald Ash Borer.

Consideration of what species are considered native vs. non-native can ultimately determine what the city will plant on our roadsides and in our parks. Species selection could be limited to Montgomery County, the state of Maryland, the east coast, or the continental US. Some species we currently plant are hybrids between a native and a non-native tree. For example, London Planetree is a cross between American Sycamore and Oriental Planetree. London Planetree is desirable due to its resistance to anthracnose disease passed on from the Oriental Planetree.

Benefits and Drawbacks of Species Selection

Native Trees

Benefits:

- Adaptation: Native trees are well-adapted to local climate, soil and ecosystem

- Biodiversity: Native trees support local wildlife, including birds, insects and other animals, thus promoting biodiversity.

Drawbacks:

- Urban suitability: Some native trees are not ideal for urban environments due to growth habits, such as very large fruit.
- Maintenance Issues: Certain native trees may have weak branch attachments.
- Pest and Disease susceptibility: Native trees are not immune to pests and diseases, which can be difficult to treat in an urban setting. Some examples include Dutch Elm Disease, Emerald Ash Borer, and Spongy Moth.
- Climate Adaptability: Native trees are adapted to current conditions, but improper species selection may be less able to withstand climate change in an urban environment.

Non-Native Trees

Benefits:

- Urban Suitability: Non-native trees can be selected for specific traits that makes them equally suitable for urban environments.
- Maintenance Issues: Non-native trees can be selected for ideal growth habit for urban conditions that allow them to be optimally maintained in an urban environment.
- Climate Adaptability: Non-native trees can be selected for long-term climate change adaptability. Over time certain species will become native in a particular location due to changing environmental conditions.

Drawbacks:

- Invasive Potential: There is a risk to any non-native species becoming an invasive species, prime example being Callery Pear. Care is taken to prevent/monitor all tree plants to prevent invasive species development.
- Ecological Impact: Non-native trees might not provide the same level of support for local wildlife particularly in parks.

Keys for Success:

- Environmental Impacts: Choose trees that do not disrupt local ecosystems and still provide food and habitat for native wildlife when possible.
- Urban Constraints: Select species that are suitable for the constraints of an urban area, such as pollution, root structure and growth pattern/size.
- Maintenance Needs: Trees should require minimal maintenance and do not pose a hazard through weak branches or excessive litter.
- Climate resilience: Select species to withstand current and future environmental conditions when possible. If a species is no longer succeeding in an urban environment consideration is made to transition to something more suited for the environment.

- Aesthetic and Functional Value: Species chosen are meant to increase beauty of the streetscape and provide functional benefits such as shade, air quality, stormwater management and carbon sequestration.

Discussion/Summary

Native trees are often preferred for ecological benefits and adaptation to the current local environment, non-native trees offer practical advantages in the urban setting especially in consideration for City rights-of-ways. According to the U.S. Fish and Wildlife Service, there are 59 trees native to Montgomery County, the city currently plants 15 of them. Many of these native trees are not suitable as street trees. For example, evergreens cannot be used because of sight-line issues, hickories are hard to transplant, and ash trees have been decimated by Emerald Ash Borer. The City's goal is to maximize the benefits and drawbacks of native and non-native tree species to provide beneficial street and park trees throughout the City of Rockville.