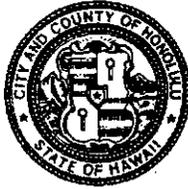
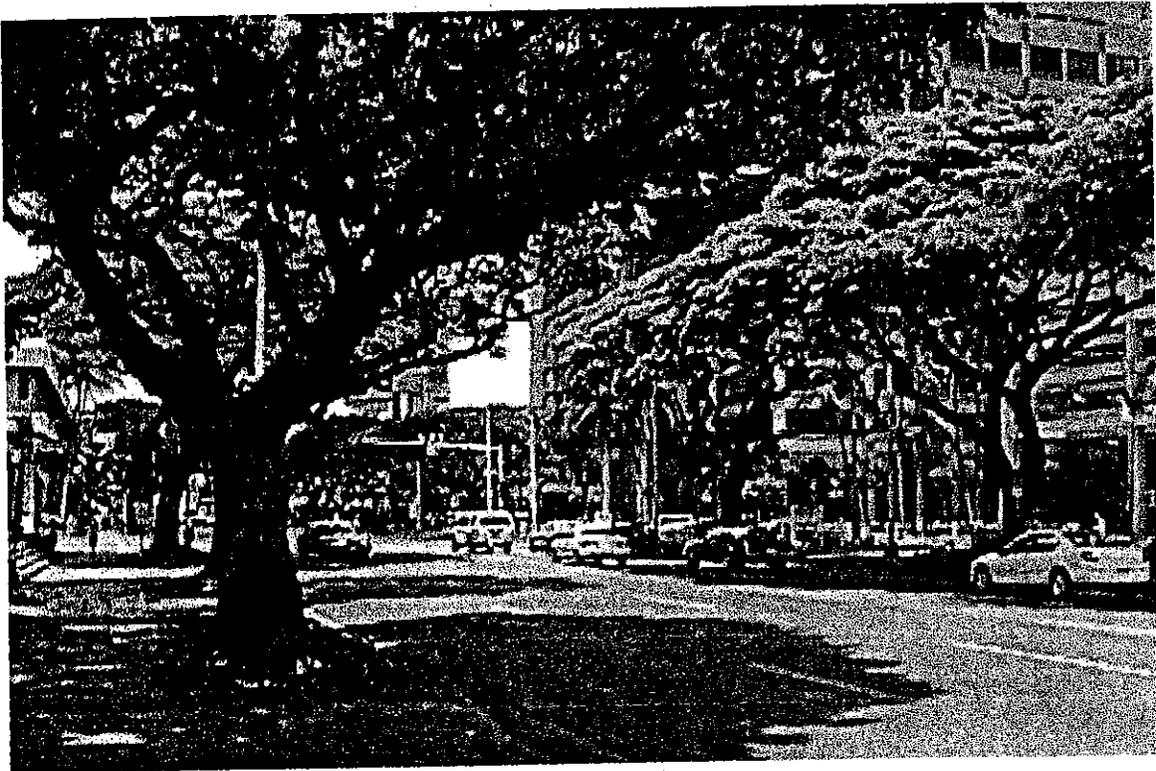


# STANDARDS AND PROCEDURES FOR THE PLANTING OF STREET TREES



July 1999



Department of Planning and Permitting  
City and County of Honolulu  
Honolulu, Hawaii

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City and County of Honolulu	<b>INDEX</b>	Street Tree Planting Standard	<b>1</b>

<p><b>Section 1-1</b> <u>Objective</u></p>	<p>The objective of these standards is to promote the consistent and frequent planting of street trees along streets. The review and approval of street trees, as well as the administration of these standards, is the responsibility of the Director of the Department of Planning and Permitting (DPP). When appropriate, the DPP shall consult with the Department of Parks and Recreation (DPR) , in the administration of these standards.</p>																																						
<p><b>Section 1-2</b> <u>Applicability</u></p>	<p>These standards and procedures shall apply to the removal or relocation of existing street trees, and the planting of new street trees within or along streets. Except for the DPR and as stated herein, no person shall plant, remove, relocate or replace a required street tree in the planting strip, designated easement, or required yard without first obtaining a Street Tree Planting Plan approval from the DPP.</p>																																						
<p><b>Section 1-3</b> <u>Modifications</u></p>	<p>The Director of DPP may modify these standards and procedures whenever such deviations comply with the purpose of these standards; whenever existing conditions make it impractical for a particular case to conform fully to these standards; whenever these standards conflict with other City, State or Federal laws, ordinances, rules or regulations; or if the work is by a public agency and in the public interest.</p>																																						
<p><b>Section 1-4</b> <u>Tree Spacing</u></p>	<p>A minimum of one tree shall be required for every 50 feet of street frontage for new residential projects, and a minimum of one tree shall be required for every 40 feet of street frontage for commercial and industrial projects. The location of driveways, above ground roadway fixtures, or below grade utility lines may be required to be adjusted to achieve a frequent and consistent tree pattern. Exception to this spacing requirement may be granted for large trees and palms.</p>																																						
<p><b>Section 1-5</b> <u>Minimum Tree Size</u></p>	<p>Any street tree shall have a minimum 25 gallon size root ball and 8-foot clear trunk height. For trees located within a safe vehicular stopping distance (as defined in the DTS Traffic Standards Manual) from a stop sign or traffic signal, the tree shall have a minimum 45 gallon size root ball and 10-foot clear trunk height. The height, spread and caliper of the tree shall be appropriate to the species. However, in no case shall any tree be located closer than 30 feet from an intersection, as measured from the beginning of the corner arc.</p>																																						
<p><b>Section 1-6</b> <u>Tree Location</u></p>	<p>In the design of a street tree plan, the applicant shall consider other infrastructure needs (such as street lights or signals, traffic signs and vehicular sight lines) so as to not jeopardize public safety. Therefore, street trees shall be set back (in lineal feet) from other street elements according to the size of the tree as set forth below:</p> <table border="1"> <thead> <tr> <th><u>Street Feature</u></th> <th><u>Small Trees</u></th> <th><u>Medium Trees</u></th> <th><u>Large Trees</u></th> </tr> </thead> <tbody> <tr> <td>Street intersection</td> <td>30</td> <td>30</td> <td>30</td> </tr> <tr> <td>Storm drain/water or sewer line</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Utility pole</td> <td>5</td> <td>10</td> <td>10</td> </tr> <tr> <td>Fire hydrant</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Electrolier (street lights)</td> <td>5</td> <td>5</td> <td>10</td> </tr> <tr> <td>Pedestrian Crosswalk</td> <td>5</td> <td>5</td> <td>10</td> </tr> <tr> <td>Driveway</td> <td>5</td> <td>5</td> <td>10</td> </tr> <tr> <td>Another tree</td> <td>22</td> <td>22</td> <td>60</td> </tr> </tbody> </table> <p>Tree sizes are: "Small" if up to 25 feet in height, "Medium" if between 26 to 35 feet, and "Large" if higher than 35 feet.</p>			<u>Street Feature</u>	<u>Small Trees</u>	<u>Medium Trees</u>	<u>Large Trees</u>	Street intersection	30	30	30	Storm drain/water or sewer line	5	5	5	Utility pole	5	10	10	Fire hydrant	5	5	5	Electrolier (street lights)	5	5	10	Pedestrian Crosswalk	5	5	10	Driveway	5	5	10	Another tree	22	22	60
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<p>City and County of Honolulu</p>	<p><b>STREET TREE PLANTING STANDARDS</b></p>	<p>Street Tree Planting Standard</p>	<p><b>2</b></p>																																				

<p>Section 1-7 <u>Below Grade Cables</u></p>	<p>Conduits for electrical, communications, and cable television shall be placed under the sidewalk or under the roadway pavement, but not within the planting strip.</p>			
<p>Section 1-8 <u>Additional Planter Strip Area</u></p>	<p>For new rights-of-way (or new developments along existing rights-of-way) with a pavement width of 36 feet or greater, an additional 5 feet will be required on each side of the right-of-way to enlarge the planting strip area. This additional width will provide for wider planting strips that can accommodate larger trees. The developer shall have the option of dedicating the additional planting strip area to the City in conjunction with a City road right-of-way, or establishing a landscape easement to preserve the street trees and planting strip area.</p>			
<p>Section 1-9 <u>Private Street Trees</u></p>	<p>Where it is not feasible to locate a street tree in the planting strip or sidewalk area, then the Director of DPP may require the street tree to be planted on private property, provided that such planting is within 10 feet of the public sidewalk or walkway. These trees shall be maintained entirely by the private property owner or lot owner's association.</p>			
<p>Section 1-10 <u>Irrigation</u></p>	<p>The Director of DPP shall require the design and installation of an automatic irrigation system for the watering of street trees where there are no lot owners fronting the planting strip.</p>			
<p>Section 1-11 <u>Scenic Vistas and Historic Sites</u></p>	<p>When proposing street tree planting locations, every effort shall be made to enhance natural vistas, existing physical beauty, and historic sites.</p>			
<p>Section 1-12 <u>Shoreline Areas</u></p>	<p>In areas adjacent to beaches and lowland waterways, the coconut or other suitable palms shall dominate the street tree pattern with the objective of producing a palm-lined coast. Secondary plantings shall be of trees that thrive in the littoral area and are companions to the palm.</p>			
<p>Section 1-13 <u>Other Required Permits</u></p>	<p>These standards and procedures apply to work proposed for existing or new City street trees within a City right-of-way, or for private street trees within a private right-of-way, lot, or private easement. Other approvals are required for private plantings and elements in public rights-of-way, and to excavate existing public rights-of-way to install trees:</p> <ul style="list-style-type: none"> <li>(A) A Surface Encroachment Variance is required for private trees, shrubs, groundcover or other improvements (such as irrigation) within a public right-of-way. If a Surface Encroachment Variance is obtained from the DPP, a Street Tree Planting Plan shall not be required.</li> <li>(B) An Excavation (trenching) Permit is required for trenching (i.e. dig, break, disturb, or undermine) any public highway, street, thoroughfare, alley, sidewalk or any other similar public place. This permit is required in addition to a Street Tree Planting Plan approval.</li> </ul> <p>Where a Surface Encroachment Variance or Excavation Permit is required (in addition to a Street Tree Planting Plan approval), the applicant shall obtain these permits subsequent to the Street Tree Plan approval.</p>			
<p>City and County of Honolulu</p>	<p><b>STREET TREE PLANTING STANDARDS</b></p>		<p>Street Tree Planting Standard</p>	<p><b>3</b></p>

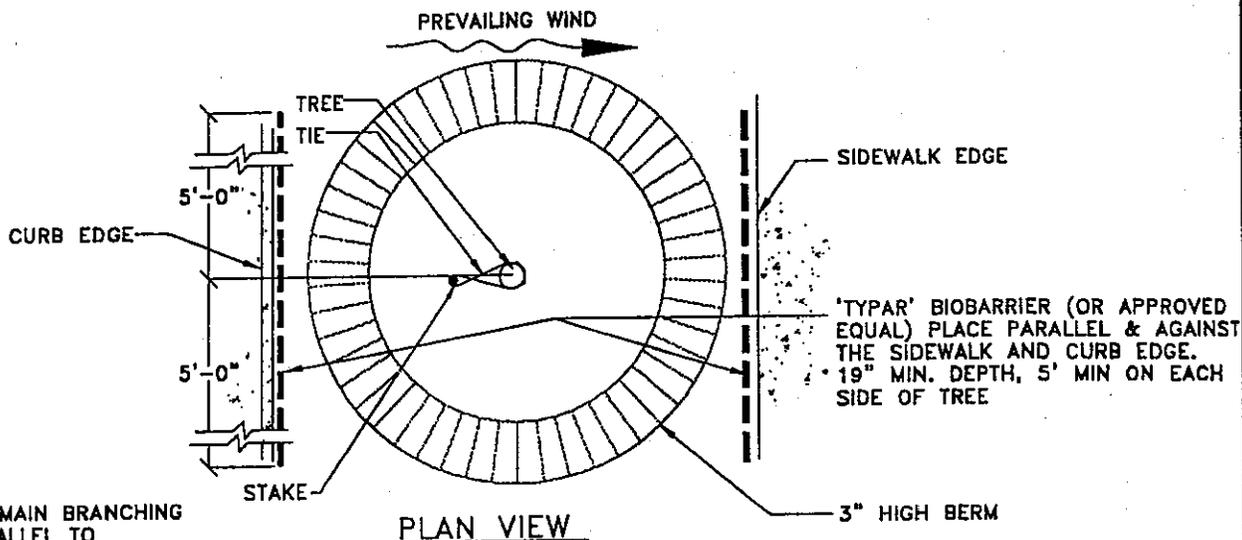
Official Street Tree List.

The Official Street Tree List is a list of trees selected for their appropriateness and beauty when planted under specific site conditions. Emphasis is on outstanding characteristics in growth habit, leaf or bark texture, color of leaf or flower, fragrance or adaptability. This list will be updated periodically to allow for substitution of desirable flora, for resolving planting problems which may arise, and for experimentation with new plant imports. Trees on this list have been categorized into a small, medium or large based on the average size of the tree at 25 years old. Tree sizes are: "Small" if up to 25 feet in height, "Medium" if between 26 to 35 feet, and "Large" if higher than 35 feet. Large trees must be planted in areas with ample growing space. Exception to this tree list may be granted in order to maintain a consistent planting of tree species within or along existing roadways.

No.	Tree Name		Tree Size		
	Scientific Name	Common Name	Small	Medium	Large
1	<i>Andira inermis</i>	Cabbage Tree			●
2	<i>Bauhinia binata</i>	Alibangbang (Butterfly)	●		
3	<i>Bauhinia blakeana</i>	Hong Kong Orchid Tree		●	
4	<i>Calophyllum inophyllum</i>	True Kamani			●
5	<i>Callistemon viminalis</i>	Drooping Bottlebrush		●	
6	<i>Cassia javanica</i> X <i>C. fistula</i>	Rainbow Shower Tree			●
7	<i>Ceratonia siliqua</i>	Carob Tree	●		
8	<i>Colchosperrum vilifolium</i>	Golden Buttercup		●	
9	<i>Connocarpus erectus</i> var. <i>Argenteus</i>	Silver Buttonwood		●	
10	<i>Cordia subcordata</i>	True Kou		●	
11	<i>Cupaniopsis anacardioides</i>	Tuckeroo		●	
12	<i>Elaeodendron orientale</i>	False Olive	●		
13	<i>Erythrina sandwicensis</i>	Williwili		●	
14	<i>Ficus macrophylla</i>	Moreton Bay Fig			●
15	<i>Ficus retusa</i>	Chinese Banyan			●
16	<i>Guaiacum officinale</i>	Lignum Vitae	●		
17	<i>Harpullia pendula</i>	Tulipwood		●	
18	<i>Jacaranda acutifolia</i>	Jacaranda			●
19	<i>Lagerstromia indica</i>	Crepe Myrtle	●		
20	<i>Lagerstomia speciosa</i>	Giant Crepe Myrtle		●	
21	<i>Magnolia grandiflora</i>	Southern Magnolia	●		
City and County of Honolulu		<b>OFFICIAL STREET TREE LIST</b>	Street Tree Planting Standard		<b>4</b>

No.	Tree Name		Tree Size		
	Scientific Name	Common Name	Small	Medium	Large
22	Melaleuca leucadendra	Paper Bark		●	
23	Metrosideros polymorpha	Ohia Lehua	●		
24	Michelia alba	Pak Lan		●	
25	Mimusops caffra	African mimusops	●		
26	Pimenta dioica	Allspice	●		
27	Samanea saman	Monkey Pod or Raintree			●
28	Sapindus spp.	Manele		●	
29	Swietenia mahogoni	Mahogany			●
30	Tabebuia argentea	Silver Trumpet Tree	●		
31	Tabebuia banksii	White Tecoma	●		
32	Tabebuia chrysantha	Golden Trumpet Tree		●	
33	Tabebuia donnell-smithii	Gold Tree			●
34	Tabebuia palmeri	Palmer's Tecoma	●		
35	Tabebuia pentaphylla	Pink Tecoma		●	
36	Thespeia populena	Milo		●	

No.	Palm Name		Palm Size		
1	Arecastrum romanzoffianum	Queen Palm		●	
2	Cocos nucifera	Coconut Palm			●
3	Veitchia joannis	Joannis Palm		●	
4	Veitchia merillii	Manila Palm	●		



NOTE:  
DIRECTION OF MAIN BRANCHING  
SHALL BE PARALLEL TO  
PLANTING STRIP AND NOT INTO  
ROADWAY.

PLAN VIEW

**DO NOT STAKE THROUGH ROOTBALL**

2" DIA X 8' LONG REDWOOD OR TREATED  
TREATED STAKE OR ACCEPTABLE W/ DPR,  
BEAUTIF. DIV., HAMMERED INTO SUBGRADE,  
AVOID ROOTBALL. DO NOT ALLOW TREE  
TO RUB AGAINST STAKE, PROVIDE ADDITIONAL  
STAKES AS REQUIRED

LET TOP OF TREE SWAY- SECURE BOTTOM  
OF TREE WITH FLEXIBLE RUBBER/PLASTIC  
TREE TIE WRAPPED AROUND TRUNK AND  
STAKE IN FIGURE EIGHT, SECURED WITH ONE  
GALV. NAIL THROUGH TIE AND STAKE.  
MINIMUM TWO TIES AS REQUIRED TO HOLD  
BOTTOM OF TREE STRAIGHT AND SECURE.

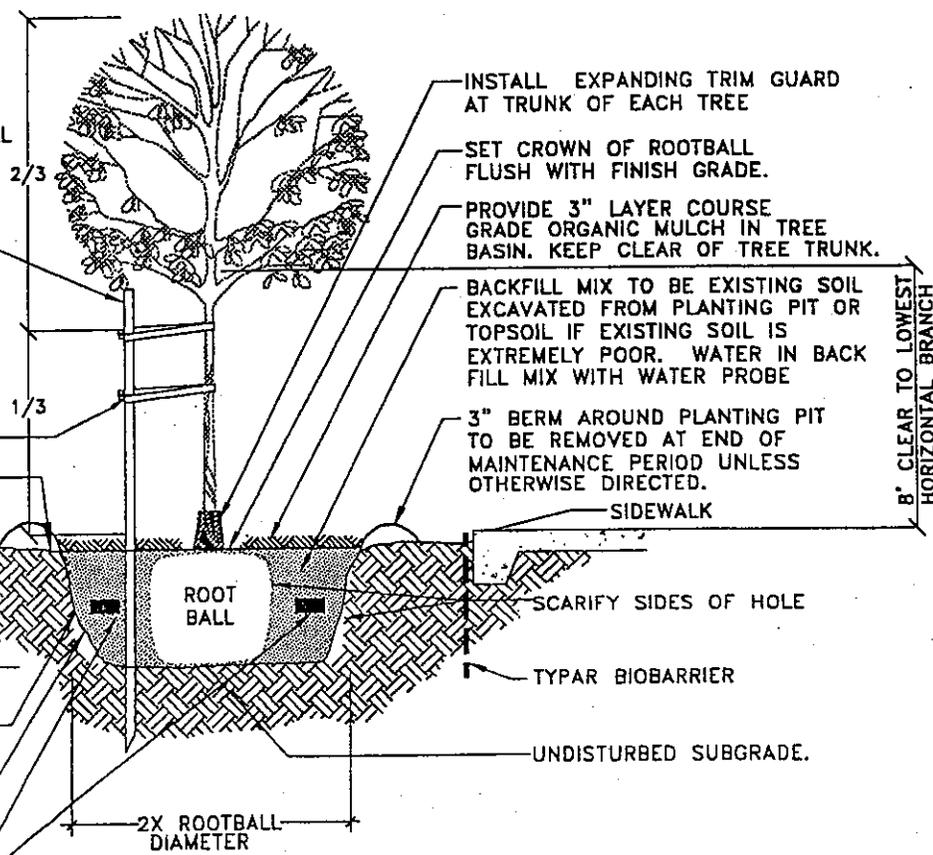
FINISH GRADE.  
CURB

PLANT PIT DUG TO  
THE DEPTH OF  
ROOTBALL

LOOSEN SIDES OF PLANTING PIT W/ PICK

SLOPE THE SIDES OF THE PLANT PIT

SLOW RELEASE TABLETS SPREAD EVENLY  
AROUND ROOTBALL AT MID DEPTH KEEP  
AWAY FROM ROOTBALL



INSTALL EXPANDING TRIM GUARD  
AT TRUNK OF EACH TREE

SET CROWN OF ROOTBALL  
FLUSH WITH FINISH GRADE.

PROVIDE 3" LAYER COURSE  
GRADE ORGANIC MULCH IN TREE  
BASIN. KEEP CLEAR OF TREE TRUNK.

BACKFILL MIX TO BE EXISTING SOIL  
EXCAVATED FROM PLANTING PIT OR  
TOPSOIL IF EXISTING SOIL IS  
EXTREMELY POOR. WATER IN BACK  
FILL MIX WITH WATER PROBE

3" BERM AROUND PLANTING PIT  
TO BE REMOVED AT END OF  
MAINTENANCE PERIOD UNLESS  
OTHERWISE DIRECTED.

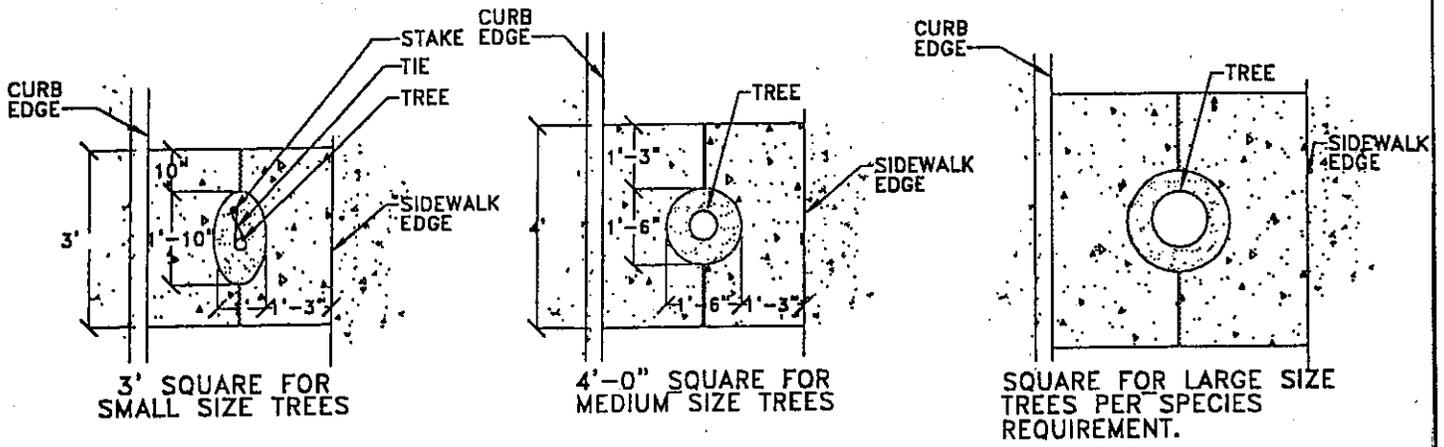
SIDEWALK

SCARIFY SIDES OF HOLE

TYPAR BIOBARRIER

UNDISTURBED SUBGRADE.

8' CLEAR TO LOWEST  
HORIZONTAL BRANCH



**PLAN VIEW  
POROUS TREE WELL COVERS**

**NOTE:**  
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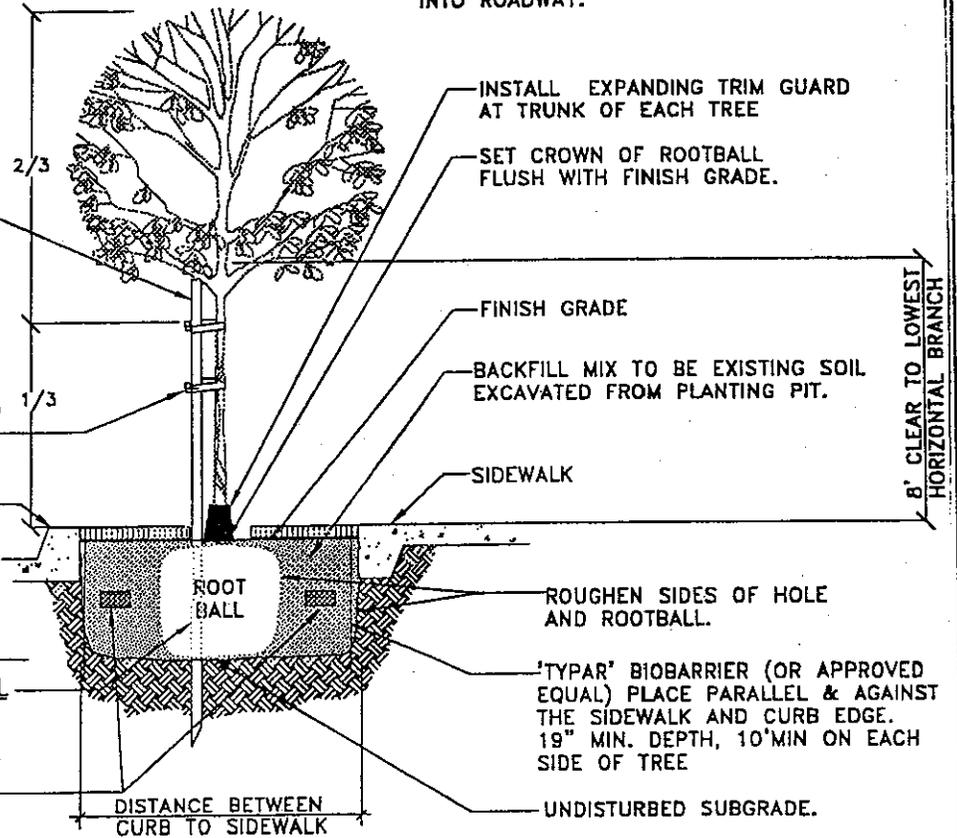
2" DIA X 8' LONG LODGE POLE STAKE, HAMMERED INTO SUBGRADE, AVOID ROOTBALL. DO NOT ALLOW TREE TO RUB AGAINST STAKE. PROVIDE ADDITIONAL STAKES AS REQUIRED.

LET TOP OF TREE SWAY— SECURE BOTTOM OF TREE WITH FLEXIBLE VINYL TREE TIE WRAPPED AROUND TRUNK AND STAKE IN FIGURE EIGHT, SECURED WITH ONE GALV. NAIL THROUGH TIE AND STAKE. MINIMUM TWO TIES AS REQUIRED TO HOLD BOTTOM OF TREE STRAIGHT AND SECURE.

PLANT PIT DUG TO THE DEPTH OF ROOTBALL

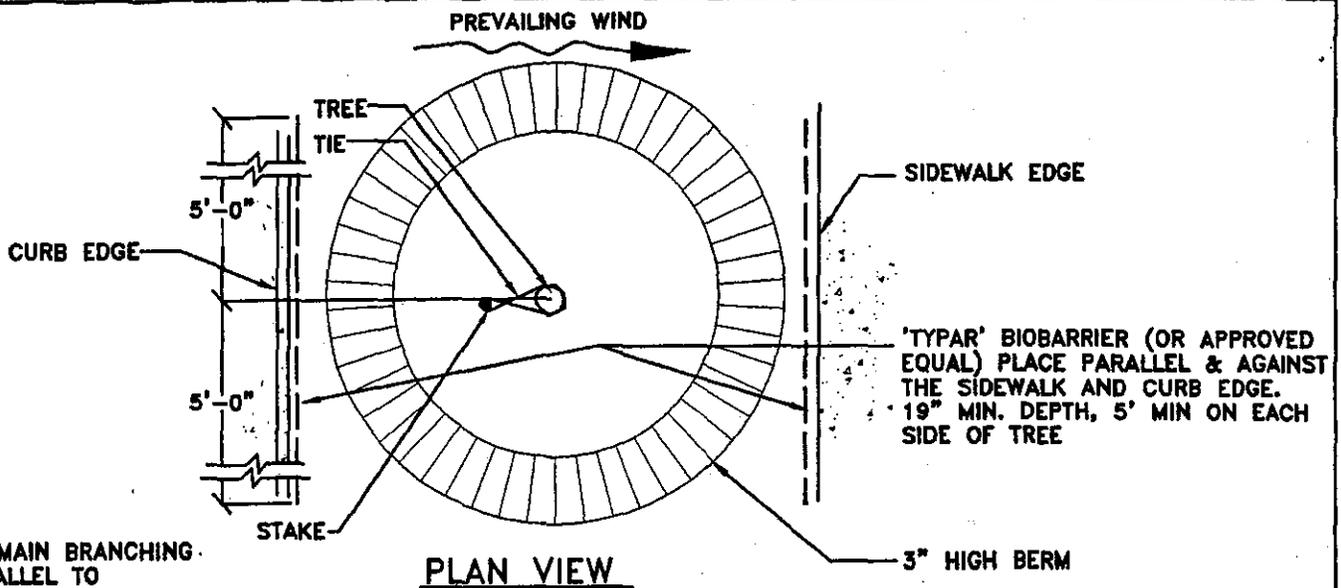
DO NOT STAKE THROUGH ROOTBALL (SEE PLAN VIEW ABOVE)

"AGRIFORM" TABLETS (10) SPREAD EVENLY AROUND ROOTBALL AT MID DEPTH KEEP AWAY FROM ROOTBALL



<p>Section 2-1 <u>Objective</u></p>	<p>The objective of these procedures is to facilitate, clarify, and expedite the review and approval process of street trees. The approval of Street Tree Planting Plans is the responsibility of the Director of DPP, and the acceptance of street trees for dedication to the City, as well as their maintenance, is the responsibility of the Director of Parks and Recreation.</p>		
<p>Section 2-2 <u>Street Tree Planting Plan</u></p>	<p>No person shall plant, remove, relocate or replace a required street tree growing in the planting strip, designated easement or required yard without first obtaining a Street Tree Planting Plan approval from the DPP.</p>		
<p>Section 2-3 <u>Review Procedure</u></p>	<p>After receipt of the Street Tree Planting Plan, the Director of DPP will review and provide comments to the applicant regarding incompleteness and/or noncompliance to these standards. As part of this review, the Director of DPP will route plans to the appropriate agencies for review and coordinate their comments. Upon notification of approval, the applicant shall submit original tracings (construction plans) to the DPP for signature. At least two weeks in advance of starting construction, the applicant shall file 4 copies of the approved Street Tree Planting Plans with the Director of DPP. The Director of DPP shall transmit two of these sets to the DPR.</p>		
<p>Section 2-4 <u>Construction of Improvements</u></p>	<p>After approval of the Street Tree Planting Plan, the applicant must construct the improvements within 2 years of the approval date or the approval will lapse. No construction work shall commence without approved plans. Construction of the improvements will be a prerequisite to approval of the final map (if the work proposed is part of a subdivision), issuance of a building permit, or issuance of a certificate of occupancy.</p> <p>(A) As an alternative to constructing the improvements prior to approval of a final map, building permit, or issuance of a certificate of occupancy, the applicant may enter into an agreement with the City and file with the Director of DPP a performance bond or other security to assure the construction, installation and maintenance of the street trees as approved.</p> <p>(B) The Director of DPP, in consultation with the Director of DPR when appropriate, shall determine the performance bond amount for street trees. The performance bond amount shall include the cost of material and labor to construct all work shown on the street tree plans, including, but not limited to:</p> <ol style="list-style-type: none"> <li>(1) Unit cost for trees, palms, root control barrier.</li> <li>(2) Quantity, size, height and caliper of all trees and palms.</li> <li>(3) Quantity, manufacturer and model number (including width and depth) for root control barrier, and tree well covers.</li> <li>(4) Stakes, ties, backfill, and other necessary elements required for the successful installation of the trees.</li> <li>(5) Cost to maintain all landscaping for a period of no less than 60 days.</li> </ol> <p>(C) The filing of an agreement and bond shall be in accordance with Section 6-602 of the Subdivision Rules and Regulations.</p> <p>(D) The Director of DPP may require the permittee or his contractor to produce an insurance policy for property damage and public liability naming the City and County of Honolulu as an insured party with limits of coverage in such amount as will reasonably protect the City from any liability consequent to work within the public right-of-way.</p>		
<p>City and County of Honolulu</p>	<p><b>REVIEW AND INSTALLATION PROCEDURES</b></p>	<p>Review and Installation Procedures</p>	<p><b>8</b></p>

<p><u>Section 2-5 Construction Procedures</u></p>	<p>The applicant shall notify the Director of the DPR (attention Beautification Division) at least one week in advance of, the date that installation of the street trees will begin, the contractor's name, contract price, construction schedule, and any other pertinent information.</p> <p>At any stage of construction and prior to approval of the improvements, if the Director of DPR finds that any of the work is likely to create problems jeopardizing property or public safety, he may require a temporary stopping of work, plan revision, or remedial work such as the relocation of street trees, fixtures, utilities or signs. During construction, the work is subject to inspection at any time by the Director of DPR.</p>		
<p><u>Section 2-6 Certification and Acceptance</u></p>	<p>Upon completion of the street tree installation and prior to its acceptance or approval, the street trees shall be inspected by the Director of DPR. The cost of any remedial work, testing, or verifying of any improvement shall be borne by the applicant. The applicant must file tracings of Street Tree Planting Plans as actually constructed (as-built), showing all changes from the original plans, with the Department of Design and Construction, Facilities Design and Engineering Division in order to obtain acceptance.</p> <p>Upon completion of the above, the Director of DPR shall provide written certification to the Director of DPP that the street trees have been installed and all related work has been completed and accepted.</p>		
<p><u>Section 2-7 Repair and Replacement</u></p>	<p>If the work proposed is part of a subdivision with City facilities, a repair and replacement bond will be required to insure that all street trees and tree wells that have died, been removed, or damaged, between the time the work was completed and the time it is dedicated to the City, are replaced. The filing of this bond shall be in accordance with Section 6-606 of the Subdivision Rules and Regulations.</p> <p>The subdivision improvements shall not be approved for dedication unless this documentation has been provided and all dead or missing street trees have been replaced. In order to avoid the replacement of trees caused by removal, the developer must take the initiative to educate and inform residents of the street tree requirements.</p>		
<p>City and County of Honolulu</p>	<p><b>REVIEW AND INSTALLATION PROCEDURES</b></p>	<p>Review and Installation Procedures</p>	<p><b>9</b></p>



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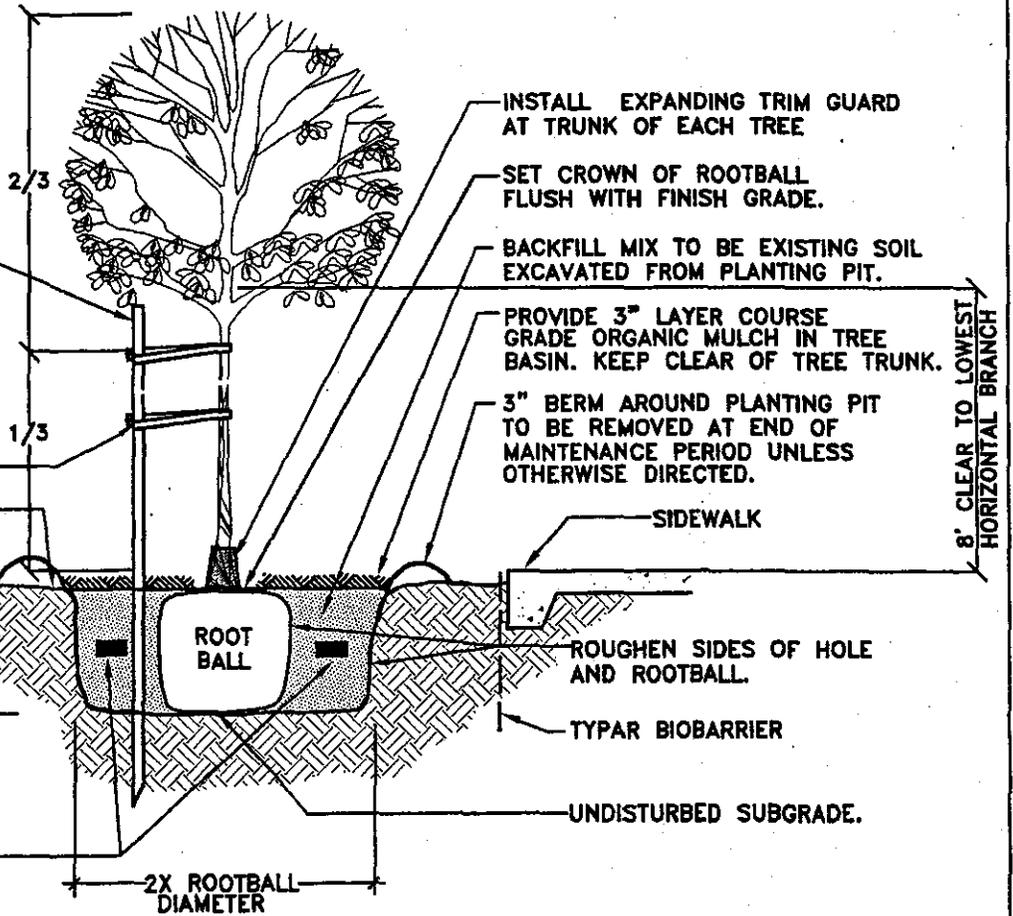
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"AGRIFORM" TABLETS (10) SPREAD EVENLY  
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INSTALL EXPANDING TRIM GUARD  
AT TRUNK OF EACH TREE

SET CROWN OF ROOTBALL  
FLUSH WITH FINISH GRADE.

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3" BERM AROUND PLANTING PIT  
TO BE REMOVED AT END OF  
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OTHERWISE DIRECTED.

SIDEWALK

ROUGHEN SIDES OF HOLE  
AND ROOTBALL.

TYPAR BIOBARRIER

UNDISTURBED SUBGRADE.

**STREET TREE STAKING DETAIL**

NOT TO SCALE

