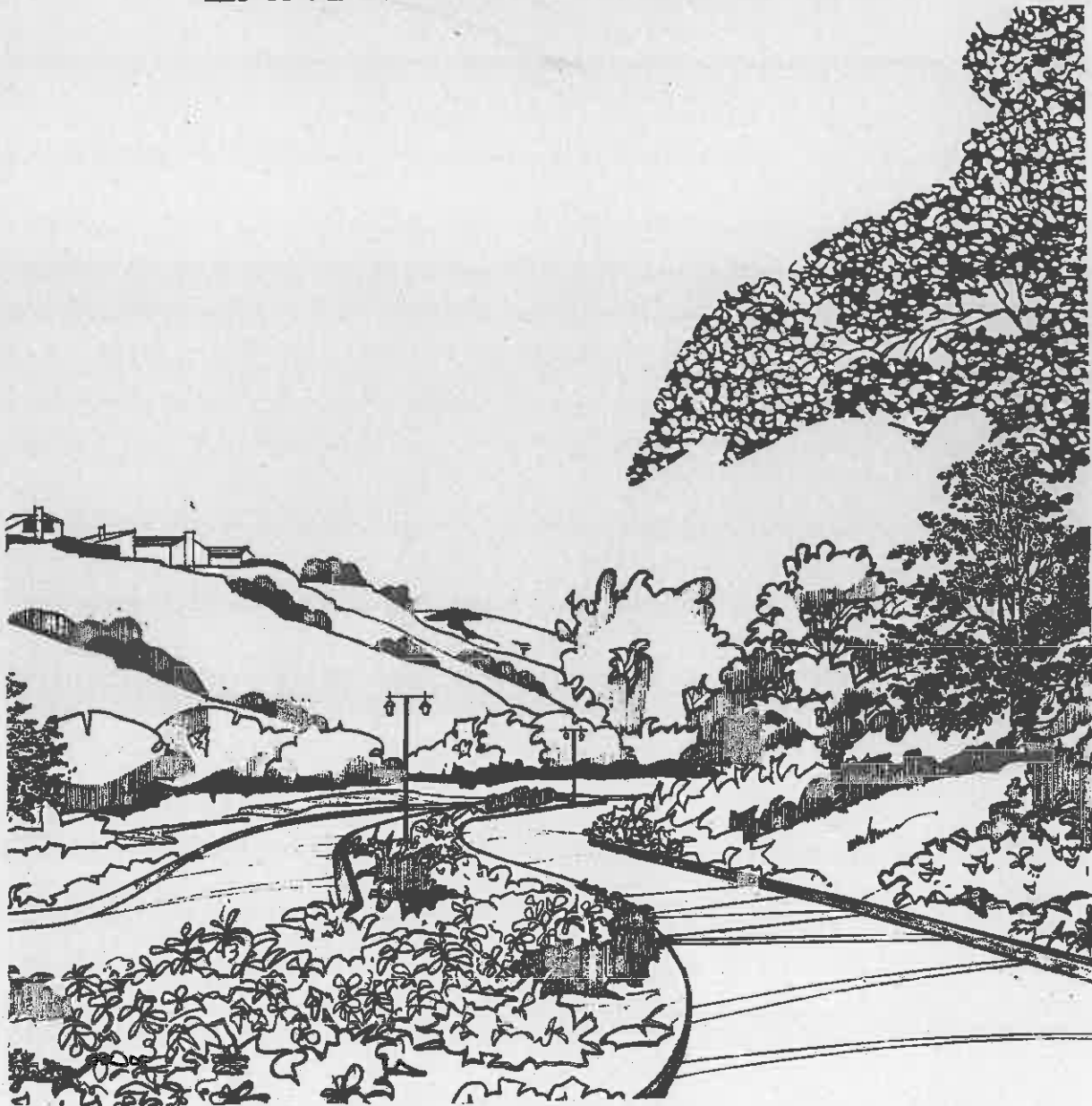




MAJOR AND RESIDENTIAL STREETS LANDSCAPE PROGRAM



LEFFINGWELL ASSOCIATES, Landscape Architects
BARRIE D. COATE, Horticultural Consultant

February, 1989

CONTENTS

	Diagram of Landscape Program Areas	page 1
1.0	Introduction	page 2
1.1	Objectives	page 2
1.2	Design Criteria	page 3
2.0	Major Streets Landscape Program	page 5
2.1	Sycamore Avenue	page 5
2.2	Bayberry and Palm Avenues	page 7
2.3	Refugio Valley Road & Hiking/Biking Trail	page 8
3.0	Residential Streets Landscape Guidelines	page 10
3.1	Existing Residential Streets	page 10
3.2	Future Residential Streets	page 10
3.3	Cul-de-sac Islands	page 12
3.4	Collector Roads without House Frontages	page 12
4.0	Specific Plan Area Landscape Guidelines	page 14
4.1	Description	page 14
4.2	Objectives	page 14
4.3	Street Right-of-Way and Front Setback Landscape Treatment	page 14
4.4	Hiking/Biking Trail & Refugio Creek Landscape Treatment	page 17
Appendix A:	Plant List for Major Streets	page 19
A-1.0	Sycamore Avenue	page 19
A-2.0	Bayberry Avenue	page 20
A-3.0	Palm Avenue	page 20
A-4.0	Refugio Valley Road & Hiking/Biking Trail	page 21
Appendix B:	Implementation Guidelines	page 22
Appendix C:	Planting Specifications	page 23
Appendix D:	Planting Details	page 27

booklet prepared by:

Landscape Architecture
Land Planning and Urban Design
Leffingwell Associates
305 Caledonia Street
Sausalito, California 94965
(415) 332-5354
Paul A. Leffingwell
License #1168

MAJOR AND RESIDENTIAL STREETS LANDSCAPE PROGRAM

Diagram of Landscape Program Areas

HIKING/BIKING TRAIL
& REFUGIO CREEK
Page 17

SPECIFIC PLAN AREA
Page 14

BAYBERRY AVENUE
Page 7



PALM AVENUE
Page 7

SYCAMORE AVENUE
Page 5

EXISTING RESIDENTIAL
Page 10

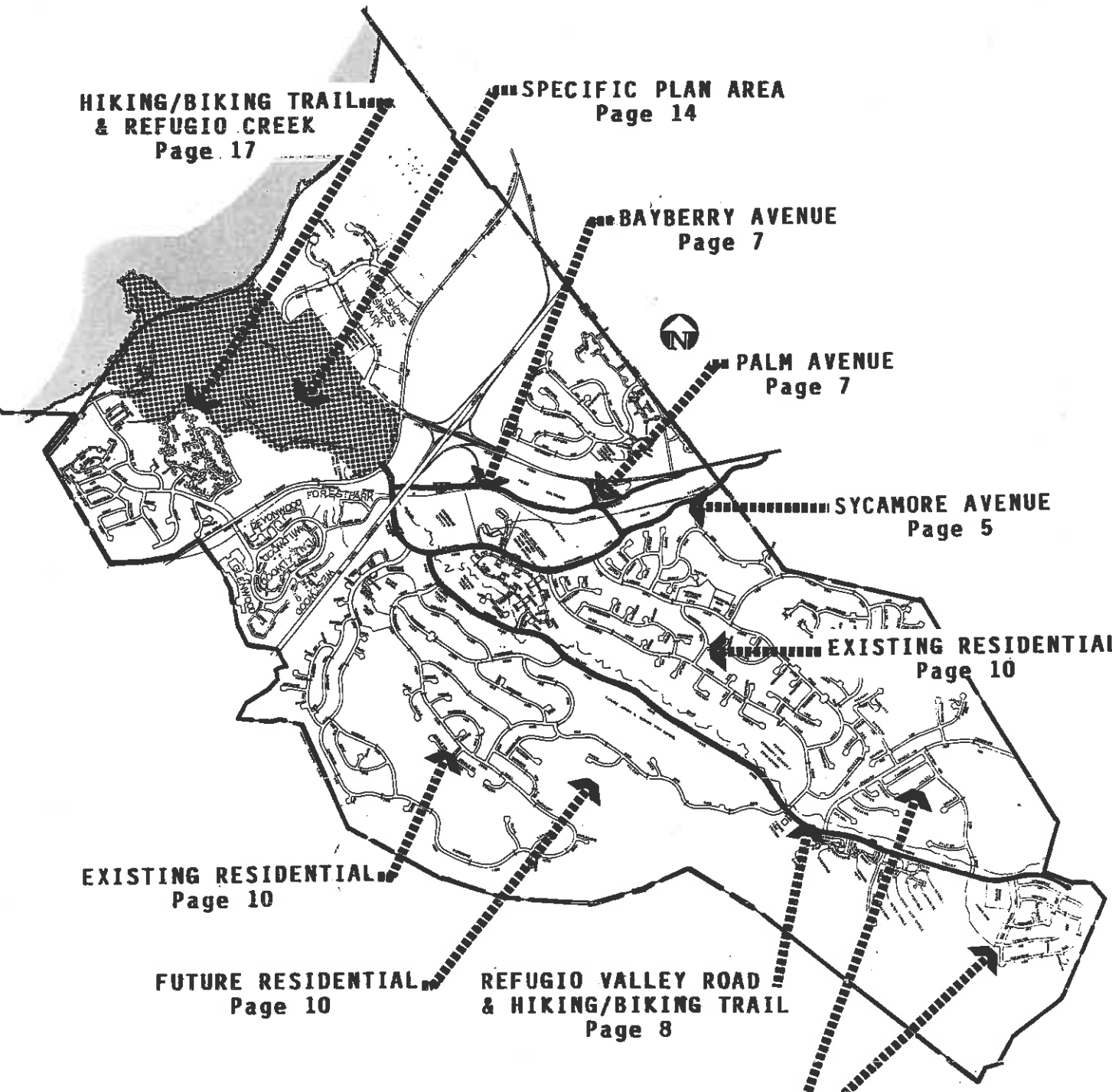
EXISTING RESIDENTIAL
Page 10

FUTURE RESIDENTIAL
Page 10

REFUGIO VALLEY ROAD
& HIKING/BIKING TRAIL
Page 8

FUTURE RESIDENTIAL
Page 10

CITY OF
HERCULES



CITY OF HERCULES

MAJOR AND RESIDENTIAL STREETS LANDSCAPE PROGRAM

1.0 INTRODUCTION

The development of the Major and Residential Streets Landscape Program commenced in June 1987 with the City of Hercules selecting Leffingwell Associates, Landscape Architects, to initiate this project. Leffingwell Associates, with Barrie D. Coate as their Horticultural Consultant, produced a program for the landscape treatment of the public areas of the City, at that time, not planned. This program evolved from meetings with City staff, Commission members and interested residents. Its conceptual design with several options was presented to the City of Hercules Planning Commission and City Council in the fall of 1987. Upon conceptual approval, the selected program options were developed into final recommendations for all areas of the program and presented to the Planning Commission and City Council. The final program was approved in January, 1988. Specific planting recommendations for the major streets were presented to the City Council and approved in September, 1988.

The approved program includes specific recommendations for Sycamore Avenue, Bayberry Avenue, Palm Avenue, Refugio Valley Road and the adjoining Hiking/Biking Trail. Guidelines are provided for street tree planting in existing and future residential areas. Landscape development guidelines are included for the Specific Plan Area west of San Pablo Avenue.

This booklet is to provide recommendations and guidelines regarding the Major and Residential Streets Landscape Program for elected officials, City staff, community residents and design professionals involved in public or private improvements adjacent to or in the areas addressed by this program.

1.1 Objectives

Objectives of the Major & Residential Streets Landscape Program include the following:

- A. Major Streets (Sycamore, Bayberry and Palm Avenues and Refugio Valley Road); San Pablo Avenue is not included in this program as the City of Hercules has an approved plan for the street.
 1. To define the landscape design concept for planting in street medians, street-side portions of public right-of-ways, and the hiking/biking path;

2. To preserve and promote the parkway character along the Refugio Valley Road corridor, including recommendations for treatment of a grove of eucalyptus trees on the Woodlands property frontage along Refugio Valley Road.
3. To specify precise planting plans (including species, size and location for trees, shrubs and ground cover) for all parts of public right-of-ways, including medians and areas adjacent to pavement or sidewalks.

B. Specific Plan Area

1. To determine landscape guidelines with recommendations for street-side, median and front setback planting as well as creek corridor and hiking/biking path planting.

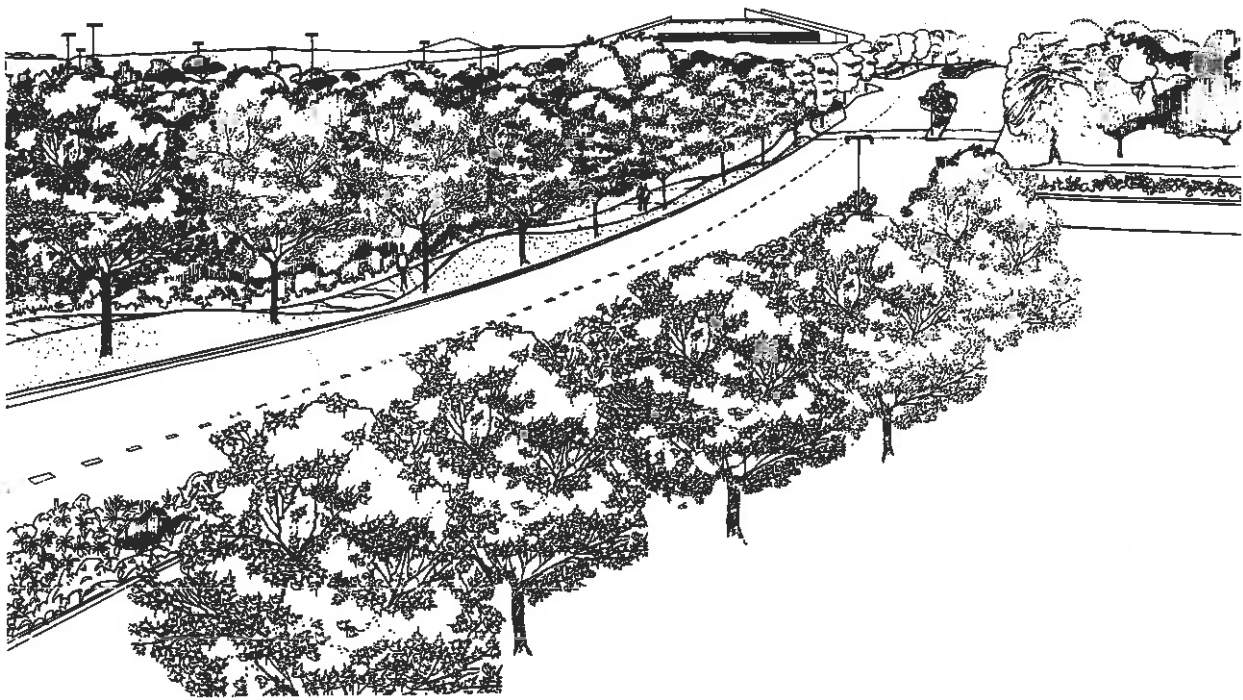
C. Residential Streets

1. To determine landscape guidelines for street tree and cul-de-sac island planting for future residential areas not yet developed, and a street tree selection list for existing residential areas.

1.2 Design Criteria

- A. Preserve and extend major natural or important landscape themes.
- B. Minimize maintenance needs:
 1. Street right-of-way maintenance will be provided by adjacent property owners.
 2. City will maintain medians, bike paths and specifically important frontages such as City Hall, entrance to Town, etc.
 3. Install native grasses maintained as mowed stubble in the right-of-way along street where appropriate. Other areas to be planted with low-water requiring shrubs and groundcovers. See APPENDIX A, Plant List for Major Streets.
- C. Use low water requiring plants as appropriate to conserve water.
- D. Select trees in scale with the proposed use and compatible with the native soils and growing conditions usually found in collector and residential street corridors.

- E. Select plant material to provide a transition between the street right-of-way and adjoining property owner's landscape.
- F. Design with the City policy in mind, that property owners along streets will be required to maintain landscaped areas in street right-of-way between their property and street curb.



VIEW EAST ALONG SYCAMORE AVENUE TOWARD CIVIC CENTER

2.0 MAJOR STREETS LANDSCAPE PROGRAM

2.1 Sycamore Avenue

A. SAN PABLO AVENUE TO PALM AVENUE

1. Character - Regular Tree Pattern -

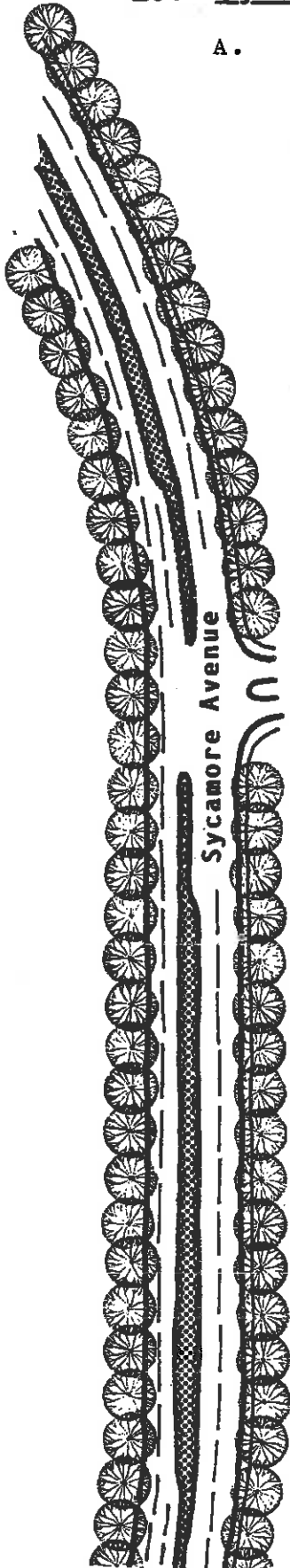
- Strong, formal, classical boulevard planting approach
- Fitting for major urban area as organizing element
- Visual spine denoting City's Business and Governmental Center
- Refer to Plant Lists for Major Streets, Appendix A, for specific plant material.

2. Street-Side Treatment Within The Right-of-Way

The large round-headed, high branched trees of a consistent form and spread at the edge of the street corridor should extend over the street. The solution in the area from San Pablo Avenue to Palm Avenue should result in the sense of a broad arcade for the driver or pedestrian to experience when passing through the street corridor presenting a strong, simple spatial effect. Understory planting should be low-water requiring groundcovers and shrubs arranged in loose meandering drifts or clusters.

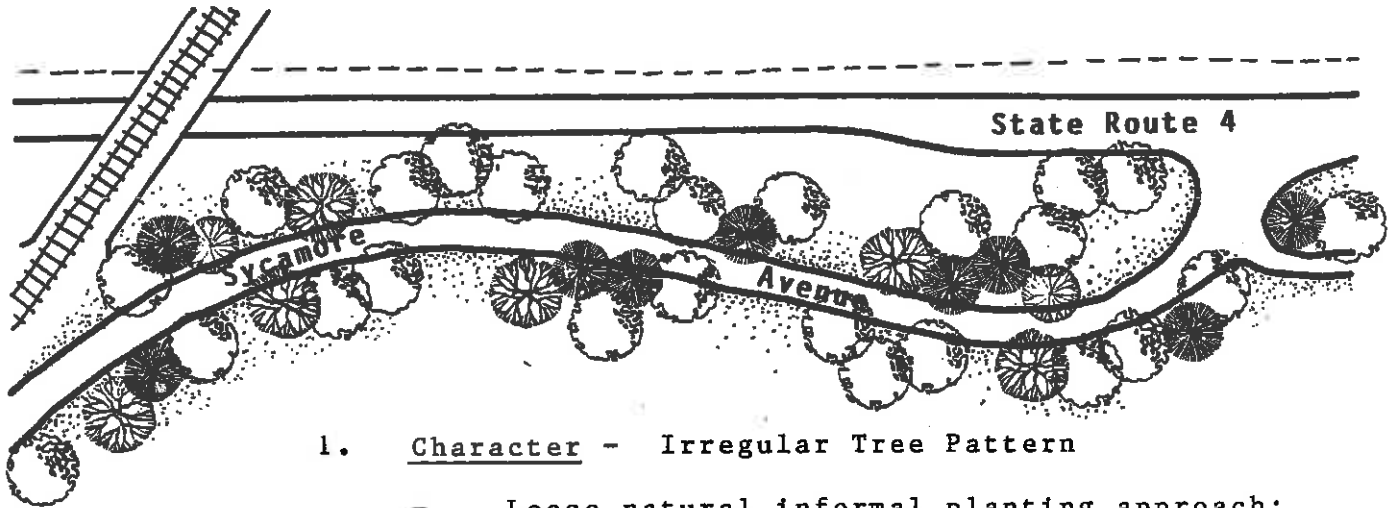
3. Median

The median is approximately 16 feet wide. It should be planted with low-water requiring colorful shrubs, perennials and groundcover, and large round-headed trees near the freeway to modify the visual impact of the freeway as well as strengthen the entrance statement to the City Center.



2.1 Sycamore Avenue (continued)

B. PALM AVENUE TO STATE ROUTE 4



1. Character - Irregular Tree Pattern

- Loose natural informal planting approach;
- More "rural" statement, a tie to existing natural clusters in distance;
- Appropriate for very different ground elevations on either side of street;
- Area not as important to entire city as the Business and Governmental Centers;
- Refer to Appendix A, Plant Lists for Major Streets, for specific plant material.

2. Street-Side Treatment Within Right-of-Way

The street corridor from Palm Avenue to State Route 4 should be bordered with loose rambling clusters of trees. Few tree canopies should extend over the street. The spatial effect should be one of passing between groves of trees. The mixture of round-headed trees with a few vertical accents, enriched visually by the interplay of textures and leaf colors of needle evergreen, broad leaf evergreen, and a few deciduous trees should be the character of this planting solution. Understory planting should be loose meandering clusters of low-water requiring shrubs and groundcovers.

2.2 Bayberry and Palm Avenues

A. Character - Irregular Tree Pattern

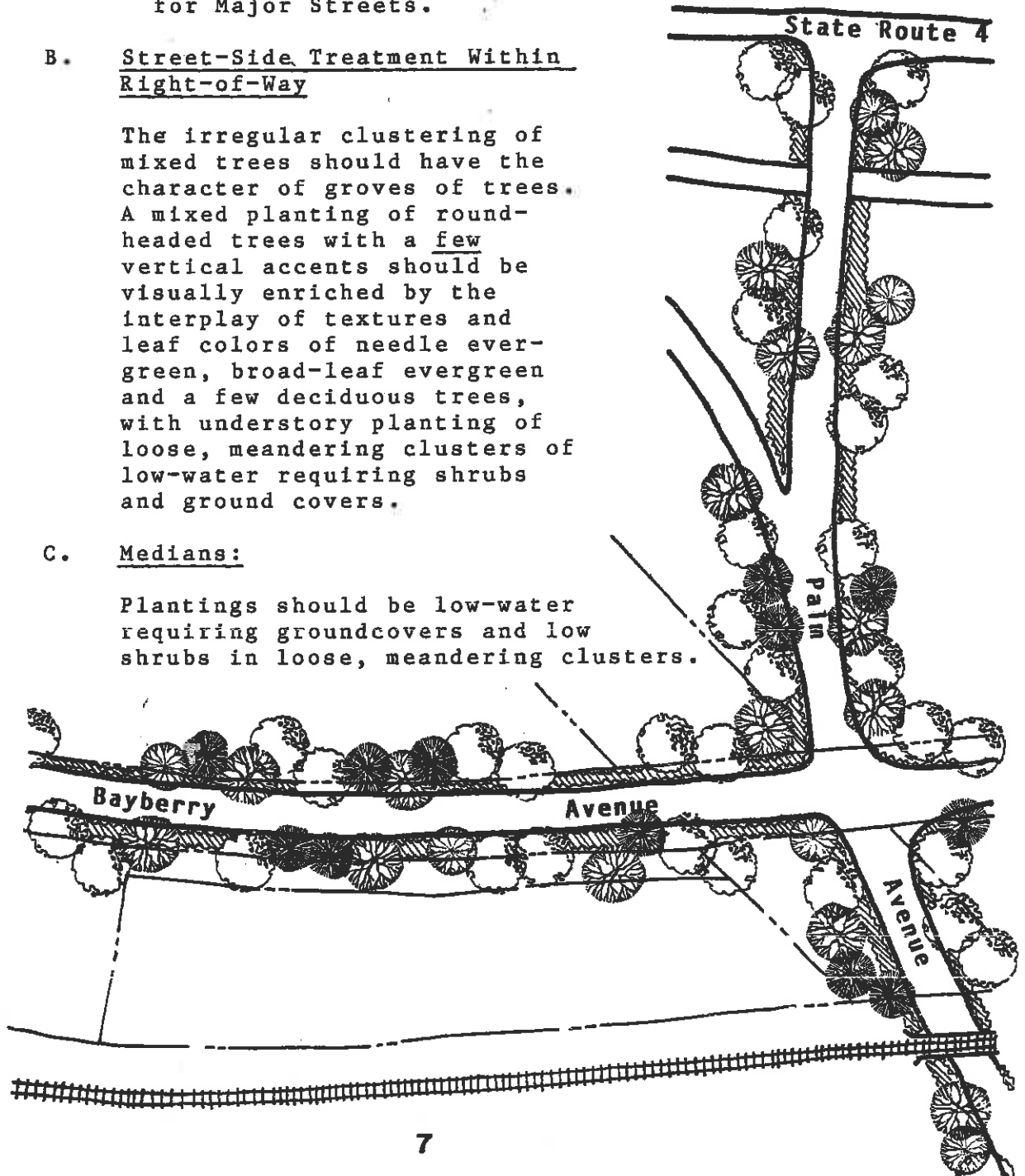
- Loose, more "rural", an extension of the natural character.
- Less visual competition with other regular tree patterns.
- Trees extend very little over street.
- Refer to Appendix A, Plant Lists for Major Streets.

B. Street-Side Treatment Within Right-of-Way

The irregular clustering of mixed trees should have the character of groves of trees. A mixed planting of round-headed trees with a few vertical accents should be visually enriched by the interplay of textures and leaf colors of needle evergreen, broad-leaf evergreen and a few deciduous trees, with understory planting of loose, meandering clusters of low-water requiring shrubs and ground covers.

C. Medians:

Plantings should be low-water requiring groundcovers and low shrubs in loose, meandering clusters.



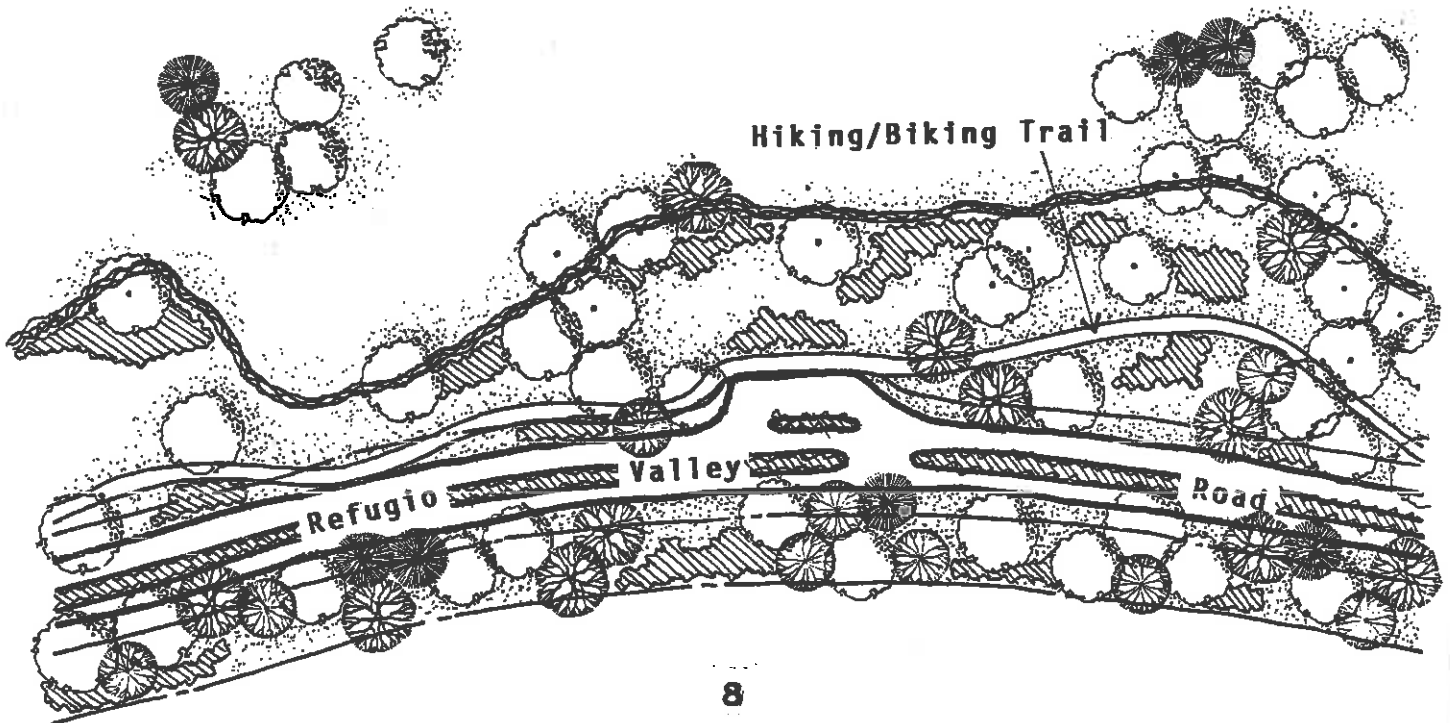
2.3 Refugio Valley Road & Hiking/Biking Trail

A. Character

- Replace existing Eucalyptus with irregular natural planting, in phases, and increase irregular natural planting along road corridor.
- With the removal of 1/3 of the Eucalyptus every 10-12 years, the existing character will change slowly. The maturing Oaks and other native trees will begin to form the dominant visual elements along the road, unifying the street into a single indigenous character, with varying textural compositions and less life time maintenance cost.
- Refer to Appendix A, Plant List for Major Streets, for specific plant material.

B. Street-Side Treatment Within Right-of-Way & Along The Hiking/Biking Trail

1. Remove approximately 1/3 of the Eucalyptus at 10-12 year intervals. First remove all obviously dangerous trees. Trees should be removed in such a way as to allow light to the new plantings. Extend the existing oak and native planting into this area and increase the density along the road corridor.
2. Understory planting to be loose meandering clusters of low-water requiring shrubs and groundcovers in large areas of native grasses or Hard Fescue mowed in early summer and left as stubble.



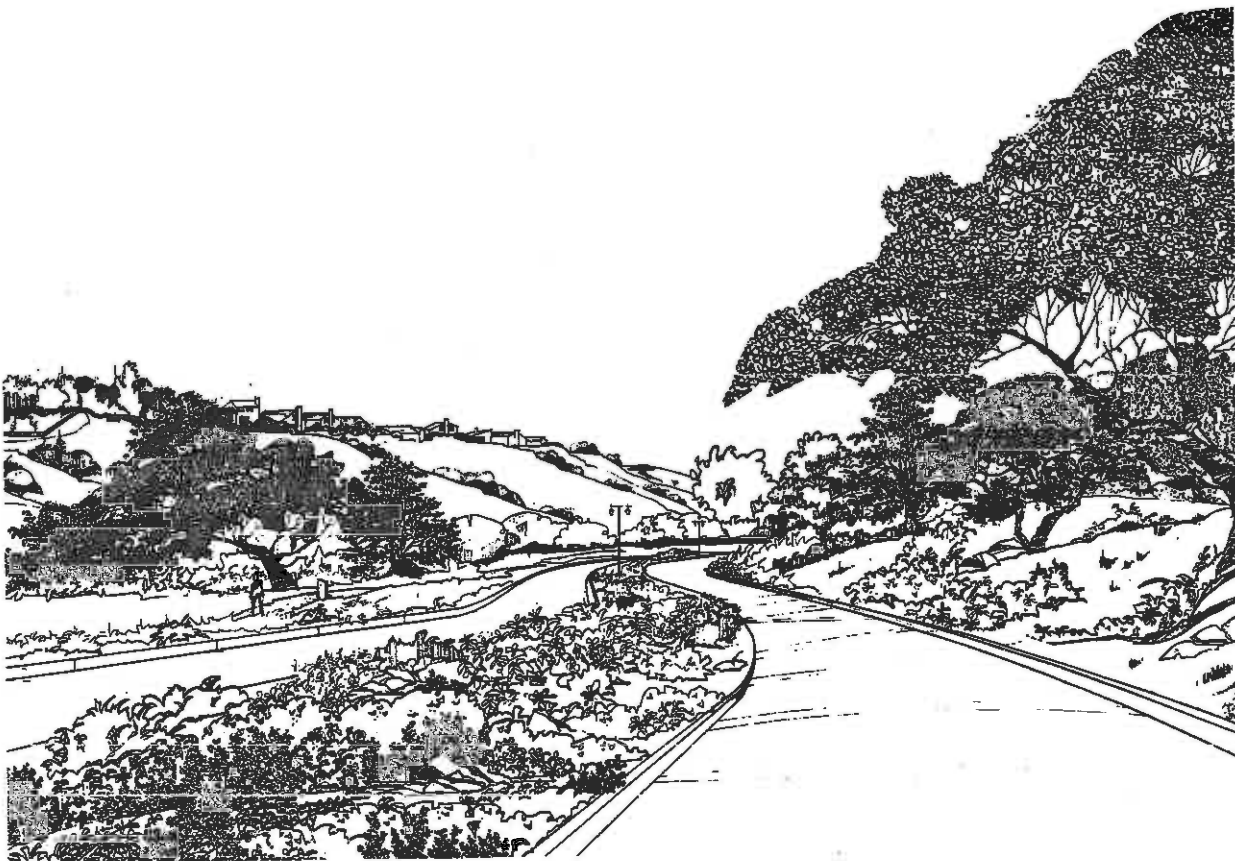
2.3 Refugio Valley Road & Hiking/Biking Trail (continued)

C. Woodlands Property Setback

Establish a 50' landscape setback from the Woodlands property line along Refugio Valley Road. This will act as a buffer zone between Refugio Valley Road and any development which occurs on the property. The width of the setback permits the establishment of irregular clusters of native trees with broad canopies. These trees will bring the natural character and scale from the Hiking/Biking Trail across the road, providing balance to the setting.

D. Medians

Low-water requiring groundcovers and low shrubs, similar to the native planting along the side of the street with some clusters of appropriate perennial plants.



VIEW EAST ALONG REFUGIO VALLEY ROAD

3.0 RESIDENTIAL STREETS LANDSCAPE GUIDELINES

3.1 Existing Residential Streets

A. Landscape Concept

Existing residential streets exhibit great diversity of architectural styles and front yard landscape treatment. The imposition of a single dominant street tree is desirable to unify and organize the streetscape.

B. Plant List For Existing Residential Streets

Celtis sinensis (Chinese Hackberry)	Deciduous
Fraxinus oxycarpa "Raywood" (Raywood Ash)*	Deciduous
Koelreutaria bipinnata (Evergreen Goldenrain Tree)*	Evergreen
Pistachia chinensis (Chinese Pistache)	Deciduous
Pyrus calleryana "Aristocrat" (Ornamental Pear)*	Deciduous
Rhus lancea (African Sumac)	Evergreen
Tristania laurina (Water Gum)*	Evergreen

* = Suitable for use in lawns

3.2 Future Residential Streets

A. Landscape Concept

While future large scale developments should tend to lessen the degree of architectural diversity of any particular residential street, each household will most likely, continue to express its individuality through house color selection and front yard landscape treatment.

Street trees should have a major role in unifying, harmonizing and organizing the streetscape. They should assist in creating a pleasant atmosphere and neighborhood identity.

Residential streets should be planted with trees from the Medium Structural Trees list below. A small tree will not have sufficient visual impact to provide the desired unity. Secondary residential streets, depending on available space, should use Medium or Small Structural Trees. Scale of the street tree should be appropriate to the scale and importance of the street that the trees are planted along. The visual diversity of a

neighborhood should be improved by the harmonizing effect of unified street tree plantings. Visual unity should be through the use of one structural tree per street, placed in a reasonably, regular pattern. This pattern should be supported by a second Accent Tree (listed below), placed in a less regular pattern, creating order and visual interest without monotony. The accent tree could furnish an attractive highlight from flowers, fall color, or interesting bark, while the order is created by the structural tree.

B. Planting Guidelines

Trees selected should be in scale with the street and with the amount of space in which they have to grow. Where planting areas and/or front setbacks are wide, medium sized structural trees should be planted. They should be spaced 25 to 30 feet apart, and set back 5 feet from sidewalks where possible.

Accent trees of a different character should be set out single, or in groves and groupings at random intervals along the street. Where front setbacks are narrow, a single street tree may be desirable. This tree could be chosen from the list of either small structural trees or accent trees. The chosen species should be planted 20 to 25 feet apart, 3 to 5 feet back from sidewalks.

See Appendix C, Planting Specifications.

C. Plant List For Future Residential Streets

Medium Structural Trees

Celtis sinensis (Chinese Hackberry)	Deciduous
Eucalyptus polyanthemos (Silver Dollar Gum)	Evergreen
Fraxinus oxycarpa (Raywood) (Raywood Ash)*	Deciduous
Pistachia chinensis (Chinese Pistache)	Deciduous
Tristania conferta (Brisbane Box)	Evergreen

Small Structural Trees

Koelreutaria bipinnata (Evergreen Goldenrain Tree)*	Evergreen
Melaleuca quinquenervia (Cajeput Tree)*	Evergreen
Prunus carolina (Carolina Laurel)	Evergreen
Pyrus calleryana (Aristocrat) (Ornamental Pear)*	Deciduous
Rhus lancea (African Sumac)	Evergreen

Accent Trees

Crataegus phaenopyrum (Washington Thorn)	Deciduous
Koelreutaria bipinnata (Evergreen Goldenrain Tree)*	Evergreen
Pyrus calleryana 'Aristocrat' (Ornamental Pear)*	Deciduous
Tristania laurina (Water Gum)*	Evergreen

* = Suitable for use in lawns

3.3 Cul-de-sac Islands

A. Landscape Concept

Cul-de-sac islands should continue the street tree theme, with one or a group of at least three of the chosen street trees. A groundcover which will not block sight lines, and which discourages children from playing on the islands is desirable.

B. Plant List Cul-de-Sac Island Groundcovers

Cotoneaster 'Low Fast' (NCN)	Evergreen
Juniperus chinensis 'San Jose' (San Jose Juniper)	Evergreen
Juniperus chinensis 'Parsonii' (Parson's Juniper)	Evergreen
Juniperus virginiana 'Silver Spreader' (NCN)	Evergreen

3.4 Collector Roads Without House Frontages

A. Landscape Concept

Collector roads without house frontages should be used to extend the character of the broad landscape and the irregular tree pattern of the major streets. Low water requiring groundcover and low shrubs should form the understory.

B. Planting Guidelines

1. Trees: Trees should be placed in clusters of three or more irregularly spaced, with an average spacing within the cluster of 15 feet. Spacing between clusters should not be more than 30 feet, and no two consecutive clusters should have the same number of trees. Care should be taken to have the tree clusters appear as natural in massing as possible.

2. Shrubs and Groundcovers: Large meandering and interwoven masses of shrubs and groundcover should be in scale with the street rather than relating to individual property lines. The emphasis is on textural patterns which give continuity to the collector road.
3. See Appendix C, Planting Specifications.

C. Plant List for Collector Roads without Frontage

Mixed Tree Clusters

Structural Trees

<i>Pinus pinea</i> (Stone Pine)	Evergreen
<i>Quercus agrifolia</i> (Coast Live Oak)	Evergreen
<i>Quercus lobata</i> (Valley Oak)	Evergreen

Accent Trees

<i>Koelreutaria bipinnata</i> (Evergreen Goldenrain Tree) (in cultivated areas only)	Evergreen
<i>Pistachia chinensis</i> (Chinese Pistache)	Deciduous

Low Water Requiring Groundcover & Low Shrubs

<i>Arctostaphylos densiflora</i> "Howard McMinn" (Howard McMinn Manzanita)	Shrub
<i>Baccharis pilularis</i> "Twin Peaks" (Dwarf Coyote Brush)	Groundcover
<i>Cercis occidentalis</i> (Western Redbud)	Shrub
<i>Cistus skanbergii</i> (Rockrose)	Shrub
<i>Coprosma</i> "Verde Vista" (NCN)	Groundcover
<i>Heteromeles arbutifolia</i> (Toyon)	Shrub
<i>Limonium perezii</i> (Sea Lavender)	Perennial
<i>Rhamnus californica</i> "Eve Case" (Coffee Berry)	Shrub
<i>Romneya coulteri</i> (Matilija Poppy)	Perennial

4.0 SPECIFIC PLAN AREA LANDSCAPE GUIDELINES

4.1 Description

The Hercules Specific Plan Area extends west from Interstate 80 to the shores of San Pablo Bay. A variety of additional land uses are planned, ranging from mixed research and development, office, commercial and light industrial areas.

4.2 Objectives

- A. Seek to create an attractive visual image which will act as a unifying element in the area.
- B. Ensure that each individual project contributes to a cohesive landscape design.
- C. Seek to preserve a landscape character reminiscent of the native landscape character, using native plant species in appropriate settings.
- D. Establish a relationship with landscape character of North Shore Business Park.

4.3 Street Right-of-Way and Front Setback Landscape Treatment

A. Character

- Irregular tree pattern with lawn and low water requiring groundcover and shrubs.
- Trees clustered in groups should be used to accentuate or conceal the views of the development along the street, as determined by the architecture. This solution brings some of the character of the North Shore Business Park into this area, but greatly modifies the high water use planting.
- Meandering areas of lawn, groundcover and shrubs along the road right-of-way, and the front setbacks should be in scale with the street rather than relating only to the project where planted. Large interwoven plant masses should be provided which do not reflect individual property lines.
- Median planting should reflect the same broad scale approach to planting, however, lawn should be excluded.

B. Planting Guidelines

1. All Planting Areas: The site soil throughout the Specific Plan Area, particularly in the higher areas of the site, is highly compacted. Healthy plant growth will be extremely difficult without adequate attention to soil preparation and drainage.

The soil surface should be ripped to a depth of 2 feet throughout landscaped areas prior to planting. Where this is not possible, tree and shrub planting holes should be drained by a sub-surface drainage system. A third alternative is to place a minimum 3 feet depth of fast draining imported topsoil over the existing site surface. Sub-drainage maybe required with this option. Soil scientist should be retained to recommend, test and inspect the soil preparation appropriate for the specific site prior to the initiation of work.

2. Trees: Trees should be placed in clusters of three or more and irregularly grouped with an average spacing of approximately 15 to 20 feet between trees. Spacing between clusters should not be more than 50', and no two consecutive clusters should have the same number of trees. Assuming that street setbacks are 25' wide, it is desirable to have at least 5 trees per 100 linear feet of street frontage, representing approximately 50 percent canopy coverage of trees with a 20 foot spread.
3. Shrubs and Groundcover: Large masses of shrubs and groundcover arranged in interwoven and meandering patterns should be in scale with the street rather than relating to individual buildings. The emphasis should be on broad textural patterns which give continuity to the streets and medians of the Specific Plan Area.
4. See Appendix C, Planting Specifications.

C. Plant List for Street Right-of-Way and Front Setback
Landscape Treatment

Street Tree Clusters for Lawn
&/or Groundcover Areas

Structural Trees

<i>Alnus cordata</i> (Italian Alder)**	Deciduous
<i>Eucalyptus polyanthemos</i> (Silver Dollar Gum)	Evergreen
<i>Pinus pinea</i> (Stone Pine)	Evergreen
<i>Platanus acerifolia</i> 'Yarwood' (Yarwood London Plane, Sycamore)*	Deciduous
<i>Pyrus callieriana</i> 'Aristocrat' (Ornamental Pear)**	Evergreen
<i>Quercus agrifolia</i> (Coast Live Oak)	Evergreen
<i>Quercus ilex</i> (Holly Oak)	Evergreen
<i>Quercus rubra</i> (Red Oak)*	Deciduous

Accent Trees

<i>Meterosideros tomentosa</i> (New Zealand Christmas Tree)	Evergreen
<i>Rhus lancea</i> (African Sumac)	Evergreen
<i>Schinus molle</i> (California Pepper)	Evergreen
<i>Sequoia sempervirens</i> (Western Redwood)*	Evergreen

* Suitable for use in lawns or groundcover

** Suitable for use in lawns only

Low Water Requiring Shrubs & Groundcovers
Street Right-of-Way Planting

<i>Agapanthus africanus</i> (Lily-of-the-Nile)	Shrub
<i>Arbutus unedo</i> and cultivars (Strawberry Tree)	Shrub
<i>Arctostaphylos densiflora</i> 'Howard McMinn' (McMinn Manzanita)	Shrub
<i>Cistus skanbergii</i> (Rockrose)	Shrub
<i>Coprosma</i> 'Verde Vista' (NCN)	Groundcover
<i>Cotoneaster dammeri</i> (NCN)	Groundcover
<i>Cotoneaster</i> 'Lowfast' (NCN)	Groundcover
<i>Hypericum calycinum</i> (Creeping St. Johnswort)	Groundcover
<i>Juniperus chinensis</i> 'Mint Julip' (Chinese Juniper)	Shrub
<i>Juniperus procumbens</i> 'Nana' (Dwarf Juniper)	Groundcover
<i>Myrtus communis</i> 'Compacta' (Compact Myrtle)	Shrub

Nerium oleander (Oleander)	Shrub
Oenothera berlandieri (Mexican Evening Primrose)	Perennial
Prunus ilicifolia (Holly Leaf Cherry)	Shrub
Raphiolepis indica cultivars (Indian Hawthorne)	Shrub
Salvia leucantha (Mexican Bush Sage)	Shrub
Scaevola "Mauve Clusters" (NCN)	Groundcover
Verbena tenuisectum (NCN)	Groundcover

Low Water Requiring Shrubs and Groundcover
- Median Planting:

Arbutus unedo "Elfin King" (Dwarf Strawberry Tree)	Shrub
Cistus skanbergii (Rockrose)	Shrub
Coprosma "Verde Vista" (NCN)	Groundcover
Coprosma "kirkii" (NCN)	Groundcover
Juniperus procumbens "Nana" (Dwarf Juniper)	Groundcover
Myrtus communis "Compacta" (Compact Myrtle)	Shrub
Raphiolepis indica cultivars (Indian Hawthorne)	Shrub

Lawn

Festuca species (various Hybrid Fescues) Grass

4.4 Hiking/Biking Path Trail & Refugio Creek Landscape Treatment

A. Character

This area would be like a naturalistic park with trees clustered at the edge of the space and drifts of groundcovers and shrubs along the sides. Planting composed of low-water requiring irregularly placed trees and drifts of groundcover and shrubs in meadow grass maintained as a mowed stubble.

B. Plant List

Mixed Tree Clusters

Structural Trees:

Pinus pinea (Stone Pine)	Evergreen
Quercus agrifolia (Coast Live Oak) - dominate tree	Evergreen

Accent Trees:

Koelreutaria bipinnata (Evergreen Goldenrain Tree)	Evergreen
Pistachia chinensis (Chinese Pistache)	Deciduous

Low Water Requiring Groundcovers & Shrubs

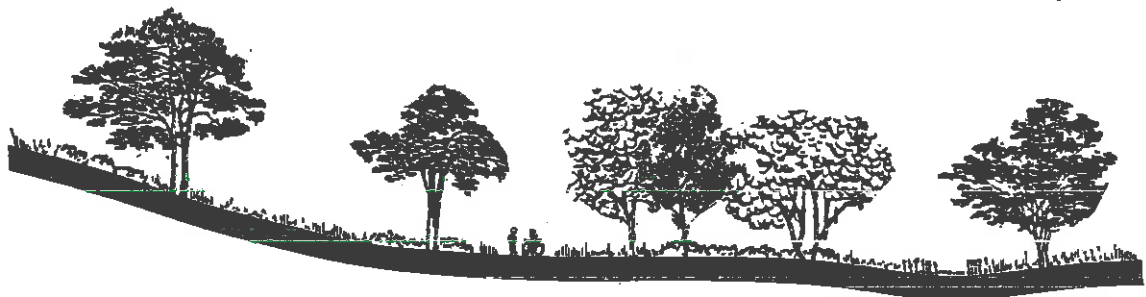
Arctostaphylos densiflora "Howard McMinn" (Howard McMinn Manzanita)	Shrub
Baccharis pilularis "Twin Peaks" (Dwarf Coyote Brush)	Groundcover
Cercis occidentalis (Western Redbud)	Shrub
Cistus skanbergii (Rockrose)	Shrub
Coprosma "Verde Vista" (NCN)	Groundcover
Heteromeles arbutifolia (Toyon)	Shrub
Rhamnus californica "Eve Case" (Coffee Berry)	Shrub
Romneya coulteri (Matilija Poppy)	Perennial

Riparian Planting

Aesculus californica (California Buckeye)	Tree
Populus fremontii (Fremont Cottonwood)	Shrub/Tree
Rubus vitifolius (NCN)	Shrub
Salix laevigata (Native Willow)	Shrub
Salix lasiandra (Native Willow)	Shrub

Meadow Grass

Festuca ovina "Spartan" or "Tournament" (Spartan or Tournament Hard Fescue) (for heavy use areas)	Evergreen Meadow Grass
Lolium multiflorum (Annual Ryegrass)	Deciduous Meadow Grass



**HIKING/BIKING TRAIL & REFUGIO CREEK
Section**

APPENDIX A

PLANT LISTS FOR MAJOR STREETS

A-1.0 Sycamore Avenue

BROAD ROUND HEADED STREET TREES

Platanus acerifolia "Yarwood" (London Plane, Sycamore) Deciduous

MIXED TREE CLUSTERS

Structural Trees:

<i>Pinus pinea</i>	(Stone Pine)	Evergreen
<i>Platanus acerifolia</i> "Yarwood"	(London Plane, Sycamore)	Deciduous
<i>Quercus agrifolia</i>	(Coast Live Oak)	Evergreen

Accent Tree:

<i>Pistachia chinensis</i>	(Chinese Pistache)	Deciduous
----------------------------	--------------------	-----------

LOW WATER COLORFUL SHRUBS, PERENNIALS & GROUNDCOVER (FOR MEDIANS)

<i>Agapanthus africanus</i> "Alba" (White Lily of the Nile)	Shrub
<i>Agapanthus africanus</i> (Lily of the Nile)	Shrub
<i>Cistus skanbergii</i> (Hybrid Rockrose)	Perennial
<i>Juniperus sabina</i> "Buffalo" (NCN)	Groundcover
<i>Lantana montevidensis</i> (Trailing Lantana)	Shrub
<i>Limonium perezii</i> (Sea Lavender)	Perennial
<i>Nerium oleander</i> "Casablanca" (White Oleander)	Shrub
<i>Oenothera berlandieri</i> (Mexican Evening Primrose)	Perennial
<i>Raphiolepis indica</i> "Ballerina" (Indian Hawthorne)	Shrub
<i>Raphiolepis indica</i> "Enchantress" (Indian Hawthorne)	Shrub
<i>Scaveola</i> "Mauve Clusters" (Scaveola)	Groundcover
<i>Verbena tenuisectum</i> (NCN)	Groundcover

LOW WATER, LOW SHRUBS & GROUNDCOVER (RIGHT-OF-WAY EDGE PLANTING)

<i>Agapanthus africanus</i> "Alba" (White Lily of the Nile)	Shrub
<i>Agapanthus africanus</i> (Lily of the Nile)	Shrub
<i>Arctostaphylos densiflora</i> "Howard McMinn" (Howard McMinn Manzanita)	Groundcover
<i>Ceanothus</i> "Frosty Blue" (Frosty Blue California Lilac)	Shrub
<i>Ceanothus</i> "Concha" (Concha California Lilac)	Shrub
<i>Cercis occidentalis</i> (Western Redbud)	Shrub
<i>Coprosma</i> "Verde Vista" (NCN)	Groundcover

VINE FOR FREEWAY COLUMNS

<i>Parthenocissus tricuspidata</i> (Boston Ivy)	Vine
---	------

A-2.0 Bayberry Avenue

MIXED TREE CLUSTERS

Structural Trees:

Pinus pinea (Stone Pine)	Evergreen
Quercus agrifolia (Coast Live Oak)	Evergreen

Accent Trees:

Celtis sinensis (Chinese Hackberry)	Deciduous
Tristania conferta (Brisbane Box)	Evergreen

LOW WATER SHRUBS & GROUNDCOVER (Median Planting)

Arbutus unedo "Compacta" (Compact Strawberry Tree)	Shrub
Arctostaphylos densiflora "Howard McMinn" (Howard McMinn Manzanita)	Shrub
Baccharis pilularis "Twin Peaks" (Dwarf Coyote Brush)	Groundcover
Coprosma "Verde Vista" (NCN)	Groundcover
Juniperus sabina "Buffalo" (NCN)	Groundcover
Limonium perezii (Sea Lavender)	Perennial
Raphiolepis indica "Enchantress" (Enchantress Indian Hawthorn)	Shrub

A-3.0 Palm Avenue

MIXED TREE CLUSTERS

Structural Trees:

Pinus pinea (Stone Pine)	Evergreen
Quercus agrifolia (Coast Live Oak)	Evergreen

Accent Trees:

Celtis sinensis (Chinese Hackberry)	Deciduous
Tristania conferta (Brisbane Box)	Evergreen

STREET EDGE PLANTING WITHIN RIGHT-OF-WAY

Arbutus unedo "Compacta" (Compact Strawberry Tree)	Shrub
Arctostaphylos densiflora "Howard McMinn" (Howard McMinn Manzanita)	Shrub
Baccharis pilularis "Twin Peaks" (Dwarf Coyote Brush)	Groundcover
Coprosma "Verde Vista" (NCN)	Groundcover

A-4.0 Refugio Valley Road & Hiking/Biking Trail

MIXED TREE CLUSTERS

Structural Trees:

<i>Aesculus californica</i> (California Buckeye)	Deciduous
<i>Pinus pinea</i> (Stone Pine)	Evergreen
<i>Quercus agrifolia</i> (Coast Live Oak)	Evergreen
<i>Quercus lobata</i> (Valley Oak)	Evergreen

Accent Trees:

<i>Koelreutaria bipinnata</i> (Evergreen Goldenrain Tree) (in cultivated areas only)	Evergreen
<i>Pistachia chinensis</i> (Chinese Pistache)	Deciduous

LOW WATER GROUNDCOVER & LOW SHRUBS (Median Planting)

<i>Arctostaphylos densiflora</i> "Howard McMinn"	Shrub
<i>Ceanothus maritimus</i> (Maritime California Lilac)	Groundcover
<i>Cercis occidentalis</i> (Western Redbud)	Shrub
<i>Cistus skanbergii</i> (Hybrid Rockrose)	Shrub
<i>Coprosma kirkii</i> (Creeping Coprosma)	Groundcover
<i>Limonium perezii</i> (Sea Lavender)	Perennial
<i>Romneya coulteri</i> (Matilija Poppy)	Perennial

STREET EDGE PLANTING WITHIN RIGHT-OF-WAY & HIKING/BIKING TRAIL

<i>Arctostaphylos densiflora</i> "Howard McMinn" (Howard McMinn Manzanita)	Shrub
<i>Arctostaphylos bakeri</i> "Louis Edmonds" (Louis Edmonds Manzanita)	Shrub
<i>Baccharis pilularis</i> "Twin Peaks" (Dwarf Coyote Brush)	Groundcover
<i>Ceanothus</i> "Concha" (Concha California Lilac)	Shrub
<i>Ceanothus</i> "Snow Flurry" (Snow Flurry California Lilac)	Shrub
<i>Ceanothus</i> "Frosty Blue" (Frosty Blue California Lilac)	Shrub
<i>Cercis occidentalis</i> (Western Redbud)	Shrub
<i>Cistus skanbergii</i> (Hybrid Rockrose)	Shrub
<i>Coprosma</i> "Verde Vista" (NCN)	Groundcover
<i>Heteromeles arbutifolia</i> (Toyon)	Shrub
<i>Rhamnus californica</i> "Eve Case" (Eve Case California Coffeeberry)	Shrub

GRASS/STUBBLE

<i>Festuca ovina</i> "Spartan" or "Tournament" (Spartan or Tournament Hard Fescue)	Grass
---	-------

APPENDIX B

IMPLEMENTATION GUIDELINES

B-1.0 Setbacks

Minimum setback from property line shall be ten feet (10') in which no construction shall be permitted. Through out the frontage of a parcel the average setback shall be twenty feet (20').

B-2.0 Approvals

East Bay Municipal Utility District

Landscape plans will be required to be submitted first to the East Bay Municipal Utility District (EBMUD) for approval of planting and irrigation plans in accordance with their guidelines for drought resistant planting.

City of Hercules

Landscape plans prepared by a registered landscape architect and previously approved by EBMUD shall be submitted to the City of Hercules for approval of conformance to the guidelines given in this program EXCEPT for single family residences.

B-3.0 General Requirements

Paved access through right-of-way planting shall be provided by the adjoining landowner for vehicles and pedestrians traffic

Median Islands which are required to be constructed as part of a development shall provide concrete nosings at each end of a median island. Nosings shall be 25 feet long at left turn lanes and 10 feet long at other nosings. Concrete work pads running the full width of the island will also be required at 500 foot intervals along median islands.

B-4.0 Installation

Installation shall be in accordance with the plans and specifications which are incorporated in this program.

Plant material shall be selected from the appropriate plant list included in this program.

APPENDIX C

PLANTING SPECIFICATIONS

C-1.0 All Plant Material

Plant material shall be of the finest quality, hardy and climatized to conditions similar to those in the locality of the project. They shall be typical of their species or variety and shall have a normal habit of growth. They shall be sound, healthy and vigorous, well-branched and densely foliated when in leaf. They shall have healthy, well-developed root systems without being root bound in the containers. They shall be free of disease, insect pests, eggs or larvae.

Plant material shall be of grading and quality to meet the current edition of "Agricultural Code of California" and the "Regulations of the Director of Agriculture Pertaining to Nursery Stock". They shall be true to type and name in accordance with "An Annotated Checklist of Woody Ornamental Plants". They shall be in conformance with the specifications in the current edition of Horticultural Standards of the American Association of Nurserymen. They shall have been grown in the containers long enough for the root system to have developed sufficiently to hold its soil together, firm and whole. No plants shall be loose in the container. All root bound or root girdled plants are not acceptable.

C-2.0 Trees

All street trees shall be "standard" fifteen-gallon size; seven to eight feet high with a two to three foot spread and one to one and one-half inch trunk caliper; with straight trunks branched at five and one-half to six feet.

Street trees in residential areas shall be planted a minimum of 3 feet from sidewalks. Street trees in the Specific Plan Area shall be a minimum of 5 feet from sidewalks. Adjustments may be made in tree locations to prevent damage to existing utilities.

All trees shall be planted and staked as shown in the attached detail.

C-3.0 Shrubs

Shrubs shall be of 5-gallon size, approximately 2 feet in diameter and full and bushy. Shrubs should be placed in such a manner to create large masses in scale with the street rather than relating only to the project where planted. All shrubs shall be planted as shown on the attached detail.

C-4.0 Groundcover

Groundcover may be of 1-gallon size or planted from flats. 1-gallon container plants shall be at 8 to 10 inches wide, full and bushy. Cuttings planted from flats shall be fully rooted.

1-gallon container plants shall be spaced at 18 to 30 inches on centers depending on the rate of growth and ultimate spread of the plant. Rooted cuttings shall be spaced at 6 to 15 inches on centers depending on the rate of growth of the plant. 1-gallon container plants shall be planted as shown in the detail for Shrub Planting.

C-5.0 Soil Amendments & Fertilizers

Soil amendments and fertilizers shall be as recommended by a reputable soils testing laboratory through examination of soils samples in which the plants are to be grown.

In general, minimum soil amending should be as follows:

For areas planted with rooted cuttings -
Amount per 1,000 square feet, 8 inches deep:
2 inches Nitrogen stabilized wood residual amendment
30# 6-20-20 Bests Cropmaker fertilizer
30# 0-25-0 Superphosphate
15# Iron Sulfate

Backfill Mix for all planting holes -
Amount per cubic yard:
1/3 c.y. Nitrogen stabilized wood residual amendment
2/3 c.y. site soil
1.5# 6-20-20 Bests Cropmaker fertilizer
2.5# 0-25-0 Superphosphate
1# Iron Sulfate

C-6.0 Fertilizer Tablets

Insert Agriform Plant Tabs (21 gram) as manufactured by Sierra Chemical Corp. into all planting holes at the rates recommended by the manufacturer.

C-7.0 Watering Basins

From watering basins around each plant directly over the rootball as shown in the detail in Appendix D.

C-8.0 Fine Grading

Smooth all surfaces to an even finished grade to ensure proper surface drainage with ridges and depressions removed. Finished grade of planting areas, including mulch, shall be 1 inch below adjacent walks, paving, mow-bands, headers and 2 inches below tops of walls, with allowance made for settlement.

C-9.0 Bark Mulch

A 2' thick layer of 1/4 to 3/4 inch diameter Fir bark mulch should be placed in all shrub and groundcover planting areas.

C-10.0 Irrigation

Permanent automatic irrigation shall be provided for all planting located on private property. The irrigation controller shall have multiple programming capability. Temporary irrigation or use of a water truck may be permitted for planting maintained by the City. Wherever feasible, recycled water should be used.

C-11.0 Tree Staking

All trees shall be staked as detailed in Appendix D.

C-12.0 Maintenance

All planted areas are to be maintained for Sixty days from the date of final installation. Maintenance shall include keeping all planting at optimum growing condition by watering, weeding, replanting, fertilizing, cultivating, repairing all tree stakes and ties, spraying for disease and insects, removing and replacing dead or dying plant materials, pruning as directed, maintaining proper grades of plants and providing any other reasonable operations of maintenance and protection required for successful completion of the project.

Final Inspection will be held at the completion of the 60 day Maintenance Period. If, after the Inspection, the City's representative is of the opinion that all work has been performed as per the Drawings and Specifications, the Maintenance Period will be concluded and the Guarantee Period will commence.

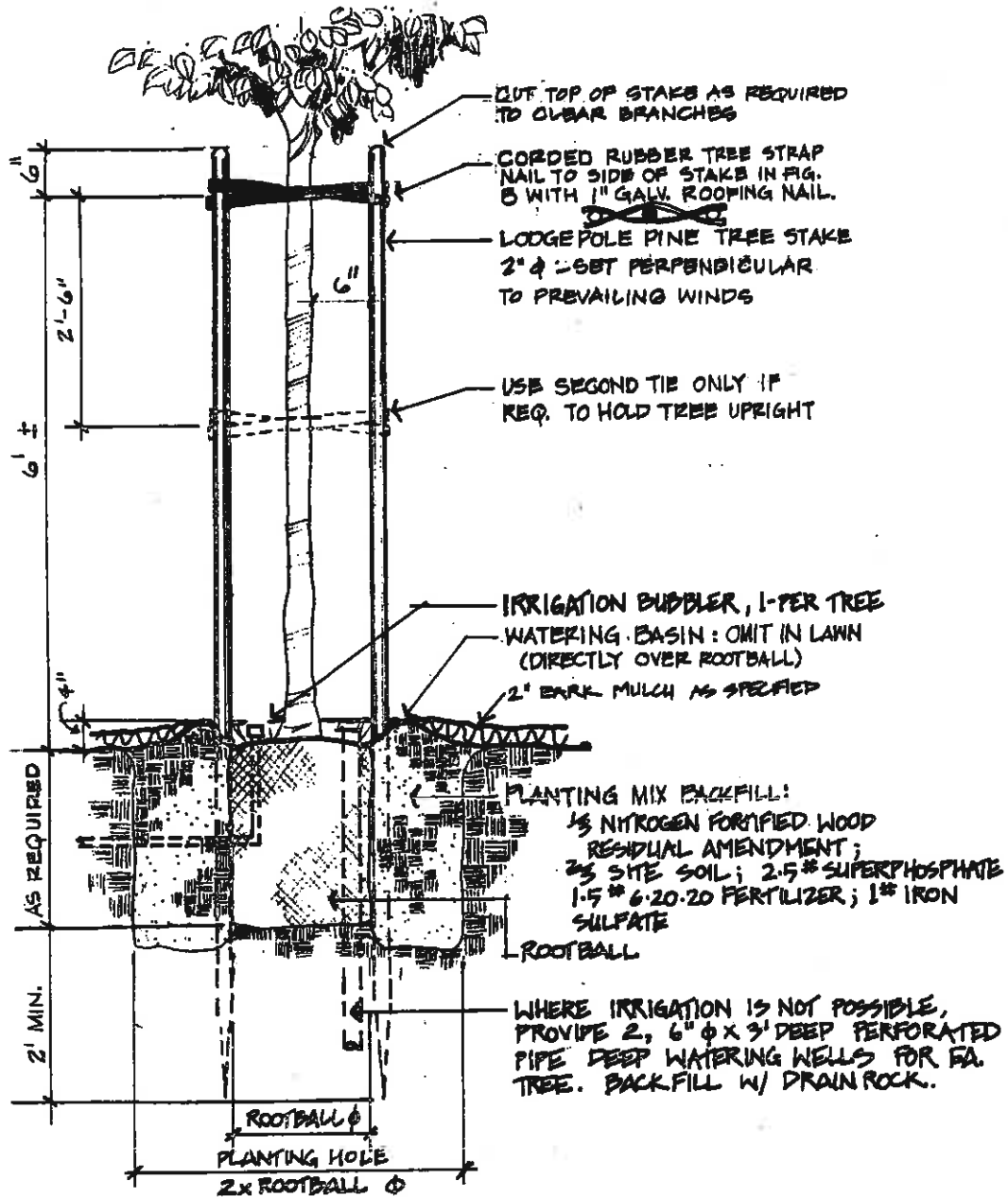
C-13.0 Guarantee and Replacement Period

The purpose of this guarantee is to assure the Owner receives plant materials of prime quality, planted and maintained in a thorough and careful manner. Sometimes plants have latent diseases or defects or are shocked in the process of transplanting. Therefore:

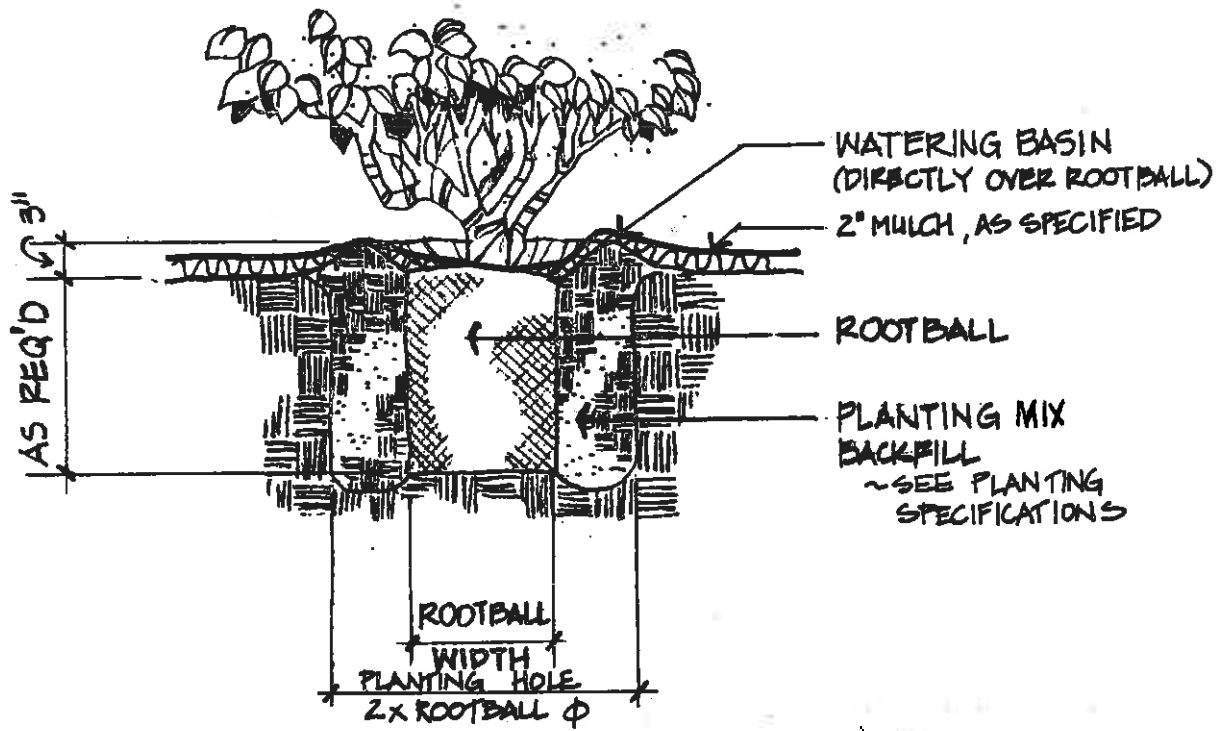
- a. The Contractor shall guarantee all plants, 15-gallon size or larger for latent defects, disease, death and injury resulting from improper planting for a period of twelve months, and 1- and 5- gallon size shrubs for a period of 6 months after final acceptance of the total project by the Owner.
- b. The Contractor shall replace at no expense to the Owner and as soon as possible, plants that are dead or not in vigorous and healthy growing conditions. Replacement shall be of the same kind and size as originally specified and shall be planted as described on the plan and in the specifications.
- c. The Contractor shall not be held liable for loss of plant material during the guarantee period due to lack of care by others than the Contractor and his agents and employees, vandalism or accidental causes.

APPENDIX D

TREE AND SHRUB PLANTING AND TREE STAKING DETAILS



Tree Planting and Staking Detail



Shrub Planting Detail