

*Landscape
Design Guidelines
for
North Central
Roseville
Specific Plan*



City of Roseville

April 10, 1992

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MacNair and Associates

David Wade, Principal
Wade Associates

Note: This text, the "North Central Roseville Landscape Design Guidelines," is a supplement to the "North Central Roseville Specific Plan," adopted July 5, 1990, Resolution #90-170, prepared by Wade Associates for the City of Roseville. These Landscape Design Guidelines were approved by the Planning Commission on March 12, 1992.

Implementation of these North Central Roseville Landscape Design Guidelines shall be performed through a review process by the City of Roseville. It is the responsibility of the developer to select a licensed landscape architect to prepare and submit landscape design plans for approval.

Should a conflict arise between these Landscape Design Guidelines and any future ordinances, the ordinance shall supersede the requirements of the guidelines.

All work within the City rights-of-way and easements will require an encroachment permit.

Landscape Maintenance and Acceptance: All landscaping and irrigation improvements to be maintained through a lighting and landscape district shall be completed as shown on the improvement plans to the satisfaction of the City prior to acceptance of the subdivision improvements. Following acceptance of the subdivision improvements, the developer shall provide maintenance of the landscaping and irrigation improvements as specified on the plans for 90 calendar days beginning from the date of acceptance of the subdivision improvements to the City Council. Compliance with the maintenance requirements shall be secured by the Maintenance Bond required by the Subdivision Improvement Agreement. At the conclusion of the 90-day maintenance period, provided the City is completely satisfied with the landscaping, the City will accept landscape and irrigation improvements for ongoing maintenance.

Maintenance of the bikeway and pedestrian pathways provided outside of the landscaped setbacks adjacent to arterial streets also shall be the responsibility of the City through the NCRSP Lighting and Landscape District.

LANDSCAPE DESIGN GUIDELINES ERRATA
NORTH CENTRAL ROSEVILLE SPECIFIC PLAN

Amendments approved by City Council 8/18/93

Section 3.4.a, first sentence, page 3-5: Subordinate trees shall be planted from ~~15~~ **5** gallon or larger containers and shall be placed at 15 to 30 feet on center in a random fashion, groupings or linear offset.

Section 3.4.c, second paragraph, page 3-9: Shrubs may be planted from ~~5-gallon or 1~~ **one** gallon containers. ~~with the following ratio:~~

~~70% planted from 5-gallon containers~~
~~30% planted from 1-gallon containers~~

Section 3.8, last sentence of the fourth paragraph in right-side column, page 3-17: Pilasters shall be spaced ~~no further than 120' 0" on-center in accordance with the locations shown on Figure 3-9d (page 3-20a) attached hereto.~~

Figure 3-9a, Note D, page 3-18: Set pilasters at ~~120' 0" on-center as shown on Figure 3-9d.~~

Figure 3-9b, Note D, page 3-19: Set pilasters at ~~120' 0" on-center as shown on Figure 3-9d.~~

Figure 3-9c, Note D, page 3-20: Set pilasters at ~~120' 0" on-center as shown on Figure 3-9d.~~

Add page 3-20a, showing Figure 3-9d. Page 3-20a (and Figure 3-9d) shall be as shown on the attached exhibit.

Amendments approved by Design Review Commission 8/5/93

Section 4, Pleasant Grove Boulevard, Medians, second and third sentences, page 4-8: ~~Quercus agrifolia (Coastal Live Oak) and Pyrus calleryana 'Aristocrat' (Aristocrat Pear), except where accent trees are designated, with low-growing shrubs.~~

Accent tree species ~~are~~ to be ~~Quercus coccinea (Scarlet Oak)~~ (see "6.4 Medians").

Section 4, Roseville Parkway, Medians, East of Pleasant Grove Boulevard, first and second sentences, page 4-10: ~~25% Betula jaquemetii (Birch) Quercus agrifolia (Coastal Live Oak), Quercus ilex (Holly Oak) and 75% Pyrus calleryana 'Bradford' 'Aristocrat' (Bradford Aristocrat Pear) with low-growing shrubs. Accent trees are to be native oak species where required Quercus coccinea (Scarlet Oaks) (see "6.4 Medians").~~

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Objectives and Goals

Like other planned regions in the City of Roseville, the North Central Roseville Specific Plan Area (NCRSP) shall integrate a planned urban community with the natural environment.

As an urban community, the North Central Roseville Specific Plan Area shall be "pedestrian-friendly," as outlined in the North Central Roseville Specific Plan (City of Roseville, July 5, 1990). This shall be accomplished through extensive pedestrian and bicycle paths and provisions for pedestrian-oriented activities. This plan area also shall encompass potentials for a regional commercial center to serve the South Placer region. With the fruition of such a commercial core, this planned area is envisioned as a "'hub' of retail activity" in the Sacramento region (NCRSP, Section 3).

Furthermore, because of its geographic location fronting the major thoroughfare of Highway 65, the North Central Roseville Specific Plan Aea is unique in its potential to serve as a major gateway into the City of Roseville and, therefore, to provide identity for the entire City of Roseville. Yet the natural environment of the North Central Roseville Specific Plan Area is not conducive to such a planned environment. The presently barren land of this region is characterized by grassy, rolling hills, vernal pools and other wetlands with limited areas of oak woodlands. The area is largely underlain with an impervious layer of andesitic Mehrten formation.

Because of these conditions, these guidelines were developed in conjunction with the consulting horticultural firm of James MacNair and Associates. As a result, methods to mitigate areas where difficult soils are encountered were developed to create favorable planting conditions. Methods of soil improvement include ripping the Mehrten subsoil, providing sufficient fill soil for root development, requiring a soil analysis for each parcel development and amending soils.

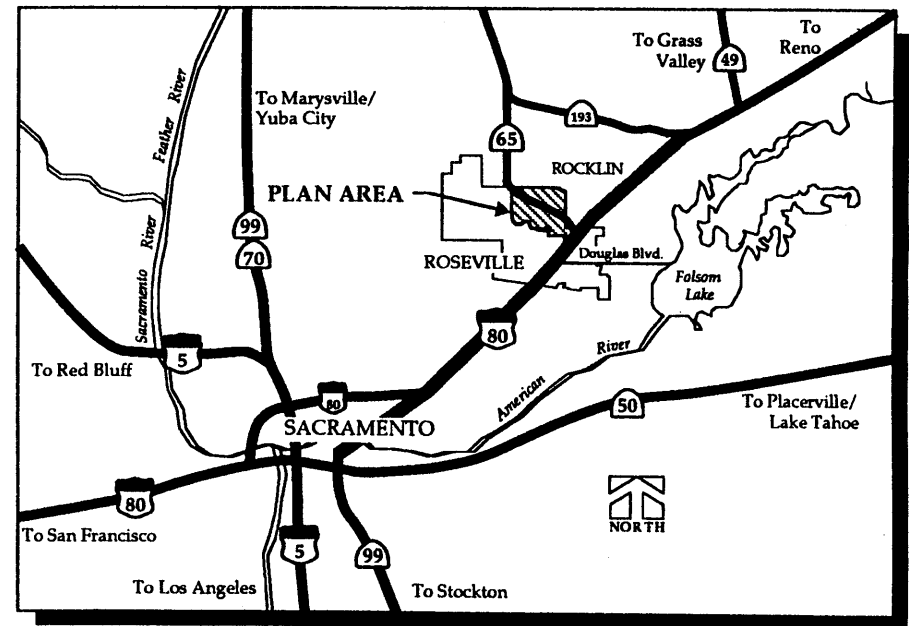
Development within this region shall involve extensive landscaping to enrich the living environment, thus transforming this sparsely-vegetated region into a hospitable urban environment.

The intent of these landscape guidelines is to realize fully these potentials. These guidelines provide guidance in achieving a cohesive design among the varying land uses within the North Central Roseville Specific Plan Area. In addition, these guidelines promote the establishment of an identity for the region and for the neighborhoods within the region itself, and yet maintain views to distant landmarks, such as to the Foothills and the Sierras, and to views from within.

As an aesthetically and functionally landscaped community, the North Central Roseville Specific Plan Area shall thrive as a pedestrian-oriented environment and serve as a prominent gateway to the City of Roseville.

Part of the review process requires the developer of each parcel to select a licensed landscape architect to prepare landscape construction plans according to these guidelines which must be submitted to the City of Roseville for approval. Maintenance of the public landscaped areas shall be maintained through either a home-owners association or the Lighting and Landscape District.

Figure 1-1
Regional Location Map



(Graphics taken from
NCRSP, Figure 1-1)

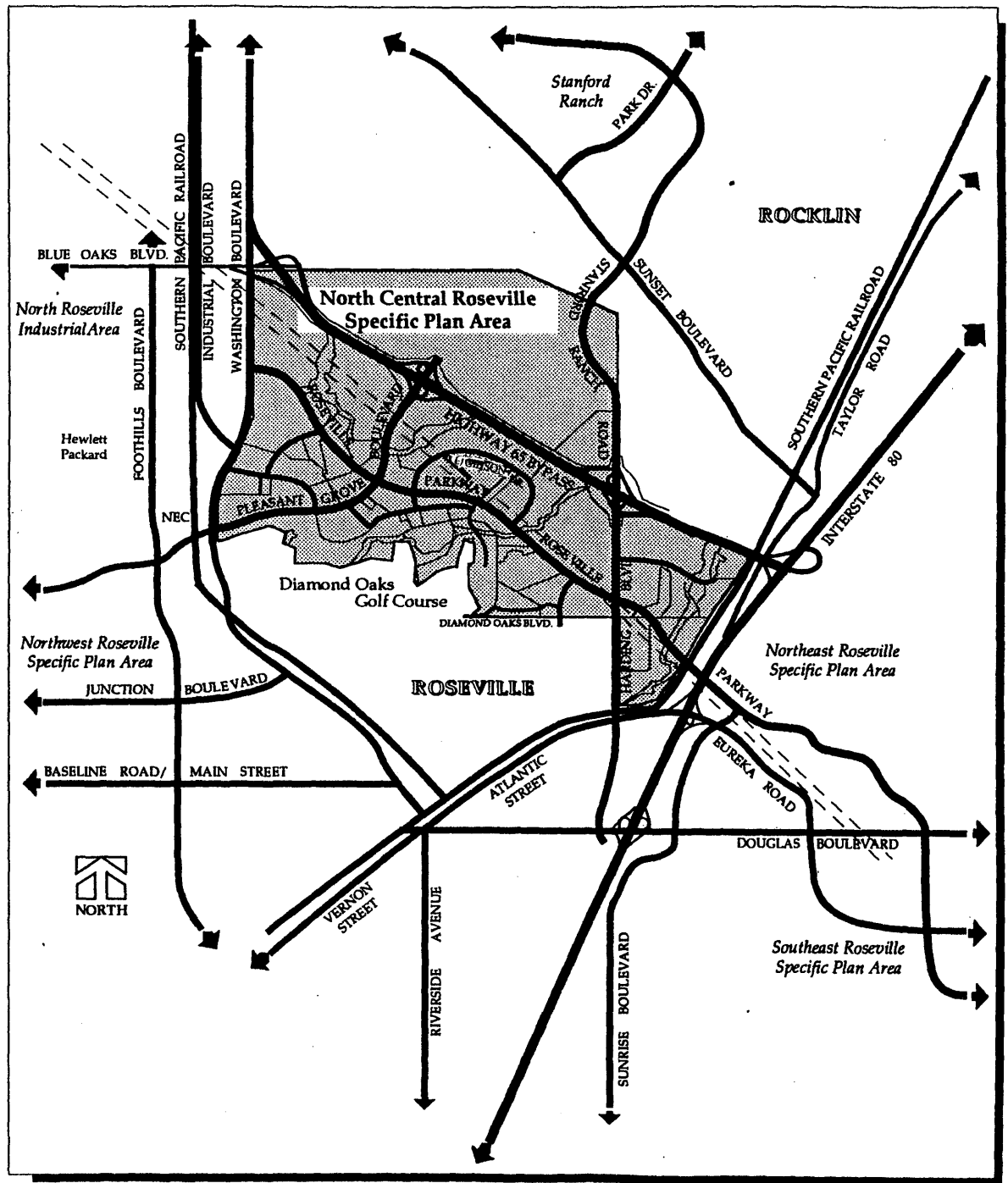


Figure 1-3
Plan Area Map

(Graphics taken from
NCRSP, Figure 1-4)

1.1 Urban Forest Concept

The urban forest concept is the integration of an urban community within a natural environment. Like the urban environment, the natural environment is planned according to aesthetic and functional needs. The natural environment is based on native plant materials, which are supplemented with compatible non-native ornamental plant species.

In conjunction with the goal of creating an urban forest within the North Central Roseville Specific Plan Area, these guidelines provide guidance in creating a cohesive blend of urban and natural environments. Characteristics of landscape plantings must be recognized in order to fulfill aesthetic and functional needs.

Plant species are unique in their characteristics. Plant species vary according to form, color, texture and environmental preferences. Plant forms range from tall to low, columnar to sprawling and even open- to compact-structured. Plants also vary in coloration through leaves or through seasonal fruits or flowers. Similarly, textures range from coarse and dense to fine and airy. Environmental preferences are also a character of plant species. Factors of sun and shade are considered. In addition, soil texture, space for root growth, and microclimates all determine the success of plantings.

Because of these characteristics, plants often are chosen for their visual attractiveness. Yet, just as important, plants also may serve functional roles. These functions include providing shade, enhancing desirable views, concealing undesirable views, buffering noise sources, providing a sense of continuity and rhythm, and highlighting significant areas. Landscaping needs of particular concern within the North Central Roseville Specific Plan Area are to maintain distant views to the Foothills and the Sierra and to allow an open view to the

Diamond Oaks Golf Course on the southern edge of the planned area. Where land uses adjacent to the Highway 65 Bypass serve as visual buffers (NCRSP, Section 2), landscaping shall be organized to reinforce this buffer.

Edges along natural preserves require sensitive treatment for a smooth transition from adjoining land uses. Unlike nearby planned regions, landscaping shall not be uniform along all landscape corridors. Rather, landscaping shall be unique in character depending upon adjoining land uses with a common theme connecting and running throughout the Plan Area. The need to blend these individual landscapes into an arabesque is the role of these guidelines.

Design concepts that follow are overviews on the treatment of landscape corridors adjacent to varying land uses. Consult "4. Specific Street Criteria" for particular planting elements to be incorporated into the landscape design.

1.2 Design Characteristics

The North Central Roseville Specific Plan Area shall become a landscaped environment unlike any other planned region in Roseville. To avoid monotony and a generic appearance, design of landscape corridors within the North Central Roseville Specific Plan Area shall aesthetically convey the land use which it adjoins. For example, landscape corridors adjacent to business/professional land uses shall appear manicured and controlled, whereas landscape corridors abutting single-family residential land uses shall appear "natural" and informal. Such landscape designs also are functional: subordinate landscape materials act as screening where recommended and needed. Thus, such a design provides the pedestrian with an "informative," friendly environment. This plan area consists of various individual landscapes that comprise a unique environment of particular character.

Business/Professional and Light Industrial Land Uses

Landscape corridors along business/professional and light industrial land uses are interpreted as manicured, controlled environments. These landscape corridors promote images of productivity and of high standards. Thus a regulated landscape design appears most appropriate within these corridors. Screening will be desirable in certain areas; other areas will require high visibility for project identification. A formal image is desired throughout.

To create an identifiable image, the dominant landscape element is street trees placed in double rows and set at regular intervals. No other trees shall be included within this section of the landscape corridor, except at points where recommended as accent trees (refer to "3. Landscape Easement Elements").

Groundcover and/or shrubs shall be planted in areas from the pedestrian/bicycle path to the property line. Shrubs shall be 5' maximum in height. Refer to "3. Landscape Corridor Elements." Lawn, legume (*Trifolium repens*) and/or groundcover shall be planted from the path to the street curb. Lawn may be planted from walk to the property line if the area is 10' wide minimum. Lawn may also be planted at street intersections, where applicable. These subordinate landscape materials shall be organized in an ordered and patterned design. Refer to "3.5 Lawn, Groundcover and Mulch."

Pedestrian/Bicycle paths reaffirm this controlled environ with linear paths. Along Collector D, Diamond Oaks Blvd. and Eastpark Drive, paths shall parallel street curbs with a 5 foot planting strip between. Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Refer to "Figure 1-5" for schematic layout.

Consult "4. Specific Street Criteria" and "6.7 Public Utility Easements" for any public utility easement that may affect landscape design.

This does not apply to Parcel 69. Refer to "6.2 Electric Substation" for landscaping criteria.

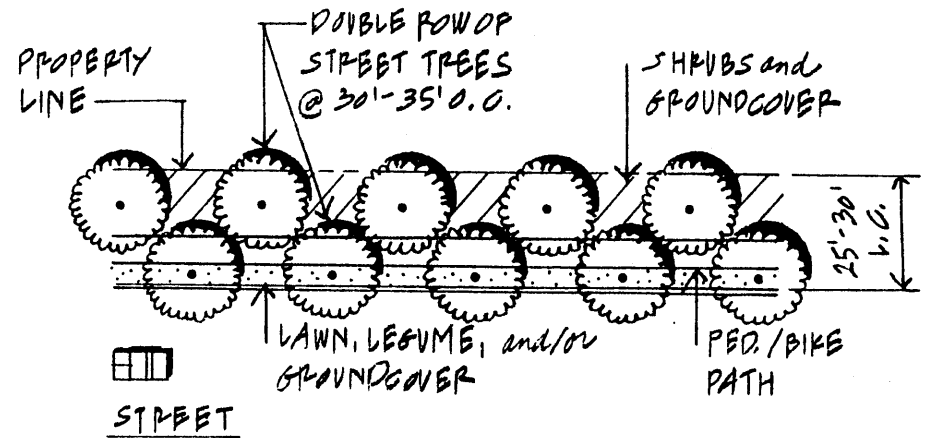
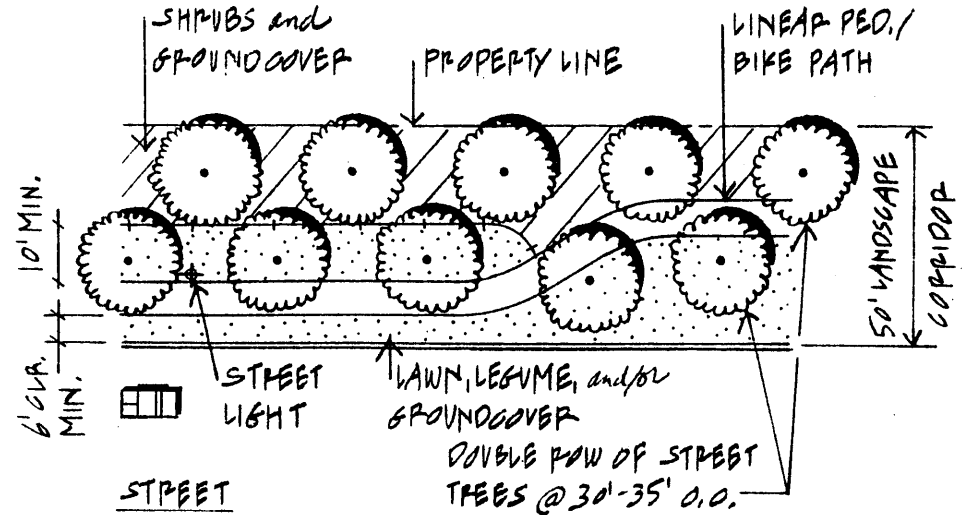


Figure 1-5
Business/Professional and
Light Industrial Land-Use
Landscape Schematic

Regional Commercial and Commercial Land Uses

Commercial land uses are treated as destination and orientation points that can be identified from a distance. Unlike some land uses, visual connection from the streets is of utmost importance. Therefore, screening with landscape materials is minimized.

The landscape corridor punctuates these areas with highly visible and identifiable features. Landscape materials create a readily-recognized image for both travellers and locals to identify these commercial areas as a primary destination. Ideally, the landscape shall feature plantings with distinctive characteristics, such as architectural form, showy foliage or dramatic blooms.

Street trees to be planted shall be arranged in double rows. To free this zone from any visual screening, subordinate trees shall not be included.

Groundcover and/or shrubs shall be planted in areas from the pedestrian/bicycle path to the property line. Shrubs shall be 5' maximum in height. Lawn, legume (*Trifolium repens*) and/or groundcover shall be planted from the path to the street curb. Lawn, legume (*Trifolium repens*) and/or groundcover shall be planted from the path to the street curb. Lawn may be planted from walk to the property line if the area is 10' wide minimum. Lawn may also be planted at street intersections, where applicable. Refer to "3.5 Lawn, Groundcover and Mulch."

Like business/professional land uses, the pedestrian/bicycle paths shall be laid out in linear alignments. Along Collectors C, D and E, Diamond Oaks Blvd. and Eastpark Drive, paths shall parallel street curbs with a 5 foot planting strip between. Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Refer to "Figure 1-5" for schematic layout.

Consult "4. Specific Street Criteria" and "6.7 Public Utilities Easements" for any public utility easement that may affect landscape design.

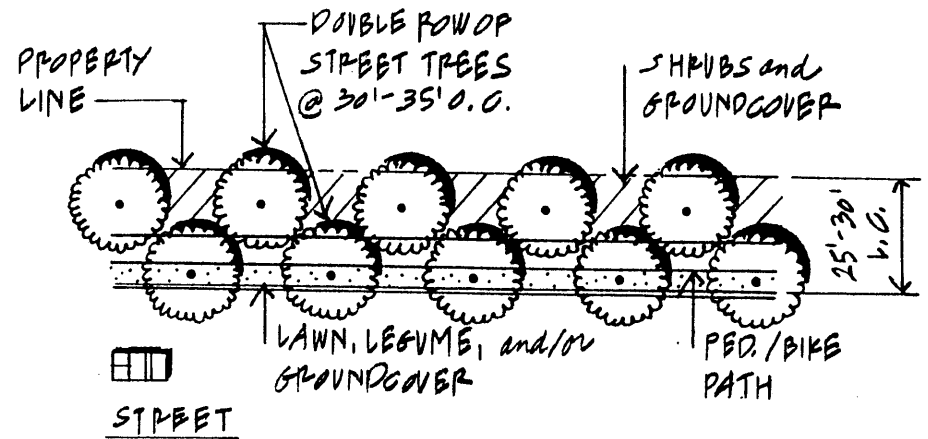
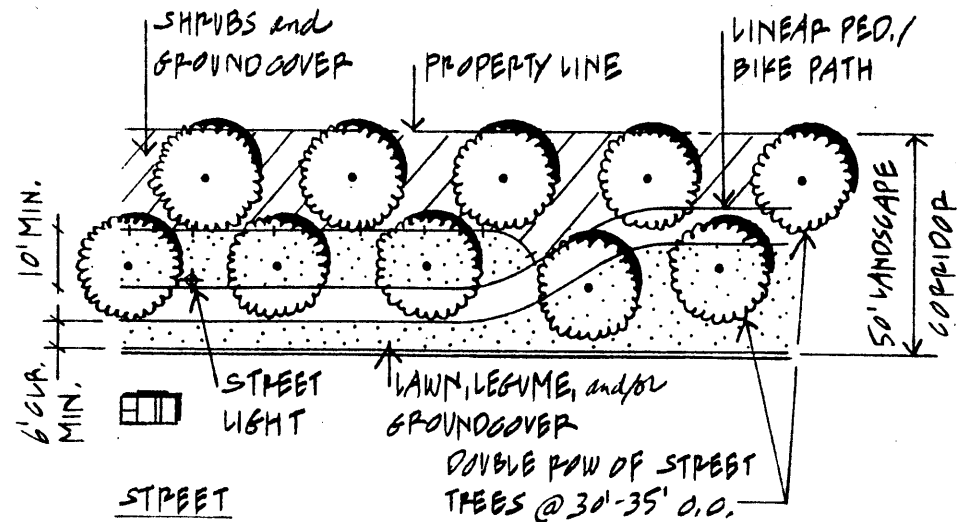


Figure 1-6
Regional Commercial
and Commercial Land-Use
Landscape Schematic

Multi-family Residential Land Uses

Landscaping along residential corridors promotes pedestrian activity by projecting an image of leisure and lushness. This shall be accomplished through an informal and "natural" appearance, compared with the "controlled" landscape treatment of other land uses.

Landscape plantings in multi-family residential land uses include street trees set at regular intervals in a single row along streetside and subordinate trees set irregularly as a single tree or in groupings within landscape corridors.

Groundcover and/or shrubs shall be planted in areas from the pedestrian/bicycle path to the property line. Shrubs shall be 5' maximum in height; higher if a fence or soundwall exists. Refer to "3.8 Soundwalls and Wood Fences." Lawn, legume (*Trifolium repens*) and/or groundcover shall be planted from the path to the street curb. Lawn, legume (*Trifolium repens*) and/or groundcover shall be planted from the path to the street curb. Lawn may be planted from walk to the property line if the area is 10' wide minimum. Lawn may also be planted at street intersections, where applicable. Refer to "3.5 Lawn, Groundcover and Mulch."

The pedestrian/bicycle path itself shall meander within the landscape corridor. This type of alignment further fosters a leisure atmosphere. Along Collectors C and E, and Eastpark Drive, paths shall parallel street curbs with a 5 foot planting strip between. Refer to "3.9 Landscape Easement Elements" for additional information.

Refer to "Figure 1-6" for schematic layout.

Consult "4. Specific Street Criteria" and "6.7 Public Utilities Easements" for any public utility easement that may affect landscape design.

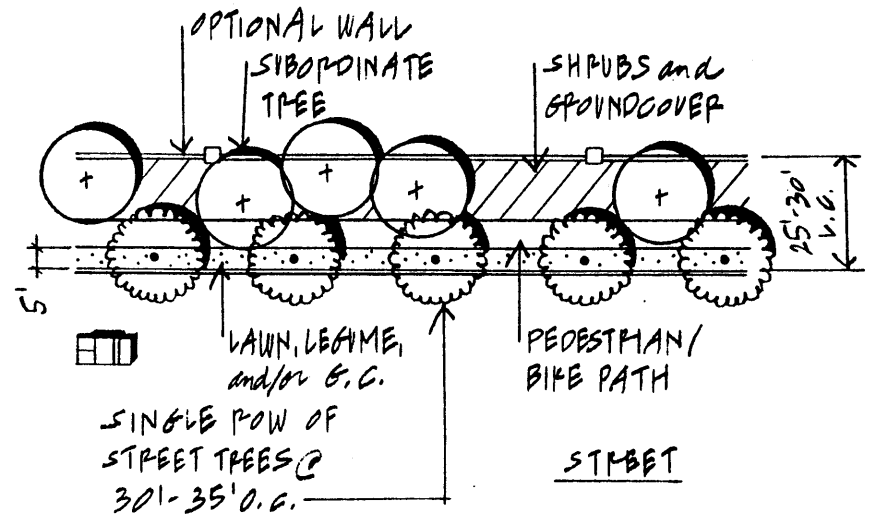
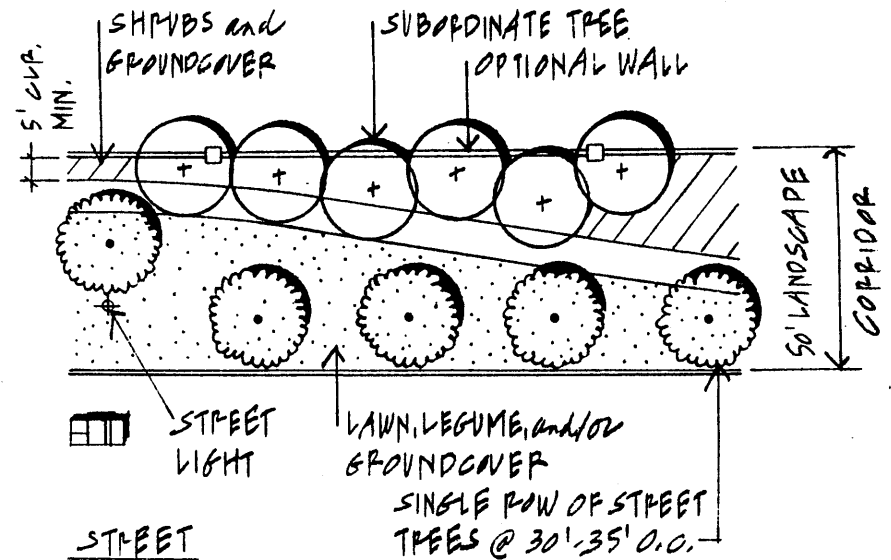


Figure 1-7
Multi-family Residential
Land-Use Landscape Schematic

Single-family Residential Land Uses

Similar to the multi-family land uses, the image of these landscape corridors encourages pedestrian activity. Landscaping materials shall be orchestrated to provide various experiences for pedestrians. These landscape corridors shall serve as a noise and visual buffers between these residences and adjacent streets.

Landscape design along these corridors involves the most complex layers of plantings among all land uses, primarily due to the necessity of screening. Landscape elements include street trees set in regular, single rows and subordinate trees in informal placements.

Groundcover and/or shrubs shall be planted in areas from the pedestrian/bicycle path to the property line. Shrubs shall be 5' maximum in height; higher if a fence or soundwall exists. Refer to "3.8 Soundwalls and Wood Fences." Lawn and/or legume (*Trifolium repens*) shall be planted from the path to the street curb. Lawn may be planted from walk to the property line if the area is 10' wide minimum. Lawn may also be planted at street intersections, where applicable. Refer to "3.5 Lawn, Groundcover and Mulch."

The pedestrian/bicycle path shall meander within the landscape corridor. This type of alignment promotes a favorable pedestrian, leisure atmosphere. Along Collectors A, B and C, and Diamond Oaks Blvd., paths shall parallel street curbs with a 5 foot planting strip between. Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Refer to "Figure 1-7" for schematic layout.

Consult "4. Specific Street Criteria" and "6.7 Public Utilities Easements" for any public utility easement that may affect landscape design.

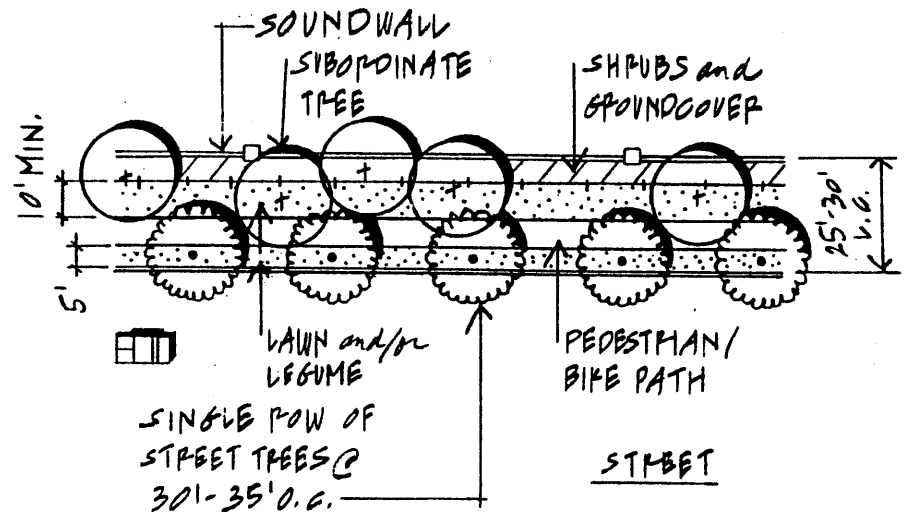
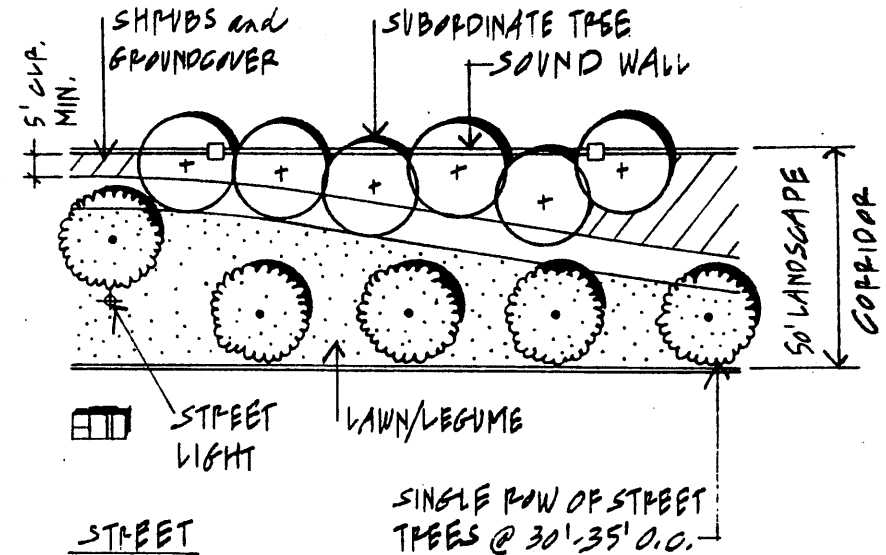


Figure 1-8
Single-family Residential
Land-Use Landscape Schematic

Watersheds/Wetlands, Park/Preserve, Schools/Daycare

Landscape corridors adjacent to these land uses shall serve a areas of transition to open space. Therefore, plantings shall provide scenic opportunities rather than obscure views into these land uses.

Landscape plantings shall be minimized to a rhythmic row of street trees, low-growing shrubs and groundcover. No subordinate trees shall be planted in landscape corridors in front of these land uses.

All plant materials between walk and property line shall be non-invasive species. Lawn, legume (*Trifolium repens*), and/or groundcover may be planted from the walk to the street curb. Lawn may be planted from walk to the property line if the area is 10' wide minimum. Lawn may also be planted at street intersections, where applicable. Refer to "3.5 Lawn, Groundcover and Mulch."

Irrigation within these landscape corridors shall not affect the hydrology of watersheds/wetlands.

The pedestrian/bicycle path itself shall meander within the landscape corridor to further a sense of "naturalness". Along Collectors A, B, C and E, and Eastpark Drive, paths shall parallel street curbs with a 5 foot planting strip between. Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Refer to "Figure 1-8" for schematic layout.

Consult "4. Specific Street Criteria" and "6.7 Public Utilities Easements" for any public utility easement that may affect landscape design.

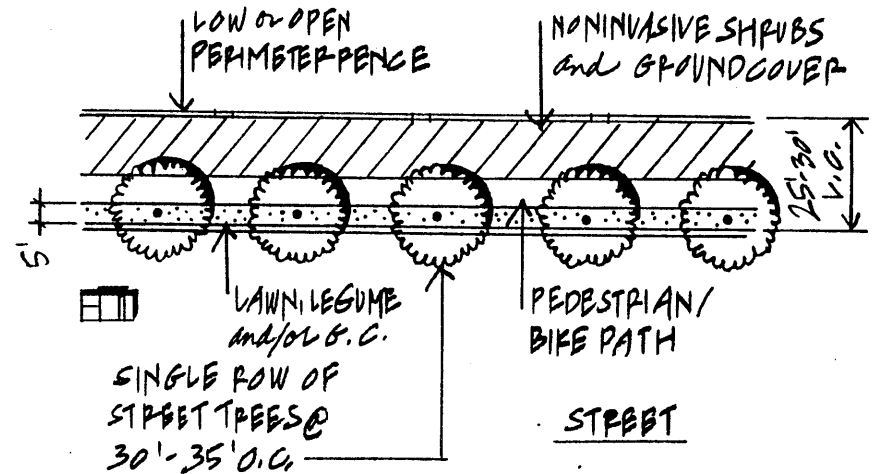
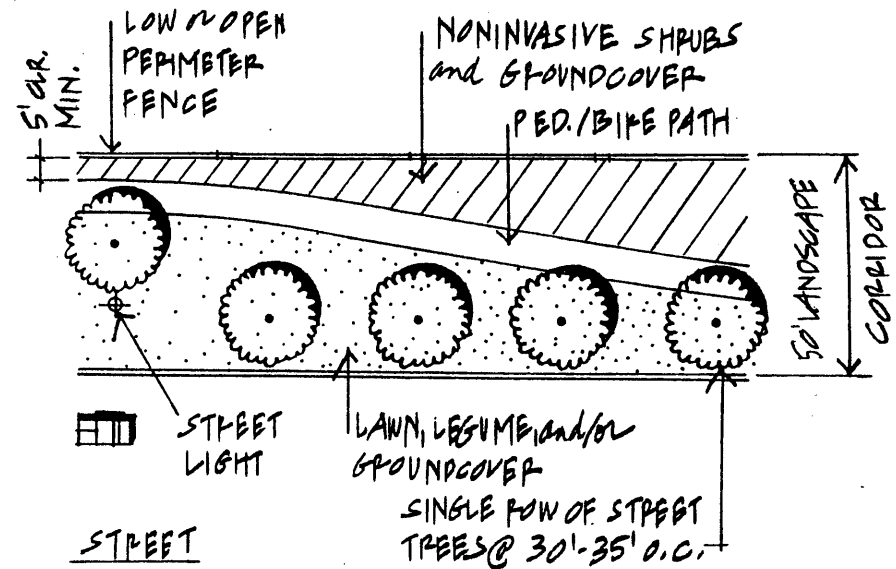


Figure 1-9
Watersheds/Wetlands, Park/Preserve,
Schools/Daycare Land-Use Landscape Schematic

Miscellaneous Land Uses

Miscellaneous land uses include the fire station and electric substations, including Parcel 69. Because screening is more desired than visibility, both of these land uses incorporate both street trees and subordinate trees, similar to the treatment alongside residential parcels. Other subordinate landscape materials include shrubs and groundcover. Lawn, legume (*Trifolium repens*) and/or groundcover may be planted between the pedestrian/bicycle path to the street curb. Lawn may be planted from walk to the property line if the area is 10' wide minimum. Refer to "3.5 Lawn, Groundcover and Mulch."

Neither soundwalls nor fencing is required along the fire station land-use parcel, although a masonry wall or decorative fencing is required along the electric substation. Consult "3. Landscape Easement Elements" for guidelines on wall/fencing design and materials.

The pedestrian/bicycle path shall be laid out in linear alignments adjacent to the fire station. Adjacent to the electric substation, the path shall run parallel to the street curb with a 5 foot planting strip between. Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Refer to the conceptual illustration on this page.

Consult "4. Specific Street Criteria" and "6.7 Public Utilities Easements" for any public utility easement that may affect landscape design.

Refer to "6.2 Electric Substation" for additional specific criteria.

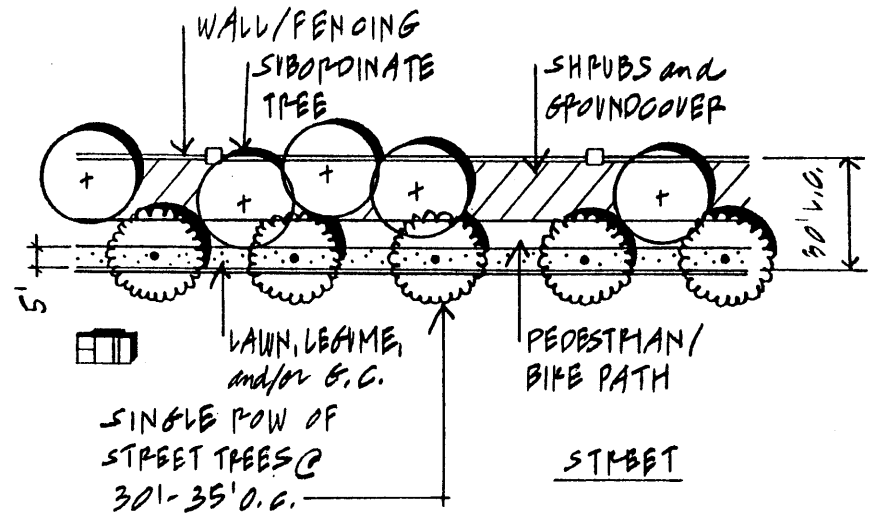
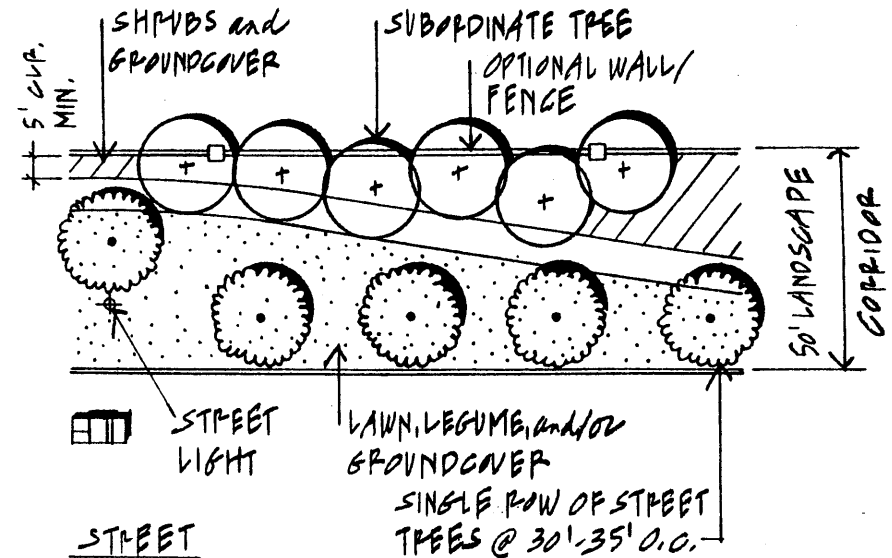


Figure 1-5
Miscellaneous Land-Use
Landscape Schematic

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Environmental Conditions

Understanding natural environmental conditions within the North Central Roseville Specific Plan Area facilitates a more successful blending of the natural environment with the planned development. Conditions to consider include site location, climate, topography, vegetation, soils and diseases and pests.

2.1 Site Location

Located in the Central Valley of northern California, the City of Roseville is situated along Interstate 80 and Highway 65 midway between Sacramento and Auburn.

The North Central Roseville Specific Plan Area encompasses approximately 2,315 acres located north of downtown Roseville. This area is bound on the north by the City of Roseville corporate boundary and on the south by the Diamond Oaks Golf Course and an adjacent single-family neighborhood. The western limit of the Plan Area is Washington Boulevard, abutting the Northwest Roseville Specific Plan Area and the North Roseville Industrial Area. Adjacent to the eastern edge of the North Central Roseville Specific Plan Area lies the Roseville/Rocklin corporate boundary. Highway 65 Bypass, a transportation corridor accommodating the Southern Pacific Railroad, Interstate 80 and Taylor Road also border the North Central Roseville Specific Plan Area to the east.

2.2 Climate

The geographic location of the City of Roseville within the Central Valley is a significant determinant of its climate. Being enclosed on all sides by mountain ranges, the Central Valley is isolated from direct coastal influence. Yet a channel opening on the west side of the valley via the Carquinez Straits allows some influence from the Pacific Coast. This effect is felt especially during the summer season, with high daytime temperatures cooling down in the evenings due to the marine breezes.

Seasons in the Sacramento Valley typically contrast between warm summers and wet, windy winters. Summer temperature averages range from 70° - 90° Fahrenheit. Temperatures exceeding 100° F are not uncommon. High summer temperatures coupled with low humidity, produce hot, dry summers. Winter temperature averages range from 40° - 57° F. Occasional overnight freezing temperatures also occur. Winter lows over a 20 year period have ranged from 18° - 28° F. Winter seasons are characterized with overcast, dense fog and long periods of rain and drizzle. Normal annual rainfall averages 25 inches, with 90% of the rain occurring between the months of November and April.

Currently, Roseville, like much of California, is experiencing a period of below-average rainfall levels and exceptionally low winter temperatures. These conditions are not the norm and are understood to be cyclical. (Drought is believed to occur in California approximately every hundred years.) Yet these extreme conditions should be considered until such weather patterns become more predictable.

These guidelines provide a list of plant genus and species which have shown to adapt and are proven to be reliable within the region. Information on a plant's ability to adapt to this region's climatic conditions may also be obtained from nurserymen or in publications, such as *Sunset New Western Garden Book* (Lane Publishing Co., Menlo Park, CA) in which Roseville has been determined as Zone 9.

2.3 Topography

Situated between the level Sacramento Valley floor and the rolling foothills of the Sierra Nevada Mountains, the natural topography of the North Central Roseville Specific Plan Area is gently rolling. Elevations range from 120 feet above sea level, where the tributary to the Pleasant Grove Creek leaves the Plan Area, to 280 feet above sea level near the Roseville/Rocklin city limits in the northeast corner of the Plan Area.

The most significant steep slopes within the Plan Area occur at the southeast corner along the Antelope Creek corridor, where a 50-foot drop (approximately 225 feet to 175 feet above sea level elevation) exists.

2.4 Subsoil Geology

The City of Roseville lies in a transitional zone between the Central Valley and the Sierra Nevada Foothills. Thus, the geology of North Central Roseville Specific Plan Area contains materials of both influences: alluvial deposits of the valley and volcanic material of the Sierra Nevada.

The western portion of the Plan Area is largely underlain with alluvial material, which consists of compacted, nonandesitic sediments of silt, clay and gravel and provides adequate foundation for plant growth. This subsoil geology is known as the Turlock Lake Formation. In contrast, the larger, eastern portion of the Plan Area is underlain largely with a volcanic Mehrten formation.

The Mehrten formation consists of deposits that occur in two principle forms: mudflow and conglomerate. Mehrten mudflow, or breccia, consists of "tightly cemented ash and andesitic materials of volcanic origin" (NCRSP EIR, Section 3). When these mudflows solidified, an impervious layer was formed. These formations are generally located in upland areas. Mehrten conglomerate is a formation of "cobbles and aggregates cemented in an impervious medium of andesitic sands and silt" (NCRSP EIR, Section 3).

Consequently, soils overlying these Mehrten formations are typically shallow and dry. If untreated, these soils are unfavorable for vegetative growth. In contrast, soils upon the alluvial materials, including the Turlock Formation in the western portion of the Plan Area, generally are well-drained and are favorable for plant root development.

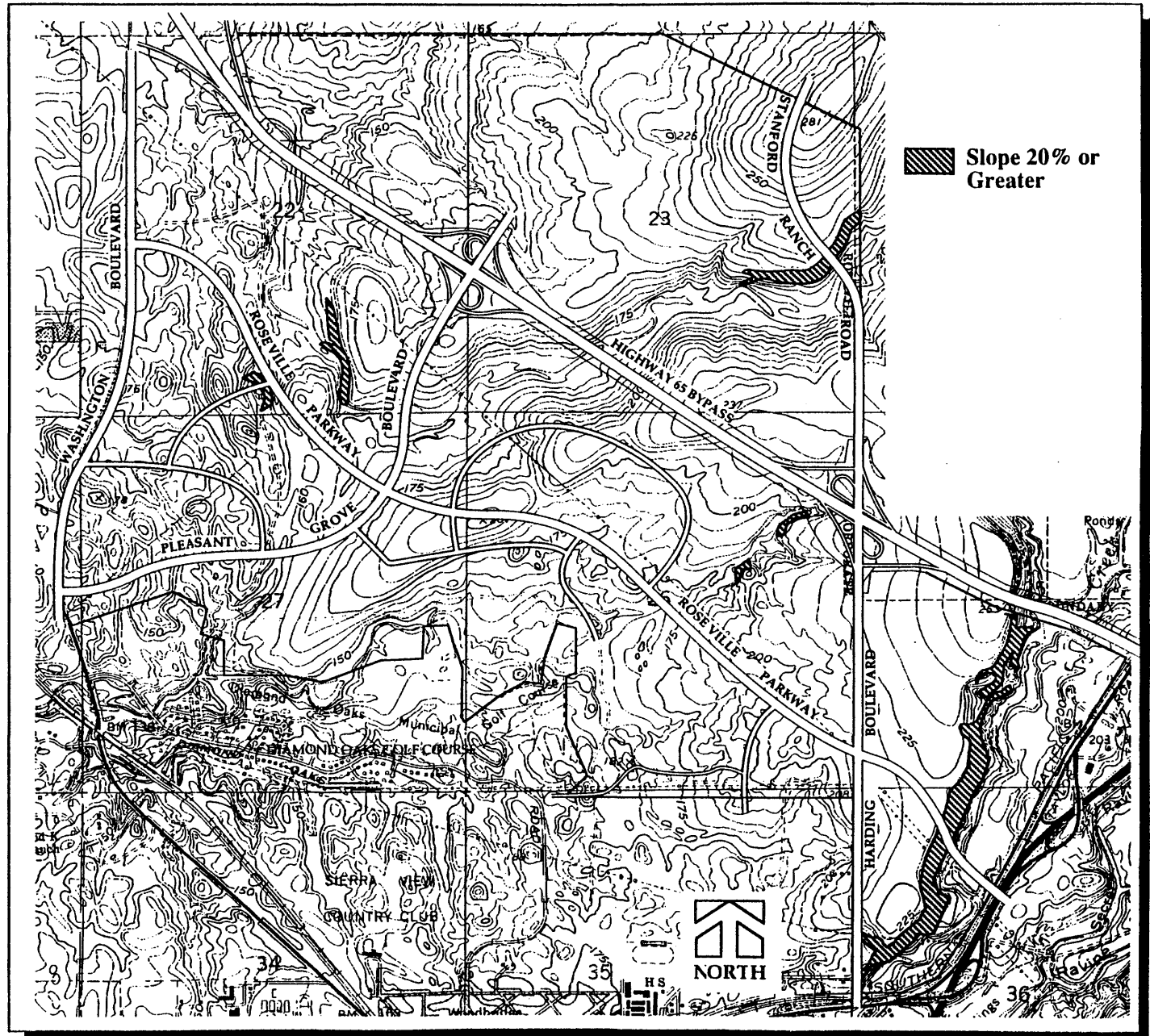


Figure 2-1
Slope Analysis Schematic

(Graphics taken from
NCRSP, Figure 1-6)

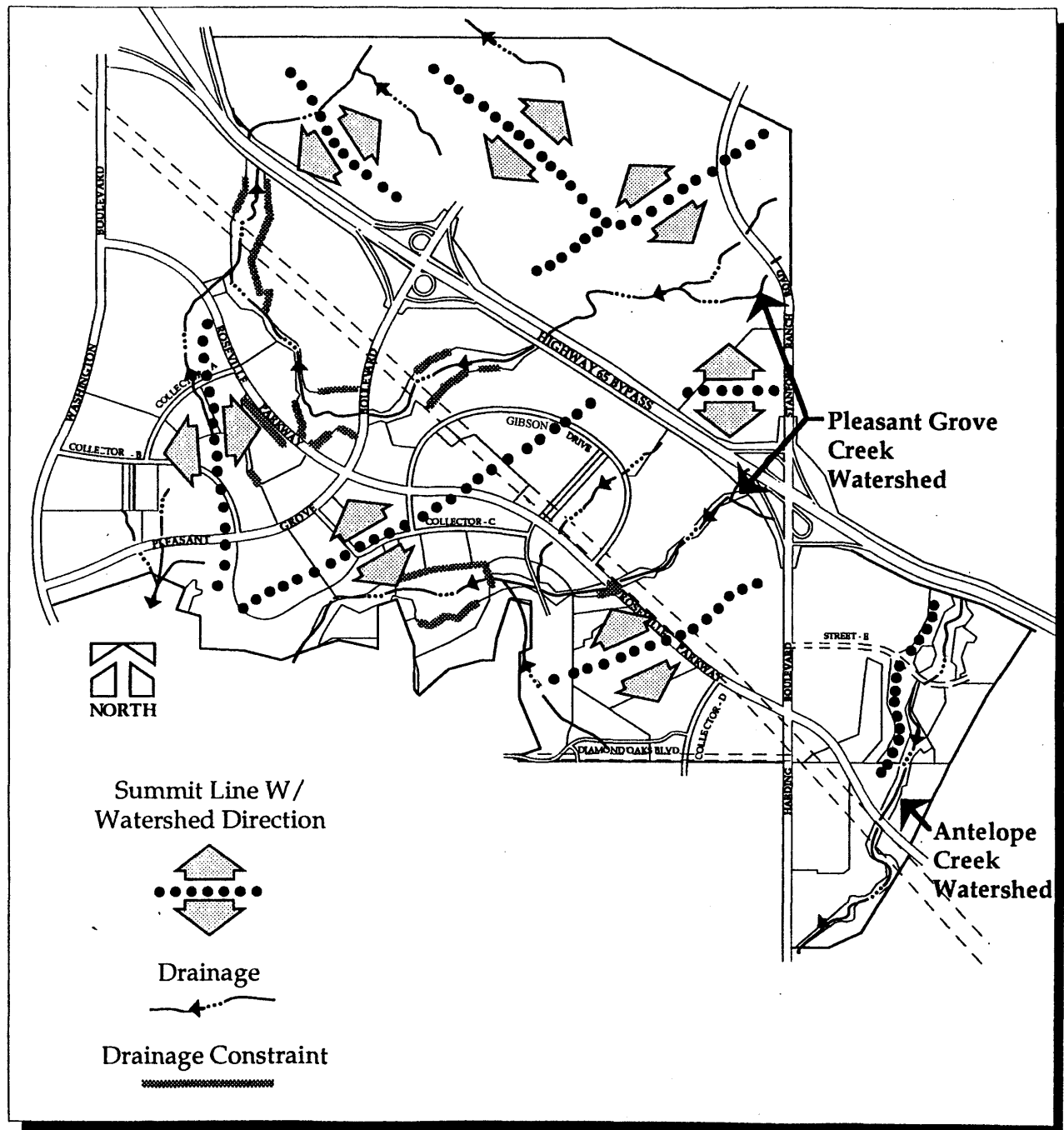


Figure 2-2
Natural Drainage and Watersheds

(Graphics taken from
NCRSP, Figure 1-5)

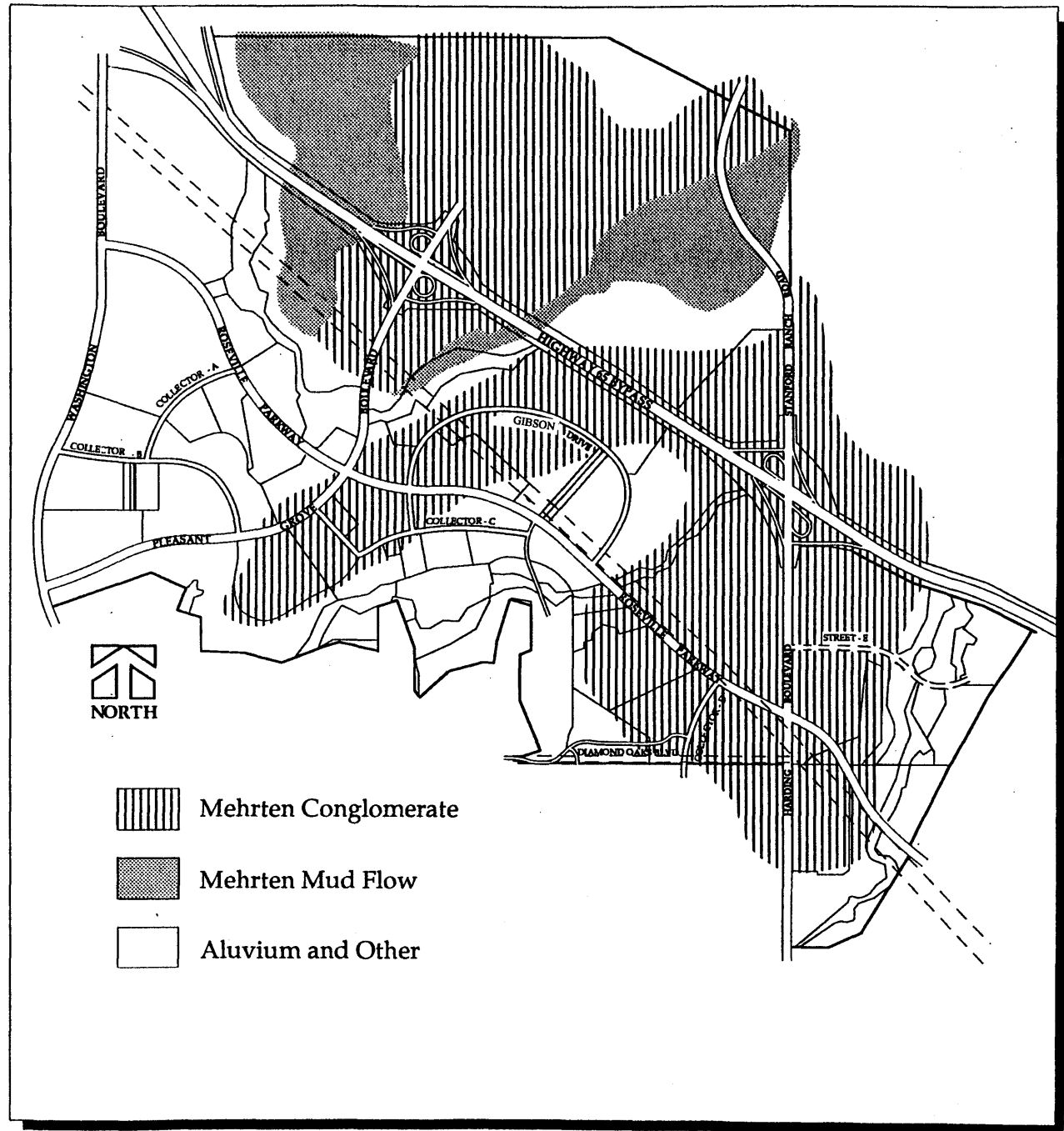


Figure 2-3
Mehrten Formations

(Graphics taken from
NCRSP, Figure 1-7)

2.5 Soils

Nine soil types exist in the North Central Roseville Specific Plan Area: Cometa-Fiddymment complex, Cometa-Ramona sandy loam, Exchequer very stony loam, Exchequer-Rock Outcrop complex, Fiddymment Loam, Inks cobbly loam, Inks-Exchequer Complex, Xerofluvents and Xerothents. Pits and Dumps is another soil classification that has been assigned only to the sand and gravel composition within the existing PG&E parcel (Parcel 63). Individual descriptions of the soils follow:

Cometa-Fiddymment complex- The Cometa-Fiddymment complex occurs in the western portion of the Plan Area along Washington Boulevard. The depth of the Cometa component of this soil type typically is 60 inches or more, and is penetrable for root development. This soil component may remain saturated after a heavy rainstorm. The Fiddymment component of this complex, which developed over a hardpan, is considered well-drained and moderately deep.

Cometa-Ramona sandy loam- The Cometa-Ramona sandy loam occurs along the southern edges of the Plan Area, which border the Diamond Oaks Golf Course, and along the extreme eastern tip of the Plan Area. The depth of the Cometa component of this soil type typically is 60 inches or more, and is penetrable for root development. This soil component may remain saturated after a heavy rainstorm. The Ramona component is described as well-drained and allows for a deep rooting depth. Clusters of native oaks are found in these areas, particularly along South Branch Pleasant Grove Creek.

Exchequer very stony loam- Occurring extensively within the Plan Area, the Exchequer very stony loam is shallow in depth, is underlain by hard andesitic breccia and is "excessively drained." Following a heavy rainstorm, the soil may be saturated with flowing waters.

Exchequer-Rock Outcrop complex- 60% of this complex is comprised of Exchequer soil. This Exchequer soil is a stony/cobbled brown loam to a depth of approximately 11 inches and is underlain

by hard andesitic breccia. Rock outcrop occurs where the 50 foot to 500 foot andesitic breccia surfaces.

Fiddymment loam- This complex, which developed over a hardpan, is considered well-drained and moderately deep.

Inks cobbly loam- This soil type occurs along Antelope Creek. It is a shallow, well-drained cobbled soil underlain by andesitic conglomerate.

Inks-Exchequer complex- This soil type traverses the Plan Area from northeast to southwest. A portion also occurs along the northern edge of the Plan Area. The composition of this soil type is 40% Inks soil and 30% Exchequer soil. The Inks component is a shallow, well-drained cobbled soil. The Exchequer component is a very stony loam and is shallow in depth. It is also considered "excessively drained." Following a heavy rainstorm, the soil may be saturated with flowing waters.

Pits and dumps- As mapped by the Soil Conservation Service, this soil type often is assigned to gravel pits, refuse dumps, and rock quarries. In this Plan Area, this soil type is assigned to the PG&E substation within Parcel 63.

Xerofluvents- Xerofluvents are associated with tributaries of Pleasant Grove Creek and the South Branch Pleasant Grove Creek. Xerofluvents are alluvial materials that are deposited by the frequent floods.

Xerothents- This soil type is assigned to the mechanically removed and mixed materials (cut and fill) that occur between Antelope Creek and the Southern Pacific Railroad. These materials include rock, concrete, asphalt and other debris. The depth of this soil type varies and the soil is well-drained.

Furthermore, these nine soil types are combined into three groups according to the subsoil geology. Refer to the following page for a map of the soils and "7. Soils Horticultural Guidelines" for a discussion of the three soil groups.

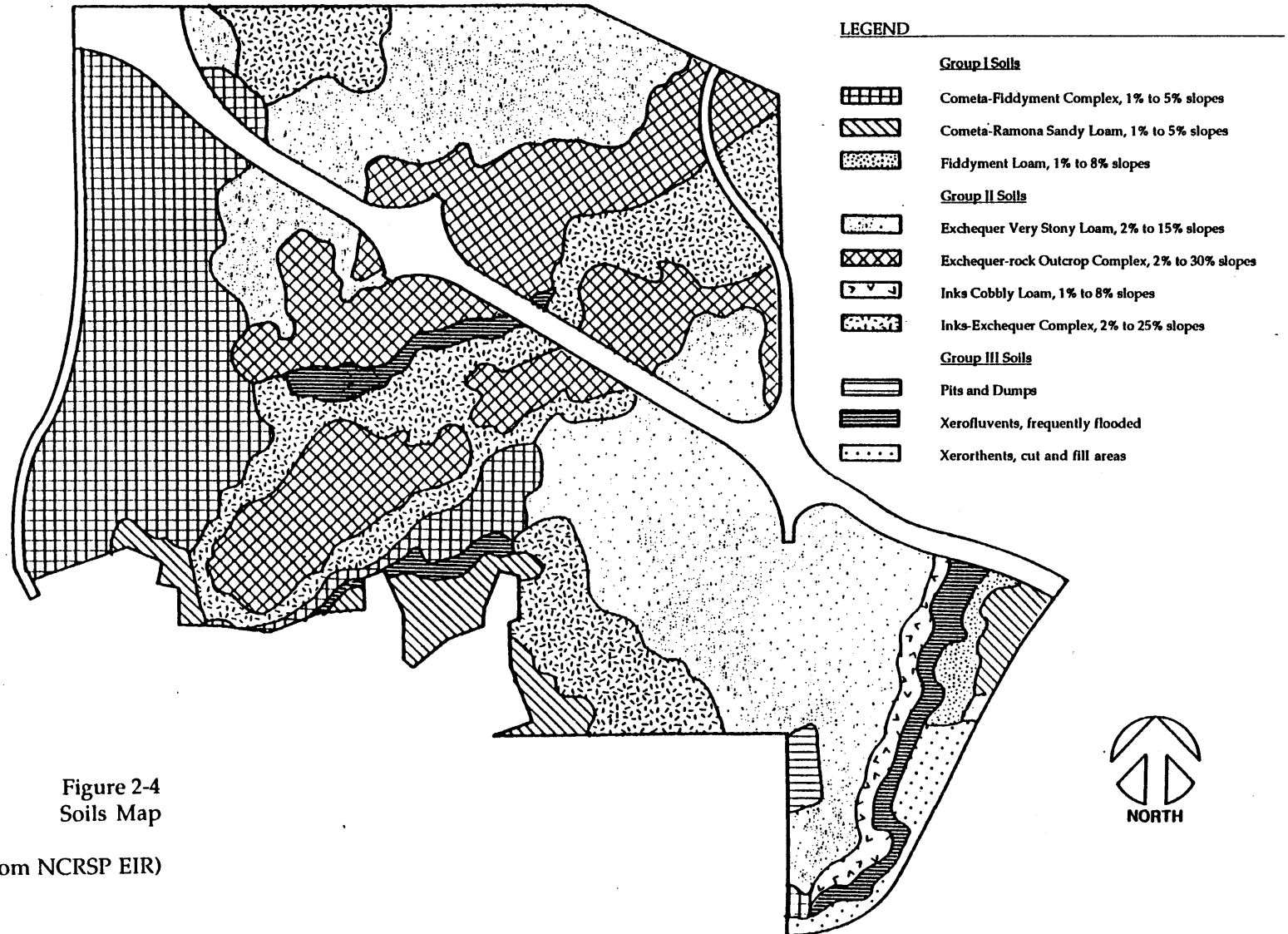


Figure 2-4
Soils Map

(Graphics taken from NCRSP EIR)

Drought years may produce poor soil conditions with high levels of salts or other toxins, such as boron, due to the lack of leaching from decreased watering. Chemical tolerant plantings may be considered in planting design to prepare for this potential problem during future drought years.

Consequently, a thorough soil analysis to identify soil amendments needed is required to assure the success of new plantings. Soil analysis should be completed prior to the installation of planting material. Although an overview analysis of the Plan Area soils is provided in these guidelines, individual soil analysis reports must be done for each parcel so that specific soil conditions are properly identified within each parcel. Refer to "7. Soils Horticultural Guidelines" for an overview of soil conditions and general soil preparation recommendations.

Refer to "8. Planting and Staking Details" for standard planting details.

2.6 Vegetation

Due to man's original use of the land for low-intensity grazing, many of the larger trees existing within the Plan Area were removed. The most populous stand of trees that had occurred, and which still do, exists along Antelope Creek in the southeastern portion of the Plan Area. Otherwise, due to the area's geology and soils, only a few trees and interspersed areas of grasses exist in the North Central Roseville Specific Plan Area. Following are the three major vegetation associations within the Plan Area:

Annual Grassland- This is the predominant vegetation found in the undeveloped plan area, comprising more than 95% of the area. Grasses to be found are both native and European species, including wild oats (*Avena* sp.), wild barley (*Hordeum* sp.), brome grass (*Bromis* sp.) and tarweed (*Holocarpha virgata*).

Oak Woodland/Riparian Forest- This vegetation type is clustered along the course of Antelope Creek. In some instances, the canopy of trees is dense along the banks of Antelope Creek and gradually

dissipates toward the open grasslands. The structures of the trees also become more full and open as the density decreases. In addition, a few blue oaks are scattered along the southern border of the Plan Area near the Diamond Oaks Golf Course.

Tree species found in oak woodland include the blue oak (*Quercus douglasii*), valley oak (*Q. lobata*) and the interior live oak (*Q. wislizenii*). Other notable tree species found in this association include the digger pine (*Pinus sabiniana*), Fremont's cottonwood (*Populus fremontii*), and the California buckeye (*Aesculus californica*). Due to grazing, little understory and middlestory vegetation exist. The few species of vegetation that can be found include the buckbrush (*Ceanothus cuneatus*), coffeeberry (*Rhamnus californica*), poison oak (*Rhus diversiloba*) and yerba santa (*Eriodictyon californicum*).

2.7 Seasonal Wetlands

Wetlands cover less than 5% of the Plan Area. Seasonal wetland types that occur within the Plan Area are: intermittent drainages, a perennial stream, adjacent seasonal wetlands and vernal pools.

Intermittent wetlands- A total of 8.3 acres of this wetland type occur in the Plan Area. These are a system of intermittent channels that drain the land from east to west. These channels are typically one to ten feet wide. During the rainy season, runoff flows within these channels over the eroded Mehrten formation; for most of the year, these areas are dry. Consequently, vegetation and wildlife habitation is low.

Perennial Stream- Antelope Creek is the only perennial stream located within the Plan Area. Its total of 1.8 acres encompasses a riparian oak forest (*Quercus* sp.) and understory grasses. Wildlife species are varied and typically include passerine birds, waterfowl, raptors, mammals, amphibians, reptiles and anadromous fish.

Adjacent Seasonal Wetlands- 1.4 acres of this wetland type occur within the Plan Area, exclusively at lower watershed locations. These wetlands are seasonally wet swales that are closely

2-8 Environmental Conditions

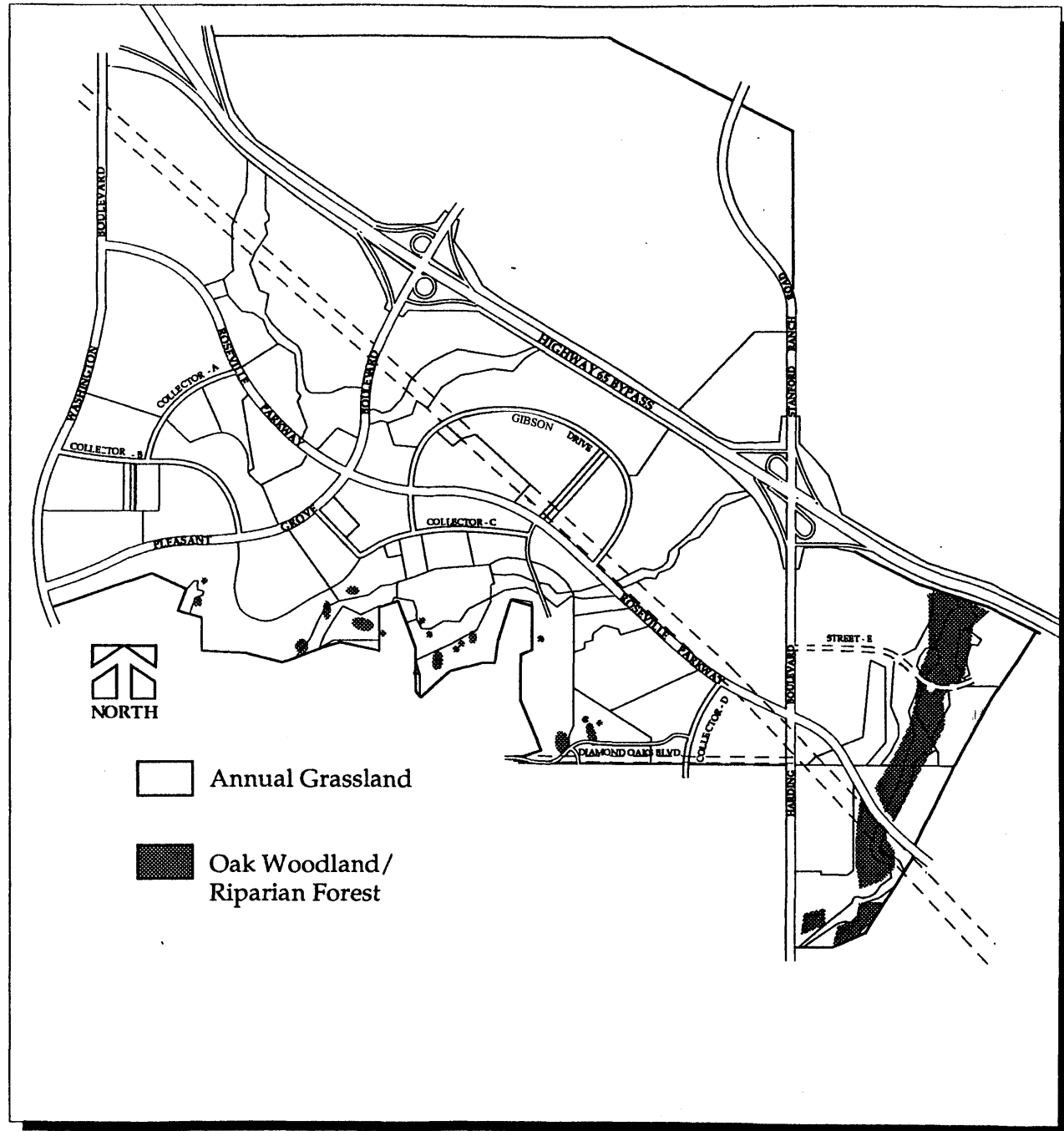


Figure 2-5
Vegetation Map

(Graphics taken from
NCRSP, Figure 1-8)

associated with the intermittent drainage channels. These swales are poorly drained and remain saturated during the wet season. Soils of this wetland type are typically of the Inks series, located over a hardpan 12 to 24 inches thick. Although vegetation is considered low, dominant plant species include the coyote thistle (*Eryngium vaseyi*), annual hairgrass (*Deschampsia danthonioides*), goldfields (*Lasthenia chrysostoma*), tarweed (*Holocarpha virgata*), Fitch's spikeweed (*Hemizonia fitchii*) and various Mediterranean annuals. Wildlife habitation is low.

Vernal Pools- Vernal pools are small, hardpan depressions in valley grasslands. This wetland type becomes filled with water during wet winter and spring seasons, which then leads to occurrences of seasonal blooms the following months. These pools dry-up again by the next winter season and the cycle repeats. Individual pools vary significantly in the length of their cycle and the plant species that occur within them. Disruption of these pools may lead to the loss of plant species or even to the loss of the pools themselves.

Within the natural environment of the Plan Area, vernal pools primarily occur along lower watersheds and on relatively level, volcanic formations. Plant species common within the vernal pools in the Plan Area include the mesa mint (*Pogogyne* sp.), popcorn flower (*Plagiobothrys stipitata*), navarratia (*Navarratia leucocephala*), toad rush (*Juncus bufonius*), goldfields (*Lasthenia chrysostoma*), coyote thistle (*Eryngium vaseyi*), hairgrass (*Deschampsia danthonioides*) and woolly marbles (*Psilocarphus* sp.) Three plant species of particular concern include Bogg's Lake hedge hyssop (*Gratiola heterosepala*), dwarf downingia (*Downingia humulis*) and vernal pool brodiaea (*Dichelostemma lacune-vernalis*). Bogg's Lake hedge hyssop occurs in the extreme eastern portion of the Plan Area, east of Harding Blvd., and is listed as an endangered species by the California Department of Fish and Game (CDFG). The dwarf downingia and vernal pool brodiaea are on the California Native Plant Society (CNPS) List 4.

Two types of vernal pools are found in the North Central Roseville Specific Plan Area. They are the volcanic mudflow vernal pools and the northern hardpan vernal pools. Their descriptions follow:

Volcanic Mudflow Vernal Pools- 13.691 acres of this vernal pool type occur in the Plan Area. These occur in shallow depressions on Mehrten mudflow formations of less than 2% slope. Plant species diversity within these pools vary, from one to as many as 19 species. Pools in the eastern portion of the Plan Area generally contain the greater number of species.

Northern Hardpan Vernal Pools- 4.8 acres of this vernal pool type occur in the Plan Area. These occur in depressions within mounded topography at lower watershed positions along creek floodplains. The soils are primarily of the Inks or Cometa series. Plant species typically occur within pool bottoms, while seasonal "swale" species occur along the pool margins.

2.8 Diseases and Pests

Diseases and pests are common to particular species and may determine the ultimate health of plants. Diseases and pests may affect plants in many ways, such as through affected soils, other plants nearby or develop through poor horticultural practices. Some examples are anthracnose stress upon the California Sycamore (*Platanus racemosa*) and borer problems upon the Ash (*Fraxinus* species) and White Alder (*Alnus rhombifolia*). Considerations should be given to use of less susceptible species, such as the Italian Alder (*Alnus cordata*), in situations where borer problems exist.

Lack of water, either due to poor irrigation or a drought, or too much water also may increase a plant's susceptibility to diseases and pests.

A licensed arborist or the County Agriculture Extension should be consulted to evaluate the risk of any diseases or pests.

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3-1 Landscape Corridor Elements

Landscape Corridor Elements

The treatment of landscape elements becomes a major element in achieving the goals defining the northern boundary and providing a prominent gateway into the City of Roseville within an urban forest. Elements of the landscape corridor include both existing and new landscape plantings, especially street trees that act as primary delineators of landscape corridors. As a regional concern for the present and the future, drought-tolerant plants are encouraged. A comprehensive list of plant characteristics, particularly tolerance to drought, is provided in the "5. Plant Lists/Matrixes." Also, refer to in "3.6 Drought Tolerance." Landscape corridors also contain hardscape elements such as irrigation, soundwalls and fences, pedestrian/bicycle paths and street furnishings. Functional considerations, as well as aesthetics, are determinants of the landscape design.

3.1 Landscape Corridor

Landscaping along all arterial and collector streets establishes an identity and image of the North Central Roseville Specific Plan Area. Local streets also will be provided with a landscaped setback. Refer to "6.2 Local Streets" for additional information.

Arterial Roads

Arterial roads serve as primary thoroughfares across a region. All arterials have a 100 foot right-of-way. Arterials include Harding Boulevard, Pleasant Grove Boulevard, Roseville Parkway, Stanford Ranch Road and Washington Boulevard. Landscaped corridors are as follows:

1. Single-family uses have a 35 foot landscape corridor along Pleasant Grove Boulevard and 50 foot corridor along Washington Blvd. and Roseville Parkway.
2. Multi-family and other uses have a 50 foot landscape corridor along all arterials.

3. Landscape corridors are measured from the back of the ultimate curb, except along Wahington Blvd.
4. Landscape corridors along Washington Blvd. are measured from property line towards the centerline of the street.

These major boulevards also include a 14 foot wide landscaped median, except Roseville Parkway west of Pleasant Grove Boulevard, which shall include a 38 foot wide landscaped median. Refer to "6.4 Medians" for additional information on median landscaping.

Collector Streets

Collector streets link neighborhoods to arterial streets and provide access into non-residential uses. Collectors include Collectors A, B, C, D and E, Diamond Oaks Boulevard and Eastpark Drive. Landscaped corridors will be as follows:

1. All collectors have a 54 foot right-of way, except Collectors A, B, C and D, which have a 60 foot right-of-way.
2. Diamond Oaks Boulevard and Collectors A, B and C have 25 foot landscape corridors along all land uses. The landscape corridor along Diamond Oaks Boulevard adjacent to single family land uses will only apply to those locations where units do not directly front the roadway.
3. Eastpark Drive, Collector D, Collector E and other non-residential collectors (future non-residential collectors not shown on the Land Use Map) have 30 foot landscape corridors.
4. Landscape corridors are measured from the back of the ultimate curb.

Consult "Figure 4-2 Circulation Master Plan" for a mapping and chart of landscape corridor widths.

Landscape corridors at intersections of arterial streets and collector streets shall be expanded to allow for adequate vehicular lines of sight with a triangular landscape cutout area, determined by 20 foot offsets from the corner. This expanded area shall be landscaped to match adjacent landscape corridors. Refer to "Figure 3-1 Typical Corner Treatment." Accent trees are recommended in these expanded areas. Refer to "3.4.b Accent Trees."

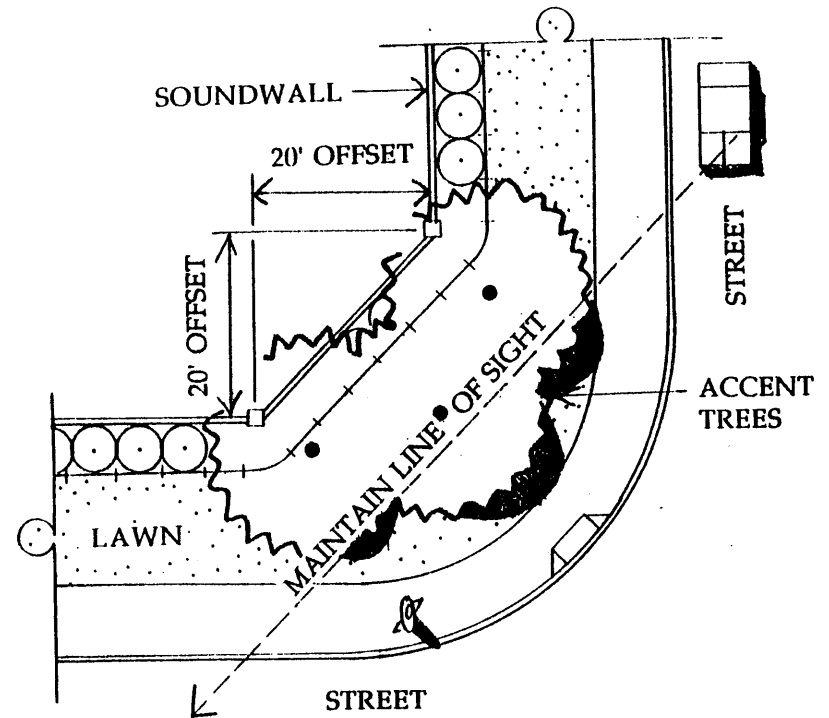


Figure 3-1
Typical Corner Treatment

A 40 foot wide bicycle easement will be provided within Parcels 40, 42, 43 and 48 adjacent to the State right-of-way along Highway 65 Bypass. A 25' to 40' bicycle easement will be provided within Parcel 49. These easements allow pedestrian/bicycle path to connect Parcel 82 with Parcel 83, and Parcel 84 with Washington Boulevard. A chain link fence at the edge of the State right-of-way and bicycle easement will separate the bikeway from the Highway 65 right-of-way. The pedestrian/bicycle path shall be set back 10 feet minimum from the State right-of-way. Refer to "6.3 Highway 65 Bicycle Easements" for additional information.

Pedestrian access easement lanes also are integrated with landscape corridors. These easements are a minimum of 15 feet wide and provide convenient pedestrian access from arterial and collector streets to local streets. Breaks in soundwalls/fences shall accommodate the connections. Refer to "6.6 Pedestrian Access Lanes" for additional information on pedestrian access lanes.

All grading, planting, lighting, irrigation and structures proposed within landscape corridors shall be compatible with utility lines located within the landscape corridors. Refer to "6.7 Public Utilities Easements" for additional information.

Earth berms or mounds may be considered in 50 foot wide landscape corridors to buffer noise sources (such as along industrial land uses) and to provide visual interest, although visual interest may also be achieved through the use of groundcover and shrubs. (Refer to "3.4.c Shrubs" and "3.5 Groundcover") Earth berms or mounds also may provide sufficient soil for mature plant growth. When designing berms or mounds, consideration must be given to positive drainage away from property lines and the availability of fill soil to create the mounds.

3.2 Existing Trees

An objective of the North Central Roseville Specific Plan is to create "a built environment that minimizes disruption of existing natural features and, to the extent practical, blends with the natural topography" (NCRSP, Section 3). Needless to say, the preservation of existing natural features, particularly native oak trees, is given high priority.

A certified arborist's report is required for specific information on the location, condition, potential impacts of development and recommendation on the future status of all existing oak trees on site. These shall be submitted concurrently with development plans.

Preservation procedures of existing oak trees are outlined in the Specific Plan and are as follows:

1. No irrigation shall occur within the driplines of existing oaks, unless recommended by a licensed arborist.
2. New planting normally shall not occur within existing oak tree driplines; materials such as organic mulch (such as bark), pebbles/gravel or cobbles may be used.

Vegetation may be approved to be planted within an existing tree's dripline as recommended by a licensed arborist. The vegetation must be a species that does not require irrigation and is tolerant of the natural semi-arid environs of the tree.

3. Grading shall not occur within the dripline of any oak tree to be preserved. Any grading outside of existing oaks driplines shall ensure that irrigation runoff does not flow within the driplines. In the case that soil disruption is approved within driplines of existing oaks, procedures shall be followed as outlined in the Specific Plan, Section 6.

Organic mulch (such as bark), pebbles/gravel or cobbles may be layered within a preserved tree's dripline. These items must be loosely laid and not mortared to allow for transpiration of gases from the roots. Refer to the illustration below.

Irrigation overspray or irrigation lines shall not occur within an existing oak's dripline. If an irrigation line must pass within the dripline of an existing oak, the line must be hand-trenched to minimize disturbance to the tree's roots.

Existing oak tree preservation procedures detailed in the Specific Plan and the Roseville Tree Preservation Ordinance shall be followed. Where inconsistencies exist between the two, the more restrictive shall apply.

Any existing oak trees to be removed shall be replaced according to conditions as approved for individual developments by the City of Roseville or by the city-adopted Roseville Tree Preservation Ordinance.

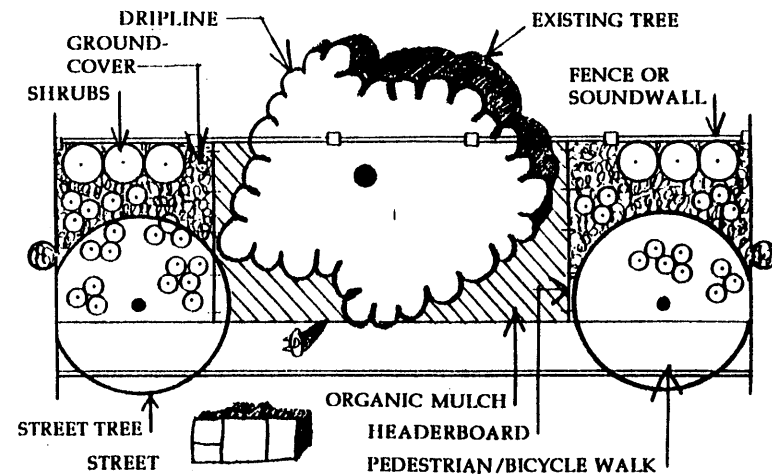


Figure 3-2
Typical Treatment
Below Existing Tree

3.3 Street Trees

The primary delineators within the landscape corridors are street trees, which aesthetically create rhythm and soften the environment along street corridors. Street trees commonly serve to provide shade, to scale the environment to a pedestrian scale and as image definers.

A dominant scheme of street trees shall unify all elements within a landscaped corridor. Street trees may occur in single or double rows, according to the adjacent parcel land use as noted in "1.2 Design Characteristics."

Native oak tree species (*Quercus douglasii*, *Q. lobata* and *Q. wislizenii*) shall be used as street trees along Parcels 91 and 93 Park/Preserves. Otherwise, refer to "Figure 4-4 Street Tree Plan" for tree species to be used.

Placement of street trees shall be as follows:

- 1) placed 30' to 35' on center, parallel to the length of the roadway, in a planting area adequate for root development;
- 2) set 12' minimum from back of curb within all corridors, except along Collectors A, B, C, D and E, Diamond Oaks Blvd., Eastpark Drive and future non-residential collectors where street trees are to be planted within a 5' wide planting strip adjacent to the back of curb. Consult "6.7 Public Utilities Easements" for additional information and conceptual illustration;
- 3) set 5' away from all concrete walks, except those trees to be planted within a 5' wide planting strip as noted in Item 2, above. Trees with shallow and/or invasive roots planted 5' from concrete walks or within a 5' wide planting strip are to include root barriers.

Refer to "5. Plant Lists/Matrixes," for minimum soil depth requirements. Preparation of the soil may be required due to the Mehrten formations underlying much of the area.

3-5 Landscape Corridor Elements

Consult "8. Planting and Staking Details" for standard planting details. Trees shall be planted from 15-gallon or larger containers. Placement of street trees shall not obstruct important vehicular sightlines or view corridors.

3.4 Subordinate Landscape Materials

An objective of the Specific Plan is a designed environment that reflects the urban and suburban characters of the region. With the street trees already defined, the placement and use of subordinate materials become pertinent in fulfilling those desired effects and in allowing interconnecting landscapes to flow into one other.

Subordinate landscape materials shall be selected for their visual appeal, such as flowers, foliage, or form. Function also shall be considered, such as to maintain open views, to conceal soundwalls or to retain moisture in the soil. Subordinate landscape materials shall create a mood in conjunction with the forms and visual interests of the street trees already chosen. These landscape materials include subordinate trees, accent trees, shrubs, groundcover, lawn and mulch.

3.4.a Subordinate Trees

Subordinate trees shall be planted from 15 gallon or larger containers and shall be placed at 15 to 30 feet on center in a random fashion, groupings or linear offset. Drought-tolerant species are encouraged.

Placement of subordinate trees shall enhance distant views to the Sierras and Foothills and shall not obstruct important vehicular sightlines.

Selection of Subordinate Trees

Subordinate trees have been selected to complement the selected street tree forms, sizes, textures, *etc.* in an aesthetic and functional association. Therefore, the selection of these major landscape elements have been considered as follows:

1. Growth Habit

Landscape design is not based solely on the design as it appears in its mature state. Proper design also considers the appearance, as well as the function, of the landscape *as it matures*. Consideration of a plant's growth habit of form, growth rate and texture leads to a successfully designed landscape.

Form

Subordinate trees have been selected to contrast or complement the forms of street trees, and thus define the volume of the landscape corridor space. For example, street trees with pyramidal forms should be supplemented with subordinate trees with broad forms.

Functionally, vertical forms of subordinate trees may serve as visual barriers to and/or from roads and other undesirable views, such as adjacent to residential land uses, or as frames into scenic corridors within wetlands or parks.

Consult "5. Plant Lists/Matrixes" for forms and dimensions of trees.

In addition to the overall form as discussed, the structural form of street and subordinate trees also

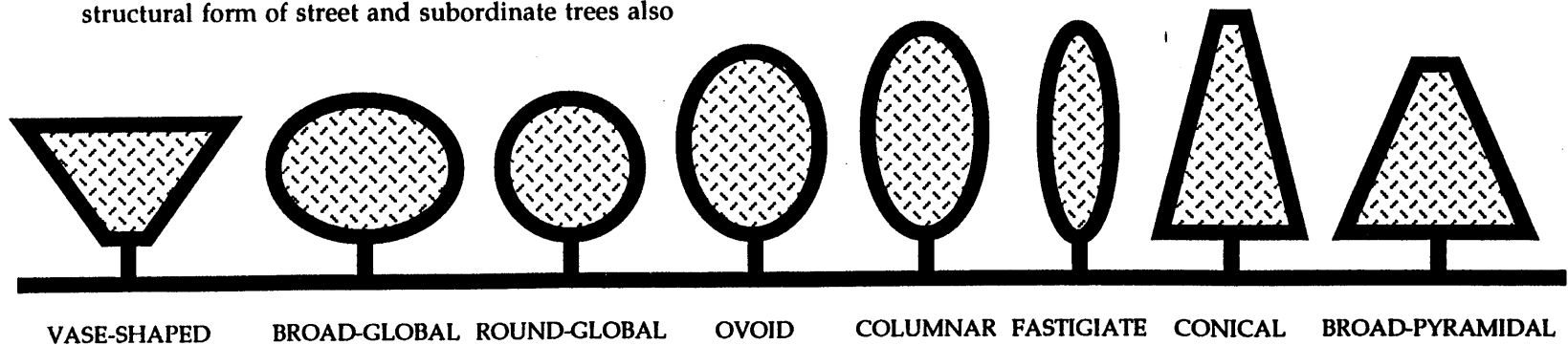
have been considered. Structural forms range from open to closed, depending on the branching structure and the density of foliage. Thus, an interesting interplay of dense and loose canopies/structures can be orchestrated. Where screening is desired, subordinate trees with a dense form would be favored in providing an adequate screen behind an open-structured tree.

Growth Rate

A landscape is deemed successful not only when it appears attractive in its mature state, but also as it matures. All of the street trees chosen grow at a moderate to fast rate. The use of slow growing subordinate trees, such as the Southern Magnolia (*Magnolia grandiflora*), provides balance and a harmony of canopies among the street trees and subordinate trees. A greater portion of subordinate trees, though, should not be slow growing.

Texture

Leaf textures of plantings and street trees range from fine-textured to dense broad-leafed. Subordinate trees have been selected to contrast or complement textures of the street trees.



2. Visual Interest

Selection of subordinate trees have been influenced by the aesthetic appearance of street trees, factors such as evergreen versus deciduous, fall color, flower and leaf color. These visual interests are considered as follows:

Evergreen Versus Deciduous

Street trees include both evergreen and deciduous species. Therefore subordinate trees selected have been considered according to the year-round state of the street trees, in order to maintain the desired effects of the landscaping. For example, where a screen is desired, deciduous street trees shall require a supportive planting of evergreen subordinate trees to provide year-round screening to and from streets and other undesirable views. Conversely, evergreen street trees shall require evergreen subordinate street trees primarily at open voids created between the street trees along residential land uses, so that a screen shall be maintained.

In order to maintain a uniform appearance, the ratio of evergreen and deciduous among subordinate trees when used shall be as follows:

Evergreen street tree:

50% evergreen subordinate tree;

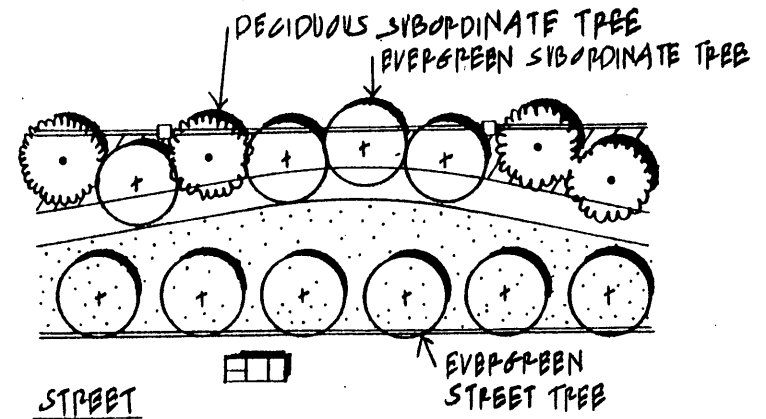
50% deciduous subordinate tree;

Deciduous street tree:

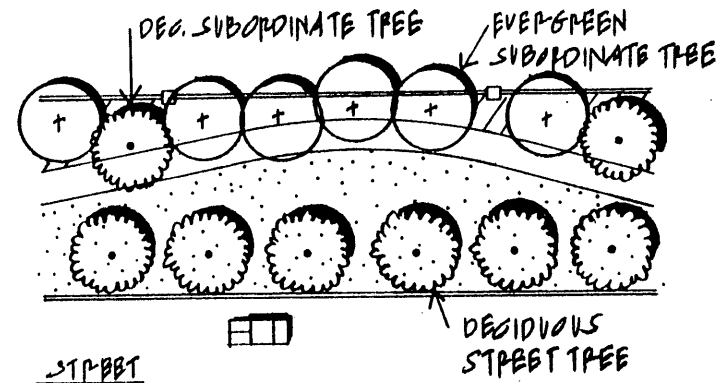
70% evergreen subordinate tree;

30% deciduous subordinate tree;

Refer to "Figure 3-4."



Evergreen Street Tree Scheme



Deciduous Street Tree Scheme

The opposite condition is true where a view or an open space is desired seasonally through the use of deciduous trees or even permanently, with no subordinating trees acting as visual barriers. These conditions occur in areas adjacent to a park or wetlands.

Flower

Two of the selected street trees offer seasonal flowers. They include Tulip Tree (*Liriodendron tulipifera*) and Ornamental Pear (*Pyrus calleryana*). Subordinate trees may offer seasonal flowers to enhance interest of those corridors with street trees that do not offer seasonal blooms. Subordinate trees which have been selected to display flowers are Crape Myrtle (*Lagerstroemia indica*) and the Tulip Tree (*Liriodendron tulipifera*). Refer to "5. Plant Lists/Matrixes" for additional information on the subordinating trees.

Leaf Color

Leaf colors of street trees have been considered in the selection of subordinate trees. Street tree leaf colors range from light green to dark green to blue green. Subordinate trees have been selected to offer various shades of leaf color. A monotone effect through a single shade of green should be avoided.

Fall Color

Many of the street trees offer fall color, which may be supplemented or included through subordinate trees. See listing below for subordinating trees which offer fall color. Refer to "5. Plant Lists/Matrixes" for additional information on subordinating trees.

Cellis sinensis (Chinese Hackberry)

Liriodendron tulipifera (Tulip Tree)

Platanus acerifolia

'Bloodgood' (London Plane)

Sapium sebiferum (Chinese Tallow Tree)

3.4.b Accent Trees

Accent trees shall be selected according to distinguishing characteristics, including size, leaf color and seasonal flowers. These trees shall be used to highlight significant areas within landscape corridors, such as at points of entry (into local streets and at pedestrian access lanes), local street intersections, transitional areas and bus shelters. Refer to the illustration below. A comprehensive list of accent trees is provided within "5. Plant Lists/Matrixes." Palm trees may be used as accent trees.

Natives oaks shall be used as accent trees at street corners along arterial and collector intersections. Refer to the map on the following page for locations. Placement of these oak trees shall be coordinated with pedestrian access lanes into adjacent subdivisions. Native oaks include *Quercus douglasii*, *Q. lobata* and *Q. wislizenii*.

Accent trees shall be planted from 15 gallon or larger containers. 5 gallon container trees may be planted upon approval by the City of Roseville for native tree species, if 15 gallon container trees are not available.

Spacing between accent trees shall be 15 to 25 feet on center. Drought-tolerant species are encouraged. Placement of accent trees shall not obstruct important vehicular sightlines. Planting details shall conform with those shown in "8. Planting and Staking Details." Refer to "5. Plant Lists/Matrixes" for recommended accent trees.

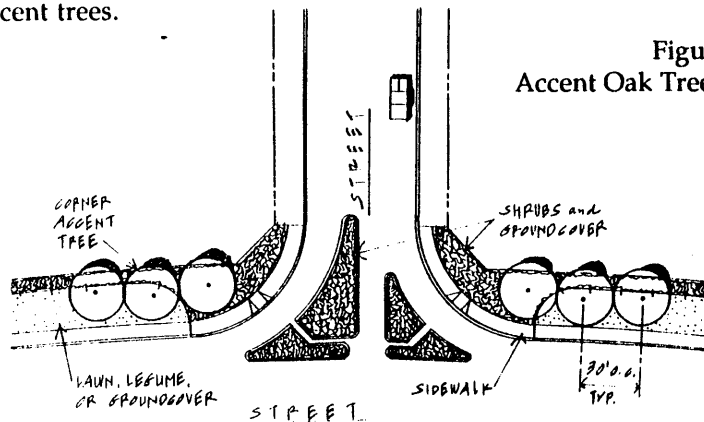


Figure 3-5
Accent Oak Tree Plan

3.4.b Shrubs

Shrubs shall be selected according to size, leaf color, seasonal flowers and fragrance. In addition to adding to an attractive landscape, shrubs may serve a multitude of functions. Shrubs may serve as visual barriers to man-made elements, including fences, soundwalls, retaining walls and backflow preventers. Yet placement of shrubs shall not obstruct important pedestrian or vehicular sightlines or threaten the safety of pedestrians. Height of shrubs shall be considered to create foreground (even as groundcover) and background relationships, as well as scale variations.

Shrubs may be planted from 5 gallon or 1 gallon containers with the following ratio:

- 70% planted from 5 gallon containers
- 30% planted from 1 gallon containers

Shrub planting spacings shall be determined by the plant's ultimate size. Drought-tolerant species are encouraged.

Planting details shall conform with those shown in "8. Planting and Staking Details." Refer to "5. Plant Lists/Matrixes" for recommended shrubs.

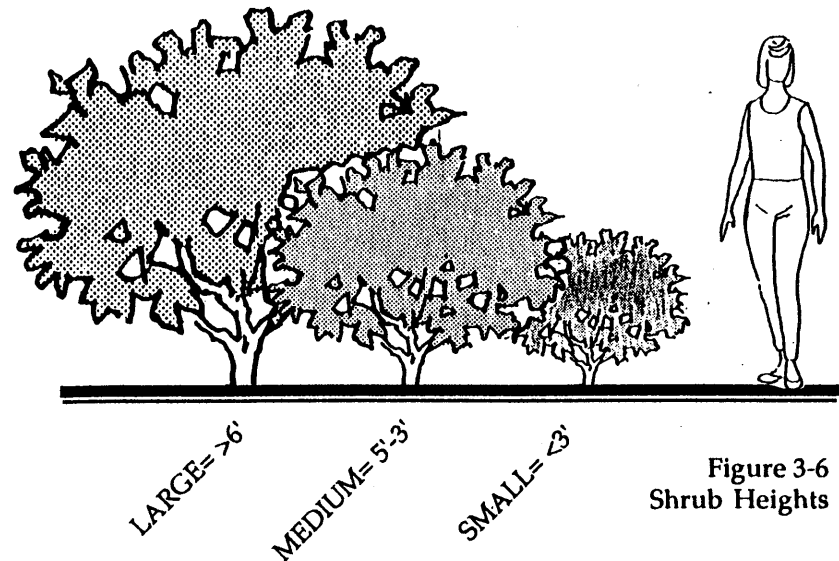
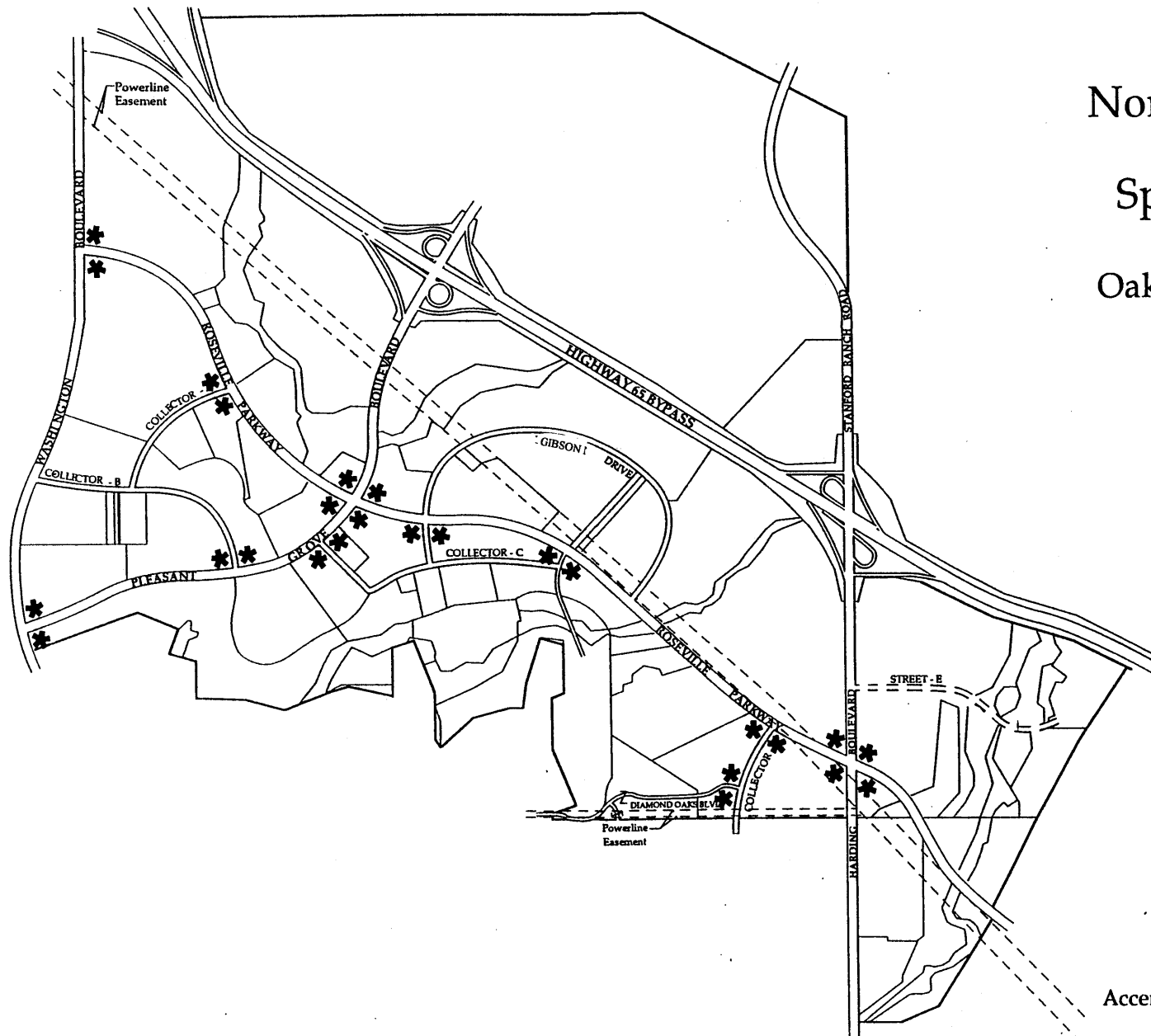


Figure 3-6
Shrub Heights

North Central Roseville Specific Plan

Oak Accent Tree Plan Map



Legend

Native Oak Species
as Accent Trees at
Street Intersections *

Figure 3-7
Accent Oak Tree Plan Map

3.5 Lawn, Groundcover and Mulch

The primary function for lawn and groundcover is to soften the environment in form and color. Lawn and groundcover, as well as mulch, serve additional functions of weed control, moisture retention in the soil and temperature moderator for plant roots. The acceptance of lawn or groundcover (including legume) shall be dependent upon the City's watering ordinances at the time of landscape plan submittal. Aside from any ordinance restriction, lawn, groundcover and mulch shall be installed as follows:

Lawn

- a) Lawn may be planted from seeds or in the form of sod;
- b) Install lawn that requires low-water usage, such as tall fescue varieties;
- c) Lawn shall be limited to areas between curb and walk. Lawn may be planted from the walk to the property line only in landscape corridors 25' or greater and if the lawn area is 10' minimum in width. Lawn may also be planted at street intersections.
- d) Refer to Appendix G for recommended weed-abatement operations for all hydroseeded lawn areas.

Groundcover

- a) Groundcover shall be planted from 1 gallon containers, spaced 4 feet on center; or from flats, spaced 18 inches on center. Low-growing shrubs planted as groundcover may require further spacing. Refer to "8. Planting and Staking Details."
- b) Legume (*Trifolium repens*), a fine lawn substitute, shall be hydroseeded. Refer to Appendix G for recommended weed-abatement operations for all hydroseeded legume areas.
- c) Groundcover height may range from 6 inches to 2 feet;
- d) Drought-tolerant species are encouraged.
- e) Groundcover shall be planted between pedestrian/bicycle paths and property line, but may also be planted solely or in conjunction with lawn between paths and street curbs.
- f) Refer to "5. Plant Lists/Matrixes" for recommended groundcovers.

Mulch

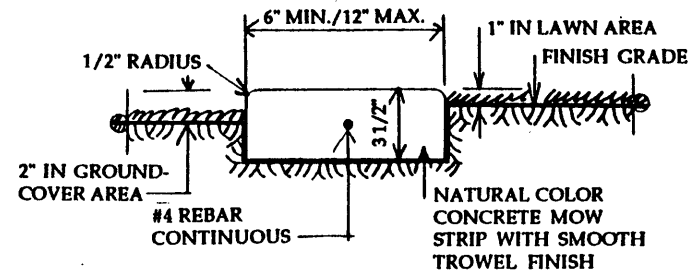
- a) Mulches shall be redwood, pine or fir bark not exceeding 3/4 of an inch to 1-1/2 inches in any dimension. It shall be layered 2 inches over finish grade in shrub and groundcover planting areas.
- b) Mulch shall not serve as a permanent landscape element.

Decorative Rocks

- a) Decorative river cobbles, 3" minimum to 8" maximum diameter, are encouraged to be used as part of water-conserving landscapes.
- b) Native or native-type of boulders, 2' to 5' diameter, may be placed within landscape corridors as accent landscape elements.

General

- a) For erosion control, the use of lawn or groundcover shall be determined according to final grade:
- b) Lawn or legume may be installed in areas with slopes of 3:1 or less.
- c) Groundcover (excluding legume) may be planted in an area of 2:1 slope. Slopes exceeding a 2:1 slope shall be planted with groundcover and stabilized with erosion control material, such as jute netting or another acceptable erosion control fabric.
- d) Lawn and groundcover areas shall be defined with concrete mow strips in all landscape corridors separating the corridors from private parcels. Concrete mow strips shall be natural-colored concrete with a smooth trowel finish. Refer to "Figure 3-8."



NOTE: USE 1/2" FELT EXPANSION JOINT 20 FEET ON CENTER MAXIMUM AND AT EACH CHANGE OF DIRECTION

Figure 3-8
Concrete Mow Strip Detail

3.6 Drought Tolerance

An objective for the Plan Area is energy conservation in both building and landscape designs. The use of drought tolerant plantings in the public landscape is emphasized strongly in preparation for water-availability concerns in the future. Thus, an understanding of drought-tolerant plants is essential to achieve a successful water-conserving landscape.

Most horticultural literature on water conservation in the landscape discusses two basic terms for describing the relative water requirements of plants. These terms are *xeric* (pronounced "zeric") and *mesic*. Plants that are xeric are said to be drought tolerant, while mesic refers to plants that require regular and consistent availability of water to remain healthy.

Evapo-transpiration (ET) is a term used to describe the water requirements of plants based upon prevailing conditions of solar exposure, temperature and wind. ET rates vary from location to location and season to season. **Reference evapo-transpiration (ET_o)** measures in inches a plant's water requirement, based on the scale of the water requirement of well-irrigated, 4 inch to 8 inch tall fescue in full sun. **Plant (technically "Crop") coefficients (K_c)** are the estimated percentage of ET_o that a particular species needs to maintain minimum health. Depending on the plant type and relative tolerance to drought, K_c rates may range from 20% to 150% of ET_o.

A mesic plant's water requirements generally can be assumed to be from 80% to 150% of reference evapo-transpiration (ET_o). In comparison, a xeric plant might only require 20% to 60% of ET_o.

ET_o rates are used in combination with K_c rates to determine irrigation requirements. ET_o rates are obtained from either local historical records or the Department of Water Resources' CIMIS program (California Irrigation Management System), which provides current ET_o information from weather stations located throughout California.

Using ET_o and K_c rates for irrigation management requires knowledge of an irrigation system's uniformity and application rates, as well as soil and plant characteristics. With this information, the landscape manager can apply the correct amount of water necessary to maintain a planting in a healthy condition without waste.

Xeric plants have different ways for adapting to drought and these differences are important. Some plants respond to drought by entering their dormancy period when water is no longer available. Examples of these plants include hillside grasses that grow in the winter and spring and are dormant in summer and fall. The California buckeye is a tree that enters dormancy in early to mid-summer to reduce the need for water.

Other plants such as manzanita, acacia, toyon, oleander and olive adapt to drought by reducing water loss. Characteristics of these plants include grey or grey-green foliage; small, leathery leaves; and leaf arrangements designed to limit water loss from the plant. The majority of xeric plants are California native plants or plants from Mediterranean climates. These plants are naturally adaptive to dry summers. (It should be noted that all native or Mediterranean plants are not necessarily drought tolerant and that there is often a great difference in this respect.)

This second type of xeric plant requires less water, but in most landscape situations, it must receive at least limited amounts of water to stay healthy and attractive. The most important factor in this regard is the amount of soil volume available to the plant. The soil acts as a reservoir of water for plants with large, extensive root systems, which can go much longer between irrigations than plants with shallow, limited root systems. It is a common misconception that most native plants can be planted, established with temporary irrigation and then survive without further irrigation. In most landscape plantings, even xeric plants require summer irrigation, although this may be only a few deep irrigations per year.

If soils are compacted or shallow, with a corresponding shallow root system, then irrigation requirements shall be frequent due to the limited soil reservoir capacity. The frequency and amount of irrigation depends upon the depth of the root system and the soil texture.

Selecting the correct design approach for irrigation of a landscape planting is one of the most critical factors affecting the long term success of a planting. There are two general approaches to irrigation, with a variety of options available in each category. These two primary categories are drip/bubbler systems and various forms of overhead spray irrigation. Advantages and disadvantages are associated with each approach and their correct use depends directly upon site conditions and plant selection.

The use of drip and bubbler systems for tree and shrub plantings has long been the system of choice for proponents of water conservation. The advantages of drip and bubbler systems include water conservation, reduced energy use, reduced weed growth, low soil erosion and elimination of runoff. However, after almost two decades of use, serious concerns are associated with the approach.

While drip/bubbler systems are effective and efficient for young plantings, they are severely criticized for their inability to supply the long term water requirements of a planting. The expanding root systems of plants often outgrow the ability of a drip/bubbler system to place water within the root zone. Consequently, many plants can suffer from drought stress and begin to decline in health within a few years after planting.

Contrary to popular opinion, most ornamental plant species commonly listed as drought tolerant require some level of supplemental irrigation to remain healthy and attractive. This is especially true in commercial sites where soil volume is limited due to shallow soil depth and compaction. When soil volume is reduced, root systems respond by growing shallow and laterally, with the result that the ability to tolerate drought is limited and must be compensated with periodic irrigation.

Ornamental landscapes must be healthy and attractive to be judged successful. There are different expectations for commercial landscapes compared to a natural plant community where plants are often in marginal health due to seasonal water stress. It is not enough that plants survive; they must remain attractive. In most commercial applications, drip systems do not provide the long term water requirements necessary for this degree of health.

Drip systems are also difficult to maintain. Problems with drip systems include clogging of emitters from water impurities or chemicals, rodent damage to flexible tubing, vulnerability to vandalism, poor manufacturer reliability, difficulty in monitoring emitter flow and impracticality of fertilizing through the system.

Drip systems have a typical longevity of probably seven years, while most plantings should have a life span of 15 to 20 years or longer. The appropriate planting design concepts for drip systems are those intended to survive on natural rainfall and requiring only initial irrigation to establish. Very few ornamental plant species are capable of this.

Bubbler systems are better in terms of maintenance and longevity, but still do not address the problem of providing irrigation to a large spreading root system in a mature planting.

The most successful irrigation approach for plantings with long term irrigation requirements is obtained with overhead spray application systems that offer high uniformity and low precipitation rates appropriate to shallow, spreading root systems. A well-designed overhead system can offer many years of dependable service.

Overhead spray irrigation is especially appropriate for groundcover plantings and closely spaced massings of trees and shrubs. Disadvantages of overhead irrigation include encouragement of weed growth, potential overspray and run-off and low application efficiencies for young plantings. Yet many of these disadvantages may be overcome with proper irrigation management.

Weed problems tend to diminish as a planting matures due to increased competition from landscape plants. Overspray can be minimized with careful design and regular maintenance adjustments. Despite the initially low application efficiency of overhead systems, they are often the only practical method for providing long-term irrigation required by most landscapes. As a planting matures and root systems expand laterally, overhead systems become the irrigation technique of choice.

Runoff potential may be minimized through repeat cycles in an irrigation schedule. In this manner, enough water shall be applied to percolate into soil before runoff occurs. This cycle repeats after the water percolates into the soil. This is especially effective on slope situations. Nozzles with built-in check valves also contribute to a more efficient irrigation system along slopes. Pressure-compensating screens may be used to minimize misting from overhead sprays, thus reducing "wasted" water.

Overhead irrigation is not necessarily in contrast to water conservation practices. Well-designed plantings require infrequent irrigations, depending upon the plant selection and rooting depth. A planting of xeric plants in moderately deep soils may only require monthly irrigation in summer months. However infrequent the irrigation requirement, it is critical that the ability to irrigate be available throughout the life of the planting. Only through overhead applications can large root systems be irrigated effectively.

3.7 Irrigation

The availability of water for landscape purposes is an issue for the City of Roseville. Use of drought-tolerant plantings and water-conserving irrigation systems is strongly emphasized in landscape design within the North Central Roseville Specific Plan Area.

Watering may be conducted through spray irrigation systems and shall be designed according to the needs of planting areas. For example, planting areas with shrubs and groundcover require a different system of spray heads and water needs than lawn and legume areas. Low precipitation heads shall be used where possible.

Irrigation systems also may consist of bubbler heads or drip lines. These systems may be considered for water-conserving reasons. Lawn or groundcover cannot be planted with these types of irrigation systems, but small, low-growing shrubs are adequate substitutes. For areas requiring special treatment such as on steep slopes, bubbler and drip irrigation systems may be more practical.

Irrigation need not be comprised of a single type of system; a combination of different systems may be more practical. For example, areas of lawn may use a spray system, while areas of trees and shrubs may be watered with bubbler heads. Refer to "3.6 Drought Tolerance" for a discussion of the effectiveness of irrigation types.

Check valves are to be installed on all spray and bubbler heads as necessary to eliminate excess water damage, such as erosion, when the irrigation system is shut off.

Water spray and flow from irrigation systems shall not enter within driplines of existing oak trees to be preserved or into preserve areas. Adequate grading may aid in achieving this goal.

Irrigation systems shall be the Motorola MIR5000F System.

Nothing in these guidelines shall be construed to preclude application of otherwise applicable City Wide Ordinances, *e.g.*, a reclaimed water ordinance should the City adopt such a program in the future.

The developer must coordinate electric service points for irrigation controllers and landscape lighting with the Electrical Department.

Backflow preventers in publicly maintained landscapes shall be located near the user's connection at a distance practical for safety concerns. The primary objective is for the "safety and convenience for all residents, employees, and visitors" (NCRSP, pg. 3-2). Where possible, backflow preventers shall be screened from obvious views for aesthetic reasons. Backflow preventers in privately maintained landscapes shall be located away from obvious view.

Good irrigation design shall provide head-to-head coverage of spray to all areas, except where bubblers or drip lines are used.

Service points for irrigation shall be metered. Contact the City of Roseville Electric Department for service locations.

3.8 Soundwalls and Wood Fences

Soundwalls and wood fences shall serve similar purposes along landscape corridors. As a hardscape element to provide separation between public and private properties, soundwalls and wood fences serve as noise buffers from, and screen the view of, vehicular traffic. They also provide security. Similar designs of soundwalls and wood fences serve as a unifying element and create visual interest within the landscape corridors.

All soundwalls and wood fences shall be located on the City of Roseville side of property lines. A city-established maintenance district shall provide upkeep for all soundwalls and fences. No access to private property shall be permitted through these soundwalls and wood fences, although pedestrian access lanes to local streets shall be provided between single-family residences. Refer to "6.5 Pedestrian Access Lanes."

Soundwalls shall be constructed in landscaped corridors along all single-family residential areas. Soundwalls or decorative wood fences shall be constructed along electric substation land uses. Soundwalls or wood fences also may be constructed in landscape corridors along multi-family residences abutting major arterials. Neither soundwalls nor wood fences shall be constructed in landscaped corridors adjacent to business, commercial or open space areas, although low or open, perimeter fences shall define watersheds and other wetlands areas. Refer to "6.8 Vernal Pools." Also, a wood or wrought-iron fence shall separate open spaces from adjacent single-family residences.

Soundwalls and wood fences shall not obstruct underground or above-ground electric, telephone, cable television, water or sewer line services or equipment. Contact appropriate utility companies for details at each location.

All structural walls, including soundwalls and retaining walls, must be approved by the City of Roseville Public Works.

Design guidelines for soundwalls and wood fences follow:

Soundwalls

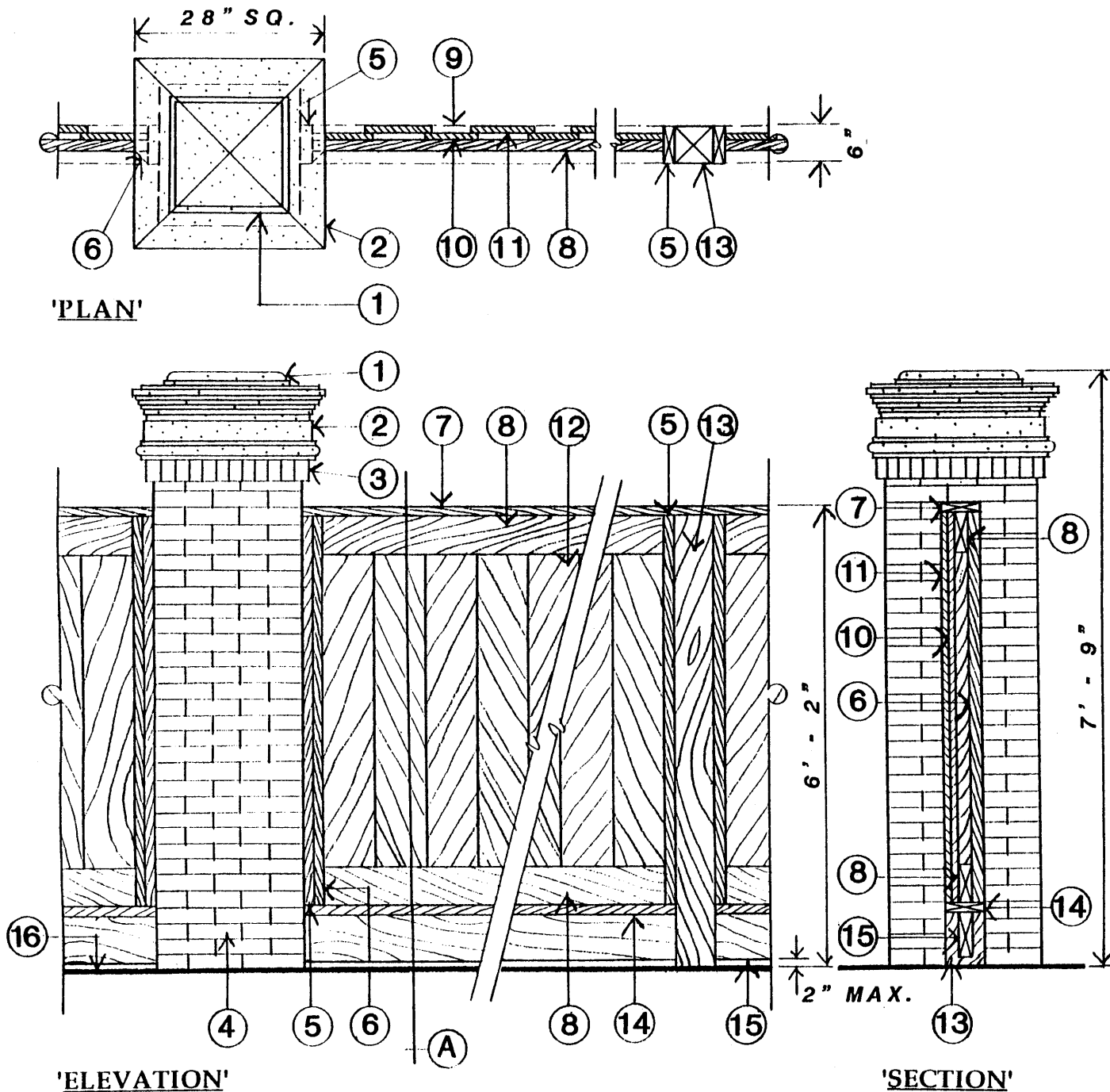
The design intent of the soundwalls is to match the soundwalls within Hillsborough development in Johnson Ranch (Southeast Roseville Specific Plan) and Treelake development in Placer County, yet provide variation through cap and pilaster design.

Soundwall panels along arterial roads and along the electric substation at Eastpark Drive shall be a minimum height of 6 feet with 6"x8"x16" concrete masonry blocks. The concrete masonry blocks shall be grey, split-face one side with the split face toward the landscape corridor. The concrete masonry shall be stacked in running bond pattern. Soundwall caps shall consist of precast concrete cap with a band of precast concrete facing along the front of the wall, or a precast block cap. Refer to "Figures 3-9b and 3-9c" for acceptable walls.

Soundwall panels at Collectors A, B and C along single-family parcels shall be 6 feet high of redwood construction with a redwood cap, totalling 6'-2" in height. All redwood to be construction heart grade. Vertical slats are to have rough cut finish facing the landscape corridors. Refer to "Figure 3-9a" for an acceptable soundwall.

Pilasters shall be hand-laid with 6"x8"x16" concrete masonry and faced with standard-size brick, set in running bond pattern. Pilaster cap shall consist of precast concrete forms with a brick rowlock. Pilasters shall be spaced no further than 120'-0" on center.

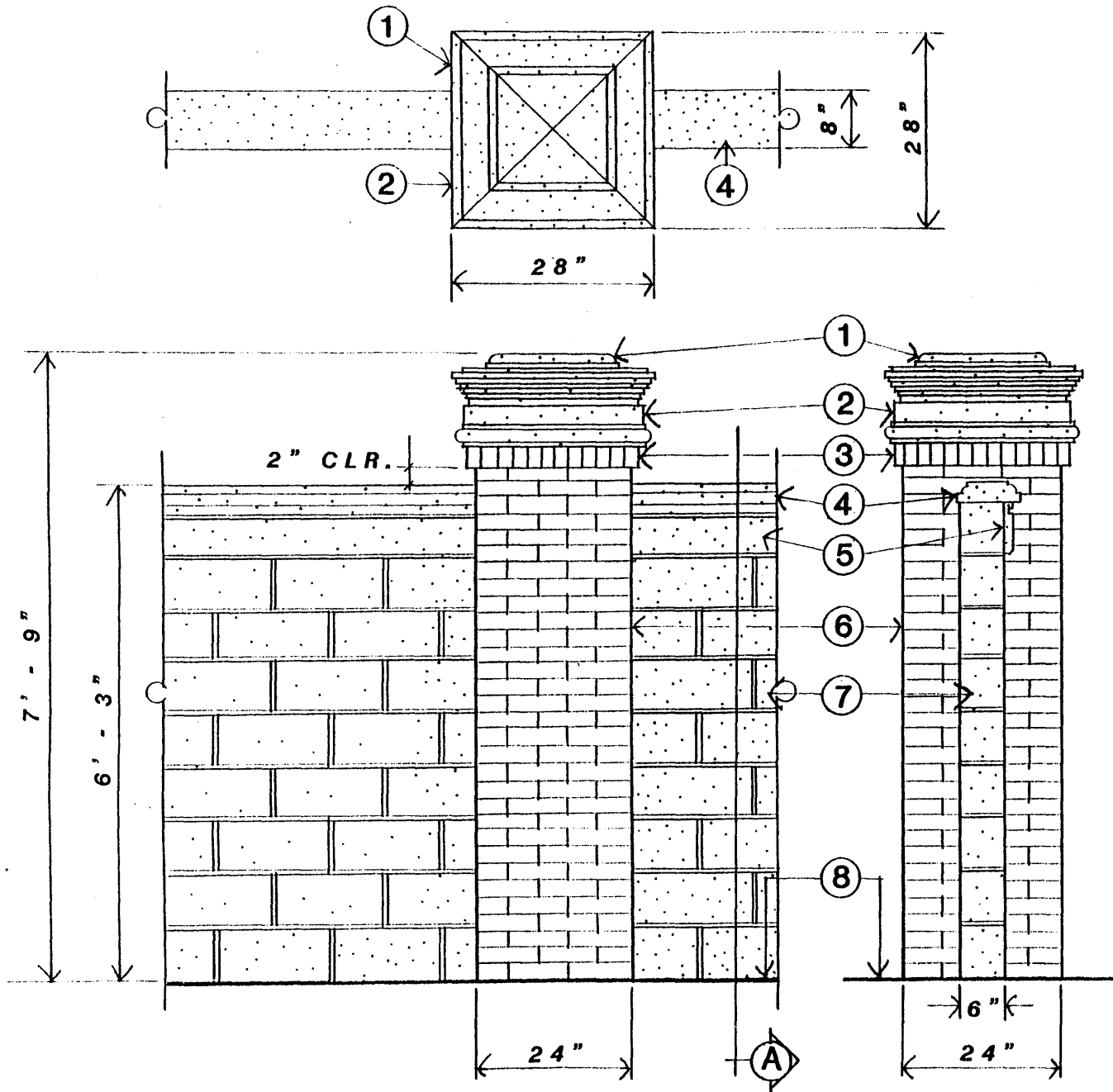
Soundwalls illustrated in "Figures 3-9a, 3-9b and 3-9c" are those which are only acceptable. The vendors and manufacturers listed in these figures are listed as examples of providers of the quality of the materials used in the plan. This list is not exclusive, and these vendors and manufacturers are not the sole source of these products.



- KEY:**
1. Precast concrete cap Model #M21-16P. See Note C.
 2. Precast concrete fascia Model #M50-12. See Note C.
 3. One course rowlock brick on all four sides. See Note A.
 4. Standard brick in running bond pattern. See Note A.
 5. 2x6 redwood nailer.
 6. 2x2 redwood strip, cut at 45°.
 7. 2x6 redwood top cap.
 8. 2x6 redwood stringer.
 9. Edge of redwood top cap.
 10. 1x8 redwood vertical slat. Rough cut on front.
 11. 1x10 redwood vertical slat. Rough cut on front.
 12. Alternating 1x8 and 1x10 redwood vertical slats. Rough cut on front.
 13. 6x6 redwood post at 8' on center.
 14. 2x6 redwood bottom board.
 15. 2x8 redwood kick board. Set 2" maximum from finish grade.
 16. Finish grade.

- NOTES:**
- The vendors and manufacturers listed below are listed as examples of providers of the quality of the materials used in the plan. This is not exclusive, and these vendors and manufacturers are not the sole source of these products. This soundwall is accepted by the City of Roseville.
- A) All brick is Monterey Bay Flashed as provided by H.C. Muddox Co., 4875 Bradshaw Road, Sacramento, CA 95827, (916) 362-1171.
 - B) All wood is redwood construction heart grade.
 - C) All precast concrete forms are manufactured by Concrete Designs, Inc., 2940 S. Palo Verde, Tucson, Arizona 85713, (602) 624-6653.
 - D) Set pilasters at 120'-0" on center.
 - E) Set fence posts at 8'-0" on center.
 - F) Structural calculations for all footings are to be provided by the contractor.

Figure 3-9a
 Soundwall and Pilaster
 at Collectors A and B
 along Single-Family Parcels



KEY:

1. Precast concrete cap Model #M21-16P. See Note C.
2. Precast concrete fascia Model #M50-12. See Note C.
3. One course rowlock brick on all four sides. See Note A.
4. Precast concrete cap Model #M11. See Note C.
5. Precast concrete fascia Model #M30. See Note C.
6. Standard brick in running bond pattern. See Note A.
7. 6"x8"x16" handlaid concrete masonry unit (CMU) block wall in running bond pattern. Top course to be comb-face both sides. See Note B.
8. Finish grade.

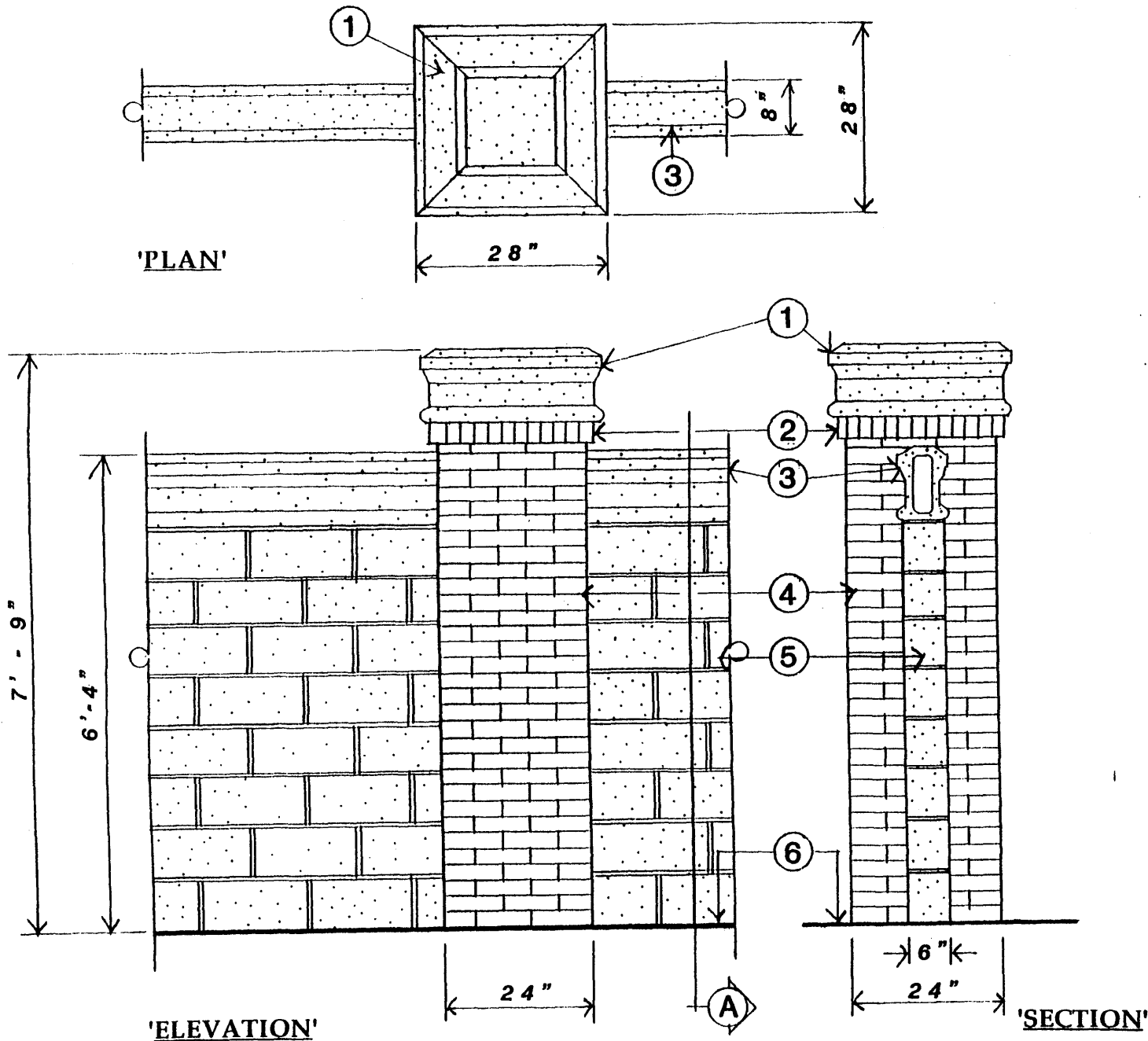
NOTES:

The vendors and manufacturers listed below are listed as examples of providers of the quality of the materials used in the plan. This is not exclusive, and these vendors and manufacturers are not the sole source of these products.

This soundwall is accepted by the City of Roseville.

- A) All brick is Monterey Bay Flashed as provided by H.C. Muddox Co., 4875 Bradshaw Road, Sacramento, CA 95827, (916) 362-1171.
- B) CMU blocks are grey, comb-face one side and split-face one side, with the split-face facing landscape corridor. CMU is manufactured by Crystallite Block Corp., 421 Crystal Way, Galt. CA 95632, (209) 745-2981.
- C) All precast concrete forms are manufactured by Concrete Designs, Inc., 2940 S. Palo Verde, Tucson, Arizona 85713, (602) 624-6653.
- D) Set pilasters at 120'-0" on center.
- E) Structural calculations for all footings are to be provided by the contractor.

Figure 3-9b
Soundwall and Pilaster



KEY:

1. Precast concrete 8"x8"x12" cornice block. Miter all corners. Grout center solid. See Note C.
2. One course rowlock brick on all four sides.
3. Precast concrete 8"x8"x12" cornice block. See Note C.
4. Standard brick in running bond pattern. See Note A.
5. 6"x8"x16" handlaid concrete masonry unit (CMU) block wall in running bond pattern. See Note B.
6. Finish grade.

NOTES:

The vendors and manufacturers listed below are listed as examples of providers of the quality of the materials used in the plan. This is not exclusive, and these vendors and manufacturers are not the sole source of these products.

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- C) Precast concrete 8"x8"x12" cornice blocks are grey and manufactured by Crystallite Block Corp., 421 Crystal Way, Galt, CA 95632, (209) 745-2981.
- D) Set pilasters at 120'-0" on center.
- E) Structural calculations for all footings are to be provided by the contractor.

Wood Fences

Wood fences may be constructed along multi-family residences, where a pedestrian access lane is provided into the interior of the project. (Refer to "6.6 Pedestrian Access Lanes.") A decorative wood fence shall also be built along electric substations.

Wood fences shall be 6 feet high and consist of 8 foot wide panels with pilasters or posts. Panels shall be finished on both sides of fences. All wood to be redwood. Pilasters shall be structured of concrete blocks or faced with brick, and may include a decorative cap. Pilasters shall be set at a minimum of 32 feet on center. Refer to "Figure 3-10."

Wood fence and pilaster designs are subject to the City of Roseville Planning Department approval.

Low, or open, wood or wrought-iron fences should be built around park preserves and watersheds/wetlands. Refer to "Figure 3-11." The fence and pedestrian entry points should be designed to prevent access by dirt bikes and other motorized vehicles.

Figure 3-10
Wood Fences

- KEY:**
1. 10"x8"x16" 'H' CONCRETE MASONRY PILASTER
 2. BRICK CAP
 3. 2 - 2x8 TOP AND MIDDLE RAILS
 4. 1x4 VERTICAL FENCE BOARDS
 5. 2x3 VERTICAL SLATS
 6. 4x4 POST, TYPICAL
 7. 2 - 2x8 BOTTOM RAILS
 8. 12" DIAMETER DRILLED CAISSON FOOTING
 9. CONCRETE POST FOOTING
 10. FINISH GRADE

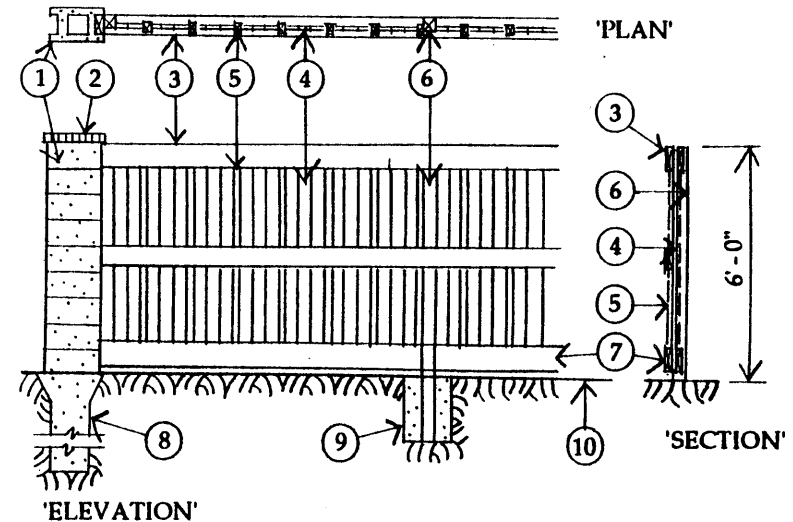
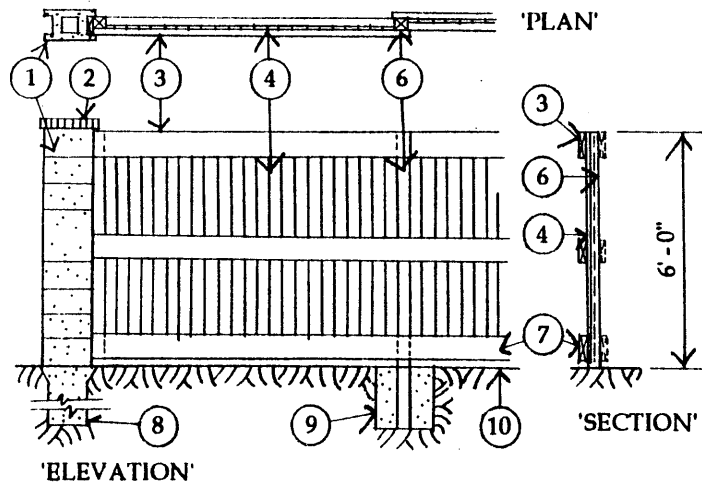
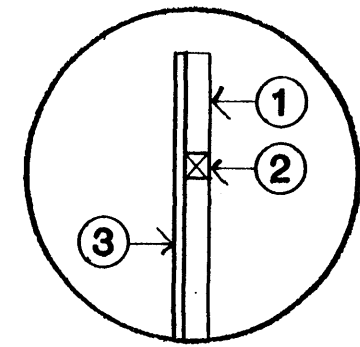
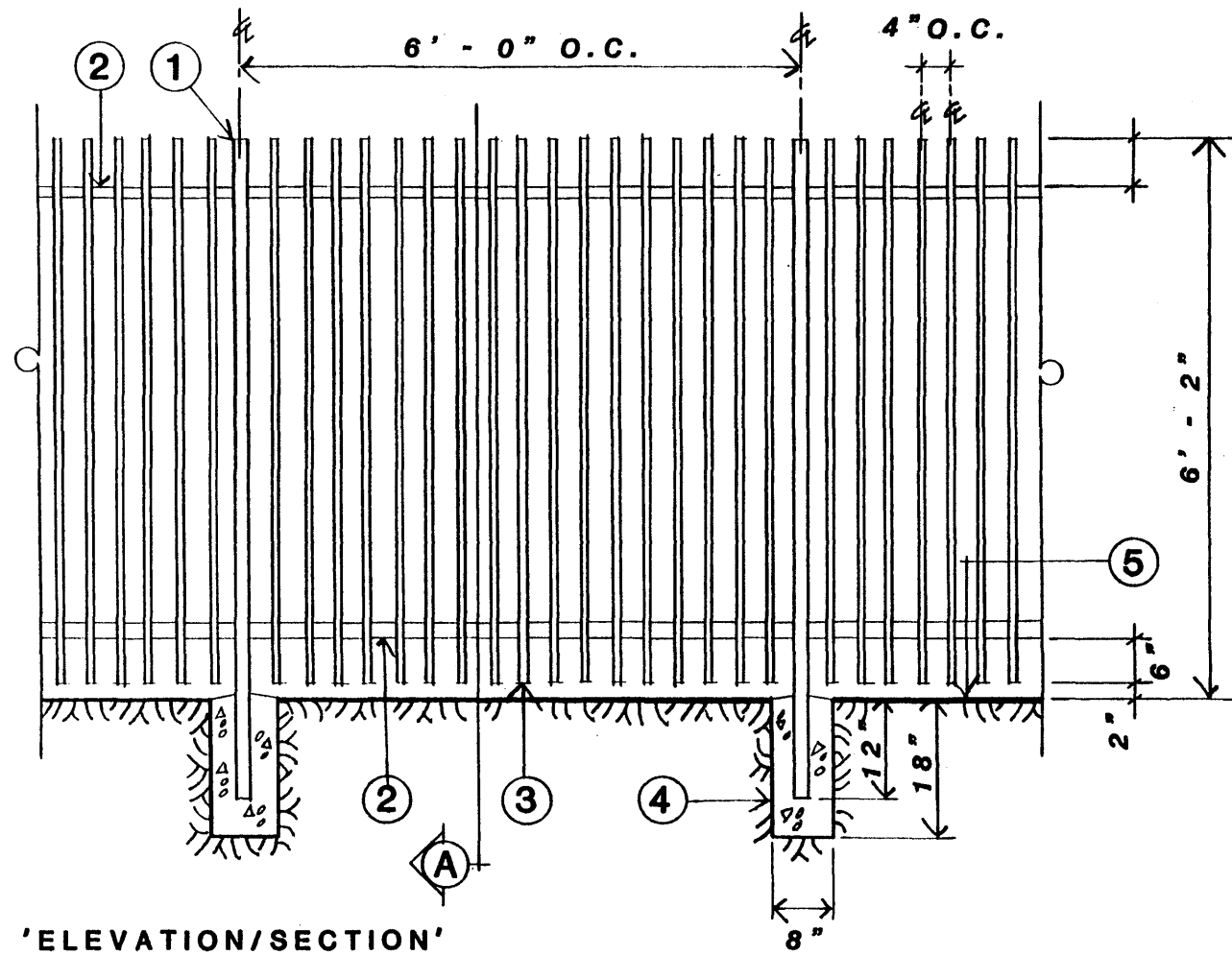


Figure 3-11
Wrought-Iron Fence



'SECTION A'

KEY:

1. 2" SQUARE TUBE STEEL POST WITH PLASTIC CAP
2. 1 1/2" SQUARE TUBE STEEL RAILS
3. 5/8" SQUARE TUBE STEEL FENCE PICKETS WITH PLASTIC CAP
4. CONCRETE FOOTING WITH SLOPED TOP
5. FINISH GRADE

NOTES:

- A) CAP ALL STEEL ENDS.
- B) SPOT WELD ALL JOINTS.
- C) PAINT WITH PRIMER AND TWO COATS OF BLACK, SEMI-GLOSS ENAMEL.

3.9 Pedestrian/Bicycle Path

An extensive system of pedestrian/bicycle paths runs throughout the Plan Area and is separate from vehicular circulation. This pathway system connects roadway landscaped corridors, open space corridors and employment and shopping centers for pedestrian use.

Pedestrian/bicycle paths shall be laid out as required (see "1.2 Design Characteristics") and where possible, as determined by the width of the landscape corridor, topography and permanent structures, such as street lights and above-grade utilities.

Meandering paths shall occur only along arterials: Harding Blvd., Pleasant Grove Blvd., Roseville Parkway, Stanford Ranch Road, and Washington Blvd. Collectors and other streets, including local streets, shall have the path 5 feet parallel from the back of street curb.

Meandering paths shall be located 5 feet clear minimum from soundwalls, wood fences or property lines, and 6 feet minimum from back of curb, except when the meandering path aligns with a curb return. The alignment of the meandering path "shall (generally) not vary from a straight line by more than eight feet (8') in one hundred feet (100') in length" (NCRSP, Section 5).

Pedestrian/bicycle paths shall be constructed of "cement (concrete) or other material appropriate to the natural conditions as determined by the City of Roseville" (NCRSP, Section 5) and shall align flush with bus turnout walks and City standard sidewalk ramps at street corners.

Rights-of-way widths determine the widths of pedestrian/bicycle paths as follows:

- a) 54 foot rights-of-way occur in Eastpark Drive, Collector E and other non-residential collectors. Landscape corridors along these streets require an 8 foot wide pedestrian/bicycle path on both sides of the street, separated by a 5 foot wide planting strip.

Diamond Oaks Boulevard also has a 54 feet right-of-way and "is indicated to have a twenty-five foot (25') landscape corridor from back of curb... It is anticipated that units shall front directly on this roadway and shall be subject to the standard front yard setbacks as measured from the back of walk. The landscape corridor only shall apply on this roadway if units do not front" (NCRSP, Section 5). Diamond Oaks Blvd. shall have a 5 foot walk paralleling the street curb with a 5 foot planting strip between.

- b) 60 foot rights-of-way occur along residential collectors (Collectors A, B, C and D).

60 foot rights-of-way along Collector A, B and C require a 5 foot wide path on both sides of a street. The path shall be separated from the curb by a 5 foot wide planting strip.

Collector D requires an 8 foot wide path on both sides of a street. The path shall be separated from the curb by a 5 foot wide planting strip.

- c) 100 foot rights-of-way occur along Harding Boulevard, Pleasant Grove Boulevard, Roseville Parkway, Stanford Ranch Road and Washington Boulevard.

100 foot rights-of-way require an 8 foot wide path on both sides of a street. Refer to "1.2 Design Characteristics" for pedestrian/bicycle path layout requirements.

Within Residential Neighborhoods

Pedestrian/bicycle paths also shall be located within residential neighborhoods between the single-family residences. As stated in the North Central Roseville Specific Plan, Section 3:

"Where appropriate, a separate pedestrian pathway corridor may be utilized to provide a connection between streets. The intent is to create a reasonably direct route to the schools and parks. The separate pedestrian pathway corridors are to be limited to areas where the street would not provide a sufficiently direct route. In no case should a separate pedestrian walkway flanked on both sides by a fence be longer than the depth of a single lot. The corridors are to be landscaped, provide an 8 foot-wide path connection, and shall have minimum corridor widths as follows:"

<u>Length</u>	<u>Minimum Corridor Width</u>	<u>Pavement Width</u>
25' or less	15'	8'
26' to 100'	20'	8'

Refer to "6.6 Pedestrian Access Lanes" for additional information.

Open Space Corridors

A pedestrian/bicycle path shall meander within open space corridors (Parcels 80 through 88). The movement of these paths shall conform to the natural topography and require minimal grade changes. The paths shall be positioned to avoid snags from nearby trees and also to avoid trees favored by raptors. A survey of raptor nests is required in riparian areas prior to construction. These pathways shall be constructed of asphalt and be 10 feet wide.

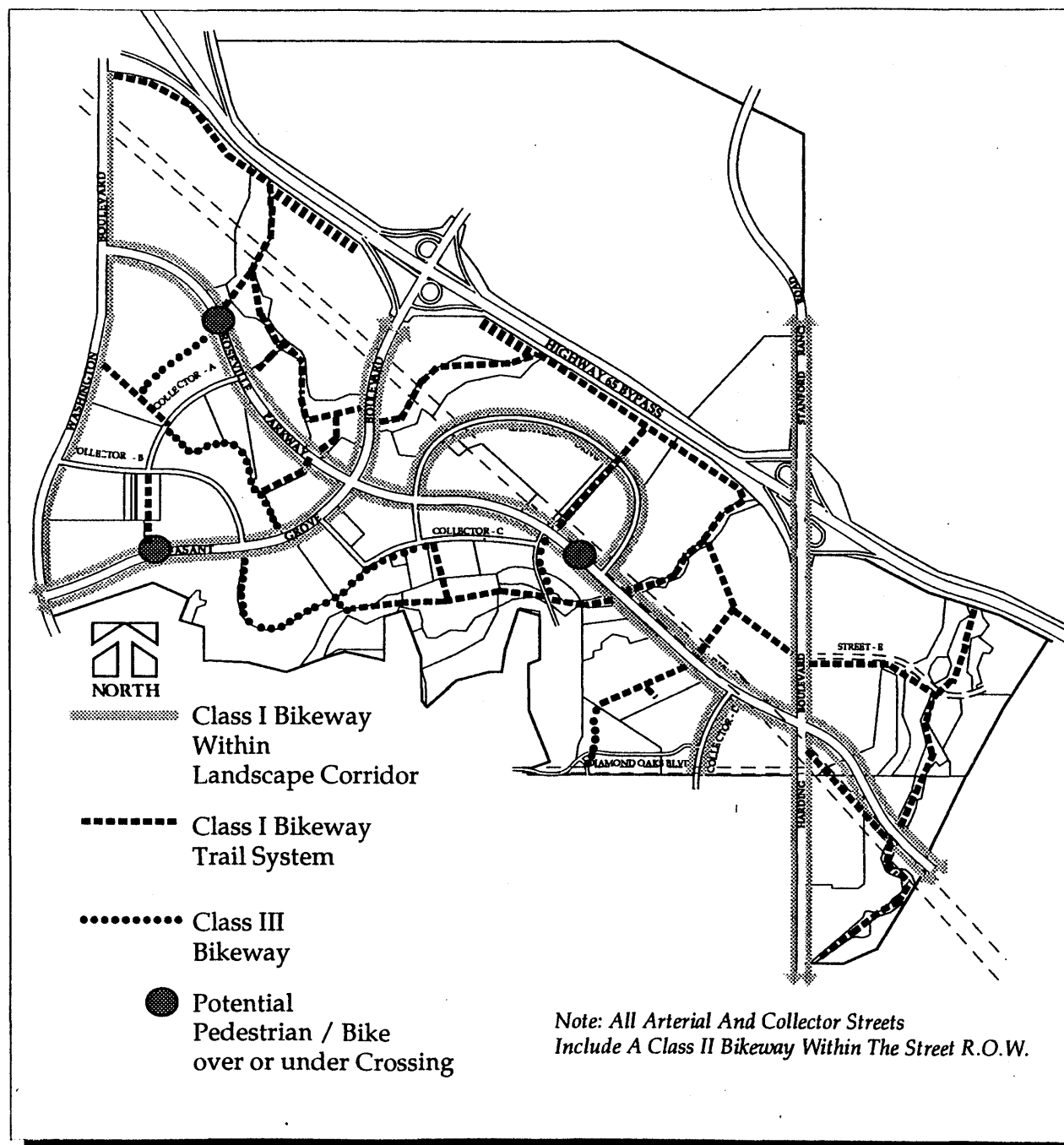
A 10' wide pedestrian/bicycle path shall be located within Parcels 40 and 42 adjacent to the State right-of-way along Highway 65 Bypass to connect the lower wetsheds of Parcels 82 and 83. 10' wide pedestrian/bicycle paths also shall be located within Parcels 43 and 48 to connect with Parcels 83 and 84 respectively with similar conditions. These pedestrian/bicycle paths shall be located within 40' wide bicycle easements, except the bicycle easement within Parcel 49 which shall be ranged from 25'-40' wide. A 10 foot wide minimum landscape area shall separate the pedestrian/bicycle path from the State right-of-way. Refer to "6.3 Highway 65 Bicycle Easement" for additional information.

Paths within open space areas shall connect to landscaped corridors along roadways and to paths on adjacent parcels, thus interconnecting all pedestrian/bicycle pathways into a network. Pedestrian access lanes also shall be incorporated into this system. Refer to "6.6 Pedestrian Access Lanes" for additional information.

Bollards at pedestrian/bicycle paths located within open space corridors must be striped according to Cal Trans' "Highway Design Manual," Fourth Edition, July 1990, Chapter 1000, Section 1004.2 (path striping) and Section 1003.15 and Figure 1003.1G (bollard striping).

Refer to "Figure 3-12 Bikeway Master Plan" for schematic locations of pedestrian/bicycle paths.

Figure 3-12
Bikeway Master Plan



3.10 Street Lighting

Lighting shall be high pressure sodium vapor of two types: expressway luminaire and the street light standard. Refer to illustrations below and specific street criteria for lighting specifications.

Metered electric service points for landscape lighting shall be coordinated with the City of Roseville Electrical Department. Planting restrictions within the zone of light shall conform with the Electrical Department standards as follows:

- a) No planting of shrubs or trees which grow to a height greater than 4 feet at maturity shall be planted in the zone of light.
- b) Trees planted outside the clear area should have no more than 20% of their canopy encroach within the zone of light. This 20% encroachment is based on the diameter of the trees canopy at maturity.

Zone of light is defined as a triangular area with points located at 100 feet on both sides of a lighting fixture (not the light post) and 10 feet out from the top back of curb and the lighting fixture itself. Refer to "Figure 3-13."

Consult Electrical Department for any other relevant standards to be complied with.

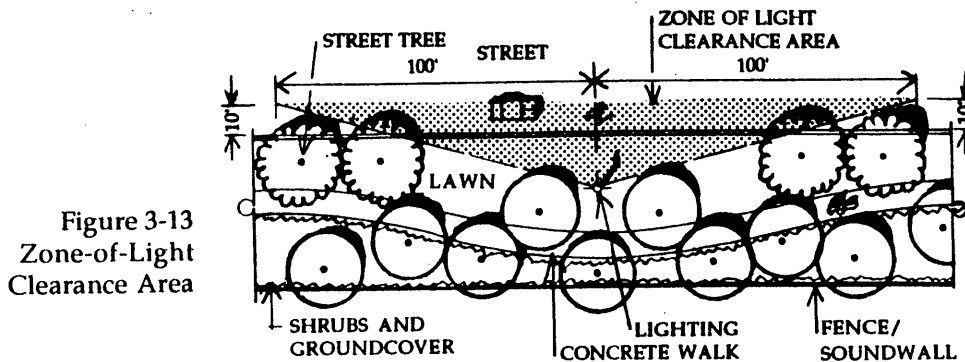
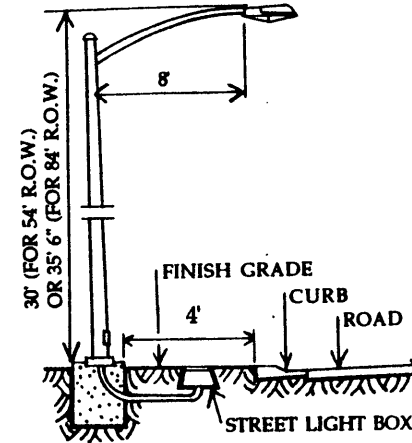
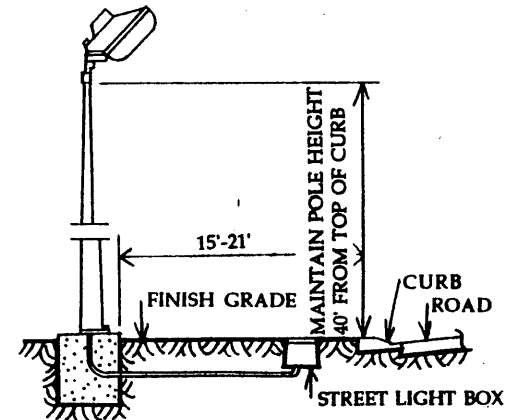


Figure 3-13
Zone-of-Light
Clearance Area

Figure 3-14
Street Lightings



Type: Cobra Street Light Standard
Location: Along collectors and other streets
 (54' and 60' R.O.W.)
Spacing: 150' - 175' on center
Distance From Back of Curb: 4'



Type: Expressway Luminaire
Location: Along arterials (100' R.O.W.)
Spacing: 150' - 175' on center
Distance From Back of Curb: 15'-21' as specified

3.11 Street Furnishings and Entry Signage

An objective of the Plan Area is to create a high-quality, aesthetically pleasing development through use of elements such as landscaping and street furnishings that are "pleasing in form, scale, texture, color, and variety" (NCRSP, Section 3). Street furnishings include benches, trash receptacles, bollards, planters, bus shelters, entry signage, and other amenities. Entry signage shall be an integral part of the pedestrian experience and provide guidance for vehicular traffic.

Street Furnishings

Street furnishings shall be located where pedestrian-activity occurs. For example, benches shall be located alongside pedestrian paths and trash receptacles shall be located near vendors. Benches may be arranged so as to create seating nodes in 50 foot wide landscape easement corridors.

Design of street furnishings shall match or complement the design of surrounding elements, such as the architecture of buildings. The design also shall contribute to the character which the landscape design is intending to convey. Refer to in "1.2 Design Characteristics." In addition, street furnishings shall be chosen for functional compatibilities and resistance to vandalism.

Following is a partial description of ideal street furnishings which may be used in the North Central Roseville Specific Plan Area. All street furnishings within landscape corridors must be approved by the City of Roseville Planning Department.

Benches

Benches should be constructed of metal frame with seatings of wood slats or woven-wire mesh. Wood should be unstained yellow cedar with chamfered edges and corners, and treated with water repellent. Metal components should be powder coated. Industrial, sleek, and sinuous designs are preferred; lines of bench design should be simple with no additional ornamentation. Back-supported benches are preferred. Color of benches should complement and reflect the surrounding environment.

Trash Receptacles

Trash receptacles should be set within a vandal-proof trash enclosures. Preferred trash enclosure designs include exposed aggregate finishes and circular in form. Trash receptacle tops should allow convenience for trash input. Heavily weighted enclosures should prevent toppling of trash. Accessibility to trash receptacle should be considered for maintenance concerns.

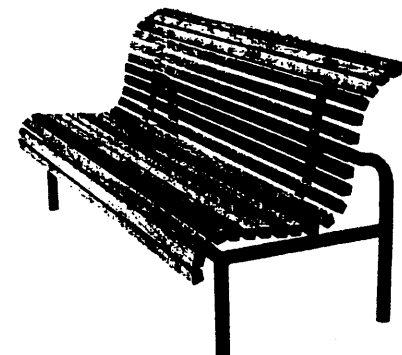


Figure 3-15
Bench

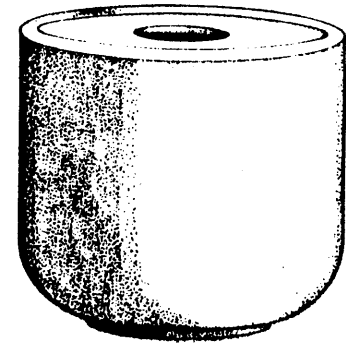


Figure 3-16
Trash Receptacle

Bollards

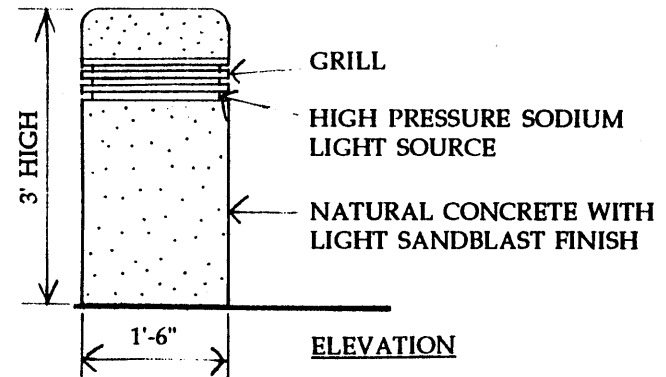
Bollards should be precast out of natural- or integral-color concrete and columnar in form. Textural finish for metal should be light sandblast or exposed aggregate, and should match surrounding site amenities. Bollards should be permanent to impede vehicular traffic and yet allow for pedestrian flow.

Bollard layout for pedestrian/bicycle paths leading into school or park sites shall conform with the City of Roseville standard. These bollards shall be steel post, or approved equal. Refer to "Figure 3-18." A minimum of two bollards shall be located within pedestrian/bicycle paths where paths lead to a school, park sites, or street intersections.

Lighting bollards should be similar in material and form to nearby standard bollards, but may also be metal with baked-on enamel finish. Lighting bollards should be chosen to be vandal-proof and the heights of which should not produce glare to pedestrian and vehicular traffic. Lighting source should be high pressure sodium to match the street lights. Refer to "Figure 3-17."

Service points for lighted bollards shall be metered. Contact the Electric Department for service locations.

Figure 3-17
Typical
Light Bollard



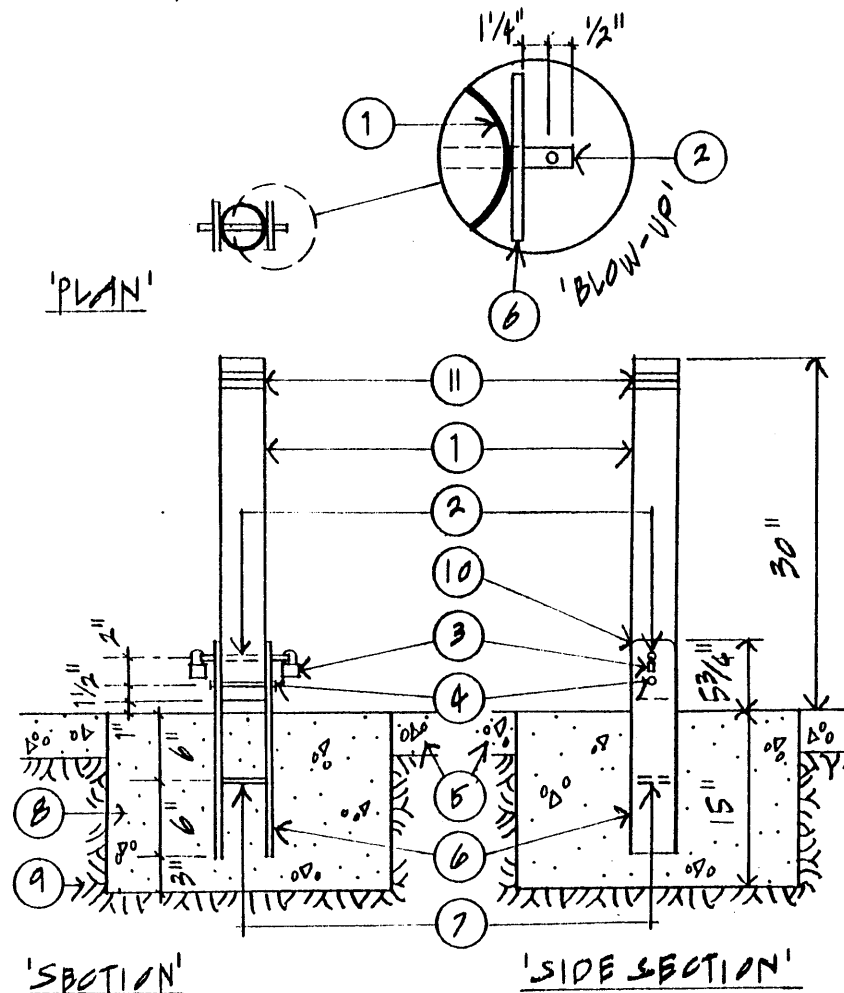


Figure 3-18
Collapsible Bollard

LEGEND:

1. 11 GAUGE, 3 1/2" O.D. ROUND STEEL POST WITH CAPPED TOP & 3/4" HOLES FOR SWIVEL ROD AND 3/4" HOLES FOR LOCKING PIN. EASE ALL EDGES OF STEEL POST.
2. 5/8" DIA. x 7 1/4" LOCKING PIN WITH 3/8" HOLES ON BOTH ENDS FOR PADLOCK. EASE ALL EDGES OF LOCKING PIN. SEE 'BLOW-UP' DRAWING.
3. PADLOCKS TO BE PROVIDED BY THE CITY OF ROSEVILLE AND THE APPROPRIATE AGENCY.
4. 5/8" DIA. STEEL SWIVEL ROD. FILET WELD 2" DIA. x 1/8" STEEL WASHER TO BOTH ENDS.
5. CONCRETE PAVING/ASPHALT.
6. 3/8" x 1'-5 3/4" x 3 1/2" STEEL PLATE WITH 1" RADIUS CORNERS. EASE ALL EDGES.
7. 3/8" STEEL BRACE. FILET WELD BOTH SIDES TO BASE PLATES.
8. 2" ROUND CONCRETE FOOTING.
9. COMPACTED SUBGRADE.
10. 1" RADIUS CORNERS, TYP.
11. REFLECTIVE TAPE. REFER TO CITY PARK STANDARD.

NOTES:

1. ALL PIPES SHALL BE BLACK STEEL PIPE.
2. ALL JOINTS SHALL BE WELDED IN ACCORDANCE WITH CALIFORNIA STATE STANDARD SPECIFICATIONS FOR WELDING STRUCTURAL STEEL.
3. ALL PARTS (EXCEPT PADLOCKS) SHALL BE PAINTED WITH 2 COATS OF ZINC CHROMATE PRIMER & 2 COATS OF EXTERIOR ENAMEL. COLOR: YELLOW AS PER CITY STANDARD.
4. STRIPE BIKE PATH AS REQUIRED AS PER CAL TRANS STANDARDS. REFER TO "3.9 PEDESTRIAN/BICYCLE PATH."

Planters

Planters should be circular in form and made of precast concrete. Finish should be light sandblast or exposed aggregate. Planters should match or complement surrounding site furnishings.

Bus Shelter

Bus shelters shall be metal framed with transparent windscreen and domed roof. Bus shelters shall include a wood bench. Refer to "Figure 3-19."

Shop drawings to be submitted prior to fabrication.

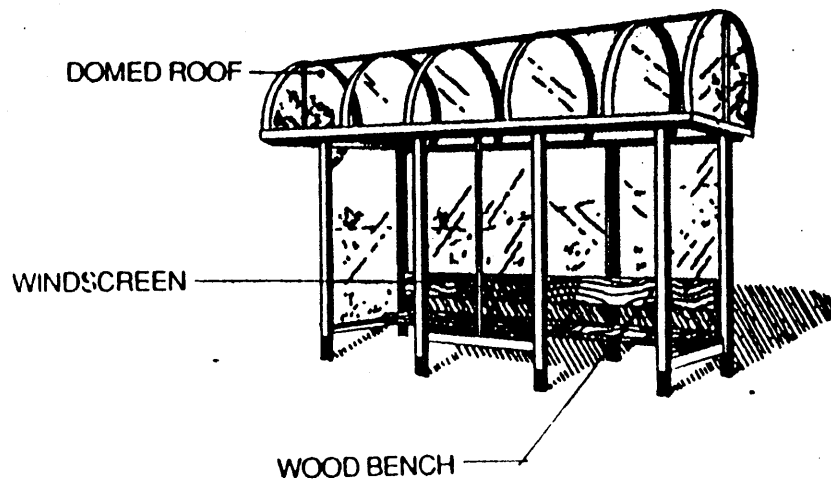


Figure 3-19
Bus Shelter

Entry Signage

Entry signage may be used as a formal statement into a business park, commercial area, residential development or public space.

Signage construction may be incorporated into a soundwall or fence or as an independent structure located behind the landscape corridor adjacent to a street. It must be placed so as not to interfere with important vehicular lines of sight.

Construction materials should match or complement the aesthetic design of nearby soundwalls, fences and/or building architecture.

Signage dimensions should be in scale with the surrounding environment and for its purpose, *e.g.* to identify project name.

Landscaping around signs may serve as backdrops to and highlight the signage. Landscaping also may bring attention to the signage, such as with the use of seasonal, colorful, annual plantings. If located in a lawn area, a concrete mow strip, flush with grade around the base of the sign is encouraged. This would protect the signage from any damage due to maintenance equipment.

The developer is responsible for conforming to all city and state regulations, particularly to the City of Roseville Sign Ordinance and the NCRSP Sign Guidelines. Project entry signage design shall be submitted to the City of Roseville for approval with the first project within an identified neighborhood.

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	Pleasant Grove Boulevard	4-8	
	Roseville Parkway	4-10	
	Stanford Ranch Road	4-12	
	Washington Boulevard	4-14	
	Collectors:		
	Collectors A, B and C	4-16	
	Collector D	4-18	
	Collector E	4-20	
	Diamond Oaks Boulevard	4-22	
	Gibson Dr.	4-24	
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Specific Street Criteria

Landscape corridor design shall adhere to the guidelines as discussed.

Figure 4-1
Circulation Master Plan
(Graphics provided by
Wade Associates)

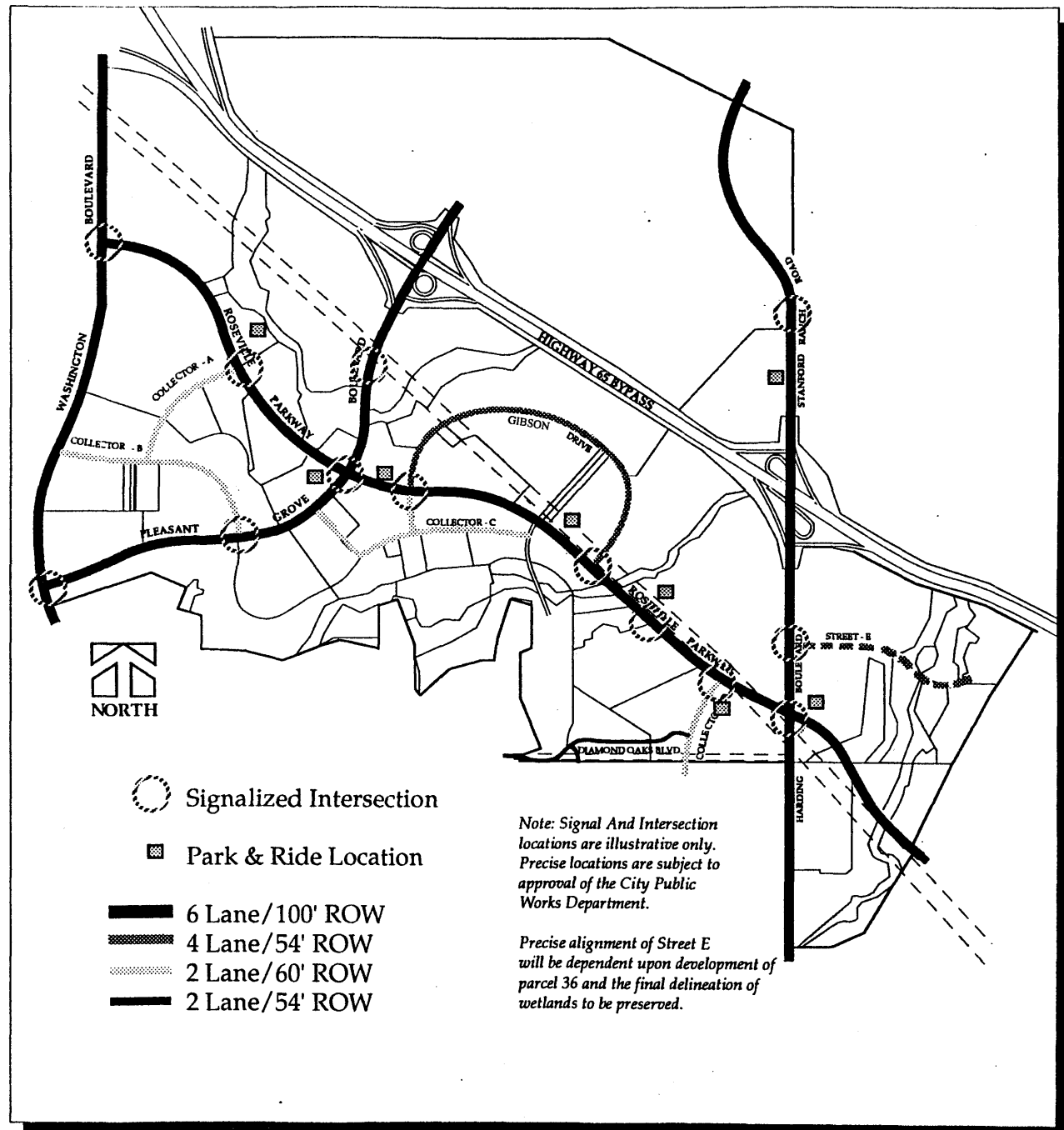


Figure 4-3 Right-of-Way and Landscape Corridor Widths

<u>Street</u>	<u>Right-of-Way</u>	<u>Landscape Corridor</u>	
		Single-family Use	Multi-family and Other Uses
Arterials			
Harding Boulevard	100'	50'	50'
Pleasant Grove Boulevard	100'	35'	50'
Roseville Parkway	100'	50'	50'
Stanford Ranch Road	100'	N/A	50'
Washington Boulevard	100'	50'	50'
Collector Streets			
Collectors A, B and C	60'	25'	25'
Collector D	60'	N/A	30'
Diamond Oaks Boulevard*	54'	25'	25'
Gibson Dr.	54'	N/A	30'
Collector E and Other Non-Residential Collector	54'	N/A	30'

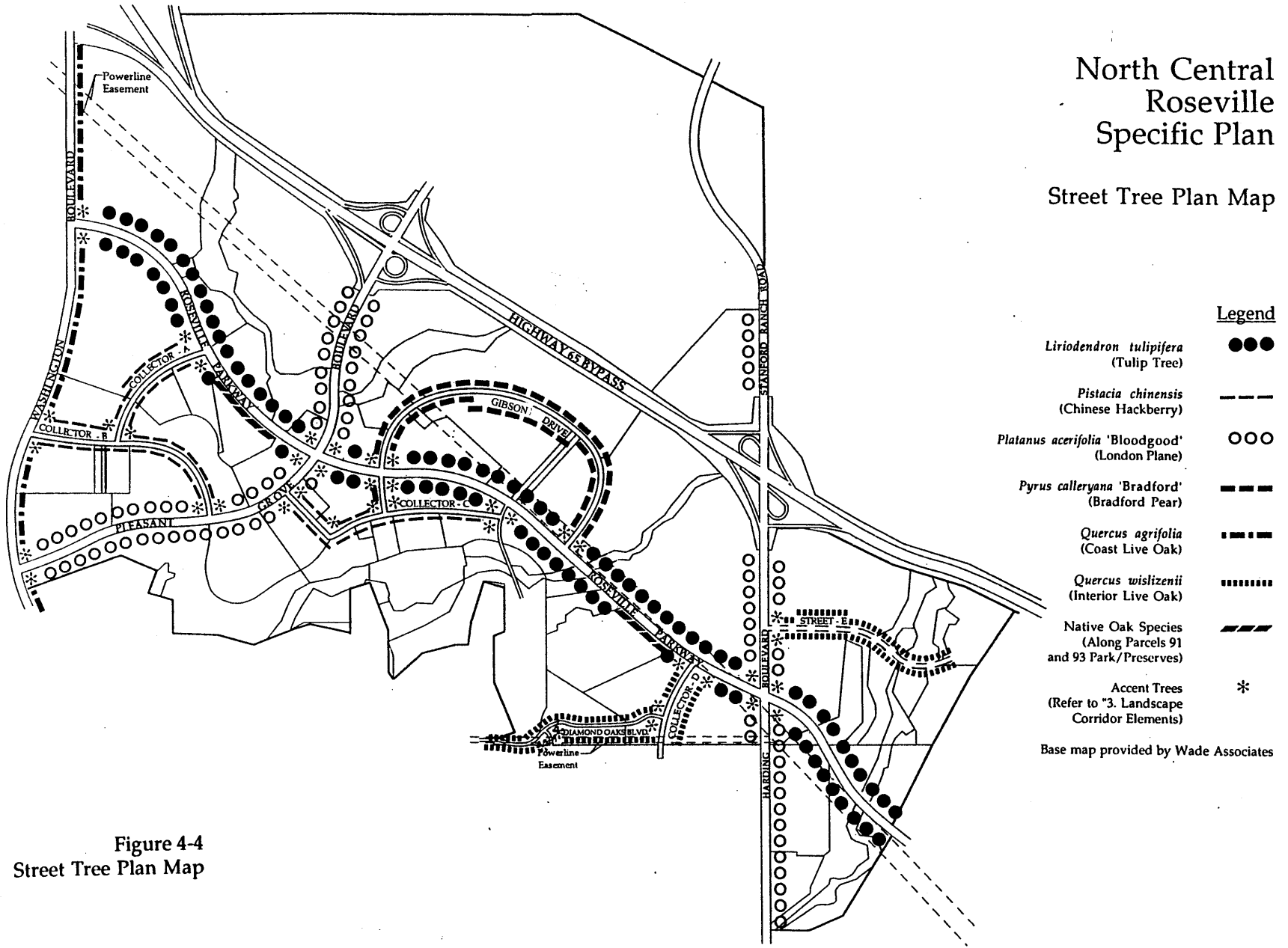
* The landscape corridor along Diamond Oaks Blvd. adjacent to single family uses will only apply to those locations where units do not directly front the roadway.

This chart was taken from the NCRSP, Table 5-1.

4-4 Specific Street Criteria

North Central Roseville Specific Plan

Street Tree Plan Map



Legend

- Liriodendron tulipifera* (Tulip Tree) ●●●
- Pistacia chinensis* (Chinese Hackberry) - - -
- Platanus acerifolia* 'Bloodgood' (London Plane) ○○○
- Pyrus calleryana* 'Bradford' (Bradford Pear) - - - -
- Quercus agrifolia* (Coast Live Oak) - - - - -
- Quercus wislizenii* (Interior Live Oak) ·····
- Native Oak Species (Along Parcels 91 and 93 Park/Preserves) // / / /
- Accent Trees (Refer to "3. Landscape Corridor Elements") *

Base map provided by Wade Associates

Figure 4-4
Street Tree Plan Map

Harding Boulevard

Right-of-way: 100'

Specialized Areas:

Parcel 69 Electric Substation - Refer to "6.2 Electric Substation" for guidelines.

Powerline easement and underground utilities. Consult engineers' plans to verify locations and widths of all public utilities. Refer to "6.7 Public Utilities Easements".

Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 50'

Pedestrian/Bicycle Path: 8' wide paths;

Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics:

Single row of street trees- Parcel 98b

Double row of street trees- Parcels 35, 36, 37 and 38

Street tree and subordinate trees- Parcels 63 and 69

Trees: Street- *Platanus acerifolia* 'Bloodgood' (London Plane)

Accent- Native oak species where required (see "3.4.b Accent Trees"). Otherwise refer to "5. Plant Lists/Matrixes" for a list of recommended trees.

Refer to "3. Landscape Corridor Elements" for guidelines.

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" on for recommended groundcovers.

Fence/Soundwall:

Commercial- None required;

Industrial- None required;

PG & E- None required;

Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Subordinate Trees-

Subordinate trees shall be used only the PG & E and industrial land uses.

Subordinate trees selected shall satisfy aesthetic and functional needs as discussed in "3.4 Subordinate Trees".

As per "3.4.a Subordinate Trees", because street tree is deciduous, 70% of subordinate trees shall be evergreen and 30% shall be deciduous.

A list of subordinate trees for Harding Boulevard is presented below. Refer to "5. Plant Lists/Matrixes" for additional information.

Alnus cordata (Italian Alder)

Cedrus deodara (Deodar Cedar)

Pinus thunbergii (Japanese Black Pine)

Sequoia sempervirens (Coast Redwood)

Lighting:

Type: Expressway Luminaire

Spacing: 150' - 175' O. C.

Distance from back of curb: 18' - 21' as specified

Medians:

14' wide

Liquidamber styraciflua 'Palo Alto' (Sweet Gum), except where accent trees are designated, with low-growing shrubs.

Accent tree species to be same as those within the corridor, unless as specified to be native oak species (see "6.4 Medians").

Refer to "5. Plant Lists/Matrixes" for selection of low-growing shrubs.

Refer to "6.4 Medians" for additional information.

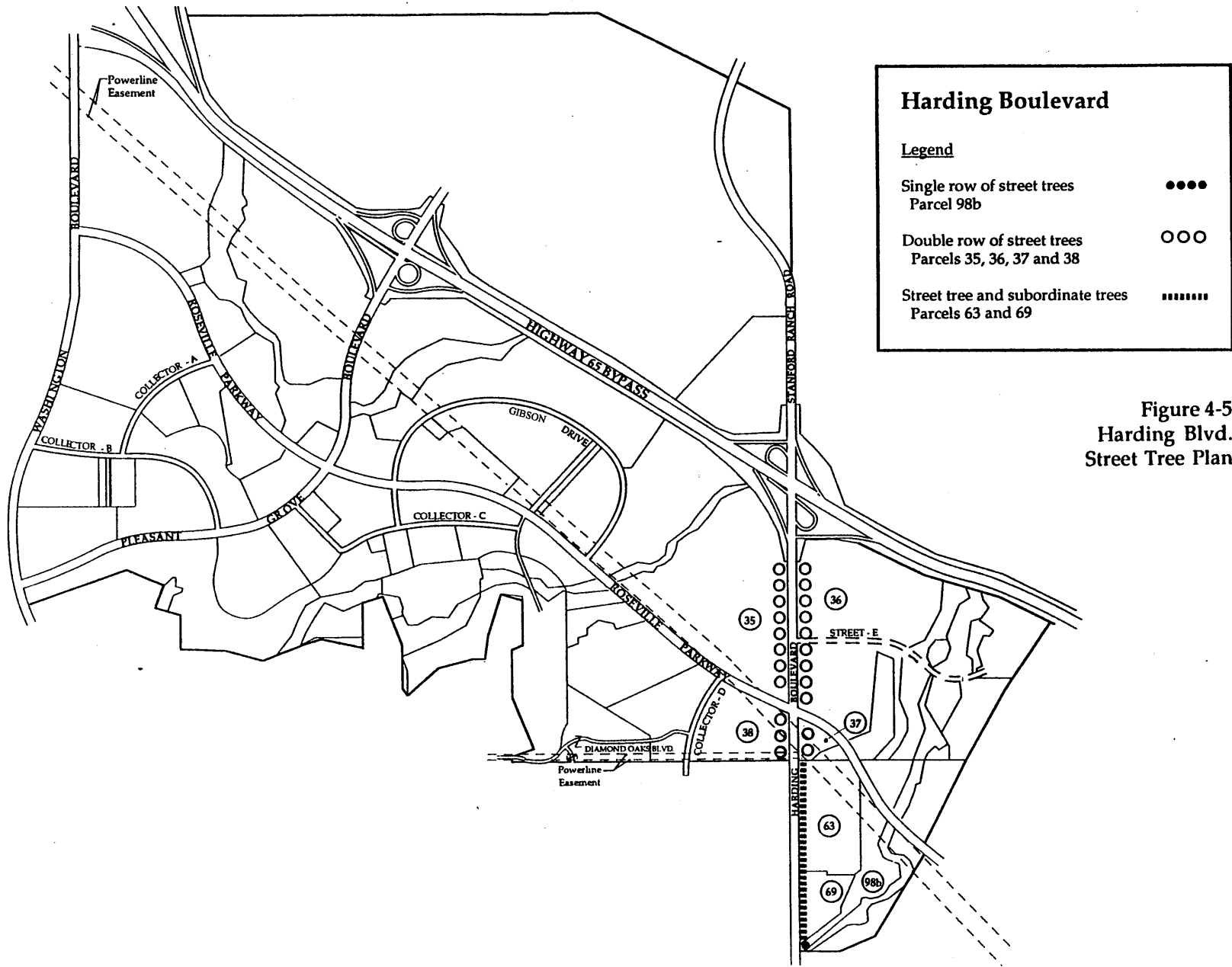


Figure 4-5
Harding Blvd.
Street Tree Plan

Pleasant Grove Boulevard

Right-of-Way: 100'

Specialized Areas:

Powerline Easement and underground utilities. Consult engineers' plans to verify locations and widths of all public utilities. Refer to "6.7 Public Utilities Easements".

Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 35' along single-family land use;
50' along multi-family and other land uses;

Pedestrian/Bicycle Path: 8' wide paths;
Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics:
Single row of street trees- Parcels 83 and 84
Double row of street trees- Parcels 30, 31, 32, 41, 43, and 48
Street trees and subordinate trees- Parcels 2-5, 8, 15 and 24

Tree: Street- *Platanus acerifolia* (London Plane)
Accent- Native oak species where required (see "3.4.b Accent Trees"). Otherwise refer to "5. Plant Lists/Matrixes" for a list of recommended trees.

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Fence/Soundwall:
Commercial- None required;
Multi-family residential- Optional soundwall or wood fence;
Open spaces- Low or open perimeter fence;
Single-family residential- Soundwall;
Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Subordinate Trees:

Subordinate trees shall be used only along multi-family and single-family residential land uses.

Subordinate trees to be selected shall satisfy aesthetic and functional needs as discussed in "3.4.a Subordinate Trees".

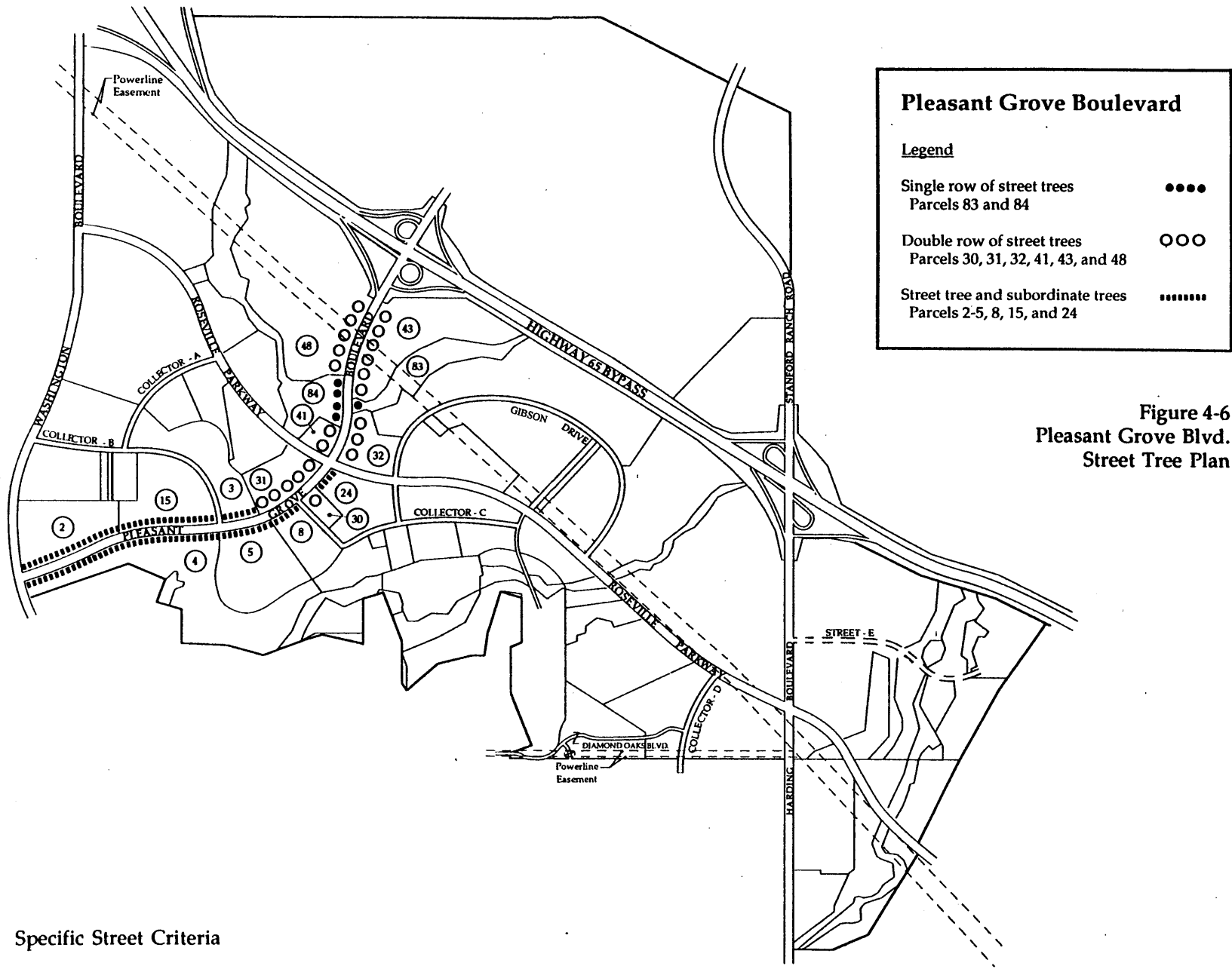
As per "3.4.a Subordinate Trees", because street tree is deciduous, 70% of subordinate trees shall be evergreen and 30% shall be deciduous.

A list of subordinate trees for Pleasant Grove Boulevard is presented below. Refer to "5. Plant Lists/Matrixes" for additional information.

Alnus cordata (Italian Alder)
Cedrus deodara (Deodar Cedar)
Lagerstroemia indica 'Red' (Crape Myrtle)
Pinus halepensis (Aleppo Pine)
Sequoia sempervirens (Coast Redwood)

Lighting: Type: Expressway Luminaire
Spacing: 150' - 175' O. C.
Distance from back of curb: 18' - 21' as specified

Medians: 14' wide
Pyrus calleryana 'Aristocrat' (Aristocrat Pear), except where accent trees are designated, with low-growing shrubs.
Accent tree species to be same as those within the corridor, unless as specified to be native oak species (see "6.4 Medians").
Refer to "5. Plant Lists/Matrixes" for selection of low-growing shrubs.
Refer to "6.4 Medians" for additional information.



Pleasant Grove Boulevard

Legend

Single row of street trees
Parcels 83 and 84 ●●●●

Double row of street trees
Parcels 30, 31, 32, 41, 43, and 48 ○○○

Street tree and subordinate trees
Parcels 2-5, 8, 15, and 24

Figure 4-6
Pleasant Grove Blvd.
Street Tree Plan

Roseville Parkway

Right-of-way: 100'

Specialized Areas:

Powerline easement and underground utilities. Consult engineers' plans to verify locations and widths of all public utilities. Refer to "6.7 Public Utilities Easements".

Refer to "6. Specialized Areas" for additional special guidelines on landscape treatment.

Landscape Corridor: 50'

Pedestrian/Bicycle Path: 8' wide paths;

Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics:

Single row of street trees- Parcels 51, 52, 54a-b, 56, 82, 84, 85, 86, 88, 91, 93, 95, 96, 98a, 98b, 98d and 98e

Double row of street trees- Parcels 24, 31, 32, 35, 36, 37, 38, 39a, 40, 41, 44 and 49

Street tree and subordinate trees- Parcels 1, 20, 21, 25-28, 61 and 63

Tree: Street- *Liriodendron tulipifera* (Tulip Tree), except along Parcels 91 and 93 Park/Preserves where native oak species shall be planted.

Accent- Native oak species where required (see "3.4.b Accent Trees"). Otherwise refer to "5. Plant Lists/Matrixes" for a list of recommended trees.

Refer to "3. Landscape Corridor Elements" for guidelines.

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Subordinate Trees:

Subordinate trees shall be used only along multi-family, single-family residential and fire station land uses.

Subordinate trees shall satisfy aesthetic and functional needs as discussed in "3.4.a Subordinate Trees".

As per "3.4.a Subordinate Trees", because street tree is deciduous, 70% of subordinate trees shall be evergreen and 30% shall be deciduous.

A list of subordinate trees for Roseville Parkway is presented below. Refer to "5. Plant Lists/Matrixes" for additional information.

Alnus cordata (Italian Alder)

Cedrus deodara (Deodar Cedar)

Pinus halepensis (Aleppo Pine)

Quercus agrifolia (Coast Live Oak)

Sequoia sempervirens (Coast Redwood)

Fence/Soundwall:

Commercial- None required;

Multi-family residential- Optional soundwall or wood fence;

Open spaces- Low or open perimeter fence;

Single-family residential- Soundwall;

Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Lighting:

Type: Expressway Luminaire

Spacing: 150' - 175' O. C.

Distance from back of curb: 18' - 21' as specified

Medians:

38' wide west of Pleasant Grove Boulevard and 14' wide east of Pleasant Grove Boulevard.

West of Pleasant Grove Boulevard:

50% *Betula jacquemontii* (Birch) and 50% *Pyrus calleryana* 'Bradford' (Bradford Pear) with legume (*Trifolium repens*).

East of Pleasant Grove Boulevard:

25% *Betula jacquemontii* (Birch) and 75% *Pyrus calleryana* 'Bradford' (Bradford Pear) with low-growing shrubs. Accent trees to be native oak species where required (see "6.4 Medians"). Otherwise accent trees are to be same as those within the corridor. Refer to "6.4 Medians" for additional information.

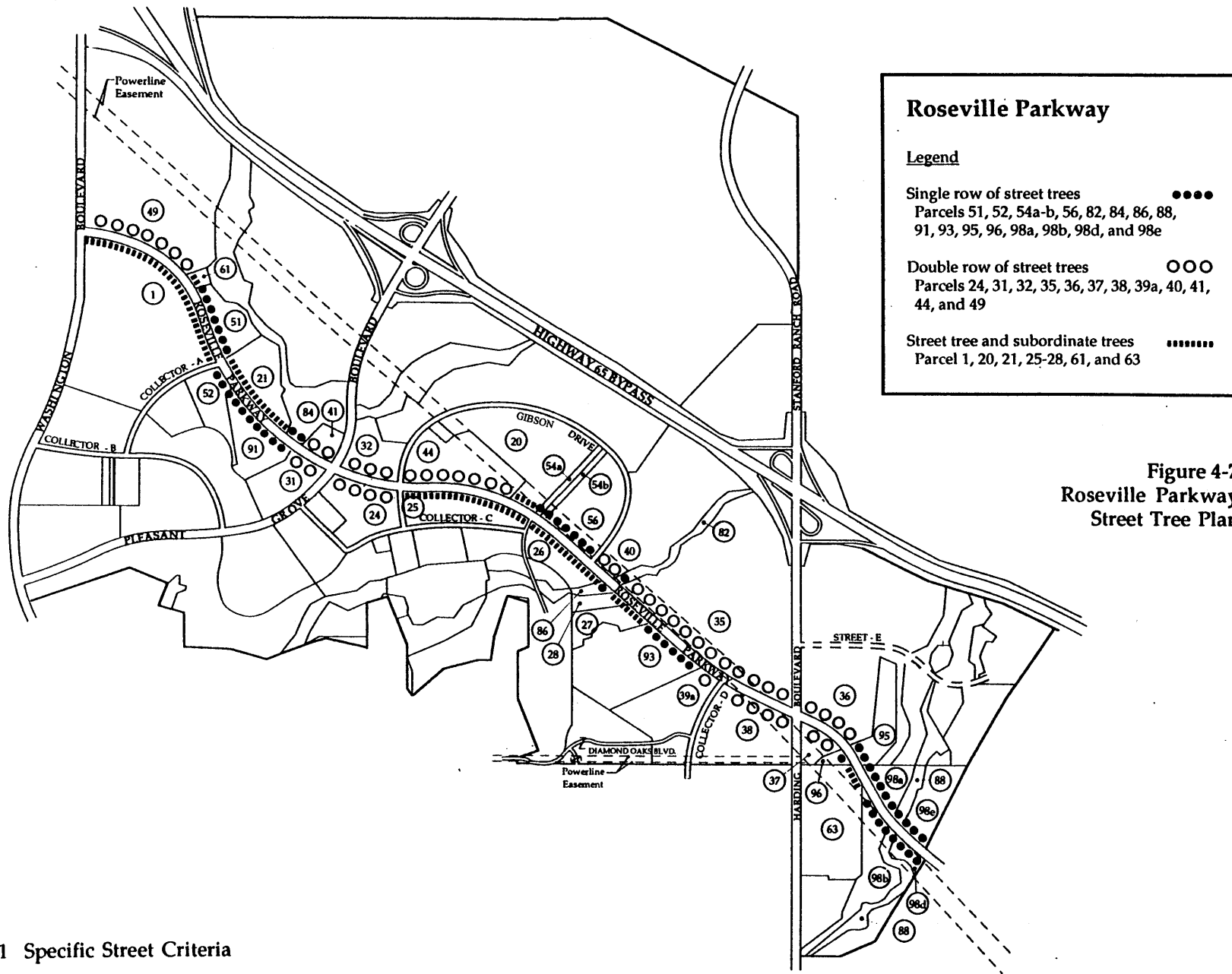


Figure 4-7
Roseville Parkway
Street Tree Plan

Stanford Ranch Road

Right-of-way: 100'

Specialized Areas:

Consult engineers' plans to verify locations and widths of all public utilities. Refer to "6.7 Public Utilities Easements".
Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 50' along Parcel 34 (commercial land use) only;

Pedestrian/Bicycle Path: 8' wide path;

Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics: Double row of street trees- Parcel 34

Trees: Street- *Platanus acerifolia* 'Bloodgood' (London Plane)
Accent- Refer to "5. Plant Lists/Matrixes" for a list of recommended trees.
Refer to "3. Landscape Corridor Elements" for guidelines.

Subordinate Trees: None

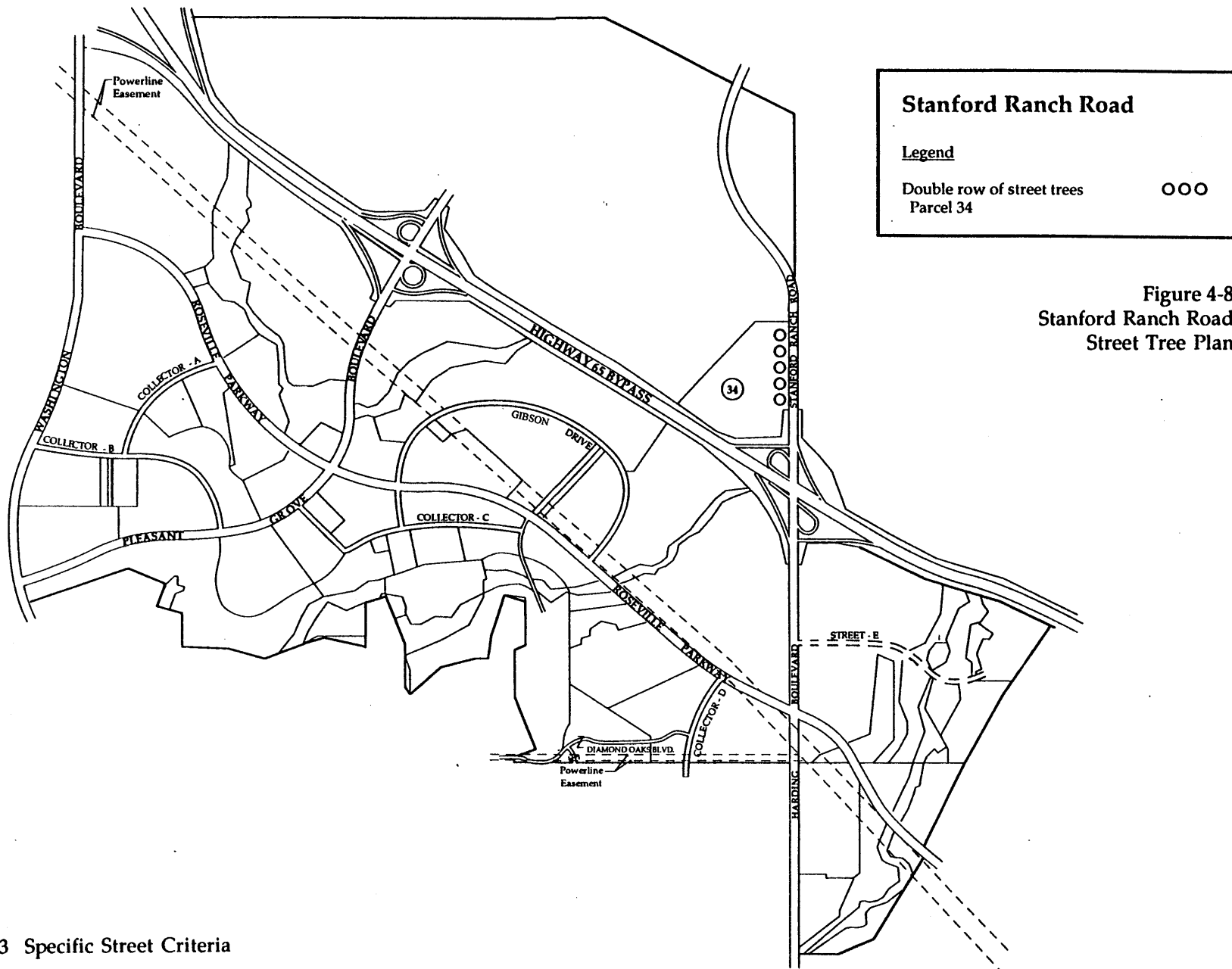
Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Fence/Soundwall: Commercial- None required;

Lighting: Type: Expressway Luminaire
Spacing: 150' - 175' O.C.
Distance from back of curb: 18' - 21' as specified

Medians: 14' wide
Liquidamber styraciflua 'Palo Alto' (Sweet Gum) with low-spreading shrubs.
Accent trees to be same as those within the corridor.
Refer to "5. Plant Lists/Matrixes" for selection of low-growing shrubs.
Refer to "6.4 Medians" for additional information.



Washington Boulevard

Right-of-Way: 100'

Specialized Areas:

Powerline easement and underground utilities. Consult engineers' plans to verify locations and widths of all public utilities.

Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 50' along the east side;

Pedestrian/Bicycle Path: 8' wide path;

Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics: Single row of street trees- Parcel 73
Double row of street trees- Parcel 49
Street tree and subordinate trees- Parcels 1, 2, 4 and 14

Tree: Street- *Quercus agrifolia* (Coast Live Oak)
Accent- Native oak species where required (see "3.4.b Accent Trees"). Otherwise refer to "5. Plant Lists/Matrixes" for a list of recommended trees.
Refer to "3. Landscape Corridor Elements" for guidelines.

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Subordinate Trees:

Subordinate trees shall be used only along multi-family and single-family residential land uses.

Subordinate trees shall satisfy aesthetic and functional needs as discussed in "3.4.a Subordinate Trees".

As per "3.4.a Subordinate Trees", because street tree is evergreen, 50% of subordinate trees shall be evergreen and 50% shall be deciduous.

A list of subordinate trees for Washington Boulevard is presented below. Refer to "5. Plant Lists/Matrixes" for additional information.

Alnus cordata (Italian Alder)
Cedrus deodara (Deodar Cedar)
Lagerstroemia indica 'White' (Crape Myrtle)
Pinus halepensis (Aleppo Pine)
Sequoia sempervirens (Coast Redwood)

Fence/Soundwall:

Commercial- None required;
Multi-family residential- Optional soundwall or wood fence;
Single-family residential- Soundwall;
Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Lighting: Type: Expressway Luminaire
Spacing: 150' - 175' O. C.
Distance from back of curb: 18' - 21' as specified

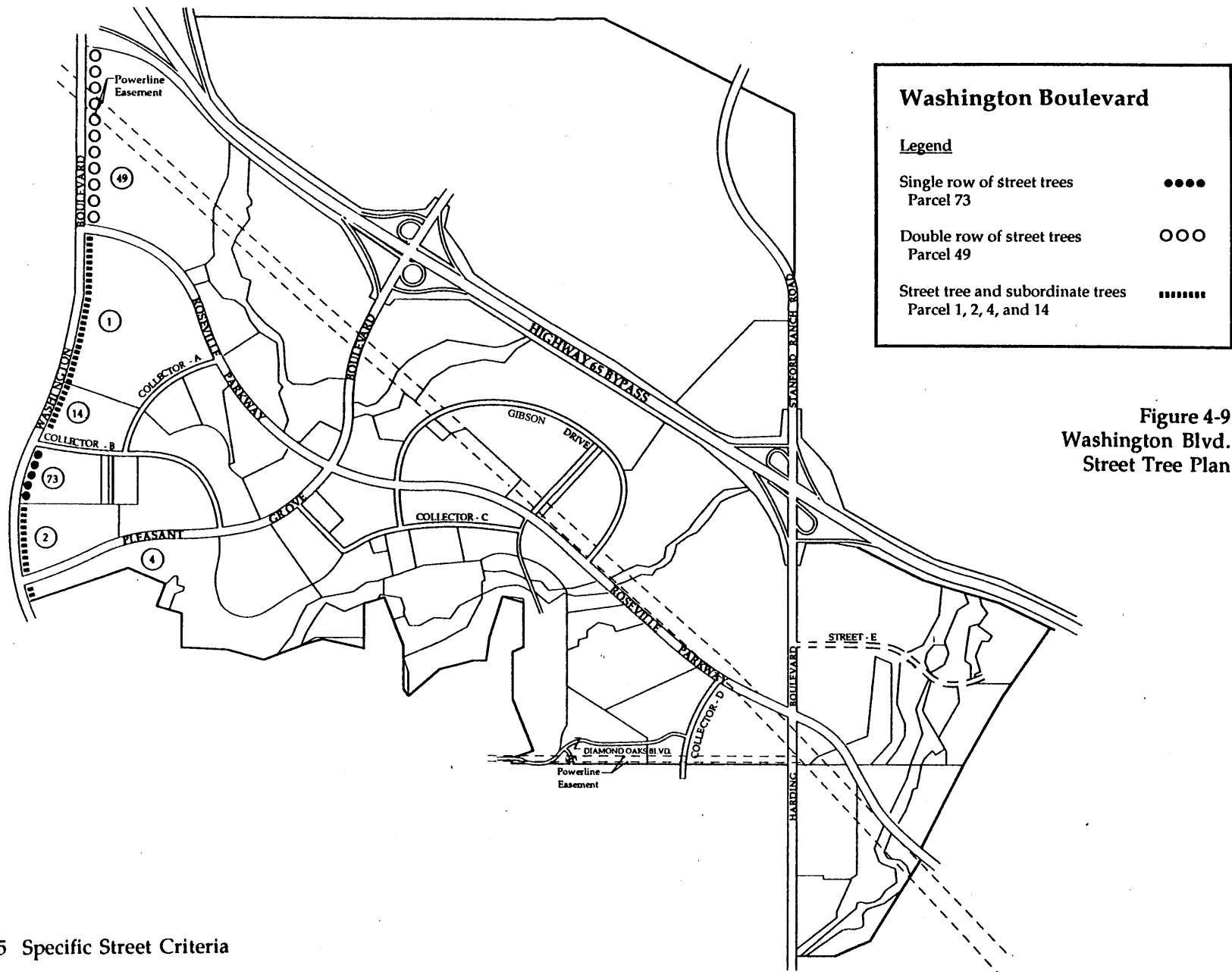


Figure 4-9
Washington Blvd.
Street Tree Plan

Collectors A, B and C

Right-of-way: 60'

Specialized Areas:

Consult engineers' plans to verify locations and widths of all public utilities. Refer to "6.7 Public Utilities Easements".
Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 25'

Pedestrian/Bicycle Path:

5' wide paths separated from street curbs by a 5' planting strip;
Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics:

Single row of street trees- Parcels 47, 50a-d, 52, 53, 72, 73 and 74
Double row of street trees- Parcel 30
Street tree and subordinate trees-
Parcels 1, 3, 7, 8, 9, 14, 15, 24 and 25

Tree: Street- *Pistacia chinensis* (Chinese Pistache)
Accent- Native oak species where required (see "3.4.b Accent Trees"). Otherwise refer to "5. Plant Lists/Matrixes" for a list of recommended trees.
Refer to "3. Landscape Corridor Elements" for guidelines.

Subordinate Trees:

Subordinate trees shall be used only along multi-family and single-family residential land uses.
Subordinate trees have been selected to satisfy aesthetic and functional needs as discussed in "3.4.a Subordinate Trees".
As per "3.4.a Subordinate Trees", because street tree is deciduous, 70% of subordinate trees shall be evergreen and 30% shall be deciduous.

A list of subordinate trees for Collectors A, B and C is presented below. Refer to "5. Plant Lists/Matrixes" for additional information.

Collector A- *Cedrus atlantica* 'Glauca' (Atlas Cedar)
Celtis sinensis (Chinese Hackberry)
Pinus thunbergii (Japanese Black Pine)
Sapium sebiferum (Chinese Tallow Tree)

Collector B- *Alnus cordata* (Italian Alder)
Cedrus atlantica 'Glauca' (Atlas Cedar)
Celtis sinensis (Chinese Hackberry)
Pinus thunbergii (Japanese Black Pine)

Collector C- *Cedrus atlantica* 'Glauca' (Atlas Cedar)
Celtis sinensis (Chinese Hackberry)
Pinus thunbergii (Japanese Black Pine)
Sapium sebiferum (Chinese Tallow Tree)

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Fence/Soundwall:

Commercial- None required;
Multi-family residential- Optional soundwall or wood fence;
Park, Park Preserve, School- None required;
Single-family residential- Soundwall;
Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Lighting: Type: Street Light Standard
Spacing: 150' - 175' O. C.
Distance from back of curb: 4'

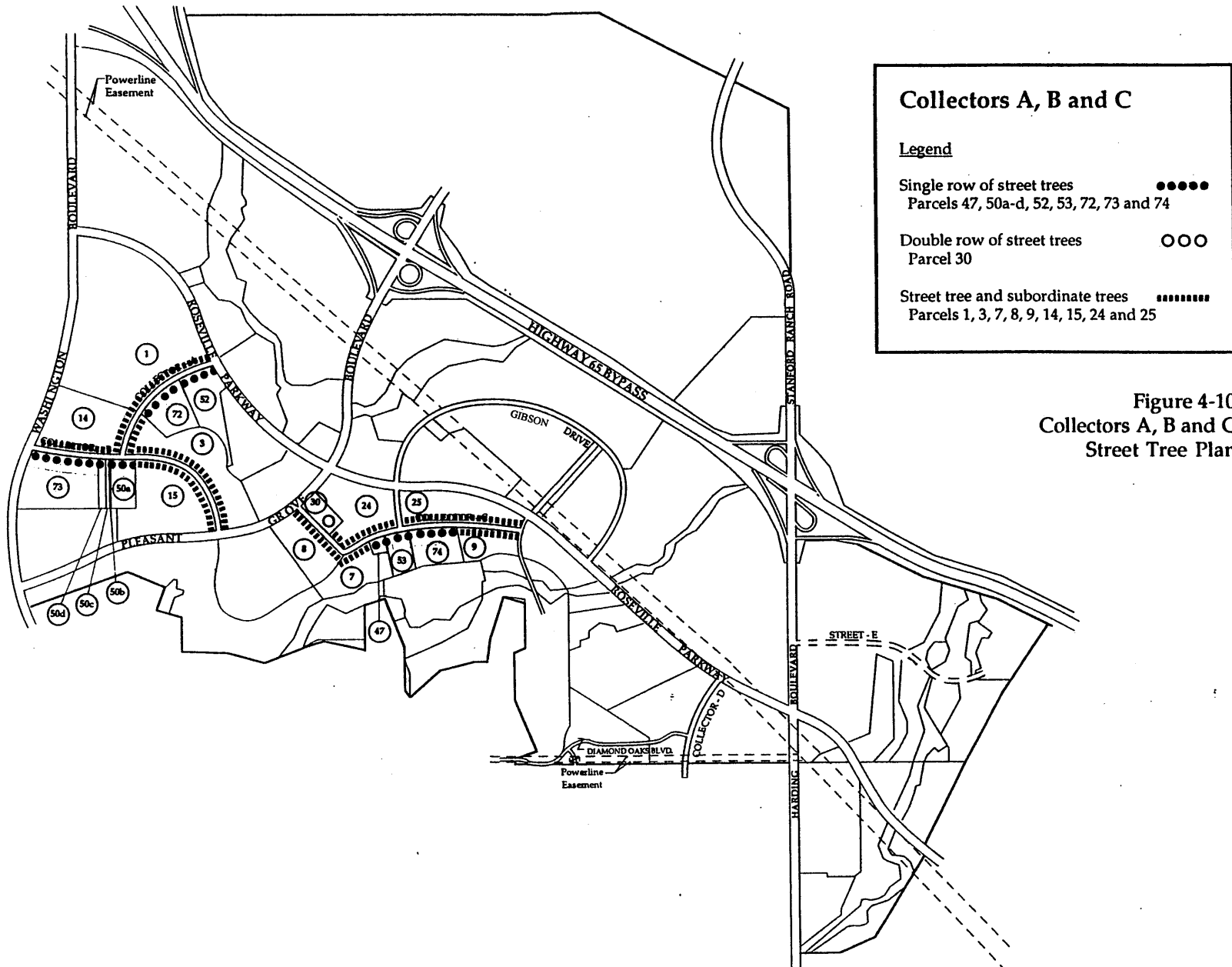


Figure 4-10
 Collectors A, B and C
 Street Tree Plan

Collector D

Right-of-way: 60'

Specialized Areas:

Consult engineers' plans to verify locations and widths of all public utilities. Refer to "6.7 Public Utilities Easements".
Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 30'

Pedestrian/Bicycle Path:

8' wide paths separated from street curbs by a 5' planting strip;
Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics:

Double row of street trees- Parcels 38, 39a and 39b

Tree:

Street- *Quercus wislizenii* (Interior Live Oak)
Accent- Native oak species where required (see "3.4.b Accent Trees"). Otherwise refer to "5. Plant Lists/Matrixes" for a list of recommended trees.
Refer to "3. Landscape Corridor Elements" for guidelines.

Subordinate Trees: None

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Fence/Soundwall:

Commercial- None required;
Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Lighting:

Type: Street Light Standard
Spacing: 150' - 175' O. C.
Distance from back of curb: 4'

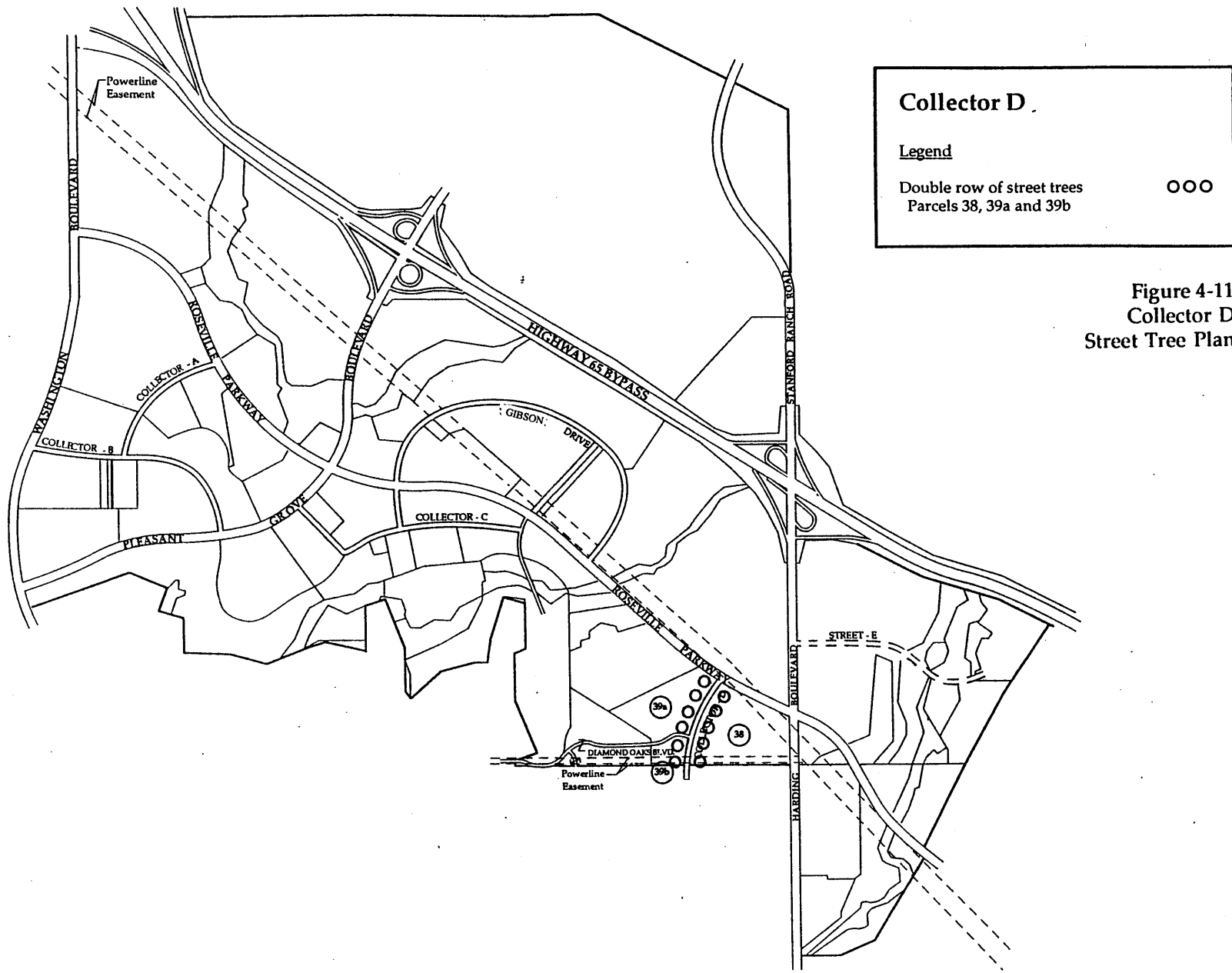


Figure 4-11
Collector D
Street Tree Plan

Collector E

Right-of-way: 54'

Specialized Areas:

Consult engineers' plans to verify locations and widths of all public utilities. Refer to 6.7 Public Utilities Easements".

Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 30'

Pedestrian/Bicycle Path:

8' wide paths separated from street curbs by a 5' planting strip;
Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics:

Single row of street trees- Parcels 57, 85 and 97

Double row of street trees- Parcels 33, 36 and 46

Street tree and subordinate trees- Parcels 22 and 23

Tree: Street- *Quercus wislizenii* (Interior Live Oak)
Accent- Refer to "5. Plant Lists/Matrixes" for a list of recommended trees.
Refer to "3. Landscape Corridor Guidelines" for guidelines.

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Subordinate Trees:

Subordinate trees shall be used only along multi-family residential land uses.

Subordinate trees shall satisfy aesthetic and functional needs as discussed in "3.4.a Subordinate Trees".

As per "3.4.a Subordinate Trees", because street tree is evergreen, 50% of subordinate trees shall be evergreen and 50% shall be deciduous.

A list of subordinate trees for Collector E is presented below.
Refer to "5. Plant Lists/Matrixes" for additional information.

Alnus cordata (Italian Alder)

Cedrus atlantica 'Glauca' (Atlas Cedar)

Platanus acerifolia 'Bloodgood' (London Plane)

Quercus agrifolia (Coast Live Oak)

Fence/Soundwall:

Commercial- None required;

Multi-family residential- Optional soundwall or wood fence;

Park, Park Preserve, School- None required;

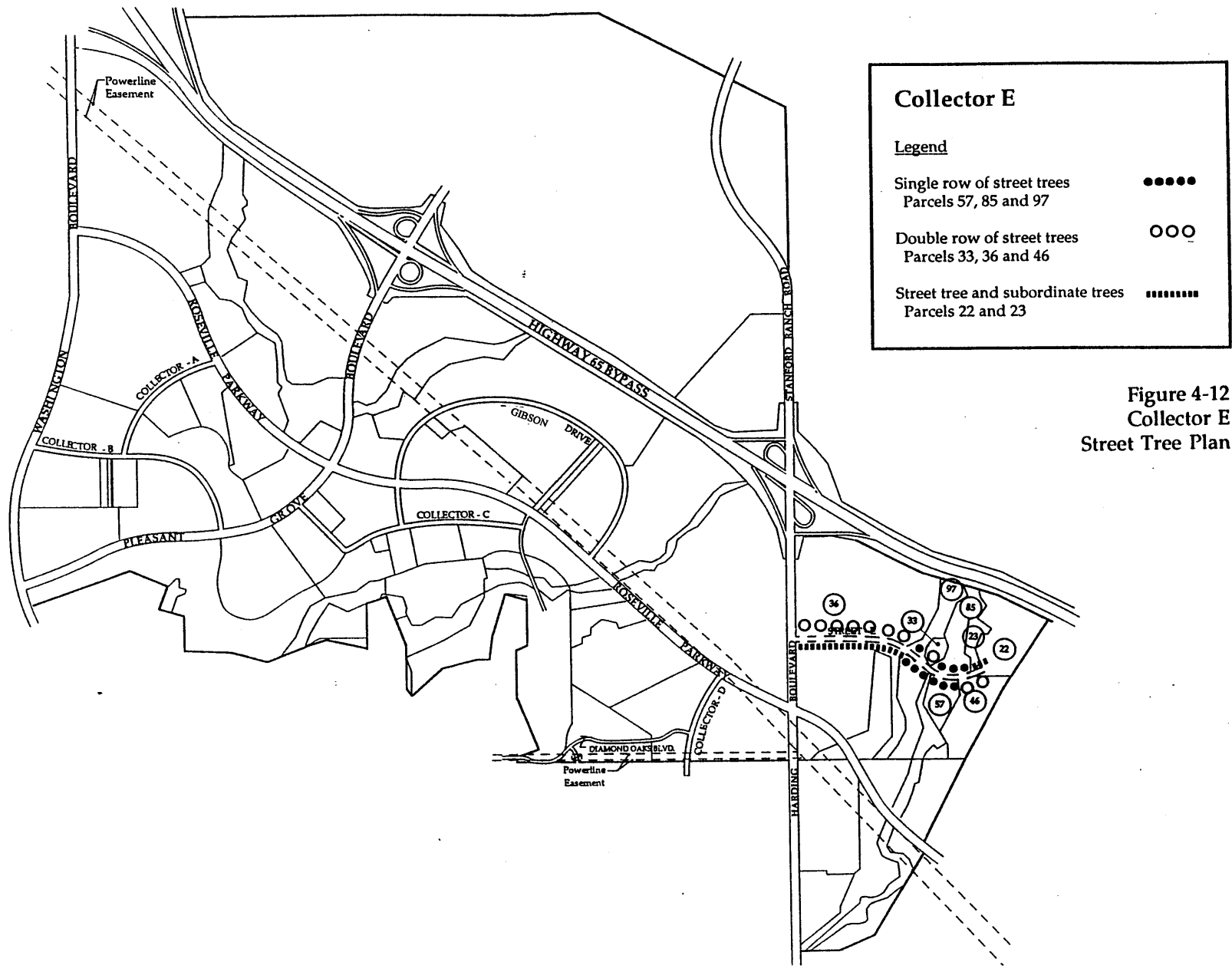
Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Lighting:

Type: Street Light Standard

Spacing: 150' - 175' O. C.

Distance from back of curb: 4'



Collector E

Legend

Single row of street trees
Parcels 57, 85 and 97 ●●●●●

Double row of street trees
Parcels 33, 36 and 46 ○○○

Street tree and subordinate trees
Parcels 22 and 23 ●●●●●●●

Figure 4-12
Collector E
Street Tree Plan

Diamond Oaks Boulevard

Right-of-Way: 54'

Specialized Areas:

Consult engineers' plans to verify locations and widths of all public utilities. Refer to "6.7 Public Utilities Easements".

Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 25'

Note: The landscape corridor along Diamond Oaks Blvd. adjacent to single family uses will only apply to those locations where units do not directly front the roadway. Otherwise apply design characteristics as per Section 1.2.

Pedestrian/Bicycle Path:

5' wide paths separated from street curbs by a 5' planting strip; Refer to "3.9 Pedestrian/Bicycle Paths" for additional information.

Design Characteristics:

Double row of street trees- Parcels 39a and 39b

Street tree and subordinate trees- Parcels 12 and 13

Tree: Street- *Quercus wislizenii* (Interior Live Oak)

Accent- Native oak species where required (see "3.4.b Accent Trees"). Otherwise refer to "5. Plant Lists/Matrixes" for a list of recommended trees.

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Subordinate Trees:

Subordinate trees shall be used only along single-family residential land uses.

Subordinate trees shall satisfy aesthetic and functional needs as discussed in "3.4.a Subordinate Trees".

As per "3.4.a Subordinate Trees", because street tree is evergreen, 50% of subordinate trees shall be evergreen and 50% shall be deciduous.

A list of subordinate trees for Diamond Oaks Boulevard is presented below. Refer to "5. Plant Lists/Matrixes" for additional information.

Cedrus atlantica 'Glauca' (Atlas Cedar)

Platanus acerifolia 'Bloodgood' (London Plane)

Quercus agrifolia (Coast Live Oak)

Sapium sebiferum (Chinese Tallow Tree)

Fence/Soundwall:

Commercial- None required;

Single-family residential- Soundwall;

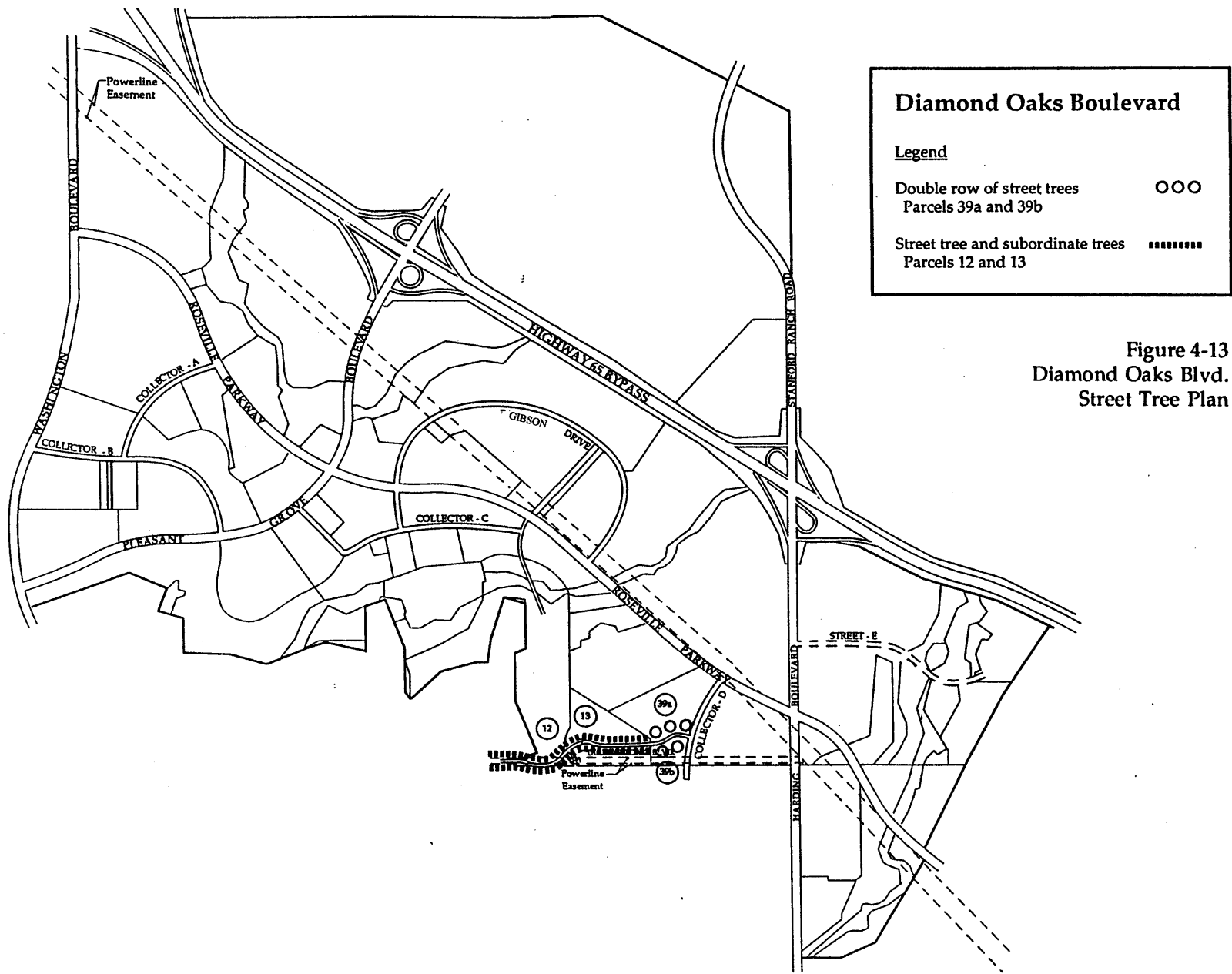
Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Lighting:

Type: Street Light Standard

Spacing: 150' - 175' O. C.

Distance from back of curb: 4'



Gibson Drive

Right-of-way: 54'

Specialized Areas:

Parcel 62 Electric Substation - Refer to "6.2 Electric Substation" for guidelines.

Powerline easement and underground utilities. Consult engineers' plans to verify locations and widths of all public utilities. Refer to "6.7 Public Utilities Easements".

Refer to "6. Specialized Areas" for additional special landscape treatment guidelines.

Landscape Corridor: 30'

Pedestrian/Bicycle Path:

8' wide paths separated from street curbs by a 5' planting strip; Refer to "3.9 Pedestrian/Bicycle Path" for additional information.

Design Characteristics:

Single row of street trees- Parcels 54a, 54b and 56

Double row of street trees- Parcels 32, 40, 42 and 44

Street tree and subordinate trees- Parcels 20, 24, 25 and 62

Tree: Street- *Pyrus calleryana* 'Bradford' (Flowering Pear)
Accent- Refer to "3.4.b Accent Trees" for a list of recommended trees.
Refer to "3. Landscape Corridor Elements" for additional information.

Shrubs: Refer to "3.4.c Shrubs" for guidelines and "5. Plant Lists/Matrixes" for recommended shrubs.

Groundcover: Refer to "3.5 Lawn, Groundcover and Mulch" for guidelines and "5. Plant Lists/Matrixes" for recommended groundcovers.

Subordinate Trees:

Subordinate trees shall be used only along multi-family residential and the electric substation land uses.

Subordinate trees shall satisfy aesthetic and functional needs as discussed in "3.4.a Subordinate Trees".

As per "3.4.a Subordinate Trees", because street tree is deciduous, 70% of subordinate trees shall be evergreen and 30% shall be deciduous.

A list of subordinate trees for Eastpark Drive is presented below. Refer to "5. Plant Lists/Matrixes" for additional information.

Cedrus deodara (Deodar Cedar)

Liriodendron tulipifera (Tulip Tree)

Platanus acerifolia 'Bloodgood' (London Plane)

Sequoia sempervirens (Coast Redwood)

Fence/Soundwall:

Commercial- None required;

Multi-family residential- Optional soundwall or wood fence;

Park and Park Reserve- None required;

Refer to "3.8 Soundwalls and Wood Fences" for additional information.

Lighting: Type: Street Light Standard
Spacing: 150' - 175' O. C.
Distance from back of curb: 4'

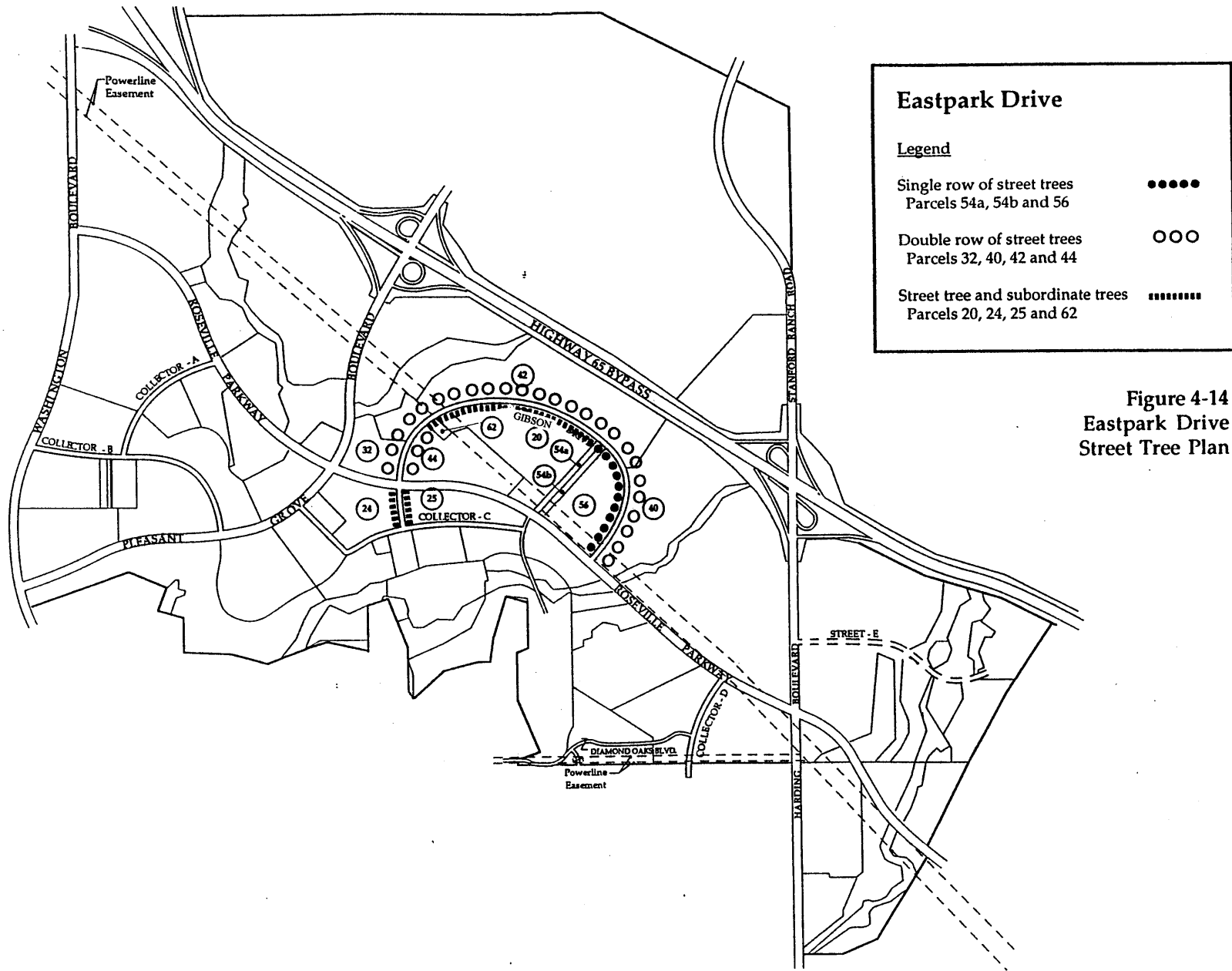


Figure 4-14
Eastpark Drive
Street Tree Plan

Chapter 5.

Plant Lists/Matrixes

Evergreen Trees
Deciduous Trees
Accent Trees
Large Stature Shrubs
Medium Stature Shrubs
Small Stature Shrubs
and Woody Groundcovers
Herbaceous Groundcovers
Vines
Perennials
Turf Selection

Plant Lists/Matrixes

The following list of plants are recommended, but not exclusively. Additional plants to be proposed may be submitted and are subject to review by the City of Roseville Planning Department.

Following is an explanation of each column included in the lists/matrixes:

Comments

Miscellaneous comments pertaining to significant problems, maintenance considerations or other cultural factors.

Disease and Pest Problems

Brief descriptions of significant insect or disease problems. Trees susceptible to recurring problems are likely to have high maintenance costs.

Minimum Required Soil Depth (SD)

The required soil depth to sustain healthy growth and string structural stability. Intended as a guideline for plantings requiring import soils in shallow soil areas.

Relative Drought Tolerance

Tree- A subjective rating of the species based upon relative drought tolerance. "5" indicates very high drought tolerance, while "1" indicates high water requirements. Most ornamental plants described as drought tolerant fall into the 3 or 4 category.

Shrub- Kc is the plant (technically "crop") coefficient that refers to the estimated percentage of reference evapotranspiration (ET_o) that a particular species needs to maintain minimum health. Depending on the plant type and relative tolerance to drought, Kc rates may range from 20% to 150% of ET_o. For example, a plant species with an Kc of 0.2 is more drought tolerant than another species with an Kc of 0.8. For a more thorough discussion of drought tolerance, see "3. Landscape Corridor Elements."

Salinity Tolerance (ST)

Tertiary-treated reclaimed water may be available for irrigation use in the future. These effluent waters are often high in salts which may accumulate to levels intolerable to many plant species. For this reason, each plant listed has been subjectively rated for its salt tolerance, which offers a general understanding of a plant's adaptability to reclaimed water. "+" indicates a relatively high tolerance level. "-" indicates a relatively low tolerance level. "?" indicates a questionable tolerance level due to conflicting data. A blank space indicates an unknown tolerance level.

It must be noted that the following list of plants is based on general salinity figures and a full salinity analysis is essential for the precise selection. Other toxins, such as boron, chloride, and sodium, may be present in the reclaimed water supply and should also be considered in the plant selection.

Shallow or Invasive Roots

"Yes" indicates trees known to have shallow and/or invasive roots. These trees often cause damage to nearby sidewalks, curbs or other structures, including drainage lines. Trees with shallow and/or invasive roots planted 5' from concrete walks or within a 5' wide planting strip are to include root barriers.

Shape, Height and Spread

Specific description of mature canopy silhouette and typical height and spread.

Smog Tolerance

A rating of trees based upon tolerance to ozone as reported in Diseases of Trees and Shrubs, by Sinclair, Lyon and Johnson. "?" indicates unknown tolerance. Symptoms appear on sensitive trees at average daytime concentrations of 0.05 ppm or when hourly concentrations exceeds 0.1 ppm.

Stature

Refers to the relative size of the tree selection. Generally trees growing over 40 feet are considered large species. A 30 to 40 foot height is regarded as medium stature and less than 30 foot is small.

Structure Characteristics

Notes describing general branching characteristics:

Good- denotes no significant problems given proper pruning

Poor- Trees with consistent problems difficult to correct
Requires Training- Some species are capable of good structure, but require knowledgeable pruning to establish structure

Variable- Indicates variability in the species and requires careful selection

Brittle- Trees are known to be subject to branch breakage

Miscellaneous- Trees with special characteristics, such as pendulous habit or an open branch pattern

Turf Suitability

A general rating of a tree's ability to tolerate lawn conditions, assuming there is adequate sub-surface drainage.

Plant Lists/Matrixes:

Evergreen Trees
Deciduous Trees

The following list of plants are recommended, but not exclusively. Additional plants to be proposed may be submitted and are subject to review by the City of Roseville Planning Department.

Botanical Name	Stature	Shape, Height and Spread	Structure Characteristics	SD	Relative Drought Tolerance	Turf Suitability	ST	Smog Tolerance	Disease and Pest Problems	Shallow or Invasive Roots	Comments
Evergreen Trees											
Calocedrus decurrens	Large	Pyramidal 60'/35'	Good	36"	4	*Poor	-	Tolerant	Subject to decline when drought stressed.	No	Allow sufficient room and soil volume to sustain long term growth.
Cedrus atlantica 'Glauca'	Large	Broad-pyramidal 60'/30'	Good	36"	4	Moderate	-	?	Few insect or disease problems.	No	Allow sufficient room for large stature.
Cedrus deodora	Large	Broad-pyramidal 80'/40'	Good	36"	4	Moderate	-	?	Few insect or disease problems.	No	Allow sufficient room for large stature.
Cinnamomum camphora	Large	Broad-global 50'/60'	Good	36"	3	Moderate	+	?	Occasionally anthracnose and Verticillium wilt are problems.	*Yes	Shallow rooting is primary problem.
Cupressus sempervirens	Medium	Columnar 30'/10'	Good	24"	4	Poor	-	?	Susceptible to Seridium canker if stressed.	No	More appropriate in narrow planting areas.
Laurus 'Saratoga'	Medium	Pyramidal 40'/25'	Good	24"	4	*Poor	-	?	Few insect or disease problems.	No	Relatively new introduction. Initial performance is good.
Magnolia grandiflora 'Majestic Beauty'	Large	Broad-pyramidal 50'/35'	Dense structure	36"	3	Moderate	-	Tolerant	Few insect or disease problems.	*Yes	Shallow rooting and leaf and flower litter are primary issues.
Magnolia grandiflora 'Russet'	Medium	Broad-pyramidal 40'/35'	Good	24"	3	Moderate	-	Tolerant	Few insect or disease problems.	*Yes	Shallow rooting and leaf and flower litter are primary issues.
Magnolia grandiflora 'Samuel Sommer'	Medium	Broad-pyramidal 40'/35'	Open branch structure	24"	3	Moderate	-	Tolerant	Few insect or disease problems.	*Yes	Shallow rooting and leaf and flower litter are primary issues.
Olea europaea	Medium	Rounded 30'/30'	Good	24"	5	Poor	?	?	Susceptible to root rot; verticillium wilt; and olive knot when stressed.	No	Will stress in poorly drained soils. Messy fruit. Fruitless varieties available.
Pinus canariensis	Large	Broad-pyramidal 60'/60'	Good	36"	4	*Poor	-	Moderate	Irregular pine scale, needle blights and gall rust can occur.	*Yes	One of the most reliable pine species in California though susceptible to problems when stressed.
Pinus halepensis	Medium	Broad-procumbent 40'/40'	Variable	24"	4	*Poor	?	?	Irregular pine scale, needle blights and gall rust can occur.	No	Variable forms and habits; can be procumbent. Mondell pine may be better alternative.
Pinus thunbergiana	Large	Broad-conical 60'/40'	Variable	36"	3	*Poor	+	Tolerant	Irregular pine scale, needle blights and gall rust can occur.	No	One of the most reliable pine species in California though susceptible to problems when stressed.
Podocarpus gracilior	Medium	Rounded 40' X 40'	Good	24"	4	*Poor	-	?	Few insect or disease problems.	No	Podocarpus gracilior has been used extensively as a street tree in recent years and is doing well.
Quercus agrifolia	Large	Broad-global 50'/60'	Good	36"	5	*Poor	-	?	Branch die-back (Diplodia), foliar insects, witches' broom, and acorn drip.	No	Messy and high maintenance trees in high use areas.
Quercus ilex	Large	Pyramidal 50'/40'	Good	36"	4	Moderate	-	Moderate	Few problems except when subjected to drought stress.	No	Acorn litter is primary problem.
Quercus virginiana	Large	Rounded 50'/50'	Good	36"	3	Good	-	Moderate	Occasional foliar insects and diseases.	No	This tree has been performing well in hot sites and in turf. Acorn litter.
Quercus wislizenii	Large	Rounded 50'/50'	Good	36"	5	*Poor	-	?	Foliar insects and diseases. Root diseases if over-irrigated.	No	Foliar insects and acorn litter are maintenance issues.
Rhus lancea	Medium	Broad-global 30'/25'	Requires training	24"	4	Moderate	-	?	Few insect or disease problems.	No	Reliable tree in most situations. Irregular branch structure.
Schinus molle	Medium	Broad-global 40'/40'	Good	24"	4	*Poor	+	?	Pepper tree psyllid is recurring problem.	*Yes	Pepper tree psyllid issue should be considered. Shallow rooted and messy.
Sequoia sempervirens	Large	Pyramidal 80'/35'	Good	36"	2	Good	-	Tolerant	Few problems with adequate drainage and regular irrigation.	No	Allow sufficient room and soil volume to sustain long term growth. Seeds are staining.
Umbellularia californica	Large	Ovoid 50'/40'	Good	36"	4	*Poor	-	?	Scale on drought stressed trees.	No	Durable tree with adequate drainage. Availability usually a problem.
Deciduous Trees											
Alnus cordata	Medium	Ovoid 40'/30'	Good	24"	2	Good	-	Tolerant	Cankers and borers on drought stressed trees.	No	Best alternative to Alnus rhombifolia. May still be susceptible to borers when stressed.
Celtis australis	Medium	Broad-global 40'/40'	Good	24"	3	Moderate	-	?	Few insect or disease problems.	No	A good choice for a street tree. Occasionally chlorotic in high pH soils.
Celtis sinensis	Medium	Broad-global 40'/35'	Good	24"	3	Moderate	-	?	Few insect or disease problems.	No	A good choice for a street tree. Occasionally chlorotic in high pH soils.
Ginkgo biloba 'Autumn Gold'	Large	Global 60'/50'	Good	36"	3	Moderate	-	Tolerant	Few insect or disease problems.	No	Reliable tree. Can be slow growing in poor sites.
Gleditsia triacanthos	Large	Ovoid 50'/50'	Requires training	36"	3	Moderate	?	Moderate	Honeylocust pod gall midge is primary problem.	No	Pod gall midge is serious problem.
Liquidambar styraciflua	Large	Pyramidal 60'/30'	Good	36"	2	Moderate	-	Moderate	Few insect or disease problems.	*Yes	Shallow rooting is primary issue.
Liriodendron tulipifera	Large	Pyramidal-global 60'/40'	Good	36"	2	Moderate	-	*Sensitive	Foliar insects and exudate drip are maintenance issues.	*Yes	Subject to chlorosis in high pH soils. Foliage is susceptible to damage from high winds.
Morus alba	Medium	Broad-global 40'/40'	*Poor- brittle	24"	2	Moderate	-	?	Foliar insects and borers if stressed.	*Yes	Fast growth leading to brittle structural characteristics, heavy surface roots, and short life.
Nyssa sylvatica	Medium	Ovoid 40'/30'	Requires training	24"	2	Good	-	Tolerant	Foliar insects occasional problem.	No	This tree should perform well in Roseville.
Pistacia chinensis	Medium	Ovoid 45'/35'	Requires training	24"	4	Moderate	+	Moderate	Verticillium wilt occasionally a problem.	No	Generally a reliable street tree.
Platanus acerifolia 'Bloodgood'	Large	Round-global 60'/40'	Good	36"	3	Good	+	*Sensitive	Susceptible to mildew and scale.	No	Use selection P. acer. 'Yarwood' for mildew resistance. Graft compatibility problems reported.
Platanus acerifolia 'Yarwood'	Large	Round-global 60'/40'	Requires training	36"	3	Good	+	?	Foliar insects can occur. Resistant to mildew.	No	Check graft compatibility. Select trees for proper branch structure.

*Asterisk indicates intolerance to a specific environmental condition or situation on most cases.

(?) Question mark indicates unknown tolerance.

Plant Lists/Matrixes:

Deciduous Trees (continued)
Accent Trees

The following list of plants are recommended, but not exclusively. Additional plants to be proposed may be submitted and are subject to review by the City of Roseville Planning Department.

Botanical Name	Stature	Shape, Height and Spread	Structure Characteristics	SD	Relative Drought Tolerance	Turf Suitability	ST	Smog Tolerance	Disease and Pest Problems	Shallow or Invasive Roots	Comments
Deciduous Trees (continued)											
<i>Pyrus calleryana</i> 'Aristocrat'	Medium	Pyramidal 40' / 30'	Good	24"	3	Moderate		Tolerant	Occasionally susceptible to fireblight.	No	This tree should perform well in Roseville.
<i>Pyrus calleryana</i> 'Bradford'	Medium	Ovoid 50' / 30'	Good	24"	3	Moderate		Tolerant	Occasionally susceptible to fireblight.	No	Upsweeping branch structure. Resists wind damage.
<i>Pyrus calleryana</i> 'Capitol'	Medium	Fastigate 35' / 15'	Good	24"	3	Moderate		Tolerant	Occasionally susceptible to fireblight.	No	Narrow habit with good structural characteristics.
<i>Pyrus calleryana</i> 'Redspire'	Medium	Pyramidal 35' / 25'	Good	24"	3	Moderate		Tolerant	Occasionally susceptible to fireblight.	No	Narrow habit with good structural characteristics.
<i>Quercus coccinea</i>	Large	Broad-pyramidal 70' / 60'	Good	36"	3	Good		Moderate	Occasional foliar insects.	No	Availability may be problem. Acorn litter.
<i>Quercus douglasii</i>	Large	Broad-global 50' / 50'	Good	36"	5	*Poor		?	Branch die-back (Diplodia), foliar insects, and acorn drip.	No	Foliar insects and acorn litter are maintenance issues.
<i>Quercus lobata</i>	Large	Broad-global 50' / 50'	Good	36"	4	*Poor	+	?	Foliar insects and acorn drip.	No	Foliar insects and acorn litter are maintenance issues.
<i>Quercus palustris</i>	Large	Pyramidal-global 60' / 40'	Pendulous habit	36"	3	Good	-	Moderate	Occasional foliar insects and diseases.	No	Leaves hang on in winter. Acorn litter. Excellent lawn tree.
<i>Quercus rubra</i>	Large	Broad-pyramidal 70' / 60'	Good	36"	3	Good	+	Moderate	Occasional foliar insects and diseases.	No	Requires good soil conditions. Acorn litter.
<i>Sapium sebiferum</i>	Medium	Round-global 35' / 35'	Requires training	24"	2	Moderate		?	Branch dieback, bark sunscald, and foliar insects are occasional problems.	No	Limited plantings in Fresno are performing well.
<i>Sophora japonica</i> 'Regent'	Large	Round-global 50' / 45'	Good	36"	3	Good	-	Tolerant	Occasionally foliar insects.	No	Seed pods may be a problem
<i>Tilia cordata</i> 'Greenspire'	Medium	Pyramidal 40' / 30'	Good	24"	2	Good		Tolerant	Foliar insects and honeydew drip.	*Yes	May not tolerate hot winds. Foliar insects are maintenance issue.
Accent Trees											
<i>Acer palmatum</i>	Small	Round-global 20' / 20'	Good	18"	2	Moderate		?	Verticillium wilt is primary disease.	No	Japanese maples will require afternoon shade.
<i>Albizia julibrissin</i>	Medium	Vase shaped 40' / 50'	Requires training	24"	3	Moderate	+	?	Occasional vascular wilts and foliar insects.	No	Messy flower debris is a maintenance issue.
<i>Cercis canadensis</i>	Small	Round-global 30' / 30'	Good	18"	3	Moderate		*Sensitive	Occasional foliar insects a problem.	No	Heavy seed pod production may be maintenance issue.
<i>Cornus florida</i>	Small	Irregular to 20' high	Good	18"	2	Poor		Tolerant	Root/vascular diseases.	No	Needs good drainage. Requires shade.
<i>Crataegus phaenopyrum</i>	Small	Ovoid 25' / 20'	Good	18"	3	Moderate		Tolerant	Some foliar and borer insect susceptibility.	No	Good, adaptable tree. Thorns and fruit may be an issue.
<i>Eriobotrya deflexa</i>	Small	Broad-global 20' / 20'	Good	18"	3	*Poor	-	?	Fungal leaf spot in winter.	No	Susceptibility to leaf spot is primary issue.
<i>Koelreuteria paniculata</i>	Small	Round-global 30' / 30'	Requires training	18"	3	Moderate	-	Moderate	Few insect or disease problems.	No	Adaptable and reliable tree.
<i>Lagerstroemia indica</i>	Small	Round-global 25' / 25'	Good	18"	3	*Poor	+	Moderate	Mildew prone. Use 'Indian Tribe' selections.	No	Use hybrid selections for greater mildew resistance (e.g. L. Tuskegee).
<i>Magnolia grandiflora</i> 'St. Mary'	Small	Round-global 25' / 25'	Good	18"	3	Moderate	-	Moderate	Few insect or disease problems.	*Yes	For best performance requires deep soils and irrigation.
<i>Magnolia kobus</i>	Small	Ovoid 30' / 20'	Good	18"	3	Moderate		Moderate	Occasional vascular diseases and foliar insects.	*Yes	Best in afternoon shade.
<i>Magnolia stellata</i>	Small	Broad-global 10' / 20'	Good	18"	3	Moderate		Moderate	Occasional vascular diseases and foliar insects.	*Yes	Best in afternoon shade.
<i>Malus 'Liset'</i>	Small	Columnar-ovoid 15' / 15'	Good	18"	2	Good		Moderate	Good disease resistance.	No	Disease resistant selection. Fruit may be a maintenance issue.
<i>Malus 'Profusion'</i>	Small	Round-global 20' / 20'	Good	18"	2	Good		Moderate	Good disease resistance.	No	Disease resistant selection. Fruit may be a maintenance issue.
<i>Malus 'Red Baron'</i>	Small	Fastigate 18' / 8'	Good	18"	2	Good		Moderate	Good disease resistance.	No	Disease resistant selection. Fruit may be a maintenance issue.
<i>Malus 'Sentinel'</i>	Small	Fastigate 20' / 12'	Good	18"	2	Good		Moderate	Good disease resistance.	No	Disease resistant selection. Fruit may be a maintenance issue.
<i>Malus floribunda</i>	Small	Vase shaped 18' / 25'	Good	18"	2	Good		Moderate	Good disease resistance.	No	Disease resistant selection. Fruit may be a maintenance issue.
<i>Prunus cerasifera</i> 'Krauter Vesuvius'	Small	Ovoid 20' / 15'	Good	18"	3	Moderate		Moderate	Some foliar and borer insect susceptibility.	No	Foliage is susceptible to damage from high winds.
<i>Pyrus kawakamii</i>	Small	Round-global 25' / 25'	Requires training	18"	3	Moderate	-	Moderate	Susceptible to fireblight and occasional foliar insects.	No	Susceptible to fireblight.

(*) Asterisk indicates intolerance to a specific environmental condition or situation in most cases.
(?) Question mark indicates unknown tolerance.

Plant Lists/Matrixes:

Large Stature Shrubs
 Medium Stature Shrubs
 Small Stature Shrubs
 and Woody Groundcovers
 Herbaceous Groundcovers
 Vines
 Perennials
 Turf Selection

The following list of plants are recommended, but not exclusively. Additional plants to be proposed may be submitted and are subject to review by the City of Roseville Planning Department.

Botanical Name	Exposure Tolerance	SD	Akc (Crop Coefficient) Rating	ST	Comments
Large Stature Shrubs (>8')					
<i>Arbutus unedo</i>	full sun	18"	3-5		Coarse texture; red fruit.
<i>Callistemon citrinus</i>	full sun	18"	3-5		Red flowers in spring.
<i>Camellia japonica</i>	shade	18"	8-1.2		Must have good drainage and proper exposure.
<i>Cercis occidentalis</i>	full sun	18"	2-4		Pink flowers in spring; seed pods.
<i>Cotoneaster lacteus</i>	full sun	18"	3-5		Red berries in fall; can reseed.
<i>Euonymus fortunei</i>	full sun	18"	6-8		Smaller varieties require less soil depth.
<i>Euonymus japonica</i>	full sun	18"	6-8	+	Smaller varieties require less soil depth.
<i>Feijoa sellowiana</i>	full sun	18"	6-8	-	Edible fruit produced; can be messy.
<i>Heteromeles arbutifolia</i>	full sun	18"	3-5	-	Red berries in fall; attractive to birds.
<i>Ilex altaclarens 'Wilsonii'</i>	sun/shade	18"	6-8	-	Heavy producer of bright red berries.
<i>Juniperus chinensis 'Torulosa'</i>	full sun	18"	5-7	+	Irregular form.
<i>Nerium oleander</i>	full sun	18"	2-4	+	Dependable flower display in summer.
<i>Osmanthus fragrans</i>	pm shade	18"	6-8		Fragrant but subtle flowers; good screening shrub.
<i>Photinia fraseri</i>	full sun	18"	6-8	-	Bright red foliage in spring.
<i>Pittosporum tenuifolium</i>	full sun	18"	6-8		Good fast screening shrub; fine textured.
<i>Prunus caroliniana</i>	full sun	18"	6-8		Medium textured screening shrub.
<i>Rhamnus alaternus</i>	full sun	18"	6-8		Susceptible to vascular diseases when stressed.
<i>Rhododendron species</i>	shade	18"	8-1.2		Specify heat-tolerant varieties.
<i>Spiraea species</i>	full sun	18"	7-9		Provide generous quantity of flower display.
<i>Viburnum japonicum</i>	pm shade	18"	8-1.0		Susceptible to aphid infestation.

Medium Stature Shrubs (4'-8')					
<i>Abelia grandiflora</i>	full sun	12"	6-8	?	Pink flowers in summer, fine textured.
<i>Berberis thunbergii 'Atropurpurea'</i>	full sun	12"	6-8	+	Deciduous shrub with dark red foliage.
<i>Ceanothus 'Dark Star'</i>	full sun	12"	4-6		Brilliant blue flower display in spring.
<i>Chaenomeles hybrids</i>	pm shade	12"	6-8		Deciduous shrubs; tolerant of poor drainage.
<i>Choisya ternata</i>	pm shade	12"	6-8	+	Susceptible to spider mites.
<i>Cistus purpureus</i>	pm shade	12"	5-7		Reddish-purple flowers; short-lived.
<i>Coleonema pulchrum</i>	pm shade	12"	6-8	+	Magenta pink flowers late winter; fine textured.
<i>Elaeagnus pungens</i>	full sun	12"	5-7	+	Durable shrub; variegated forms available.
<i>Escallonia fradesi</i>	full sun	12"	6-8		Dark green foliage; pink flowers spring to fall.
<i>Fatsia japonica</i>	shade	12"	8-1.0		Coarse textured shade plant.
<i>Grevillea noelli</i>	full sun	12"	4-6		Durable plant useful as bank cover; fine textured.
<i>Juniperus chinensis 'Sea Green'</i>	full sun	12"	5-7	+	Arching vase-like habit; dark green foliage.
<i>Ligustrum japonica 'Texanum'</i>	full sun	12"	8-1.0	+	Medium textured shrub used often as hedge.
<i>Mahonia aquifolium</i>	shade	12"	6-8	-	Holly like foliage; yellow flowers; best in shade.
<i>Myrtus communis 'Compacta'</i>	pm shade	12"	6-8	+	Also available in variegated form; aromatic leaves.
<i>Nandina domestica</i>	pm shade	12"	6-8	-	Delicate form; red berries.
<i>Phormium tenax</i>	full sun	12"	5-7		Allow room for mature plant size.
<i>Pittosporum tobira</i>	full sun	12"	6-8	+	Spreading shrub with fragrant flowers.
<i>Pittosporum tobira 'Variegata'</i>	pm shade	12"	6-8	+	Variegated form; best in shade.
<i>Rhamnus californica 'Eve Case'</i>	full sun	12"	4-6		Durable spreading plant; berries come in 3 colors.
<i>Raphiolepis indica 'Clara'</i>	full sun	12"	4-6	+	Very durable shrub; white flowering in spring.
<i>Ribes sanguinum</i>	pm shade	12"	8-1.0	+	Deciduous flowering shrub for shade areas.
<i>Romneya coulteri</i>	full sun	12"	2-4		Can be invasive; good for natural effect.
<i>Viburnum tinus 'Spring Bouquet'</i>	pm shade	12"	8-1.0	?	White flowers late winter.
<i>Westringia rosmarniformis</i>	full sun	12"	5-7		Durable shrub, small white flowers, good bank cover.
<i>Xylosma rosgestum 'Compacta'</i>	full sun	12"	5-7	+	Compact form, light green-yellow foliage, thorns.

Small Stature Shrubs (<4') and Woody Groundcovers					
<i>Abelia grandiflora 'Sherwoodi'</i>	full sun	12"	6-8		Low spreading form of <i>Abelia grandiflora</i> .
<i>Arctostaphylos uva-ursi 'Point Reyes'</i>	full sun	12"	5-7		Fruit bright red or pink.
<i>Azaleas (Shade varieties)</i>	shade	12"	8-1.2		Must have good drainage and proper exposure.
<i>Azaleas (Southern indica varieties)</i>	pm shade	12"	8-1.2		Must have good drainage and proper exposure.
<i>Baccharis pilularis 'Twin Peaks'</i>	full sun	12"	5-7	+	Durable groundcover if moderately irrigated.
<i>Berberis thunbergii 'Crimson Pygmy'</i>	full sun	12"	8-1.0		Dwarf form of Purple Barberry.
<i>Buxus microphylla japonica</i>	full sun	12"	6-8	+	Commonly used as small hedge.
<i>Camellia sasanqua</i>	pm shade	12"	8-1.0		Various varieties available.
<i>Ceanothus griseus horizontalis 'Yankee Point'</i>	pm shade	12"	6-8		Spreading groundcover, requires good drainage.
<i>Ceanothus 'Joyce Coulter'</i>	full sun	12"	4-6		Good bank cover; spreads up to 15'.

Botanical Name	Exposure Tolerance	SD	Akc (Crop Coefficient) Rating	ST	Comments
Small Stature Shrubs (<4') and Woody Groundcovers, Con't.					
<i>Cistus hybridus</i>	pm shade	12"	5-7		Fragrant, white flowers; short-lived.
<i>Coprosma kirkii</i>	full sun	12"	6-8	+	Useful groundcover with irrigation, olive green color.
<i>Correa 'Carmine Bells'</i>	pm shade	12"	6-8		Pink fuchsia flowers, dark green foliage.
<i>Cotoneaster dammeri 'Coral Beauty'</i>	full sun	12"	6-8		Semi-deciduous in cold winters; heavy berry crop.
<i>Cotoneaster horizontalis</i>	full sun	12"	6-8	-	Interesting herringbone branch pattern; deciduous.
<i>Escallonia 'Terri'</i>	full sun	12"	6-8		Compact form of <i>Escallonia</i> , pink flowers.
<i>Euryops viridis</i>	full sun	12"	4-6		Bright yellow daisy flowers in winter and spring.
<i>Genista lydia</i>	full sun	12"	4-6		Dwarf broom with brilliant yellow flower display.
<i>Ilex vomitoria 'Nana'</i>	sun/shade	12"	6-8		Compact; can be sheared.
<i>Juniperus chinensis procumbens 'Nana'</i>	pm shade	12"	4-6	+	Prostrate form of Japanese juniper.
<i>Juniperus sabinna 'Broadmoor'</i>	full sun	12"	4-6		Lacy dark green foliage.
<i>Lavandula dentata</i>	full sun	12"	5-7	+	Silver grey foliage; purple flowers for many months.
<i>Mahonia aquifolium 'Compacta'</i>	shade	12"	6-8		Compact form of Oregon grape; use in shade.
<i>Nandina 'Harbor Dwarf'</i>	pm shade	12"	6-8	-	Groundcover form of heavenly bamboo.
<i>Pittosporum tobira 'Wheeleri'</i>	pm shade	12"	6-8	+	Dense, compact habit; fragrant flowers.
<i>Punica granatum 'Nana'</i>	full sun	12"	5-7	-	Orange-red flowers; dry red fruit.
<i>Pyracantha 'Santa Cruz'</i>	full sun	12"	6-8	+	Spreading habit good for banks, bright red berries.
<i>Raphiolepis indica 'Ballerina'</i>	full sun	12"	4-6	+	Low growing; pink flowers spring; disease resistant.
<i>Raphiolepis indica 'Jack Evans'</i>	full sun	12"	4-6	+	Purple tinged foliage, good display of pink flowers.
<i>Ribes viburnifolium</i>	shade	12"	4-6		Good, dry groundcover beneath native oaks.
<i>Rosmarinus officinalis 'Lockwood de Forest'</i>	full sun	12"	4-6	+	Blue flowers; durable groundcover; attracts bees.
<i>Salvia leucantha</i>	full sun	12"	5-7		Flower spikes and compact form; winter deciduous.
<i>Trachelospermum asiaticum</i>	pm shade	12"	8-1.0		Fragrant white flowers.
<i>Trachelospermum jasminoides</i>	pm shade	12"	8-1.0	-	Useful as vine or groundcover, fragrant white flowers.

Herbaceous Groundcovers					
<i>Fragaria chiloensis</i>	pm shade	6"	8-1.2		Red berries; requires good drainage.
<i>Gazania species</i>	full sun	6"	5-7	+	Use virus resistant strains (i.e. 'Mitsuwa Yellow').
<i>Festuca ovina 'Glaucia'</i>	pm shade	6"	8-1.0	-	Silvery-gray foliage.
<i>Hedera helix</i>	pm shade	6"	8-1.0	+	Medium textured ivy for shade; may be aggressive.
<i>Hedera helix 'Needlepoint'</i>	shade	6"	8-1.0	+	Fine textured; slow growing ivy; good for small areas.
<i>Hypericum calycinum</i>	full sun	6"	6-8		Bright yellow flowers in summer.
<i>Trifolium fragiferum</i>	full sun	12"	6-8		Difficult to control broad-leaved weeds.
<i>Vinca minor</i>	pm shade	6"	6-8		Fine textured, blue periwinkle flowers in spring.

Vines					
<i>Clytostoma callistegioides</i>	pm shade	12"	6-8		Lavendar flowers; needs support.
<i>Distictis buccinatoria</i>	full sun	12"	8-1.0		Subject to damage in coldest winters; red flowers.
<i>Ficus pumila</i>	shade	6"	6-8		Attaches to walls with no support needed.
					May damage stucco surfaces.
<i>Gelsemium sempervirens</i>	full sun	12"	6-8		Evergreen; yellow flowers; may be used as groundcover.
<i>Jasminum polyanthum</i>	pm shade	6"	6-8	-	Evergreen; fragrant white flowers.
<i>Lonicera japonica 'Halliana'</i>	full sun	6"	6-8	+	Useful as spreading bank cover; fragrant flowers.
<i>Parthenocissus tricuspidata</i>	pm shade	6"	6-8	+	Attaches to walls with no support needed.
					May damage stucco surfaces.
<i>Rosa banksiae</i>	full sun	12"	5-7	-	Evergreen; yellow or white flowers; also as groundcover and good bankcover.
<i>Solanum jasminoides</i>	full sun	12"	5-7		Usually evergreen; white flowers; continual bloom.
<i>Wisteria sinensis</i>	sun/shade	12"	4-6	+	Requires strong support.

Perennials					
<i>Agapanthus africanus</i>	full sun	6"	5-7		Evergreen perennial; bright blue clusters in spring and summer. Varieties with white flowers and dwarf forms available.
<i>Diets vegeta</i>	full sun	6"	6-8		Stiff, pointed, upright foliage; white lily flowers.
<i>Hemerocallis hybrids</i>	full sun	6"	8-1.0	+	Many colors and sizes available; most deciduous.
<i>Kniphofia uvaria</i>	full sun	6"	4-6		Evergreen perennial; available with orange or yellow flowers or dwarf sizes.
<i>Phormium tenax (dwarf varieties)</i>	full sun	6"	5-7	+	Evergreen perennial; dwarf varieties include 'Maori Sunrise' and 'Tom Thumb.'

Turf Selection					
<i>Turf Type Tall Fescues</i>	full sun	6"	8-1.0	+	Use blend of 3 or more varieties.

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6-1 Specialized Areas

Specialized Areas

Specialized areas are those landscapes that require special considerations in their design. These areas range from natural areas, such as wetlands, to man-made environments, such as vehicular parking areas. Thus, each of these areas shall require a separate set of guidelines as follows:

6.1 Antelope Creek Floodplain Easement

A public access easement along Antelope Creek shall be dedicated to the City of Roseville. Antelope Creek, located in the eastern portion of the Plan Area, contains the Plan Area's only concentration of riparian vegetation. An idea of the Specific Plan for this area is to create a "garden office" setting for adjacent land uses. In any case, a subtle transition from this informal natural environment to the man-made environment of adjacent land uses shall blend, yet retain, the identity of both areas. To attain this effect, a series of guidelines shall be adhered to as follows:

1. Maintain as much of the natural vegetation as deemed practical; consult the arborist report for trees to be saved.
2. Replant cleared areas with native vegetation. Otherwise, no additional landscaping shall occur within the floodplain.
3. Blend landscape elements from adjacent parcels with the existing vegetation in the floodplain by producing a similar plant palette.
4. Fencing from adjacent land uses shall be low or open to complement the visual characteristics of the natural environment. Refer to "3.8 Soundwalls and Wood Fences."

In addition, a pedestrian/bicycle path shall meander within the dedicated public access easement as follows:

1. A path shall provide access into the floodplain easement and connect with the pedestrian/bicycle paths of the landscape corridors. Because Roseville Parkway may be elevated above the creek, a connection may occur at the intersection of the creek and Harding Boulevard. This shall be determined by the final grading and layout of Roseville Parkway.
2. The pedestrian/bicycle path shall conform to the natural topography within the floodplain easement to minimize any grade changes. Drainage and soil erosion concerns due to grade changes shall be resolved accordingly.
3. Locate all paths away from potential snags or raptor nests. A survey of raptor nests is required for riparian areas prior to location and construction of paths.
4. Stream crossings shall be constructed for access and shall be kept at a minimum.

In conjunction with the oak tree replacement policy, the floodplain may serve as a receiving zone for replacement oaks, as approved by the City of Roseville. Refer to "3.2 Existing Trees."

Landscaping and the design of the pathway within the floodplain shall conform to the provisions of the Corps of Engineers 404 permit.

6.2 Electrical Substation

Electrical substations within the North Central Roseville Specific Plan Area include Parcels 62 and 69. The design of landscape corridors along these parcels shall follow design characteristics as determined in Section 1.2 under "Miscellaneous Land Uses."

Design characteristics include:

1. Single row of street trees: Parcel 62 shall have *Pyrus calleryana* 'Bradford' (Bradford Pear) as street trees. Parcel 69 shall have *Platanus acerifolia* 'Bloodgood' (London Plane) as street trees.
2. Subordinate trees: in order to maintain a uniform appearance of evergreen and deciduous trees with deciduous street trees, subordinate trees shall be planted in a ratio of 70% evergreen and 30% deciduous.
3. Shrubs and groundcover shall be planted from the pedestrian/bicycle path to the property line. Lawn and groundcover, including legume (*Trifolium repens*), shall be planted from the pedestrian/bicycle path to the curb. Lawn may be planted in areas 5' minimum in width.
4. Pedestrian/bicycle path:
Parcel 62- 8' wide and 5' parallel from back of curb;
Parcel 69- 8' wide and meandering. Align 5' clear minimum from property line and 6' clear minimum from back of curb.
5. Soundwall or decorative wood fence shall be constructed along electric substation parcels. Refer to "3.8 Soundwalls and Wood Fences".

Refer to "1.2 Design Characteristics - Miscellaneous Land Use" for schematic landscape plan.

6.3 Highway 65 Bicycle Easement

Pedestrian/bicycle paths shall be located within Parcels 40 and 42 adjacent to the State right-of-way along Highway 65 Bypass to connect the lower wetsheds of Parcels 82 and 83. Pedestrian/bicycle paths also shall be located within Parcels 43 and 48 to connect with Parcels 83 and 84 respectively with similar conditions. These pedestrian/bicycle paths shall be located within 40' wide bicycle easements, except the bicycle easement within Parcel 49 which shall range from 25' to 40' wide. A chain link fence at the edge of the State right-of-way and bicycle easement will separate the bikeway from the Highway 65 right-of-way. A 10 foot wide minimum landscape area shall separate the pedestrian/bicycle path from the State right-of-way.

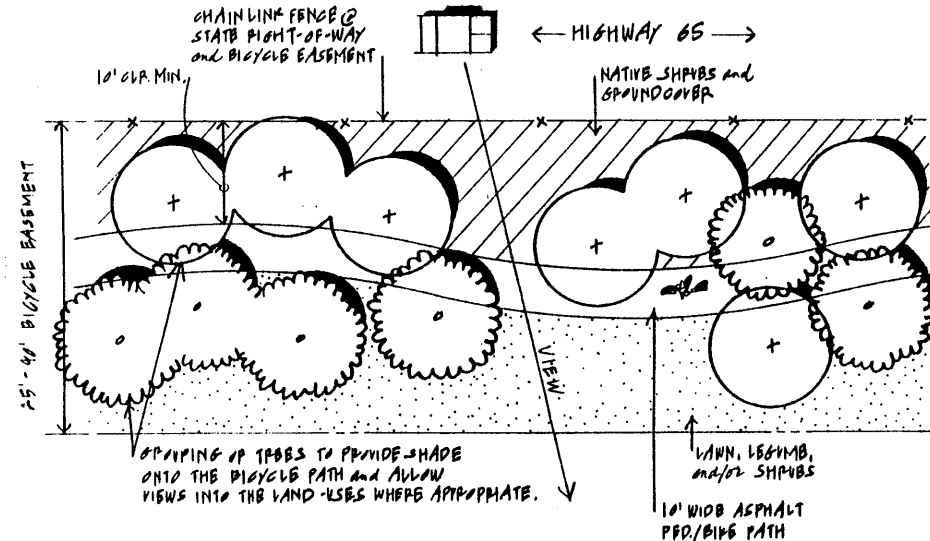
Pedestrian/bicycle paths shall be 10' wide and asphalt with 2.5' wide shoulders.

Refer to "Figure 3-12 Bikeway Master Plan" for schematic locations of pedestrian/bicycle paths.

Bollards at pedestrian/bicycle paths located within open space corridors must be striped according to Cal Trans' "Highway Design Manual," Fourth Edition, July 1990, Chapter 1000, Section 1004.2 (path striping) and Section 1003.15 and Figure 1003.1G (bollard striping).

Landscaping within these bicycle easements shall provide a transition from the artificial environment of land-uses to the natural terrain adjacent to Highway 65. Therefore, the 10 foot wide minimum landscape area separating the pedestrian/bicycle path from the State right-of-way shall be limited to native shrubs, groundcover, and groupings of trees. The landscape area from the bicycle path to nearby land-uses shall include areas of lawn, legume, and/or shrubs, as well as groupings of trees. Trees shall be grouped to provide shade onto the bicycle path and allow views into the land-uses where appropriate. Refer to Figure 6-1 below.

Figure 6-1
Highway 65 Bicycle Easement



6.4 Local Streets

Local streets are to be considered those streets that are within particular subdivisions, as opposed to arterial and collector streets that serve as major travel routes for the North Central Roseville region. Like the arterial and collector streets that are mentioned in the North Central Roseville Specific Plan, local streets shall contain the same landscape elements and may use a unifying plant palette generated from the plant list in this text. Local streets shall adhere to the same planting criteria as those for the arterial and collector streets, thus achieving neighborhood identity while maintaining continuity of tree canopies within the North Central Plan Area.

Within the 54 foot right-of-way, local streets shall have a 5 foot wide landscape corridor adjacent to the back of curb. Street trees may be planted within this buffer-strip between the street and a 5 foot wide pedestrian path. In no case shall the 5 foot wide pedestrian walk be adjacent to the street. See "Figure 6-2". Root control barriers may be considered for trees with potential surface roots. Street trees for local streets may be chosen from the list on the following page. Accent trees, shrubs and groundcover may be chosen from "5. Plant Lists/Matrixes".

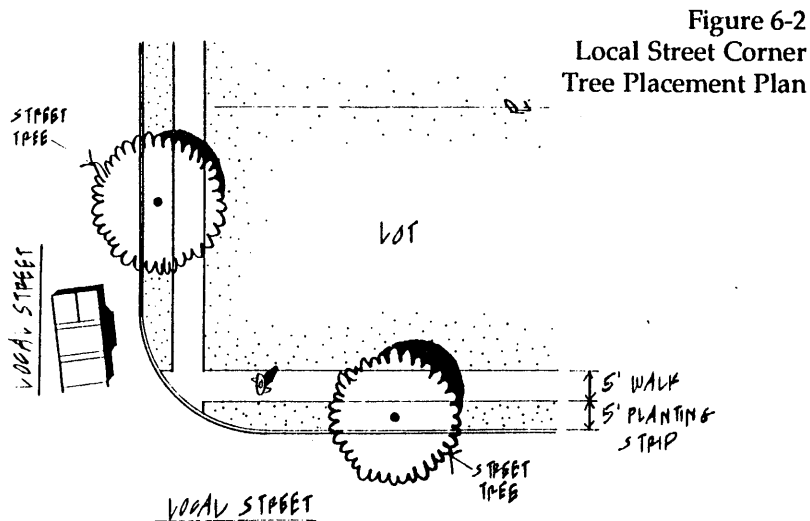


Figure 6-2
Local Street Corner
Tree Placement Plan

6-4 Specialized Areas

To maintain a sense of cohesion within the North Central Roseville area, when a tentative map is filed, developers shall identify the genus and species of proposed street trees to be planted within a subdivision. Local street trees shall be planted at a minimum of one tree per lot, but not necessarily within the 5 foot wide landscape strip. Corner lots, being bordered on two sides by streets, shall typically contain two street trees.

A 10'-0" square clearance zone is required around aboveground electric transformers. No trees are to be planted in front of these electrical boxes. Refer to "Figure 6-3".

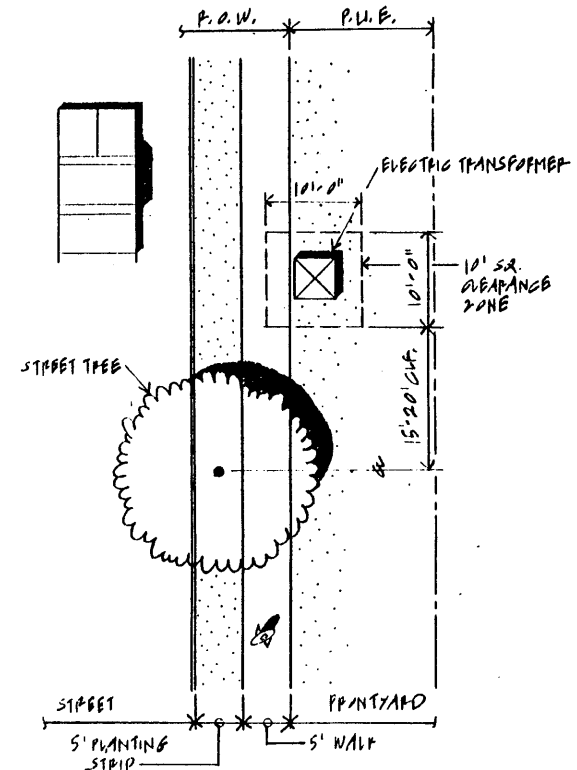


Figure 6-3
Local Street Tree
Placement Plan

Local Street Tree List

The following plants listed are recommended, but not exclusively.

Refer to "5. Plant List/Matrixes" for more information on plant characteristics.

Additional plants may be proposed and are subject to review by the City of Roseville Planning Department.

<u>Botanical Name</u>	<u>Ever./Dec.</u>	<u>Growth Habit</u>	<u>Height/ Rate</u>	<u>Spread</u>	<u>Comments</u>
Alnus cordata	Deciduous	Ovoid	Fast	40'/30'	Invasive roots
Celtis sinensis	Deciduous	Broad-global	Moderate	40'/35'	Berries
Cinnamomum camphora	Evergreen	Broad-global	Slow-Mod.	50'/60'	
Laurus 'Saratoga'	Evergreen	Pyramidal	Slow	40'/25'	Aromatic leaves
Liquidamber styraciflua	Deciduous	Pyramidal	Moderate	60'/30'	Fall color
Liriodendron tulipifera	Deciduous	Pyramidal-global	Fast	60'/40'	White flowers, fall color
Magnolia grandiflora	Evergreen	Broad-pyramidal	Moderate	40'/35'	White flowers
Pistacia chinensis	Deciduous	Ovoid	Moderate	45'/35'	Fall color
Platanus acerifolia 'Bloodgood'	Deciduous	Round-global	Fast	60'/40'	
Pyrus calleryana 'Bradford'	Deciduous	Ovoid	Moderate	50'/30'	White flowers, fall color
Quercus agrifolia	Evergreen	Broad-global	Moderate	50'/60'	
Q. ilex	Evergreen	Pyramidal	Moderate	50'/40'	
Q. lobata	Deciduous	Broad-global	Moderate	50'/50'	Native species
Q. wislizenii	Evergreen	Rounded	Moderate	50'/50'	Native species
Sapium sebiferum	Deciduous	Round-global	Fast	35'/35'	Fall color
Tilia cordata 'Greenspire'	Deciduous	Pyramidal	Slow-Mod.	40'/30'	Flowers

6.5 Medians

A landscaped median shall be located within streets with 100 foot rights-of-way. These streets include Harding Boulevard, Pleasant Grove Boulevard, Roseville Parkway and Stanford Ranch Road.

Landscaped medians shall be 14 feet wide, except Roseville Parkway west of Pleasant Grove Boulevard, which is 38 feet wide.

Landscaping in medians is less complex than that found in landscape corridors, although similar concepts in design are considered. Medians shall be landscaped as follows:

- 1) Trees- Trees shall be planted in double rows; 5' from the median curb at 25 to 35 feet on center to each other.

Trees shall be of a different species from nearby street trees as identified in "4. Specific Street Criteria." An exception shall be those medians that are located between commercial land uses, or commercial and open space land uses, which include parks, wetland, and schools. These medians shall be planted with accent tree species identified in "4. Specific Street Criteria."

Accent trees shall be planted at ends of medians where street intersections or median breaks occur. Oak trees as accent trees shall be planted where required. Refer to the following map. Accent trees shall be planted from 15 gallon containers at 15 to 25 feet on center, except oaks trees which shall be planted 25 to 35 feet on center. Refer to "5. Plant Lists/Matrixes" for a recommended list of accent trees.

Medians shall not include subordinate trees.

Maintain all vehicular sightlines.

- 2) Shrubs- Shrubs shall be planted along all medians, except along Roseville Parkway, west of Pleasant Grove Boulevard, where legume shall be planted. Shrubs shall be drought-tolerant and/or native species and shall not exceed 3 feet in height (small).

Follow the guidelines established in "3.4.c Shrubs".

Refer to the chart on the following page for a list of recommended shrubs.

Maintain all vehicular sightlines.

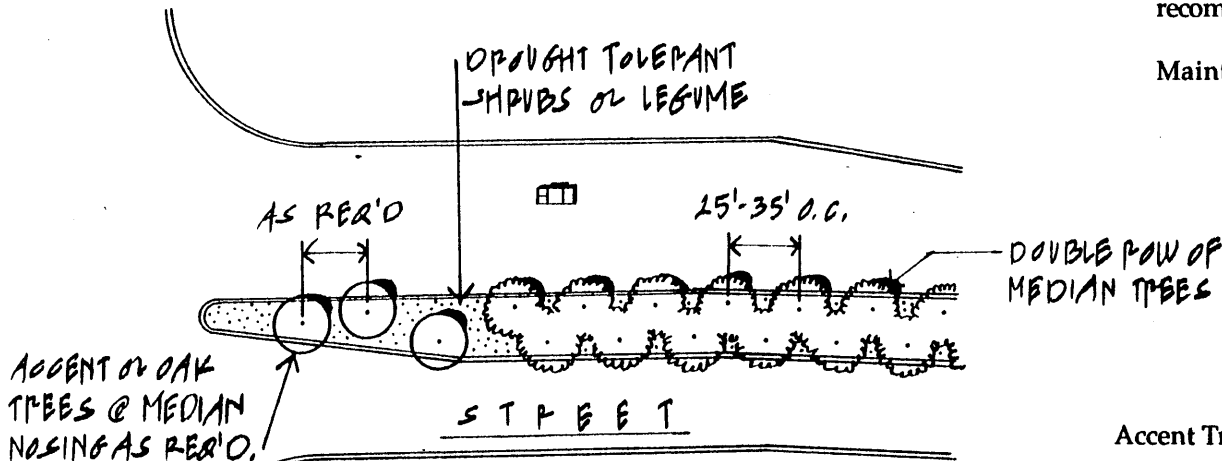


Figure 6-4
Accent Trees at Median Nosings

3) Groundcover, Lawn, Mulches- No lawn or groundcover (except legume to be planted along Roseville Parkway, west of Pleasant Grove Boulevard in the medians) shall be planted within the medians. Low spreading shrubs shall act as groundcovers.

Mulches for planting areas shall be redwood, pine or fir bark not exceeding 3/4 to 1-1/2 inches in any dimension. It shall be layered 2 inches over finish grade.

Mulch shall not serve as a permanent landscape element. It shall be primarily functional and temporary.

4) Irrigation- Trees and shrubs shall be irrigated on a bubbler or drip system. Low precipitation heads shall be used. Overhead spray irrigation shall be used for legume. Refer to "3.7 Irrigation" for additional information.

5) Grading- Slope grade shall range from 2% to 5%. Because excess run-off will be minimal, reverse curbs are not necessary.

Median Shrub Plantings List

Refer to "5. Plant Lists/Matrixes" for information on plant characteristics.

<u>Botanical Name</u>	<u>Common Name</u>
<i>Arctostaphylos</i> species	Manzanita (choose low growing species/var.)
<i>Baccharis pilularis</i> 'Twin Peaks'	Coyote Bush
<i>Ceanothus griseus</i> <i>horizontalis</i> 'Yankee Point'	Carmel Creeper
<i>Coprosma kirkii</i>	Coprosma
<i>Cotoneaster</i> 'Lowfast'	Cotoneaster
<i>Mahonia nevinii</i>	Nevin Mahonia
<i>Nandina domestica</i> 'Harbour Dwarf'	Dwarf Heavenly Bamboo
<i>Raphiolepis indica</i> 'Ballerina' or 'Clara'	Indian Hawthorne
<i>Rosmarinus officinalis</i> 'Prostratus'	Dwarf Rosemary

North Central Roseville Specific Plan

Oak Median Tree Plan Map

Legend

Native Oak Species
as Accent Trees along
Median Nosings *

Base map provided by Wade Associates.

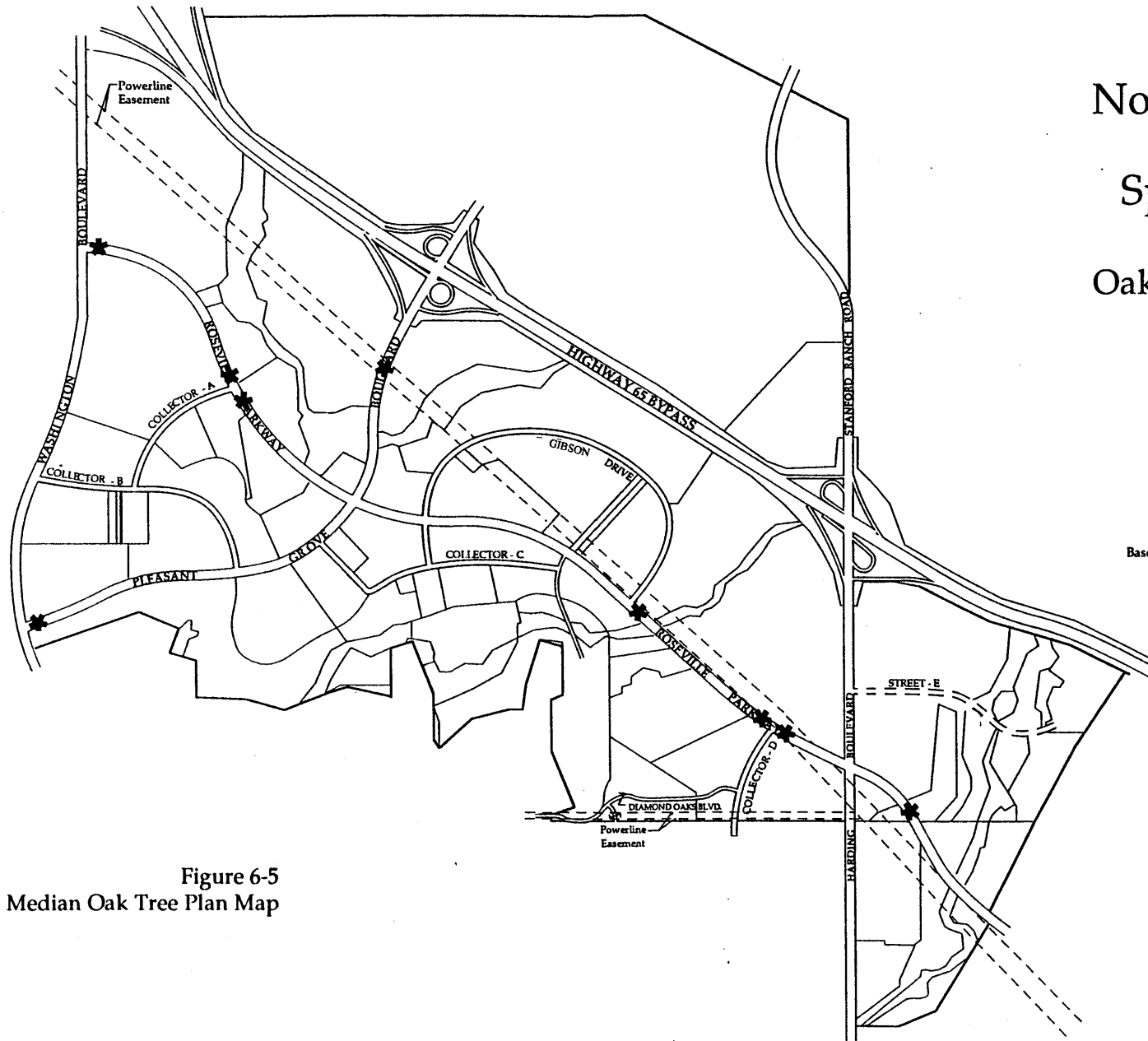


Figure 6-5
Median Oak Tree Plan Map

6.6 Parking Area

Because a primary objective of the North Central Roseville Plan Area is to create a pedestrian-oriented environment, the treatment of the environment in relationship to the automobile becomes just as important. Landscaping along parking areas is designed with respect to pedestrian and vehicular traffic.

Coordinate placements of surface-mounted equipment within parking lot islands and medians with utilities to avert conflict with plantings.

a. Planting Treatment: Trees

These primary landscape elements in the parking areas shall function in three ways: as delineators, screens and shade providers. Landscape trees shall not obscure important sightlines of pedestrian or vehicular traffic.

Delineators

Delineator trees shall serve to guide traffic and punctuate entrances. These trees shall be distinct in form and/or in color in comparison to shade trees. Delineator trees may be more vertical in form than the shade trees and/or may contrast in foliage color.

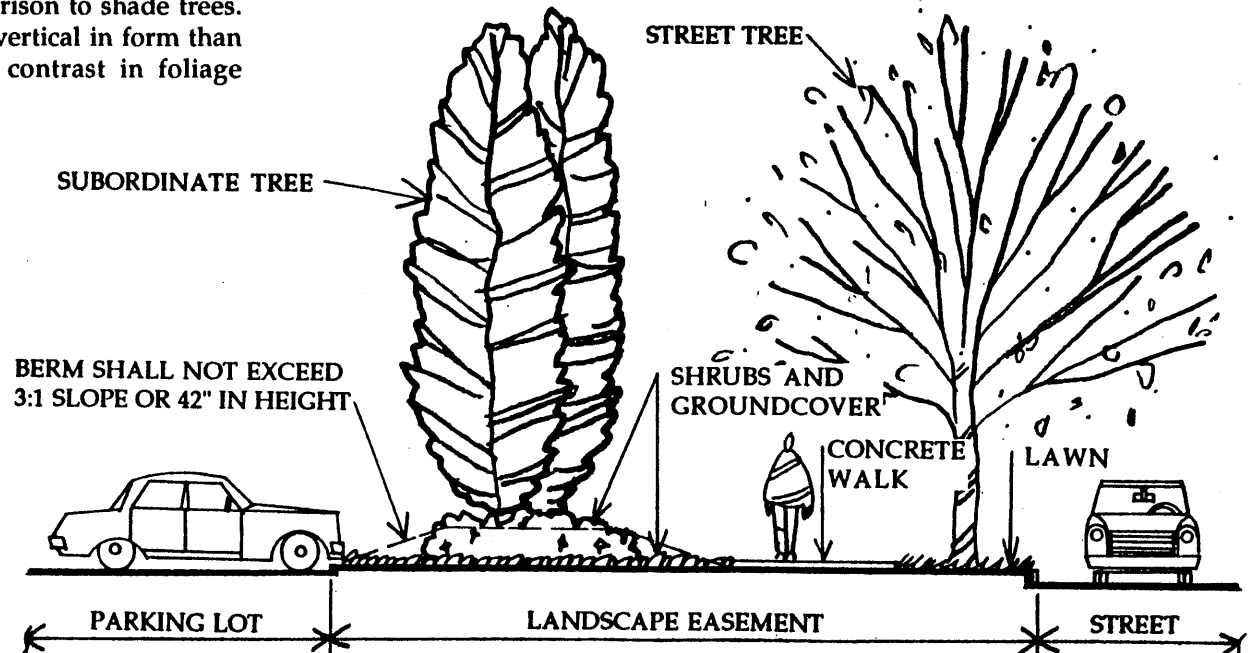
Screen

Trees in parking areas may serve to screen undesirable views, such as trash enclosures, or sources of unfavorable noises, such as from major roads. Trees may also serve as a buffer for adjacent residences. Additionally, these trees may function to define the edges of parking areas.

Shade Trees

The majority of trees in parking areas shall function as shade trees. The objective in planting these trees is to provide a minimum of 50% shade coverage in parking areas 15 years after establishment of the parking lot (NCRSP, Section 7.12.11.5). This shade coverage shall be determined according to the sun angle at noon on August 15. Requirements to achieve this goal is further discussed in the "6.4.c Shade Tree Requirements".

Figure 6-6
Schematic Landscape Treatment
Along Parking Areas



b. Planting Treatment: Understory

This secondary layer of landscape is as important as the primary landscape elements. The understory further emphasizes the functions and aesthetics of the trees.

Shrubs

Shrubs, in conjunction with trees, serve many functions. With delineator trees, they may further emphasize traffic circulation. Shrubs in planting medians shall not exceed 4 feet in height. Shrubs also may aid in screening views and unfavorable noise sources. Yet important sightlines shall not be obstructed.

Shrubs selected shall be able to withstand auto exhaust and nearby pedestrian traffic. Shrubs must be hardy and should be drought tolerant. Of particular concern in choosing shrubs is their ability to withstand the reflected heat from the asphalt paving.

For an aesthetic effect, shrubs shall be planted in masses or groups rather than as individuals.

Groundcover

Groundcover shall be chosen to withstand moderate foot traffic.

Paved walks or stepping pads are required to reduce maintenance for areas of heavy foot traffic.

Mulch

Mulch shall be redwood, pine or fir bark not exceeding 3/4 to 1-1/2 inches in any dimension. It shall be layered 2 inches over finish grade. Refer to details shown in "8. Planting and Staking Details."

Earthwork

Earth berms are recommended in planting areas adjacent to street traffic.

Slopes shall not exceed 3:1. Height shall not be greater than 42 inches and sightlines shall be maintained.

See "6.7 Public Utilities Easements" for clearances for surface-mounted electrical equipment.

c. Shade Tree Requirements

The objective in planting trees in parking areas is to provide a minimum of 50% shade coverage in parking areas 15 years after establishment of the parking area. This shade coverage shall be determined according to the sun angle at noon on August 15.

Parking lot areas are subject to the shade tree requirement as follows:

1. Parking stalls;
2. All vehicular back-up areas.

Areas not subject to the shade tree requirement include:

1. Truck loading areas in front of overhead doors;
2. Truck maneuvering and parking areas separate from other vehicle parking areas;
3. Driveways;
4. Surfaced areas not accessible for vehicle parking, driving or maneuvering;

Shade tree requirements shall be calculated as follows:

1. Shade shall be calculated according to the percentage of shade coverage of the canopy, determined by the location of the tree within the parking lot. Refer to the diagram and shade percentage figures on the following page.
2. The shade percentage figures are based on the canopy spread of the tree 15 years from planting. The tree is assumed to be planted from 15 gallon containers.
3. Trees located at corners of parking areas shall be calculated at 25% shade coverage.

4. Overlapping shade is not calculated twice. Therefore, spacing trees closer than their designated spread will not provide more shade value. Refer to illustration below.

Example of Calculations:

Tree	Interior Planter	South, East, and West	Corner and North
Celtis sinensis	3 x (962) = 2886	NA	NA
Lagerstroemia indica	NA	5 x (157) = 785	NA
Magnolia grandiflora	NA	2 x (481) = 962	2 x (240) = 480
Pyrus calleryana	NA	2 x (354) = 708	2 x (177) = 531
Calculated Total:	2886 +	2455 +	1011 = 6352

Required Total

Area of Paving: 12,422 square feet

Area required to be shaded:

12,422 x 50% = 6211 square feet

→ 6352 > 6211

Shade provided exceeds amount required.

Thus, shade tree requirements are satisfied.

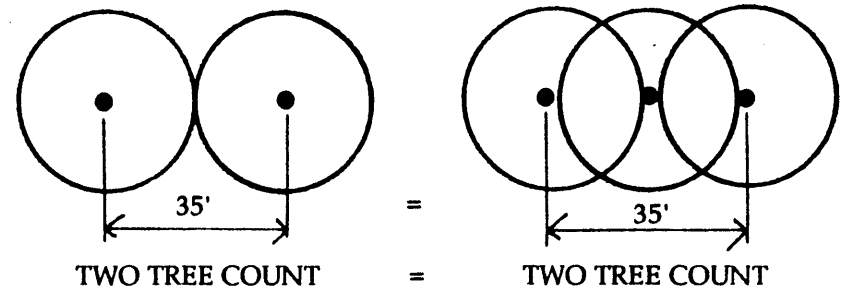
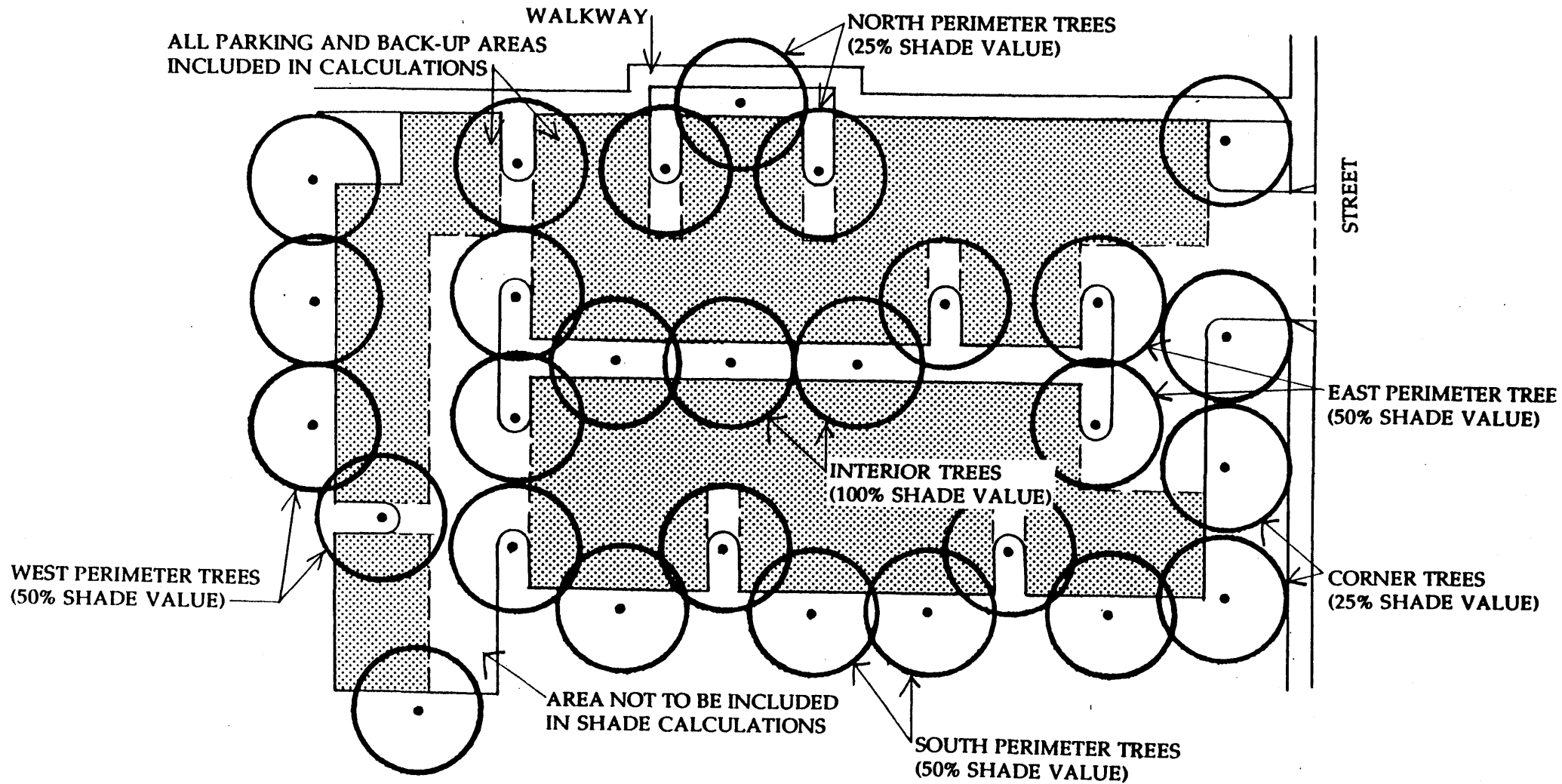


Figure 6-7
Overlapping Shade Example



SHADE COVERAGE EXAMPLES

- NOTES:
1. This diagram is intended to demonstrate the proper percentages allowed for shade conditions.
 2. This diagram is not an example of the required 50% total shade coverage.
 3. Shade overlap is not counted twice.



Figure 6-8
Parking Area Shade
Coverage Example

Tree List for Parking Areas

The following plants listed are recommended, but not exclusive.

Refer to "5. Plant lists/Matrixes" for additional plant listings and information.

Additional plants may be proposed and are subject to review by the City of Roseville Planning Department.

Trees with potential surface roots are recommended to be planted with root control barriers.

¹"Planter Size" refers to minimum planter width excluding curb dimensions.

²"Soil Depth" refers to minimum soil depth requirement for adequate root development.

³Depending on variety. Refer to "5. Plant Lists/Matrixes" for varietal names.

30' - 35' Diameter Trees

For shade calculations: 100% (Interior) = 962 sq. ft.; 50% (South, East, and West) = 481 sq. ft.; 25% (Corner and North) = 240 sq. ft.

<u>Botanical Name</u>	<u>Ever./Dec.</u>	<u>Growth Rate</u>	<u>Height</u>	<u>Planter Size¹</u>	<u>Soil Depth²</u>	<u>Comments</u>
Celtis sinensis	Deciduous	Moderate	40'	5'	24"	
Cinnamomum camphora	Evergreen	Slow	30'	6'	36"	
Magnolia grandiflora	Evergreen	Slow	60'	5	24" - 36" ³	Well-drained soil
Pistacia chinensis	Deciduous	Moderate	60'	5'	24"	Drought tolerant, fall color
Platanus acerifolia	Deciduous	Fast	70'	5'	24" - 36" ³	
Quercus agrifolia	Evergreen	Moderate	40'	6'	36"	Drought tolerant
Quercus douglasii	Evergreen	Slow	50'	6'	36"	Fall color
Quercus coccinea	Deciduous	Fast	40'	6'	36"	Fall color
Quercus ilex	Evergreen	Moderate	50'	5'	36"	Drought tolerant
Quercus lobata	Deciduous	Moderate	60'	8'	36"	
Quercus rubra	Deciduous	Fast	60'	6'	36"	Fall color
Quercus wislizenii	Evergreen	Slow	30'-75'	6'	36"	
Sapium sebiferum	Deciduous	Fast	35'	5'	24"	Fall color

25' - 30' Diameter Trees

For shade calculations: 100% (Interior) = 707 sq. ft.; 50% (South, East, and West) = 354 sq. ft.; 25% (Corner and North) = 177 sq. ft.

<u>Botanical Name</u>	<u>Ever./Dec.</u>	<u>Growth Rate</u>	<u>Height</u>	<u>Planter Size¹</u>	<u>Soil Depth²</u>	<u>Comments</u>
Ginkgo biloba	Deciduous	Slow	70'	6'	36"	Fall color, use males only
Nyssa sylvatica	Deciduous	Slow	30'	5'	24"	
Pinus canariensis	Evergreen	Slow	60'	6'	36"	Drought tolerant
Pinus halepensis	Evergreen	Fast	30'	6'	24"	Drought tolerant
Pinus thunbergiana	Evergreen	Fast	70'	6'	36"	
Pyrus calleryana 'Aristocrat'	Deciduous	Fast	50'	5'	24"	
Sequoia sempervirens	Evergreen	Fast	70'	6'	36"	Moisture tolerant

20' - 25' Diameter Trees

For shade calculations: 100% (Interior) = 491 sq. ft.; 50% (South, East, and West) = 246 sq. ft.; 25% (Corner and North) = 123 sq. ft.

<u>Botanical Name</u>	<u>Ever./Dec.</u>	<u>Growth Rate</u>	<u>Height</u>	<u>Planter Size¹</u>	<u>Soil Depth²</u>	<u>Comments</u>
Laurus nobilis	Evergreen	Slow	30'	5'	24"	Drought tolerant, well-drained soils
Ligustrum lucidum	Evergreen	Fast	35'	4'	24"	Drought tolerant, flowers, fruit
Prunus serrulata 'Kwanzan'	Deciduous	Moderate	30'	4'	24"	Flowers
Umbellularia californica	Evergreen	Slow	25'	5'	36"	Drought tolerant

15' - 20' Diameter Trees

For shade calculations: 100% (Interior) = 314 sq. ft.; 50% (South, East, and West) = 157 sq. ft.; 25% (Corner and North) = 79 sq. ft.

<u>Botanical Name</u>	<u>Ever./Dec.</u>	<u>Growth Rate</u>	<u>Height</u>	<u>Planter Size¹</u>	<u>Soil Depth²</u>	<u>Comments</u>
Cercis canadensis	Deciduous	Moderate	35'	5'	18"	
Lagerstroemia indica	Deciduous	Slow	25'	4'	18"	Need full sun, flowers
Prunus cerasifera 'Krauter Vesuvius'	Deciduous	Moderate	25'	4'	24"	Colored foliage, flowers
Pyrus calleryana 'Bradford'	Deciduous	Slow-Mod.	50'	5'	24"	

6.7 Pedestrian Access Lanes

Pedestrian access lanes will be provided to connect pathways in landscape corridors to interiors of residential neighborhoods. These lanes shall be openings in fences or soundwalls "at an average interval of every 600 linear feet with the distance between individual access points no more than 1,000 linear feet along the perimeter of the project. A fence or wall may be provided at the back edge of the landscaped corridor where the major arterial streets abut a multiple residential area. Where a fence or wall is used, the location of pedestrian access connections shall be coordinated with the location of transit stops to facilitate the use of public transit. The connection from the interior sidewalk to the pedestrian/bicycle pathway shall be made by the developer" (NCRSP, Section 3).

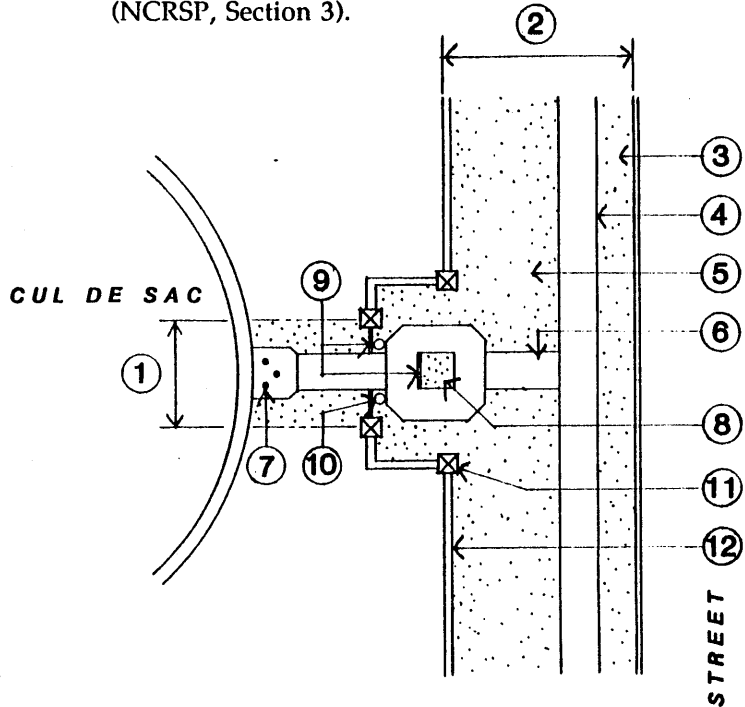


Figure 6-9
Pedestrian
Access Lane

KEY:

- 1. PEDESTRIAN ACCESS LANE
- 2. LANDSCAPE CORRIDOR
- 3. LAWN AND/OR LEGUME
- 4. PEDESTRIAN/BICYCLE PATH
- 5. PLANTING AREA
- 6. 8' WIDE PATH CONNECTION
- 7. BOLLARD
- 8. TREE WELL
- 9. WROUGHT-IRON FENCING
- 10. LIGHTED BOLLARD
- 11. PILASTER
- 12. SOUNDWALL OR WOOD FENCE

As stated in the North Central Roseville Specific Plan, Section 3:

"Where appropriate, a separate pedestrian pathway corridor may be utilized to provide a connection between streets. The intent is to create a reasonably direct route to the schools and parks. The separate pedestrian pathway corridors are to be limited to areas where the street would not provide a sufficiently direct route. In no case should a separate pedestrian walkway flanked on both sides by a fence be longer than the depth of a single lot. The corridors are to be landscaped, provide an 8 foot-wide path connection, and shall have minimum corridor widths as follows:"

Length	Minimum Corridor Width	Pavement Width
25' or less	15'	8'
26' to 100'	20'	8'

Landscaping adjacent to these entry points shall include accent trees. Consult "5. Plant Lists/Matrixes" for recommended accent trees.

Refer to "Figure 6-10" for the City of Roseville standard for pedestrian access lane bike barrier.

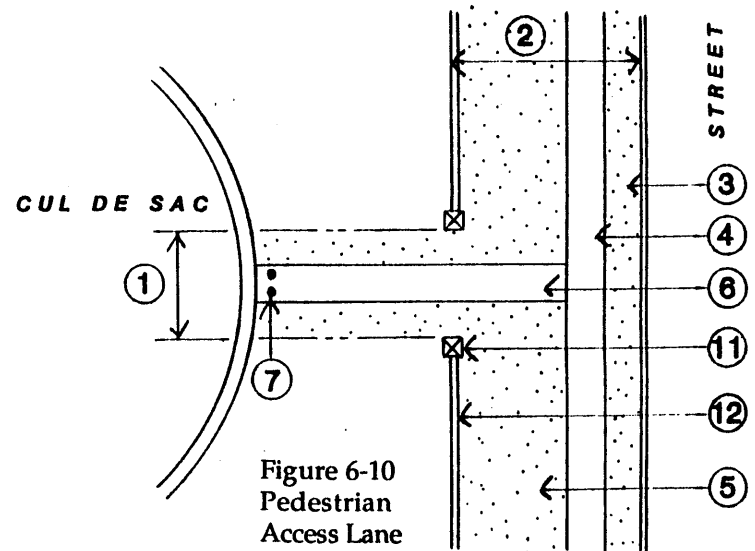


Figure 6-10
Pedestrian
Access Lane

6.8 Public Utilities Easements

Essentially, widths of utility easements are equated with widths of landscape corridors. Fortunately, though, landscape design is physically restricted in only a portion of the corridor. Utility easements, including utility trenches and possible reclaimed water lines, may not occur on both sides of a roadway. Consult civil engineers' plans and/or the appropriate agency for final locations and widths for any and all public utility easements. Landscaping shall coordinate with utility easements as follows:

Arterial Roads (Harding Blvd., Pleasant Grove Blvd., Roseville Parkway, Stanford Ranch Road and Washington Blvd. north of Collector B):

A 4 to 6 foot wide utility trench shall be located 6 feet on center clear from the back of the street curb. Within this trench are utilities for Cable TV, electric, telephone and P.G. and E. No tree planting or permanent structure shall be placed over the trench or between the trench and street curb; only shrubs, groundcover, or lawn may be planted. Trees shall be planted 12 feet minimum on center from the back of curb.

Should reclaimed water be utilized, final locations of reclaimed water lines shall be coordinated with the Department of Environmental Utilities. Trees are to be planted 5 foot minimum from the centerline of the waterline.

Refer to Figure 6-12 for an illustrative street section and Figure 6-20 for conceptual locations and sizes for the reclaimed water line.

Washington Blvd., south of Collector B:

A 4 to 6 foot wide utility trench shall be located 14 feet on center clear from property lines. Within this trench are utilities for Cable TV, electric, telephone and P.G. and E. No tree planting or permanent structure shall be placed over the trench or between the trench and street curb; only shrubs, groundcover, or lawn may be planted. Refer to Figure 6-13 for an illustrative street section.

Diamond Oaks Boulevard:

Two trenches exist along Diamond Oaks Boulevard. One contains utilities for Roseville Electric and Roseville Telephone and is located 7.5 feet on center from the back of curb. The other is a trench for all PVC distribution, which is located 18 feet on center from the top back of curb. Both trenches are two feet wide. No tree planting or permanent structure shall be placed over the trench; only shrubs, groundcover, or lawn may be planted. Refer to Figure 6-17 for an illustrative street section.

All Other Streets (Collectors A, B, C, D and E and Gibson Dr.):

A 5-foot trench shall be located within these landscape corridors at various locations according to the street. Within this trench are utilities for Cable TV, electric, telephone and P.G. and E. No tree planting or permanent structure shall be placed over the trench; only shrubs, groundcover, or lawn may be planted.

Should reclaimed water be utilized, final locations of reclaimed water lines shall be coordinated with the Department of Environmental Utilities. Trees are to be planted 5 foot minimum from the centerline of the waterline.

Refer to Figures 6-14, 6-15, and 6-16 for illustrative street sections and Figure 6-20 for conceptual locations and sizes for the reclaimed water line.

Refer to "6.3 Local Streets" for information on public utilities within local streets.

Additional Requirements

A 12 foot radius clearance of trees and shrubs is required from all underground manholes and surface-mounted telephone terminals. Water from sprinklers and its runoff into manholes should be minimized.

Retaining walls are required around all surface-mounted electrical equipment where a slope is created within an 8'-0" radius. Contact the City of Roseville Electrical Department for the specific details for retaining walls.

Where trees are proposed to be planted within 3'-0" from outside of utility trenches, root barriers shall be installed as requested by the Electric Department or Roseville Telephone Company to eliminate root intrusion.

Verify locations and widths of sewer and watermain easements as necessary. Consult civil engineers' plans and/or the appropriate agency for locations and widths of any and all public utilities easements. Refer to "Figure 6-19" for watermain locations. Locations for main water transmission lines occur both in the landscape corridors and streets.

All landscaping on a public utility easement or near a public utility is subject to final approval by the City of Roseville Planning Department and/or the appropriate agency. Any grading within these easements is subject to approval by the City of Roseville and/or the appropriate agency.

Powerline Easements

A series of high-voltage powerlines traverse the Plan Area from the northwest to the southeast. The steel tower lines and northerly wood pole line are operated by PG&E. The City of Roseville Electric Department also operates a 60kV/12kV pole line.

PG & E High-Voltage Towers and Wood Pole Line

A 75-foot wide easement exists below the PG&E high-voltage towers. The high-voltage towers are located on center with the easement. The PG&E wood pole line is set within a 117.5-foot wide easement alongside the 75-foot wide high-voltage tower easement. Total PG&E easement is thus 192.5 feet wide.

Landscaping below these power lines shall conform with requirements of PG&E and shall be met as follows:

1. Landscaping shall be restricted to shrubs and groundcover within PG&E corridor. Dwarf tree varieties not exceeding 15 feet in height may be considered acceptable upon approval by PG&E
2. Berms shall not be placed next to the base of electric transmission line towers. Any berms PG&E easements shall maintain the ground-to-conductor clearance as required by General Order 95 of the California Public Utility Commission. Contact PG&E for information.
3. No grading shall occur within 6 feet of transmission line structures. Any grading within the easement shall be subject to review by PG&E to ensure that access to and along the transmission line right-of-way will not be obstructed. Generally, no structures or overhead lighting are allowed within PG&E easements. Consent to grading or placement of structures is required by PG&E.

Refer to the plant list of trees to the right for recommended utility easement plantings below power lines.

Power Line Easement Tree List

The following plants listed are recommended, but not exclusively. Refer to "5. Plant Lists/Matrixes" for additional information on plant characteristics.

Additional plants may be proposed and all plants are subject to review by the City of Roseville Planning Department and/or the appropriate agency, including PG&E.

<u>Botanical Name</u>	<u>Common Name</u>	<u>Ever./Dec.</u>
Arbutus unedo	Strawberry Tree	Evergreen
Callistemon citrinus	Lemon Bottlebrush	Evergreen
Cercis canadensis	Eastern Redbud	Deciduous
Cercis occidentalis (standard)	Western Redbud	Deciduous
Eriobotrya deflexa	Loquat	Evergreen
Lagerstroemia indica	Crape Myrtle	Deciduous
Malus floribunda	Flowering Crabapple	Deciduous
Magnolia soulangiana	Saucer Magnolia	Deciduous
Maytenus boaria	Mayten Tree	Evergreen
Prunus cerasifera 'Krauter Vesuvius'	Purple-Leaf Plum	Deciduous
Rhus lancea	African Sumac	Evergreen

City of Roseville 60kV/12kV Pole Line

The City of Roseville has a parallel 60kV/12kV pole line and 25' public utility easement contiguous with the southern boundary of the PG & E tower corridor and contiguous with the 25'-0" City of Roseville P.U.E. is a 15'-0" P.U.E. granted to the City of Roseville for the extension of electrical service. The landscape design for this area shall adhere to the following conditions:

1. Changes in the existing earth grade shall be approved by the Electric Department.
2. The plants allowed within this easement shall be shrubs with a mature height of 15'-0" or less.
3. The plants allowed within 5'-0" of each pole is groundcover with a mature height of 1'-0" or less.
4. Plants contiguous with this easement shall not have a mature growth of greater than 25'-0" and shall not have more than 10% of the drip line within the easement.
5. The Specific Plan for North Central Roseville does not allow for specific access for each pole. Each pole's access should be addressed on case-by-case basis.

Each pole requires access to the nearest street or parking lot with an access easement and to be a minimum of 10'-0" in width. The access shall have plant growth with a maturity of 1'-0" at maturity. Contact the Electric Department for specifics on each pole.

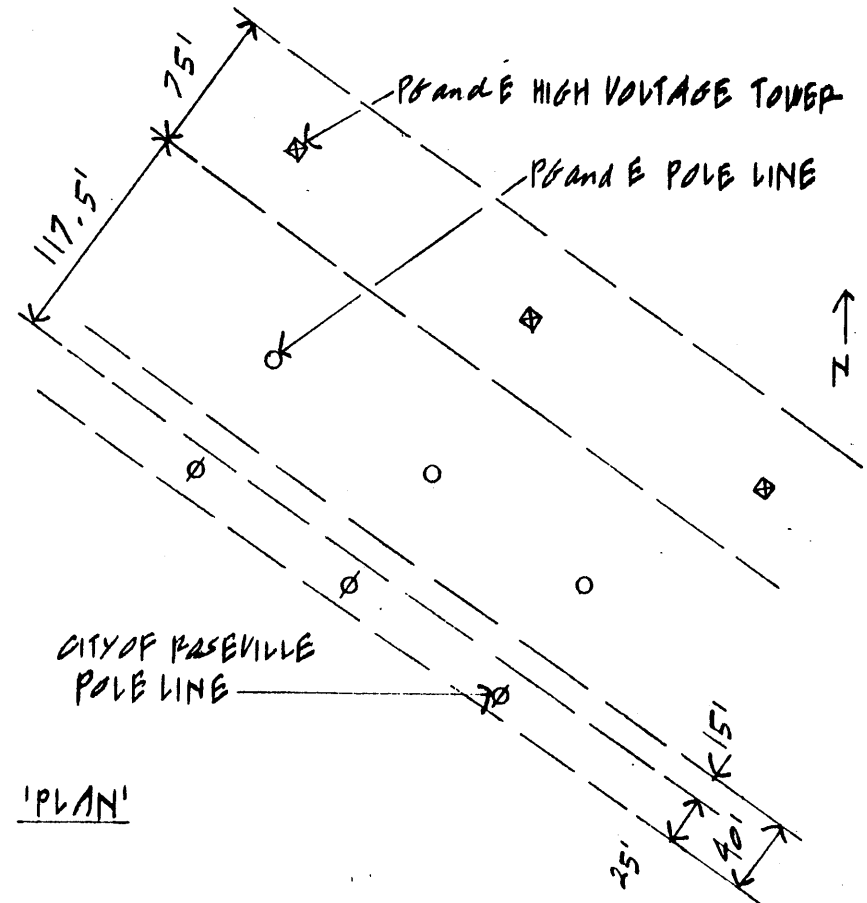


Figure 6-11
Powerline Easements

Figure 6-12

35' and 50' Landscape Corridor P.U.E.

- Harding Blvd. (50' L.C. w/ 100' R.O.W.)
- Pleasant Grove Blvd. (35' L.C. and 50' L.C. w/ 100' R.O.W.)
- Roseville Parkway (50' L.C. w/ 100' R.O.W.)
- Washington Blvd. - north of Collector B (50' L.C. w/ 100' R.O.W.)

Street Tree (Note: Street tree plantings must be coordinated with all public utility companies to allow access to manholes and vaults.)

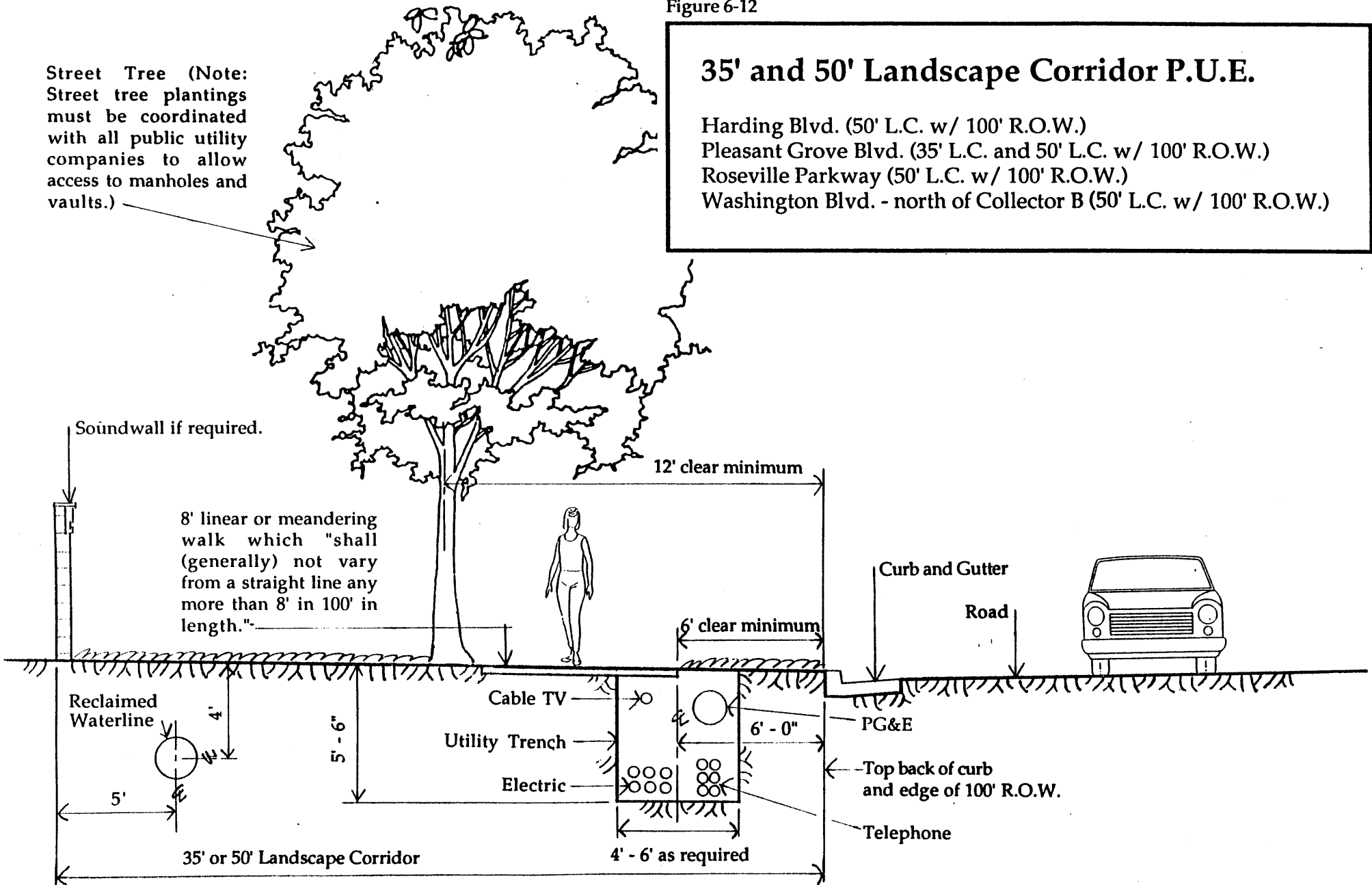


Figure 6-13

Washington Blvd. - south of Collector B
(50' L.C. w/ 100' R.O.W.)

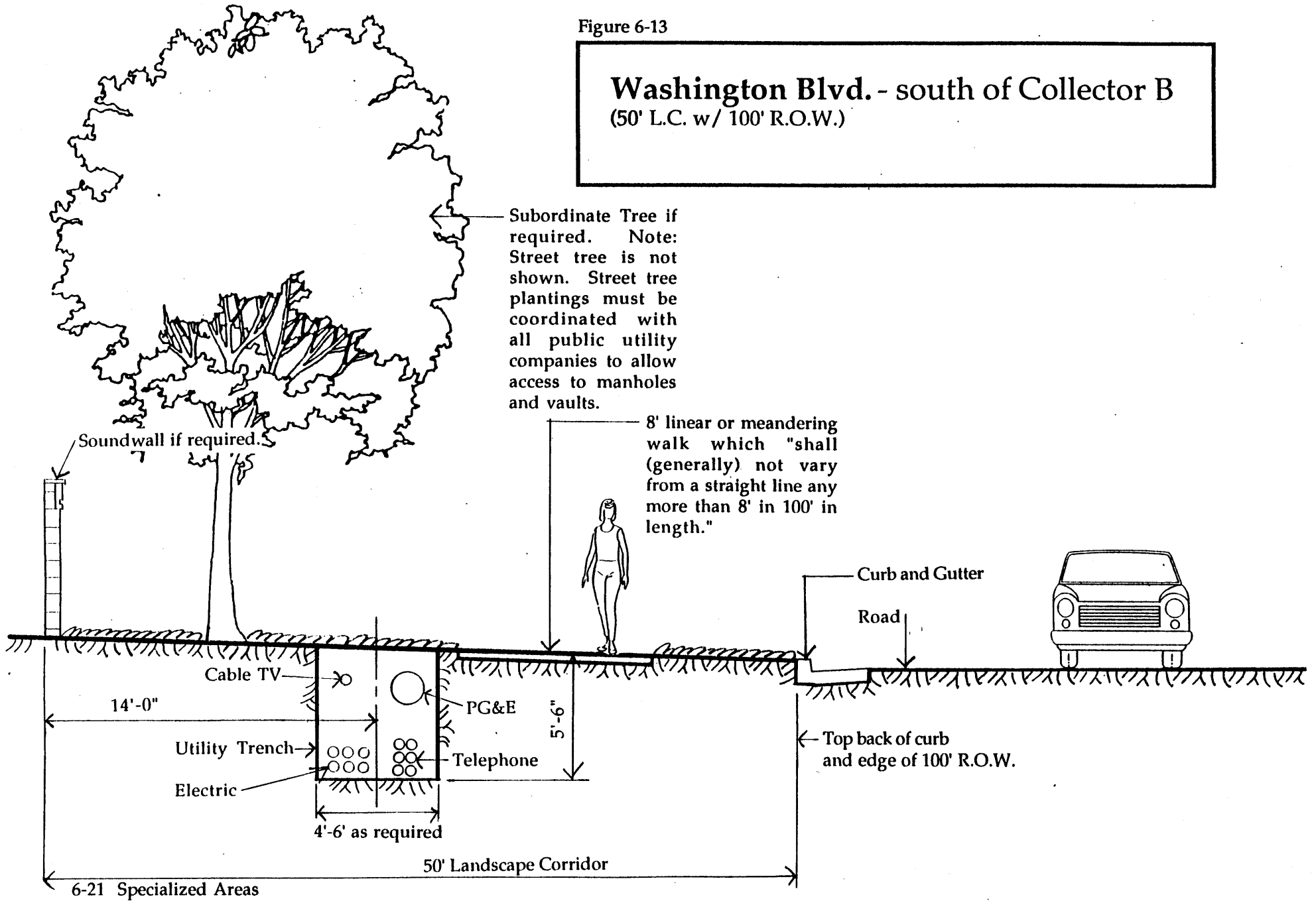


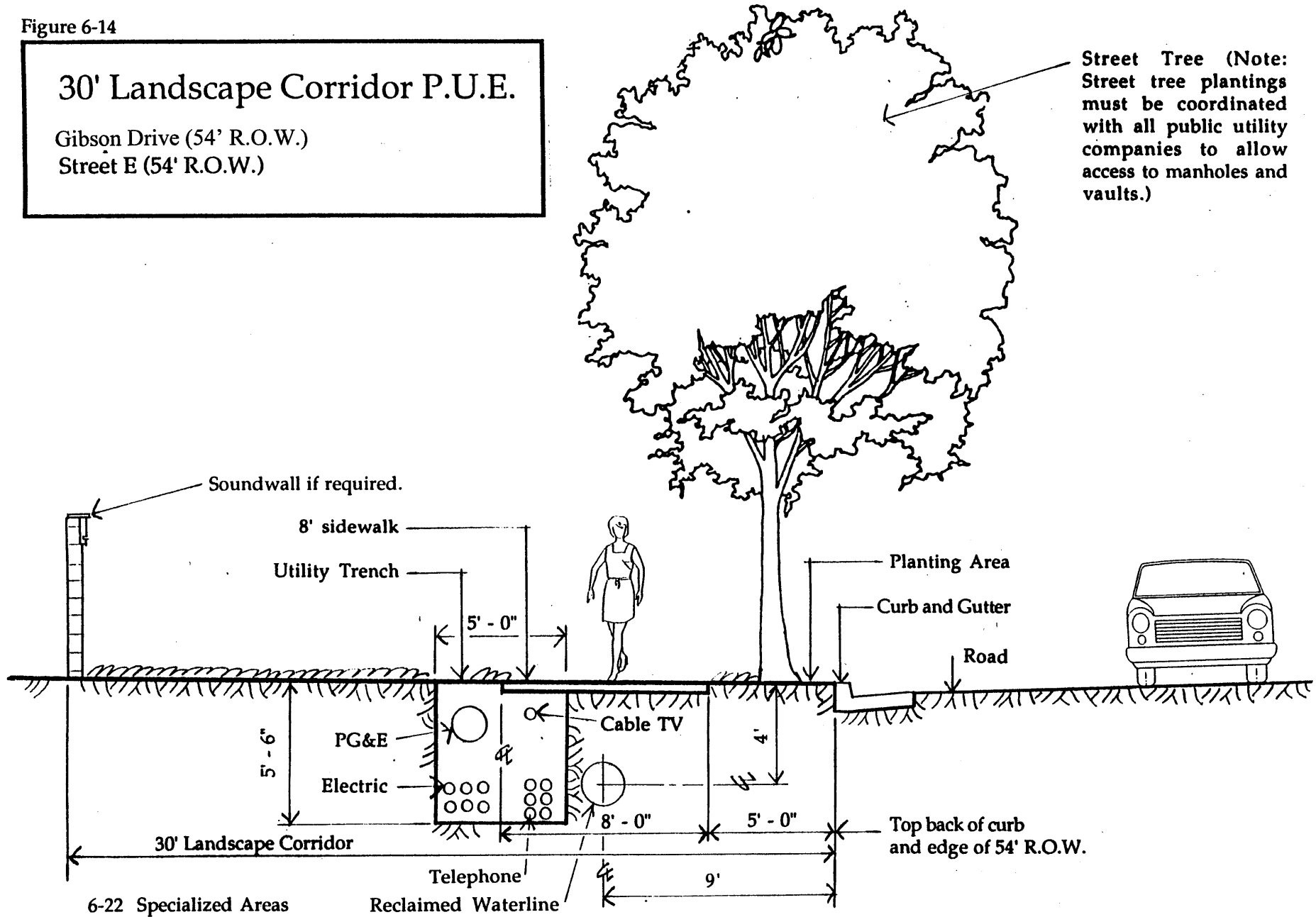
Figure 6-14

30' Landscape Corridor P.U.E.

Gibson Drive (54' R.O.W.)

Street E (54' R.O.W.)

Street Tree (Note: Street tree plantings must be coordinated with all public utility companies to allow access to manholes and vaults.)



Street Tree (Note: Street tree plantings must be coordinated with all public utility companies to allow access to manholes and vaults.)

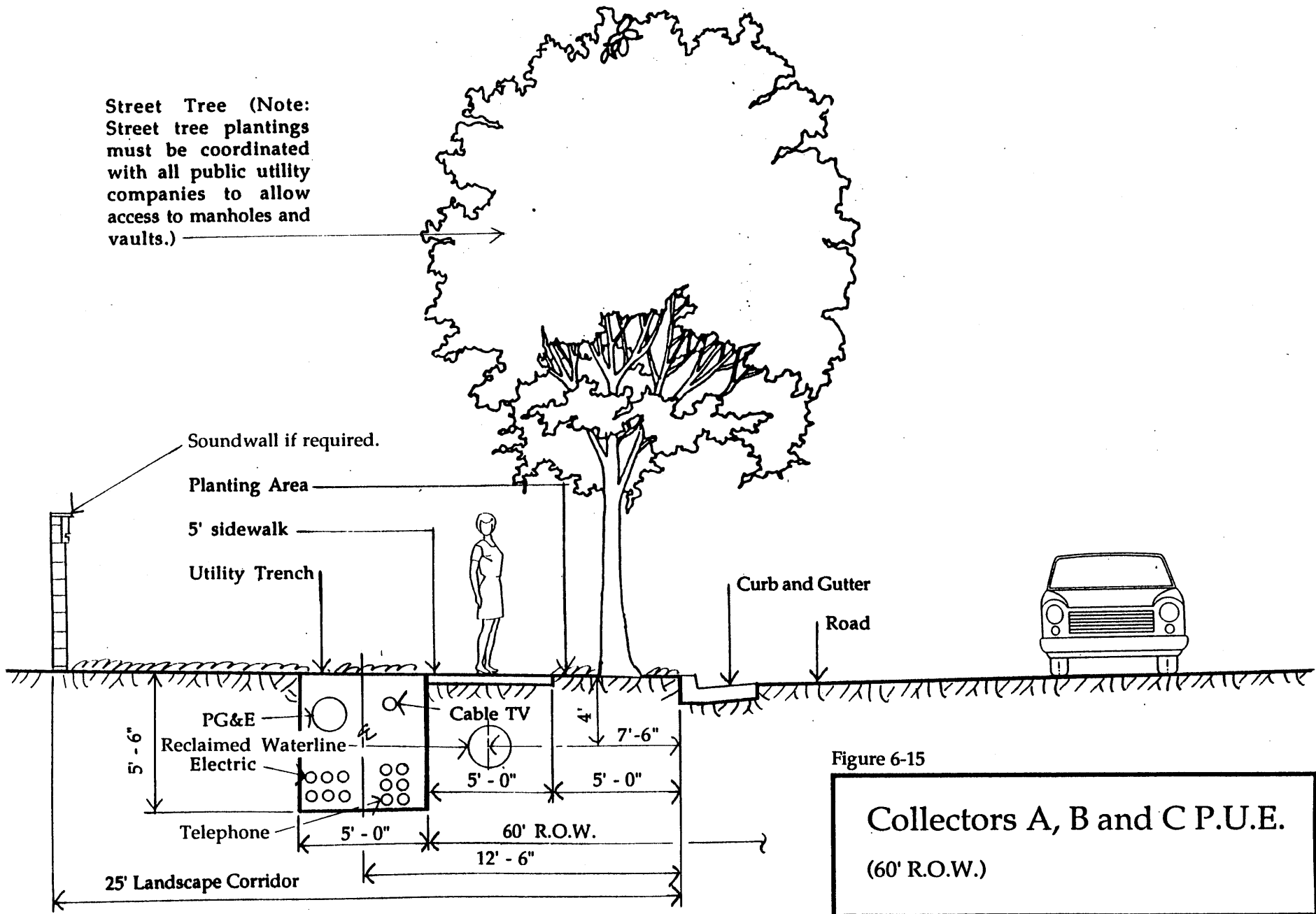


Figure 6-15
Collectors A, B and C P.U.E.
(60' R.O.W.)

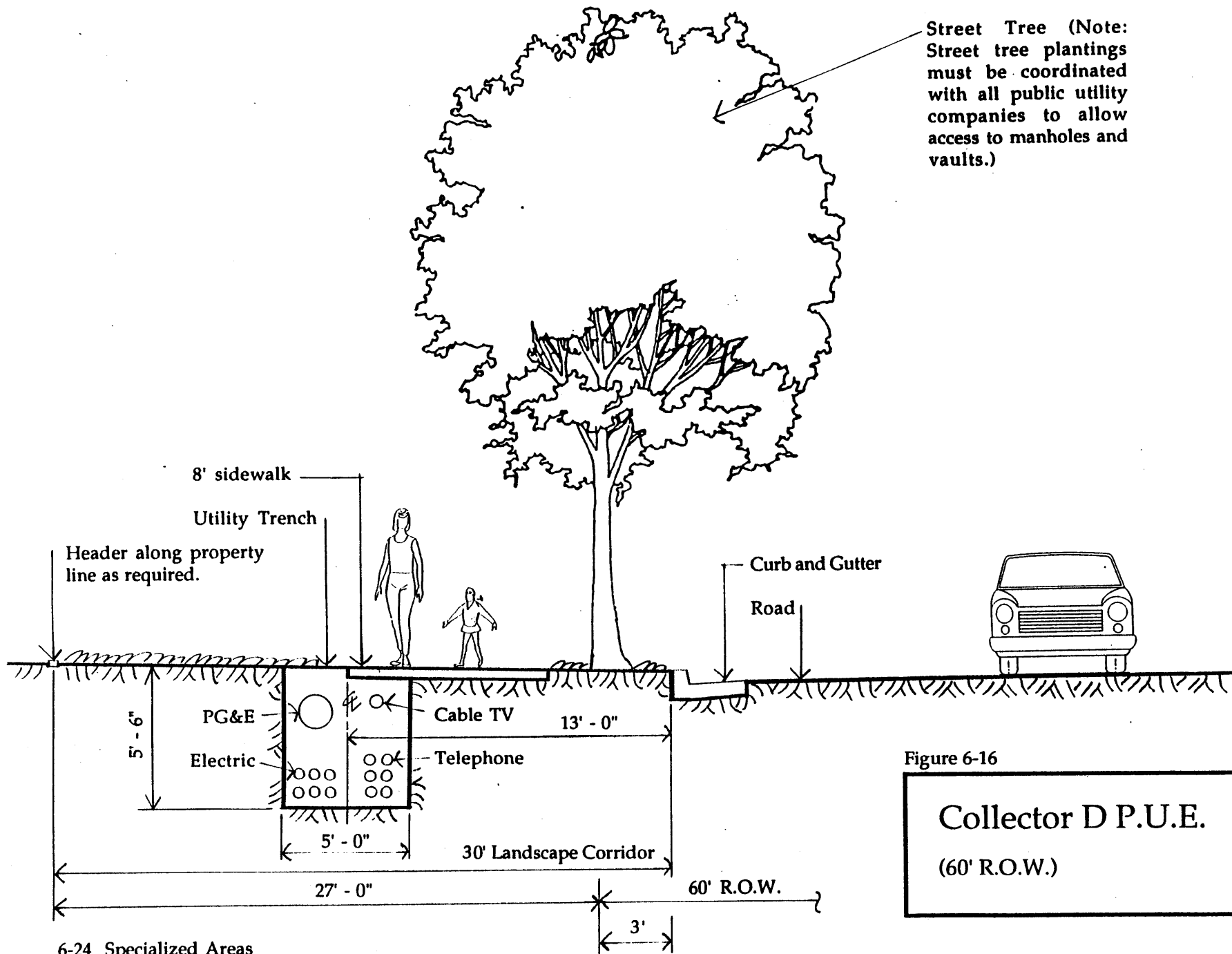
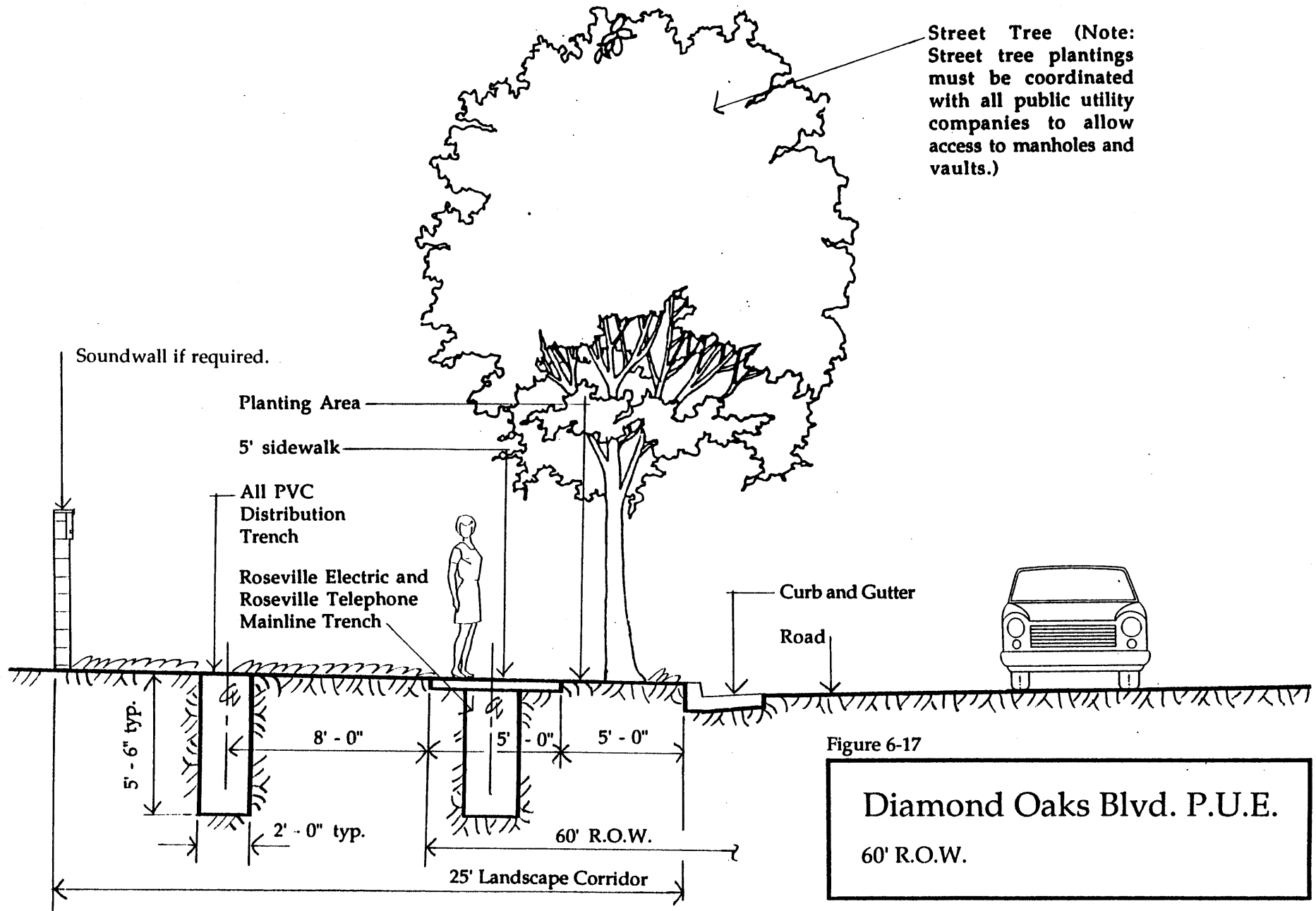


Figure 6-16

Collector D P.U.E.
(60' R.O.W.)



Street Tree (Note: Street tree plantings must be coordinated with all public utility companies to allow access to manholes and vaults.)

Figure 6-17

Diamond Oaks Blvd. P.U.E.
60' R.O.W.

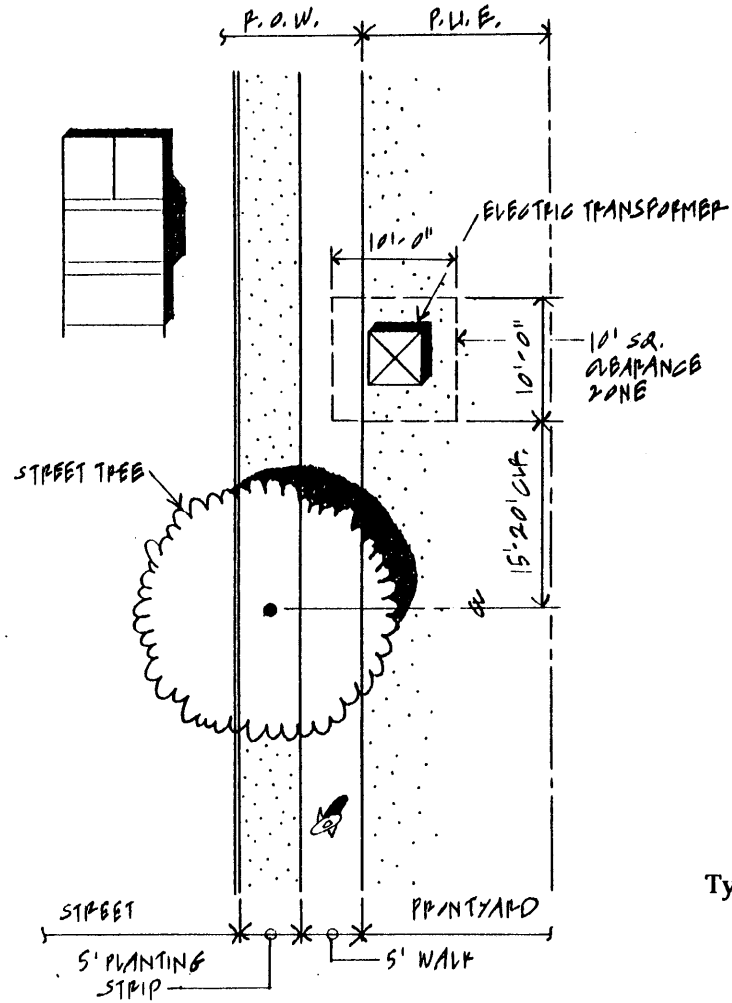


Figure 6-18
 Typical Utility Clearance
 Along Local Streets

Note: Locations for main water transmission lines occur both in the landscape corridors and streets.

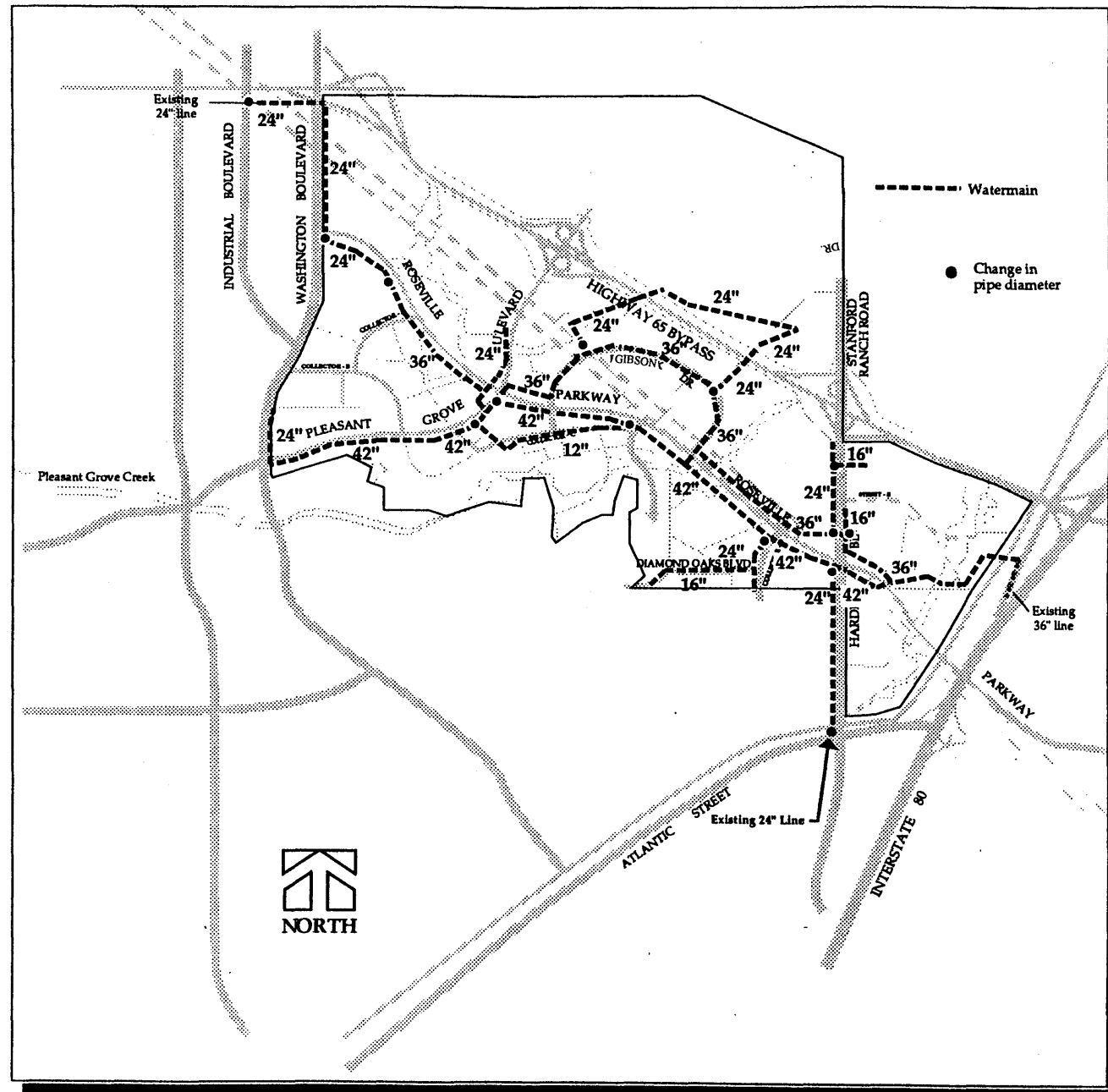
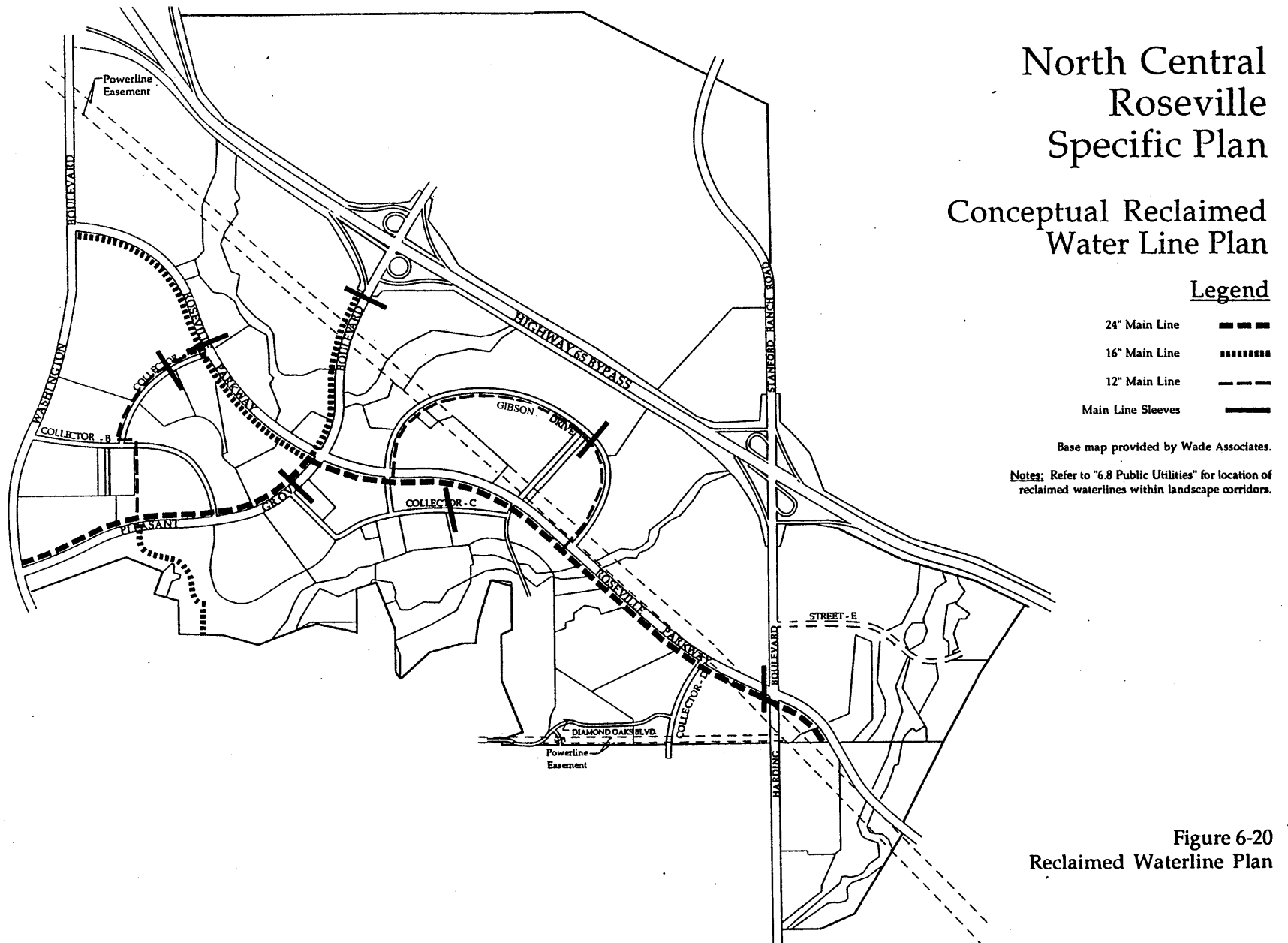


Figure 6-19
Water Plan

North Central Roseville Specific Plan

Conceptual Reclaimed Water Line Plan



Legend

- 24" Main Line **— — — —**
- 16" Main Line **.....**
- 12" Main Line **- - - -**
- Main Line Sleeves **————**

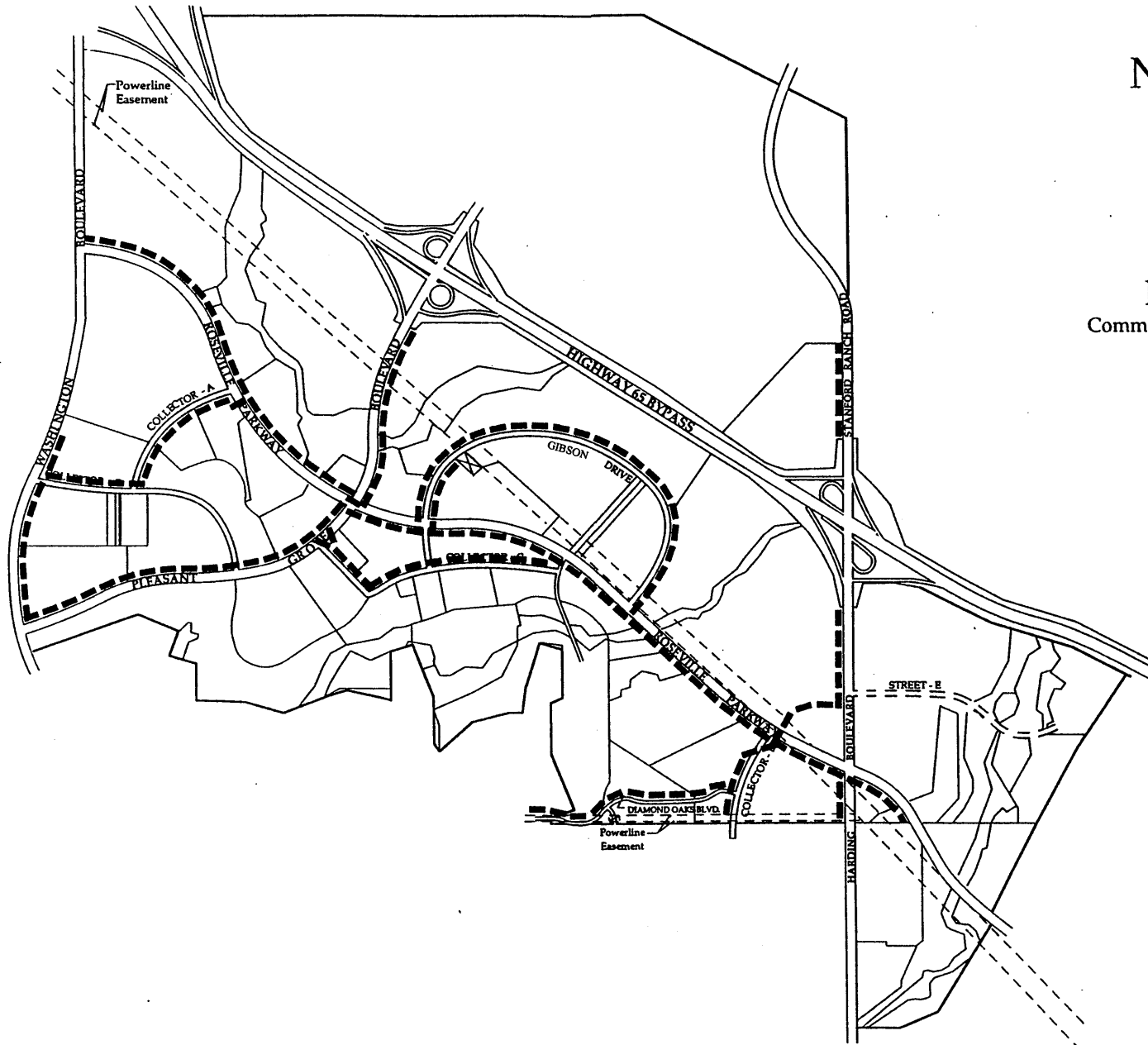
Base map provided by Wade Associates.

Notes: Refer to "6.8 Public Utilities" for location of reclaimed waterlines within landscape corridors.

Figure 6-20
Reclaimed Waterline Plan


North Central Roseville Specific Plan

Main Line Electrical Trench Community Facilities District No. 1



Legend

Main Line Trench 

Electrical Subsite
(Parcel 62) 

Base map provided by Wade Associates.

Figure 6-21
Main Line
Electrical
Trench Plan

6.9 Vernal Pools

Vernal pools, located within watersheds and other wetlands, have been established as permanent open spaces. These areas include Parcels 80a-88, 90, 91, 93, 95 and 96. In addition to providing open view corridors, these areas protect the sensitive, indigenous vernal pool habitats. For this reason, additional landscaping shall not be allowed in these preserves. An exception would be the introduction of seed material collected from a removed vernal pool to be put into an existing or reconstructed pool.

The goal of the North Central Roseville Specific Plan is to provide a subtle transition from the man-made environment and to maintain a cohesive appearance of these open space corridors as a natural environment. This shall be accomplished through landscaping within adjacent land uses.

Points at which views open into these open spaces shall be framed by low-level landscaping to conceal short-range views and by street trees to frame the views. In designing landscapes adjacent to these open space corridors, visual transition from the landscaped corridors into the sparsely vegetated wetlands always shall be considered and designed accordingly. Adjacent landscaping shall not create a distinct boundary with these open spaces. Furthermore, plant species to be used adjacent to these areas shall be non-invasive and compatible with the the nearby natural habitat.

Low or open perimeter fences shall define watersheds and other wetlands areas. These fences shall be visually compatible with the surrounding natural features. Points of entry into these wetlands via a pedestrian path shall be set-up in a way that prevents access by dirt bikes or other motorized vehicles, but must not preclude handicapped accessibility.

Access into these wetlands shall be provided with pedestrian/bicycle pathways constructed of asphalt. Layout of paths shall conform to the natural topography, where possible, with a minimal of grading. Because no additional landscaping is allowed in these sensitive areas, pathways are recommended to be laid-out on the south or west perimeters within wetlands areas so that shade from adjacent landscaping may be used. Pathways shall avoid potential snags and trees favored by raptors. Adjoining parcels shall provide connections of on-site paths to the paths leading onto the wetlands. See "3.12 Pedestrian/Bicycle Path". Design of pathways into these wetlands shall conform to the provisions of the Corps of Engineers 404 permit.

Any grading to occur adjacent to the wetlands shall not allow any additional run-off to occur into these open spaces or interfere with its natural hydrology.

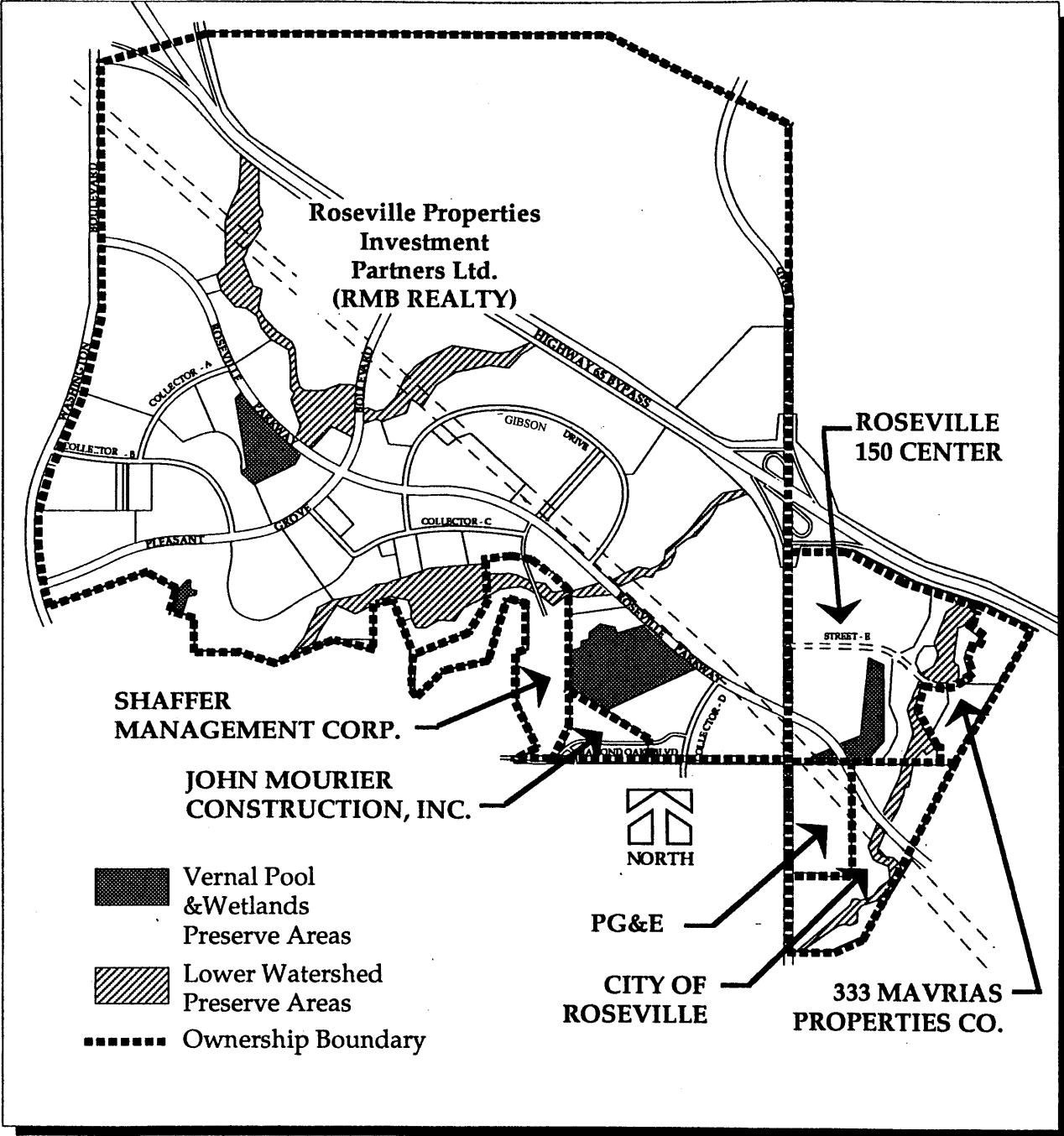


Figure 6-22
Preserve Delineation

Chapter	7.	Soils Horticultural Guidelines	Page
Section	7.1	Soils Survey	7-1
	7.2	Subsoil Preparation	7-5
	7.3	Import Soils Characteristics	7-6
	7.4	Soil Amendment Recommendations	7-7
Figure	7-1	Groups 1 and 2 Soils Sections	7-2
	7-2	Soils Map	7-3
	7-3	Geology Map	7-4

Soils Horticultural Guidelines

7.1 Soils Survey

The soil conditions of the North Central Roseville Specific Plan Area will have the greatest impact upon the success of the landscape plantings. As described in "2.5 Soils," nine basic soil types are identified within the Plan Area.

Horticulturally, these nine soil types can be grouped into two primary classifications and a third miscellaneous category. In the North Central Roseville Specific Plan Area, these groupings are typically associated with a particular subsoil. Groupings also are based upon such site characteristics as depth of top soil, texture and soil chemistry. The three horticultural groups are described as follows:

Group 1- The Cometa-Fiddymont complex, Cometa-Ramona sandy loam and the Fiddymont loam soil types occurring in the western and southern edge of the Plan region, as well as in small areas along the southeast perimeter. These soils typically have sandy loam top soils with clay loam sub-soils. The sandy loam top soils are usually 12 to 18 inches deep with finer textured sub-soils extending to 60 inches. These soils are represented in the Soil Analyses Results provided in the Appendix by samples #1, #2, #3, #4, #8, #10 and #11.

Refer to the "Figure 7-1 Soils Map" for a general distribution of the soils.

Group 2- This group encompasses the greatest area of the Plan region and includes the soil types listed as Exchequer very stoney loam, Exchequer-Rock Outcrop complex, Inks cobbly loam and Inks-Exchequer complex. These soils are grouped together because of the shallowness of the top soil (typically less than 12 inches); the presence of dense, andesetic breccia (Mehrten mudflow) and volcanic conglomerates (Mehrten conglomerate) beneath the top soil

(subsoil); and high concentrations of cobbles, rocks and rock outcrops. Analyses of the top soils occurring within these soil types are represented in the Soil Analyses Results by samples #5, #6, #7, #9, #12, #13, #14, #15, #16, #17 and #18. Generally the top soils are classified as sandy loams and loams within this group.

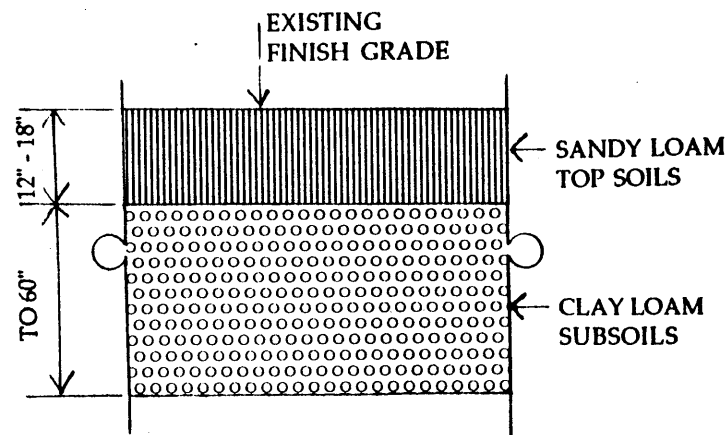
Refer to the "Figure 7-2 Geology Map" map for a graphic distribution of the Mehrten subsoil, and "Figure 7-1 Soils Map" for a graphic distribution of the soils.

Group 3- This miscellaneous group is comprised of the soils within the pits, dumps and cut-and-fill areas along the southeast perimeter. These soils were not tested because of the diversity of soils in these locations. Any development in these areas should be evaluated on an individual project basis.

The charts beginning shown in the Appendix summarize the primary textural and chemical characteristics of the top soils represented within the soil groups.

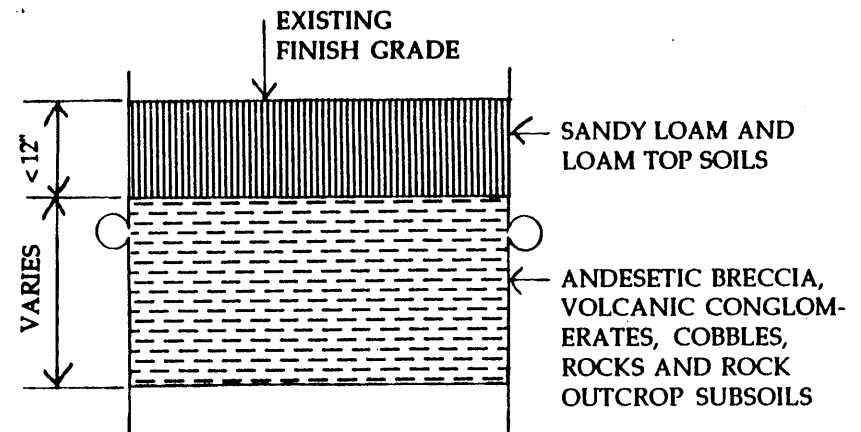
The top soils within the Plan area are generally uniform in textural and chemistry characteristics. This consistency allows relatively uniform soil amendment procedures and import soil specifications to be applied throughout the Plan area.

These top soils, typically sandy loams, loams and occasionally sandy clay loam and clay loam, tend to be strongly to moderately acidic in reaction, with low to moderate fertility levels. Salinity, sodium, chloride, exchangeable sodium and boron levels are all well within acceptable levels and do not represent any hazard to plant growth.



GROUP 1 SOILS SECTION

SOIL TYPES: COMETA-FIDDYMENT COMPLEX
COMETA-RAMONA SANDY LOAM
FIDDYMENT LOAM



GROUP 2 SOILS SECTION

SOIL TYPES: EXCHEQUER VERY STONEY LOAM
EXCHEQUER-ROCK OUTCROP COMPLEX
INKS COBBLY LOAM
INKS-EXCHEQUER COMPLEX

Figure 7-1
Groups 1 and 2 Soils Sections

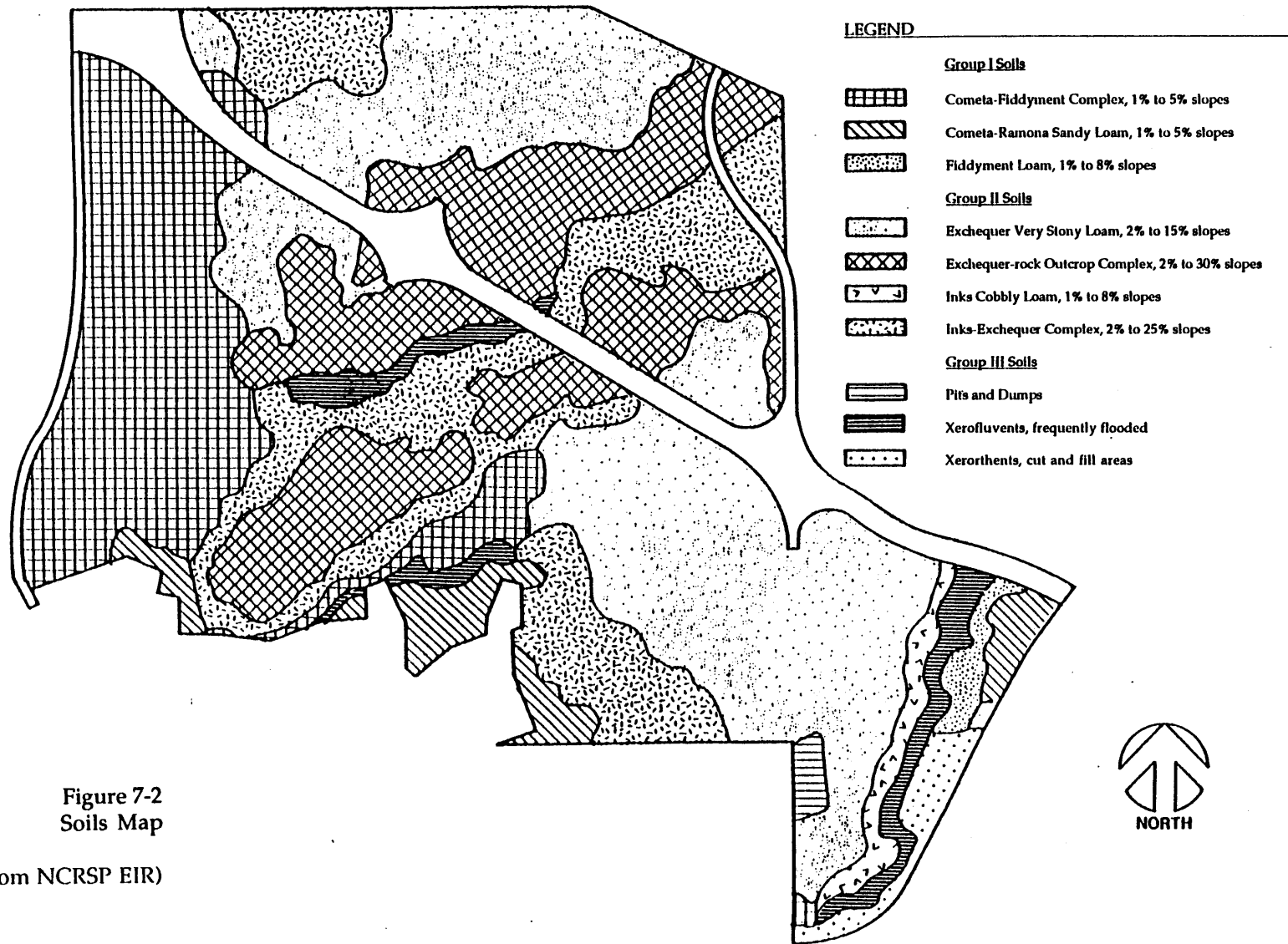
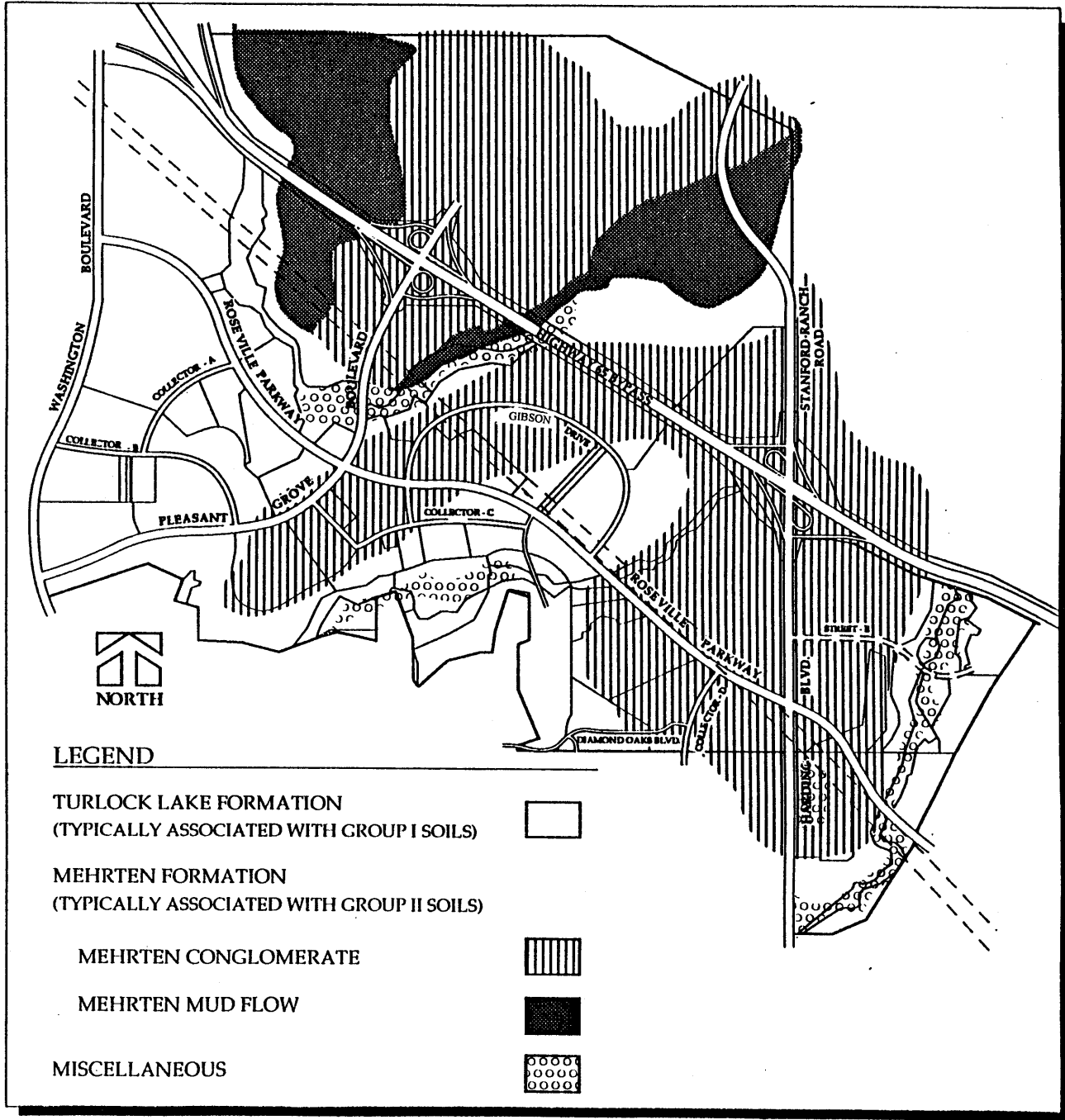


Figure 7-2
Soils Map

(Graphics taken from NCRSP EIR)

Figure 7-3
Geology Map



7.2 Subsoil Preparation

The primary soils issue is the shallow and extremely rocky top soils extending over the central portion of the site. In these areas drainage and additional soil depth will need to be provided to planting areas by importing fill soils and by ripping the volcanic subsoils geology to allow sub-surface drainage.

Ripping techniques of the volcanic subsoil geology vary among the different soil groups. As discussed in "2.4 Geology," three different subsoil geologic groups exist within the Plan Area: the Mehrten Volcanic, the Mehrten Conglomerate and the Turlock Lake Formations.

The **Mehrten Conglomerate Formation** consists of compacted layers of cobbles and boulders. This subsoil group will vary in the ability to be excavated due to degrees of cementation and weathering. In general, though, the Mehrten Conglomerate should be rippable with a Cat D8, D9 or a similar-sized equipment.

The **Mehrten Volcanic Formation (Mudflow)** is the hard-surfaced mudflow peculiar of the Plan Area. Of the three subsoil groups, this is the most difficult to excavate. This subsoil formation may be ripped into large chunks with a Cat D9 or D10 with a single tooth ripper, then broken down into smaller pieces and used as a gravel substitute. However, difficulty in excavation might render landscaping preparations expensive and time-consuming.

The **Turlock Lake Formation** is the most favorable for landscaping purposes of the subsoil groups that exist. This subsoil group is a composition of "a heterogeneous assemblage of silt and sand, interbedded with granitic and metamorphic gravel" (Preliminary Geotechnical Report, pg. 4). Ability to excavate will not be a problem and standard soil preparation over the Turlock Lake Formation should be adequate.

Sub-surface drains are an alternative for providing drainage where ripping of the volcanic subsoils is not practical or where additional drainage is necessary. Refer to "8. Planting and Staking Details." The amount of fill required will depend upon the type of plants used and the amount of soil available. "5. Plant Lists/Matrixes" includes a category for minimum required soil depth for each species. The landscape architect should use this information to provide sufficient soil depth for the plant selection and to prepare the soil as per the planting details accordingly.

7.3 Import Soils Characteristics

Import soils shall be needed where required soil depth is not presently met for landscaping purposes. It is important that import soils characteristics are compatible with the existing native top soils. Water does not freely drain from fine textured soils into coarse textured soils. It will be necessary to ensure that fill soils be equal to or coarser in texture than the existing native soils. For this reason, most import soils will need to be of a sandy loam texture, unless placed below loam or clay loam soils. Import soils specifications are provided in this section.

Planting mounds also may be used to provide soil depth. Refer to "8. Planting and Staking Details." This is an effective approach that limits the amount of required import fill. The use of planting mounds requires certain design considerations to ensure an adequate planting environment. As discussed, the soil used for constructing mounds should be equivalent or coarser in texture than the existing native soil to permit drainage into the lower soils. Mounds also present special irrigation problems. Because of diverse solar exposures on opposite sides of the mound, there are very different irrigation requirements. The opposing exposures may require separate irrigation valving to allow efficient irrigation management.

Import soil shall be specified as follows:

- Texture:** Import soils shall be uniform and classified as a sandy loam texture.
- Chemistry:** Import soils shall have a pH between 5.5 and 7.0. Salinity as measured by electrical conductivity (ECe) shall be no greater than 3.0 millimhos per centimeter. Sodium Adsorption Ratio (SAR) shall not exceed 6.0. Boron content shall be no greater than 1.0 parts per million.
- Quality:** Import soils shall be free of weeds, pathogens, litter and debris. Contractor shall submit samples for review and testing to a qualified soils laboratory.

7.4 Soil Amendment Recommendations

The following amendment recommendations are intended to address the average soil condition occurring in the Plan region. The landscape designer is encouraged to perform additional soil analyses to verify the appropriateness of the amendment procedures. Additional amendment information addressing specific soil textures is provided in the Appendix.

Liming:

The primary amendment requirement will be to raise soil pH through the incorporation of limestone, which will add calcium. Phosphorous also will become more available at higher pH levels.

The average liming requirements for these soils will be approximately 2 tons per acre or 100 lbs. of finely ground limestone per 1000 square feet.

The lime should be uniformly incorporated in the top 6 inches of soil. Soils should then be irrigated and allowed to dry several times prior to planting.

Organic Amendments:

The incorporation of organic amendments is recommended in lawn and herbaceous groundcover areas and useful in areas where soils are highly compacted from grading or are clay loam sub-soils. The preferred organic amendment is nitrogen enhanced fir or redwood shavings or 1/2 inch minus bark. These coarser materials will have a greater longevity in the soils than a sawdust product.

Rates for lawn areas will be 6 cubic yards per 1000 square feet uniformly incorporated to a depth of 6 inches, or 8 cubic yards per 1000 square feet incorporated to 8 inches. Rate should depend upon depth of effective incorporation.

Tree and shrub plantings should be widely cultivated to relieve compaction. If used, organic amendments should be incorporated in back fill mixes at a 1/3 by volume rate.

Planting Fertilizers:

Fertilizer incorporation for turf and herbaceous groundcovers areas prior to planting includes the following fertilizers at rates per 1000 square feet:

10 lbs. single superphosphate (0-20-0)
5 lbs. potassium sulfate (0-50-0)

Optional: 10 lbs. 6-20-20 commercial granular fertilizer

The lime, organic amendments and fertilizers may be incorporated simultaneously.

After sodding, lawn areas should be fertilized with calcium nitrate (15-0-0) at the rate of 12 lbs. per 1000 square feet and then be thoroughly irrigated. If lawn areas are seeded apply 1/2 this rate of nitrogen fertilizer.

The back fill mixes for container plantings should include 2 lbs. of 6-20-20 incorporated per cubic yard of backfill mix. After planting, 12 lbs. of calcium nitrate (15-0-0) should be applied per 1000 square feet and the area thoroughly irrigated.

Maintenance Fertilizers and Amendments:

The use of slow release nitrogen fertilizers is recommended for a consistency of nutrient supply. However, slow release formulations tend to be acidic in reaction. For this reason, it is recommended that slow release formulations be used alternately with calcium nitrate to avoid acidification of soils. Soils can be checked periodically to monitor this approach. Additionally, pelletized forms of limestone can be applied for especially acidic soils.

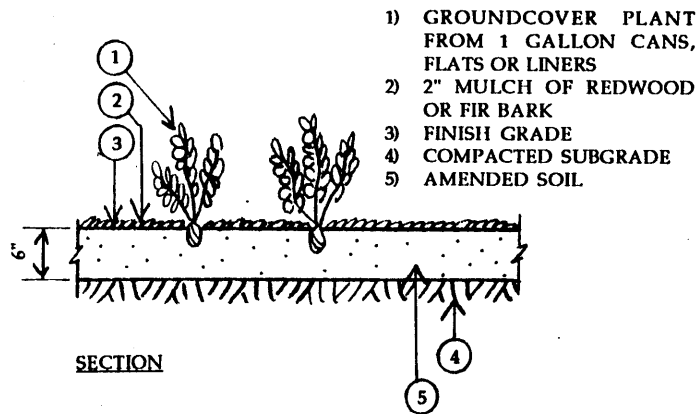
Chapter 8.	Planting and Staking Details	Page
<i>Figures</i>	<i>Groundcover Planting Detail</i>	<i>8-2</i>
	<i>Shrub Planting Detail</i>	<i>8-2</i>
	<i>15-gallon Tree Staking Detail</i>	<i>8-3</i>
	<i>Tree Guying Detail</i>	<i>8-3</i>
	<i>Planting Soil Treatment</i>	
	<i>on Group 2 Soils Alternates</i>	<i>8-4</i>

Planting and Staking Details

The following details serve as guidelines to successful plantings in the Planned Area. In addition to the standard planting details, planting alternatives offer solutions to problematic conditions inherit within the Plan Area, particularly in Group 2 soils which normally exist over the hard Mehrten Volcanic Formation subsoil. Refer to "7. Soils Horticultural Guidelines" for additional recommendations.

Planting and Staking Details

The following details or their equivalent shall be used for all street planting. These details may be modified to conform with recommended planting procedures for the North Central Roseville Specific Plan Area.

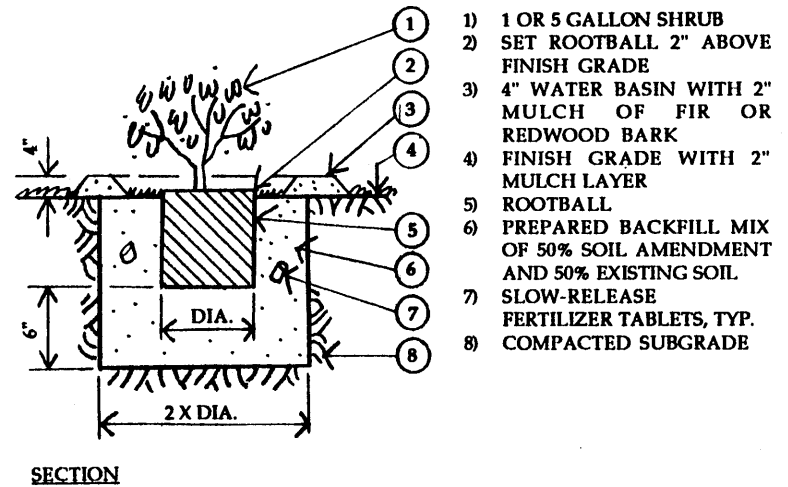


- 1) GROUNDCOVER PLANT FROM 1 GALLON CANS, FLATS OR LINERS
- 2) 2" MULCH OF REDWOOD OR FIR BARK
- 3) FINISH GRADE
- 4) COMPACTED SUBGRADE
- 5) AMENDED SOIL

GROUNDCOVER PLANTING DETAIL

SCALE

NONE

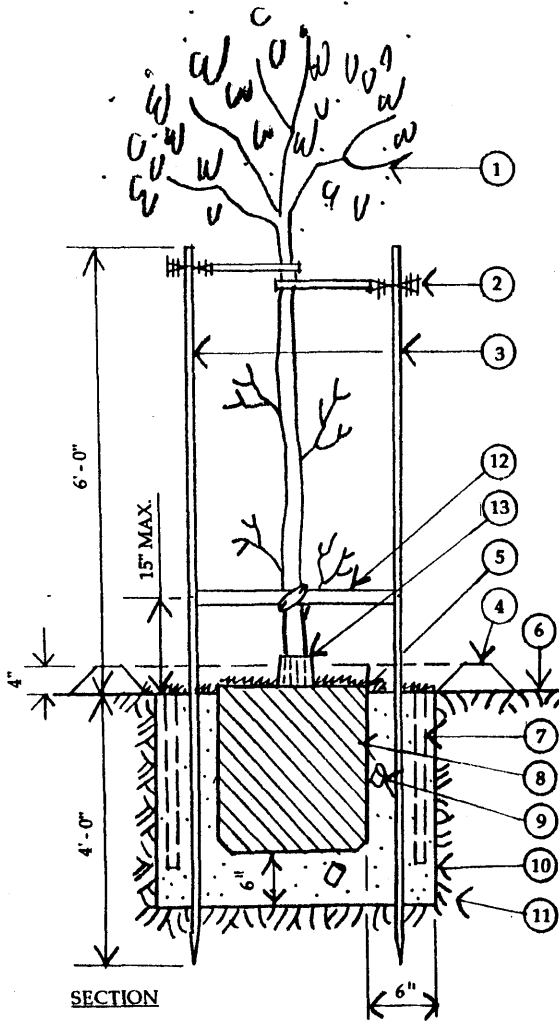


- 1) 1 OR 5 GALLON SHRUB
- 2) SET ROOTBALL 2" ABOVE FINISH GRADE
- 3) 4" WATER BASIN WITH 2" MULCH OF FIR OR REDWOOD BARK
- 4) FINISH GRADE WITH 2" MULCH LAYER
- 5) ROOTBALL
- 6) PREPARED BACKFILL MIX OF 50% SOIL AMENDMENT AND 50% EXISTING SOIL
- 7) SLOW-RELEASE FERTILIZER TABLETS, TYP.
- 8) COMPACTED SUBGRADE

SHRUB PLANTING DETAIL

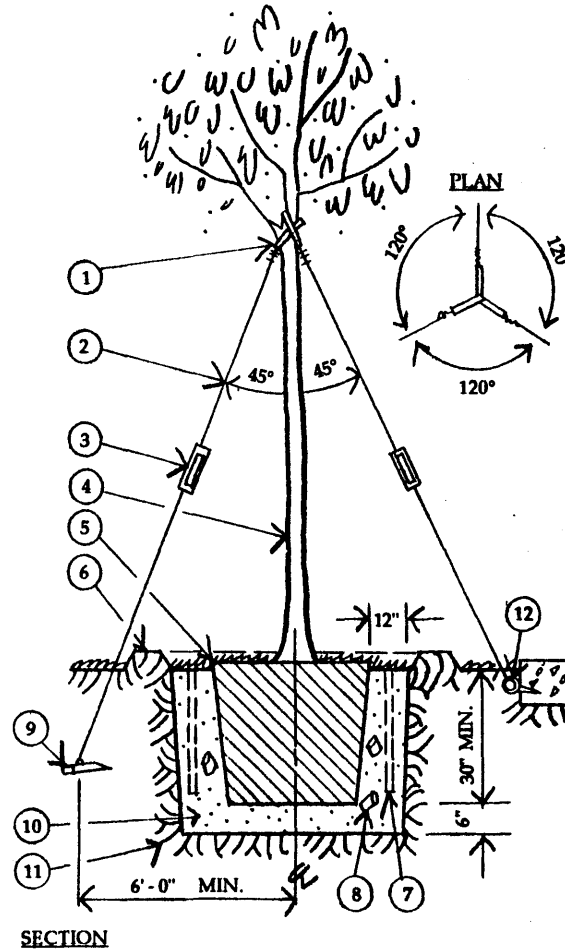
SCALE

NONE



15 GALLON TREE STAKING DETAIL
SCALE NONE

- 1) 15 GALLON TREE; REMOVE NURSERY STAKES AND LEAVE LOWER BRANCHES
- 2) NO. 12 WIRE; TWO TWISTS EACH SIDE OF NOTCHED STAKES
- 3) 2-2 1/2" DIA. X 10' LODGEPOLE STAKES WITH NEW RUBBER HOSE AND NO. 12 WIRE OR WONDER TREE TIES. PLACE STAKES OUTSIDE ROOTBALL.
- 4) 4" WATER BASIN IN PLANTING AREAS ONLY. COVER WITH 2" MULCH OF REDWOOD OR FIR BARK.
- 5) SET ROOTBALL 2" ABOVE FINISH GRADE
- 6) FINISH GRADE
- 7) 2-4" DIA. X 3' RIGID PERFORATED DRAIN PIPE WITH 3/4" DRAIN ROCK AND GREEN PVC SLOTTED DRAIN GRATE
- 8) ROOTBALL
- 9) SLOW-RELEASE FERTILIZER TABLETS, TYP.
- 10) PREPARED BACKFILL MIX OF 50% SOIL AMENDMENT AND 50% EXISTING SOIL
- 11) COMPACTED SUBGRADE
- 12) 1" X 4" DOUG. FIR BRACE WITH RUBBERIZED WEBBING. TIE IN AN "S" LOOP
- 13) ARBOR GARD IN LAWN AREAS ONLY

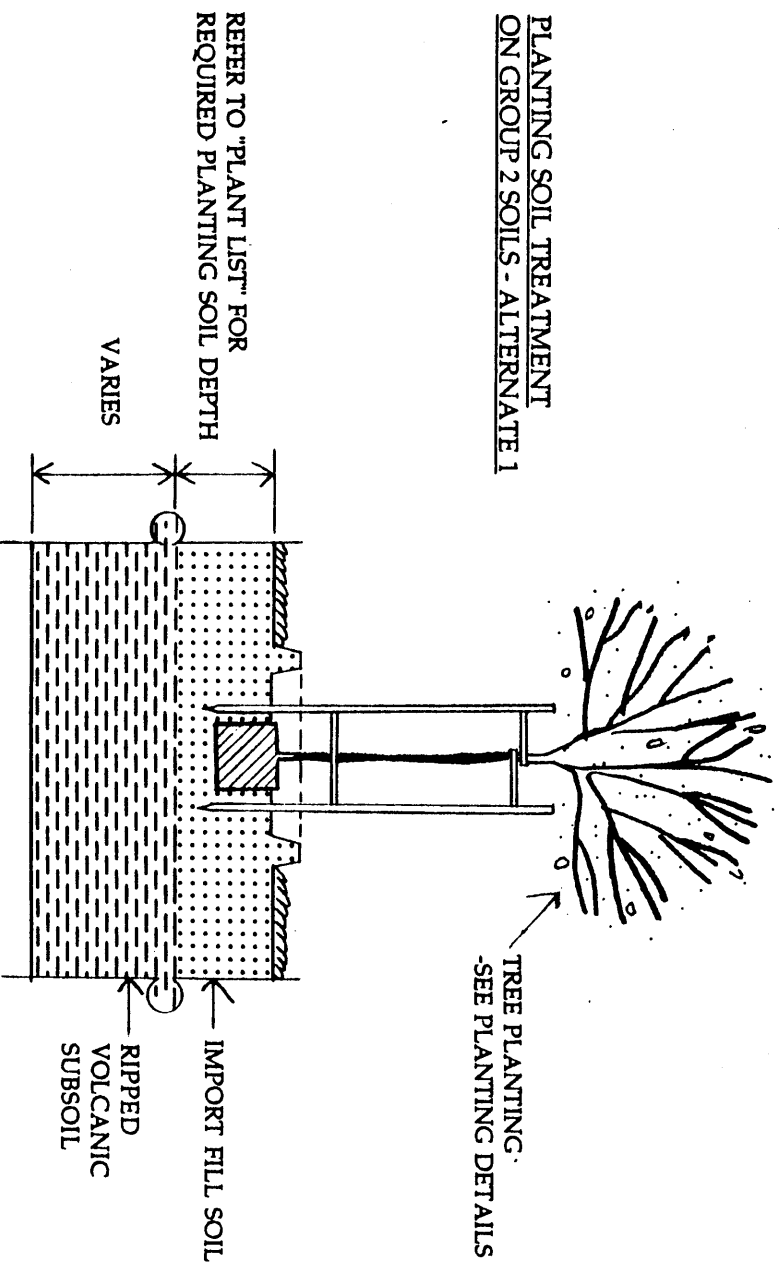


TREE GUYING DETAIL
SCALE NONE

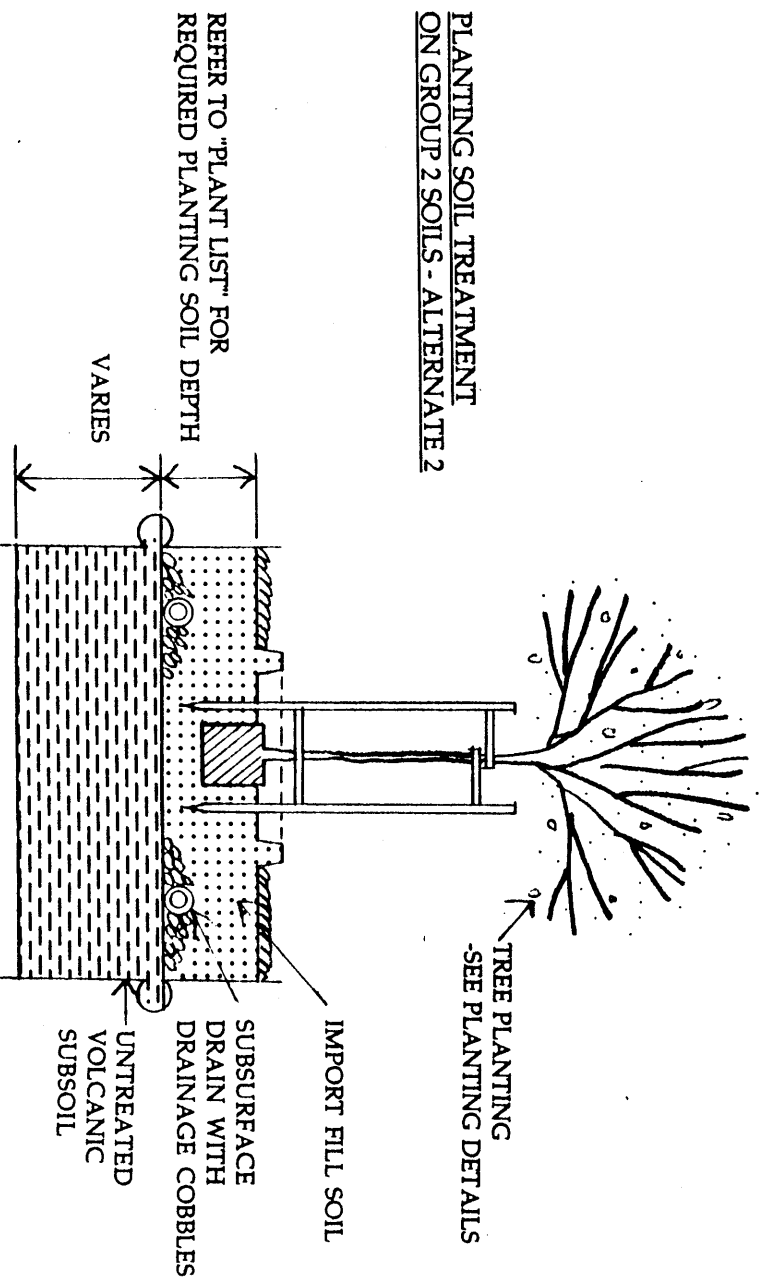
- 1) NEW RUBBER HOSE
- 2) 3/16" DIA. ORANGE CABLE WIRE
- 3) TURNBUCKLE - 5/16" X 4 1/2"
- 4) 2" CALIPER OR LARGER TREE
- 5) ROOTBALL
- 6) 4" WATER BASIN AND 2" MULCH OVER FINISH GRADE IN PLANTING AREAS ONLY
- 7) 2-4" DIA. X 3' RIGID PERFORATED DRAIN PIPE WITH 3/4" DRAIN ROCK AND GREEN PVC SLOTTED DRAIN GRATE
- 8) SLOW-RELEASE FERTILIZER TABLETS, TYP.
- 9) DUCKBILL ANCHOR WITH ORANGE CABLE, MODEL #68-DB1. INSTALL AS PER MANUFACTURER'S SPECIFICATIONS.
- 10) PREPARED BACKFILL MIX OF 50% SOIL AMENDMENT AND 50% EXISTING SOIL
- 11) COMPACTED SUBGRADE
- 12) SECURE TO PAVED AREAS WITH 1/2" EYE BOLT

NOTE: IN ANY LANDSCAPE AREA TO BE MAINTAINED BY THE CITY THROUGH THE LIGHTING AND LANDSCAPE DISTRICT, TREE GUYING WILL NOT BE ACCEPTED.

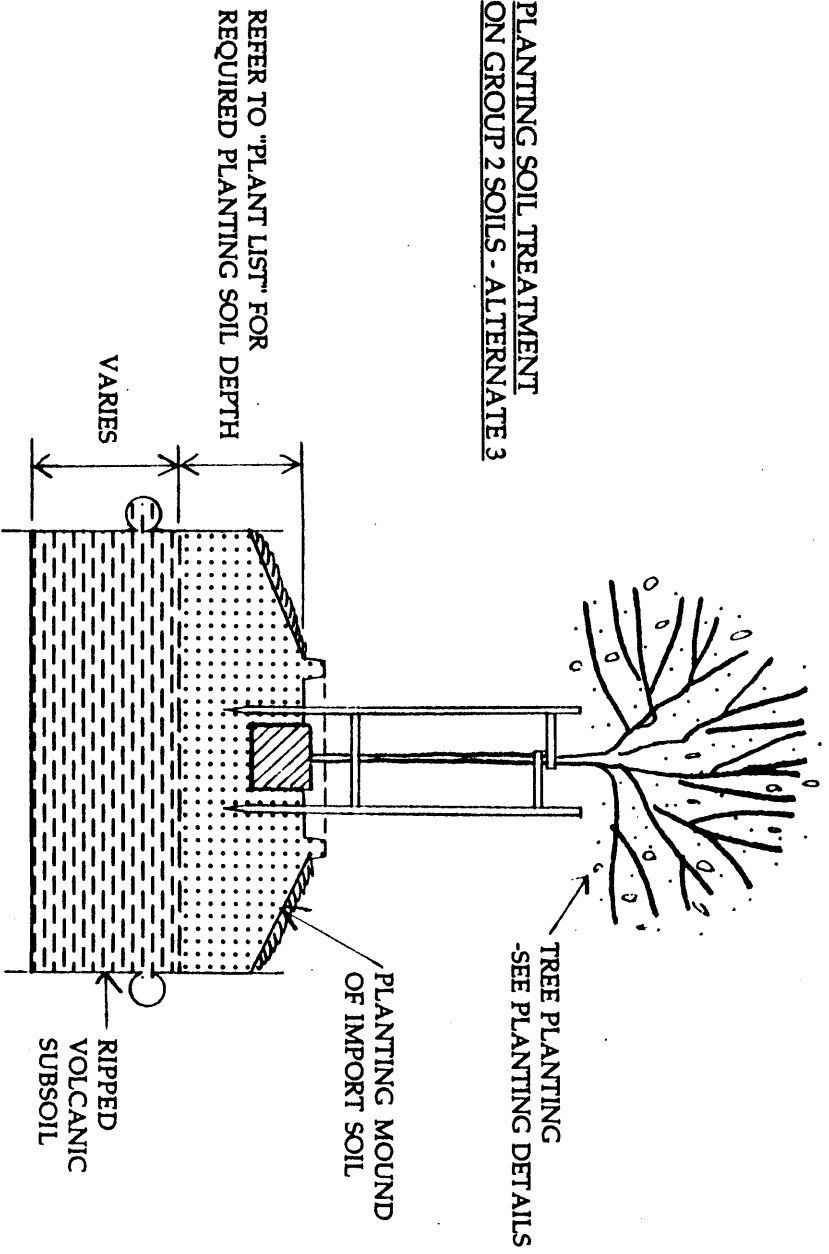
PLANTING SOIL TREATMENT
ON GROUP 2 SOILS - ALTERNATE 1



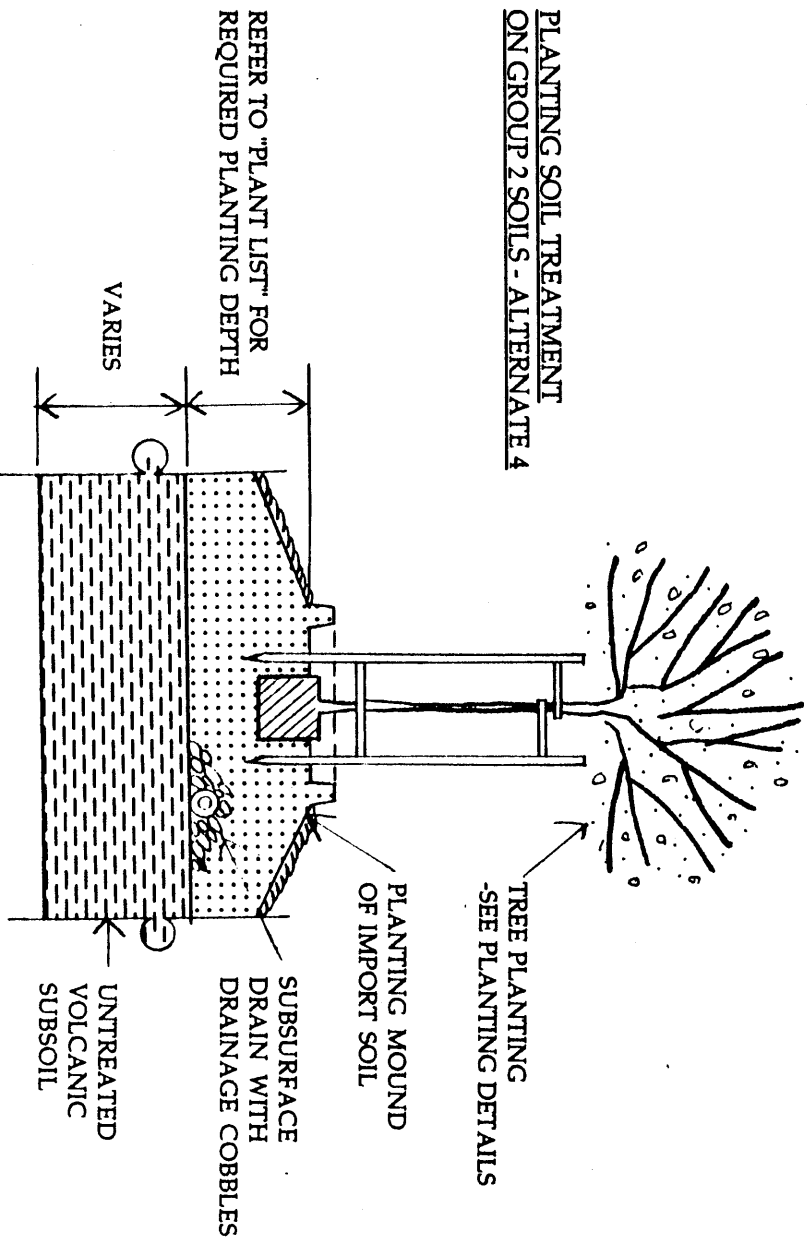
PLANTING SOIL TREATMENT
ON GROUP 2 SOILS - ALTERNATE 2



**PLANTING SOIL TREATMENT
ON GROUP 2 SOILS - ALTERNATE 3**



**PLANTING SOIL TREATMENT
ON GROUP 2 SOILS - ALTERNATE 4**



Appendix A

These charts summarize the primary textural and chemical characteristics of the top soils represented within the soil groups.

Sample Descriptions - Group 1:

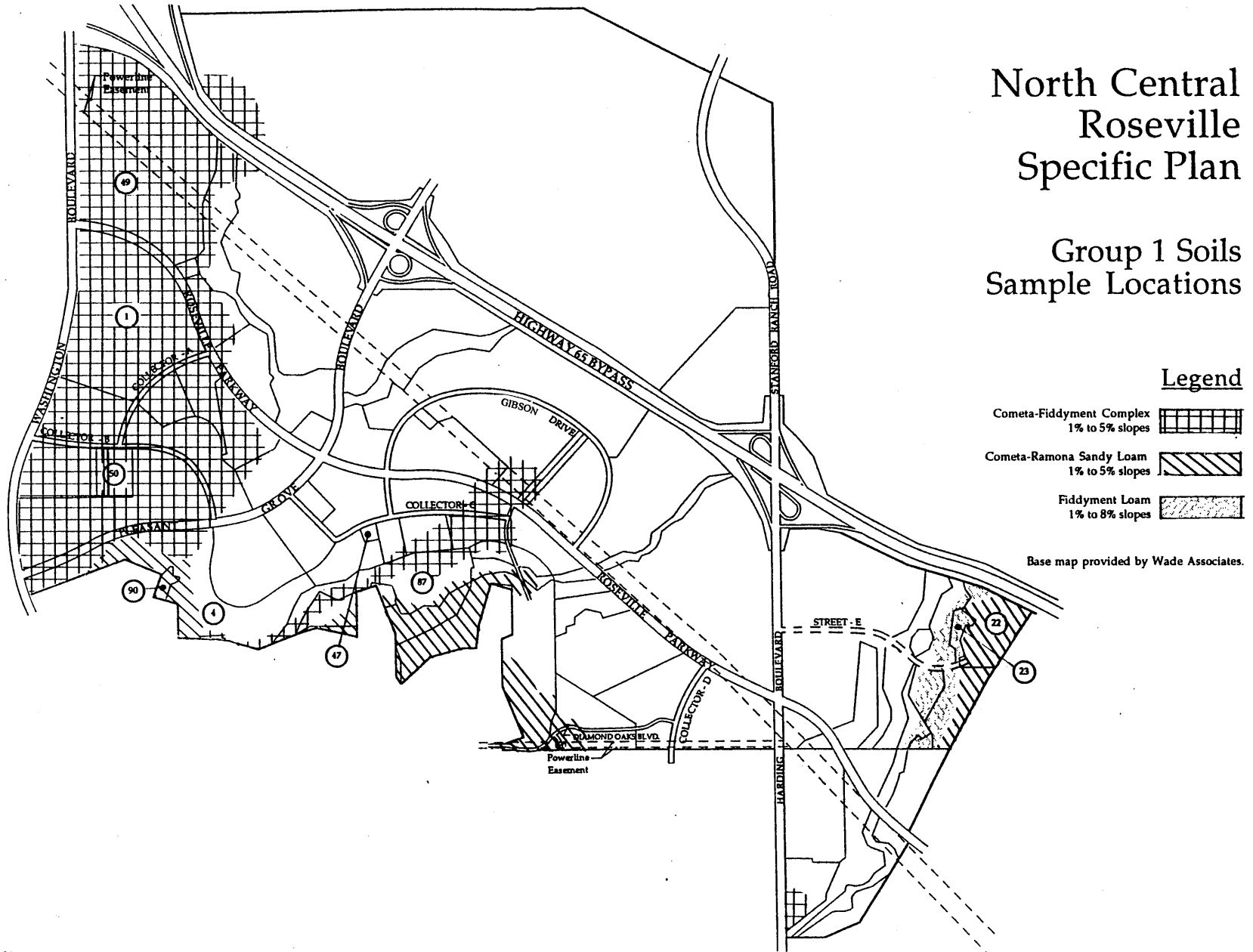
- #1- Parcel 49 (Light Industrial)
10 sub-sample composition 4"-8" depth; reddish brown sandy loam
- #2- Parcel 1 (R-5)
10 sub-sample composition 4"-8" depth; reddish brown sandy clay loam
- #3- Parcel 50 (approx. - Park)
10 sub-sample composition 4"-8" depth; pale, compacted clay loam (appeared to be sub-soil)
- #4- Parcel 4 (R-3) and 90 (Park Preserve)
10 sub-sample composition 6"-12" depth; brown loam (edge of volcanic conglomerate is evident at stream)
- #8- Parcel 87 (Watershed)
10 sub-sample composition 6"-12" depth; reddish brown sandy loam
- #10- Parcel 47 (Light Industrial)
10 sub-sample composition 4"-8" depth taken above road on slope; light brown sandy loam
- #11- Parcel 22 (R-20) and 23 (R-20)
10 sub-sample composition 4"-8" depth; rich brown sandy clay loam

MECHANICAL ANALYSIS, % BY WEIGHT:

<u>Sample #</u>	<u>Sand</u>	<u>Silt</u>	<u>Clay</u>	<u>Textural Classification</u>
1	66	20	14	sandy loam
2	56	24	20	sandy clay loam
3	24	38	38	clay loam
4	64	22	14	sandy loam
8	58	28	14	sandy loam
10	54	34	12	sandy loam
11	52	22	26	sandy clay loam

North Central Roseville Specific Plan

Group 1 Soils Sample Locations



Soils Analysis Results - Group 1

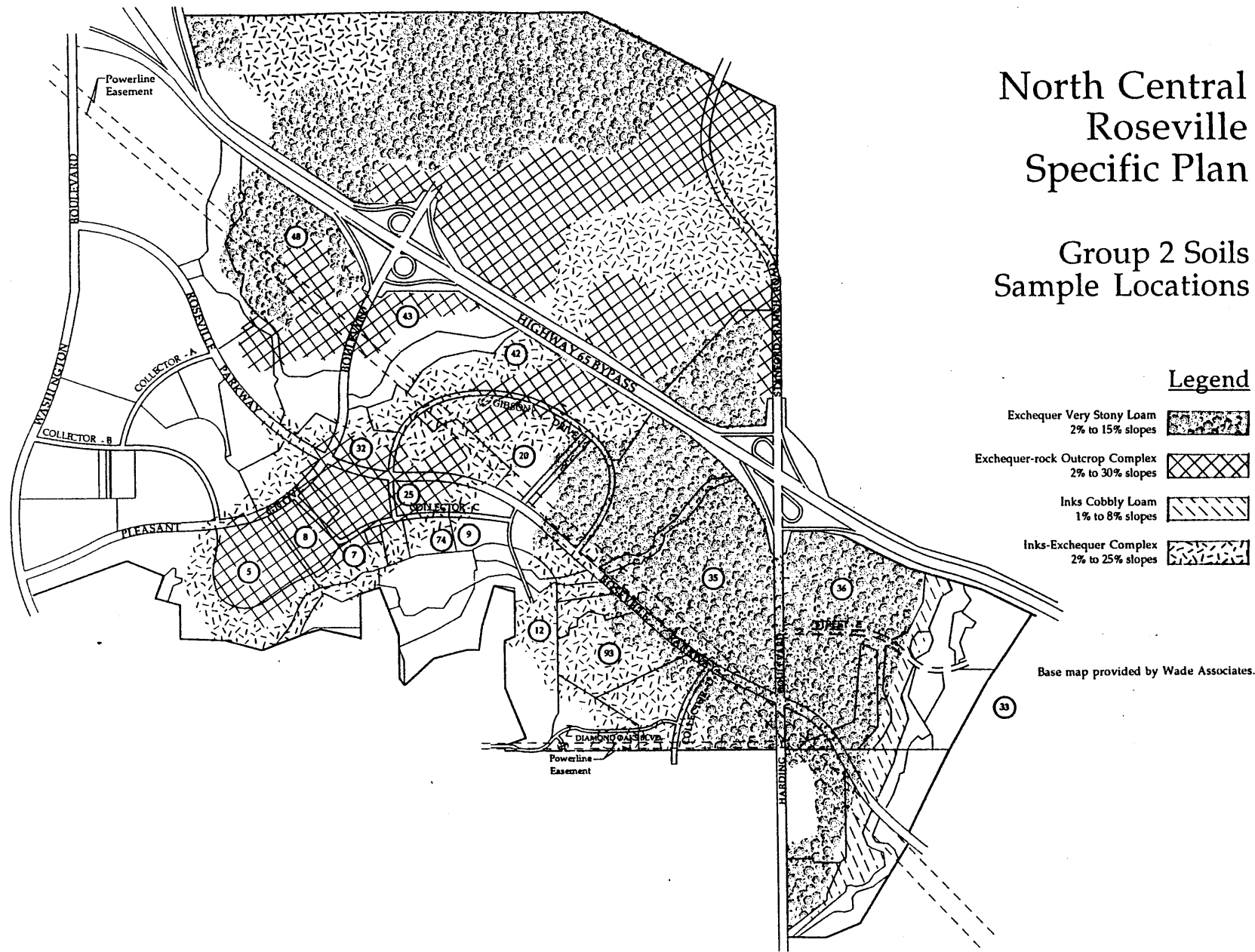
Group 1 Soils	Sample #s						
	#1	#2	#3	#4	#8	#10	#11
pH	5.2	5.0	4.9	5.8	6.2	6.1	5.9
Salinity (mmhos/cm2)	0.3	0.2	0.3	0.2	0.3	0.5	0.4
Nitrate-nitrogen, ppm	10	10	13	13	15	16	14
Ammonium-nitrogen, ppm	5	7	14	8	21	9	16
Phosphorus, ppm	5	7	13	3	6	9	9
Potassium, ppm	35	45	80	105	50	60	85
Calcium, ppm	2100	2400	2400	2000	2900	2800	3000
Magnesium, ppm	180	290	430	210	470	350	470
Saturation percentage	19	22	35	23	39	36	35
Sodium, meq/l	1.0	0.7	0.8	0.6	0.2	0.8	0.8
Chloride, meq/l	2.0	2.2	2.6	1.6	2.0	1.8	2.4
Exchangeable sodium %	1.3	0.7	1.1	0.9	0.3	0.6	0.7
Boron, ppm	0.4	0.3	0.3	0.3	0.4	0.3	0.3

Sample Descriptions - Group 2:

- #5- Parcel 5 (R-3) and 8 (R-6)
10 sub-sample composition 4"-8" depth; very rocky, reddish loam
- #6- Parcel 7 (R-3) and 33 (Commercial)
10 sub-sample composition 4"-8" depth; reddish brown sandy loam (taken below breccia edge)
- #7- Parcel 9 (R-20), 25 (R-6), and 74 (School)
10 sub-sample composition 4"-8" depth; reddish brown sandy loam (taken below breccia edge) some areas very rocky
- #9- Parcel 12 (R-4) and 93 (Park Preserve)
10 sub-sample composition 6"-12" depth; brown sandy loam (very rocky)
- #12- Parcel 36 - eastern portion (Commercial)
10 sub-sample composition 6"-12" depth; reddish brown loam (very rocky)
- #13- Parcel 35 (Regional Commercial) and 36 (Regional Commercial)
10 sub-sample composition 4"-8" depth; reddish brown loam (very rocky)
- #14- Parcel 35 (Regional Commercial)
10 sub-sample composition 4"-8" depth; reddish brown sandy loam (very rocky)
- #15- Parcel 20 (R-25) and 42 (Business/Professional)
10 sub-sample composition 4"-8" depth; reddish brown loam (very rocky)
- #16- Parcel 32 (Commercial) and 44 (Business/Professional)
10 sub-sample composition 4"-8" depth; reddish brown sandy loam
- #17- Parcel 43 (Business/Professional) and 48 (Light Industrial)
10 sub-sample composition 4"-8" depth; reddish brown loam (very rocky)
- #18- Parcel 48 (Light Industrial)
10 sub-sample composition 4"-8" depth; reddish brown loam (very rocky)

North Central Roseville Specific Plan

Group 2 Soils Sample Locations



Soil Analysis Results - Group 2

	Sample #s										
Group 2	#5	#6	#7	#9	#12	#13	#14	#15	#16	#17	#18
pH	5.7	5.8	5.6	5.6	5.4	5.6	5.8	5.6	5.7	5.6	5.7
Salinity (mmhos/cm2)	0.3	0.3	0.4	0.3	0.4	2.1	0.4	0.4	0.3	0.6	0.3
Nitrate-nitrogen, ppm	14	17	14	12	15	52	14	16	15	18	15
Ammonium-nitrogen, ppm	13	6	11	6	12	7	8	6	5	14	17
Phosphorus, ppm	10	7	5	7	18	9	10	7	6	10	7
Potassium, ppm	70	50	60	45	90	65	60	60	55	100	50
Calcium, ppm	2600	2600	2400	2000	2900	2900	2600	2900	2400	2600	2600
Magnesium, ppm	380	390	370	200	330	340	310	450	290	370	340
Saturation percentage	29	33	23	22	40	33	25	35	23	29	27
Sodium, meq/l	0.8	0.8	0.9	0.7	0.8	2.8	0.6	0.7	0.6	0.9	0.6
Chloride, meq/l	2.4	2.4	2.2	1.4	1.6	4.0	2.4	2.4	2.6	2.2	2.0
Exchangeable sodium %	0.9	0.8	0.8	0.7	0.7	1.0	0.6	0.6	0.8	0.6	0.6
Boron, ppm	0.4	0.2	0.2	0.3	0.3	0.1	0.3	0.2	0.3	0.2	0.3

MECHANICAL ANALYSIS, % BY WEIGHT:

<u>Sample #</u>	<u>Sand</u>	<u>Silt</u>	<u>Clay</u>	<u>Textural Classification</u>
5	48	38	14	loam
6	54	34	12	sandy loam
7	56	30	14	sandy loam
9	60	28	12	sandy loam
12	52	30	18	loam
13	42	36	22	loam
14	56	30	14	sandy loam
15	52	36	12	loam
16	54	30	16	sandy loam
17	52	30	18	loam
18	52	28	20	loam

Appendix B

Note: The purpose of the Appendix is to provide general information on the subject of soil preparation. However, the landscape architect is required to request additional soil analysis on an individual project basis.

Determining the Volume of Soil Amendments Required

The goal of organic amendment incorporation is to improve soil structure and to increase soil aeration and porosity. A soil's texture determines the minimum volume requirement for organic amendment incorporation. The following chart lists the minimum amounts or amendment required for the various soil texture classifications:

<u>Texture</u>	<u>% of Amendment</u>
Sand.....	35
Loamy sand.....	30
Sandy loam.....	30
Sandy clay loam.....	25
Sandy clay.....	25
Loam.....	25
Silt loam.....	30
Silt clay loam.....	30
Clay loam.....	30
Silt.....	35
Silty clay.....	35
Clay.....	35

Amendment volumes less than these percentages will be ineffective. The following table shows the cubic yards of amendment required per 1000 square feet necessary to meet the volume requirements for various soil depths.

<u>Percent of Amendment</u>	<u>6" Depth</u>	<u>8" Depth</u>	<u>12" Depth</u>
25	4.63	6.17	9.26
30	5.56	7.41	11.12
35	6.48	8.64	12.69
40	7.41	9.88	14.82
45	8.33	11.10	16.66
50	9.26	12.34	18.52

Appendix C

Note: The purpose of the Appendix is to provide general information on the subject of soil preparation. However, the landscape architect is required to request additional soil analysis on an individual project basis.

Amendments Used for Increasing pH in Acidic Soils

A soil is considered acidic if the pH level is below 7.0. The optimum pH level is between 6.5 and 7.0 and there are numerous advantages to increasing the pH of soils falling below 6.0. Among these are increases in the availability of phosphorous and micro-nutrients, improved levels of soil biological processes and the lessening of effects from chemical toxicities.

The most commonly used amendments for raising soil pH is lime (calcium carbonate) in the form of limestone, shell meal or dolomite. Dolomite (calcium carbonate and magnesium carbonate) is used if there is also a deficiency of magnesium.

Table #1 lists the commonly available liming amendments and their equivalent percentages of calcium carbonate.

Table #1

<u>Name</u>	<u>Chemical Formula</u>	<u>Equivalent % CaCO₃</u>
Shell meal	CaCO ₃	95
Limestone	CaCO ₃	100
Hydrated Lime	Ca(OH) ₂	135
Dolomite	CaCO ₃ MgCO ₃	110
Sugar beet lime	CaCO ₃	80-90

Table #2 lists the quantity of limestone required to raise soil pH.

Table #2

<u>Change in pH for a 12" depth</u>	<u>Pounds of limestone per 1000 square feet</u>					
	<u>sand</u>	<u>sandy loam</u>	<u>loam</u>	<u>silt loam</u>	<u>clay loam</u>	<u>clay</u>
4.0 to 6.5	60	115	101	194	230	437
4.5 to 6.5	51	97	134	161	194	373
5.0 to 6.5	42	79	106	129	152	290
5.5 to 6.5	28	60	79	92	106	198
6.0 to 6.5	14	33	42	51	56	102

All amendments should be uniformly incorporated and irrigated repeatedly to facilitate pH change.

Appendix D

Note: The purpose of the Appendix is to provide general information on the subject of irrigation management. Understanding irrigation management will contribute to a well-designed landscape of compatible plantings.

Soil Infiltration Rates and Irrigation Schedule

Infiltration is the movement of water into the soil. The rate of infiltration is affected by soil texture, soil moisture and factors such as compaction or steepness of slope.

Following is a table showing approximate infiltration rates for various soil textures. Rates can vary greatly depending upon site conditions.

<u>Soil Texture</u>	<u>Infiltration Rates of Soils (inches/hour)</u>
Coarse Sand	1.00 - 8.00
Fine Sand	0.50 - 3.10
Sandy Loam	0.40 - 2.60
Loam	0.08 - 1.00
Clay loam	0.04 - 0.60
Clay	0.01 - 0.10

Initially, infiltration rates in dry soils are often quite high. Then as the surface is moistened, the rate declines to these stable rates. In a loam soil with as irrigation precipitation rate of 1 inch per hour, the precipitation rate will exceed the infiltration rate in 18 minutes. At a precipitation rate of 2 inches, this point is reached in 12 minutes. For clay soils the infiltration rate is exceeded in 8 minutes at a 1 inch per hour precipitation rate, and in 6 minutes at a 2 inch per hour precipitation.

Knowing a soil's infiltration rate allows the irrigation manager to schedule the length of irrigation cycle necessary to avoid wasteful runoff that occurs when the precipitation rate is greater than the infiltration rate. In the example of a 2" precipitation rate in clay soils the irrigation durations should be well under 10 minutes per cycle to avoid runoff.

Appendix E

Note: The purpose of the Appendix is to provide general information on the subject of irrigation management. Understanding irrigation management will contribute to a well-designed landscape of compatible plantings.

Water Holding Capacities of Soils

Soils act as water reservoirs for plants by storing water until water is taken up through roots. The amount of water available to a plant can be estimated by knowing the depth of the root system and the texture of the soil.

A soil holds its maximum amount of water when it is at 'field capacity' of the level of soil moisture that remains in the soil after gravity has drained excess water. Most soils will be at field capacity within a day after strong rain storms or deep irrigations. The allowable depletion refers to the amount of water held by the soil due to the attraction of the water to soil particles.

The following table shows the water storage capacity and allowable depletion amounts of various soils at field capacity:

<u>Soil Texture</u>	<u>*Total Water Holding Capacity</u>	<u>*Amount Available (Allowable Depletion)</u>	<u>*Average Allowable Depletion</u>
Sand	0.6 - 1.8	0.4 - 1.0	.75
Sandy loam	1.8 - 2.7	0.9 - 1.3	1.1
Loam`	2.7 - 4.0	1.3 - 2.0	1.7
Silt loam	4.0 - 4.7	2.0 - 2.3	2.1
Clay loam	4.2 - 4.9	1.8 - 2.1	2.0
Clay	4.5 - 4.9	1.8 - 2.1	2.0

*inches of water per foot of soil depth. An inch of water covers the surface one inch deep.

As shown in the table, clay soils can hold up to 4 times more water than in sandy soils, although the water available to the plant is only twice the amount. These differences in water holding capacity and allowable depletion influences the amount of water to be applied as well as the frequency of application.

Appendix F

Evapo-transpiration (ET), Reference, Evapo-transpiration (ETo), and Plant Coefficients (AKc)

Evapo-transpiration (ET) is a term used to describe the water requirements of plants based upon prevailing conditions of solar exposure, temperature and wind. ET rates will vary from location to location and season to season. Reference Evapo-transpiration (ETo) is measured in inches and is the water requirements of well-irrigated, 4 to 8 inch tall fescue in full sun. Plant coefficients (AKc) are the estimated percentage of ETo that a particular species needs to maintain minimum health. Depending on the plant type and relative tolerance to drought, AKc rates may range from 50% to 150% of ETo.

ETo rates are used in combination with AKc rates to determine irrigation requirements. ETo rates are obtained from either historical records or the Department of Water Resources' CIMIS program (California Irrigation Management System), which provides current ETo information from weather stations located throughout California.

Using ETo and AKc rates for irrigation management requires a knowledge of an irrigation system's uniformity and application rates, as well as soil and plant characteristics. With this information, the landscape manager can apply the correct amount of water necessary to maintain a planting in a healthy condition without waste.

Historical Reference Evapo-transpiration Rates (ETo) Roseville, California

<u>Month</u>	<u>ETo</u>
January	1.1
February	1.71
March	3.05
April	4.72
May	6.22
June	7.68
July	8.54
August	7.32
September	5.55
October	3.66
November	1.65
December	0.98

Appendix G

Weed Abatement for Hydroseeded Lawn and Legume Areas

All areas to be hydroseeded are highly recommended to have weed abatement operations performed on them prior to hydroseeding for weed-free landscapes. Weed abatement operations should include the following steps:

1. Spray all hydroseed mulch areas and exposed weeds with a glyphosate product, contact herbicide (such as Roundup®); apply in strict conformance with manufacturer's instructions. After spraying, do not water for at least 7 calendar days. Remove exposed weeds from site.
2. Install irrigation system and prepare soil as per Specifications.
3. Operate the automatic irrigation system for a period of 14 calendar days. At the conclusion of this watering period, discontinue watering for 3-5 days.
4. Spray all exposed weeds with a glyphosate product, contact herbicide (such as Roundup®); apply in strict conformance with manufacturer's instructions. After spraying, do not water for at least 48 hours. Remove exposed weeds from site.
5. Water for seven additional calendar days after removal of weeds. Wait 48 hours and apply a glyphosate product, contact herbicide (such as Roundup®) on any exposed weeds. Wait 48 hours, minimum, and remove weeds from site.
6. If any evidence of weed germination exists after two applications, Contractor may be directed to perform step #4 one additional time.

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