From: Smartsheet Forms <forms@smartsheet.com>
To: afege <afege@aol.com>
Subject: Confirmation - Amendment Request Form
Date: Sun, Mar 1, 2020 3:47 pm

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Amendment Request Form

Date of Request	03/01/2020
Submitter Name	Anne Fege
Affiliation	Public
Email Address	afege@aol.com
Phone Number	8584721293
Name of Item	Trees--Points and Palms
Type of Amendment	Regulatory Reform
Is this implementing a state law?	N/A
Bill Number (if applicable)	
Is compliance with the state bill mandatory or optional?	N/A
Background	“Plant points” are required to fulfill areas landscape requirements in sections §142.0404 Street Yard and Remaining Yard Planting Area and Point Requirements and §142.0405 Additional Yard Planting Area and Point Requirements. Table 142.04B assigned plant points by planting stock size. Local arborists, urban foresters, and landscape architects met on March 8, 2019 to review current land development codes relating to trees. They formed teams to review current codes, gathered information from other cities and relevant research, and recommended revisions. This proposal reflects discussions through February 2020, incorporation of current arboriculture science and practices, and benchmarking with other municipal codes.
Issue	Containerized nursery tree stock size is inversely related to transplanting establishment and long term tree health. (Larger transplanted trees do not necessarily become healthier trees.) Studies on container transplant size have shown, across species and locations, that trees transplanted from smaller container sizes exhibited a more robust application to the planting site and

	greater percent change in growth than the larger container-size trees, in the first growing seasons. That growth is due to greater lateral root penetration into the soil, and more rapid establishment of trees to the permanent site. (Ref: Garcia-Chance, L.M., M.A. Arnold, G.C. Denny, S.T. Carver, and A.R. King. 2016. Differential environments influence initial transplant establishment among tree species produced in five container sizes. Arboriculture & Urban Forestry 2016:42(3): 170-180; and other references) Palms contribute little to tree canopy, shade, or stormwater management. Canopy cover is essential to reducing urban heat, promoting neighborhood walkability and active living, carbon sequestration, storm water management and erosion control. As the City's Climate Action Plan goals include increasing canopy, the City's policies need to favor shade trees and eliminate most palms. Even as tropical looking palms are aesthetically pleasing to many and contribute to the "vacation" atmosphere which drives tourism, they need to be limited. Palms have their place in the City but can and should be planted judiciously; particularly at the coast, historic sites and high value tourist sites. Palms have much higher water requirements than the low- and medium-water requiring trees that are planted. Palm trimming is recommended every two years and is expensive. Workers are often required to climb the palms to remove dead and dying fronds, flowering clusters and any fruit (dates, coconuts).When not pruned regularly, they are known wildfire hazards in high winds when fronds are blown to catch in powerlines, and when fronds are ignited and are blown onto other properties to ignite new fires. The "points" system is inexplicably complex, and not a common planning or municipal regulatory approach. The scientific and practical rationale behind the City's "points" system is no longer accessible. As it was established when most building was on "undeveloped land," these approaches may no longer be relevant for infill. Even though developers and landscape architects have worksheet guides and years of experience applying it, it may be time to consider another approach to requiring shrubs, trees and other landscaping in residential and commercial developments.
Objective	By planting smaller trees, increase tree health and likelihood of success as trees adapt to their planted site. Align regulations with research results and established arboriculture practices, of planting smaller nursery stock. Plant shade trees rather than palms in permitted developments and streets.
Solution	Plant trees that will have greater tree health, by deleting any additional points for trees planted in greater than 24" box. (Same points for 24", 36" and larger box trees.) Allow small palms to be assigned points as shrubs, but no points for the larger, taller palms. Allow some medium-sized palms to be planted, if there is historic or scenic precedent for palms. Palms could be included in landscape plans, in areas such as entries, but not contribute to the required points.
List of code sections affected by your proposal	142.0401 through 142.0411
Is it controversial?	Unsure

File Attachments

LDC_Trees-Points-Palms_1mar20.PDF (1345k)

§142.0403 General Planting and Irrigation Requirements

All planting, irrigation, brush management, and landscape-related improvements required by this Division must comply with the regulations in Section 142.0403 and with the Landscape Standards in the Land Development Manual.

(a) Plant Point Schedule

Table 142-04B assigns plant points based on plant type and size and applies where plant points are required by this division.

Table 142-04B
Plant Point Schedule

Proposed Plant Material		**Plant Points Achieved per Plant**
Plant Type	**Plant Size**	
Proposed Shrub	1-gallon	1.0
	5-gallon	2.0
	15-gallon or larger	10.0
Proposed Dwarf Palm	Per foot of brown trunk height	5.0
Proposed Tree	5-gallon	5.0
	15-gallon	10.0
	24-inch box	20.0
	36-inch box	~~50.0~~ 20.0
	48-inch box and larger	~~100.0~~ 20.0
Proposed Broad Headed Feather Palm Tree	Per foot of brown trunk height	~~5.0~~ 0
Proposed Feather Palm Tree	Per foot of brown trunk height up to 20 feet in height	~~3.0~~ 0
	each feather palm tree over 20 feet in height	~~60.0~~ 0
Proposed Fan Palm Tree	Per foot of brown trunk height up to 20 feet in height	~~1.5~~ 0
	each fan palm tree over 20 feet in height	~~30.0~~ 0

Existing Plant Material		Plant Points Achieved per Plant
Plant Type	**Plant Size**	
Existing Shrub	12-inch to 24-inch spread and height	4.0
	24-inch and larger spread and height	15.0
Existing Native Tree	2-inch caliper measured at 4 feet above *grade*	100.0
	each additional inch beyond 2 inches	50.0
Existing Non-Native Tree	2-inch caliper measured at 4 feet above *grade*	50.0
	each additional inch beyond 2 inches	25.0
Existing Broad Headed Feather Palm Tree	Per foot of brown trunk height	~~5.0~~ 0
Existing Feather Palm Tree	Per foot of brown trunk height up to 20 feet in height	~~3.0~~ 0
	each feather palm tree over 20 feet in height	~~60.0~~ 0
Existing Fan Palm Tree	Per foot of brown trunk height up to 20 feet in height	~~1.5~~ 0
	each fan palm tree over 20 feet in height	~~30.0~~ 0

(b) Plant Material Requirements

(1) Planting of invasive plant species, as described in the Landscape Standards of the Land Development Manual, is not permitted.

(2) All existing, invasive plant species, including vegetative parts and root systems, shall be completely removed from the *premises* when the combination of species type, location, and surrounding environmental conditions provides a means for the species to invade other areas of native plant material that are on or off of the *premises*.

(3) Plant material species shall be used that will continue to meet the requirements of this division after installation.

(4) Tree locations shall be measured horizontally from the centerline of the tree trunk at *proposed grade*.

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Amendment Request Form

Date of Request	03/01/2020
Submitter Name	Anne Fege
Affiliation	Public
Email Address	afege@aol.com
Phone Number	8584721293
Name of Item	Trees--Infill and Spacing
Type of Amendment	Regulatory Reform
Is this implementing a state law?	N/A
Bill Number (if applicable)	
Is compliance with the state bill mandatory or optional?	N/A
Background	Current regulations allow for narrow landscape areas that allow very limited space for healthy tree growth and minimize the number of trees planted in most permitted developments. §142.0405 Additional Yard Planting Area and Point Requirements (a) Additional yard requirements for all development: (b) Additional residential yard requirements: (c) Additional commercial yard and large retail establishment requirements: §142.0409 Street Tree and Public Right-of-Way Requirements Table 142-04E, Minimum Tree Separation Distance Within the 12th code revision process, requirements for perimeter plantings (in the February 2019 code) were eliminated (not in the December 2019 version). The May 1, 2019 staff report for the May 9, 2019 meeting of the Planning Commission included this description: 38. Additional Yard Planting Area and Point Requirements. Remove the minimum five-foot separation between

	driveway edges; this requirement is correctly located within the Parking Requirements, and clarification pertaining to enhanced hardscape. The distance between any tree and building was decreased from 6 to 4 feet, in a 2018 code revision. Local arborists, urban foresters, and landscape architects met on March 8, 2019 to review current land development codes relating to trees. They formed teams to review current codes, gathered information from other cities and relevant research, and recommended revisions. This proposal reflects discussions through February 2020, incorporation of current arboriculture science and practices, and benchmarking with other municipal codes.
Issue	Most development are now “infill,” where existing buildings are removed and/or greatly altered, trees removed, the built “footprint” expanded, and little space allocated to landscaping, trees, and green space. Urban greenspace is disappearing. Architects and developers tend to design the buildings and hardscape first, then insert landscaping and trees in any “remaining” spaces. With redevelopment and higher density infill projects becoming more commonplace for the City of San Diego, it is imperative that development codes and ordinances be written or revised to reflect this. Narrow planters wedged between buildings and sidewalks / curbs (5' wide) do not offer the airspace and soil volume to plant and grow trees that will establish healthy canopies and root zones. Without sufficient airspace and corresponding soil volume, tree have a short life span and often are cut down due to infrastructure damage, blocking of signage and site lines, susceptibility to pests, and decline. For residential developments, the current formulas (50% street yard planting area and 60 points for each dwelling unit) may not fit the infill situations. Projects are being built with virtually no setback from the property line and no back yards —creating areas with little shade, green space, and “liveability.” In some areas, there are few public parks, and the trees on private property are the predominant green spaces. The “points” system is inexplicably complex, and not a common planning or municipal regulatory approach. The scientific and practical rationale behind the City’s “points” system is no longer accessible. As it was established when most building was on “undeveloped land,” these approaches may no longer be relevant for infill. Even though developers and landscape architects have worksheet guides and years of experience applying it, it may be time to consider another approach to requiring shrubs, trees and other landscaping in residential and commercial developments.
Objective	The 2008 General Plan and the 2015 Climate Action Plan both provide for increased tree canopy and green spaces for community benefits and ecosystem services. Revised regulations would require all developments to have greater, but reasonable, setbacks and therefore result in reasonable landscaping and trees.
Solution	Provide the under- and above-ground conditions for newly planted urban trees to grow into healthy long-living trees. Plant shade trees, not palms. At a minimum, require landscape areas of 10' - 15' in width and 20’ – 100’ in length. This would provide airspace above the ground for the trees to thrive and grow into a mature tree and for the soil volume of a minimum 1000 cubic feet to support a tree to a full 75- to 100-year life span. Perimeter landscapes, streetscapes, interior planting areas, slopes, parking lot areas and building adjacent planting areas all need to be sized accordingly. Provide for only shade trees, not palms, in §142.0409 Street Tree and Public

	Right-of-Way Requirements. Allow palms to be planted only at coastal, historic, and high value tourist sites. Replace “land use plans” with Community Plans.
List of code sections affected by your proposal	142.0401 through 142.0411
Is it controversial?	Unsure

File Attachments

LDC_Trees-Infill-Spacing_1mar20.pdf (1089k)

§142.0405 Additional Yard Planting Area and Point Requirements

(a) Additional *yard* requirements for all *development*:

Require planting areas to be at least 10 feet wide, and 20 feet in length.

(1) Unless specified otherwise in Table 142-04C, at least one-half of the required planting points shall be achieved with trees.

(2) If plants and planting area are provided within a *street yard* or *remaining yard* to meet other requirements of this division, including *vehicular use area* and revegetation requirements, they may be used to satisfy the planting area and plant points required by Table 142-04C.

(3) A point score in excess of that required for a yard area may be used to reduce the planting area required for that yard area at a rate of one square foot of area reduction for each excess point provided. The maximum planting area reduction allowed by this section is 25 percent of that total yard area required.

(b) Additional residential *yard* requirements:

(1) *Street Yard*

(A) Up to 10 percent of the required *street yard* planting area located outside the *vehicular use area* for *multiple dwelling unit* residential *development* may consist of enhanced *hardscape*.

(B) Planting area in the *public right-of-way* is not counted towards fulfillment of the required *street yard* planting area.

(2) *Remaining Yard*

(A) Residential *development* with only two *dwelling units* on a *lot* shall be subject to a minimum of 60 points in the *remaining yard* regardless of the number of buildings on the *lot*.

(B) Planting for residential *developments* with a single building shall be provided within the *remaining yard* on the side of building access, or where no side access is provided, shall be distributed equally between each side of the building.

(C) A minimum distance of ~~4~~ 6 feet shall be provided between any tree and building.

(c) Additional commercial *yard* and *large retail establishment* requirements:

Table 142-04E

Minimum Tree Separation Distance

Improvement	Minimum Distance to Street Tree
Traffic signal, Stop Sign	20 feet
Underground Utility Lines (except sewer)	5 feet
Sewer Lines	10 feet
Above Ground Utility *Structures* (Transformers, Hydrants, Utility poles, etc)	10 feet
Driveways	10 feet[1]
Intersections (intersecting curb lines of two streets)	25 feet

Footnote for Table 142-04E

[1] Five feet on residential local streets with a design speed of 25 miles per hour or slower.

(C) Trees shall be selected and located so that at maturity they do not cause damage or conflict with overhead utility lines.

(3) Street Tree Species Selection. Trees shall be selected in accordance with the landscape standards of the Land Development Manual. Palm trees may only be used to satisfy the street tree requirement ~~where identified as an acceptable street tree species in an adopted *land use plan*~~. in coastal, historic, or high-value tourist areas.

(b) Additional *Public Right-of-Way* Regulations

(1) Areas within the *public right-of-way* that are not paved for required pedestrian walks or for vehicle access shall be planted or covered with mulch, unattached unit pavers, or other permeable material acceptable to the City.

(2) Plant material, other than trees, located within *visibility areas* or the adjacent *public right-of-way* shall not exceed 36 inches in height, measured from the lowest *grade* abutting the plant material to the top of the plant material.

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)
(Amended 7-5-2006 by O-19505 N.S.; effective 8-5-2006.)
(Amended 11-13-08 by O-19800 N.S; effective 12-13-2008.)
(Amended 3-22-2018 by O-20917 N.S.; effective 4-21-2018.)

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Amendment Request Form

Date of Request	03/01/2020
Submitter Name	Anne Fege
Affiliation	Other
Email Address	afege@aol.com
Phone Number	8584721293
Name of Item	Trees--Vehicular Use Areas
Type of Amendment	Regulatory Reform
Is this implementing a state law?	N/A
Bill Number (if applicable)	
Is compliance with the state bill mandatory or optional?	N/A
Background	Required planting area and “plant points” are calculated, for different vehicular use areas. Tree distribution is required to be 1 tree within 30 feet of each parking space. At least half of the required plant points are required to be trees. Local arborists, urban foresters, and landscape architects met on March 8, 2019 to review current land development codes relating to trees. They formed teams to review current codes, gathered information from other cities and relevant research, and recommended revisions. This proposal reflects discussions through February 2020, incorporation of current arboriculture science and practices, and benchmarking with other municipal codes.
Issue	“Vehicular use areas” aka Parking lots are notoriously hot sunny places, and tree shade greatly reduces heat and the volatilization of pavement deposits of vehicle emissions. Parking lots are experienced daily by most San Diegans and many visitors, with shaded spaces prized for parking cars. Haven’t we all chosen parking spots that are in the shade, or will be in the shade of the afternoon sun?

	Shade cover is significantly reduced when property owners minimize (dwarf) trees by over-pruning and keeping them under 15' height (so that certified tree care workers are not required). Property owners are also removing trees, dead or alive, without replacing them. Parking lots have become hot places that have few and often dwarfed misshapen small trees.
Objective	If designed and maintained to be quality urban green spaces, parking lots provide shade, reduce noise and air pollution, reduce stormwater runoff, improve public health, improve the appearance of commercial areas, and improve the experience of shoppers. With the Climate Action Plan requiring that the City increase tree canopy, the relevant objective for tree cover in parking lots would be percent shade, not number of trees.
Solution	Increase canopy cover, shade, and urban green spaces by requiring 50% tree cover within 15 years of establishment. And maintain this 50% tree cover by replacing dead and deformed trees. Require 50% tree cover within 15 years of establishment. Maintain this 50% tree cover by replacing dead and deformed trees. This would increase canopy cover, shade, and urban green spaces. Section 142.0406 would be replaced by requirements from the cities of Fresno and Sunnyvale, as they have enacted planning regulations that require 50% of paved parking lot surfaces to be shaded by tree canopies within 15 years of planting. Code would allow raising tree canopies to accommodate vehicles, prohibit topping, and require replacement. The City of FRESNO defines shaded areas are those portions of a paved parking lot directly beneath the shading canopy or drip line. It does not include areas directly beneath and shaded by a man-made structure (overhangs and covered parking. Trees planted along the perimeter may be counted as providing shade for the full area of their canopy. https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/10/Parking-Lot-Shading-Standards.pdf . The City of SUNNYVALE considers all surfaces drivable by vehicles to be subject to shade calculation, including all parking stalls; all drives within the property, regardless of length, and including drive-through lanes; and all maneuvering area, regardless of depth. Portions of tree canopies that overhang planting areas, sidewalks, building roof tops and other non-paved parking area cannot be counted towards the shade calculation. Trees planted close together that form overlapping or merged canopies cannot be counted twice. https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23612
List of code sections affected by your proposal	142.0401 through 142.0411
Is it controversial?	Unsure

File Attachments

LDC_Trees-VehicularUseAreas_Fresno-Sunnyvale_1mar20.pdf (405k)

City of FRESNO

Planning & Development Department
2600 Fresno Street, Third Floor
Fresno, CA 93721-3604
Ph: (559) 621-8277

PERFORMANCE STANDARDS FOR PARKING LOT SHADING

Updated February 13, 2006

POLICY

Fifty percent of paved parking lots surface shall be shaded by tree canopies within fifteen years of planting (adopted by City Council policy resolution on July 12, 1988).

GENERAL

1. A "paved parking lot" shall include parking stalls, driveways, and maneuvering areas.

2. Trees planted to satisfy the requirements of these guidelines are landscaping as defined by Municipal Code and are subject to established landscaping requirements.

SITE PLAN REQUIRED

3. A landscape plan which details the degree of compliance with the Parking Lot Shade Tree Ordinance is required. The plan shall show:

    a. All landscaped areas.
    b. Tree canopies drawn to scale representing the estimated canopy at a fifteen year growth period.
    c. The total area in square feet of the paved parking lot, driveways, and maneuver areas; and the area shaded by tree canopies. A schedule listing total parking area, shaded area, and the percentage of parking area shaded should be included.
    d. A schedule of the specific names of proposed trees and their sizes.

4. Such plan shall be approved by the Planning and Development Department prior to issuance of building permits. However, the plan is encouraged to be submitted at the time of site plan review.

METHODOLOGY

5. To simplify the process of determining compliance, the true angle of deflection of natural sunlight shall not be considered. Shaded areas shall be assumed to be only those portions of a paved parking lot directly beneath the shading canopy or drip line.

6. Shading shall be provided by tree canopies except that any portion of a paved parking lot directly beneath and shaded by a man made structure (overhangs and covered parking, for instance) shall be deleted from the requirements of these performance standards and shall be subtracted from the area of the parking lot to be shaded.

7. Credit shall be given only for surface area shaded. Multiple canopies shading the same surface area will not be counted as multiple credit.

8. Landscape planters beneath the canopy may be considered as shaded parking areas for the purpose of determining compliance.

9. Where more than five trees are to be planted, mix tree species.

10. Trees planted along the perimeter of a lot may be counted as providing shade for the full area of their canopy.

11. If the degree of overlap between trees is less than 15 percent, all trees may be counted as shading 100 percent of their canopy. If the degree of overlap is 15 percent or greater, then it will be necessary to perform individual calculation to determine the area of shading.

12. A ten percent minor deviation of the shading standard may be approved by the Director in accordance with established procedures in the Municipal Code if it is found that the normal standards would impose an undue hardship.

ALLOWABLE SPECIES/CANOPY (Provided by Parks Department)

MINIMUM TREE REQUIREMENT

Provide one medium size tree for every two required parking spaces. (This requirement may be modified by the Director if the standards for shading and perimeter planting have been met.)

Disperse trees over the parking lot area to provide 50 percent shading of the parking area surface within 15 years (This requirement may be reduced to 40 percent for existing development if it is demonstrated that the constraints of an existing site would make it impossible to meet the normal standard). Trees shall also be planted in the required landscaped areas along the periphery of the development in order to shade and enhance adjacent property and public rights-of-ways.

Trees shall be maintained in good health. However, trees may not be trimmed or pruned to reduce the natural height or overall crown of the tree, except as necessary for health of the tree and public safety; or as may otherwise be approved by the Planning and Development Department.

MINIMUM PLANTER SIZE (between tiers of parking)

Continuous Planter

	New Development	Existing Development
Standard Parking Stall	8 feet	6 feet
Compact Parking Stall	6 feet	4 feet

Along Periphery 10 feet except as may be approved pursuant to Municipal Code.

MINIMUM SIGHT TRIANGLE

10 feet in traffic areas

30 – 35 feet at street intersections

100 feet at major street intersections

Trees within the triangle shall be trimmed up to eight-feet minimum above the surface of the parking lot.

Other landscaping (ground cover and shrubs) shall not exceed two and one-half feet above the parking lot surface.

CITY OF FRESNO PARKS AND RECREATION DEPARTMENT

30 feet to 35 feet diameter trees 100% = 962 square ft; 50% = 481 square ft; 25% = 240 square ft

Botanical Name	Planter Size (Sq. Ft.)	Height (Feet)	Growth Rate	Roots	Soil	Remarks
Alnus rhombifolia WHITE ALDER	6	50	Rapid	Shallow	Moist	Deciduous
Celtis sinensis CHINESE HACKBERRY	6	50	Moderate	Medium to Deep	Most Soils	Deciduous
Cinnamomum camphora CAMPHOR TREE	8	50	Slow	Shallow	Most Soils	Evergreen, attractive, shiny, yellow-green foliage
Fraxinus o. 'Raywoodi' RAYWOOD ASH	6	40	Fast	Medium	Most Soils	Deciduous, dark green foliage
Ginkgo biloba MAIDENHAIR TREE	6	50	Slow	Deep	Most Soils	Deciduous, very open tree
Liriodendron tufpifera TULIP TREE	8	60	Moderate	Medium	Deep Moist	Deciduous, susceptible to aphids, causes dripping
Magnolia grandiflora SOUTHERN MAGNOLIA	8	50	Slow	Medium	Most Soils	Evergreen, constant litter problem
Pistacia chinesis CHINESE PISTACHE	6	40	Moderate	Deep	Most Soils	Deciduous, provides filtered shade, excellent fall color
Platanus acerifolia LONDON PLANE TREE	8	50	Fast	Medium to Deep	Most Soils	Deciduous, anthracnose, red spider, plant bloodgood variety
Quercus agrifolia COAST LIVE OAK	8	50	Moderate	Deep	Most Soils	Evergreen, biannual acorn drop
Quercus ilex HOLLY OAK	6	50	Moderate	Deep	Deep	Evergreen, biannual heavy acorn drop
Quercus lobata VALLEY OAK	8	50	Moderate	Deep	Deep	Deciduous
Quercus suber CORK OAK	8	60	Moderate	Deep	Moist Drained	Evergreen
Quercus virginiana SOUTHERN LIVE OAK	8	60	Moderate	Deep	Most Soils	Evergreen, attractive, bright green foliage
Ulmus sempervirens CHINESE EVERGREEN ELM	6	50	Rapid	Medium	Most Soils	Semi-evergreen, should be annually trimmed
Zelkova serrata SAWLEAF ZELKOVA	8		Fast	Medium	Most Soils	Deciduous, attractive vase shape

20 feet to 30 feet diameter trees 100% = 707 square ft; 50% = 354 square ft; 25% = 177 square ft

Botanical Name	Planter Size (Sq. Ft.)	Height (Feet)	Growth Rate	Roots	Soil	Remarks
Ceratonia siliqua CAROB TREE	8	40	Moderate	Shallow	Most Soils	Evergreen, use male trees only
Koelreuteria Paniculata GOLDENRAIN TREE	6	35	Moderate	Deep	Most Soils	Deciduous, drought resistant, yellow flowers
Liquidambar styraciflua AMERICAN SWEET GUM	8	60	Moderate	Shallow	Most Soils	Deciduous, seed pods a litter problem, fall color
Pinus canariensis CANARY ISLAND PINE	6	60	Fast	Deep	Most Soils	Evergreen, conifer, bluegreen needles, shed constantly
Pinus eldarica MONDELL PINE	6	60	Fast	Deep	Most Soils	Evergreen, conifer, good color
Pyrus c. 'Bradford' BRADFORD PEAR	6	30	Fast	Deep	Most Soils	Evergreen, white flowers, good fall color
Quercus palustris PIN OAK	6	50	Fast	Shallow	Best in Clay Soil	Deciduous, brown leaves hang on during winter
Prunus c. pissardi PURPLE-LEAF PLUM	6	20	Fast	Medium	Most Soils	Deciduous, purple leaves, messy fruit
Sapium sebiferum CHINESE TALLOW TREE	6	35	Fast	Medium	Most Soils	Deciduous, surface roots, good fall color
Sequoia sempervirens COAST REDWOOD	8	70	Fast	Deep	Most Soils	Evergreen, conifer

15 feet to 20 feet diameter trees 100% = 314 square ft; 50% = 157 square ft; 25% = 79 square ft

Botanical Name	Planter Size (Sq. Ft.)	Height (Feet)	Growth Rate	Roots	Soil	Remarks
Acer palmatum JAPANESE MAPLE	4	20	Slow	Shallow	Moist Drained	Deciduous, best in afternoon shade
Cercis canadensis EASTERN REDBUD	4	20	Moderate	Medium	Most Soils	Deciduous, drought resistant, spring flowers
Malus purpurea 'Eleyi' ELEY CRABAPPLE	4	20	Moderate	Medium	Most Soils	Deciduous, wine red flowers in spring
Podocarpus gracilior FERN PINE	6	40	Moderate	Deep	Most Soils	Evergreen, clean and pest free
Pyrus Kawakami EVERGREEN PEAR	4	25	Moderate	Medium	Most Soils	Deciduous, subject to fireblight
Rhus lancea AFRICAN SUMAC	4	25	Medium	Oedius	Most Soils	Evergreen, shiny green foliage, drought, suckers

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PARKING LOT SHADE REQUIREMENTS

The Sunnyvale Municipal Code states: *Trees shall be planted and maintained throughout the lot to ensure that at least fifty percent of the parking area will be shaded within fifteen years after the establishment of the lot. Shading shall be calculated by using the diameter of the tree crown at fifteen years. All surfacing on which a vehicle can drive is subject to shade calculation, including all parking stalls; all drives within the property, regardless of length, and including drive-through lanes; and all maneuvering area, regardless of depth.*

The following surfaced areas are exempt from shade requirements:

- Truck loading area in front of overhead doors
- Truck maneuvering and parking areas unconnected to and exclusive of any vehicle parking
- Surfaced areas not to be used for vehicle parking
- Driving or maneuvering, provided they are made inaccessible to vehicles by a barrier such as bollards or fencing
- Automobile dealerships, display/sales/service/vehicle storage areas (required parking for auto dealerships is still subject to shading)

GENERAL REQUIREMENTS

All parking lot designs must include a *Parking Lot Shading Plan*. The *Parking Lot Shading Plan* must be submitted along with the required landscape plans for review and approval prior to issuance of a building permit. The *Parking Lot Shading Plan* includes two parts: (1) **Parking Lot Shading Site Plan** (landscaping plan at 15 years), and (2) **Shaded Calculation Table**.

A tree's site location in a parking lot will affect where the tree will cast shade on the pavement. Trees will be given a full, three-quarters, one half, or one quarter credit for shading of the parking lot. Portions of tree canopies that overhang planting areas, sidewalks, building roof tops and other non-paved parking area can not be counted towards the shade calculation.

Trees planted close together that form overlapping or merged canopies can not be counted twice. The *Parking Lot Shading Plan* will show all tree canopies diameters at fifteen years after establishment of the parking lot. Pre-existing trees which are preserved on site that will cast a shadow on the parking lot paved surface need to be included in the shade credit calculation. Shade calculations will be estimated on the expected tree diameter at 15 years. Mature diameters will only be allowed in the calculation if the trees will reach the full mature size in fifteen years.

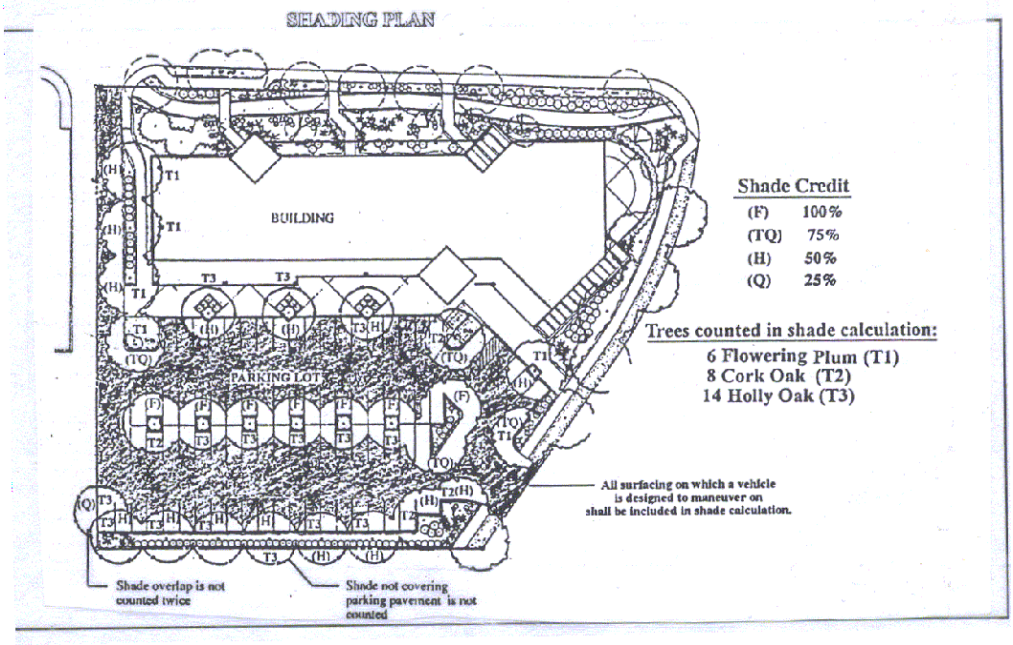
PARKING LOT SHADING PLAN

A *Parking Lot Shading Plan* shall be submitted with the required landscape plans for all parking lots. The *Parking Lot Shading Plan* is typically derived by using the landscape planting plans as the base. The plan shall clearly show all surfaced areas included in the calculation. For purposes of calculation, the vertically projected tree canopy diameters will be used for these calculations. Trees shall be drawn to scale representing the canopy size at 15 years as listed in the **Master Parking Lot Tree List.** The percentage of shade for each tree shall be clearly indicated. See Example 1, *Parking lot Shading Plan.*

Water Wise Plant Lists
Review Chapter 19.46.120 of the Sunnyvale Municipal Code and consult with a Planner regarding water wise planting requirements. Lists of water conserving plant material as well as additional resources are available at the One-Stop Counter at City Hall.

Pesticide Reduction
Plants that do not require pesticides will help reduce the introduction of pesticides into the environment. Refer to the Landscape Maintenance Techniques for Pest Reduction handout. Visit www.scvurppp.org *for a list of pest resistant plants.*

Example 1:



Example 1: Parking Lot Shading Plan

SHADED CALCULATION TABLE:

The shading plans will also include a table identifying the quantity and type of trees used and the percentage of shade credited to each. All trees shall be from the **Master Parking Lot Tree List** and calculated with the corresponding canopy size. See Example 2; Shaded Calculation Table. The table corresponds to Example 1; Parking Lot Shading Plan on previous page.

SYM	BOTANICAL NAME/ COMMON NAME	FULL S.F.	3/4	HALF S.F.	1/ 4	TOTAL S.F.
T1	*Prunus eerasifera* Flowering Plum	1@ 491 s.f.	2@ 368 s.f.	3@ 246 s.f.		1,965 s.f.
T2	*Quercus suber* Cork Oak		2@ 722 s.f.	6@ 481 s.f.		4,330 s.f.
T3	*Plantanus acerfolia "yarwood'* London Plane Tree		1@ 722 s.f.	12@ 481 s.f.	1@ 240 s.f.	6,734 s.f.

Total Tree Shade	13,029 s.f.
Total Paved Area	24,430 s.f.
Percent Shaded	**51.2%**

Example 2: Shaded Calculation Table

PAVED AREA CALCULATION
All surfacing on which a vehicle is designed to maneuver shall be clearly indicated on the shading plan and the total area calculation noted in the shade calculation table. Surfacing includes all parking stalls, loading areas, drives within the property line, and areas for maneuvering.

SHADED AREA CALCULATION:
*Shaded parking lot area is determined by using the appropriate percentage of the crown as indicated on the approved **Master Parking Lot Tree List**. Only trees from this list may be used as parking lot shade trees unless otherwise approved by the city's arborist. It is recommended that the genera of the trees be varied throughout the parking lot. If a site has two or more unconnected parking areas, shade is calculated separately for each area. If they are connected by a joining drive, they are calculated as one lot.*

CITY OF SUNNYVALE
MASTER PARKING LOT TREE LIST

SHADE TREE LISTING

The **Master Parking Lot Tree List** is a compilation of tree species and cultivars that have proven performance in the south San Francisco Bay/Sunnyvale area. This list is not all-inclusive. For trees not on the list the Director of Community Development may approve such trees for parking lot use if certified by a California state registered landscape architect, a California certified nurseryman, the City of Sunnyvale superintendent of Trees and Landscaping, the City of Sunnyvale superintendent of Park Operations, or an International Society of Arboriculture certified arborist as to their performance.

The list identifies specific cultivars for many species. Where cultivars are listed the height, spread and water requirements are for those cultivars only. Where a tree species has many cultivars the height, spread and water requirements are given for an average range. If a particular cultivar is selected, the cultivar's height and spread characteristics shall be used if significantly different from the range given on this list (e.g. dwarf varieties shall be not be calculated at the average range size). Common names are given for reference. No common name is listed as NCN. Height at maturity is the average expected full mature height, which for most trees listed is well beyond fifteen years. Spread at maturity is the average expected at full maturity. The spread at 15 years is a best estimate if a 15-gallon sized tree is planted and assuming best conditions. The subterranean provisions must be provided and the maintenance and irrigation practices maintain optimal growing conditions. Pruning practices must conform to sound arboricultural industry standards. Topping, shearing or heading will not provide the tree canopies needed to satisfy the shading requirement.

Water requirement will be unique to trees in parking lots. Parking lot islands are typically limiting as to the subterranean delivery of water. Also the surrounding asphalt surfaces in parking lots increase reflected heat, increasing the tree's demand for water. These factors must be taken into consideration in the potential growth and development of parking lot trees. Both evergreen and deciduous trees are included on the list.

Code Definition
***L (Low)** – typically a Mediterranean climate native. Once established may require only occasional summer water*
***LM (Low to Moderate)** – once established water requirements are low but weekly watering April to October maintains best growth*
***M (Moderate)** – requires weekly watering between April and October for the tree's entire life.*
***MH (Moderate to High)** – like Moderate but does better with plenty of water in the summer.*
***H (High)** – these trees are water lovers and are from high rainfall areas. Ample water needs to be available all season*

Genus	species	Cultivar	Common Name	Height	Spread	15 Yr Spread	Water
Acer	x freemanii	several varieties	Freeman Maple	50	40	25	M
Acer	macrophyllum		Bigleaf Maple	60	50	30	M
Acer	platanoides	several varieties	Norway Maple	45	40	30	H
Acer	rubrum	several varieties	Red Maple	40	40	25	H
Ginkgo	biloba	'Saratoga'	Maidenhair Tree	40	30	20	M
Arbutus	x	'Marina'	NCN	40	40	20	L
Cedrus	deodara		Deodar Cedar	60	35	20	L
Brachychiton	populneus		Bottle Tree	40	30	20	LM
Celtis	australis		European Hackberry	50	35	20	M
Celtis	sinensis		Chinese Hackberry	40	40	20	M
Chitalpa	tashkentensis		NCN	25	25	20	LM
Cinnamomum	camphora		Camphor Tree	50	60	30	LM
Acacia	melanoxylon		Blackwood Acacia	40	20	20	L
Cupressus	arizonica	glabra	Arizona Cypress	40	20	20	L
Fraxinus	americana	several varieties	White Ash	45	40	30	M
Fraxinus	x	'Fan West'	NCN	50	30	25	LM
Fraxinus	pennsylvanica	several varieties	Green Ash	40	35	25	M
Fraxinus	angustifolia (oxycarpa)	'Raywood'	Raywood Ash	35	25	20	M
Fraxinus	uhdei		Shamel Ash	50	40	30	M
Fraxinus	velutina	'Rio Grande'	Fan-Tex Ash	50	30	20	M
Koelreuteria	bipinnata		Chinese Flame Tree	35	35	20	LM
Koelreuteria	panniculata		Goldenrain Tree	35	35	20	LM
Lagerstroemia	x fauriei	'Muskogee'	Hybrid Jap. Crape Myrtle	25	12	12	M
Lagerstroemia	x fauriei	'Natchez'	Hybrid Jap. Crape Myrtle	25	12	12	M
Lagerstroemia	x fauriei	'Tuscarora'	Hybrid Jap. Crape Myrtle	22	12	12	M
Malus	floribunda		Japanese Flowering Crabapple	18	25	20	M
Malus	spp	several varieties	Crabapples	20	20	20	M
Magnolia	grandiflora	several varieties	Southern Magnolia	35+	30+	20	H
Morus	alba	'Fruitless'	White Mulberry	40	40	35	M
Pinus	brutia		Calabrian Pine	50	25	25	L
Pinus	canariensis		Canary Is. Pine	60+	35	25	L
Pinus	eldarica		Afghan Pine	50	25	25	L
Pinus	halepensis		Aleppo Pine	60	40	25	L
Pittosporum	eugenioides		NCN	35	30	25	M
Platanus	acerifolia	'Columbia'	Columbia London Plane	50	40	30	M
Platanus	acerifolia	'Yarwood'	Yarwood Sycamore	60+	40	30	M
Pistacia	chinensis		Chinese Pistache	50	50	25	LM
Podocarpus	gracilior		Fern Pine	50	25	20	M
Prunus	caroliniana		Carolina Laurel Cherry	30	25	15	M
Prunus	serrulata	several varieties	Flowering Cherry	25±	25±	15	M
Prunus	x subhirtella	'Rosea'	Flowering Cherry	25±	30	15	M
Prunus	x yedoensis	'Akebono'	Flowering Cherry	25	25	15	M
Prunus	x blireiana		Blireiana Plum	20	20	15	M
Prunus	cerasifera	'Atropurpurea'	Purple Leaf Plum	25±	25±	20	M
Pyrus	calleryana	'Aristocrat'	Aristocrat Flowering Pear	35	20	20	M
Pyrus	calleryana	'New Bradford'	New Bradford Pear	50	30	25	M

Pyrus	calleryana	'Redspire'	Red Spire Pear	35	25	20	M
Pyrus	calleryana	'Trinity'	Trinity Pear	30	30	25	M
Pyrus	kawakamii		Evergreen Pear	30	30	20	M
Quercus	agrifolia		Coast Live Oak	70	80	25	L
Quercus	ilex		Holly Oak	60	60	25	L
Quercus	lobata		Valley Oak	70	70	25	L
Quercus	rubra		Red Oak	60	50	20	M
Quercus	shumardii		Shumardii Oak	50	40	20	M
Quercus	suber		Cork Oak	60	60	25	L
Quercus	virginiana		Southern Live Oak	60	80	25	M
Quercus	wislizenii		Interior Live Oak	70	80	25	L
Schinus	molle		California Pepper	40	40	25	L
Schinus	terebinthefolius		Brazilian Pepper	30	30	20	L
Sequoia	sempervirens	several varieties	Coast Redwood	70±	30±	25	MH
Lophostemon (Trista	conferta		Brisbane Box	40	25	15	LM
Tristaniopsis (Tristan	laurina		Water Gum	40	25	15	M
Ulmus	parvifolia	several varieties	Chinese Elm	40±	40±	30	M
Ulmus	x	'Frontier'	Frontier Elm	40	30	25	M
Ulmus	wilsoniana	'Prospector'	Prospector Elm	40	30	20	M
Ulmus	x	'Pioneer'	Pioneer Elm	50	50	25	M
Zelkova	serrata		Sawleaf Zelkova	60	60	25	M

From: Smartsheet Forms <forms@smartsheet.com>
To: afege <afege@aol.com>
Subject: Confirmation - Amendment Request Form
Date: Mon, Mar 2, 2020 8:06 am

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smartsheet

Thank you for submitting your entry. A copy is included below for your records.

Amendment Request Form

Date of Request	03/02/2020
Submitter Name	Anne Fege
Affiliation	Public
Email Address	afege@aol.com
Phone Number	8584721293
Name of Item	Trees--Other provisions
Type of Amendment	New Regulation
Is this implementing a state law?	N/A
Bill Number (if applicable)	
Is compliance with the state bill mandatory or optional?	N/A
Background	There currently are no provisions in the Landscape Manual for two Best Management Practices in the arboriculture industry: (1) Urban wood utilization, and (2) Tree care for birds and other wildlife. Local arborists, urban foresters, and landscape architects met on March 8, 2019 to review current land development codes relating to trees. They formed teams to review current codes, gathered information from other cities and relevant research, and recommended revisions. This proposal reflects discussions through February 2020, incorporation of current arboriculture science and practices, and benchmarking with other municipal codes.
Issue	Urban wood utilization: When large urban trees are removed, they are often transported to landfills, which wastes useful wood materials and releases greenhouse gas emissions through the traditional disposal processes. When urban wood is repurposed into lumber, trim, and furniture, the carbon in the wood remains sequestered, which would support the City's goals in the Climate Action Plan.

	Tree care for birds and other wildlife: While many tree care workers and managers wish to act responsibly around wildlife, little information has been available about how work can best be accomplished while minimizing impacts to wildlife. In addition, Federal and California wildlife regulations are not widely known within the tree care industry, thereby putting uninformed workers at risk of significant fines and public criticism.
Objective	Add two sections to the Landscape Standards, to reflect urban forestry standards and to meet needs of citizens and urban forestry goals in the City. Diverting urban wood from landfills and creating a useful wood product will increase carbon sequestration, reduce methane emissions, and provide alternative local building and furniture materials. Inspection for evidence of bird nests and other wildlife signs will reduce losses of birds and wildlife, and allow tree care contractors to continue some tree care work during the nesting season.
Solution	Urban wood utilization: Recommend that trees removed during development be repurposed as urban wood. Logs are removed from the site, dried by a local milling company, and processed into lumber, trim and other interior wood use, or furniture. Tree care for birds and other wildlife: Best management practices were written to provide guidance to the California tree care and landscape industry about how to minimize impacts to wildlife during the course of tree work and manage wildlife habitat. More information at www.treecareforbirds.com. These practices have been written into short requirements for the Landscape Standards.
List of code sections affected by your proposal	Land Development Code 142.0401 through 142.0411
Is it controversial?	Unsure

File Attachments

LDC_Trees-OtherProvisions_2mar20.docx (31k)

LDC Revision, add other provisions relating to trees to Landscape Standards, March 2, 2020

Add two sections in Landscape Standards:

A. Provide for urban wood to be repurposed

1. Provide for large trees removed to be processed into recycled wood products such as lumber, new construction elements, furniture or artisan craft products.

2. Urban wood suitable for milling have a caliper between 12" and 36" in diameter, with a length of a minimum of 4' and a maximum of 20' long and be as vertically straight as possible. Suitable logs are generally “clear,” free of significant decay, and with minimal lateral branches and/or stubs.

3. Trees may be chipped for mulch or transported to the landfill only if local mills are not accepting suitable large trees.

B. Protect birds and other wildlife during tree care work.

1. During the breeding season, tree care work must be supervised by a Certified Arborist with Wildlife Training.

2. Projects in habitats with high human use and few mature trees should have a pre-work inspection for nesting wildlife performed by a Certified Arborist with Wildlife Training. During the non-breeding season, projects in these habitats should have a pre-work inspection for nesting wildlife.

3. During the breeding season, projects in habitats with low human use, high plant diversity and many mature or dead-dying trees should have a pre-work inspection for nesting wildlife performed by a Wildlife Biologist. During the non-breeding season, projects should have a pre-work inspection for nesting wildlife performed by a Certified Arborist with Wildlife Training.

4. Projects in riparian habitats should have a pre-work inspection for nesting wildlife performed by a Wildlife Biologist. Pre-work inspections should identify signs of wildlife, that include concentrations of bird droppings, nests that may be active, and wildlife breeding behavior.

5. If an active nest is discovered, tree care operations should cease immediately within about 100 feet of passerine nests and about 300 feet of raptor nests. If an active nest is discovered in high-value habitats and riparian areas, buffers should be increased to 300 feet of passerine nests and 500 feet of raptor nests.

6. In emergency situations, if work needs to be done within these buffers, a Wildlife Biologist should be consulted to consider smaller buffers or other protections, monitor the nest during work, or obtain a permit for work to continue, if necessary.

7. If wildlife is injured during tree care operations, work should cease immediately, a local Wildlife Rehabilitator contacted and recommendations followed, and an inspection performed by a Wildlife Biologist before work proceeds.