

From: Wescoat

Sent: Monday, April 22, 2019 9:28 AM

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Subject: Memo from Committee on Public Planting to Urban Forest Master Plan and Task Force members

Dear Consultant Team and Task Force members,

We are submitting the attached memo as the Cambridge Committee on Public Planting to offer our recommendations for the Cambridge Urban Forest Master Plan.

We have followed the work of the UFMP/TF over the past 10 months, and appreciate the thoughtful presentations and comments by everyone involved.

We look forward to continuing to work together to ensure the most robust tree canopy possible for the health and sustainability of the City, and for the environment more broadly.

Sincerely yours,

Cambridge Committee on Public Planting

Florrie Wescoat and Maggie Booz, Co-chairs; Seanna Berry, Paula Cortes, Chantal Eide, Sophia Emperador, Michael Hanlon, Nancy Jordalen, Joan Krizack, Ann MacAdam, Carolyn Mathews, Nancy Phillips, Cynthia Smith

MEMO TO THE CAMBRIDGE URBAN FOREST MASTER PLAN -- April 22, 2019

The Cambridge Committee on Public Planting offers the following recommendations for the Cambridge Urban Forest Master Plan. We have followed the work of the UFMP/TF over the past 8 months, and appreciate the thoughtful presentations and comments by everyone involved. We look forward to continuing to work together to ensure the most robust tree canopy possible for the health and sustainability of the City, and the environment more broadly.

VISION FOR THE CAMBRIDGE URBAN FOREST

The charge to the UFMP team for the Cambridge urban forest is *“To maintain, plan, build, and sustain a healthy, connective urban forest at a time when the urban forest is more important than ever before”* (Reed Hilderbrand, June 2018 presentation). The function and value of the urban forest is stated in the Cambridge municipal code: trees promote the health, safety, and welfare of residents. They improve air quality, mitigate storm water, cool the City, reduce noise, provide habitat for birds, and increase property values.

Cambridge has reportedly lost 18% of its canopy in the past 9 years and has removed hundreds more trees in early 2019. According to LIDAR data, the loss is accelerating. Protection of existing trees is essential for a sustainable future.

“Today, Cambridge has 25.3% of its land area covered by canopy. Cambridge has had an average net loss of 31 acres of canopy cover every year. At this rate, canopy cover will be 16.2% in 2030. Factoring in climate change, it may be 10.5% in 2030 but with a moderate drought it could be 9.5%”

In order to offset canopy loss (replace 31 acres per year) we need to plant 4,300 3” caliper trees each year, and wait 20 years;

For a 1% increase in citywide canopy cover over land area after 20 years (e.g. 25% to 26%), we need to plant 5,633 trees.” (Reed Hilderbrand, Sept. 2018 presentation)

Residents of Cambridge have a deep bond with and love for our urban forest. Tree planting was once again the top winner of last year’s participatory budget process, receiving three times as many votes as the second place proposal. Protecting our trees and the land they grow on is part of citizenship for all neighborhoods and citizens of Cambridge. This relationship between trees and people requires the City’s strong commitment and stewardship if we are to thrive in a densely built urban environment.

THE CURRENT SITUATION

For the last 10 months, the Tree Task Force has been meeting to talk about ways to protect and grow the urban forest. During that time, hundreds of trees have been cut down at a rapid pace, most recently a wide swath of trees along the “Greenway” between Watertown and Cambridge. The mature trees that once stabilized slopes and provided a tall green respite have now been broadly removed. This action is disturbing and heartbreaking. Other recent areas

where multiple trees have been removed include Acorn Park Drive, Cambridge Park Drive, St. James Church; and hundreds more trees are slated to be removed on Wheeler Street and elsewhere.

In each case reasons are given for the removals. While we strongly support safe bikeways and healthy trees, it seems clear that some tree removals, such as those along the Greenway, are beyond what is needed to build a bike path. How can the pace of tree replacement keep up with the pace of cutting, let alone increase the overall tree canopy? What can be done to ensure that our existing trees are protected and new trees planted in sufficient numbers to begin to grow the canopy?

The Master Planning process was initiated to address these types of questions, and we offer comments on each of its major components – Planning, Practices/Design, and Outreach – below.

PLANNING/DESIGN

As Cambridge continues to build housing and developments, space must be allotted for trees. All developments, housing types, and neighborhoods need and deserve trees as a matter of equity. Corridors, streets, sidewalks, bikeways, and public spaces throughout the City require trees and shade for beauty and livability. CPP strongly recommends the following design features to create favorable conditions for trees:

1. Allocate and specify enough space for sufficient soil volume for roots; design elongated tree wells; and enlarge existing tree wells wherever possible.
2. Design spaces to plant trees in clusters so that they can shade each other; and allow for underground pathways for tree roots to intermingle and grow towards lawn areas.
3. Revise sidewalk specifications to reduce harmful construction materials that are contiguous with tree wells, e.g. the crusher run under sidewalks, which is nearly impermeable sterile, and chemically harmful to trees. (See Appendix for UMass analysis of crusher run that is used under sidewalks.)
4. Increase permeable surfaces to allow rain to percolate into soil; and reduce paved surface as much as possible.
5. Site trees to shade buildings and roads.
6. Design tree placement with natural systems, e.g. create swales and channels to deliver water to trees and vegetation.
7. Incorporate current modern roadway/urban planning re-design strategies that sacrifice car parking and travel, such as one-way streets with single-side parking (on north side of street and

under overhead wires) so that our thru-ways can be shared by pedestrians, bikers, trees, and cars.

8. Identify parcels of land that the city can purchase across the city of Cambridge for replacement urban forest space. Many neighborhoods are becoming increasingly more dense with infill office and mixed use development and housing. The existing public landscapes we have are receiving increasing pressure and use. The city should identify additional property for public purchase for use as new park space and wood lots, etc. throughout all neighborhoods where additional trees can be planted.

9. Design and implement a “Greenscape Overlay” that preserves and creates green open spaces with healthy plantings for all neighborhoods. A thriving green infrastructure is essential for well-being and for a sustainable and livable future.

PRACTICES

“There are two primary approaches to reversing the current trend of urban forest contraction — Stem the loss of existing trees. Grow Canopy by planting new trees.” (Reed Hilderbrand presentation, November 2018 meeting)

To grow the canopy, careful planting techniques, follow up evaluation, and maintenance practices are essential. We recommend care that adjusts and responds to the needs of individual trees as well as to the urban forest overall. We recognize improvements that have been made in watering young trees, and we are very supportive of the DPW’s commitment to brewing and applying compost tea and biochar to the urban forest. The Master Plan will be most effective if it identifies innovative ways to ensure strong linkages between Planning/Design and Practice. The following 12 specific points on practice are important:

1. In the off-season, systematically grind stumps and enlarge tree wells so that trees can be planted in early spring when the soil is wet and cool.
2. Don’t plant when the temperature is above 80 degrees. In fall, plant early enough for trees to settle in ahead of very cold weather.
3. Ensure that planting specifications are adhered to, e.g., proper planting depth.
4. Choose species that can adapt to urban conditions and that will grow large enough to provide shade. For street trees, use the toughest and most resilient species, both native and non-native. For parks, schools, riverfront, cemetery, and lawn areas, aim for species diversity, with a strong emphasis on natives.
5. Amend the soil with organic material, compost tea, and biochar to build healthy soil.

6. In busy pedestrian areas protect newly planted trees with temporary fencing to prevent soil compaction. Consider installing attractive permanent fencing in busy areas to protect trees long term. The DPW has expressed concern that fencing may attract litter. We urge working with property owners to keep fenced areas clean.
7. Avoid heavy, harsh pruning in respect to both Eversource and City pruning cycles; prune to meet safety requirements and to maintain the beauty of the tree's natural form; don't reduce or raise the canopy unnecessarily.
8. Use a less damaging product than NaCl for de-icing as much as possible; use minimum amount of de-icer to do the job. Instruct salt crew not to apply salt in tree wells.
9. Use narrower sidewalk plows to avoid driving over tree wells and compacting soil; and instruct plow operators to avoid hitting and damaging tree trunks.
10. Revise calculations for tree replacement to reflect the volume of the canopy rather than DBH (diameter at breast height).
11. Weed and pick up litter in tree wells; require citizens and property owners to do the same to tree wells that are adjacent to their property. It will improve the health of the trees and be a signal of respect for the urban forest.
12. Remove raised planters that have been constructed at the base of trees.

OUTREACH

Increase engagement and communication between the Urban Forestry Department and the public. We believe it will increase knowledge, enthusiasm, and pride in the urban forest, and it will ultimately help the DPW in its work.

1. Launch program to inform citizens of all ages about the value of trees, and how to care for them; and engage them to steward nearby public trees. Educate the public about proper maintenance and why it matters, including watering regime, soil amendments, proper mulching techniques, reasons for leaving the trunk flare exposed, etc. Organize tree tours in all neighborhoods so that residents can learn about and appreciate their trees.
2. Plant higher rate of back-of-sidewalk trees on private property. Work with residents to select trees they like that will be the proper size for their space. Consider helping to subsidize the cost of tree care on some private properties. e.g., pruning costs.
3. Make longitudinal tree inventory layers of the GIS maps accessible to the public.
4. Work with Cambridge institutions and businesses to plant and properly maintain trees on their grounds. Trees are often planted and then improperly maintained, leaving them at risk.

For example, a common mistake is placing deep mulch at the base of the trunk, which will kill the tree over time.

5. Reverse the policy of allowing residents to block planting public trees in front of their property. Trees are part of our infrastructure in the same way sidewalks are. This was posted on the DPW website this fall, and we feel it is the wrong message: *“Residents are encouraged to contact DPW Forestry Department if they see a sticker in a location where they do not want a tree.”*

The potential for Outreach initiatives is enormous. Cambridge has passionate tree advocates and widespread public interest in increasing the tree canopy. Nurturing that passion in the current generation through daily life and in the next generation through school programs are some of the most important aims of the Master Plan.

APPENDIX



Soil and Plant Nutrient Testing Laboratory
 203 Paige Laboratory
 161 Holdsworth Way
 University of Massachusetts
 Amherst, MA 01003
 Phone: (413) 545-2311
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Soil Test Report

Prepared For:

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Sample Information:

Sample ID: HC1E

Order Number: 26250
 Lab Number: S161031-209
 Area Sampled:
 Received: 11/2/2016
 Reported: 11/4/2016

*Hi Michael
 It doesn't look too good. The pH is too high
 the organic matter is too low not enough phosphorus
 too much calcium. This soil has issues.*

Results

Analysis	Value Found	Optimum Range	Analysis	Value Found	Optimum Range
Soil pH (1:1, H2O)	8.0		Cation Exch. Capacity, meq/100g	19.6	
Modified Morgan extractable, ppm			Exch. Acidity, meq/100g	0.0	
<i>Macronutrients</i>			Base Saturation, %		
Phosphorus (P)	0.3	4-14	Calcium Base Saturation	98	50-80
Potassium (K)	58	100-160	Magnesium Base Saturation	1	10-30
Calcium (Ca)	3843	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	25	50-120	Scoop Density, g/cc	1.57	
Sulfur (S)	24.6	>10	Optional tests		
<i>Micronutrients *</i>			Soil Organic Matter (LOI), %	0.2	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.14	<0.6
Manganese (Mn)	80.1	1.1-6.3			
Zinc (Zn)	1.4	1.0-7.6			
Copper (Cu)	0.5	0.3-0.6			
Iron (Fe)	24.0	2.7-9.4			
Aluminum (Al)	17	<75			
Lead (Pb)	2.5	<22			

* Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):	■			
Potassium (K):	■	■		
Calcium (Ca):	■	■	■	■
Magnesium (Mg):	■	■	■	■