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**Title:** Receive a report, hold a discussion, and give staff direction regarding a proposed citywide sample tree inventory and tree canopy analysis for Denton.

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**Attachments:** 1. Exhibit 1 - KDB Board Resolution for Tree Inventory 1.21.16, 2. Exhibit 2 - Proposal for Tree Canopy Analysis and Sample Inventory

Date	Ver.	Action By	Action	Result
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Agenda Information Sheet

**DEPARTMENT:** Solid Waste & Recycling

**CM/ACM:** Jon Fortune

**Date:** April 5, 2016

**SUBJECT**

Receive a report, hold a discussion, and give staff direction regarding a proposed citywide sample tree inventory and tree canopy analysis for Denton.

**BACKGROUND**

City Council members and residents have recently expressed a desire for updated data on Denton’s urban forest. As the City’s key community partner for urban forestry programs, Keep Denton Beautiful has taken the lead in researching and presenting options for this update. Given that the timing of the project is dependent on seasonal elements (in other words, leaves must be on the trees), we have initiated a request for proposals to complete the project this summer. This presentation will provide a briefing on Keep Denton Beautiful’s recommendations for the tree inventory/canopy analysis project, and request Council’s support to bring forth winning project proposals for approval at a subsequent meeting.

The most recent urban forestry data on file for Denton comes from a 2010 study, when the City partnered with faculty and students from the Geography Department at the University of North Texas (UNT) to obtain an estimated percentage of canopy cover for the city, using aerial satellite imaging. The study, approximately \$35,000, was funded out of the City’s Tree Mitigation Fund. UNT’s analysis of the aerial images found an estimated 19% canopy cover for Denton, or 17% cover when excluding the City’s extra-territorial jurisdictions (ETJs). As outlined in the Denton 2030 Plan, regional comparisons of tree canopy cover show this number to be on the low end of the spectrum among neighboring municipalities. Arlington sits at 22.4% canopy cover, Dallas is at 29%, and Fort Worth has 25% cover. With rapid development and population growth in the years since this

study was performed, Denton’s canopy cover and other attributes of the city’s urban forest have likely changed. Current data is needed to understand what changes have occurred and to obtain a more comprehensive picture of the state of Denton’s urban trees.

Available tree inventory options for this update have been thoroughly researched by Keep Denton Beautiful in coordination with key City staff from Planning, Parks, and other departments. Inventory options can provide the most basic information about a city’s urban forest (i.e., a percentage of canopy cover), to the most complex (i.e., an exhaustive inventory of all trees within the city limits). Many cities nationwide and in North Texas (i.e., Colleyville, Grapevine, Plano, Dallas), have made use of what is known as a “Sample Tree Inventory.” This approach uses the industry standard “iTree” software tool to inventory trees on a random sample of land plots, then extrapolates the resulting data to obtain a picture of the city’s entire urban forest. The Sample Inventory offers an alternative to more costly and time consuming full-scale inventories, but still provides reliable information on tree health, distribution, estimated community benefit, and more. This is the first of the two combined inventory approaches Keep Denton Beautiful is recommending to obtain current data on Denton’s urban forest.

The second component of this proposed project is a Tree Canopy Analysis - an in-depth assessment of Denton’s tree canopy cover, citywide. The Tree Canopy Analysis will provide an updated percentage of canopy cover for Denton, but will also provide information such as areas of planting opportunity, species distribution, tree density rates, and several other variables. Additionally, maps can be created from this analysis, in a format compatible with the City’s Open Data and GIS systems.

The data derived from these combined approaches will have broad applications, and can be used by multiple City departments, allowing Denton to get out in front of issues like tree-related diseases and pests; risk management for dead and dying trees; future planning for maintenance and contractor needs; and effective engagement of citizens in community forestry programs.

**RECOMMENDATION**

Keep Denton Beautiful is proposing that the City conduct both an iTree Sample Inventory and a Tree Canopy Analysis, using funds from the City’s Tree Mitigation Fund. This project is in alignment with stated goals in the Denton 2030 Plan (5.5, 5.6, 5.7), City Strategic Plan (KF4, Goal 2, and KF5, Goals 1, 2, 3, and 4), and Sustainability Plan (Goals 4 - Air Quality, and 6 - Land Use).

**ESTIMATED SCHEDULE OF PROJECT**

Both components of this project should ideally be completed during the summer months, when trees have the peak amount of foliage and are easiest to inventory. Project duration is approximately five months. With the request for proposal process already initiated, the project could reasonably begin as early as May 2016.

**PRIOR ACTION/REVIEW (Council, Boards, Commissions)**

January 21, 2016	Keep Denton Beautiful Board Resolution
March 3, 2015	City Council Work Session Discussion
January 13, 2015	City Council Work Session Discussion
February 5, 2013	City Council Work Session Discussion

**FISCAL INFORMATION**

Total estimated cost is \$150,000 to complete both components of this project. It is proposed that the full cost of the program be funded out of the Tree Mitigation Fund. The Tree Fund’s permitted uses allow for this work (“to perform and maintain a City-wide tree inventory,” DDC Section 35.13.7.A.7.e).

**STRATEGIC PLAN RELATIONSHIP**

The City of Denton’s Strategic Plan is an action-oriented road map that will help the City achieve its vision. The foundation for the plan is the five long-term Key Focus Areas (KFA): Organizational Excellence; Public Infrastructure; Economic Development; Safe, Livable, and Family-Friendly Community; and Sustainability and Environmental Stewardship. While individual items may support multiple KFAs, this specific City Council agenda item contributes most directly to the following KFA and goal:

**Related Key Focus Area:** Safe, Liveable & Family-Friendly Community  
**Related Goal:** 4.2 Seek clean and healthy neighborhoods in Denton

**EXHIBITS**

Exhibit 1 - Keep Denton Beautiful Board Resolution

Exhibit 2 - Proposal for Tree Canopy Analysis and Sample Inventory

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