

TACOMA, WA

MEMORANDUM

URBAN FOREST CODE & POLICY

PRE-PROSPECTUS

DESCRIPTION

Project Name: Urban Forest Management Plan | Urban Forest Code & Policy: Recommendations for Municipal Code & Policy relating to Tacoma's Urban Forest

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To: City of Tacoma, WA & the Environmental Services Department

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1. EXECUTIVE SUMMARY

Trees in communities amplify human experience and wellbeing. Their provision of valuable economic and environmental benefits as natural resources is well documented¹. Even so, urban and community tree canopy cover is decreasing across the nation. Urban tree cover in the U.S. dropped by 0.2 percent between 2000 and 2018 while impervious cover increased 2.8 percent². This reduction of community tree canopy cover occurred concurrently while many tree protection ordinances, canopy cover goals and land conversion policies across the country attempted to arrest or reduce canopy decline. Community leaders and planners focused on urban tree canopy growth must encourage comprehensive and diverse tree resource policies for their community in order to promote equitable access to the benefits of urban canopy.

Trees make cities more livable. Research on the public health, economic and social benefits of urban forests and their relative economic value, is relatively new but well documented. Community leaders and planners who interact with projects through the lens of urban and community forestry will improve the wellness and quality of life for Tacomans. Enabling tree planting for public health, as well as the urban forest's other benefits, will improve public health across the City for future generations.

Urban tree canopy benefits vulnerable populations. Urban tree canopy reduces ambient temperatures within cities substantially. Research shows a casual reduction of heat-related illnesses throughout a city with advanced urban tree canopy. Trees reduce concentrations of airborne particulate matter, the most damaging type of air pollution globally and clinically more represented in industrial cities. The environmental benefits for urban trees directly correlate with improved human wellbeing and public health.

It is this public health initiative that strongly factors urban forestry and green infrastructure into environmental justice and social equity. A successful urban and community forest is qualified by more than the measurement of its benefits, but by definition includes the fair and equitable access to such provided benefits to all community members.

¹ Nowak, D.J., Greenfield, E.J., 2018. U. S. urban forest statistics, values and projections. J. For. 116, 164–177.

² Nowak, David; Greenfield, Eric. November 2017. Declining urban and community tree cover in the United States. USDA Forest Service, Northern Research Station, Syracuse, NY; Urban Forestry & Urban Greening 32 (2018)32-55

Long-term urban and community forestry funding is multi-faceted. There is no single beneficiary of urban tree benefits and likewise, limiting the funding source to one source (utility or the general fund) puts limitations on how that budget can be spent, as well as placing unintended barriers on collaboration across departments. Long-term funding for urban forests requires budget portfolio diversification to be successful. Urban forestry is a complex ecology which intertwines many different agencies and organizations, both public and private. Urban forestry and City-wide tree canopy care is not an isolated concern, it is impacted by many of the goals and policies with Tacoma’s comprehensive plan.

A comprehensive urban forest strategy will guide us towards a sustainable urban forest future. In early 2019, the City of Tacoma solicited the development of the Urban Forest Management Plan (UFMP), subsequently awarding the contract to urban forest and green industry planning firms PlanIT Geo, Peninsula Environmental Group and Conservation Technix (collectively the “Urban Forestry Team”).

A component of the project -an analysis and revision of urban and community forestry policy and Tacoma Municipal Code (TMC)- where necessary. This document, the urban and community forest policy pre-prospectus, intends to assess the effectiveness of existing tree-related policy and municipal code within Tacoma, and introduce new (to Tacoma) concepts standardized in the industry for urban and community forestry policy.

To date, the Urban Forestry Team has conducted multiple phases of collaborative stakeholder engagement aimed at identifying existing policy and processes. Staff interviews were conducted including nearly 30 staff members representing multiple departments, workgroups and commissions. Informal meetings were conducted with multiple Councilmembers to better capture the intent and feasibility of conceptual urban & community forestry policy and TMC revisions.

1.1 EXISTING POLICY AND CODE:

Urban Forest Policy (UFP) Element. In 2010, Council adopted the UFP Element of the Comprehensive Plan (later referred to as “One Tacoma”), which identified a 30% tree canopy cover goal by the year 2030, “30 by 30”. This UFP defines core focus areas including changes to regulations and standards to address tree retention, as well as leading by example through responsible planting, care and maintenance of trees on City-owned property.

Tacoma 2025. In 2015, Tacoma's ten-year, City-wide Strategic Plan and Vision (Tacoma 2025) was adopted. Several key community priorities were identified, including improving community health and the vitality of our Neighborhood Business Districts, and sustaining and improving Tacoma’s Natural Environment. Studies show a direct correlation between improved human health and more vibrant and profitable business districts in areas with higher quality tree canopy.

Urban Forest Manual (UFM). In 2014, Tacoma’s Environmental Services Department published Volume 3 of the Tacoma UFM. The UFM is a technical guide created to facilitate the planning, design, installation and maintenance of landscaping that is required for new development and redevelopment per TMC, Title 13.06.502 Landscaping and Buffering Standards. The UFM is intended to be used concurrently with TMC, Title 13.06.502 to ensure the requirements and standards are executed properly. This manual can also be used as a guide for the planning, design, installation and maintenance for any landscaping project.

Environmental Action Plan. In 2016, the City’s EAP was adopted by Council with a focus on increasing healthy urban forest canopy. Specific EAP actions include improving regulations to encourage tree preservation and protection on private property and in the City right-of-way, as well as developing an Urban Forestry Implementation Strategy that identifies and prioritizes strategic and equitable planting locations, incentives, public engagement and education, retention strategies and maintenance.

TMC benchmarking and analysis. Peninsula Environmental Group analyzed existing TMC related to the urban and community forest. This analysis of TMC identified discrepancies and informed us further on staff challenges brought up during the staff interviews. Existing TMC was then benchmarked across multiple Washington communities, ranging in size and population. This benchmark informs community leaders and planners on the regional status of urban and community forest planning and protection, and effective regulatory vehicles applied in the process.

1.2 SUMMARY RECOMMENDATIONS

The Urban Forestry Team has identified updates to specific urban and community forestry policy to amplify the sustainability of the urban forest, resulting in a greener and healthier city for all Tacomans.

- 1) *Identify and align Urban Forestry Management Plan goals and actions with One Tacoma policy.*
- 2) *Develop new independent Urban and Community Forestry Title in TMC.*
- 3) *Renovate existing sections of TMC to remove discrepancies and align with best-management-practices.*

2. ALIGN URBAN FOREST POLICY WITH ONE TACOMA

How can adaptive and deliberate urban forest planning complement the efforts of One Tacoma?

One Tacoma is a fundamental piece of the Urban Forest Management Plan. Collectively the Urban Forestry Team will prepare recommended polices and actions through this lens, to both amplify and compliment it’s visioning. While focused on Tacomans value and responsibility towards a greener city, the Urban Forest Management Plan will implement actions to meet these city policies.

An analysis of One Tacoma was prepared with a focus on the urban forest to identify current policies and where improvement was necessary to meet the guidelines of One Tacoma. We identified seven leading urban forest elements directly associated with these policies. These seven elements, listed below, will facilitate the policies through direct, actionable policy items defined in the Urban Forest Management Plan. Table 2, on the following page, is a brief primer on how the urban forest elements correlate with One Tacoma, and how the two complement each other.

Table 1: Main Urban Forest Elements Associated with One Tacoma

1) Resource Management
a) Resilience and risk management
b) Street trees
c) Viewsheds
2) Equity and Accessibility
3) Canopy Growth–30/30
4) Long-term Funding
5) Climate Resiliency
a) Risk mitigation
b) Energy savings
6) Municipal Code and Policy
a) Preserving trees during development
b) Landmark tree policy
c) Single title/consolidation
7) Environmental
a) Net-loss
b) Watershed scale planning

Table 2: Urban Forestry Companion to One Tacoma Policies

1) Resource Management		
1.a) Resilience and risk management Structure, composition and species diversity. Risk management and avoidance. Resource inventories and prioritization.	1.b) Street Trees Supportive places, improved livability. Street design and engineering to support trees. Street tree maintenance.	1.c) Viewsheds Identification/management of preserved viewsheds. Long-term ecological and geological net-loss reduction.
2) Equity & Accessibility Enable equitable disbursement and access to open areas, street trees, parks and environmentally protected areas.	3) Canopy Growth–30/30 Maximize accessible planting areas and retain existing canopy to facilitate meeting a City-wide canopy cover goal of 30% by 2030.	4) Long-term funding Diversified budget portfolio. Encourage urban forest contribution from beneficiaries of tree benefits: stormwater, public health, energy distribution.
5) Climate Resiliency		
5.a) Risk Mitigation Identify and prioritize vulnerability to heatwave mitigation, urban heat island effect, and other climate-related emergencies.	5.b) Energy Savings Reduce energy costs, and associated combustible emissions, through tree benefits.	
6) Municipal Code and Policy		
6.a) Preserving Trees During Development Reduced canopy loss through preservation of trees during development action.	6.b) Landmark Tree Policy Voluntary preservation and catalogue of historic, cultural, memorial, and ecological significant trees.	6.c) Single Title/Consolidation Clear access to Tacoma policies related to urban forestry.
7) Environmental		
7.a) Net-loss No-net-loss of tree canopy. Reduce tree canopy degradation within environmentally critical areas. Reduce canopy fragmentation.		7.b) Watershed Scale Planning Plan and mitigate tree canopy connectivity on a watershed scale. Track canopy and habitat connectivity across watersheds.

3. CONSOLIDATED URBAN FORESTRY TITLE

Urban forests are instrumental to the fabric of city life. The planning, management, growth, preservation, and long-term funding of Tacoma's urban forest are necessary actions for the public good. These urban forestry actions result in amplified health, safety and welfare of Tacoma's citizens. City growth and redevelopment impacts and influences the urban forest. The urban forest complements urban design. Therefore, the new Consolidated Urban Forestry Title should be implemented.

It is important for community leaders and planners to facilitate a deliberate inter-sectoral and collaborative approach to urban forest planning that mitigates the barriers associated with interconnected and diverse public planning goals.

A focused, single-source for urban and community related municipal code, located in a new Title, will help Tacoma achieve its goal of 30% City-wide tree canopy by 2030. A new Urban & Community Forestry Title will document the importance of trees and urban canopy for community leaders, City staff and citizens well into the future.

This effort will mitigate inconsistencies across TMC chapters and provide a "one-stop shop" for tree related issues, topics, and procedures. Developers and other permittees will more clearly understand requirements as it relates to the urban forest.

A recent study by Nature Conservancy³ noted a barrier to long-term urban forest funding are informational and organizational silos. To prevent these silos, **redeveloping City staff workflow, permit effectiveness and departmental collaboration is a focus of this recommended Title consolidation.** Focusing the efforts of multiple public agencies and departments across the municipal organization, and structured by the new Title, creates opportunities to advance tree planting and tree protection to meet Tacoma's 30/30 goal.



A single-source chapter for City ordinances related to tree planting and protection align to One Tacoma through multiple urban forestry references, particularly Environmental + Watershed Health Policy EN-4.30, "Increase awareness of urban forest best management practices..."

Currently, tree-related code in Tacoma is generally accessed through an action occurring rather than the resource itself. Tree related code in Tacoma is activated through commercial and industrial development and through environmentally sensitive (Critical Areas) code. At this time, the Urban Forest Team plans to retain development triggered tree-related code in development sections. Lateral transition of these specific codes may result in confusion for property owners, developers and staff.

Outcomes from a consolidated Urban Forestry Title in Tacoma Municipal Code:

- 1) Compliments and implements UF-1.5, EN-1.1, EN-4.30, EN-4.31 of One Tacoma into Urban Forestry Policy.
- 2) Single source of policy for urban forest related topics, outside of urban forest standards triggered through development/disturbance actions.
- 3) Improve cross-sectoral urban forestry processes; increase permit efficiency and workflow processes.
- 4) Promote greening policies through regulation, incentives and stewardship.
- 5) Define roles and responsibilities of an existing committee/commission such as the Sustainable Tacoma Commission or newly created committee/commission to manage the new Title.

³ McDonald, R., Iljabar, L., et al. *Funding Trees for Health: An analysis of finance and policy actions to enable tree planting for public health.* 2018, The Nature Conservancy. Arlington. VA.

Table 3: Preliminary Urban and Community Forestry Title Topics:

- 1) Definition of Tacoma’s Urban Forest
- 2) Landmark Tree Protection
- 3) Right-of-way Tree Protection and Management
- 4) City-wide Tree Planting Goals
- 5) Reference to Tacoma Urban Forest Manuals and other Policies
- 6) Tree Pruning Standards
- 7) Urban Forest Committee/Commission

3.1 LANDMARK TREE PROTECTION AND INVENTORY – SUMMARY

Landmark tree policies acknowledge the scientific consensus that large trees provide substantially more social, public health and environmental benefits than small trees. Tree growth correlation to tree benefits is an exponential one. Mature large trees, those greater than 40 feet tall and/or 30 inches in diameter, deliver on average an annual net benefit two to six times greater than mature small trees⁴. The presence and stature of large trees has a measurable human health impact, relieving stress, decreasing respiratory illness by providing particulate matter deposition on leaves, and inspiring awe in the community⁵.



One Tacoma Design + Development Goal 5 and 13 align with the protection, preservation and resilience of historic, cultural, and landmark elements within Tacoma. Specifically, policies DD-5.11, DD-13.5 and DD-13.6 correlate with the protection of landmark trees.

Common themes in landmark tree ordinances across Washington and the nation:

- 1) Potential Landmark trees can be voluntarily or non-voluntarily designated.
 - a) Voluntary designation by the property owner is generally coupled with title recording on the property mandating the preservation of the tree while the tree remains healthy.
 - b) Non-voluntary/mandatory – designation applies to trees that meet a certain criteria, most often a combination of size and species, that immediately protects a tree from removal or mal-pruning while the tree remains healthy.
- 2) Designation committees for voluntary designation of landmark trees can be a public urban forester, municipal arborist, City Council or committee, or tree board.
- 3) Documentation and inventorying of voluntary landmark trees is often facilitated through a landmark tree database and tree management software.
 - a) This list is often in conjunction with historical society’s and historical tours, and could potentially be managed through the City’s Landmarks Preservation Commission.
- 4) Qualifying criteria for landmark trees normally contain subjective and/or objective requirements for historical, cultural, ecological significance, or other important qualifying attributes.

⁴ McPherson, E.G.; et. al. 2003. Northern mountain and prairie community tree guide: benefits, costs and strategic planting. Center for Urban Forest Research, Pacific Southwest Research Station, USDA Forest Service. 92p.

⁵ McDonald, R.I., et al, Planting Healthy Air: A global analysis of the role of urban trees in addressing particulate matter pollution and extreme heat. 2016, The Nature Conservancy Arlington, VA.

- 5) Variances and relief of landmark tree protection are often provided through the following:
- a) High-risk rating through qualified Tree Risk Assessor and/or conspicuously dead trees.
 - b) Spatial conflict of actively permitted development/redevelopment are exempt.
 - c) Utility work as necessary to retain utility connectivity are exempt.
 - d) Other large public land-owning organizations with their own Urban Forest Management Plan or similar document can be exempt.

Outcomes landmark tree protection and inventory:

- 1) Compliments and implements DD-5.11, DD-13.5 and DD-13.6 of One Tacoma into Urban Forestry Policy.
- 2) Conservation of culturally or historically relevant City landmarks that have importance to a community.
- 3) Ecological inventory of large, important trees and economic quantification of their provided ecosystem services.
- 4) Species diversity improvement – often landmark trees will be trees of special ecological significance and rare species presence, resulting in a higher species richness across the City.

3.2 RIGHT-OF-WAY TREE PROTECTION AND MANAGEMENT

The “right-of-way” (ROW) is defined as (typically) an easement provided to the City over the land of the abutting property owner, which establishes an accessory right for public benefit or transportation, such as for roadways, sidewalks, or utilities. According to TMC 8.30.020,

“The public right-of-way includes the area of land, the right to possession of which is secured by the City for right-of-way purposes and includes the traveled portion of the public streets and alleys, as well as the border area, which includes, but is not limited to, any sidewalks, planting strips, traffic circles, or medians.”

Currently, the City of Tacoma requires abutting property owners to maintain adjoining rights-of-way. This includes streets and alleys extending from the owner's property lines out to the curbs or edges of pavement (includes sidewalks and planting strips) if improved, or if unimproved (unpaved), out to the centerlines of the road. There are several places in the Tacoma Municipal Code where these obligations are stated: Chapters 9.17, 9.18, 8.30, 8.31, and 12.09.

Street trees, curbs, sidewalks, and utilities play vital roles in Tacoma’s public realm, helping to make the City more livable and sustain the quality of life. It is not uncommon for conflicts to arise between trees and infrastructure, particularly in locations where they were installed some time ago. These conflicts can compromise pedestrian access to the sidewalk and/or tree health.

Each tree and infrastructure conflict is unique and should be appropriately addressed given the conditions of the multiple elements impacted or impacting the situation. Instilling proper right-of-way tree protection and management will enable the City to implement practices and procedures that maintain the quality of life for the citizens of Tacoma while supporting ongoing initiatives such as the 30% tree canopy by 2030 and requirements set by ADA.

Common outcomes of right-of-way tree protection and management include:

- 1) Maintained and enhanced urban forest accessibility to support equity and social justice.
- 2) Reasonable and justifiable tree preservation that considers all variables and impacts. Right-of-way tree protection does not imply all trees are absolutely preserved. Trees are inventoried and evaluated to determine their fate in an infrastructure conflict situation.
- 3) Protection of trees during construction and infrastructure repair/replacement/installation prevents devastating damage to trees which could otherwise cause tree decline, need for removal, and potential public hazard.
- 4) Reduced tree risk, increased tree longevity, tree canopy retention, reduced tree maintenance costs, proper tree care, improved public health, reduced infrastructure conflicts, and equitable access to the urban forest.

- 5) A decision matrix with various mitigation strategies or amendments to address the tree and infrastructure conflict by considering existing conditions among other variables. See the [Seattle Trees & Sidewalks Operations Plan](#) as an example.

Outcomes of the UFMP to support right-of-way tree protection and management:

- 1) Improved permitting system that will alert the appropriate City personnel for reviewing and evaluating a situation where trees may be impacted.
- 2) Cyclical inventory and assessment of trees in the right-of-way to identify potential risks, trees in decline, pests and disease threats, monitoring needs, and treatment needs. Continual monitoring of trees in the ROW will inform future management decisions and tree/infrastructure mitigation approaches.
- 3) Appropriate tree species selection for new plantings in the rights-of-way.
- 4) Tree planting best practices such as appropriate soil volume, irrigation needs, proper planting depth, quality tree nursery stock, and young tree care (e.g. scaffold branches, lowest permanent branch, central leader).

3.3 CITY-WIDE TREE PLANTING GOALS

Tacoma's 30% City-wide canopy goal is achievable with well-planned tree canopy growth. Planting trees without equitable access of benefits, adequate spatial capacities and poor genetic selection are common challenges that result in an unhealthy urban forest and misspent budgets. Solving these discrepancies requires careful consideration of urban design and engineering and tree-resource management, translated through the lenses of social equity and environmental justice. This may require tailored strategies, new policies and increased resourcing for these areas. The existing policies/procedures will not provide more equitable access to the urban forest resources. Proven tree planting policy goals and municipal code are equity driven, prioritized by asset generation, contain measurable performance standards, are adaptive and provide feedback.

In pursuit of Tacoma's 30/30 goal, the Urban Forestry Team are strategically applying the following datasets to inform decisions on canopy growth priorities, areas with missing or inequitable tree canopy, and areas historically low in tree canopy.

- 1) Land-use and environmental characterization data
- 2) Canopy cover data & tree inventory data
- 3) Tacoma's Equity Index
- 4) Urban heat island index



One Tacoma's Environmental + Watershed Health chapter, policy EN-4.29 calls out Tacoma's initiative to have 30% City-wide tree canopy by 2030.

Common themes in tree planting goals and policies across Washington:

- 1) Consistent application, regulation and stewardship across land-use, stakeholders and time.
- 2) Long-term commitment to equitable tree canopy growth at all levels of City government.
- 3) Identify and define best management practices in tree planting and care, as well as adopting internal procedures to ensure trees are not only planted well but also succeed and establish into mature trees.
- 4) Sequence tree planting and mitigation designs and selection using environmental and physical criteria.
- 5) Coordination with street engineering/design and urban design to promote maximum tree benefits with the built environment.

Outcomes from outlining City-wide Tree Planting Goals:

- 1) Compliments and further implements EN-4.29 of One Tacoma into Urban Forestry Policy.
- 2) Focus budgets and planning mechanisms to realize the goal of 30% City-wide tree canopy by 2030.
- 3) Accelerate informed decision making on site-specific and environmentally accurate tree species. Improved access to information on approved and prohibited tree species within the City.
- 4) Align permitting and trigger processes for re/development actions where supplemental tree installation is a viable co-design. Reduce missed opportunities for collaborative tree planting and green urban design.
- 5) Increased urban forest biodiversity and ecological resiliency through planned natural resource management techniques. Appropriate species selection while adapting genetic diversity to climate change.
- 6) Accelerate growth of urban forest benefits. Large trees with contiguous tree canopy provide scientifically more environmental and ecological benefits than small trees and fragmented canopies.
- 7) Reduced conflict with City infrastructure. Planning for urban trees from the inception of project design alleviates common future conflicts with utilities, sidewalks and other street infrastructure. Currently, this is captured in Title 12 “Utilities” in the TMC.

4. EXISTING TACOMA MUNICIPAL CODE RENOVATION

The first tree protection ordinance in Tacoma, and Washington State, was adopted in 1927 as “9.18 Trees and Shrubs – Trimming and Removal”. This called for the protection of Tacoma’s street trees growing in the right-of-way (see 9.18.030). From then, a number of tree, vegetation, plant and forest-related municipal codes have been added through a long history of Tacoma ordinances. Some of this municipal code is heavily antiquated and its applicability has eroded with time.

The TMC Renovation task is aimed at the following:

- 1) Fix inaccuracies and discrepancies in existing code.
- 2) Updating old antiquated municipal code relating to trees.
- 3) Addressing several inconsistencies/conflicts between existing TMC and Policies.
- 4) Updating and consolidate authority to approve actions (e.g. City Manager, Director of Public Works, City Engineer, Committee).
- 5) Resolving references to permits and processes that no longer exist.
- 6) Removing inconsistencies with industry best-management-practices.
- 7) Fixing conflicts between critical areas and right-of-way codes.

We’ve identified 110 tree-related code references with existing TMC, of which 37 contained outdated and inaccurate information related to current urban forest policy.



Environmental + Watershed Health Policy EN-4.30 mentions the importance of actively pursuing urban forest best management practices.