

City of Concord Community Forest Management Plan



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Plan approval date and/or date of final draft:

Approved by:

Acknowledgements: Public Works, Engineering, and Current Development
Departments

Executive Summary

The Urban Forest Management Plan for the City of Concord looks at its past history of trees; where the City has been and where it is now. It also looks at the benefits that the City's trees provide and lays out a vision for the future. Through a detailed inventory and assessment of the trees, issues are identified with appropriate goals and actions.

This plan also looks at current management, existing policies and ordinances and makes suggestions as to how things could be improved. Lastly, the plan proposes expanding community outreach. It is imperative for the livability of Concord that the residents understand the benefits of trees and how they contribute to the sustainability of the community.

Some of the major goals in this plan are as follows:

1. Increase species diversity so that no one disease or insect is able to destroy more than two to five percent of the tree population.
2. Implement a removal and replacement program to eliminate undesirable trees or trees that are growing in a space that is inadequate for the species.
3. Develop a tree-trimming program that promotes a minimum of a three to five year cycle for street trees.
4. Maintain inter-departmental coordination concerning tree related issues.
5. Continually train staff on Best Management Practices.
6. Improve public access to tree related information.
7. Update Development Code and City Ordinances to reflect current trends.

This plan is developed to guide the City over the next 20 years to insure sustainability of the urban forest and the quality of life for its residents.

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Vision Statement

Concord's urban forest projects a positive quality of life for its residents businesses and visitors.

Mission Statement

Our mission is to enhance and protect our urban forest to ensure the economic, environmental and social benefits for future generations.

Introduction

Urban Forestry sometimes referred to as Community Forestry refers to the management of trees and vegetation within the urban environment. Those trees that we find on our city streets, in front of our homes and in our parks. These trees are not only part of our heritage; they are part of the infrastructure of every city. Trees provide tremendous benefits to all of us and because of scientific studies; these benefits can be identified and in many cases even quantified. To manage Concord's urban forest, we need to know what we have, the current status of everything. Then we need to take our vision and formulate what it is that we want. Lastly, it is the Strategic Plan that gets us there.

Below are an overview of Concord's history and the benefits of trees. It assesses

What we currently have. It discusses our environmental restrictions for growing trees. There is an assessment of the existing tree resources and issues and problems around them. There will be a brief look at how we manage our urban forest and current policies and ordinances that protect them. Finally, how is the community is involved. It then sets a course of action through goals, objectives and actions.

Overview

Historical context

The City of Concord is situated 29 miles east of San Francisco in the north-central region of Contra Costa County. Natural features frame the fertile valley in which the City is located—the Suisun Bay stretches to the north, rolling hillsides hem in the City to the east and south, and Walnut Creek abuts the southwestern city limits.

Concord's setting and physical beauty offer a desirable quality of life to those who live, work and visit here. Two hundred and fifty years ago grasslands and coastal sage scrub blanketed the area. As various cultures inhabited the land, they adjusted their lives to fit the landscape and adjusted the landscape to fit their needs, tastes, and sensibilities.

The land on which Concord is now located was originally occupied by a group of Chipcan inhabitants, members of the Miwok linguistic division of American Indians. Several archaeological sites are still present within city limits, the largest of which is a mound that provides information about these earliest residents. From the excavation of these sites, it is known that the Chipcan were present in the area as early as 200 BC and maintained relatively continuous occupation until AD 900. By the early 1800s, the numbers of Chipcan in the area were so reduced that they offered little resistance to the arriving Spanish settlers. The remaining Chipcan were ultimately assimilated into the new culture.

The modern history of Concord can be traced back to 1834, when Don Salvio Pacheco successfully petitioned for a land grant of 17,921 acres that covers much of the area of present day Concord. Salvio Pacheco and his family quickly settled on the land, known as 'Rancho Monte del Diablo,' and were joined by neighboring settlers in the nearby town of Pacheco. The area became prosperous, profiting initially from cattle-based products, and later from the boom of the Gold Rush in the late 1840s and 50s. Its fertile soil and proximity to navigable waterways also greatly contributed to the success of Pacheco and the Rancho Monte del Diablo. However, a series of disastrous floods, compounded by a large earthquake in 1868, severely damaged the town of Pacheco and ruined the homes of many of its inhabitants. In response, Don Salvio Pacheco plotted out 20 acres of land in the center of his Rancho (in modern d In response, Don Salvio Pacheco plotted out 20 acres of land in the center of his Rancho (in modern Downtown) and offered the land to victims of the natural disasters in Pacheco. This generous act created the Town of Todos Santos, which would grow into the City of Concord in a few short years.

Concord is primarily a residential community nestled in the Diablo Valley with the magnificent backdrop of the rolling, golden foothills of the Diablo Range. Concord is typical of many early small, farming communities in California which suddenly became a desirable place to live after World War II when it was discovered as a relatively easy commute distance to the larger cities of Oakland and San Francisco.

The concentration of development exists in a low-lying valley. Major thoroughfares today are essentially the same historic routes of early roads, though greatly expanded. Originally smaller streets that linked the various farms that are now subdivision and housing units, these thoroughfares have expanded rapidly from small farm lanes and country roads with rough edges to major traffic ways.

Concord's natural landscape, before it developed into a large city, was grassland and chaparral. Native oaks, bays, walnuts, and poplars followed the watercourses from the Diablo Range to Suisun Bay. Agricultural activities—truck farms and fruit and nut orchards—were developed in the flatlands of the valley and rolling foothills. The main orchard crop was walnut, and the trees are still a major part of the greenness that characterizes the lower areas.

Environmental Context

Concord is situated in Sunset Western Garden's zone 15. This means that about 85% of the time the marine air and the other 15% of the time influence the climate by inland air. Concord has chilly winters as it lies in cold-air basins and on exposed hills. Winter low temperatures average around 30 degrees. The record low, which occurred in 1990, was 19 degrees. Summers get more heat than the coast averaging in the upper eighties. Thus this is a perfect climate for growing deciduous trees, however not the more sensitive tropical ones. The area receives about 20 inches of rain per year with the greatest rainfall occurring in February.

Why we need a plan!

Urban forestry, the discipline is built round age and species diversity so that an invasive pest of disease cannot have a negative impact on the entire urban forest. This plan is essential to the preservation of what Concord has and to insure that the vision of sustainability through good urban forestry practices can be realized. Without a plan, management is simply putting out fires and only addressing immediate problems and concerns. To sustain and improve upon Concord's urban forest means having a tool to guide city management over the next twenty years and achieve its sustainability and quality of life objectives.

The management plan will increase public safety by managing the risks related to public infrastructure. We have learned that if there is damage from a tree, that the extent of the City's liability is directly related to the management plan and its proactive approach.

A plan now when resources are short will guide the city as additional funding becomes available.

Benefits of Trees

It is important that the community understand the benefits of trees. Knowing them justifies the resources that are needed to manage the urban forest. The following are some of the economic, environmental and social benefits.

Economic Benefits – The urban forest contributes to the well being of the citizens of Concord in several ways. Trees add value to homes and businesses. Research shows that businesses on trees lined streets generate 20% higher income than those without. Single-family homes can have an increase of 10% in value with large shade trees. Properly placed deciduous trees can provide energy savings in the summer from their shade and energy savings in the winter once the leaves have fallen, the sun can warm the house.

Environmental Benefits - Trees contribute to improving our air quality, water quality, and providing wildlife habitat. Trees leaf and branch structure absorbs the first 30% of precipitation, allowing evaporation back into the atmosphere. This moisture never hits the ground. Another 30% of precipitation is absorbed back into the ground and taken in and held onto by the root structure, then absorbed and transpired back into the air. Thus trees help reduce soil erosion and reduce the need to capture stormwater runoff.

Trees provide rain, sun and heat protection shielding wildlife, humans and structures. Tree shade from direct sunlight can lower air temperatures by 5 to 15 degrees. The life of asphalt paving on our streets and roads is extended because of shade by trees. Trees and shrubs improve air quality by absorbing carbon dioxide and other pollutants and releasing oxygen. Studies show that each year, 100 mature trees remove 14 tons of carbon dioxide and 350 pounds of pollutants. Additionally, the leaves of trees filter the air from dust and sand particles.

Lastly, urban trees provide a canopy for birds to enjoy, a root structure to stabilize soil and shade for pets and people to enjoy, all of which connects us to the natural environment.

Social Benefits - Trees seem to make life more pleasant in a couple of ways. They convert the streets, parking, and buildings into a more aesthetically pleasing environment. The paved roads and parking lots and structures that create cities are often visually harsh. An environment is needed with trees and shrubs to soften and relieve the eyesore. Trees also improve health, emotion, and wellbeing for all ages. Studies have shown that trees can reduce stress and domestic violence. Patients in hospitals with views of trees and landscaping have a shorter recovery time from surgery. Lastly, studies have shown that students at schools with attractive landscaping and trees have higher test scores than those who are on treeless campuses. The advantage of trees expands past their physical benefits by creating a more calming, visually pleasing environment for all.

The USDA Forest Service Center for Urban Forest Research at http://www.fs.fed.us/psw/programs/cufr/tree_guides.php is a resource for these studies or just search Center for Urban Forest Research.

Scope of the Plan and Planning Horizon

This is a ten-year plan from approval in 2013 through 2023. It covers all street and right-of-way trees. Maintenance issues with park trees will be included at a later date once their inventory is completed.

Relationship to other Planning Documents

Once approved, this document will become a part of the City's framework for sustainability and eventually become an element of the General Plan. Ordinances were recently updated and are referred to in this document.

Status of the urban forest

History of Trees in Concord

Concord grew rapidly after World War II, particularly during the 1960s and the 1970s, and as farmlands and orchards were converted from agriculture to housing, the major streets remained the same. As traffic increased, these streets were widened into four and six lane roads with medians. All of the large gracious shade trees, such as elms, silver maples, and black locusts, which had been planted as a part of the 'agricultural era', were taken down to permit the street widening. Some of the walnuts and other large trees still exist in older sections where road widths have not changed.

As streets were widened, a program for planting trees was undertaken. Many cities used tree lists that were developed by Pacific Gas and Electric and other utility companies as a public service. These tree lists concentrated on smaller trees that would not interfere with power lines. Trees such as Glossy Privet, Hawthorn, Golden Rain, Carrotwood, and Purpleleaf Plum were part of this standard street tree recommendation. Trees such as Liquidambar, Carob, Camphor and Magnolia were on this list, but were not well known and considered small trees that would easily fit under electrical lines and are now causing problems. Many of these trees have been used along the major thoroughfares in Concord

In 1978, many changes occurred in Concord due to Proposition 13 budget cuts. The Parks Department was disbanded and moved to Public Works. Also, the Superintendent of Parks, who had been responsible for all of the street tree plantings in the city, left his position in the city.

In 1979, Concord hired Mai K. Arbogast, Landscape Architect and Horticultural Consultants from Berkeley to prepare the master street tree plan for the major thoroughfares of Concord. These streets comprise more than 27 miles and

include Clayton Road, Concord Boulevard, Monument Boulevard, Oak Grove Road, Treat Boulevard, Willow Pass Road, Ygnacio Valley Road, and Kirker Pass Road. The plan served as a guide for the continuation of street tree planting along these streets for years.

In 1988-1989, Concord went through budget reductions and reduced the tree maintenance staff from 8 to 4, and adopted a council resolution by eliminating residential street tree maintenance to all but a few streets.

City management responded in a positive way in 1995, by adding 2 Certified Arborists and one tree trimmer to manage the increasing demand for Arboricultural services. In 1996, Performance Based Budgeting (PBB) was implemented which quantified unit costs of tree maintenance. This allowed for the first time, measureable results based on known tree population versus budget allocation. Goals and objectives were established and the outcomes were measurable. The goals were exceeded yearly and new goals were established. Pruning cycles were implemented; 7 years for street trees and 15 years for park trees.

In 1999, a Maintenance Team leader position was created to manage the program. Budget, staff and resource management were the main functions for the position while meeting the goals and objectives of PBB. Maintenance cycles for street trees were increased to 3 & 4 years on street trees and park trees were on target for a 10-year cycle.

In 2004, at the peak of the division's performance the city faced budget cuts and had to reduced staff from 6 to 4. Pruning cycles were changed to a ten year average for both street and park trees. Five years later staffing was reduced from 4 to 2 employees.

In 2010, contracted tree maintenance was implemented to assist the program by reducing risk exposure and minimize deferred maintenance costs. A year later, a computerized tree inventory was begun to accurately identify Concord's current urban forest.

Although Concord is heavily planted with trees in the residential area, the major thoroughfares through the city are still being expanded and improved, and are characterized by a general lack of effective tree growth to enhance their visual and functional role in the city.

Tree Resource Assessment

Below is both a pie chart and detailed inventory of Concord's 9300 plus trees. From this information we can note the following:

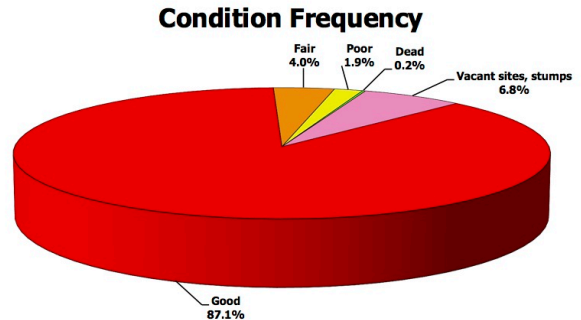
- Almost 16% of the trees are Crape Myrtles.
- Almost 7% are London Planes and another 7% Pears.
- Almost 4% are Liquidambar
- Almost 7% vacancies.
- 6+% are in poor or fair condition.

The main issues that come from these statistics are species diversity and inadequate tree cover. The science of Urban Forester advocates for no more than 2.5% of any species and no more than 10% of any one family. This focus is the result significant losses of trees in the Midwest and Eastern part of the U.S. Mainland. Chestnut blight destroyed all of these trees on the east coast and Dutch Elm Disease destroyed most of those trees in the Midwest. We have learned that the movement of disease and insects are difficult to control in today's global world. Trees that never use to be hosts any pests or disease are not coming under attack. For example, Sudden Oak Death is a disease that is killing our native oaks all around us. It is a disease that came in on plants from Europe. It is not a problem there, however, here it is of major concern.

Additionally, Crape Myrtles are a shrub/like tree that because of its size does not provide many benefits. With 16% of the urban forest these trees; there is a need to evaluate them for their appropriateness. While not evident in the below inventory data, there are numerous cases where the wrong tree is growing for the space allowed. A removal and replacement program focusing on the planting the right tree in the right place is needed so that the urban forest can provide the greatest benefit to the Concord community.

City of Concord **Inventory Overview** **October 2012**

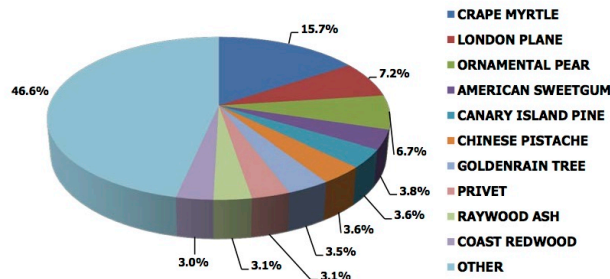
Condition	Count	Percent
Vacant sites, stumps	677	6.79%
Good	8,686	87.10%
Fair	402	4.03%
Poor	189	1.90%
Dead	19	0.19%
TOTAL SITES	9,973	100.00%



Top Ten Species by Count

Botanical Name	Common Name	Count	Percent	Value
Lagerstroemia indica	CRAPE MYRTLE	1,568	15.72%	\$ 1,287,680
Platanus acerifolia	LONDON PLANE	720	7.22%	\$ 1,923,260
Pyrus calleryana	ORNAMENTAL PEAR	673	6.75%	\$ 957,320
Liquidambar styraciflua	AMERICAN SWEETGUM	381	3.82%	\$ 682,950
Pinus canariensis	CANARY ISLAND PINE	364	3.65%	\$ 1,775,640
Pistacia chinensis	CHINESE PISTACHE	355	3.56%	\$ 457,740
Koelreuteria paniculata	GOLDENRAIN TREE	349	3.50%	\$ 706,760
Ligustrum spp.	PRIVET	313	3.14%	\$ 661,690
Fraxinus oxycarpa 'Raywood'	RAYWOOD ASH	306	3.07%	\$ 594,550
Sequoia sempervirens	COAST REDWOOD	299	3.00%	\$ 922,930
Other	OTHER	4,645	46.58%	\$ 9,319,595
TOTAL		9,973	100.00%	\$ 19,290,115

Top Ten Species



Management

Summary of management responsibilities

Activity	Activity subclass	Arborist	Public Works	Parks	Planning	Other-specify
Planting	New sites		yes, Street trees and park trees		CIP projects	
	Replacement plantings		Same as new sites			
Pruning	Scheduled	some contractual maintenance	one 2 person crew		none	
Debris clean up	Storm/emergency	City Staff	yes			
	Utility clearance					P G & E
	Street/equipment clearance					
Tree removal	Hazard trees	City Staff/Contractual	city owned			
	Clearance (for flood control, fire safety, etc.)		City crews			
Root system work	Sidewalk/curb repair and replacement		city owned		CIP	
	Excavation for utilities					
Plan review	Construction	City Staff			CIP	
Permitting	Planting					
	Pruning					
Heritage	Removal	required premit	Arborist review			
Outreach/education	Property owners/public					web site
	Contractors	WCA, Traverso Tree,				

Summary of ordinance, policies, and plans already in place

Tool	Street trees	Park trees	Facility trees	Heritage trees	Parking lot trees	Other-specify
Ordinance						Updated September 2012
General plan						
Specific plans						
Improvement standards						
Specifications - planting						
Specifications - pruning	ISA BMP's					
Street tree master plan	Not in use at this time					
Approved planting list	Outdated, currently being developed					
Heritage Tree List				6 total		Plaque

Summary of current tree management practices/programs

Over the years, the Urban Forestry Program has grown or shrunk depending on the economy and funding. At its maximum in 1987-88, a full-time crew of 8 did large-scale tree planting projects — planting, pruning and s individual street trees at the request of property owners. When funding reductions forced layoffs, Urban Forestry discontinued most of these activities. Although the City regulates public trees, the care and maintenance of the street trees is the responsibility of the adjacent property owners. Urban Forestry currently employs 2 full-time staff with responsibility for the public trees in parks, along streets and around public buildings as mandated by City Code. Their responsibilities include:

- Coordinating the planning, planting and maintenance of public trees.
- Maintaining, planting and replacing trees in parks and on City property.
- Advising and educating property owners about the planting, care and preservation of street trees.
- Permitting and inspecting all street tree plantings, pruning and removals.
- Providing 24-hour emergency response services for storm and tree related emergencies.
- Assist Enforcing City Code to preserve significant trees.
- Working with other City Departments on tree-related issues.
- Performing Arbor Day activities

Community Values

The Urban Forest of 2012 is the result of the decisions of those who managed the forest before us, and is greater than the sum of individual trees outside our homes, shops and offices. It is the environment in which we work and play and through which we travel daily. It is the aesthetic setting for our schools, businesses, cultural attractions, and places of recreation and renewal. It is our ecosystem, the habitat in which we thrive. It is our shared community resource. It creates the opportunity to view the entire City as an Arboretum as a way to broaden and diversify street tree species throughout Concord.

It is important for us and future generations to secure and enhance Concord's urban forest. We can do this only if we understand its importance and utilize new knowledge of best environmental science and arboricultural technology in order to adapt nimbly to changes in the environment.

This Urban Forest Master Plan seeks to increase age and species diversity in the public tree population, augment biomass and canopy coverage citywide, enhance the character and aesthetics of our neighborhoods and achieve exemplary stewardship of the forest from all who live and work here. The Master Plan must be regarded as both a long-range policy guide and a living document that will respond to changing conditions over its life. It requires a close partnership between policy makers, staff and the community.

Concord has established a regional reputation for enlightened environmental policies and the respectful conservation of natural resources. Adoption of this Urban Forest Master Plan is the next significant step in Concord's continuum of sustainability policies.

Strategic Plan

Issues and needs

Tree resources

- Increase species diversity by increasing the planting of species that have less than 200 trees in the inventory and discourage the planting of the top four species. Best management practices for diversity suggests that no more than 10% of any one genus and 2.5% of any one species.
- Implement a removal and replacement program to eliminate undesirable trees or trees that are growing in a space that is inadequate for the species.
- Develop a tree-trimming program that promotes a minimum of a three to five year cycle for street trees.

Management Needs

- Mandate Arborist review in Planning, Design and Construction phases impacting trees and landscaping on all projects.
- Maintain inter-departmental coordination concerning tree related issues.
- Continually train staff on
- Continually seek stable funding.

Community Awareness

- Improve public access to tree related information
- Update Development Code and City Ordinances to reflect current trends to protect the environment and enhance our quality of life.
- Programs to improve tree care in commercial landscapes
- Licensing contractors to improve compliance with approved tree care standards.

Goals and Objectives

Goal 1

Establish and maintain optimal levels of tree cover to maximize ecosystem benefits provided by the urban forest, (maintain air quality, reduce energy use, moderate stormwater runoff, and provide a favorable environment for city residents).

Objective 1.1

Identify potential planting sites in parks.

Actions

1.1.1 Park Manager to identify potential planting sites in parks by December 2013.

Objective 1.2

Current vacancies in streets are 680. Develop a planting plan for these vacant street tree sites.

Actions

1.2.1 Maintenance Team Leader to develop a planting plan being mindful of age and species diversity. To be completed by December 2013.

1.2.2 Maintenance Team Leader to develop a planting schedule to have the 680 sites planted over the next ten years (2022).

1.2.3 Tree Division to implement this tree planting program to commence with fiscal year 2013/14. 75 trees per year are to be planted. Budget is \$3500 for trees, stakes, ties etc.

1.2.4 Tree Division to develop and implement a young tree care for these trees. by fiscal year 2013/14.

Objective 1.3

Develop a planting plan for planting sites in parks.

Actions

1.3.1 Park Manager to develop a planting plan being mindful of age and species diversity. To be completed by December 2013.

1.3.2 Maintenance Team Leader to develop a planting schedule for the park trees. To be planted over the next fifteen years. (2027).

1.3.3 Tree Division to implement this tree planting program to commence with Fiscal year 2014/15. (Number) will be planted each year.

1.3.4 Park Manager to develop annual budget for this tree planting and maintenance program by 2014/15 budget process.

1.3.5 Tree Division to develop and implement a young tree care program for these trees.

Objective 1.4

Designate species selection for new and replacement trees for the street tree vacant sites.

Actions

1.4.1 Maintenance Team Leader to select appropriate trees from the approved list by December 2013.

Objective 1.5

Designate species selection for new and replacement trees for park sites.

Actions

1.5.1 Maintenance Team Leader together with the Park Manager to select appropriate trees from the approved list by December 2013.

Objective 1.6

Identify potential benefits from these new and replacement plantings.

Actions

1.6.1 Maintenance Team Leader to use I-Tree software and Tree Carbon Calculator to determine potential benefits including carbon storage, increased canopy cover, storm water captured, energy saved, aesthetics and other benefits that contribute to Concord's sense of place. Determination to be completed with the completion of the annual planting to be included in annual report to City Council.

Goal 2

Maintain trees in a healthy condition through good cultural practices.

Objective 2.1

Write Best Management Practices policy for all tree care activities following ISA and ANSI standards. Attach in the appendix of this document and will be approved along with the UFMP.

Actions

2.1.1 Maintenance Team Leader to research ISA BMPs and ANSI Standards by December 2012.
2.1.2 Maintenance Team Leader to compile and customize BMPs and Standards for Concord by March 2013.
2.1.3 Once approved, the Maintenance Team Leader to include these approved BMPs and Standards in all Contractor Specifications.
2.1.4 The Maintenance Team Leader to train staff in these BMPs and Standards and require adherence to them within four months after approval.
2.1.5 BMPs and Standards are to be approved along with this UFMP by elected officials.

Objective 2.2

Staff and Contractors will follow these approved BMPs in their daily activities.

Actions

2.2.1 Maintenance Team Leader and/or Construction Inspectors will monitor daily activities to ensure compliance to approved BMPs and standards.

Objective 2.3

Pruning objectives are to maintain tree health, reduce risk of failure, provide clearance and improve aesthetics.

Actions

2.3.1 Maintenance Team Leader to monitor tree maintenance contractor's performance and train staff on quality control.
2.3.2 Maintenance Team Leader to develop a monitoring schedule to comply with this objective by December 2012.

Objective 2.4

Develop a young tree care program.

Actions

2.4.1 Tree Division to develop a young tree care policy/program by June 2013.

2.4.2 Tree Division to provide education materials on young tree care to staff and contractors by September 2013.

Objective 2.5

Tree care of insects and diseases problems will follow Integrated Pest Management practices (IPM).

Actions

2.5.1 Parks Division to develop and implement an IPM for both parks and trees by December 2013.

2.5.2 Horticultural Advisor will monitor Concord's IPM program on an as needed basis.

Objective 2.6

Develop a mature tree care program.

Actions

2.6.1 Maintenance Team Leader in the Tree Division to develop a mature tree care policy/program by December 2013.

2.6.2 Maintenance Team Leader to inform/educate staff and contractors as to the content of the mature tree care policy/program by March 2014.

Goal 3

Establish and maintain an optimal level of age and species diversity.

Objective 3.1

Develop a program/plan that works towards an Urban Forest that has no more than 10% of any one family and no more than 2.5% of any one species within a family.

Actions

3.1.1 Parks Division will monitor species past performance as an indicator of success and evaluate opportunities to introduce new species for local conditions over the next 18 months for purposes of this plan and continuously monitoring performance to update plan as necessary.

3.1.2 Parks Division to use this information to develop the program/plan to implement this objective by June 2014.

3.1.3 Parks Division to budget and implement this plan for the fiscal year 2014/15.

Objective 3.2

Stagger new and replacement plantings to encourage age diversity since 2/3 of the current population are young trees.

Actions

3.2.1 Parks Division to utilize tree inventory analysis to make recommendations on maximizing age diversity while implementing the species diversity plan.

3.2.2 Parks Division to budget and implement this plan for species and age diversity for the fiscal year 2014/15.

Goal 4

Promote conservation of existing tree resources. Remain a b20Tree City USA20

Objective 4.1

Develop policies as part of this UFMP that promotes maintaining mature trees. i.e. hardscape damage.

Actions

- 4.1.1 Maintenance Team Leader to develop a mature tree care policy/program by December 2013.
- 4.1.2 Mature Tree Care policy/program to be a component of the approved UFMP.
- 4.1.3

Objective 4.2

Development Code Policies will be adhered to conserve and protect existing trees.

Actions

- 4.2.1 Maintenance Team Leader of Trees, as a component of the UFMP, to develop appropriate policies to conserve and protect existing trees. To be completed with the UFMP by December 1, 2012.

Objective 4.3

Retain "Tree City USA" status by complying with Arbor Day Foundation requirements.

Actions

- 4.3.1 Maintenance Team Leader for Trees to annually follow Arbor Day Foundation Guidelines for "Tree City USA" and apply at the appropriate time each year.
- 4.3.2 Maintenance Team Leader to cease every opportunity to apply for an Arbor Day Foundation Growth Award, to demonstrate to staff, elected officials and the community the value and importance of the UF.

Objective 4.4

Follow the guidelines of the Heritage Tree Ordinance.

Actions

- 4.4.1 Parks Division will follow and adhere to the guidelines of the Heritage Tree Ordinance.
- 4.4.2 Parks Division Manager to prepare educational material regarding these guidelines by June 2013.
- 4.4.3 Parks Division Manger together with the Tree Maintenance Team Leader to use this educational material to inform Elected Officials, Management, Staff and Contractors about this Ordinance by September 2013.

Objective 4.5

Promote the care and preservation of native trees as outlined in the Open Space for Public Health policy.

Actions

- 4.5.1 Parks Division will follow and adhere to the guidelines of the Open Space for Public Health policy.
- 4.5.2 Parks Division Manager to prepare educational material regarding

these guidelines by June 2013.

4.5.3 Parks Division Manger together with the Tree Maintenance Team Leader to use this educational material to inform Elected Officials, Management, Staff and Contractors about this Policy by September 2013.

Objective 4.6

Establish consistent staffing and resources to sustain the urban forest plan and maximize benefits for the community.

Actions

4.6.1 Parks Manager to identify staffing and resources needed to implement this UFMP to maximize benefits for the community by January 2014.

4.6.2 Parks Manger to request this appropriate staffing and resources in the 2014/15 fiscal year budget.

Objective 4.7

Enforcement of existing tree removal and replacement policy.

Actions

4.7.1 The existing Tree Removal and Replacement Policy to be incorporated into this approved UFMP

4.7.2 Tree Maintenance Team Leader to establish a procedure for enforcing this policy by September 2013.

4.7.3 Tree Maintenance Team Leader to develop a monitoring plan for purposes of enforcing this policy by September 2013.

Goal 5

Select, situate, and maintain urban trees appropriately to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.

Objective 5.1

Develop tree species planting guidelines that address potential problems and also maximize the benefits of trees while maintaining species diversity.

Actions

5.1.1 Tree Maintenance Team Leader to prepare these species planting guidelines by June 2014.

5.1.2 Tree Maintenance Team Leader to incorporate these guidelines into the UFMP.

5.1.3 Tree Maintenance Team Leader to provide/inform/educate staff, management, and the public for adherence to these guidelines by September 2014.

Objective 5.2

Develop a stable funding source for city tree maintenance. Explore creation of an LMD investigate other potential sources (action)

Actions

5.2.1 Parks Division Manger together with the Tree Maintenance Team Leader to establish staffing and resources needed to implement the UFMP by January 2014

5.2.2 Parks Division Manager to investigate the creation of an LMD by January 2014.

5.2.3 Parks Division Manager to investigate other funding opportunities to

guarantee consistent funding such as Gas Tax and User Fees by January 2014.

5.2.4 Parks Division Manager to present options to Upper Management as part of the 2014/15 budget cycle.

Objective 5.3

Develop an approved planting list and plan city wide for public trees.

Actions

5.3.1 Maintenance Team Leader to develop a citywide planting plan being mindful of age and species diversity. Follow the approved planting list that is part of goal three. To be completed by December 2014.

Goal 6

Promote efficient and cost-effective management of the urban forest.

Objective 6.1

Promote appropriate cultural practices that maximize the benefits of trees while minimizing costs.

Actions

6.1.1 Tree Section to follow BMPs for tree care as outlined in goal two and approved in this UFMP.

Objective 6.2

Develop a program to eliminate deferred maintenance while being mindful of budgetary constraints.

Actions

6.2.1 Parks Division Manager together with the Tree Maintenance Team Leader to quantify deferred maintenance and establish a program to eliminate the backlog by March 2013.

6.2.2 Parks Division Manager together with the Tree Maintenance Team Leader to incorporate deferred maintenance into yearly budgets beginning with fiscal year 2013/14.

Goal 7

Centralize tree management under the urban forester and coordinate tree-related activities through this position. Interdepartmental policy and procedures for trees needs to emphasize and strengthen this part of the mission statement.

Objective 7.1

Continue to have a highly qualified professional Arborist/Urban Forester.

Actions

7.1.1 Parks Division Manager to create a professional Urban Forester/Arborist position in the city to oversee and manage the City's Urban Forester by fiscal year 2014/15.

7.1.2 Parks Division Manager to request funding for this position in the fiscal year budget proposals for 2014/15.

7.1.3 Parks Division Manager together with Human Resources to create a job description, recruit and fill position by September 2014.

Objective 7.2

Use Parks Department as the city's internal Consulting Arborist for community development, risk, & other tree related issues within the city.

Actions

7.2.1 Parks Division Manager to create a procedure whereby all tree related issues are routed through the Parks Department by June 2013.

7.2.2 This procedure/policy to be approved and implemented within the city by September 2013.

Objective 7.3

Integrate Urban Forestry into the City's framework for sustainability.

Actions

7.3.1 Parks Division Manager to incorporate this UFMP into the City's framework for sustainability by June 2013.

Goal 8

Foster community support for the local urban forestry program.

Objective 8.1

Continue partnering with local non-profits such as the Markham Regional Arboretum Society.

Actions

8.1.1 Tree Maintenance Team Leader to become a member of the MRA Society by January 2013.

8.1.2 Tree Maintenance Team Leader to review meeting agendas and attend those meetings where there are opportunities for partnerships.

8.1.3 Parks Manager to investigate potential partnerships with other organizations by December 2013.

8.1.4 Parks Manager to establish partnerships with the appropriate organizations that can help promote the city's urban forest by December 2014.

Objective 8.2

Investigate current and develop additional education and outreach programs that promote the benefits of the Urban Forest.

Actions

8.2.1 Tree Maintenance Team leader to investigate and create a log of current educational materials using Cal Fire as a resource by December 2013.

8.2.2 Parks Manager together with the Tree Maintenance Team Leader develops a list of topics to be covered by an education and outreach program by December 2013.

8.2.3 Parks Manager and Tree Maintenance Team Leader to develop an educational and outreach program by June 2014.

8.2.4 Parks Manager and Maintenance Team Leader to develop any educational materials that were not found in the investigative phase by December 2014.

Objective 8.3

Establish a community education outreach program that covers private trees, public trees, creeks and open space trees so that the public understands the value of trees as well as the rules and responsibilities of the public agency and private land owners regarding public trees (Action Item)

Actions

8.3.1 Using the material from Objective 8.2, the Parks Manager together with the Tree Maintenance Team Leader to put together an annual education program that spans a minimum of five years by June 2015.

8.3.2 Park Manager and Tree Maintenance Team Leader to insure that all components in the above objective are covered in this program and that feed back mechanisms are designed and used to measure effectiveness of the educational components by June 2015.

Goal 9

Encourage good tree management on privately-owned properties.

Objective 9.1

Provide educational material on-line regarding tree selection and care.

Actions

9.1.1 Parks Manager to work with the IT department to put the appropriate educational materials gathered under Goal 8 on-line by December 2015.

Objective 9.2

Encourage additional tree planting on private properties.

Actions

9.2.1 Parks Manager to investigate potential incentive programs i.e. tree give aways to encourage tree planting on private property by December 2013.

9.2.2 Parks Manager together with Tree Maintenance Team Leader to provide opportunities such as Arbor Day and Earth Day activities to provide free tree seedlings and encourage tree plantings on private property.

Objective 9.3

Write a brochure about the benefits of using appropriate plant material on the private landscape as an educational tool for the public.

Actions

9.3.1 Tree Maintenance Team Leader with the Parks Manager to develop a tree benefits brochure for the public to encourage the use of appropriate plant material on private property.

Goal 10

Implement a removal and replacement program to eliminate undesirable trees or trees that are growing in a space that is inadequate for the species.

Objective 10.1

Identify undesirable trees and prioritize them through an evaluation process.

Actions

10.1.1 City arborist to develop together with the Park Manager criteria for removal of undesirable trees by September 2013.

10.1.2 City Arborist to evaluate each undesirable tree as identified in the Tree Inventory and gives them a priority rating for removal.

10.1.3 City Arborist to schedule removals of undesirable trees over 15 years based on priorities and budget.

Objective 10.2

Develop a schedule of removals based on established priorities over time so as not to denude any one area.

Actions

10.2.1 City Arborist to schedule removals of undesirable trees over 15 years based on priorities and budget.

Objective 10.3

Designate appropriate replacement species.

Actions

10.3.1 Tree Maintenance Team Leader to designate replacement species based on the approved list and planting plan that is found in the UFMP by start of the 2014/15 fiscal year.

Objective 10.4

Schedule replacement plantings using volunteers when possible.

Actions

10.4.1 City Arborist to create list of planting sites based on the above removal program and schedule community tree plants to maximize volunteer opportunities. To be completed by July 1 2014/15 fiscal year.

Goal 11

Develop a tree-trimming program that promotes a minimum of a three to five year cycle for street trees.

Objective 11.1

Secure funding for a three to five year cycle of trimming.

Actions

11.1.1 Parks Division Manager and the Tree Maintenance Team Leader to establish budgetary costs for various pruning cycles for each district for a cost benefit analysis on improving the tree trimming cycle by December 2013.

11.1.2 Develop scenarios for upper management and city council that provides them with a visual picture that can lead to stable funding for an appropriate trimming cycles.

11.1.3 Public Works Director to provide cost benefit analysis to city council as part of the 2014/15 budget cycle.

Objective 11.2

Develop established pruning areas based on optimal equipment mobilization, priority locations, current tree inventory and BMPs.

Actions

11.2.1 City Arborist to develop this program based on available resources by December 2013.

11.2.2 City Arborist to include program in Action 11.1

Objective 11.3

Establish a resident paid program that allows property owners the ability to pay the city to have the city's contractor trim their trees when the trimming schedule does not meet the needs of the tree and the property owner.

Actions

11.3.1 Park Manager together with the Tree Maintenance Team Leader to develop a Resident Paid Program by December 2013.

11.3.2 Resident Paid Program to be reviewed and approved by upper management by March 2013.

11.3.3 Resident Paid Program to be presented to City Council for approval and implementation by June 2014 for program to begin with new fiscal year 2014/15.

Goal 12

Develop master planting plan for the Downtown Maintenance Districts.

Objective 12.1

Identify block-planting theme for Downtown using species diversity.

Actions

12.1.1 Tree Maintenance Team Leader to develop block-planting theme for by December 2013.

12.1.2 Planting Theme to be reviewed and approved by upper management by April 2014.

12.1.3 Downtown Planting Scheme to be approved by appropriate stakeholders by June 2014.

12.1.4 Downtown Planting Scheme to be approved by City Council by August 2014.

Goal 13

Navy property - develop an approved tree list for trees planted on public property.

Objective 13.1

Based on development densities, block-planting themes are to be developed using species diversity and low maintenance plants.

Actions

13.1.1 Tree Maintenance Team Leader to develop navy property planting theme by June 2014.

13.1.2 Planting Theme to be reviewed and approved by upper management by September 2014.

13.1.3 Navy Property Theme to be approved by Stakeholders by December 2014.

13.1.4 Navy Property Theme to be approved by City Council by March 2015.

Goal 14

Review current Ordinances and bring them up to current acceptable standards.

Objective 14.1

Ordinances updated August 2012. Review current Ordinances every five years for appropriateness.

Actions

14.1.1 Public works and Current Development Directors to provide protocols for updating Ordinances by December 2013.

Goal 15

Develop an interactive computer program that educates staff and public on the value of trees, the city's work program, and information about city tree species.

Objective 15.1

Link property owner addresses to the public tree(s) located there. Provide information about the type of tree(s) what maintenance has occurred, when it happened and when future maintenance is scheduled.

Actions

15.1.1 Park Manager together with the Tree Maintenance Team Leader to prepare needed information in a format that can be used by IT Dept. by December 2014.

15.1.2 IT Department to develop website link to tree maintenance program by March 2015.

15.1.3 IT department to create website links to educational information about trees by June 2015

Goal 16

Reuse all green products from trees considering highest and best use such as lumber for wood products down to mulch for planting areas.

Objective 16.1

Establish a program with protocols for collecting logs from tree removals and distribute them to local users.

Actions

16.1.1 Parks Manager to create protocols with staff input to maximize benefit by June 2013.

16.1.2 Protocols to be reviewed and approved by upper management and council by October 2013.

Objective 16.2

Establish a program with protocols for collecting wood chips and distributing them in planting areas throughout the city to conserve water and reduce weed growth.

Actions

16.2.1 Parks Manager to create protocols with staffs input to maximize benefit by June 2013. (together with objective 16.1)

16.2.2 Parks Department staff to develop list of sites for storage and use of materials by May 2013.

16.2.3 Protocols to be reviewed and approved by upper management and council by October 2013.

Objective 16.3

Include the above in the City's Green Ribbon Task Force's plan.

Actions

16.3.1 Public Works and Development Director to include these protocols in the City's Green Ribbon Task Force Plan by January 2014.

Goal 17

Once this plan is adopted, it will be reviewed every five years.

Objective 17.1

Review UFMP every five years to monitor its progress, to see if it is on schedule or to revise based on new information.

Actions

- 17.1.1 Parks Manager and Tree Maintenance Team Leader to review UFMP every five years and revise as necessary.
- 17.1.2 Revise Plan to return to staff, management, community and council for approval.

Objective 17.2

The UFMP is to be an approved element of the City's General Plan.

Actions

- 17.2.1 Public Works and Development Director to incorporate the UFMP as an element of the City's General Plan by start of fiscal year 2014/15.

Goal 18

Enlarge planting sites for the purpose of capturing storm water, benefiting trees, and reducing hardscape damage.

Objective 18.1

Where there are sidewalk failures due to confined growing space for trees, look at the possibility of enlarging the planting site during the repair process.

Actions

- 18.1.1 Tree Maintenance Team Leader to identify possible sites for enlarging the planting site by December 2014.
- 18.1.2 Proposed sites to be presented to Public Works for comment and approval by March 2015.
- 18.1.3 Public Works to schedule proposed project per budget constraints by April 2015.
- 18.1.4 Public Works to request budget for project (s) beginning with fiscal year 2015/16.

Objective 18.2

Develop a new standard for tree wells that provides adequate space for growing trees that will provide maximum benefit to the community.

Actions

- 18.2.1 City Arborist to continue working with City engineers on updating and implementing planting specifications. New standard for tree wells to be completed and implemented by July 2013.

Goal 19

Enhance the visual quality of public space through the design and landscaping of streets. (Policy T-1.1.12) from the 2030 Urban Area General Plan.

Objective 19.1

Provide urban forest input to Planning and Economic Department that would add tree elements to the downtown sense of space.

Actions

19.1.1 Parks Manager to develop a protocol whereby the City Arborist is to be included in development and review process of new projects by December 2012.

Objective 19.2

Using the approved planting list customize one for each specific plan that is identified in the City's General Plan.

Actions

19.2.1 Park Manager together with the City Arborist to customize a planting plate for each of the specific plans identified in the General Plan by December 2013.

19.2.2 Park Manager to facilitate review of planting palate by staff and management by April 2014.

19.2.3 Park Manager to facilitate review of planting palate by the public through a public hearing by June 2014.

19.2.4 Planting palate to be approved by City Council if necessary by September 2014.

Monitoring Plan**Goal 1**

Establish and maintain optimal levels of tree cover to maximize ecosystem benefits provided by the urban forest, (maintain air quality, reduce energy use, moderate stormwater runoff, and provide a favorable environment for city residents).

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
1.1. Identify potential planting sites in parks.	locations for planting	n/a	n/a	Spread sheet and locations marked on park maps	Parks Manager to complete work and provide a report when completed to Dept. Head
1.2. Current vacancies in streets are 680. Develop a planting plan for these vacant street tree sites.	Location of vacancies and when planted	Work reports from WCA or Volunteer Groups	Semi Annually	WCA Files Info imported by WCA for their work and MTL for staff/volunteer work	Tree Maintenance Leader to monitor and provide semi-annual reports
1.3. Develop a planting plan for planting sites in parks.	Location of vacancies and when planted	Work reports from WCA and or city staff	Semi Annually	WCA Files Info imported by WCA for their work and MTL for staff/volunteer	Tree Maintenance Leader to monitor and provide semi-annual reports

				work	
1.4. Designate species selection for new and replacement trees for the street tree vacant sites.	Use inventory analysis	Work reports from WCA and or city staff	Semi Annually	WCA Files Info imported by WCA for their work and MTL for staff/volunteer work	Tree Maintenance Leader to monitor and provide semi-annual reports
1.5. Designate species selection for new and replacement trees for park sites.	Use inventory analysis	Work reports from WCA and or city staff	Semi Annually	WCA Files Info imported by WCA for their work and MTL for staff/volunteer work	Tree Maintenance Leader to monitor and provide semi-annual reports
1.6. Identify potential benefits from these new and replacement plantings.	Feedback from Stakeholders	Site inspections	As needed	WCA Files Info imported by WCA for their work and MTL for staff/volunteer work	Tree Maintenance Leader to monitor and provide semi-annual reports

Goal 2

Maintain trees in a healthy condition through good cultural practices. Write a BMPs policy.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
2.1. Write Best Management Practices policy for all tree care activities following ISA and ANSI standards. Attach in the appendix of this document and will be approved along with the UFMP.	ANSI A300 ISA Best Management Practices	Booklets	Industry standards	Import industry updates	Review by Maintenance Team Leader
2.2. Staff and Contractors will follow these approved BMPs in their daily activities.	WCA or staff work reports	Visual site inspections	Weekly	Use tree inventory	Maintenance Team Leader to monitor

2.3. Pruning objectives are to maintain tree health, reduce risk of failure, provide clearance and improve aesthetics.	Reports	WCA Reports	Annual	Spread sheets	WCA annually
2.3. Pruning objectives are to maintain tree health, reduce risk of failure, provide clearance and improve aesthetics.	Reports	WCA Reports	Annual	Spread sheets	WCA annually
2.5. Tree care of insects and diseases problems will follow Integrated Pest Management practices (IPM).	IPM Reports	WCA Reports	Semiannual	Spread sheet	Maintenance Team Leader

Goal 3

Establish and maintain an optimal level of age and species diversity.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
3.1. Develop a program/plan that works towards an Urban Forest that has no more than 10% of any one family and no more than 2.5% of any one species within a family.	New Plantings and Removals	Inventory Records	Annual	Spread Sheets	Maint Team Leader
3.2. Stagger new and replacement plantings to encourage age diversity since 2/3 of the current	New plantings	Inventory records	Annual	Spread sheets	Maint Team Leader

population are young trees.					
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Goal 4

Promote conservation of existing tree resources. Remain a "Tree City USA"

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
4.3. Retain "Tree City USA" status by complying with Arbor Day Foundation requirements.	Required Information	WCA Records	Annual	Spread Sheets	Maint Team Leader to apply
4.5. Promote the care and preservation of native trees as outlined in the Open Space for Public Health policy.	Work records on native trees		Annual	Spread Sheets	Maint Team Leader
4.7. Enforcement of existing tree removal and replacement policy.	Work Records	Work Requests	Semi annual	Spread sheets	Maint Team Leader reports.

Goal 5

Select, situate, and maintain urban trees appropriately to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
5.3. Develop an approved planting list and plan city wide for public trees.	Planting plan	Work records for plan compliance	Semi-annual	Spread sheet	Maint Team Leader

Goal 6

Promote efficient and cost-effective management of the urban forest.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
6.2. Develop a program to eliminate deferred maintenance while being	Work records on deferred maintenance	WCA reports	Annual	Spread sheets	Maint Team Leader to report

mindful of budgetary constraints.					
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Goal 7

Centralize tree management under the urban forester and coordinate tree-related activities through this position. Interdepartmental policy and procedures for trees needs to emphasize and strengthen this part of the mission statement.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
7.2. Use Parks Department as the city's internal Consulting Arborist for community development, risk, & other tree related issues within the city.	Each tree issue is recorded	Internal review	Each issue is followed	Spread sheets	Maint Team Leader

Goal 8

Foster community support for the local urban forestry program.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
8.2. Investigate current and develop additional education and outreach programs that promote the benefits of the Urban Forest.	Resident feedback	Survey re trees	Bi-annual	Spread sheet	Maint Team Leader

Goal 9

Encourage good tree management on privately owned properties.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
9.1. Provide educational material on-line regarding tree selection and care.	Track tree care in the city	Visual inspections	Yearly	Spread sheet	Maint Team Leader

Goal 10

Implement a removal and replacement program to eliminate undesirable trees or trees that are growing in a space that is inadequate for the species.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
10.2. Develop a schedule of removals based on established priorities over time so as not to denude any one area.	Trees Removed	Work orders	WCA daily work records	Spread Sheet	Maint Team Leader reporting
10.4. Schedule replacement plantings using volunteers when possible.	Trees planted	Work Orders	WCA Work Records	Spread Sheet	Maint Team Leader reporting

Goal 11

Develop a tree-trimming program that promotes a minimum of a three to five year cycle for street trees.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
11.1. Secure funding for a three to five year cycle of trimming.	Trees Trimmed	Work Orders	Annual	Spread Sheets	Maint Team Leader to report on trim cycles.

Goal 12

Develop master planting plan for the Downtown Maintenance Districts.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
12.1. Identify block planting theme for Downtown using species diversity.	Master Plan Developed			Spread Sheet	Maint Team Leader to develop plan

Goal 13

Navy property - develop an approved tree list for trees planted on public property.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
13.1. Based on development densities, block-planting	Approved List of Trees	N/A	n/a	Spread sheet	Maint Team Leader to develop plan

themes are to be developed using species diversity and low maintenance plants.					
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Goal 14

Develop an interactive computer program that educates staff and public on the value of trees, the city's work program, and information about the various tree species.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
15.1. Link property owner addresses to the public tree(s) located there. Provide information about the type of tree(s) what maintenance has occurred, when it happened and when future maintenance is scheduled.	Public Comment	Survey Public on usage	Bi-Annual	Spread Sheet	Maint Team Leader to write report.

Goal 15

Reuse all green products from trees considering highest and best use such as lumber for wood products down to mulch for planting areas.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
16.1. Establish a program with protocols for collecting logs from tree removals and distribute them to local users.	Logs sent to landfill	Landfill to monitor	Monthly	Spread sheets	Landfill to report to City

Goal 16

Once this plan is adopted, it will be reviewed every five years.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
17.2. The	n/a	n/a	n/a	Report	UFMP is

UFMP is to be an approved element of the City's General Plan.					included in revised General Plan
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Goal 17

Enlarge planting sites for the purpose of capturing storm water, benefiting trees, and reducing hardscape damage.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
18.1. Where there are sidewalk failures due to confined growing space for trees, look at the possibility of enlarging the planting site during the repair process.	Work orders	Work records	Annual	Spread sheet	Maint Team Leader to report on effectiveness of the program to CC

Goal 18

Enhance the visual quality of public space through the design and landscaping of streets. (Policy T-1.1.12) from the 2030 Urban Area General Plan.

Objective	Data Collected	Monitoring methods	Data collection frequency	Data storage	Analysis & reporting
19.2. Using the approved planting list customize one for each specific plan that is identified in the City's General Plan.	Plants approved on plans	Approved plans reviewed	Each plan	Spread sheet	Planning Dept. to report annually as to compliance.

Appendix

Chapter 114 VEGETATION of the Municipal Code

*Cross references: Buildings and building regulations, ch. 14; manufactured homes, mobile homes, and trailers, ch. 58; neighborhood preservation, ch. 62; weeds and other vegetation, § 62-71 et seq.; parks and recreation, ch. 74; planning and development, ch. 78; stormwater management and grading and erosion control, ch. 86; streets, sidewalks, and other public places, ch. 90; subdivisions, ch. 94; subdivisions requirements for street trees, § 94-34; shrubbery or foliage obstructing visibility at intersections, § 106-3; shrubbery or foliage obstructing visibility of traffic control devices, § 106-4; zoning, ch. 122.

Article I. In General

Secs. 114-1--114-30. Reserved.

Article II. Trees and Shrubs

Division 1. General

Sec. 114-31. Intent and purpose.

Sec. 114-32. Definitions.

Sec. 114-33. Authority of City Manager.

Sec. 114-34. Approval of action or treatment affecting trees or shrubs on public property.

Sec. 114-35. Maintenance of city-owned trees, shrubs, hedges, and heritage trees.

Sec. 114-36. Duties of owners of trees and shrubs growing on or near right-of-way or public place.

Sec. 114-37. Public nuisances.

Sec. 114-38. Order to correct condition.

Secs. 114-39--114-60. Reserved.

Division 2. Heritage Trees

Sec. 114-61. Purpose and intent.

Sec. 114-62. Criteria; designation of heritage tree by Planning Commission.

Sec. 114-63. Nomination for heritage status.

Sec. 114-64. Identification; property rights; duties of property owner.

Secs. 114-65--114-74. Reserved.

Division 3. Protected Trees

Sec. 114-75. Purpose and intent.

Sec. 114-76. Permit required for removal; exceptions.

Sec. 114-77. Issuance of permit for removal; possession of permit.

Sec. 114-78. Appeal.

ARTICLE I. IN GENERAL

Secs. 114-1--114-30. Reserved.

ARTICLE II. TREES AND SHRUBS

DIVISION 1. GENERAL

Sec. 114-31. Intent and purpose.

The intent and purpose of this article is to provide a uniform method for the proper care of trees, shrubs, and hedges in parks, in public places, and along those streets defined in section 1-10 of this Code; to provide for the public health, safety, and general welfare; to contribute to the attractiveness and quality of life in the city; to identify and maintain heritage trees; to promote and preserve the city's aesthetic value; and to define the powers and duties of those who administer this article. The provisions of this article are supplemented by Article VI, Division 3 of the Development Code, which specifically addresses the protection of trees related to projects for which a permit from the Planning Division is required.

(Code 1965, § 4300; Ord. No. 809; Ord. No. 89-15; Ord. No. 12-4)

Sec. 114-32. Definitions.

Appropriate planning agency. For purposes of this article, an appropriate planning agency is the Planning Commission, Design Review Board, or Zoning Administrator.

(Code 1965, § 4301; Ord. No. 89-15)

City-owned tree, shrub, or hedge. Trees, shrubs, and hedges along the major street system, as shown in the Transportation and Circulation Element of the General Plan, which are not required to be maintained by the adjacent property owner as a condition of development approval, or which are not maintained by a landscape maintenance district, homeowners' association, or other provisions for private maintenance.

(Code 1965, § 4301; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 12-4)

Drip line. Generally circular shape formed by the outermost points on branches of a tree projected to the ground plane.

(Code 1965, § 4301; Ord. No. 89-15)

Hedge. Any plant material, shrub or plant, annual or perennial in nature, not necessarily hardy.

(Code 1965, § 4301; Ord. No. 809)

Heritage tree. Any tree or group of trees which has a relationship to an event of historical significance or is of public interest and which has been officially designated by action of the Planning Commission as a heritage tree.

(Code 1965, § 4301; Ord. No. 89-15; Ord. No. 12-4)

Non-protected tree. Includes any member of the genus *Eucalyptus*, any member of the genus *Acacia*, any common palm tree (*Arecaceae*), Monterey pine (*Pinus radiata*), and any member of the genus *Ligustrum* (commonly referred to as privet), unless such tree has been specifically designated a heritage tree by action of the Planning Commission.

(Ord. No. 12-4)

Parks. All public parks within and without the city.

(Code 1965, § 4301; Ord. No. 809)

Protected tree. A protected tree is:

(Ord. No. 12-4)

(a) Any of the following listed native trees with a diameter of 12 inches or more as measured 54 inches above the ground (e.g., diameter at breast height) or a multi-stemmed native tree on the list below where the sum of all stem diameters is 12 inches or more as measured 54 inches above the ground: Valley oak (*Quercus lobata*), Blue oak (*Q. douglasii*), Coast live oak (*Q. agrifolia*), California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), and California sycamore (*Platanus racemosa*);

(Ord. No. 12-4)

(b) Other trees (except those specifically listed as non-protected) with a diameter of 24 inches or more as measured 54 inches above the ground (e.g., diameter at breast height) or more or a multi-stemmed non-native tree where the sum of all stem diameters are 24 inches or more as measured 54 inches above the ground;

(Ord. No. 12-4)

(c) Any tree which has been previously designated as a heritage tree by Planning Commission resolution;

(Ord. No. 12-4)

(d) A tree required to be planted, relocated, or preserved as a condition of approval of a Tree Permit or other discretionary permit, and/or as environmental mitigation for a discretionary permit; and

(Ord. No. 12-4)

(e) A tree with a trunk diameter of six inches or more or one component trunk of a multi-stemmed tree with a diameter of four inches or more as measured 54 inches above the ground that is located within the structure setback of creeks or streams as defined in Development Code Article VI (Resource Management), Division 2 (Creek and Riparian Habitat Protection), Subsection 122-802(a).

(Ord. No. 12-4)

Public places. All grounds or areas other than streets or parks owned by, leased to, or under the contract of the city.

(Code 1965, § 4301; Ord. No. 809)

Shrub. A woody plant of relatively low height, distinguished from a tree by having several stems rather than a single trunk.

(Code 1965, § 4301; Ord. No. 809; Ord. No. 87-34)

Tree. A usually tall woody plant, distinguished from a shrub by having a comparatively greater height and, characteristically, a single trunk rather than several stems.

(Code 1965, § 4301; Ord. No. 809; Ord. No. 87-34)

Cross references: Definitions generally, § 1-10.

Sec. 114-33. Authority of City Manager

(a) Supervision of trees and shrubs in public places. The City Manager, or his or her designee, shall have jurisdiction and supervision over all trees, shrubs, hedges, and heritage trees planted or growing along streets, in parks, or other public places.

(Code 1965, § 4302; Ord. No. 809; Ord. No. 1235; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

(b) Authority to preserve or remove trees and shrubs in public places. The City Manager, or his or her designee, shall have the authority to plant, trim, spray, preserve, and remove trees, shrubs, and hedges along streets, or in parks, or other public places to ensure the public safety and maintain the beauty of such streets, parks, or public places.

(Code 1965, § 4302; Ord. No. 809; Ord. No. 1235; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

(c) Authority regarding trees and shrubs on private property. The City Manager, or his or her designee, shall have the authority to order the trimming, preservation, or removal of trees, shrubs, and hedges upon private or public property, when it is found that an emergency or hazardous situation exists and that such action is necessary to maintain public health, safety, or welfare or to prevent the spread of disease or insects to public trees, parks, or public places. The City Manager, or his or her designee, shall have the authority to affix reasonable conditions to any order which addresses any emergency or hazardous situation.

(Code 1965, § 4302; Ord. No. 809; Ord. No. 1235; Ord. No. 87-34; Ord. No. 87-43; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

Sec. 114-34. Approval of action or treatment affecting trees or shrubs on public property.

(a) Approval required. It shall be unlawful for any person to cut, trim, spray, mutilate, move, remove, bind, spike, replace, injure, or in any way impair the growth of any plant, tree, or shrub being or growing in, along, or upon any street, park, or public place, or any device existing for the protection thereof, without first obtaining written approval from the City Manager, or his or her designee.

(Code 1965, § 4303; Ord. No. 809; Ord. No. 1235; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

(b) Application. The request for approval shall contain such information as the City Manager, or his or her designee, shall find reasonably necessary to make a fair determination of whether approval should be issued.

(Code 1965, § 4303; Ord. No. 809; Ord. No. 1235; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

(c) Standards for approval. The City Manager, or his or her designee, shall grant approval upon finding that the desired action or treatment is necessary and that the proposed method and workmanship are satisfactory.

(Code 1965, § 4303; Ord. No. 809; Ord. No. 1235; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

(d) Issuance; fee; term. The approval shall be issued, without cost, to the applicant and shall be effective for a period of 30 days after issuance.

(Code 1965, § 4303; Ord. No. 809; Ord. No. 87-34; Ord. No. 06-4)

Sec. 114-35. Maintenance of city-owned trees, shrubs, hedges, and heritage trees.

All city-owned trees, shrubs, hedges, and heritage trees shall be maintained so as to preserve the public health, safety, and general welfare; and the City Manager, or his or her designee, shall promulgate any reasonable rules and regulations necessary to establish specific maintenance standards herein or to otherwise implement the provisions of this article.

(Code 1965, § 4304; Ord. No. 809; Ord. No. 1235; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

Sec. 114-36. Duties of owners of trees and shrubs growing on or near right-of-way or public place.

It shall be the duty of any person allowing a tree, shrub, or hedge to grow on the public right-of-way or property which abuts a public place or street to:

(Code 1965, § 4305; Ord. No. 809; Ord. No. 87-34; Ord. No. 87-43; Ord. No. 06-4)

(1) Prune the trees, shrubs, and hedges so as not to cause a hazard to parks, public places, or streets; or to users of these parks, public places, or streets;

(Code 1965, § 4305; Ord. No. 809; Ord. No. 87-34; Ord. No. 87-43; Ord. No. 89-15; Ord. No. 06-4)

(2) Treat or remove any tree, shrub, hedge, or plant of any type or species so diseased or insect-ridden as to constitute a hazard to trees, shrubs, or hedges in streets, parks, or public places;

(Code 1965, § 4305; Ord. No. 809; Ord. No. 87-34; Ord. No. 87-43; Ord. No. 06-4)

(3) Water and fertilize any tree, shrub, hedge, or plant to maintain proper growth and health.

(Code 1965, § 4305; Ord. No. 89-15; Ord. No. 06-4)

Cross references: Streets, sidewalks, and other public places, ch. 90.

Sec. 114-37. Public nuisances.

The following shall be so defined as to constitute a public nuisance:

(Code 1965, § 4306; Ord. No. 809; Ord. No. 06-4)

(1) Any tree, shrub, or hedge on any street or private property of a type or species that may destroy, impair, or otherwise interfere with any street improvements, including but not limited to sidewalks, curbs, street signs, approved street trees, gutters, sewers, or other public improvements, including utility mains or services;

(Code 1965, § 4306; Ord. No. 809; Ord. No. 89-15; Ord. No. 06-4)

(2) Vines or climbing plants growing into, over, or which may otherwise destroy, impair, or interfere with any street tree, shrub, hedge, or public improvements, including but not limited to fire hydrants, poles, electroliers, or street signs;

(Code 1965, § 4306; Ord. No. 809; Ord. No. 89-15; Ord. No. 06-4)

(3) Hedges or shrubs extending beyond a property line into a public right-of-way or which interfere with a public sidewalk or street;

(Code 1965, § 4306; Ord. No. 809; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 06-4)

(4) Any shrub or hedge exceeding the height limit established by the Development Code;

(Code 1965, § 4306; Ord. No. 809; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 06-4; Ord. No. 12-4)

(5) Any tree, tree limb, shrub, hedge, or vine which, after prior determination by the City Manager, or his or her designee, constitutes a hazard to traffic or the public safety. In making such determination, the City Manager, or his or her designee, shall take into consideration the location of the tree, tree limb, shrub, hedge, or vine in relation to the street, sidewalk and street signs, any traffic visibility hazard created, or any hazard to the safety of any motorist or pedestrian using such street or sidewalk;

(Code 1965, § 4306; Ord. No. 809; Ord. No. 1235; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

(6) Any violation of section 106-3 or section 106-4 of this Code.

(Code 1965, § 4306; Ord. No. 87-34; Ord. No. 06-4)

Cross references: Public nuisances, § 62-31 et seq.

Sec. 114-38. Order to correct condition.

(a) Authorized. In addition to the civil, criminal, and administrative remedies available, if a property owner and/or person responsible fails to voluntarily abate a violation of this article within the time and in the manner specified in the abatement notice, the city may abate the violation under the procedure set forth in section 62-38 of this Code.

(Code 1965, § 4307; Ord. No. 809; Ord. No. 1235; Ord. No. 87-34; Ord. No. 87-43; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 06-4)

(b) Payment of costs. The city may pursue any and all legal and equitable remedies for the recovery of fines, costs, and/or associated charges owed to the city as set forth in section 62-38.5. Pursuit of one remedy does not preclude the pursuit of any other remedies until the total fines and abatement charges have been recovered.

(Code 1965, § 4307; Ord. No. 809; Ord. No. 87-34; Ord. No. 06-4)

(c) Failure to perform work. Failure to perform work ordered by city hereunder is a misdemeanor punishable pursuant to section 1-23 of this Code.

(Code 1965, § 4307; Ord. No. 809; Ord. No. 06-4)

Secs. 114-39--114-60. Reserved.

DIVISION 2. HERITAGE TREES

Sec. 114-61. Purpose and intent.

The intent of this Division is to provide a means of formally designating specific trees with exceptional historic, visual, or ecological significance as "heritage trees" and to ensure the continued protection of these trees in the future.

(Code 1965, § 4308; Ord. No. 867; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 12-4)

Sec. 114-62. Criteria; designation by Planning Commission.

A heritage tree is any tree on public or private property which has been specifically designated by resolution of the Planning Commission, consistent with the definition of heritage tree in section 114-32. To be designated a heritage tree by the Planning Commission, a tree or trees must meet the following criteria:

(Code 1965, § 4308.1; Ord. No. 867; Ord. No. 1006; Ord. No. 1148; Ord. No. 87-34; Ord. No. 87-36; Ord. No. 89-15; Ord. No. 12-4)

(1) The tree must be considered an outstanding specimen (or group) of its species by virtue of either its location, health, conformation, age, size, or rarity, or any combination of the same;

(Code 1965, § 4308.1; Ord. No. 867; Ord. No. 1006; Ord. No. 1148; Ord. No. 89-15)

(2) The tree must be in a location and in a state of health which indicates a high possibility of survival, given reasonable care, and in a location which would not automatically preclude reasonable future development of the site.

(Code 1965, § 4308.1; Ord. No. 867; Ord. No. 1006; Ord. No. 1148; Ord. No. 89-15)

Sec. 114-63. Nomination for heritage status.

The Planning Commission may receive nominations of trees for heritage tree status through the Department of Community and Economic Development, Planning Division. Written acceptance of the proposed designation by the property owner shall be required.

(Code 1965, § 4308.2; Ord. No. 867; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 92-4; Ord. No. 12-4)

Sec. 114-64. Identification; property rights; duties of property owner.

(a) Once formally designated, a heritage tree may be identified with a marker or other means as determined by the Planning Commission, provided the property owner consents to such an identification. The Director of Planning shall maintain a current list of all heritage trees so designated by the Planning Commission.

(Code 1965, § 4308.3; Ord. No. 867; Ord. No. 89-15; Ord. No. 12-4)

(b) A designated heritage tree shall remain the property of the landowner.

(Code 1965, § 4308.3; Ord. No. 867; Ord. No. 89-15; Ord. No. 12-4)

(c) The care of the designated heritage tree shall be the responsibility of the property owner.

(Code 1965, § 4308.3; Ord. No. 867; Ord. No. 12-4)

(d) Any property owner having a designated heritage tree on his property shall be expected to give the tree reasonable care to ensure its continued good health.

(Code 1965, § 4308.3; Ord. No. 867; Ord. No. 12-4)

Secs. 114-65--114-74. Reserved.

DIVISION 3. PROTECTED TREES

Sec. 114-75. Purpose and intent.

It is the intent of this Division to establish regulations for the preservation of large, mature trees, including permitting requirements for the removal of such trees on private property. The preservation of trees is necessary for the health and welfare of Concord residents in order to conserve scenic beauty, prevent erosion of topsoil, protect against flood hazards, counteract the pollutants in the air, and maintain the climatic and ecological balance of the area. It is also the intent of this division to acknowledge the establishment of complementary regulations in the Development Code which ensure the preservation, maintenance, and replacement of protected trees on properties where construction and development is proposed.

(Code 1965, § 4308; Ord. No. 867; Ord. No. 87-34; Ord. No. 89-15; Ord. No. 12-4)

Sec. 114-76. Permit required for removal; exceptions.

It shall be unlawful for any person to remove, or cause to be removed, any protected tree from any parcel of property in the city without first obtaining a permit to do so; provided, however, that in cases of emergency when a tree is hazardous or dangerous to life or property, it may be removed by order of the Chief of Police, by the Chief of the Contra Costa County Consolidated Fire District, or by the Director of Public Works. Provided, further, in emergency situations only where the public health and safety is affected, any duly authorized representative of any public utility or of the city may remove trees which interfere with the safe and efficient operation of the public service for which they are responsible. Non-protected may be removed without a permit.

(Ord. No. 12-4)

Sec. 114-77. Issuance of permit for removal; possession of permit.

(a) Application. Any person desiring to remove one or more protected trees shall apply to the City Manager for a permit, unless the removal is associated with an application to the Planning Division in which case the provisions of Article VI, Division 3 of the Development Code shall apply. The application for a permit shall be made on forms provided for the purpose and shall include the following:

(Ord. No. 12-4)

(1) A plan which clearly indicates the location of the tree(s) to be removed and the quantity and species of trees to be planted in exchange for the protected tree;

(Ord. No. 12-4)

(2) Specification of the species, size, and (if applicable) heritage tree designation of the tree(s) to be removed;

(Ord. No. 12-4)

(3) Statement of specific reasons for the proposed removal;

(Ord. No. 12-4)

(4) Filing fee as set forth in the Resolution Establishing Fees and Charges for Various Municipal Services;

(Ord. No. 12-4)

(5) Any additional information as the City Manager or other designated person determines necessary, which may include a report prepared by a qualified arborist. An arborist's report shall generally not be required for the removal of a native tree less than 24 inches in diameter (or a multi-stemmed native tree which has at least one stem which is 8 inches in diameter) as measured 54 inches above the ground surface, provided that the Director of Public Works or his/her designee verifies that the proposed removal meets the review criteria below through a site visit or equivalent evaluation.

(Ord. No. 12-4)

(b) Review; criteria for evaluation. Any person desiring to remove one or more protected tree(s) shall apply to the City Manager unless such removal is associated with a project requiring a planning permit pursuant to subsection 114-77(d) below. Requests for removal shall be evaluated by the Director of Public Works or his/her designee. In either case, there shall be a complete review of all application information, inspection of the site and subject tree, and a determination of the following:

(Ord. No. 12-4)

(1) The condition of the tree or trees with respect to disease, whether the tree acts as a host for plants or animals, its danger of falling, and its potential for endangering other nearby trees;

(Ord. No. 12-4)

(2) Proximity to existing or proposed structures;

(Ord. No. 12-4)

(3) The proximity to, or potential to, interfere with existing utilities or buildings;

(Ord. No. 12-4)

(4) The necessity to remove the tree or trees in order to construct any proposed improvements to allow economic enjoyment of the property;

(Ord. No. 12-4)

(5) Topography of the land and the effect of removal of the tree on erosion, soil retention, and diversion or increased flow of surface waters;

(Ord. No. 12-4)

(6) The number of trees existing in the neighborhood on improved property and the effect removal would have on the established standard of the area and the property value;

(Ord. No. 12-4)

(7) The number, size, and type of replacement trees to be provided.

(Ord. No. 12-4)

(c) Priority of applications; staff reports. In reviewing applications, City Manager or his/her designee, shall give priority to those applications for removal of a heritage tree based on hazard or danger of disease. Applications may be referred to another department, committee, board, or commission of the city for report and recommendation.

(Ord. No. 12-4)

(d) Coordination with applications for development. An application to remove a protected tree, which is the result of an application for development or construction, shall be subject to the provisions of Article VI, Division 3 of the Development Code. Such applications shall be submitted to the Planning Division and coordinated with the initial application for approval of that development consistent with the requirements of Article VIII of the Development Code.

(Ord. No. 12-4)

(e) Possession of permit. It shall be the responsibility of the person or company removing a heritage tree to have on his person the permit for removal. Noncompliance shall be considered an infraction punishable under section 1-22 of this Code.

(Ord. No. 12-4)

(f) Enforcement. Any person, including but not limited to the property owner, the person performing the work, and/or any other responsible person, who violates any provision of this Division or any condition imposed upon any permit issued hereunder shall be liable to the City for a civil penalty to be determined by the City based on the value of the tree and the extent of the damage done.

(Ord. No. 12-4)

Sec. 114-78. Appeal.

The decision of the City Manager or appropriate planning agency, whichever applies, may be appealed by the applicant or any interested person to the City Council in accordance with section 2-53 of this Code. This section shall not apply to those orders subject to appeal pursuant to subsection 114-38.

(Ord. No. 12-4)

NURSERY STOCK AND PLANTING SELECTING NURSERY STOCK STANDARDS

Container material is the most common type of nursery stock in California, however bare root tree stock in the winter is a good alternative when appropriate.

Selecting Quality Container Nursery Stock

Trees should meet the following minimum standards. Trees that do not meet these requirements will be rejected. The City of Concord retains the right to inspect the root mass of each tree or a representative sample of each species.

Tree planting specifications for selection of quality tree stock shall be as follows:

- All trees shall be true to type or botanical name as ordered or shown on planting plans or contract orders.
- All trees shall have a single, relatively straight trunk with a good taper and branch distribution vertically, laterally and radially with a live crown ratio (distance from bottom of canopy to tree top/tree height) of at least sixty percent (60%). All branches in the canopy should be less than two-third (2/3) the trunk diameter and free of included bark. The trunk and main branches shall be free of wounds except for properly made pruning cuts, damaged areas, conks, bleeding and signs of insects or disease.
- All trees shall be healthy, have a form typical for the species or cultivar, be well rooted and pruned as appropriate for the species.
- all trees shall have sufficient trunk diameter and taper so that it can remain vertical without the support of a nursery stake within six months.
- The root ball of all trees shall be moist throughout and the crown shall show no sign of moisture stress.

City of Concord tree stock specifications continued.
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Individual tree specifications are as follows:

- The tree shall be well rooted in the soil mix. The point where the topmost root in the root ball emerges from the trunk should be visible at the soil surface of the root ball. When the container is removed, the root ball shall remain intact. When the tree is lifted, the trunk and root system shall move as one.
- All trees shall comply with federal and state laws requiring inspection for plant diseases and pest infestations.
- No tree shall be accepted that has been severely topped, headed back or lion-tailed.
- No tree shall be accepted with co-dominant stems or excessive weak branch attachments that cannot be correctively pruned without jeopardizing the natural form of the species.
- No tree shall be accepted that is root bound, shows evidence of girdling or kinking roots, or has roots protruding above the soil (a.k.a. "knees").
- No tree shall be accepted that has roots greater than one-fifth (1/5) the size of the trunk diameter growing out of the bottom of the container.

Planting Specifications

A. General

The City of Concord shall be the responsible authority for determining the appropriate species or variety of trees planted within the public rights-of-way or easements.

B. Specific Planting Policies

- a. Trees shall be planted in conformance with the approved master plan and in accordance with the Public Works Department Standard Specifications.
- b. A minimum of one street tree shall be planted per lot. Property with frontage of 65 feet or more shall have trees planted at an average maximum spacing of 35 feet (tree to tree) on center. The actual number of trees and spacing for planting will be based on the established canopy width of the designated species as approved by the Public Works Department. To preserve the integrity of the street pattern, where site constraints preclude planting of a street tree within the right-of-way trees may be planted on private property in those instances where an easement for that purpose has been provided.
- c. Property owners may plant trees at the owner's expense in accordance with Department standards and subject to prior written approval of the Department.
- d. Planting of street trees shall be required at the time the property abutting the right-of-way is developed. The owner of the abutting property shall be responsible for the costs of furnishing, installing and providing a minimum of the first two years of maintenance for all street tree plantings.

Planting Specifications

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- e. To maximize the square footage of tree canopy and its benefit to the City, all new and redeveloped properties both residential and commercial shall be required to provide funding for public trees. Fees are established by the City Council.
- f. The Department within 120 days of removal shall replace trees removed by the Department. If possible, no trees will be planted by the City between June 1st and September 30th.
- g. Tree removal through a permit by other agencies shall be subject to both a mitigation and replacement fee and shall be replaced by the City's Public Works staff within 120 days. If possible no trees will be planted by the city between June 1st and September 30th.
- h. Watering of all street trees within the City shall be the responsibility of the abutting property owner, except in reverse frontage and median strips that are maintained by the city. The Department is responsible for all other maintenance after completion of the maintenance period and the written acceptance by the Department.
- i. Trees shall not be required to be planted in street right-of-way abutting undeveloped property. If the property owner desires to plant the street right-of-way abutting the owner's undeveloped property, the owner must provide an automatic irrigation system and shall be responsible for the cost of installation and maintenance. The Director may require the posting of a bond of a sufficient amount to guarantee the installation and care of the appropriate improvements.

Planting Specifications

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- j.** When the sidewalk is located next to the curb, the trees shall be planted a minimum of one foot from the right-of-way line within the public street right-of-way line or easement. Where right-of-way is not available adjacent to the sidewalk, the trees should be planted in easements behind the sidewalk whenever possible. When a tree well in the sidewalk is the only possible solution, a tree will be selected that will not cause or result in long-range curb and or sidewalk damage.

C. Public Safety

In the interest of public safety and maintenance trees shall be planted:

- a.** A minimum distance from the intersection to provide adequate sight distance. Minimum distance shall be 30 feet from beginning of curve at the curb return, except at secondary and arterial streets; the minimum shall be 50 feet.
- b.** Five (5) feet minimum from fire hydrants, service walks and driveways.
- c.** Ten (10) feet minimum from sewer laterals, other utility services laterals and water meters.
- d.** Fifteen (15) feet minimum from lamp standards.
- e.** With consideration given to those varieties of trees that will not create a conflict with existing overhead electric utility lines.

Planting Specifications

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- f.** All trees, other than palm trees, shall be planted a minimum 15-gallon size in residential areas and 24" box size in commercial areas. A 15-gallon or 24" box is defined/determined by the American Association of Nurserymen. Smaller/larger sizes may be permitted/required by the City if warranted.
- g.** All newly planted trees shall have the nursery stakes removed and replaced with others per Department standards.
- h.** All staked trees shall be inspected twice a year and the stakes are to be adjusted or removed as necessary.
- i.** All trees planted in tree wells shall be installed and irrigated in a manner to promote deep rooting per Department standards. All trees in wells shall be installed with an automatic irrigation system.

Tree Preservation Guidelines

Trees are an essential element of Concord 's image and quality of life. Hardscape elements, such as sidewalks, curbs, gutters, and driveways are also indicative of the City's commitment to maintain its infrastructure. Over the years, broken and damaged sidewalks, curbs, and gutters and driveways will have to be replaced throughout the City, University, etc. As a result, many trees will be involved. Whenever possible, curbs, gutters, and sidewalks should be meandered away from the tree thereby providing more growing space for roots. Trees will probably also be impacted during new construction and need to be protected. To manage this process and protect existing trees, the following guidelines have been established:

1. Root Pruning

- a. Whenever sidewalk, curb gutter or driveway replacements occurs within four feet of a tree, the site will be inspected by the Maintenance Team Leader or designee of the Public Works Department for tree impact assessment. Root pruning may be performed on any tree that the Public Works Department determines can be safely performed without jeopardizing the life of the tree.
- b. All roots greater than two (2) two inches in diameter must be cleanly cut to encourage good callus tissue. It is recommended that roots be pruned back to the next root node.

2. Sidewalk Renovation

Trees that would be seriously impacted by root pruning during sidewalk replacements will be inspected by a certified arborist or urban forester in coordination with the Public Works Department to determine whether:

Tree Preservation Guidelines

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- a. The repair work can be deferred and a temporary asphalt patch used to eliminate any hazard until other steps can be reviewed and implemented.
- b. The tree can be saved by narrowing the sidewalk near the tree, while still leaving sufficient sidewalk width for disabled access. Standard disability access width is four (4) feet with variances given to 38 inches where absolutely necessary.
- c. Relocating the sidewalk onto private property and negotiating the appropriate easement with the adjacent property owner can save the tree.
- d. The tree can be saved by replacing the sidewalk with minimal disruption of the roots (alternatives: a temporary asphalt sidewalk; rubberized sidewalk; use of root barrier fabric; raising the grade over the roots; and immoral walkway; or other options).
- e. To remove the tree and replace it with a minimum 24" boxed replacement tree.

3. Curb and Gutter Replacement

Trees that would be seriously impacted by root pruning during curb/gutter replacement will be inspected by a Certified Arborist or Urban Forester in coordination with the Public Works Department to determine whether:

- a. The repair work can be deferred if it does not create drainage problems or otherwise increase street maintenance unnecessarily and is not a hazard.

Tree Preservation Guidelines

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- b.** The tree can be saved by relocating the curb and gutter into the street at least one foot (ideally two (2) to six (6) feet), thereby narrowing the street width, which in effect may cause the elimination of some street parking.
- c.** Where six or more trees along one side of a block are severely affected, consideration is to be given to relocating the curb and gutter into the street along the entire block.
- d.** The tree can be saved by replacing the curb and gutter with minimal disruption of the roots (alternatives: temporary asphalt curb and gutter, use of root barrier fabric: or other similar options).

4. Recovery Period

When significant root pruning on two sides of a tree is required, there will be a 24-month separation between sidewalk and curb/gutter repair to allow time for the tree roots to recover. An exception to this policy may be made if the curb/gutter or sidewalk is relocated away from the tree or other measures are employed that reduce or eliminate root involvement or it is otherwise determined by the Maintenance Crew Leader or designee that the root involvement is minimal.

5. Construction Projects

The following guidelines have been developed to protect trees on city property during construction projects:

Tree Preservation Guidelines

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- a. A root protection zone shall be defined by a minimum 42" high barrier constructed around any potentially impacted tree. This barrier shall be at the drip line or at a distance from the trunk equal to 6 inches for each inch of trunk diameter 4.5 feet above the ground if this method defines a larger area.
- b. Should it be necessary to install irrigation lines within this area, the line shall be located by boring, or an alternate location for the trench is to be established.

The minimum clearance between an open trench and a street tree shall be one (1) foot or six inches for each inch of trunk diameter measured at 4.5 feet above existing grade if this method defines a larger distance. The maximum clearance shall be ten (10) feet. The contractor shall conform to these provisions unless otherwise directed by the (city or name of organization).

- c. At no time shall any equipment, materials, supplies or fill be allowed within the prescribed root protection zone unless otherwise directed by the agency.

It is recognized that failure to abide by these provisions will result in substantial root damage to trees that may not be immediately apparent. The Public Works Department will therefore assess damages according to the International Society of Arboriculture standards and bill the responsible party.

6. Release Requirements

In order for construction work to begin that will impact a tree, a signed release form must be issued by the Public Works Department. This release shall be based on the condition of

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the tree and an assessment of the impact of the proposed construction. Mitigation measures necessary to protect the tree will also be stated.

In the event a tree must be removed, the Public Works will issue a Tree Removal Permit.

7. Protecting Tree Roots from Vehicular Compaction.

In order to protect our Urban Forest and this city's assets; it shall be unlawful for any vehicle to be parked under the drip line of a public tree in non-paved areas such as parkway strips.

In summary, it is the City of Concord's policy to protect its valuable resources and also to provide useable, safe sidewalks, curbs, gutters, and other infrastructure features. Although this policy may cost more in the short run, the long-term solutions will benefit the city both aesthetically and fiscally.

Tree Planting Procedures

- All planting locations shall be checked for underground conflicts. It is mandatory that Dig Alert is notified to detect all underground utilities prior to any digging.
- Dig planting holes 2-3 times as wide as the container. The depth of the planting pit shall be equal to the size of the rootball. Place the tree in the planting pit so the trunk flare or the top of the rootball is at least one-half inch to 1 inch (1/2" to 1") above finish grade. In grass covered parkways the top of the rootball shall be higher than the surrounding soil by one-half inch to one inch (1/2" to 1"). In a concrete tree well, the rootball shall be one inch (1") above the level of the finished surface of the surrounding concrete.
- When obtaining a tree from a nursery, always carry the tree by its container or rootball, never by the trunk.
- After removing the tree from the container, cut circling roots and matted roots off the bottom. Check for any circling roots missed during initial inspection. Any roots less than one-third (1/3) the size of the trunk shall be removed with a sharp pruning tool.
- Before placing the tree in the planting pit, examine the root ball for injured roots and the canopy for broken branches. Damaged roots shall be cleanly cut off at a point just in front of the break. Broken branches shall be cut out of the canopy making sure that the branch collar is not damaged.
- Backfill with soil removed from the planting hole. Only add fertilizer or compost if soil analysis indicates it is required. Build a temporary four to six inches (4" to 6") water retention berm around the root ball to allow for establishment watering. Immediately after planting the tree, water it thoroughly by filling the water retention basin twice.
- Eliminate all air pockets while backfilling the planting pit by watering the soil as it is put into the hole. Do not compact the backfill by tamping it down.

Planting Procedures continued

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- All trees shall be staked with two wooden lodge poles and two per pole. The minimum diameter of a lodge pole is two inches (2"), but may be larger for 36" and 48" box trees. Place the tree ties at one-third ($1/3$) and two-third ($2/3$) of the trunk height. Drive the stake into the ground approximately twenty-four to thirty inches (24" to 30") below grade making sure not to penetrate the root ball.
- Mulch with a two to four inch (2" to 4") layer of mulch where appropriate to conserve soil moisture, provide protection from extreme temperatures and prevent damage from weed eaters. Mulch shall be kept three to four inches (3" to 4") away from the tree trunk and shall extend at minimum to the boundary of the water retention basin. It may extend further if desired.
- The soil around the new tree shall be kept moist, but not saturated, by watering at least once a week during the cooler winter months and twice a week during the hot summer months.