

South Livermore Valley

Specific Plan



City of Livermore
Livermore, California

Adopted November 17, 1997
Amended February 2004

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TABLE OF CONTENTS

1.0	INTRODUCTION	
1.1	Preface	1-1
1.2	Legal Context	1-1
	1.2.1 Authority to Prepare	1-1
	1.2.2 Relationship to General Plan	1-1
	1.2.3 Environmental Review	1-2
1.3	Planning Context	1-2
	1.3.1 The Background to the Plan	1-2
	1.3.2 The Planning Process.....	1-4
1.4	Organization of the Specific Plan.....	1-6
2.0	PLANNING AREA DESCRIPTION	
2.1	Project Location	2-1
2.2	Subregional Context.....	2-1
2.3	Land Ownership and Parcelization	2-4
2.4	Planning Area Character	2-6
	2.4.1 The South Livermore Valley.....	2-6
	2.4.2 Subarea #1.....	2-9
	2.4.3 Subarea #2.....	2-10
	2.4.4 Subarea #3.....	2-10
	2.4.5 Subarea #4.....	2-11
	2.4.6 Subarea #5.....	2-12
	2.4.7 Subarea #6.....	2-13
	2.4.8 Subarea #7.....	2-13
3.0	PLAN SUMMARY	
3.1	Introduction	3-1
3.2	Land Use	3-1
3.3	Conservation and Resource Management	3-2
3.4	Traffic and Circulation	3-3
3.5	Public Utilities and Services	3-3
3.6	Financing and Implementation	3-4
4.0	LAND USE	
4.1	Purpose.....	4-1
4.2	The Land Use Concept	4-1
4.3	Residential Goals and Policies	4-2
4.4	Commercial Goals and Policies	4-3
4.5	Parks and Open Space Policies	4-5
4.6	Agriculture Goals and Policies	4-5
4.7	The Regulatory Framework	4-5
	4.7.1 General Plan Designation	4-5
	4.7.2 Land Use Plans/Conceptual Site Plans	4-6
	4.7.3 Growth Management	4-8
	4.7.4 Agricultural Mitigation Program	4-9
4.8	Overall Land Use Program	4-9
4.9	Planning Subareas.....	4-10

4.9.1	Subarea #1.....	4-10
4.9.2	Subarea #2.....	4-15
4.9.3	Subarea #3.....	4-20
4.9.4	Subarea #4.....	4-25
4.9.5	Subarea #5.....	4-30
4.9.6	Subarea #6.....	4-35
4.9.7	Subarea #7.....	4-38

5.0 TRANSPORTATION AND CIRCULATION

5.1	Introduction	5-1
5.2	Existing Road System	5-1
5.2.1	Regional Roadways.....	5-1
5.2.2	Local Roadways.....	5-2
5.3	Planned Transportation Improvements	5-5
5.3.1	Isabel Avenue Extension	5-6
5.3.2	Concannon Boulevard Extension	5-6
5.3.3	North Mines Road Overpass	5-9
5.3.4	Vallecitos Road/East Vineyard Avenue Intersection Relocation	5-9
5.4	Specific Plan Circulation	5-9
5.4.1	Circulation Concept.....	5-9
5.4.2	Level of Service Standards.....	5-11
5.4.3	Street Classifications and Design Standards	5-12
5.4.4	Subarea Access and Circulation.....	5-17
5.4.5	Off-Site Circulation Improvements.....	5-27
5.4.6	Implementation of Specific Plan Circulation System	5-30
5.5	Transit Service	5-31
5.5.1	Existing Transit Service	5-31
5.5.2	Transit Improvements	5-33
5.5.3	Future Transit Service.....	5-33
5.6	Pedestrian, Bicycle and Equestrian Circulation	5-34
5.6.1	Existing Pedestrian, Bicycle and Equestrian Trail System	5-34
5.6.2	Pedestrian, Bicycle and Equestrian Circulation.....	5-35

6.0 CONSERVATION AND RESOURCE MANAGEMENT

6.1	Purpose.....	6-1
6.2	Open Space Resources.....	6-1
6.3	Agricultural Land	6-1
6.3.1	Agricultural Mitigation Program.....	6-1
6.3.2	Agricultural Mitigation Alternatives.....	6-4
6.3.3	Distribution of Agriculture.....	6-5
6.3.4	Permanent Open Space Buffer	6-5
6.4	Natural Resource Protection	6-6
6.4.1	Biological Resources	6-6
6.4.2	Cultural Resources	6-14
6.5	Conservation and Public Safety	6-16
6.5.1	Geology, Soils and Seismicity.....	6-16
6.5.2	Noise	6-19

7.0 COMMUNITY SERVICES AND FACILITIES

7.1	Schools	7-1
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7.1.1	Existing Facilities	7-1
7.1.2	Projected Facility Needs	7-1
7.1.3	Project-Related Increases in School Enrollment	7-1
7.1.4	School Funding	7-2
7.2	Fire Protection	7-2
7.2.1	Existing Service	7-2
7.2.2	Service Standards.....	7-3
7.2.3	Wildland Fire Hazard	7-5
7.3	Police Protection.....	7-6
7.3.1	Existing Service	7-6
7.3.2	Service Standards.....	7-6
7.4	Parks and Recreation	7-7
7.4.1	Existing Service and Facilities	7-7
7.4.2	Future Park Needs and Plans.....	7-9
8.0	PUBLIC UTILITIES	
8.1	Water System	8-1
8.1.1	Water Supply.....	8-1
8.1.2	Water Delivery Systems.....	8-2
8.1.3	Recycled Water.....	8-5
8.2	Sanitary Sewer System	8-5
8.2.1	Sewer Service and Treatment	8-5
8.2.2	Sewer Collection System	8-6
8.3	Storm Drainage	8-8
8.3.1	Jurisdictional Responsibilities	8-8
8.3.2	Flood Zones	8-8
8.3.3	Drainage Infrastructure	8-9
8.3.4	Erosion and Downstream Sedimentation	8-12
8.4	Energy and Communications	8-14
8.4.1	Existing Service Agencies.....	8-14
8.4.2	Existing and Required Infrastructure	8-14
9.0	COMMUNITY DESIGN	
9.1	Design Approach to a Rural Residential Landscape	9-1
9.1.1	Openness.....	9-1
9.1.2	Simplicity or Economy of Means.....	9-2
9.1.3	Variety within Structure	9-2
9.2	Design Guidelines and Standards	9-3
9.2.1	Site Planning.....	9-3
9.2.2	Architecture	9-5
9.2.3	Landscape	9-24
9.2.4	Streets and Rights-of-Way.....	9-36
10.0	IMPLEMENTATION ELEMENT	
10.1	Purpose.....	10-1
10.2	Summary: Specific Plan Implementation Program	10-1
10.3	Key Implementing Actions of the Specific Plan	10-1
10.3.1	EIR Certification	10-1
10.3.2	Mitigation Monitoring Program and CEQA Findings.....	10-2
10.3.3	Project Approval.....	10-2
10.3.4	Notice of Determination	10-2

10.3.5	Prezoning	10-2
10.3.6	Adjust Growth Management System	10-3
10.3.7	Development Agreements	10-3
10.3.8	Annexation	10-4
10.3.9	Planned Unit Development Permits	10-4
10.3.10	Design Review	10-4
10.3.11	Tentative Map	10-4
10.3.12	Public Improvement Plans	10-6
10.3.13	Financing Plans	10-6
10.3.14	Final Map	10-6
10.3.15	Responsibilities for Key Implementing Actions	10-6
10.4	Administration of the Specific Plan	10-7
10.4.1	Responsibilities for Administration of the Specific Plan	10-7
10.4.2	Typical Development Review Process	10-7
10.4.3	Specific Plan Consistency.....	10-7
10.4.4	Specific Plan Amendment.....	10-8
10.4.5	Environmental Review	10-8
10.4.6	Conditions, Covenants, and Restrictions.....	10-9
11.0	FINANCING	
11.1	Introduction and Overview.....	11-1
11.1.1	Introduction	11-1
11.1.2	Financing Overview	11-1
11.2	Project Description	11-4
11.2.1	Residential Uses	11-4
11.2.2	Commercial Uses.....	11-5
11.2.3	Other Land Uses.....	11-5
11.3	Public Facilities Plan	11-5
11.3.1	Infrastructure and Public Facilities.....	11-5
11.3.2	Backbone Infrastructure and Community Facilities	11-7
11.3.3	Agricultural Mitigation Costs	11-10
11.3.4	Costs	11-10
11.4	Financing Mechanisms and Resources	11-11
11.4.1	Area-Specific Fees, Dedications, and Exactions.....	11-11
11.4.2	Assessment and Special Tax Secured Financing	11-12
11.4.3	Citywide Sources	11-13
11.4.4	Other Agencies	11-15
11.5	Financial Feasibility Results.....	11-15
11.5.1	Objectives of the South Livermore Valley Specific Plan.....	11-16
11.5.2	Residential Residual Land Value Analysis	11-16
11.5.3	Cost Burden Analysis.....	11-16
11.6	Financing Strategy and Principles.....	11-22
11.6.1	Proposed Financing Strategy	11-22
12.0	COMMERCIAL DESIGN STANDARDS AND GUIDELINES	
12.1	Design Approach to Commercial Uses within the Rural Context.....	12-2
12.1.1	Wine Country and Agricultural Character	12-2
12.2	Site Specific Analysis, Guidelines and Standards	12-3
12.2.1	Design Treatment for Arroyo Road.....	12-5
12.2.2	Site 2A1 – Small Winery or Bed & Breakfast; Small Tasting Room or Small Restaurant.....	12-6

12.2.3	Site 2A2 – Medium Winery or Bed & Breakfast; Tasting Room or Small Winery	12-7
12.2.4	Site 3A1 – Small Winery or Bed & Breakfast; Site 3A2 – Small Tasting Room or Small Restaurant.....	12-8
12.2.5	Site 4A1 – Small Olive Mill and Wine Tasting Room.....	12-9
12.2.6	Site 4A2 – Small Winery; Site 4B – Small Winery or Small Restaurant	12-10
12.2.7	Site 4C – Small Winery; Site 5C1 – Small Winery; Site 5D1 – Commercial Center; Site 5D2 – Wine Country Inn and Restaurant	12-11
12.2.8	Site 5D3 – Small Winery	12-14
12.2.9	Site 5A – Bed & Breakfast; Site 5B – Small Winery	12-14
12.2.10	Site 6A – Medium Winery	12-15
12.2.11	Site 7A – Winery, Restaurant and Wine Country Inn	12-16
12.3	Components	12-17
12.3.1	Architecture	12-17
12.3.2	Site Layout	12-20
12.3.3	Landscape & Site Elements.....	12-23
12.3.4	Parking	12-26
12.3.5	Signage	12-28
12.3.6	Lighting.....	12-30

APPENDICES

A.	Proposed Improvements to Main Roadways
B.	Preliminary Engineer’s Cost Estimate
C.	Cost Allocation Model and Financial Feasibility Analysis
D.	Residual Land Value
E.	Residual Land Value Analysis by Land Use and Subarea
F.	Plan Preparation Costs

ACKNOWLEDGEMENTS

TABLES

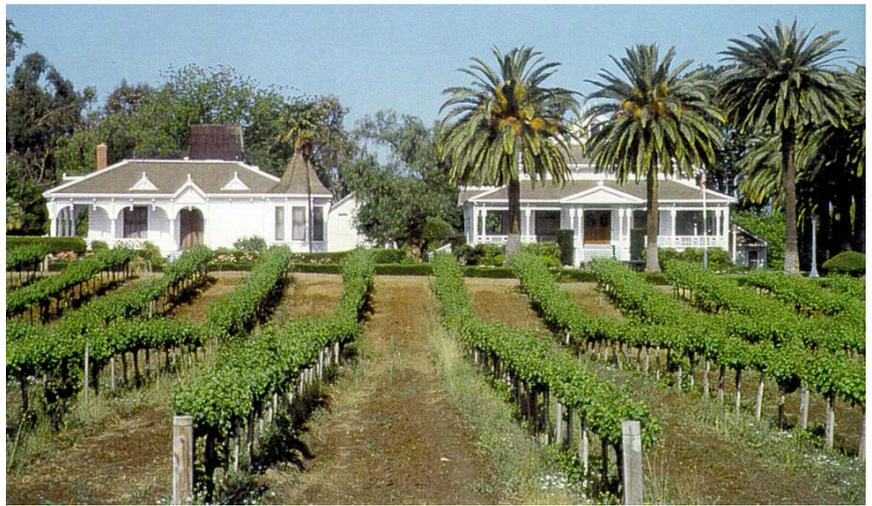
2.1	Ownership and Parcelization -- By Subarea.....	2-5
4.1	Regulatory Character of Plan -- Fixed and Flexible Elements.....	4-7
4.2	Land Use Summary	4-10
4.3	Development Potential by Parcel -- Subarea #1	4-11
4.4	Development Potential by Parcel -- Subarea #2	4-17
4.5	Development Potential by Parcel -- Subarea #3	4-22
4.6	Development Potential by Parcel -- Subarea #4	4-27
4.7	Development Potential by Parcel -- Subarea #5	4-32
4.8	Development Potential by Parcel -- Subarea #6	4-36
4.9	Development Potential by Parcel -- Subarea #7	4-41
7.1	LARPD Park Standards	7-7
7.2	LARPD Parks by Category	7-7
10.1	Implementing Responsibilities for Key Actions.....	10-6
11.1	Project Description Summary	11-4
11.2	Summary of Development Concepts -- Feasibility Analysis	11-6

11.3	Summary of Total Estimated Backbone Costs by Subarea.....	11-8
11.4	Total Residual Land Value by Product Type Including Agricultural Mitigation Costs..	11-17
11.5	Total Residual Land Value by Product Type Excluding Agricultural Mitigation Costs.	11-17
11.6	Summary of Cost Burdens by Subarea	11-18
11.7	Summary of Total Costs and Burdens by Subarea and Land Use.....	11-19
11.8	Summary of Area Development Impact Fees by Residential Land Use Type and Subarea.....	11-20
11.9	Summary of Area Development Impact Fees by Commercial Land Use Type and Subarea.....	11-21
11.10	Proposed Facilities Financing Strategy	11-24

FIGURES

2.1	Regional Context	2-2
2.2	Project Vicinity Map	2-3
4.1	Subarea #1 Existing Uses and Parcelization.....	4-12
4.2	Subarea #1 Land Use Map	4-14
4.3	Subarea #2 Existing Uses and Parcelization.....	4-16
4.4	Subarea #2 Land Use Map	4-19
4.5	Subarea #3 Existing Uses and Parcelization.....	4-21
4.6	Subarea #3 Land Use Map	4-23
4.7	Subarea #4 Existing Uses and Parcelization.....	4-26
4.8	Subarea #4 Land Use Map	4-28
4.9	Subareas #5 & #6 Existing Uses and Parcelization	4-31
4.10	Subareas #5 and #6 Land Use Map	4-37
4.11	Subarea #7 Existing Uses and Parcelization.....	4-40
4.12	Subarea #7 Land Use Map	4-43
5.1	Existing Road Network.....	5-4
5.2	2010 Road Network	5-7
5.3	Concannon Boulevard Extension	5-8
5.4	Rural Entry Road (Divided) -- Cross-section and Rural Entry Road (Undivided) -- Cross-section	5-13
5.5	Rural Collector Street -- Cross-section and Rural Residential Street -- Cross-section	5-14
5.6	Farm Compound Access Drive -- Cross-section and Alley -- Cross-section.....	5-15
5.7	Farm Compound Court -- Cross-section	5-16
5.8	Residential Court -- Cross-section	5-16
5.9	Subarea #1 Circulation	5-18
5.10	Subarea #2 Circulation	5-20
5.11	Subarea #3 Circulation	5-21
5.12	Subarea #4 Circulation	5-23
5.13	Subareas #5 and #6 Circulation	5-25
5.14	Existing Transit System	5-32
5.15	Existing Trail System	5-36
5.16	Proposed Regional Trail System	5-38
5.17	Trail Cross-sections	5-43
10.1	Preferred Annexation Scenario.....	10-5

1.0 Introduction



1.0 INTRODUCTION

1.1 PREFACE

The South Livermore Valley Specific Plan represents a four (4) year effort to create a plan that will provide the framework for future growth and development within an approximately 1,891-acre unincorporated area along the City of Livermore's southern boundary. The Specific Plan, which has been developed with a thorough analysis of environmental conditions and extensive input from City decision-makers, landowners, neighbors, and the community-at-large, provides a comprehensive land use program for the planning area along with goals, policies and development standards to guide future public and private actions relating not only to the area's development, but also to the conservation of agricultural and natural resources. In addition, the Plan includes detailed information on necessary infrastructure improvements, and a strategy for insuring the Plan's implementation. The Plan also provides a mechanism to insure that development proposed by planning area landowners will be coordinated and occur in an orderly manner that has been adequately planned.

1.2 LEGAL CONTEXT

1.2.1 AUTHORITY TO PREPARE

A "specific plan" is a planning and regulatory tool made available to local governments by the State of California. By law, specific plans are intended to implement a city or county's general plan through the development of policies, programs and regulations which provide an intermediate level of detail between the general plan and individual development projects. As vehicles for the implementation of the goals and policies of a community's general plan, State law stipulates that specific plans can only be adopted or amended if they are consistent with the jurisdiction's adopted general plan.

The authority to prepare and adopt specific plans and the requirements for its contents are set forth in the California Government Code, Sections 65450 through 65457. The law requires that a specific plan include text and diagrams specifying:

- the distribution, location, and intensity of land uses, including open space, within the plan area;
- the distribution, location, and capacity of infrastructure, including transportation, water, storm drainage, solid waste, and energy systems;
- design standards and criteria for development and use of natural resources; and
- an implementation program, including capital improvements plans, regulation and financing strategies.

1.2.2 RELATIONSHIP TO GENERAL PLAN

Together, the City's General Plan and the South Livermore Valley Specific Plan provide a framework to guide future land use and development decisions in the 1,891-acre planning area. The Specific Plan is consistent with, and serves as an extension of, the Livermore General Plan, and can be used as both a policy and a regulatory document. When private development proposals for the planning area are brought before the City, the planning staff will use the Specific Plan as a guide for project review. Projects will be evaluated for consistency with the intent of plan policies and for conformance with development standards and design guidelines. For projects within the South Livermore Valley Specific Plan area, policies and standards in the Specific Plan will take precedence over more general policies and standards applied throughout the rest of the city. In situations where policies or standards relating to

a particular subject have not been provided in the Specific Plan, the existing policies and standards of the City's General Plan and Zoning Ordinance will continue to apply.

1.2.3 ENVIRONMENTAL REVIEW

The South Livermore Valley Specific Plan constitutes a "project" under the California Environmental Quality Act (CEQA), and thus must be evaluated for its potential to create adverse effects on the environment. To meet CEQA requirements, an Environmental Impact Report (EIR) has been prepared to assess the potential direct and indirect environmental effects associated with the urban development proposed for the area.

Although the environmental analysis is included in a separate document, it is important to note that the environmental review process has been an integral component of the planning process from the very beginning to ensure the Plan's sensitivity to critical environmental concerns. To keep the Specific Plan as concise as possible, much of the environmental data has not been included in the plan document. For additional information relating to the environmental foundation of the Plan, one should refer to the *South Livermore Valley Specific Plan and General Plan Amendment EIR* (Nichols Berman Environmental Planners, May, 1997). A copy of the EIR is available for review at the City of Livermore Planning Department and at the Livermore Public Library.

The EIR addresses the development of the South Livermore Valley planning area as a single project, although the area consists of several distinct and non-contiguous subareas, includes many different landowners, and is projected to be developed in increments over a period of many years. This approach enables the City to comprehensively evaluate the cumulative impacts of the Specific Plan and consider broad policy alternatives and area wide mitigation measures prior to adoption of the Specific Plan.

The environmental review of the full Specific Plan is also intended to expedite the processing of future projects that are consistent with the Plan. If, when considering subsequent development proposals, the City determines that the proposed development will not result in new effects or require additional mitigation, the City can approve the project without additional environmental review. Or, if there are significant changes proposed to the approved Plan that the City concludes may result in new impacts, any additional environmental review need focus only on those areas affected by the change.

1.3 PLANNING CONTEXT

1.3.1 THE BACKGROUND TO THE PLAN

Historic Wine-Producing Region

Since the 1880's, when Charles Wetmore first brought French Bordeaux grape varieties to the area, the South Livermore Valley has been an active grape-growing and wine-producing area. The combination of deep, gravelly soils and a temperate climate similar to the famed Graves region of Bordeaux, France make it an ideal area for producing world-class wine grapes and wines. One of Charles Wetmore's early Livermore Valley wines won California's first international gold medal at the Paris Exposition of 1889, and by the turn of the century the Valley had over 50 wineries and 5,000 acres planted in vineyards.

While the strength of the Livermore Valley's wine industry ebbed during the early part of this century due to the Depression, Prohibition, and periods of phylloxera infestation, since World War II, the industry's greatest threat has come from urban development. As the cities of Livermore and Pleasanton have grown from small agriculturally-based towns to bustling suburban communities with diverse economies, more and more prime vineyard land in the Livermore Valley has been lost to urban development.

The South Livermore Valley Area Plan

In 1987, in an effort to halt the gradual erosion of this irreplaceable resource, the County of Alameda, in conjunction with the cities of Livermore and Pleasanton, undertook a multi-year planning process aimed

at protecting and rejuvenating the South Livermore Valley as a premium wine-producing region. Elected and appointed representatives of the County and the cities of Pleasanton and Livermore, worked closely with a Citizens Advisory Committee representing a wide range of interests, including Friends of the Vineyards, the Winegrowers Association, property owners, developers, and residents of Pleasanton and Livermore, to reach consensus on a set of goals and objectives that could guide future land use activities in the South Livermore Valley. This process resulted in the preparation of the *South Livermore Valley Area Plan* (Area Plan), which was approved by the County Board of Supervisor's in February, 1993. The Plan area, which includes approximately 14,000 acres of unincorporated land that extends in a broad crescent around the southern edge of the City of Livermore, encompasses the majority of the most suitable agricultural/viticultural land between the Livermore City Limits and the ridglands to the south, east and west.

The County's *Area Plan* provides land use policies aimed at preserving existing vineyards and wineries, enhancing the recognition and image of the area as an important premium wine-producing region, creating incentives for investment and expansion of vineyards and other cultivated agriculture, preserving the area's unique rural, scenic and historic qualities, and coordinating area planning between the three jurisdictions to ensure that Plan goals are achieved. Among its objectives, the *Area Plan* specifically calls for the expansion of cultivated agricultural acreage, particularly viticulture, from approximately 2,100 acres to a minimum of 5,000 acres.

City of Livermore General Plan Amendment

Subsequent to the County's adoption of the *South Livermore Valley Area Plan*, the City of Livermore amended its General Plan in October 1993, to incorporate relevant policies from the *Area Plan*. In addition to providing a policy framework for the South Valley area that is consistent with that adopted by the County, the amended General Plan establishes it as City policy that the development of up to 1,600 residential units will be permitted in the South Livermore Valley as a means of achieving expanded viticultural acreage south of the city (i.e., through implementation of an agricultural mitigation program). The amended General Plan also indicates that the City of Livermore will establish the exact location of urban development in the South Livermore Valley through the adoption of a Specific Plan and/or General Plan Amendment.

Urban Development. General Plan policies for the South Valley acknowledge the pressure for additional urban development in the area, but specify that no new urban development will be permitted unless it meets a number of specific criteria, including that the development:

Does not displace or destroy a significant amount of any actively farmed vineyards;

Is contiguous to the existing boundaries of the City of Livermore, and is limited to areas under City jurisdiction;

Can be serviced by all necessary public services and utilities;

Contributes to the creation of a permanent boundary and open space buffer between the cities of Livermore and Pleasanton; and,

Substantially contributes to the expansion of viticulture within the Plan Area and mitigates for the loss of land suitable for vineyards.

Agricultural Mitigation Program. In order to ensure that new development will make a direct contribution to the expansion of viticulture in the South Valley, the *Area Plan* establishes a mitigation program that requires new urban development to plant one acre of new vineyard (or other appropriate cultivated agriculture, such as orchards) for every acre urbanized, and plant one acre of new vineyard (or other appropriate crop) for every new home constructed. All new agricultural acreage planted under this mitigation program must be located within the Plan area, and must also be placed under permanent agricultural easement. In addition to the planting and dedicating of easements on the mitigation acreage,

developers are also required to provide evidence of a long-term (8 years or more) maintenance contract for care of the vineyards. Thus, the mitigation program uses the increased economic value associated with new residential development to directly contribute to the expansion of viticulture in the South Valley.

Non-Residential Development. In addition to residential development, the Area Plan also encourages the development of new wineries and other tourist-related projects that will attract tourists and increase recognition of the South Livermore Valley as a premium wine-producing region. The Plan suggests that such uses could include a wine museum, a culinary institute, conference center, or a resort hotel. These destination-type uses would be complemented by tourist-serving retail uses, such as restaurants, bicycle rentals, art galleries, or other small-scale uses that would contribute to the creation of an attractive, full-service destination for visitors to the wine country. Retail use and "for-profit" major attractions are subject to an agricultural mitigation fee of \$2.50 per square foot, rather than the acre-for-acre mitigation required of residential development.

Under the *Area Plan*, the City of Livermore has primary responsibility for overseeing/implementing the urban component of the Plan, since the majority of the urban development that can occur must be annexed into and served by the City.

1.3.2 THE PLANNING PROCESS

South Livermore Valley Citizens Advisory Committee

As a first step toward implementing the City's urban development responsibilities as set forth in the *South Livermore Valley Area Plan*, the City Council appointed a seven-member South Livermore Valley Citizens Advisory Committee in October 1993. The Advisory Committee, which included representatives of South Valley landowners, the Friends of the Vineyards, the Winegrowers Association, and local residents, was created to advise the City in the implementation of a three-phase work program that included the formulation of locational criteria for siting new development, the application of this criteria to the selection of specific development sites along the south edge of the city, and finally the preparation of a Specific Plan and General Plan Amendment that would regulate future development.

Locational Criteria

Working with City planning staff, the Advisory Committee formulated a set of criteria for rationally locating the urban development that was provided for in the amended General Plan (i.e., up to 1,600 dwelling units). In February, 1994, the Advisory Committee's recommendations for locational criteria were presented to the Livermore City Council. The recommendation called for a two-tiered approach that involved the flexible application of a set of primary and secondary criteria when considering various areas' suitability for development.

Primary Locational Criteria

The location of new urban development in the South Valley:

- must be contiguous to the City's corporate limits;
- must form a logical urban edge to the City's future corporate limits, and facilitate creation of a permanent urban/rural boundary;
- must be feasible for, and facilitate, the extension of City infrastructure and services;
- should minimize impacts on significant viewsheds of the South Valley area;
- must generally meet the requirements for annexation specified by the Alameda County LAFCO;

- should minimize impacts on existing or potential agricultural lands/operations, and avoid environmentally sensitive lands/features or impacts to important public facilities such as Sycamore Park;
- should minimize development of lands with existing vineyards, or development on lands suitable for viticulture;
- should minimize impacts on the rural character of the larger South Valley area and roads;
- should facilitate development of a circulation system that meets the needs of local residents and visitors to the wine country; and
- should promote development that will be of general benefit to the City as a whole regarding the provision of public facilities, amenities, school facilities, public parks, etc.

Secondary Locational Criteria

The location of new urban development in the South Valley:

- should minimize, as feasible, impacts to rural landowners and existing residential development;
- should encourage in-fill and compact development;
- should use natural or man-made features (when present) to define project boundaries; and,
- should protect or incorporate features to enhance wine country entry ways.

Selection of Development Areas

Using the locational criteria developed in the first phase, the Advisory Committee and staff worked closely with landowners and other interested parties to develop a set of recommendations regarding the location, distribution and density of development that should occur in the South Valley. Following an initial application of the locational criteria, the Advisory Committee narrowed its considerations to the seven subareas that are addressed in this Specific Plan (see Chapter 2, *Planning Area Description* for description of these subareas).

Specific Plan Process

In March 1995, the City selected a multi-disciplinary team of consultants to prepare a Specific Plan, General Plan Amendment, and Environmental Impact Report for the 1,891-acre South Livermore Valley planning area. The consultants were charged to work with City staff and the Advisory Committee to prepare a plan for the area that is environmentally sound, financially feasible, and advances the City's and County's common goals for the South Livermore Valley.

In order to provide a sound basis for the Specific Plan, a market analysis and an environmental baseline study were prepared. The market analysis evaluated current and projected demand and supply for housing in the region, South Livermore's competitive position within the local housing market, and the implications of these factors for housing prices and absorption rates for proposed development. The baseline study identified key environmental concerns, infrastructure conditions, and planning issues that were pertinent to the planning process.

While these technical studies were being prepared the consultants worked with the Advisory Committee, staff and interested public in a series of public meetings to make more explicit the Plan's goals,

objectives, and assumptions. In particular, the consultants explored with the Committee, staff and landowners those characteristics of the local landscape that make the South Livermore Valley unique, and the meaning of the concept of "rural" and its implications for development patterns and built form in the South Valley. This process resulted in the formulation of a set of "rural development principles" that have guided the design and site planning for the proposed development.

Using the Advisory Committee's recommendations for development location and intensity, the input from the market and environmental analyses, and the rural development principles, the consultants prepared a series of alternative development scenarios for the planning area. Each alternative explored different approaches to site planning the proposed development, but all of the scenarios placed an emphasis on maintaining wide agricultural buffers around proposed development, preserving a sense of openness within the developed areas, and establishing connections between proposed development areas and surrounding open space via a regional trail system.

Based on an analysis of the financial feasibility of the preliminary development scenarios, and input from the Advisory Committee, land owners and the public, a single revised set of development concepts was prepared and forwarded to the Planning Commission and City Council for their consideration. In April, 1996, the City Council gave its direction to use the Preferred Development Plan as the basis for preparation of this Specific Plan and the accompanying Environmental Impact Report, with one exception. The Council was undecided about whether the Advisory Committee's preferred land use concept for Subarea #7 fully achieved the City's objectives for the area. The Council requested that additional alternatives be developed and analyzed in the EIR so that a more informed decision could be made when the Plan came to them for final adoption. Based on the Council's direction, a series of alternative land use scenarios were developed for Subarea #7 and analyzed in the Draft EIR. In addition to the impact analysis, a separate analysis was undertaken to evaluate the financial feasibility of the various scenarios.

1.4 ORGANIZATION OF THE SPECIFIC PLAN

This Specific Plan is organized to provide a step-by-step understanding of the Plan's components and the rationale behind its policy recommendations, design concepts, and implementation measures. The first three chapters are primarily descriptive, describing the plan, the planning context, and the existing setting. The goals, policies, standards, guidelines, and implementation measures that will regulate the plan are presented in subsequent chapters. These goals, policies, standards, guidelines, and implementation measures are organized into a series of "Elements" that correspond to planning categories established by City and State General Plan guidelines.

Chapters in the Specific Plan include:

1. **Introduction**--establishes the broad purpose of the Specific Plan, describes the legislative authority under which specific plans exist, summarizes the general conditions and sequence of events leading up to the Plan's preparation, and outlines the organization of the Plan.
2. **Planning Area Description**--describes the location and general character of the planning area, and identifies ownership patterns and key environmental factors that influenced the Plan's form and policies.
3. **Plan Summary**--provides an overview of the Plan's goals, policies and implementation measures; the development potential of the area; and the infrastructure and service requirements of the Plan.
4. **Lane Use Element**--identifies land use goals and policies, and describes the land use patterns and associated development concepts.

5. **Circulation Element**--describes the circulation network and identifies the components and design standards required to accommodate efficient access and movement of vehicles, pedestrians, bicyclists and equestrians in and around South Livermore Valley.
6. **Conservation and Resource Management Element**--describes the planning area's natural and cultural resources, including vegetation, wildlife, hydrology, agriculture, historic features and open space resources, and associated policies, including those relating to resource protection and public use.
7. **Community Services and Facilities Element**--locates and characterizes public facilities anticipated in the South Livermore Valley Specific Plan area, including schools, police and fire protection, and other services, and sets forth related policies.
8. **Public Utilities Element**--describes infrastructure improvements and costs necessary to provide adequate sewer, water, and storm drainage to proposed development in the area, and identifies service agency policies and plans.
9. **Community Design Element**--sets forth design concepts, policies and objectives, and translates them into standards and guidelines for streets, yards, open space, grading, siting, landscaping, buildings and other physical features.
10. **Financing Element**--identifies the major infrastructure costs associated with the Specific Plan, and identifies how these costs will be financed.
11. **Implementation Element**--describes policies, regulations and ordinances that must be adopted or amended to implement the plan, and identifies development approval procedures, capital improvements, financing programs, and development phasing recommendations.
12. **Commercial Design Element**--identifies opportunities and constraints to the development of each of the designated commercial sites, and provides design guidelines and development standards that address architecture, site layout, landscape and site elements, signage, lighting and parking.

2.0 Planning Area Description



2.0 PLANNING AREA DESCRIPTION

2.1 PROJECT LOCATION

The Specific Plan area is located in an area known as the South Livermore Valley. As shown in the regional map in Figure 2.1, the South Livermore Valley is located in unincorporated, eastern Alameda County, immediately south of the City of Livermore. The South Livermore Valley encompasses approximately 14,000 acres of relatively level to gently sloping terrain that occupies the area between the City of Livermore and the foothills and ridgelines that comprise the southeastern margin of the much larger Livermore Valley.

The 1,891-acre South Livermore Valley Specific Plan area consists of seven distinct and non-contiguous subareas that are located in the South Livermore Valley. The subareas are distributed along the nearly six-mile length of the City's southern boundary, stretching from Vallecitos Road/State Route 84 on the west to the Sandia National Laboratories on the east. For ease of reference, the subareas have been numbered 1 through 7, starting with the eastern-most subarea and moving west (see Figure 2.2).

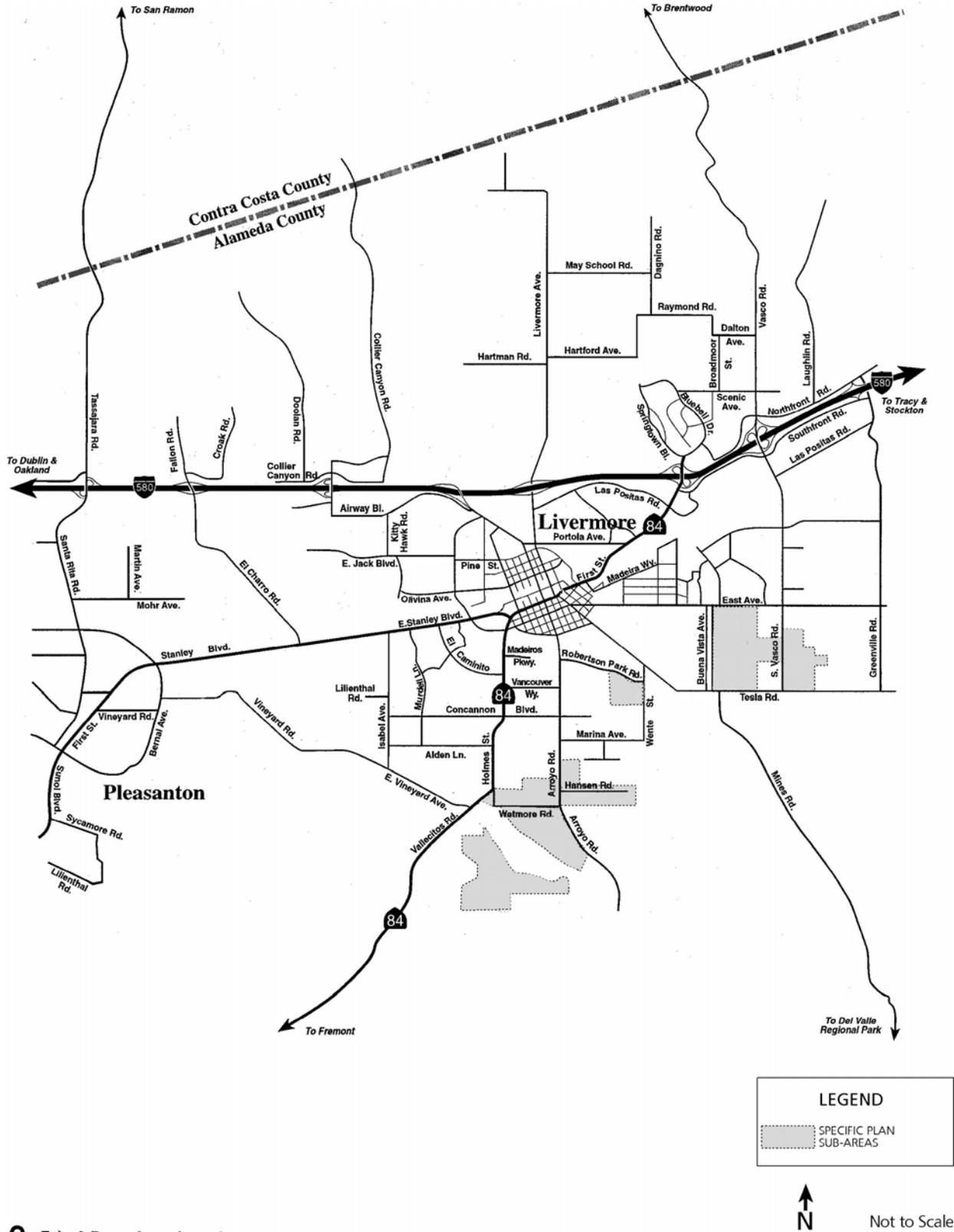
As shown in Figure 2.2, Subareas #1 and #2 are located at the east end of the planning area, south of East Avenue and along either side of South Vasco Road. Subarea #3 is located near the center of the planning area, west of Wente Street and south of Robertson Park. Subareas #4, #5, #6, and #7 are all located near the west end of the planning area, with Subareas #4, #5 and #6 clustered around the Wetmore Road/Arroyo Road corridors, and Subarea #7 located to the south, separated from the others by Sycamore Grove Park. All of the subareas, except for Subarea #6, are contiguous with the City of Livermore's current city limits.

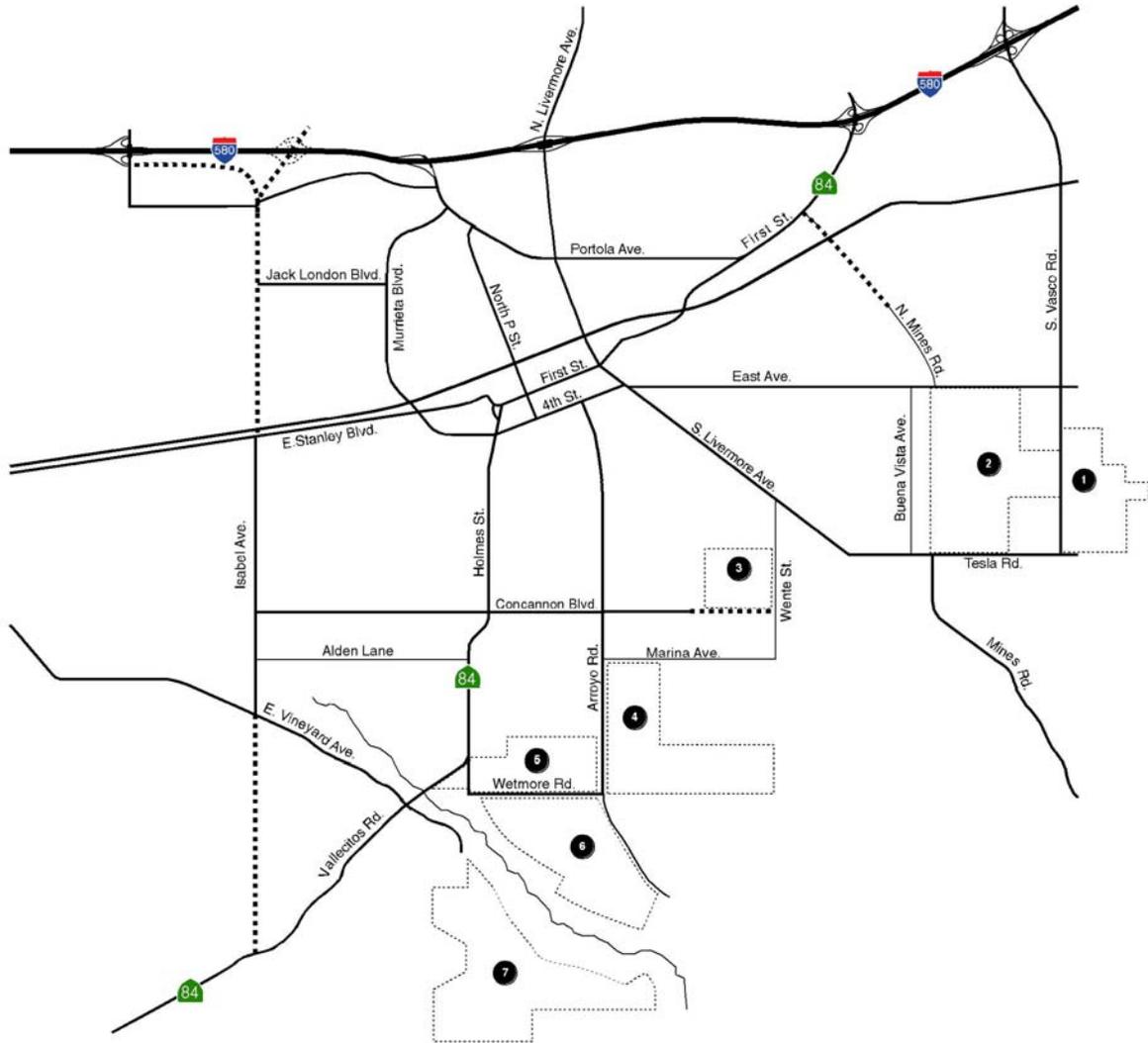
2.2 SUBREGIONAL CONTEXT

The South Livermore Valley is located in eastern Alameda County, approximately 45 miles southeast of San Francisco, at the southeastern edge of the Tri-Valley. Once primarily an agricultural area, the Tri-Valley region is now a fast-growing sub-region of the nine-county Bay Area. The Tri-Valley, which consists of the Livermore, Amador and San Ramon valleys, includes incorporated and unincorporated areas of Alameda and Contra Costa counties. The portion of the Tri-Valley subregion that is located within Alameda County has been designated, for planning purposes, as the East County. In addition to unincorporated areas, the East County includes the cities of Livermore, Pleasanton, Dublin and a portion of Hayward. The East County area is served by two interstate freeways. I-580 runs east-west through the Valley providing regional connections between Tracy and other Central Valley communities to the east, and Hayward, Oakland and San Francisco to the west. I-680, a north-south corridor located in the west end of the Valley, provides connections to Fremont and San Jose to the south and Walnut Creek and Concord to the north.

2m,

The East County area has grown rapidly over the last three and a half decades, with population increasing over 360% since 1960. Initially, in the 1960's and 1970's, residential development led the way, as people who worked in the Bay Area began to look to the Tri-Valley area for affordable housing. Then during the 1980's, rapid employment growth transformed the region from a bedroom community to a major employment center. Since 1980, employment in the East County has grown from 34,000 jobs to nearly 80,000 jobs in 1997.





LEGEND

- FUTURE ROADWAY EXTENSIONS
- ① SPECIFIC PLAN SUB-AREA

N ↑
Not to Scale

The rapid urbanization of the Tri-Valley area is expected to continue, as the distribution of jobs continues to shift from the core Bay Area cities to the Tri-Valley. Although the rate of employment in the Tri-Valley region is projected to be lower over the next 20 years than it was in the 1980's, it is still expected to be more than 3.5 times the rate of growth in the Bay Area as a whole (*East County Area Plan DEIR*, 1994). The number of jobs in the East County is projected to increase from approximately 69,000 in 1990 to over 151,000 (119% increase) in the year 2010. Meanwhile, the rate of residential growth (both households and population) is projected to increase slightly from levels in the 1980's, with the population projected to increase from approximately 136,000 in 1990 to 250,700 in 2010 (85%).

The effect of this growth is that since 1980, the East County area occupied by urban development has increased by 300 percent, from 10,100 acres in 1980 to 31,000 acres in 1994. Projected growth is expected to result in continued expansion of urban development across the floor of the Livermore-Amador Valley and into the surrounding hills as the communities expand in response to growth and economic pressures. Virtually the entire valley floor, and a good portion of the adjacent hill areas, have been or are being considered for development. Most of this development is being planned for the northern portion of the Valley, where, in recent years, the cities of Livermore and Dublin have approved General Plan Amendments that will accommodate approximately 29,000 new residential units and 32,000 new jobs.

2.3 LAND OWNERSHIP AND PARCELIZATION

The planning area consists of 34 recorded parcels, belonging to 30 different landowners. All of the subareas, with the exception of Subarea #6, include multiple landowners. Generally, there are between 4 and 8 parcels in each subarea, although Subarea #6 consists of a single large parcel and Subarea #7 consists of two large parcels. Ownership and parcelization patterns are shown in the Land Use Element in Chapter 4 in Figures 4.1, 4.3, 4.5, 4.7, 4.9, and 4.11.

Parcel sizes in the planning area vary greatly, ranging in size from 0.93 acres to 370 acres. Most of the landholdings (82%) are less than 100 acres, with the average parcel size being approximately 55.5 acres and the median size approximately 25 acres. The three landowners with the largest landholdings are the Crohare family with 582 acres in Subarea #7, Wente Vineyards with 336.6 acres in Subarea #2 and RMC Lonestar with 185.44 acres in Subarea #6. Together these three landowners own 58% of the planning area (1,100 acres). The seven largest landowners (23% of the landowners) own 77% (1,463 acres) of the planning area. Landowners' names and the size of their holdings are listed in Table 2.1.

Most of the area landowners have long term ties to the Livermore area, and many of the properties have been in the landowners' families for decades, if not generations. Of the 30 planning area landowners, 20 landowners currently live on their property or have a relative residing on the property.

Table 2.1 South Livermore Valley Specific Plan OWNERSHIP AND PARCELIZATION -- BY SUBAREA (in 1997)				
<i>Subarea</i>	Landowner	Acreage	Assessor's Parcel Nos.	Map Key/Reference No. ¹
Subarea #1				
	Frydendal	26.73	99A-1601-12-3	1-A
	Miller	20.07	99A-1601-11	1-B
	Coast Realty	31.27	99A-1601-10-7	1-C ₁
	Coast Realty	17.77	99A-1601-08-5	1-C ₂
	Burns (Stivers Academy)	5.00	99A-1601-09	1-D
	Minaker	17.78	99A-1601-07-4	1-E
	Wise & Reid	25.90	99A-1601-06-4	1-F
	Rios	25.90	99A-1601-06-5	1-G
	<i>Subtotal</i>	<i>170.42</i>		
Subarea #2				
	Wente Bros.	178.67	99A-1500-01-2	2-A ₁
	Wente Bros.	158.00	99A-1500-02	2-A ₂
	Dymond Development	24.75	99A-1500-10	2-B
	Scott	17.39	99A-1500-11	2-C
	Davey Tree Surgery Co.	9.83	99A-1500-12	2-D
	Volkman	12.10	99A-1500-20	2-E
	<i>Subtotal</i>	<i>400.74</i>		
Subarea #3				
	Caldera	81.49	99-800-01-10	3-A
	Richardson	1.00	99-800-01-8	3-B
	Young	8.06	99-750-17-4	3-C
	Ferreira	1.01	99-750-18	3-D
	Kitt	5.00	99-750-18	3-E
	<i>Subtotal</i>	<i>96.56</i>		
Subarea #4				
	Hansen	97.74	99-675-01	4-A
	Corbett	50.44	99-675-04-4	4-B
	McKissack	50.44	99-675-04-6	4-C
	Zumbach	102.37	99-675-03	4-D
	<i>Subtotal</i>	<i>300.99</i>		

Table 2.1 (Continued) South Livermore Valley Specific Plan OWNERSHIP AND PARCELIZATION -- BY SUBAREA (in 1997)				
<i>Subarea</i>	<i>Landowner</i>	<i>Acreage</i>	<i>Assessor's Parcel Nos.</i>	<i>Map Key/Reference No.¹</i>
Subarea #5				
	Tolentino	9.00	99-290-07	5-A
	Nelson	25.51	99-450-13-1	5-B
	Lagiss	33.87	99-450-07	5-C
	County of Alameda	77.40	99-450-05	5-D
	Stear	1.49	99-450-11-4	5-E
	Munro	5.00	99-450-10	5-F
	Denton	1.55	99-450-09	5-G
	Denton	0.93	99-450-08	5-H
	<i>Subtotal</i>	<i>154.75</i>		
Subarea #6				
	RMC Lonestar	185.44	99-500-01-3	6-A
	<i>Subtotal</i>	<i>185.44</i>		
Subarea #7				
	Olivina Ranch	120.00	99-500-03-12	7-A
	Olivina Ranch	370.00	99-500-03-10 & -13	7-B
	Crohare	92.00	99-500-03-11 & -6	7-C
	<i>Subtotal</i>	<i>582.00</i>		
	TOTAL ACRES	1890.90		

¹Ownership and parcelization patterns are shown in the Land Use Element in Chapter 4 in Figures 4.1, 4.3, 4.5, 4.7, 4.9, and 4.11.

2.4 PLANNING AREA CHARACTER

2.4.1 THE SOUTH LIVERMORE VALLEY

Landscape Elements

The planning area is situated on the valley floor between the urbanized area to the north and the foothills on the south. The physical environment includes three dominant landscape elements: the flat valley floor, the rolling foothills, and the steep, tree-covered ridges. Although the seven subareas differ in character, they generally occupy the first two landscape units, with terrain that ranges from relatively flat (Subareas #1, #2 and #3) to gently rolling (Subareas #4, #5 and #6). Subarea #7, the most southerly of the subareas, is the only exception, having a much more rugged and diverse terrain than the other subareas. This subarea lies in transition between the rolling foothills and the steeper, tree-covered ridges.

Other elements that are distinctive, but less dominant, are the two natural drainage areas that cross the South Livermore Valley: the Arroyo Mocho and Arroyo del Valle. In the vicinity of the planning subareas, Arroyo del Valle is the more visually distinctive, distinguished as it is by the stand of sycamores that line

the drainage. The light, grey-tan trunks of the sycamores provide a striking element in a landscape whose natural vegetation consists primarily of grasslands with few trees.

Visual Character

The planning area has a distinctive rural character formed by the combination of natural landscape features and agricultural activities. The area is characterized by very open and expansive views, in which the valley floor typically forms both the foreground and middleground of most views, and the foothill perimeter provides a distant, but distinctive background. Because of the relatively level terrain and the general absence of tall vertical elements in the landscape, the visual character of the landscape is predominantly horizontal in nature. The scenic quality of the setting is generally quite high. Views to the south tend to have much higher scenic quality than those to the north given the lower levels of development and the distinctiveness of the foothill backdrop. However, in isolated instances distinctive views are also available to the north.

The development character of the planning area is generally rural, with residential compounds scattered throughout large areas under cultivation or in open grasslands. These compounds often consist of small groupings of structures including a house, barn, corrals, windmills/water towers, and/or other assorted out structures. These compounds are often demarcated by stands of shade trees, which are often the only substantial mature vegetation on the property, and are typically the tallest vertical elements in a predominantly horizontal visual environment. The perceived "ruralness" of the area varies from area to area depending on the age and style of existing development and its association with rural activities such as agriculture or ranching. This rural character is compromised in areas where suburban and industrial development is immediately adjacent to or visible from the Specific Plan subareas. For instance, the Shaheen Industrial Park adjacent to Subarea #2, and the proximity of the Sandia National and Lawrence Livermore Laboratories to Subarea #1, significantly influences the perception of these areas. Other elements that contrast with the predominantly rural character of the planning area are the electrical power transmission lines and towers that cross Subareas #1, #4, #6 and #7. These facilities are not only highly industrial in character and out of scale with the rest of the visual environment, they have also been sited along prominent ridgelines where they are silhouetted against the sky, thus increasing their visual prominence.

Agriculture in the area consists primarily of vineyards with smaller areas cultivated with orchard crops such as olives and walnuts. From a visual standpoint, the parallel lines of trees and vines created by these crops introduce a formal, manmade geometry to the landscape that contrasts with and sets off the less regular character of the natural landscape. In addition, the growth cycles of the vineyards and orchards tend to complement the cycles of the natural grasslands. In winter when the grasslands are lush and green, the orchards and vineyards are dormant, without foliage. In the summer, when the grasslands have turned a golden brown the verdant crops provide a rich contrast.

Wine Country Character

As discussed in the Introduction (see Section 1.3, Planning Context), the expansion of viticulture, the addition of wineries, and the promotion of the South Livermore Valley as a premier wine-producing region are all key City and County objectives for the area. In addition to having a rich wine-making history and the appropriate climate and soils for growing premium wine grapes, the South Valley has a number of existing and planned resources that contribute to the area's wine-country character and provide an important foundation on which this Specific Plan builds.

Wine Industry. As of May 1997, the South Livermore Valley had 11 wineries, including large, century-old wineries such as Wente Vineyards, and smaller boutique wineries such as Thomas Coyne Wines that have only recently been established. In 1997, the wineries in the Valley produced approximately 500,000 cases of wine per year, and production is expected to continue to increase. As of 1997, the Valley had approximately 2,500 acres planted in vineyards, with the principal grape varieties being Cabernet, Merlot, Chardonnay, and Sauvignon Blanc.

In addition to the wineries and the vineyards, the Livermore Valley wine industry is supported by two key groups: the Livermore Valley Winegrowers Association, an association of vintners and growers, whose goal is to strengthen the local wine industry by enhancing the image of the region and expanding vineyard acreage and the number of wineries, and the Friends of the Vineyards, a group of over 2,000 volunteers who vigorously promote the wine-growing region through educational programs and activities, such as the publication of the consumer newsletter, *The Valley Wine Press*. A key long-term project of the Friends of the Vineyards is the establishment of a Livermore Valley Wine Center/Museum in the Valley. In addition, several special events, such as the Harvest Wine Celebration, the Wente Bros. Concert Series, the Food and Wine Pairing Contest, and the Christmas Wine Trails, are also held during the year to attract visitors to the Valley and enhance the area's image.

New Development. As of the approval date of the Specific Plan, there were four major development projects in the South Valley area under construction or recently completed: two golf courses and two upper-end residential developments (one of which includes a golf course). Three of the projects are located in unincorporated areas of the County and the third is in the City of Pleasanton. All four projects have been purposely sited in agricultural settings and incorporate vineyards and a wine country theme as a key amenity.

The 1,657-acre Ruby Hill development is located west of Subarea #7. The project includes two parts: the Vineyard Estates area, located immediately west of Subarea #7 along both sides of State Route (SR) 84/Vallecitos Road; and Ruby Hill proper, located immediately west of Vineyard Estates. The Vineyard Estates project is a 694-acre area that has been subdivided into thirty-two 20-acre parcels, each of which will be planted with vineyards and developed with a single residence. The area, which was annexed into the City of Livermore in 1993, has been planted in vineyards and the parcels are for sale. The Ruby Hill portion of the project is located immediately south of East Vineyard Avenue and west of the proposed Isabel Avenue extension corridor. At buildout, this 963-acre residential community will include up to 850 single-family homes, a Jack Nicklaus-designed championship golf course, and an inn. In addition, the project will be required to restore two wineries (Ruby Hill and Fenestra), plant 467 acres of new vineyards, and pay a minimum of \$8.5 million in agricultural mitigation fees to the South Livermore Agricultural Land Trust.

The Crane Ridge Vineyards project, which is located along the west side of Greenville Road south of Tesla Road, is a subdivision consisting of ten 18.5-acre lots proposed for custom, wine-country homes. The plan calls for each parcel to have a one-acre home site surrounded by vineyards. The vineyards are currently maintained and harvested by Wente Brothers Winery, although individual lot owners have the option to ultimately conduct their own vineyard operations. The vineyards have been planted and common area improvements have been implemented, and parcels are currently being sold.

Poppy Ridge Golf Course is an 18-hole, NCGA-approved golf course located on 280 acres due east of Greenville Road, opposite the Crane Ridge Vineyards. The golf course was approved as a stand-alone facility that does not have any residential development proposed adjacent to it. The project was completed in Spring, 1997.

The Course at Wente Vineyards is proposed at the south end of Arroyo Road in the small valley just east of Sycamore Grove Park, Subareas #6 and #7, and the VA Hospital. The 18-hole golf course has been designed by Greg Norman to follow the eastern edge of the valley with vineyards located between the course and Arroyo Road. As with the Poppy Ridge Golf Course, no residential development is planned in conjunction with the development of the Course at Wente Vineyards. Instead, the course is intended to complement the existing Wente Brothers Sparkling Wine Cellars, restaurant, and concert site. Construction of the course began in Spring of 1997.

Open Space and Recreation Resources. The South Livermore Valley has a number of open space and recreational amenities in the vicinity of the specific plan area that contribute to the attractiveness of the South Livermore Valley as a visitor destination.

The Livermore Area Recreation and Park District (LARPD) owns and operates the 364-acre Sycamore Grove Park regional park that forms the southern edge of Subarea #6 and the northern edge of Subarea #7. The focus of the park, which includes the Arroyo del Valle corridor and one of the largest remaining stands of Western Sycamores in the U.S., is the natural environment, and for this reason is minimally developed with trails and picnic facilities. The 32-acre Veterans Park, which is located adjacent to the southeast end of Sycamore Grove Park, also consists of open space and natural parkland with group picnic facilities.

The 29.7-acre Ravenswood Historic Site, is located on Arroyo Road, north of Subarea #5 and west of Subarea #4. This special-use park is a National Register-listed 19th century vineyard estate with victorian-style structures, vineyards, and winery ruins. The site, which has been renovated by LARPD, is used for meetings and special events. Proposals have been explored by LARPD and the Friends of the Vineyards about the possibility of building a wine museum at the south end of the Ravenswood site, on land that is currently undeveloped.

Robertson Park is located immediately north of Subarea #3 and west of Wente Street. Like Sycamore Grove Park, this 133-acre regional park is located along both sides of an arroyo, in this case the Arroyo Mocho. Unlike Sycamore Grove, this park is a developed urban park that includes lighted ballfields, soccer fields and other active recreation facilities. In addition, the park also includes a major equestrian center, including a stadium, that serves as home to the annual Livermore Rodeo.

Del Valle Regional Park is a 3,900-acre recreation area surrounding the Del Valle Reservoir. Located in the foothills south of the specific plan area, this regional park is managed by the East Bay Regional Park District (EBRPD) for the California Department of Parks and Recreation. The park offers boating, fishing, sailboarding, swimming, picnicking and hiking. In addition, EBRPD has recently acquired from Alameda County a 105-acre parcel at the southern end of Arroyo Road, near the end of Sycamore Grove Park.

The reclamation plan for the gravel quarries located in the Arroyo del Valle calls for conversion of mined lands just west of Subarea #5 into a "Chain of Lakes" to be operated by Zone 7 for groundwater recharge, water storage, flood control and recreation. Zone 7 anticipates development of the chain of lakes for water-oriented recreation. While the date of cessation of mining operations is unknown, the reclamation plan assumes development of the lakes as the quarrying of each area is completed, with ultimate buildout of the chain by the year 2030. Lake "A", which will be the closest in the chain to the planning area, will be the first to be developed, and is projected to begin around the year 2002.

2.4.2 SUBAREA #1

Site Character

Subarea #1 includes 170 acres of predominantly level land, with gentle slopes rising in the south end of the subarea to a small ridge located just north of Tesla Road. Although the majority of the acreage is undeveloped, 6 of the 8 existing legal parcels have some development on them, including a combination of rural residences (Parcels 1-A, 1-B, 1-E, 1-F and 1-G; see Figure 4.1 in the Land Use Element), equestrian facilities (Parcels 1-B, 1-E, and 1-F), a private elementary school (Parcel 1-D), and a winery and deli (Parcel 1-G). All three of the equestrian facilities are associated with private residences. While the paddock and riding ring in Parcel 1-F are for private use, "Mathews Painted Horse" on Parcel 1-B and "4M Arabian" on Parcel 1-E are commercial facilities. The small Rios-Lovell winery, deli, and vineyard in Parcel 1-G are also associated with a private residence. The only subarea use not associated with an on-site residence is Stivers Academy, the private elementary school located on Parcel 1-D. Parcels 1-C₁ and 1-C₂ are the only parcels with no development.

For the most part, the undeveloped portions of the subarea consist of grasslands, and are not actively cultivated. The one exception is a small, recently planted vineyard in the southeast corner of the subarea (Parcel 1G). A major visual feature of the site, is the set of PG&E high voltage power transmission lines that cross the southern end of the subarea in a northeast-southwest direction, along the top of the ridgeline.

Surrounding Areas

Subarea #1 is bordered by, and takes its access from, South Vasco Road on the west and Tesla Road on the south. To the north and east, the subarea is bounded by open space. Except for the southeast corner of the subarea, where the subarea is adjacent to the vineyards of the Cedar Mountain Winery, the open space to the north and east consists of the security buffer for the Sandia National Laboratories. The engineering and science research complex of Sandia National Laboratories includes 413 acres north and east of Subarea #1. The nearest Sandia facilities are approximately 950 feet from the eastern boundary of the subarea. The intervening open space, which consists of rolling grasslands, is designated for agricultural open space, and is not planned for development.

Across Tesla Road to the south, the area is planted with hundreds of acres of vineyards belonging to the Wenthe Brothers Winery. The only exception to the vineyard use is a large RV/trailer storage lot that sits directly south of Parcel 1-F. Vacant agricultural land, rural residential uses, and a couple of commercial uses (a tree farm on Parcel 2-E and a tree surgery company on Parcel 2-D) are located across South Vasco to the west in Subarea #2. The Shaheen Industrial Park, a low-scale light industrial park, is located just northwest of the subarea.

2.4.3 SUBAREA #2

Site Character

Subarea #2 consists of approximately 400 acres of level agricultural land. Subarea #2 is characterized by existing and former agricultural uses, including: areas currently or formerly planted with Wenthe Brothers' vineyards (Parcels 2-A₁ and 2-A₂; see Figure 4.3); two vacant parcels along South Vasco Road (Parcels 2-B and 2-C) that are now used for grazing; a rural residence and tree farm (Parcel 2-E); and the offices and equipment yard of a tree surgery company (Parcel 2-D). The two developed parcels, the tree farm and tree surgery company, comprise about 22 acres and are located in the southeast corner of the subarea, adjacent to South Vasco Road. The remainder of the subarea is undeveloped. Figure 4.3 in the Land Use Element shows the subarea parcelization and surrounding uses.

Surrounding Areas

Subarea #2 is bordered on two sides by rural agricultural uses, on one side by rural residential uses, and on one side by urban development. The Shaheen Industrial Park, a light industrial/warehouse development at the corner of East Avenue and South Vasco Road, is adjacent to the northeast corner of the subarea. East Avenue, a major east-west collector street between the Lawrence Livermore and Sandia National Laboratories and downtown Livermore forms the northern boundary for the rest of the subarea, with multi-family residential complexes located on the north side of the street. Rural residences along Buena Vista Avenue back onto the western boundary of the subarea. Tesla Road marks the southern boundary of the subarea, with the Wenthe Brothers Estate Winery and vineyards and Ivan Tamas Winery located opposite the subarea to the south of Tesla Road. Rural residential uses border the southeast corner of the subarea (adjacent to Parcel 2-E). South Vasco Road forms the eastern boundary of the subarea, with Subarea #1 and its mixture of agricultural and rural residential uses (see description above) located to the east of the subarea across South Vasco Road.

2.4.4 SUBAREA #3

Site Character

Subarea #3 consists of approximately 97 acres of level agricultural land. The majority of the subarea is regularly tilled, but uncultivated (i.e., no crops) agricultural land. The only other onsite uses are the five rural residences that occupy the five legal parcels that comprise the area. Four of the residences are located near the subarea's northern boundary. The fifth residence, is the Caldera residence which is

centrally located near the east end of the subarea. This residence, which dates back to the turn of the century, consists of a compound of structures typical of active agricultural enterprises, including a main house, barns, water tower and assorted out-structures. Figure 4.5 in the Land Use Element shows the subarea parcelization and surrounding uses.

Surrounding Areas

The subarea is bordered on the north by Robertson Park. Robertson Park, located on the Arroyo Mocho, is an active recreation park including lighted ballfields and the Livermore Valley Stadium, home to the City's rodeo. Robertson Park Road provides access to the park from Wente Street at the northeast corner of the subarea, and then extends along the length of the subarea. From east to west, the park uses that are immediately opposite the subarea are: the City's corporation yards, soccer fields, and the parking and equestrian practice arena that support the rodeo complex. The park is currently the eastern terminus of the Arroyo Mocho trail system that extends into the heart of the city. City and LARPD park and trail plans call for a trail connection from Robertson Park south to Sycamore Grove Park, potentially passing through Subarea #3.

Single family homes abut the northwest corner of the subarea, and the recently constructed Tapestry single-family residential subdivision adjoins the subarea on the west. Stadium Way, a local residential street, stubs out at the northwest corner of the subarea, Louvre Lane ends as a cul-de-sac at the southwest corner of the subarea, and Concannon Boulevard stubs out at the Norman property line approximately 250 feet farther south (see Figure 4.5). City plans call for Concannon Boulevard to ultimately be extended east to connect to Tesla Road/South Livermore Avenue.

Wente Street borders the subarea to the east, with planted and unplanted vineyard lands belonging to Concannon Winery located east of Wente Street. The south edge of the subarea is bordered by 63 acres of vineyards on the Norman property.

2.4.5 SUBAREA #4

Site Character

The 300-acre, L-shaped subarea consists of four large parcels that are currently used for rural residential, commercial recreation and agricultural uses (see Figure 4.7). The subarea has a gently rolling topography, sloping down from Marina Avenue on the north to Hansen Road in the south, and then sloping up to an east-west trending ridgeline near the southern edge of the subarea. The majority of the area is undeveloped grasslands. The 98-acre northern leg of the site (Parcel 4-A), contains the Hansen homestead, which includes approximately 20 acres of recently planted olive orchards along the frontage of Arroyo Road, with another 20 acres soon to be planted. In addition to the Hansen residence that fronts on Marina Avenue, there is another residence and barn located near the Marina Avenue/Arroyo Road intersection that take access from Arroyo Road.

The southern leg of the subarea is divided between the 50-acre Corbett property (Parcel 4-B), occupied by a single family home, the 50-acre McKissack property (Parcel 4-C), which is used for grazing, and the 102-acre Zumbach property (Parcel 4-D) on the east. The Zumbach property includes a compound of structures that includes a residence and horse ranch/boarding facility. Two easements with high voltage power lines cross the Zumbach parcel diagonally in a southwest/northeast direction.

Surrounding Areas

Land uses surrounding Subarea #4 are varied in character, as is the terrain, which changes from gently rolling west of the subarea to much steeper foothills to the east. Rural residential uses predominate north and east of the L-shaped subarea, including five-acre ranchettes along Marina Avenue and Edwards Street, many of which stable horses. Wente Land & Cattle owns undeveloped grazing land east of the Edwards/Reed Avenue area (and north of Parcel 4D) which is planned for future vineyards. Wente Land & Cattle also owns grazing land and vineyards south of Subarea #4. Arroyo Road forms the subarea's

western boundary, with the remnant orchards in Subarea #5 located opposite the southern leg of the subarea, and residential subdivisions and the Ravenswood Historic site to the west of the northern leg. The undeveloped land of the former Olivina Ranch (i.e., Subarea #6) is located southwest of the subarea.

2.4.6 SUBAREA #5

Site Character

The character of the Subarea #5 is typical of farmlands on the fringe of the city, consisting primarily of open grasslands and former orchards and vineyards, mixed with a few rural residences and commercial recreation uses (a winery and two equestrian facilities). The 155-acre subarea is relatively flat, with a gradual, but distinct slope from east to west (i.e., from Arroyo Road down to Arroyo del Valle).

Alameda County's 77-acre property (Parcel 5-D) comprises the eastern half of the subarea (see Figure 4.9). The parcel consists primarily of open grasslands, but also contains the remains of the former Wetmore Ranch, including an abandoned walnut orchard and the foundations of the former Wetmore residence. A 34-acre parcel (Parcel 5-C), occupied by a rural residence and the Livermore Valley Cellars winery, comprises the central section of the subarea. The majority of the parcel is undeveloped, with the land surrounding the residence and winery being primarily disturbed grasslands and the remnants of an old vineyard. Three rural residences, one of which includes equestrian facilities, are located adjacent to Wetmore Road (Parcels 5-E, 5-F, and 5-G), mid-way along the subarea's southern boundary. A fourth residence is located on a 25-acre parcel (Parcel 5-B) just east of Holmes Street. Other than the residential compound, this parcel is undeveloped. An ephemeral drainage meanders across the north edge of the parcel toward Holmes Street.

Holmes Street bisects the west end of the subarea in a north-south direction, creating a triangular-shaped, 9-acre parcel (Parcel 5-A) that is set off from the rest of the subarea. The parcel, which is bounded by Holmes Street, Vallecitos Road, and Arroyo del Valle, is developed with an equestrian boarding and training facility.

Surrounding Areas

Subarea #5 is surrounded by a mixture of distinctly different land uses, including suburban residential development, three very different park facilities, and open agricultural land. Rural roadways define three of the four edges of the subarea, with Arroyo Road on the east, Wetmore Road on the south, and Vallecitos Road on the west. Beyond these roadways to the east, southeast, south and west, the adjoining uses consist primarily of undeveloped grazing, agricultural, and open space lands, including those in Subareas #4 and #6.

The single-family residential development of the Ravenswood Park subdivision borders the subarea to the north. Homes in this subdivision back onto the subarea, with fenced backyards lining the boundary. Two residential streets in this subdivision, Chatsworth Way and Superior Drive, have been stubbed out at the subarea boundary (near the middle of the subarea) to accommodate future extensions. A couple rural residences are located northwest of the subarea, adjacent to the north side of Parcel 5-B and across Vallecitos Road from Parcels 5-A and 5-B.

LARPD park facilities are located adjacent to three of the four corners of the subarea. Independence Park, a 17-acre neighborhood park that fronts on Holmes Street, is adjacent to the northwest corner of the subarea (Parcel 5-C). Ravenswood Historic Site, a restored 19th century wine country estate surrounded by vineyards, is adjacent to the northeast corner of the subarea. The southernmost portion of the Ravenswood Park site, which is currently undeveloped and unplanted, has been discussed as a possible site for a future Wine Museum. Sycamore Grove Park, a 364-acre regional park and natural area, is located south and southwest of the west end of the subarea. Access and parking for the park are located across Wetmore Road opposite Parcel 5-B. The park itself extends southeast along Arroyo del Valle from Vallecitos Road to Veterans Park and the entrance to the U.S. Department of Veterans Affairs Medical Center (i.e., the VA Hospital) on Arroyo Road.

2.4.7 SUBAREA #6

Site Character

Subarea #6 is a triangular-shaped site formed by Wetmore Road, Arroyo Road, and Sycamore Grove Park (and the Arroyo del Valle). The subarea slopes down from its high point at the Wetmore/Arroyo road intersection toward the Arroyo del Valle, which runs through the center of Sycamore Grove Park. The arroyo's presence is visible in the 5- to 10-foot bench that parallels (about 800 feet into the subarea) the boundary with Sycamore Grove Park and defines the edge of the historic river terrace. This bench is also marked by a cluster of Sycamore trees near the center of the subarea.

The 185-acre subarea is currently undeveloped, consisting primarily of fallow grasslands. Formerly part of the historic Olivina Ranch, the subarea is distinguished by remnants of that past use, including: the river-rock arch of the Olivina Gate at the corner of Arroyo Road and Wetmore Road, and the alleé of walnut trees that frame the long entry drive which bisects the subarea (see Figure 4.9). Three sets of high voltage electric transmission lines and their towers pass through the southeast portion of the subarea. In addition, two below ground utilities, a high pressure gas transmission line and the South Bay Aqueduct, pass through this same area.

Surrounding Areas

As discussed above, the subarea is bounded by Wetmore Road, Arroyo Road, and Sycamore Grove Park. The natural landscape in the park, including the groves of Sycamore trees and the rocky Arroyo del Valle streambed, provides an attractive open space setting to the west, south, and southeast of the subarea. Land east of the subarea, across Arroyo Road, has recently been planted with vineyards, and Subareas #4 and #5 are located to the northeast and north of the subarea, respectively.

2.4.8 SUBAREA #7

Site Character

The 582-acre subarea is the most remote from urban development of the subareas. The subarea is also the most diverse of the subareas in terms of topography, hydrology, and vegetation. Unlike the other subareas which are located primarily on the valley floor, Subarea #7 is located on the north-facing slopes that overlook the valley. Based on topography, the subarea can be divided into three general zones. The northernmost area lies at approximately the same elevation as the adjacent Sycamore Grove Park, and for this reason is visible from the park. This area consists of two relatively level areas at the northeast and northwest corners of the subarea that are connected by a narrow strip of land. This lower area is separated from the rest of the subarea by a relatively steep and heavily wooded slope bank that runs east-west for practically the entire length of the subarea (see Figure 4.11).

The middle zone, which is the largest of the three, consists of a long, gently sloping terrace with elevations from about 450 feet to 650 feet. This area extends from Foley Road to the northwest corner of the VA Hospital site, and also wraps around the southeast side of the Zone 7 treatment facility. For the most part, this area consists of open grasslands, with stands of oaks and eucalyptus near the center of the site along the area's drainageways. The third zone consists of the entire southern one third of the subarea, and includes elevations ranging from about 650 to 950 feet. This portion of the site is quite hilly with much of the area having slopes over 30%. The hilly slopes are generally vegetated with grasslands and scattered oak trees.

All three topographic zones are bisected by a series of natural drainages that drain from the higher elevations down through the center of the Subarea to Arroyo del Valle in Sycamore Grove Park. The main, central drainage supports substantial tree cover along its banks. In addition to this central drainage, a second drainageway along the southwest boundary of the subarea drains to the northwest.

Except for a mobile home located near the northern edge of the subarea, and three sets of high voltage power lines which cross the site, grazing is the only current use of the land. Once part of the Olivina Ranch, the remains of the Olivina Winery are located on the northern edge of the subarea near Sycamore Grove Park (see Figure 4.11).

Surrounding Areas

Uses surrounding Subarea #7 consist primarily of agriculture, open space, and a few developed facilities. Existing and proposed vineyards predominate in the areas to the northwest and west of the subarea. Existing vineyards include: the 16-acre Kurzer residence and vineyard on Foley Road adjacent to the northwest corner of the subarea; the Detjens residence, vineyards and the Thomas Coyne Winery across Foley Road west of the northern portion of the subarea; and the Kalthoff residence and vineyards located west of the southern portion of the subarea.

The remaining area between Foley Road and Vallecitos Road, to the west of the subarea, has been subdivided as part of the Ruby Hill/Vineyard Estates project. The area has been subdivided into 20-acre parcels that will each be planted with vineyards and developed with a single residence. The only non-agricultural related use to the west of the subarea is a water treatment facility, owned and operated by Zone 7 of the Alameda County Flood Control and Water Conservation District. This facility is situated on 29 acres adjacent to the west side of the subarea, at the end of the paved segment of Foley Road.

To the north, Sycamore Grove Park extends the length of the subarea, forming its northern and northeastern boundary. Private rangeland extends south from the western half of the subarea to the Lake Del Valle Regional Park. In the eastern half of the subarea, the southern boundary is formed by the 118-acre site of the VA Hospital. The U.S. Department of Veterans Affairs (VA) operates a 45-bed subacute care hospital, 120-bed nursing home, and out-patient clinic on this site. Access to the facility, which employs 550 people, is from Arroyo Road.

3.0 Summary



3.0 PLAN SUMMARY

3.1 INTRODUCTION

This Specific Plan is the culmination of a four (4) year planning effort to establish a regulatory framework for future growth and development within the 1,891-acre unincorporated area known as the South Livermore Valley. The Specific Plan, which has been developed with a thorough analysis of environmental conditions and extensive input from City decision-makers, landowners, neighbors, and the community-at-large, provides a comprehensive land use program for the planning area along with goals, policies and development standards to guide future public and private actions relating not only to the area's development, but also to the conservation of agricultural and natural resources. In addition, the Plan includes detailed information on necessary infrastructure improvements, and a strategy for insuring the Plan's implementation. The Plan also provides a mechanism to insure that development proposed by planning area landowners will be coordinated and occur in an orderly manner that has been adequately planned.

Since the 1880's, when Charles Wetmore first brought French Bordeaux grape varieties to the area, the South Livermore Valley has been an active grape-growing and wine-producing area. The combination of deep, gravelly soils and a temperate climate make it an ideal area for producing world-class wine grapes and wines. While the strength of the Livermore Valley's wine industry ebbed during the early part of this century, the industry's greatest threat has come from urban development. As the cities of Livermore and Pleasanton have grown from small agriculturally-based towns to bustling suburban communities with diverse economies, more and more prime vineyard land in the Livermore Valley has been lost to urban development.

The South Livermore Valley Specific Plan is part of an on-going effort by the City of Livermore, in conjunction with Alameda County and the City of Pleasanton, to halt the gradual erosion of this irreplaceable resource. This Plan represents the urban component of a comprehensive strategy outlined in the County's *South Livermore Valley Area Plan (SLVAP)* to preserve existing vineyards and wineries, enhance the recognition and image of the area as an important premium wine-producing region, create incentives for investment and expansion of vineyards and other cultivated agriculture, and to preserve the area's unique rural, scenic and historic qualities. The Specific Plan implements City General Plan policy to permit limited development in the South Livermore Valley as a means of achieving expanded viticultural acreage south of the city through implementation of an agricultural mitigation program. In addition, through the siting and design of the proposed development, the Plan ensures that future development will preserve and enhance the unique qualities of the area.

3.2 LAND USE

The 1,891-acre South Livermore Valley Specific Plan area consists of seven distinct and non-contiguous subareas that are distributed along the nearly six-mile length of the City's southern boundary, stretching from Vallecitos Road/State Route 84 on the west to the Sandia National Laboratories on the east. The Specific Plan designates 487 acres, or 26% of the total 1,891-acre planning area, for the development of up to 1,221 dwelling units. All of the units will be single-family detached residences, with densities ranging from roughly 1.5 to 3.5 units per acre. In addition to the residential development, the Plan designates 16 sites, totaling 59.4 acres, for possible commercial development. Commercial development in the planning area is intended as amenity that will enhance the experience of visitors to the South Livermore Valley wine country, and only those commercial uses that support wine-related tourism will be permitted.

The land use concept for the Specific Plan is as much about protecting and enhancing open space and agricultural uses, as it is about creating a logical and coherent pattern of urban uses. In order to offset the impacts of development permitted under this Plan, land critical to the Valley's future as a major wine-

producing region will be placed under permanent agricultural easements and planted with vineyards or other intensive agricultural crops. Through the siting of development and directing the location of these easements, the Specific Plan establishes a permanent boundary that will prevent future urban expansion from threatening the viability of the South Livermore Valley wine region. In total, the agricultural mitigation program set forth in the Plan will secure, under permanent agricultural easement, approximately 1,920 acres of newly-planted vineyards and other intensive agriculture.

Rather than making the new development just an extension of existing suburban development patterns, the plan conceives of the proposed development as different in kind. The new development is intended not to be an 'extension' of the urban pattern, but rather a new and permanent 'edge' to the urban area. As such, the plan establishes development patterns that provide a more gradual and graceful transition from urban to rural. Rather than creating a blunt urban edge designed to accommodate future expansion, the plan provides a 'softer' edge that allows agriculture to flow up to existing developed areas, and around and through new development areas. By carefully integrating the new development with the agricultural setting, the plan attempts to reduce the visual impact on the rural character of the Valley, and increase the open space amenity value for the new development.

The Plan focuses on providing a relatively compact development pattern divided into a number of distinct clusters. This has the benefit of not consuming the large tracts of agricultural land that would be needed to accommodate typical large-lot, rural residential development. It also allows for the creation of well-defined, pedestrian-scaled neighborhoods that will foster social interaction and a shared sense of community.

Development in the planning area is intended to have a 'rural' character that is consistent with the area's scenic natural setting and enhances the Valley's historic wine country character. Development standards and design guidelines have been formulated to ensure that planning area development does not look like typical suburban development. The residential development has been designed to facilitate healthy interaction among neighbors and foster a sense of neighborliness and community. Conceptual plans for the residential areas have been designed to ensure the development of pedestrian-scale neighborhoods, and the creation of pedestrian and bicycle facilities that make the development easily accessible to all residents by foot or bicycle. While the development areas must also accommodate the flow of automobile traffic and provide convenient vehicular access, it is important that the image of the residential areas not be dominated by the automobile.

3.3 CONSERVATION AND RESOURCE MANAGEMENT

In addition to providing for development that has a minimal impact on the natural environment, a key goal of the Plan is to preserve and manage the planning area's open space lands and natural resources for the long-term benefit of planning area residents, the Livermore community, the South Valley wine industry, visitors, and the environment itself. The resources to be protected take many forms, including agricultural lands, public parklands, sensitive habitat areas, scenic areas, and areas with significant cultural/historic resources.

The intent of the Plan is not only to protect sensitive natural resources and valuable agricultural land, but also to incorporate open space resources so that they enhance community character and contribute to the wine-country character of the area. This includes protection of important visual and recreational assets which will improve the quality of life for area residents and enhance the enjoyment of the area by visitors.

One of the principal objectives of the Specific Plan is to provide a permanent open space buffer along the southern edge of the City of Livermore that will eliminate the potential for future urban expansion into the South Livermore Valley and will preserve the area's scenic rural character. In pursuit of this objective, the Plan has established a variety of different kinds of open space that together combine to preserve approximately two-thirds of the planning area in open space. Some of the open space will be for active use and some for passive use. Some will be in public ownership and some in private ownership. In

general, open space areas in the planning area fall into four broad categories based on their role or function in the Plan:

Open space for the cultivation of agricultural crops such as grapes and olives.

Open space for the preservation of natural resources including, but not limited to, habitat areas required for the preservation of plant and animal species, and creeks, ponds and drainageways.

Open space for public health and safety, including but not limited to, areas which require special management or regulation because of hazardous or special conditions such as unstable soil and slope areas and seismic fault zones.

Open space for outdoor recreation, including but not limited to, neighborhood and regional parklands, and regional trail corridors for pedestrians, bicyclists and equestrians.

3.4 TRANSPORTATION AND CIRCULATION

The transportation and circulation system for the South Livermore Valley Specific Plan is designed to safely integrate planning area traffic into the existing roadway system, with the addition of collectors, residential streets and access drives as needed to serve individual subareas, and trails for non-vehicular circulation to connect subareas to each other and the rest of Livermore. In addition to local improvements required to accommodate Specific Plan-generated traffic, there are a number of circulation improvements that will be provided to meet circulation needs resulting from areawide traffic increases. The three major improvements to the external circulation system include the eastward extension of Concannon Boulevard to Tesla Road, the re-alignment and extension of Wetmore Road to create a new signalized intersection with Vallecitos Road, and the relocation and signalization of the East Vineyard and Vallecitos Road intersection.

Consistent with the Plan's over-arching goal to maintain a rural, agricultural character in the South Livermore Valley, the Specific Plan strives to maintain the existing rural street system and street standards as much as possible, rather than upgrading existing streets to urban standards. The objective is to safely accommodate increased traffic related to additional development in the South Livermore Valley, without creating a system that encourages higher traffic volumes and speeds due to improved roadway standards. The goal is to maintain modest roadways with low traffic volumes and leisurely traffic speeds that allow travelers to enjoy the scenic, rural setting of the South Livermore Valley. From a functional standpoint, the circulation plan attempts to achieve two objectives: maintain low traffic volumes on local residential streets and reduce travel speeds on planning area streets.

The physical character of the circulation system and the design of the individual roadways are considered to be critical elements in establishing and maintaining a rural ambience for the South Valley, and establishing a high quality of life for new residents and visitors. For this reason, the Specific Plan provides rural road standards designed specifically to provide pedestrian-friendly, rural residential neighborhoods. In addition to defining the desired functional character for the circulation system, the design guidelines and standards address aesthetic criteria that relate to reducing the visual prominence of the automobile in the residential landscape and improving the aesthetic character of area roadways.

Given the importance of open space to the character of the planning area, the Specific Plan places a high priority on the creation an areawide system of trails that will allow residents and visitors to fully enjoy the natural beauty of the South Livermore Valley. Providing safe, convenient and attractive trails for pedestrians, bicyclists, and equestrians is considered to be an important amenity that will enhance both the proposed residential development and the Valley's identity as a distinctive wine region. The Specific Plan establishes a network of trails that will connect the seven planning subareas to each other, to major destinations in the area such as parks and wineries, and to the City's existing and planned citywide trail system. Once fully implemented, the trail system will enable one to travel from one end of the planning area to the other, a distance of approximately 6.5 miles, while only crossing 3 streets.

3.5 PUBLIC UTILITIES AND SERVICES

The Specific Plan provides for full urban services to the planning area including utilities such as sewer, water, and storm drainage, and services such as police, fire, parks, and schools. Infrastructure and facility needs of the Specific Plan have been evaluated against existing services and infrastructure to ensure that existing City services will not be compromised by the project. Specific infrastructure improvements needed to accommodate proposed development are identified for each of the planning subareas. In most cases existing infrastructure is adequate to accommodate the proposed development.

Off-site improvements to water storage reservoirs, pump stations, and sewer and water mains have been identified where necessary. Consistent with City General Plan policy for the South Livermore Valley, Specific Plan development will contribute toward the cost of expanding the City's treatment and use of recycled water as a means of conserving water supplies. Specific Plan development standards also encourage the use of surface drainage systems and detention basins as a means of reducing the rate and volume of stormwater runoff, filtering urban pollutants from runoff, and increasing the potential for groundwater recharge.

Specific Plan development will generate new demand for school facilities, beyond those levels already planned for in the Livermore Valley Joint Unified School District's Facilities Master Plan. According to the District, this increase will require the addition of a new elementary school in addition to those already planned. In order to meet the need for new facilities, the Specific Plan designates a 14.1-acre site in Subarea #3 for the District to develop a public school. The location of the site was developed in consultation with the District to ensure the best service, not only to the Specific Plan area, but also to the rest of the Livermore community. A 14.1-acre site has been reserved because the LVJUSD is interested in developing the designated site with an elementary school facility in order to meet District-wide needs. The specific size, configuration, and access characteristics of the site have been developed with the School District to ensure that an elementary school facility can be effectively accommodated.

Providing for the recreation needs of future residents and visitors to the South Valley is of primary importance to establishing and maintaining a high quality of life, and enhancing the character and image of the area. The Specific Plan designates a broad range of open space and park area that will provide for the full spectrum of recreational activities from active sports to passive open space enjoyment. Altogether, the Specific Plan provides 433.1 acres of parkland or open space. The distribution and types of park facilities planned for the Specific Plan area are based on the distribution of proposed development, the availability of existing park facilities, and on LARPD park standards and projections of need. Given the wealth of existing parkland near most of the subareas, a major focus of the open space plan was to ensure that adequate trail connections were made to provide convenient access to existing recreation resources from the proposed development areas.

Buildout of the Specific Plan is projected to generate a population of approximately 3,340 new residents. Based on LARPD standards, this new population will generate demand for one new neighborhood park of approximately 6.7 acres and 50.1 acres of regional parkland. The Plan provides substantially more parkland than this, providing 15.8 acres of neighborhood park, 429.7 acres of regional parkland, and 15.0 acres of regional trail corridor. In addition, the 14.1-acre school site in Subarea #3 will have turf fields and other recreational facilities that will be available to planning area residents. Based on the amount of Specific Plan development designated for Subareas #1 and #2 (59% of the units), and the absence of convenient parklands and recreational facilities in the area, the Plan concentrates its public urban parkland in Subarea #2. Given the combination of steep topography and sensitive environments, the Plan designates large areas of Subarea #4 and Subarea #7 as regional park.

3.6 FINANCING AND IMPLEMENTATION

In order to assure that the infrastructure necessary to serve Specific Plan development can be feasibly financed, the Specific Plan Financing Element provides an analysis of the financial feasibility of the Plan and a set of policies, financing mechanisms, and strategies for implementing it. The Financing Element establishes a framework of policies and procedures that will allow the phasing of development and the

choice of financing mechanism(s) to be determined according to property owners' needs and requirements.

The total backbone infrastructure costs plus City and County fees associated with the Plan development at full buildout are expected to total about \$100.7 million. Of the total \$100.7 million in Plan costs, about \$29.2 million are attributable to agricultural mitigation costs and \$39.4 million are attributable to existing development impact fees and connection fees. About \$31.8 million are expected to be required for infrastructure costs including roadways, water and sewer systems, storm drainage, grading, electrical, park/trail/landscape, fire equipment, and plan preparation costs.

The ratio of all backbone infrastructure costs and fees to the total market value of new residential development capacity created in the Plan is expected to be higher than is typical, averaging 19 percent, compared to a more typical 15 percent or less of finished land values. However, despite the relatively high cost burdens on new development in the Plan, residual land values for residential uses indicate that sufficient incentive remains to develop the land.

The residential residual land analysis indicates that the Plan is feasible. Residential residual land values will range from \$78,000 to \$151,000 per acre depending on the Subarea and the product type. These values compare with current agricultural values ranging from about \$2,000 to \$10,000 per acre. The residential residual land value analysis suggests that there is sufficient value created by the Plan to make it feasible to pay all agricultural mitigation costs and all the necessary infrastructure costs and fees and still leave residual land values high enough to create an incentive to develop the land. On the other hand, cost burdens on commercial uses are substantial and may be infeasible as stand alone developments. The projected cost burdens range from about 13.3 percent of market value in Subarea #5 to about 21.6 percent of market value in Subarea #3. The industry standard for cost burdens for non-residential uses is generally considered to be below ten percent of fair market value. The relatively high cost burdens on commercial uses result largely from the significant allocation of roadway costs to these uses. The high road costs for commercial uses are a direct result of the visitation patterns and the resulting traffic generation.

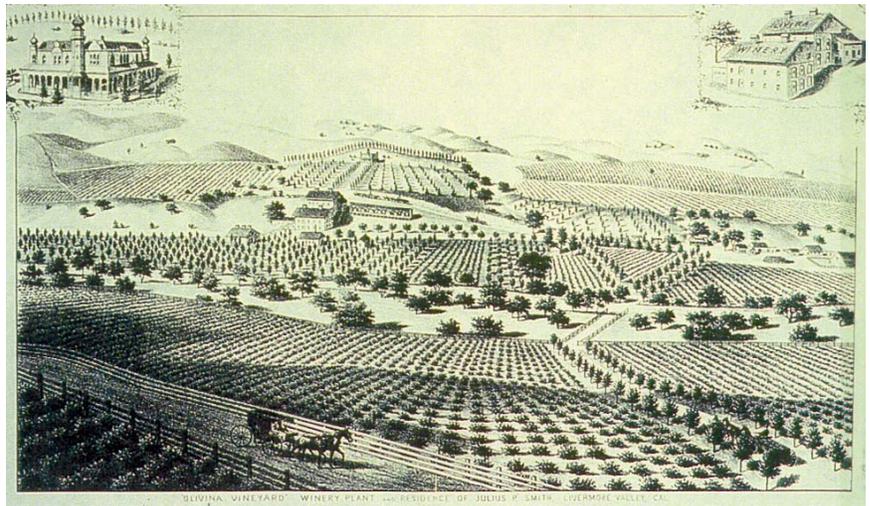
An Area Development Impact Fee (ADIF) to finance the costs in the South Livermore Valley Basic Infrastructure Program (BIP) has been calculated for the Specific Plan based on demand for public facilities. BIP cost allocations are based on a proxy for demand for public facilities, such as trip generation, and sewer and water use. Property owners can meet their obligations through any one, or a combination, of the following means:

- Build required public facilities to City specifications and dedicate them to the City; and/or
- Enter into a financing district, such as an assessment or Mello-Roos District to fund the necessary improvements.

- Work with adjacent properties to finance or build facilities through private agreements.

The Implementation Element of the Specific Plan sets forth a variety of implementing steps and regulatory procedures that are necessary to implement the Specific Plan, including City-initiated steps such as pre-zoning and annexation of the planning area, and adjustments to the City's Growth Management System. The Element also establishes the basic steps that developers will have to follow to obtain project approvals, including among others the preparation of public improvement plans, financing plans, and development agreements, in addition to the more typical development review process.

4.0 Land Use



ULTIMA VINEYARD - WINERY PLANT AND RESIDENCE OF JULIUS P. SMITH, CUMMINGS VALLEY, CO.

4.0 LAND USE

4.1 PURPOSE

The Land Use Element sets the overall framework for the development and conservation of the South Livermore Valley. The Element sets forth specific land use goals, policies and standards applicable to the South Livermore Valley, and describes the overall development program including, the type, extent, and intensity of future development.

This Land Use Element is to be used in conjunction with the other elements of this Specific Plan. More detailed information on community services and facilities is included in Chapter 7, details of the circulation system are contained in Chapter 5, details on public utilities are contained in Chapter 8, and additional information relating to open space and resource management is included in Chapter 6.

The Land Use Maps in this Element (Figures 4.2, 4.4, 4.6, 4.8, 4.10 and 4.12) illustrate the physical pattern of development permitted in the Specific Plan Area, and Table 4.1 provides an overall summary, by planning subarea, of the acreage breakdown for each Specific Plan land use category.

4.2 THE LAND USE CONCEPT

GOAL: *To allow development of a limited amount of urban land within the South Livermore Valley in a manner that protects and expands the acreage that is actively cultivated with agriculture, particularly viticulture.*

GOAL: *To establish a permanent urban boundary for the south edge of the City of Livermore.*

The land use concept for the Specific Plan is as much about protecting and enhancing open space and agricultural uses, as it is about creating a logical and coherent pattern of urban uses. As discussed in the "Background to the Plan" (Chapter 1, Section 1.3.1), the intent of this Specific Plan is to implement the urban component of a much larger strategy to protect, preserve and expand agriculture in the South Livermore Valley. In order to offset the impacts of the limited amount of development permitted under this Specific Plan, land critical to the Valley's future as a major wine producing region will be placed under permanent agricultural easements and planted with vineyards or other intensive agricultural crops. Through the siting of development and directing the location of these easements, the Specific Plan will establish a permanent boundary that will prevent future urban expansion from threatening the viability of the South Livermore Valley wine region.

GOAL: *To minimize growth-related impacts by distributing urban development over a broad geographic area.*

While the General Plan stipulates that new urban development must be contiguous to the City's urban boundaries, it does not provide direction as to where such development should occur. The Specific Plan land use concept calls for proposed development to be distributed over a broad area extending along the southern boundary of the city, rather than concentrating all of the development in one location. In this manner, the potential effect of growth-related impacts, such as traffic and loss of agricultural land, on any one area will be minimized.

GOAL: *To integrate urban development and agricultural uses in a manner that preserves and protects agricultural viability while enhancing the urban environment.*

Rather than making the new development just an extension of existing suburban development patterns, the plan conceives of the proposed development as different in kind. The new development is intended not to be an 'extension' of the urban pattern, but rather a new and permanent 'edge' to the urban area. As such, the plan establishes development patterns that provide a more gradual and graceful transition from urban to rural. Rather than creating a blunt urban edge designed to accommodate future expansion, the plan provides a 'softer' edge that allows agriculture to flow up to existing developed areas, and around and through new development areas. By carefully integrating the new development with the agricultural setting, the plan attempts to reduce the visual impact on the rural character of the Valley, and increase the open space amenity value for the new development.

GOAL: *To establish development patterns that minimize urban uses on valuable agricultural land while providing for a low density, rural development pattern.*

GOAL: *To establish development patterns that establish identifiable neighborhoods and foster a shared sense of community.*

For a number of reasons, the plan focuses on providing a relatively compact development pattern divided into a number of distinct clusters. This has the benefit of not consuming the large tracts of agricultural land that would be needed to accommodate typical large-lot, rural residential development. It also allows for the creation of well-defined, pedestrian-scaled neighborhoods that will foster social interaction and a shared sense of community.

The development patterns and land use concept were formed in the context of an agricultural mitigation program which places unusual parameters on site planning. The General Plan's South Livermore Valley mitigation formula, which requires one acre of planted agricultural land in permanent easement for every acre developed and every unit constructed, creates a very density sensitive plan. Extremes at either end of the density spectrum were found to be financially infeasible because they do not generate the revenue to cover the costs of mitigation and development. Thus, the plan focuses on a consistent, and relatively moderate density of between 1.5 to 3.5 dwelling units per acre.

4.3 RESIDENTIAL GOALS AND POLICIES

GOAL: *To create a unique residential environment with a character that reflects the unique rural, wine country setting of the South Livermore Valley.*

The Specific Plan designates 487 acres, or 26% of the total 1,891-acre planning area, for residential uses. The maximum residential development potential is 1,221 dwelling units spread over 6 subareas. All of the units will be single family detached residences, with densities ranging from roughly 1.5 to 3.5 units per acre in accordance with Specific Plan requirements.

Policy 4-1: Restrict residential development in the Specific Plan area to no more than 1,221 dwelling units. The number of units permitted in each of the development subareas shall not exceed the following:

*Subarea #1: 133 units
Subarea #2: 574 units
Subarea #3: 195 units
Subarea #4: 130 units
Subarea #5: 177 units
Subarea #6: 0 units
Subarea #7: 12 units*

Residential development in the planning area is intended to have a 'rural' character that is consistent with the area's scenic natural setting and enhances the Valley's historic wine country character. Much effort has been put into the Specific Plan development standards and design guidelines to ensure that planning area development does not look like typical suburban development (see the Community Design Element in Chapter 9). With proposed densities of 1.5 to 3.5 units per acre, the rural character of the future development will be dependent on careful and creative implementation of the site planning, architectural design, and landscaping standards set forth in this plan.

Policy 4-2: Establish an attractive rural image and identity for the residential areas through the implementation of the rural development principles and design guidelines contained in the Community Design Element of this Specific Plan.

The residential development should be designed to facilitate healthy interaction among neighbors and foster a sense of neighborliness and community. Conceptual plans for the residential areas have been designed to ensure the development of pedestrian-scale neighborhoods, and the creation of pedestrian and bicycle facilities that make the development easily accessible to all residents by foot or bicycle. While the development areas must also accommodate the flow of automobile traffic and provide convenient vehicular access, it is important that the image of the residential areas not be dominated by the automobile.

Policy 4-3: Establish attractive, well-defined, pedestrian-scale neighborhoods that promote a sense of community and enhance the quality of life for future residents.

Policy 4-4: Pedestrian, bicycle, transit, and street systems should be fully integrated into the design of residential neighborhoods, to provide safe and convenient connections to key destinations both within the development area and the larger community.

4.4 COMMERCIAL GOALS AND POLICIES

GOAL: *To provide for limited small-scale commercial development that supports and enhances the South Livermore Valley's image as a premium wine producing region.*

Commercial development in the planning area is intended as an amenity that will enhance the experience of visitors to the South Livermore Valley wine country. Only those commercial uses that support wine-related tourism will be permitted. Commercial uses that primarily serve local residents are more appropriate for neighborhood or downtown commercial areas, and are therefore prohibited within the Specific Plan area. The specific types of commercial uses that are designated in the plan and their general characteristics are summarized below:

- **Boutique Winery:** Produces 100 to 5,000 cases per year. Maximum site area of 2 acres co-located with residential development site, with up to 5,000 square feet of winery building area, including bottling/crushing facilities, lab and office space, tasting room, and storage. A boutique winery must accomplish at least two of the following four activities on site: crushing, fermentation, bulk aging/storage, and bottling.
- **Small Winery:** Produces 5,000 to 10,000 cases per year. Maximum site area of 3 acres, with up to 10,000 square feet of building area, including bottling/crushing facilities, lab and office space, tasting room storage, an indoor events room, and a small outdoor event or picnic area. A winery must accomplish at least two of the following four activities on site: crushing, fermentation, bulk aging/storage, and bottling.
- **Medium Winery:** Produces 70,000 to 100,000 cases per year. Maximum site area of 8 acres, except maximum site area for medium winery in Subarea 6 is 12 acres, with up to 50,000 square feet of building area, including bottling/crushing facilities, lab and office space, tasting room, storage, an indoor events room, and a large outdoor event or picnic area. A winery must accomplish at least two of the following four activities on site: crushing, fermentation, bulk aging/storage, and bottling.
- **Small Olive Mill:** Produces up to 10,000 gallons of olive oil per year. Maximum site area of 3 acres, with up to 10,000 square feet of building area, including pressing facilities, lab and office space, tasting room/sales area, storage, and an indoor events room.
- **Small Restaurant:** Sit down restaurant (i.e., no take out) that seats 50 or fewer. Maximum FAR is 0.25.
- **Large Restaurant:** Sit down restaurant (i.e., no take out) that seats between 50 and 100. Maximum FAR is 0.25.
- **Bed-and-Breakfast Inn:** Owner occupied with fewer than 10 guest rooms. Food service limited to breakfast. Maximum FAR is 0.25. Minimum lot size is one acre.
- **Wine Country Inn:** Hotel facility with no more than 30 guest rooms. May have a large restaurant associated with it. Maximum site size is 3 acres. Maximum FAR is 0.25.
- **Wine Country Center:** A retail center providing uses such as restaurants, art galleries or shops, bicycle rentals, delis, or other appropriate wine country-related uses. Maximum site area is 3 acres. Maximum development potential is 25,000 square feet.

Altogether, the Plan designates 15 sites, totaling 54.2 acres, for possible commercial development. The Plan is very specific about what types of commercial uses will be permitted on each site. For most sites,

a single commercial use has been identified, but for others, alternative uses are designated. The following new commercial uses will be permitted subject to conditional use permits or other project-specific review:

- Subarea #1: None
- Subarea #2: Site 2A1(2,2 ac.) Commercial Uses: A small winery or a bed and breakfast; and a small tasting room or small restaurant; and

Site 2A2 (8 ac.) a medium winery or bed and breakfast, and a tasting room or small restaurant on eight acres. Existing farm support operations are allowed to continue on 6.4 acres adjacent to site 2A2.
- Subarea #3: A small winery or a bed-and-breakfast; and, A tasting room or small restaurant.
- Subarea #4: An olive mill and a wine tasting room; Two small wineries; and, A small restaurant or a small winery.
- Subarea #5: A Wine Country retail center; Three small wineries; A Wine Country inn; A large restaurant; and A bed-and-breakfast or two residential units.
- Subarea #6: A medium-size winery on 12 acres.
- Subarea #7: A medium sized winery; or A wine country inn; A large restaurant; A winery; and A boutique winery on each 20-acre parcel.

Policy 4-5: Only those commercial uses identified in this Plan will be permitted. All commercial development applications will be subject to a site plan approval and/or a Planned Unit Development Permit. Additional accessory activities that support the listed uses (such as one caretaker's unit) may be permitted with the approval of a conditional use permit.

Policy 4-6: Commercial uses will maintain a small, pedestrian scale, and will not exceed an FAR of 0.25.

Policy 4-7: Building setbacks for commercial uses shall be 100 feet from road frontages, except for commercial site #3A which shall be 25 feet. All setback areas shall be planted with vineyards or orchards.

Policy 4-8: The design of commercial facilities shall be consistent with the rural, wine country character of the area.

Policy 4-9: Chapter 12 of the Specific Plan includes design standards and guidelines to guide the City's evaluation of applications for commercial uses within the South Livermore Valley. Commercial development within the Specific Plan area shall be consistent with the Specific Plan standards and guidelines adopted by the City.

4.5 PARKS AND OPEN SPACE POLICIES

Specific Plan goals and policies relating to parks and open space are included in the Community Services Element (Chapter 7, Section 7.4). Refer to that section for full discussion of planning area issues related to parks and open space. Additional goals and policies relating to open space preservation can be found in the Conservation and Resource Management Element (Chapter 6).

4.6 AGRICULTURE GOALS AND POLICIES

Specific Plan goals and policies relating to agriculture are included in the Conservation and Resource Management Element (Chapter 6, Section 6.3). Refer to that section for full discussion of planning area issues related to agriculture.

4.7 THE REGULATORY FRAMEWORK

4.7.1 GENERAL PLAN DESIGNATION

As discussed in the Introduction to this Specific Plan (see Chapter 1, Section 1.3), the City and County have agreed to actively discourage urban development in the South Livermore Valley, unless the impacts of that development are mitigated by actions that significantly contribute to the goal of maximizing the number of acres of permanently protected vineyards or other cultivated agriculture in the area. The South Livermore Valley Specific Plan is the mechanism designated by the City for determining the quantity, location and character of any urban development that is to be permitted in the area. No additional urban development will be considered by the City beyond the levels or locations provided for by this Specific Plan. In other words, the intent of this Specific Plan is to establish the ultimate urban development potential along the City's southern edge by clearly defining the extent of new development that is permissible, and by ensuring that the impacts of the development are mitigated by implementing permanent agricultural easements on the remaining undeveloped lands.

In keeping with the underlying policies of the South Livermore Valley Area Plan expressed in the General Plan, this Specific Plan requires no change to the base density of the underlying Agriculture/Viticulture (AG/VIT) General Plan land use designation applied to the lands that are the subject of the Specific Plan. Thus, the existing AG/VIT designation establishes the baseline level of development that could occur in the SLVSPA. The Specific Plan and General Plan conforming amendments adopted in connection with the Specific Plan together establish a Vineyard Area Conditional Urban Overlay District as the mechanism to ensure that development at urban densities in the plan area occurs in a manner that continues to protect the area's agricultural resources and values.

The Specific Plan area's underlying AG/VIT designation is intended to "preserve and promote agriculture and viticulture uses in locations suitable for cultivated agriculture, and to protect sensitive or unique environmental and land characteristics, including an area's rural character." Under the AG/VIT designation, the base density is one unit per 100 acres. The General Plan's AG/VIT land use designation allows a density bonus of up to four additional home sites per 100 acres (one dwelling unit per 20 acres maximum average density) for projects meeting certain environmental protection criteria and ensuring that at least 90% of the parcel will be planted in wine grapes or other cultivated agriculture.

The South Livermore Valley Area Plan component of the General Plan contemplates development within the area addressed in this Specific Plan at densities greater than the AG/VIT designation where that development meets the urban development criteria set forth in the SLVAP. The Vineyard Area Conditional Urban Overlay District ("District") established in connection with this Specific Plan is intended to satisfy these criteria.

The District's boundaries are coterminous with the boundaries of the subareas identified in this Specific Plan. Within the District, additional bonus densities up to those specified in this Specific Plan are permitted subject to compliance with the conditions set forth in the General Plan and this Specific Plan,

including conformance with the amount, type and location of land uses; consistency with development standards and design guidelines; implementation of required mitigation; and construction of necessary infrastructure. The Specific Plan provides that those portions of the subareas that are not developed with residential or commercial uses will be placed under agricultural easements or dedicated for regional open space as a condition of receiving the density bonus.

Development in accordance with the development conditions set forth in this Specific Plan is voluntary. Property owners wishing to develop at the rural densities of one unit per 100 acres or five units per 100 acres with density bonuses may continue to do so in accordance with pre-existing General Plan requirements. In keeping with the SLVAP, property owners wishing to develop at the urban densities contemplated by this Specific Plan will be required to mitigate the impacts of that development in accordance with the policies in this plan.

Those portions of the subareas that are not developed with residential or commercial uses, will be placed under agricultural easements or dedicated for regional open space as a condition of the density bonus being implemented.

The Land Use Maps in this Element show the distribution of the various land use components that comprise each specific plan subarea.

4.7.2 LAND USE PLANS/CONCEPTUAL SITE PLANS

Regulatory Character

Conceptual Site Plans. The Land Use Maps (Figures 4.2, 4.4, 4.6, 4.8, 4.10, and 4.12) function not only as land use plans, but also as conceptual site plans. These plans are an expression of certain key themes that are the foundation of this Specific Plan, including:

- Responsiveness to environmental factors such as biological resources, geotechnical hazards, and visual quality;
- Recognition of City, landowner, and citizen goals and objectives;
- Establishment of a development character that is consistent with the rural, wine country setting of the South Livermore Valley; and,
- Creation of a financially feasible plan for development that maximizes the amount of prime vineyard land placed under permanent agricultural easements.

In addition to the extent and distribution of land uses, the conceptual site plans in Figures 4.2, 4.4, 4.6, 4.8, 4.10, and 4.12 show detailed road alignments and parcelization for each of the development areas. These site plans are based on design principles that were formulated with extensive input from landowners, vintners, City staff and the general community (see Chapter 9, Community Design Element), and the site plans have been developed and reviewed with the community. Given the thought and energy that have gone into the formulation of these site plans, it is intended that the general development pattern depicted in these figures be implemented.

While the Specific Plan leaves flexibility for individual developers to craft their own site plans, the City's intent is that future development patterns will closely resemble the general development patterns depicted in the Conceptual Site Plans. The following table (Table 4.1) has been prepared in order to clarify where flexibility exists in the Conceptual Site Plans. The table shows key elements that are expressed in the site plan drawings for each of the subareas. Following each element are two categories: those characteristics of the plan that should remain relatively fixed (i.e., they are intended to be implemented as illustrated in the Plan) and those characteristics that are more flexible (i.e., their implementation will allow for variation from what is illustrated in the Plan).

When it is suggested that certain characteristics should be fixed, this is understood to be within the frame of reference of a 200-scale master plan. Due to the scale of the maps, the location of elements such as road alignments and land use boundaries are approximate. This generalized depiction of the proposed development patterns will require some flexibility when interpreting the plan. It is acknowledged that many refinements will take place as the plans are refined and translated to a smaller scale, but the general intent of the 200-scale plan is intended to be kept. It is important to note, that the Land Use Maps/Conceptual Site Plans by themselves do not govern future development in South Livermore Valley, but must be used in conjunction with all Specific Plan goals and policies.

<p style="text-align: center;">Table 4.1 South Livermore Valley Specific Plan REGULATORY CHARACTER OF PLAN -- FIXED AND FLEXIBLE ELEMENTS</p>		
Plan Element	Fixed	Flexible
Lots	<p>Maximum number of lots</p> <p>Minimum number of lots (no less than 85% of the maximum)</p>	<p>Size and shape of lots (Consistent with Design Guidelines)</p> <p>Distribution of lots</p> <p>Orientation of lots (except no lots will be permitted to back onto an adjoining street)</p>
Streets	<p>Design standards</p> <p>General circulation system layout (including entry and collector streets, streets connecting properties within a subareas, general street orientation, and proportion of street that are single-loaded adjacent to open space or provide access to open space)</p>	<p>Precise street layout (including location, block length, angle of intersection, etc.)</p>
Open Space	<p>Amount of open space</p> <p>General distribution of open space</p> <p>Connections between open space areas</p>	<p>Precise configuration of open space</p> <p>Open space programming and design (i.e., use and character)</p> <p>Ownership of open space areas</p>
Regional Trails	<p>Design standards</p> <p>General corridor alignment</p>	<p>Precise trail and corridor alignment</p> <p>Development character</p>
Agricultural Buffers	<p>Location of buffers</p> <p>Minimum depth of buffers</p> <p>Planting and cultivation of an agricultural crop</p>	<p>Precise dimensions of buffer</p> <p>Type of planting within buffer</p>

Land Use Categories

The following discussion describes each of the land use classifications used in the Land Use Maps (Figures 4.2, 4.4, 4.6, 4.8, 4.10, and 4.12). These designations are specific to this plan, and should not be confused with similar General Plan land use designations. Table 4.2 summarizes land use acreages in the planning area by the designations described below.

Wine Country Residential. This designation provides for the development of low density, single family detached residences in a wine country/agricultural setting. The designation applies to all of the planning area's residential development. Residential densities are fixed for each subarea by establishment of a maximum number of units and maximum development area, but densities within each subarea can vary depending on proposed development patterns and building proto-types. Overall densities for the planning area are approximately 2.3 dwelling units per gross acre of development area. Within each subarea densities generally range between 1.0 to 4.0 units per acre.

Wine Country Commercial. This designation provides for development of small-scale commercial uses that promote the area's image as a wine region, and directly serve wine-country visitors. The intent is not to accommodate commercial uses whose primary purpose is to provide local services, or that would compete with businesses in Downtown Livermore. The designation is intended to accommodate a very limited range of commercial uses including wineries, inns, restaurants, and small-scale wine country-related retail and services. The Specific Plan identifies the specific range of commercial uses that will be permitted on each of the designated commercial sites in the planning area. Floor Area Ratios (FAR's) in this designation shall not exceed 0.25.

School. This designation provides for public or private educational facilities. The Plan designates two locations for schools, one for an existing school (Stivers Academy) and one for a future school. Based on LVUSD standards, the Plan provides a 14.1-acre site for development of an elementary school. School sites are generally level or have fairly gentle slopes. For safety reasons, elementary schools are generally located away from major arterial roadways, and whenever possible adjacent to a park and/or open space corridor. There are no FAR requirements under this designation. Development of educational facilities shall conform to the requirements of the City's Educational & Institutional (E) zoning district.

Parks. This designation identifies areas for the future development of parks. The designation includes public and private parklands, as well as a range of sizes, from mini-parks to regional parks. The Specific Plan describes the precise nature of the designated park facilities in each subarea.

Open Space. This designation identifies areas that will be preserved as natural open space. Development and active cultivation of agricultural crops are prohibited due to environmental constraints such as steep slopes, sensitive habitat areas, protected plant or animal species, visual sensitivity, etc. Lands under this designation can be used for grazing except where the City has determined such use is inconsistent with the environmental protection goals of this Specific Plan.

Agriculture. This designation identifies areas that are intended for intensive agricultural uses, particularly orchards or viticulture. It is intended that all of the land under this designation will be placed under permanent agricultural easements as part of the Specific Plan mitigation program. No development is permitted in these areas, except ancillary structures that are directly related to the cultivation and harvesting of the subject crops (e.g., barns, pump houses, etc.). Within the Specific Plan area, wineries and other agricultural processing facilities will not be permitted within this designation (The Specific Plan identifies those sites that are considered appropriate for wineries, and designates them for "Wine Country Commercial" uses.).

4.7.3 GROWTH MANAGEMENT

Bonus parcels created under the Vineyard Area Conditional Urban Overlay District and the Transferred Development Overlay District are not required to participate in the City's competitive growth management review process. Bonus parcels will be considered in the calculation of the City's annual growth rate. Growth within the Specific Plan area and the Transferred Development Overlay District shall proceed in accordance with the following conditions:

- An average of up to 200 units per year will be available for construction beginning in 1998. A total of up to 1000 units may be allocated during the five year period between January 1, 1998 and December 31, 2002 and up to 1000 units may be allocated during the five year period

between January 1, 2001 and December 31, 2005. Unused units from the initial five year period may be carried over into the second five year period. Unused units from the second five year period may be carried over to subsequent years.

- Units will be allocated when a Final Subdivision Map is filed for a property and a determination that adequate localized infrastructure (including, but not limited to, sewer lines and water tanks) is either available to serve the project or will be constructed as part of the project.
- No allocations from elsewhere in the City may be used within the Specific Plan area or the Transferred Development Overlay District.
- Allocations will be awarded on a first-come, first-serve basis, precisely defined by Development Agreements.

4.7.4 AGRICULTURAL MITIGATION PROGRAM

As discussed in the "Background to the Plan" (Chapter 1, Section 1.3.1), the County's South Livermore Valley Area Plan and the City of Livermore's General Plan have established a mitigation program for the South Livermore Valley that ensures that any new development in the area will contribute to an increase in the acreage that is permanently secured for agricultural use. Refer to the Conservation and Resource Management Element of this plan (Chapter 6, Section 6.3) for a description of the program and the policies that guide it.

4.8 OVERALL LAND USE PROGRAM

The land use program for the South Livermore Valley Specific Plan area calls for development of 1,221 single family residences supported by a mixture of park, school, open space, and commercial uses. Out of a total Specific Plan area of approximately 1,891 acres, development will occupy roughly 26% (487 acres) of the area, up to 402 acres will be dedicated as regional parkland, 65 acres will remain in existing rural residential uses, and approximately 1,920 acres will be placed under permanent agricultural easements and planted with vineyards or orchards.

All new residences will be single family detached homes, with lot sizes ranging from approximately 6,000 square feet to 26,000 square feet¹. Net residential densities in the various subareas range from 1.9 to 3.2 units per acre, with the average residential density for the entire Specific Plan area being approximately 2.6 units per acre. The commercial component of the Plan identifies 16 potential commercial sites for the development of wine country commercial uses. The 59.4 acres set aside for commercial uses includes sites for up to 12 wineries, 4 tasting rooms, 5 restaurants, 4 bed-and-breakfasts, one 30-room inn, an olive mill, and a wine country retail center. In addition to the regional parklands, the Specific Plan also provides for a 12.5-acre neighborhood park and 3 mini-parks comprising 3.3 acres. The Plan also provides for the development of approximately 6.5 miles of regional trail corridor with pedestrian, bicycle and equestrian facilities.

¹The one exception to this range of lot sizes is in Subarea #7, where the Plan allows for the creation of between two to six 20-acre parcels.

Table 4.2 South Livermore Valley Specific Plan LAND USE SUMMARY								
Land Use	Subarea							Total
	#1	#2	#3	#4	#5	#6	#7	
RESIDENTIAL								
Lots	39.4	130.8	44.7	54.0	56.3	0.0	16.0	341.2
Streets	11.1	58.5	15	15.9	23.6	0.0	0	124.1
Landscaped Areas	4.9	4.2	1.4	3.6	7.2	0.0	0	21.3
Subtotal	55.4	193.5	61.1	73.5	87.1	0.0	16.0	486.6
EDUCATIONAL	0.0	0.0	14.1	0.0	0.0	0.0	0.0	14.1
COMMERCIAL	0.0	10.2	4.0	12.0	13.2	12.0	8.0	59.4
PARKS								
Neighborhood Park	0.6	12.5	0.0	1.5	1.2	0.0	0.0	15.8
Regional Park	0.0	0.0	0.0	55.9	0.0	0.0	370.0	425.9
Regional Trail Corridor	2.3	5.5	1.7	3.1	1.5	3.8	-- ¹	15.6
Subtotal	0.6	18.0	1.7	64.3	2.7	3.8	370.0	461.1
EXISTING USES TO REMAIN	18.5	0.0	--	35.2	11.2	0.0	0.0	64.9
POTENTIAL AGRICULTURAL LAND	93.6	177.2	15.7	117.0	41.7	173.6	188.0	810.9
TOTAL AREA	170.4	398.9	96.6	298.2	155.9	189.4	582.0	1891.4

¹The acreage for regional trail corridors is included within the regional parkland acreage.

4.9 PLANNING SUBAREAS

4.9.1 SUBAREA #1

Existing Land Use Setting

Subarea #1 is located on the east side of South Vasco Road between East Avenue and Tesla Road. The 170.42-acre area consists of eight parcels ranging in size from 5 acres to 31 acres. Figure 4.1 shows the subarea parcelization. Although most of the area is undeveloped, 5 of the 8 parcels have some development on them. Existing uses in the subarea include: a rural residence and compound on Parcel 1-A; a residence and Mathews Paint Horses (boarding and lessons) on Parcel 1-B; Stivers Academy (a private elementary school) on Parcel 1-D; a residence and Arabian horse breeding facility on Parcel 1-E; a residence with a private horse paddock and lighted riding ring on Parcel 1-F; and a residence, small vineyard, winery, and deli on Parcel 1-G.

Land Use Program

New Development Potential. The following outline summarizes the new development that will be permitted in Subarea #1 under this Specific Plan:

Subarea #1 Development Summary

<u>Residential Development:</u>	133 units
<u>Range of Lot Sizes:</u>	10,000 to 15,000 s.f.
<u>Total Developed Area:</u>	55.4 acres
Developable Lots	39.4 acres
Street Rights-of-Way	11.1 acres
Landscaped Areas	4.9 acres
<u>Public Parkland:</u>	none
<u>Regional Trail Corridor:</u>	2.3 acres
<u>Commercial Development:</u>	none
<u>Total Mitigable Area¹:</u>	50.5 acres
<u>Total Mitigation Required²:</u>	183.5 acres

¹ "Mitigable Area" refers to those acres that will require agricultural mitigation as developed urban area (i.e., one acre planted and in easement for each acre developed). Mitigable area is equal to the sum of the acreage in developable lots and street rights-of-way.

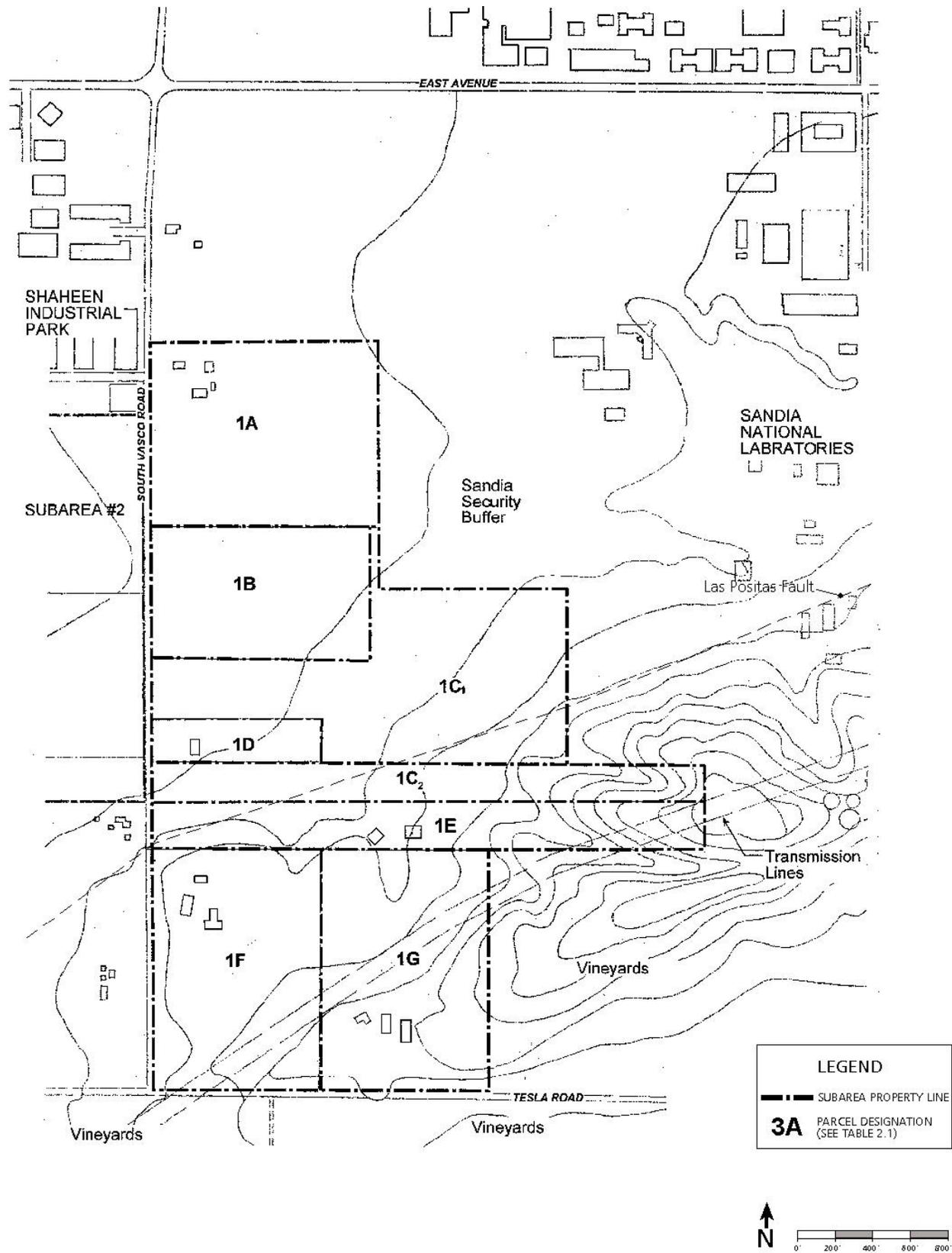
² "Mitigation Required" refers to the total amount of mitigation acreage that will have to be provided to offset proposed development. The mitigation required is equal to the sum of the mitigable area and the total number of units permitted.

Disposition of Existing Uses. Under the Plan, existing development in Parcels 1-A, 1-D, 1-E, 1-F, and 1-G will remain. Existing development on Parcel 1-B (i.e., the residence and Mathews Painted Horse equestrian facility) will be removed prior to Final Map approval for that parcel.

Table 4.3 shows the distribution of entitlements for residential development among the individual parcels that comprise the Subarea.

Parcel Number	Acreage	Development Potential
1-A	26.73 acres	44 dwelling units
1-B	20.07 acres	28 dwelling units
1-C ₁	31.27 acres	41 dwelling units
1-C ₂	17.77 acres	0 dwelling units
1-D	5.00 acres	0 dwelling units
1-E	17.78 acres	5 dwelling units
1-F	25.90 acres	7 dwelling units
1-G	25.90 acres	8 dwelling units
Subtotal	170.42 acres	133 dwelling units

¹ Includes potential for new development only. Table does not address existing uses that will remain.



Land Use/Development Concept

The development concept calls for the development of three main clusters of residential development each with its own access from South Vasco Road, and each separated from South Vasco Road by generous agricultural setbacks planted in vineyards. The intent is to create a strong vineyard/wine country character along South Vasco Road by introducing deep agricultural buffers along both sides of the roadway from Shaheen Industrial Park south to Tesla Road. At the north end of the subarea, where the existing farm compound is being preserved (Parcel 1-A), a minimum 100-foot wide agricultural buffer will be planted with grapes (i.e., between the northern boundary and the northernmost entry road). Along the rest of the frontage with South Vasco Road, the agricultural buffer will be a minimum of 400 feet, with occasional variation down to 300 feet minimum in isolated locations (see Figure 4.2). With the exception of the frontage along Stivers Academy, this setback area will be planted with vineyards.

Residential. The proposed development pattern attempts to maximize the adjacency of residential lots to surrounding open spaces, whether it be internal to the subarea or external to it (i.e., along the boundary to Sandia Labs' open space buffer). Within each of the three main development areas, the development pattern consists of a series of smaller clusters of units, each surrounded by open space and sited on a cul-de-sacs (see Figure 4.2).

In the interior portion of the subarea, 100-foot wide minimum agricultural buffers separate the development clusters, allowing agriculture to flow through the development area. Along the boundary with Sandia Labs', a 50-foot wide minimum landscape buffer separates individual lots from the Labs' open space buffer. The landscape buffer is intended to provide some visual screening and sense of boundary to the development area. The buffer treatment is intended to be reminiscent of the windrows that are common to rural settings in California. In order to be consistent with Sandia Labs' security interests, tree plantings within the landscape buffer shall be setback at least 30 feet from the Sandia property line, and the intervening area will be planted with low shrubs and/or ground cover.

In order to address Sandia Labs' desire to have residential development moved further from their existing operations, the Plan provides for a land swap between the Department of Energy (Sandia's landlord) and the owner of Parcel 1-A (Frydendal). The land swap will transfer approximately three acres from the Frydendal property (Parcel 1-A) to the Department of Energy, and approximately six acres from DOE to Frydendal (see Figure 4.2). In addition, an agricultural easement will be placed over approximately 3 acres of Parcel 1-C₁ (Coast Realty property). Sandia Laboratories has agreed to provide all of the required document preparation, surveying, and processing to accomplish the transfer within one year of Specific Plan adoption.

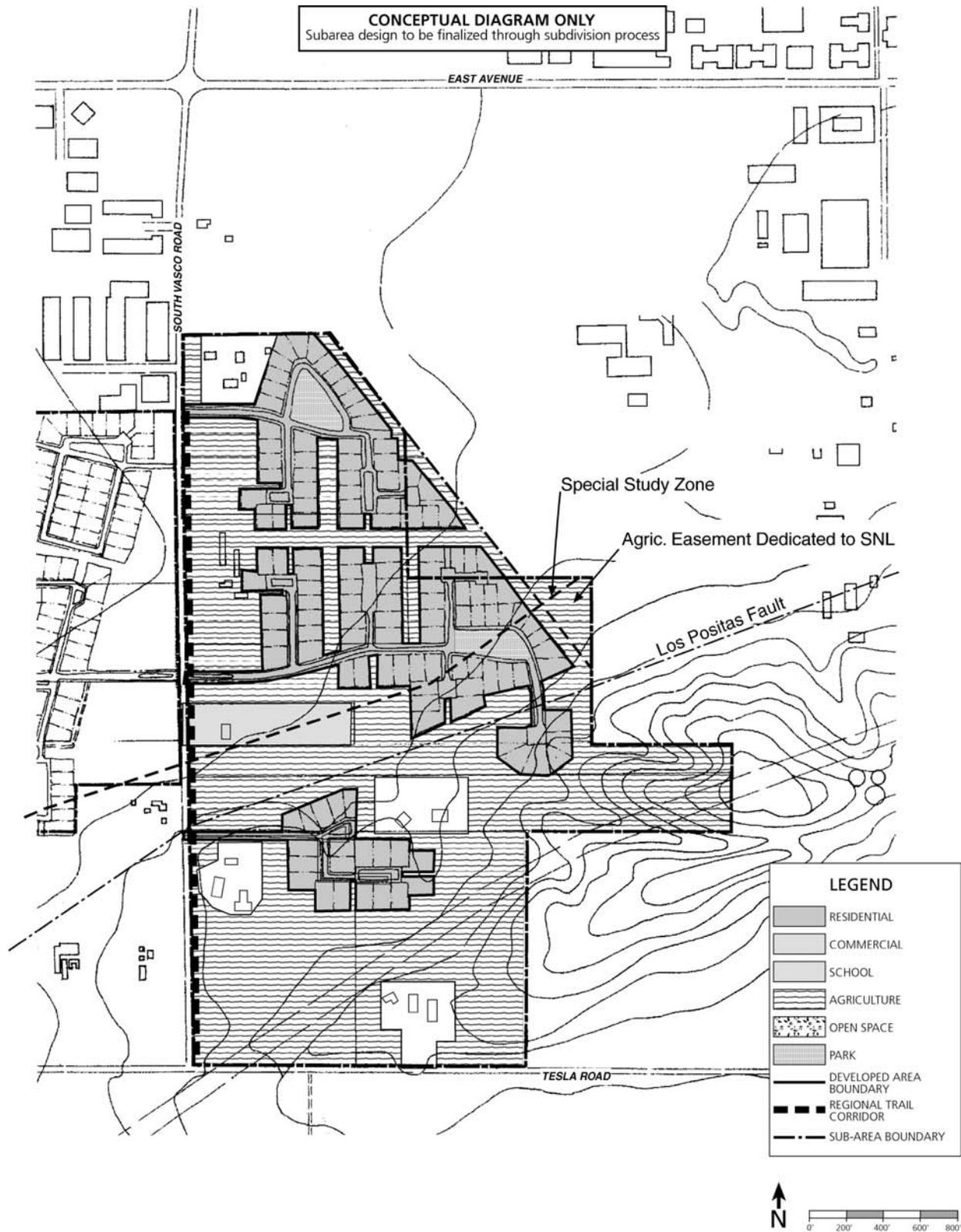
The series of dead end streets/cul-de-sacs that are used in this area will be designed according to Specific Plan design standards for "residential courts" and "farm compounds". The intent is that these streets and courts be lushly landscaped to provide a canopy of shade and greenery that ties the units within each development cluster together, and contrasts with the relatively open and low-growing vineyards that surround the development.

Commercial. No new commercial land uses will be permitted. Existing commercial recreation operations on Parcel 1-E (4M Arabians) and Parcel 1-G (Rios Winery and Deli) can continue their current operations.

Parks, Trails & Open Space. No new public parkland is proposed in Subarea #1. A 0.6-acre area is designated for a privately-owned and maintained neighborhood park in Parcel 1-C₁. The intent is to have a park that will provide a central focus and an open space amenity for the surrounding neighborhood. The character of this park and the nature of the facilities included in it will be determined by the area's developer.

The regional trail corridor will pass through the western side of the subarea. A 25-foot wide right-of-way will extend south along the east side of Vasco Road from the northern-most entry to Subarea #1 to Tesla Road.

Agriculture. The Plan designates approximately 95 acres as being available for agricultural mitigation after development. In order to highlight South Vasco Road as an entry to the South Livermore Valley wine region, it is recommended that wine grapes be the major crop planted in this area, particularly in the agricultural setback from the roadway.



4.9.2 SUBAREA #2

Existing Land Use Setting

Subarea #2 is located on the west side of South Vasco Road opposite Subarea #1, and extends north to East Avenue. The 400.7-acre area consists of six parcels ranging in size from 10 acres to 179 acres. Figure 4.3 shows the subarea parcelization. Four of the parcels have existing development. Parcel 2-A₁ has a residence and barn located at the north end of the parcel. Parcel 2-A₂ has a residence and associated farm structures located in the southern portion of the parcel. Parcel 2-E has a residence and a tree farm, and Parcel 2-D has an office building and equipment yard for a tree trimming company. The other parcels have been or are being used for grazing or agriculture.

Land Use Program

New Development Potential. The following outline summarizes the new development that will be permitted in Subarea #2 under this Specific Plan:

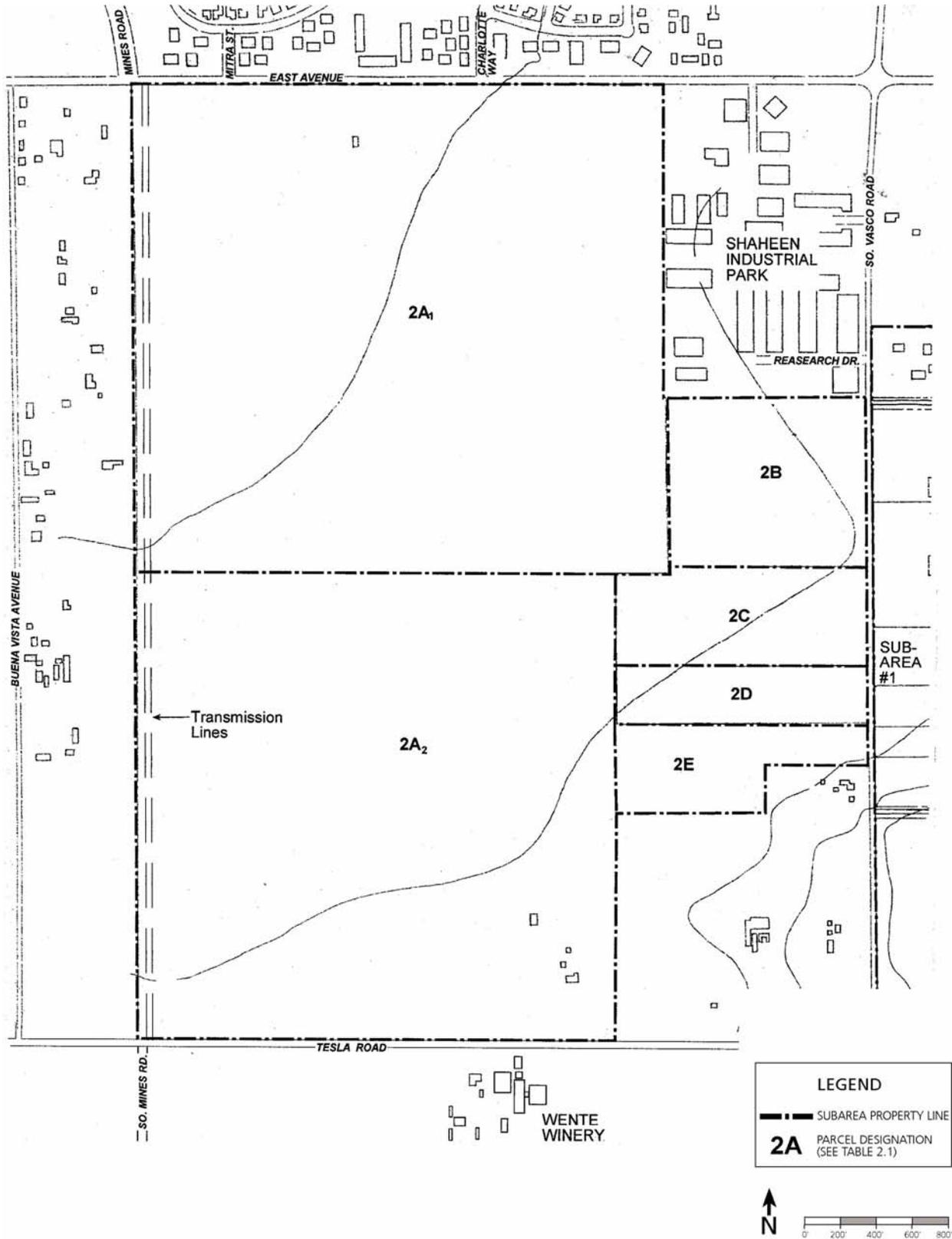
Subarea #2 Development Summary

<u>Residential Development:</u>	574 units
<u>Range of Lot Sizes:</u>	8,000 to 12,750 s.f.
<u>Total Developed Area:</u>	193.5 acres
Developable Lots	130.8 acres
Street Rights-of-Way	58.5 acres
Landscaped Areas	4.2 acres
<u>Public Parkland:</u>	12.5 acres
<u>Regional Trail Corridor:</u>	5.5 acres
<u>Commercial Development:</u>	10.2 acres
<u>Total Mitigable Area¹:</u>	189.3 acres
<u>Total Mitigation Required²:</u>	763.3 acres

¹ "Mitigable Area" refers to those acres that will require agricultural mitigation as developed urban area (i.e., one acre planted and in easement for each acre developed). Mitigable area is equal to the sum of the acreage in developable lots and street rights-of-way.

² "Mitigation Required" refers to the total amount of mitigation acreage that will have to be provided to offset proposed development. The mitigation required is equal to the sum of the mitigable area and the total number of units permitted.

Disposition of Existing Land Uses. The residences and existing farm operations on Parcels 2-A₁ and 2-A₂ can remain with the proposed development (both are located in vineyard areas beyond the development areas), but development on Parcels 2-D and 2-E will be removed as a condition of development approval.



South Livermore Valley Specific Plan
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Figure 4.3
EXISTING SETTING -- SUBAREA #2

Table 4.4 shows the distribution of entitlements for residential development among the individual parcels that comprise Subarea #2.

Table 4.4 South Livermore Valley Specific Plan DEVELOPMENT POTENTIAL BY PARCEL¹ -- SUBAREA #2		
Parcel Number	Acreage	Development Potential
2-A ₁	178.67 acres	436 dwelling units ² a small winery
2-A ₂	158.00 acres	a medium winery- tasting room- restaurant
2-B	24.75 acres	61 dwelling units
2-C	17.39 acres	33 dwelling units
2-D	9.83 acres	20 dwelling units
2-E	12.10 acres	24 dwelling units
	400.74 acres	574 dwelling units

¹Includes potential for new development only. Table does not address existing uses that will remain.

²Includes total number of units for Parcels 2-A₁ and 2-A₂.

Land Use/Development Concept

As the subarea with the largest amount of proposed development, the concept calls for the development pattern to be opened up with parklands and agricultural lands penetrating into the heart of the developed area. The siting and configuration of parklands and agricultural lands is designed to reduce the apparent scale of the developed area by dividing the development into smaller more appealing neighborhood units.

The placement of the community park at the center of the development area not only opens up the center of the area, but also is intended to provide a central focus and organizing element for the area. Symbolically, the centrality of the park also represents the importance placed on the social and communal aspects of creating a sense of community.

By extending agriculture and parkland corridors from the park to the surrounding agricultural land, the development pattern emphasizes the connection with the rural agricultural setting, and maximizes the number of homes that share in the open space amenity. It also preserves visual corridors from the development out to the surrounding rural environment. In addition to opening up the development pattern, the Plan also varies the outer edge of the development in an effort to add variety and reduce the mass of the development as perceived from surrounding areas. The intent is to avoid the appearance of long straight "walls" of development.

Roadways have been aligned to take advantage of the view corridors, with openings left at the ends of corridors to permit views of the surrounding vineyards. In several locations, single-loaded streets have been placed along the agricultural boundaries to provide views of the vineyards for visitors and those who do not have homes adjacent to the vineyards. The single-loaded streets also allow some residences to face the vineyards, rather than having all units back up to them.

The development area is separated from East Avenue and South Vasco Road by generous agricultural setbacks planted in vineyards. The intent is to establish a strong vineyard/wine country character along these two routes while also providing some visual screening of the proposed development from the two roadways by introducing deep agricultural buffers. Along South Vasco Road the buffer starts at a 100-foot minimum at the north end, adjacent to Shaheen Business Park, and then widens to 550-foot minimum setback at the south end of Parcel 2-E. Along East Avenue the agricultural buffer is 500 feet deep along most of its length, dropping down to 300 feet just east of the subarea access drive.

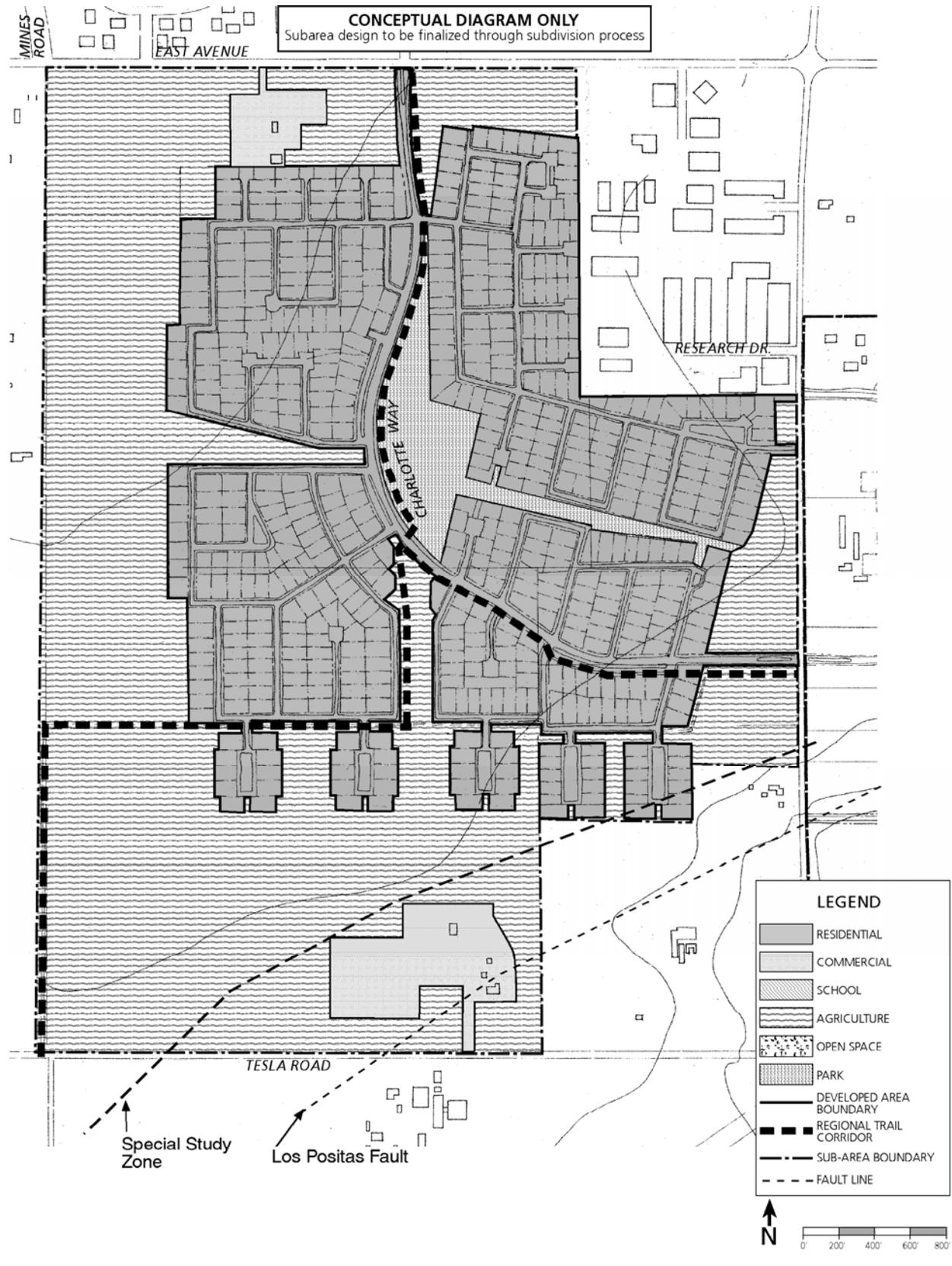
Residential. The development pattern consists of four principal development areas or neighborhoods that are defined by the system of park and agricultural lands. Within each of these neighborhoods the street system is laid out to create a number of smaller sub-units. The combination of short blocks, looped streets, cul-de-sacs, and 'farm compounds' is used to create variety within the development pattern and to reduce the amount of traffic that flows through these smaller areas. The site plan attempts to maximize the adjacency of residential lots to surrounding open space, and also varies the orientation to the open space, so that units front, back, and site onto it (see Figure 4.4).

In the interior portion of the subarea, the strip of agricultural land that extends south from the park is 150 feet wide, and the agricultural land that extends from the park to the west starts at 100 feet and widens to 300 feet at the west edge of the development. Both areas are intended to be planted with vineyards. Along the boundary with the Shaheen Industrial Park, a 50-foot wide minimum landscape buffer separates individual lots from the industrial park. The landscape buffer is intended to provide a visual screen as well as a noise buffer between the residential and industrial uses. The buffer treatment will consist primarily of a dense planting of trees and will extend along the entire south and west boundaries of the industrial park. A sound wall or fence will be included along areas of residential development. Shrubs and vines should be used to reduce the visibility of the wall. The buffer is intended to be reminiscent of the windrows that are common to rural settings throughout California.

Commercial: Subarea #2 is designated with two potential commercial sites. Both are associated with existing rural residential/farm sites. The intent is that any future commercial development would utilize the historic rural development patterns and, more specifically, existing rural structures to enhance the wine-country character of the area and preserve links to the Valley's agricultural past. Public access to both sites will be from existing public street right-of-ways, not from the proposed residential development area or its entry road. Commercial site 2A1 will take access from East Avenue, and commercial site 2A2 will take access from Tesla Road. Due to the relative proximity of site 2A1 from proposed residential development, the program of future uses and the site layout will need to ensure adequate noise protection for residents of Subarea #2.

Parks, Trails & Open Space. A 12.5-acre neighborhood park is designated for the center of the subarea. In addition to the main body of the park, the park also includes a linear greenway that extends east from the park, providing convenient pedestrian access to the park from the surrounding neighborhoods. For most of its length, the linear portion of the park is 100 feet wide, and then tapers down to 50 feet wide at the east end. For security reasons, the site plan purposely limits the number of lots that back onto the greenway, and provides loop roads adjacent to the greenway to provide convenient visual access for police patrols. The neighborhood park will be dedicated to LARPD, and designed and maintained by LARPD. Consistent with LARPD standards, the park will not have lighted fields or facilities.

Agriculture. Unlike most of the subareas, which currently do not have vineyards planted on them, Subarea #2 has had portions of the subarea planted for some time. Any acreage that was planted in vineyards prior to October 11, 1993 will not be acceptable for mitigation credit. However, any acreage planted between that time and development approvals on Parcels 2-A₁ and 2-A₂ will be eligible for mitigation credit. Agricultural easements will be required for all portions of the subarea designated for agriculture. (See discussion of Subarea #6 for additional information regarding mitigation in this subarea.)



4.9.3 SUBAREA #3

Existing Land Use Setting

Subarea #3 is located on the west side of Wente Street immediately south of Robertson Park and the City's Corporation Yard. The 96.56-acre area consists of five parcels ranging in size from 1 acre to 81 acres. Figure 4.5 shows the subarea parcelization. Each of the five parcels is occupied with a rural residence, but the majority of the land area is disced, but unplanted agricultural land. Three of the residences are located along the northern boundary, near the park, and the other two are located closer to Wente Street. The Caldera residence in Parcel 3-A is a turn-of-the-century farm compound consisting of barns, water tower, and assorted out-buildings in addition to the main residence.

Land Use Program

New Development Potential. The following outline summarizes the new development that will be permitted in Subarea #3 under this Specific Plan:

Subarea #3 Development Summary

<u>Residential Development:</u>	195 units
<u>Range of Lot Sizes:</u>	8,500 to 14,000 s.f.
<u>Total Developed Area:</u>	61.7 acres
Developable Lots	40.5 acres
Street Rights-of-Way	14.6 acres
Landscaped Areas	0.7 acres
<u>School Site</u>	14.1 acres ¹
<u>Commercial Development:</u>	4.0 acres ¹
<u>Public Parkland:</u>	none
<u>Regional Trail Corridor:</u>	1.1 acres
<u>Total Mitigable Area²:</u>	61 acres
<u>Total Mitigation Required³:</u>	256 acres

¹ Not subject to agricultural mitigation requirements.

² "Mitigable Area" refers to those acres that will require agricultural mitigation as developed urban area (i.e., one acre planted and in easement for each acre developed). Mitigable area is equal to the sum of the acreage in developable lots and street rights-of-way.

³ "Mitigation Required" refers to the total amount of mitigation acreage that will have to be provided to offset proposed development. The mitigation required is equal to the sum of the mitigable area and the total number of units permitted.

Disposition of Existing Land Uses. The residential compound on Parcel 3-A shall remain with the proposed development, but existing development on Parcels 3-B, 3-C, 3-D and 3-E will be removed as a condition of development approval.

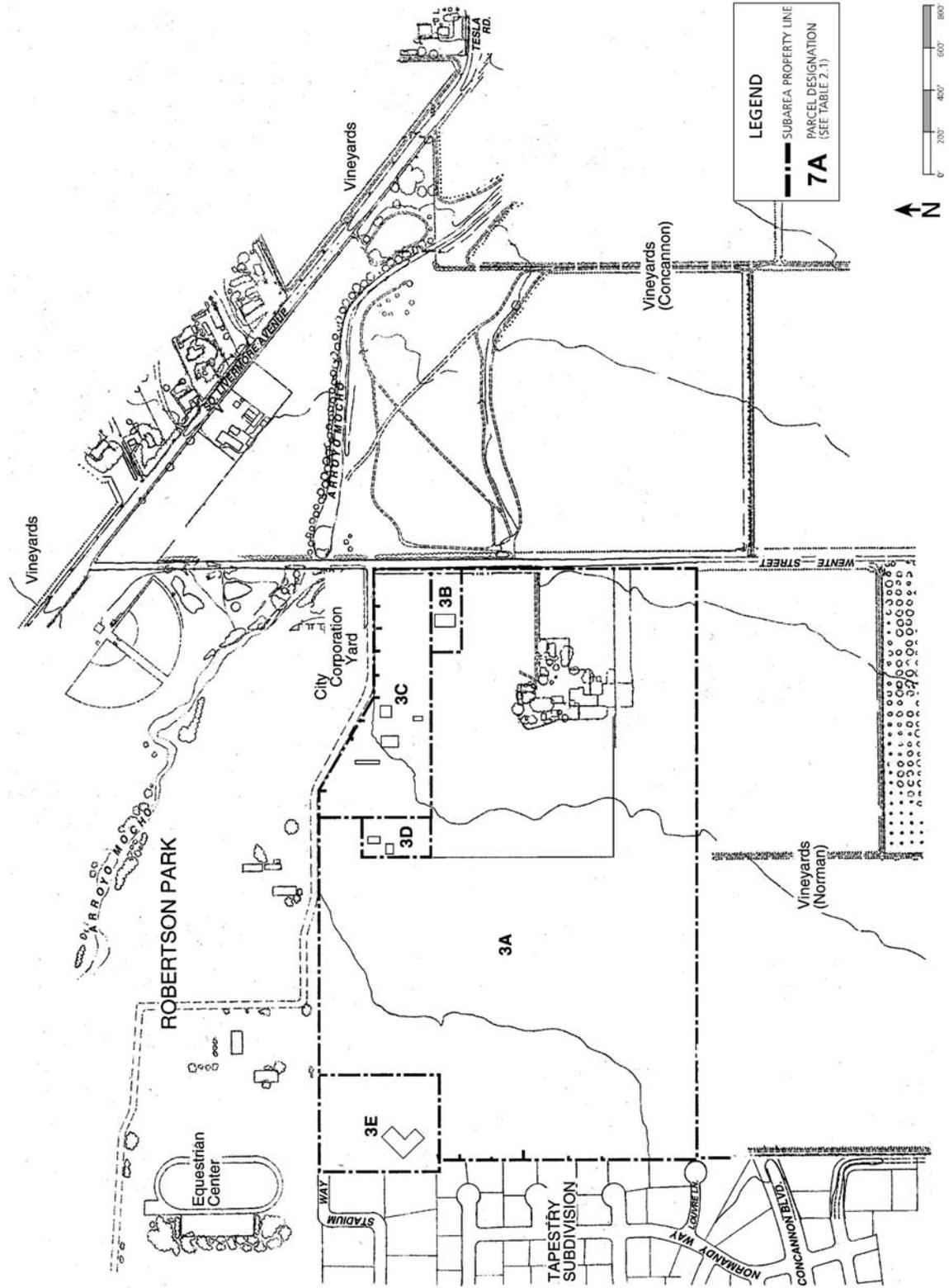


Figure 4.5
EXISTING SETTING -- SUBAREA #3

South Livermore Valley Specific Plan
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Table 4.5 shows the distribution of entitlements for residential development among the individual parcels that comprise Subarea #3.

Table 4.5 South Livermore Valley Specific Plan DEVELOPMENT POTENTIAL BY PARCEL¹ -- SUBAREA #3		
Parcel Number	Acreage	Development Potential
3-A	81.49 acres	148 dwelling units a small winery or bed-and-breakfast inn a tasting room or small restaurant
3-B	1.00 acres	0 dwelling units
3-C	8.06 acres	28 dwelling units
3-D	1.01 acres	0 dwelling units
3-E	5.00 acres	19 dwelling units
	96.56 acres	195 dwelling units

¹Includes potential for new development only. Table does not address existing uses that will remain.

Land Use/Development Concept

Subarea #3, unlike most of the other subareas, adjoins existing suburban uses. Given the adjacent residential subdivision and community park, new development in Subarea #3 is likely to be perceived as a logical extension of existing development patterns. The development concept thus concentrates less on establishing a new "rural" development patterns, and more on establishing a transition from the existing suburban development to a permanent rural edge. The Plan creates a relatively compact development pattern that is pushed as far to the north and west, adjacent to existing development, as feasible.

In response to the existing residential development to the west of the subarea, new development in Subarea #3 will meet the following requirements:

Minimum lot size shall be 15,000 square feet for lots along the western boundary of Subarea #3.

For initial construction, all units developed immediately adjacent to (i.e., no intervening open space buffer) existing residential development at the western boundary of Subarea #3 shall be one story.

Grade differences shall be minimized at subarea boundaries adjacent to existing residential development.

All detached garages and accessory structures developed immediately adjacent to (i.e., no intervening open space buffer) existing residential development at subarea boundaries should minimize impacts on adjacent existing residences through placement and design of the accessory structures.

An 100-foot minimum agricultural buffer will extend along the south side of the development area, and a 200-foot minimum agricultural buffer will extend along the east side (see Figure 4.6). Due to the limited width of the buffer along the south edge, a berm will be created in the buffer area to increase the visual screening of future development. The berm will be at least 4 feet in height at its highest point, and should slope up from Concannon Boulevard toward the development area as gradually as possible to both accommodate the planting and harvesting of vineyards, and to appear as natural as possible.

As with the park in Subarea #2, the siting of the 14.1-acre school at the center of the subarea is intended to provide a central focus for the area, to open up the center of the development, and to signify the importance of the school to the community as both an educational and recreational facility. The central location will also facilitate access to the school from proposed development. The adjacency of the school site to the park will

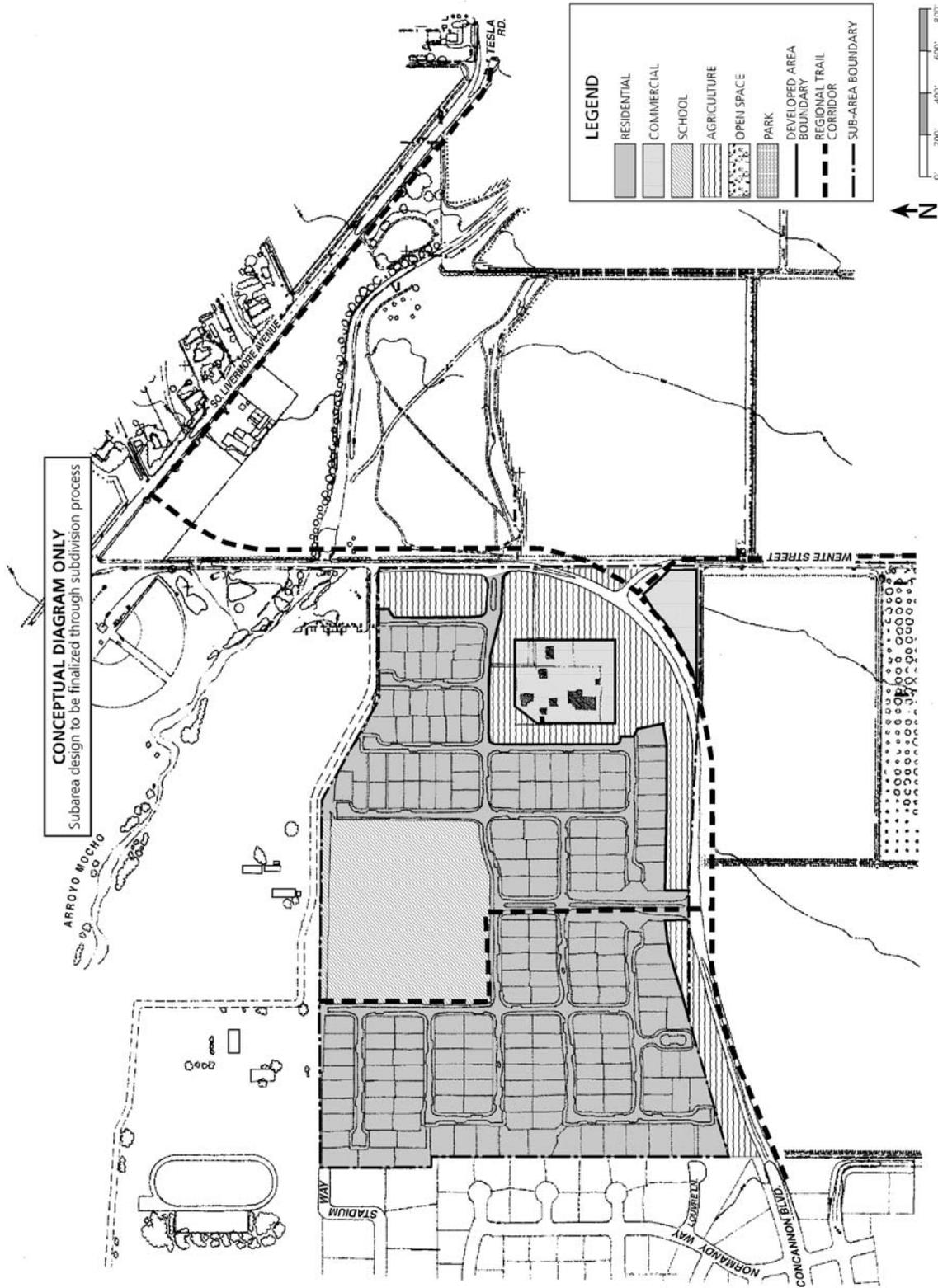


Figure 4.6
LAND USE -- SUBAREA #3

South Livermore Valley Specific Plan
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also enhance safe pedestrian access to the school from surrounding areas, as well as allowing joint use of facilities by both the school and LARPD.

The internal street system is designed to move traffic in and out of the subarea with minimal through traffic in residential areas. The principal access streets from Concannon Boulevard and Wentte Street, and along the school site, generally will not have units fronting on them. In order to take advantage of the development's adjacency to Robertson Park, the north-south streets all extend up to the park with pedestrian/bicycle connections at the end of the cul-de-sacs. To avoid through traffic between the park and subarea, no vehicular connections (except for emergency vehicle access) will be provided with Robertson Park Road.

Residential. The residential development pattern is more regular and compact than in many of the other subareas, so future development will be more dependent on the design of the streetscape and the design of individual homes to establish a distinctive rural character for the area. The system of cul-de-sacs and loop streets is designed to create a series of discreet neighborhood units within the overall development. Each unit will be characterized by a relatively small number of residences, and, in most cases, by little or no through traffic. The school has been separated from surrounding residences by streets specifically to buffer future residents from school activities. Although units on the east side of the school site will face the school, units to the south and west will face side streets to avoid impacts associated with through traffic.

In the event that the School District decides not to acquire and build a school on the 14.1-acre reserved site, the City will consider redesignation of the site to residential uses consistent with the policies, guidelines and standards of this Specific Plan.

The lot illustrated south of Parcel 3a, in the southwestern corner of Subarea #3, derives its development potential from Parcel 3a, and may be placed on Parcel 3a or in the location illustrated in Figure 4.6 once the land has been acquired by the subarea developer.

Commercial. Subarea #3 is designated with two potential commercial sites: one in the existing Caldera residential compound and one at the future intersection of Wentte Street with the proposed Concannon Boulevard extension. The Caldera compound, which is valued as a link with the Valley's agricultural past, is designated for possible future use as either a bed-and-breakfast inn or a small winery. Public access to any commercial operation at the Caldera site will be from the "preferred entry" alignment for commercial site 3A1 as illustrated in Chapter 12, Section 12.2.2, and will not be permitted from the proposed residential development area. The Plan requires that the area surrounding the Caldera compound be planted in vineyards, no matter what its future use.

Once Concannon Boulevard has been extended eastward, Wentte Street will be realigned to form a T-intersection with the new extension. The southwest quadrant of this intersection is designated as a potential site for development of either a small restaurant or a wine tasting room.

Parks, Trails & Open Space. No parkland is designated in Subarea #3. The combination of the joint elementary/middle school proposed within the subarea and the adjacency to Robertson Park means that future residents will have ample open space and recreation facilities available to them.

A section of the regional trail network will bisect Subarea #3, extending south from Robertson Park along the western edge of the proposed school site and main entry drive to the subarea to the northern edge of the Concannon Boulevard extension. The trail corridor will then extend east along the north side of Concannon Boulevard to the proposed intersection with Wentte Street, and west to the Tapestry subdivision. A pedestrian/bicycle crossing will be required across Concannon Boulevard at the proposed Wentte Street intersection to provide a connection with the rest of the regional trail system.

Agriculture. Development of the subarea will only result in about 16 acres being available for agriculture. All of this area is in the agricultural buffer along the Concannon Boulevard extension and Wentte Street, and thus is critical to maintaining a rural character for the area. The intent is that the planting of vineyards along the north side of the Concannon Boulevard extension, when combined with existing vineyards to the south and east will create a dramatic transition from urban to rural along eastbound Concannon Boulevard.

4.9.4 SUBAREA #4

Existing Land Use Setting

The 301-acre, L-shaped subarea consists of four large parcels that are currently used for rural residential, commercial recreation and agricultural uses (see Figure 4.7). The subarea has a gently rolling topography, sloping down from Marina Avenue on the north to Hansen Road in the south, and then sloping up to an east-west trending ridgeline near the southern edge of the subarea. The majority of the area is undeveloped grasslands. The 98-acre northern leg of the site (Parcel 4-A), contains the Hansen homestead, which includes approximately 20 acres of recently planted olive orchards along the frontage of Arroyo Road, with another 20 acres to soon be planted. In addition to the Hansen residence that fronts on Marina Avenue, there is another residence and barn located near the Marina Avenue/Arroyo Road intersection that takes access from Arroyo Road.

The southern leg of the subarea is divided between the 50-acre Corbett property (Parcel 4-B), occupied by a single family home, the 50-acre McKissick property (Parcel 4-C), which is used for grazing, and the 102-acre Zumbach property (Parcel 4-D) on the east. The Zumbach property includes a compound of structures that includes a residence and horse ranch/boarding facility. Two easements with high voltage power lines cross the Zumbach parcel diagonally in a southwest/northeast direction.

Land Use Program

New Development Potential. The following outline summarizes the new development that will be permitted in Subarea #4 under this Specific Plan:

Subarea #4 Development Summary

<u>Residential Development:</u>	130 units
<u>Range of Lot Sizes:</u>	12,000 to 24,000 s.f.
<u>Total Developed Area:</u>	73.5 acres
Developable Lots	54.0 acres
Street Rights-of-Way	15.9 acres
Landscaped Areas	3.6 acres
<u>Commercial Development:</u>	12.0 acres ¹
<u>Regional Parkland:</u>	55.9 acres
<u>Regional Trail Corridor:</u>	3.1 acres
<u>Total Mitigable Area²:</u>	69.9 acres
<u>Total Mitigation Required³:</u>	199.9 acres

¹ Not subject to agricultural mitigation requirements.

² "Mitigable Area" refers to those acres that will require agricultural mitigation as developed urban area (i.e., one acre planted and in easement for each acre developed). Mitigable area is equal to the sum of the acreage in developable lots and street rights-of-way.

³ "Mitigation Required" refers to the total amount of mitigation acreage that will have to be provided to offset proposed development. The mitigation required is equal to the sum of the mitigable area and the total number of units permitted.

Disposition of Existing Land Uses. All existing development in the subarea can remain with the proposed development, including: the two residential compounds on Parcel 4-A, the residential compound in Parcel 4-B, and the residence on Parcel 4-D.

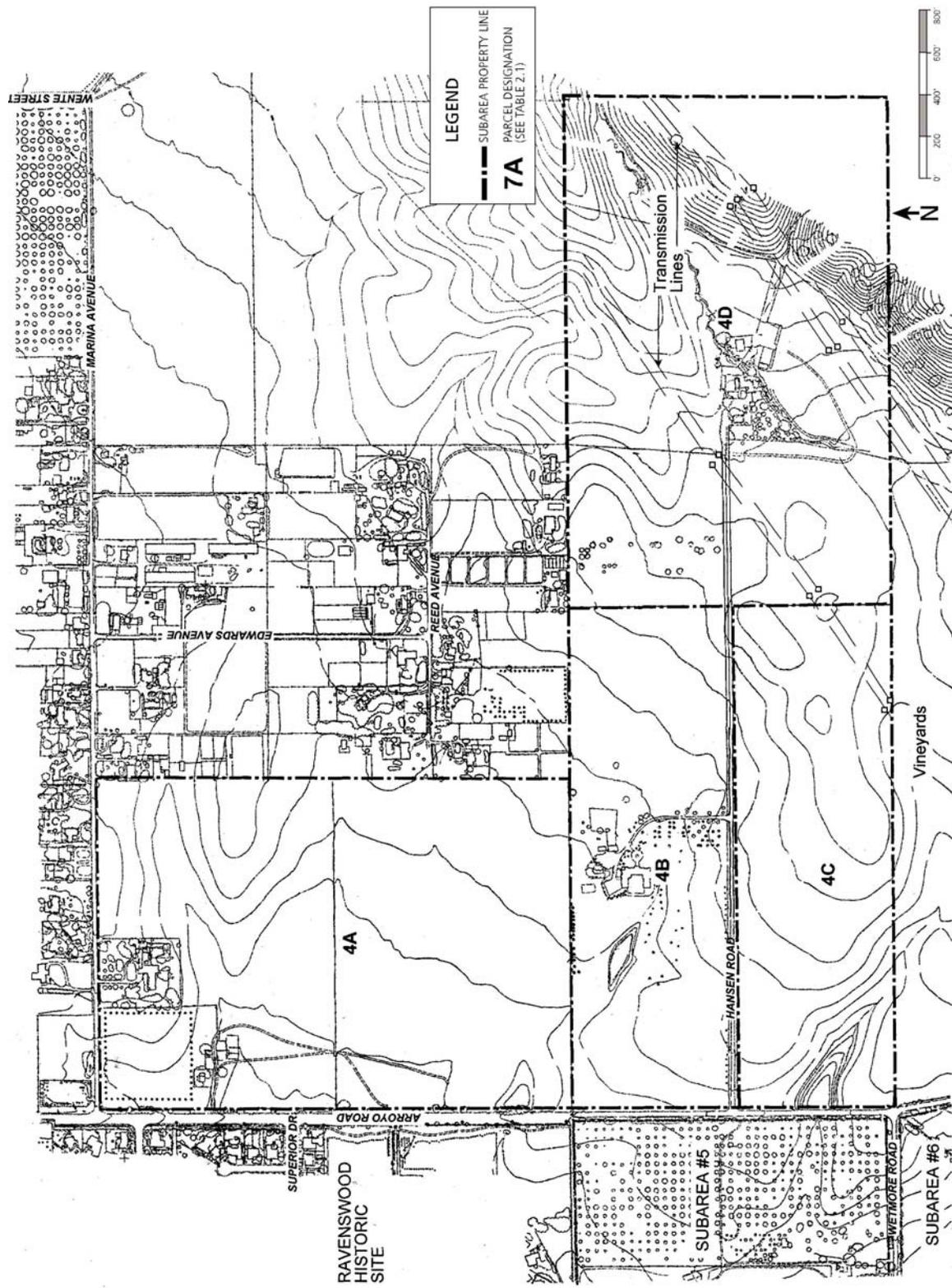


Figure 4.7
EXISTING SETTING -- SUBAREA #4

South Livermore Valley Specific Plan
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Table 4.6 shows the distribution of entitlements for residential development among the individual parcels that comprise Subarea #4.

Table 4.6 South Livermore Valley Specific Plan DEVELOPMENT POTENTIAL BY PARCEL¹ -- SUBAREA #4		
Parcel Number	Acreage	Development Potential
4-A	97.74 acres	50 dwelling units an olive press <u>and</u> a wine tasting room a small winery
4-B	50.44 acres	25 dwelling units a small winery or restaurant
4-C	50.44 acres	25 dwelling units a small winery
4-D	102.37 acres	30 dwelling units
	300.99 acres	130 dwelling units

¹Includes potential for new development only. Table does not address existing uses that will remain.

Land Use/Development Concept

Subarea #4 is situated such that it is in the foreground of attractive views of the foothill areas from Marina Avenue and Arroyo Road. The development concept calls for residential development to be clustered in those areas of the site where it will have the least impact on these views and on the overall rural character of the setting. Three steps have been taken to accomplish this: 1) development is concentrated in the lower areas of the subarea, keeping houses off the ridgelines and hillsides located in the northern and southern portions of the site; 2) a 600-foot minimum agricultural setback is established along Marina Avenue and Arroyo Road; and 3) development is located in the "shadow" of existing rural residential development in the Reed/Edwards area where it is screened from key viewpoints by the existing development.

Residential. The Plan establishes two distinct development areas (see Figure 4.8), each with its own access drive from Arroyo Road. In an effort to maximize the adjacency of residential lots to surrounding open space, and to create smaller, more intimate residential environments, the Plan divides each of the two main development areas into a number of smaller development clusters that are surrounded by agricultural land. All but 9 of the 130 residential parcels have direct access to the surrounding open space. The open space buffers that separate each of the development clusters range from 50 to 100 feet wide, and are intended to be planted with olive trees as an extension of the orchards that are being planted throughout the northern portion of the subarea. Agricultural buffers will also be established between proposed development and the existing Reed/Edwards area. The setbacks will be a minimum of 150 feet from property line to property line, and will be planted in olives. In the area south of Hansen Road, where vineyards may be planted rather than olives, the buffers between development clusters can be planted with either an agricultural crop (i.e., grapes or olives) or can be planted with native plant species.

Commercial. Four potential commercial sites are designated in Subarea #4, all located adjacent to Arroyo Road. At the north end of the subarea, the existing barn on Parcel 4-A will be part of an olive press/wine tasting room and associated facilities. Near the middle of the subarea, two sites are proposed, one opposite the possible Wine Museum site at the south end of Ravenswood Historic Site, and the other opposite the proposed Wine County Center on Subarea #5. The northernmost of these two sites is designated as a potential site for a small winery, and the other site is designated for either a small winery or a small restaurant. At the south end of the subarea, another small winery site is designated on the rise opposite the Arroyo Road/Wetmore Road intersection.

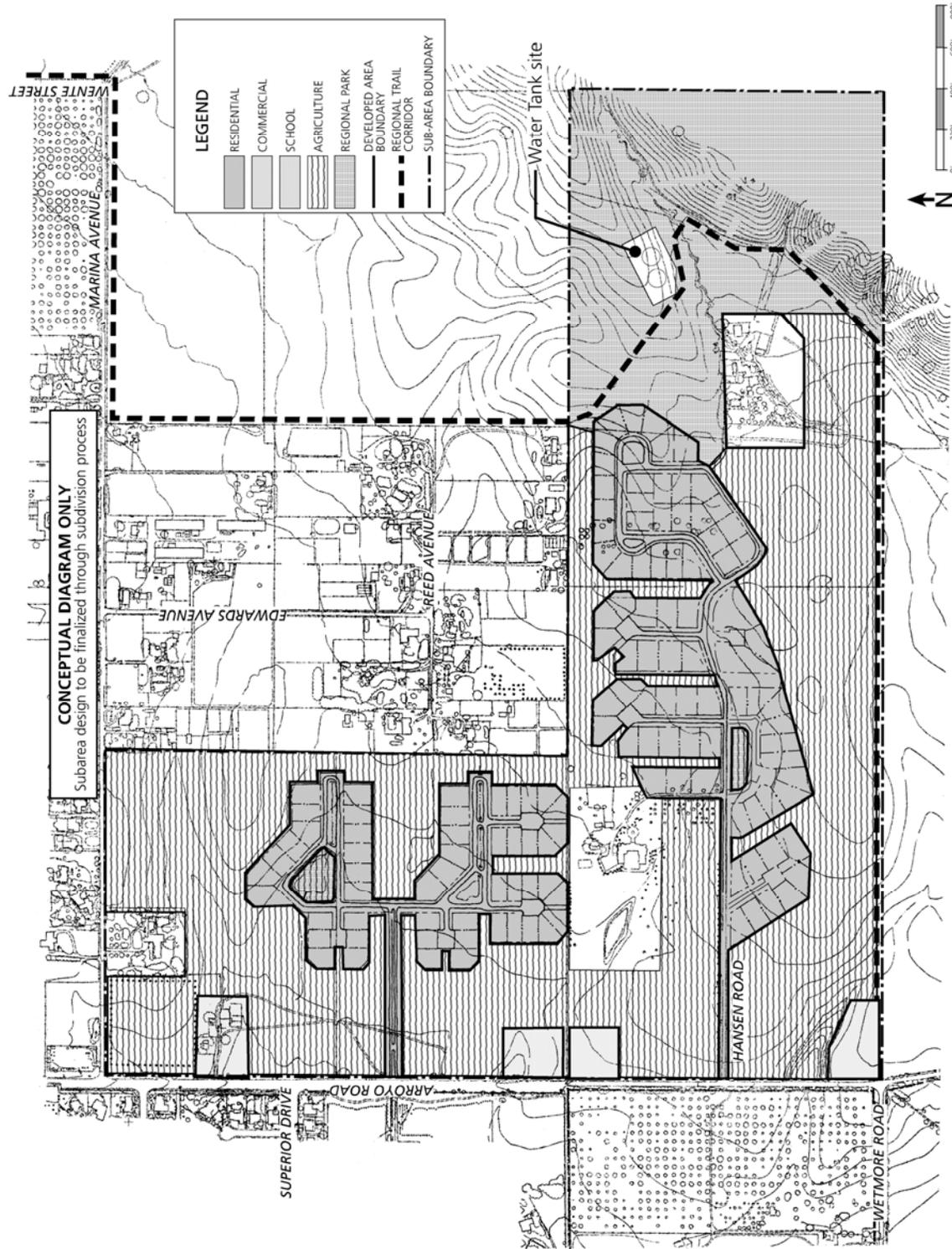


Figure 4.8
LAND USE -- SUBAREA #4

South Livermore Valley Specific Plan
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Parks, Trails & Open Space. The subarea is designated for a variety of open space resources, including private neighborhood parks and regional parkland. Sites are designated for a privately-owned and maintained neighborhood park on a 0.9-acre area in Parcel 4-A, and another is designated on a 0.6-acre area in Parcel 4-C. The intent of both parks is to provide a central focus and open space amenity for the surrounding neighborhoods. The character of these parks and the nature of their facilities will be determined by the areas' developers.

In the southeastern corner of the subarea, where the topography changes from gently rolling grasslands to steeper hillside areas dotted with oak trees, 55.9 acres will be dedicated to LARPD as regional parkland. The intent of this acquisition is primarily to preserve sensitive hillsides in open space for both their visual amenity and their habitat value. Due to the topography, facilities and access to the area are projected to be minimal.

The regional trail corridor will pass through the eastern end of the subarea and then along its southern boundary. From the north, the trail corridor will enter Subarea #4 near the southeast corner of the Reed/Edwards residential area. From there the trail will swing southeast to pass through the regional park land and then south along the toe of the hillside area to the south edge of the subarea where it will turn west and follow the property line to the intersection of Arroyo Road and Wetmore Road. A pedestrian, equestrian and bicycle crossing will be provided at the Arroyo Road/Wetmore Road intersection.

Agriculture. Unlike most of the other subareas, where it is anticipated that vineyards will be the agricultural crop most frequently planted, Subarea #4 will have olives as the principal crop over the northern portion of the subarea. It is recommended that the buffer areas between the Reed/Edwards area and the proposed development be planted in olive groves to assist in the visual buffering of the two areas, and to contribute to the rural, agricultural setting for the new development in Subarea #4.

4.9.5 SUBAREA #5

Existing Land Use Setting

Subarea #5 is located along the north side of Wetmore Road between Arroyo Road and Vallecitos Road. The 155-acre area consists of eight parcels (see Figure 4.9). While the majority of the land area is undeveloped, six of the eight parcels currently have some development on them. Currently the subarea includes open grasslands and former orchards and vineyards, mixed with a few rural residences and commercial recreation uses (a winery and two equestrian facilities). Parcel 5-C includes a rural residence and a small winery (Livermore Valley Cellars); Parcels 5-B, 5-E, 5-F, and 5-G each include a rural residence, one of which (Parcel 5-F) includes equestrian facilities; and, Parcel 5-A is developed with Sycamore Stables, an equestrian boarding and training facility.

Land Use Program

New Development Potential. The following outline summarizes the new development that will be permitted in Subarea #5 under this Specific Plan:

Subarea #5 Development Summary

<u>Residential Development:</u>	177 units
<u>Range of Lot Sizes:</u>	9,750 to 26,000 s.f.
<u>Total Developed Area:</u>	87.1 acres
Developable Lots	56.3 acres
Street Rights-of-Way	23.6 acres
Landscaped Areas	7.2 acres
<u>Commercial Development:</u>	13.2 acres ¹
<u>Regional Parkland:</u>	none
<u>Regional Trail Corridor:</u>	1.5 acres
<u>Total Mitigable Area²:</u>	79.9 acres
<u>Total Mitigation Required³:</u>	254.4 acres

¹ The 3-acre wine country retail center on Parcel 5-D is subject to agricultural mitigation of \$2.50/sq.ft.. The other sites designated for commercial uses in the subarea are not subject to mitigation agricultural requirements.

² "Mitigable Area" refers to those acres that will require agricultural mitigation as developed urban area (i.e., one acre planted and in easement for each acre developed). Mitigable area is equal to the sum of the acreage in developable lots and street rights-of-way.

³ "Mitigation Required" refers to the total amount of mitigation acreage that will have to be provided to offset proposed development. The mitigation required is equal to the sum of the mitigable area and the total number of units permitted.

Disposition of Existing Land Uses. All existing development in Subarea #5 can remain with the proposed development, with one exception. The existing equestrian boarding facility on Parcel 5-A will need to be removed as a condition of approval for development of that parcel.

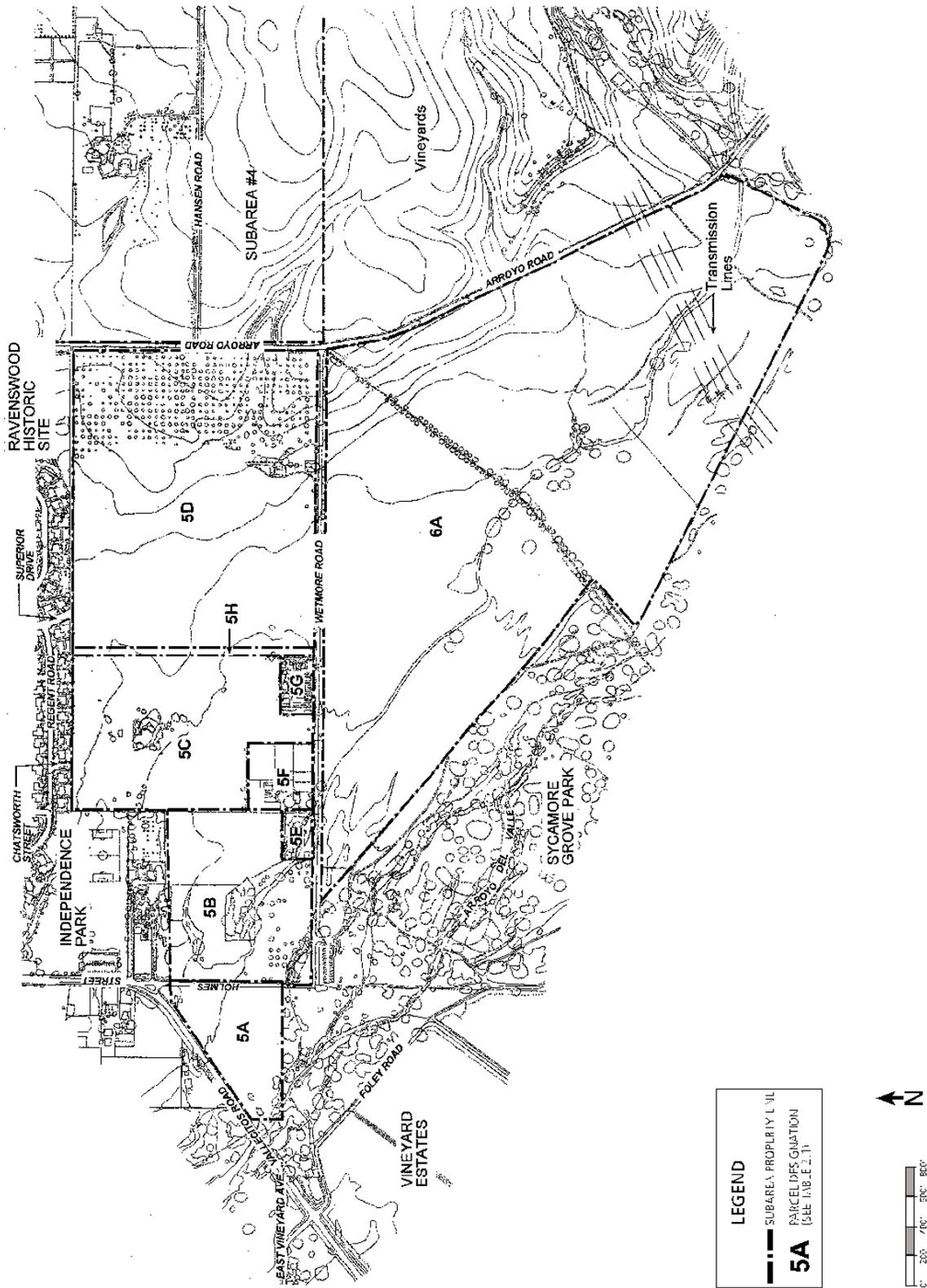


Figure 4.9
EXISTING SETTING -- SUBAREA #5 & 6

South Livermore Valley Specific Plan
Wallace Roberts & Todd

Table 4.7 shows the distribution of entitlements for residential development among the individual parcels that comprise Subarea #5.

Parcel Number	Acreage	Development Potential
5-A	9.00 acres	11 dwelling units ²
5-B	25.51 acres	24 dwelling units a small winery
5-C	33.87 acres	48 dwelling units a small winery
5-D	77.40 acres	94 dwelling units a small winery a 30-room inn & restaurant a 25,000 sf commercial center
5-E	1.49 acres	0 dwelling units
5-F	5.00 acres	0 dwelling units
5-G	1.55 acres	0 dwelling units
5-H	0.93 acres	0 dwelling units
	154.75 acres	177 dwelling units

¹Includes potential for new development only. Table does not address existing uses that will remain.

²As an alternative, the Plan also permits 9 dwelling units and one Bed-and Breakfast inn.

Land Use/Development Concept

Given the existing suburban development to the north, the development concept calls for residential units to be concentrated primarily in the northern portion of the subarea in order to provide a wide agricultural buffer along Wetmore and Arroyo Roads, and between existing residential development and proposed development (see Figure 4.10). A minimum 375-foot agricultural buffer will be maintained along Wetmore Road, and a 600-foot minimum buffer will be maintained along Arroyo Road (This buffer is between the road and nearest residential uses and does not apply to commercial uses.).

The residential layout and circulation system are designed to allow independent phasing of development that may result because of the multiple owners. However, once fully developed, a primary east-west collector street will extend the length of the subarea, linking the various parts into a coherent whole.

As the westernmost of the subareas, Subarea #5 represents the most likely western entry to the South Livermore Valley planning area. Since the awkward configuration of the existing Holmes Street/Vallecitos intersection does not provide either an attractive or efficient entrance, the Plan calls for the creation of a major new entry to the planning area from Vallecitos Road. The new entry will be created by extending Wetmore Road west through the center of Parcel 5-A to form a signalized T-intersection with Vallecitos Road. The existing section of Holmes Street between Wetmore Road and the new east-west road through Subarea #5 will be removed, and the right-of-way will be used for a section of the regional trail system. The existing section of Holmes Street between the new east-west road in Subarea #5 and Vallecitos will remain in order to provide access to existing rural residences north of Parcel 5-B. However, the existing connection of Holmes Street to Vallecitos will be removed (i.e., Holmes Street will dead end before connecting to Vallecitos).

Residential. The residential lotting pattern in the western portion of the subarea generally follows an orthogonal pattern that features short blocks with relatively few units on each block. Residential lots generally front onto the north-south streets, which are oriented to provide scenic views out to the vineyards to the south. With the exception of the east-west collector street, lots do not front on the east-west streets. The portion of the east-west collector street that passes through Parcels 5-C and 5-D is single-loaded to allow units along the north side of the roadway to face the vineyards and distant views of the foothills to the south. The Plan preserves the existing residence and winery in Parcel 5-C, and maintains the area immediately south of it in agriculture, with the idea that former vineyards in the area will be restored.

The development pattern in Parcel 5-B changes from the orthogonal pattern used elsewhere in the subarea, to a more irregular pattern that responds to the natural drainage that flows through the northern portion of the parcel, and to the existing residence that will be retained. Through most of the length of the parcel, the drainageway will run parallel to the north side of the collector road. The intent is that, with additional planting of native trees and shrubs, the drainage corridor will become an important open space amenity for the surrounding homes. In order to minimize potential for conflicts, development at the east end of Parcel 5-B shall maintain a 40-foot minimum landscape buffer between the first residential lot and the equestrian facilities on Parcel 5-F. A dense planting of trees, such as Lombardy poplars, is recommended to screen views and to reduce dust. A 40-foot minimum landscape buffer planted with trees is also required along the north edge of Parcel 5-B and the west edge of Parcel 5-C in order to protect adjacent rural residences. In addition, an 150-foot minimum agricultural buffer will be maintained between development in Parcel 5-B and Parcel 5-E.

Residential development in Parcel 5-A will displace the existing Sycamore Stables and will also require the extension of Wetmore Road to Vallecitos Road. As noted in Table 4.7, the entitlements for this parcel will allow up to 11 residential units or 9 residential units and one bed-and-breakfast inn. If the bed-and-breakfast is developed it will replace the two lots indicated in the southeast quadrant of the Wetmore Road extension and the proposed cross street. This location was selected because of its proximity to Sycamore Grove Park and its adjacency to the regional trail corridor proposed for the Holmes Street right-of-way, and the winery and vineyards designated for Parcel 5-B.

Because of the importance of this subarea as an entrance to the South Livermore Valley, broad landscape buffers will be maintained along the frontages with Vallecitos Road and the Wetmore Road extension. A 75-foot minimum buffer will be provided between residential lots and the Vallecitos Road right-of-way. This setback area will be lushly planted with over-story (trees) and under-story (shrubs) to screen proposed development and provide an attractive entry statement. Berming may be required in this setback to mitigate potential traffic noise from Vallecitos Road (see discussion of noise mitigation in Section 6.4.2). Along the extension of Wetmore Road, 40-foot minimum setbacks will be maintained on both sides of the Wetmore Road right-of-way (60 feet). A triangulated double row of trees will be planted on both sides of the roadway to create a dramatic entry statement. The alleé of trees along Wetmore Road extension could use either high-branching canopy trees that would ultimately create a shady canopy over the roadway, or it could use tall narrow trees such as Lombardy poplars to make a more vertical/columnar statement.

Commercial. Subarea #5 has five sites designated for potential commercial development. The largest concentration of commercial development would be in the east end of the subarea along Arroyo Road. In the area immediately north of the Arroyo Road entry to the subarea, 2 to 3 acres are designated for the development of a 20-25,000 square foot wine country commercial center. The purpose of this center would be to provide retail uses that directly support the concept of the South Livermore Valley as a wine-country destination, and provide necessary services to visitors to the wine country. For example, uses might include a small grocery/deli where visitors could buy picnic supplies, an art gallery specializing in local artists and themes, or a bike rental shop that would allow visitors to tour the Valley on bike. The commercial center will not include uses that could just as easily be located downtown, or that would compete with commercial uses in the downtown. For instance, franchises, outlet stores, fast food restaurants, and clothing stores will not be permitted. Design of the commercial center will be extremely important to ensure that it does not compromise the rural agricultural character of the South Valley.

In the area immediately south of the Arroyo Road entry to the subarea, a 3-acre site is designated for a wine country inn and restaurant. The inn is assumed to have up to 30 guest rooms and the restaurant would have up to 100 seats. Access to the two commercial sites along Arroyo Road will be from the main subarea entry road, rather than from Arroyo Road.

Three sites are designated for small wineries; one about 600 feet west of Arroyo Road on Parcel 5-D, one about 250 feet north of Wetmore Road on Parcel 5C, and one opposite the entrance to Sycamore Grove Park on Parcel 5-B. The sites would be 1.2 to 3 acres in size. The commercial site on parcel 5D will need to maintain a 300-foot minimum setback from existing and proposed residential uses. The commercial site on Parcel 5C will maintain a 175-foot minimum setback from proposed residences. The commercial site on parcel 5B will need to maintain a 100-foot minimum setback with the exact setback (beyond the 100' minimum) determined by an acoustical study.

A potential site for a bed-and-breakfast inn is also designated in the southeast corner of Parcel 5-A. Unlike the other commercial sites that are otherwise designated for agriculture, this site is designated for either residential use or a bed-and-breakfast. The site plan in Figure 4-10 shows two residential lots in the area where a bed-and-breakfast would be permitted. If a bed-and-breakfast is developed in this area it would replace the two residential parcels (i.e., the residential development potential on Parcel 5-A will decrease from 11 units to 9 units).

Parks, Trails & Open Space. Because of its adjacency to Independence Park, Ravenswood Historic Site, and Sycamore Grove Park, minimal parkland has been designated for Subarea #5. The only planned parkland is a 1.2-acre site in Parcel 5-D that is designated for a privately-owned and operated neighborhood park. The park is intended to provide central focus and open space amenity for the surrounding neighborhood. The character of the park and the nature of the facilities included in it will be determined by the area's developer.

In order to protect existing trees and riparian areas, the existing drainageway that starts in Parcel 5-C and meanders westward through Parcel 5-B is designated as permanent open space. The open space corridor varies from 50 to 100 feet or more in width along its length. Developers of the area will be required to protect existing trees and introduce new native plantings along the length of this corridor.

Two short sections of the regional trail system pass through Subarea #5. A 25-foot wide trail corridor will be provided along the west side of Arroyo Road, extending south from the existing trail in the Ravenswood Historic site to Wetmore Road. A pedestrian and bicycle crossing will be provided across Wetmore Road. A second corridor will extend south from Holmes Street/Vallecitos Road intersection through the subarea along the abandoned Holmes Street right-of-way to Wetmore Road.

Agriculture. The Plan designates approximately 43 acres for agricultural buffer along the east and south sides of the subarea. While either orchards or vineyards can be planted in the buffer, given the designation of two winery sites, a wine country inn and a wine country commercial center, the Plan strongly encourages the planting of these buffer areas with vineyards.

4.9.6 SUBAREA #6

Existing Land Use Setting

Subarea #6 is located south of Wetmore Road, west of Arroyo Road, and northeast of Sycamore Grove Park. The 185-acre parcel, is owned by RMC Lonestar, who originally purchased the property to mine the valuable gravel deposits that exist along the Arroyo del Valle. The subarea is currently undeveloped, consisting primarily of fallow grasslands. Formerly part of the historic Olivina Ranch, the subarea is distinguished by remnants of that past use, including: the river-rock arch of the Olivina Gate at the corner of Arroyo Road and Wetmore Road, and the allée of walnut trees that frame the long entry drive which bisects the subarea (see Figure 4.10). Three sets of high voltage electric transmission lines and their towers pass through the southeast portion of the subarea. In addition, two below ground utilities, a high pressure gas transmission line and the South Bay Aqueduct, pass through this same area.

Land Use Program

New Development Potential. The following outline summarizes the new development that will be permitted in Subarea #6 under this Specific Plan:

Subarea #6 Development Summary

<u>Residential Development:</u>	none
<u>Range of Lot Sizes:</u>	none
<u>Total Residential Area:</u>	none
Developable Lots	none
Street Rights-of-Way	none
Landscaped Areas	none
<u>Commercial Development:</u>	12.0 acres ¹
<u>Regional Parkland:</u>	none
<u>Regional Trail Corridor:</u>	3.8 acres
<u>Total Mitigable Area</u> ² :	none
<u>Total Mitigation Required</u> ³ :	none

¹ Not subject to agricultural mitigation requirements.

² "Mitigable Area" refers to those acres that will require agricultural mitigation as developed urban area (i.e., one acre planted and in easement for each acre developed). Mitigable area is equal to the sum of the acreage in developable lots and street rights-of-way.

³ "Mitigation Required" refers to the total amount of mitigation acreage that will have to be provided to offset proposed development. The mitigation required is equal to the sum of the mitigable area and the total number of units permitted.

Disposition of Existing Land Uses. There is no existing development in Subarea #6. Existing grazing will be replaced by vineyards.

On the following page, Table 4.8 shows the distribution of entitlements for residential development among the individual parcels that comprise Subarea #6.

Table 4.8 South Livermore Valley Specific Plan DEVELOPMENT POTENTIAL BY PARCEL -- SUBAREA #6		
Parcel Number	Acreage	Development Potential
6-A	185.44 acres	0 dwelling units ¹ a Medium-size winery
	185.44 acres	0 dwelling units ¹ a Medium-size winery

¹No residential units are permitted except as ancillary uses to the winery. Up to one owner's residence and one caretaker's residence are permitted in association with a winery.

Land Use/Development Concept

Early in the planning process Subarea #6 was identified as being too visually sensitive to consider for residential development, given its location in the foreground of highly scenic views south from Wetmore and Arroyo roads. Ultimately it was agreed that the best use of the site was as a receiver site for agricultural mitigation (i.e., vineyards). To accommodate this outcome, the landowner of Subarea #6 has negotiated an agreement with the landowner of Parcels 2-A₁ and 2-A₂ (Wente Vineyards) to exchange residential development rights in Subarea #2 for mitigation land in Subarea #6 (Note: the specifics of that agreement are not part of this Plan, and are not subject to City approval).

Implementation of the Specific Plan will result in all of Subarea #6 being placed under permanent agricultural easements and planted with vineyards. As a result of this agreement between Subarea #2 and Subarea #6 landowners, the dedication of agricultural easements and planting of vineyards in Subarea #6 will be tied to the approval of development in Subarea #2. For purposes of agricultural mitigation phasing requirements, Subarea #6 will be considered part of Subarea #2, specifically Parcels 2-A₁ and 2-A₂. Agricultural easements will be placed on all of Subarea #6 prior to Final Map approval for the first phase of development in either Parcel 2-A₁ or 2-A₂. Planting in Subarea #6 can be phased in direct proportion to development approved in Parcel 2-A₁ and 2-A₂. Alternative timing of easements and planting of Subarea #6 may be approved by the City as part of a Development Agreement governing the development of Subarea #2. The agricultural easements on Subarea #6 and development agreement for Subarea #2 shall provide for City review of any development on Subarea #6, including a winery, a winery owner's residence, a caretaker's residence, or any other proposed structures.

Residential. No residential development is permitted except as an ancillary use to a winery. If a winery is built, a maximum of two residences will be permitted in Subarea #6, one residence for the winery owner and one for the winery caretaker. Both residences shall be located adjacent to the winery complex.

Commercial. The subarea is designated as a potential site for one medium-size winery on 12 acres. As shown, the site plan in Figure 4.10 suggests the winery be sited on the lower shelf just north (or south) of the Olivina entry drive to take advantage of the amenity value associated with the entry drive, the proximity to Sycamore Grove Park, and the stand of trees located in this portion of the site. Other locations for a winery are acceptable as long as they do not create conflicts with the Park or rural residences along Wetmore Road.

Parks, Trails & Open Space. Two branches of the regional trail corridor extend through Subarea #6. The north-south trail that extends south from Ravenswood Historic Site and through Subarea #5 will continue south through the historic Olivina Gate and then along the western edge of Arroyo Road to the southeast corner of the subarea where it will connect to the Sycamore Grove Park trail system. The east-west trail that extends across Arroyo Road from Subarea #4 will pass through the Olivina Gate and along the south side of Wetmore Road until it connects with the proposed trail in the abandoned Holmes Street right-of-way.

The historic Olivina entry drive will be maintained as a private entry to the subarea. The alleé of trees along the entry drive will be re-planted to maintain this distinctive visual element, but it will not be required to be dedicated as a public trail corridor. The alleé of trees will be re-planted no later than when the adjacent agricultural areas are planted.

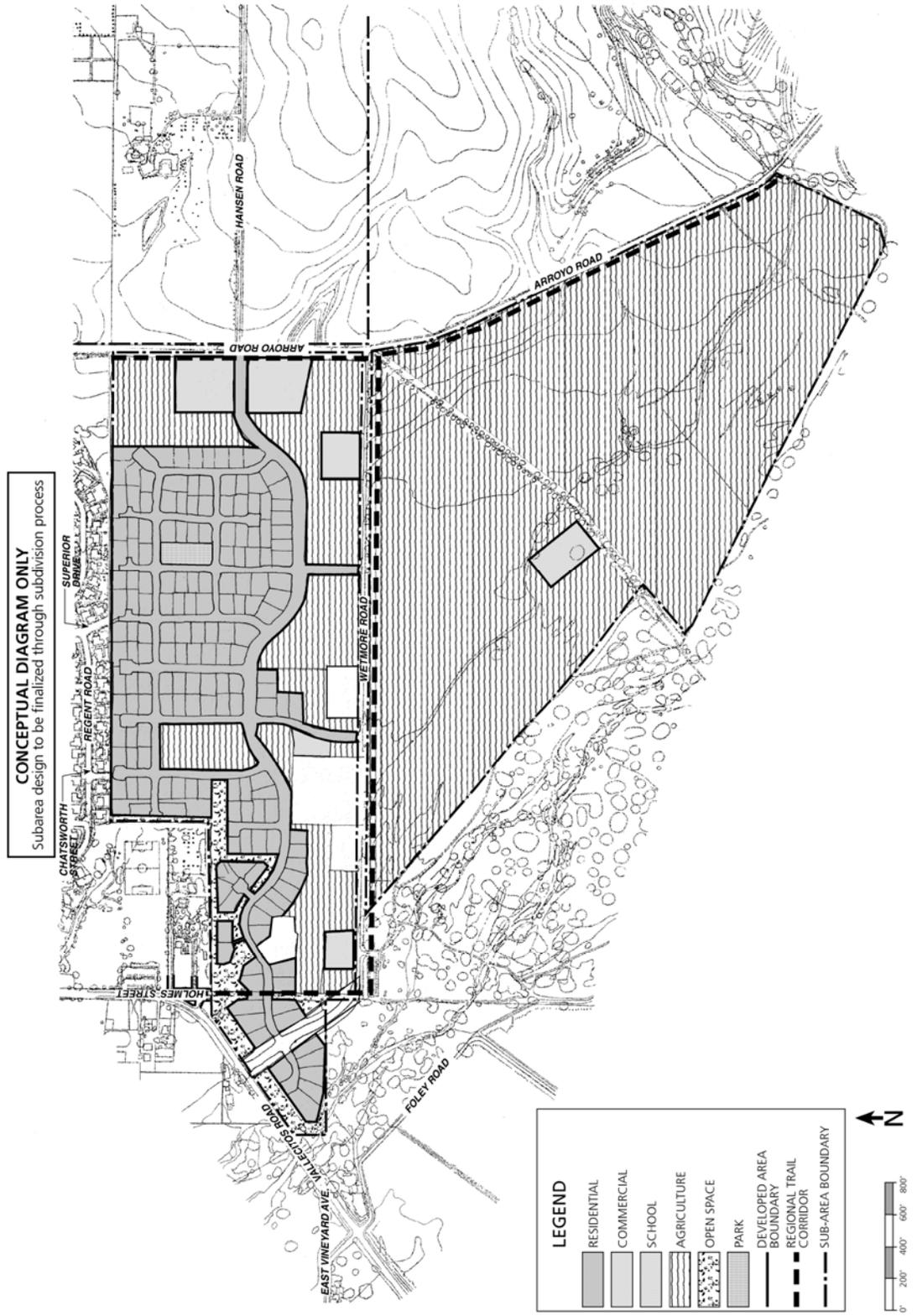


Figure 4.10
LAND USE -- SUBAREA #5 & 6

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4.9.7 SUBAREA #7

Existing Land Use Setting

The approximately 578-acre subarea is located immediately south of Sycamore Grove Park, east of the approved Vineyard Estates project and the Zone 7 Water Treatment facility, and north and west of the Veterans Hospital. Situated on the north-facing slopes that overlook the valley, the area consists primarily of open grasslands, with stands of oaks and eucalyptus near the center of the site, along a series of natural drainageways that bisect the subarea. The topography includes areas along the north edge that are defined by relatively gentle slopes to areas in the south that are quite steep, with slopes over 30%.

Except for a residence located near the northern edge of the subarea, and three sets of high voltage power lines which cross the site, grazing is the only current use of the land. Once part of the Olivina Ranch, the remains of the Olivina Winery are located on the northern edge of the subarea near Sycamore Grove Park (see Figure 4.11).

Surrounding Areas

Uses surrounding Subarea #7 consist primarily of agriculture, open space, and a few developed facilities. Existing and proposed vineyards predominate in the areas to the northwest and west of the subarea. Existing vineyards include: the 16-acre Kurzer residence and vineyard on Foley Road adjacent to the northwest corner of the subarea; the Detjens residence, vineyards and the Thomas Coyne Winery across Foley Road west of the northern portion of the subarea; and the Kalthoff residence and vineyards located west of the southern portion of the subarea.

The remaining area between Foley Road and Vallecitos Road, to the west of the subarea, has been subdivided as part of the Ruby Hill/Vineyard Estates project. The area has been subdivided into 20-acre parcels that will each be planted with vineyards and developed with a single residence. The only non-agricultural related use to the west of the subarea is a water treatment facility, owned and operated by Zone 7 of the Alameda County Flood Control and Water Conservation District. This facility is situated on 29 acres adjacent to the west side of the subarea, at the end of the paved segment of Foley Road.

To the north, Sycamore Grove Park extends the length of the subarea, forming its northern and northeastern boundary. Private rangeland extends south from the western half of the subarea to the Lake Del Valle Regional Park. In the eastern half of the subarea, the southern boundary is formed by the 118-acre site of the VA Hospital. The U.S. Department of Veterans Affairs (VA) operates a 45-bed subacute care hospital, 120-bed nursing home, and out-patient clinic on this site. Access to the facility, which employs 550 people, is from Arroyo Road.

Land Use Program

New Development Potential. The following outline summarizes the new development that will be permitted in Subarea #7 under this Specific Plan:

Subarea #7 Development Summary

<u>Residential Development</u>	12 units
<u>Transferrable Development Rights</u>	175
<u>Range of Residential Lot Sizes:</u>	6 parcels @ 1 acre each ¹ (Family Compound) 6 parcels @ 2 acres each ² (20 acre sites)
<u>Total Residential Area</u>	16 acres
Developable Lots	16 acres
Street Rights-of-Way	none
Landscaped Areas	none
<u>Commercial Development</u>	8.0 acres
<u>Agricultural Land</u>	188 acres ³
<u>Regional Parkland</u>	370 acres
<u>Regional Trail Corridor</u>	none ⁴
<u>Total Mitigable Area</u>	12 acres ⁵
<u>Total Mitigation Required</u>	
Family Compound	10+ acres ⁶
6 20-Acre Parcels	102 acres ⁷
TDR Units	175 acres

¹ A small winery may be permitted on one of the 6 lots by conditional use permit. If permitted, the size of the lot may be three acres.

² One of the residential sites will be co-located with the commercial development site.

³ Agricultural land includes 86 acres in the family compound (a portion of this land is a steep wooded slope that will be preserved but is not intended for agriculture) and approximately 102 undeveloped acres on the six 20-acre parcels.

⁴ Acreage for regional trail corridors is included in the acreage figure for regional parkland.

⁵ Assuming five 1-acre sites, one 3-acre site and 4 acres of roads on the Family Compound.

⁶ 10 acres must be planted in accordance with Specific Plan requirements and the wooded slope along the northern boundary of the family compound must be preserved in open space.

⁷ In accordance with the General Plan's Rural Density Bonus Policy IV.B.5.c(1), includes 4 acres of roadways.

Disposition of Existing Land Uses. The existing caretaker's residence, located on the north edge of Subarea #7 and the remains of the old Olivina Winery will remain. The Olivina Winery will be dedicated to LARPD for the District's use. All of the Specific Plan Major Attraction Fees applicable to Subarea #7 will be deemed satisfied when the historic winery is dedicated to LARPD. The caretaker's residence will be acquired for use by LARPD.

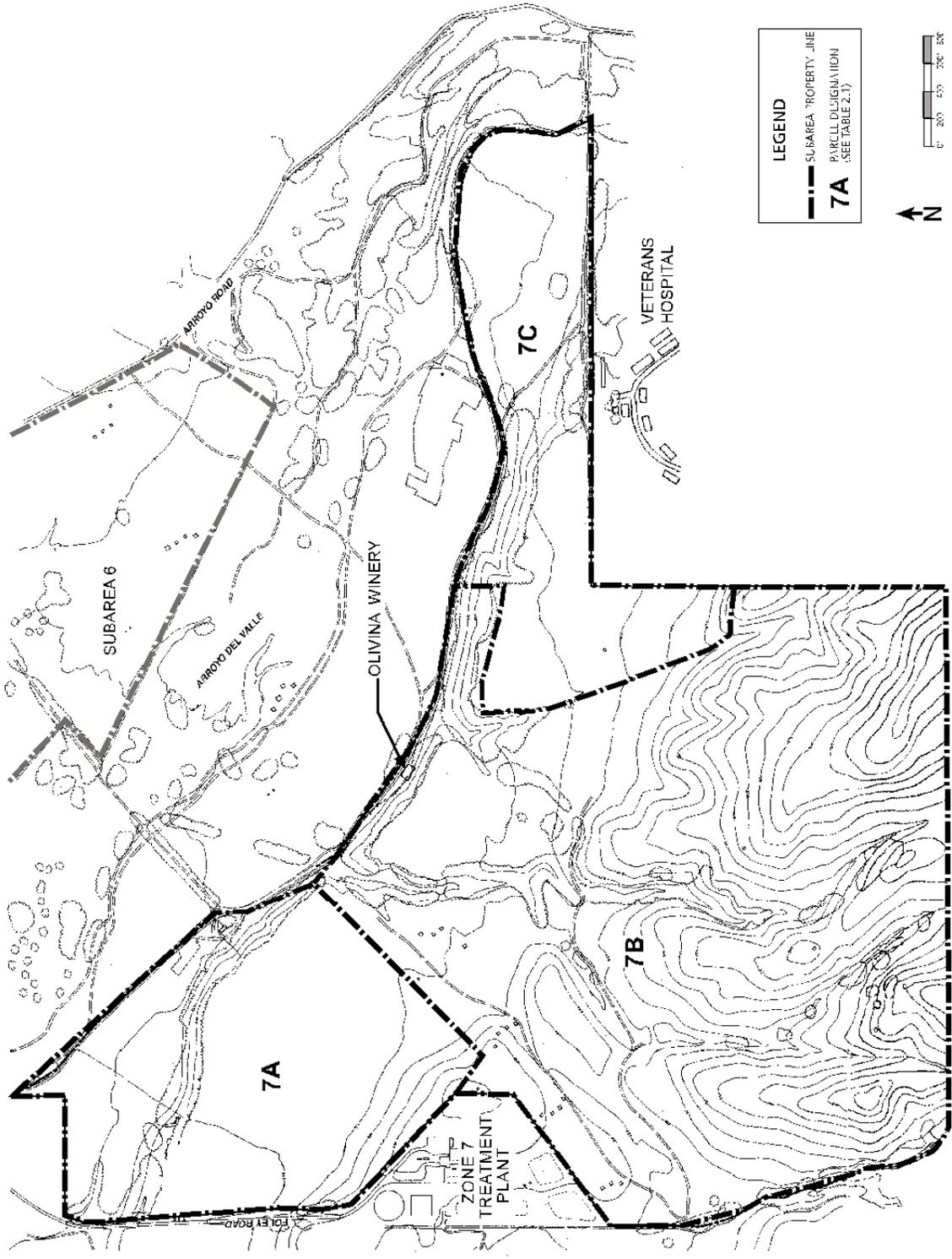


Figure 4.11
EXISTING SETTING -- SUBAREA 7

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Table 4.9 shows the distribution of entitlements for residential development among the individual parcels that comprise Subarea #7.

Table 4.9 South Livermore Valley Specific Plan DEVELOPMENT POTENTIAL BY PARCEL -- SUBAREA #7		
<i>Parcel Number</i>	<i>Acreage</i>	<i>Development Potential¹</i>
7-A	120 acres	6 dwelling units 8 acre commercial site
7-B	370 acres	Regional Parkland
7-C	92 acres	6 dwelling units 1 small winery
Subtotal	582 acres	12 dwelling units 8 acre commercial site 1 small winery Regional Parkland

¹ Includes potential for new development only. Table does not address existing uses that will remain.

Land Use/Development Concept

In light of the subarea's separation from the urban area, its varied topography, sensitive environmental resources, and visual proximity to Sycamore Grove Park, the Specific Plan as originally adopted, required the City to take all steps necessary to determine the feasibility of limiting the extent of development in the subarea by either transferring development rights in the area to a site elsewhere in the City or by purchasing the development rights created by the original Specific Plan. The City Council subsequently determined that the transfer of development rights program established below is a feasible and equitable means of protecting the unique resource values of the subarea. A portion of the subarea (the 92-acre Family Compound) may remain outside of the Livermore City boundaries; however, the owner and Alameda County have agreed that the policies of this Specific Plan will govern use and development of the Family Compound and that the owners of the Family Compound will pay to the City all fees required by the Specific Plan which would be applicable if the Family Compound were developed under the City's jurisdiction (those fees are the Recycled Water Fee, the Plan Preparation Fee, the Roadway Improvement Fee, and the Major Attraction Fee; the Major Attraction Fee will be deemed satisfied upon dedication of the historic Olivina Winery to LARPD).

The key elements of the land use and development concept for Subarea 7 are as follows:

- The western portion of the subarea is entitled to 175 units of transferrable development rights which may be used for development within the "Transferred Development Overlay District" designated in the General Plan and generally bounded by Holmes Street, Alden Lane, and East Vineyard Avenue outside the South Livermore Valley Specific Plan Area. Twenty-three of the 175 transferable development rights have been transferred to the City in connection with mitigation of environmental impacts and to offset administrative costs of the transfer of development rights program. Owners (including the City) of Transferable Development Rights may sell those rights for use by parties wishing to develop at urban densities within the Transferred Development Overlay District.
- Up to six (6) one-acre parcels may be developed in the Family Compound as shown on figure 4.12. Access to the six parcels will be taken from Arroyo Road via a new bridge over the Arroyo del Valle. Homesites shall be screened with trees to minimize visual impacts on Sycamore Grove Park and other viewpoints.
- One of the parcels in the Family Compound may be expanded to 3 acres to accommodate a small winery in addition to one residential dwelling unit subject to conditional use permit approval.

- Up to six (6) approximately 20-acre parcels (with no parcel smaller than 18 acres) may be developed in the northwest corner of the subarea: two (2) on the lower bench, and four (4) on the upper terrace (i.e., the “clay pan”).
- The six 20-acre parcels may each be developed with a single family residence on a two acre site. The two-acre site on each parcel may also include a boutique winery subject to conditional use permit approval. Any winery shall be located at least 400 feet from the property line of the adjacent Kurtzer property.
- One of the 20-acre parcels may, as an alternative to the uses described above, include up to an eight (8) acre commercial site that landowners may choose to develop, subject to a site plan approval, as either (1) a medium winery or (2) a wine country complex of up to 50,000 square feet consisting of a winery, a wine country inn (with 30 rooms), and a restaurant (with sit-down seating for 100 people). The maximum building area for the combined inn and restaurant shall be 30,000 square feet. Wastewater service for these uses shall be provided by a cost-effective means of providing wastewater disposal consistent with protection of public health. The winery shall be located at least 400 feet from the property line of the adjacent Kurtzer property.
- The commercial site shall be located in accordance with figure 4.12. This location protects views from Sycamore Grove Park. The site shall be designed in a manner that does not interfere with views from the public areas of the commercial site across the valley.
- All residences must include noise insulation features necessary to ensure that interior noise does not exceed an L_{DN} of 45 DB with windows closed.
- All development, including site grading, access roads, driveways, watertanks, wastewater treatment systems, residences, commercial uses, and accessory structures shall be set back a minimum of 150 feet from wetlands, riparian corridors and vernal pools.
- Prior to development of the commercial site, Subarea 7 shall connect to a water source that is sufficient to meet fire flow requirements of 2,500 to 3,000 gallons per minute based on Livermore-Pleasanton Fire Department fire code specifications.
- Upon the earlier of (i) entry into a development agreement with respect to any portion of the Subarea, (ii) approval of development (including subdivision) within the Crohare family compound, or (iii) the sale of mitigation acreage on Subarea 7, the landowner will dedicate conservation easements in favor of the South Livermore Valley Agricultural Land Trust over the Crohare family compound and the six 20-acre parcels. Development on the six 20-acre parcels shall be mitigated in accordance with General Plan policy IV.B.5.c(1) (generally requiring dedication of a conservation easement and planting and maintaining the portions of those lands outside the designated building sites in a manner acceptable to the City), except that in the event that a commercial site is established, the mitigation requirement as to that parcel may be satisfied by planting and dedicating that portion of the parcel that lies outside the designated commercial site area. If the land within the Crohare Family Compound is planted in a manner that meets the requirements of the Specific Plan, the resulting mitigation credits may be used or sold by the landowner to satisfy agricultural mitigation requirements of the Specific Plan. All lands within the Crohare family compound may be included in a Williamson Act contract. In the event that the Landowner dedicates to LARPD the 25 acre “West Crohare Parcel” shown in Figure 4.12, the City will redesignate that land from Agriculture to Regional Parkland and Landowner shall be entitled to 25 acres of mitigation credit which may be used or sold by the landowner to satisfy agricultural mitigation requirements of the Specific Plan. Simultaneously with the dedication of the easements described above, the landowner will dedicate to the City and the South Livermore Agricultural Land Trust, a conservation and open space easement over the 370 acres of Regional Parkland.¹

¹ The referenced conservation easements were dedicated by the landowner in November, 1998.

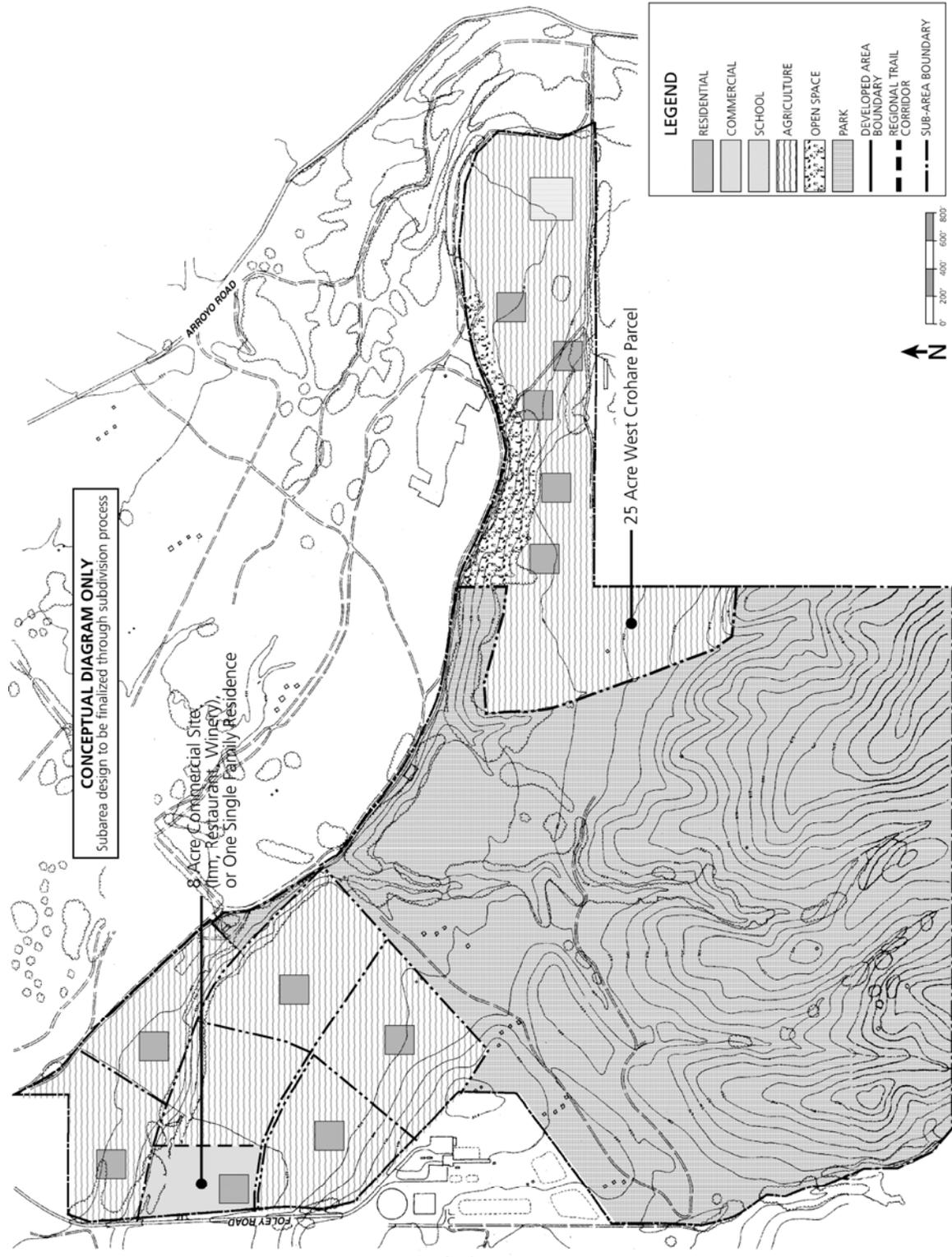


Figure 4.12
LAND USE -- SUBAREA #7

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- 370 acres of the subarea are designated as Regional Open Space eligible for use as Regional Open Space mitigation. Based on analysis of flat and sloped lands, a total of 305 acres of mitigation credit is available for the portion of the property designated as Regional Open Space. As noted above, an additional 25 acres may be made available in the event that Landowner dedicates to LARPD the western 25 acre portion of the Crohare family compound. In addition, some or all of the undeveloped portions of the family compound may be eligible for use as mitigation credit if planted in accordance with Specific Plan requirements.

Residential. The six one-acre parcels in the family compound will be located in the area immediately north of the Veterans Hospital and sited south of the tree-covered slope bank in order to screen development from the park as shown in Figure 4.12. The other six units will be developed on 20-acre parcels on the lower terrace and the clay pan in the northwest corner of the subarea.

Commercial. An 8.0 acre area is designated as a site for a medium-sized winery or winery, 30 room wine country inn and restaurant as described above. Located on the center of the western edge of the subarea (see Figure 4.12), the commercial site would be visible from the expanded Sycamore Grove Park, so creating a high quality design character will be very important. All commercial facilities shall be set back at least 400 feet from the park and surrounded with vineyards. In addition, it is required that any commercial facility be set back at least 400 feet from the property line with the adjoining Kurtzer property.

Parks, Trails & Open Space. The Plan designates 370 acres of regional parkland in Subarea 7. As shown in Figure 4.12, the designated parkland area includes the entire central and upper portions of the subarea. This area has been designated as parkland as a means of protecting existing natural resources, enhancing Sycamore Grove Park, and securing a permanent southern boundary for the urban area. LARPD intends to restore the remains of the Olivina Winery for use as an interpretive center, and use the existing house at the south end of the Olivina access drive as a park ranger residence.

Agriculture. The lower shelves in the northeast and northwest corners of the subarea will be planted as a condition of creating the 20 acre parcels on that site. If feasible, it is also recommended that the slope bank between the Zone 7 Treatment Plant and the main development area be planted in vineyards.

Altogether, Subarea 7 includes up to 188 acres of agricultural land including approximately 102 acres of active agriculture on the six 20-acre parcels and up to 86 acres (a portion of which is a wooded slope designated as open space in this Specific Plan) in the Family Compound.

Mitigation. The Transferred Development Rights Overlay District requires each unit of transferred development credit to be mitigated by the dedication of land designated as Regional Open Space within Subarea 7 to the Livermore Area Recreation and Parks District (or elsewhere if the City determines that further dedications in Subarea 7 are not required) in an amount equivalent to 1 acre of mitigation credit calculated in accordance with General Plan policy IV.B.5.d(8). The City may collect a mitigation fee as an alternative to the dedication requirement. Development of the six 20-acre parcels will be mitigated by the planting, maintenance, and dedication of conservation easements described above. Development on the Family Compound will be mitigated in accordance with the Specific Plan; after 10 acres within the Family Compound have been planted and placed under maintenance agreements in accordance with the Specific Plan any remaining mitigation requirements may, in accordance with Specific Plan policy 6-10, be satisfied by preservation of the wooded area shown on figure 4.12. If additional agricultural land in the Family Compound is planted in a manner that meets the requirements of the Specific Plan, the resulting mitigation credits may be sold by the landowner.

5.0 Transportation and Circulation



5.0 TRANSPORTATION AND CIRCULATION

5.1 INTRODUCTION

The transportation and circulation system for the South Livermore Valley Specific Plan is designed to utilize the existing roadway system, with the addition of collectors, residential streets and access drives as needed to serve individual subareas, and trails for non-vehicular circulation to connect subareas to each other and the rest of Livermore. This circulation plan ensures preservation of the area's rural character, and promotes walking, bicycling and horseback riding as convenient modes of transportation and for recreation. The circulation plan enhances connectivity between adjacent planning areas, where feasible, to reduce traffic impacts on major streets.

Consistent with the goals and objectives of the City's General Plan and the County's South Livermore Valley Area Plan, roadway design standards incorporate special rural features that enhance the openness of the area, take advantage of views, and provide simple, functional streets. The primary goals governing the South Livermore Valley Specific Plan's circulation plan are:

GOAL: Provide a circulation system for the South Livermore Valley that safely accommodates increased traffic associated with Specific Plan and cumulative wine country development, while preserving the area's rural agricultural character.

GOAL: Provide a circulation system which maintains and improves access and connectivity between planning areas and within the South Livermore Valley.

GOAL: Create clear and distinct travel routes through the wine country to promote the South Livermore Valley as a premier wine-producing region and tourist destination.

GOAL: Expand and enhance non-vehicular circulation within the South Livermore Valley as a means of enhancing the public's ability to enjoy open space resources and reducing automobile travel.

5.2 EXISTING ROAD SYSTEM

This section describes the existing road system in the vicinity of the South Livermore Valley, and discusses the role each roadway will play for the Specific Plan area.

5.2.1 REGIONAL ROADWAYS

Interstate 580

Interstate 580 (I-580) provides for east-west travel between Livermore and the San Francisco Bay Area to the west, and the San Joaquin Valley to the east via the Altamont Pass. I-580 has eight travel lanes in the Livermore area and serves as a major commuter route between the Central Valley and the San Francisco Bay Area, providing connections to I-680 in Pleasanton (west), and to I-5 in Tracy (east). I-680 is a major north-south facility serving Contra Costa, Alameda and Santa Clara counties; I-5 serves north-south travel throughout the Central Valley. In addition to these interstate facilities, I-580 provides access to several local north-south routes that provide connections through Livermore to the South Livermore Valley area. These north-south routes include Greenville Road, Vasco Road, State Route 84 (which connects to I-580 at the First Street/Springtown interchange), and, ultimately, the proposed Isabel Avenue connection to Vallecitos Road.

The peak travel directions along I-580 are westbound during the morning peak period, and eastbound during the evening peak period. Within the Livermore area, traffic congestion is not significant enough to cause excessive delays. However, west of Dougherty Road and at the I-580 and I-680 interchange, traffic congestion is significant during both morning and evening commute hours.

State Route 84

State Route 84 (SR 84) runs in a southwest-northeast direction through the Livermore area, providing a connection between I-680 and I-580 via interchanges in Sunol and Livermore. In southern Livermore, SR 84 coincides with Holmes Street, and is a major north-south roadway consisting of two to four travel lanes. Near the western boundary of Subarea #5, SR 84 becomes Vallecitos Road, a two-lane rural roadway that extends to the southwest, traversing the hilly terrain between Livermore and Fremont. In addition to serving local Livermore traffic, SR 84 currently serves as a major regional travel route between Livermore and the southern San Francisco Bay Area. The combination of local and regional traffic results in daily traffic volumes along SR 84 that are currently near or at the maximum capacity for this two-lane roadway. The Vallecitos Road section of SR 84 represents a significant regional access corridor to the South Livermore Valley wine region from the South Bay area.

5.2.2 LOCAL ROADWAYS

Most local roadways in the Specific Plan area are rural roads with one 11- to 12-foot travel lane in each direction, and 3- to 6-foot gravel or paved shoulders. The principal exceptions are East Avenue in the vicinity of Subareas #1 and #2, and Holmes Street north of Concannon Boulevard, each of which provide four travel lanes. Figure 5.1 shows the existing local roadway network serving the South Livermore Valley Specific Plan Area. The key Planning Area roadways are described in detail below.

North-South Roadways

Holmes Street

Holmes Street, also known as SR 84, extends from First Street in the western part of downtown Livermore south to Wetmore Road. The roadway represents a key vehicular connection between the downtown area and the west end of the South Livermore Valley wine region, including Subareas #5 and #7. North of Alden Lane, Holmes Street is a four-lane divided arterial; south of Alden Lane, Holmes Street narrows to two lanes with a painted median for left-turn lanes. Travel lanes are 12-feet wide in the vicinity of the Subarea #5. Traffic signals are located at the intersections of Concannon Boulevard, Catalina Drive, Vancouver Way/El Caminito, and Murrieta Boulevard. The Holmes Street/Vallecitos Road intersection at the west edge of Subarea #5 has an oblique 'T' configuration, with traffic movements from Wetmore Road to Holmes Street controlled by stop signs in the northbound and southbound directions. The posted speed limit is 40 miles per hour (mph) north of Alden Lane and 45 mph south of Alden Lane.

Arroyo Road

Arroyo Road is a two-lane roadway that extends south from central Livermore through the heart of the Specific Plan area, passing Subareas #4, #5, and #6 before terminating south of Wente Sparkling Cellars and the Veterans Hospital. The roadway has two twelve-foot travel lanes with a striped median north of Concannon Boulevard and south to Marina Avenue. Curb and gutter are provided along the west side of Arroyo Road between Marina Avenue and the northern edge of Subarea #5. Along the east side of Arroyo Road, curb and gutter are provided north of Latour. Bicycle lanes are provided as far south as Superior Drive. South of the improved section, Arroyo has two twelve-foot travel lanes and two- to four-foot paved shoulders. The posted speed limit on Arroyo is 35 mph in the vicinity of Concannon Boulevard and Marina Avenue, and 50 mph south of Superior Drive.

Wente Street

Wente Street is a two-lane rural roadway that extends between South Livermore Avenue and Marina Avenue. Wente Street combines with Marina Avenue to form an important east/west link between the Arroyo Road and the Tesla Road/South Livermore Avenue corridors. Wente Street has two 10-foot travel lanes with 6-foot gravel shoulders. Wente Street connects to South Livermore Avenue with a 'T' intersection. Northbound Wente Street traffic movements are controlled with a stop sign at the intersection with South Livermore Avenue. At its south end, Wente Street connects with Marina Avenue in an 'L' intersection with no intersection controls.

Buena Vista Avenue

Buena Vista Avenue is a two-lane rural roadway that extends between East Avenue and Tesla Road. The roadway provides access to rural residences along its length, but is also one of three roadways that provide a north-south connection between East Avenue and Tesla Road. The other two roadways are South Vasco Road and Greenville Road. Travel lanes on Buena Vista Avenue are approximately 10 feet wide, with 8- to 10-foot shoulders on either side. Buena Vista Avenue connects to East Avenue and Tesla Road at 'T' intersections, with stop signs controlling movements from Buena Vista Avenue.

South Vasco Road

South Vasco Road provides access to the South Livermore Valley area from the Vasco Road interchange on I-580. Between I-580 and East Avenue, South Vasco Road is a four-lane urban roadway built to City of Livermore standards. In the section between East Avenue and Tesla Road, where South Vasco runs adjacent to Subareas #1 and #2, it is a two-lane rural roadway. Travel lanes in this section of South Vasco Road are approximately 11 feet wide, with 6- to 8-foot gravel shoulders on either side. South Vasco Road connects to Tesla Road in a one-way stop 'T' intersection. The South Vasco Road/East Avenue intersection is controlled by a traffic signal.

Greenville Road

South of I-580, Greenville Road is a two-lane rural City/County roadway that provides north-south access between the Greenville Road interchange on I-580 and Tesla Road. The roadway, which is posted with a 45 mph speed limit, is heavily used by Lawrence Livermore and Sandia National Laboratories employees. The roadway has four lanes between I-580 and Las Positas, and two lanes south of Las Positas to Tesla Road. The City's General Plan also designates Greenville Road as an important "wine region corridor" given the direct access it provides to the east end of the South Livermore Valley. The General Plan encourages landscaping, signage and other appropriate design to support this roadway's wine region association.

East-West Roadways

East Avenue

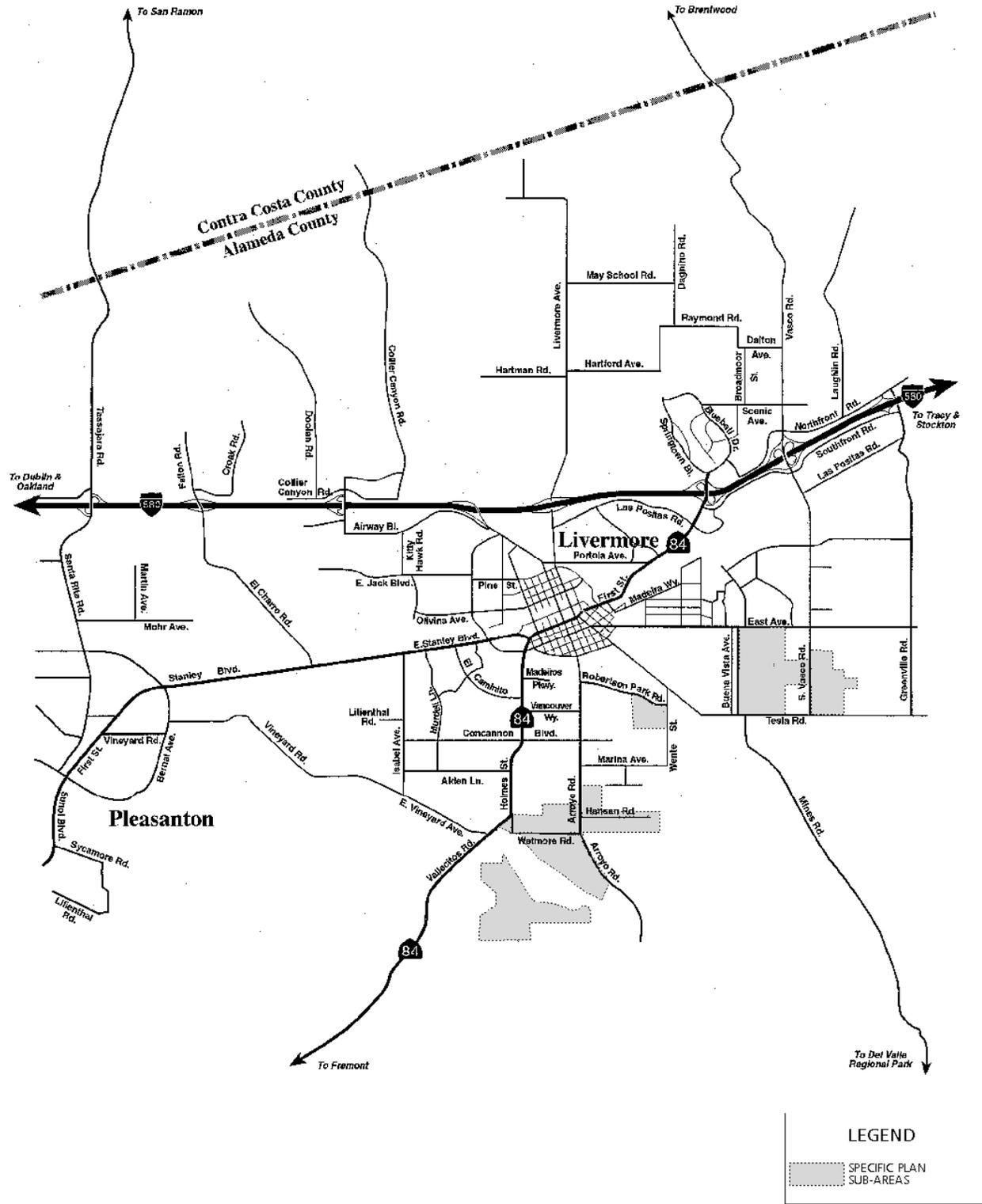
East Avenue is a four-lane arterial connecting South Livermore Avenue to Greenville Road. Travel lanes are 12 feet wide, and a painted median strip provides room for left turns. In the vicinity of the project, left turn lanes are provided at the intersections with Buena Vista Avenue (unsignalized), Charlotte Way (signalized), and South Vasco Road (signalized).

Tesla Road

Tesla Road is one of the principal east/west travel corridors in the South Livermore Valley, extending from South Livermore Avenue on the west to the San Joaquin County line (where it becomes Corral Hollow Road) on the east, and providing access to many of the South Valley's wineries and vineyards. Tesla Road is a two-lane rural roadway, with 12-foot travel lanes, and approximately 10-foot wide paved shoulders. Intersections at Went Street, Buena Vista Avenue, Mines Road, and South Vasco Road have stop signs at the cross streets, but no left-turn lanes are provided on Tesla Road.

South Livermore Avenue

South Livermore Avenue connects downtown Livermore with Tesla Road, the primary east-west corridor in the South Livermore Valley. Within the City, the road is constructed to urban standards with posted speed limits of 25 to 40 mph. At Went Street, the roadway narrows to a rural two-lane undivided roadway with a posted speed limit of 45 mph.



Concannon Boulevard

Concannon Boulevard is a major east/west arterial street in the southern part of the city. The street currently extends west to Isabel Avenue and east to Normandy Way, just west of Subarea #3. In the Specific Plan area, Concannon Boulevard provides an east-west connection between Holmes Street and Arroyo Road, two major north-south routes that serve the area, and will ultimately be extended eastward to connect with South Livermore Avenue/Tesla Road. Between Holmes Street and Arroyo Road, Concannon Boulevard varies between two and four travel lanes. East of Arroyo Road, Concannon Boulevard is two lanes. Sidewalks are provided along most of the four-lane sections, as well as along the section east of Arroyo Road. Traffic signals are provided at Holmes Street and Arroyo Road.

Marina Avenue

Marina Avenue is a two-lane rural roadway which connects Arroyo Road and Wentz Street. The roadway provides access to numerous rural residences in the Reed Avenue/Edwards Avenue area, and along the north side of the corridor. Travel lanes in Marina Avenue are approximately 10 feet wide, with 6 foot gravel shoulders on either side. Marina Avenue connects to Arroyo Road with a one-way stop 'T' intersection. There are no intersection controls at the 'L' intersection with Wentz Street.

Hansen Road

Hansen Road is an un-striped, private roadway providing access from Arroyo Road to current uses in the southern portion of Subarea #4. The paved portion of the roadway is approximately 17 feet wide and provides for two-way travel.

Wetmore Road

Wetmore Road is a two-lane rural roadway that extends the length of Subarea #5, connecting Holmes Street to Arroyo Road. In addition to providing access to a handful of rural residences, the roadway provides access to the main entrance of Sycamore Grove Park just east of the intersection with Holmes Street. Travel lanes are 12 feet wide, with approximately 2-foot wide paved shoulders. Wetmore Road connects to Arroyo Road with one-way stop 'T' intersection and to Holmes Street with an 'L' intersection with no intersection control.

East Vineyard Avenue

East Vineyard Avenue extends from downtown Pleasanton to Vallecitos Road just south of the Arroyo del Valle. The General Plans for Pleasanton and Livermore designate East Vineyard Avenue as an important "wine region corridor", and recommend appropriate design improvements to enhance this association. With the future Isabel Avenue extension (see following discussion of Planned Improvements), East Vineyard Avenue will become an important corridor providing regional access to the west end of the planning area (particularly Subareas #4, #5, #6 and #7). The eastern end of the roadway, nearest the planning area is a two-lane rural roadway. Just west of Vallecitos Road, East Vineyard Avenue has two reverse curves which are posted with advisory speeds of 15 mph. Planned improvements call for East Vineyard Avenue to be realigned to remove these curves and provide an improved intersection with Vallecitos Road (see following discussion of Planned Improvements). The existing intersection with Vallecitos has stop sign controls for traffic on East Vineyard Avenue.

5.3 PLANNED TRANSPORTATION IMPROVEMENTS

The Circulation Element of the Livermore General Plan defines the City's vision for a transportation infrastructure that will meet the projected growth within the South Livermore Valley, as well as the rest of the community. The following discussion summarizes the transportation improvements that have been identified as necessary to support the City's growth, and the overall increase in local and regional traffic through the South Livermore Valley.

In order to accommodate and realize the growth potential of the South Livermore Valley, a number of improvements have previously been proposed for local roadways in the Specific Plan area. These

improvements have been proposed by the City, in conjunction with county and state agencies, and are described in the City's General Plan Circulation Element. These improvements, which were planned prior to the preparation of this Specific Plan, will provide the necessary framework to support the development proposed in this South Livermore Valley Specific Plan. The City's proposed Year 2010 roadway network is shown in Figure 5.2. Details of these future roadway projects are described below.

5.3.1 ISABEL AVENUE EXTENSION

As part of the Measure B State Route 84 realignment project, the City of Livermore, in conjunction with the Alameda County Transportation Authority (ACTA), proposes to improve and extend Isabel Avenue north from Stanley Boulevard to Jack London Boulevard, and south from East Vineyard Avenue to Vallecitos Road, and make associated operational improvements at the I-580/Airway Boulevard Interchange. The Isabel Extension Project will provide an underpass at Stanley Boulevard and two at-grade intersections at Concannon Boulevard and Jack London Boulevard. By re-directing regional commute traffic off the First Street/Holmes Street corridor through the center of town, the proposed improvement will improve local traffic circulation and access in the western part of Livermore; improve traffic operations and safety; and support local circulation plans. In addition, it is anticipated that this extension will provide a new and more convenient regional access to the South Livermore Valley from I-580. The County and the cities of Livermore and Pleasanton have identified the improved Isabel Avenue corridor as one of three "wine region corridors" that will provide regional access to the South Livermore Valley.

The initial phase for realigning State Route 84 to Isabel Avenue will consist of constructing a two-lane roadway within a six-lane right-of-way, with the ultimate improvement providing six travel lanes throughout the proposed corridor. The Isabel Avenue Extension is currently under design, and construction of the first phase is expected to be completed in the year 2000. Although the ultimate improvement is planned for year 2010, the prospect of its completion by this date will depend largely on the extent of development within the Livermore Valley and the availability of funding.

5.3.2 CONCANNON BOULEVARD EXTENSION

The City proposes to extend Concannon Boulevard easterly to create an additional east-west connector in southern Livermore. The proposed improvements will extend Concannon Boulevard easterly from its current terminus near Normandy Way (and Subarea #3) to South Livermore Avenue. The extension will provide improved east-west circulation in the southern part of the City. It is anticipated that a through connection between Holmes Street and South Livermore Avenue/Tesla Road will improve the flow of commute traffic between SR84 and the Lawrence Livermore and Sandia National Laboratories. Due to the absence of a direct connection, this traffic currently filters through local streets, including Specific Plan area streets such as Wetmore Road, Arroyo Road, Marina Avenue, and Wenté Street.

It is anticipated that construction of the easterly extension of Concannon Boulevard will begin with the development of Subarea #3. The General Plan indicates that preservation of the rural quality of the City's designated vineyard lands shall be the overriding consideration in the design of the easterly extension, and that a two-lane rural design standard shall be maintained, with separate left-turn lanes to facilitate access to Subarea #3 and Wenté Street.

The alignment for the Concannon Boulevard extension is illustrated in Figure 5.3. The alignment of the proposed roadway will extend east from the Tapestry subdivision, through the northwest corner of the Norman property and then skirt along the southern boundary of Subarea #3. The alignment of Concannon will then turn northward in a sweeping curve to follow the existing Wenté Street corridor for approximately 1,800 feet. Just north of the Arroyo Mocho, the alignment curves to the northeast in order to create a 90-degree, "T" intersection with South Livermore Avenue, replacing the existing oblique intersection of Wenté Street with South Livermore Avenue. The new intersection would be located approximately 150-200 feet southeast of the existing intersection. At the intersection with South Livermore Avenue, Concannon Boulevard would have a left-turn and right-turn lane in the northbound direction, and a through lane and



Not to Scale

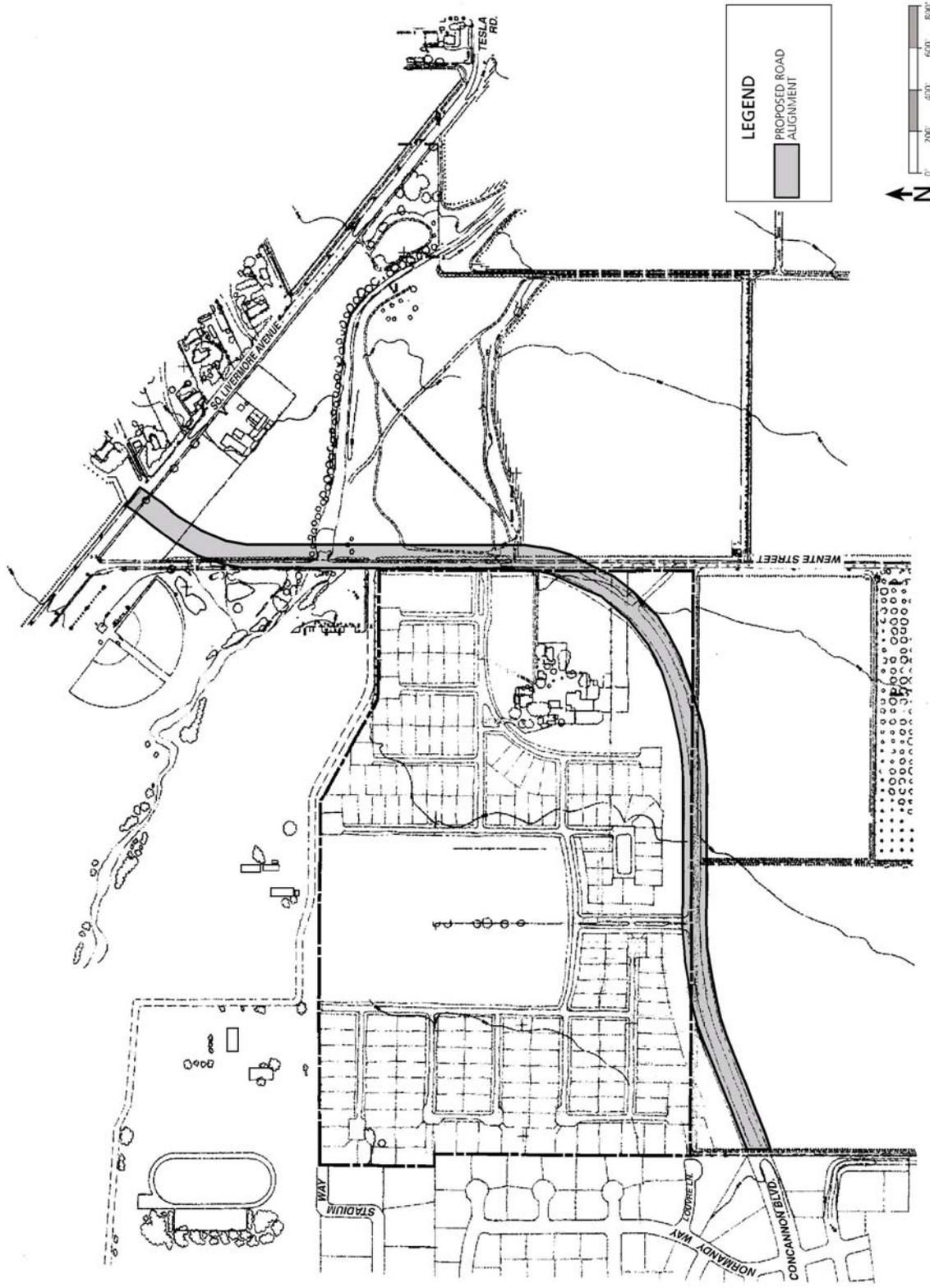


Figure 5.3
CONCANNON BOULEVARD EXTENSION

South Livermore Valley Specific Plan
Wallace Roberts & Todd

acceleration lane in the southbound direction. The intersection would be stop sign controlled for northbound traffic on Concannon Boulevard. Wente Street south of Concannon would be re-aligned to form a 90-degree, "T" intersection with the extension.

The General Plan calls for a 100-foot right-of-way for Concannon Boulevard. The proposed extension will require acquisition of approximately 9.5 acres of right-of-way. The two-lane roadway will have a 44-foot wide paved cross-section, and will require approximately 5,050 linear feet of new roadway, plus additional widening at key intersections to accommodate right-turn lanes. The roadway extension will also require a new bridge over the Arroyo Mocho solve existing flooding problems.

Traffic modeling indicates that the Tesla/South Livermore/Concannon route will carry primarily east-west traffic across town, particularly between Highway 84 and points west to the Labs and points east. In 2010, with buildout of the Specific Plan, approximately 11-13% of traffic is projected to use the Wente Street/South Livermore Avenue connection to move to and from the center of town, with the rest of the traffic moving east-west. During the AM peak hour, 84% of the traffic on Wente Street (468 vehicles) and 81% of the traffic on South Livermore (176 vehicles) is projected to move to the east (i.e., toward Tesla). In the PM peak, the pattern reverses, with the predominant travel direction being east to west. Level of service analysis of the Concannon/South Livermore intersection shows the intersection operating at LOS C during the AM and PM peak hours at year 2010 with buildout of the project.

5.3.3 NORTH MINES ROAD OVERPASS

The North Mines Road overpass project will be complete in early 1998. The North Mines Road overpass will bridge the gap between North Mines Road north of the Union Pacific Railroad (UPRR) tracks and North Mines Road south of the tracks.

5.3.4 VALLECITOS ROAD/EAST VINEYARD AVENUE INTERSECTION RELOCATION

The City is planning to make operational improvements to the intersection of Vallecitos Road (SR 84) and East Vineyard Avenue. The proposed improvements include relocating the existing intersection approximately 300 feet to the south and widening the roadway to provide left-turn bays on Vallecitos Road. The re-located intersection will also become the main access to Specific Plan Subarea #7. The design for the relocated intersection is currently being prepared, and the City has tentatively scheduled the actual realignment of East Vineyard Avenue and the relocation of the intersection for sometime between 1998-2003, although it is currently not funded. Development in Subarea #7 will require additional improvements at the intersection.

5.4 SPECIFIC PLAN CIRCULATION

5.4.1 CIRCULATION CONCEPT

A Rural Road System

GOAL: Develop a circulation system that accommodates proposed development while preserving and enhancing the rural agricultural character of the South Livermore Valley.

An over-arching concept that guides all aspects of the Specific Plan is the desire to maintain a rural, agricultural character in the South Livermore Valley. This includes the development of a circulation system to serve the Specific Plan development and the rest of the South Valley. The South Livermore Valley is currently served by a system of predominantly two-lane, rural roadways. It is the intent of the Specific Plan to maintain the existing rural street system and street standards as much as possible, rather than upgrading existing streets to urban standards.

The objective is to safely accommodate increased traffic related to additional development in the South Livermore Valley, without creating a system that encourages higher traffic volumes and speeds due to improved roadway standards. The circulation system is designed with the idea that the South Livermore Valley is a destination, not a circulation corridor leading to somewhere else. The goal is to maintain

modest roadways with low traffic volumes and leisurely traffic speeds that allow travelers to enjoy the scenic, rural setting of the South Livermore Valley.

- Policy 5-1: Use the existing and planned road system to provide access to the Specific Plan development areas, and minimize the extensive development of new roads outside the development areas.*
- Policy 5-2: Circulation improvements that will unnecessarily accommodate increased traffic volumes and speeds (e.g., excessively wide cross-sections) are discouraged.*
- Policy 5-3: Design Specific Plan streets to safely accommodate normal day-to-day traffic needs, rather than over-designing streets to meet worst-case scenarios.*

The Wine Trail

The circulation system in the South Livermore Valley has a dual function. In addition to providing for access to existing and proposed residential development in the South Valley, the larger circulation system is also intended to provide for increased tourist traffic as the region's reputation as a premium wine-producing area and visitor destination continue to grow. From a regional perspective, vehicular access to the South Livermore Valley will be provided by four primary "wine region corridors": Greenville Road, the Isabel Avenue extension, East Vineyard Avenue, and Vallecitos Road. These "wine region corridors" will connect to South Livermore Valley "Wine Trail", an east-west corridor through the area, providing access to key wineries, vineyards and other destinations in the South Valley.

The Wine Trail will consist of a number of existing streets that are aligned through the rural, vineyard lands of the South Valley, including: East Vineyard Avenue, Wetmore Road, Arroyo Road, Marina Avenue, Wenté Street, the Concannon Boulevard Extension, and Tesla Road. To the extent feasible, the Wine Trail will be a rural, two-lane roadway bounded by vineyards, orchards and open space along most of its length. Special consideration will be given to the design of improvements along the roadway to preserve and enhance its rural, wine country character, including a coordinated signage system to identify wineries and other points of interest.

- Policy 5-4: The City, in cooperation with Alameda County, shall designate the East Vineyard Avenue/Wetmore Road/Arroyo Road/Marina Avenue/Wenté Street/Concannon Boulevard/Tesla Road corridor as the official South Livermore Valley Wine Trail, and by this action identify the importance of this corridor to preserving and enhancing the rural character of the South Livermore Valley.*
- Policy 5-5: To the extent feasible, the roadways that comprise the South Livermore Valley Wine Trail shall be maintained as rural, two-lane roadways.*
- Policy 5-6: The City shall work with the South Livermore Valley Vintners Association and Alameda County to develop a coordinated signage system for the South Livermore Valley Wine Trail and other area roadways.*
- Policy 5-7: The City shall designate as scenic corridors those sections of the Wine Trail that are not currently so designated. Specifically, Wetmore Road, Marina Avenue, Wenté Street and the Concannon Boulevard extension should be designated as scenic corridors.*

Roadway Character

The physical character of the circulation system and the design of the individual roadways are considered to be critical elements in establishing and maintaining a rural ambiance for the South Valley, and establishing a high quality of life for new residents and visitors. Therefore, in addition to being addressed in this Circulation Element, the design guidelines and development standards for planning area streets are also discussed in the Community Design Element (Chapter 9) where they can be understood in context with the other community design principles.

The Specific Plan emphasizes the creation of pedestrian-friendly, rural residential neighborhoods. Thus, many of the design guidelines and standards that have been developed for the area's roadways are based on aesthetic criteria that relate to reducing the visual prominence of the automobile in the residential landscape and improving the aesthetic character of area roadways. Many of these guidelines, however, also help define the desired functional character for the circulation system. From a functional standpoint, the circulation plan attempts to achieve two objectives: maintain low traffic volumes on local residential streets and reduce travel speeds on planning area streets.

The volume of traffic in the planning area is obviously a function of the number of units, and the total volume cannot be significantly reduced except by eliminating development. However, the circulation system embodies a number of principles that will help to reduce traffic volumes in sensitive residential areas, including:

- the creation of an extensive off-road trail system that accommodates pedestrian, bicycle and equestrian travel and provides an alternative to the automobile;
- the creation of smaller neighborhood units and shorter residential blocks to reduce the number of cars associated with any one street;
- the creation of an interconnected street system that distributes traffic volumes over many streets rather than concentrating it on a few, and avoids the unnecessary flow of traffic through residential neighborhoods; and,
- restrictions on the number of residences that front on the few true collector streets in the planning area.

In an effort to reduce traffic speeds, and thus improve pedestrian safety and reduce traffic noise, the circulation system incorporates a number of design principles, including:

- the creation of narrower street cross-sections;
- the planting of street trees on both sides of roadways;
- the use of short residential blocks to avoid excessive build ups in speed; and,
- the introduction of traffic-calming devices such as islands, off-sets, and divided roadways, into the design of area roadways (Speed "humps" are also an acceptable device, but it is preferable that streets be designed so they are not needed).

Refer to the Community Design Element (Chapter 9) for additional discussion of street standards and guidelines for implementing these principles.

5.4.2 LEVEL OF SERVICE STANDARDS

The operation of streets and intersections is evaluated in terms of their "Level of Service" (LOS). Level of service is a qualitative measure of the effect of traffic characteristics such as volume, speed, travel time, interruptions, freedom to maneuver, driver comfort and convenience, and indirectly, safety and operating costs. Level of service is denoted as ranging from LOS A (free flow conditions with little delay) to LOS F (breakdown conditions with extreme congestion and long delays). Generally, service levels A through D are considered acceptable with little to moderate driver delay and inconvenience. Service levels E and F, reflecting near or over-capacity conditions, are generally considered unacceptable.

Level of Service D is often used as the standard for the lowest acceptable service level for intersections and roadways for the peak congestion periods of the day. The City's General Plan policy relating to Level of Service is repeated here as a Specific Plan policy for reference.

Policy 5-8: The Level of Service (LOS) at major planning area intersections shall not exceed a peak-hour volume-to-capacity (v/c) ratio of 0.85 (i.e., mid-LOS D) for 2 hours or more per average day.

5.4.3 STREET CLASSIFICATIONS AND DESIGN STANDARDS

The South Livermore Valley Specific Plan includes eight roadway categories (excluding existing rural roads providing access to the subareas). The design standards for these roadways have been specifically formulated for the Specific Plan, and are only intended for use in the seven Specific Plan subareas. Because planning area streets play a critical role in establishing the design character of the overall development, a supplemental discussion of street design standards, circulation site planning issues, and streetscape improvements (e.g., landscaping, lighting, signage, etc.) is included in the Community Design Element (Chapter 9). The following discussion describes the design standards associated with each of the street classifications.

Rural Entry Road (Divided)

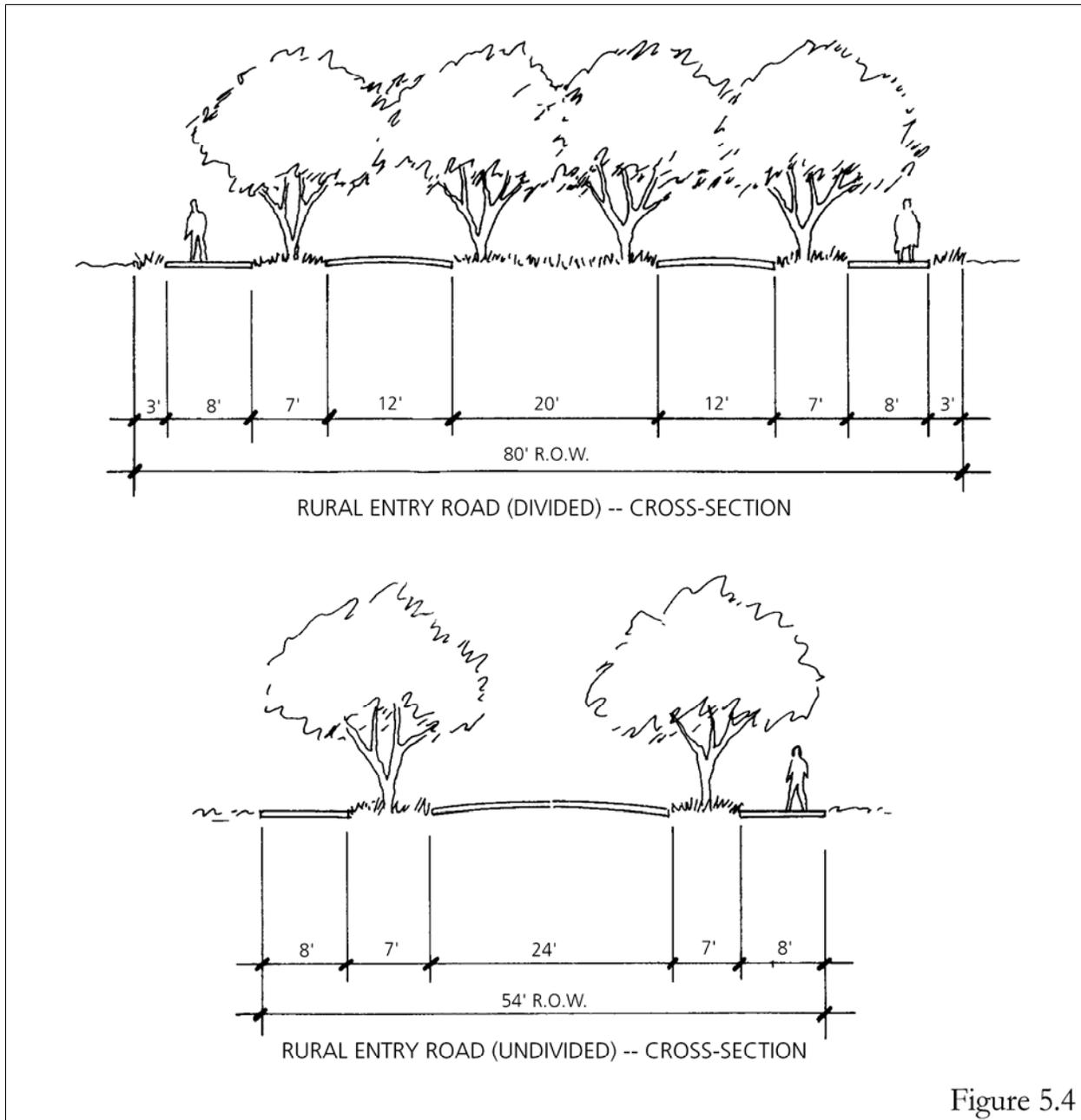
Rural entry roads are the gateways into subarea development sites. Divided rural entry roads are required at the primary entrance to each subarea except Subareas 6 and 7. All divided entry roads must pass through vineyards or orchards before entering the development area, and shall be divided for a minimum distance of 200 feet from the main entry intersection. A typical street-section for divided rural entry roads (see Figure 5.4) consists of an 80-foot minimum right-of-way, one 12-foot paved travel lane in each direction and a 20-foot wide landscaped median (Medians can be narrower at the intersection with external roadways in order to accommodate turn lanes and to ensure alignment with lane configuration of streets on the opposite side of the intersection). The outside edges of the roadway include 18 feet for landscaping, public utilities and a 8-foot pathway separated from the roadway. Street right-of-way and street cross-sections can flare near the main entrance intersection to accommodate turn lanes/bays as necessary. In order to retain the rural character of the street, no curbs or gutters shall be provided. No fronting homes are permitted along entry roads.

Rural Entry Road (Undivided)

Undivided rural entry roads are intended for secondary entries to subarea development sites or areas where right-of-way constraints exist, and generally pass through vineyards or orchards. A typical street-section for undivided rural entry roads, (see Figure 5.4) consists of a 54-foot minimum right-of-way with one 12-foot paved travel lane in each direction. The 15 feet of right-of-way along the outside edges of the roadway include 7 feet for landscaping and public utilities and 8 feet for a pedestrian/bicycle path separated from the roadway. Street right-of-way and street cross-sections can flare near the main entrance intersection to accommodate turn lanes/bays as necessary. In order to retain the rural character of the street, no curbs or gutters shall be provided. No fronting homes are permitted along entry roads.

Rural Collector Street

Rural collector streets are higher volume streets that are intended to collect vehicles from residential streets within a subarea and distribute them to subarea entries and adjoining County roads. Although a minimum number residences can front on collector streets, in no case should collectors be double-loaded. A typical street-section for rural collector streets (see Figure 5.5) consists of an 82-foot minimum right-of-way, with one 12-foot paved travel lane in each direction. The 29 feet along the outside edges of the roadway include a 15-foot landscape strip, a 10-foot pedestrian/bicycle path, and an additional 4-foot landscape/utilities area. In order to retain the rural character of the street, no curbs or gutters shall be provided. Residential lots should not back onto or place driveways directly onto collector streets. It is preferred that residential lots side onto collector streets or use frontage roads for access.



Rural Residential Street

Rural residential streets are local streets that provide direct access to individual homes and access drives. These streets are designed to discourage through traffic and promote low speeds. A typical street-section consists of a 50-foot minimum right-of-way, with one 10-foot travel lane in each direction (see Figure 5.5). The remaining 30 feet of right-of-way can be asymmetrically distributed on either side of the street, with a minimum of 12 feet on one side. At a minimum, the area outside the roadway will include 8 feet for a parking bay, and 4 feet for a landscape strip. An 8-foot wide public utility easement with a 5-foot pathway is located adjacent to the outside edges of the right-of-way. To maintain the rural character of the roadways, curbs and gutters are generally discouraged. However, low curbs shall be permitted on up to 50% of all streets within a subarea.

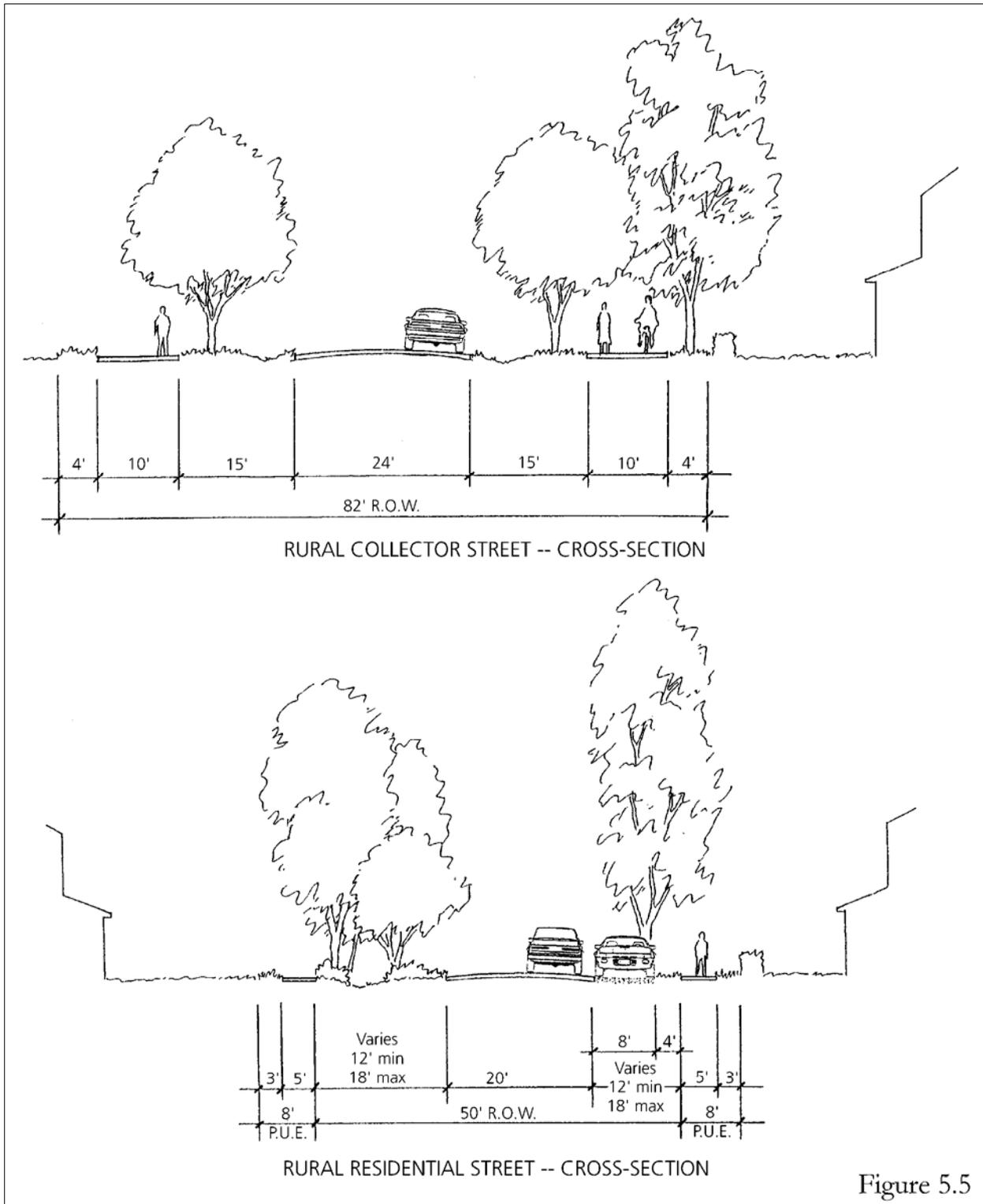


Figure 5.5

Farm Compound Access Drive

Farm compound access drives are narrow streets that serve as shared driveways to small clusters of residential homes or farms surrounded by agriculture. A typical street-section (see Figure 5.6) consists of a 40-foot minimum right-of-way, with one 9-foot travel lane in each direction, and 4-foot compacted aggregate base shoulders on either side. A 4-foot wide pedestrian pathway is provided on one side of the access drive separated from the roadway by a 4-foot wide planting strip. The other side of the drive contains a 6-foot wide planting strip without a pathway. No curbs and gutters and no on-street parking shall be permitted.

Farm Compound Court

Farm Compound Courts are similar to cul-de-sacs in that they provide direct access to small clusters of residential homes or farms, but do not provide for through traffic. Access to the Farm Compound Courts is provided by the Farm Compound Access Drives (see above). Unlike a typical cul-de-sac, the center portion of the court is maintained as a landscaped island that incorporates parking bays for guest parking. A typical street-section (see Figure 5.7) consists of a 100-foot minimum right-of-way with an oval court containing a two-way 18-foot wide paved street on the long sides of the oval, and 24 foot wide paving on the short sides. The unpaved outside edges of the court are 7 feet wide containing a 2-foot wide compacted aggregate base shoulder and 5-foot wide landscaped public utility easement. Curbs and gutters are not required.

Residential Court

Residential Courts are also similar to cul-de-sacs in that they provide direct access to clusters of residential homes, but do not provide for through traffic. Access to Residential Courts is provided by rural residential streets (see above). A typical cross-section (see Figure 5.8) consists of an 80-foot minimum right-of-way, with a "T" shaped (or "hammer-head" shaped) paved turn-around area that also provides access to shared driveways. The court contains 45-foot radius semi-circular gravel/landscaped areas which can be used for parking or as a turn-around for larger vehicles.

Alley

Alleys provide direct access to the rear of residential units with rear-entry garages or outbuildings. Alleys are through streets which also provide access for emergency vehicles and other public service vehicles such as garbage collection. A typical street-section (see Figure 5.8) consists of a 20-foot minimum right-of-way, with a 16-foot wide two-way paved street. A 2-foot wide shoulder separates the roadway from property line fences. Parking is prohibited along alleys.

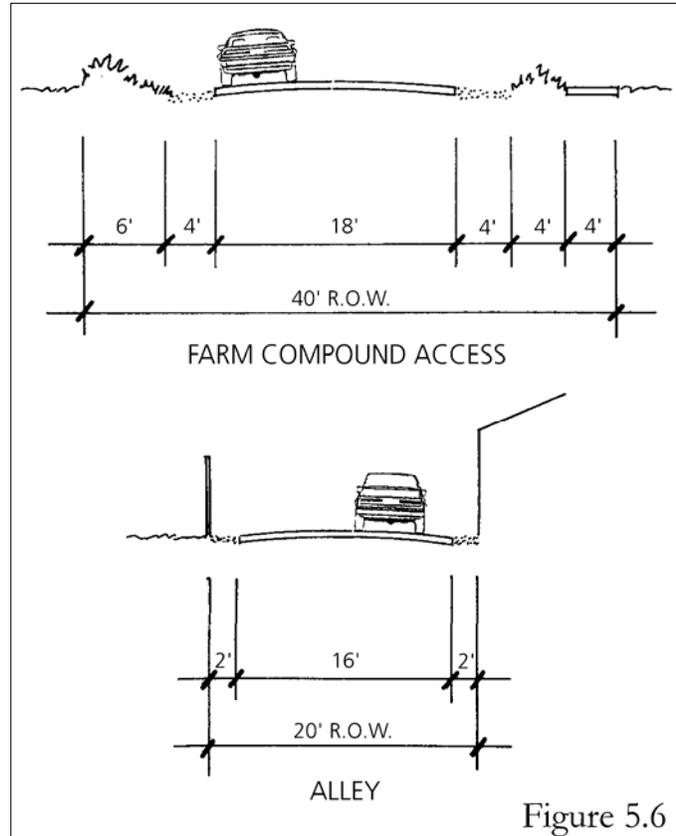
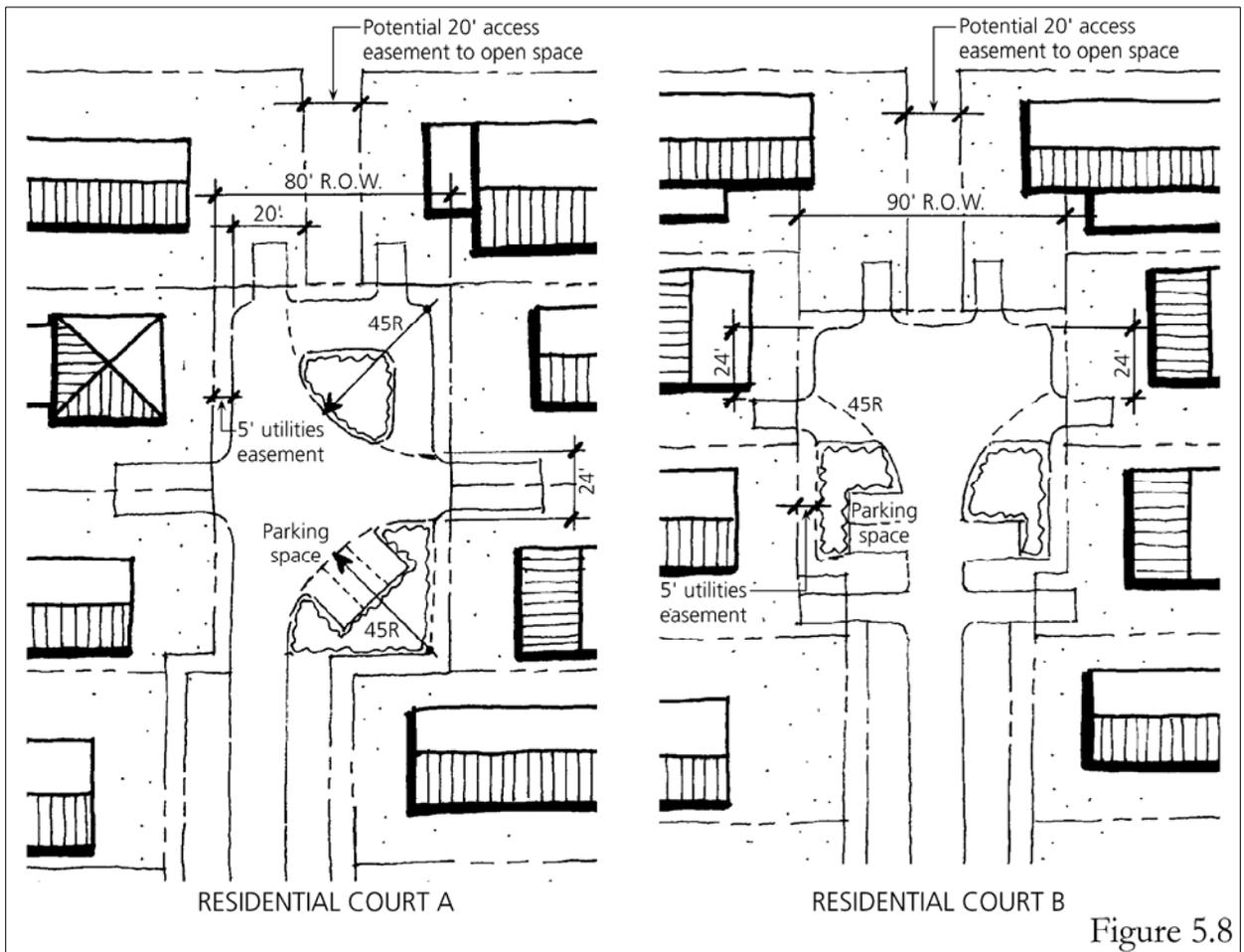
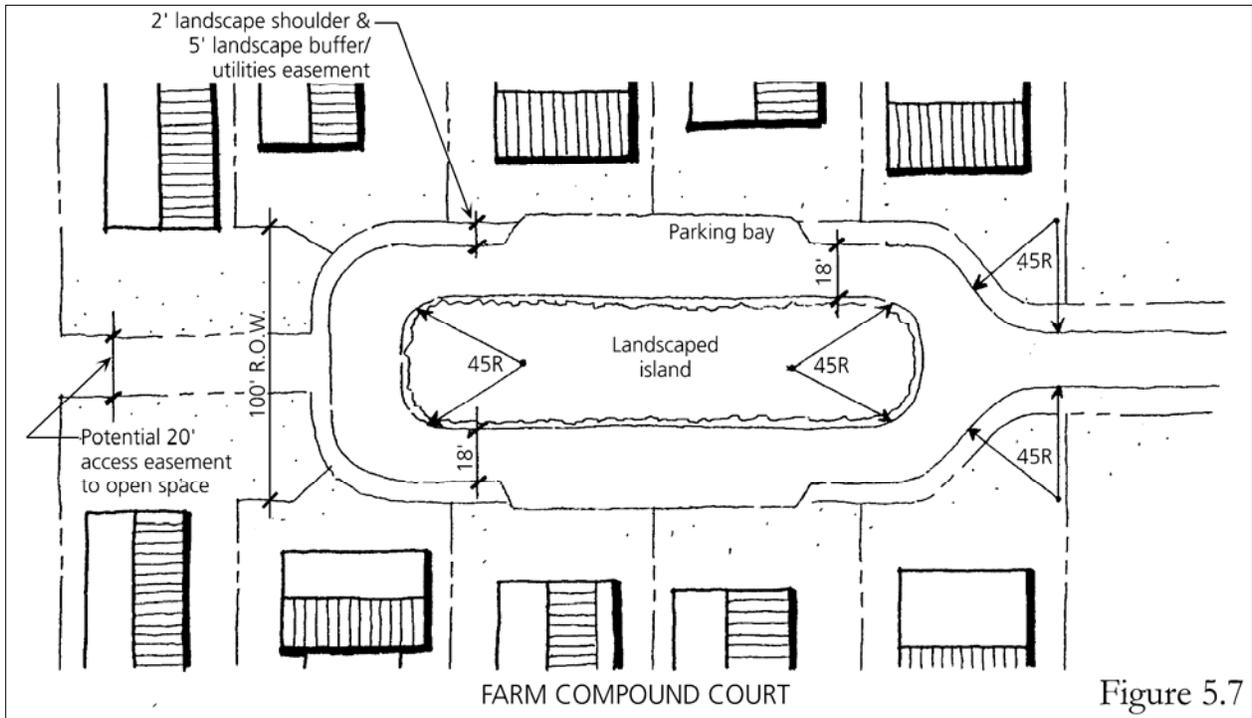


Figure 5.6



5.4.4 SUBAREA ACCESS AND CIRCULATION

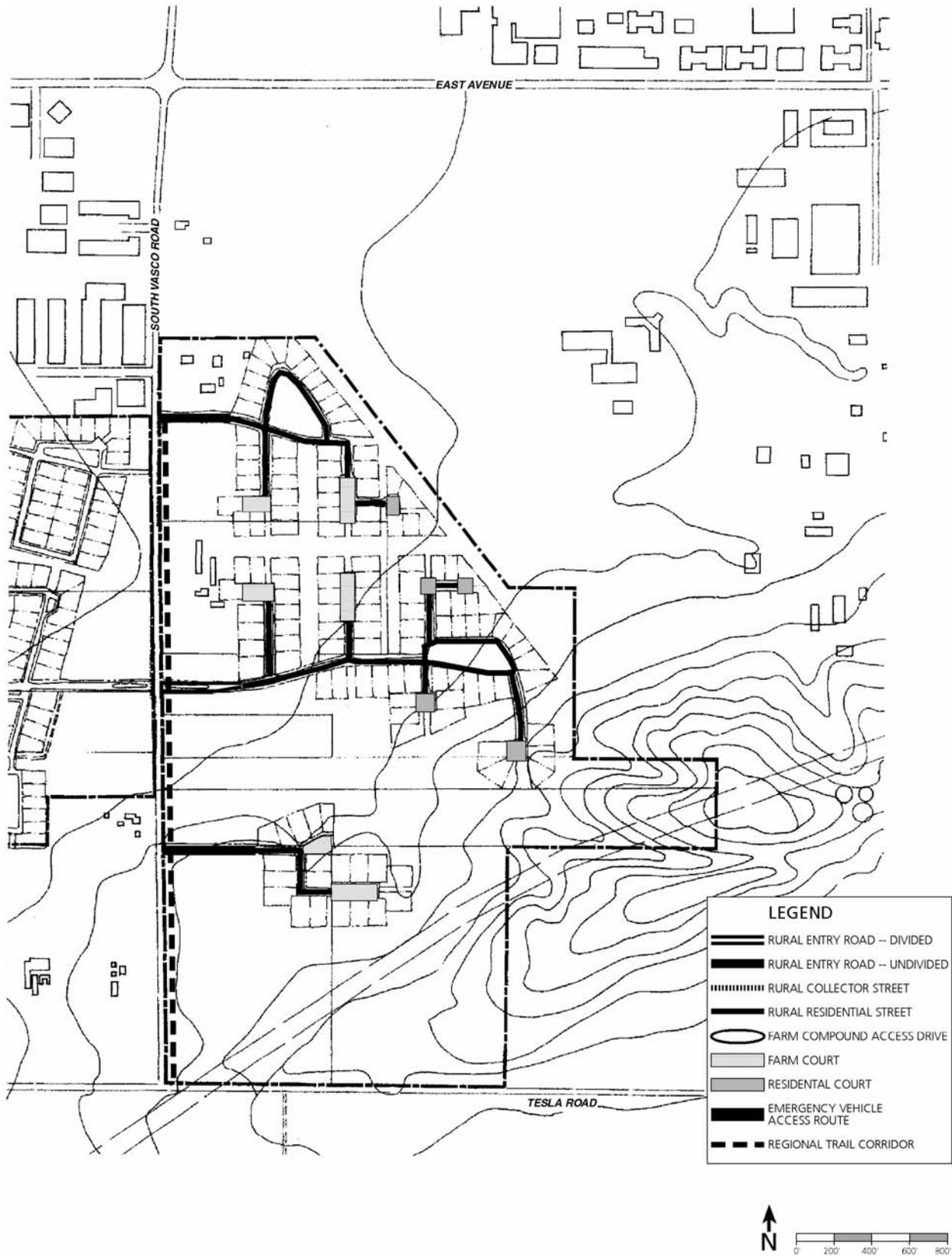
Each of the seven subareas will take access from existing or planned roads. This section describes the key access and internal circulation associated with each subarea. Preceding the subarea by subarea discussion are a number of general policies that relate to the circulation systems in all of the subareas.

- Policy 5-9: Developers in all subareas shall coordinate and cooperate in the design and implementation of the subarea street systems since some properties will be dependent upon circulation improvements on other properties to obtain access to their own parcels. A model development agreement shall be prepared prior to annexation which commits all participating landowners to dedicate road rights-of-way as needed to accommodate Specific Plan development.*
- Policy 5-10: Access to commercial areas generally shall be kept separate from access roads to residential areas. Access to commercial sites shall take access directly from roadways external to the subareas, except in subarea #5 where sites 5D1 and 5D2 will take access from the main east-west spine road.*
- Policy 5-11: All road rights-of-way and street improvements within the subareas will be dedicated to the City of Livermore as public streets.*
- Policy 5-12: In order to accommodate the difference in street standards, and to emphasize the connection of the Specific Plan development to the rural countryside, subarea streets generally connect to existing rural County roads, rather than connecting into existing suburban street systems.*
- Policy 5-13: Each residential development shall ensure that there is safe pedestrian and bicycle route between the development and the schools that serve the area.*

Subarea #1

As shown in Figure 5.9, Subarea #1 will take access from South Vasco Road at three locations. The northernmost roadway will be located opposite and just south of Shaheen Industrial Park. The roadway will be a divided entry drive. The middle roadway will be located opposite the primary Subarea #2 collector, forming a four-way intersection with South Vasco Road. It will also be designed as a divided entry road. The southernmost entry will be located at the location of the existing driveway to Parcel 1E. It will be designed as an undivided entry road. An emergency vehicular access (EVA) route will connect the northern and middle residential development areas of Subarea #1 to provide adequate fire department access. No EVA is proposed for the southern development area.

- Policy 5-14: Developers for Subareas #1 and #2 (particularly of Parcel 1C and 2C) shall coordinate the design of their entry roads to ensure a safe and consistent alignment with each other and with South Vasco Road. South Vasco Road will be widened at the four-way intersection with the entries to Subareas #1 and #2 to provide for left-turn lanes and right-turn/deceleration lanes into the subareas.*
- Policy 5-15: To ensure safe traffic movements, a minimum off-set of 300 feet shall be maintained between the northernmost entrances into Subareas #1 and #2.*
- Policy 5-16: An emergency vehicle access (EVA) route shall be constructed between the northern and middle development areas in Subarea #1. Subarea developers shall coordinate with the Livermore-Pleasanton Fire Department to ensure that EVA design is in conformance with Department standards.*



Subarea #2

As shown in Figure 5.10, access to the residential areas in Subarea #2 will be provided from one location on East Avenue and two locations on South Vasco Road. The access to the subarea from East Avenue will be located opposite the existing Charlotte Way, forming a four-way intersection with East Avenue. A westbound left-turn lane and an eastbound right-turn deceleration lane will be provided on East Avenue. The entrance from East Avenue will be designed to divided entry road standards, and to align with Charlotte Way. A collector road aligned through the center of the subarea will connect the East Avenue entrance to the southernmost South Vasco Road entrance (and the middle entrance to Subarea #1). The majority of the subarea traffic will use this central collector, and, in turn, either the East Avenue entrance or the southern Vasco Road entrance. The southernmost entrance to Subarea #2 from South Vasco Road is discussed above (see Policy 5-14 above regarding coordination of improvements). The southern entrance from South Vasco Road will be designed to divided entry road standards.

The northernmost access to Subarea #2 from South Vasco Road will be located 300-400 feet south of Shaheen Industrial Park. This northern access point on South Vasco Road will connect to a secondary internal collector street. The northern entrance road will be designed to undivided entry road standards(see Policy 5-15 above regarding location of entrance road).

As shown in Figure 5.10, access to the two commercial sites will be from the adjacent public roadways (East Avenue and Tesla Road respectively), and not from the residential development area roadways. The access to both commercial sites will be along the alignment of their existing entry drives. Due to a median proposed along the portion of East Avenue fronting commercial site 2A1, the access to the commercial site will be restricted to "right-in, right-out" turning movements only (i.e., a left-turn pocket is not proposed in the median to accommodate access to the commercial site from west-bound traffic on East Avenue).

Policy 5-17: A TIF- funded median will be constructed in East Avenue from Loyola Way to Mines Road to reduce traffic volumes on Buena Vista Avenue. The construction of this section of median will be coordinated with the construction of the median in East Avenue that will extend east from Mines Road along the frontage of Subarea #2.

Policy 5-18: City staff shall work cooperatively with the County of Alameda to investigate feasible traffic calming measures that could be implemented on Buena Vista Avenue, including their phasing. Neighborhood support for the converting Buena Vista to a cul-de-sac will also be assessed.

Subarea #3

As shown in Figure 5.11, access to Subarea #3 will be provided from one location on the Concannon Boulevard extension and one location on Wentle Street. No direct vehicular connections are proposed from either Robertson Park Way or the adjacent residential area to the west. Development of Subarea #3 will be contingent on the construction of the Concannon Boulevard extension from its current terminus near the southwest corner of Subarea #3 to South Livermore Avenue (refer to section 5.3.2, "Roadway Improvements" for discussion of proposed improvements to Concannon Boulevard).

The southern access from Concannon Boulevard is designed to be the primary entrance to the subarea. The majority of the subarea's traffic will use this entrance, including traffic associated with the elementary school. The site plan for the subarea has been designed to minimize school-generated traffic impacts on the surrounding residential development. The Plan assumes that primary vehicular access to the school will be located along the southern boundary of the school site so that school traffic can move to and from the school along the southern access drive without having to travel through the residential neighborhoods. This southern access will be designed to divided entry road standards.

The eastern access to the subarea will be located on Wentle Street approximately 500 feet south of Robertson Park Way. As a secondary access, the road will be designed to undivided entry road standards. Access to the Caldera parcel commercial site will be from the new intersection of Wentle Street with the Concannon Boulevard extension (see illustration of preferred entry alignment in Chapter 12, Section 12.2.3).



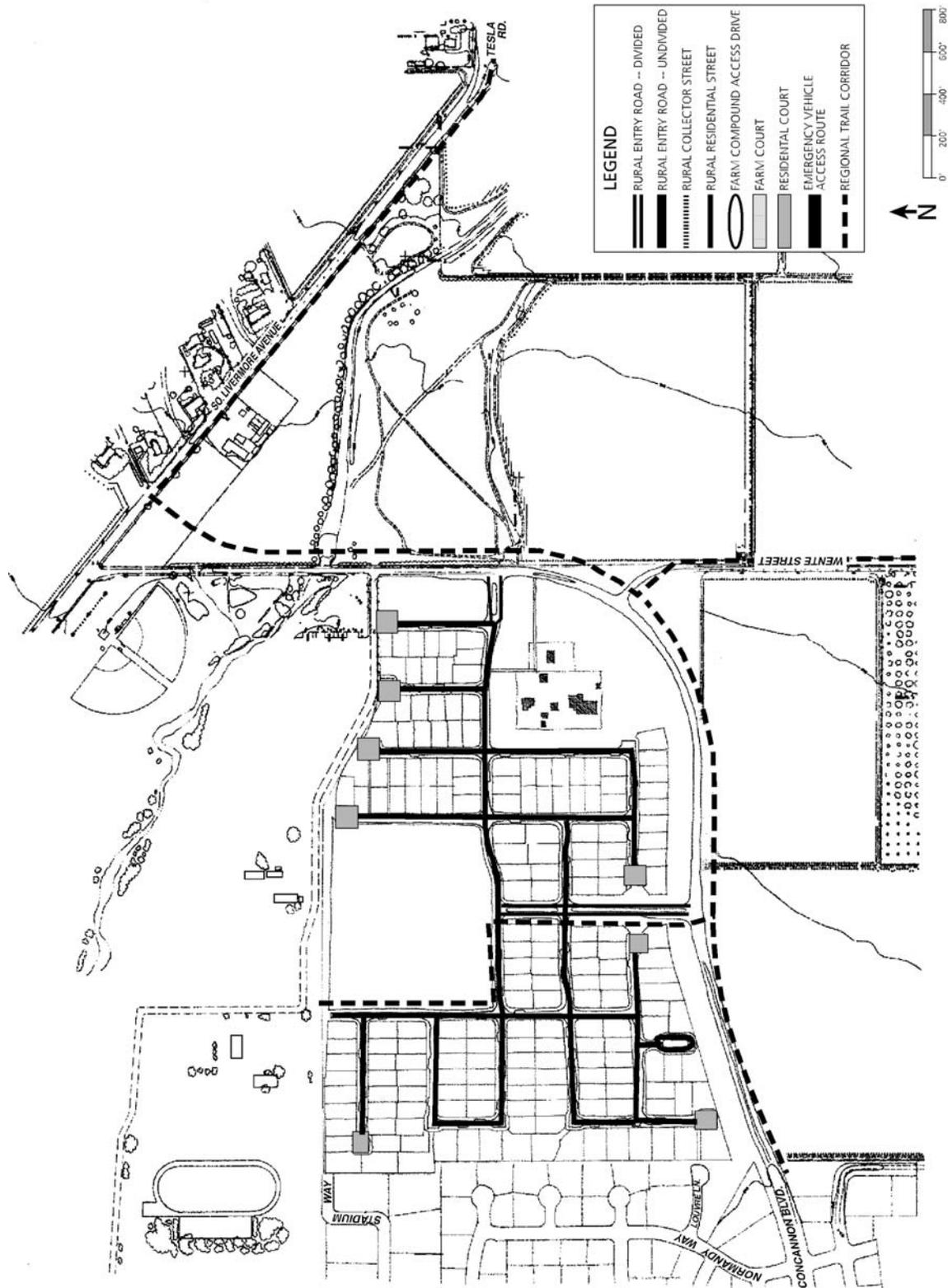


Figure 5.11
CIRCULATION -- SUBAREA #3

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Access to the commercial site proposed at the southwest corner of Concannon Boulevard and Wentte Street can be from either or both streets.

- Policy 5-19: Concannon Boulevard shall be extended eastward from its current terminus to connect with South Livermore Avenue prior to occupation of any residences in Subarea #3 or the opening of the elementary school. The extension and all associated improvements will be built at one time.*
- Policy 5-20: In order to minimize traffic impacts on surrounding residential neighborhoods, the primary vehicular ingress and egress to the elementary school site shall be located along the southern boundary of the school site.*
- Policy 5-21: Prior to operation of the elementary school, a study shall be conducted to assess the need for a traffic signal on Concannon Boulevard at the southern access to Subarea #3.*
- Policy 5-22: Left-turn lanes and right-turn/deceleration lanes shall be provided on Concannon Boulevard at the two entrances to Subarea #3, and at the Wentte Street intersection.*
- Policy 5-23: A pedestrian/bicycle-only access will be provided to Subarea #3 from Louvre Lane on the west and from Robertson Park Road on the north.*

Subarea #4

As shown in Figure 5.12, access to residential development in Subarea #4 will be provided from two locations on Arroyo Road: one opposite the entrance to Ravenswood Park and one at Hansen Road. Given its alignment with the divided entry drive to Ravenswood Park, the northern residential access road will be designed to divided entry road standards. The southern access road, which follows the alignment of the existing Hansen Road, should be designed to divided entry road standards, at least near Arroyo Road, to provide appropriate alignment with proposed access road to Subarea #5 directly opposite Hansen Road. An emergency vehicle access road will be provided between the northern and southern residential development areas to provide adequate emergency vehicle access.

If feasible, all four commercial sites will take direct access from Arroyo Road. Due to topographic and intersection alignment (i.e., Arroyo/Wetmore) constraints, the proposed winery on Parcel 4C may not be able to take access directly from Arroyo Road. If not feasible, access to the commercial site on 4C may be taken from Hansen Road. The two commercial sites near the center of the subarea should consider shared access if both sites develop. Access to the northernmost commercial site will be from the existing driveway into the residence and barn in Parcel 4A.

- Policy 5-24: Vehicular access from Arroyo Road to Subarea #4 residential areas will be located at the existing Hansen Road and opposite the existing Ravenswood Park entry drive.*
- Policy 5-25: An emergency vehicle access (EVA) route will be constructed between the northern and middle development areas in Subarea #4. Subarea developers will coordinate with the Livermore-Pleasanton Fire Department to ensure that EVA design is in conformance with Department standards.*

Subarea #5

As shown in Figure 5.13, access to Subarea #5 will be provided at three locations -- Arroyo Road opposite Hansen Road, Wetmore Road at the existing access to Parcel 5C, and Vallecitos Road. If needed, a fourth access point has been accommodated along Wetmore Road approximately 1,500 feet west of Arroyo Road (i.e., into Parcel 5D). The Arroyo Road and Wetmore Road access points will be primary entrances to the subarea and will be designed to divided entry road standards. The optional access from Wetmore Road to Parcel 5D may be designed to undivided entry road standards. The Vallecitos Road entrance will actually be an extension of Wetmore Road, and, thus, will be designed to existing Wetmore Road standards.

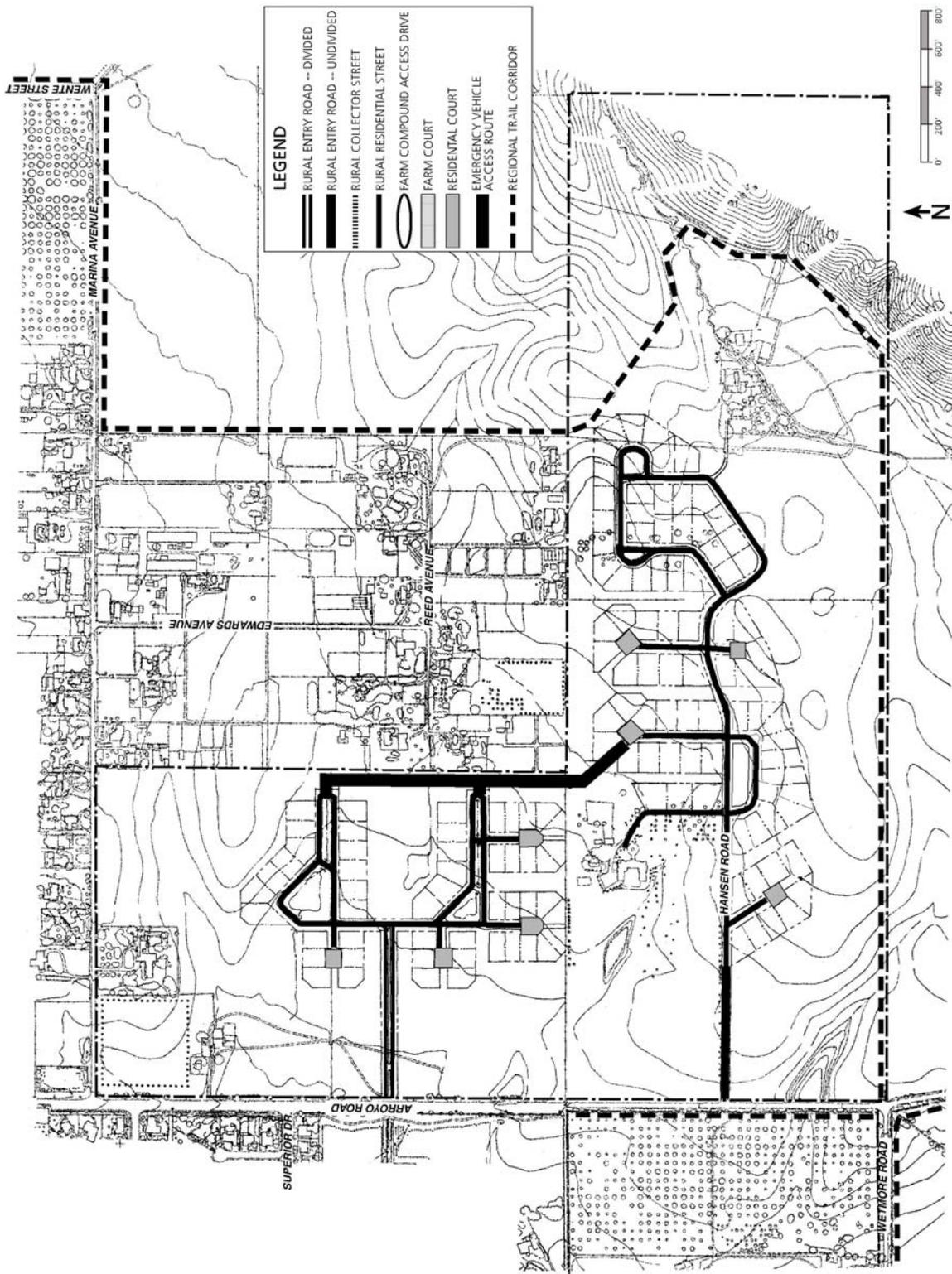


Figure 5.12
CIRCULATION -- SUBAREA #4

South Livermore Valley Specific Plan
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The circulation plan for Subarea #5 requires two related alterations to existing County roadways. In order to improve existing turning movements to and from Vallecitos Road and to improve the entry experience into the Specific Plan area, the connection of Holmes Street to Vallecitos Road will be closed, and Wetmore Road will be extended west to create a new 'T' intersection with Vallecitos Road. This intersection would form a major entry into the Specific Plan area, re-routing existing traffic from the Holmes Street segment and eliminating the difficult Holmes/Vallecitos "Y" intersection that currently exists. The section of Holmes Street right-of-way between Wetmore Road and the new east-west collector street in Subarea #5 will be closed to vehicular traffic, but retained as an open space trail corridor. The section of Holmes Street north of the new east-west collector street will remain to provide access to existing rural residences north of Subarea #5, but the vehicular connection between Holmes Street and Vallecitos Road will be closed to eliminate the existing substandard intersection.

Within Subarea #5, a central east-west spine road will extend from Arroyo Road to Wetmore Road (just before it intersects with Vallecitos Road). This roadway will be designed to collector road standards from the first intersecting residential street west of Arroyo Road to the western property line for Parcel 5C. Westerly of Parcel 5C, the roadway will be designed to residential street standards.

Currently, two existing streets in the subdivision to the north of Subarea #5 (Chatsworth Street and Superior Drive) are stubbed out at the subarea's northern property line. In order to protect both the existing and proposed neighborhoods from the intrusion of traffic from adjacent areas, subarea streets will not be extended to create through connections with these existing streets. Residential courts along the northern edge of the subarea have been designed to accommodate emergency vehicle and pedestrian access easements between Chatsworth Street and Superior Drive and the corresponding subarea streets. If, in the future, the Fire Department determines that emergency vehicle access is not needed at one or both of these connection points, the new development will still provide easements between the two development areas to provide convenient pedestrian and bicycle access.

Vehicular access to commercial sites in Subarea #5 will be from the east-west spine road and Wetmore Road. The two sites fronting on Arroyo Road will take access from a single access point on the east-west spine road. The other three commercial sites will take access directly from Wetmore Road. The access to the winery site on Parcel 5B will need to be coordinated with the access to Sycamore Grove Park to avoid conflicting turning movements.

- Policy 5-26: Vehicular access from Arroyo Road to Subarea #5 residential areas will be located opposite the existing Hansen Road, forming a four-way intersection with Arroyo Road. Developers for Subareas #4 and #5 (particularly of Parcel 4C and 5D) shall coordinate the design of their entry roads to ensure a safe and consistent alignment with each other and with Arroyo Road. Arroyo Road will be widened at the four-way intersection with the entries to Subareas #4 and #5 to provide for left-turn lanes and right-turn/deceleration lanes into the subareas.*
- Policy 5-27: Emergency vehicle access (EVA) to Subarea #5 shall be provided from the adjacent residential area to the north as determined to be necessary by the Livermore/Pleasanton Fire Department. Emergency vehicle-only access will be provided from Chatsworth Street and/or Superior Drive. The developers for Parcel 5C and 5D shall coordinate with the Livermore-Pleasanton Fire Department to ensure that EVA design is in conformance with Department standards.*
- Policy 5-28: The developers for Parcel 5C and 5D shall finish the stubbed ends of Chatsworth Street and Superior Drive with curb and gutter to control drainage, with appropriate traffic control devices to restrict through traffic, and with pedestrian/bicycle improvements to facilitate access.*
- Policy 5-29: The extension of Wetmore Road to Vallecitos Road and the subsequent closure of Holmes Street/Vallecitos Road intersection and the section of Holmes Street south of the new east-west collector street, shall occur prior to development of Parcel 5A. The rest of Subarea #5 may develop without this improvement being implemented.*

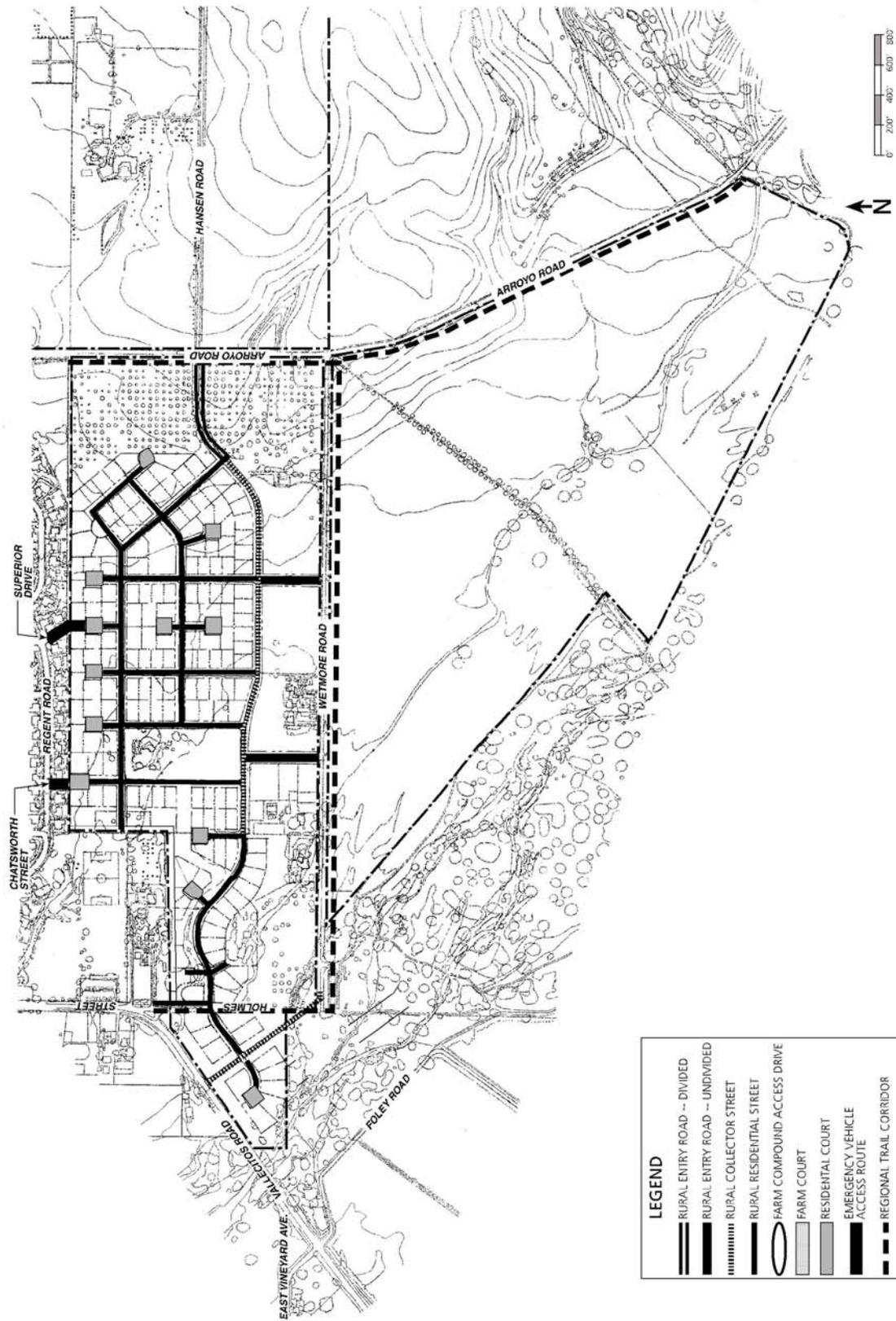


Figure 5.13
CIRCULATION -- SUBAREAS #5 AND #6

South Livermore Valley Specific Plan
Wallace Roberts & Todd

Subarea #6

As discussed in the Land Use Element (Chapter 4), the precise location of the winery site within Subarea #6 is somewhat flexible, depending on the ultimate configuration of vineyards on the site and operational considerations. As shown in Figure 5.13, the Specific Plan recommends location of the winery on the subarea's lower terrace near the clump of sycamores growing in this area, and adjacent to the historic Olivina Ranch Road. The Olivina Ranch Road will be used as the primary public access to the site, but given the historic sensitivity of the Olivina Gate, its size constraints for truck access, and its awkward alignment with the Wetmore Road/Arroyo Road intersection, vehicular access to the Olivina Ranch Road will be provided from a new access point on Wetmore Road, approximately 300 feet west of the Arroyo Road/Wetmore Road intersection. This entry drive from Wetmore Road will connect to the Olivina Ranch Road southwest of the Olivina Gate.

Policy 5-30: In order to protect the historic Olivina Gate and ensure safe access, Subarea #6 shall provide vehicular access to the Olivina Ranch Road entry drive via a new entrance from Wetmore Road at least 300 feet west of the Arroyo Road/Wetmore Road intersection. The access road should align with the entrance of Subarea #5, if possible.

Subarea #7

Vehicular access to the western portion of Subarea #7 will be provided from Vallecitos Road via Foley Road. Access from Vallecitos Road will occur at the planned East Vineyard Avenue/Vallecitos Road intersection, which will be relocated approximately 300 feet south of its current location. Foley Road, a 20-foot wide private roadway, will be extended south to connect to this new intersection. Foley Road is currently paved as far south as the Zone 7 water treatment facility. Vehicular access to the eastern portion of the subarea will be from Arroyo Road.

Access to the commercial site will be provided from an entry drive located near the southern end of the commercial site. Residential uses on the five remaining 20-acre sites will be served by a private road system beginning at the entry road to the commercial site or at the current ranch entrance as described below. The specific location of these roads will be determined by the City prior to subdivision map approval. Development on the six parcels in the eastern portion of the subarea (i.e., the Crohare family compound) will be accessed from Arroyo Road. The roadway will be designed to rural residential road standards. A new bridge (12 foot minimum width and an 80,000 lb. minimum load capacity) will be required across the Arroyo del Valle prior to any residential or commercial development on the family compound.

Access to the two 20-acre parcels on the lower terrace of Subarea #7 will be provided from Vallecitos Road via Foley Road and the current ranch entrance. It is worthy of note, that, as a separate action from the Specific Plan, LARPD is planning a new main access and parking area for Sycamore Grove Park on the south side of Arroyo del Valle. The park access will be the same as for the 20-acre parcels. The existing unpaved road on the northern edge of the subarea will be maintained for use by LARPD; this road will also be used as an interim access route to the Family Compound until the bridge across Arroyo del Valle is complete or November 17, 2003, whichever comes first.

Policy 5-31: Developers of the 120 acres in the western portion of Subarea #7 shall demonstrate to the satisfaction of the Community Development Director that they have acquired private access rights in Foley Road from neighboring properties to adequately serve the permitted commercial and residential uses prior to Final Map approval for creation of any new parcel or site plan approval of any commercial use. As an alternative, developers of the 120 acres may acquire and dedicate the Foley Road right-of-way.

Policy 5-32: At the time of commercial development or prior to approval the first Final Map subdividing the 120 acres in the western portion of Subarea #7, the developer shall widen Foley Road to a paved width of 20 feet from the point where the road must be realigned (near Vallecitos) to the southern project boundary and either (1) provide interim left turn lanes on Vallecitos Road at Vineyard and obtain secondary access to the site through Kalthoff Common or (2) construct the final Vallecitos/East Vineyard Avenue intersection and traffic signal.

Policy 5-32A: The location and design of internal access roads to serve residential and commercial uses on the 120 acres in the western portion of Subarea #7 shall be subject to City review and approval. All access roads shall be located within Subarea #7 and shall be set back at least 100 feet from adjoining properties.

5.4.5 OFF-SITE CIRCULATION IMPROVEMENTS

Although most of the circulation improvements required by Specific Plan development are directly related to providing subarea access and accommodating project-generated traffic, there are several circulation improvements that are needed because of area-wide increases in traffic. Each of the following improvements will contribute to improved traffic conditions in the South Livermore Valley area.

Wetmore/Vallecitos Intersection

As discussed in Section 5.4.4, development in Subarea #5 involves the extension of Wetmore Road west to create a new intersection with Vallecitos Road, and, in conjunction with this, the closure of sections of Holmes Street, including the section between Wetmore Road and the new east-west street in Subarea #5 and the connection of Holmes Street to Vallecitos Road. The intent of this improvement is two-fold: to eliminate the awkward 'Y' intersection that currently exists at Holmes Street and Vallecitos Road, and to improve the western entry to the Specific Plan area from both a functional and aesthetic standpoint. Creation of a more formal and signalized 'T' intersection will facilitate traffic movements to and from the frequently busy Vallecitos Road. The extension of Wetmore Road directly to Vallecitos Road will permit the free flow traffic to and from the planning area without the oblique-angle turns that now exist at Wetmore/Holmes and Holmes/Vallecitos.

The intersection will be located approximately 550-600 feet north of the bridge crossing at Arroyo del Valle in order to provide enough distance to merge the multiple lanes needed at the intersection down to the two-lane width at the bridge (i.e., no bridge widening is planned or proposed). The proposed intersection improvements will be made by the Subarea #5 developers as traffic signal warrants are met. In addition to signalization, left and right turn lanes and one additional through lane in each direction will be provided on Vallecitos Road. Left and right turn lanes will also be provided on Wetmore Road. Since the extension of Wetmore Road is dependent on the timing of development on Parcel 5A, a situation could arise in which unacceptable levels of service could occur at the existing Holmes Street/Vallecitos Road 'Y' intersection for an indeterminate time before the new intersection is ready to be signalized. In order to avoid such a situation, the City will require, through a development agreement, that the owner of Parcel 5A dedicate the right-of-way for the extension of Wetmore Road prior to the time that levels of service at the Holmes/Vallecitos intersection become unacceptable as a result of increased Specific Plan traffic [Note: The intersection already operates at LOS F, but will improve to acceptable levels once the Isabel Avenue extension has been implemented. Specific Plan development will ultimately cause the level of service to deteriorate to unacceptable levels again without the proposed signalized intersection. The owner of Parcel 5A will not be required to dedicate the right-of-way to solve existing problems. However, if the owner of Parcel 5A is not ready to develop when Specific Plan development requires them, the City may require dedication of the right-of-way so it can proceed with the project.]

Since the need for this signal is only partially generated by the proposed Specific Plan development, Planning Area developers will contribute their proportional share of the costs as part of their development fees. Vallecitos Road is not currently a roadway eligible for Transportation Impact Fees (TIF). The City will need to include the roadway and intersection on its TIF project list, in order to use TIF fees to pay for the proposed improvements. TIF fees may also need to be adjusted to include this intersection improvement.

Policy 5-33: A traffic signal will be installed at the Vallecitos Road/Wetmore Road intersection along with appropriate geometric improvements (e.g., left-turn lanes, deceleration lanes, etc.). The signal will be installed when operations at the existing Holmes Street/Vallecitos Road intersection meet signal warrants with the planned Isabel Avenue extension in place. A minimum 550-foot distance will be maintained between the new intersection and the bridge across Arroyo del Valle to allow adequate distance for the merging of lanes.

Policy 5-34: A development agreement shall be prepared with the owner of Parcel 5A requiring dedication of the right-of-way necessary to build the Wetmore Road extension to Vallecitos Road prior to City approval of Final Subdivision Map on the parcel, or the occurrence of unacceptable levels of service at the existing Holmes Street/Vallecitos Road intersection, whichever occurs first.

Policy 5-35: The City shall include Vallecitos Road and the Vallecitos Road/Wetmore Road intersection improvements on its TIF list to enable it to use TIF fees to make the required improvements. The TIF fees may also be adjusted accordingly to cover the proposed intersection improvements.

East Vineyard Avenue/Vallecitos Road Signalization

As discussed in Section 5.3, "Planned Improvements", the City of Livermore is planning to relocate the existing East Vineyard Avenue/Vallecitos Road intersection approximately 300 feet south of its current location. The planned improvement will realign Vineyard Avenue to form a more formal T-intersection with Vallecitos Road, and widen the northbound and southbound approaches to provide left-turn bays from Vallecitos Road.

The re-located intersection will also become the main access to Specific Plan Subarea #7, which will require the extension and re-alignment of Foley Road to connect to the new intersection. Traffic studies indicate that the combination of cumulative traffic growth and the introduction of Subarea #7 traffic to this intersection will require signalization of the relocated intersection. The proposed intersection improvements will be made by the Subarea #7 developer(s) as traffic signal warrants are met. In addition to signalization, left and right turn lanes and one additional through lane in each direction will be provided on Vallecitos Road. Left and right turn lanes will also be provided on Foley Road.

Since the need for this signal is only partially generated by the proposed Specific Plan development, Planning Area developers will contribute their proportional share of the costs as part of their development fees. Vallecitos Road is not currently a TIF roadway. The City will need to include the roadway and intersection on its TIF list, in order to use TIF fees to pay for the proposed improvements. TIF fees may also need to be adjusted to include this intersection improvement.

Policy 5-36: A traffic signal will be installed at the Vallecitos Road/East Vineyard Avenue intersection along with appropriate geometric improvements (e.g., left-turn lanes, deceleration lanes, etc.). The signal will be installed when Subarea #7 develops or when signal warrants are met.

Policy 5-37: The City will include Vallecitos Road and the Vallecitos Road/East Vineyard Avenue intersection improvements on its TIF list to enable it to use TIF fees to make the required improvements. TIF fees paid by Specific Plan developers may also be adjusted accordingly to cover the proposed intersection improvements.

Concannon Boulevard Extension

As discussed in Section 5.3, "Planned Improvements", the City of Livermore is planning to extend Concannon Boulevard eastward to enhance east-west circulation in the southern part of the City. The proposed roadway will extend from its current terminus near Normandy Way to South Livermore Avenue.

The planned improvement calls for a 100-foot wide right-of-way and a 44-foot wide paved street cross-section. The cross-section includes two 12-foot travel lanes, a 12-foot striped median/turn lane, and two 4-foot shoulders. Consistent with the City's policy to maintain a rural character for the roadway, the extension will not include curbs and gutters or sidewalks (Note: As part of the regional trail system, a Class I multi-purpose trail will extend along the entire length of the extension. Refer to Section 5.6.2 for more detailed discussion of pedestrian, bicycle, and equestrian circulation.).

The Concannon extension will become the main access route to Specific Plan Subarea #3, with two access points: one along the south side of the subarea from the new extension of Concannon, and one from the east side of the subarea from the existing Wente Street alignment (which may be incorporated into the Concannon Boulevard extension depending on which alignment is selected). Both of these subarea entrances, as well as the intersection with Wente Street, will require additional widening of the eastbound and westbound approaches to provide left-turn lanes and right-turn deceleration lanes from Concannon Boulevard. In addition, the extension will require a stop sign-controlled intersection with left-turn lanes where Concannon intersects South Livermore Avenue. The need for signalization at the southern entrance to Subarea #3 from Concannon Boulevard will need to be re-assessed prior to operation of the elementary school.

Since the need for the extension of Concannon is only partially generated by the proposed Specific Plan development, Planning Area developers will be eligible for TIF fee credits for portions of the Concannon extension. Concannon Boulevard is already listed as a TIF improvement project.

Policy 5-38: The extension of Concannon Boulevard will be constructed prior to the sale of residential units in Subarea #3.

Traffic Calming Devices on Buena Vista Road

A number of residents of Buena Vista Road have expressed concern about existing traffic conditions on this rural County roadway, and the possibility that Specific Plan development and cumulative South Livermore Valley growth may exacerbate those conditions in the future. Specifically, their concerns reflect the perception that Buena Vista is currently used as a commuter route between Vallecitos Road/SR 84 and the Lawrence Livermore and Sandia National Laboratories, and that this traffic, because of its volume and speed, adversely affects pedestrian safety and the rural residential character of the neighborhood. Analysis of existing traffic indicates that speed is an issue along Buena Vista Road, but that volumes are well within acceptable levels, even for a rural neighborhood roadway. Analysis of projected cumulative traffic indicates that due to a combination of factors, including new circulation improvements and decreased employment at the Labs, that traffic volumes on Buena Vista will actually decline in the future, even with the addition of Specific Plan development.

Given that the Specific Plan will not adversely affect traffic patterns or community safety on Buena Vista Road, the Plan does not propose any Plan-implemented changes to the County roadway. However, in an effort to reduce through traffic on Buena Vista, the City will install a TIF-funded median in East Avenue between Mines Road and Loyola Way. In addition, the County has included Buena Vista Road in its pilot "traffic calming" program (*Alameda County Neighborhood Traffic Calming Program 1997*) which will implement measures to slow traffic (such as having local residents sign contracts to obey speed limits, and, possibly, installing speed bumps, signs, cameras, and other measures).

Policy 5-39: The County should continue its efforts to find traffic calming devices that will enhance pedestrian safety and maintain the rural character of the Buena Vista Road corridor.

Traffic Calming Devices on Marina Avenue

As with residents on Buena Vista Road, some residents on Marina Avenue have expressed concern that Specific Plan development will increase traffic volumes and speeds on this rural, County road. As with Buena Vista, traffic volumes are generally quite low on Marina Avenue, but speeding is an existing problem.

Fears that Specific Plan development will significantly increase traffic on Marina Avenue are based on the fact that Marina Avenue is currently one of the east-west streets south of the City that accommodates commuter traffic between SR84 and the Labs. However, the eastward extension of Concannon Boulevard to South Livermore Avenue/Tesla Road will provide a major new east-west arterial that will provide more efficient and more direct route between SR84/Holmes Street and Tesla Road, thus minimizing any significant increase of traffic on Marina Avenue.

As part of the designated South Livermore Valley Wine Trail, Marina Avenue can be expected to experience increased visitor traffic, particularly on weekends. While the increase in volumes is projected to be relatively small and will not adversely affect operation of the roadway, continued speeding problems on Marina Avenue would adversely affect the safety and desirability of this roadway for both residents and visitors to the South Valley. For this reason, the Specific Plan recommends that traffic calming devices be considered for Marina Avenue as traffic conditions appear to warrant them.

As part of the designated Wine Trail, and as a recommended scenic corridor, it will be important to consider the introduction of traffic calming devices that improve the visual character of the roadway as well as its operational character. The use of landscaped islands at strategic locations along the corridor could effectively slow traffic while adding visual interest. Also, studies have shown that the regular and close planting of street trees on both sides of the roadway tend to reduce travel speeds due to the psychological effect of the apparent narrowing of the corridor. Creation of a dense alleé of trees along a section of this corridor would create a dramatic visual statement and could help to reduce traffic speeds.

Policy 5-40: The County should consider the introduction of traffic calming devices along Marina Avenue between Arroyo Road and Wente Street. Given the importance of this corridor to maintaining and enhancing the character of the South Valley, special attention should be given to the design of traffic calming devices that enhance the visual character of the travel corridor (e.g., landscaped islands, alleés of street trees, etc.).

Left Turn Lane on Tesla Road

The combination of new traffic generated by development in Subareas #1 and #2, commute traffic to the Labs, and new traffic generated by future wine country attractions, will necessitate the addition of a left-turn lane on eastbound Tesla Road at South Vasco Road.

Policy 5-41: Specific Plan developers shall add an eastbound left-turn lane to Tesla Road at South Vasco Road concurrent with other improvements needed to South Vasco Road.

5.4.6 IMPLEMENTATION OF SPECIFIC PLAN CIRCULATION SYSTEM

The Specific Plan circulation system will generally be implemented in a coordinated effort between the City and local property owners and developers. In instances where County or State roads are involved, it will also involve coordination with Caltrans and the Alameda County Public Works Department. Generally, all Specific Plan-required improvements to existing public roads or construction of new public roads will be undertaken by Specific Plan developers with the oversight and approval of the City of Livermore's Engineering Division. All improvements will be dedicated to the appropriate public agency (i.e., City or County). The costs for circulation improvements will generally be borne by Specific Plan development, unless the City determines that the improvement meets a citywide circulation need. In such cases, the improvement will be placed on the City's Traffic Impact Fee (TIF) project list and developers will be eligible for credit against required TIF fees.

The following policies will guide the implementation of the Specific Plan circulation system:

Policy 5-42: The street systems and circulation improvements identified in this Specific Plan shall be implemented without substantial alteration, unless information becomes available that such improvements are not adequate to safely accommodate proposed project and citywide development.

Policy 5-43: All internal subarea streets will be developed to the street standards identified in this Specific Plan. Design and construction of public roads outside of the Specific Plan subareas shall meet appropriate City and/or County design and safety standards for rural areas, including width, sight distance, curve radii, intersection design, and signing and striping. The design of all streets shall be subject to review and approval of the City, including review by affected service agencies such as the City Police and Fire departments.

- Policy 5-44: The City may require developers to prepare roadway phasing plans as part of the overall infrastructure phasing to serve development in each of the subareas. Interim roadway phases shall provide adequate access and capacity to serve each phase of development, including requirements for emergency vehicle access.*
- Policy 5-45: The City will require developers to enter into development agreements to provide the necessary roadway improvements to serve the development and mitigate traffic impacts. Development agreements shall be consistent with and coordinated with roadway phasing plans within and between subareas, and will guarantee access to all subarea parcels as needed to allow development.*
- Policy 5-46: Circulation improvements necessitated by Specific Plan development (i.e., improvements that would not otherwise be needed) will be funded by Specific Plan developers. Improvements that are required because of cumulative traffic, but to which the Specific Plan contributes, will be placed on the City's TIF project list to be funded by the citywide fee. TIF credits will be available to Specific Plan developers who implement improvements on the TIF list.*
- Policy 5-47: In order to help pay for necessary regional transportation improvements that result from cumulative growth, new development within the SLVSPA shall be subject to the Tri-Valley Transportation Fee once it has been adopted citywide by the Livermore City Council. The City will work cooperatively with the Alameda County Congestion Management Agency and adjacent cities to develop a fee that is acceptable to the City of Livermore.*
- Policy 5-48: The City will update its list of TIF roadways and TIF improvement projects based on the annexation of the South Livermore Valley Specific Plan area into the City. Based on the revised list of TIF projects, the City will adjust its TIF fees.*
- Policy 5-49: Final subdivision map approval for any project within the Specific Plan area shall be conditioned upon approval by the Community Development Department of a construction phasing plan prepared by the applicant. At a minimum the construction phasing plan shall address potential construction-related impacts including those related to noise, traffic and air quality by: 1) specifying an acceptable staging area or areas for construction equipment and employee parking; 2) specifying the hours for haul truck trips and other construction activities; 3) specifying the routes for all construction related traffic; and 4) describing (i) a program to implement the Bay Area Air Quality Management District's basic construction dust control measures and (ii) for projects greater than four acres in size, a program to implement the Bay Area Air Quality Management District's enhanced construction dust control measures.*

5.5 TRANSIT SERVICE

5.5.1 EXISTING TRANSIT SERVICE

Transit service in Livermore is provided by the Livermore-Amador Valley Transit Authority (LAVTA) through the "Wheels" fixed-route and dial-a-ride services. LAVTA currently operates several direct transit lines to the South Livermore Valley Specific Plan area along Holmes Street, Arroyo Road, and East Avenue. Figure 5.15 shows the existing transit routes in the Livermore area. The "Wheels" fixed-route services provides for inter-city travel between Livermore, Dublin, and Pleasanton. The fixed-route service operates Monday through Saturday. The dial-a-ride service is currently available Monday through Sunday and on holidays.

In addition to the "Wheels" System, the San Joaquin Regional Transit District (SMART) operate buses connecting Livermore to regional destinations in the San Francisco Bay Area and the Central Valley. SMART operates several routes that connect the San Joaquin Valley to the Lawrence Livermore Lab.

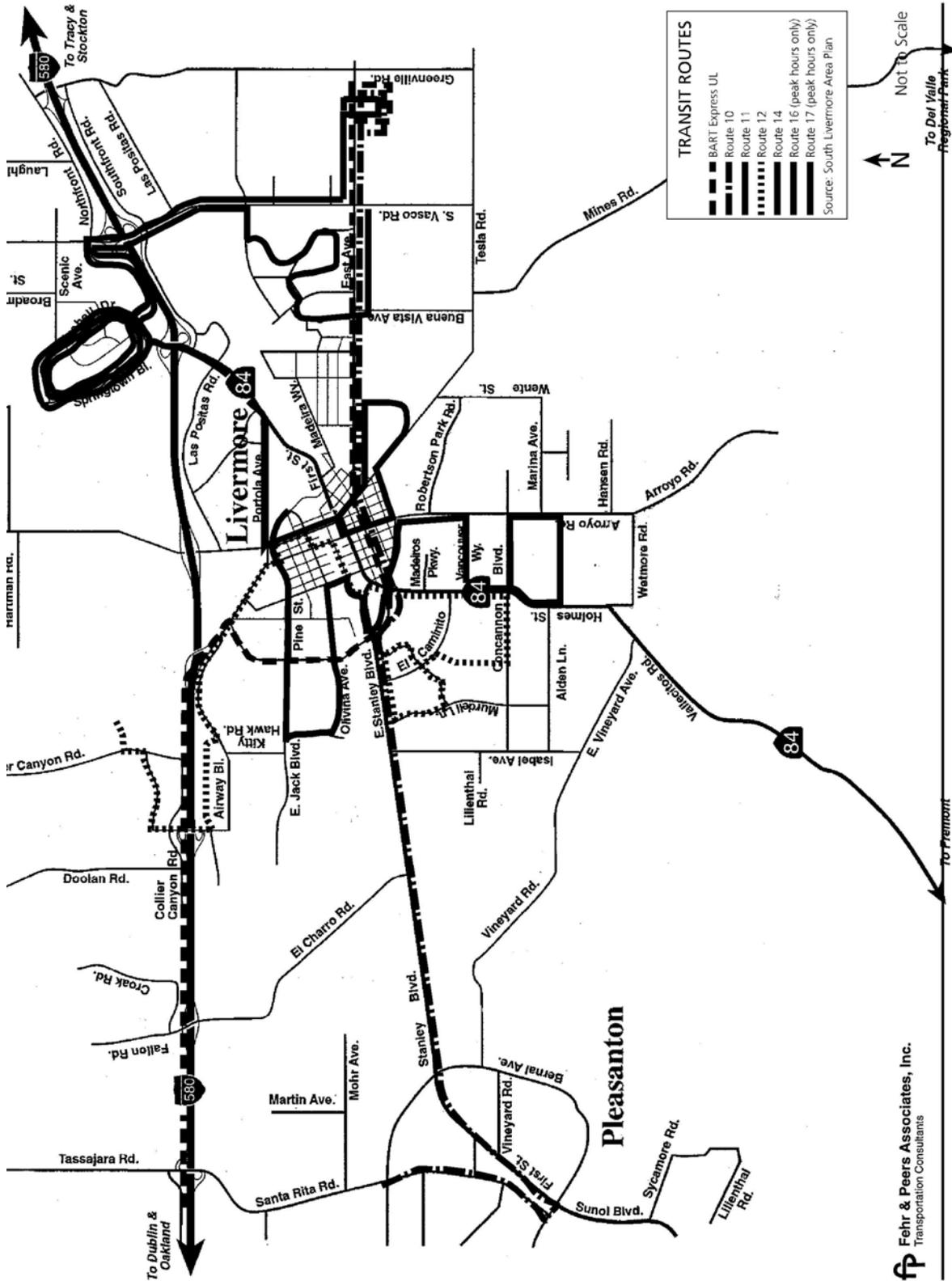


Figure 5.14
EXISTING TRANSIT SYSTEM

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Transportation Consultants

South Livermore Valley Specific Plan
Wallace Roberts & Todd

5.5.2 TRANSIT IMPROVEMENTS

LAVTA Transit Service

LAVTA's Short Range Transit Plan indicates that the core of the existing transit network in Livermore will generally remain intact, however, some routes will be realigned to expedite service and all routes will be adjusted to meet at the new Transit Center (Railroad Avenue and Old First Street) for timed transfers. The new Transit Center, which opened in April 1997, replaced Valley Memorial Hospital as the primary intermodal/transfer center for LAVTA's Livermore routes. Other planned route improvements to Routes 10 and 14 will directly affect transit access and service to South Livermore Valley Specific Plan subareas:

One bus will be added to Route 10 during peak periods, scheduled to start in January 1997.

Route 10 will be extended along East Avenue later in the evening on weekdays and weekends by June 1997.

The frequency of service on Route 14, which currently operates during peak periods only, will be increased to 30-minute service frequency. The new route will provide service to south Livermore via the Civic Center, College Avenue, and Arroyo Road. The improvements are expected to take place by June 1997.

BART Extensions

The Bay Area Rapid Transit District (BART) has embarked on a \$2.5 billion long range expansion program which includes four extensions of the system network and 10 new stations. As part of Phase I of the expansion program, BART recently constructed a 12-mile service extension that branches off the Fremont Line at the Bayfair Station in San Leandro and extends to a new station in Dublin/Pleasanton. The Dublin/Pleasanton Line opened for operation in May 1997.

In addition, BART plans to ultimately extend the Dublin/Pleasanton Line to Livermore. Although preliminary plans have been made for rail alignment and station/terminal location(s), financial constraints will most likely prevent implementation of these plans by year 2010 (BART extension to Livermore is not assumed in the 1994 Regional Transportation Plan). As mentioned, LAVTA plans to route buses to the Dublin/Pleasanton BART Station from Livermore.

5.5.3 FUTURE TRANSIT SERVICE

LAVTA Route 14 currently provides transit service to the north end of Subarea #4 via Superior Drive and Arroyo Road. At present, however, Route 14 runs only in the peak hours. Route 10 and the BART Express bus both pass along the northern edge of Subarea #2 providing service to the Labs. As previously mentioned, LAVTA plans to upgrade service on Route 10 to operate later on week days and weekends by June 1997. While some of the future residents in Subareas #1, #2 and #4 would be within convenient walking distance of existing transit routes 10 and 14, the majority of the proposed units would not, and thus would be unlikely to use its services. Given the amount and location of development proposed in the planning area, the transit authority should consider extending existing routes to service new development consistent with the authority's goals and objectives.

GOAL: Promote increased local transit ridership and provide Specific Plan area residents and employees with the opportunity to use public transportation as an alternative to driving.

Local Transit Service

The City and LAVTA should evaluate the potential to increase ridership by extending transit service to new development in the Specific Plan area. LAVTA should consider the feasibility of the following specific measures to enhance ridership from the Planning Area:

- extending Route 14 farther south along Holmes Street and Arroyo Road with an east-west crossing at Wetmore Road or the internal east-west collector in Subarea #5. Such an extension would improve service to Subareas #4, #5 and #6, as well as to Sycamore Grove Park.
- expanding and re-aligning Route 10 to serve Subareas #1 and #2 by adding a loop consisting of South Vasco Road and the Subarea #2 collector street.
- expanding and/or re-aligning Route 11 or Route 14 to extend transit service to Subarea #3.

The evaluation should identify the appropriate timing of service expansion, and additional resources required to extend service and maintain performance standards.

Policy 5-50: The City shall encourage LAVTA to extend or expand service to Specific Plan subareas.

Policy 5-51: The City shall promote the use of regional transit such as BART to reduce regional traffic congestion and reduce regional automobile emissions.

Policy 5-52: Developers shall be required to provide transit stops along existing and extended or expanded fixed routes within or bordering subareas to serve future ridership from the Specific Plan area. Developers shall coordinate with LAVTA regarding the location and design of transit facilities. Transit stop design and amenities (benches, shelters, etc.) shall be consistent with the rural agricultural setting, while also meeting the functional requirements of LAVTA's design standards. Transit stop locations should be coordinated with the alignment of planned pedestrian trail systems to ensure convenient pedestrian access.

Wine Country Shuttle

Given the nature of the wine country attraction, the consumption of alcohol associated with wine tasting and the frequent, but short, vehicle trips involved with touring from winery to winery, the creation of a shuttle system that would allow wine country visitors to leave their cars and use public transit would enhance their enjoyment of the South Valley and improve traffic conditions and public safety. Ultimately, when BART is extended to Livermore, the shuttle could link the South Livermore Valley with the regional transit system, allowing people from the San Francisco Bay area to visit the South Livermore Valley wine country without needing their automobiles.

Policy 5-53: LAVTA, the Livermore Valley Vintners Association and the Friends of the Vineyard should consider the creation of a "Wine Country Shuttle" that, on weekends, could provide safe and convenient transit for wine country visitors between the wineries and other destinations in the South Livermore Valley.

5.6 PEDESTRIAN, BICYCLE, AND EQUESTRIAN CIRCULATION

5.6.1 EXISTING PEDESTRIAN, BICYCLE, EQUESTRIAN TRAIL SYSTEM

An update of the City's Bicycle/Pedestrian Plan, as well as an Equestrian Study was completed in June of 1996. The studies have been adopted and incorporated in the Livermore Community General Plan Circulation Element, revised in September 1996. The following discussion summarizes existing bicycle and pedestrian facilities and conditions in the City that may affect pedestrian and bicycle activities in the Specific Plan area.

Pedestrian and Bicycle Facilities

Bicycle System. The existing network of trails and bikeways in Livermore is shown in Figure 5.16. The existing bicycle system consists primarily of on-street facilities, including Class II bike lanes or striped shoulders three feet wide or greater. The only off-street trails are multi-purpose trails (i.e., in the vicinity of South Livermore they accommodate more than just bicycles) along Arroyo Mocho (in the City) and Arroyo del Valle (not in the City). The trail along Arroyo Mocho extends east from Stanley Boulevard to Robertson Park. The trail along Arroyo del Valle extends east from the entrance to Sycamore Grove

Park near Holmes Street and Wetmore Road, through the park to Veterans Park at the south end of Arroyo Road. The existing system provides limited direct access to the Specific Plan subareas, and the overall system lacks connectivity between local and regional destinations, as evidenced by the system gaps shown in Figure 5.16.

The following roadways currently provide bicycle facilities in the South Livermore Valley Specific Plan Area.

<u>Roadway</u>	<u>Type of Facility</u>
Arroyo Mocho/Robertson Park	Multi-Purpose Trail
East Avenue	Class II Bike Lane
Vancouver Way	Class II Bike Lane
Lexington Way	Class II Bike Lane
Superior Drive	Class II Bike Lane
Arroyo Road (north of Superior Drive)	Class II Bike Lane
Concannon Boulevard	Class II Bike Lane
Mines Road	Class II Bike Lane
Tesla Road (east of Wentle Street)	Striped shoulder
Vallecitos Road	Striped shoulder

Pedestrian System. The pedestrian system within Livermore consists primarily of on-street sidewalks, with all developed areas providing pedestrian facilities in the form of sidewalks and crosswalks. As of May 1997, the two major off-street facilities are the previously-described multi-purpose trails along Arroyo Mocho and Arroyo del Valle (see previous discussion of bicycle facilities). No good pedestrian connections are provided between these facilities. In the vicinity of the South Livermore Valley Specific Plan area, the only opportunities for pedestrian facilities are provided by the 3- to 6-foot gravel or paved shoulders which border many of the area's rural roadways. The existing shoulders do not provide the safety and visibility of developed sidewalks.

Equestrian Trails

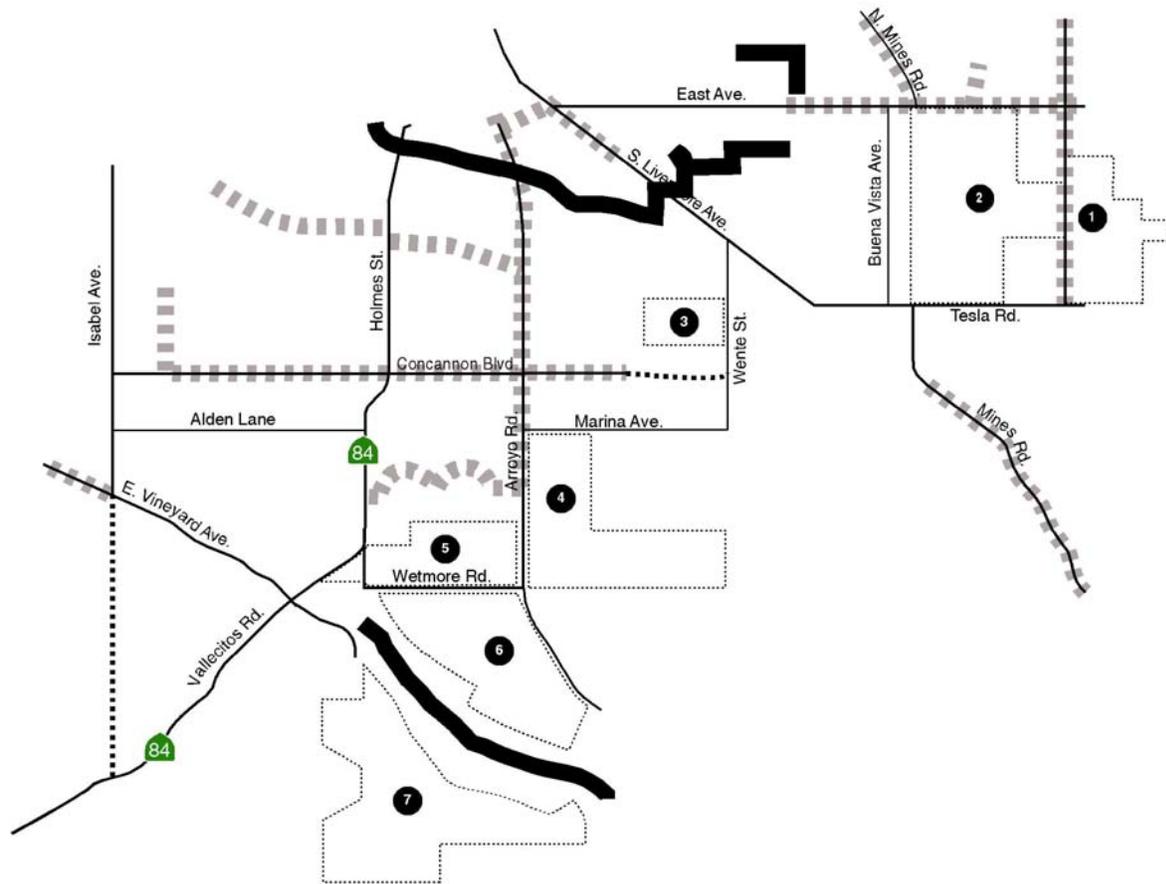
The South Livermore Valley has historically been home to many equestrians. Several horse ranches and training/boarding facilities are located in the Specific Plan area vicinity. In addition to private facilities, loop trails in Robertson Park and Sycamore Grove Regional Park provide the only public opportunities for equestrian riding. As home to the Livermore Rodeo, Robertson Park has significant equestrian facilities, including one show arena and one practice arena and a trail which encircles the park. The arenas are well-used by both local and regional equestrians for practice riding and special events. For a more scenic experience, the multi-purpose trails in Sycamore Grove Regional Park are available for use by equestrians.

Many of the area's rural roadways, including Tesla Road, Marina Avenue, and Mines Road, once offered gravel or dirt shoulders for equestrian opportunities. However, over the years, city and county agencies have eliminated many of these gravel or dirt shoulders by widening the paved portion of roadways or modifying the grade of dirt shoulders. These physical changes along with the general increase in traffic and speed on these roads have all but curtailed equestrian riding along most rural roads in the area.

5.6.2 PEDESTRIAN, BICYCLE, AND EQUESTRIAN CIRCULATION

This section describes the non-motorized circulation system that will augment and complement the vehicular road system in the South Livermore Valley Specific Plan area. All Specific Plan subareas will be served not only by a system of internal pedestrian and bicycle trails, but also by a regional multi-use trails system that will link all of the subareas to each other and to major destination points within the South Livermore Valley. The emphasis on both the local and the regional systems is to enhance their use by minimizing conflicts with vehicular circulation as much as possible.

GOAL: *Develop a comprehensive and connected bikeway, pedestrian, and equestrian system which allows enjoyment of the scenic South Livermore Valley, connects the area's parks and tourist destinations, and promotes use of alternatives to the automobile.*



Legend:
 — Multi-Use Trail
 - - - Bike Lanes
 Source: Livermore Bicycle/Pedestrian Plan Update and Equestrian Trails study Policy Document, June 1996

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N Not to Scale

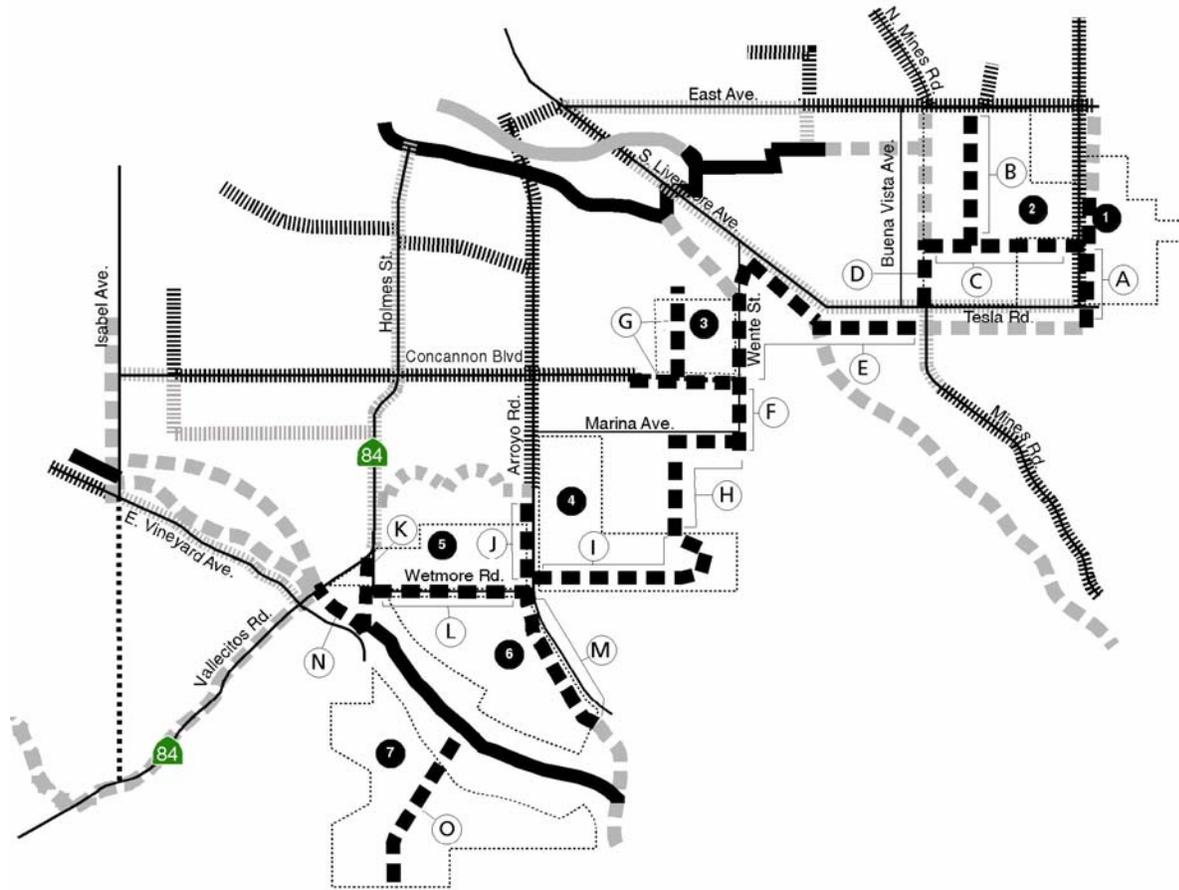
Regional Multi-use Trail System

Given the importance of open space to the character of the planning area, the Specific Plan places a high priority on the creation an areawide system of trails that will allow residents and visitors to fully enjoy the natural beauty of the South Livermore Valley. Providing safe, convenient and attractive trails for pedestrians, bicyclists, and equestrians is considered to be an important amenity that will enhance both the proposed residential development and the Valley's identity as a distinctive wine region. The Specific Plan establishes a network of trails that will connect the seven planning subareas to each other, to major destinations in the area such as parks and wineries, and to the City's existing and planned citywide trail system.

The proposed regional trail system includes segments both within the Specific Plan subareas and in the areas between subareas. Trail alignments have been carefully worked out with planning area landowners and LARPD, and have been coordinated with the recently updated citywide Trails Master Plan. A primary objective of the trail system is to minimize conflicts between trail users and vehicular traffic, so the entire trail system will consist of Class I trails that are physically separated from vehicular roadways and are only intended for non-motorized use. Once fully implemented, the trail system will enable one to travel from Subarea #1 to Subarea #7, a distance of approximately 6.5 miles, while only crossing 3 streets (South Vasco Road, Tesla Road, and Arroyo Road).

All trail corridors within the individual subareas will be improved to Specific Plan standards by the planning area developers as a condition of project approval. Once improved, the regional trail corridor rights-of-way and improvements will be dedicated to LARPD for long-term care and maintenance. LARPD will have responsibility for the acquisition and improvement of trail corridors that connect the subareas. The cost of improvements to the trail corridors that link the Specific Plan subareas will be shared equally between LARPD and Specific Plan developers.

- Policy 5-54: In order to enhance the value of the proposed regional trail for the entire Livermore community, the City/LARPD shall place a high priority on completing key linkages between the City's existing system and the proposed South Valley trail system (e.g., Holmes Street, South Livermore Avenue, etc.).*
- Policy 5-55: All trail corridor rights-of-way and improvements will be dedicated to LARPD for long-term ownership and maintenance.*
- Policy 5-56: Planning area developers are responsible for improving designated regional trail corridors within the planning subareas to Specific Plan standards prior to dedication. The City and LARPD must review and approve trail improvements prior to final map approval to integrate the South Livermore Valley with the remainder of the City and to ensure consistency with this Specific Plan and with LARPD objectives.*
- Policy 5-57: Acquisition of right-of-way for sections of the trail corridor that are located between the planning subareas shall be the responsibility of LARPD. LARPD will be responsible for the design and implementation of improvements to these sections of the trail system. The costs of improvements to the sections of trail corridor that are located between the planning subareas shall be divided equally between LARPD and the subarea developers via a Specific Plan fee.*
- Policy 5-58: A signage system should be designed for the regional trail system, that identifies the trail corridor and the various destinations along the corridor, and provides safety warnings at key intersections. The signage system should be designed to be in scale with pedestrian, bicycle and equestrian uses, and in keeping with the rural, wine-country character of the area.*
- Policy 5-59: In order to encourage bicycle use by visitors to the South Livermore Valley, LARPD should identify locations for staging/parking areas, where people can leave their cars and bike through the Valley. Sycamore Grove Park and Robertson Park are existing possibilities, but another facility in the east end of the Valley would help to distribute visitor traffic and parking.*



Legend:

Existing

- Multi-Use Trail
- Bike Lanes
- Bike Routes
- Multi-Use Trail (long term)

Proposed in City Trails Plan

-
-
-

Proposed by Specific Plan

-
- Trail Segment (See Chapter 5 for description)
- Subarea Number

Source: Livermore Bicycle/Pedestrian Plan Update and Equestrian Trails Study and Wallace Roberts & Todd

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Not to Scale

Figure 5.16 shows the proposed alignment of the South Livermore Valley trail system, and where it will connect with existing or planned trails. The figure also shows those sections of the trail system that are fully the responsibility of Specific Plan developers, and those that will be the joint responsibility of the Specific Plan area developers and LARPD.

The following is a segment-by-segment description of the Regional Trail Corridor that is intended to augment the map in Figure 5.16 and the circulation plans of the individual subareas:

Segment A: Subarea #1 Entry to Tesla Road: A 25-foot wide right-of-way will extend south along the east side of South Vasco Road from the northern-most entry to Subarea #1 to Tesla Road.

<u>Responsibility for Costs:</u>	Subarea #1 developers.
<u>Responsibility for implementation:</u>	Developers of adjacent parcel.
<u>Timing of implementation:</u>	Concurrent with adjacent subarea construction.

Segment B: East Avenue to Southern Edge of Subarea #2: In the northern portion of this segment, where the regional trail corridor parallels the subarea's entry road and central collector spine, the bicycle/pedestrian facilities may be split on either side of the road corridor, rather than placing a two-way bicycle trail on one side of the roadway. The standard Specific Plan cross-sections for an undivided entry road and a rural collector road will be implemented (i.e., 8- and 10-foot cross-sections for bicycle/pedestrian trails respectively, see Figures 5.4 and 5.5), with a 10-foot right-of-way added to the east side of the corridor to accommodate an 8-foot wide equestrian trail and 2-foot shoulder.

In the southern portion of this segment, where the trail corridor diverges from the central collector spine, the standard trail corridor (i.e., a 10-foot bicycle/pedestrian trail and 8-foot equestrian trail within a 25-foot right-of-way; see Figure 5.17) will extend to the south end of the development area where it will connect with the east-west trail corridor. For safety reasons, a cross-walk with special signage and possibly textured paving should be used to identify the location where the regional trail crosses the central collector spine.

<u>Responsibility for Costs:</u>	Subarea #2 developers.
<u>Responsibility for implementation:</u>	Developer(s) of Parcels 2A1 and 2A2.
<u>Timing of implementation:</u>	Concurrent with adjacent construction.

Segment C: South Vasco Road to Western Edge of Subarea #2: A 25-foot wide right-of-way will extend from South Vasco Road along the southern edge of the entry drive an additional approximately 1,700 feet and will then be located in the open space area separating the "farm compounds" from the main development to the north.

<u>Responsibility for Costs:</u>	Subarea #2 developers.
<u>Responsibility for implementation:</u>	Developer(s) of Parcels 2A1, 2C, and 2D.
<u>Timing of implementation:</u>	The portion along Charlotte Way concurrent with construction of Charlotte Way. The remaining Segment C concurrent with construction of Phase 3 of Vesting Tentative Tract Map 6989.

Segment D: Western Edge of Subarea #2 to Tesla Road: A 25-foot wide right-of-way will extend due west from Subarea #2 through the vineyards to the PG&E transmission line corridor, and then south along the east side of the PG&E easement to Tesla Road. The regional trail corridor will cross Tesla Road at the intersection of Tesla Road and Mines Road. A well-marked crossing will be provided at this intersection to alert drivers to the possibility that pedestrians, bicyclists, and/or equestrians may be crossing Tesla Road.

<u>Responsibility for Costs:</u>	Subarea #2 developers.
<u>Responsibility for implementation:</u>	Developer(s) of Parcels 2A ₂ .
<u>Timing of implementation:</u>	Prior to buildout of Parcel 2A ₂ .

Segment E (Portion): Mines Road to Bezis property, southern edge: A 25-foot wide right-of-way will extend west along the south side of Tesla Road, South Livermore Avenue, up to the south side of the Bezis property.

<u>Responsibility for Costs:</u>	Parcel 2A and 2B developers.
<u>Responsibility for implementation:</u>	Parcel 2A and 2B developers.
<u>Timing of implementation:</u>	Concurrent with construction of Phase 3B of Vesting Tentative Tract Map 6989.

Segment E (Portion): Bezis property to Wente Street: A 25-foot wide right-of-way will extend along the south side of South Livermore Avenue (on the Bezis property) and Concannon Boulevard to Wente Street.

<u>Responsibility for Costs:</u>	Shared 50/50 between LARPD and all Specific Plan developers.
<u>Responsibility for implementation:</u>	LARPD.
<u>Timing of implementation:</u>	LARPD.

Segment F: Concannon Boulevard to Marina Avenue: A 25-foot wide right-of-way will extend south along the east side of Wente Street to the intersection with Marina Avenue.

<u>Responsibility for Costs:</u>	Shared 50/50 between LARPD and all Specific Plan developers.
<u>Responsibility for implementation:</u>	LARPD
<u>Timing of implementation:</u>	Subsequent to construction of Concannon Boulevard extension.

Segment G: Robertson Park to Concannon Blvd. Extension: A 25-foot wide right-of-way will extend south from Robertson Park along the western edge of the proposed elementary school site and the main entry drive to Subarea #3 to the northern edge of the proposed Concannon Boulevard extension. The trail corridor will then cross Concannon Boulevard and extend along the south side of Concannon Boulevard to the intersection with Wente Street to the east, and the Tapestry subdivision to the west. A pedestrian/bicycle/equestrian crossing will be required across Wente Street where it intersects with Concannon Boulevard.

<u>Responsibility for Costs:</u>	Subarea #3 developers.
<u>Responsibility for implementation:</u>	Subarea #3 developers.
<u>Timing of implementation:</u>	Concurrent with adjacent construction.

Segment H: Wente Street to Subarea #4: A 25-foot wide right-of-way will extend west along the south side of Marina Avenue until it reaches the eastern edge of the Reed/Edwards area, and then south along the western edge of the Wente property to Subarea #4.

<u>Responsibility for Costs:</u>	Shared 50/50 between LARPD and all Specific Plan developers.
<u>Responsibility for implementation:</u>	LARPD

Timing of implementation: Concurrent with construction of Segment I.

Segment I: Wente Property to Arroyo Road: A 25-foot wide right-of-way will extend southeast along the eastern edge of proposed development on the Zumbach property to the southern-most PG&E transmission line corridor, then southwest along the transmission line corridor to the southern property line of Subarea #4, and then west along the southern property line to Arroyo Road. A pedestrian, equestrian and bicycle crossing will be provided across Arroyo Road at its intersection with Wetmore Road.

Responsibility for Costs: Subarea #4 developers.

Responsibility for implementation: Developer(s) of Parcels 4C and 4D.

Timing of implementation: Prior to completion of Phase I development in Parcels 4C and 4D.

Segment J: Ravenswood to Wetmore Road: A 25-foot wide right-of-way will extend south from the existing trail along the frontage of the historic Ravenswood site (i.e., along the west side of Arroyo Road) through Subarea #5 to the intersection of Arroyo Road and Wetmore Road. A pedestrian and bicycle crossing will be needed across Wetmore Road.

Responsibility for Costs: Subarea #5 developers.

Responsibility for implementation: Developer(s) of Parcel 5D.

Timing of implementation: Prior to completion of Phase I development in Parcel 5D.

Segment K: Holmes Street to Wetmore Road: A 25-foot wide right-of-way will extend south from the existing intersection of Holmes Street and Vallecitos Road through Subarea #5 along the Holmes Street right-of-way to Wetmore Road and the entrance to Sycamore Grove Park. In the section north of the proposed east-west collector (Hansen Road) in Subarea #5, the trail will run parallel to the remaining section of Holmes Street (that will continue to provide access to existing rural residences north of Subarea #5). In the section south of the new east-west collector street, the trail will occupy the section of Holmes Street right-of-way that will be abandoned for vehicular use (as proposed in the Plan). The 25-foot trail right-of-way will consist of one ten-foot wide asphalt pedestrian/bicycle path, two-foot compacted earth/aggregate shoulders on each side, and five-foot landscape buffers on both sides of the path from Independence Park to Hansen Road and five-and-one-half-foot landscape buffers from Hansen Road to Wetmore Road. Finally, the short segment along the north side of Wetmore Road will consist of a 10-foot path and a 1.5 landscape shoulder adjacent to Wetmore Road.

Responsibility for Costs: Subarea #5 developers.

Responsibility for implementation: Developers of Parcel 5A and 5B.

Timing of implementation: Subsequent to completion of Wetmore Road extension to Vallecitos Road.

Segment L: Arroyo Road to Holmes Street: A 25-foot wide right-of-way will extend from Arroyo Road through the historic Olivina Gate and then west along the southern edge of Wetmore Road to the proposed trail in the abandoned Holmes Street right-of-way (i.e., Segment K, see preceding description).

Responsibility for Costs: Subarea #6 landowners/Parcel 2A and 2B developers.

Responsibility for implementation: Subarea #6 landowners/Parcel 2A and 2B developers.

Timing of implementation: Concurrent with construction of Phase 2A of Vesting Tentative Tract Map 6989.

Segment M: Wetmore Road to Sycamore Grove Park: A 25-foot wide right-of-way will extend from Wetmore Road through the historic Olivina Gate and then south along the western edge of Arroyo Road to the east end of Sycamore Grove Park, where it will connect into the existing trail system within the park.

Responsibility for Costs: Shared 50/50 between LARPD and all Specific Plan developers.

Responsibility for implementation: LARPD.

Timing of implementation: As determined by LARPD.

Segment N: Vallecitos Road to Sycamore Grove Park: This segment will extend the existing multi-use trail in Sycamore Grove Park to Vallecitos Road where it will cross under Vallecitos Road and connect with the East Bay Regional Park District's regional trail along the Arroyo Del Valle to the Isabel Trail.

Responsibility for Costs: Shared 50/50 between LARPD and all Specific Plan developers.

Responsibility for implementation: LARPD

Timing of implementation: Concurrent with development of the Transfer of the Development Rights District.

Segment O: Sycamore Grove Park to Southern Edge of Subarea #7: A 25-foot wide right-of-way extending south from Sycamore Grove Park along the central drainageway up to the higher elevations in the southern portion of Subarea #7. The 25-foot right-of-way along the central drainage will be in addition to the 100-foot setbacks required from the stream corridor for protection of biologic and hydrologic resources. Because of the biological sensitivity and the steep topography, design standards for this section of trail will be determined in conjunction with LARPD (e.g., LARPD may decide to limit bicycle access to the subarea's lower elevations, and only extend pedestrian and equestrian trails to the southernmost portion of the subarea).

Responsibility for Costs: LARPD

Responsibility for implementation: LARPD

Timing of implementation: To be phased with acquisition of parkland.

Trail and Bicycle Lane Design Standards

All regional trail corridors have been planned to accommodate off-street, multi-use trail facilities. The trail corridors will accommodate separate pedestrian/bicycle and equestrian facilities. Each corridor will have a 10-foot wide paved path for combined bicycle and pedestrian use, and an 8-foot wide compacted gravel or earth trail for equestrian use. Design standards for the paved bicycle/pedestrian trails shall include a paved section equivalent to 3" AC and 4" compacted base to support street sweeping equipment and maintenance vehicles.

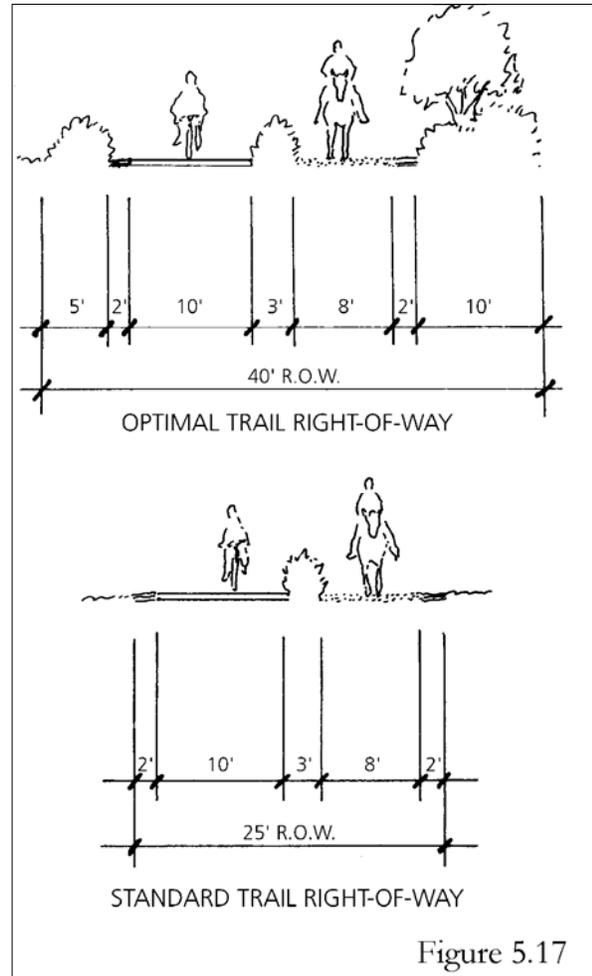
Two alternative corridor widths have been proposed to accommodate development of the regional trail system: one 25 feet wide and one 40 feet wide. The 25-foot corridor is the standard right-of-way width proposed for the majority of the segments. However, where the corridor adjoins developed areas, or where additional landscape space is needed for buffering, screening or aesthetic reasons, the 40-foot wide corridor is designated. The dimensions for the actual trails are the same in both right-of-ways. The difference is in the amount of landscaping required. Illustrative cross-sections of the alternative trail corridor rights-of-way are shown in Figure 5.18.

Standard Trail Right-of-Way. Figure 5.18 shows the cross-section for the "standard" trail right-of-way with proposed multi-use trails. The trail corridor includes the following:

- a 25-foot right-of-way;
- a 10-foot wide paved path for shared pedestrian and bicycle use;
- a 2-foot wide compacted earth/aggregate shoulder on the outer edges of the paved bicycle path;
- a 3-foot wide planting strip between the two trails; and,
- an 8-foot wide compacted earth/aggregate equestrian path.

Optimal Trail Right-of-Way. Figure 5.18 shows the cross-section for the "optimal" trail right-of-way with proposed multi-use trails. The trail corridor includes the following:

- a 40-foot right-of-way;
- a 10-foot wide paved path for shared pedestrian and bicycle use;
- a 2-foot wide compacted earth/aggregate shoulder on the outer edges of the paved bicycle path;
- a 3-foot wide planting strip between the two trails;
- an 8-foot wide compacted earth/aggregate equestrian path; and,
- 15 feet of landscaped buffer that can be located all on one side or divided between the two sides of the right-of-way.



Internal Subarea Circulation

In order to enhance the pedestrian environment and reduce conflicts between pedestrians, bicyclists and automobiles, all local-serving pedestrian and bicycle paths within the development areas have been separated from the street. Widths of these pathways vary between 4 feet and 10 feet depending on the type of street with which they are associated. With the exception of the "farm compound access drive", all streets will have pedestrian paths on both sides of the roadways. In all instances, the off-street pathways have at least 8 feet of combined landscape buffer and shoulder between the path and the street edge.

In addition to paralleling subarea roadways, the Specific Plan encourages the creation of pedestrian corridors that diverge from road rights-of-way in order to provide more direct pedestrian connections between residential areas, between residential areas and open space, and between residential areas and the regional trail corridor.

- Policy 5-60: Provide paved, off-street pedestrian and bicycle facilities along all Specific Plan area streets.*
- Policy 5-61: Specific Plan developers shall ensure that subarea frontages with City and County roads have adequate paved shoulders to accommodate Class II bicycle lanes per the City's General Plan Bikeway System.*
- Policy 5-62: Insure that local pedestrian and bicycle paths make convenient and frequent connections to the regional trail system.*
- Policy 5-63: Developers are encouraged to build pedestrian- and bicycle-only corridors within the development areas in order to provide shorter and more direct travel routes for pedestrians and bicyclists that are not associated with planning area streets*
- Policy 5-64: Trail crossings of public roadways shall be designed to the standards set forth in the City's General Plan Pedestrian/Bicycle Trails Element, and shall be reviewed and approved by the City and LARPD.*

6.0 Conservation and Resource Management



6.0 CONSERVATION AND RESOURCE MANAGEMENT

6.1 PURPOSE

In addition to providing for development that has a minimal impact on the natural environment, a key goal of the Plan is to preserve and manage the planning area's open space lands and natural resources for the long-term benefit of planning area residents, the Livermore community, the South Valley wine industry, visitors, and the environment itself. The resources to be protected take many forms, including agricultural lands, public parklands, sensitive habitat areas, scenic areas, and areas with significant cultural/historic resources.

The intent of the Plan is not only to protect sensitive natural resources and valuable agricultural land, but also to incorporate open space resources so that they enhance community character and contribute to the wine-country character of the area. This includes protection of important visual and recreational assets which will improve the quality of life for area residents and enhance the enjoyment of the area by visitors.

GOAL: To provide for development that is not only compatible with the natural and agricultural setting, but whose built form respects and is enhanced by the area's natural and open space resources.

6.2 OPEN SPACE RESOURCES

One of the principal objectives of the Specific Plan is to provide a permanent open space buffer along the southern edge of the City of Livermore that will eliminate the potential for future urban expansion into the South Livermore Valley and will preserve the area's scenic rural character. In pursuit of this objective, the Plan has established a variety of different kinds of open space that together combine to preserve approximately two thirds of the planning area in open space. Some of the open space will be for active use and some for passive use. Some will be in public ownership and some in private ownership. In general, open space areas in the planning area fall into four broad categories based on their role or function in the Plan:

- Open space for the cultivation of agricultural crops such as grapes and olives.
- Open space for the preservation of natural resources including, but not limited to, habitat areas required for the preservation of plant and animal species, and creeks, ponds and drainageways.
- Open space for public health and safety, including but not limited to, areas which require special management or regulation because of hazardous or special conditions such as unstable soil and slope areas and seismic fault zones.
- Open space for outdoor recreation, including but not limited to, neighborhood and regional parklands, and regional trail corridors for pedestrians, bicyclists and equestrians.

Open space for agriculture, preservation of natural resources, and public health and safety are each addressed in the following discussion. Open space uses related to recreation are addressed in the Land Use Element in Chapter 4.

6.3 AGRICULTURAL LAND

6.3.1 AGRICULTURAL MITIGATION PROGRAM

The original impetus for preparing this Specific Plan was the desire to preserve and protect valuable agricultural land in the South Valley, particularly for the cultivation of wine grapes. In light of the impacts to agriculture and open space associated with urban development in the South Livermore Valley, the City and County concluded that such development could only occur in tandem with the permanent protection of large areas of agricultural land. The Agricultural Mitigation program that requires one-for-one mitigation for new development is the primary vehicle for providing permanent protection for agricultural lands and meeting the requirements of the South Livermore Valley Specific Plan. Under this program, all new development

will be required to mitigate the loss of agricultural and open space lands through the dedication of agricultural or open space easements and the planting of agricultural crops. Based on the development proposed in the Plan, the Agricultural Mitigation Program will secure approximately 1,943.9 acres of agricultural land in the greater South Livermore Valley area. Of this total it is estimated that approximately 858.9 acres of new agricultural land will be secured and planted in the planning subareas.

Policy 6-1: New residential development in the Specific Plan area will be required to mitigate the loss of agricultural land according to the following parameters:

- *a minimum of one acre in the South Livermore Valley Area Plan (SLVAP) "Vineyard Area" shall be planted in new vineyards or other appropriate cultivated agriculture, and permanently protected through dedication of agricultural easements for each acre developed;*
- *a minimum of one acre in the SLVAP "Vineyard Area" shall be planted in new vineyards or other appropriate cultivated agriculture, and permanently protected through dedication of agricultural easements for each unit developed;*
- *a minimum of one acre in the SLVAP "Vineyard Area" shall be planted in new vineyards, and permanently protected through dedication of agricultural easements for each acre of actively farmed vineyards that produced and harvested wine grapes in 1991 that is displaced by any development.*
- *evidence will be provided that all planted mitigation acreage will be maintained for a minimum of eight years, through use of CC&R's, a long-term maintenance contract with an experienced farm operator, or other means;*
- *mitigation acreage thus planted and protected should be contiguous to the extent possible to ensure mitigation acreage of sufficient size to form a viable agricultural unit;*
- *mitigation acreage must be dedicated, and evidence of a long-term maintenance agreement provided prior to approval of a final map. Planting of mitigation acreage must occur within 12 months of filing of the final map, but appropriate letter-of-credit and right-to-enter agreements must be entered into with the City prior to final map approval. The planting requirement can be phased, as long as phasing is consistent with final map phasing;*
- *mitigation acreage required by this policy is not eligible for bonus densities permitted under the Cultivated Overlay District described in the South Livermore Valley Area Plan.*
- *the following areas will be included when calculating "developed" area for purposes of determining required mitigation: developable residential lots, public rights-of-way, and private open space/recreation areas that are not open to the public.*
- *Areas that will not be included in mitigation requirement calculations are:*
 - *Natural open space that is not disturbed by the development;*
 - *Public parks;*
 - *Trails and developed open space that is open to the public; and*
 - *Public school sites.*
- *agricultural easements will generally follow the form of the Land Trust's Model Easement, and will provide for City review and approval of easements prior to acceptance and provide the City with independent enforcement authority for the easements.*

- *for the purposes of ascertaining compliance with the various agricultural mitigation requirements of this Plan, the term "SLVAP 'Vineyard Area'" refers to the area within the boundaries of the South Livermore Valley Area Plan as of November 17, 1997.*

- Policy 6-2: Land outside a given subarea shall be eligible for meeting the mitigation acreage requirement for that subarea only after the City determines that lands within the subarea with a Specific Plan designation of "Agricultural Preserve" have been protected with an agricultural easement. Lands within the subarea may also count as mitigation acreage if all of the requirements of this Specific Plan for mitigation are met. Exceptions to allow lands outside a given subarea to be used as mitigation acreage before all lands within the subarea are can be negotiated between the developer and the City as part of a development agreement, so long as all lands within the subarea will ultimately be placed under easement.*
- Policy 6-3: With submittal of a tentative subdivision map, an applicant must identify the location of all agricultural mitigation lands required for development proposed by the tentative map and provide evidence that the applicant controls the property (by agreement with the property owner, option, deed, or other means).*
- Policy 6-4: Environmental survey work required by State or Federal law for sensitive species or wetlands, shall be performed for all mitigation lands prior to approval of a Final Subdivision Map for the urban development requiring the agricultural mitigation and prior to disturbance of an area for agricultural planting.*
- Policy 6-5: Agricultural mitigation plantings shall generally follow accepted industry standards for the amount of land set aside for equipment maneuvering, the spacing of trees or vines, and the design of irrigation systems. New cultivated agriculture resulting from Plan policies shall use water conserving best management practices including the use of drip irrigation wherever feasible.*
- Policy 6-6: To be eligible as mitigation plantings, an area must have been planted after October 11, 1993, when the City of Livermore adopted South Livermore Valley Policies as a part of the General Plan. The only exception to this will be for olive trees that were planted up to 36 months prior to October 11, 1993.*
- Policy 6-7: Retail uses and for-profit major attractions in the Specific Plan area will be required to pay an agricultural mitigation fee of \$2.50 per square foot to the South Livermore Valley Agricultural Land Trust. Fee amounts should be adjusted annually to reflect changes in the Consumer Price Index. Only those uses that might be considered "pure" retail (e.g., retail uses that sell products that are not produced in the South Valley) would be subject to the mitigation fee. This definition includes primarily the retail uses and for-profit major attractions that are proposed in the "wine country center" on the County's property in Subarea #5. Commercial uses not subject to the agricultural mitigation fee include: restaurants, bed-and-breakfasts, inns, and wineries or other agriculture-based commercial operations.*
- Policy 6-8: The City shall not approve an individual development project(s) on land subject to Williamson Act contracts and shall not cancel contracts on land within the South Livermore Valley in its jurisdiction. An exception to the foregoing may be considered by the City for lands under contract which are proposed for development according to the Plan, provided that the replacement acreage for the land to be developed will be placed under an agricultural conservation easement, pursuant to the provisions of the Government Code Section 51526. Parcels proposed for development according to the Plan shall be free of contracts before site alteration or construction activities are permitted, including installation of infrastructure facilities.*

Policy 6-9: The City shall encourage assembly or consolidation of potential agricultural land or the consolidated management for coordinated long-term agricultural operations on those parcels. The latter could be accomplished through leases by single farmers within individual subareas to plant, manage, and harvest agricultural mitigation land located within the SLVSPA, and could be accomplished as part of the review of the required eight-year maintenance contract.

6.3.2 AGRICULTURAL MITIGATION ALTERNATIVES

Although the primary purpose of the Agricultural Mitigation Program is to enhance agricultural activity in the South Livermore Valley, the Specific Plan also allows certain uses other than agriculture to receive mitigation credit. Specifically, mitigation credit will be given for areas whose highest value to the community has been determined to be something other than cultivated agriculture, such as, habitat preservation or public recreation.

Policy 6-10: In addition to the standard agricultural mitigation (i.e., planting, dedication, and long-term maintenance), agricultural mitigation credit may be given for dedication of easements and/or title to other open space areas whose highest value to the community is determined to make a significant contribution to either protection of the South Livermore Valley environment or establishment of regional open space that will attract visitors to the South Livermore Valley. The following uses are eligible for environmental protection/regional open space mitigation credit:

Regional Trail Corridors. Regional off-street trail corridors as shown on the Specific Plan Trail Plan, including areas both inside and outside the Specific Plan area. The width of the corridor for mitigation purposes shall be the width of the area set aside for the trail (through easement or dedication) as defined by the Specific Plan.

Blue-line Streams. Areas within 100 feet of the center line of any blue-line stream in the planning area (i.e., a total width of 200 feet). In order to count as mitigation, the area must be dedicated to and accepted by a public agency and shall include any bank stabilization and revegetation as required by the City in consultation with County, State and Federal agencies. In addition, any trails shown within the area on the Specific Plan Trail Plan must be improved in conjunction with the dedication.

Steep Slopes. At the discretion of the City, minor portions of a parcel set aside for cultivated agriculture may be excluded from the cultivation requirement to preserve environmentally sensitive areas within the subareas, such as slopes in excess of 25%, tree groves, wetlands, or areas with unique environmental characteristics. The credit ratio would be determined by the City, but it would not be greater than 1:1.

Regional Open Space. Areas identified by the Specific Plan as Regional Parkland are eligible for mitigation credit under the following conditions. The land must be dedicated to and accepted by LARPD for permanent regional open space use. In addition to dedication, any trails shown in the Specific Plan Trail Plan that connect urban development within the Specific Plan area to the regional trail system must be fully improved (i.e., trails in the areas outside the Specific Plan boundaries will be improved by LARPD).

Regional Open Space/Environmental Protection mitigation credit is available subject to the following conditions:

- 1. A minimum of one acre of environmental and open space land shall be dedicated for each acre developed and, in addition, a minimum of one acre of environmental and open space land shall be dedicated for each new unit permitted in the project.*

2. *For environmental and regional open space land that the City determines is not suitable for agricultural, residential, or active recreational use, three acres shall be dedicated for each acre required by paragraph (1) above. Generally, land that consists of slopes greater than 25% would fall into this category.*
3. *Mitigation acreage shall be contiguous to the extent necessary to form a viable open space resource or environmental protection zone.*
4. *Mitigation acreage required under (1) and (2), above, is not eligible for bonus densities permitted under the Cultivated Agricultural Overlay District described in the South Livermore Valley Area Plan.*

6.3.3 DISTRIBUTION OF AGRICULTURE

Increasing cultivated agriculture within the planning area is intended to enhance the vitality of the South Livermore Valley wine industry, but it is also intended to enhance to scenic and aesthetic character of the planning area. Cultivated agriculture, but particularly vineyards and olive orchards, are considered a visual amenity that contributes to the rural agricultural character of both the existing community and the proposed development. The site planning has therefore gone to great lengths to maximize the visibility of the proposed vineyard and orchard areas for both the general public and for future residents.

Substantial agricultural buffers, ranging from 100- to 500-feet deep have been created between existing City and County roads and proposed development. By placing these buffers in the foreground of views from the public roadways the Plan intends to both highlight the importance of agriculture in the South Valley by increasing its visual prominence, and to create the sense that the new development is sited in the midst of vineyards and orchards, rather than being just an extension of existing urban development.

In addition to considerations of the public's perception of the development from the public roadways, the Plan also attempts to create the sense for future residents that they live "in the vineyards". To accomplish this, the site plans for each of the subareas attempt to maximize the number of units that have direct visual access to the adjoining vineyards/orchards by dividing the development areas into a number of smaller components that are separated by fingers of agriculture. In addition, visual corridors have been reserved at street ends and internal roadways have been aligned to maximize views of the surrounding agriculture from within the development areas. In all cases, agricultural areas have been sized to ensure their viability for active agriculture (see the Section 6.4 Public Health and Safety for discussion of potential land use conflicts associated with agricultural activities).

Policy 6-11: To enhance the wine country character of proposed development, agricultural buffers between external public roadways and development areas shall be developed in accordance with the site plans set forth in this Specific Plan. In addition, site designs shall integrate areas of active agriculture with developed areas to the extent consistent with maintaining agricultural viability.

6.3.4 PERMANENT OPEN SPACE BUFFER

A key objective of the Plan is to establish, through the combination of development and dedication of open space/agricultural easements, a permanent open space buffer along the southern edge of the City that will prevent continued urban sprawl into this valuable agricultural area, and preserve the area's open rural character. The development identified in this Plan represents the ultimate urban development potential that will be considered by the City for the seven subareas. To this end, the Plan requires that all land outside the development areas be put under permanent agriculture or open space easement or dedicated to a public open space agency (e.g., LARPD) prior to approval of final maps.

Policy 6-12: In order to ensure a permanent open space boundary along the City's southern edge, all open space lands in the planning area, but outside the urban development areas, shall have permanent agricultural and/or open space easements placed on them, or be dedicated in fee title to the City or a public open space agency designated by the City, prior to final map approval.

6.4 NATURAL RESOURCE PROTECTION

6.4.1 BIOLOGICAL RESOURCES

The planning area contains a range of vegetative cover including grasslands, woodlands, riparian, fresh water marsh, and aquatic habitat, and agricultural crops and developed areas. Historic disturbance of most of the planning area by agricultural activities has significantly reduced the range and condition of remaining resources. The biological assessment prepared as background for this Specific Plan includes more detailed information about biological conditions in the area including lists of species found in the area. The complete biological assessment can be found in the EIR for this Specific Plan, which can be obtained at the City of Livermore Planning Department.

GOAL: To protect and enhance existing biological resources in the South Livermore Valley.

Planning Area Plant Communities

Grassland. Grassland vegetation in most of the subareas is composed primarily of introduced annual grasses and forbs which form non-native grassland. Intensive grazing in and around the planning area and throughout California has dramatically altered the composition of grassland communities during the past 100 years, eventually replacing most of the native perennial bunchgrasses with non-native annuals. Remnants of native valley wildrye grasslands remain on the upper elevations of Subarea #7, generally above an elevation of approximately 650 feet. These native grasslands are characterized by dense to open stands of creeping wildrye (*Elymus triticooides*) with other native and non-native species. Due to the rarity of the remaining native grasslands in the State, the CNDDDB gives this natural community a high inventory priority. Smaller stands of native grasslands occur along the major Subarea #7 ravine below 650 feet, but most lower elevations support a cover dominated by non-native species. Evidence of native grasslands is absent in the other subareas.

The expanse of grasslands in Subareas #1, #4, #6, and #7 and surrounding undeveloped lands contributes to the importance of this habitat type to larger mammals and raptors. Larger wildlife species are able to forage in the grasslands because of the restricted access and limited human activity, often dispersing through partly developed areas at night when they are less easily detected. The deeply incised channels and protective cover along the creek corridors in Subarea #7 likely provide an important link for these larger mammals between Sycamore Grove Park and the undeveloped grazing lands to the south.

The development and increased agriculture associated with the Plan will reduce the area of grassland cover in the planning area, but a special effort has been made to preserve the most important grassland areas, including those in the upper portions of Subarea #7 and the southeastern portion of Subarea #4. Both of these areas are designated to dedicated to LARPD for protection and use as regional parkland.

Policy 6-13: In order to protect native and non-native grasslands and reduce erosion potential, residential development and intensive agricultural use is prohibited on hillside slopes in the southern part of Subarea #7 above an elevation of 650 feet (These areas are designated regional open space by the Plan).

Policy 6-14: Regional trails in the proposed regional park open space area above an elevation of 650 feet in Subarea #7 should use the existing fire trails or be sited to minimize disturbance to native grasslands. If the trail corridor is to deviate from the existing fire trail, further detailed assessment and mapping of grassland cover along the trail corridor shall be conducted by a qualified plant ecologist, and the proposed alignment should be adjusted before construction of any trail improvements in order to protect stands of native grassland.

Policy 6-15: *In order to prevent further disturbance to grassland cover and other vegetation, vehicles and motorcycles shall not be allowed to travel off designated roadways. Barriers should be provided where vehicle access to open space areas might be possible.*

Although substantial areas of existing grassland area will be removed by grading for development and agriculture, the intent of the Plan is to reintroduce as much planting of native species and re-establishment of the natural landscape as possible to enhance the natural and rural character of the setting after development. A more naturalized landscape treatment of the development areas will be used to integrate the development with the natural surroundings. The site plans for the various subareas include numerous areas both within the development areas and around the perimeters that are intended for landscaping with predominantly native plant species. New development should avoid the use of non-native ornamentals that will compete with native species in open space areas.

Policy 6-16: *Landscaping and revegetation shall emphasize the use of native drought resistant plant species along the fringe of future development projects in all of the subareas. Landscape design and maintenance shall recognize the ultimate condition of a specific location and provide appropriate plants which can survive and regenerate naturally. Landscape improvements shall be monitored for a minimum of five years until defined plant establishment criteria are achieved. Suitable native plant species for possible use in landscaping plans in or adjacent to open space and rangeland areas include valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), live oak (*Q. agrifolia*), California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), California rose (*Rosa californica*), creeping wildrye (*Elymus triticoides*), and purple needlegrass (*Nassella pulchra*).*

Policy 6-17: *Non-native ornamental species used in landscape plantings shall be restricted to the immediate vicinity of future residential and commercial uses. Landscaping plans shall not include use of non-native invasive species which may spread into adjacent undeveloped areas. Unsuitable species include blue gum eucalyptus (*Eucalyptus globulus*), acacia (*Acacia spp.*), pampas grass (*Cortaderia selloana*), broom (*Cytisus spp.*), gorse (*Ulex europaeus*), bamboo (*Bambusa spp.*), giant reed (*Arundo donax*), English ivy (*Hedera helix*), German ivy (*Senecio milanioides*), and periwinkle (*Vinca sp.*).*

Policy 6-18: *Graded slopes which are to remain undeveloped and without landscape improvements shall be reseeded with a mixture of compatible native and non-native perennial and annual species to increase the diversity of the grassland cover. Highly invasive annuals typically used just for erosion control shall not be used.*

Woodlands. The woodland communities in the planning area include scattered stands of oak woodland and savanna in upland locations and sycamore alluvial woodland along the historic stream terrace of Arroyo Valle. The sycamore woodland generally is confined to the open space lands of Sycamore Grove Park, although a narrow band of sycamore trees (*Platanus racemosa*) occurs on a slope between historic stream terraces in Subarea #6. The oak woodlands occur primarily along the north-facing slopes and major ravines of Subarea #7. A smaller stand of open oak savannah occupies the southeastern part of Subarea #4. Individual oaks occur in scattered locations in Subareas #1, #5, and #6. Blue oak (*Quercus douglasii*) and coast live oak (*Quercus agrifolia*) form the dominant tree species in most of the woodland and savannah, and individual valley oak trees (*Quercus lobata*) grow at lower elevations. Most of the native trees in the planning area are mature specimens with little regeneration observed in the understory. Along the northern boundary of Subarea #7, numerous olive, walnut, and almond trees grow with the native oaks and are a functional part of the woodland.

Woodland and savanna communities are composed of trees which may live 300 years or more and are of concern because of their long maturation time, sensitivity to grading, and importance as nesting, roosting, and cover for wildlife. The CNDDB recognizes valley oak and sycamore alluvial woodlands as sensitive natural communities with a high inventory priority. Because of the sensitivity and relatively limited extent of woodland areas in the planning area, the site plans for the subareas generally avoid development near mature trees. The intent of the Plan is to preserve mature trees whenever possible, and when not possible, to replace them. Due to the scale at which the site planning has been done, there may be areas where

proposed development would threaten existing trees. It is anticipated that most trees can be preserved through minor adjustments to roadway alignments or lot lines or through use of sensitive construction practices. Adherence to the City's Vegetation Preservation Conditions will serve to identify significant trees and shrubs and provide for appropriate preservation and restoration.

Policy 6-19: Oaks and other native trees shall be preserved and protected to the maximum extent possible, with adequate replacement provided where tree removal is unavoidable. Sponsors of individual development projects proposed in Subareas #1, #4, #5, #6, and #7 shall design their projects to refine the Plan's development concepts in order to protect mature native trees. Surveys shall be performed to identify trees with trunk diameters of four inches or greater (measured at a height of four feet above grade) before submitting tentative maps for individual development projects, and project plans shall map trunk locations within 50 feet of the anticipated limits of grading. Individual native trees shall be preserved by adjusting proposed site alterations, using retaining walls, creating short over-steepened slopes, and other methods.

Policy 6-20: The owner of Parcel 5-B shall do everything feasible to protect the five (5) oak trees located in the northwest portion of the parcel, including adjusting the alignment of the roadways and the siting of the two residential lots in the vicinity of the intermittent drainage.

Policy 6-21: In order to preserve the band of existing sycamore and oak trees in Subarea #6, intensive agriculture is prohibited on the slope bank between the two terraces.

Policy 6-22: Individual development projects shall comply with the City's Vegetation Preservation Conditions and appropriate tree protection guidelines to minimize the potential for damage to significant vegetation. The following tree preservation guidelines shall be implemented to minimize the potential for damage from proposed development and construction activities:

- Avoid grade changes within 1.5 times the width of the tree dripline and prohibit any encroachment closer than 15 feet of the trunk. Restrictions on the limits of grading, adjustments to the final grade of cut and fill slopes, and use of retaining walls shall all be used to protect individual trees worthy of preservation.*
- Before any land alterations or construction begin, install temporary fencing along the outermost edge of the dripline of each tree or group of trees to be retained in the vicinity of grading in order to avoid compacting the root zone and mechanical damage to trunks and limbs.*
- Prohibit paving within the tree dripline by using porous materials such as gravel, loose boulders, cobbles, wood chips, or bark mulch where placement of hardscape in the vicinity of trees would be necessary for access.*
- Prohibit trenching within the tree dripline and install any utility line required to be located within the dripline by boring or drilling through the soil.*
- Minimize the amount of landscape irrigation within the tree dripline by prohibiting turf or any landscaping with high water requirements and by limiting permanent irrigation improvements to bubbler, drip, or subterranean systems.*
- Prohibit storage of construction equipment, materials, and stockpiled soils within the tree dripline.*

Policy 6-23: Where removal of trees is unavoidable, each project sponsor shall prepare a tree replacement program to provide for replacement of native trees with trunk diameters exceeding four (4) inches future development would remove. The tree replacement program shall be incorporated as a component in each project's Landscape Plan and

implemented as part of site revegetation and landscaping. The tree replacement program shall include the following:

- *Replace oaks at a ratio of 5:1 (ratio of replacement trees to number of trees removed) unless salvaged from the site or grown from a locally-collected seed source (as specified below)*
- *Replace all other tree species at a ratio of 3:1*
- *Select plant species composition for the tree replacement program consistent with the percentage of each tree species removed.*
- *Salvage and transplant young trees and saplings (with trunk diameters of less than 12 inches) from within the limits of anticipated grading to use as replacement plantings as part of a project's revegetation program. Use of on-site salvage trees for replacement plantings would preserve younger trees and protect the genetic integrity of the native species. Trees from a local source, particularly seedlings, typically have a higher success rate for re-establishment than nursery stock due to their adaptation to local conditions. Due to the benefits of using local plant material, salvage of young oaks is required where young trees are available on site. The required replacement ratio is reduced from 5:1 to 3:1 where on-site oaks are used as replacement plantings.*
- *Consider collecting on-site seed and growing seedlings for use in the tree replacement program. Seeds should be collected on-site in the fall months, planted in temporary containers, and maintained for a period of one or more years until seedlings are ready for planting. As with salvage plantings, oak seedlings grown from an on-site seed source are preferable to off-site nursery stock. This program will be encouraged by reducing the required replacement ratio from 5:1 to 3:1 where seedlings from on-site collection are used as replacement plantings.*
- *Monitor tree replacement plantings for a minimum of five years. If mature salvaged trees die within this time period, replacement plantings shall be made at the respective 5:1 or 3:1 ratios. Any on-site salvage, locally-collected and grown seedlings, or nursery stock plantings lost within this monitoring period shall be replaced at a 1:1 ratio on an annual basis.*

Riparian, Fresh Water Marsh, and Aquatic Habitat. Riparian plant communities are sparse in the planning area. Plant cover along most planning area drainages is indistinguishable from the surrounding non-native grasslands. Two remnant drainages occur in the western part of Subarea #5 and support several native trees, including valley oak, sycamore, and California buckeye (*Aesculus californica*). Several major Subarea #7 ravines support wetland indicator species -- such as saltgrass (*Distichlis spicata*) -- with stands of oak woodland vegetation along the upper channel banks. Seeps and springs along the creek channel in the central ravine in Subarea #7 support isolated clumps of cattail (*Thypha latifolia*) and individual willow shrubs, but intensive cattle grazing and the stream's intermittent nature appear to limit establishment of well-developed riparian cover. A perennial stream which flows along the southwest boundary of Subarea #7 supports a dense cover of willow scrub and oak woodland vegetation and is part of a continuous canopy of riparian vegetation which continues into undeveloped grazing lands to the south.

Freshwater marsh vegetation grows around the fringes of six man-made stock ponds in Subareas #4 and #7, which were created by damming reaches of intermittent streams and drainages. Five of the ponds are located in Subarea #7 and contribute to the habitat value of the creek corridors south of Sycamore Grove Park. All appear to contain water year-round and are fringed by a dense growth of cattail. The pond in Subarea #4 was created recently along a drainage swale in the central part of the subarea. It is relatively shallow and supports a dense thicket of cattail.

Seasonal wetlands occur in a number of locations in the planning area. They support a cover of primarily annual wetland species and are bordered by non-native grassland. Seasonal wetland indicators were observed during the 1996 reconnaissance of Subareas #2, #5, #6, and #7. Most of these seasonal

wetlands appear to be vernal swales, but at least one on the large claypan terrace in the western part of Subarea #7 appears to be a vernal pool. While severely degraded by cattle, this feature is a jurisdictional wetland and most likely can best be characterized as a northern claypan vernal pool -- a sensitive natural community with a high CNDDB inventory priority.

Aquatic habitat throughout the planning area includes perennial and intermittent creeks, stock ponds, seeps, and seasonal wetlands. The perennial and seasonal waters and associated wetlands provide important habitat for numerous species of invertebrates, reptiles, and amphibians, possibly including special-status species (e.g., tiger salamander). Stock ponds created to hold drinking water for livestock now contribute to the wildlife diversity of the surrounding area by providing breeding habitat for amphibians, foraging habitat for birds, and a source of drinking water for larger native mammals.

In order to protect the habitat value of the area's streams, drainages, ponds and other aquatic habitat areas, the Plan generally provides development setbacks from these features. However, anticipated grading to accommodate residential, commercial and agricultural development could affect possible seasonal wetlands in Subareas #2, #4, #5, #6 and #7. Detailed wetland delineations will be required in each of these areas prior to development approvals to accurately determine the extent of seasonal wetlands affected by development. Possible wetland features that will need to be evaluated include:

- the scattered seasonal wetlands on the Scott and Volkman parcels in Subarea #2;
- The intermittent drainage at the west end of Subarea #5 and the seasonal wetlands on the County's property and the Tolentino property;
- The swale and drainage channel in the mid-elevations and possibly much of the lower Subarea #6 terrace; and
- The vernal pool in the claypan area and drainages in Subarea #7 that will be crossed by the central roadway.

Modifications to drainage channels will be subject to jurisdictional review and approval by the CDFG, and the elimination or "filling" of the scattered seasonal wetlands and other waters associated with drainages will require approval by the Corps. Further review by the City and representatives of these agencies will focus on the adequacy of avoidance, replacement, and enhancement efforts to mitigate disturbance to existing wetlands and also provision of new wetlands and native plantings to replace any native vegetation removed to make improvements. The objective of these agencies is to ensure no net loss of either habitat acreage or value. Depending on the extent of disturbance and quality of affected habitat, required mitigation could vary from simple in-kind replacement to a wetland replacement ratio as high as 3:1.

Policy 6-24: In order to minimize disturbance to important wildlife habitat, new development shall protect and restore native vegetation and sensitive habitat features such as creek corridors and wetlands. Development and intensive agricultural uses shall be setback a minimum of 100 feet from the centerline of intermittent and perennial streams which support woodland and riparian vegetation or serve as important wildlife movement corridors. Development shall be setback a minimum of 50 feet from smaller drainages and seasonal wetlands to be retained in the vicinity of proposed development. Where stream crossings are required, bridges or oversized culverts shall be used to minimize disturbance to wildlife movement.

Policy 6-25: Control access to the main creek through the center of Subarea #7 to minimize disturbance to wildlife and improve habitat value of the corridor. Limit human access within the creek channel by establishing an improved trail on only one side of the creek and its upper tributaries. Locate the trail alignment outside the deeply incised channel banks and avoid areas of dense shrubs of mature trees. If grazing is to continue on the site, restrict cattle from the main creek channel by installing three-strand barbed wire fencing along the top of bank.

Policy 6-26: All modifications to potential wetlands and other waters, including filling of drainage swales, seasonal wetlands, and creek crossings, shall be coordinated with representatives of the CDFG and Corps, as required by State and Federal law, to ensure that all mitigation requirements and any design modifications are incorporated into individual development projects during the initial stages of project review.

Policy 6-27: Wetlands shall be accurately identified and avoided by proposed development to the extent feasible. Where possible, this shall include redesign of site-specific infrastructure improvements and through relocation or elimination of lots in individual development projects. Development and intensive agriculture shall be set back at least 100 feet from all wetlands to be preserved or created. A detailed wetland delineation shall be conducted by a qualified wetland specialist for each subarea to accurately determine the extent of wetlands and other waters. Wetland delineations shall be conducted and verification with the Corps required by Policy 6-26 completed prior to submittal of a Tentative Subdivision Map.

Where disturbance and loss of wetlands can not be completely avoided, a detailed wetland protection, replacement, and restoration program shall be prepared by a qualified wetland specialist which meets with the approval of jurisdictional agencies and the City. Some loss of degraded, isolated seasonal wetlands with poor habitat value is anticipated as part of implementation of the Plan. Each wetland mitigation plan shall clearly identify the total wetlands and other jurisdictional areas affected by individual development projects and agricultural expansion in the affected subarea, provide for re-establishment, enhancement, and/or replacement of wetland habitat. Each wetland mitigation plan shall include the following details:

- Identify the location(s) of mitigation areas. Mitigation for loss of existing wetlands shall be provided at a minimum replacement ratio of 3:1, and shall create or restore wetlands with a higher habitat value. Wetland replacement habitat shall be created on-site or alternatively in Sycamore Grove Park as part of a consolidated area-wide wetland mitigation and enhancement program. Replacement wetlands shall be consolidated to the degree possible thereby improving the value of the currently scattered wetlands.*
- Specify performance criteria, maintenance and long-term management responsibilities, monitoring requirements, contingency measures, and funding. Monitoring shall be provided for a minimum of five years and continue until the performance criteria are met.*
- Define site preparation and revegetation procedures, an implementation schedule, and funding sources to ensure long-term management of the overall wetland mitigation plan.*

Policy 6-28: A detailed erosion and sedimentation control plan shall be submitted with any application for a tentative subdivision map approval. The plan shall include measures to control erosion of stockpiled earth and exposed soil, provide for revegetation of exposed slopes before the first rainy season following construction, and specify procedures for monitoring the plan's effectiveness. The plan shall be reviewed for adequacy by the Engineering Division, and plan compliance shall be made a condition of approval for the tentative map and all individual development projects within the area covered by the plan.

Plant Species of Special Concern

Due to the extent of historical disturbance from past agricultural practices, the likelihood of occurrence of any sensitive plant populations in Subareas #1, #2, #3, #5, and #6 is so remote that further detailed surveys do not appear warranted. However, the extent of native grasslands on parts of Subarea #7 and the oak

savanna habitat in the upper elevations of Subarea #4 suggest that native plant populations, possibly including one or more special-status species, could occur on at least parts of these two subareas. For this reason, among others, portions of both of these areas are designated by the Plan as regional parkland. Species with a particularly high likelihood of occurrence in these subareas include fragrant fritillary (*Fritillaria liliacea*), Congdon's tarplant (*Hemizonia parryi* ssp. *congdonii*), and Brewer's dwarf flax (*Hesperolinon breweri*). The vernal pool in the claypan area of Subarea #7 also may support endemic species -- such as Contra Costa goldfield (*Lasthenia conjugens*). Systematic surveys during the appropriate flowering period will be required to confirm the presence or absence of any plant species of concern in the proposed Subarea #7 development areas.

Animal Species of Special Concern

Of the 26 animal species of special concern that have been recorded in or are suspected to occur in the vicinity of Livermore, the California Natural Diversity Data Base (CNDDDB) has recorded individuals or distinct evidence of only four species in the South Livermore area. They are the California tiger salamander, California red-legged frog, tricolored blackbird, and burrowing owl.

California Tiger Salamander. Distribution of this species has declined due to conversion of valley and foothill grassland habitat to agricultural and urban uses. For much of the year adult salamanders occupy burrows made by California ground squirrels and other rodents and they migrate to water sources to breed after the first hard rains in the fall. Numerous occurrences of the tiger salamander have been reported in the planning area vicinity, including breeding locations in the Ruby Hill project west of Subarea #7 and several records of migrating adults along East Vineyard Avenue, Arroyo Road at Arroyo Mocho, and Marina Avenue at Arroyo Mocho, and the presence of larval young at two recently constructed seasonal breeding ponds in Sycamore Grove Park, immediately north of Subarea #7. It appears that salamanders may use burrows on adjacent Subarea #7 for summer aestivation. Seasonal pools along the intermittent streams and the vernal pool in the claypan terrace in this subarea also may be used for breeding. No adult or larval young were observed in the stock ponds in Subarea #7 during the spring surveys conducted in 1995. While Subarea #7 appears to provide the most desirable habitat for California tiger salamander, adjacent undeveloped uplands with suitable summer aestivation habitat in other subareas also may be used by dispersing adult salamanders.

California Red-Legged Frog. The USFWS recently listed this frog as a threatened species. This frog's preferred habitat consists of permanent ponds with lush shoreline cover where bullfrog and predatory fish are absent. The stock ponds in Subareas #4 and #7 provide suitable breeding habitat for red-legged frog, but the presence of large bullfrog populations may be preventing use of the ponds for breeding. No adult or larval young were detected in any of the ponds during spring surveys conducted in 1995.

Burrowing Owl. This owl has no legal status under the Federal or State Endangered Species Acts, but is protected under the provisions of the Migratory Bird Treaty Act and is recognized as a Species of Special Concern by the California Department of Fish and Game. Destruction of California ground squirrel colonies, conversion of pasture land to agricultural and urban development, poisoning, and human disturbance are major reasons for the decline of this species. No known colonies or breeding pairs have been reported in the subareas, although a CNDDDB general occurrence record extends just southeast of Subarea #1. Suitable habitat occurs throughout most of the subareas and could be used in the future.

Tricolored Blackbird. The tricolored blackbird has no legal protective status under Federal or State Endangered Species Acts, but is designated as a special-concern species by the CDFG. The freshwater marsh vegetation along the fringes of the stock ponds in Subareas #4 and #7 provide suitable breeding habitat for the colonial nesting tricolored blackbird. Nesting colonies have been recorded in the gravel quarries southwest of Livermore, including one along Arroyo Valle near the Isabel Avenue crossing. No nesting activity or individuals were observed in 1995 or during 1996 field reconnaissance surveys, but this does not preclude use of suitable habitat in the future.

Invertebrates. All three of the special-status freshwater shrimp species require vernal pool and swale habitat where the drought resistant eggs from the previous year's generation remain in the bottom substrate

and hatch when the pools refill the following spring. The vernal pool in the claypan terrace of Subarea #7 and possibly the vernal depressions and potential seasonal wetlands in Subareas #2, #5, and #6 provide marginally suitable habitat for these invertebrates. Past agricultural activities and intensive trampling by livestock have severely degraded the habitat conditions of these features. No shrimp-like crustaceans were found during extensive dip net sampling of the stock ponds in 1995, but sampling of the vernal pool and seasonal depressions was not performed as part of that survey effort.

The future development of the subareas and the increased agricultural activity will reduce the available habitat for certain special status species, but direct impacts to such species or their habitat has been avoided wherever possible. If any species of concern is encountered during the development process, disturbance to essential habitat shall be avoided to the extent feasible. Where complete avoidance is not possible, a mitigation plan which satisfies jurisdictional agencies shall be prepared and implemented.

Policy 6-29: Essential habitat for special-status species shall be accurately identified and avoided by proposed development to the extent feasible. Where possible this shall include redesign of site-specific infrastructure improvements and through relocation and/or the elimination of lots within the designated development area. Confirmation surveys conducted in accordance with established protocol, shall be performed to determine whether special-status plant and animal species occur within certain subareas where absence has not been confirmed. Where appropriate, the scope of specific surveys shall be coordinated with the CDFG and USFWS, and trustee agencies shall be given an opportunity to review the adequacy of the survey efforts and recommended mitigation as part of environmental review of individual development applications. Confirmation surveys shall include:

Systematic rare plant surveys for all plant species of concern in Subarea #7;

Surveys of suitable vernal pool and swale habitat in Subareas #2, #4, #5, #6, and #7 for the fairy shrimp species of concern;

A survey of the vernal pool in Subarea #7 to determine if this feature is used for breeding by California tiger salamander.

Surveys for possible nesting burrowing owl in all subareas where development is proposed, extending a minimum distance of 300 feet from the limits of grading and construction.

If any special-status species are encountered, disturbance to essential habitat shall be avoided to the extent feasible. Where disturbance and loss of essential habitat can not be completely avoided, a detailed habitat protection, replacement, and restoration plan shall be prepared and implemented by a qualified biological specialist which meets with the approval of jurisdictional agencies and the City.

Policy 6-30: Pre-construction raptor surveys should be conducted by a qualified wildlife biologist in the respective subarea before initiation of any development project in order to determine the presence or absence of active raptor nests which could be disturbed or lost with project implementation. The required pre-construction nesting surveys and construction restrictions shall include the following elements:

- Conduct each survey 30 days before any grading or other habitat modifications. Confirmation surveys on presence or absence of burrowing owl ground nesting colonies shall be required on all subareas at any time during the year to ensure absence of any resident owls. Due to the presence of trees and possible use by tree-nesting raptors, surveys in Subareas #5, #6, and #7 shall also determine whether any nests occur in trees within 300 feet of proposed development if grading or other habitat modifications are proposed during the breeding season of tree nesting raptors (from March 1 through August 15).*

- *If an active raptor nest is encountered, establish an appropriate buffer with a minimum distance of 300 feet around the nest location, as determined in consultation with representatives of the CDFG and USFWS to ensure compliance with the provisions of the State Fish and Game Code and the Migratory Bird Treaty Act. The perimeter of the buffer zone should be flagged in the field at 50-foot intervals, and all construction activities, including grading, tree removal, equipment storage, and stockpiling of soils, should be prohibited within this buffer zone.*
- *Prohibit construction activities within the designated buffer zone until the wildlife biologist determines that breeding was unsuccessful, that the young have fledged from the nest, or that a CDFG-approved relocation plan has been implemented successfully.*
- *Prohibit construction activities within the designated buffer zone, including removal of any nest tree or burrow, until the wildlife biologist submits written confirmation on the status of nesting activity to the City Planning Department.*

6.4.2 CULTURAL RESOURCES

Although the South Livermore Valley is believed to have been inhabited for one or two thousand years prior to the modern era, there are relatively few known archaeological or historical resources that pre-date the late 19th Century. Five archaeological sites have been recorded in the general South Livermore Valley area, two of which are located along the banks of the Arroyo Mocho, but none have been identified within any of the planning subareas.

The key historic resources found in the area relate directly to the establishment of the South Valley as a wine-producing region in the latter half of the 19th Century. There are a number of wineries and rural homesteads in the planning area vicinity that date from the late 19th and early 20th centuries. Given the desire to secure and enhance the image of the South Livermore Valley as a premium wine-producing region, the presence of these resources can play an important role in establishing links to Livermore's rich history.

GOAL: To preserve South Livermore's heritage as embodied in the area's historic structures and cultural resources.

Three 19th Century wineries located in the vicinity have State landmark status, and contribute greatly to the area's sense of history. These wineries include the Wente Bros. Winery on Tesla Road, the former Cresta Blanca Winery (now the Wente Sparkling Cellars) on Arroyo Road, and the Concannon Winery on Tesla Road. In addition, the historic Ravenswood Park, which is adjacent to Subareas #4 and #5 on Arroyo Road, is a distinctive example of a 19th century estate.

There are no designated California Historical Landmarks located within the planning area, but there are a number of existing buildings, building sites, and/or features that are of potential historic interest, and whose preservation and enhancement would contribute to the overall character of the planning area.

The remains of the former Olivina Winery and estate are located in Subareas #6 and #7. The entry gate to the former Olivina estate is located at the southwest corner of Wetmore and Arroyo Roads. The river rock archway that forms the gate and the long entry drive and alleé of olive trees that bisect Subarea #6 are important and distinctive landmarks. The former Olivina Winery building, which is listed as an historic site in the City of Livermore's General Plan, is located at the base of the hillside in Subarea #7, adjacent to Sycamore Grove Park. While in disrepair, this structure has not been modified for other uses, and thus maintains much of its historical integrity. LARPD, which may acquire the land on which the former winery is located as part of the Specific Plan process, has expressed interest in restoring this structure for use as an historical interpretive center. In addition to the winery and entry features, other vestiges of the Olivina Estate include the unbuilt homesite of the Smith residence and the double row of almond trees along the northern perimeter of the terrace in the west part of Subarea #7. While not as obvious to the casual

observer, these features also have the potential to express part of the South Valley's story if properly enhanced or interpreted.

Policy 6-31: As a condition of receiving title to the land on which the Olivina Winery is located, LARPD will be encouraged to restore the Olivina Winery structure as an interpretive center for the public.

Policy 6-32: The Olivina gate and entry drive shall be preserved as historic features that refer to the South Valley's past. Although the entry drive is not required to be open to public access, the alleé of trees along the drive shall be replanted to re-establish the tree-shaded lane that once existed. Replanting shall occur prior to or concurrent with the agricultural planting of Subarea #6,

Policy 6-33: The double row of almond trees along the northern perimeter of the terrace in Subarea #7 should be replanted and some reference (e.g., plaque, vista point, etc.) should be made to the site that was once planned for the Olivina Estate home.

Two other rural homesteads in the planning area also represent potentially valuable historic resources: the Caldera residence at 2235 Wentle Street in Subarea #3, and the Zumbach Ranch at 2927 Hansen Road in Subarea #4. Both of the homesteads are typical rural farm compounds consisting of a cluster of buildings. The Caldera residence includes a two-story farmhouse, barn, outbuildings, and tank house that date from around 1890. The Zumbach residence, which is more recent, circa 1920, includes a residence, barn, outbuildings, and corrals.

While neither of the sites has status as a designated historic resource, a 1991 survey indicated that both exhibit very good historical integrity. The Plan protects both of these sites because of their positive contribution to maintaining a rural agricultural setting and a link to the area's past. The Plan retains the existing Caldera residence and farm compound, allowing for eventual conversion to a bed-and-breakfast or a small winery if it is not used as a private residence. The Zumbach Ranch is retained for its current use as a residence and equestrian facility.

Another potential resource that has no formal status as an historic resource, but is important in the context of the South Livermore Valley Plan are the remains of the Wetmore home in Subarea #5. While only the foundations of this residence actually remain, the site is significant because it was home to the Wetmore family, one the pioneering wine-making families in the Valley. The Plan does not suggest that this resource is worth restoring or re-constructing, but suggests that the site's potential to somehow mark or commemorate the area's past could be creatively incorporated into future development of the area. The Plan designates the area near the former residence for the development of a small winery. Such development might utilize the foundations in the structuring of a garden or a picnic area for wine country visitors.

Policy 6-34: New development in the Specific Plan area shall protect Livermore's cultural heritage and historic resources consistent with City policies, including the preservation and/or adaptive re-use of sites, buildings, structures, and other features that are related to or reminiscent of the South Valley's rural, agricultural heritage.

The City of Livermore General Plan includes policies whose purpose is to protect the community's archaeological and historical resources (Part III.C.6.a-g). In addition to those existing policies, the Specific Plan area is subject to the following policies:

Policy 6-35: All properties with historic resources which may be impacted by future development shall be subjected to in-depth research to determine the significance of the resource prior to any alteration.

Policy 6-36: Where disruption of historic resources is unavoidable, encourage the adaptive re-use or restoration of historic structures or features (such as farm residences, old barns and outbuildings) whenever feasible.

Policy 6-37: LARPD, in conjunction with interested groups such as Friends of the Vineyards and the Livermore Cultural Heritage Commission, should develop a self-guided history tour that

identifies important historic sites and features within the Valley and includes exhibits/plaques at each location that explain each site's significance.

The Plan recommends preservation of archaeological and historic resources whenever feasible. The preservation and enhancement of these resources can contribute to the creation of a unique sense of place in the South Livermore Valley by acknowledging the area's history.

6.5 CONSERVATION AND PUBLIC SAFETY

In addition to protecting important natural resources, the Specific Plan has been developed to ensure that future residents are protected from natural hazards that could affect public safety. The general approach has been to site new development in areas that have minimal physical constraints to development, rather than assuming that such constraints can be overcome with mitigation measures. In spite of careful site planning, it is not possible to guarantee that all natural hazards have been avoided. The principal concerns are related to seismic activity and associated geotechnical hazards such as landslides, liquefaction, soil expansion, and ground surface rupture.

GOAL: To create a land use pattern that ensures public health, safety and welfare.

6.5.1 GEOLOGY, SOILS AND SEISMICITY

Seismic Fault Zones

In a seismically active region like the Bay Area, short of no development whatsoever, there is no way to eliminate seismic impacts altogether. However, site specific avoidance of active faults can reduce the likelihood of surface ground rupture beneath development to a generally accepted level. Known active faults in the region include the Las Positas, Greenville, Verona, Calaveras, Hayward, Concord/Green Valley, and San Andreas faults. Of these faults, only the Las Positas Fault is located in the planning area. Previous seismic studies in the area had identified traces of the Las Positas Fault in Subareas #1, #4, #6 and #7, and fault trenching work was conducted as part of this planning process to confirm the presence and exact location of the fault, and to identify appropriate setbacks for new development.

Based on the trenching data, the site plans for Subareas #1, #4 and #7 have incorporated appropriate setbacks for new development near the Las Positas Fault. The site plan for Subarea #1 provides the required 50-foot setback from the known active trace of the Las Positas Fault investigated by the project geologist, and the required 100-foot setback from the possible second fault splay mapped by other geologists on California Department of Mines and Geology Alquist-Priolo Earthquake Fault Zone maps. The site plans for Subareas #4 and #7 also provide minimum 100-foot setbacks from the probable location of the Las Positas Fault as it passes through these areas (Due to the presence of utility easements and the distance from proposed development, the exact location of the fault in this area was not determined.). Development of structures consistent with these setbacks should prevent deformation, damage, and possible collapse of structures as a result of surface rupture along the Las Positas Fault. However, roads and underground utilities which cross the fault to serve development areas in Subareas #1 and #7 could be displaced, cracked, or damaged by movement on the fault.

Policy 6-38: Require development in Subareas #1, #2, #4, #6 and #7 to maintain building setbacks of at least 50 or 100 feet from the Las Positas Fault, as shown in the site plans.

Policy 6-39: Applications for approval of any development within an Earthquake Fault Special Studies Zone or within 500 feet of a known or inferred active fault shall be accompanied by a report prepared by an engineering geologist certified by the State of California identifying appropriate building setbacks and building standards for that development sufficient to ensure that the risk of property damage for that development is not greater than that for development elsewhere in the Plan area. Such a geologic investigation shall include a detailed fault trenching study (with continuous trenches oriented approximately perpendicular to the fault). The trenching should cover the limits of the proposed building site and a minimum of 50 feet beyond it in each direction.

Policy 6-40: To the extent feasible, design underground utilities to accommodate anticipated off-sets caused by fault creep or surface rupture. Include standard automatic shut-off mechanisms on both sides of the fault to minimize leakage in the event that lines are broken during fault rupture.

Policy 6-40A: Require all development to (1) comply with all applicable seismic design provisions of the Uniform Building Code; (2) incorporate into site design and design implementation where

feasible the recommendations of the Structural Engineers Association of Northern California ("SEAONC"); (3) complete site specific engineering geology tests and investigations prior to detailed design and submit an Engineering Geology Report with Project Improvement Plans presenting the results of the site-specific investigation and including specific recommendations for design and implementation measures required to mitigate local geologic conditions to a level of insignificance; and (4) mitigate any undocumented fills or septic tanks identified during the site specific investigation by excavation of the fills and recompaction to modern compaction standards (Organic content tests shall be performed on the shallow surficial soils to determine their suitability for use as engineered fill. Soil that is not suitable for use as engineered fill shall be removed from the site, or used only in landscaped areas of the development).

Slope Stability

Most of the planning area is relatively level to gently rolling so issues of slope stability are generally not widespread. However, review of geologic maps and aerial photos indicates that parts of Subareas #1, #4 and #7 are underlain with landslides and/or colluvial deposits. The most plentiful of the landslide types present in planning area are shallow coalescing earth and debris flows, with a lesser number of deeper rotational and translational slump landslides. The landsliding identified in Subareas #1 and #4 are not located near proposed development areas so do not represent a hazard to future residents. In Subarea #7, however, there appear to be several shallow earthflow and possible ancient landslides on the slopes where development is proposed, particularly on the north-facing slopes just below the Zone 7 facility.

These areas must be thoroughly explored before approval of detailed development plans in order to determine the existence and exact nature of any landslides, and to determine what specific mitigation measures, if any, will be necessary. Because of their subdued topography, the existence of ancient bedrock landslides is questionable and cannot be determined definitively without subsurface investigation. If any of these features adjacent to future development areas are determined to be landslides, they could pose a potential geologic hazard which would require repair.

Policy 6-41: For development on slopes of less than 10 percent, grading shall be permitted up to the boundary of any lot or developed open space and contiguous lots may be graded contiguously. No grading shall be permitted in adjacent undeveloped open space areas as part of the subdivision development. For development on slopes of between 10 and 25 percent, grading shall be limited to roads, driveways, and the building envelope as defined by the applicable setbacks. No grading shall be allowed on slopes in excess of 25%. Where development requires cut and fill grading, such cut and fill shall not exceed a ratio of 3:1 and shall be contoured to match the natural terrain. Notwithstanding the foregoing, the City may issue a grading permit where grading is required to repair previously graded areas or future failures in natural areas which affect building sites or roads, and the proposed repairs are consistent with the policies of this Plan.

Policy 6-41A: Require all development to (1) comply with all applicable seismic design provisions of the Uniform Building Code; (2) incorporate into site design and design implementation where feasible the recommendations of the Structural Engineers Association of Northern California ("SEAONC"); (3) complete site specific engineering geology tests and investigations prior to detailed design and submit an Engineering Geology Report with Project Improvement Plans presenting the results of the site-specific investigation and including specific recommendations for design and implementation measures required to mitigate local geologic conditions to a level of insignificance; and (4) mitigate any undocumented fills or septic tanks identified during the site specific investigation by excavation of the fills and recompaction to modern compaction standards (Organic content tests shall be performed on the shallow surficial soils to determine their suitability for use as engineered fill. Soil that is not suitable for use as engineered fill shall be removed from the site, or used only in landscaped areas of the development.)

Policy 6-42: No development shall occur on any portion of a site that contains, or could affect or be affected by, an identified active or ancient landslide or other geologic hazards. Proposed site plans shall be accompanied by a report prepared by an engineering geologist certified by the State of California certifying that the proposed development area (1) does not include any active or ancient landslide or other geologic hazards and (2) will not affect or be affected by any active or ancient landslide or other geologic hazards.

Because of the existence of landslides and colluvial deposits in the planning area, the potential instability of cut, fill, and natural slopes could be significant in the hilly parts of Subareas #4 and #7. There is also a significant possibility of erosion of graded slopes if proper drainage facilities are not provided. It is particularly important to control water in landslide areas where concentrated runoff could lower the stability of landslide areas. These areas also are prone to increased erosion and surficial instability because of their long-term strength when saturated.

Policy 6-43: Geologic and geotechnical engineering investigations shall precede formulation of development plans in proposed hillside development areas, and project designs shall incorporate detailed slope stability measures to be monitored during subsequent grading.

Expansive Soils and Liquefaction

Expansive Soils. Expansive soils are naturally prone to large volume changes through the absorption of water. The physical manifestation of such moisture change most often is expansion or swelling during the wet winter months, and subsequent shrinkage due to drying or desiccation in the summer. This cyclic volume change can exert large forces on nearby structures, causing damage to concrete slabs and foundation elements and cosmetic damage to interior and exterior wall surfaces.

While most of the soils in the planning area have low expansion potential, some soils of the Los Osos Association, which are known for their expansion potential, occur in the steeper foothill areas of Subarea #7, Expansive soils may also be present locally in areas underlain by clayey bedrock or alluvial formations. Such soils generally are cohesive, have a high clay content, and appear desiccated when dried.

Policy 6-44: Design development in Subarea #7 shall take into account the potential hazards of specific geologic and soils conditions. Site-specific tests and investigations must be completed before detailed project planning, design, and construction in order to thoroughly characterize these conditions and to design and implement measures required to mitigate local conditions.

Liquefaction. Liquefaction is a process by which a cohesionless soil (such as sand, coarse silt, or fine gravel) becomes "liquefied" upon losing its shear strength through intense shaking. This phenomenon is common in loosely compacted sandy fills near large sources of water or in areas with a high water table, as is the case in parts of Subareas #3, #5, #6 and #7. Depending on soil conditions, liquefaction can occur during seismic shaking if groundwater is present within about 40 feet of the ground surface.

The soil and groundwater conditions in the planning area vary from subarea to subarea. However, because of shallow groundwater conditions in Subareas #3, #5, #6 and #7, further site-specific evaluations are required to determine the potential risks from liquefaction which may be present. Such evaluations should employ standard penetration testing (SPT) and liquefaction analysis.

Policy 6-45: Development in Subareas #3, #5, #6 and #7 will be required to evaluate liquefaction potential on a site-specific basis as part of each project's overall geotechnical investigation, and identify detailed engineering solutions to address liquefaction potential if present. Development shall not occur if a project cannot mitigate liquefaction impacts without causing other impacts.

6.5.2 NOISE

A noise measurement survey was conducted as part of the background research for the Plan. The survey results indicate that neither the existing or projected noise environment in the planning area present any significant constraints on the proposed development. Motor vehicle traffic on area roadways is the major source of noise in the planning area, and will increase with project development. Farm machinery is also a source of noise near some of the subareas, and will also increase as land adjacent to proposed development is planted in vineyards and other crops. The noise survey also identified intermittent noise from training and operations activities at Sandia National Laboratories (SNL) that affects the noise environment of Subarea #1.

Protection from Traffic Noise

The Plan incorporates broad agricultural setbacks between proposed development and public roadways as a means of minimizing traffic-generated noise impacts on proposed residential development. The buffer areas designed into the Plan provide between 100 and 500 feet of separation between the principal roadways and planning area residences. These buffer areas serve not only to enhance the rural, agricultural character of the development setting, but, in most cases, they also obviate the need for unsightly sound walls that might ordinarily be used. The one possible exception is in the west end of Subarea #5, adjacent to Vallecitos Road. In this area, it appears that the proposed 100-foot setback between the roadway and the nearest residential parcels may exceed the 60 dBA L_{dn} noise level that is normally considered acceptable by the City of Livermore. A noise barrier will be required in this area in addition to the setback provided.

Policy 6-46: Maintain agricultural buffers specified in the Plan to ensure adequate mitigation of projected traffic noise on future residents.

Policy 6-47: Design and build a noise barrier in the open space buffer between Vallecitos Road and the proposed development in Subarea #5. The barrier must be sufficient to reduce noise levels on adjacent lots below an L_{dn} of 60 dBA, and must be designed to be as inconspicuous as possible from Vallecitos Road. A landscaped earthen berm or combination berm and barrier shall be used to attenuate traffic noise. No sound walls or fences that are visible from the adjacent public thoroughfares shall be permitted.

Noise Generated by Agricultural Activities

One of the primary design objectives of the Plan is to integrate the proposed development with proposed vineyards and orchards in order to enhance the rural agricultural character of the development and emphasize the wine country connection. The Plan maximizes the adjacency of houses to vineyards because it is seen as a real amenity for future residents. However, implementing the proposed development pattern will also result in more residents being exposed to active agricultural operations, including the potential for agricultural noise that may at times disturb residents living adjacent to the agricultural areas.

Viticulture will be the primary agricultural use in most of the subareas, with olive orchards in Subarea #4 being the only exception that is known at this time. During most of the year, noise levels associated with the cultivation and maintenance of vineyards is minimal. During the winter and spring, fans sometimes are used to prevent or reduce frost damage. Fans typically are powered by the equivalent of V8 automobile engines which can be heard across long distances. Before harvest, various techniques are used to scare birds away from the grapes, including the firing of blank cartridges. Small tractors and all terrain vehicles that are used in the vineyards also generate some noise. During the harvesting and subsequent crushing of the grapes in the fall, farm workers move through the vineyards with trucks, and localized noise levels are generated at the wineries themselves. Noise from these activities will be intermittent and seasonal nature, and will not exceed the City's noise and land use guidelines. However, such noise will exceed ambient background noise levels and be audible from adjacent residences. During periods of high activity (e.g., harvest time) the noise generated by agricultural activities may disturb some residents. The exposure to such noise is considered a trade-off that future residents can make in exchange for being able to live adjacent to a vineyard or orchard.

Policy 6-48: The City of Livermore shall adopt and enforce a right-to-farm ordinance.

Policy 6-49: All new home-buyers in the Specific Plan area will be notified in their deeds of the potential for noise conflicts associated with agricultural activities, and the existence of the City's right-to-farm ordinance. The deed declaration will make explicit that noise generated from normal agricultural operations associated with and required to perform agricultural operations is allowable and is not subject to control or regulation in response to complaints from the adjacent residential property owners.

Noise Compatibility with Existing Uses

In addition to agricultural activities, two other existing sources of noise were identified that could affect future development in the Specific Plan area: the Sandia National Laboratories and the Shaheen Industrial Park.

The Sandia National Laboratories (SNL) owns the land contiguous to the east of Subarea #1. SNL's security buffer, which immediately adjoins Subarea #1, is designated as agricultural open space, and is not planned for future development. However, SNL's Laboratories Hazardous Test Area and its Pistol and Rifle Range are located approximately 950 to 1,500 feet east of the subarea. Both of these facilities occasionally and intermittently generate impulsive noise levels that will be audible at the nearest residences in Subarea #1. Based on previous studies, it does not appear that noise levels generated from SNL exceed the City's noise compatibility standards. However, the intermittent noise-generating activities at Sandia National Laboratories will be loud enough that they could be annoying to future residents in Subarea #1. While SNL has made some sound-proofing improvements to the firing range in recent years, it is not anticipated that the existing noise sources will be removed or fully mitigated.

Policy 6-50: As a condition of final map approval, the owners of all property designated for residential use within Subarea #1 shall grant a noise easement to Sandia National Laboratories granting the Laboratories the right to generate noise at the existing facility and to be free from complaints or future legal action by the owners or residents of the residentially designated property. Deeds for residential lots shall include a disclosure statement that identifies the potential for noise, the character of the noise, and the terms and conditions of the easement held by the Laboratories.

Although no significant noise sources were identified by the noise monitoring at the Shaheen Industrial Park on South Vasco Road, the potential still exists, given its industrial character, that either existing or future industrial tenants could generate noise levels at the property line that would disturb adjacent residents in Subarea #2. The site plan for Subarea #2 calls for a 50-foot wide landscape buffer between the proposed residential development and the industrial park primarily to screen views of the industrial area from new residences. While the setback will help avoid noise impacts, it is also suggested that a noise barrier be constructed along the south and west boundaries of the industrial park to further minimize the potential for noise conflicts.

Policy 6-51: A sound barrier shall be developed in Subarea #2 along the south and west boundaries of the Shaheen Industrial Park in order eliminate potential noise conflicts between industrial and residential uses. Berming and landscaping should be used to make the sound barrier as inconspicuous as possible from East Avenue, South Vasco Road, and residential development in Subarea #2.

7.0 Community Services and Facilities



7.0 COMMUNITY SERVICES AND FACILITIES

7.1 SCHOOLS

7.1.1 EXISTING FACILITIES

The Livermore Valley Joint Unified School District (LVJUSD) provides public education to the City of Livermore and surrounding areas, and will include the future Specific Plan development areas. The LVJUSD currently operates 11 elementary schools, four middle schools, two high schools, and three alternative / continuation schools. The LVJUSD has an open enrollment policy which will permit new students from the South Livermore Valley Specific Plan area to attend any school in the District. The closest existing schools to Subareas #1 and #2 are Arroyo Seco, Jackson, and Almond Avenue elementary schools, East Avenue Middle School, and Livermore High School. Existing schools closest to Subareas #3, #4, #5, #6, and #7 are Smith, Sunset, and Joe Mitchell elementary schools, Mendenhall Middle School, and Granada High School.

Student enrollment in the District has been growing in recent years, and many schools are reaching capacity. Currently the District is operating at approximately 92% of its capacity, with a current enrollment of 12,232 and capacity for 13,342 students.

7.1.2 PROJECTED FACILITY NEEDS

The LVJUSD's Facilities Master Plan, which addresses the District's space needs, includes plans to increase future capacity to 18,255 by the school year 2005-2006. In order to provide this capacity, the LVJUSD Facilities Plan requires the expansion of each existing school campus (with the exception of Arroyo Mocho) to the maximum capacity given the physical site constraints, the use of interim portable classrooms, and the construction of new elementary and high schools.

In projecting its facility needs, the LVJUSD Board-adopted optimum school capacity is 650 students for an elementary school, 800 students for a middle school, and 1,650 students for a high school. Planning for each campus also has an overflow component to allow time for planning, funding, and construction of new facilities as needed.

7.1.3 PROJECT-RELATED INCREASES IN SCHOOL ENROLLMENT

Specific Plan development will generate new demand for school facilities, beyond those levels already planned for in the District's Facilities Master Plan. Based on District enrollment generation factors, buildout of the Specific Plan is projected to add 842 new students to the District, including 397 elementary students, 192 middle school students, and 253 high school students. According to the District, this increase will require the addition of a new elementary school in addition to those already planned. Given that Specific Plan development is projected to occur over a period of 15 to 20 years, this increase in enrollment will be gradual.

In order to meet the need for new facilities, the Specific Plan designates a 14.1-acre site in Subarea #3 for the District to develop a public elementary school. The location of the site was developed in consultation with the District to ensure the best service, not only to the Specific Plan area, but also to the rest of the Livermore community.

The site has been strategically located adjacent to Robertson Park and away from the Concannon Boulevard extension. The LVJUSD sees adjacency to the park as an amenity that expands the opportunities for student activities, as well as potential public use of the school facilities. It also provides a direct connection to the bicycle/pedestrian trail along the Arroyo Mocho that will benefit safe student access to school. To further enhance pedestrian and bicycle access to the school from existing neighborhoods, the Specific Plan designates a north-south trail corridor from Robertson Park to Concannon Boulevard along the west side of the school, and an east-west corridor along the north side of Concannon Boulevard. By locating the school site near, but not on, Concannon Boulevard, the schools

will benefit from convenient vehicular access while avoiding pedestrian safety and traffic noise issues (refer to the Transportation and Circulation Element for additional discussion of access issues).

GOAL: Assist the local school district in their effort to meet the community's need for quality education.

Policy 7-1 Subarea #3 landowners shall reserve the 14.1-acre school site designated in the Land Use Map (Figure 4.6) to accommodate the future development of an elementary school by the LVJUSD. In the event, that the LVJUSD does not acquire or build a school on the 14.1-acre site, the City will consider modifying the use of the site to a residential land use at a similar density to the remainder of Subarea #3, subject to subsequent environmental review. If the school is not developed, or is developed and subsequently sold, a minimum of seven acres of the school site shall be retained for acquisition as a park site.

Policy 7-2 The City shall work with the LVJUSD and developers to ensure that adequate classroom space is available to them when new homes are occupied.

7.1.4 SCHOOL FUNDING

Funds for facilities needed to accommodate students from new development historically have come from AB 2926 developer fees, currently \$1.93 per square foot for residential construction and \$0.31 per square foot for commercial development. In 1992, the City of Livermore adopted Ordinance 1396 which provides full mitigation for new residential development. In order to meet the requirement for full mitigation, new development is required to pay additional fees over and above those required by AB 2926. Under an agreement worked out between the District, the City and developers, beginning in 1998, new development will be required to pay a total of \$12,196 per residential unit. Full mitigation requirements are reviewed annually as part of the LVJUSD's *Ten Year Facilities Master Plan*. Changes in the amount of funding required are made as necessary, based on the District's facility needs.

Policy 7-3 New Specific Plan development, including both residential and non-residential, shall comply with the requirements of City Ordinance 1396 in order to fully mitigate the impact of such growth on school facilities.

7.2 FIRE PROTECTION

7.2.1 EXISTING SERVICE

At the present time, fire protection services are provided to the unincorporated planning area by the Alameda County Fire Department. With annexation and development of the Specific Plan area, the Livermore-Pleasanton Fire Department will assume responsibility for fire protection services to the seven subareas. Fire protection services provided by the Fire Department include fire suppression, fire prevention, and emergency medical assistance.

The Livermore-Pleasanton Fire Department (LPPFD) was formed in January 1997 by the consolidation of the Livermore and Pleasanton Fire Departments. The LPPFD is staffed by a total of 100 fire suppression staff, all of whom have emergency medical training (EMT) and are EMT certified. Based on the current LPPFD population of approximately 117,000 people, there is approximately 0.85 firefighter per 1,000 residents.

The LPPFD operates out of eight fire stations. Stations that will serve the Specific Plan area include: Station 5, located on Vineyard Avenue approximately one-half mile from the entrance to the Ruby Hill development; Station 6, located on the eastern edge of Livermore at East Avenue and Loyola; Station 7, which serves the northwest portion of Livermore and is located on Rincon at Pine Street; Station 8, located north of I-580 in Springtown on Bluebell at Lilac; and Station 9, serving the southeast portion of the District, located at Concannon Boulevard and Cordoba.

The LPFD has an Automatic Aid Agreement with the fire department at Lawrence Livermore National Laboratory (LLNL), which means that the LLNL engine companies are an integral part of the LPFD response team and will respond automatically to fires in the LPFD jurisdiction, as well as those at the Labs. The LLNL fire station, which has seven fire engines and 42 full-time firefighters, is located at its main campus on East Avenue. The City also is a party to the mutual aid agreement under the Alameda County Mutual Aid Plan, where aid can be requested at any time from the California Division of Forestry, the Alameda County Fire Department, and the Tracy Rural Fire District.

7.2.2 SERVICE STANDARDS

GOAL: Ensure that fire protection in the South Livermore Valley is consistent with standards maintained in the rest of the city.

Response Time

The Fire Department's current service standard requires the first fire engine to arrive at an incident within five minutes of a call. The second engine should arrive within seven minutes, the third within nine minutes, and the fourth within 11 minutes. At present, the average response time is generally within the Department's standard. However, the LPFD is planning to construct a new fire station near the airport to improve response times to northwest Livermore.

Development within the Specific Plan area will increase demand for fire protection and expand the geographic area within which services must be provided. However, given the recent consolidation of the Pleasanton and Livermore fire departments and the City's existing Automatic Aid Agreement with the Lawrence Livermore National Laboratory, the Department's 5-minute standard for emergency response times can be maintained to all areas of the Specific Plan without additional stations or manpower. The following table shows which stations would be affected by development of the Specific Plan area, and the probable order of response to each of the subareas:

Subarea	First Engine Response	Second Engine Response	Third Engine Response
Subarea #1	LLNL	LPFD Station #6	LPFD Station #9
Subarea #2	LPFD Station #6	LLNL	LPFD Station #9
Subareas #3-6	LPFD Station #9	LPFD Station #6	LPFD Station #7
Subarea #7	LPFD Station #5 or #9	LPFD Station #5, #7 or #9	LPFD Station #5, #6, #7 or #9

Subarea Development Standards

In an effort to maintain a rural character to the development areas, the Specific Plan has formulated development standards, particularly street standards, that are unique to the South Livermore Valley Specific Plan and are not appropriate for use in other areas of the community. Although the Specific Plan design standards may differ from current City standards, the level of fire protection is not intended to be compromised. Each new standard has been carefully formulated to ensure that fire and other emergency access has been fully considered.

For instance, while the Plan provides for narrow street cross-sections, all cross-sections are designed to accommodate emergency vehicles. To compensate for the narrower streets, turning radii at intersection corners have been increased to allow for the turning movements of larger vehicles (e.g., fire trucks). Also, the absence of curbs or the use of roll-over curbs will facilitate emergency vehicle access by allowing vehicles to pull off the roadway if necessary. While the large expanses of pavement used in typical cul-de-sacs are prohibited, the "residential courts" and "farm compound courts" (i.e., dead end streets) have been designed to accommodate fire truck access with three-point turn-around's, consistent with Department standards.

While some common standards have been changed for aesthetic reasons, it is fully intended that Fire Department standards relating to water pressure, spacing of fire hydrants, sprinklering of buildings,

building materials, and fire prevention and safety will apply to Specific Plan development. If future development proposes improvements that are consistent with the Specific Plan standards but raise safety issues for the Fire Department, the Department will work with developers to find a solution that addresses fire safety concerns and is consistent with the rural aesthetic promoted by the Specific Plan.

Policy 7-4 Specific Plan development shall be subject to the fire prevention and safety standards adopted by the Livermore-Pleasanton Fire Department. While the Specific Plan's rural development standards generally conform to the Livermore-Pleasanton Fire Department's requirements, if implementation of such standards creates conflicts in particular locations, the Department will work with developers and City planning staff to find solutions that meet the multiple objectives of the Plan.

Policy 7-4A In the event that old tanks (e.g. propane) or hazardous materials (e.g. asbestos building materials) are discovered in connection with development activities, these materials shall be removed prior to site development, and properly disposed in accordance with applicable disposal regulations.

Emergency Vehicle Access

Secondary Access Routes. The low-density, rural layout of the Specific Plan residential areas emphasizes the relationship between the new residential development and the surrounding open space areas, whether it be vineyards, orchards, parkland or natural areas. As a result, the Plan creates a number of roadways that, because of their length and limited access, would not meet the access requirements typically required by the Fire Department. In response, the Plan has included emergency vehicle access routes to many of the subareas, in addition to the primary vehicular access. The emergency routes provide alternative access to the subarea's in the event that the main roadway becomes impassable during an emergency. Together with the primary roadways, the emergency vehicle access routes will ensure safe and prompt responses to calls for help. Emergency vehicle access routes will be constructed with all weather surfaces, and will have controlled access (e.g., removable bollards, gate, signs, etc.) to prevent their use by other than emergency vehicles.

Special emergency vehicle access (EVA) has been provided in the following subareas:

- Subarea #1: An EVA is designated between the northernmost and middle development areas. Connection to occur through the ends of the two cul-de-sacs near the eastern boundary line (see Figure 5.9 in Circulation Element).
- Subarea #2: No EVA is necessary.
- Subarea #3: An EVA is designated between Robertson Park and the north-south street along the western edge of the school site. The EVA connection point will be the same as the regional trail corridor that extends from the park along this north-south corridor (see Figure 5.11 in Circulation Element). Two other potential EVA connections are available as needed: one is from Robertson Park Road to the north-south corridor along the east side of the school site, and the other is from Louvre Lane along the west side of the site. In both locations, the cul-de-sacs will provide pedestrian/bicycle access to adjoining areas. Subarea developers should coordinate with the Fire Department to determine if either or both are needed for emergency fire access.
- Subarea #4: An EVA is designated between the northernmost development areas (take access opposite Ravenswood Park) and the southernmost development areas (take access off Hansen Road). The road alignment between the two areas will be located in the agricultural buffer along the west side of the Reed/Edwards neighborhood (see Figure 5.12 in Circulation Element).
- Subarea #5: Two potential EVA connections are provided to existing streets in the Ravenswood Park subdivision to the north of the subarea. Chatsworth Street and Superior Drive both stub out at the northern boundary. The Plan designates connections to these streets via cul-de-sacs along the north edge of the subarea (see Figure 5.13 in Circulation Element). Subarea developers should coordinate with the Fire Department to determine if both are

actually needed for fire access. In any event, both of these connections will be made to accommodate pedestrian and bicycle traffic.

Subarea #7: No EVA is required.

Policy 7-5 Specific Plan developers shall coordinate with the Livermore-Pleasanton Fire Department to ensure that adequate emergency vehicle access is provided to all development areas, and that emergency vehicle access routes are designed to the Department's specifications.

7.2.3 WILDLAND FIRE HAZARD

The parklands proposed in Subareas #4 and #7, include grass-covered foothills that represent a potential fire hazard because of the flammability of the dry summer grasses and the difficulty of access. As development of these subarea occurs and the adjacent parklands are opened to the public, the increased presence of people in these areas will increase the chance of fire, whether due to vandalism or carelessness. This increased fire hazard, and the threat it represents to life and property, can be counteracted through appropriate design measures, such as the use of fire resistant landscaping, creation of defensible fire buffer areas, inclusion of non-combustible roof and building materials in residential development, the sprinkling of buildings, implementation of appropriate maintenance procedures, and the provision of improved emergency access to open space areas.

Policy 7-6 In order to ensure adequate fire protection services for wildland areas within the incorporated areas, the Livermore-Pleasanton Fire Department and Alameda County Fire Department should enter a Simultaneous Response Agreement. Such an agreement would mean that both department's would respond to any and all wildland fires in the Specific Plan area, particularly those in Subareas #4 and #7.

Policy 7-7 The CC&R's for Specific Plan development shall require new development adjoining natural areas to incorporate a minimum 30-foot wide defensible space between homesites and adjacent grasslands. Landscaping within this buffer zone shall use fire resistant plant species, and avoid the use of highly flammable trees and vegetation. Irrigation will be provided within the buffer zone, and trees shall be planted so their canopies are at least 20 feet apart.

Policy 7-8 Building elevations directly facing wildland interfaces shall be designed as fire defensible structures (e.g., non-combustible siding, boxed in eaves, triple paned windows, etc.).

Policy 7-9 Fence materials in areas adjacent to wildland open space (i.e., not intensive agriculture), shall be constructed of predominantly non-combustible materials (e.g., metal or concrete posts, open wire mesh, etc.).

Policy 7-10 LARPD shall be responsible for ensuring that fuel loads (e.g., tall grass, dense shrubs, etc.) do not build up in parkland areas adjacent to residential development.

Policy 7-11 LARPD shall integrate fire trails and fire breaks into the open space trail system, and coordinate with the Fire Department regarding standards for access roads in these areas while minimizing environmental impacts.

Policy 7-12 In Specific Plan areas adjacent to natural areas, developers will be required to implement fire prevention measures during construction in order to minimize the potential for wildland fires. Developers can consult with the Livermore-Pleasanton Fire Department regarding appropriate measures and refer to the Wildland-Urban Interface Manual published by the Western Fire Chiefs Association and the California State Fire Marshall.

7.3 POLICE PROTECTION

7.3.1 EXISTING SERVICE

Currently, police service for the planning area is provided by the Alameda County Sheriff's Department and the California Highway Patrol. Once the planning area is annexed and development begins, police service responsibilities will transfer to the Livermore Police Department.

The City of Livermore Police Department (LPD) operates out of a central station located adjacent to City Hall on South Livermore Avenue. The LPD is currently staffed by 65 sworn officers, which is equivalent to approximately 1.03 sworn officers per 1,000 residents. The City's goal is to achieve and maintain a level of 1.25 sworn officers per 1,000 people. The City is served by four basic beats and one roving beat as officers are available. Each police beat has one officer, and there are four shifts a day. The beats are deployed by City quadrant with First Street and South "L" Street serving as the center of the quadrants. A roving beat of three officers and a sergeant is assigned to special operations and can supplement the regular patrols if necessary.

7.3.2 SERVICE STANDARDS

GOAL: Provide adequate police services to the South Livermore Valley Specific Plan area to ensure the health, safety and welfare of existing and future residents, workers, and visitors.

The LPD goal is to respond to all Priority One calls within three minutes and to all Priority Two calls within ten minutes. Priority One calls are emergencies where a felony is in process and life or property is in immediate danger, Priority Two calls are those where there is potential for danger or a disturbance, and Priority Three are routine calls where there is no immediate danger. The LPD currently is operating on a negative patrol index which means that there are more calls for service than staff hours.

Development of the Specific Plan area will substantially expand the current service area and increase response times in the southern beats, requiring the addition of personnel, and potentially the establishment of new geographical beat assignments. A number of factors may contribute to the need for a higher ratio of sworn officers to population and an increased number of patrols in order to maintain current service levels. The large area over which development will be dispersed, the limited number of through road connections both within the subareas and with existing development, and the potential for scattered development during the early phases of development, are all factors that will complicate police services. The addition of wine-country commercial uses and the expansion of tourism related to the wine industry will result in new service patterns and issues for the Department.

At the Department's goal of 1.25 sworn officers per 1,000 residents, buildout of the Specific Plan will generate the need for approximately 4.2 additional officers (assuming a Specific Plan population of 3,340). Given the indefinite phasing of the Specific Plan development, the need to add new officers could be very sporadic, and spread over a period of many years.

Policy 7-13 The City Planning Department will coordinate with the Police Department regarding the timing of annexation and proposed development, so that the Department can adequately plan for the necessary expansion of services to the South Livermore Valley.

Policy 7-14 The City shall provide additional police personnel and the Department will revise its patrols as needed to establish and maintain City standards for police services in the Specific Plan area.

Policy 7-15 Prior to any special wine country events, the Police Department should work closely with the Winegrowers Association and participating wineries to establish strategies for ensuring a safe and welcoming environment for visitors to the wine country, while minimizing the increase in calls for service relating to traffic and noise.

7.4 PARKS AND RECREATION

7.4.1 EXISTING SERVICE AND FACILITIES

Livermore Area Recreation and Parks District

Park Facilities and Service Standards. The Livermore Area Recreation and Parks District (LARPD) is responsible for developing and maintaining parks, special use facilities, and the regional trail system within the District's 245-square mile boundary, which includes the City of Livermore and surrounding unincorporated areas. While the City of Livermore owns the parks within City boundaries, the LARPD manages and maintains all parks and special use facilities through a joint powers agreement with the City. Altogether, LARPD maintains 43 city and regional parks that include 1,272 acres. In addition, LARPD also provides a variety of recreation programs, including after-school recreation, recreational classes, cultural arts, summer youth camp, nature camp, sports, summer aquatics, and senior citizen programs.

The LARPD categorizes its parks according to their size and recreational function. The four categories used by the District are: Neighborhood Parks, Community Parks, Special Use Facilities, and Regional Parks. Table 7.1 shows LARPD standards associated with each of these categories, and Table 7.2 shows the number of parks and acreage currently in each category.

Park Type	Acreage Ratio (per 1,000 residents)	Size Range	Travel Distance	Population Served	Comments
Neighborhood Parks	2 acres	6-10 acres	0.75-1.0 mile	3-5,000	Population served within elementary school zone
Community Parks	2 acres	30+ acres	2 miles	15-20,000	--
Special Use Facilities	3 acres	Varies	Varies	Varies	Provide to meet special needs and demands of the community
Regional Parks	15 acres	250+ acres	1 hour's drive	Varies	Unique habitat and geological features

Source: LARPD Master Plan June, 1995

Number of Parks	Type	Acres
22	Neighborhood Parks	124
2	Community Parks	42
16	Special Use Facilities	203
3	Regional Parks	903
43		1,272

Source: LARPD Master Plan June, 1995

Existing Planning Area Parks. The Specific Plan subareas are generally well served by existing parks, particularly large community and regional parks and special use facilities.

- Only Subarea #1 lacks existing park and recreation facilities in the immediate vicinity.
- The closest existing park to Subarea #2 is Big Trees Park, a 4.2-acre neighborhood facility located approximately one third of a mile north of Subarea #1, off Charlotte Way. Robert Livermore Park, a 30-acre community park which includes soccer, baseball and tennis facilities in addition to turf and picnic areas, is located on East Avenue approximately three quarters of a mile west of the northern entrance to Subarea #1.
- Subarea #3 is located adjacent to Robertson Park, a 133-acre regional park and special use facility that includes softball and soccer fields, turf and picnic areas, an equestrian center and stadium, and hiking/biking and equestrian trails.
- Subarea #4 is located across Arroyo Road from the Ravenswood Historic site and Ravenswood Park. Ravenswood Park is a 29.7-acre special use facility that includes a National Register-listed 19th Century vineyard estate with Victorian-style structures, vineyards, orchards, winery ruins and picnic areas. Ravenswood Park, a 3.3-acre neighborhood park located adjacent to the west side of the Ravenswood Historic Site, includes turf areas, a tot lot, and picnic areas.
- Subarea #5 is located adjacent to the Ravenswood Historic Site and Independence Park, and across Wetmore Road from Sycamore Grove Regional Park. As described above, the Ravenswood Historic Site is a special use facility with links to the Valley's historic wine tradition. The southern part of the site, which is adjacent to Subarea #5 and currently undeveloped, is designated in the LARPD Master Plan as the future site of the Livermore Valley Wine Museum. Independence Park, which is located adjacent to the northwest corner of the subarea, is designated as a 17-acre special use facility because of its soccer fields. Sycamore Grove Park, a 364-acre regional park and nature area, extends from the southwest corner of Subarea #5 southeast along the Arroyo del Valle to Arroyo Road.
- Subarea #6 shares the entire length of its southern boundary with Sycamore Grove Park.
- Subarea #7 shares its northern boundary with Sycamore Grove Park. Veterans Park, a 32-acre special use/regional park, is located adjacent to the east end of Sycamore Grove Park and Subarea #7. Similar to Sycamore Grove Park, the park consists primarily of natural area, supplemented by trails and picnic areas.

Trails. In addition to maintaining park facilities in the Livermore vicinity, LARPD is responsible, along with the City of Livermore, for planning, implementing and maintaining the citywide system of pedestrian, bicycle and equestrian trails. In addition, to developing an integrated trail system that links various parts of the Livermore community, LARPD is also committed to working with other agencies, such as EBRPD and Zone 7, to create an interconnecting valley-wide and Bay Area trail system.

For a detailed discussion of the existing trail system and proposed trail improvements and policies, one should refer to Section 5.6 of the Circulation Element.

East Bay Regional Park District

The East Bay Regional Park District (EBRPD) is responsible for 53 regional parks, recreation areas, wildernesses, shorelines, preserves, land bank areas and 20 regional, inter-park trails. Its jurisdiction covers all of Alameda and Contra Costa Counties.

Existing EBRPD parklands in the Specific Plan vicinity include Del Valle Reservoir and the Shadow Cliffs Recreation area. Del Valle Regional Park is a 3,900-acre recreation area surrounding the Del Valle Reservoir. Located in the foothills south of the specific plan area, this regional park is managed by the East Bay Regional Park District (EBRPD) for the California Department of Parks and Recreation. The park offers boating, fishing, sailboarding, swimming, picnicking and hiking. It is also the only major recreation area in the vicinity in which overnight, weekend and vacation recreation is emphasized.

EBRPD has also recently acquired from Alameda County a 105-acre parcel at the southern end of Arroyo Road, near the end of Sycamore Grove Park. EBRPD and LARPD plans call for a regional trail connection from the south end of Arroyo Road and Veterans Park to Del Valle Park.

Shadow Cliffs Regional Recreation area is located approximately 3 miles west of the Specific Plan area in the City of Pleasanton. Developed around a former gravel mining pit that has been made into a lake, the 249-acre park offers aquatic, hiking, and picnicking facilities. Shadow Cliffs is at the west end of a rich gravel mining area that stretches along the Arroyo del Valle to Sycamore Grove Park and Subarea #6. The Alameda County Flood Control and Water Conservation District (ACFCWCD) Zone 7 oversees the gravel mining in the Arroyo Del Valle as part of its flood control and water management responsibilities. The reclamation plan for the gravel quarries calls for the conversion of mined gravel pits into a "chain of lakes" that will be used for groundwater recharge, water storage, flood control for scenic and recreational purposes. EBRPD and LARPD plans call for a regional trail connection to be developed from Sycamore Grove Park to Shadow Cliffs Recreation Area. This trail link and the link between Veterans Park and Lake Del Valle will create an uninterrupted off-road trail connection between these two regional park facilities.

Historically, parklands within and around the Livermore area were the responsibility of the LARPD. However, when EBRPD boundaries were expanded in 1992 to include eastern Alameda County, the understanding was that LARPD would remain responsible for community-level parks, and that regional parks, open space, and trails connecting them would be EBRPD's responsibility. The primary exception is Sycamore Grove Park, which will remain in the jurisdiction of the LARPD.

7.4.2 FUTURE PARK NEEDS AND PLANS

Existing and Projected Needs

Based on its current parkland standards, LARPD has sufficient regional and special use parks to serve the current population (assuming a 1995 population of 66,000¹) and is almost in balance for neighborhood parks, with only an eight-acre (one-park) neighborhood park deficit. However, the LARPD also has a 90-acre (three-park) deficit for community parks.

The recently updated *LARPD Master Plan* estimates that in order to meet the existing parkland standards by the year 2005 (assuming a Livermore population of 87,000) the District will need five new neighborhood parks (50 acres), four new community parks (132 acres), one to two new regional parks (402 acres), and 58 acres of additional special use parks.

Planned Facilities

GOAL: To develop an integrated park and recreational open space system designed to meet the needs of future Specific Plan area residents, the Livermore community, and visitors to the South Valley.

General Overview. Providing for the recreation needs of future residents and visitors to the South Valley is of primary importance to establishing and maintaining a high quality of life. Recreation is essential to the development of a balanced, healthy living environment. Providing recreational facilities and opportunities within the South Livermore Valley will enhance the character and image of the area. The Specific Plan designates a broad range of open space and park area that will provide for the full spectrum of recreational activities from active sports to passive open space enjoyment.

Altogether, the Specific Plan provides for up to 433.1 acres of parkland or open space. The distribution and types of park facilities planned for the Specific Plan area are based on the distribution of proposed development, the availability of existing park facilities, and on LARPD park standards and projections of need. Given the wealth of existing parkland near most of the subareas, a major focus of the open space plan was to ensure that adequate trail connections were made to provide convenient access to existing

¹ This population estimate is derived from Association of Bay Area Government (ABAG) projections and includes all areas inside the LARPD boundaries -- City of Livermore (approximately 63,000 people) and unincorporated areas (remaining ± 3,000 people).

recreation resources from the proposed development areas. In the process, the proposed trail system will fill key sections in several regional routes designated by EBRPD and LARPD, including the Sycamore Grove-to-Robertson Park corridor, the Del Valle-to-Brushy Peak corridor, and the Shadow Cliffs to San Joaquin County corridor.

Buildout of the Specific Plan is projected to generate a population of approximately 3,340 new residents. Based on LARPD standards, this new population will generate demand for one new neighborhood park of approximately 7.5 acres and 56.3 acres of regional parkland. The Plan provides substantially more parkland than this, providing 12.5 acres of neighborhood park, 402.3 acres of regional parkland, 3.3 acres of private parkland, and 15.0 acres of regional trail corridor. In addition, the 14.1-acre school site in Subarea #3 will have turf fields and other recreational facilities that will be available to Subarea residents. The School District has also discussed the possibility of building a gymnasium as part of the school that could be used by the community during non-school hours.

Subarea Park Facilities. As previously mentioned, the amount and distribution of new parklands was based on a number of factors including existing need, increased demand, and physical characteristics of the subareas. Based on the amount of Specific Plan development designated for Subareas #1 and #2 (52% of the units), and the absence of convenient parklands and recreational facilities in the area, the Plan concentrates its public urban parkland in Subarea #2. Given the combination of steep topography and sensitive environments, the Plan designates large areas of Subarea #4 and Subarea #7 as regional park. The following discussion describes the basic park facilities that have been designated in each of the subareas, including both public parks that will be dedicated to the City/LARPD and private parklands that will be maintained by homeowners.

- Subarea #1: One (1) mini-park (0.6 acres) in the middle development area (Parcel 1-C₁). Intended to be a neighborhood focal point and amenity. Development character to be determined by developer. Could be either passive open space or could include more intensive improvements such as tennis courts, a swimming pool, indoor recreation center or other recreation facilities.
- Subarea #2: One (1) LARPD-owned and operated neighborhood park (12.5 acres) in the center of the subarea (Parcels 2-A₁, and 2-B). Intended to be a neighborhood focal point and amenity, but will also serve as a major recreational resource for residents in surrounding areas, including Subarea #1. LARPD will determine the level of improvements, but intended to include areas for both passive and active recreation.
- Subarea #3: None.
- Subarea #4: One (1) mini-park (0.95 acres) in the northern development area (Parcel 4-A). Intended to be a neighborhood focal point and amenity. Development character to be determined by developer. Could be either passive open space or could include more intensive improvements such as tennis courts, a swimming pool, indoor recreation center or other recreation facilities.

One (1) mini-park (0.25 acres) in the southern development area (Parcel 4-C). Intended to be a neighborhood focal point and amenity. Development character to be determined by developer, but given its limited size, it will probably be passive open space.

One (1) LARPD-owned and operated regional park (55.9 acres) in the easternmost portion of the subarea (Parcel 4-D). The area is intended to be maintained as natural open space to protect the riparian area in the northern corner of the proposed parkland, and the oak savannah that exists on the upper slopes of the southern portion

- Subarea #5: One (1) mini-park (1.25 acres) in the southern development area (Parcel 5-D). Intended to be a neighborhood focal point and amenity. Development character to be determined by developer. Could be either passive open space or could include more intensive

improvements such as tennis courts, a swimming pool, indoor recreation center or other recreation facilities.

- Subarea #6: None.
- Subarea #7: Four Hundred and two (402.3) acres of LARPD-owned and operated regional park in the northern and central portions of the subarea (Parcel 7-B). This area is intended to be an extension of Sycamore Grove Park. The parkland includes the entire central portion of the subarea, including the riparian-oriented open space along the drainages that flow through the center of the subarea. The park designation is intended to protect sensitive environmental resources, particularly in the riparian areas, and will include a minimum 100-foot setback from the top of bank on both sides of the area's drainages.

- Policy 7-16 Development in the Specific Plan area will provide park facilities needed to satisfy a full range of recreational activities from active sports to passive open space enjoyment, for residents and visitors to the South Livermore Valley.*
- Policy 7-17 The Specific Plan shall establish an hierarchy of parks and open space areas that gives structure and identity to the overall area. Individual parks should be strategically sited to create attractive visual features that will provide both focus and identity to the surrounding neighborhood.*
- Policy 7-18 The Specific Plan will provide up to 418.1 acres of parkland, including 402.3 acres of regional parkland, and 15.8 acres of neighborhood parkland.*
- Policy 7-19 Designated regional and neighborhood parklands will be dedicated to LARPD as a condition of project approval.*
- Policy 7-20 In order to receive mitigation credit for the dedication of regional parklands, all trail improvements, bank stabilization, and/or revegetation determined to be necessary by the City (in consultation with LARPD and the Department of Fish & Game) will be implemented by the developer prior to dedication.*
- Policy 7-21 In order to ensure compatibility between uses at Robertson Park and nearby residential properties, deeds for residential lots within 1,000 feet of Robertson Park shall include a disclosure statement that identifies the potential for periodic noise, light and traffic impacts associated with park activities.*

8.0 Public Utilities



8.0 PUBLIC UTILITIES

8.1 WATER SYSTEM

8.1.1 WATER SUPPLY

The California Water Service Company (Cal Water) and the City of Livermore Public Works Department, Water Resources Division provide water to the City of Livermore. Both entities receive their water supply from Zone 7 of the Alameda County Flood control and Water Conservation District (Zone 7). The City updated their Water Master Plan for land within the current General Plan limits in 1996. Zone 7 is the water management agency for the Livermore-Amador Valley. It has a service area of approximately 425 square miles in eastern Alameda County. Water for the Zone 7 area currently comes from three sources:

- Local runoff from the Arroyo del Valle
- Local groundwater
- Imported surface water from the State Water Project (SWP)

Local runoff from the Arroyo del Valle is captured in the Del Valle Reservoir. This runoff is either treated by Zone 7 and used directly, or recharged into the groundwater basin for later recovery. The long-term yield to Zone 7 is 7,000 acre-feet per year.

The Livermore-Amador Valley has a large groundwater basin. The main basin has abundant well yields and good quality groundwater. It is used to supply municipal wells and to store high quality imported water. The current safe yield of the groundwater basin is 12,800 acre-feet per year. Major water retailers are permitted to pump 7,200 acre-feet annually. The balance of the safe yield is pumped for agriculture and gravel mining use.

Imported water from the State Water Project (SWP) currently provides about 70 percent of the water used in the Zone 7 service area. Water is delivered via the Sacramento-San Joaquin Delta and the South Bay Aqueduct. It is treated at the Del Valle and Patterson Pass Water Treatment Plants before delivery. Some imported water is also released into the arroyos for groundwater recharge. Zone 7 has a long-term contract with the SWP for delivery of 46,000 acre-feet of water by 1997. Studies indicate an average yield in excess of 74% of the total will be delivered. Zone 7 staff is using an estimated yield of 34,000 acre feet per year.

For current planning purposes, a total average annual supply of 48,200 acre-feet per year is used for Zone 7's existing water supply.

Zone 7's current demand is based on requested deliveries of 40,755 acre-feet. The 1999 demand, based on a projected population and a per person water demand rate of 190 to 210 gallons per day, is 47,208 acre-feet.

Policy 8-1: The City shall request that its water supply be augmented to allow development of up to an average of 200 units per year in accordance with the growth management policies of this Specific Plan. The City shall impose a condition on all tentative maps that prior to approval of a final subdivision map that (1) Zone 7 has agreed to provide the water supplier for the uses permitted by the map, an adequate and permanent domestic water supply and an emergency fire fighting supply sufficient to service the proposed development and (2) the quality of the domestic water meets all applicable state and local standards. The City shall deny approval of a tentative subdivision map unless, at the time of tentative map approval, the City determines that the domestic water supply and emergency fire fighting supply available from Zone 7 is sufficient to serve all existing domestic uses within the City and uses that may be permitted in accordance with the number of units available for allocation pursuant to the city's growth management program. Development that requires agricultural mitigation shall be prohibited if adequate and permanent irrigation water is unavailable for the land to be used for agricultural mitigation.

Policy 8-2: The City shall condition adoption of individual development proposals for the planning area on adequate delineation of the capacity, phasing, and financing of required domestic water system improvements, including the full cost of securing, conveying, and storing new water sources. The City shall work with Zone 7 to determine water supply needs and sources.

Policy 8-3: Water conservation measures, in addition to those required by State law, shall be incorporated into all development proposals as conditions of approval. Such measures shall include:

- *Use of water conservation devices such as low-flow shower heads, faucets, and toilets.*
- *Use of low flow irrigation systems in public rights-of-way, public parks, recreation areas and vineyards.*
- *Use of drought resistant plant palettes in all new landscaped areas.*

Policy 8-4: Parks, public open space areas, and agricultural areas shall incorporate water conservation methods and the use of recycled water, to the maximum extent feasible.

Policy 8-5: All new development in the Specific Plan area shall contribute funds for a recycled water treatment and distribution system. Each unit shall pay an additional 20% of the Zone 7 water connection fee to support the City's use of reclaimed water.

Policy 8-6 The City shall cooperate in development and implementation of the Zone 7 Salt Management Plan.

8.1.2 WATER DELIVERY SYSTEMS

GOAL: Provide an efficient and environmentally compatible water system that will adequately serve new development and agriculture proposed for the South Livermore Valley Specific Plan area.

Subarea #1

Existing Water System Infrastructure. Subarea #1 is located in the City of Livermore Service Area, Pressure Zone 3. This zone serves elevations from 540 to 680 feet. The Altamont Reservoir, which is located east of Greenville Road and south of I-580, is the storage facility for this Pressure Zone. The existing reservoir has a capacity of 3 million gallons, and a base elevation of approximately 760 feet. The City owns a 16-inch water line in Vasco Road which terminates approximately 3,000 feet south of the East Avenue intersection. This line is considered to be serviceable without need for upgrade or repair.

New Water System Requirements. Subarea #1 will connect to the 16-inch line in Vasco Road, which will need to be extended approximately 1,200 feet south from the present termination. The City's Master Plan calls for expansion of both the pumping and the reservoir facilities that serve the area by the year 2000, but development in Subarea #1 was not included in that expansion calculation. Subarea #1 is projected to generate a Maximum Day Demand of approximately 154,080 gallons per day, and need for 0.15 million gallons (mg) of storage in addition to the City Master Plan requirements by the year 2000. Development of Subarea #1 will contribute to further need for expansion of the Altamont reservoir. The in-tract distribution and fire protection system will consist of 8- and 12-inch water lines as discussed in Camp Dresser and McKee's June 1997 water system study for Subarea's #1 and #2.

Subarea #2

Existing Water System Infrastructure. Subarea #2 is adjacent to the City of Livermore Service Area Pressure Zone 3, and is within the 540 to 680 foot elevation range served by this zone. The existing 12-inch line in East Avenue and the existing 16-inch line in Vasco Road are available to serve this subarea. Both lines are considered to be serviceable without need for upgrade or repair.

New Water System Requirements. Subarea #2 will need to be annexed into the City's Service Area to obtain water service. The subarea will connect to both the 12-inch line in East Avenue and the 16-inch line in Vasco Road. The in-tract distribution system lines will consist of 8- and 12-inch water lines as discussed in Camp Dresser and McKee's June 1997 water system study for Subareas #1 and #2 (refer to Appendix). Development of Subarea #2 will require expansion of the facilities at the Altamont reservoir. Development of Subarea #2 is not considered in the City's Water Master Plan. Subarea #2 is projected to generate a Maximum Day Demand of approximately 584,640 gallons per day, and need for 0.65 mg of storage in addition to the City's Master Plan requirements by the year 2000. Capacity to serve this demand must be added to the facilities expansion shown in the City's 1995 Water Master Plan. Possible options for phased development within Pressure Zone 3 have not been determined by the City.

Subarea #3

Existing Water System Infrastructure. Subarea #3 is located within the service area boundary of the California Water Service Company (Cal Water). Subarea elevations range from 535 to 565 feet, which can be served by Cal Water Pressure Zone 680. Existing 6-, 8-, and 12-inch lines serving the adjacent subdivision terminate near the western boundary of Subarea #3. There is also an existing 12-inch line in Robertson Park Road adjacent to the north side of the subarea. Existing water facilities in the vicinity of Subarea #3 are in good condition and are not in need of replacement.

New Water System Requirements. Subarea #3 will be served, primarily, by the extension of the existing 12-inch line in Concannon Boulevard. The water line will be extended concurrent with the eastward extension of Concannon Boulevard. In addition, development of Subarea #3 will require expansion of the pumping and storage facilities at Pump Station #26, located at Marina Avenue and Arroyo Road¹. The in-tract distribution system will consist of 8-inch water lines.

Subarea #4

Existing Water System Infrastructure. The northernmost area of Subarea #4 (approximately 90 acres) is located within the current Cal Water service boundary. There is currently an 8-inch Cal Water line in Marina Avenue, and a 12-inch line in Arroyo Road. Cal Water's Pump Station #26 is located at the corner of Marina Avenue and Arroyo Road, northwest of Subarea #4.

New Water System Requirements. The southern portion of Subarea #4 that is outside the Cal Water service boundary (approximately 220 acres) will have to be annexed in order to obtain service.² Lot pad elevations in this subarea will range from approximately 530 to 640 feet. A new 500,000-gallon reservoir will be required to provide adequate fire flow, at the easterly end of the subarea, at an elevation of 760 feet.³ Development of Subarea #4 will contribute to the existing requirement for expansion of facilities at Pump Station #26, including a new storage tank at the pump station site. Development of the four proposed commercial sites in this subarea increases the fire flow requirement, and subsequently increases the storage capacity requirement. The existing 12-inch line in Arroyo Road will need to be

¹Cal Water has projected the need for expansion of these facilities based on development of Subareas #3, #4, and #5. Subarea 3's contribution to the expansion need has not been individually estimated, but will be as a requirement of tentative map approval.

²The service provider for Subareas #4, #5, and #7 can be either the City or Cal Water. However, since Cal Water is nearer these subareas its standards are assumed and improvements to its system discussed. A subsequent PUC decision will determine who ultimately serves each subarea.

³Since the adoption of the Specific Plan, Cal Water has re-assessed its water pressure and quality needs to serve Sub-areas #4 and #5 development as well as existing uses in the area. Cal Water has now determined that two 1.5 million gallon water tanks are necessary; Alameda County has issued a permit for these tanks within Subarea #4..

extended approximately 3,200 feet south from its present terminus. The in-tract distribution system will consist of 8-inch water lines.

In addition to water facilities required for Specific Plan development, domestic and agricultural water lines will be extended from the development area to the edge of the Reed/Edwards area to accommodate possible future extension of service to that area. The domestic water lines extended to the edge of the area will be sized to serve only existing development within the Reed/Edwards area.

Subarea #5

Existing Water System Infrastructure. Subarea #5 is contiguous to the Cal Water service area boundary. Zone 7's Del Valle Trunk line is located in Holmes Street, near the western boundary of the subarea. Existing 8-inch lines to the north of the subarea in Chatsworth Way and Superior Drive can be extended into the subarea.

New Water System Requirements. Subarea #5 will need to be annexed to the Cal Water service area in order to obtain water service.⁴ A new connection to the Del Valle Trunkline will be made, and the line extended through the subarea to Arroyo Road. Together, this connection and the upgrade of Pump Station #26 will meet the flow and pressure requirements of the combined residential and commercial demands on the system. Conceptual level design calls for a 12-inch line between the Del Valle Trunkline connection and Arroyo Road. In-tract distribution lines will consist of 8-inch water lines.

Subarea #6

Existing Water System Infrastructure. Subarea #6 lies outside the Cal Water service area boundary. There is no existing infrastructure available for service to this subarea. The closest existing distribution lines are those immediately north of Subarea #5.

New Water System Requirements. The Specific Plan allows for development of a medium-sized winery on this subarea. To provide service from the Cal Water system, annexation to the system and construction of two 8-inch mains from Subarea #5 will be required, in addition to a 12-inch main extension from Arroyo Road.

Subarea #7

Existing Water System Infrastructure. Subarea #7 lies outside the Cal Water service area boundary. There is no existing infrastructure available for service to this subarea.

New Water System Requirements. Water for all residential and commercial uses will be provided by domestic wells or from the Zone 7 treatment plant. Water for agriculture will be provided by private wells or by Zone 7.

Policy 8-7: *Each application for a tentative subdivision map shall include a report approved by the Community Development Department, demonstrating the adequacy and availability of public facilities and services. Localized improvements to infrastructure as generally described in this Specific Plan may be required as conditions of approval for individual projects within the Plan area. Development within the Specific Plan area shall be contingent upon the adequacy and availability of public facilities and services.*

Policy 8-8: *Availability of public services and infrastructures shall be a primary determinant of development phasing.*

⁴The service provider for Subareas #4 and #5 can be either the City or Cal Water. However, since Cal Water is nearer these subareas its standards are assumed and improvements to its system discussed. A subsequent PUC decision will determine who ultimately serves each subarea.

Policy 8-9: The appropriate service provider will be determined at the time each subarea is annexed into the City of Livermore.

Policy 8-10: Specific Plan developers shall coordinate with the appropriate service provider to identify the timing of required improvements, each subarea's proportionate responsibility for necessary improvements, and the provider's approach to funding such improvements (e.g., development fees, up-front financing with reimbursement agreement, etc.). All improvements shall be built to the appropriate system provider's standards.

Policy 8-11: New reservoirs shall be designed and sited to minimize visual impacts. Rather than developing multiple reservoirs, it is preferred that facilities in the same general area be combined into a single reservoir as a means of reducing visual impacts and development costs.

8.1.3 RECYCLED WATER

Consistent with City General Plan policy for the South Livermore Valley, all Specific Plan development will contribute funding to support the expanded use of recycled water in the community. In combination with water conservation efforts required by the Plan, the use of recycled water can partially off-set new development's impact on water resources by providing a secondary source of water for irrigation and for groundwater recharge.

The City of Livermore currently uses recycled (i.e., secondary treated) water during the summer months to irrigate Las Positas Golf Course, the airport landscaping, the Wastewater Treatment Plant landscaping, and a portion of the Caltrans I-580 right-of-way. In addition, the City has completed the construction of a 750,000 gallons per day demonstration microfiltration/reverse osmosis plant which will improve the quality of treated wastewater to the point where it can be used for groundwater recharge within the Livermore Valley. The City has expanded its original proposal for the demonstration project to include the addition of a groundwater recharge component to the demonstration plant. This proposal will permit up to 750,000 gallons of water to be directly put back into the ground to recharge the valley basin underground aquifer. The reverse osmosis plant was completed in July 1997. The current building houses two reverse osmosis units with room for a third (which would bring the capacity to 1.125 MGD). Ultimately, the demonstration plant will be able to expand its groundwater recharge capacity to 6.0 MGD. By blending the more highly treated water from the reverse osmosis plant with secondary treated water and/or untreated agricultural water, the City can also greatly expand its use of recycled water without adversely affecting the environment.

The City has conducted preliminary planning studies for a recycled water distribution pipeline in the South Valley, and is continuing to explore pipeline alignment options. One option that is being considered is along the Arroyo Mocho, with connections to public users that could use the water to irrigate large turf and landscape areas. Such users might include Robertson Park, Sunset Park, Granada High School, and the proposed elementary/middle school in Subarea #3. In addition, such a pipeline would allow recycled water to be released in the Arroyo near the City's Maintenance Service Center for the purpose of groundwater recharge.

Policy 8-12: Specific Plan developers shall pay as part of their water connection fees an additional 20% to support the treatment and use of recycled water in the City of Livermore.

8.2 SANITARY SEWER SYSTEM

8.2.1 SEWER SERVICE AND TREATMENT

The City of Livermore Water Resources Division provides sewer service in the City and other areas within the City service area boundary. The City maintains the collection system, operates the treatment facilities, and contracts for effluent disposal via an export pipeline owned and operated by the Livermore-Amador Valley Wastewater Management Agency (LAVWMA).

The capacity of the City's recently expanded treatment plant is 8.5 million gallons per day (MGD). The plant currently treats about 5.2 MGD. According to the City of Livermore Water Resources Division, treatment capacity is approximately equal to export capacity of the existing effluent export pipeline, and should be able to service a growth rate within the 1.5% to 3% range permitted by the City's General Plan for the next 10 years.

Current demand for treatment is 5.2 MGD. The City has an agreement with the Veterans Administration Hospital to serve it in the future, therefore 0.2 MGD of excess capacity is reserved for it. The City of Livermore's General Plan requires that not less than 30% or more than 35% of remaining capacity beyond 5.0 MGD be reserved for non-residential use. The remainder may be used for housing consistent with the goals of the Housing Element.

Water Reclamation Plant Capacity

• Present Plant Capacity		8.500 MGD
• Less: Current Plant Flow	5.200 MGD	
Ruby Hill	0.325 MGD	
V.A. Hospital Reserve	0.200 MGD	
• Unused Plant Capacity		2.775 MGD
• Residential Portion of Unused	1.805 MGD	
• Less: Remaining Unbuilt Resid. Units with Current Approvals (2,654 units @ 192 gal/unit) ¹	<u>0.510 MGD</u>	
• Current Uncommitted Res. Capacity		1.295 MGD
• Estimated Capacity in Units (based on 192 gpd per unit)		6,744 units

¹The gallons per residential unit figure is gal/unit based on updated information. The estimate of per unit use is made up of two components. The first is per capita use which is 70 gallons per person per day based upon input provided by Water Treatment Plant for the new City of Livermore Sanitary Sewer Master Plan and historical data. The second component is average per unit population in Livermore which is 2.74 persons per unit per 1990 Census information.

8.2.2 SEWER COLLECTION SYSTEM

GOAL: Provide an adequate, efficient, and environmentally compatible sanitary sewer system for the South Livermore Valley Specific Plan area.

It is important to note that the following recommendations for connections to existing sewer facilities may be subject to change based on actual hydraulic calculations submitted with the improvement plans for each subdivision.

Subarea #1

Existing Sewer System Infrastructure. Subarea #1 is near an existing 8-inch line in Research Drive (in the Shaheen Industrial Park), which sewers through a subdivision to the north of East Avenue. An old 10-inch atomic energy line is located in East Avenue, but new development in Subareas #1 and #2 will not be allowed to connect to it.

New Sanitary Sewer System Requirements. Subarea #1 can be sewered in one of two ways. It would be sewered most efficiently through Subarea #2, if the phasing of development in the two subareas permits. If Subarea #2 is developed prior to or concurrently with Subarea #1, a new 8-inch line in Vasco Road

would connect to the 8-inch in the central spine road in Subarea #2, which, in turn, would connect to the 12-inch line in East Avenue. Alternatively, Subarea #1 could sewer into a new 8-inch line constructed in Vasco Road which would connect to the existing 8-inch line in Research Drive. In-tract sewer lines will consist of 8-inch lines.

Subarea #2

Existing Sewer System Infrastructure. There is currently an existing 12-inch sewer line in East Avenue along the north side of Subarea #2. This line terminates west of the subarea near Buena Vista Avenue.

New Sanitary Sewer System Requirements. A new 8-inch sewer will be constructed in the central spine/entry road for Subarea #2. The line will collect the discharge from the different neighborhoods in the subarea and carry it to the 12-inch line in East Avenue. As discussed above, this line could also extend to Vasco Road to collect discharge from Subarea #1, depending on construction phasing between the two subareas. All sewer lines in Subarea #2 will be 8-inch diameter lines. The existing 12-inch line in East Avenue will be extended eastward to provide capacity for Subareas #1 and #2.

Subarea #3

Existing Sewer System Infrastructure. There is an 8-inch sewer line in Chardonnay Way to the west of Subarea #3, to which the subarea can connect. This line has available capacity for the additional discharge from Subarea #3. There is also an existing 8-inch sewer line in Robertson Park Road immediately north of the subarea.

New Sanitary Sewer System Requirements. All in-tract lines in Subarea #3 will be 8-inch diameter lines. The in-tract system will connect to the existing 8-inch line in Chardonnay Way, or there is the possibility of sewerling Subarea #3 by connecting to the existing 8-inch line in Robertson Park Road, if future hydraulic calculations show that this existing line has adequate capacity.

Subarea #4

Existing Sewer System Infrastructure. Subarea #4 is near an existing 8-inch line in Superior Drive which connects to the 10-inch trunk line in Regent Road in the Ravenswood Park subdivision.

New Sanitary Sewer System Requirements. Subarea #4 will connect to the City's existing system through the Ravenswood Park subdivision. Approximately 2,300 feet of new 8-inch line will be installed in Arroyo Road from Hansen Road to Superior Drive. All in-tract lines will be 8-inch diameter lines.

Subarea #5

Existing Sewer System Infrastructure. The existing 10-inch line in Regent Road has available capacity, however portions of Subarea #5 are too low to use gravity flow to this line. The City does not wish to add a sewer pump station to the system in this area if there is a viable alternative. Such an alternative would be to construct a gravity line from Subarea #5 west to the deep sewer line south of Alden Lane, approximately 4,500 feet. There is a deep sewer in Tract 6689 south of Alden Lane, which will serve this subarea. This sewer will be extended in the future by development in the area.

New Sanitary Sewer System Requirements. All in-tract lines will be 8-inch diameter lines. An off-tract 8-inch main will be extended from Subarea #5 to connect to the Alden Lane deep sewer. In addition, the connection from Subarea #5 to Isabel Avenue can also be used to sewer Subareas #6 and #7.

Subarea #6

Existing Sewer Service Infrastructure. There is no existing sanitary sewer system available near the boundaries of this subarea. The existing Alden Lane deep sewer is the closest point of connection by gravity sewer.

New Sanitary Sewer System Requirements. As previously discussed, the development of Subarea #5 (and Subarea #7) will trigger the need for an off-site, gravity flow line to the Alden Lane deep sewer. With such an improvement, Subarea #6 will then be able to connect at Vallecitos Road.

Subarea #7

Existing Sewer System Infrastructure. There is currently no sanitary sewer system available near the boundaries of this subarea.

New Sanitary Sewer System Requirements. Prior to approval of a tentative subdivision map or commercial development on Subarea 7, applicant shall demonstrate an adequate system to serve wastewater from Subarea 7 development, such that there are no significant impacts on groundwater or surrounding uses. Any leach field shall be designed and sited in accordance with all local, state, and federal requirements. In the event that the total dissolved solids ("TDS") in any well on any property adjoining the commercial parcel and in operation as of December 31, 1998 exceeds 625 mg/l (based on a four quarter average), the applicant shall (1) relocate or refurbish wells in a manner that ensures that TDS do not exceed 600 mg/l or (2) provide treated water from Zone 7 to the well owner in an amount sufficient to serve the well owner's domestic water needs; the applicant may be exempted from this requirement if the increase in TDS in a subject domestic well is proven to be the result of regional increases and not a result of wastewater disposal.

Policy 8-13: Adequate sewage treatment and export capacity to accommodate Specific Plan development shall be reserved at the time of Specific Plan adoption.

Policy 8-14: The City shall investigate alternative methods for municipal sewage treatment and disposal, and give priority to alternatives which utilize water recycling or reclamation, such as the City's demonstration Reverse Osmosis plant.

Policy 8-15: Encourage and support proposals for irrigation of landscaped and recreation areas in the South Livermore Valley Specific Plan Area with reclaimed water.

Policy 8-16: In accordance with the policies of the San Francisco Bay Regional Water Quality Control Board policies, on-site wastewater treatment systems, such as package plants and septic systems, will be prohibited within the Specific Plan area, except that on-site septic systems that conform with the policies of the San Francisco Regional Water Quality Control Board and Zone 7 policies may be permitted for uses outside of the City's Urban Growth Boundary.

8.3 STORM DRAINAGE

8.3.1 JURISDICTIONAL RESPONSIBILITIES

The City of Livermore sets policy for, and owns storm drainage facilities within, the City limits. The City updated its Storm Drainage Master Plan for land within the current General Plan limits, in 1996. The Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7) sets policy for major open drainage channels. Zone 7 has designated certain existing creeks and channels for improvement and ownership by Zone 7. If development occurs adjacent to a designated channel the developer must make channel improvements and give ownership of the channel property to Zone 7. Zone 7 currently owns 35 miles of improved channels and is authorized to own an additional 50 miles of channels once they are improved. Zone 7 allows drainage to the arroyos whether or not they are improved. Zone 7 has no policy requiring detention of storm drainage to limit the flows to the arroyos, however other agencies, such as the Department of Fish and Game, may require detention to protect wildlife.

8.3.2 FLOOD ZONES

100-Year Flood Zones

The Alameda County Flood Control and Water Conservation District (ACFCWCD), Zone 7, provides flood protection in the City of Livermore and in the unincorporated South Livermore Valley. The Federal Emergency Management Agency (FEMA) and the ACFCWCD both have mapped areas subject to flooding along the arroyos in the area. According to their mapping, Subareas #1 through #4 are not within the 100-year flood hazard area as designated by either agency. However, the Concannon Boulevard extension, which will be constructed in association with Subarea #3, will require bridging of the Arroyo Mocho where a section of Wente Street currently passes through the 100-year floodplain.

As defined by FEMA, the 100-year flood boundary of Arroyo del Valle encroaches into parts of Subarea #5 (about 500 feet inside the western boundary), Subarea #6 (about 250 feet inside the southern property line), and Subarea #7 (about 190 feet inside the northeastern corner of the subarea). The ACFCWCD maps show no potential inundation of Subareas #5 or #6 from the 100-year event, and encroachment of about 300 feet in Subarea #7. Studies to determine FEMA hazard areas are done at a large scale. Zone 7 Flood Control will require a more detailed hydrologic study of the Arroyo to determine the limits and water surface elevation of the 100-year flood for development proposed in Subareas #5, #6 and #7 near the flood zone areas.

Policy 8-17: Prior to approvals for development on Parcel 5-A, 6-A or the lower elevations of 7-A, detailed hydrologic studies of the Arroyo Del Valle will be conducted to determine the limits and water surface elevation of the 100-year storm. If any of the proposed development areas are within the 100-year flood zone, new development will be designed in accordance with FEMA and ACFCWCD standards for flood zones (e.g., finished floor elevations at least one foot above the elevation of the 100-year flood level).

Del Valle Dam Failure

The State Office of Emergency Services (OES) and the Department of Water Resources (DWR) have identified areas of potential inundation in the event of dam failures though out California. Projected inundation limits are approximate and assume severe hypothetical failures, thus showing all potential flooded areas in the improbable occurrence of failure and resulting flooding. Inundation maps for the Del Valle Dam, which is located south of the planning area, indicate that land up to the approximate 500-foot elevation on both sides of Arroyo del Valle could be flooded should the Del Valle Dam fail, and that floodwaters could arrive at the State Route 84-Holmes Street intersection immediately west of Subarea #5 in 5 minutes. The portions of Subareas #5, #6, and #7 with elevations below 500 feet could be flooded in that five-minute period. The only residential areas affected would be in Subarea #5, where all but the eastern portion of the subarea could be flooded.

There are no State or local restrictions for siting residential development in this area, but the Emergency Services Act requires cities and counties to prepare emergency evacuation plans for areas that could be inundated in the event of dam failure. The City will need to update its current plan to include portions of the Specific Plan area that are subject to potential inundation.

Policy 8-18: The City of Livermore shall review and update its emergency evacuation plan for the city as whole, including South Livermore Valley areas proposed for annexation, and incorporate appropriate provisions needed to reduce the likelihood of loss of life during a potential inundation from failure of Del Valle Dam.

Policy 8-19: Sellers of property within and adjacent to the mapped inundation area of Del Valle Dam shall be required to record a notice on each property deed which informs potential purchasers about their possible exposure to flooding from a failure of the dam.

8.3.3 DRAINAGE INFRASTRUCTURE

The introduction of urban development to the planning area will require the introduction of new infrastructure to handle increased stormwater runoff associated with the increase in impervious surface area. However, while typical urban drainage systems focus on the removal of surface runoff from the site as rapidly as possible, the intent of the Specific Plan is to encourage the development of drainage systems that will minimize both the rate and volume of runoff as much as practical. In addition to preventing onsite flooding and drainage problems, planning area drainage systems should be designed to prevent increases in off-site flooding, prevent increased erosion damage to existing streams and drainageways, prevent any increase in off-site sediment transport, and prevent increases in the loading of surface runoff with urban pollutants.

In keeping with the rural character proposed for future development, the Specific Plan encourages the use of drainage features such as grass-lined drainage swales and detention basins, as much as feasible. Open space area has been built into the subarea development patterns, and extra right-of-way width has been provided along planning area streets to accommodate surface drainage and runoff detention. It is not intended that surface drainage systems be used exclusively, but that such systems be used in conjunction with more standard drain inlets and subsurface drain pipes to reduce potential impacts.

In addition to providing drainage for the proposed development areas, each subarea will continue to have agricultural or open space areas that will also need to be drained. However, cultivation of grassland areas with vineyards or orchards will alter drainage patterns and also increase erosion potential and sediment loading of runoff due to removal of vegetative cover. The general approach will be to preserve natural drainage patterns as much as feasible in order to protect biological, aesthetic and recreational values associated with existing onsite and offsite arroyos and drainageways, but drainage plans will also be needed for these undeveloped areas to ensure that altered drainage patterns and volumes will not adversely affect off-site properties or facilities.

GOAL: Provide an adequate, efficient, and environmentally compatible storm drainage system for the South Livermore Valley Specific Plan area.

Policy 8-20: A detailed drainage design plan will be prepared for each development area and submitted as part of each tentative subdivision map application. The drainage plan must document pre- and post-development flows in the critical channel reaches within the project watershed and the available flow capacity in any off-site drainage systems proposed for discharge from planning area development.

Policy 8-21: Peak period discharge rates shall not increase off-site flood hazards or exceed the design capacity of any off-site drainage facility. Before designing and building any drainage improvements, sponsors of individual development projects shall consult the City of Livermore's Master Drainage Plan and the supplemental Drainage Facilities Planning Guidelines. All improvements shall adhere to those City requirements and guidelines. In addition, hydraulic structures (such as storm drains and culverts) should be over-sized to accommodate sediment and debris conveyed in stormwater runoff.

Policy 8-22: Consistent with the rural image of the planning area, encourage the use of permeable surface drainage and runoff detention systems both inside and outside the development areas. The use of grass-lined swales and detention basins is encouraged wherever feasible as a means of: 1) minimizing the increase in the rate and volume of stormwater runoff associated with new urban development, 2) maximizing the potential for groundwater recharge, and 3) filtering the urban pollutants that get carried into the major drainage channels.

Subarea #1

Existing Drainage Infrastructure. Subarea #1 drains to the Arroyo Seco which is located northeast of the subarea. Subarea #1 is within the study area of the City Storm Drainage Master Plan. No improvements

are proposed in the Drainage Master Plan for this subarea or the area between this subarea and the Arroyo Seco to which it drains. The closest existing drainage facility is the system of 12-inch lines in Research Drive in the Shaheen Industrial Park and the existing 24-inch line that extends north along Vasco Road from the intersection of Vasco Road and East Avenue to the Arroyo Seco. The Arroyo Seco's channel is improved approximately 1/4 mile downstream of the Vasco Road crossing.

New Storm Drainage System Requirements. If Subarea #1 is developed prior to Subarea #2, a combination of new storm drainage pipeline and on-site detention is recommended to provide storm drainage. A 24-inch pipeline would be extended along Vasco Road to connect to the existing system in East Avenue. Approximately 2 acres of on-site detention would be incorporated into the plan for Subarea #1. At such time as the system could connect to that in Subarea #2, the detention area could be converted to other use.

Subarea #2

Existing Drainage Infrastructure. Subarea #2 is within the study area of the City's Storm Drainage Master Plan. No improvements are proposed in the Master Plan for this subarea or the area between this subarea and the Arroyo Seco to which it drains. An existing 24-inch storm drain parallels the eastern boundary of the subarea just inside the Research Drive subdivision. This system increases in size to a 30-inch line once it crosses East Avenue. This line outfalls into the Arroyo Seco. An existing 54-inch storm drain line extends north from East Avenue near Mines Road to the Arroyo Seco. The Arroyo Seco's channel is improved upstream of both of these outfalls to approximately 1/4 mile northwest of the Vasco Road crossing.

New Storm Drainage System Requirements. The storm drainage system for Subarea #2 will include on-site detention in the designated park area. Approximately 4 acres of the park site would act as a detention basin in wet weather periods. The design concept for the detention facility would include complete discharge of storm water within 24 hours of cessation of rainfall. Approximately 2,000 feet of 54-inch pipeline would be constructed in East Avenue to connect to the existing 54-inch line near Mines Road. If on-site detention is infeasible, a 72-inch line will need to be constructed north from the Subarea to the Arroyo Seco.

Subarea #3

Existing Drainage Infrastructure. Subarea #3 is within the study area of the City Storm Drainage Master Plan. A major storm drain trunk line (42-inch) was recently constructed as a part of the subdivision directly to the west of Subarea #3. This line extends along the subdivision boundary north to the Arroyo Mocho. The Arroyo Mocho is not an improved channel at the outfall, but is a channel authorized for future ownership by Zone 7. There is an existing 36-inch storm drain line stub across Robertson Park Road at the entrance to the maintenance Service Center which could possibly serve a portion of Subarea #3. This storm drain stub connects to a 42-inch drain line which drains to the Arroyo Mocho.

New Storm Drainage System Requirements. The in-tract storm drainage system for Subarea #3 would include drain lines ranging in size from 15- to 24-inch. The system would be extended off-site, in Chardonnay Way, to the existing 42-inch line which connects to the Arroyo Mocho. The existing 42-inch line has been sized to accommodate urban development in the area.

Subarea #4

Existing Drainage Infrastructure. Subarea #4 lies outside the study area of the City's Draft Storm Drainage Master Plan. The northeasterly corner (which drains to the Arroyo Mocho) would drain through Subarea #3. The northwesterly corner drains toward the existing Ravenswood Park subdivision. Existing facilities in this subdivision include a system of 36- to 42-inch storm drain lines. The 42-line continues down Vallecitos Road to the Arroyo del Valle. The southerly portion of Subarea #4 drains overland through Subarea #6 to the Arroyo del Valle or to Dry Creek, a seasonal stream which cuts across the southern corner of Subarea #4. Dry Creek is a tributary to Arroyo del Valle. The portion of Dry Creek within Subarea #4 is not identified as a stream Zone 7 is authorized to own. The Arroyo del Valle is not an improved channel, but is authorized for future ownership by Zone 7.

New Storm Drainage System Requirements. The northerly portion of Subarea #4 will connect to the 30-inch line in the Ravenswood Park subdivision. The southerly portion of Subarea #4 will drain through Subarea #5 to the Arroyo del Valle. In the event of development of Subarea #4 before Subarea #5, approximately 2 acres of on-site detention will be required on the southern portion, in the interim period, until connection can be made to the system in Subarea #5.

Subarea #5

Existing Drainage Infrastructure. Subarea #5 lies outside the study area for the City's Draft Storm Drainage Master Plan. The subarea currently drains to the southwest, overland to the Arroyo del Valle. The nearest storm drain lines are 42-inch and 48-inch trunk lines in Vallecitos Road. These lines have an outfall at the Arroyo del Valle. The Arroyo del Valle is not an improved channel, but is authorized for future ownership by Zone 7.

New Storm Drainage System Requirements. A collection system consisting of drain lines ranging in size from 15- to 48-inches in diameter will collect runoff throughout Subareas #4 and #5, and conduct it from east to west. It will connect to the Arroyo del Valle with a new outfall designed to accommodate the increased drainage flows.

Subarea #6

Existing Drainage Infrastructure. Subarea #6 lies outside the study area for the City's Storm Drainage Master Plan. The subarea currently drains overland through Sycamore Grove Park to Arroyo del Valle. There are no storm drain facilities in or near Subarea #6. The Arroyo del Valle is not an improved channel, but is authorized for future ownership by Zone 7.

New Storm Drainage System Requirements. The planned development on Subarea #6 consists of a medium-sized winery near the center of the area. The subarea will continue to drain overland, as it presently does, through Sycamore Grove Park to the Arroyo del Valle.

Subarea #7

Existing Drainage Infrastructure. Subarea #7 lies outside the study area for the City's Draft Storm Drainage Master Plan. The subarea currently drains overland through Sycamore Grove Park to Arroyo del Valle. No storm drain facilities currently exist in or near Subarea #7.

New Storm Drainage System Requirements. Drainage from portions of Subarea #7 will be collected in small pipe systems which will discharge into existing swales thence to detention basins which will, in turn discharge across Sycamore Grove Park to the Arroyo del Valle.

8.3.4 EROSION AND DOWNSTREAM SEDIMENTATION

Grading activities associated with the construction of residential and commercial structures, roadways, and driveways could result in large areas of bare soils subject to erosion by rainfall and hillslope runoff. In addition, conversion of large areas of existing grassland to vineyard or orchard cultivation also could result in significant increases in subarea erosion and sediment yields due to the removal of natural vegetative filters. Short-term erosion generated by grading for residential and commercial facilities and longer-term increases in planning area sediment yields due to agricultural conversion could result in sedimentation and blockage at downstream culvert sites. These short- and longer-term erosion and increased sediment yields could produce minor yet possibly significant reductions in groundwater recharge in channel reaches downstream of the subareas. The principal flood control channels are overly wide and are inefficient conveyors of sediment over all but the higher range of floodflows. Thus, the introduction of finer sediments from upland runoff could reduce recharge rates.

Implementation of an agricultural sediment management plan can effectively reduce the potential erosion and sedimentation impacts which attend the conversion of grassland to intensively cultivated agricultural use. Such a plan can include any of a number of site cropping management and erosion control

measures developed for a wide range of crop environments by the Natural Resource Conservation Service (NRCS) and affiliated research centers throughout the country. Erosion and sedimentation control on newly constructed residential and commercial properties typically is ensured through the preparation and implementation of comprehensive Stormwater Pollution Prevention Plans (SWPPPs). SWPPPs normally include in-situ protection, seeding and mulching of bare ground, planting of trees and shrubbery in both disturbed upland and riparian areas, and installation of other forms of biotechnical slope stabilization (such as appropriately staked straw bale perimeters, silt fences, or staked plant wattles on the slope contour). Project sponsors typically prepare SWPPPs before submitting Notices of Intent to the State Water Resources Control Board to conduct site grading operations. General Construction Activity Stormwater Permits would be required from the Regional Water Quality Control Board for any development which would disturb more than five acres of land.

Subarea #7 exhibits evidence of a high erosion and gully development potential. Downstream of development, peak flows conveyed by the subarea's intermittent channels would increase. This would be particularly true for more frequent rainstorms. If unmitigated, storm drain systems would route flashier flows directly into drainageways, and a clear water scour condition would occur for some distance downstream of the storm drain outlets. Such a condition would greatly enhance erosion potential within streambeds and banks. If unimpeded, any channel incision produced in this manner then could extend upstream and destabilize channel reaches otherwise unaffected by development-related increases in runoff volumes and peak flows.

Site runoff controls (such as detention basins) should be designed and built to mitigate the increase in peak flows attributable to development. Implementation of peak flow controls would negate the need for significant stabilization of most subarea channels. Where needed, channel or gully stabilization should not employ conventional construction techniques (such as use of loose rock check dams within drainageways). Instead, less intrusive forms of stabilization should be designed. Strategically-placed bed armoring and drop structures can be constructed which will stabilize the channel bed against incision while allowing for the natural conveyance of watershed runoff and sediment.

Policy 8-23: For all agricultural mitigation land required by Specific Plan development, require preparation of an agricultural sediment management plan for each parcel of grassland converted to vineyard cultivation within the proposed City limits. Such plans should describe appropriate erosion control measures and schedules to operate and maintain related facilities (such as detention / sediment basins). Each plan should reflect consultation with and input of the Natural Resource Conservation Service (NRCS) in Livermore and should implement NRCS recommendations. Sufficient optional measures are available to enable each property owner flexibility to satisfy the requirements for erosion and sedimentation control for the particular parcel without significant loss of arable land.

Policy 8-24: Prepare and implement a comprehensive Stormwater Pollution Prevention Plan (SWPPP) for each residential development project and / or commercial facility built in the Specific Plan area. The SWPPP must accompany any application to the Regional Water Quality Control Board for General Construction Activity Stormwater Permit (required for any development which would disturb more than five acres of land). The SWPPP shall identify all Best Management Practices (BMP's) planned for implementation during and following project construction, including Source Control BMP's, Treatment Control BMP's, and Post-Construction BMP's. The SWPPP shall be submitted to the City of Livermore Engineering Department for review and approval before construction begins. No grading shall occur during the winter season, and, therefore, grading activities shall be restricted to the period between April 1 and October 15.

Policy 8-25: Install adequate energy dissipation at all culvert outlets to deter local channel incision and erosion.

Policy 8-26: For all earthen (defined) channel reaches within new or established drainageways, install geosynthetic stabilization or targeted natural stabilization with vegetation to deter erosion and channel incision. Full lining of earthen channels with concrete or rock riprap is

prohibited in favor of vegetated channels. The vegetated channels can be stabilized with occasional rock grade checks and/or geosynthetic or biodegradable elements (such as long-life erosion control blanket or geoweb).

Policy 8-27 Prior to creation of any new parcel or application for any commercial development on the 120 acres in the western portion of Subarea #7, developer shall prepare for review and approval by the City Engineer, a drainage plan sufficient to ensure that development of the parcel(s) to be created will not increase the amount of runoff from Subarea #7 to the adjoining Kurtzer parcel. City approval of any new parcel or development on the western portion of Subarea #7 shall be conditioned upon implementation of the drainage plan.

Policy 8-28: For development in Subarea #7, institute on-site peak flow controls and/or channel and gully erosion stabilization measures downstream of proposed residential development. These measures would be in addition to the general policy of SWPPP preparation and channel stabilization measures described above.

8.4 ENERGY AND COMMUNICATIONS

8.4.1 EXISTING SERVICE AGENCIES

Pacific Gas and Electric (PG&E) provides electric and gas service in the Livermore area. In addition to its distribution lines for local service, PG&E also has a number of electric and gas transmission lines that pass through the planning area. Three different sets overhead electric transmission lines pass through some portion of the planning area, as well as one underground high-pressure gas line. These facilities are used for the regional transmission of gas and electricity, and are not for local service.

Planning area development has been sited not only to avoid the easements associated with these transmission lines, but additional setbacks have been provided from the electric transmission lines in response to concerns about the effects of Electro Magnetic Frequencies (EMF). In addition to restricting the development of structures within the easements, PG&E also limits the uses that are permitted within their easements in order to avoid conflicts with the maintenance of their facilities. Given that these easements pass through portions of the planning area designated for agriculture and regional parkland, land owners will need to coordinate with PG&E to ensure compatibility between landowners' use of the land and PG&E's need to protect their utilities and the public's health and safety.

Telephone service to the area is provided by Pacific Bell.

Policy 8-29: Landowners shall coordinate with PG&E regarding restrictions on use of the transmission line easements, particularly as they might affect activities such as viticulture and public access.

Policy 8-30: Maintain a 100-foot minimum setback between existing electric transmission line easements and lot lines for new residential parcels less than five acres and building sites on parcels greater than five acres in size.

Policy 8-31: In order to minimize the visual impact on the area's open, rural character, all new utilities will be placed underground.

Policy 8-32: Landowners should discuss with PG&E the possibility of removing existing transmission lines which are no longer being used.

8.4.2 EXISTING AND REQUIRED INFRASTRUCTURE

Subarea #1

Existing Infrastructure.

- Gas: Distribution lines are available for connection in Vasco Road, Research Drive, and East Avenue.
- Electricity: Above ground distribution lines are available for connection in Vasco Road and East Avenue. An overhead transmission line crosses the south end of Subarea #1.
- Telephone: Underground lines are available for connection in Vasco Road and East Avenue.

New Infrastructure Requirements.

All utilities, including gas, telephone, electricity and TV cable, will be placed underground. Planning for new development in Subarea #1 has avoided siting development near the overhead electric transmission line easement.

Subarea #2

Existing Infrastructure.

- Gas: Distribution lines are available for connection in Vasco Road and East Avenue.
- Electricity: Underground distribution lines are available for connection in Vasco Road and East Avenue.
- Telephone: Underground lines are available for connection in Vasco Road and East Avenue.

New Infrastructure Requirements.

All utilities, including gas, telephone, electricity and TV cable, will be placed underground.

Subarea #3

Existing Infrastructure.

- Gas: A distribution line is available for connection in Robertson Park Road.
- Electricity: An above ground distribution line is available for connection in Wenté Avenue, and an underground line is available in the subdivision to the west.
- Telephone: Overhead lines are available for connection in Wenté Avenue.

New Infrastructure Requirements.

All utilities, including gas, telephone, electricity and TV cable, will be placed underground.

Subarea #4

Existing Infrastructure.

- Gas: A high-pressure gas transmission line crosses the southeastern corner of Subarea #4. Distribution lines are available for connection in Marina Avenue and Arroyo Road.
- Electricity: Two overhead transmission lines cross the southeastern corner of Subarea #4. Overhead distribution lines are available for connection in Marina Avenue, Arroyo Road, and Hansen Road.
- Telephone: Overhead lines are available for connection in Arroyo and Hansen Roads.

New Infrastructure Requirements.

All utilities, including gas, telephone, electricity and TV cable, will be placed underground. Grading design for Subarea #4 must respect restrictions on grading over the existing gas transmission line. Planning for new development in Subarea #4 has avoided the existing transmission line easements.

Subarea #5

Existing Infrastructure.

- Gas: Existing distribution lines are available for connection in Chatsworth Way, Superior Drive, and Regent Road.
- Electricity: An above ground distribution line is available for connection in Wetmore Road.
- Telephone: Overhead lines are available for connection in Wetmore and Arroyo Roads.

New Infrastructure Requirements.

All utilities, including gas, telephone, electricity and TV cable, will be placed underground.

Subarea #6

Existing Infrastructure.

- Gas: A gas transmission line crosses the southeastern corner of Subarea #6. A distribution line is available for connection in Arroyo Road.
- Electricity: Two overhead transmission lines cross the southeastern portion of Subarea #6. Distribution lines are available for connection in Wetmore and Arroyo Roads.
- Telephone: An overhead line is available for connection in Arroyo Road.

New Infrastructure Requirements.

All utilities, including gas, telephone, electricity and TV cable, will be placed underground. Grading in Subarea #6 will be restricted near the gas and electric transmission line easements.

Subarea #7

Existing Infrastructure.

- Gas: A high-pressure gas transmission line crosses the central portion of Subarea #7. A distribution line is available for connection in Arroyo Road.
- Electricity: Three sets of overhead transmission lines cross through the central portion of Subarea #7. An existing distribution line extends from Vallecitos Road to the southwest corner of the subarea.
- Telephone: An overhead line is available for connection in Arroyo Road.

New Infrastructure Requirements.

All utilities, including gas, telephone, electricity and TV cable, will be placed underground. Grading near the gas and electric transmission lines will be restricted.

9.0
Community Design



9.0 COMMUNITY DESIGN

9.1 DESIGN APPROACH TO A RURAL RESIDENTIAL LANDSCAPE

The physical identity of the South Livermore Valley is a product of several diverse elements: the rolling foothills, the tree-lined arroyos, the gridded patchwork of vineyards and orchards, and the rural, agricultural quality that characterizes much of its development.

It is a fundamental aim of the South Livermore Valley Specific Plan to maintain this identity, through new development that is sensitive to the natural landscape, that maintains the viability of agricultural activities, and that in form and character promotes a rural, small town atmosphere. In other words, new development should reflect the Valley's unique character and tradition, and not be typical suburban tract type development.

Observation of the Valley landscape points to three essential qualities contributing to its rural identity:

- **Openness**
- **Simplicity, or Economy of Means, and**
- **Variety within Structure.**

Below is a brief discussion about how these qualities are present in the landscape, and what basic design aims should be pursued to bring these qualities into the new development.

9.1.1 OPENNESS

From the Valley's urban fringe, the greater landscape of hills, valleys, cultivated fields and pasture land easily rises above the man-made elements such as farm buildings, roadways, fences, scattered homes, and utility power lines. The Valley feels open, affording long panoramic views of the rural scene. Preserving this sense of openness should be pursued in all new development. To this end:



- *Streets and homes within the development should be oriented to take advantage of key views of the agricultural land, hillsides and other significant features of the landscape.*
- *Breaks or "windows" in the development pattern should be provided to loosen the residential fabric and afford views out into the surrounding agricultural environment from within the subareas.*
- *Generous building setbacks and wide landscape borders should be maintained along the streets.*
- *Side yards should be configured to permit views through the lots wherever possible.*
- *The use of solid fences and other features that obstruct views and diminish the sense of openness should be discouraged.*
- *Building heights should be controlled in view-sensitive areas to minimize the impact of homes and other structures upon the landscape.*

9.1.2 SIMPLICITY or ECONOMY OF MEANS

The concepts of simplicity and economy refer to the practical and functional aspects of development. Farms are by definition efficient, a quality that is reflected in the no-nonsense, straight-forward approach to their facilities and operations. From the shape of barns to the layout of paths and vegetation, built forms in rural areas tend to be simple rather than contrived, plain rather than ornamented, with functions exposed rather than disguised. Little is wasted, and little is added to a farm that does not have a purpose or that overstates its intended function.



While residential developments clearly require a higher level of improvement, many of the simple qualities of the Valley's rural landscape can be emulated. To this end:

- Roads should be designed to accommodate average daily needs, rather than "worst-case" scenarios.
- Collector roads should be straight forward, directly responding to conditions of views and topography.
- Existing drainage patterns should be respected, and surface rather than subsurface drainage implemented wherever feasible.
- Excessive grading or artificial land forms should be avoided.
- Natural rather than artificial features should be used to mitigate weather conditions and/or to define edges and entries.
- Natural, water-conserving landscape should be used on all public areas to the extent possible.
- Buildings should contain forms that are simple and expressive of their function.
- A limited palette of materials and colors should be used, favoring those that blend in with the existing development and setting.

9.1.3 VARIETY WITHIN STRUCTURE

In the Valley there is a consistent physical and visual structure at the macro-scale, but great diversity of form at the micro-scale. The macro-scale is structured by both man-made features such as property boundaries, regional arterials, cultivation patterns, and natural features such as the hills, rivers, vegetation and climate itself. These are "constants" in the landscape that give it a sense of enduring permanence.

At the micro-scale, however, a great variety is generated by the localized response to topography, soils, drainage course, solar orientation, and views, and the more idiosyncratic approach to land use, plot division, building placement, roadway alignments, and landscaping. The end result is a kind of formal "messiness," or informality within the large-scale structure of the landscape.

As an example, the "vineyard trail" comprises a fairly simple arrangement of straight roads, but within them a variety of terrain, roadside edges, fences, vegetation, and building forms can be experienced.



Such "variety within structure" is an essential quality of the Valley, and should be emulated in all aspects of the design for the new residential areas. To this end:

- Within each neighborhood, residential streets should exhibit many forms, incorporating islands, offsets, jogs, asymmetrical sections and divided roadways according to localized conditions.
- Blocks, lot configurations, and building setbacks should be varied rather than regular, creating an informal development pattern.
- Natural and man-made features such as fault zones, drainageways, landmark trees and tree stands, out-parcels, utility easements, etc. should be retained as elements that give diversity and character to the development pattern within each subarea.
- Within a few "constants," such as the overall massing of building and a range of materials and colors, buildings should be varied and distinctive. Repetitive design solutions should be avoided.
- Subareas should contain districts, or neighborhoods, each with a clear boundary and distinctive rural identity. They should not be uniformly plotted nor should every home have the same size and appearance.

9.2 DESIGN GUIDELINES AND STANDARDS

The guidelines and standards that follow are more specific interpretations of how the rural qualities of the Valley can be applied to site planning, architecture, landscape design and roadway right-of-ways.

"Guidelines" refer to the overall intent or qualitative aspects of any given design concept. By contrast, "Standards" relate to the measurable dimension or quantitative aspects of those concepts. Guidelines by definition are open to interpretation and should be used only as a referential tool. Standards, on the other hand, are specific conditions of design and should be used as an enforcement tool. In the following text, Guidelines are identified in the bold, italicized text, and Standards are numbered.

9.2.1 SITE PLANNING

The various subarea plans have been conceived with the Valley's rural character in mind, maintaining adequate buffers to the agricultural lands and existing homes, retaining natural features and integrating them to the development pattern, and affording as much visual contact and recreational access to the regional open space as possible. The guidelines and standards that follow apply to the layout of the principal elements within the subareas, namely the streets, blocks, lots and building placements.

a. **Development Pattern**

The block and street pattern in any given subarea shall not be monotonous and repetitive. Rather, streets, blocks, and lots should vary in size and orientation in order to create distinctive neighborhoods characterized by more intimate streetscapes, and greater visual variety.

Three principal tools are identified to create a variety within each block. These are lot width, building setbacks, and building development. Still, the development pattern in all cases should provide optimum visual and physical access to the agricultural landscape and regional open space.

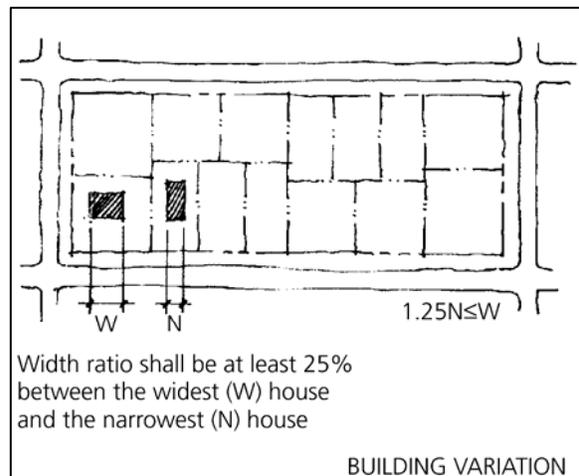
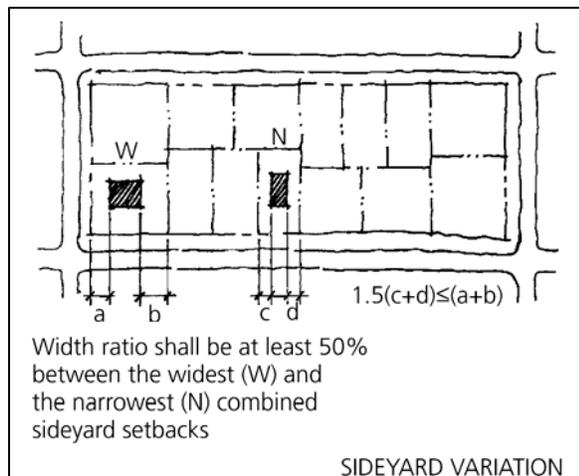
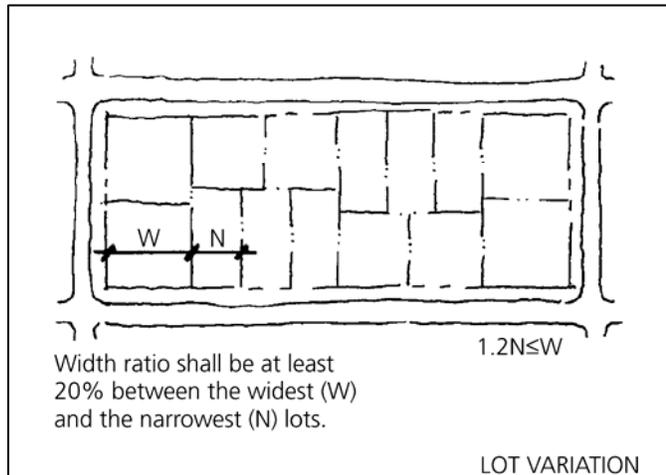
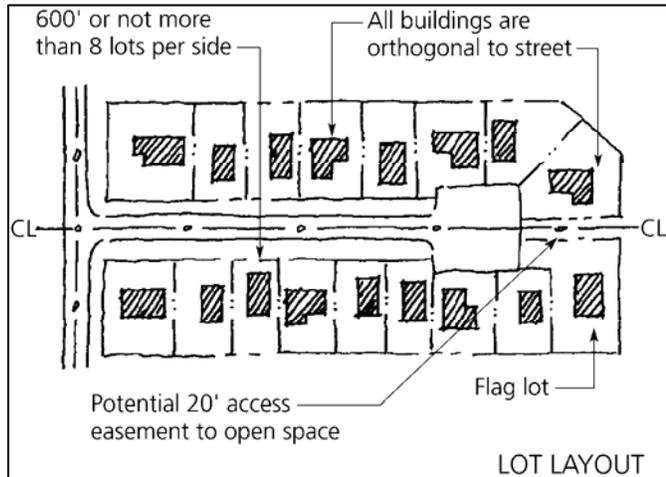
- 1) **Street Orientation.** *Within any given neighborhood, the residential streets shall be oriented and aligned so as to afford views of, and facilitate access to, the surrounding hills, vineyards, orchards, and other significant features of the rural landscape.*
- 2) **Street Lengths.** *Residential streets shall not exceed 600' in length as measured from the centerline of intersections or a significant bend on the road (30 degrees or more), nor contain more than 8 lots per side, whichever results in the shortest street.*

3) **Non-Through Streets/Cul-de-sacs** shall not exceed 600' in length as measured from the center line of the crossing street to the end of the right-of-way.

4) **Lot Layout.** All lots in any given residential street shall be laid out with a predominantly orthogonal orientation with respect to the street right-of-way. Flag lots at street ends are permitted as a means to preserve the overall orthogonal lot pattern.

5) **Lot Variation.** Within any given block, the prescribed number of lots as shown on the subarea plans shall be arranged so that at least two of the following three standards must be met:

- i. there shall be at least a 20 percent variation between the widest and narrowest lot, with lot widths distributed between the extremes;
- ii. there shall be at least a 50 percent variation between the largest total combined side yards on a lot and the smallest total combined side yards on a lot, with side yard widths distributed between the extremes (For purposes of this standard, variation is defined as the difference in actual side yards calculated from where the building is located on a lot rather than variation in required minimum setbacks. For projects with all detached garages, the requirement for a 50 percent variation in side yards is reduced to 20% variation in side yards), and
- iii. there shall be at least a 25 percent variation in the width of the narrowest house and the widest house with house widths distributed between the extremes (exclusive of any projections into required side yards such as porte cocheres or bay windows).



- 6) Minimum Lot Dimensions.** *The minimum average lot width will be 60 feet. The minimum street frontage shall be 65 feet if lot widths vary at least 20 percent in conformance with Section 5 above, and shall be 70 feet otherwise. The minimum lot depth shall be 80 feet.*

Exception: Flag lots at street ends shall have a 25' minimum lot width at the right-of-way line.

- 7) Lots Adjacent to Open Areas.** *Lots with one or more property lines adjacent to agricultural land or a major open space shall be at least 75 feet wide at the property line abutting the open space and 9,000 square feet or more in area.*

Exception: Up to 40 percent of the lots adjacent to agricultural land or a major open space may be 70 feet wide at the property line abutting the open space and 8,000 square feet or more in area.

- 8) Lots Adjacent to Developed Residential.** *No more than two lots developed immediately adjacent to (i.e., no intervening open space buffer) existing residential development at subarea boundaries shall border any existing developed residential lot.*

9.2.2 ARCHITECTURE

The attractiveness of many rural buildings in the South Livermore Valley lies in their elegance and simplicity, that is, they are shaped to reflect their function and to respond to the climate, solar orientation and the lay of the land, shunning excessive articulation and ornamentation. Regardless of style, the simple, restrained approach to design gives much of the development in the Valley a unified, coherent quality.

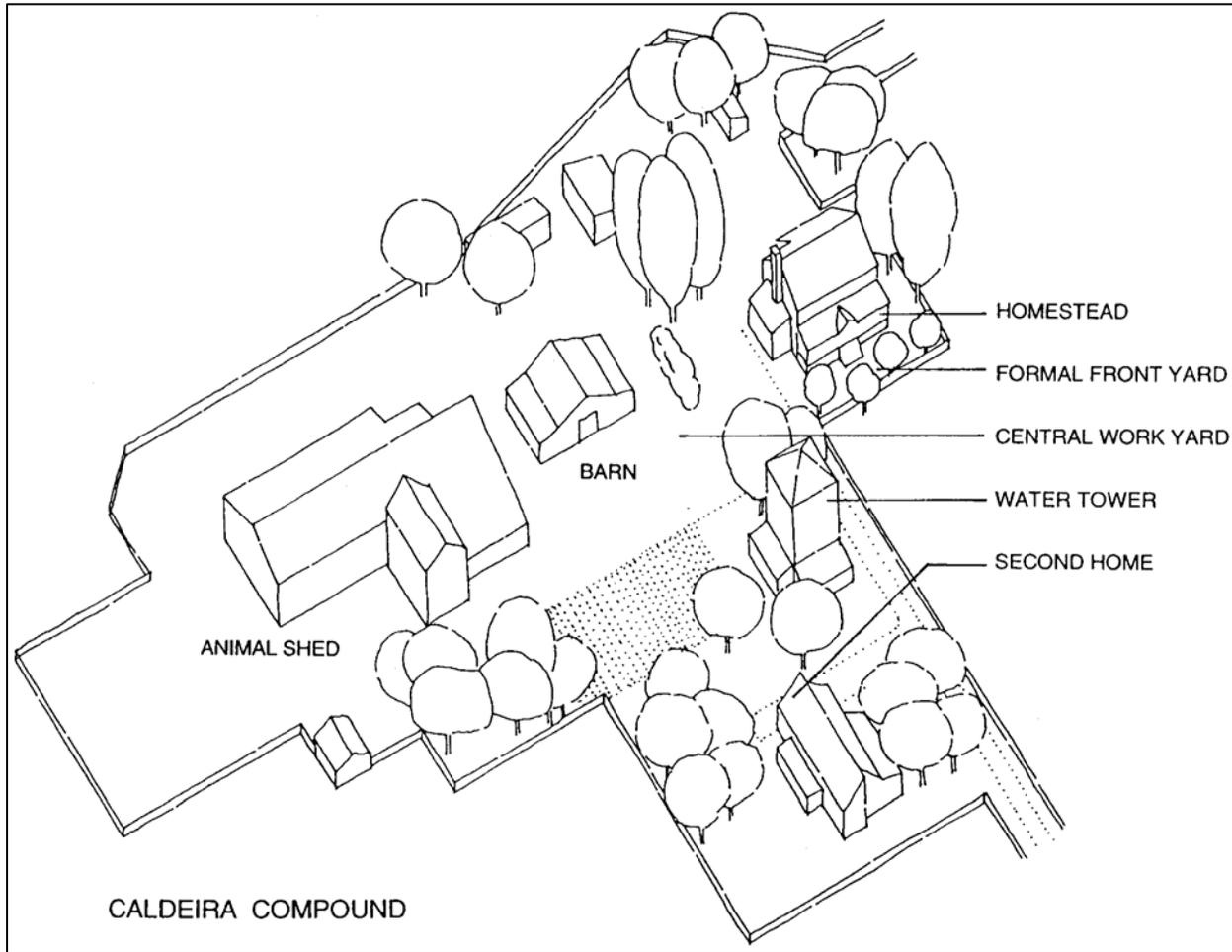


The Small Town Home

Much of the residential development in the older sections of town also exhibits a similar simple yet elegant quality. Most of these homes were built between the turn of the century and Second World War, before the advent of tract subdivisions. The houses are therefore idiosyncratic, with enough difference among them to make each one unique. However, owing to the economy and building practices of the time, they all look like part of the same family: all of them have pitched roofs, most with a 6:12 rise or greater; windows are generally vertical and slender; exterior sheathing is primarily clapboard; and the colors are of a light, white to gray palette to help reflect the heat. Many of these houses are built in simple Queen Anne or Craftsman style, some are referred to as bungalows.

The Farm Compound

The farm compounds that are scattered throughout the Valley manifest this simple, restrained approach to design. A good example is the Caldeira residential compound on Wentle Street. This compound contains residential and agricultural structures, each with features that clearly express their function. The residences contain porches and dormers, and a small garden greets the visitor. By contrast, the farming structures such as the barn, sheds, and water tank are plain and simple in form with scant ornamentation or superfluous materials. Yet despite the formal differences between the living and working areas, the entire compound hangs together as a coherent architectural composition because of the underlying economy of form and restraint in the use of materials and colors.

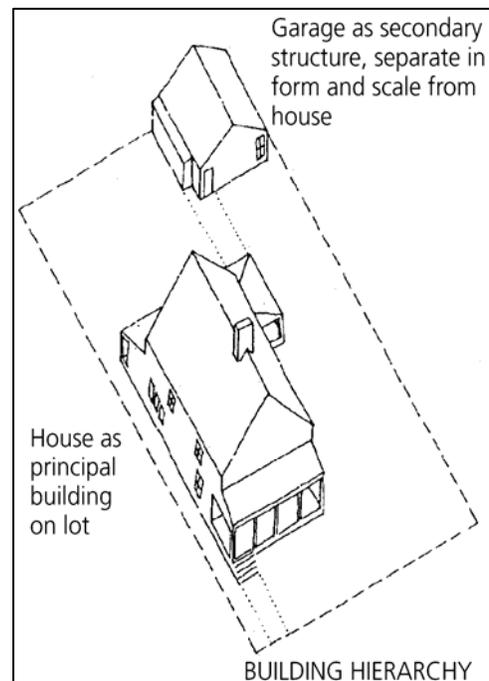


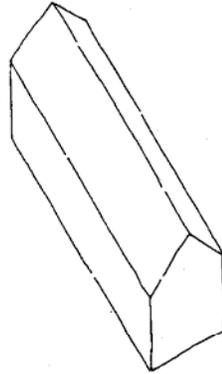
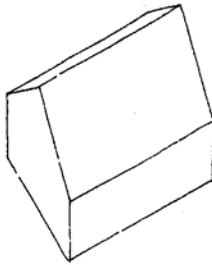
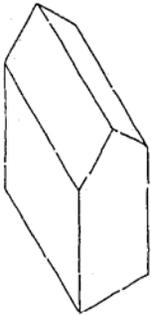
a. Building Layout and Massing

Buildings within the development areas should emulate the simple elegance found in the Farm Compound and in the older residential areas of town. To this end, buildings should exhibit simple rather than contrived massing, and forms and shapes which clearly signify their use and function.

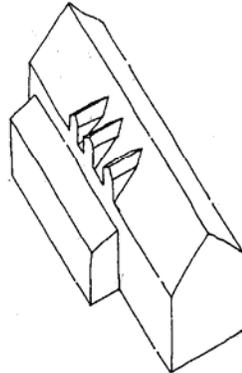
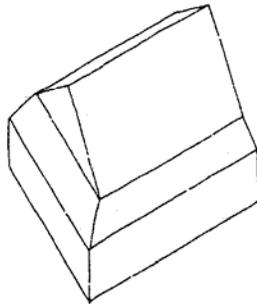
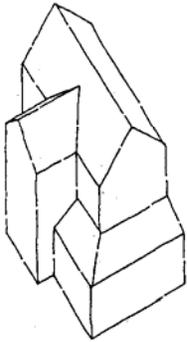
- 1) **Building Hierarchy.** On any given lot the living portion of the house shall appear as the principal building. The house shall be larger in scale, greater in detail articulation and more prominently sited than secondary structures (e.g., garages, second units, and accessory buildings). Such secondary structures shall be arranged so as to appear separate in form and scale from the main body of the house.
- 2) **Massing.** All buildings shall be simple in overall form and in roof configuration. Massing articulation shall be obtained by appending smaller components to the main body of the house rather than by conjoining equally distinctive elements.

Large homes shall be broken down into simple blocks rather than assume a sprawling collection of masses. "Barn-sized" blocks should be used as a guide.

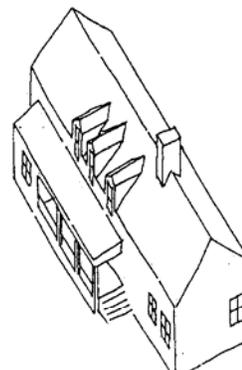
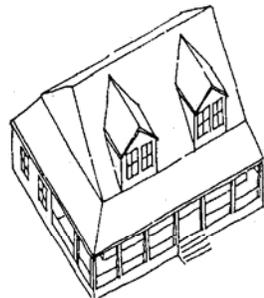
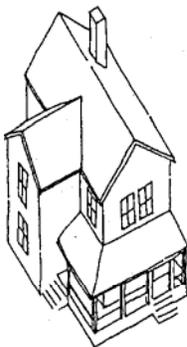




MAIN BODY OF HOUSE IS SINGLE FORM COVERED WITH SIMPLY SHAPED ROOF



ADDITION OF SIMPLE ANCILLARY FORMS ENHANCE BUT DO NOT COMPETE WITH THE MASSING OF THE HOUSE'S MAIN BODY.



ARTICULATION OF OPENINGS, PORCHES, DORMER TOGETHER WITH GARDEN ELEMENTS PROVIDE SCALE AND CONNECTIONS BETWEEN THE HOUSE AND SURROUNDING LANDSCAPE

MASSING AND ARTICULATION

- 3) Ancillary Elements.** Dormers, porches, balconies and other ancillary elements are encouraged as a means to articulate and give scale to the main body of the building. However, ancillary elements shall be scaled so as not to compete with the massing of the main body of the building.

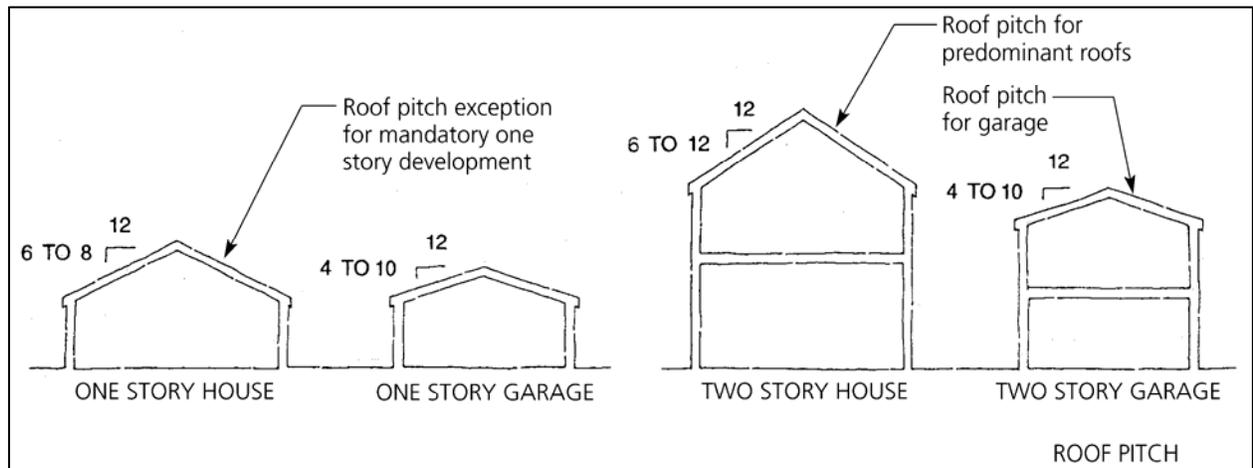
Single-story porches, verandas, terraces, arcades, covered walkways, trellises, pergolas, and garden walls should be used to reinforce the notion of the compound and provide elements that develop a strong connection between buildings and the landscape.

- 4) Roof Form.** A simple roof form shall cover most of the main body of the house (or separate blocks of a larger house). Gabled or hipped roofs are encouraged, as are eaves and overhangs. Flat roofs, geodesic domes, and clipped eaves on habitable structures are prohibited.

Exception: Flat roofs may be permitted as part of second floor balconies and terraces, provided they do not exceed 10 percent of the gross floor area of the house.

- 5) Roof Pitch on Main Structure.** The roof pitch of the main body of the house shall range from a 6/12 to a 12/12 rise over run. Up to 30 percent of the homes in any given subarea may have shallower roofs where it is consistent with an intended architectural style, but in no case shall the roof pitch over the main body of a house be less than a 4/12 rise over run.

- 6) Roof Pitch on Garages.** The pitch of roofs over garage structures (whether or not they contain living accommodations) shall be a minimum of 4/12 rise over run. In every case, including where a two-story garage is paired with a single-story dwelling, the garage roof shall be lower than the roof of the main house as measured to the peak of the roofs.



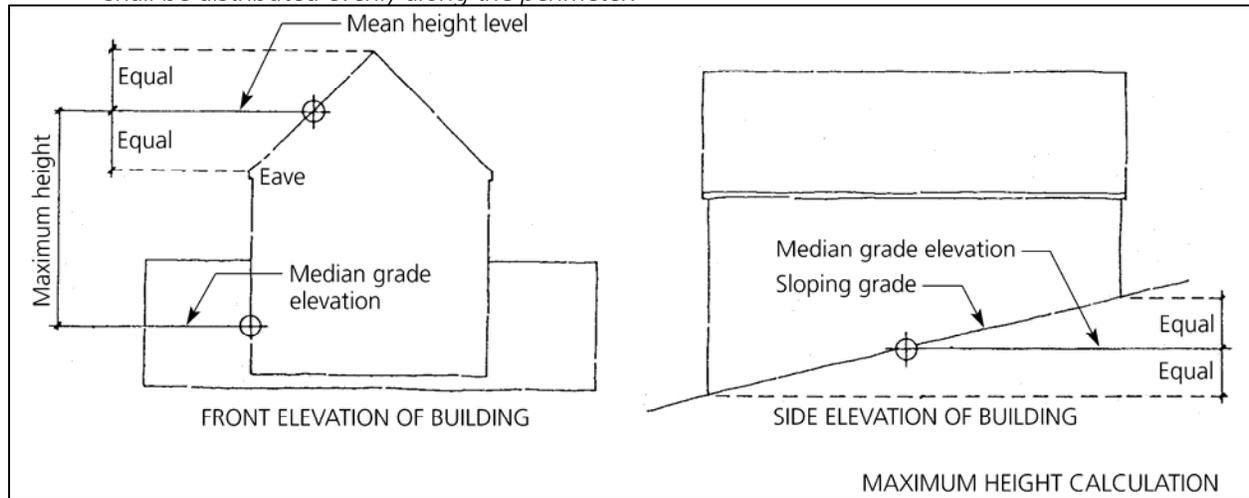
- 7) Maximum Heights.** Building Height shall be measured from the median grade elevation to the mean height level between the eaves and the ridge of the main roof. The median grade is calculated by averaging the highest and lowest natural grade elevations that contact the perimeter of the building footprint. Chimneys and cupolas are excepted from the height limit.

- **Two story homes:** Height shall not exceed 35 feet.
- **Single story homes:** Height shall not exceed 20 feet for buildings limited to one story in height.
- **Garages:** Refer to Section 9.2.2.g.

- 8) Required Single Story Units.** Three conditions exist within the Planning Area that will require the development of single story residences to protect the visual character of the South Valley:

- For initial construction, at a minimum, 25 percent of the lots that are located along the perimeter of the development area and are adjacent to (i.e., separated only by agricultural buffer) and visible

from a public roadway shall be developed with single-story homes. Required single story homes shall be distributed evenly along the perimeter.



- For initial construction, units developed immediately adjacent to (i.e., no intervening open space buffer) existing residential development at subarea boundaries shall contain at least the same proportion of single story units as the existing lots immediately adjacent to the subarea boundary. Required new single story homes should generally be located adjacent to existing single story homes.
- All detached garages and accessory structures developed immediately adjacent to (i.e. no intervening open space buffer) existing residential development at subarea boundaries shall be single story. (Note: All development adjacent to the western boundary of Subarea #3 shall be single story. Refer to the Land Use Element, Section 4.9.3).

b. Density and Coverage

A sense of openness should be achieved at the block and lot level by providing adequate open space around each house or, by corollary, limiting the amount of floor area a house can take within its lot. The size of the building footprint should also be limited to allow for variation for the placement of the house within the lot.

- 1) **FAR - Maximum and Averaging Provisions.** Within a project, all lots of 11,000 square feet or less shall be subject to a maximum FAR of 40 percent and an overall average FAR of 35 percent. The overall average FAR for these lots may be increased to 38 percent if a homeowners association is formed.

Within a project, all lots larger than 11,000 square feet shall be subject to a maximum FAR of 38 percent and an overall average FAR of 35 percent. No increase to the overall average FAR for these lots is authorized.

Exception: In all cases, up to 600 square feet of garage structure shall be exempt from FAR calculations when the garage is detached from the main structure and located in the rear one half of the property. Additional living area permitted by this exception is encouraged to be located within the roofline of the home or detached garage, excepting mansard and dormer roofs.

- 2) **FAR Averaging.** The Planned Unit Development permit for each project shall state if the FAR Averaging Provisions listed in section 9.2.2.b.1 above are authorized for the project. If the FAR Averaging Provisions are authorized, no subsequent additions of floor area shall be permitted for any building on any lot within the project. If the Planned Unit Development permit does not specifically authorize the FAR Averaging Provision, all lots within the project shall be subject to a 35 percent maximum FAR, including subsequent floor area additions. If the FAR of any lot within a project exceeds 25 percent, the entire project shall be subject to the FAR Averaging Provisions.

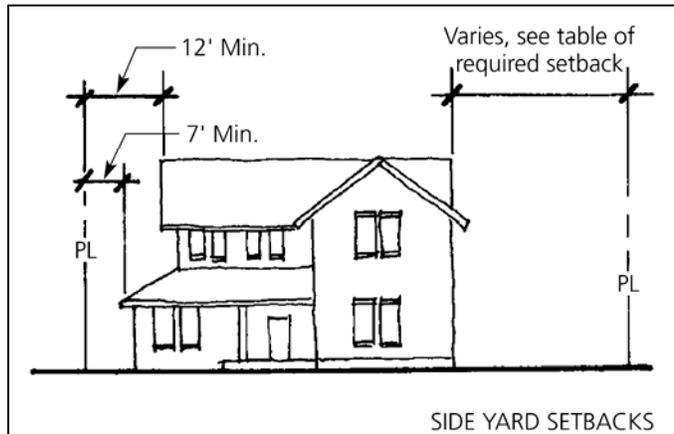
- 3) **Maximum Habitable Area.** In no case shall the total habitable living area within buildings on any lot exceed 5,500 square feet.

c. **Setbacks and Building Siting**

An informal development pattern should be pursued by varying the street setbacks so that houses do not form long and straight "walls" along the street. A sense of openness should also be pursued by providing wide side setbacks, or by pairing narrow side setbacks so that a wider open space is created between opposing side yards. Houses and garages at the end of streets should be sited so as to afford views through the lots to the open space beyond. Given a suitable alternative, garages and house should not be positioned to block significant views.

- 1) **Setbacks.** The minimum street frontage yard setback shall be 20 feet. The minimum rear yard setback shall be 20 feet. The minimum side yard setback shall be 7 feet. The minimum combined side yard setbacks shall vary between 15 and 27 feet, based on the depth of the front yard setback. For every 5 feet added to the minimum front yard setback, the total side yard setback shall be reduced by 4 feet.

- 2) **Second Story Setback.** The minimum side yard setback (S1) shall be increased by 5' for the second story. Stair-step construction (with the first story setback at 7' or 10' and the second story setback at 12' or 15') is permitted.



- 3) **One-Story Porches.** One story porches may encroach up to 5 feet into the required street-facing setback (front or side yard), however may not encroach within corner lot site distance zones. One-story porches may not encroach upon rear or non-street facing side yard setbacks. Porches with a depth greater than 5-feet are encouraged. 'Porch' in this case (i.e., that can encroach into the required street-facing setback) refers to a sheltered entry area that extends out from the main body of the house and is covered by a smaller roof that is distinct from the main roof.

- 4) **Porte Cocheres.** For residences with detached garages located in the rear one half of the lot, one story porte cocheres may encroach in to a required non-street facing side yard consistent with the following requirements. The porte cochere shall be: open (no walls) on three sides (at least 75 percent of the perimeter); located at least five feet from the side property line; subject to the required front yard setback except that it may observe the front porch setback where it is designed as an architectural extension of the porch designed to cover a driveway leading to a garage, and the portion of the porte cochere encroaching into a required yard shall not exceed 350 square feet of roof area.

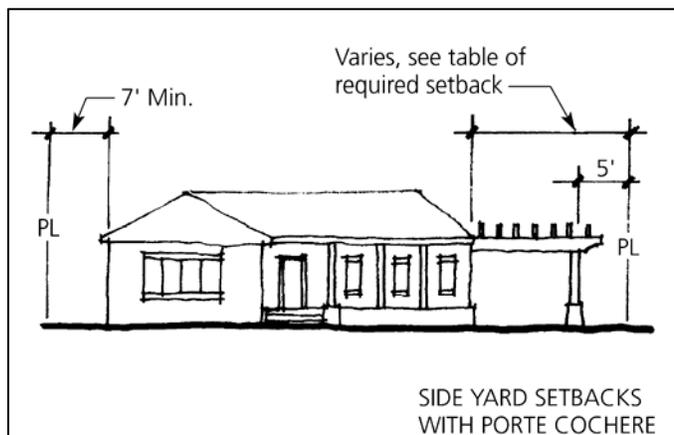


TABLE OF REQUIRED SETBACKS FOR LOTS LESS THAN 9,000 SQUARE FEET

	Front Yard	Minimum Side (S1)	Second Side (S2)	Total Side (S1+S2)	Rear Yard
A	20'	7'	20'	27'	20'
B	25'	7'	16'	23'	20'
C	30'	7'	12'	19'	20'
D	35'	7'	8'	15'	20'

TABLE OF REQUIRED SETBACKS FOR LOTS 9,000 TO 11,000 SQUARE FEET

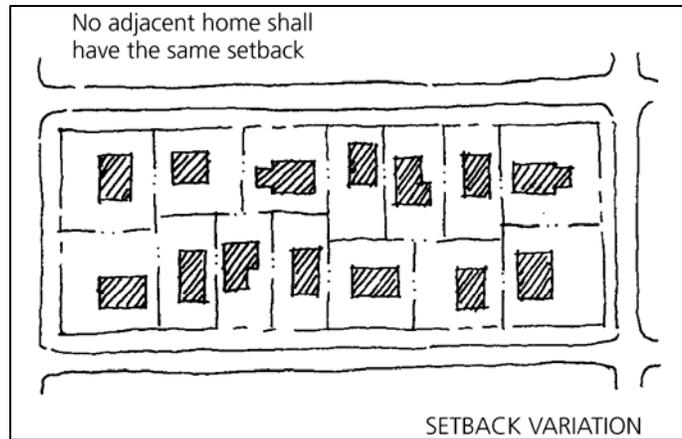
	Front Yard	Minimum Side (S1)	Second Side (S2)	Total Side (S1+S2)	Rear Yard
A	20'	7'	24'	31'	20'
B	25'	7'	20'	27'	20'
C	30'	7'	16'	23'	20'
D	35'	7'	12'	19'	20'

TABLE OF REQUIRED SETBACKS FOR LOTS LARGER THAN 11,000 SQUARE FEET

	Front Yard	Minimum Side (S1)	Second Side (S2)	Total Side (S1+S2)	Rear Yard
A	25'	10'	24'	34'	20'
B	30'	10'	20'	30'	20'
C	35'	10'	16'	26'	20'
D	40'	10'	12'	22'	20'

- 5) **Side-Street Setbacks.** For lots with more than one street frontage, the side street facing yard shall be a minimum of 20 feet, regardless of the front setback.
- 6) **Setbacks at Subarea Boundaries.** Where contiguous to subarea boundaries that are immediately adjacent to existing residential development (i.e., no intervening open space buffer) the adjacent required yard shall be a minimum of 30 feet.
- 7) **Setback Variation.** Front yard setbacks shall vary in a random, non-repetitive pattern along the length of the street. Adjacent homes shall not have the same front setback. Each of the four setback configurations (A,B,C,D) listed in the applicable table must be used throughout the project in approximately equal proportion (i.e., between 20 and 30 percent of the lots within a project shall use each configuration).

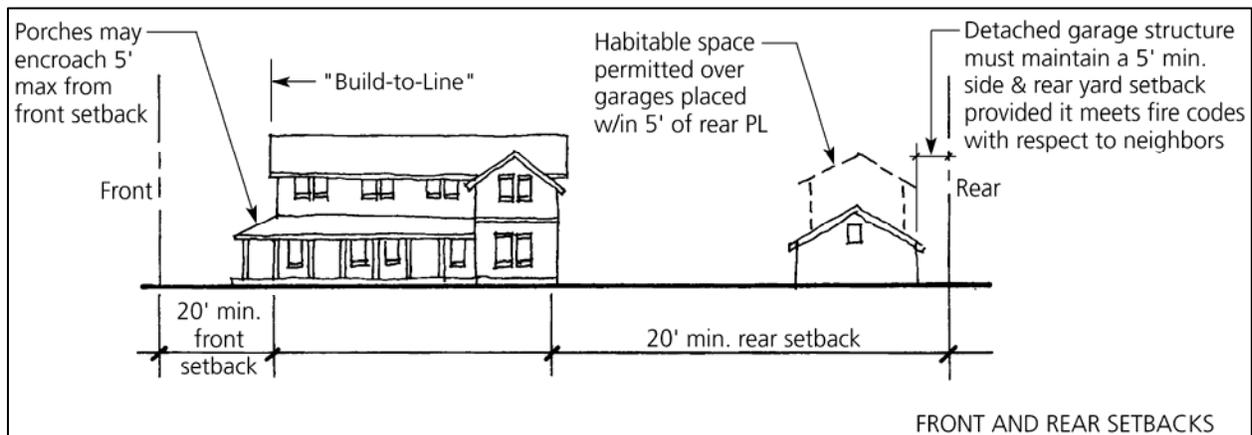
8) Front setbacks shall be considered "build to" lines. This means a building must be located at rather than behind the front setback line. The only exceptions are for setbacks of 35 feet or more, or where a front porch with a depth of more than 5 feet is proposed. Where setbacks are 35 feet or more, buildings may be located behind the front setback line. Where porches are proposed with a depth greater than 5-feet, "build to" lines may be made deeper by the same measurement as that between a 5-foot deep porch and the proposed porch depth (ie., a 7-foot porch depth would allow for a 2-foot increase in the depth of the build to line).



9) Alternative Front Setbacks. The front setbacks listed in the above tables may be increased by a Planned Unit Development Permit provided four configurations are used, the minimum front yard setback is at least that listed in Row A of the applicable setback table, and the minimum difference between front setbacks for each of the different configurations is five feet.

10) Pairing of Wide Setbacks. The (S2) site setbacks may be paired to create a wider open space between adjacent houses.

11) View Corridors. Wherever possible, houses and garages that are adjacent to open-space and are located at the end of a cul-de-sac or other non-through street (e.g., a "T" intersection) shall be sited to afford views through the lots to the open space beyond. Given a suitable alternative, garages and house shall not be positioned to block significant views.



d. Intended Design Styles

It is the express purpose of these guidelines to emulate the architectural quality of the farm compound and small town home, as examples of the indigenous architecture of the South Livermore Valley. Overly stylistic design solutions or exaggerated "themes" should be avoided.

For the purposes of facilitating the evaluation of which design styles are considered appropriate for the South Livermore Valley, the "Field Guide to American Houses" (McAlester, Virginia and Lee, New York, Alfred A. Knopf, 1995. ISBN 0-394-73969-8) has been used as a source (a copy is available for reference at the Planning Division).

In keeping with the goal of creating distinctive neighborhoods within each subarea, developers are encouraged to use different stylistic "looks" on a neighborhood by neighborhood basis, rather than mixing different styles haphazardly throughout a subarea.

- 1) Permitted Styles.** Styles described as Craftsman, Bungalow, Shingle, and simple (i.e., less ornate) versions of Queen Anne and Folk Victorian are considered the most appropriate architectural prototypes for the Valley. Other styles found occasionally in the Valley which are also acceptable in limited numbers, include Prairie, Mission, Spanish Eclectic, Monterey and Ranch.
- 2) Prohibited Styles.** All other architectural styles, including those identified in this source as English Tudor, Georgian, Colonial, Dutch, Period Castle/Chateaux, Chalet, Neo-Classical and more ornate versions of Victorian (e.g., Second Empire), and those styles that may be described as French, English, or European Country, are strictly prohibited.

Permitted Styles



Craftsman (Hipped Roof)



Craftsman (Gabled Roof)



Folk Victorian



Queen Anne



Shingle (Gambrel Roof)



Spanish Eclectic/Monterey

Permitted Styles (continued)



Contemporary Interpretations



Prohibited Styles



English Tudor



Neoclassical



Period Castle/Chateau



Chateau Eclectic

ARCHITECTURAL DESIGN STYLES

e. Materials and Colors

The consistent use of materials and colors will achieve a distinctive foundation over which buildings can acquire individual expression. In general, materials should tend towards the natural, such as wood, stone, brick, or simple stucco (in limited numbers), and earth tone colors in a range of depths that are compatible with the vineyards and orchards that dominate the spectrum of the Valley's agrarian and natural landscape.

- 1) Consistent Treatment.** *Within a given architectural design, the exterior appearance of a house shall receive a consistent treatment of material and colors on all sides, although the proportion of materials may vary. Exterior elevations, roofs, and details shall be coordinated and consistent with the style of the overall building. Accent materials (i.e., brick, stone) used on street facing elevations are not required on portions of elevations not visible from public areas.*
- 2) Natural materials.** *Materials such as wood, stone, brick, terne-coated metal, and copper, left in their natural color and finish are encouraged throughout the new development areas.*
- 3) Processed Materials.** *The following processed materials are permitted, provided they meet the color standards listed below:*
 - *Cast-in-place concrete*
 - *Cement plaster stucco (smooth or light stipple) when limited to those architectural styles that are typically finished with stucco such as Mission, Spanish Eclectic, and Monterey, and in limited numbers within a project.*
 - *Asphalt shingles*
 - *Flat roof tile (non reflective)*
 - *Trim metals (galvanized, aluminum)*
- 4) Artificial Material and Faux Finishes.** *Artificial imitations of natural materials, such as stamped brick, vinyl siding, coated metal roof products in shingle or barrel tile patterns, etc. are prohibited. The Design Review Committee may permit the use of artificial materials such as horizontal lap siding fabricated from wood by-products, or synthetic stone etc. on a case-by-case basis.*
- 5) Applied or Integral Colors for Exterior Walls** *(e.g., stucco, painted wood siding). Exterior wall colors shall include a range of natural tones that span the spectrum between white and black. In addition to earth colors such as browns and tans, this range includes muted greens, yellows, oranges, and reds while excluding purples, blues, blue/greens and intense pastels. A wide variety of saturated colors (such as deep red, burgundy, brown, olive green) are acceptable at the darker end of the range. The allowable lighter colors are more neutral and less intense than the darker colors. The lighter color range includes light to medium grays and tans and a range of muted greens, yellows and reds. The color chart included in this document illustrates the parameters of the permitted color range. A more complete color chart is available for reference at Planning Division.*
- 6) Applied or Integral Colors for Roof Materials.** *Roof colors shall range between gray/green and neutral gray, on a spectrum between neutral gray and black. This color range is represented in the lower left quadrant on the color chart in this document. As with the exterior walls, the lighter the color the less saturated it can be. Deep green, hunter green, olive and gray/green are acceptable roof colors. Also acceptable are deep reds and tile colors such as would be appropriate for Mission style buildings. The color chart included in this document illustrates the parameters of the permitted color range. A more complete color chart is available for reference at Planning Division.*
- 7) Reflective Finishes.** *Reflective or shiny exterior finishes (e.g., glazed roofing tiles, enameled metals, reflective glass, vinyl) are not allowed.*

Color Chart

Range of Permissible Colors for Exterior Walls

	1	2	3	4	5	6	7	8
A								
	196	314	203	210	224	241	251	188
B								
	160	162	168	208	370	338	399	671
C								
	352	304	307	309	312	341	442	727
D								
	354	355	360	414	464	554	810	816
E								
	507	509	516	520	608	804	770	739
F								
	577	683	744	693	703	749	759	769
G								
	825	904	906	908	876	886	889	892
H								
	1024	1028	943	945	913	922	929	815
I								
	1178	981	1030	986	952	957	962	934
J								
	1673	1674	1675	1676	1678	7679	1680	2013

Range of permissible colors for roof material.

K				
	159	165	201	264

Exception: Range of permissible colors for clay tile roof.

Notes:

1. Refer to written standards in Specific Plan for further description.
2. Numbers below colors on this chart refer to paint manufactures ICI master palette color numbers.

f. Building Elements

- 1) Windows.** Windows shall be of a vertical proportion, with a vertical/horizontal ratio ranging from 1.5:1 to 2:1. Glazed horizontal openings shall be divided with multiple ganged vertical windows whose proportions are within the specified ratios. Glazing shall be non-reflective.

Suggested window and door prototypes include double hung and casement or fixed sash. Glass doors should be "French Door" type if visible from the street.

Large glass areas such as required for greenhouses or "atriums" may be permitted on elevations not visible from the street and will be considered by the Design Review Committee on a case-by-case basis.

- 2) Skylights.** Flat skylights of non-reflective (i.e. clear, non-mirrored) materials are allowed. Reflective or domed skylights are not permitted.

- 3) Rooftop Equipment, Cupolas and Dormers.** Rooftop equipment shall be concealed or integrated within the roof form system so as not to intrude on the overall roofscape. Such equipment must be below the top of roofline.

Cupolas and dormers shall be designed as an integral part of the roofscape and constructed of similar materials.

- 4) Chimneys.** Metal chimneys or chimney baffles shall be designed consistently with related sheet metal work and shall vary in design from one elevation style to another.

Fireplace chimneys can be expressed in any approved siding material including wood, brick, stone or stucco.

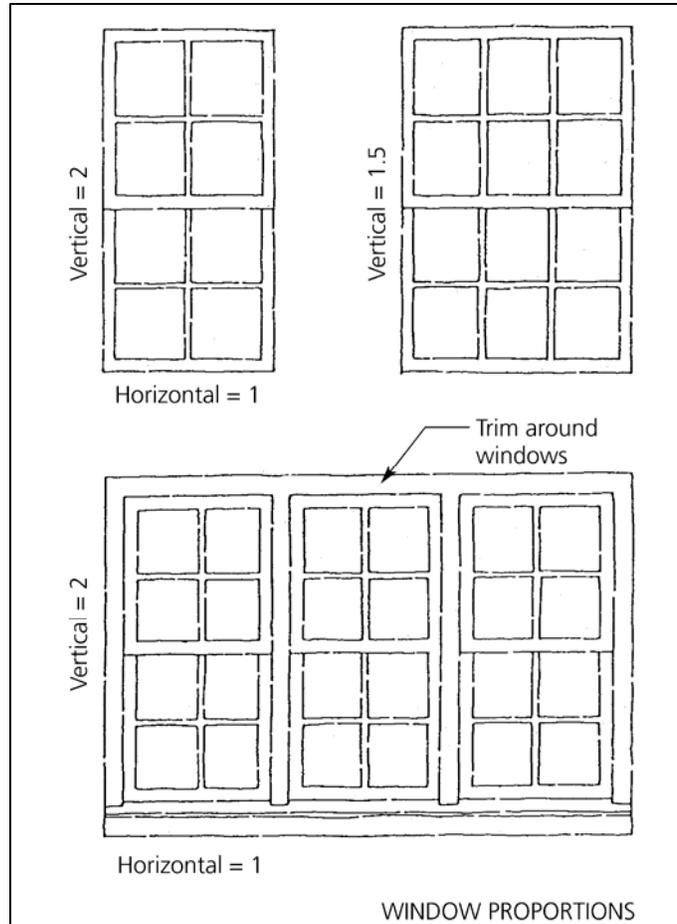
Fireplace chimney termination caps can be precast concrete, terra cotta, copper, painted metal or similar type provided they are integrated with the overall design.

Chimney caps shall be fitted with approved spark arresters.

- 5) Solar Design and Solar Panels.** Active and passive solar applications are encouraged provided they are integrated within the context of traditional building forms consistent with the intent of these standards. Overt solar building designs requiring specifically expressed masonry trombe walls or large expanses of glass are prohibited.

Reflective panels are prohibited.

- 6) Exposed Sheet Metal, Vents, Gutters, Downspouts, etc.** All exposed roof vents shall be ganged or concealed where feasible. Placement to the rear of ridge lines is encouraged.



All exposed sheet metal shall be painted unless fabricated of solid metal material such as copper, lead or zinc. (See color and finishes section).

- 7) Decks, Greenhouses, Swimming Pools, Etc.** *Decks should be designed to minimize unsightly supporting structures and to complement the total design. Temporary shelters, tents, and metal storage units are prohibited, except those allowed for construction. Underpinnings for decks more than three feet above grade must be designed without visible cross bracing or with a continuous screen wall to conceal structural supports.*
- 8) Pool and Spa Equipment.** *Pool and spa equipment shall be enclosed or positioned to screen noise and visibility from neighboring parcels and private or public roads.*
- 9) Mechanical Equipment.** *Fans, pumps, vents and equipment shall be integrated into the building's design. All equipment shall be enclosed or screened to prevent noise or visibility to neighboring properties.*
- 10) Retaining Walls.** *If the site requires any isolated retaining walls, they should be made of native stone, stained or sandblasted concrete or other materials that are complimentary to the building group and natural surroundings.*
- 11) Foundation Walls.** *Concrete or concrete block masonry may be used for foundation walls. Exposed walls over three (3) feet in height must be faced with wood, stone, stucco or painted with an acceptable color masonry paint. Certain split face concrete block or sand blasting may be acceptable.*

g. Parking and Garages

One of the key planning objectives for the South Livermore Valley is to prevent garages and automobiles from dominating the street scene. To this end, garages and carports should be placed in the rear of the lot so as to minimize their presence and impact on the street, allowing the house to be the dominant structure seen from the public domain. In order to minimize the number and the regular spacing of curb cuts, driveways for adjacent lots should be shared or paired where appropriate. While it is preferred that shared or paired driveways extend to the garage structures, it is particularly encouraged that driveways be shared from the roadway to the front property line of the lots.

- 1) Required Parking.** *Each lot shall provide for non-tandem parking for a minimum of three automobiles. At least two cars shall be parked in a covered garage structure.*
- 2) Garage Placement.** *Garages and carports shall be placed as follows:*

Garages shall be located in any of the following locations:

- a) Detached in the rear half of the lot (diagrams A, B, I)*
- b) Attached located more than 50 feet from all street ROWs (diagrams C, H)*
- c) Attached located less than 50 feet from any ROW, not facing the street (diagram D);*
- d) Attached located less than 50 feet from any ROW with a split garage both facing (single car maximum), and not facing (any number of cars) the street (diagram G);*
- e) Attached located less than 50 feet from any ROW facing the street (diagrams E, F)*

For projects where less than 45 percent of the total units within a development include detached garages, at least four of the above five configurations must be used. If at least 45 percent of the total units include detached garages, then at least three configurations must be used. If at least 70 percent (but less than all) of the units include detached garages, then at least two configurations must be used. A single configuration of detached garages may be used on every lot. Each of the configurations "b" through "d" listed above shall be used on no more than 30 percent of the lots within a development. At least 20% of all garages shall be detached and located in the rear half of the lot. A five-foot wide breezeway connection to the house is permitted.

For garages located within 50 feet of a street right-of-way:

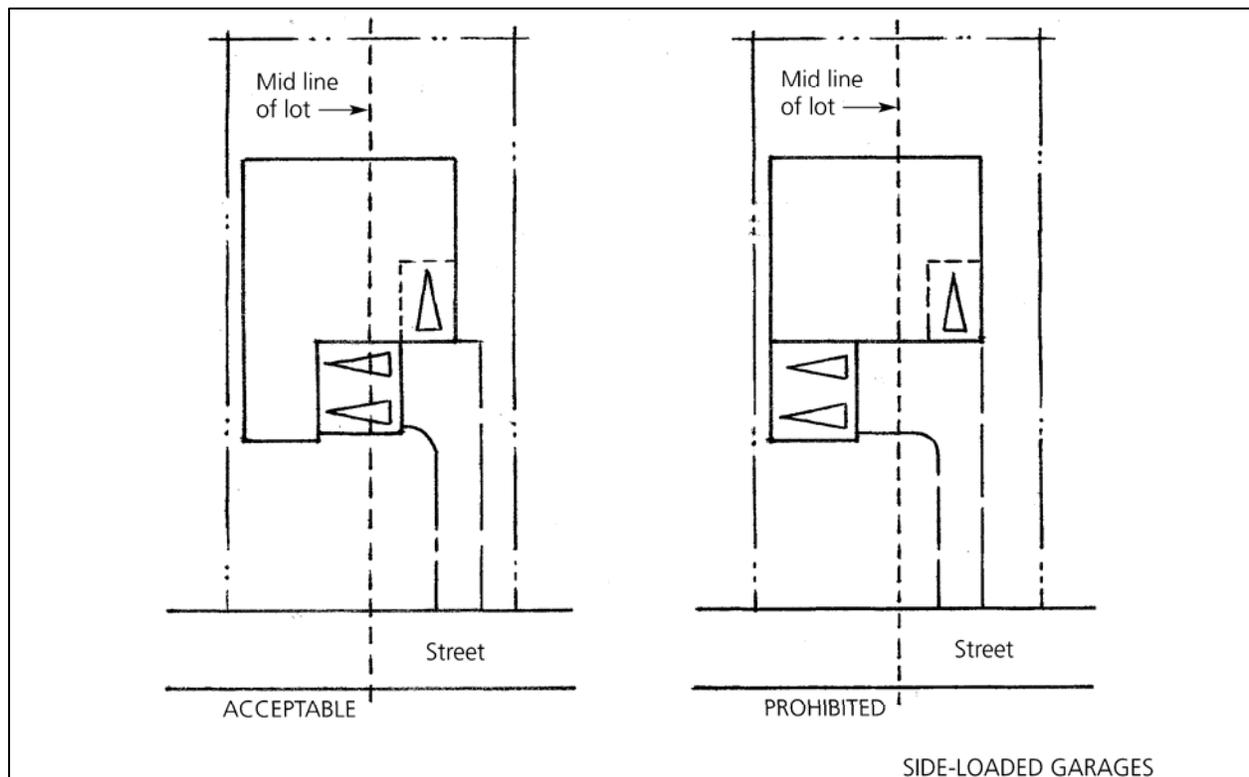
- no more than two adjacent lots shall use the same garage placement configurations.
- all garage structures shall be setback at least five feet further from the street than the porch or living area of the house.

For garages located within 50 feet of a street right-of-way and facing the street:

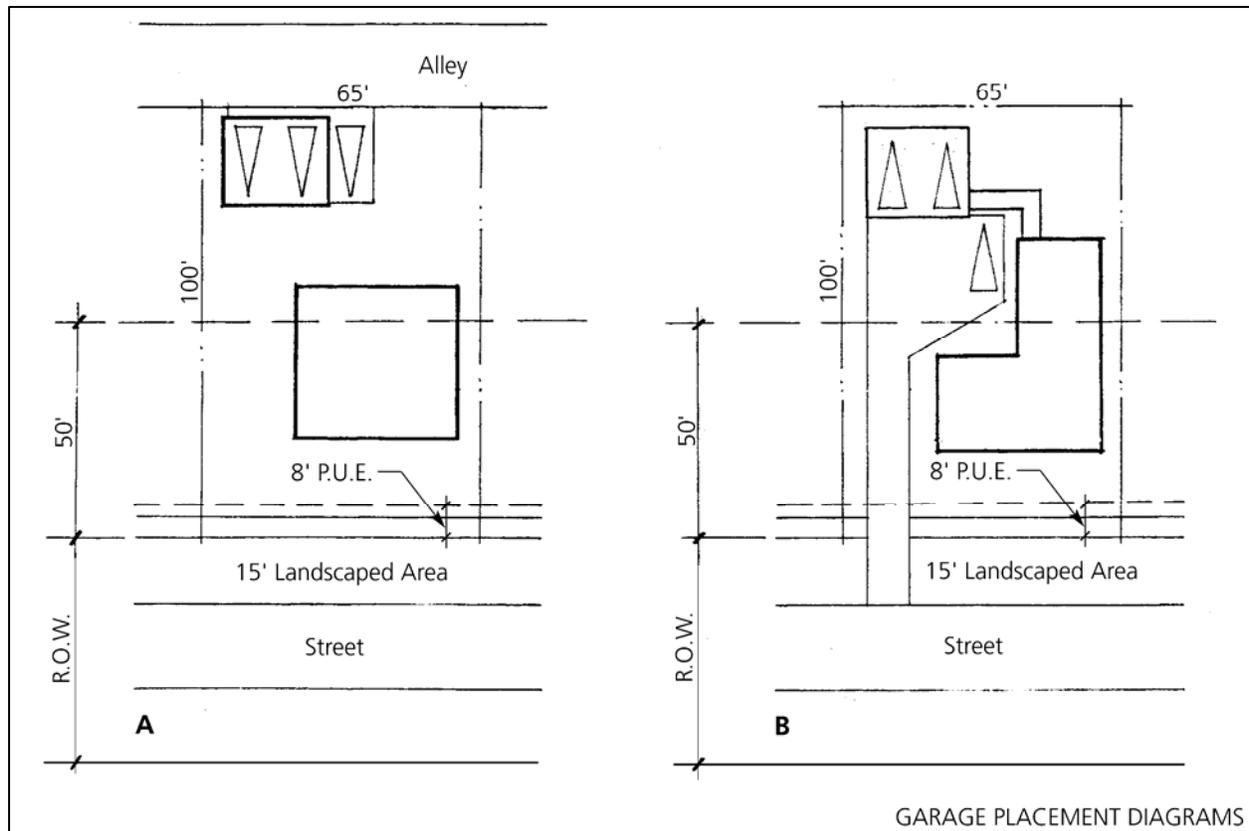
- no more than 25% of the total number of garages shall be so located.
- garage doors may not exceed 38% of the total street-facing building facade width or 18 feet total maximum width.
- garage structures shall be set back at least 10 feet further from the street than the living area of the house.

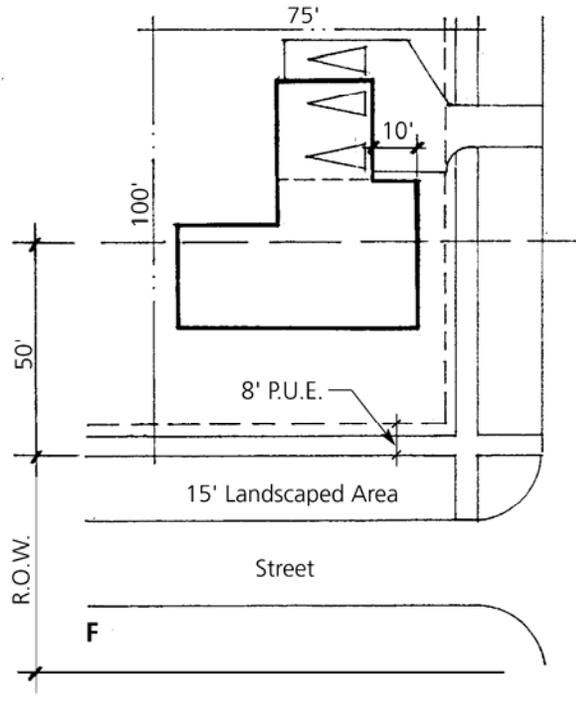
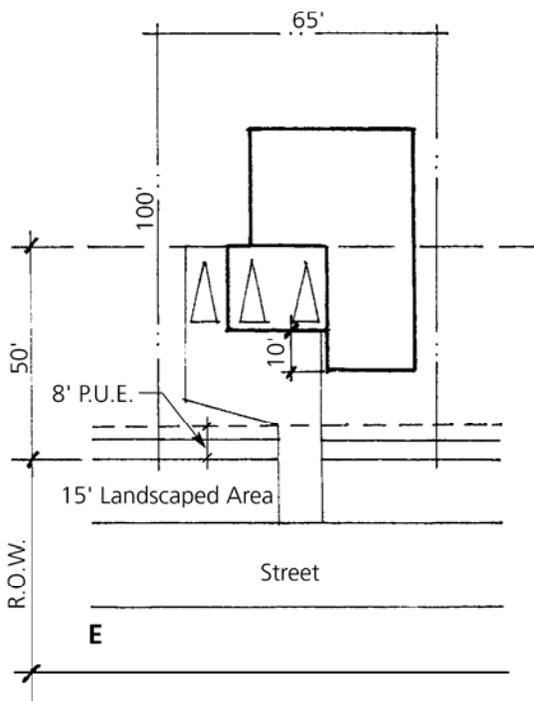
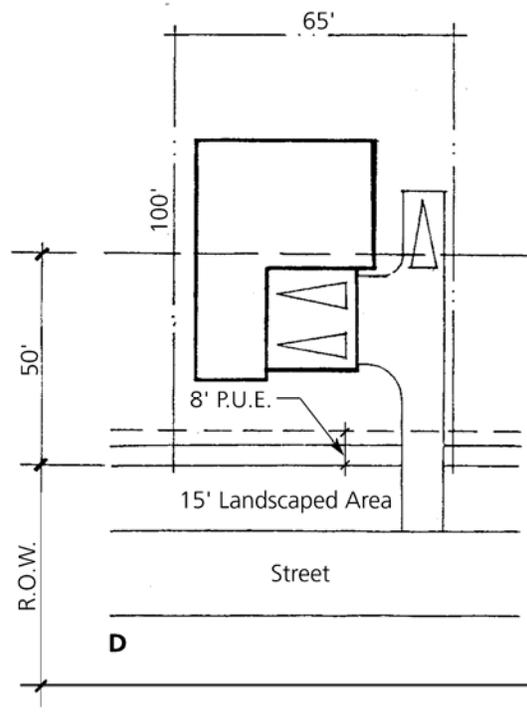
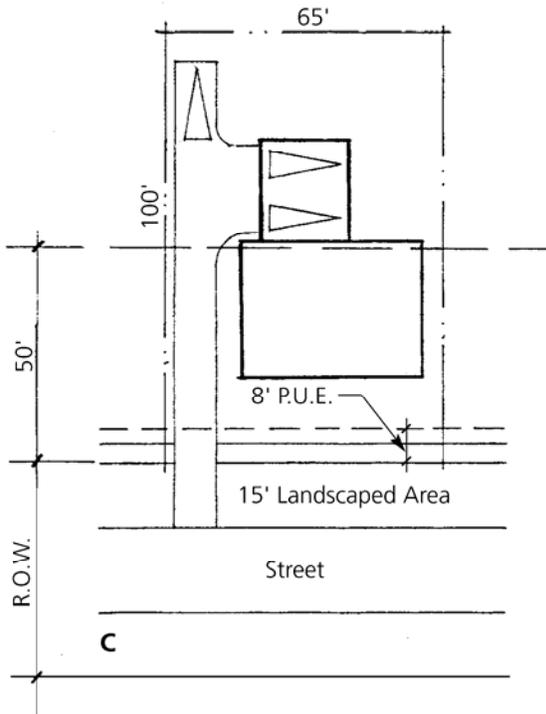
3) Side Loaded Garages. Garages that face the interior of a lot (i.e., 'Hollywood drive') are prohibited. In other words, garage doors cannot face the mid-line of the lot as drawn from front to rear.

4) Garage Doors. Double wide (i.e. 16'); doors are prohibited on all street-facing garages within 50 feet of the street right-of-way. Single stall width doors are preferable in all instances.

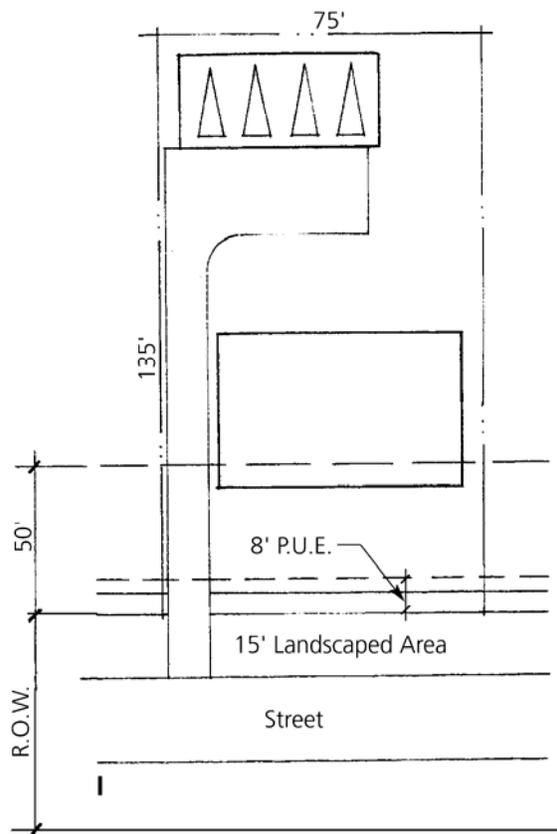
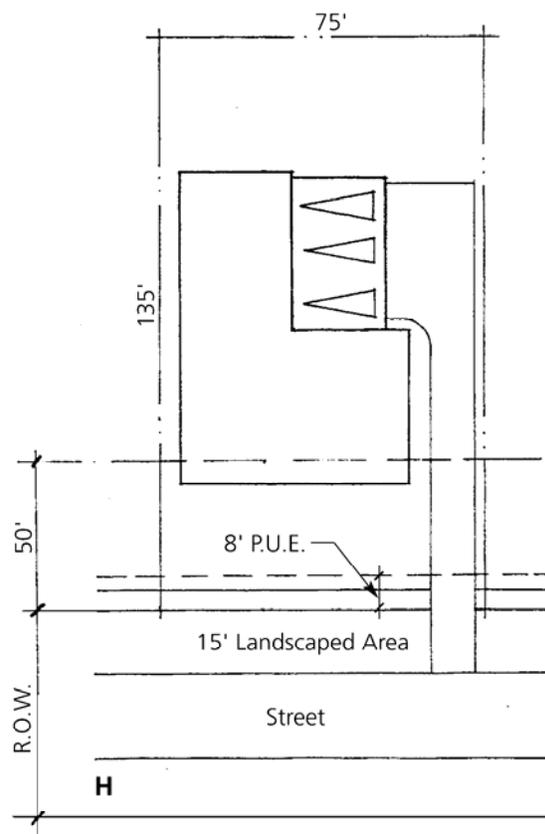
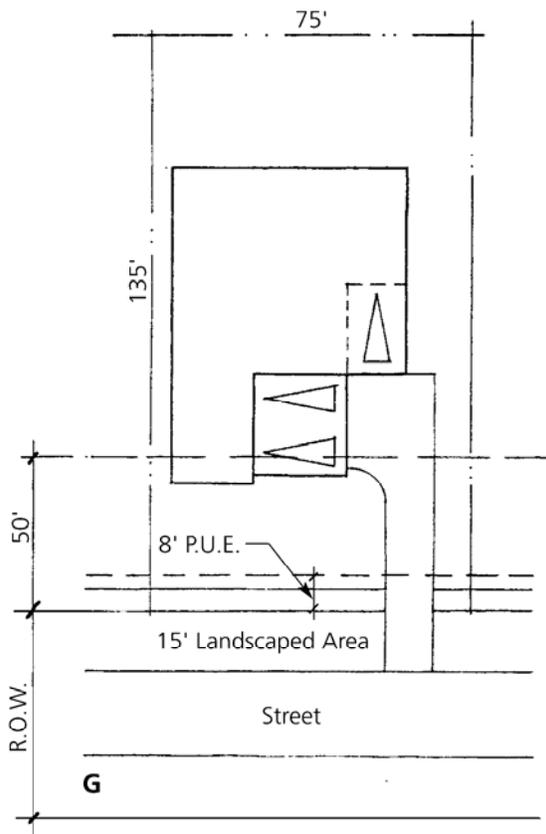


- 5) Garage Setbacks.** Detached garages in the rear half of the lot shall have a minimum 5-foot rear- and side-yard setback. Garages shall not be located in any required street frontage yard. The minimum side-yard setback shall be increased by 5 feet for habitable space in the second story above a detached garage. The additional 5-foot second floor setback can be waived, with the approval of a Planned Unit Development permit, if it can be shown that privacy is not an issue for adjoining properties.
- 6) Maximum Heights.** Building height shall be measured from the median grade elevation to the mean height level between the eaves and the ridge of the main roof. The median grade is calculated by averaging the highest and lowest natural grade elevations that contact the perimeter of the building footprint. Chimneys and cupolas are excepted from the height limit.
- **Single Story Accessory structures** (garages, detached second units and accessory structures): Height shall not exceed 15 feet.
 - **Two Story Accessory structures** (detached garages with habitable space above): Overall height shall not exceed 20 feet, and shall be lower than the roof peak of the main body of a house.
- 7) Required Single-story Garages.** All detached garages immediately adjacent to existing residential development shall be single story.
- 8) Two-story Garages.** Habitable space may be placed above detached garages (Alternatives A, B, and I). Habitable space is prohibited in attached garages (Alternatives C, D, E, F, G, and H).





GARAGE PLACEMENT DIAGRAMS



GARAGE PLACEMENT DIAGRAMS



Detached garage (with habitable space above)



Turned garage



Porte-cochere



Split garage



*Garage dominant facade
(not permitted)*

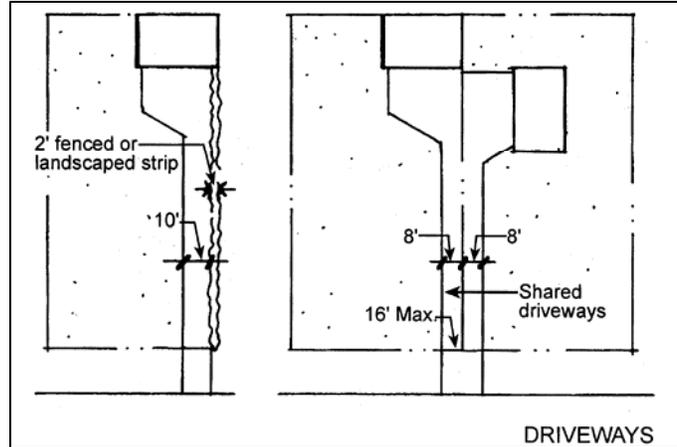


*Garage dominant streetscape
(not permitted)*

GARAGE PLACEMENT

9) Driveways. Individual driveways shall not exceed 10 feet in width between the street roadway and the front setback line (excepting normal turning radii, i.e., 10' minimum/20' maximum). Individual driveways may be placed within 2' of the side property line, provided the strip between the driveway and the property line is fenced and/or is continuously landscaped to the front setback line. Shared driveways shall not exceed 16' in width.

10) Driveway Paving. In general, it is preferable that driveways be constructed of permeable materials (decomposed granite, bricks or interlocking pavers, porous asphalt) to reduce runoff. Driveways may be constructed of textured concrete (e.g., salt finish, heavy broom finish, exposed aggregate, etc.) but, stamped, painted and/or colored concrete is not permitted. When concrete is used, it is preferable to provide a planting strip between the wheelways (rather than a monolithic driveway) in the area between the street and the front building setback line.



Where driveways cross drainage swales, the paving shall be concrete.

11) Other Vehicles and Equipment. Trailers, mobile homes, trucks, boats, boat trailers, tractors, campers not on a truck, and garden or maintenance equipment shall be stored in a closed structure or completely screened from view.

12) On-Street Parking. No on-street parking shall be permitted except in designated parking bays. On any given street, parking bays shall be provided at a ratio of 0.75 parking spaces per residential unit.

9.2.3 LANDSCAPE

To a great extent, the identity of the new residential communities should be dependent on the landscape: on a continuous fabric of vegetation that is compatible with the Valley's rural character and stretches in and out of the development areas to the surrounding countryside. As in the farm compound, the use of lawn areas and ornamentals should generally be restricted to the private realm -- near the home itself. Public use areas and right-of-ways should be more informal in character, emphasizing native and naturalized plants, and species used in agriculture such as olives, walnuts, and almonds. The utilitarian function of the landscape should also be consistently and clearly expressed, from providing shade where people walk and gather to helping drain the seasonal rainfall in localized swales and retention areas.

The guidelines that follow provide a general discussion of the placement, arrangement and selection of trees and, whether the ground plane should be planted, mulched, sodded, or covered with gravel. It should be understood, however, that in all landscaped areas, shrub and ground cover materials should generally be drought-tolerant and adaptable to the natural conditions of the Valley.

Lighting, signage, and other features of the public domain should be simple rather than ornamented and fabricated in materials and styles that evoke the Valley's rural heritage. In addition:

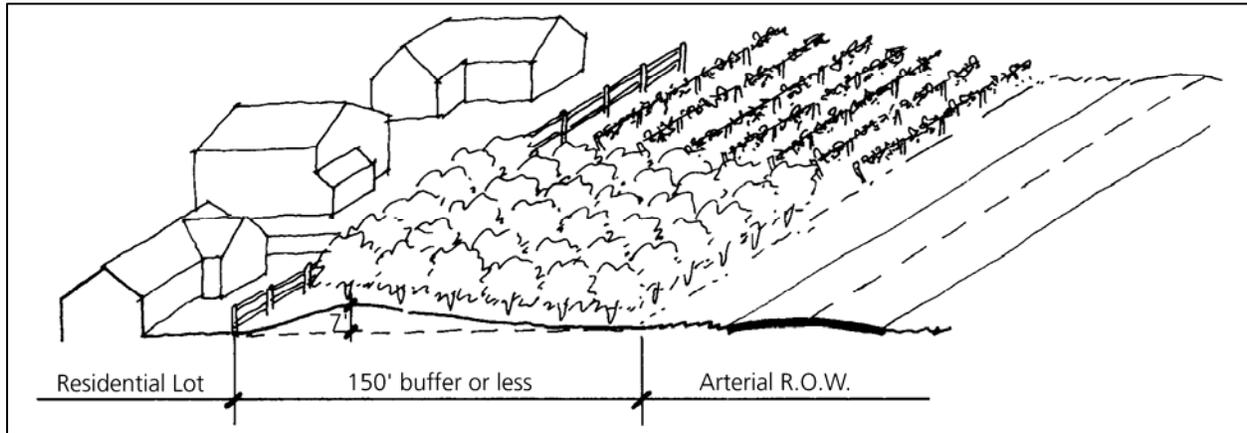


- The landscape should not create a fire hazard;
- Existing trees should be preserved wherever feasible;
- Plant materials that are invasive or which are hosts to known vineyard pests should be avoided; and,
- Tree plantings should provide shade to mitigate intense summer heat.

a. Project Buffers/Edge Landscape

The zone between the major arterials and the development areas are largely to be kept in active agricultural production. The landscape abutting these areas should be compatible with the farming operations, avoiding plant material and other landscape features that in any way prove detrimental to adjacent agriculture.

- 1) Edges Abutting Arterials.** Where the buffer zone between any housing development and an arterial right-of-way is less than 150', a mound with a 7' crown shall be placed in the buffer zone, with the crown placed at the rear of the buffer zone. The mound shall be planted with vines or orchards. Sound walls are not permitted adjacent to arterial rights-of-way or between arterials and housing separated by required buffers.

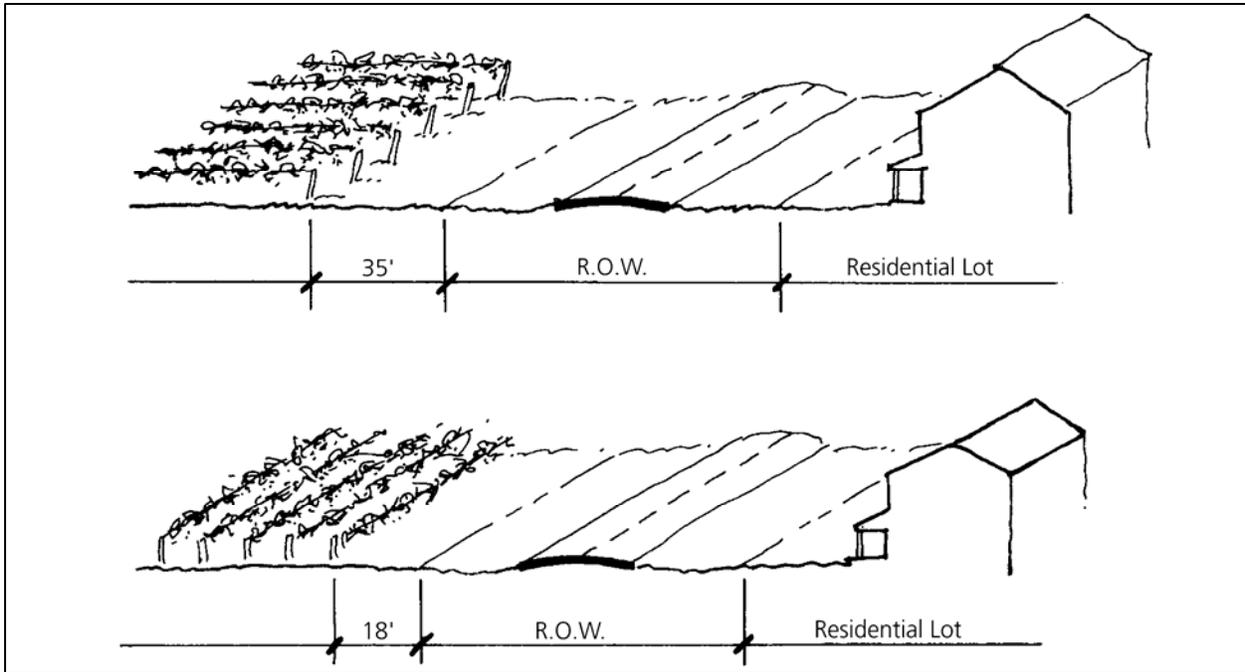


- 2) Required Landscape Buffers.** Where development abuts industrial or other non-residential land uses generating noise, light or dust, a 25' minimum buffer shall be maintained between the industrial fence-line and any new residential property line or right-of-way. This buffer shall be planted to provide as much visual screening as possible. If sound walls are required, such walls shall be constructed of materials whose color and character are compatible with the rural, agricultural character of the area. Such walls should be densely screened from development with landscaping.

In areas where wide buffers have been provided between proposed development and existing residential areas, the buffer area shall be planted with intensive agriculture (i.e., vineyards or orchards).

b. Edges Abutting Agricultural Land

- 1) Clear zones.** Where vineyard rows are perpendicular to a new right-of-way or development line, a minimum clear zone of 35' shall be maintained from the edge of the development or roadway to the first vine. Where vineyard rows are parallel to a new right-of-way or development line, the clear zone shall be 18' minimum.



c. Fencing

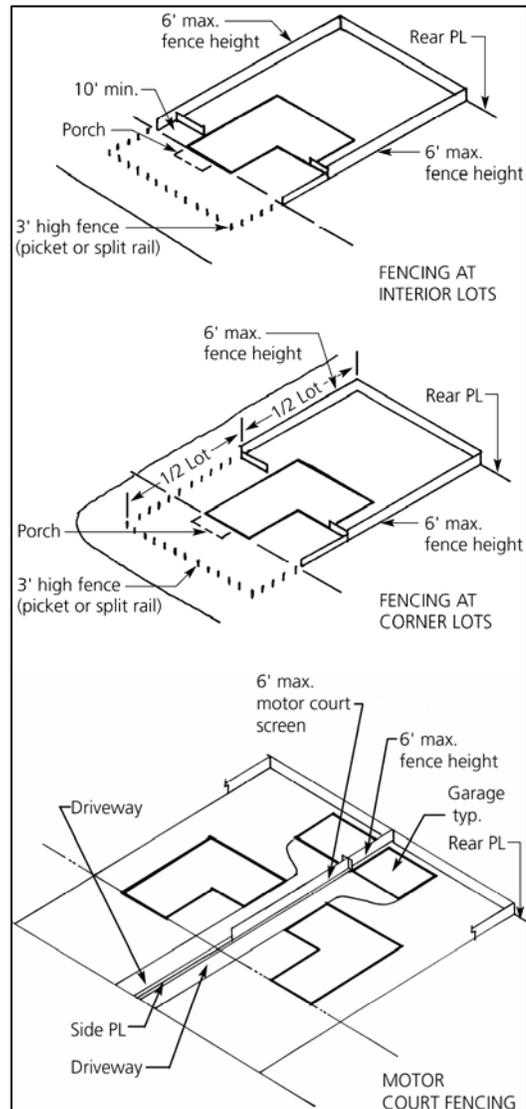
Fencing is an integral part of rural environments, serving to delineate different functional areas. Fencing should likewise be an integral part of the new development, but in ways which do not unduly enclose properties and diminish the views that would otherwise be available. Fence design should be consistent with the rural character of the development and with individual structures.

1) Front Yard Fencing. Fencing along property lines forward of the front wall of the house (not including porches) shall not exceed 36 inches in height, and shall be of a picket or split rail type.

2) Rear and Side Yard Fencing. Fencing along side and rear property line shall not exceed 6 feet in height.

Where side or rear yards face agricultural land or a natural open space, fencing shall not exceed 6 feet in height and shall be of "transparent" design (post and rail, gridded wire mesh, etc.).

3) Rear Yard Enclosure. Fencing between the house and the side property lines shall not exceed 6 feet in height and shall be placed at least 10 feet back from the front wall of the house (not counting porches). Side yard fencing between the rear yard enclosure and the front wall of the house cannot exceed 36" in height, unless the 6-foot high fence forms an integral part of the rear yard enclosure of the adjacent lot or forms a privacy screen for an outdoor use area (such as a motor court) as per section 9.2.3.c.5 below.



- 4) **Side Street Fencing.** *Fencing along side streets shall not exceed 6 feet in height. Fences taller than 36 inches shall be set back 5 feet from the pedestrian walkway and shall not exceed 50 percent of the lot frontage. Fences 36 inches in height or less shall be set back at least 2 feet from the pedestrian walkway.*
- 5) **Privacy Fencing.** *Walls and fences required for privacy screening in outdoor use areas may exceed the allowable fence heights provided they are located within the building setback lines.*
- 6) **Planted Fences.** *The use of vegetation to make fences is encouraged (e.g., hedges, trellised vines, etc.).*
- 7) **Chain-link fencing.** *Chain link fencing is not permitted where it would be visible from streets, open space areas or other public areas.*



ROADSIDE LANDSCAPE AND FENCING

d. Entry Landscape

The major access roadways leading to the new development areas should be integrated to the agricultural landscape rather than be set apart from it. To this end decorative walls and fences, flowering carpet-beds, and other decorative features associated with standards suburban "entrance features" should be subdued and subjugated to the rural aesthetic.

- 1) **Agricultural buffer.** A minimum 200' deep buffer of intensive agriculture (i.e., vineyards or orchards) shall be maintained at the entrances to the subareas.
- 2) **Median.** A minimum 20' wide median (excluding left-turn pockets) shall be placed on all entry roads for a 200' minimum length beginning at the arterial right-of-way line. Medians shall be planted with a regularly spaced single or double row of trees. Emphasis should be placed on species associated with cultivation. Rows of trees may be placed on either side of the street to frame entry drives, but shall not be used where they would interfere with significant views of hills or open space.
- 3) **Recommended Tree Species.** The intent of the tree planting along project entries is to provide an attractive and distinctive entrance, while maintaining a rural agricultural character. Use of overly ornamental species and those typically associated with suburban development areas (e.g., Bradford Pear, Flowering Plum, etc.) are discouraged. Tree species recommended for entryway landscape include:

Species Associated with Agriculture

Almond- *Prunus triloba*
Olive (non-fruiting)- *Olea europaea* 'Swan Hill' or 'Wilsonii'
Mulberry (non-fruiting)- *Morus alba*
Flowering Peach - *Prunus* sp. 'Early Double Pink' or 'Early Double Red'
Lombardy Poplar-*Populus nigra* 'Italica' (plant only where invasive roots will not be a problem)

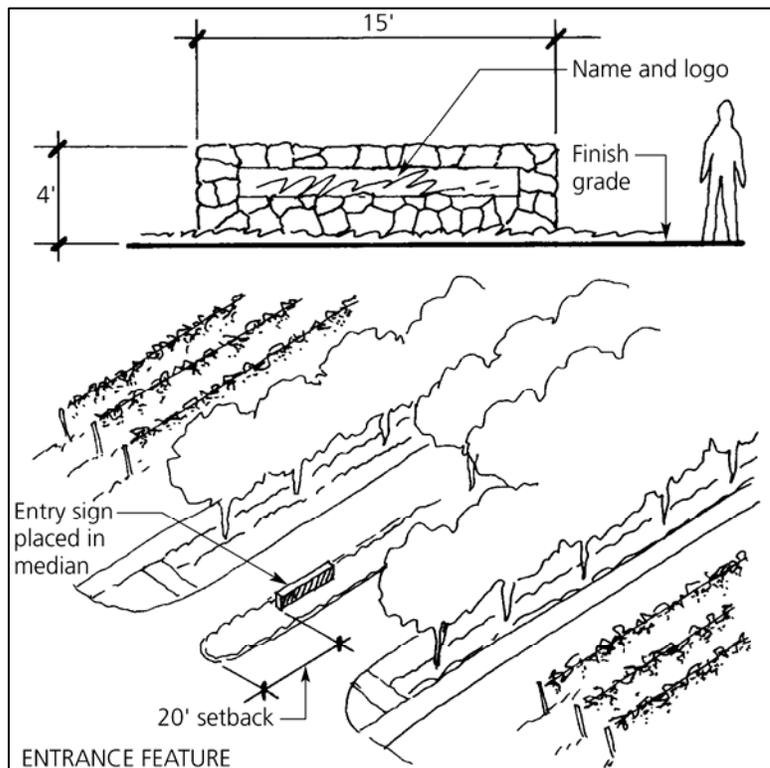
Other Suitable Species

California Buckeye- *Aesculus californica*
California Pepper Tree-*Schinus molle*
Brazilian Pepper - *Schinus terebinthifolius*
London Plane-*Platanus acerifolia*
Chinese Pistache- *Pistacia chinensis*
Common Hackberry- *Celtis occidentalis*
Oaks- *Quercus* spp. (*Q. suber*, *lobata*, *rubra*, *coccinea*, *ilex*, *agrifolia*)

- 4) **Entrance features.** Entrance features, such as decorative monuments, walls, or subdivision entrance signs shall be set back a minimum of 20' feet from the arterial right-of-way. Subdivision entrance signs may not exceed 4' in height from finished grade (see Section 9.2.3.1 Signage). Other entrance features (not including signage) may not exceed 5' in height from finished grade. No entrance feature shall obstruct critical sight lines for motorists. All entrance features shall be built of natural materials.

e. Collector Roads

Collector roads should be clearly identified from the overall development pattern. Collectors should contain regularly spaced trees forming continuous alleés that are broken only at major intersections and/or where special



views are obtained. Trees alongside collectors should be of a size and type that helps reinforce the function of the roadway.

- 1) **Tree Spacing.** *Trees along collector roads shall be spaced not more than 35' on center, or a distance equal to the spread (i.e., canopy widths) of a mature 15-year old tree, whichever is less.*
- 2) **Berms and Shoulders.** *The sides of collector roads shall be maintained in a naturalistic condition, emphasizing native or naturalized groundcovers, and mulch. Berms are not encouraged.*
- 3) **Recommended Tree Species.** *The intent of the tree planting along collector streets is to provide an attractive and distinctive corridor, while maintaining a rural agricultural character. Use of larger trees that are in scale with the broader, higher volume roadway is encouraged. Use of a single species is suggested to create a more dramatic and distinctive streetscape. Tree species recommended for collector streets include:*

*California Pepper Tree- Schinus molle
California Sycamore- Platanus racemosa
London Plane- Platanus acerifolia
Chinese Pistache- Pistacia chinensis
Cork Oak- Quercus suber
Common Hackberry- Celtis occidentalis
Italian Stone Pine-Pinus pinea
Canary Island Pine-Pinus canariensis
Holly Oak- Quercus ilex*



f. Residential Street Landscape

The landscape along Residential Streets is intended to enhance the visual character of the streetscape, reinforce the sense of neighborhood unity, and provide microclimate control that enhances the comfort of residents.

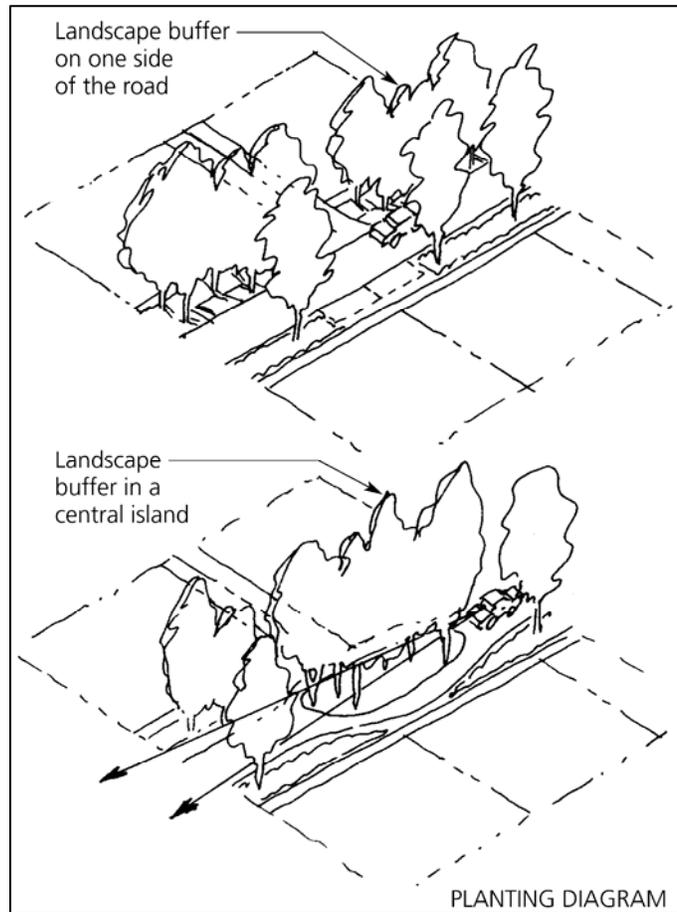
- 1) **Street Trees.** *Street trees can be planted singly or in clusters, but the number of street trees shall average at least one tree per 20 linear feet of street frontage excluding curb returns at intersections and linear street frontage adjacent to open spaces where trees will not be planted. While the total number of trees is based on the linear feet of frontage, the number of trees actually planted does not need to be the same on both sides of the roadway (i.e., a wider buffer on one side of the street may include more trees). Street trees shall not be spaced more than 50' on center. Street trees in medians/islands (including entry roads) shall be in addition to those required for the street frontages. All the street trees shall have a minimum 15-gallon container size.*
- 2) **Planting Character and Pattern.** *In general, the residential street landscape shall have a less formal character than is found in typical suburban or urban neighborhoods. Rather than providing a single, evenly spaced line of trees along both sides of the roadway, the street landscaping shall have a more random and more natural appearance. This is not to suggest that a regular spacing of trees cannot be used. Rather, that such formal planting shall be supplemented with a less formal landscape planting. The overall effect of the street landscaping should resemble a natural area more than a manicured garden.*

Landscaping within the right-of-way of local residential streets may be allocated in several ways depending on the particular development pattern, views to open space, solar orientation, etc. For instance:

- *Landscape planting can be distributed along both sides of the road in equal proportions with the same species used along both sides (see the Local Residential Street cross-section in Figure 5.5).*

- Landscape planting can be distributed along both sides of the road in unequal proportions with contrasting tree species planted on either side of the roadway (e.g., with a wide densely planted area on one side and a taller, more vertical row of trees on the other side of the roadway).
- Landscape planting can also be introduced into island areas or medians in the middle of roadways as well as along the sides of the roadway.

Typically, larger tree species will be more regularly planted to provide a recognizable structure to the street landscape. These will generally be canopy trees that provide shade to the neighborhood during the hot summer months. Below the large canopy trees there will be clusters or clumps of smaller or more vertical tree species that are planted to add variety and lushness to the streetscape. The ground plane shall contain drought-tolerant shrubs and groundcover and be mulched and/or stabilized in steeper areas. Turf grasses should be minimized within the landscape areas along the roadway, but native and drought-tolerant grasses may be used as ground cover.



- 3) Coverage.** The introduction of large canopy trees that provide shade to the streetscape is encouraged. Trees in the street planting areas shall provide at least 75 percent shade coverage of the street and sidewalk areas, based on the projected ten-year canopy diameter for each selected species.
- 4) Front Yard Trees.** Each residential parcel will have a minimum of two canopy trees planted in the front yard set back in addition to the tree plantings in the street right-of-way. Trees shall have a minimum 5 gallon container.
- 5) Recommended Tree Species.** A mixture of tree species is suggested for local residential streets to fulfill different functions: larger canopy trees for shade, taller vertical trees for landmarks, and smaller more ornamental trees for color and interest. Tree species recommended for local residential streets include:

London Plane Tree - *Platanus acerifolia*
 Canary Island Pine - *Pinus canariensis*
 Italian Stone Pine - *Pinus pinea*
 Red Gum - *Eucalyptus camaldulensis*
 Nichol's Willow-leafed Peppermint- *Eucalyptus nicolii*
 Mulberry (non-fruiting) - *Morus alba*
 Oak - *Quercus* spp. (*Q. suber*, *lobata*, *rubra*, *coccinea*,
ilex, *agrifolia*)

Almond - *Prunus triloba*
 California Buckeye - *Aesculus californica*
 California Pepper Tree - *Schinus molle*
 Little-Leaf Linden - *Tilia cordata*
 Chinese Hackberry - *Celtis sinensis*
 Olive (non-fruiting variety) - *Olea europaea*
 Western Redbud - *Cercis occidentalis*
 Dogwood - *Cornus florida*

- 6) Recommended Shrub Species.** The following list of shrubs represent a sampling of plant species that would be suitable for understory planting within the street right-of-way. In each case, plant selection will be dependent on the specific site characteristics (i.e., soil, sun exposure, etc.), and desired character and function.

Toyon - *Heteromeles arbutifolia*
 Santa Barbara Daisy - *Erigeron 'morltemi'*
 Spanish Lavender - *Lavandula stoechas*
 English Lavender - *Lavandula angustifolia*
 Purple sage - *Salvia Leucophylla*
 India Hawthorne - *Raphiolepis indica*

Society garlic - *Tulbaghia violacea*
 California buckwheat-*Eriogonum fasciculatum*
 Wild Rose - *Rosa spp.*
 Coast Silktassel - *Garrya elliptica*
 Daylily - *Hemerocallis spp.*

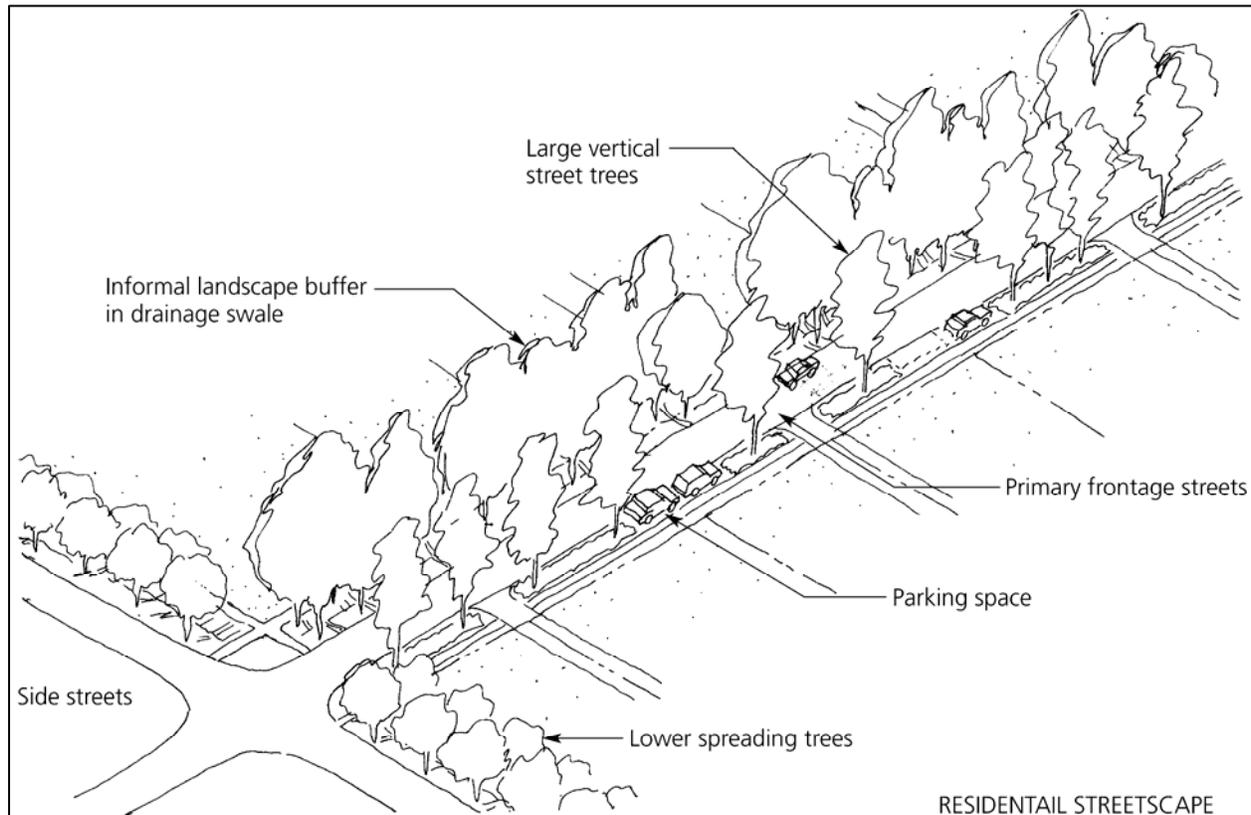
7) Recommended Grass Species. *The following list of grasses includes species that will do well in non-irrigated or minimally irrigated areas. In order to grow and maintain these sites successfully the grass needs to be mowed three times annually: once in late January, once in early March, and once at the end of the growing season.*

Grasses for Deeper Valley Floor Soils

Nassella cernua - Nodding needle grass
N. Nassella pulchra - Purple needle grass
Elymus glaucus, 'Anderson' - Anderson blue wild rye
Hordeum Californium - California native barley
Melia californica - California onion grass
Trifolium tridentata - Tom cat clover
Lupinus succulentus - Arroyo lupine
Eschscholzia californica - California poppy
Lasthonia glabrata - Goldfields
Achillea millefolium - White yarrow
Lupinus macrocarpus - Golden lupine

Grasses for Shallow Less Fertile Soils

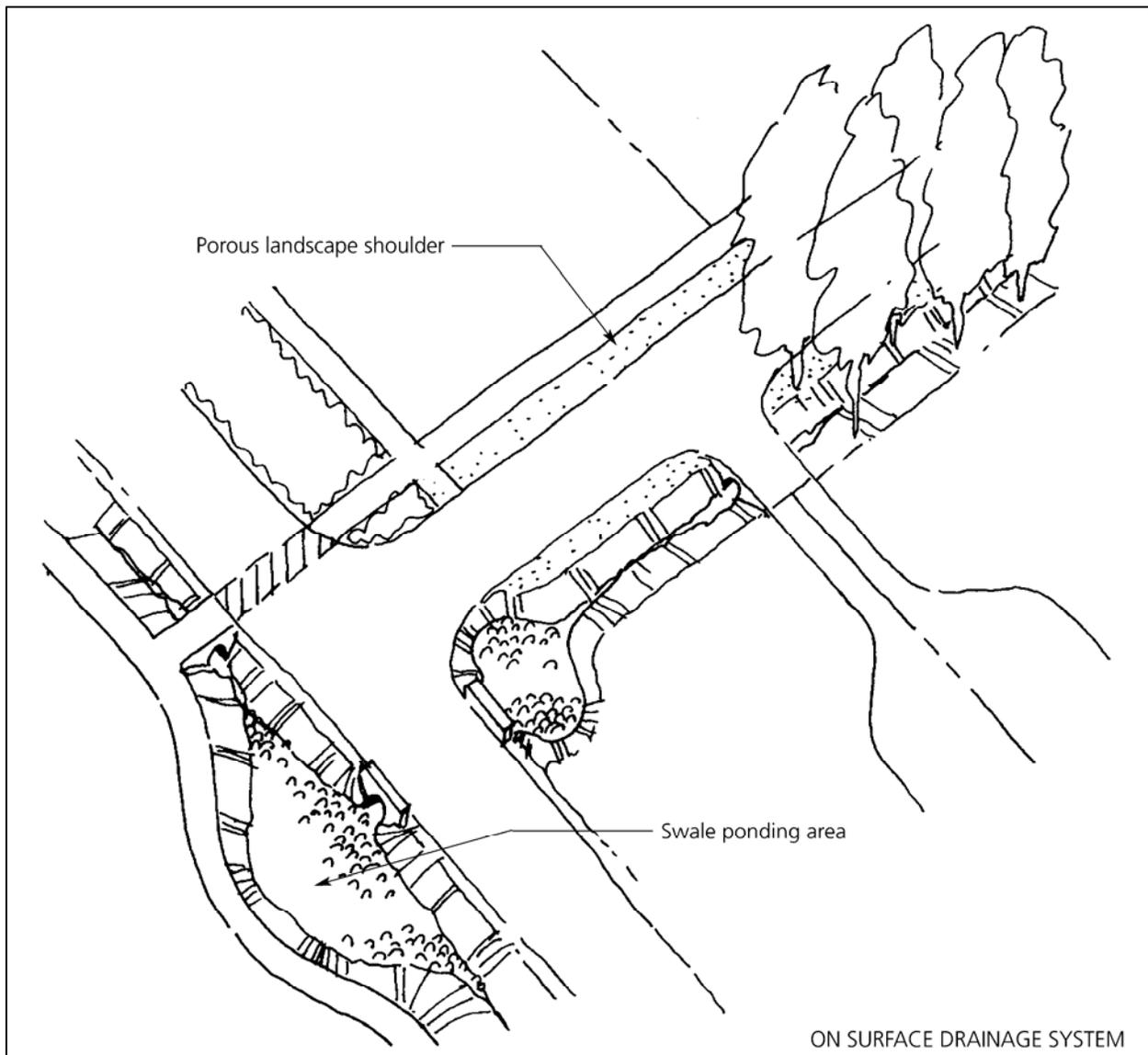
Festuca Rubra - Red Fescue
Nassella cernva - Nodding needlegrass
Meica californica - California onion grass
Poa secunda varsecunda - Native bluegrass
Hordeun califoricum prostrate - Prostrate California barley
Elymus elyoides - California bottle brush squirrel tail
Lotus purshianus - Parshing lotus
Lupinus bicolor - Pigmy lupine
Lupinus nanus - Sky lupine
Eschscholzia californica - California poppy
Lasthenia californica - California dwarf goldfields
Phacelia campanularia - California bluebells
Sisyrnibium bellum - Blue-eyed gras



g. Storm Drainage

In keeping with the "economy of means" approach to the new development, drainage functions should be maintained as an integral part of the landscape to the extent feasible. Existing drainage patterns should be maintained on grade and in their present location rather than being piped or diverted. The use of underground storm drainage should be minimized.

- 1) Swales.** *At least 50% of subarea roadways shall include drainage swales. Swales shall be lined with native, naturalized, or Red Fescue grasses, or with groundcovers and accent shrubs. Swales shall have a 5 percent maximum longitudinal slope, and maximum 3:1 side slopes when treated with natural ground covers. Vegetated filter strips consisting of grasses or dense low groundcover (mowable) should be used whenever possible to remove urban pollutants from stormwater. Headwalls, culverts, inlets, and other engineered elements of the drainage system shall be constructed out of concrete. If visible, these concrete surfaces shall have an exposed aggregate finish.*
- 2) Retention.** *To reduce the peak demand on storm drainage systems, the use of retention/recharge basins within the subareas is encouraged. Landscape buffers, medians, and other open areas should be used for this purpose to the extent possible.*





ENTRY AND RESIDENTIAL STREETSCAPES

h. Lighting

In order to maintain the rural ambience, lighting should be designed and located to provide the lowest level of ambient lighting that is consistent with public safety standards. At a minimum, lighting should be provided at all intersections, marked pedestrian crossings, and directional/warning signs.

1) Streets. At a minimum, one street light shall be required at each of the following locations: dead-end streets, intersections, and sharp curves. Where used, street lighting shall emphasize the creation of "pools" of light around roadway intersections and pedestrian crosswalks. Light levels within residential areas should be much lower. In order to maintain a pedestrian scale and reduce ambient light levels, street lights at intersections should not exceed 20 feet in height, and along pedestrian ways within the block should be between 12 to 16 feet in height.

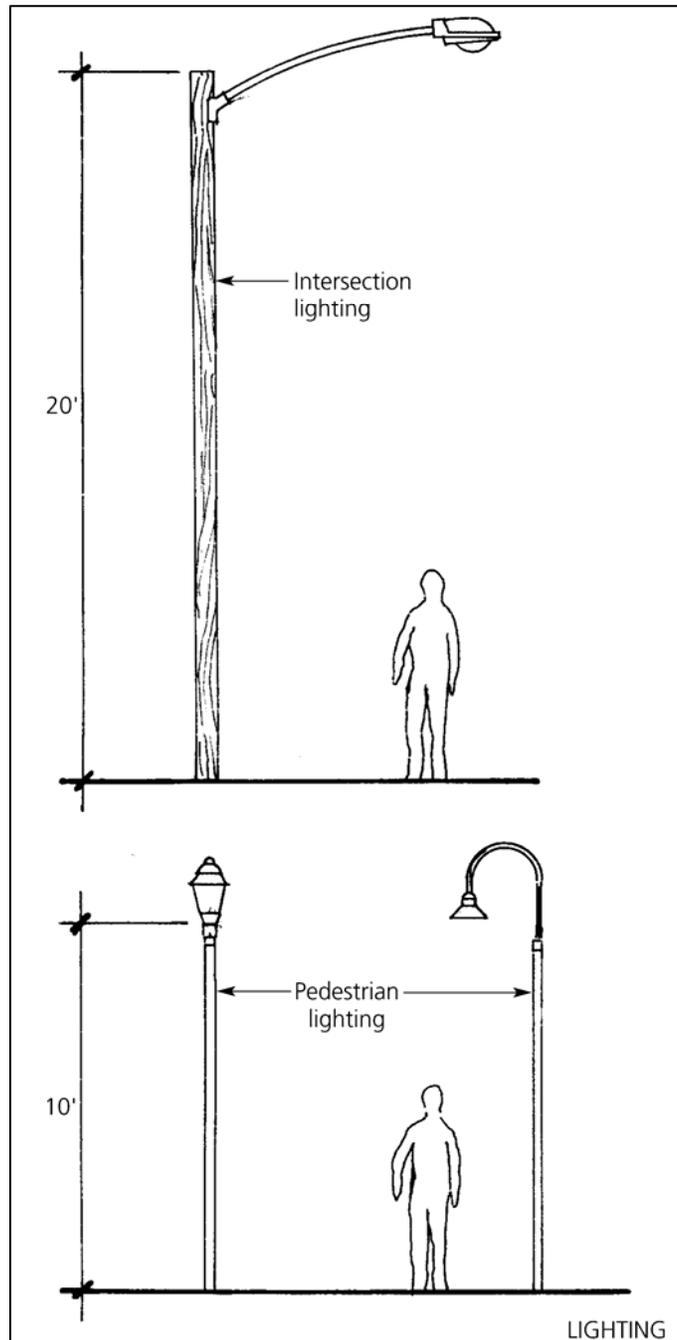
2) Fixtures. Street light design shall be consistent with the rural setting. This means the fixtures and the light standards should be simple in style. Overly ornate or historicist styles should be avoided. Wooden poles are recommended for light standards, but metal or concrete poles are acceptable so long as their style and finish are consistent with the rural agricultural setting. The light fixtures shall be cut-off type fixtures that focus light down toward the ground and shield the light source from surrounding areas not intended to be lit.

3) Safety Reflectors. Reflective buttons and other reflectors placed on tree trunks, fences, and utility poles may be used as a means of alerting motorists to elements adjacent to roadways.

4) Driveways. Illumination for driveways shall be mounted on buildings or kept to ground-level fixtures.

i. Signage

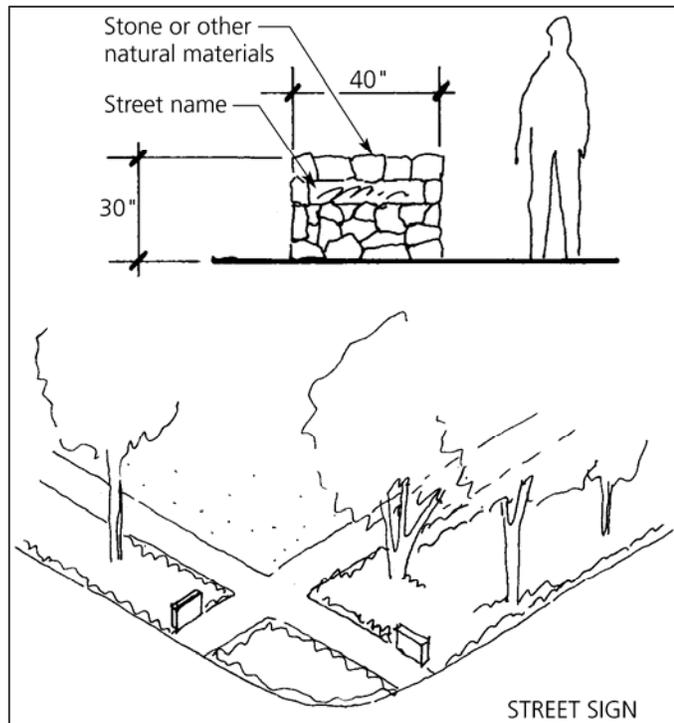
The focus of street, directional, and entry signs in the South Livermore Valley should be the communication of basic information regarding the names of streets and developments, and the location of key facilities. As with other elements in the Plan, signs should emphasize simplicity and functionality. Entry signs to development areas should reflect the high quality of the development, but avoid the creation of the grandiose monuments that are often used to announce suburban subdivisions.



1) Style. Signage shall be simple and unobtrusive, and of a style and material quality that is compatible with a rural aesthetic and traditional signs in the Valley. Walls, poles, and supports for signage shall be of natural materials such as wood or stone (i.e., metal poles for street signs are prohibited). Bright colors for background and lettering are prohibited.

2) Sizes. Signs shall be of a size and configuration that minimizes the obstruction of views and their prominence in the landscape. For this reason, signs shall be placed on walls, panels, or posts low to the ground, rather than on poles or raised structures. The following maximum sizes shall apply:

- Subdivision Entrance Sign: 4 feet tall, 15 feet long, with 15-square foot maximum message area (subdivision name and logo).
- Street names: 30 inches tall, 40 inches long, with 2-square foot maximum message area.



3) Illumination. Entry signs and monuments may be externally lit. The light source shall be fully shielded from view from roadways and pedestrian/bicycle trails and pathways. Lighting levels shall be as low as possible while still illuminating the sign.



9.2.4 STREETS AND RIGHT-OF-WAYS

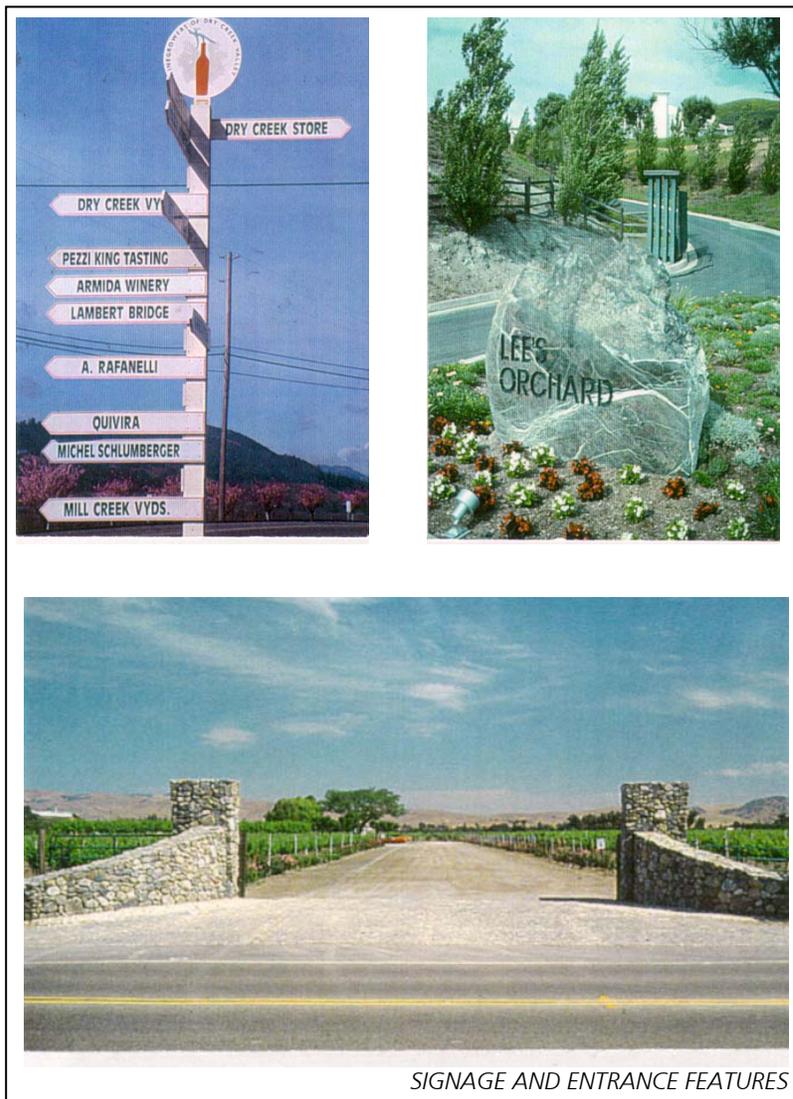
The public right-of-ways will be critical features identifying the new development as uniquely different from standard suburban solutions. All of the fundamental qualities of the rural environment -- openness, simplicity, and variety with structure -- can be embodied in the design of the entry roads, collectors, residential streets, and alleyways within the subareas. Street standards are discussed and illustrated in the Circulation and Transportation Element in Chapter 5. The street standards are repeated in the Community Design Element along with additional design guidelines for convenience, and to emphasize the importance of the area's roadways to the overall character of future development.

Attendant to creating a sense of "ruralness" is providing adequate landscape to shade the streets and pedestrian walkways, and to absorb the seasonal rainfalls to the extent possible. The public right-of-ways will function, in effect, as the common denominator to all the subareas, allowing the orientation of the streets and the size of the blocks to respond freely to the lay of the land.

a. Rural Entry Road

The Rural Entry Roads should clearly mark the access to the individual development areas, but without overshadowing the surrounding rural setting. They should feel like an integral part of, rather than an anomaly to, the rural landscape.

- 1) **Length.** All major entrances to the development areas shall be divided for a minimum distance of 200 feet from the intersection with the arterial street.
- 2) **Divided Road Standards.** Divided Entry Roads shall have an 80-foot minimum right-of-way, and shall include:
 - One 12-foot wide travel lane in each direction.
 - A minimum 20-foot wide landscape median.
 - No curb and gutter.
 - A 7-foot wide landscape buffer on each side of the roadway to accommodate drainage, landscape and utilities.
 - An 8-foot wide paved pedestrian/bicycle path on each side of the corridor, or single 10-foot wide path on one side, if more consistent with the overall circulation pattern. In cases where the regional



SIGNAGE AND ENTRANCE FEATURES

trail corridor is contiguous with the entry road, the 10 feet of right-of-way set aside for pedestrian/bicycle path can be incorporated into the regional trail corridor, rather than duplicating facilities.

- *A 3-foot wide landscape border on the outside edge of the paths.*

3) Undivided Road Standards. *Undivided Entry Roads shall have a 54-foot minimum right-of-way, and shall include:*

- *One 12-foot wide travel lane in each direction.*
- *No curb and gutter.*
- *A 7-foot wide landscape buffer on each side of the roadway to accommodate drainage, landscape and utilities.*
- *An 8-foot wide paved pedestrian/bicycle path on each side of the corridor, or single 10-foot wide path on one side, if more consistent with the overall circulation pattern. In cases where the regional trail corridor is contiguous with the entry road, the 10 feet of right-of-way set aside for pedestrian/bicycle path can be incorporated into the regional trail corridor, rather than duplicating facilities.*

4) Parking. *On-street parking on Rural Entry Roads is not permitted.*

5) Intersections. *Entry road design at key intersections can adjust the width of the right-of-way and medians, and the number of lanes to accommodate turn lanes/pockets and the flaring of lane widths to accommodate merging traffic. The transition from City bike lanes to off-street bike paths in the subareas should be made as convenient as possible to minimize the number of cyclists in the street.*

b. Rural Collector Street

The rural collector street is a higher volume street within the residential development areas. Generally, a minimum number of residential lots should front on a collector streets, and in no case should collectors be double-loaded. Where lots do front a collector, a landscaped frontage road should be considered as a buffer between the homes and the collector. Although designed for higher traffic volumes, speed control is a priority on collector streets (including entry roads).

1) Standards. *Rural Collector Streets shall have an 82-foot minimum right-of-way, and shall include:*

- *One 12-foot travel lane in each direction.*
- *No curbs and gutters.*
- *A 15-foot wide landscape buffer on each side of the roadway, between the shoulder and the pedestrian walkway.*
- *A 10-foot wide paved pedestrian/ bicycle path.*
- *A 4-foot wide landscape border along the outside edges of right-of-way.*

2) Parking. *Parallel on-street parking shall be permitted only where residences front directly onto the Collector Street. Parking shall be limited to the frontage of the lot facing the collector. No more than 2 consecutive spaces shall be permitted without a tree well or planting area to separate the spaces (tree wells shall be protected by wood or rock barriers or a low-profile curb).*

3) Traffic-Calming Devices. *In addition to traffic control signs, traffic-calming devices such as speed bumps, textured paving, unit pavers, cobbles, landscaped islands/medians, etc. should be incorporated into the design of Collector Streets to prevent excessive traffic speeds within the subareas.*

c. Rural Residential Street

The majority of the streets within the subareas are Rural Residential Streets. Such streets should be as pedestrian-friendly as possible, with narrow driving lanes, continuous pedestrian walkways, and adequate landscaping to shade the right-of-way and buffer pedestrians from moving vehicles.

1) Standards. *Rural Residential Streets shall have a 50-foot wide minimum right-of-way, and shall include:*

- *One 10-foot travel lane in each direction.*
- *Low-profile curbs and gutters on no more than 50% of the streets within a subarea. Curbs may be used where homes front on the street, and no curbs are permitted in areas without fronting homes.*
- *A minimum 30 feet of combined landscape buffer/swale area shall be provided within the right-of-way, between the roadway and pedestrian walkways. No more than 18 feet and no less than 12 feet of landscape buffer will be permitted on one side of the road.*
- *8-foot wide paved parking bays can be provided within the 30 feet of combined landscape buffer.*
- *The Rural Residential Street right-of-way shall have an 8-foot wide Public Utilities Easement (PUE) immediately adjacent to each side of the right-of-way. The PUE shall include a minimum 5-foot wide paved pedestrian walkway on each side of roadway.*

2) Parking. *On-street parking on Rural Residential Streets will occur in clearly defined parking bays. The parking bays shall be located on only one side of any given section of the street. The location of parking bays may alternate from one side of the street to the other. No more than two (2) consecutive spaces shall be permitted without a tree well or planting area to separate the spaces (tree wells shall be protected by low-profile curbs). Pedestrian walkways can abut parking bays (i.e., landscape buffer not required).*

3) Islands/Medians. *In order to reduce traffic speeds and add interest and variety to the streetscape, the introduction of landscaped islands or medians is required. These islands/medians can be used both in mid-block areas and at intersections. Islands shall be randomly situated at a minimum rate of approximately one per 50 dwelling units.*

4) Corner Radii. *In order to accommodate the movement of fire engines and other large vehicles, corner radii at subarea intersections shall be 45 feet.*

5) Pedestrian Walkways. *Pedestrian walkways can be constructed of concrete or asphalt. If asphalt is used, walkway edges shall be reinforced to retard crumbling and deterioration of the path.*

d. Rural Residential Court

The terminus of non-through residential streets should be designed as square or rectangular "courts" with adequate room for emergency-vehicle turning, some on-street parking, and landscaping. Standard large-radii cul-de sacs with expansive paved cross-sections and surrounded by pie-shaped lots are discouraged.

1) Standards. *Rural Residential Courts shall have an 80-foot minimum right-of-way width, and shall include:*

- *Minimum required paving for emergency vehicles to make "T" turns out of the court.*
- *Asphalt paving only in those areas required for emergency vehicle maneuvering, and access to private drives.*
- *Where the end lots face an open space corridor or agricultural land, a 20' access easement shall be provided between the two lots to allow for visual and/or pedestrian access as appropriate.*
- *Sidewalks are not required.*

2) Parking. *Perpendicular parking may occur in the landscaped areas at a ratio of .75 parking space per lot.*

e. Farm Compound Access Drive

Farm compound access drives are narrow streets leading through agricultural land or other open space to clusters of homes sited to resemble typical farm compounds. These drives should feel like traditional farm entrances, with fencing and trees evoking the agrarian tradition.

1) Standards. *Farm Compound Access Drives shall have a 40-foot minimum right-of-way, and shall include:*

- *One 9-foot travel lane in each direction.*
- *No curbs and gutters*
- *A 4-foot wide compacted aggregate base shoulder along each side of the roadway.*
- *A 4-foot wide landscape buffer on each side between the shoulder of the roadway and the pedestrian path.*
- *A minimum 4-foot wide paved pedestrian walkway on one side of roadway only.*
- *A 6-foot wide landscape buffer/utilities easement on side of roadway without pedestrian path.*

2) Parking. *On-street parking shall not be permitted.*

f. Farm Compound Court

The Farm Compound Court is the central landscape and circulation space organizing homes in a "Farm Compound" cluster. The organization of the lots and the placement of the homes on each lot should follow an informal, orthogonal pattern such as is found on the Caldera farm compound.

1) Standards. *The Farm Compound Court shall have a 100-foot minimum right-of-way, and shall include:*

- *One 9-foot travel lane in each direction.*
- *A landscaped island in the center of the court, including parking spaces for guest parking.*
- *No curbs and gutters.*
- *A 5-foot wide landscape buffer/utilities easement on the outside edges of the roadway.*
- *Sidewalks are not required.*

2) Parking. *On-street parking in the Farm Compound Courts shall be provided at a ratio of .75 parking space per lot. Parking along the central island shall be parallel.*

g. Alley

Alleys provide access to rear lot garages, eliminating the need for driveways on the residential street. The use of alleys for vehicular access to garages is strongly encouraged wherever possible.

1) Standards. *Alleys shall have a 20-foot minimum right-of-way, and shall include:*

- *A minimum 16-foot wide paved cross-section.*
- *No curbs and gutters.*
- *A minimum 2-foot wide shoulder along both sides of the roadway.*

2) Parking. *On-Street parking is not permitted.*

h. Regional Trail

There are two alternate sections for the regional trail corridor. Where the corridor adjoins developed areas, or where additional landscape space is needed for buffering, screening or aesthetic reasons, the 40-foot wide trail corridor section should be used. The corridor width may be reduced to no less than 25 feet where the trail corridor traverses open space or agricultural land, or where it adjoins a roadway.

1) Standards. *The 40-foot wide Regional Trail right-of-way shall include:*

- *A 10-foot wide paved bicycle path.*
- *An 8-foot wide compacted gravel or earth equestrian/pedestrian trail.*
- *A 3-foot wide landscaped buffer between equestrian/pedestrian and bicycle trails.*

- A 2-foot wide compacted earth shoulder on each edge of the paved bicycle trail
- 15 feet total of landscaped buffer along the outside edges of the trail corridor. The 15 feet of buffer can be located all on one side or split between the two sides depending on the situation. Where the trail corridor runs adjacent to residential development, a 10-foot wide minimum buffer shall be provided between the trail corridor and adjacent residential property lines.

2) Standards. The 25-foot wide Regional Trail right-of-way shall include:

- A 10-foot wide paved bicycle path.
- An 8-foot wide compacted gravel or earth equestrian/pedestrian trail.
- A 3-foot wide landscaped buffer between equestrian/pedestrian and bicycle trails.
- A 2-foot wide compacted earth shoulder on each edge of the trail (Figure 5.17).

10.0 IMPLEMENTATION ELEMENT

10.1 PURPOSE

The preceding chapters of this Specific Plan provide the plans, policies and guidelines for the orderly development of the South Livermore Valley planning area. This chapter sets forth a variety of implementing steps and regulatory and organizational procedures to implement the Specific Plan.

10.2 SUMMARY: SPECIFIC PLAN IMPLEMENTATION PROGRAM

The following shows the approximate sequence of the key implementing steps that should be followed by the City to effectively implement this Specific Plan. The list of actions is divided into two parts: those actions completed during the adoption of the Plan, and those actions that remain to be implemented.

Implementation Actions Already Completed

- Certify the South Livermore Valley Specific Plan Environmental Impact Report
- Adopt findings, mitigation measures, and monitoring program as required by the California Environmental Quality Act (CEQA)
- Adopt the South Livermore Valley Conforming General Plan Amendment
- Adopt the South Livermore Valley Specific Plan
- Adopt rezoning for the Specific Plan area
- Revise City's Growth Management System to accommodate Specific Plan development

Implementation Actions To Be Completed

- Set up financing mechanisms (assessment districts, impact fee ordinance, etc.)
- Negotiate and adopt development agreements
- Annex unincorporated Specific Plan area into the City
- Review and approve Planned Unit Development Permits for each development project
- Review and approve individual Tentative Subdivision Maps
- Review and approve Public Improvement Plans for each Subdivision Map
- Approve Final Subdivision Maps

10.3 KEY IMPLEMENTING ACTIONS OF THE SPECIFIC PLAN

10.3.1 EIR CERTIFICATION

To meet the requirements of the California Environmental Quality Act (CEQA), an Environmental Impact Report (EIR), as authorized by Section 15168 of the CEQA guidelines, was prepared to assess the environmental impacts of the South Livermore Valley Specific Plan.

The EIR on the Specific Plan was prepared to cover the development of the South Livermore Valley planning area as a total undertaking, even though development is expected to occur in several increments, by many different developers, over a number of years. The EIR will expedite the processing of future projects in the planning area. Projects that are consistent with the Plan may be approved without further environmental documentation. For projects that are not fully consistent with the Specific Plan, only those factors with potential impacts will require additional analysis. Such analysis will be presented using a Mitigated Negative Declaration, an Addendum, Supplemental or Subsequent EIR consistent with CEQA requirements.

The City certified the Final EIR for the Specific Plan on October 27, 1997. The City's action to certify the Final EIR did not constitute approval of the Specific Plan. Rather, it indicates that the EIR has been completed in compliance with CEQA, and that the EIR was presented to and reviewed by the City's decision-makers and the public prior to Specific Plan approval.

10.3.2 MITIGATION MONITORING PROGRAM AND CEQA FINDINGS

Public Resources Code Section 21081.6 (effective January 1, 1989) requires that a "reporting or monitoring program shall be designed to ensure compliance during project implementation." The adopted program shall apply to "changes adopted or made a condition of project approval in order to mitigate or avoid significant effect on the environment." The monitoring program provides a brief summary of the required mitigation for impacts attributable to the project, identifies the party responsible for monitoring that the project complies with the mitigation measure, and identifies at what point in time or phase of the project the measure is to be completed. The City has prepared a mitigation monitoring program in conjunction with the preparation of the Final EIR.

The EIR identified several environmental impacts that remained significant after mitigation or significant impacts for which feasible mitigation is not available. The City prepared Findings and a Statement of Overriding Conditions, as required by Sections 15091 and 15093 of the CEQA Guidelines. The Findings explain how the City has addressed each significant adverse environmental impact and the project alternatives presented in the Final EIR. The Statement of Overriding Considerations identifies the specific reasons for approving a project for which all significant adverse environmental impacts have not been at least substantially mitigated.

10.3.3 PROJECT APPROVAL

In order to ensure consistency between the Specific Plan and General Plan, the City Council adopted an amendment to the City's General Plan. The General Plan was amended to add new Specific Plan land use designations that will accommodate the types and densities of development envisaged in the South Livermore Valley, modified the City's land use map, and revised previously adopted South Livermore Valley policies. After consideration of the benefits associated with the proposed Specific Plan and its conformance with the long-term goals of the City, the City Council adopted the Specific Plan on November 17, 1997.

10.3.4 NOTICE OF DETERMINATION

After approving the Specific Plan and General Plan Amendment, the City, because an EIR was prepared for the project, filed a Notice of Determination. The Notice, which is intended to notify affected agencies of the City's decision, was filed with the Alameda County Clerk.

10.3.5 PREZONING

To achieve the development character described in the South Livermore Valley Specific Plan, a Density Bonus Viticulture Planned Development District -- South Livermore Valley Specific Plan (PD-SLVSP) zoning district was created to ensure adequate City review and provide necessary flexibility to achieve Specific Plan objectives.

The City has established the zoning that will apply to the South Livermore Valley area in anticipation of subsequent annexation of this area to the City. In conjunction with the adoption of the Specific Plan, the City prezoned the Specific Plan area to PD - SLVSP. Such prezoning is consistent with the amended

Livermore General Plan, and will become the effective zoning of property when the annexation becomes effective.

10.3.6 ADJUST GROWTH MANAGEMENT SYSTEM

The City amended the General Plan to adjust the Growth Management System to provide for non-competitive allocation of a set number of residential units each year for residential projects within the Specific Plan. Units will be allocated when a Final Subdivision Map is filed for a property, and a determination that adequate localized public infrastructure (sewer lines, water tanks, etc.) is available to serve the project (or will be constructed with the project). Provisions have been created to allow unused units from one year to be carried over to subsequent years. The General Plan amendment has reserved infrastructure capacity for the total amount of development included in the Specific Plan. The General Plan amendment also specifies both the number of units set aside each year (200) and the maximum number of units allowed to be carried over to subsequent years (600).

10.3.7 DEVELOPMENT AGREEMENTS

The City anticipates that all applicants for development in the South Livermore Valley Specific Plan area will enter into a mutually-acceptable development agreement with the City for their respective subareas. Agreements should only be arranged where the developer is prepared to proceed in accordance with a specific time schedule for seeking the required approvals and commencing construction.

Such development agreements will set forth the rules that will govern the developments as they proceed through the approval process. Both the City and the project sponsors (developers) would commit themselves to proceed in accordance with the terms of the agreements. Under a development agreement, the City can agree to process future development applications in accordance with the Plans and laws in existence at the time of the agreements. In effect, the City promises not to change its planning or zoning laws applicable to these developments for a specified period of time. Thus, future land use decisions are not made according to the City's laws and policies in effect at that time, but are made according to the laws in effect, when the agreements were entered into. In return, the developers can agree to construct specific improvements, provide public facilities and services, develop according to a specified time schedule or make other commitments which the City might otherwise have no authority to compel the developers to perform.

The policies of this Specific Plan allow greater density and intensity of use of certain lands in the South Livermore planning area where the effects of that use are mitigated in accordance with the requirements of the Plan. These requirements include specific design standards, environmental protection measures, and the financing, construction and maintenance of public facilities. In order to provide mutual certainty to the City and developers, a development agreement should be adopted for development proposals within each subarea regarding applicable entitlements and mitigation obligations. Development agreements pursuant to this Plan shall:

- Specify how the provisions of this Plan and the General Plan will be implemented in connection with the development contemplated by the development agreement;
- Augment the City's standard development regulations in response to the particular characteristics of each individual project;
- Spell out the precise financial responsibilities of the developer(s);
- Ensure timely provision of adequate public facilities for each phase of the project;
- Streamline the development approval process by coordinating various discretionary approvals;
- Provide the terms for reimbursement when a developer advances funding for specific facilities which have community-wide or area benefit.

The City will develop a Model Development Agreement to serve as the format for all development agreements within the South Livermore Valley planning area. The conditions included in this Model Development Agreement would then be tailored to the special condition for each major project area and the development projects within it.

10.3.8 ANNEXATION

As of November 1997, portions of the South Livermore Valley Specific Plan area were within the City's current sphere of influence, and portions were not. Subareas #1, #2, #3 and the northern portion of Subarea #4 were within the City's Sphere of Influence, but Subareas #5, #6, #7 and the southern portion of Subarea #4 were outside it. All seven subareas were outside the existing city limits. The City will be required to adopt a resolution of annexation before filing an application for an amendment of the City's Sphere of Influence and annexation of the planning area with the Alameda County Local Agency Formation Commission. The City and applicants for development in the Specific Plan area may enter into pre-annexation agreements to facilitate annexation of Plan subareas. Annexations will occur as property owners submit applications to annex to the City.

The City Council's adopted preferred annexation scenario for the planning area is illustrated in Figure 10.1.

10.3.9 PLANNED UNIT DEVELOPMENT PERMITS

As described in Section 10.3.5 above, each of the subareas has been rezoned to Planned Development - South Livermore Valley Specific Plan (PD-SLVSP). PD zoning requires that a Planned Unit Development (PUD) Permit be adopted for all development. Prior to or concurrent with the submittal of a development project, each project will submit an application for a PUD permit. The PUD permit will create the detailed zoning necessary to specifically implement the requirements of the Specific Plan.

10.3.10 DESIGN REVIEW

Design Review is required for development within the South Livermore Valley Specific Plan in conformance with Sections 5-05-110 through 5-05-190 of the City of Livermore Planning and Zoning Code. Generally, all residential, commercial, and industrial projects within the City require design review. In addition, all public improvements (such as landscape area plantings, street and entry signs, lighting, and special paving) also require Design Review.

Design Review for production-built single family homes shall take place concurrently with the processing of a tentative subdivision map. In the case of custom single family homes, Design Review shall take place prior to issuance of a building permit. Design Review for any public improvements shall take place prior to the approval of the final subdivision map. Design Review for all commercial, industrial, and institutional buildings shall take place prior to issuance of a building permit.

The applicant shall prepare and submit site plans, building elevations, sign plans, lighting plans, landscaping and irrigation plans, fencing plans, and colors and materials for all proposed development with the Specific Plan. The Design Review process shall be used to ensure that projects within the Plan area are consistent with the Community Design provisions of the Specific Plan.

10.3.11 TENTATIVE MAP

The subdivision process in the Planning Area will be governed by the Subdivision Map Act, as well as City standards and procedures. Tentative maps must be consistent with the Specific Plan. Given the size of some of the subareas, Tentative maps or Vesting Tentative maps may be filed that include entire subareas. Given the multiple ownerships involved, and the uncertainty of the market, it is also possible that tentative maps will be prepared for each phase of development within each subarea.

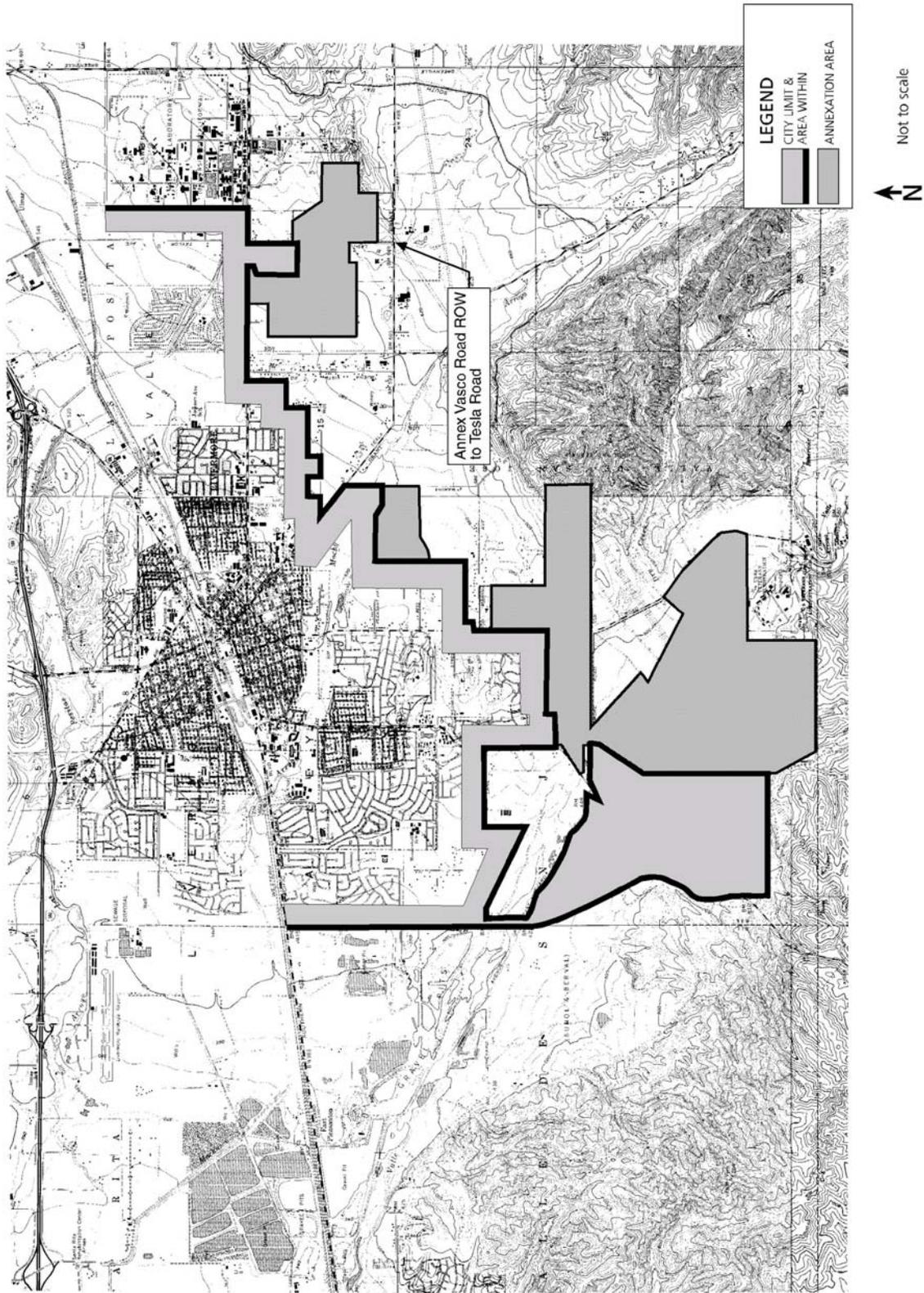


Figure 10.1
PREFERRED ANNEXATION SCENARIO

10.3.12 PUBLIC IMPROVEMENT PLANS

The on-site and off-site public improvements necessary to serve the South Livermore Valley Specific Plan area need to be specifically designed. The applicants shall prepare for City review and approval Public Improvement Plans, consisting of detailed engineering designs and documents for all utilities necessary to develop the land uses identified in the Specific Plan. These plans shall include an infrastructure sequencing program that will allow orderly development throughout the Specific Plan area. The sequencing program shall prioritize roads, sewer, water, drainage and other utilities that must be in place prior to specific levels of development being permitted.

Given that the subareas are dispersed, some areas will be able to develop independently of improvements that are required for others. Thus, one "master" public improvement plan for the entire Specific Plan area is not required. However, master public improvement plans could be made for groups of subareas that will be dependent on the same improvements, such as Subareas #1 and #2, and Subareas #4, #5 and #7.

10.3.13 FINANCING PLANS

The major capital improvements required to support development in the South Livermore Valley planning area, major project responsibilities and possible methods of funding are described in Chapter 11. Detailed financial plans shall be prepared and be made a part of any project approval. The Financing Plans shall identify the necessary capital improvements including public facilities, streets and utilities and assure their timely financing. Implementation of the Financing Plans can be assured by inclusion of provisions in development approvals and/or development agreements that require adherence to the plan.

10.3.14 FINAL MAP

When all conditions of the Tentative Map are met or bonded for (including satisfaction of agricultural planting requirements) and improvement plans are approved, a Final Map will be filed and approved by the City, in keeping with City standards and procedures, and the Subdivision Map Act. Final Maps will be reviewed by the City Council through a public hearing process. Recordation of Final Maps is required prior to the sale of individual lots created by the subdivision process.

10.3.15 RESPONSIBILITIES FOR KEY IMPLEMENTING ACTIONS

The following table indicates the responsibilities for preparation of the documents discussed above:

**Table 10-1
IMPLEMENTING RESPONSIBILITIES FOR KEY ACTIONS**

<u>Key Implementing Actions</u>	<u>Preparation</u>	<u>Adoption</u>
▪ EIR Certification	City	City
▪ CEQA Findings/Mitigation Monitoring	City	City
▪ Specific Plan/GPA Approval	City	City
▪ Notice of Determination	City	City
▪ Rezoning	City	City
▪ Adjust Growth Management System	City	City
▪ Annexation	City/Developer	LAFCO
▪ Development Agreements	City/Developer	City
▪ Planned Unit Development Permits	City/Developer	City
▪ Public Improvement Plans	Developer	City
▪ Financing Plans	Developer	City
▪ Tentative Map	Developer	City
▪ Design Review	Developer	City
▪ Final Subdivision Map	Developer	City

SOURCE: Wallace Roberts & Todd, January 1997

10.4 ADMINISTRATION OF THE SPECIFIC PLAN

The South Livermore Valley Specific Plan will be used to direct the processing of future development projects within the Planning Area. Given the extended timeframe for development and the probability that multiple developers will be involved in the development of the South Livermore Valley planning area, the following responsibilities, mechanisms and procedures will be necessary to review, monitor, coordinate and integrate the incremental development.

10.4.1 RESPONSIBILITIES FOR ADMINISTRATION OF THE SPECIFIC PLAN

Implementation of the South Livermore Valley Specific Plan will be a joint effort of the City of Livermore and any developer who is proposing to develop in the Specific Plan area or who is a party to a development agreement negotiated with the City.

10.4.2 TYPICAL DEVELOPMENT REVIEW PROCESS

The intent of this section is to summarize the typical procedural steps needed to review and approve projects in the Specific Plan Area. The following discussion of the development review process is simplified. An application for annexation, development agreement, planned unit development permit, and tentative subdivision map may be submitted concurrently, depending on the circumstances of each development. Detailed information on how a proposed project can be processed should be obtained from the Livermore Planning Division.

Summary of the Development Review Process

Responsible Parties

A proposed project (usually a subdivision map or a development plan) is submitted to the Livermore Community Development Department for processing.

Planning Division

If the proposed project is next to and involves alterations to a wetland or other sensitive habitat area, the applicant may be required to submit pertinent information.

Planning Division
CDFG, USACOE, & USFWS

If a proposed project involves the dedication of parkland or development of a park or other open space area, pathway or trail, it must be reviewed for consistency with this Specific Plan as well as the needs of the South Livermore Valley community and the wider community.

Planning Division
LARPD

Each project shall be reviewed by City staff for conformance with City land use laws, engineering standards and the provisions of the General Plan and this Specific Plan.

Planning Division
Engineering Division

Design review will be required for all projects in the Specific Plan area.

Planning Staff
Design Review Committee

Each project will be reviewed in public hearing for consistency with the provisions of the General Plan and this Specific Plan. Based on findings, it will be approved, approved with conditions or denied.

Planning Staff
Planning Commission
City Council

10.4.3 SPECIFIC PLAN CONSISTENCY

Following adoption of this Specific Plan, no development plan, subdivision, use permit or other entitlement for use shall be approved by the City and no public improvement shall be authorized by the City for construction in the South Livermore Valley planning area until a finding has been made that the proposed entitlement or public improvement is in substantial conformance with this Specific Plan.

Approval of final development plans, on-site public improvement plans and use permits also shall be substantially consistent with the applicable provisions of the Livermore General Plan.

All Specific Plan changes (both minor and major amendments) must be found consistent with the Livermore General Plan, or a General Plan Amendment may be required.

If any regulation, condition or portion of this Specific Plan is held invalid by a California or Federal court these portions shall be deemed separate, distinct and independent provisions. The invalidity of these provisions shall not affect the validity of the remaining parts of the Specific Plan.

10.4.4 SPECIFIC PLAN AMENDMENT

The City Council, at its discretion, may permit minor deviations from the Specific Plan as a part of its approval of a particular development application without requiring an amendment to the Specific Plan, provided that the project is consistent with the stated intent of the Specific Plan and the City's General Plan. The Land Use Element of this Specific Plan identifies those elements of the Plan that are considered flexible in terms of design and implementation, and do not require a variance or plan amendment to be approved (see Chapter 4, Section 4.7.2).

If a project applicant proposes development that is not in conformance with Specific Plan design guidelines or development standards, or is proposing changes to elements that have been identified as "fixed" (see Section 4.7.2), the City may approve a variance if the required findings are met as provided for in the City's Zoning Ordinance (Chapter 27.00) as long as the proposed variance does not substantively alter the intent of the Plan.

More substantive amendments to the Specific Plan may be requested by a developer or property owner or may be initiated by the City. Specific Plan amendments shall be processed in accordance with City ordinances, and all amendments will be presented in public hearing before City Council action on the proposal. Generally, the process for amending the Specific Plan is similar to that for amending the City's General Plan, with the significant difference that there is no limitation on the number of Specific Plan amendments that can be approved in any one year. All Specific Plan amendments must be consistent with the City's General Plan. Major amendments may therefore require an accompanying General Plan Amendment and Zoning Ordinance revision. Amendments are subject to CEQA, and thus must be reviewed for potential environmental effects. If it is determined that additional environmental impacts, beyond those identified in the Specific Plan EIR, will occur, additional environmental documentation may be required (e.g., supplemental EIR, focused EIR, or full EIR).

10.4.5 ENVIRONMENTAL REVIEW

The EIR prepared for the Specific Plan assesses the anticipated environmental changes that could result from the development proposed in this Specific Plan. The Specific Plan program EIR will act as a "master EIR" for the specific plan area, reducing the need for project specific environmental review, at least in the initial years of development under the Specific Plan. Pursuant to Section 15182 of the CEQA Statutes and Guidelines, residential projects, which are in conformity with the Specific Plan are exempt from subsequent environmental review, eliminating the need for additional EIR'S. For non-residential and mixed-use projects that conform to the level of development prescribed in the Specific Plan, the subsequent environmental review process will only need to address the project's site-specific impacts. If additional impacts are identified and a subsequent environmental document is required, general impacts which are addressed in the Specific Plan program EIR can be included by reference. Overall, the existing environmental documentation should result in faster processing of project applications that are consistent with the Specific Plan and the identified mitigation measures.

For a project the size of the South Livermore Valley, and with such an extended projected buildout period, the effectiveness of the Specific Plan EIR may tend to decrease over time. Five to ten years from adoption, circumstances may change sufficiently to make it necessary to update information and reassess impacts as well as mitigation measures. Since the South Livermore Valley planning area is

projected to buildout over a 15-20 year time frame, it is possible that additional specific environmental review, on a project-by-project basis, may be necessary in the later stages of plan area buildout. This could include focused studies on one or more identified environmental concerns (such as traffic), or a full EIR. These determinations will be made by the City, and additional/revised mitigation will be incorporated into the development approval process.

10.4.6 CONDITIONS, COVENANTS, AND RESTRICTIONS

The major project developers or successors in interest shall be obligated to maintain architectural, landscape and site control at point of sale within individual districts so as to ensure the cumulative character intended by the Specific Plan and subarea plans. Although Conditions, Covenants, and Restrictions (CC&R's) lie outside City enforcement procedures, this Specific Plan encourages the use of CC&R's to enforce the design guidelines of the Specific Plan and to maintain landscape and open space areas and the improvements of each development project. The mechanism(s) to enforce the CC&R's shall be agreed to by the Developers and the City.

All CC&R's shall reflect the requirements contained in the Specific Plan. In addition, provisions for the design and maintenance of fencing, landscaping, and open space areas and other facilities within projects as well for the abatement of nuisances shall be set forth in the CC&R's.

11.0 Financing



11.0 FINANCING

NOTE: This Chapter of the South Livermore Valley Specific Plan represents a snap-shot in time of the parameters used to prepare the analysis of the financial feasibility issues on which this Plan is based. Therefore, in order to provide continuity between this Chapter and the financial analysis contained within it and the Appendices herein, this Chapter has not been revised to reflect changes (including those of acreage, number of dwelling units, population projections, or commercial uses) implemented by Amendments to the Plan.

11.1 INTRODUCTION AND OVERVIEW

11.1.1 INTRODUCTION

In order to assure that the infrastructure necessary to serve Specific Plan development can be feasibly financed, this Financing Element provides an analysis of the financial feasibility issues associated with the Plan and a set of policies, financing mechanisms, and strategies for implementing it.

The financing approach set forth in this Element is designed to allow maximum flexibility for development to occur within the South Livermore Valley planning area, within a well-defined framework of cost allocation, and applicable funding mechanisms. An advantage of the Plan is that the majority of the backbone infrastructure improvements and Plan costs are distinct for each individual Subarea. Only certain regional roadway costs and the plan preparation costs (which combined equal about eight percent of total Specific Plan costs) are shared by all Subareas. Given that few costs must be shared by the entire Planning Area, each subarea can be fairly autonomous in terms of phasing and choice of financing mechanisms. The Financing Element establishes a framework of policies and procedures that will allow the phasing of development and the choice of financing mechanism(s) to be determined according to property owners' needs and requirements.

This Element also discusses several components that are directly related to the adoption and implementation of the Plan. These components include:

- Infrastructure and public facilities requirements of the Plan;
- Conclusions regarding the Plan's overall financial feasibility;
- Financing mechanisms and resources available to aid infrastructure development; and
- A proposed financing strategy.

The financing plan presented in this Element was developed with input from City staff, project consultants and the South Livermore Advisory Committee. The planning process also included extensive involvement by Planning Area property owners. Numerous meetings were conducted with the Consultants, City staff, and property owners to discuss the Financing Strategy and review the assumptions contained in this Element. In addition, numerous telephone conversations and memoranda were exchanged.

Throughout this Element, extensive reference is made to the financial analyses that underlie its conclusions, policies, and proposals. These analyses include an assessment of the financial burden that the proposed infrastructure and facilities will place upon new development and the basis and composition of the development impact fees that will be levied upon new development (see Technical Appendices A, B, and C for Financing, included under separate cover and available from the Planning Department).

11.1.2 FINANCING OVERVIEW

The following points summarize the key findings that are the basis of the Financing Element. All financial assumptions are in 1997 constant dollars with the exception of City fees which were effective as of June 1998:

Plan Costs

- Total backbone infrastructure costs plus City and County fees associated with the Plan development at full buildout are expected to total about \$100.7 million.

Of the total \$100.7 million in Plan costs, about \$29.2 million are attributable to agricultural mitigation costs and \$39.4 million are attributable to existing development impact fees and connection fees. About \$31.8 million are expected to be required for infrastructure costs including roadways, water and sewer systems, storm drainage, grading, electrical, park/trail/landscape and plan preparation costs. Combined, these infrastructure, community facility, and planning costs are referred to as the Basic Infrastructure Program (BIP). The BIP excludes the agricultural mitigation costs and existing City and Special District fees. The remaining backbone infrastructure costs are expected to be funded by the City and other agencies.

Basic Infrastructure Program (BIP) Costs

- An average developer funded cost of \$24,650 per unit for residential uses and about \$13.74 per building square foot for commercial uses will be required to finance the basic infrastructure costs for the Plan.

The developer's share of the BIP costs in the Plan is estimated to be \$31.8 million. Assuming that the Plan builds out according to the designated land uses, which allow for 1,203 dwelling units, this will result in an average developer cost of about \$24,650 per unit and between \$10.70 and \$26.20 per square foot for the Plan's proposed commercial uses.

Residual Land Values

- Despite relatively high cost burdens on new development in the Plan, residual land values for residential uses indicate that sufficient incentive remains to develop the land.

The ratio of all backbone infrastructure costs and fees to the total market value of new residential development capacity created in the Plan is expected to average 19.8 percent, an average capital cost of \$80,935 per dwelling unit. Typically, infrastructure costs are 15 percent or less of finished land values. However, a standard cost burden measure of feasibility may not be the most appropriate measure for the Plan for the following reasons:

- The South Livermore Valley planning area is currently unincorporated agricultural land zoned for one dwelling unit per 100 acres, and
- Certain agricultural mitigation, specifically the expansion of actively cultivated viticultural acreage, is a unique requirement for developing the Planning Area at urban densities.

Given the unique requirements for developing in this planning area, a more appropriate measure of feasibility is a residual land value estimate, which provides a basis for comparing land values after meeting the Plan's requirements with existing agricultural values. Residual land values are estimated for each development product type and Subarea by subtracting all backbone infrastructure costs, agricultural mitigation costs, private development costs, and all City, county and school fees and exactions from the estimated finished unit sales price.

Plan Feasibility

- The residential residual land analysis indicates that the Plan is feasible.

Residential residual land values will range from \$78,000 to \$151,000 per acre and \$1.79 to \$3.47 per square foot of land depending on the Subarea and the product type. These values compare with current agricultural values ranging from about \$2,000 to \$10,000 per acre. The residential residual land value analysis suggests that there is sufficient value created by the Plan to make it

feasible to pay all agricultural mitigation costs and all the necessary infrastructure costs and fees and still leave residual land values high enough to create an incentive to develop the land.

Commercial Cost Burdens

- Cost burdens on commercial uses suggest that these land uses may not be able to bear their "fair share" of overall Plan costs.

The preliminary financial feasibility results indicate that the cost burdens on the commercial uses are substantial and may be infeasible as stand alone developments. The overall cost burdens by Subarea range from about \$22.19 per square foot or 13.3 percent in Subarea 5 to \$32.34 per square foot or 21.6 percent in Subarea 3. The industry standard for cost burdens for non-residential uses is generally considered to be below ten percent of fair market value. The relatively high cost burdens on commercial uses result largely from the significant allocation of roadway costs to these uses. The high road costs for commercial uses are a direct result of the visitation patterns and the resulting traffic generation.

Financing Flexibility

- The financing plan allows flexibility to landowners in how they meet the financial obligations created under the Plan.

An Area Development Impact Fee (ADIF) to finance the costs in the South Livermore Valley Basic Infrastructure Program (BIP) was considered but subsequently deemed unnecessary due to the fact that a majority of the costs are attributable to individual subareas. Each subarea will therefore proceed on a pay as you go basis allowing for maximum flexibility.. BIP cost allocations are based on a proxy for demand for public facilities, such as trip generation, and sewer and water use. Property owners can meet their obligations through any one, or a combination, of the following means:

- Build required public facilities to City specifications and dedicate them to the City; and/or
- Enter into a financing district, such as an assessment or Mello-Roos District to fund the necessary improvements.

Agricultural Mitigation

- Agricultural mitigation will be required by the Specific Plan as a condition of subdivision map approval.

All property owners wishing to develop within the South Livermore Specific Plan Area will be required to provide an acre-for-acre and an acre-per unit of permanently protected agricultural land. Each acre of agricultural land must be newly planted in vines or other appropriate perennial crops, such as olive orchards. The agricultural land must be identified and evidence of land protection with a perpetual conservation easement must be provided prior to final sub-division map approval. A bond must be established for the cost of planting the land with vines and evidence of a long-term maintenance contract provided. All planting must be completed within 12 months of final map approval.

Road Improvement Plan Fee

- Payment of a Road Improvement Plan Fee will be required of all residential development in the Plan to pay for regional road improvements.

All property owners wishing to develop within the South Livermore Specific Plan Area will be required to pay a Road Improvement Plan (RIP) fee equal to \$5,848 per unit. The RIP fee will be used to pay for regional road improvements that will benefit all subareas. Specifically, the RIP fee will be used for improvements to South Vasco Road, East Avenues, Concannon Blvd., Arroyo Road, Vallecitos, and Foley Road.

11.2 PROJECT DESCRIPTION

The following discussion summarizes the parameters used in the financial analysis.

11.2.1 RESIDENTIAL USES

Table 11.1 summarizes the residential project description used for the financial analysis. Within the seven subareas, approximately 598 acres are developed with residential uses. In total, there are about 1,200 units. For the purposes of this analysis, the total units have been grouped by density into four categories: *Semi-Custom Estates*, *Vineyard Large Lot*, *Vineyard Standard Lot*, and *Vineyard Villas*. The majority of the units are Vineyard Large Lot (399 units) and Vineyard Standard Lots (556 units). Lots sizes range from 14,000 to 17,000 square feet for the Semi-Custom Estates, 11,000 to 13,000 square feet for Vineyard Large Lots, 9,000 to 9,500 square feet for Vineyard Standard Lots, and 7,800 square feet for the Vineyard Villas. In Subarea # 7 the *Semi-Custom Estates*, are comprised of a mix of product types: six family compound units of one acre each and six twenty-acre parcels. The twenty-acre parcels have a two-acre building site and the remainder of the parcel is planted with vineyards and protected permanently. An eight-acre commercial site is allowed on one twenty acre parcel in lieu of the two-acre home site. At buildout the residential development is expected to add approximately 3,248 new residents to the City of Livermore.¹

The sale prices for the four product types are based on the *South Livermore Residential Market Analysis* prepared by Economic and Planning Systems in March 1995, and were modified in May 1997 to reflect more recent sales in the Livermore area. A base sales price was developed for each product type for each Subarea based on a weighted average of lot sizes within each product type. The base sale was adjusted to reflect Subarea-specific and lot-specific premiums or discounts due to location. Finished residential sale prices average \$518,000 for the Semi-Custom Estates, \$430,000 for the Vineyard Large Lots, \$345,000 for the Vineyard Standard Lots, and \$300,000 for the Vineyard Villas across all six subareas proposed for residential development.² The family compound units in Subarea # 7 are estimated to have an average finished sales price of \$700,000 and the twenty-acre parcels are estimated to have an average sales price of \$1,500,000. A weighted average of these prices results in a blended sales price of \$947,000 for Subarea #7.

Product	Total	Residential Uses				Non-Residential Uses				
		Country/ Semi- Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center
Total Residential Units	1,203	223	399	556	25					
Total Commercial Sq.Ft.¹	202,600					123,500	13,500	37,000	3,600	25,000
Average Lot Size		39,800	11,700	9,000	7,800					
Average Unit Size		3,200	2,800	2,300	2,200					
Average Gross Density		0.84	2.86	3.72	4.30					
Average Unit/ Sq.Ft./Room Value²		\$518,000	\$430,000	\$345,000	\$300,000	\$100	\$150	\$78,000	\$150	\$200

¹ Total commercial square footage includes 50,000 square foot winery in Subarea 6.

² For the Inn, the average value is shown per room; for all other commercial uses the value is shown per square foot.

Source: South Livermore Specific Plan, WRT, adopted Nov 17,1997 and amended Jan 25,1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates; Economic and Planning Systems, Inc.

¹ The population increase is based on a persons per household factor of 2.70 which is a the mid-point of a range of persons per household factors used in the South Livermore Valley Specific Plan EIR (page 31).

² Subarea #6 is not designated for residential development.

11.2.2 COMMERCIAL USES

Tables 11.1 and 11.2 also summarize the total commercial development designated for the seven subareas. In total, there are 15 commercial sites³ including three restaurants, seven wineries, one olive press, one commercial retail center, two inns, and a bed-and-breakfast. The commercial sites are located in Subareas #3 through #7. Subareas #1 and #2 have no commercial sites. Based on comparable land uses in the area and on other studies, it is assumed that the market value will be about \$100 per square foot for the wineries, about \$150 per square foot for the restaurants, about \$78,000 per room for the inn, about \$150 per square foot for a bed-and-breakfast, and \$200 per square foot for the commercial center (neighborhood retail).

11.2.3 OTHER LAND USES

Within the seven Subareas, there will be about 427 acres of regional parks and trails, 16.5 acres of neighborhood parks consisting of a 12.5 acre park in Subarea #2 and smaller pocket parks of about 1.5 acres each in Subareas #1, #4 and #5, and a 20-acre school site in Subarea #3. About 65 acres of existing uses will remain within the Plan area. Development in the South Livermore Valley will be required to dedicate land for agricultural mitigation, and in total, about 1,620 mitigation acres of agricultural land will be required. The following discussion addresses in more detail the mitigation policies of the Plan and provides the background on how the mitigation requirements are calculated.

11.3 PUBLIC FACILITIES PLAN

This section provides an overview of the public facility commitments that the developers, the City of Livermore, and other agencies will make to support the development envisioned in the South Livermore Valley. These commitments are for basic infrastructure items; including water, roads, sewer and water facilities, park improvements and certain community facilities that are required as a result of the South Livermore Valley Specific Plan. The key infrastructure items and the community facilities are described briefly below.

A complete description of public infrastructure and community facilities to be built in the South Livermore Valley is provided in the Community Services & Facilities and the Public Utilities Elements of this Specific Plan. A complete listing of infrastructure facility items (without narrative descriptions) and their expected costs are provided in Financing Appendix A of the Technical Appendix (available from the Planning Division under separate cover).

11.3.1 INFRASTRUCTURE AND PUBLIC FACILITIES

The infrastructure and public facilities required to serve the Specific Plan can be grouped into three categories:

- **Backbone Infrastructure.** This group includes off-site regional serving transportation improvements, major streets with medians, collectors, street trees along major streets, sewer trunk systems, water delivery and storage systems, pump stations, storm drainage systems and retention ponds, subarea-wide grading, underground electrical and street lights along major streets, agricultural mitigation costs, and Plan preparation costs.
- **Community Facilities.** This group includes neighborhood parks, landscaped areas, riparian corridor enhancements and regional trails.
- **In-Tract Subdivision Infrastructure.** This group includes in-tract neighborhood roads, sewer laterals and lines, water lines, storm drainage, finished pad grading, and street trees on minor streets.

³The Plan allows for a maximum of 15 commercial sites. A designated site in Subarea #5 (Parcel 5-A) may be developed as a 3,600 square foot Bed-and-Breakfast in place of two Vineyard Large Lot units. If the Bed-and-Breakfast is built the total number of dwelling units in Subarea #5 will be reduced to 174 units.

Table 11-2
South Livermore Valley Specific Plan Feasibility Analysis
SUMMARY OF DEVELOPMENT CONCEPT

Development Type/Subarea	Total Developed Acres ¹	Total Mitigable Acres ² (incl. Credits)	Total Units	Total Sq.Ft ³	Net Lot Size Sq.Ft.	Unit Size Sq.Ft.	Finished Sale Price ⁴	Sales Price Unit	Unit
Subarea 1									
Semi-Custom/Country Estates	37.17	33.08	83	na	14,000	3100	\$470,000	\$152	sqft
Vineyard Large Lots	18.23	16.22	50	na	11,400	2800	\$421,000	\$150	sqft
Vineyard Std. Lots	0.00	0.00	0	na	0	0	\$0	\$0	sqft
Vineyard Villas	0.00	0.00	0	na	0	0	\$0	\$0	sqft
Winery	0.00	0.00	na	0	na	na	na	na	sqft
Restaurant	0.00	0.00	na	0	na	na	na	na	sqft
Inn	0.00	0.00	na	0	na	na	na	na	room
Bed & Breakfast	0.00	0.00	na	0	na	na	na	na	sqft
Commercial	0.00	0.00	na	0	na	na	na	na	sqft
Subtotal	55.40	49.30	133.00	0					
Subarea 2									
Semi-Custom/Country Estates	0.00	0.00	0		0	0	\$0	\$0	
Vineyard Large Lots	69.20	60.46	167		11,000	2500	\$399,000	\$160	
Vineyard Std. Lots	129.50	113.16	382		9,000	2300	\$345,000	\$150	
Vineyard Villas	7.30	6.38	25		7,750	2200	\$300,000	\$136	
Winery	0.00	0.00	na	0	na	na	na	na	sqft
Restaurant	0.00	0.00	na	0	na	na	na	na	sqft
Inn	0.00	0.00	na	0	na	na	na	na	room
Bed & Breakfast	0.00	0.00	na	0	na	na	na	na	sqft
Commercial	0.00	0.00	na	0	na	na	na	na	sqft
Subtotal	206.00	180.00	574	0					
Subarea 3⁵									
Semi-Custom/Country Estates	0.00	0.00	0		0	0	\$0	\$0	
Vineyard Large Lots	5.90	5.71	15		11,500	2800	\$425,000	\$152	
Vineyard Std. Lots	49.90	48.29	162		9,000	2300	\$345,000	\$150	
Vineyard Villas	0.00	0.00	0		0	0	\$0	\$0	
Winery	0.00	0.00	na	0	na	na	na	na	sqft
Restaurant	1.00	0.00	na	3,000	na	na	na	\$150	sqft
Inn	0.00	0.00	na	0	na	na	na	na	Room
Bed & Breakfast	3.00	0.00	na	3,600	na	na	na	\$150	Sqft
Commercial	0.00	0.00	na	0	na	na	na	na	Sqft
Subtotal	59.80	54.00	177	6,600					
Subarea 4⁶									
Semi-Custom/Country Estates	54.85	49.85	89		0	3237	\$515,000	\$159	
Vineyard Large Lot	18.65	16.95	41		13,000	3000	\$473,000	\$158	
Vineyard Std. Lot	0.00	0.00	0		0	0	\$0	\$0	
Vineyard Villas	0.00	0.00	0		0	0	\$0	\$0	
Winery	10.00	0.00	na	33,500	na	na	na	\$100	Sqft
Restaurant	0.00	0.00	na	0	na	na	na	na	Sqft
Inn	0.00	0.00	na	0	na	na	na	na	Room
Bed & Breakfast	0.00	0.00	na	0	na	na	na	na	Sqft
Commercial	0.00	0.00	na	0	na	na	na	na	Sqft
Subtotal	83.50	66.80	130	33,500					
Subarea 5									
Semi-Custom/Country Estates	24.39	21.95	39		17,000	3247	\$495,000	\$152	
Vineyard Large Lots	58.42	52.58	126		12,300	3000	\$461,000	\$154	
Vineyard Std. Lots	4.30	3.87	12		9,500	2300	\$333,000	\$145	
Vineyard Villas	0.00	0.00	0		0	0	\$0	\$0	
Winery	6.00	0.00	na	20,000	na	na	na	\$100	Sqft
Restaurant	0.00	0.00	na	7,500	na	na	na	\$150	Sqft
Inn ⁷	3.00	0.00	na	10,000	na	na	na	\$78,000	Room
Bed & Breakfast ⁸	0.00	0.00	na	0	na	na	na	na	Sqft
Commercial	3.00	0.00	na	25,000	na	na	na	\$200	Sqft
Subtotal	99.10	78.40	177	62,500					

Development Type/Subarea	Total Developed Acres ¹	Total Mitigable Acres ² (incl. credits)	Total Units	Total Sq.Ft ³	Net Lot Size Sq.Ft.	Unit Size Sq.Ft.	Finished Sale Price ⁴	Sales Price Unit	Unit
Subarea 7									
Semi-Custom/Country Estates ⁹	120.00	120.00	12	457,380		3850	\$947,000	\$246	
Vineyard Large Lots	0.00	0.00	0		0	0	\$0	\$0	
Vineyard Std. Lots	0.00	0.00	0		0	0	\$0	\$0	
Vineyard Villas	0.00	0.00	0		0	0	\$0	\$0	
Winery	2.40	0.00	na	20,000	na	na	na	\$100	Sqft
Restaurant	0.36	0.00	na	3,000	na	na	na	\$150	Sqft
Inn	3.24	0.00	na	27,000	na	na	na	\$78,000	Room
Bed & Breakfast	0.00	0.00	na	0	na	na	na	\$0	Sqft
Commercial	0.00	0.00	na	0	na	na	na	na	Sqft
Subtotal	126.00	120.00	12.00	50,000					
Res. Acres	597.80								
Com. Acres	32.00								
TOTAL ACRES/UNITS/SQ.FT.³	629.80	548.50	1,203	152,600					

¹ Developed acres exclude a 20-acre school site in Subarea 3.

² Mitigable acres exclude all parks, open spaces, and natural areas and include credits for regional trails. Subarea 7 pays no ag mitigation.

³ Total commercial square footage excludes the medium winery in Subarea 6.

⁴ Finished Sales Price includes premiums and discounts for each subarea and for view lots, vineyard lots, power lines, proximity to Sandia and the Industrial park.

⁵ The site for the bed and breakfast could be developed as a winery and the site for the small restaurant could be developed as a tasting room.

⁶ For this analysis, the olive press is treated as a small winery; one of the sites for a small winery could be developed as a small restaurant.

⁷ The 30-room inn and the restaurant would be developed on one site and the acreage is shown under the inn. Thus, there are four commercial sites in Subarea 5, but five commercial uses.

⁸ A 3,600 sqft bed & breakfast may also be developed in Subarea 5. If developed, it would replace two Vineyard Large Lot units and would result in a total of 175 units rather than 177 units in Subarea 5.

⁹ The Custom Estates price is based on weighted average of six 20-acre parcels and six 1 acre units. The 20 acre parcels assume a unit price of \$1.5 mill.

Sources: South Livermore Specific Plan, WRT, Adopted Nov 17, 1997 and amended Jan 25, 1999; Economic & Planning Systems, Inc.

Backbone infrastructure items and community facilities serve all land uses within the project area and are funded through a financing system that spreads the costs equitably to each benefiting land use. In-tract subdivision infrastructure benefits only a specific development and the costs are allocated only to the benefiting properties within that development. In-tract infrastructure is typically financed privately.

In recent years, public agencies have been severely restricted in their ability to fund infrastructure to serve new development. New development is being required to fully fund not only the in-tract improvements that serve the project, but also the costs of the backbone infrastructure, the community facilities, the planning costs, and agricultural mitigation costs.

11.3.2 BACKBONE INFRASTRUCTURE AND COMMUNITY FACILITIES

A list of infrastructure costs and public facilities that will be funded through a Specific Plan financing mechanism are summarized by facility category in Table 11.3. All costs are in 1997 dollars. A detailed list of potential public improvements and their estimated costs is provided in Appendix A of the Technical Appendix.

The costs summarized in Table 11.3 exclude land dedication costs for right-of-ways as it is assumed that all roadway construction either takes place within existing public right-of-ways or is dedicated by property owners within the Plan area. Capital costs for the South Livermore Valley Specific Plan, including plan

preparation costs, are currently estimated to total about \$31.8 million. The following paragraphs describe these improvements.

Facility or Fee Item	Infrastructure Costs and Estimated Agricultural Mitigation Costs and Fees by Subarea						
	Total Costs	Subarea 1	Subarea 2	Subarea 3	Subarea 4	Subarea 5	Subarea 7
Basic Infrastructure							
External Roadways ¹	\$7,035,000	\$778,000	\$3,357,000	\$1,035,000	\$760,000	\$1,035,000	\$70,000
Street Work	\$4,925,000	\$373,000	\$2,082,000	\$448,000	\$506,000	\$706,000	\$810,000
Water System	\$2,718,000	\$161,000	\$849,000	\$240,000	\$1,106,000	\$353,000	\$9,000
Sewer System	\$3,227,000	\$285,000	\$1,544,000	\$314,000	\$273,000	\$811,000	\$0
Storm Drainage	\$3,028,000	\$298,000	\$1,559,000	\$364,000	\$180,000	\$627,000	\$0
Grading	\$2,529,000	\$325,000	\$1,220,000	\$292,000	\$267,000	\$382,000	\$43,000
Electrical	\$1,850,000	\$179,000	\$935,000	\$97,000	\$232,000	\$347,000	\$60,000
Eng. & Design	\$1,827,000	\$162,000	\$819,000	\$175,000	\$256,000	\$323,000	\$92,000
Park/Trail/Landscaping Costs	\$3,630,000	\$425,000	\$1,985,000	\$158,000	\$528,000	\$534,000	\$0
Fire Engine	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plan Preparation Costs ²	\$985,000	\$109,000	\$470,000	\$145,000	\$106,000	\$145,000	\$10,000
Subtotal	\$31,754,000	\$3,095,000	\$14,820,000	\$3,268,000	\$4,214,000	\$5,263,000	\$1,094,000
Other Costs							
Agricultural Mitigation Costs ³	\$29,213,000	\$3,281,000	\$13,572,000	\$4,158,000	\$3,542,000	\$4,660,000	\$0
School Exactions ⁴	\$18,930,000	\$2,380,000	\$8,093,000	\$2,485,000	\$2,473,000	\$3,207,000	\$292,000
Park Fees ⁵	\$1,504,000	\$318,000	\$0	\$423,000	\$311,000	\$423,000	\$29,000
Low-income housing fee ⁶	\$2,204,000	\$244,000	\$1,052,000	\$324,000	\$238,000	\$324,000	\$22,000
Traffic Impact Fee	\$3,118,000	\$294,000	\$1,267,000	\$412,000	\$361,000	\$657,000	\$127,000
Major Attraction Fee	\$895,000	\$100,000	\$431,000	\$133,000	\$98,000	\$133,000	\$0
Subtotal	\$55,864,000	\$6,617,000	\$24,415,000	\$7,935,000	\$7,023,000	\$9,404,000	\$470,000
TOTAL COSTS	\$87,618,000	\$9,712,000	\$39,235,000	\$11,203,000	\$11,237,000	\$14,667,000	\$1,564,000

¹ External roadway costs reflect a \$5,847 charge per unit, based on total road improvement Costs Of \$7,035,000.

² The plan preparation cost for all subareas is \$818.52 per unit.

³ Mitigation costs assume that an acre for every acre developed, and an acre for every unit developed, are planted in cultivated agriculture and a conservation easement is dedicated. Subarea 7 has no agricultural mitigation costs due to mitigation credits for a regional park dedication. The cost of planting and establishing vines, or orchards and dedicating a conservation easement was estimated to be \$18,000 per acre on average.

⁴ School exactions are assumed to be \$5.99 per residential square foot and \$0.30 per square foot for commercial uses.

⁵ Park fees, equal to \$2,436 per unit, are paid by all subareas except Subarea 2 where a 12.5 acre park is dedicated in lieu of park fees.

⁶ Low-income housing fees are \$1,833 per unit.

Source: South Livermore Specific Plan, WRT, adopted Nov 17, 1997 and amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates;

External Roadways

Several regional street improvements; such as the Concannon Boulevard extension, the widening of South Vasco and Foley Roads, and various intersection improvements; are planned in order to improve circulation between the seven subareas and the rest of the City, and to improve regional traffic flows. Total external roadway costs are estimated to be about \$7.0 million, of which 100% is attributable directly to the Plan.

Street Work

A number of major improvements and additions are planned in order to improve internal circulation within the South Livermore Specific Plan. The circulation improvements proposed for the Specific Plan include major streets with medians, collector streets, and street trees along the major streets.

Street work costs in the Plan are expected to total about \$4.9 million.

Water System

In order to accommodate growth resulting from the Plan, new water lines and mains, pump stations, reservoirs, storage tanks, connection fees to Zone 7, and fire hydrants must be added to serve additional development. In most cases, the water lines will be installed along with the street improvements.

Water improvement costs are expected to total about \$2.7 million.

Sewer System

In order to accommodate growth resulting from the Plan, new sewer collector lines must be added to serve additional development. Sewer improvements analyzed in this Financing Plan include those to be made in road right-of-ways at the same time the streets are built and off-site sewer lines to serve Subareas #4, and #5.

Sanitary sewer improvement costs are expected to total about \$3.2 million.

Storm Drainage

Several storm drain lines, on-site and off-site storm drain outlets and structures, culvert crossings, insert retention ponds, and storm drain detention basins will be necessary to handle increased storm run-off associated with the increase in impervious area resulting from Specific Plan development .

Storm drainage improvement costs are expected to total about \$3.0 million.

Grading

Earthwork will be required in all subareas to prepare each subarea for the street work and other infrastructure construction. Specific Plan grading costs exclude individual pad grading costs.

Grading costs are expected to total about \$2.5 million.

Electrical

The Plan will require the installation of joint-trench underground electric lines and streetlights along the major streets. Specific Plan electrical costs exclude lateral underground electrical lines and streetlights along neighborhood streets.

Electrical improvement costs are expected to total about \$1.8 million.

Parks/Trails/Landscaping Costs

The Plan includes 16.5 acres of developed neighborhood parkland, about 9 acres of passive open space with extensive tree plantings and about 9 acres of natural areas. All of these landscaped areas will require some enhancements, such as tree planting and fencing. In addition to the landscape costs, the Plan includes about five miles of regional trails internal to the subareas and about three miles of off-site regional trails that link the subareas together. Specific Plan trail costs exclude the cost of purchasing trail right-of-way costs, since it is assumed that the trail right-of-way will receive a credit against agricultural mitigation acre requirements. It is assumed that the external trail costs will be funded by the Livermore Area Recreation and Park District (LARPD) or other appropriate agency.

Park, landscaping and trail costs are expected to total \$4.0 million.

Plan Preparation Costs

Plan preparation costs are estimated to be \$819 per unit or about \$1 million and include the cost of preparing the South Livermore Valley Specific Plan, the South Livermore Valley Specific Plan EIR, the South Livermore Financing Plan and associated studies, and a portion of the associated City staff administrative costs. These plan preparation costs are shared by all landowners in the Specific Plan. A portion of the plan preparation costs have already been contributed by some landowners and will be credited back to individual landowners where appropriate at the time of building permit application.

Other Basic Infrastructure Costs

A cost of ten percent of all the subareas' basic infrastructure costs is included for engineering and design fees.

11.3.3 AGRICULTURAL MITIGATION COSTS

As previously described, the Specific Plan requires an acre-for-acre and an acre-per-unit mitigation in order to protect and expand cultivated agricultural uses in the South Valley, and to establish a permanent urban boundary for the south edge of the City. For the purposes of this Financing Plan it is assumed that, on average, the cost of planting an acre of agricultural land with vines or orchards plus permanently protecting the land by dedication of a conservation easement is about \$18,000 per acre.

Based on this figure, agricultural mitigation costs are estimated to total \$29.2 million.

11.3.4 COSTS

In addition to funding the infrastructure, community facilities, and the agricultural mitigation costs described above, new development in the Specific Plan will be required to pay a variety of development fees. These fees finance the provision of regional-serving infrastructure that will be affected by growth in the Specific Plan. These fees include:

- School exactions, which provide the Livermore Valley Joint Unified School District (LVJUSD) with financing for new school facilities;
- Park fees that finance the cost of acquiring and developing new parks in the City;
- Low-income housing fees which finance the cost of building new affordable housing in the City;
- Traffic Impact Fees (TIF) which provide the City with financing for road construction and improvements;
- Major Attraction Fee which will provide the City with financing towards the development of a major draw or attraction that would help bring recognition of the Livermore Valley as premium wine-producing region;
- Water and sewer connection fees and water storage fees which will finance capital improvements made by the California Water Service Company (Cal Water) and Alameda Flood Control and Water Conservation District (Zone 7), and the City of Livermore respectively;
- City and County Storm drainage fees which will provide financing for storm drainage improvements made by the City of Livermore and the Alameda Flood Control and Water Conservation District (Zone 7) respectively; and
- Recycled water fees that will provide the City with financing towards the treatment and use of recycled water for public uses such as landscaping and golf course irrigation and groundwater recharge.

11.4 FINANCING MECHANISMS AND RESOURCES

A number of financing mechanisms may be used to fund the public services, facilities, and infrastructure associated with the South Livermore Valley Specific Plan. The ultimate mix of financing mechanisms will be determined in the implementation process, based on final technical analyses of costs, benefits and burdens, and on deliberations involving City staff, property owners, developers, elected officials, and finance experts.

This chapter describes the key features of the funding mechanisms available to finance the South Livermore Valley Specific Plan infrastructure development. The mechanisms discussed in this chapter fall into four distinct categories:

- Area-Specific Fees, Dedications, and Exactions;
- Assessment and Special Tax Secured Financing;
- Citywide Sources; and
- County and other regional funds.

Financing mechanisms in each of these categories are discussed below.

11.4.1 AREA-SPECIFIC FEES, DEDICATIONS, AND EXACTIONS

Area of Benefit Fees

Area of Benefit fees may be enacted by a legislative body (i.e., city or county) through adoption of an ordinance. Area of Benefit fees must be directly related to the benefits received. They do not create a lien against property, but must be paid in full as a condition of approval. The principal use of these fees is for encumbering properties that would not otherwise enter into an assessment district (AD) or Mello-Roos Community Facilities District (CFD). Fees are established so that these properties pay their fair share at the time they are ready to be developed. Area of Benefit fees might be used, for example, in situations in which the number of owners of small developable parcels was so large that property owners would have difficulty organizing an AD or a CFD. Proceeds may be used to reimburse property owners who pay up-front costs for facilities benefiting other properties. Benefiting properties may be given the option to finance the fees by entering into an assessment district or Mello-Roos CFD. Since the passage of Proposition 218, area of benefit fees may require voter approval.

Area Development Impact Fees (ADIF)

Area Development Impact Fees (ADIF), or AB1600 fees, as defined in Government Code section 66000(c), can be imposed by cities, counties, special districts, or school districts. The legislation was drafted to establish a uniform process for formulating, adopting, imposing, collecting, accounting for, and protesting fees. The key points regarding AB1600 fees are: (1) the facility(ies) to be built with the fee revenue must relate to the development subject to the fee; and (2) the fee cannot exceed the estimated reasonable cost of the development's proportionate share of the proposed facility. Provisions for fee credits and for reimbursements for "oversizing" infrastructure related to project-wide benefits outside a developer's immediate subdivision may be included in the ordinance establishing the fee.

Dedications and Exactions

Under the Subdivision Map Act, developers may be required to dedicate land or make cash payments for public facilities required or affected by their project (e.g., road right-of-ways fronting individual properties). Dedications are typically made for road and utility right-of-ways, park sites, and land for other public facilities. Cash contributions are made for other public facilities that are directly required by their projects (e.g., payments for a traffic signal). The City of Livermore has historically used dedications to obtain road

right-of-ways and exactions for other improvements such as traffic signals. When a Major Road identified in the City's General Plan is "oversized" relative to the demands of a particular project, the fronting property is only required to dedicate land and make improvements to the outer portion of the road.

Development Agreements

A development agreement is a contract between a public agency and a developer that provides developers with assurances that the land use entitlements for a project will not be changed in the future, and that specifies public sector commitments to financing, phasing, and other elements of project implementation. In return for these public considerations and assurances, the developer may be asked to make financial commitments beyond those that could be justified through typical subdivision ordinance dedications and exactions and/or impact fees, which are both limited by the "rational nexus" criteria.

Development agreements need not be complicated documents. They can be drafted as standard agreements that can be modified to meet project-specific problems or objectives.

11.4.2 ASSESSMENT AND SPECIAL TAX SECURED FINANCING

Special Assessment Districts (1911, 1913, 1915 Acts)

California law provides procedures to levy assessments against benefiting properties and issue tax-exempt bonds to finance public facilities and infrastructure improvements. Assessment districts, also known as improvement districts, are initiated by the legislative body (e.g., city council). Assessments are distributed in proportion to the benefits received by each property as determined by engineering analysis and form a lien against property. Special assessments are fixed dollar amounts and may be prepaid, although they are typically paid back with interest over time by the assessed property owner. Only improvements with property-specific benefits (e.g., roads, sewer, and water improvements) may be financed with assessments. Since the passage of Proposition 218 special assessments require a two-thirds majority vote for approval.

Mello-Roos Community Facilities Districts

California's Mello-Roos Community Facilities Act of 1982 allows for the creation of a special district authorized to levy a special tax and issue tax-exempt bonds to finance public facilities and services. A Community Facilities District (CFD) may be initiated by the legislative body or by property owner petition and must be approved by a two-thirds majority of either property owners or registered voters (if there are more than 12 registered voters living in the area).

Special taxes are collected annually with property taxes and may be prepaid if prepayment provisions are specified in the tax formula. The special tax amount is based upon a special tax lien against the property. There is no requirement that the tax be apportioned on the basis of direct benefit. Because there is no requirement to show direct benefit, Mello-Roos levies may be used to fund improvements of general benefit, such as schools, fire and police facilities, libraries and parks, as well as improvements that benefit specific properties. The provision also allows for the allocation of cost burdens to alleviate burdens on specific classes of development.

Landscape and Lighting Maintenance Districts

Landscaping and lighting maintenance districts (LLMDs) may be used for installation, maintenance, and servicing of landscaping and lighting through annual assessments on benefiting properties. LLMDs may also provide for construction and maintenance of appurtenant features, including curbs, gutters, walls, sidewalks or paving, and irrigation or drainage facilities. They may also be used to fund and maintain parks above normal park standards maintained from General Fund revenues. Since the passage of Proposition 218 LLMDs require a two-thirds majority vote for approval.

11.4.3 CITYWIDE SOURCES

The City has a number of existing impact fees. With the exception of Park Fees in Subarea #2 and City storm drainage fees, these fees are not expected to provide funding to offset the costs of developing backbone infrastructure in the Specific Plan. This is because all of the fees generated from these sources are currently allocated to works in progress or to the financing of future needs. However, they are discussed here in the event that City policy regarding the disposition of these funds should change and these fee revenues become available to fund Specific Plan infrastructure costs.

Impact Fees and Connection Charges

Impact fees or "connection charges" may be adopted by local legislative bodies (city or county) and levied against new development at the permit stage to offset the costs for a wide variety of public facilities and infrastructure improvements. The conditions for imposition of impact fees were formalized by the passage of AB 1600 (Government Code Section 66000), which institutionalized prior case law on the subject (e.g., Nollan). Although not limited to the stricter definition of benefit applied to assessment districts, the fees must be shown to have a "rational nexus", or relationship, between costs and the impact or demand caused by the new development.

A major deficiency of impact fees and connection charges is they are typically collected over time as development occurs. To the extent that funding is needed "up front" for a particular facility, fee funding is not sufficient. Additionally, programmed or expected development that does not occur when expected, or never occurs, exacerbates the initial problem.

The City of Livermore and the County of Alameda currently have adopted impact fees and connection charges for a variety of public facilities.

Traffic Impact Fees (TIF) The City presently charges an impact fee for traffic improvements throughout the City. TIF revenues are used to provide additional capacity and mitigate impacts of new development. The TIF is presently \$2,207 per dwelling unit and ranges from \$2,869 per 1,000 square feet to \$5,959 per 1,000 square feet for commercial uses, depending on the type of use, and is collected at the time building permits are obtained.

Park Fees The City has adopted an in-lieu Parkland Dedication and Development Ordinance (Quimby Act) and uses land dedications and in-lieu fee revenues collected to fund acquisition and improvement of parks in the City. Current park fees are \$2,392 per dwelling unit. There are no park fees for commercial uses. Developers in Subarea #2 are dedicating and developing a 12.5-acre public park and will receive a credit against their park fee obligations. All other developers in the Specific Plan will pay the standard park fees.

City and County Storm Drainage The City of Livermore's Public Works Department and the Alameda County Flood Control and Water Conservation District, Zone 7, provide storm drainage facilities within the City limits and the major open drainage channels, respectively. Revenues collected from storm drainage fees are used by the City and the County to construct storm drainage improvements consistent with the City's Storm Drainage Master Plan. The City's current storm drainage fees are \$574 per dwelling unit and \$0.083 per square foot of impervious surface area for commercial uses. The District's current storm drainage fees are \$670 per dwelling unit and \$.140 per square foot of impervious surface area for commercial uses.

It is City policy that developer's constructing storm drain lines over 24 inches wide may be granted credits against their City storm drainage fee obligations. Therefore, Specific Plan developers are expected to receive a credit against their City storm drainage fee obligations for those costs associated with the construction of larger storm drains that provide City-wide benefit.

Sanitary Sewer Connection The City of Livermore Water Resources Division provides sewer service to the City and other areas within the City service boundary. Sewer connection fees are established by the City of Livermore Water Resources Division. These fees are collected by the City and are used to finance capital improvements to the sewage treatment facilities that provide services to Livermore

residents. Connection fees are \$3,869 per residential unit. Commercial fees are charged on a per fixture basis. Subarea #7 pays no sewer connection fees as all development will occur on septic tanks.

City Water Storage Subareas #1 and #2 are located within the City of Livermore Service Area Pressure, Zone 3. The City of Livermore Water Resources Division provides water service and storage needs for projects within the City's service area. Current City water storage fees are \$2,598 per dwelling unit and \$0.569 per square foot of commercial use. The water storage fees paid by new development in Subareas #1 and #2 will be used to improve water storage capacity in the service area.

Alameda County Water Connection Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7) is the Valley's water wholesale provider and sells water to both of the retailers in the City (California Water Company and the City of Livermore). The connection fees collected by Zone 7 are used to finance capital improvements made by the District. Connection fees are currently \$3,595 per dwelling unit and vary for commercial uses, depending on the water meter size. Subarea #7 pays no water connection fees as all development will use wells.

Recycled Water Fee The City of Livermore uses recycled water (i.e., secondary treated) during the summer months to irrigate Las Positas Golf Course, the airport landscaping, the Water Treatment Plant landscaping, and a portion of the Caltrans I-580 right-of-way. Consistent with the City General Plan policy (Part IV.B.6.g.(2)(b)) for the South Livermore Valley, all Specific Plan development will contribute funding to support the expanded use of recycled water in the community. In combination with water conservation efforts required by the Plan, the use of recycled water can partially off-set new development's impact on water resources by providing a secondary source of water for irrigation. *Policy 8-11* of the South Livermore Valley Specific Plan requires developers to pay, as part of their water connection fees, an additional 20 percent to support the treatment and use of recycled water in the City of Livermore. Recycled water fees collected by the City will be used to construct recycled water distribution pipelines and to expand the City's reverse osmosis plant.

In-Lieu Low Income Housing Fee Consistent with General Policy in the City's General Plan Housing Element, all new residential development must contribute towards the construction of affordable housing units in the City. The City currently collects a fee of \$1,833 per dwelling unit as an in-lieu low-income housing fee. There are no in-lieu low income housing fees for commercial uses. The City uses the revenues collected from the in-lieu low-income housing fee to construct, or contribute towards the construction of, affordable housing projects.

Major Attraction Fee The Livermore General Plan (Part IV, B.6.g.(2)(f)(Vii)) requires urban development in the South Livermore Valley to "include at least one major draw or attraction that would increase recognition of the South Livermore Valley as a premium wine producing region." To ensure that new development permitted by the Specific Plan directly contributes to the creation of such an attraction, the South Livermore Valley Advisory Committee has recommended that a tourist attraction fee be levied on new residential development. For the purposes of preparing this Financing Plan the tourist attraction fee has been set at \$750 per dwelling unit. There are no tourist attraction fees for commercial uses.

Plan Check and Building Permit Fees Plan check and building permit fees are levied on new development to cover City costs of reviewing and approving plan documents, conducting building inspections, and issuing building permits. These fees are based on the anticipated value of new development.

School Exactions AB 2926 was enacted in 1986 and governs the imposition of school impact fees on new development throughout the State. The legislation authorizes school districts to levy and collect fees or in-kind requirements on developers to finance the construction of temporary or permanent school facilities. The AB 2926 developer fees are currently set at \$1.84 per square foot of residential construction and \$0.30 per square foot of commercial development. In 1992, the City of Livermore adopted Ordinance 1396 that provides full mitigation for new residential development. New development pays an additional \$4.15 per square foot beyond statutory developer fees for a total school exaction of \$5.99 per square foot for new residential construction. Full mitigation requirements are reviewed annually as part of the Livermore Valley Joint Unified School District's Ten-Year Facilities Master Plan. Changes

in the amount of funding required are made as necessary, based on the District's facility needs. The school exaction revenues generated by new development are collected directly by the Livermore Valley Unified School District.

Recent legislation, SB50 adopted in August 1998 has changed the way school facilities are funded and has suspended the use of Mira (mitigation) fees and shifted the responsibility of funding schools to the State. However, the school exactions applicable to the South Livermore Specific Plan are not expected to be affected by this recent legislation as the school mitigation amounts were previously agreed to in a Development Agreement.

Agricultural Mitigation

Developers and builders in the South Livermore Specific Plan area will be responsible for planting, dedicating, and providing evidence of a long term maintenance agreement as a condition of subdivision final map approval. With submittal of a tentative subdivision map, an applicant must provide the City with information on the location of all agricultural mitigation lands required for the development proposed by the tentative map, and provide evidence that the applicant controls the property (by an agreement to acquire from the landowner, an option, deed, or other means). Before approval of the final map an applicant must provide the City with evidence of a conservation easement over the designated mitigation land and provide a bond for the cost of planting vines (or other appropriate perennial). Planting must be complete within a year of final map approval.

The applicant must also show evidence that all planted mitigation acreage will be maintained for a minimum of eight years through the use of CC&Rs or a long term maintenance contract with an experienced agricultural operator, or other means. It is estimated that the cost of planting an acre of land with grape vines or other appropriate perennial crop and dedicating a perpetual conservation easement would average about \$18,000 an acre.⁴

Road Improvement Plan Fee

All developers and builders in the South Livermore Plan area will be responsible for paying a Road Improvement Plan (RIP) fee equal to \$5,848 per unit, which will be used to fund regional road improvements that will benefit all the subareas. The RIP fee will fund improvements to South Vasco Road, East Avenue, Concannon Blvd., Arroyo Road, Vallecitos at Wetmore, Vallecitos at Vineyard (25 percent) and Foley Road (50 percent).

11.4.4 OTHER AGENCIES

A portion of the external regional trail costs estimated at \$416,000 may be funded by the Livermore Valley Area Recreation and Parks District (LARPD) or other appropriate regional parks agency. Certain regional highway improvements and interchanges may be funded in part by federal highway grants, by Caltrans, or Alameda County Public Works Department. Such funding sources should be sought as the South Livermore Valley Specific Plan progresses and engineering costs are refined.

11.5 FINANCIAL FEASIBILITY RESULTS

In order to understand the underlying economics and the ability of the Plan to support the agricultural mitigation requirements, a cost burden and residual land value analysis was prepared for all residential product types and all of the subareas, except for Subarea #6. A 50,000 square foot winery, and no residential uses, are proposed for Subarea #6. Since Subarea #6 will be required to finance any needed infrastructure privately, and since its ability to develop is entirely dependent on Subareas #4, #5, and #7 proceeding, it has been assumed for purposes of the financing plan, that no Specific Plan costs would be

⁴ *South Livermore Valley Area Plan Economic Study*, August 1992, prepared for the County of Alameda by Economic & Planning Systems.

assigned to Subarea #6. Therefore, all costs and revenues associated with Subarea #6 are excluded from the financial feasibility analysis.

11.5.1 OBJECTIVES OF THE SOUTH LIVERMORE VALLEY SPECIFIC PLAN

The Specific Plan permits development in a previously unincorporated agricultural area, allowing long-term landowners in the South Livermore Valley to benefit from the enhanced values created by the new residential development opportunities. By creating and permanently protecting over 1,800 acres of newly planted vineyards, the Plan establishes a permanent urban edge and an attractive rural setting that will help to establish and maintain the South Livermore Valley as a premium wine-producing region. The newly planted and permanently protected vineyards that will result from the agricultural mitigation portion of the Plan will be an asset that benefits not only the Specific Plan development, but all future residents and visitors to the South Livermore Valley.

For the reasons described above, standard measures of feasibility are not entirely appropriate for this Specific Plan. While it is acknowledged that development will be challenging due to the significant infrastructure costs, the agricultural mitigation costs, and the existing City and County fees, this Plan is unique in the opportunities it offers both to existing landowners and current and future residents of the Livermore Valley region.

11.5.2 RESIDENTIAL RESIDUAL LAND VALUE ANALYSIS

The financial feasibility analysis was prepared to evaluate the overall feasibility of the Plan and each Subarea within the Plan. Feasibility is evaluated in terms of residual land value; i.e., is the value of the land after development costs are considered likely to be sufficient to induce landowners to develop the land? In order to evaluate whether there is sufficient economic incentive to develop the land, infrastructure costs, public facility fees, agricultural mitigation costs, and private development costs have been subtracted from the estimated market value of each unit type to estimate the "residual" value of the raw land.

Residual land values are projected to range from \$78,000 per acre or \$1.79 per square foot in Subarea #2 to \$151,000 per acre or \$3.47 per square foot in Subarea #7. The average residual land value for the entire Specific Plan is \$93,000 per acre or \$2.13 per square foot. These values compare with agricultural values varying from about \$2,000 per acre to \$10,000 per acre. The results of the residual land value analysis indicate that the Plan produces land values that are sufficient to make development viable. While results vary by subarea and by product type, all subareas are feasible overall (see Table 11.4).

For informational purposes, the residual land value analysis was also prepared net of the agricultural mitigation costs so that residual land values could be compared with other standard development plans that do not have extraordinary mitigation costs. Residual land values excluding agricultural mitigation costs range from \$142,000 per acre or \$3.26 per square foot in Subarea #4 to \$158,000 per acre or \$3.63 per square foot in Subarea #1 (see Table 11.5). These compare to residual land values for more standard urban developments that typically are in the range of \$4.00 to \$5.00 per square foot of land.

The summary information provided in this Chapter is derived from detailed financial and cost burden analyses (see Appendix A in the Technical Appendices). The residual land value analysis is attached in Appendix B and detailed pro formas for each product type are included in Appendix C.

11.5.3 COST BURDEN ANALYSIS

As discussed above, this Plan is unusual in that it has all the standard infrastructure costs and impact fees normally associated with urban development, plus the unique agricultural mitigation costs. For this reason, an alternative approach to testing feasibility, the residual land value analysis, was used. However, it was still deemed useful to look at the cost burdens for this development, while recognizing that industry standards for cost burdens as a percent of fair market value may not be met.

Table 11-4 South Livermore Valley Specific Plan TOTAL RESIDUAL LAND VALUE BY PRODUCT TYPE INCLUDING AGRICULTURAL MITIGATION COSTS								
Product Type/Subarea/Units	Units	Subarea 1 133 Units	Subarea 2 574 Units	Subarea 3 177 Units	Subarea 4 130 Units	Subarea 5 177 Units	Subarea 7 12 Units	Total Plan Area 1,203 Units
Semi-Custom/Country Estate (1-2 du/acre)	223	\$33,200,000		\$0	\$4,450,000	\$1,560,000	\$4,440,000	\$13,770,000
Vineyard Large Lots (3 du/acre)	399	\$2,150,000	\$7,181,000	\$645,000	\$2,501,000	\$7,308,000	\$0	\$19,785,000
Vineyard Std. Lots (4 du/acre)	556		\$8,786,000	\$3,888,000	\$0	\$192,000	\$0	\$12,866,000
Vineyard Villas (5-6 du/acre)	25		\$0	\$0	\$0	\$0	\$0	\$0
TDR Payments (if Applicable)							\$9,120,000	\$9,120,000
Park Land Payments							\$4,575,000	\$4,575,000
Total Residual Land Value for Plan Area	1,203	\$5,470,000	\$15,967,000	\$4,533,000	\$6,951,000	\$9,060,000	\$18,135,000	\$55,541,000
Total Residual Value/Per Acre	598	\$9,900,078,000		\$81,000	\$95,000	\$104,000	\$151,000	\$93,000
Per Square Foot			\$2.27	\$1.86	\$2.18	\$2.39	\$3.47	\$2.13
Per Lot		\$4,100,028,000		\$26,000	\$53,000	\$51,000	\$1,511,000	\$46,000

Source: South Livermore Specific Plan, WRT, adopted Nov 17, 1997 and amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates;

Table 11-5 South Livermore Valley Specific Plan TOTAL RESIDUAL LAND VALUE BY PRODUCT TYPE EXCLUDING AGRICULTURAL MITIGATION COSTS								
Product Type/Subarea/Units	Units	Subarea 1 133 Units	Subarea 2 574 Units	Subarea 3 177 Units	Subarea 4 130 Units	Subarea 5 177 Units	Subarea 7 12 Units	Total Plan Area 1,203 Units
Semi-Custom/Country Estate (1-2 du/acre)	223	\$5,395,000	\$0	\$0	\$6,942,000	\$2,652,000	\$4,440,000	\$19,429,000
Vineyard Large Lots (3 du/acre)	399	\$3,350,000	\$11,356,000	\$1,020,000	\$3,526,000	\$10,584,000	\$0	\$29,836,000
Vineyard Std. Lots (4 du/acre)	556		\$17,572,000	\$7,614,000	\$0	\$480,000	\$0	\$25,666,000
Vineyard Villas (5-6 du/acre)	25	\$0	\$575,000	\$0	\$0	\$0	\$0	\$575,000
TDR Payments (if Applicable)							\$9,120,000	\$9,120,000
Park Land Payments							\$4,575,000	\$4,575,000
Total Residual Land Value for Plan Area	1,203	\$8,745,000	\$29,503,000	\$8,634,000	\$10,468,000	\$13,716,000	\$18,135,000	\$84,626,000
Total Residual Value/Per Acre	598	\$158,000	\$143,000	\$155,000	\$142,000	\$157,000	\$151,000	\$142,000
Per Square Foot			\$3.63	\$3.56			\$3.47	\$3.26
Per Lot		\$66,000	\$51,000	\$49,000	\$81,000	\$77,000	\$1,511,000	\$70,000

Source: South Livermore Specific Plan, WRT, adopted Nov 17, 1997 and amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates; Economic and Planning Systems, Inc.

The cost of infrastructure has been distributed to the different development types and land uses based on principles of benefit. Cost allocations have been made using relative measures of benefit such as trip generation, sewer and water use, storm runoff factors, and demographic characteristics. The allocation factors are used to distribute all of the Basic Infrastructure Program (BIP) costs across all land uses in all subareas. Total BIP costs are then compared with total fair market values and expressed as a percentage.

Tables 11.6 and 11.7 summarize the cost allocations and total costs burdens for all land uses and product types, and for all subareas in the Plan. The costs per unit vary by unit type and by subarea. Overall, the total residential cost burdens for the Plan are about 20.0 percent of total fair market value and range from 18.3 percent in Subarea #4 to 22.2 percent in Subarea #2. In general, cost burdens increase for the higher density product type and are slightly higher for Vineyard Standard Lots and Vineyard Villas compared to the Semi-Custom and Vineyard Large Lots.

These residential cost burdens are above the optimal range of 10 to 15 percent of project value that is appropriate for semi-improved land. However, as discussed above, the industry standard for cost burdens may not be appropriate in the South Livermore Valley due to the costs included in the Plan for both the agricultural mitigation, and the overarching public policy goal of creating and protecting additional cultivated agriculture in the Livermore Valley. Furthermore, the Plan creates opportunities for long-term owners of agricultural land in the Valley who would otherwise not be permitted to develop at urban densities.

Commercial cost burdens overall for all uses range from 13.3 percent in Subarea #5 to 21.6 percent in Subarea #3. The cost burden varies significantly by land use. The commercial cost burdens are higher than the industry standard for non-residential uses. Retail/commercial projects are generally considered feasible if cost burdens are below 10 percent of market value. The commercial burdens indicate that some form of mitigation will be required if commercial uses are to be viable within the Plan. The City may wish to consider either: (1) including a Specific Plan policy to redistribute some portion of these allocated costs to the residential uses; (2) granting additional fee waivers and/or cost sharing with the City or other agencies; or (3) eliminating the least viable uses.

Item/ Units Sq. Ft. ¹	Subarea 1 133 0	Subarea 2 574 0	Subarea 3 177 6,600	Subarea 4 130 33,500	Subarea 5 177 62,500	Subarea 7 12 50,000	Total Plan Area 1,203 152,600
Total Residential Costs Allocation	\$11,247,205	\$45,805,042	\$12,603,219	\$11,943,687	\$15,017,909	\$747,198	\$97,364,259
Total Commercial Cost Allocation	\$0	\$0	\$213,448	\$487,767	\$1,387,127	\$867,634	\$2,955,976
Total Cost Allocation	\$11,247,205	\$45,805,042	\$12,816,667	\$12,431,453	\$16,405,036	\$1,614,833	\$100,320,236
Percent of Total Plan Costs	11.2%	45.7%	12.8%	12.4%	16.4%	1.6%	100.0%
Avg. Costs Per Commercial Sq.Ft. ²	\$0.00	\$0.00	\$32.34	\$14.56	\$22.19	\$17.35	\$19.37
Avg. Costs Per Dwelling Unit ³	\$84,565.00	\$79,800.00	\$71,205.00	\$91,875.00	\$84,847.00	\$62,267.00	\$80,935.00
Total Residential Market Value	\$60,060,000	\$205,923,000	\$62,265,000	\$65,228,000	\$81,387,000	\$11,364,000	\$486,227,000
Allocated Costs as % of Residential Value	18.7%	22.2%	20.2%	18.3%	18.5%	6.6%	20.0%
Total Commercial Value	\$0	\$0	\$990,000	\$3,350,000	\$10,465,000	\$4,790,000	\$19,595,000
Allocated Costs as % of Commercial Value	0.0%	0.0%	21.6%	14.6%	13.3%	18.1%	15.1%
Total Market Value	\$60,060,000	\$205,923,000	\$63,255,000	\$68,578,000	\$91,852,000	\$16,154,000	\$505,822,000
Allocated Costs as % of Total Value	18.7%	22.2%	20.3%	18.1%	17.9%	10.0%	19.8%

¹ Total commercial square footage excludes the 50,000 sqft winery in Subarea 6.

² Equals total costs allocated to commercial uses divided by total square feet.

³ Equals total costs allocated to residential uses divided by total units.

Source: South Livermore Specific Plan, WRT, adopted Nov 17, 1997 and amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates;

Table 11-7
South Livermore Valley Specific Plan Feasibility Analysis
SUMMARY OF TOTAL COSTS AND BURDENS BY SUBAREA AND LAND USE

Item	Total Estimated Cost	Semi-Custom Estates	Vineyard Large Lots	Cost Burdens by Proposed Land Uses						Bed & Breakfast	Commercial Center
				Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn			
Average Market Values (per unit/sqft/room)¹		\$518,000	\$430,000	\$345,000	\$300,000	\$100	\$150	\$78,000	\$150	\$200	
Subarea 1											
Total Costs	\$11,247,205	\$7,171,589	\$4,075,616	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Per Unit Costs ²	\$84,565	\$86,405	\$81,512	\$0	\$0						
Per Sqft Costs ³	\$0					\$0	\$0	\$0	\$0	\$0	
Costs as % of Market Value	n/a	18.4%	19.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Subarea 2											
Total Costs	\$45,805,042	\$0	\$13,874,321	\$30,030,353	\$1,900,368	\$0	\$0	\$0	\$0	\$0	
Per Unit Costs ²	\$79,800	\$0	\$83,080	\$78,613	\$76,015						
Per Sqft Costs ³	\$0					\$0	\$0	\$0	\$0	\$0	
Costs as % of Market Value	n/a	0.0%	20.8%	22.8%	25.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
Subarea 3											
Total Costs	\$12,816,667.0	\$0.0	\$1,155,782.0	\$11,447,436.0	\$0.0	\$0.0	\$90,997.0	\$0.0	\$122,452.0	\$0.0	
Per Unit Costs ²	\$71,205.0	\$0.0	\$77,052.0	\$70,663.0	\$0.0						
Per Sqft Costs ³	\$32.0					\$0.0	\$30.3	\$0.0	\$34.0	\$0.0	
Costs as % of Market Value	n/a	0.0%	18.1%	20.5%	0.0%	0.0%	20.2%	0.0%	22.7%	0.0%	
Subarea 4											
Total Costs	\$12,431,453	\$8,402,571	\$3,541,116	\$0	\$0	\$487,767	\$0	\$0	\$0	\$0	
Per Unit Costs ²	\$91,875	\$94,411	\$86,369	\$0	\$0						
Per Sqft Costs ³	\$15					\$15	\$0	\$0	\$0	\$0	
Costs as % of Market Value	18.1%	18.3%	18.3%	0.0%	0.0%	14.6%	0.0%	0.0%	0.0%	0.0%	
Subarea 5											
Total Costs	\$16,405,036	\$3,573,053	\$10,542,534	\$902,322	\$0	\$277,233	\$138,941	\$219,895	\$0	\$751,058	
Per Unit Costs ²	\$84,847	\$91,617	\$83,671	\$75,194	\$0						
Per Sqft(Room Costs) ³	\$22					\$14	\$19	\$7,330	\$0	\$30	
Costs as % of Market Value	17.9%	18.5%	18.1%	22.6%	0.0%	13.9%	12.4%	9.4%	0.0%	15.0%	
Subarea 7											
Total Costs	\$1,614,833	\$747,198	\$0	\$0	\$0	\$280,315	\$173,829	\$413,491	\$0	\$0	
Per Unit Costs ²	\$62,267	\$62,267	\$0	\$0	\$0						
Per Sqft/Room Costs ³	\$17					\$14	\$58	\$13,783	\$0	\$0	
Costs as % of Market Value	10.0%	6.6%	0.0%	0.0%	0.0%	14.0%	38.6%	17.7%	0.0%	0.0%	

¹ Residential market values are a weighted average of sales prices for units of this product type for all subareas.

² Equals total costs allocated to residential uses divided by total units.

³ Equals total costs allocated to commercial uses divided by total square feet. For the inn is Subarea 5, this equals total costs allocated to the inn divided by total rooms.

Source: South Livermore Specific Plan, WRT, adopted Nov 17, 1997 and amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates; Economic and Planning Systems, Inc.

Table 11-8
South Livermore Valley Specific Plan Feasibility Analysis
SUMMARY OF BASIC INFRASTRUCTURE PROGRAM (BIP) COSTS
BY RESIDENTIAL LAND USE TYPE AND SUBAREA

Item	Total Estimated Cost ¹	Residential Land Uses			
		Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas
Subarea 1					
Total/Average Market Value per DU	\$60,060,000	\$470,000	\$421,000	\$0	\$0
Total BIP Costs	\$3,094,330	\$1,986,066	\$1,108,264	\$0	\$0
Total Fee per DU	\$23,266	\$23,929	\$22,165	\$0	\$0
Allocated Fee as Percent of Market Value	5.2%	5.1%	5.3%	0.0%	0.0%
Subarea 2					
Total/Average Market Value per DU	\$205,923,000	\$0	\$399,000	\$345,000	\$300,000
Total BIP Costs	\$14,817,619	\$0	\$4,566,905	\$9,650,609	\$600,105
Total Fee per DU	\$25,815	\$0	\$27,347	\$25,263	\$24,004
Allocated Fee as Percent of Market Value	7.2%	0.0%	6.9%	7.3%	8.0%
Subarea 3					
Total/Average Market Value per DU	\$62,265,000	\$0	\$425,000	\$345,000	\$0
Total BIP Costs	\$3,123,570	\$0	\$290,844	\$2,832,726	\$0
Total Fee per DU	\$17,647	\$0	\$19,390	\$17,486	\$0
Allocated Fee as Percent of Market Value	5.0%	0.0%	4.6%	5.1%	0.0%
Subarea 4					
Total/Average Market Value per DU	\$65,228,000	\$515,000	\$473,000	\$0	\$0
Total BIP Costs	\$3,854,248	\$2,750,372	\$1,103,876	\$0	\$0
Total Fee per DU	\$29,648	\$30,903	\$26,924	\$0	\$0
Allocated Fee as Percent of Market Value	5.9%	6.0%	5.7%	0.0%	0.0%
Subarea 5					
Total/Average Market Value per DU	\$81,387,000	\$495,000	\$461,000	\$333,000	\$0
Total BIP Costs	\$4,394,353	\$1,091,949	\$3,043,445	\$258,959	\$0
Total Fee per DU	\$24,827	\$27,999	\$24,154	\$21,580	\$0
Allocated Fee as Percent of Market Value	5.4%	5.7%	5.2%	6.5%	0.0%
Subarea 7					
Total/Average Market Value per DU	\$11,364,000	\$947,000	\$0	\$0	\$0
Total BIP Costs	\$369,720	\$369,720	\$0	\$0	\$0
Total Fee per DU	\$30,810	\$30,810	\$0	\$0	\$0
Allocated Fee as Percent of Market Value	3.3%	3.3%	0.0%	0.0%	0.0%
Total Plan Area					
Total/Average Market Value per DU	\$486,227,000	\$518,000	\$430,000	\$345,000	\$300,000
Total BIP Costs	\$29,653,839	\$6,198,107	\$10,113,333	\$12,742,293	\$600,105
Total Fee per DU	\$24,650	\$27,794	\$25,347	\$22,918	\$24,004
Allocated Fee as Percent of Market Value	6.1%	5.4%	5.9%	6.6%	8.0%

¹ Includes all basic infrastructure costs.

Source: South Livermore Specific Plan, WRT, Adopted Nov 17, 1997 amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates; Economic and Planning Systems, Inc.

Table 11 –9						
South Livermore Valley Specific Plan Feasibility Analysis						
SUMMARY OF BASIC INFRASTRUCTURE PROGRAM (BIP) BY COMMERCIAL LAND USE TYPE AND SUBAREA						
Item	Total Estimated Cost ¹	Commercial Land Uses				
		Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center
Subarea 1						
Total/Average Market Value per Sqft	\$0	\$0	\$0	\$0	\$0	\$0
Total BIP Costs	\$0	\$0	\$0	\$0	\$0	\$0
Total Fee per Sqft	\$0	\$0	\$0	\$0	\$0	\$0
Allocated Fee as Percent of Market Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subarea 2						
Total/Average Market Value per Sqft	\$0	\$0	\$0	\$0	\$0	\$0
Total BIP Costs	\$0	\$0	\$0	\$0	\$0	\$0
Total Fee per Sqft	\$0	\$0	\$0	\$0	\$0	\$0
Allocated Fee as Percent of Market Value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subarea 3						
Total/Average Market Value per Sqft	\$990,000	\$0	\$150	\$0	\$150	\$0
Total BIP Costs	\$143,842	\$0	\$49,545	\$0	\$94,297	\$0
Total Fee per Sqft	\$22	\$0	\$17	\$0	\$26	\$0
Allocated Fee as Percent of Market Value	14.5%	0.0%	11.0%	0.0%	17.5%	0.0%
Subarea 4						
Total/Average Market Value per Sqft	\$3,350,000	\$100	\$0	\$0	\$0	\$0
Total BIP Costs	\$361,004	\$361,004	\$0	\$0	\$0	\$0
Total Fee per Sqft	\$11	\$11	\$0	\$0	\$0	\$0
Allocated Fee as Percent of Market Value	10.8%	10.8%	0.0%	0.0%	0.0%	0.0%
Subarea 5						
Total/Average Market Value per Sqft/Room ²	\$10,465,000	\$100	\$150	\$78,000	\$0	\$200
Total BIP Costs	\$867,417	\$203,221	\$40,083	\$119,515	\$0	\$504,598
Total Fee per Sqft/Room ²	\$14	\$10	\$5	\$3,984	\$0	\$20
Allocated Fee as Percent of Market Value	8.3%	10.2%	3.6%	5.1%	0.0%	10.1%
Subarea 7						
Total/Average Market Value per Sqft	\$4,790,000	\$100	\$150	\$78,000	\$0	\$0
Total BIP Costs	\$724,301	\$220,539	\$153,144	\$350,618	\$0	\$0
Total Fee per Sqft	\$14	\$11	\$51	\$13	\$0	\$0
Allocated Fee as Percent of Market Value	15.1%	11.0%	34.0%	0.0%	0.0%	0.0%
Total Plan Area						
Total/Average Market Value per Sqft	\$19,595,000	\$100	\$150	\$78,000	\$150	\$200
Total BIP Costs	\$2,096,563	\$784,764	\$242,771	\$470,133	\$94,297	\$504,598
Total Fee per Sqft	\$14	\$11	\$18	\$13	\$26	\$20
Allocated Fee as Percent of Market Value	10.7%	10.7%	12.0%	0.0%	17.5%	10.1%

¹ Includes all basic infrastructure costs.

² The average market value and the total fee for the inn in Subarea 5 is shown on a per room basis.

Source: South Livermore Specific Plan, WRT, Adopted Nov 17, 1997 amended Jan 25, 1999; Nolte & Associates;

11.6 FINANCING STRATEGY AND PRINCIPLES

The preceding sections of the Financing Element establish the factual information necessary to determine financial feasibility and formulate a financing strategy. The financing strategy provides a framework for subsequent detailed cost and financial analysis, and adoption of implementation measures for the South Livermore Valley Specific Plan (the Plan).

There are any number of different financing strategies that could be applied in the South Livermore Valley Specific Plan, although any financing strategy must meet the following criteria:

- There should be assurances that necessary funding will be available at the time specific infrastructure items are required;
- Total infrastructure, public facility, and planning costs for each Subarea and for Plan-area wide costs should be equitably allocated across all land uses and development types;
- Financial burdens should be kept within the levels appropriate for this type of development and market constraints (see Section 11.6 for a discussion of appropriate financial feasibility); and
- The plan should be responsive to expected variations in timing, location, and type of development.

11.6.1 PROPOSED FINANCING STRATEGY

Since the majority of costs in the Plan are subarea specific it is proposed that developers proceed on a pay-as-you go basis so each subarea can independently determine the timing and phasing of development. The external roadways are the only infrastructure item that will serve all subareas and these costs will be financed by a Road Improvement Program (RIP) fee paid by all residential development in the Plan. Other components of the strategy include City fee credits and LARPD financial contributions for the external trails. Under this strategy infrastructure will be funded through the RIP fee, normal subdivision dedications, and developer funding.

Subarea #2 development will receive a credit against park fee obligations in lieu of the dedication and development of a 12.5-acre public park. Developers constructing storm drains at least 24 inches diameter will receive credits against City storm drainage fees (an estimated credit value of about \$690,635). Other existing fees, including the LVUSD school exactions, will also be charged, and other City and County infrastructure funding sources (e.g., LARPD funds for external regional trail linkages and State and federal grants for highway improvements) will be allocated to the Plan as appropriate.

Subarea # 7 development will transfer 370 acres to the LARPD for a regional park for which they will receive \$4,575,000. Subarea # 7 development also receives 175 Transferable Development Rights with a market value of \$9,120,000. Required agricultural mitigation in Subarea 7 is all provided on site.

Table 11.10 summarizes the costs to be covered by each principal financing mechanism in this strategy. The role of each element in the South Livermore Valley Specific Plan Financing Strategy is discussed in more detail below.

To adopt and implement the proposed South Livermore Valley Financing Strategy, the City will need to complete a number of defined tasks as described below:

- **Monitor capital costs and facility dimensions** as the Plan proceeds to ensure continuing financial feasibility.
- **Review and refine capital cost estimates and phasing assumptions.**
- **Adopt Road Improvement Plan (RIP) Fee** – As part of the Financing Strategy, a method is proposed to assure that the external road improvements required by the Specific Plan are built in

an efficient and timely manner, while at the same time equalizing the cost burden of such improvements and dedications of road frontages among all property owners. The RIP fee, was approved by the Livermore City Council on June 22, 1998 and creates an obligation for all residential uses in the Specific Plan.

The total RIP fee obligation to be allocated is estimated by City staff to be \$7,035,000. The RIP fee obligation for residential uses is estimated to be \$5,847.88 per unit for all subareas. The RIP fee would normally be paid at the time individual building permits are received by builders. Developers will be responsible for constructing the necessary road improvements or be required to contribute to a fund, which will reimburse those developers who have constructed the improvements. The approved estimates for the improvements will be the basis of any reimbursement. Right of way required from any South Livermore Valley developer will have to be dedicated by the developer and will not qualify for reimbursement or credit against the RIP fees. Road improvements required by each subarea are identified in relation to how many units can be occupied before these improvements are in place.

- **Collect Agricultural Mitigation Payments/Commitments** - Developers and builders in the South Livermore Specific Plan will be responsible for planting, dedicating, and providing evidence of a long-term maintenance agreement prior to approval of a final map. This requirement can be phased as long as phasing is consistent with final map phasing.
- **Collect Existing Development Impact Fees** - Developers and builders in the South Livermore Specific Plan will be responsible for paying existing development impact fees charged by the City and other agencies. These fees include:
 - School Exactions;
 - Park Fees;
 - Low-income Housing Fees;
 - Traffic Impact Fees (TIF);
 - Major Attraction Fees;
 - City Storm Drainage Fees;
 - County Storm Drainage Fees;
 - Sanitary Sewer Connection Fees;
 - City Water Storage Fees (Subareas #1 and #2 only);
 - County Water Connection Fees; and
 - Recycled Water Fees.

The total amount for these fees, which will be collected over time as building permits are issued, is expected to be about \$39.4 million. The total cost per typical residential unit would be about \$33,000. Subarea #7 pays no sewer or water connection fees as development will not be on the mains but will use septic tanks and wells.

- **Direct Specific City Funding Sources Towards the South Livermore Specific Plan** - Identified funding from Citywide sources should be allocated towards appropriate facilities within the Plan.
- **Seek Funding Sources from Other Agencies** - Other funding sources should be reviewed and monitored, such as LARPD funds for regional trails and parks, and County, State, and federal highway funds, to determine if any of the South Livermore Valley Specific Plan improvements could be eligible for reimbursement or matching funds.

Table 11 -10
South Livermore Valley Specific Plan Feasibility Analysis
PROPOSED FACILITIES FINANCING STRATEGY

Item	Total Costs	Financing Mechanisms				
		Developer Funded	RIP ¹ Fee	Agriculture Mitigation	Existing Fees	Other Funding ²
External Roadways	\$7,035,000		\$7,035,000			
Street Work	\$4,925,000	\$4,925,000				
Water System	\$2,718,000	\$2,718,000				
Sewer System	\$3,227,000	\$3,227,000				
Storm Drainage	\$3,028,000	\$3,028,000				
Grading	\$2,529,000	\$2,529,000				
Electrical	\$1,850,000	\$1,850,000				
Eng. & Design	\$1,827,000	\$1,827,000				
Park/Trails/Landscaping Costs	\$4,046,592	\$3,630,000				\$416,592
Fire Engine	\$0	\$0				
Plan Preparation Costs	\$985,000	\$985,000				
Agricultural Mitigation Costs	\$29,213,000			\$29,213,000		
School Exactions	\$18,930,000				\$18,930,000	
Park Fees	\$1,504,000				\$1,504,000	
Low-income housing fee	\$2,204,000				\$2,204,000	
Traffic Impact Fees	\$3,118,000				\$3,118,000	
Major Attraction Fee	\$895,000				\$895,000	
City Storm Drainage	\$30,000				\$30,000	
County Storm Drainage	\$856,000				\$856,000	
Sanitary Sewer Connection Fees	\$4,770,000				\$4,770,000	
City Water Storage	\$1,837,000				\$1,837,000	
County Water Connection	\$4,336,000				\$4,336,000	
Recycled Water Fee	\$877,000				\$877,000	
TOTAL COSTS	\$100,740,592	\$24,719,000	\$7,035,000	\$29,213,000	\$39,357,000	\$416,592

¹ Road Improvement Plan Fee.

² LARPD has agreed to pay 100% of area wide trail costs.

Source: South Livermore Specific Plan, WRT, Adopted Nov 17, 1997 amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates; Economic and Planning Systems, Inc.

12.0
Commercial Design Standards & Guidelines



12.0 COMMERCIAL DESIGN STANDARDS & GUIDELINES

PURPOSE

In preparing these Guidelines and Standards, the consultant team worked with City Staff and a Community Steering Committee to:

- *Identify the elements of the South Livermore Valley Specific Plan Area which define its character and physical identity.*
- *Develop an overall vision for the area, based upon an understanding of the key components that make up the identity of the area, particularly its rural and agricultural heritage.*
- *Define design criteria for use by public agencies for the evaluation of future commercial development to ensure consistency with the South Livermore Valley vision.*
- *Create standards for the development and design guidelines that maintain the vision of South Livermore in a unified but diverse manner, and which may be implemented over time.*
- *Select a palette of appropriate materials and colors, forms, architectural images and landscape elements to guide property owners in the improvement of their properties.*
- *Analyze specific sites to create site-specific design concepts.*

ORGANIZATION OF ELEMENT

These Commercial Guidelines and Standards are intended to provide a design vocabulary that supports the South Livermore Valley's image as a premium wine producing region and enhances the experience of visitors to the South Livermore Valley wine country. These Guidelines and Standards supplement existing Livermore ordinances, standards, and guidelines. The document is divided into three parts: Design Approach to Commercial Uses within the Rural Context, Site Analysis and Site Specific Guidelines, and Components.

- **Design Approach to Commercial Uses within the Rural Context.** *This section includes information on the character of the South Livermore Valley area, the intent of commercial development within that context, and the manner in which the design goals express the desired character. It presents a general prototype which introduces the elements which should be addressed in any given commercial development plan.*
- **Site Analysis and Site Specific Guidelines.** *This section looks at each of the designated commercial sites within the South Livermore Valley Specific Plan. Each site analysis points out opportunities and constraints that must be considered in the development of that particular site. It places potential development in the context of surrounding uses, views and topography and existing conditions.*
- **Components.** *This section establishes design criteria for discrete elements of site planning and architectural design. It discusses in detail components of architecture, site layout, landscape, parking, signage and lighting.*

"Guidelines" refer to the overall intent or qualitative aspects of any given design concept. "Standards" relate to measurable dimensions or quantitative aspects of those concepts. The Standards are specific conditions of design and must be implemented. The Guidelines, on the other hand, are just that, guidelines. It is not the intent of these guidelines to preclude imaginative design solutions to the commercial sites covered by this plan. Each private development proposal will have to be evaluated on its own merit. Alternate design solutions may be permitted if it can be demonstrated that they are compatible with the South Livermore Valley character and that the result will be a quality of design which is equal to, or better than, the otherwise applicable guidelines. Guidelines will be presented first, in bullet form, in bold type. Standards will follow in normal type, and will be numbered.

12.1 DESIGN APPROACH TO COMMERCIAL USES WITHIN THE RURAL CONTEXT

12.1.1 WINE COUNTRY AND AGRICULTURAL CHARACTER

In order to achieve the commercial goal of supporting and enhancing the South Livermore Valley's image as a premium wine producing region, commercial sites must be designed to reflect the area's viticultural and agricultural heritage. They must become welcoming and comfortable destinations for the visitor. Site design and landscaping should fit with the surrounding vineyards and orchards, and the architecture should draw its inspiration from the farmstead compound and small town structures.

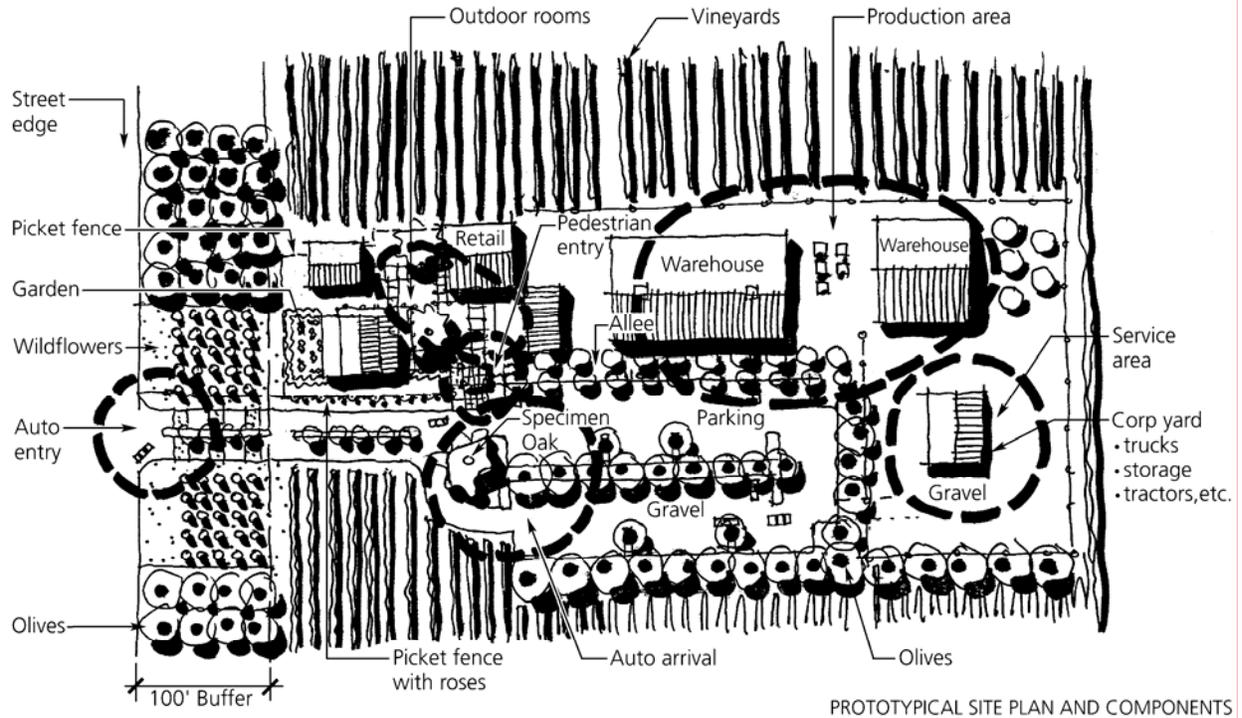
The targeted uses within the South Livermore Valley Specific Plan are predominantly viticulture and agriculture based - small and medium wineries, and an olive press. The sites for these uses will be patterned on the farmstead model, a complex of buildings that house both visitor/public and production/private functions. Production functions are an integral part of the agricultural environment, and emphasize the authenticity of the environment when they are visible to the public.

The other commercial uses within the area (restaurants, lodging, and a tourist-focused retail center) will support wine country tourism. Even where the farmstead compound model is not appropriate, the essential character of rural architecture - simplicity, or economy of means - should be expressed. The concepts of simplicity and economy refer to practical and functional aspects of development. Farms are by definition efficient, a quality that is reflected in the no-nonsense, straight-forward approach to their facilities and operations. From the shape of barns to the layout of paths and vegetation, built forms in rural areas tend to be simple rather than contrived, plain rather than ornamented, with functions exposed rather than disguised. On a farm, little is wasted, and little is added that does not have a purpose or that overstates its intended function.

Commercial sites have been carefully chosen in the Specific Plan. These guidelines provide a framework within which the developer of each site may respond to the site's unique opportunities and surrounding uses and express the functions of the particular use.

The prototypical site on the following page illustrates various site elements and use zones that will occur on most of the commercial sites and that will be discussed in the rest of this chapter.

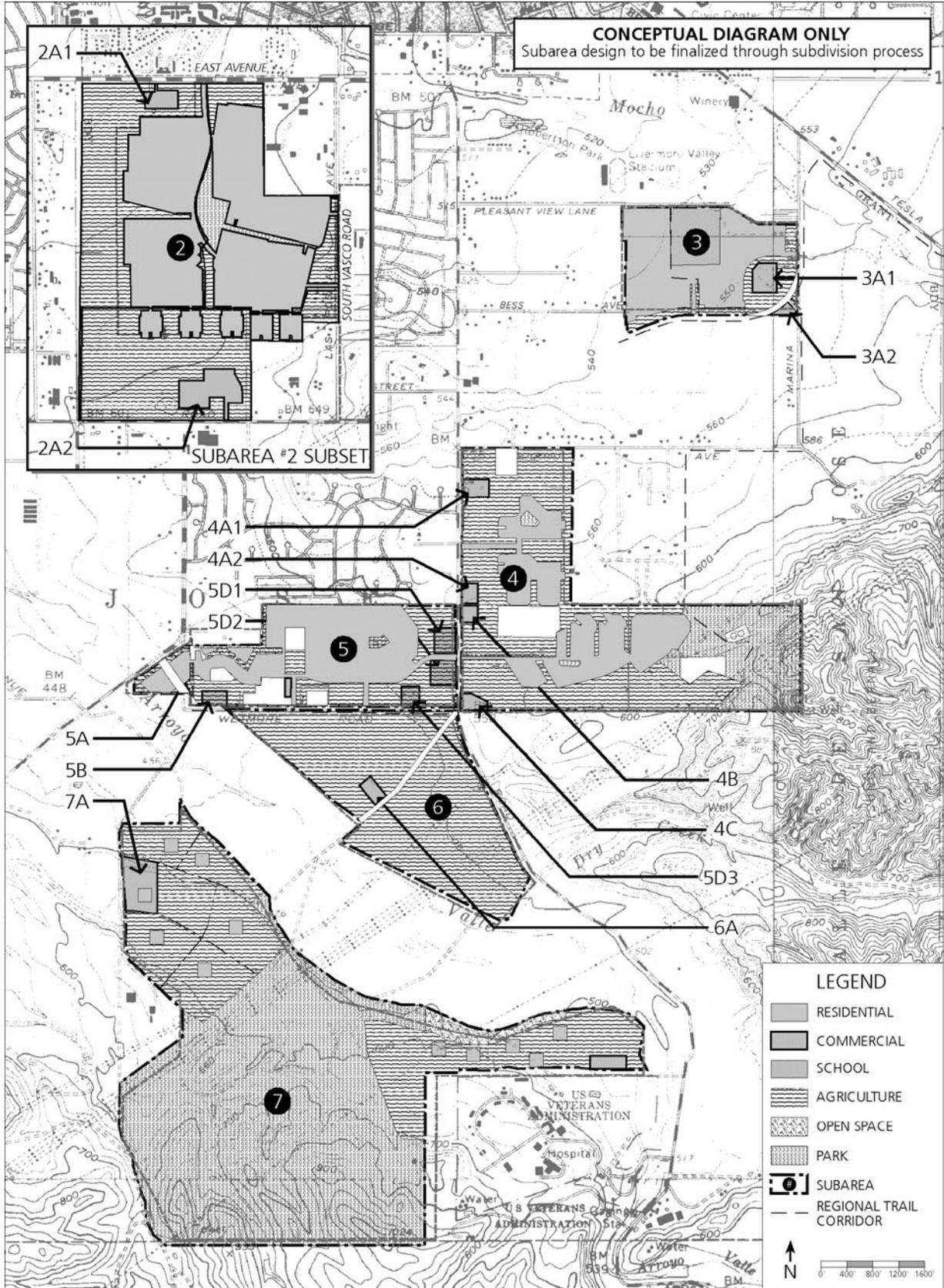




12.2 SITE SPECIFIC ANALYSIS, GUIDELINES AND STANDARDS

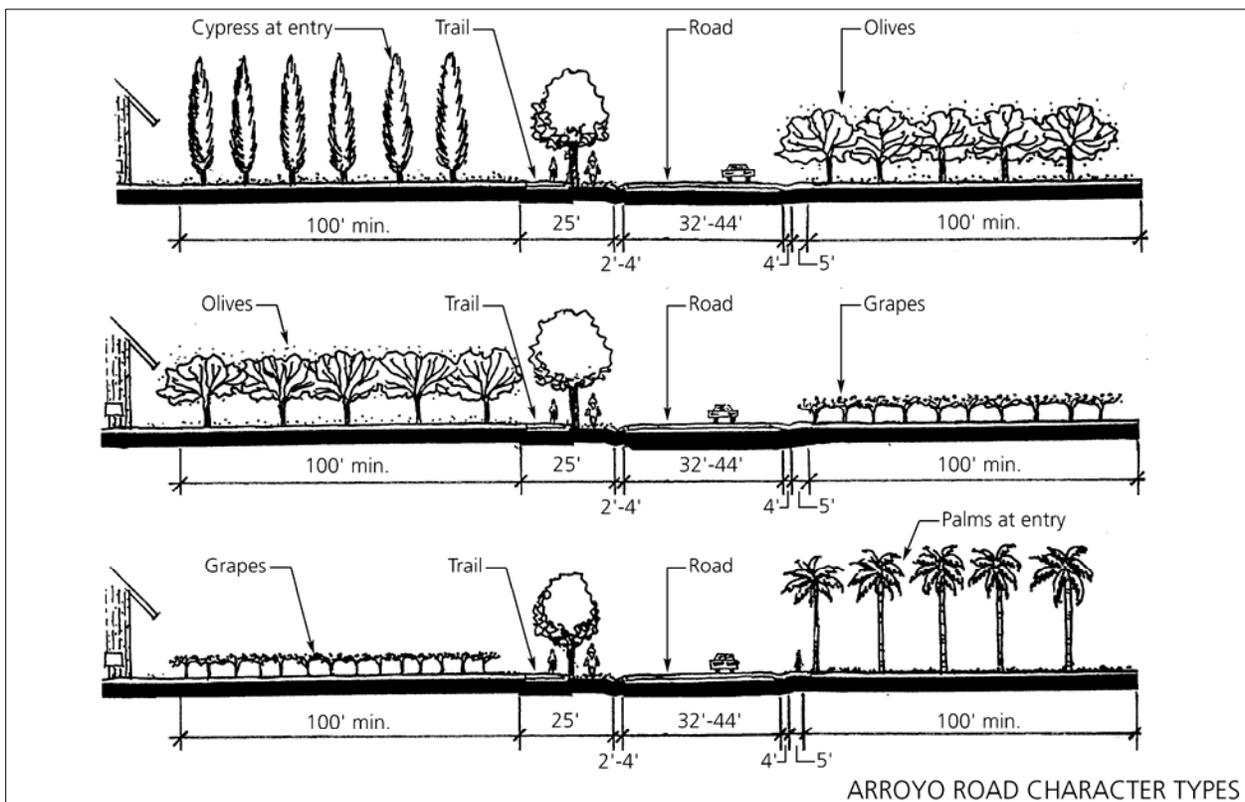
This section provides general and specific criteria and recommendations for each of the 15 parcels designated for commercial development in the South Livermore Valley Specific Plan Area. The sites are grouped in order to show them within their context. Where a prototypical site plan is shown, it is intended as one interpretation of appropriate design. Any high quality design that addresses issues raised in the site analysis and generally meets the intent of the guidelines is encouraged. Site analysis addresses considerations such as:

- fixed elements (as set out in the Specific Plan, Livermore ordinances, etc.)
- adjacent uses (residential, Sycamore Grove Park)
- on-site structures/vegetation to be preserved
- logical points of ingress and egress
- views to be preserved or screened
- visual prominence of site
- flexibility of boundaries
- environmental issues
- site layout criteria
- riparian corridors
- topography



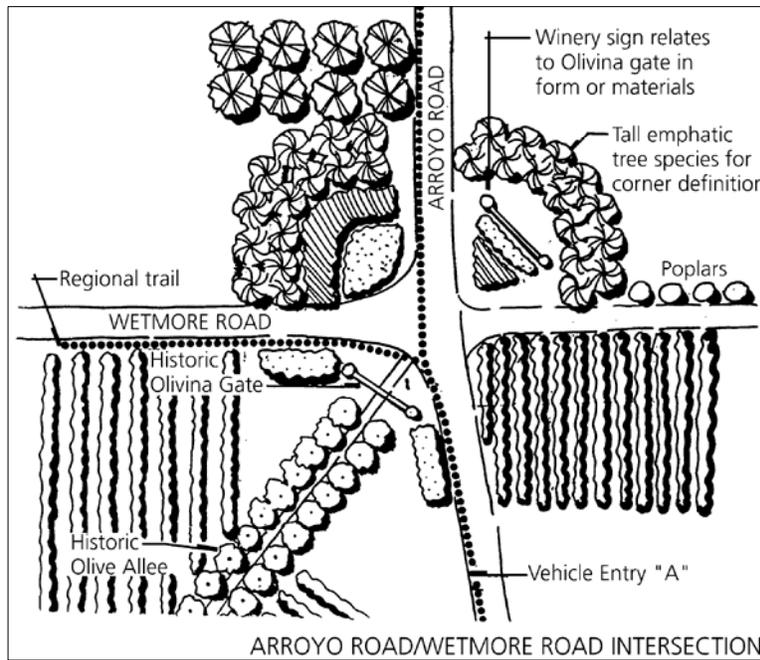
12.2.1 DESIGN TREATMENT FOR ARROYO ROAD

The most intense commercial development could occur along Arroyo Road, including up to three small wineries, an olive press, a commercial center and an inn. The Arroyo Road corridor will be planted in olives and grapes. The rows of olive trees lining the road impart a distinctive character. To create a rhythm and allow views into the sites and to the hills to the east, vineyard plantings may alternate with the olive trees. Swales and drainages should be emphasized by means of riparian-type plantings. Entries to commercial sites may have special planting, but the planting must be of a pattern and scale that reflects the agricultural character of the area, for example entries may be framed by grove plantings of poplar, cypress, or palms. The west side of Arroyo Road should be planted with a row of robinia idahoensis, 30 feet on center, mixing and clustering other tree types with the robinia idahoensis along Arroyo Road is allowed, except at areas where riparian planting abuts the road. On the east side of Arroyo, a 4-foot paved shoulder and 5-foot packed, walkable apron are required. A 25-foot right-of-way for the Regional Trail Corridor will extend south from the existing trail along the frontage of the Ravenswood site, containing a 10-foot pedestrian/bicycle trail, a 3-foot planted area, and an 8-foot equestrian trail, as shown in South Livermore Valley Specific Plan Figure 5.18.



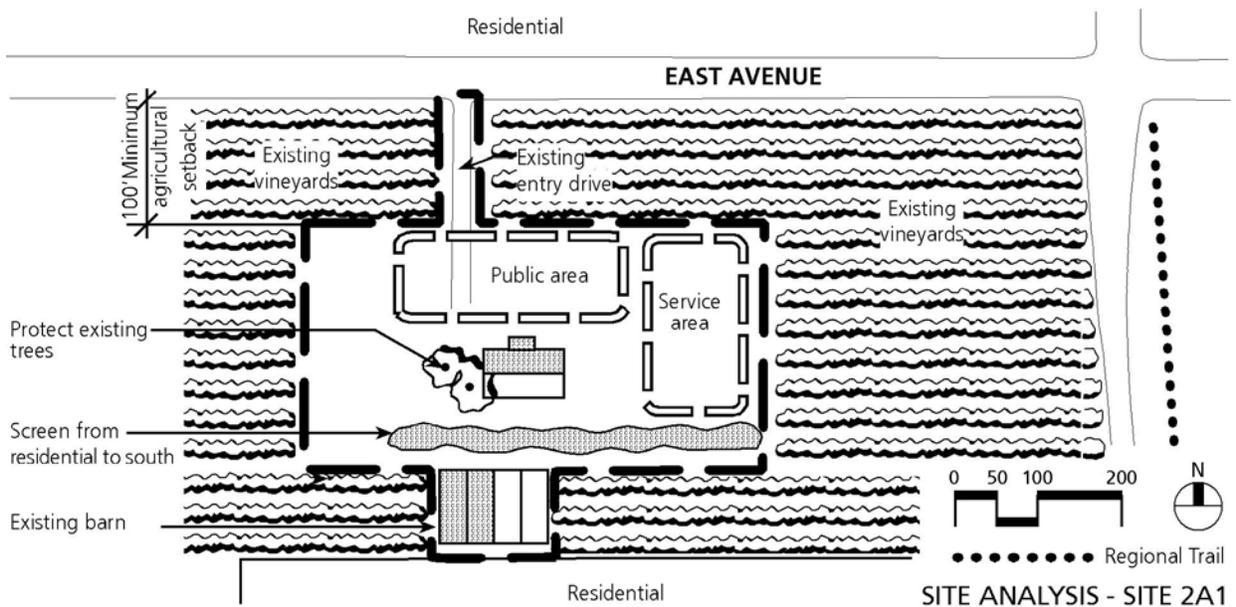
At this centrally located and visually prominent intersection stands the Olivina Gate, one of the most distinctive historic features of the area. This intersection provides an opportunity to celebrate local history and create a visual landmark at the center of the area. The entry to commercial site 4C will be from this intersection.

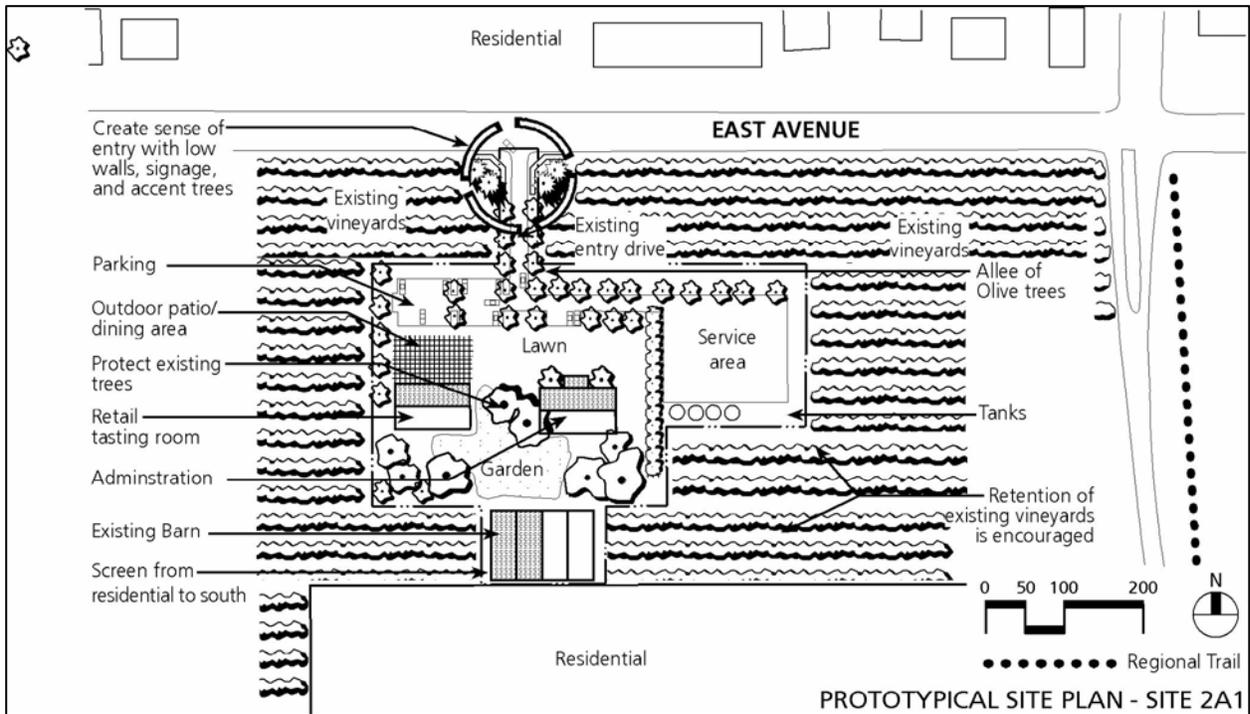
- Preserve the historic Olivina Gate, to be used as a pedestrian and bicycle entry. Vehicle entry shall be located at least 300 feet from the gate on either Arroyo or Wetmore Road, so as to prevent damage to the gate. Replant the historic entry road with an allee of olive trees.
- Winery sign for site 4C should relate to the Olivina Gate in form and/or materials, but should not attempt to replicate that authentic historic structure.



12.2.2 SITE 2A1 - SMALL WINERY OR BED & BREAKFAST; AND A TASTING ROOM OR SMALL RESTAURANT

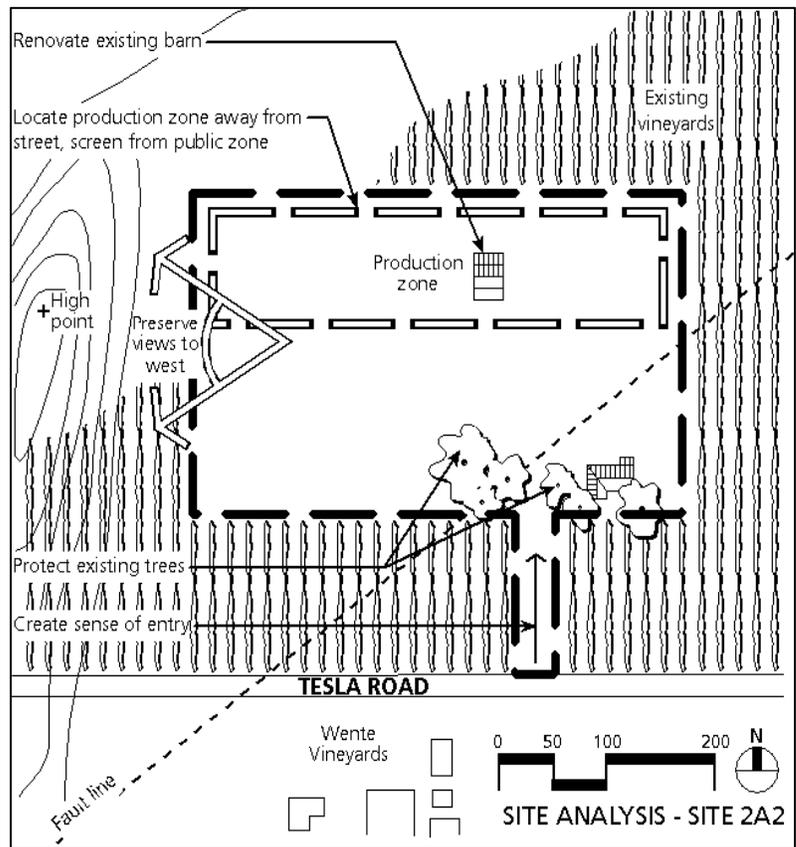
- **Boundary should shift to the north to allow for an agricultural buffer between the commercial and the residential areas.**
 - **Preservation of existing structures is encouraged. Preserve existing trees on site.**
 - **Use strong design elements to create a sense of entry.**
1. *Maintain 100' minimum setback with vineyard planting along East Avenue.*
 2. *Entry shall be from East Avenue through the vineyard planting only. No access shall be permitted from residences to the south in Subarea 2.*
 3. *Maintain service and production areas to the east and keep separate from the public uses.*
 4. *Uses on site or within the existing barn shall not exceed 60dB at the property line.*

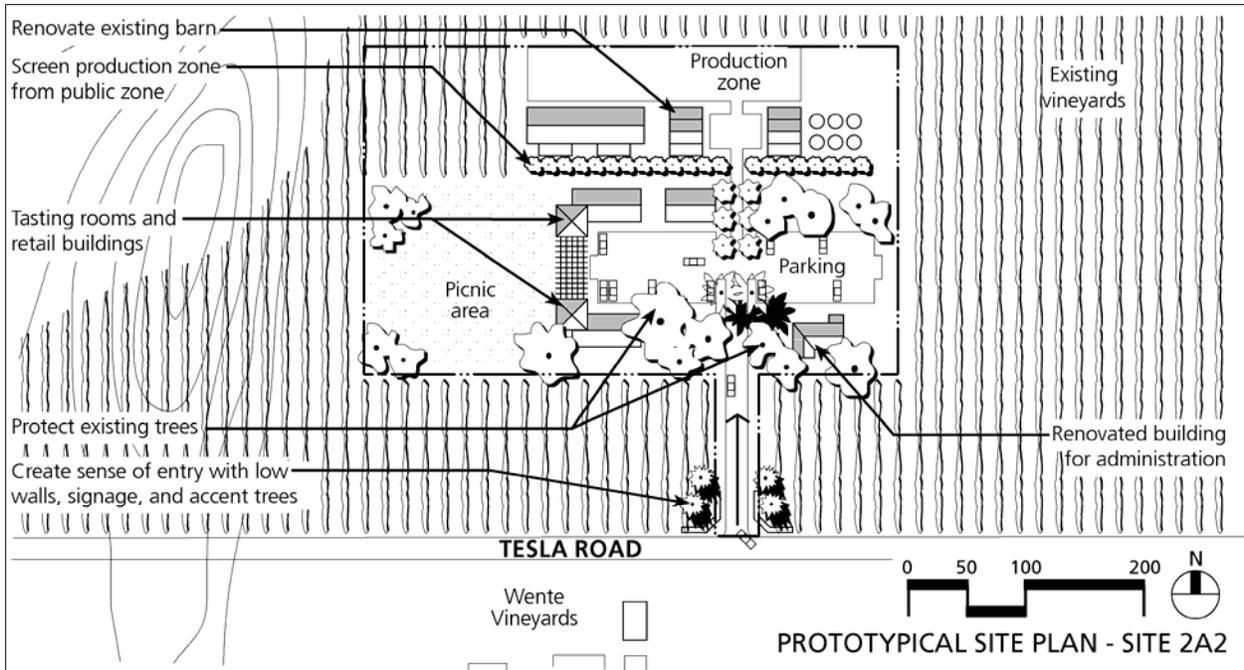




12.2.3 SITE 2A2 A MEDIUM WINERY, OR BED & BREAKFAST; AND A TASTING ROOM OR SMALL RESTAURANT

- Preservation of existing house and barn encouraged.
 - Protect existing trees on site.
 - Enhance entry to site from Tesla Road.
 - Preserve views to vineyard and rolling hills west.
1. Maintain 150' vineyard setback along Tesla Road.
 2. Entry shall be through a single access point from Tesla Road through the agricultural setback only.
 3. Locate production zone to north and back of site. Screen from public zone.
 4. Prior to approval of development project, a geological study including ground trenching and liquefaction analysis shall be completed. Any fault lines or traces on site will require a 50 foot corridor (non-building setback) running parallel to the fault or trace consistent with the Alquist Priolo Special Study Act.

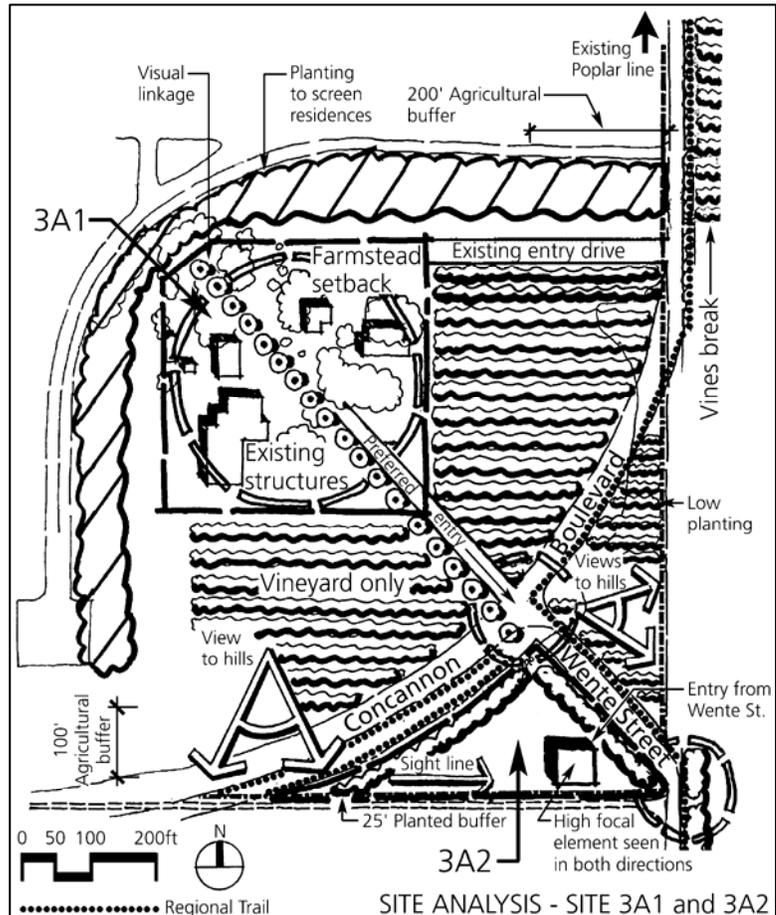




**12.2.4 SITE 3A1 - SMALL WINERY OR BED & BREAKFAST
SITE 3A2 - SMALL TASTING ROOM OR SMALL RESTAURANT**

Analysis - Site 3A1

- **Preservation of existing structures is encouraged.**
 - **Create strong visual link to new "T" intersection.**
 - **Production and service areas should be screened from Subarea 3 residences.**
1. *Entry shall be from Wente Street, preferably from the "T" intersection or the existing drive off Wente Street.*
 2. *Required frontage setback is 100 feet. (Applies to commercial site only.)*
 3. *Area surrounding commercial development shall be planted in vineyards.*
 4. *Commercial development shall be located on site of historic Caldera Compound site.*



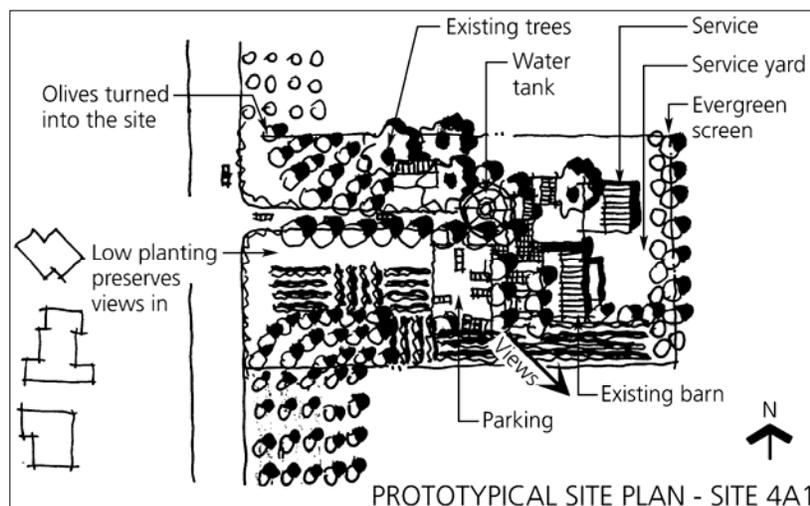
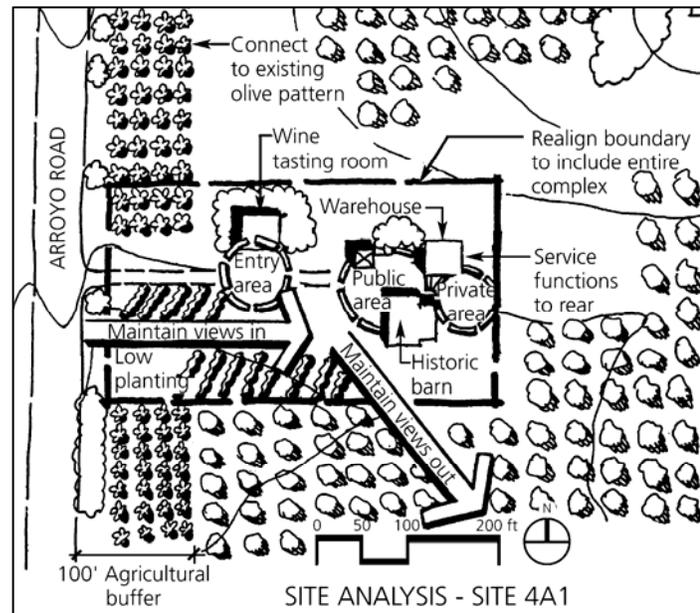
Analysis - Site 3A2

- A high focal element in the southeast corner could create a landmark visible from all directions.
 - Sight line from existing Concannon Boulevard should be preserved.
1. A 25-foot planted buffer to shield parking is required on this site. This buffer may be agricultural, or may be other planting which is compatible with the agricultural character of the area.

12.2.5 SITE 4A1 - SMALL OLIVE MILL AND WINE TASTING ROOM

Analysis

- Preservation of existing barn is encouraged.
 - Views out to the southeast should be maintained.
 - Along Arroyo Road frontage, planting which connects to the existing olive grove pattern is encouraged.
1. Required setback (agricultural buffer): 100 feet from Arroyo Road.
 2. A 4-foot paved shoulder and a 5-foot packed, walkable apron is required along the east Arroyo Road frontage.
 3. Production and service areas shall be located toward the rear of the site.



12.2.6 SITE 4A2 - SMALL WINERY SITE 4B - SMALL WINERY OR SMALL RESTAURANT

Analysis - All Sites

1. Required setback (agricultural buffer): 100 feet from Arroyo Road.

Site 4A2

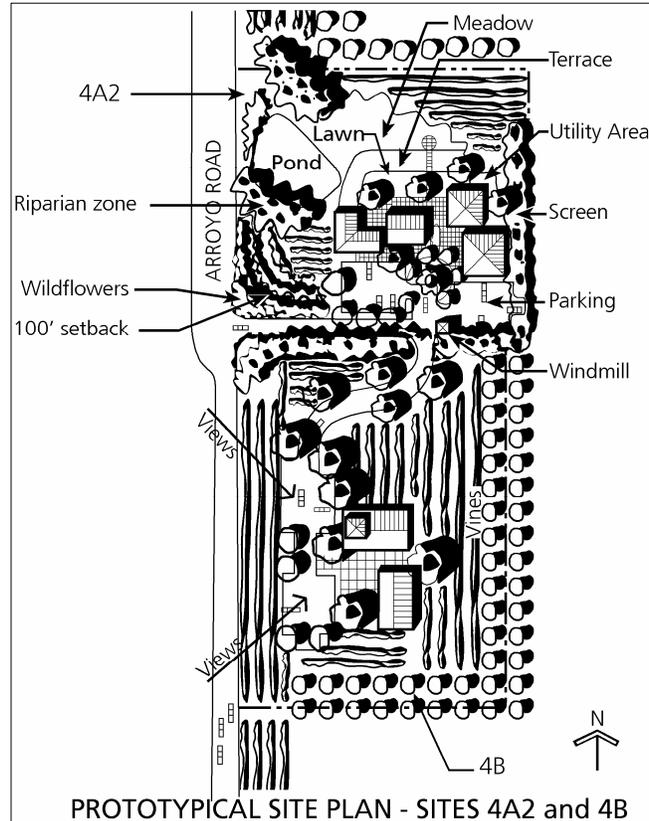
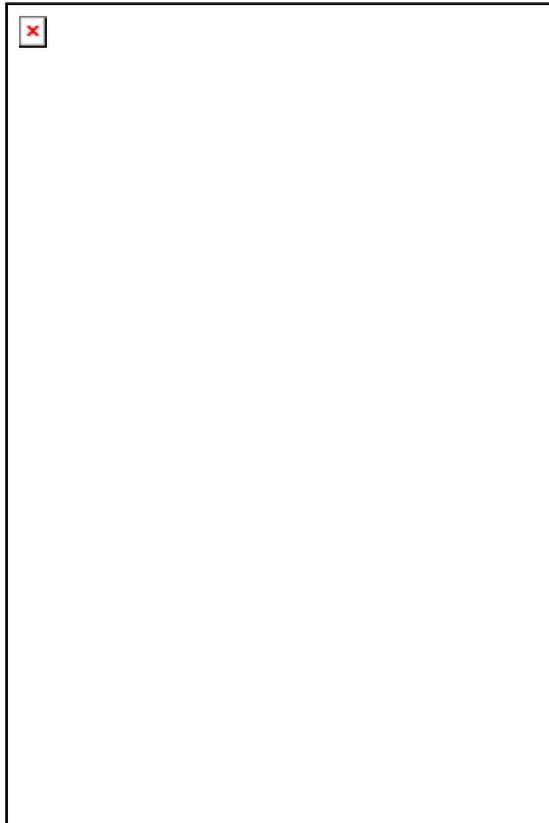
- Boundary should shift to the south to allow for a shared entry access.
- Riparian planting is encouraged in the low-lying area. Low plantings and low buildings set back into the slope are encouraged in order to preserve view corridor from the road toward the southeast.
- Setting buildings into the slope would take advantage of views to north and across the low, riparian-planted area.

1. A 4-foot paved shoulder and a 5-foot packed, walkable apron is required along Arroyo Road.

Site 4B

- Boundary should shift to the north to allow for a shared entry access.
- Maintain views into site from Arroyo Road by using vineyards or other low planting.

1. A 4-foot paved shoulder and a 5-foot packed, walkable apron is required along Arroyo Road.



12.2.7 SITE 4C - SMALL WINERY
SITE 5C1 - SMALL WINERY
SITE 5D1 - COMMERCIAL CENTER
SITE 5D2 - WINE COUNTRY INN AND RESTAURANT

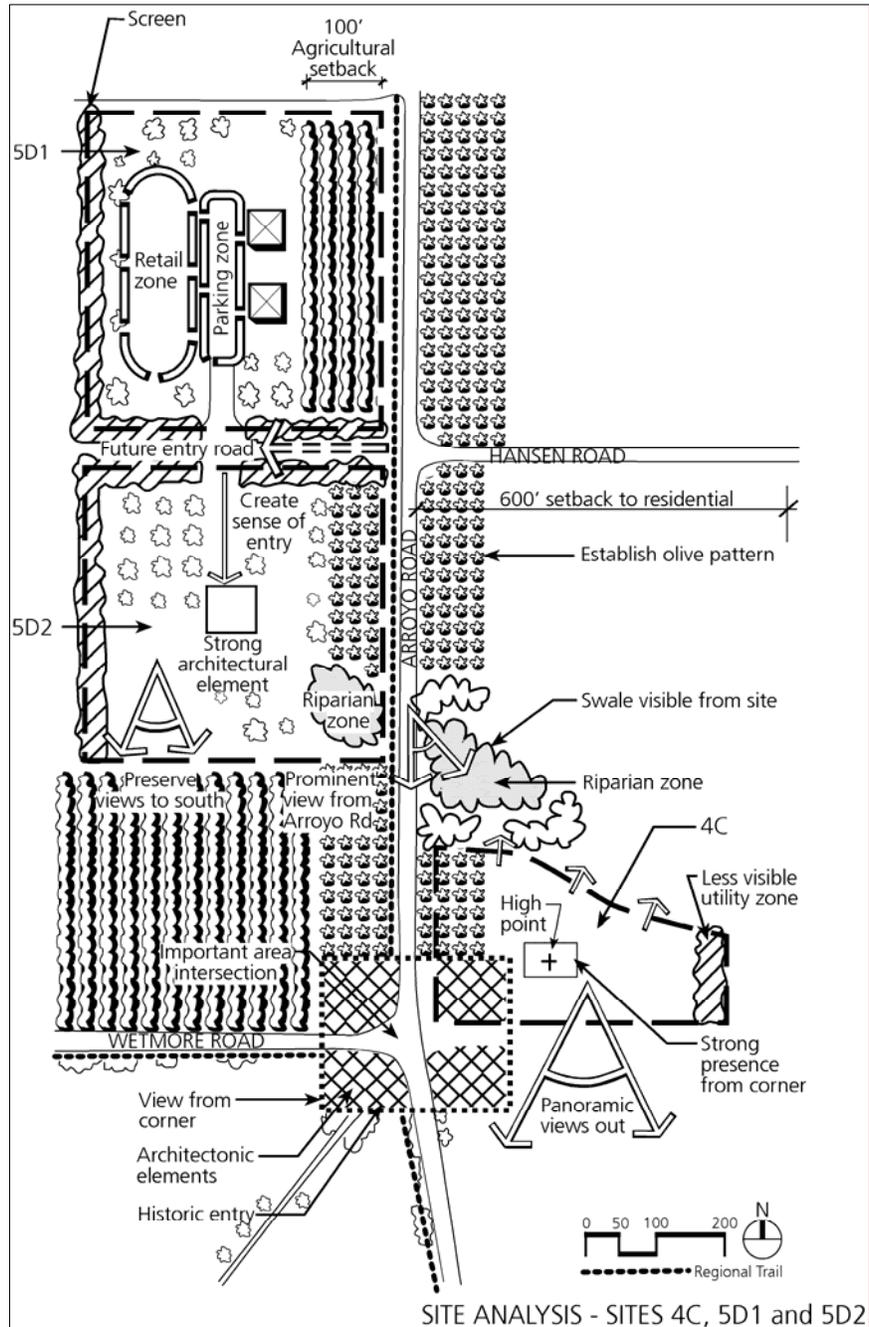
Analysis - All Sites

1. Required setback (agricultural buffer): 100 feet from Arroyo Road.

Site 4C

- Preferred entry is from Arroyo Road.
- Residential uses are set back 600 feet from Arroyo Road.
- Emphasize riparian zone by using riparian planting.
- Maximize panoramic views to south and views over the swale to the north.
- Take advantage of elevated location for visual presence from Wetmore / Hansen intersection.
- Reinforce historic intersection by using entry signage which relates to Olivina Gate.

1. A 4-foot paved shoulder and a 5-foot packed, walkable apron is required along the Arroyo Road frontage.
2. Keep service and production uses at eastern edge.



Site 5C1

- Use strong architectural elements to create visual presence.

- **Preserve views to the south.**

1. *Required setback (agricultural buffer): 350 feet from Wetmore Road.*

Site 5D1

- **Vineyard planting along frontage will maintain visibility.**

1. *A 25 foot right-of-way for the Regional Trail Corridor will extend south from the existing trail along the frontage of the Ravenswood site, containing a 10-foot pedestrian/bicycle trail, a 3-foot planted area, and an 8-foot equestrian trail, as shown in South Livermore Valley Specific Plan Figure 5.18.*
2. *Rears of buildings shall be screened from residences to the west.*

Site 5D2

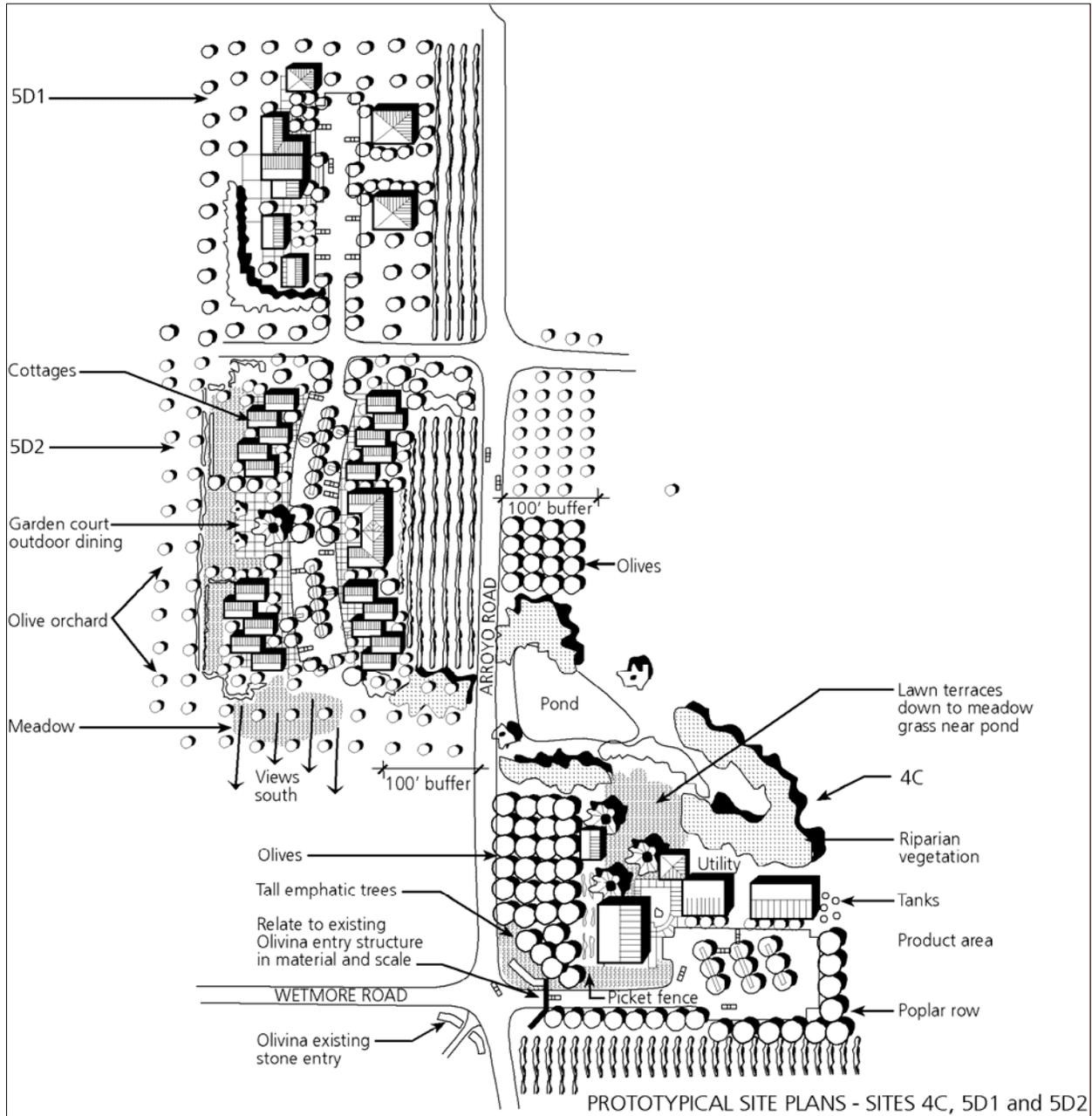
- **Emphasize drainage pattern by riparian planting in southeast corner.**

- **Preserve views to south.**

- **Use strong architectural element to create visual presence.**

- **vineyard planting along frontage will maintain visibility.**

1. *A 25 foot right-of-way for the Regional Trail Corridor will extend south from the existing trail along the frontage of the Ravenswood site, containing a 10-foot pedestrian/bicycle trail, a 3-foot planted area, and an 8-foot equestrian trail, as shown in South Livermore Valley Specific Plan Figure 5.18. Screen service areas from residences to north and west.*



12.2.8 SITE 5D3 - SMALL WINERY

Analysis

1. Required setback (agricultural buffer): 100 feet from Wetmore Road.
2. Required building setback from the residences to the north: 300 feet. A caretaker unit may be located within that setback subject to Section 12.3.2, Building Hierarchy and Transition.
3. Tree and vegetation preservation and tree replacement, as set forth in South Livermore Valley Specific Plan Policies 6-19, 6-22, and 6-23, are required.

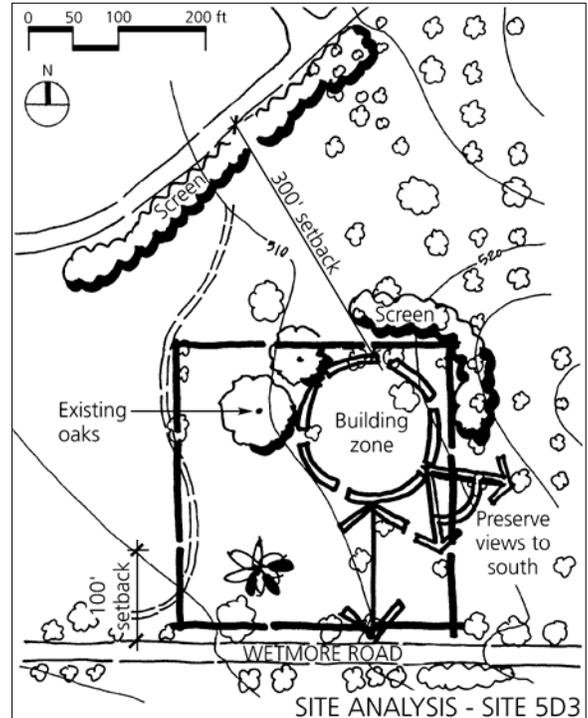
12.2.9 SITE 5A - BED & BREAKFAST SITE 5B - SMALL WINERY

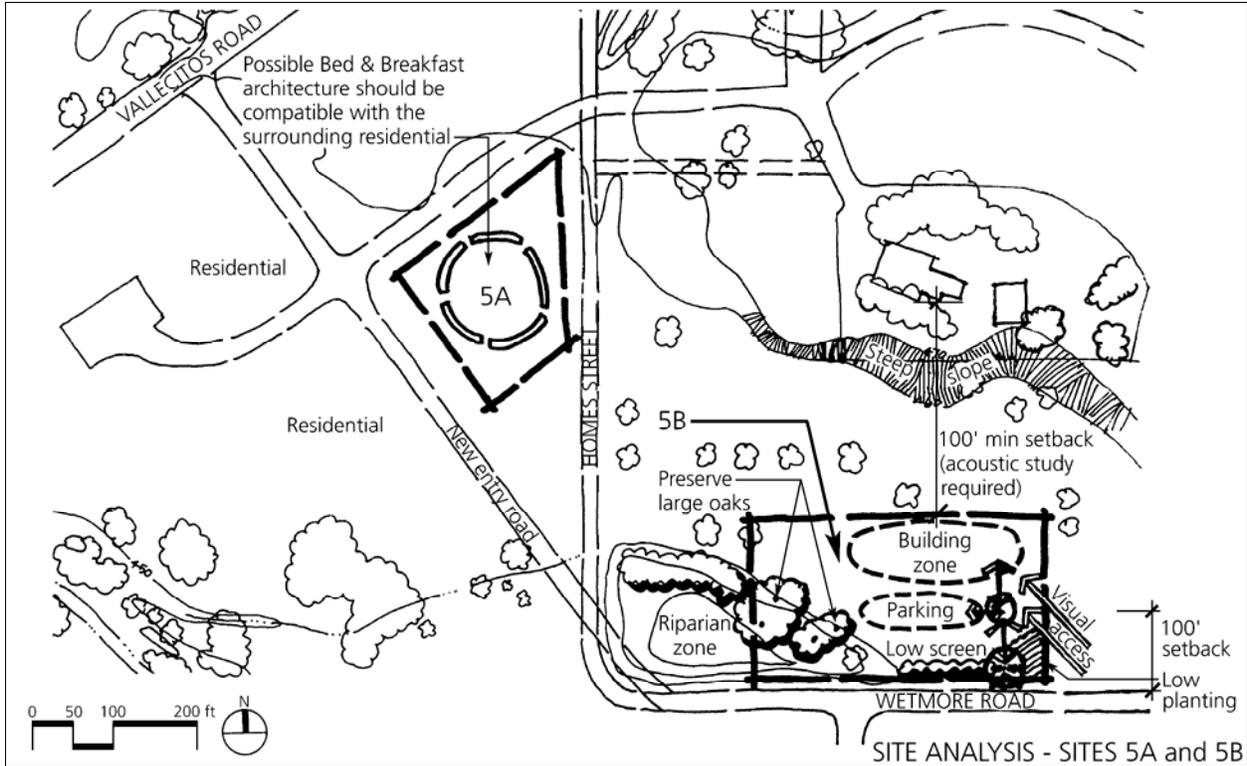
Analysis - Site 5A

- Architecture should be compatible with residential surroundings.

Analysis - Site 5B

- Preserve views to Sycamore Grove Park.
 - Emphasize seasonal drainage at southwest corner with riparian planting.
1. Required setback (agricultural buffer): 100 feet from Wetmore Road.
 2. Required building setback from residences to north shall be determined by acoustical study. The minimum setback shall be 100 feet, or greater, if the acoustic study indicates that a greater distance is necessary to meet acoustic standards.
 3. Entry location should not conflict with entry to Sycamore Grove Park.

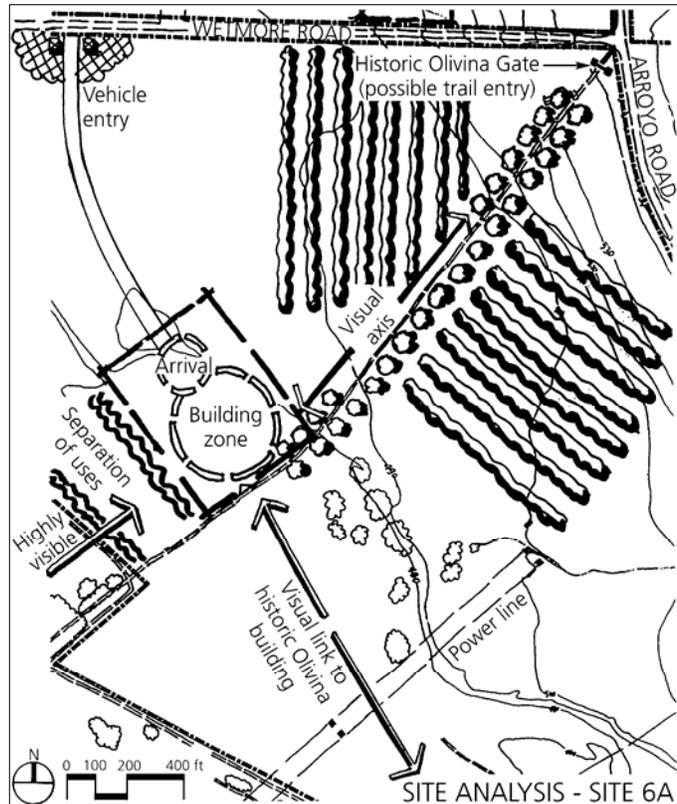




12.2.10 SITE 6A - MEDIUM WINERY

Analysis

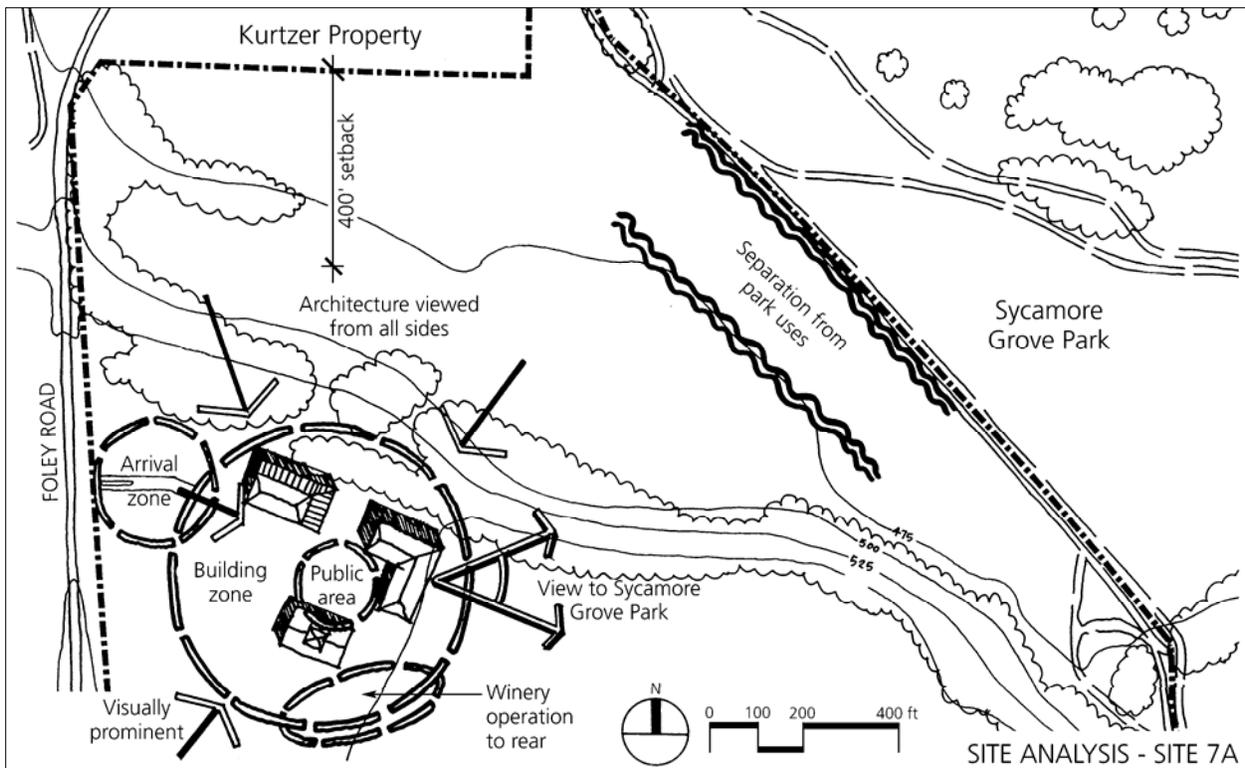
- **Encourage use of historic entry axis as pedestrian/bicycle access, or as visual linkage.**
 - **Much of site, including relocated building zone, is visually prominent; architecture should be designed to be viewed from all sides.**
 - **Visual link may be made to historic Olivina building.**
1. *Required setback (agricultural buffer): 100 feet from Wetmore and Arroyo Roads.*
 2. *Winery location shall not conflict with residential uses along Wetmore Road, or with the use and enjoyment of Sycamore Grove Park.*
 3. *Entry shall be located on Wetmore Road, near the entrance to residential Subarea 5. (See Policy #5-31)*
 4. *The historic Olivina Gate shall be preserved, and the historic entry allee shall be replanted with olive trees.*
 5. *Balance of site is to be planted in vineyards.*



12.2.11 SITE 7A – WINERY, RESTAURANT AND WINE COUNTRY INN

Analysis

- Building zone is visually prominent; design architecture to be viewed from all sides.
 - Locate winery operations to the rear of the commercial property.
 - Establish a sense of entry from Foley Road.
1. Required setback: 400 feet from Kurtzer property.
 2. Maintain a separation between commercial uses and Sycamore Grove Park, so as not to conflict with the use and enjoyment of Sycamore Grove Park.



12.3 COMPONENTS

The Components section describes elements which may be common to all commercial properties within the South Livermore Valley Specific Plan Area, such as architectural styles, building massing, height limitations, materials and colors, parking layouts and materials, utility or service area screening, landscape palette, signage and lighting criteria, or entry treatments. The Design Guidelines and Development Standards set forth in this section will apply to any commercial property within the South Livermore Valley Specific Plan Area. Conditions and considerations unique to each particular site were discussed in section 12.2, Site Specific Design Guidelines.

12.3.1 ARCHITECTURE

Building Character & Hierarchy

The Farm Compound serves as the conceptual model for the area's wineries and olive press. The Valley's farm compounds manifest a simple, restrained approach to design. The retail center, lodgings and restaurants likewise take their cues from the simple elegance of that form, as well as that of the older residential areas of town. A farm compound contains residential and agricultural structures, each with features that clearly express their function. The residences contain porches and dormers, and a small garden to greet the visitor. The farming structures such as the barn, sheds, and water tank are plain and simple in form with scant ornamentation or superfluous materials. The entire compound holds together as a coherent architectural composition because of the underlying economy of form and restraint in the use of materials and colors. Diversity and innovation is encouraged within the framework of high quality design and construction standards.

As in the Farm Compound, the forms and shapes indicate use and function of each building. In a winery setting, the tasting and sales rooms - the public areas - are the primary buildings. They should have greater articulation and should be prominently sited in relation to production buildings or the winery residence. Appropriate scale and proportion of buildings, simplicity of form, and integrity of details and materials are the characteristics that define the desired building styles for this area.

Components of a High Quality Building

Building Mass & Height

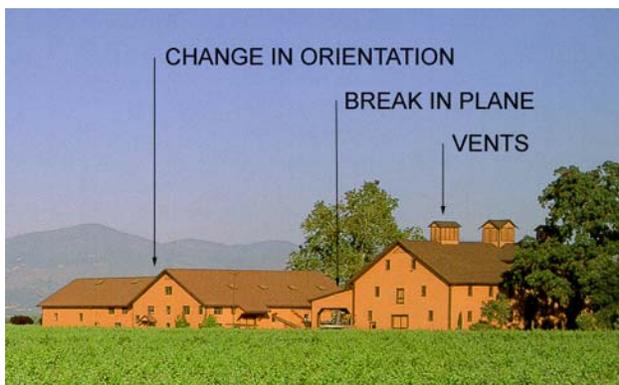
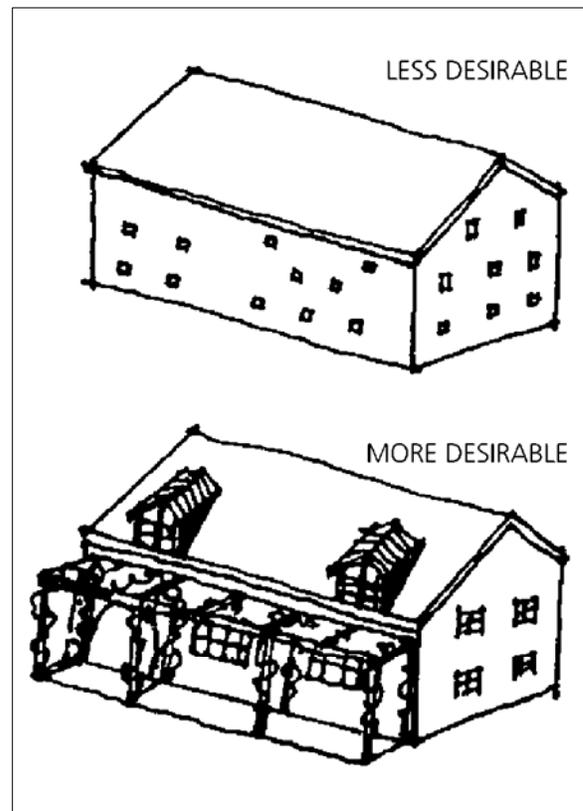
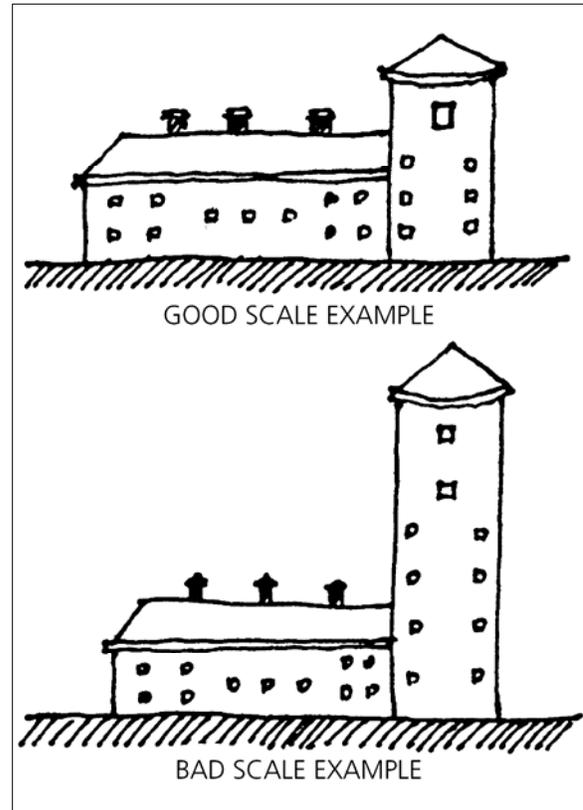
- Where a tower element is attached to a building, the height of the vertical tower should relate positively to the main building, not exceeding twice the height of the adjacent building elements. Stand-alone landmark features may include water towers and windmills.



- *Simplicity of form and proper proportion is a significant factor in the evaluation of proposed structures.*
 - *Service / utility areas should be recessed.*
1. *Maximum heights for commercial structures is 2 stories or 35 feet, except that one landmark or tower element may be up to 50 feet in height.*
 2. *Scale must be appropriate to use, site and context.*

Facade and Roof Form

- *Articulation of the building mass should create shadows and interest, especially in the primary buildings.*
- *Articulation of buildings should be achieved by use of related details and elements, and through repetition of details and elements, rather than by mixing poorly related elements.*
- *Some of the following architectural features may be incorporated to create visual interest: covered entry porch, arcades, trellises, covered walkways, barn-like elements, gables and dormers, horizontal architectural elements, or overhanging eaves.*
- *Roof form should be broken by a change in pitch, break in plane, or change in orientation. Flat or mansard roofs are not appropriate.*
- *Building elevations should be designed to be viewed from multiple angles, including front, rear and sides. A well-integrated continuity of materials, colors and detailing should be provided for all facades.*
- *Windows should be recessed into the wall plane. Small divisions of large glazed areas are encouraged (e.g., True divided light windows are preferred over large panes of glass). Windows should have a vertical proportion rather than a horizontal proportion. Avoid low grade, unpainted aluminum, or large expanses of undivided windowpanes.*
- *The style of architectural fixtures should be designed to match the building's architectural style.*
- *Metal vents and flashing should be integrated into the building design in a manner that enhances the visual image.*



- Plant materials should be used to screen down spouts, utilities and other unsightly exposed elements on primary buildings.
 - Utility buildings should be scaled with fenestration, proper roof pitch and eaves.
1. Wall mounted air conditioning units and roof mounted equipment shall be screened.

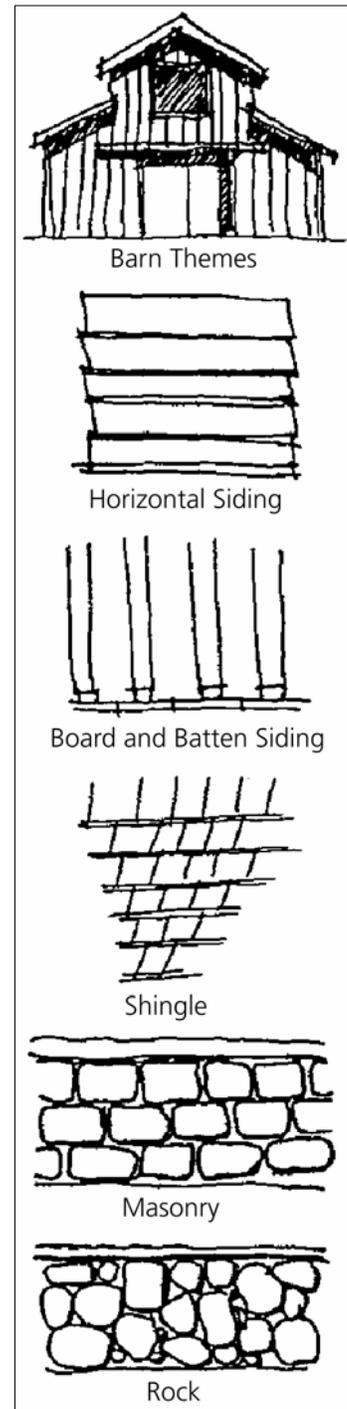
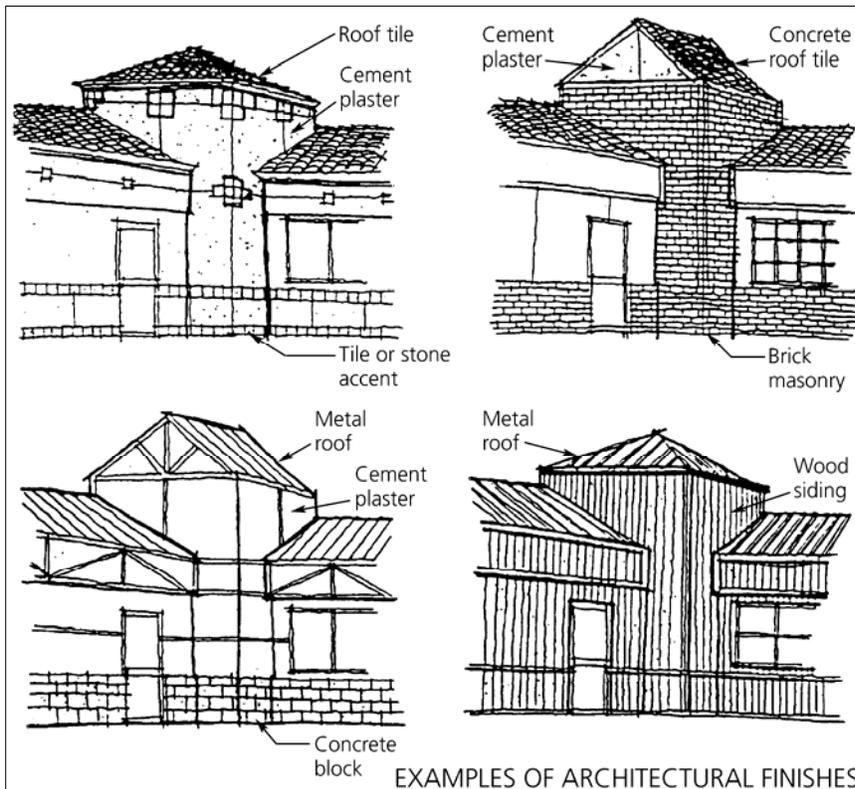


GOOD EXAMPLES OF FACADE AND ROOF FORM

Materials and Colors

- For primary buildings, use of natural materials such as wood, stone or brick is encouraged. Split face concrete block and stucco are also acceptable.
 - The authenticity of material used is the significant factor - other materials may be used if they fit appropriately into the Wine Country character.
 - Generally, tilt-up buildings are inappropriate for small sites.
 - Agricultural production / distribution buildings not directly viewed by public may use more utilitarian materials such as concrete block or cement plaster with metal roofing
 - The use of the following building materials is encouraged:
 - Roofs: Tile, composition, shingle, metal (standing seam and corrugated)
 - Walls: Horizontal siding, stone, brick, stucco, plaster, board & batten (plywood underneath is acceptable)
 - Chimney: Stone, brick, stucco, plaster
1. Colors shall be natural and subdued, in earth tone ranges. Light colors will be scrutinized by the Design Review Committee.
 2. Roof color shall be darker than wall color.
 3. Metal siding is not allowed.

12.3.2 SITE LAYOUT



The site layout determines the way in which one experiences the site. It creates sequences and relationships, defines spaces and uses, and preserves or screens views. It requires thoughtful consideration.

Setbacks

1. A 100 foot planted building setback is required from all public roadways for every commercial site except site 3A2 (small restaurant or tasting room at the proposed Concannon-Wente intersection).
2. Side and rear setbacks are stated in Section 12.2, Site Analysis and Site Specific Guidelines. Where no reference is made in that section, side and rear setbacks are 0 feet.

Entries

- The scale and character of each entry should reflect the business it represents.
- Continuation or repetition of entry elements into the site and at the structures is encouraged.
- The design plan for the entry should creatively blend planting, walls, signage, lighting and landmark elements into an understated composition that expresses a sense of welcome, entry, and identity. Landmark elements might include: low decorative walls, portals, or other memorable elements that draw the eye.
- Entries should to harmonize with the adjacent streetscape.
- Entries from the street should relate to automobile scale - entry elements should be large enough to create a sense of pass though for the automobile.

1. Entries shall be well defined and clearly visible from the street.
2. Materials used at entries shall be compatible and consistent with the architecture of the buildings on site.



Hierarchy & Transition

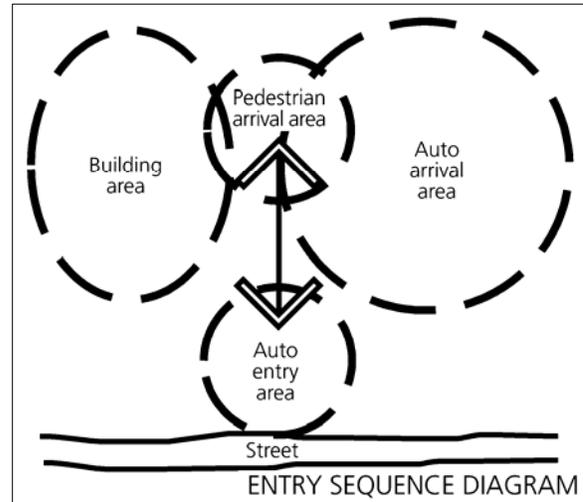
- Transition from parking to the building entry should include a portal or pergola. An "outdoor room" is encouraged as a part of that transition.
- An open space court or plaza should be defined by structures. The courtyard should relate to the buildings. It should be a usable place for eating and gathering.

1. Each commercial site must have a coherent sequence - entry from street, arrival area, parking, pedestrian entry, pedestrian outdoor area, public buildings.
2. Visual access shall be maximized from buildings and public areas into open space and agricultural areas.
3. The tasting room/public area of a winery serves as the primary building, or "homestead," with attached outdoor eating areas. This building shall be prominent.
4. Production/distribution buildings are comparable to farmstead outbuildings. These buildings shall be set back to a less prominent area.



Circulation

- **The circulation pattern should separate public/visitor areas from service/utility/production areas.**
1. *Vehicular and pedestrian circulation must be clearly defined.*
 2. *The pedestrian connection between parking areas and building entries shall be clear and safe.*



Production, Service, and Utility Areas

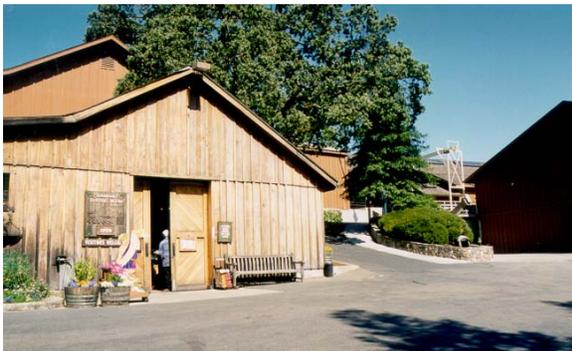
Production and service areas should be located so that trucks which are being loaded or unloaded do not disrupt the smooth flow of traffic on the site. Trucks should not block travel lanes.

- **Production areas are part of a real and working agricultural environment and certain elements do not need to be concealed.**
 - **Appropriate screening might include an architecturally compatible fence or wall, or a hedgerow of agricultural trees.**
 - **Winery/olive press shed, tractors, crushers, and tanks may be visible from public areas, provided they appear orderly and well maintained.**
 - **Publicly visible production areas are encouraged to be as small as practical and feasible, and should not be prominently located.**
 - **Publicly visible production areas should be clearly marked and defined. Signage and landscape treatment should distinguish the entries that serve the public from service entries.**
1. *Large production areas and large production buildings shall be screened from adjacent residential uses.*



Service and utility areas include loading areas, trash enclosures, and related uses.

1. *Service and loading areas shall be located away from pedestrian areas and screened with wall, fence, or landscape elements visually integrated with the building design.*
2. *Trash enclosures, ground-mounted transformers, gas meters, backflow prevention devices and air conditioning units shall be screened. The tops of trash enclosures which are directly visible from the second floor of any building shall be screened with a roof or overhead trellis.*
3. *All screening devices must relate to the architectural design of the surrounding buildings.*



Good example: production area is recessed and screened



Bad example: production area is prominent and exposed

12.3.3 LANDSCAPE & SITE ELEMENTS

The landscape should reflect an informal country setting with agrarian themes such as oak or sycamore clusters and grape arbors. Agrarian references such as remnant orchard grids and vineyard rows are encouraged as transitions to more formal landscaping that may occur near the buildings. Special riparian plantings should highlight creeks, ponds, low-lying drainages and swales.

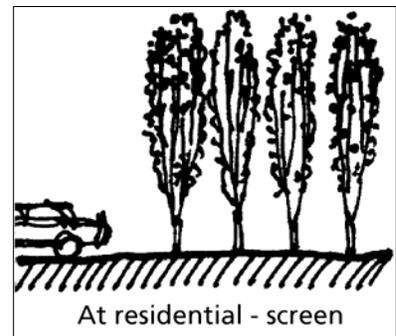
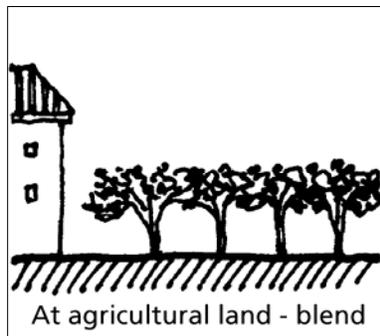
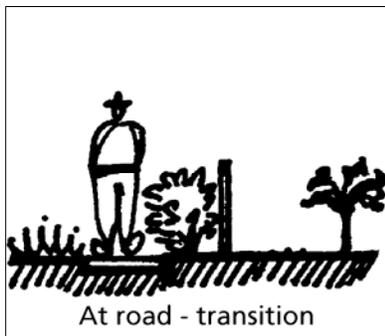
Landscaping

- Long expansive building walls, fencing, or paving should be visually broken with appropriate landscaping. Blank walls adjacent to service and production areas should incorporate trellis work with vines to soften the overall appearance.
- Informal landscape plantings should be used, to harmonize with the natural setting. Use of indigenous plant materials is encouraged.
- Landscaping should be used to create comfortable, appealing gathering spaces and outdoor eating areas.
- Appropriate placement of landscape materials provides summer shade on buildings, parking spaces, drives, and paths, and should be used to reduce the amount of energy needed for cooling.
- Clustering of trees is encouraged to create accents, or to screen undesirable views.
- Landscaping incorporated into the building design is encouraged, including trellises, arbors, and planters.
- Architectural elements such as trellises, arbors and pergolas should be used to define outdoor rooms and spaces, and to connect them visually and physically to adjoining buildings.
- Shade trees or trellised shade structures should dominate outdoor visitor picnic areas.
- Wherever possible, water drainage should be kept on the surface, using vegetated swales.



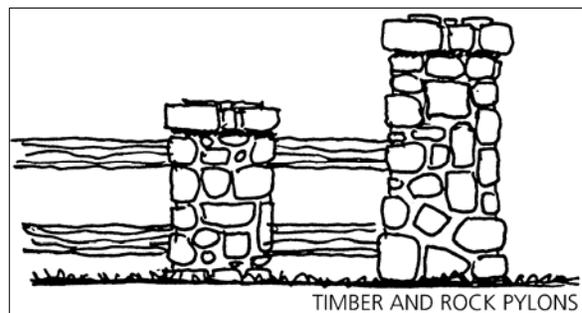
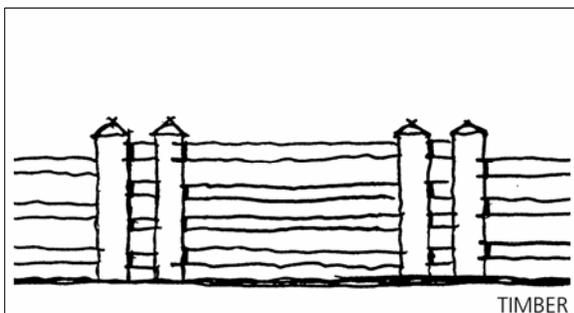
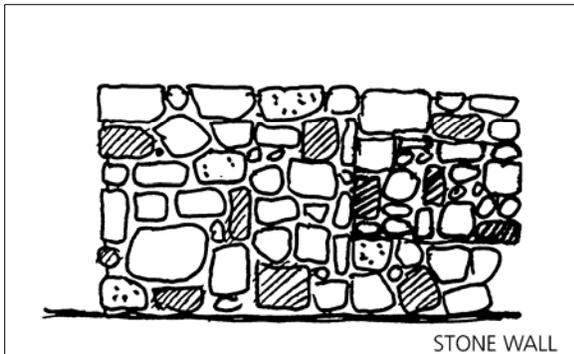
1. Buildings longer than 50 feet shall be screened along at least 20% of their length with appropriately placed planting.

Buffers/Edge Landscape



Fencing and Walls

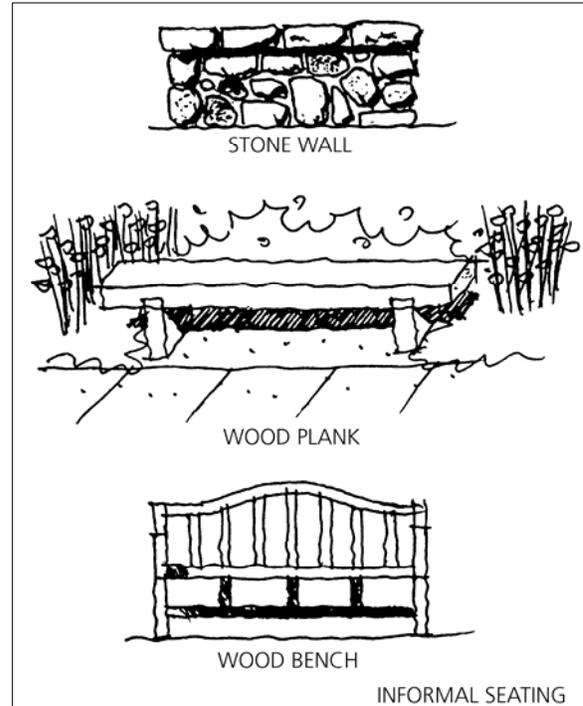
- **Visually related materials should be used to achieve contrast in styles while maintaining compatibility in materials.**
1. Fencing shall not obscure views into agricultural or natural areas, or to other desired views.
 2. Fences shall be of a materials and style which harmonizes with the rural setting.
 3. Fencing shall be compatible with the architectural character of the buildings.
 4. Fencing between parcels is not required unless it is used to mitigate land use or visual conflicts.
 5. Acceptable fences/walls include:
 - rail fence (split rail, three rail, subdued colors, see-through)
 - low stone or stucco walls (3 feet or less)
 - dry rock walls (3 feet or less)
 - agricultural fencing (e.g. post and grid wire mesh)
 - planted fences (e.g. espaliered plants, trellised vines, hedges)
 - picket fences in site interior
 6. Unacceptable fences/walls:
 - chain link
 - picket fences at roadside, unless use is restaurant or B&B, and the fence is compatible with the architecture



Outdoor Furniture and Hardscape

Well chosen outdoor furniture and appropriate hardscape materials can add richness to the public outdoor areas of the site. Furniture and hardscape should complement the architectural style of the buildings, relate to the buildings' materials, and harmonize with the rural setting.

- **Planters, benches and trash receptacles should be well designed. They should be constructed of materials that fit appropriately into the Wine Country character. Wood, stone or brick, wrought iron or powder coated tubular steel, and cast concrete may be acceptable materials.**
- **Paving materials such as brick and stone are encouraged for pedestrian paths and plazas. Decomposed granite or pea gravel is acceptable, as is toned concrete.**
- **Colors should be natural and subdued, in earth tone ranges.**



Plant Palette

Encouraged

(Native, agricultural,
drought resistant)

Trees

Almond	<i>Prunus triloba</i>
California Buckeye	<i>Aesculus californica</i>
California Pepper	<i>Schinus molle</i>
Canary Island Palm	<i>Phoenix canariensis</i>
Crabapple	<i>Malus ssp.</i>
Dogwood	<i>Cornus florida</i>
Fruit trees	Various
Oaks	<i>Quercus ssp.</i>
Olive	<i>Olea europaea</i>
Poplars	<i>Populus nigra italica,</i> <i>populus candicans</i>
Sycamore	<i>Platanus acerifolia</i>
Western Redbud	<i>Cercis occidentalis</i>
Willow	<i>Salix ssp.</i>

Discouraged

(Suburban)

Aristocrat Pear	<i>Pyrus calleryana</i> 'Aristocrat'
Eucalyptus	<i>Eucalyptus ssp.</i>
Liquidambar	<i>Liquidambar</i> <i>styraciflua</i>
Purple leaf plum	<i>Prunus cerasifolia</i>

Shrubs & Perennials

California Buckwheat	<i>Eriogonum fasciculatum</i>	India hawthorne	<i>Raphiolepis indica</i>
Ceanothus	<i>Ceanothus ssp.</i>	Oleander	<i>Nerium oleander</i>
Fleabane	<i>Erigeron karvinskianus</i>		
Lavender	<i>Lavandula ssp.</i>		
Lilac	<i>Syringa vulgaris</i>		
Manzanita	<i>Arctostaphylos ssp.</i>		
Rockrose	<i>Cistus ssp.</i>		
Rose	<i>Rosa ssp.</i>		
Rosemary	<i>Rosmarinus officinalis</i>		
Sage	<i>Salvia ssp.</i>		
Toyon	<i>Heteromeles arbutifolia</i>		
Tree Mallow	<i>Lavatera ssp.</i>		

12.3.4 PARKING

The establishment of parking lot size and location is a function of several key factors, including the purpose of each auto user's visit, duration of the stay, proximity to alternate parking areas, street access and visibility, perceived walking distance, safety, and degree of weather protection. Thoughtful consideration is required during site plan development to minimize the visual impact of parking and maximize convenience for the user.

In the Wine Country setting, parking areas are less formal than in an urban setting. This is achieved with softer paving and edges, landscaping, and breaking parking into sub areas.

The goal of the parking guidelines and standards is to maintain the country ambience while maximizing convenience and comfort, and facilitating the smooth flow of traffic.

Minimum Off-Site Parking Requirements

Public parking shall be provided as follows:

1. Wineries and Olive Press: One permanent space per 200 square feet of tasting room or retail area. One permanent space per 1000 square feet of warehouse/production area. Because the production and tasting uses are likely to have different peak usage periods, the required spaces may be shared. In addition to the required permanent parking spaces required, overflow parking shall be provided at the

rate of two times the number of spaces required for the tasting/retail use. Access and accommodation for tour busses must be made, including drop off within a reasonable distance from the pedestrian entry, and at least one bus parking space in the overflow parking area. Paving for "permanent" and "overflow" parking are described in "Paving Materials," below.

2. Restaurant: One space for each three restaurant seats, including indoor and outdoor dining areas.
3. Lodging: One space for each sleeping unit, plus one space for each ten such units.
4. Wine Country Center: One space for each 200 square feet of retail floor area.
5. Bicycle parking shall be provided at the rate of 20% of the number of required automobile parking spaces, with a minimum of four bicycle parking spaces.

Paving Materials

1. Asphalt paving is required for the first 50 feet of driveway into each property, measured from the public right-of-way.
2. Commercial center and wine country inn parking must be paved.
3. At least 50% of the commercial center parking area shall drain into a vegetated swale before draining into the City storm drain system or into a creek.
4. Restaurant parking must be at least 50% paved, and may be 50% hard packed.
5. Winery and olive press permanent parking may be up to 100% hard packed.
6. No curb and gutter construction shall be allowed.
7. Paved parking areas may consist of asphalt. Chip seal shall not be used as a parking lot surface. Hard packed parking areas may consist of decomposed granite or gravel.
8. Overflow parking may include areas of grass or of packed dirt, so long as clearly delineated. If compatible with the architecture, other materials such as stamped concrete may be allowed, although not encouraged.
9. Parking areas and driveways may be edged by wood or stone. Soft edges lined by swales are preferred.
10. Wheel stops may be constructed of stone, concrete, wood, or tree trunks.



Minimum Dimensions

1. Parking stalls shall be at least 9.5 feet by 19 feet. Up to 30% of the total number may be compact spaces, with a dimension of 9.5 feet by 16 feet.
2. Minimum driveway width for a two-way drive with 90-degree angle parking is 24 feet. Minimum driveway width for a one-way drive is 13 feet.
3. Pedestrian walkways shall be a minimum of 5 feet in width.
4. A landscape strip separating two rows of parking stalls shall be a minimum of 9 feet wide.

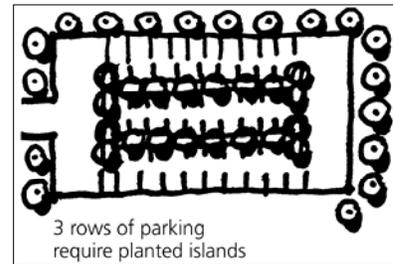
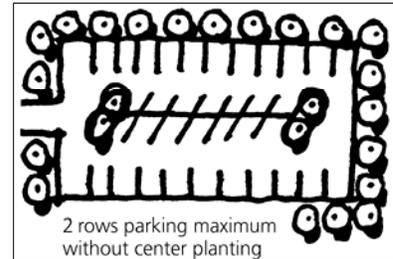


Parking Lots and Driveways

- The parking layout should be functionally and visually integrated with other site components.
- Parking areas should be designed to maximize the flow and visual experience of pedestrians, cyclists, and motorists, while maintaining safe sightlines.

- The primary driveway access should focus on building entry or outdoor entry room.
- Parking areas should be designed to avoid placing cars directly in front of a building entry.
- Informal parking and landscape concepts shall be permitted to maintain the rural character.
- Planting or architectural walls should define the edge where parking abuts pedestrian areas.
- Perimeter trees provide definition to parking areas, and help to screen to residential areas from glare.

1. Shade trees shall be planted in parking areas at the rate of one tree per 6 spaces. Shade trees should normally achieve a minimum canopy diameter of 40 feet at maturity. All parking lots, regardless of size, shall include trees for shade purposes.
2. Two rows of parking is the maximum allowed without substantial landscaping separation. Landscape islands are required at the end of parking rows.
3. All landscaped areas shall be a minimum of 10 feet wide from pavement to pavement. 2 ½ feet of overhang beyond wheel stops is acceptable. Curbs may not be required around planters and tree wells.
4. Large parking areas shall be divided into smaller sub areas with landscaping and pedestrian walks. Landscape islands shall be used to break up parking areas and provide shade.
5. Access driveways shall provide adequate length to accommodate off-street vehicle stacking needs during times of peak use.
6. A clear and safe pedestrian connection shall be provided from the parking area to the building entry.
7. Bicycle parking shall be located in areas where visual surveillance is possible.



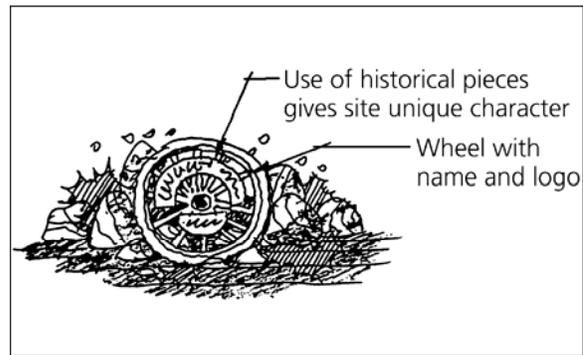
12.3.5 SIGNAGE

The signage program is an important element in providing identity and character. Well-designed signs enhance the streetscape environment as well as communicate a retailer's business message. Few outward features of a business display the owner's confidence and quality as well as signage.

Signage Requirements

1. The City of Livermore's Sign Ordinance (Chapter 21.70 of the Zoning Ordinance), shall apply to commercially designated property within the South Livermore Valley area, with the following exceptions:
 - Signs mounted on entry walls at an entry driveway may be parallel, perpendicular or diagonal to the street.
 - Where signs are mounted on entry walls on either side of an entry driveway, calculation of the sign area shall be as if the signs are back-to-back and attached to opposite sides of a supporting structure. These signs shall be considered to be "freestanding signs."
 - A freestanding sign up to eight feet in height may be a monument sign.
2. In addition to the temporary signs allowed under the City of Livermore's Zoning Ordinance, permanent signs are permitted on commercially designated property within the South Livermore Valley Specific Plan as follows:
 - The maximum aggregate sign area for all signs except freestanding signs is as follows:
 - For primary building frontage, the allowable sign area is ten square feet for each parcel, plus one square foot for each lineal foot of the first fifty feet of building frontage, plus one square foot for each two lineal feet of building frontage in excess of fifty feet, to a maximum of one hundred and fifty square feet.

- If more than one use exists on a parcel, in addition to the allowable sign area above, each additional use is permitted ten square feet of sign area, which must be placed on the premises occupied by that use.
- Only the following types of signs permitted:
 - Awning. A single awning sign which does not exceed two thirds of the length of the tenant space to which the sign pertains, and limited to eight inches in height for the sign copy.
 - Canopy. A single canopy sign which does not exceed twelve inches in height or four feet in length and cannot be placed above the roof eave.
 - Freestanding. Each parcel may have one freestanding sign which may be externally illuminated, and which does not exceed eight feet in height or fifteen feet in area. If the freestanding sign is in the form of an entry arch, its letters may be no more than 18 inches in height, the maximum sign area shall not exceed 10 square feet, and the maximum sign height shall not exceed 20 feet.
 - Wall. A wall sign.
 - Directional blade signs on Wine Country Trail posts. Maximum size 2 square feet.
- 3. At the retail/commercial center, the overall length of an awning, canopy, or wall sign shall not exceed two-thirds (2/3) of the storefront exposure. Individual tenant signs in the retail/commercial center shall be restricted to awning, canopy, or wall type signs.
- 4. Only external illumination is allowed. No neon or exposed lamps are allowed.
- 5. Signs shall be designed so as not to obstruct any pedestrian, bicyclist or driver's view of the street right-of-way.



Guidelines

- Building mounted signs are encouraged to be designed integrally with the architecture. Sign scale should be appropriate to the structure.
- Emphasis on retail/commercial storefront signage shall be placed on imaginative designs which depart from traditional methods and placements of signage, such as canopy signs and awning signs.

- Individual letters shall generally be a maximum of 18 inches in height.
- Signs need not be illuminated, and generally, should not be lit after normal business hours.
- Signs may incorporate an area wide logo. Business identification logos are considered signs.
- Signs, and the walls, poles, and supports on which they are mounted, should be constructed of simple, natural appearing materials, such as stone or wood. Rustic and historic styles are encouraged.

12.3.6 LIGHTING

Lighting should be kept minimal, given the rural character of the area. Alternatives that can lower potential lighting impacts include: low intensity street lights, low elevation light poles, and shielding by internal silvering of the globe or use of external opaque reflectors to direct light at ground.

- In keeping with the rural character of the area, lighting should not be continuous along the street.
 - Lighting should be minimal, located at decision and destination points such as intersections and entries.
 - Street light fixtures should be simple, reflecting the rural character.
 - Site lighting should be compatible with the country setting.
 - Light should be predominantly down directed, and should not create a glare hazard on streets or be annoying to adjacent properties or residential areas.
 - Lighting fixtures should not be “applied” appendages to the building exterior. Rather, lighting for security, visibility, or architecture enhancement of the building should be compatible and consistent with the building design.
 - Lighting should be used to define entries.
 - Illumination should focus on architectural and landscape elements.
 - Landscape lighting should be used to highlight trees and planting compositions. Uplighting is encouraged for creating accents.
1. Lighting shall be adequate for public safety. One foot candle power of light is suitable for entries, parking areas, and pedestrian paths to building entries.
 2. Light poles for external lighting shall not exceed 16 feet in height and shall include a device to control glare. Only the intended area shall be illuminated.



Appendices



Appendix A

Proposed Improvements to Main Roadways

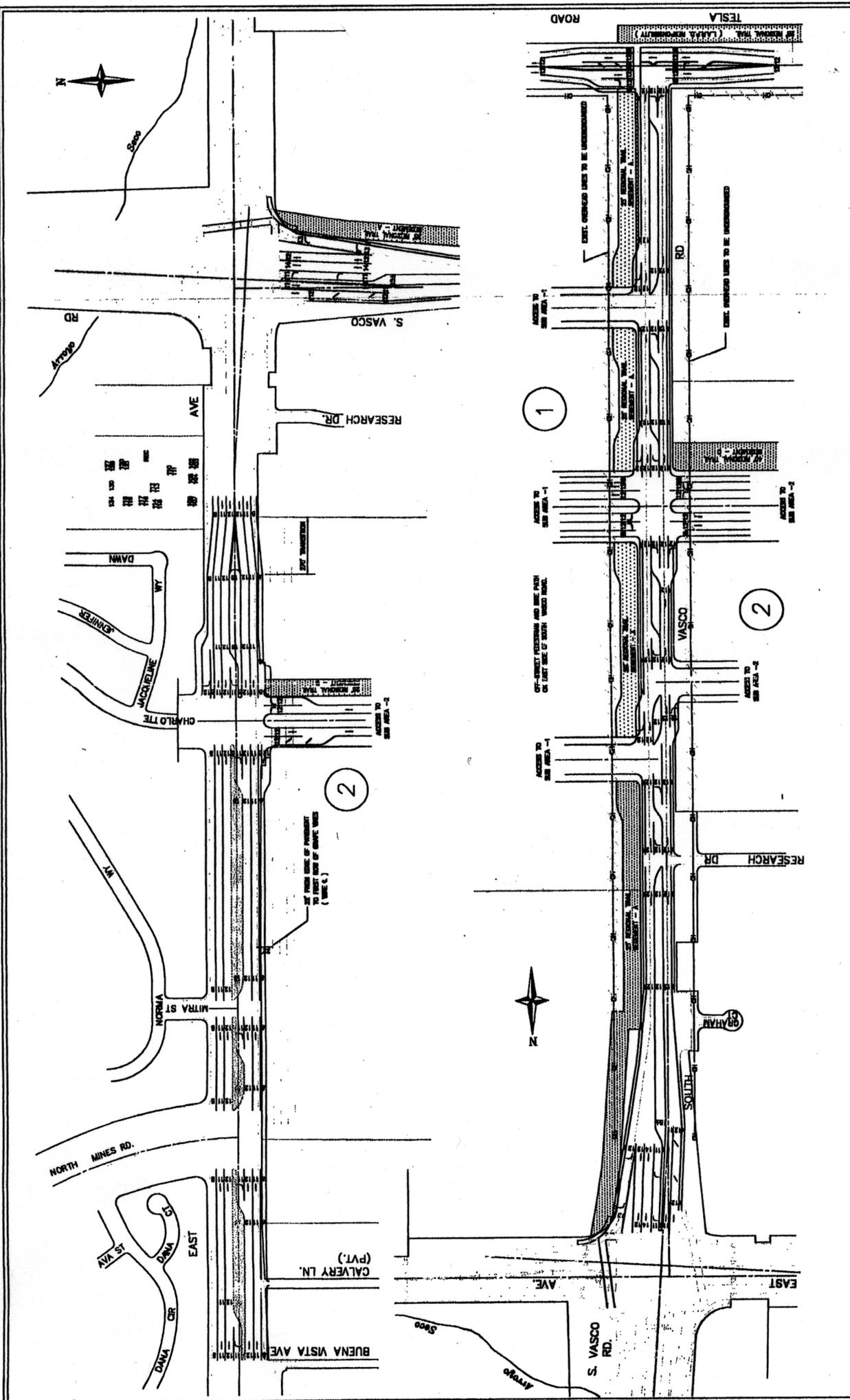


**PROPOSED IMPROVEMENTS TO
MAIN ROADWAYS
SOUTH VALLEY PLAN**

NO.	DATE	BY

CITY OF LIVERMORE
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

SCALE: N.E. 1/4" = 100'
DATE: APR. 1977
PROJECT NO. 07-32
SHEET NO. 1



CITY OF LIVERMORE
 DEPARTMENT OF PUBLIC WORKS
 ENGINEERING DIVISION



PROPOSED IMPROVEMENTS TO
 MAIN ROADWAYS
 SOUTH VALLEY PLAN

DATE	BY

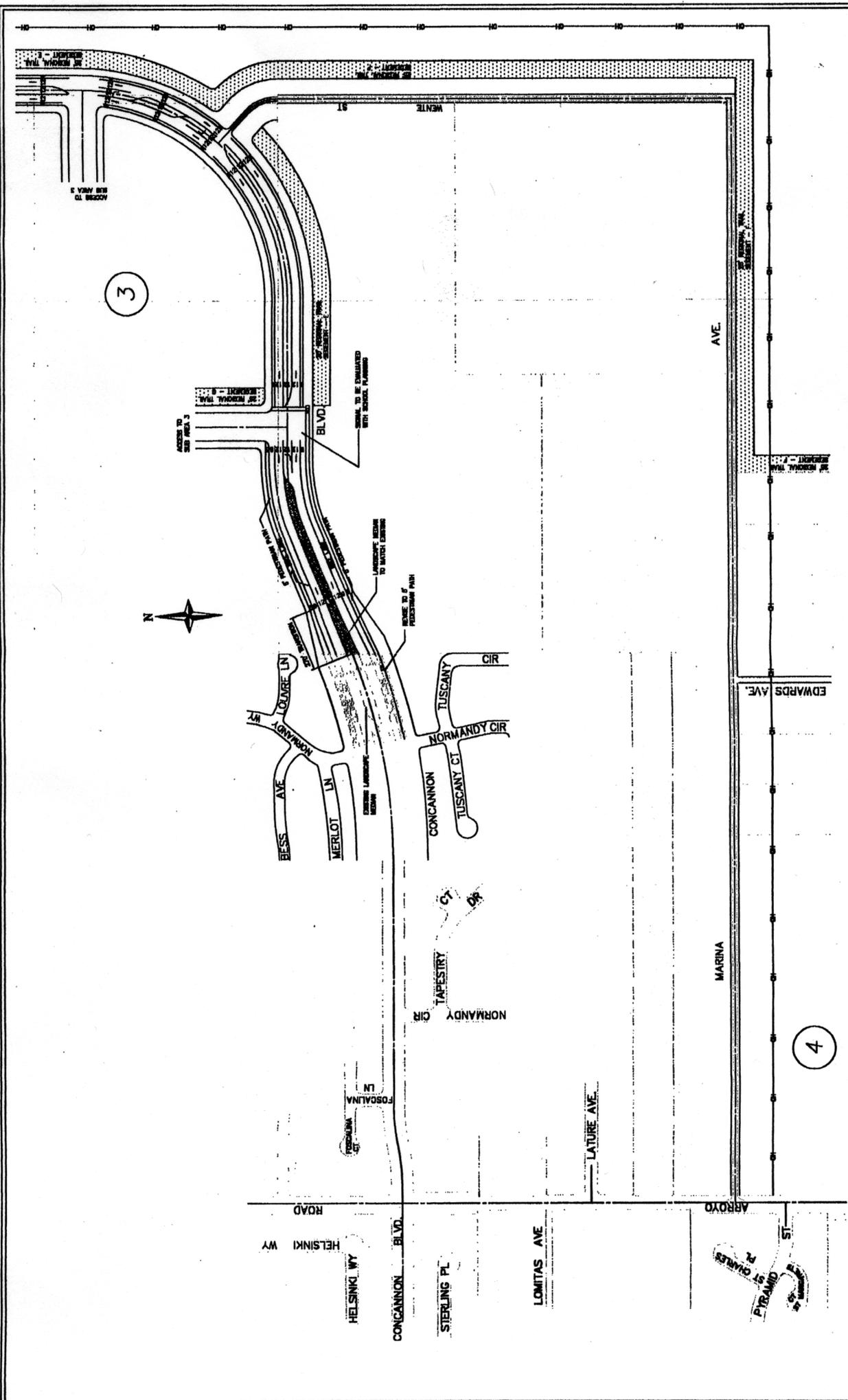
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 DRAWN BY: J. B. BROWN
 PROJECT NO.: 18-002
 SHEET NO.: 3

SCALE: 1" = 40'

DATE: 11/15/18

PROJECT NO.: 18-002

SHEET NO.: 3



3

4

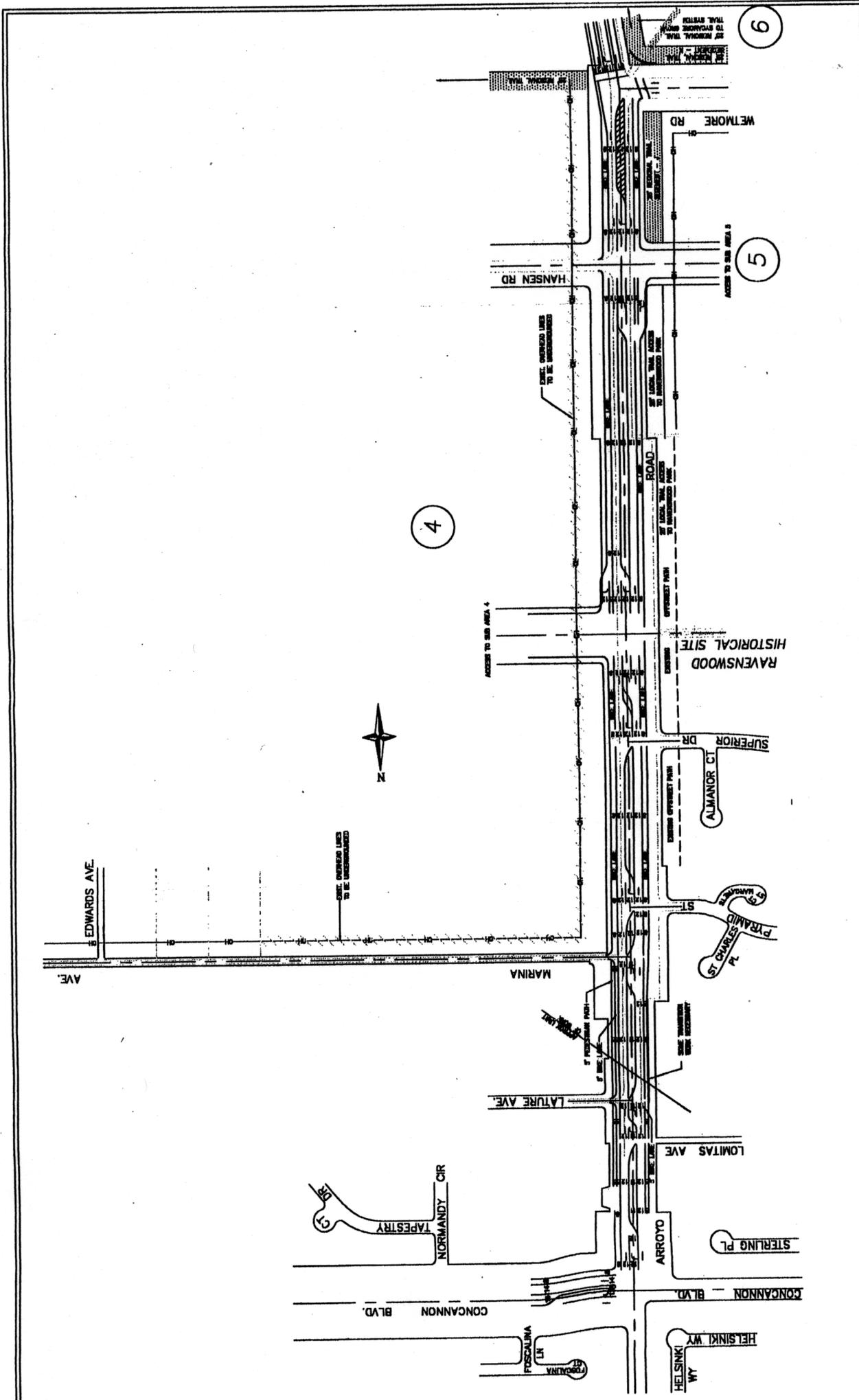
CITY OF LIVERMORE
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION



PROPOSED IMPROVEMENTS
MAIN ROADWAYS
SOUTH VALLEY PLAN

NO.	DATE	BY	REVISIONS

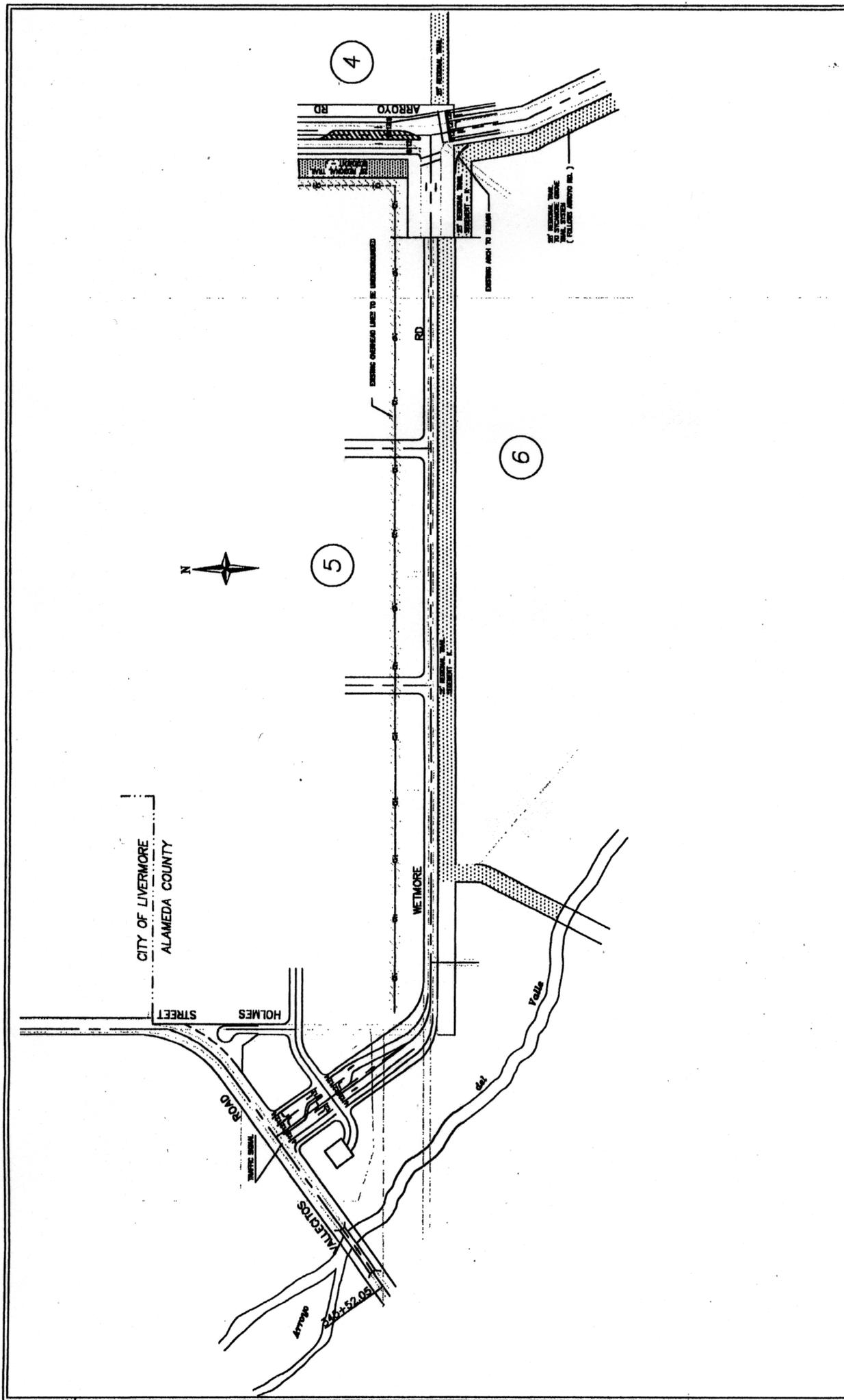
SCALE: 1" = 40'	DATE: 03/17/08	SHEET: 4
DRAWN BY: [blank]	PROJECT NO.: 03-02	SHEET: 4
CHECKED BY: [blank]	DATE: [blank]	SHEET: 4

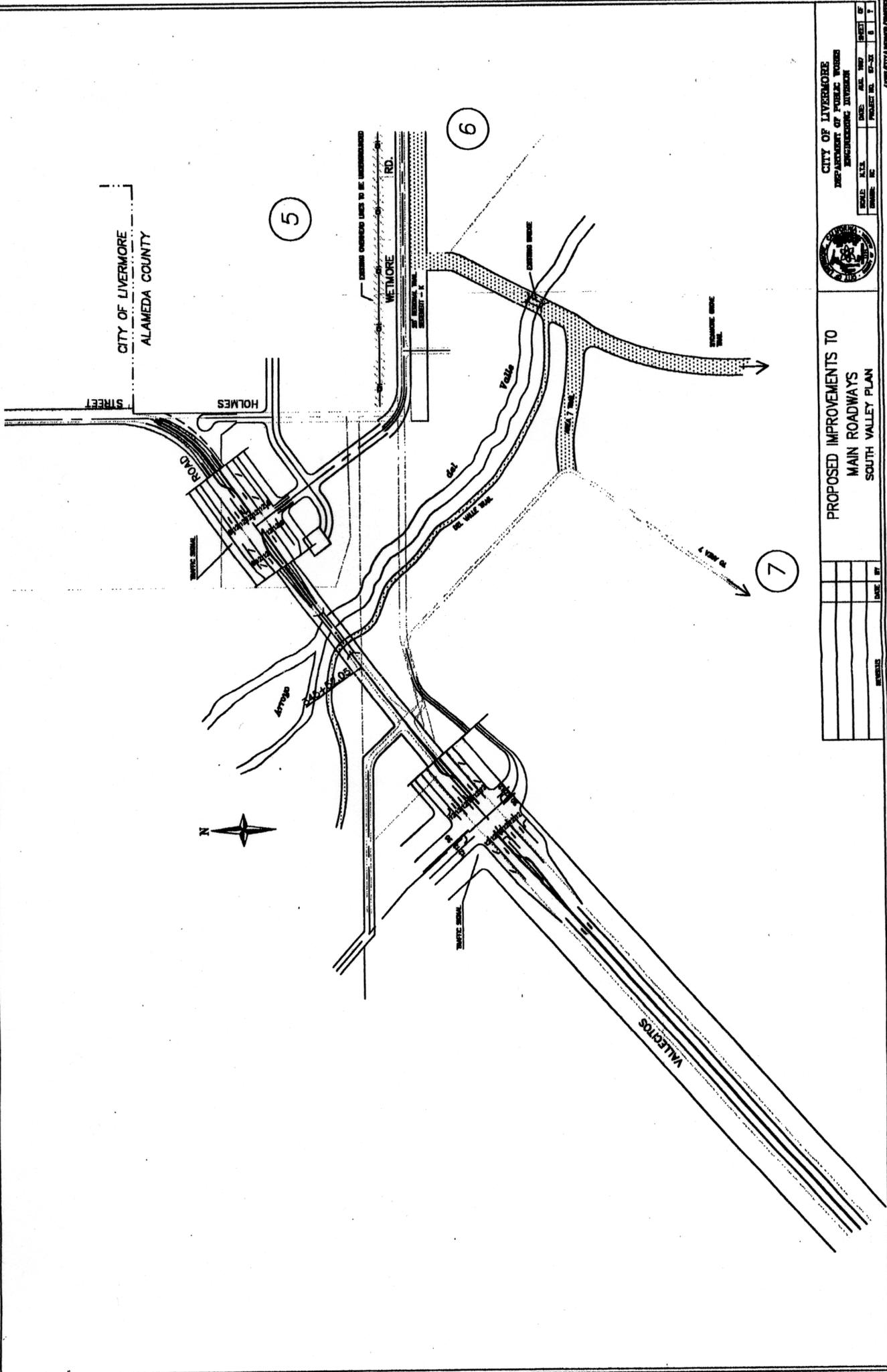




PROPOSED IMPROVEMENTS
 MAIN ROADWAYS
 SOUTH VALLEY STUDY

REVISIONS	DATE	BY





CITY OF LIVERMORE
ALAMEDA COUNTY

HOLMES ROAD

EXISTING OVERHEAD LINES TO BE UNDERGROUND
WETMORE RD.

6

5

7



PROPOSED IMPROVEMENTS TO
MAIN ROADWAYS
SOUTH VALLEY PLAN

REVISIONS	DATE	BY

CITY OF LIVERMORE
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
PROJECT NO.:	DATE:	PROJECT NO.:	DATE:
FIGURE NO.:	DATE:	PROJECT NO.:	DATE:

Appendix B

Preliminary Engineer's Cost Estimate

Subarea 1
In Tract Costs
 133 Units

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Finished Pad Grading	186,732	c.y.	\$0.40	\$74,692.80
			Subtotal	\$74,692.80
STREET WORK				
2 Collector Street	0	l.f.	\$75.00	\$0.00
3 Minor Street	4,800	l.f.	\$69.00	\$331,200.00
4 Parking Bays (1.5 per unit)	89	each	\$212.00	\$18,868.00
5 Street Trees (1 per 50' street)	96	each	\$120.00	\$11,520.00
			Subtotal	\$361,588.00
STORM DRAIN				
6 Storm Drain Line	1,320	l.f.	\$40.00	\$52,800.00
7 Storm Drain Structures	7	each	\$1,500.00	\$10,500.00
			Subtotal	\$63,300.00
SANITARY SEWER				
8 Manholes	12	each	\$2,000.00	\$24,000.00
9 Laterals	133	each	\$400.00	\$53,200.00
10 Sewer Line	4,800	l.f.	\$40.00	\$192,000.00
			Subtotal	\$269,200.00
WATER SUPPLY				
11 Water Services	133	each	\$450.00	\$59,850.00
12 Fire Hydrants	12	each	\$1,800.00	\$21,600.00
13 Water Line	4,800	l.f.	\$30.00	\$144,000.00
			Subtotal	\$225,450.00
ELECTRICAL				
14 Underground Electric (Joint Trench)	4,800	l.f.	\$30.00	\$144,000.00
15 Underground Electric Laterals	3,325	each	\$20.00	\$66,500.00
16 Electroliers	19	each	\$2,000.00	\$38,000.00
			Subtotal	\$248,500.00
			Subtotal Construction Cost	\$1,242,730.80
			20% Contingency	\$248,546.16
			TOTAL Construction Cost	\$1,491,276.96

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

**Subarea 1
 Backbone Costs**

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Earthwork (1' over developed areas)	90,347	c.y.	\$3.00	\$271,041.00
			Subtotal	\$271,041.00
STREETWORK				
2 Major Street with Median	300	l.f.	\$105.00	\$31,500.00
3 Collector Street	3,600	l.f.	\$75.00	\$270,000.00
4 Minor Street	0	l.f.	\$69.00	\$0.00
5 Street Trees (1 per 50' Street)	78	each	\$120.00	\$9,360.00
			Subtotal	\$310,860.00
STORMDRAIN				
6 Offsite Storm Drain (48" in ex st. sha)	1	l.s.	\$40,000.00	\$40,000.00
7 Storm Drain Line	3,120	l.f.	\$40.00	\$124,800.00
8 Storm Drain Structures	16	each	\$1,500.00	\$24,000.00
9 Storm Drain Detention Basin	6	ac-ft	\$10,000.00	\$60,000.00
			Subtotal	\$248,800.00
SANITARY SEWER				
10 Manholes	10	each	\$2,000.00	\$20,000.00
11 Sewer Line	3,900	l.f.	\$40.00	\$156,000.00
12 Sewer in East Ave (share w/2)	1	l.f.	\$61,600.00	\$61,600.00
			Subtotal	\$237,600.00
WATER SUPPLY				
13 Fire Hydrants	10	each	\$1,800.00	\$18,000.00
14 Water Line	3,900	l.f.	\$30.00	\$117,000.00
			Subtotal	\$135,000.00
ELECTRICAL				
15 Underground Electric Joint Trench	3,900	l.f.	\$30.00	\$117,000.00
16 Electroliers	16	each	\$2,000.00	\$32,000.00
			Subtotal	\$149,000.00
			Subtotal Construction Cost	\$1,352,301.00
			20% Contingency	\$270,460.20
			TOTAL Construction Cost	\$1,622,761.20

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

Subarea 2
In Tract Costs
 574 Units

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Finished Pad Grading	414,000	s.y.	\$0.40	\$165,600.00
			Subtotal	\$165,600.00
STREET WORK				
2 Minor Street	16,800	l.f.	\$69.00	\$1,159,200.00
3 Parking Bay (1.5 per unit)	383	each	\$212.00	\$81,196.00
4 Street Trees (1 per 50' street)	336	each	\$120.00	\$40,320.00
			Subtotal	\$1,280,716.00
STORM DRAIN				
5 Storm Drain line	13,440	l.f.	\$40.00	\$537,600.00
6 Storm Drain Structures	67	each	\$1,500.00	\$100,500.00
			Subtotal	\$638,100.00
SANITARY SEWER				
7 Manholes	42	each	\$2,000.00	\$84,000.00
8 Laterals	574	each	\$400.00	\$229,600.00
9 Sewer Line	16,800	l.f.	\$40.00	\$672,000.00
			Subtotal	\$985,600.00
WATER SUPPLY				
10 Water Services	574	each	\$450.00	\$258,300.00
11 Fire Hydrants	42	each	\$1,800.00	\$75,600.00
12 Water Line	16,800	l.f.	\$30.00	\$504,000.00
			Subtotal	\$837,900.00
ELECTRICAL				
13 Underground Electric (Joint Trench)	16,800	l.f.	\$30.00	\$504,000.00
14 Underground Electric Laterals	14,350	each	\$20.00	\$287,000.00
15 Electroliers	67	each	\$2,000.00	\$134,000.00
			Subtotal	\$925,000.00
			Subtotal Construction Cost	\$4,832,916.00
			20% Contingency	\$966,583.20
			TOTAL Construction Cost	\$5,799,499.20

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

**Subarea 2
 Backbone Costs**

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Earthwork (1' over developed area)	338,800	c.y.	\$3.00	\$1,016,400.00
			Subtotal	\$1,016,400.00
STREET WORK				
2 Major Street with Median	5,000	l.f.	\$105.00	\$525,000.00
3 Collector Street	15,200	l.f.	\$75.00	\$1,140,000.00
4 Minor Street	300	l.f.	\$69.00	\$20,700.00
5 Street Trees (1 per 50' Street)	410	each	\$120.00	\$49,200.00
			Subtotal	\$1,734,900.00
STORM DRAIN				
6 Offsite Storm Drain in East Avenue (pro rated)	1	l.s.	\$400,000.00	\$400,000.00
7 Storm Drain Line	16,400	l.f.	\$40.00	\$656,000.00
8 Storm Drain Structures	82	each	\$1,500.00	\$123,000.00
9 Storm Drain Detention Basin	12	ac-ft	\$10,000.00	\$120,000.00
			Subtotal	\$1,299,000.00
SANITARY SEWER				
10 Manholes	110	each	\$2,000.00	\$220,000.00
11 Sewer Line	20,500	l.f.	\$40.00	\$820,000.00
12 12" Sewer in East Ave	1	l.s.	\$246,400.00	\$246,400.00
			Subtotal	\$1,286,400.00
WATER SUPPLY				
13 Fire Hydrants	51	each	\$1,800.00	\$91,800.00
14 Water Line	20,500	l.f.	\$30.00	\$615,000.00
			Subtotal	\$706,800.00
ELECTRICAL				
15 Underground Electric (Joint Trench)	20,500	l.f.	\$30.00	\$615,000.00
16 Electroliers (1 per 250 l.f.)	82	each	\$2,000.00	\$164,000.00
			Subtotal	\$779,000.00
			Subtotal Construction Cost	\$6,822,500.00
			20% Contingency	\$1,364,500.00
			TOTAL Construction Cost	\$8,187,000.00

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

Subarea 3
In Tract Costs
 177 Units

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Finished Pad Grading	281,200	s.y.	\$0.40	\$112,480.00
			Subtotal	\$112,480.00
STREET WORK				
2 Minor Street	9,600	l.f.	\$69.00	\$662,400.00
3 Parking Bay (.5 per unit)	118	each	\$212.00	\$25,016.00
4 Street Trees (1 per 50' street)	192	each	\$120.00	\$23,040.00
			Subtotal	\$710,456.00
STORM DRAIN				
5 Storm Drain line	7,680	l.f.	\$40.00	\$307,200.00
6 Storm Drain Structures	38	each	\$1,500.00	\$57,000.00
			Subtotal	\$364,200.00
SANITARY SEWER				
8 Manholes	24	each	\$2,000.00	\$48,000.00
9 Laterals	177	each	\$400.00	\$70,800.00
10 Sewer Line	9,600	l.f.	\$40.00	\$384,000.00
			Subtotal	\$502,800.00
WATER SUPPLY				
11 Water Services	177	each	\$450.00	\$79,650.00
12 Fire Hydrants)	24	each	\$1,800.00	\$43,200.00
13 Water Line	9,600	l.f.	\$30.00	\$288,000.00
			Subtotal	\$410,850.00
ELECTRICAL				
14 Underground Electric (Joint Trench)	9,600	l.f.	\$30.00	\$288,000.00
15 Underground Electric Laterals	4,425	l.f.	\$20.00	\$88,500.00
16 Electroliers	38	each	\$2,000.00	\$76,000.00
			Subtotal	\$452,500.00
			Subtotal Construction Cost	\$2,553,286.00
			20% Contingency	\$510,657.20
			TOTAL Construction Cost	\$3,063,943.20

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

**Subarea 3
 Backbone Costs**

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Earthwork (1' over developed area)	81,000	c.y.	\$3.00	\$243,000.00
			Subtotal	\$243,000.00
STREET WORK				
2 Major Street with Median	700	l.f.	\$75.00	\$52,500.00
3 Collector Street	4,250	l.f.	\$75.00	\$318,750.00
4 Street Trees (1 per 50' Street)	14	each	\$120.00	\$1,680.00
			Subtotal	\$372,930.00
STORM DRAIN				
5 Storm Drain Line	3,960	l.f.	\$40.00	\$158,400.00
6 Storm Drain Structures	20	each	\$1,500.00	\$30,000.00
7 Storm Drain Line (42" offsite)	1,000	l.f.	\$70.00	\$70,000.00
8 Easement for Storm Drain Line	15,000	s.f.	\$3.00	\$45,000.00
			Subtotal	\$258,400.00
SANITARY SEWER				
9 Manholes	6	each	\$2,000.00	\$12,000.00
10 Sewer Line	2,500	l.f.	\$40.00	\$100,000.00
11 Off-Site Sewer Line	1,500	l.s	\$100.00	\$150,000.00
			Subtotal	\$262,000.00
WATER SUPPLY				
12 Fire Hydrants	33	each	\$1,800.00	\$59,400.00
13 Water Line	700	l.f.	\$30.00	\$21,000.00
14 Improvements to Pump Sta 26	1	l.s	\$85,000.00	\$85,000.00
15 Additonal Zone 7 Connection (portion)	1	l.s	\$35,000.00	\$35,000.00
			Subtotal	\$200,400.00
ELECTRICAL				
16 Underground Electric (Joint Trench)	2,500	l.f.	\$30.00	\$75,000.00
17 Electroliers (1 per 250 l.f.)	3	each	\$2,000.00	\$6,000.00
			Subtotal	\$81,000.00
			Subtotal Construction Cost	\$1,417,730.00
			20% Contingency	\$283,546.00
			TOTAL Construction Cost	\$1,701,276.00

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

Subarea 4
In Tract Costs
 127 Units

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Finished Pad Grading	87,500	s.y.	\$0.40	\$35,000.00
			Subtotal	\$35,000.00
STREET WORK				
2 Minor Street	7,800	l.f.	\$69.00	\$538,200.00
3 Collector Street	0	l.f.	\$105.00	\$0.00
4 Parking Bay (1.5 per unit)	191	each	\$212.00	\$40,492.00
5 Street Trees (1 per 50' street)	156	each	\$120.00	\$18,720.00
			Subtotal	\$597,412.00
STORM DRAIN				
6 Storm Drain Line	6,100	l.f.	\$40.00	\$244,000.00
7 Storm Drain Structures	31	each	\$1,500.00	\$46,500.00
8 Culvert Crossings	2	each	\$9,000.00	\$18,000.00
			Subtotal	\$308,500.00
SANITARY SEWER				
9 Manholes	20	each	\$2,000.00	\$40,000.00
10 Laterals	127	each	\$400.00	\$50,800.00
11 Sewer Line	7,800	l.f.	\$40.00	\$312,000.00
			Subtotal	\$402,800.00
WATER SUPPLY				
12 Water Services	127	each	\$450.00	\$57,150.00
13 Fire Hydrants	20	each	\$1,800.00	\$36,000.00
14 Water Line	7,800	l.f.	\$30.00	\$234,000.00
			Subtotal	\$327,150.00
ELECTRICAL				
15 Underground Electric (Joint Trench)	7,800	l.f.	\$30.00	\$234,000.00
16 Underground Electric Laterals	3,175	each	\$50.00	\$158,750.00
17 Electroliers	31	each	\$1,500.00	\$46,500.00
			Subtotal	\$439,250.00
			Subtotal Construction Cost	\$2,110,112.00
			20% Contingency	\$422,022.40
			TOTAL Construction Cost	\$2,532,134.40

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

**Subarea 4
 Backbone Costs**

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Earthwork (1' over 46 acre area in NW)	74,200	c.y.	\$3.00	\$222,600.00
			Subtotal	\$222,600.00
STREET WORK				
2 Major Street with Median	900	l.f.	\$105.00	\$94,500.00
3 Collector Street	4,200	l.f.	\$75.00	\$315,000.00
4 Minor Street	0	l.f.	\$69.00	\$0.00
5 Street Trees (1 per 50' street)	102	each	\$120.00	\$12,240.00
			Subtotal	\$421,740.00
STORM DRAIN				
6 Retention Ponds	3	each	\$10,000.00	\$30,000.00
7 Offsite Storm Drain Line (in ex. street)	600	l.f.	\$100.00	\$60,000.00
8 Storm Drain Detention Basin	6	each	\$10,000.00	\$60,000.00
			Subtotal	\$150,000.00
SANITARY SEWER				
9 Manholes	13	each	\$2,000.00	\$26,000.00
10 Sewer Line	5,100	l.f.	\$40.00	\$204,000.00
11 Off-Site Sewer Line (in ex. street)	600	l.s.	\$80.00	\$48,000.00
			Subtotal	\$278,000.00
WATER SUPPLY				
12 Offsite Water Line (in ex. street)	600	l.f.	\$60.00	\$36,000.00
13 Water Line	5,100	l.f.	\$30.00	\$153,000.00
14 Fire Hydrants	13	each	\$1,800.00	\$23,400.00
15 Reservoir (above ground steel tank)	1	l.s.	\$590,000.00	\$590,000.00
16 Improvements to Pump Station 26	1	l.s.	\$85,000.00	\$85,000.00
17 Additonal Zone 7 Connection (portion)	1	l.s.	\$35,000.00	\$35,000.00
			Subtotal	\$922,400.00
ELECTRICAL				
18 Underground Electric (Joint Trench)	5,100	l.f.	\$30.00	\$153,000.00
19 Electroliers	20	each	\$2,000.00	\$40,000.00
			Subtotal	\$193,000.00
			Subtotal Construction Cost	\$2,187,740.00
			20% Contingency	\$437,548.00
			TOTAL Construction Cost	\$2,625,288.00

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

Subarea 5
In Tract Costs
184 Units

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Finished Pad Grading	290,000	s.y.	\$0.40	\$116,000.00
			Subtotal	\$116,000.00
STREET WORK				
2 Minor Street	800	l.f.	\$50.00	\$40,000.00
3 Collector Street	8,590	l.f.	\$69.00	\$592,710.00
4 Parking Bay (1.5 per unit)	123	each	\$212.00	\$26,076.00
5 Street Trees (1 per 50' street)	188	each	\$120.00	\$22,560.00
			Subtotal	\$681,346.00
STORM DRAIN				
6 Storm Drain Line	6,100	l.f.	\$40.00	\$244,000.00
7 Storm Drain Structures	31	each	\$1,500.00	\$46,500.00
			Subtotal	\$290,500.00
SANITARY SEWER				
9 Manholes	23	each	\$2,000.00	\$46,000.00
10 Laterals	184	each	\$400.00	\$73,600.00
11 Sewer Line	9,390	l.f.	\$40.00	\$375,600.00
			Subtotal	\$495,200.00
WATER SUPPLY				
12 Water Services	184	each	\$450.00	\$82,800.00
13 Fire Hydrants	23	each	\$1,800.00	\$41,400.00
14 Water Line	9,390	l.f.	\$30.00	\$281,700.00
			Subtotal	\$405,900.00
ELECTRICAL				
15 Underground Electric (Joint Trench)	8,590	l.f.	\$30.00	\$257,700.00
16 Underground Electric Laterals	4,600	each	\$20.00	\$92,000.00
17 Electroliers	38	each	\$2,000.00	\$76,000.00
			Subtotal	\$425,700.00
			Subtotal Construction Cost	\$2,414,646.00
			20% Contingency	\$482,929.20
			TOTAL Construction Cost	\$2,897,575.20

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

**Subarea 5
 Backbone Costs**

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Earthwork (1' across 66 acres)	106,000	c.y.	\$3.00	\$318,000.00
			Subtotal	\$318,000.00
STREET WORK				
2 Collector Street	7,600	l.f.	\$75.00	\$570,000.00
3 Minor Street	0	l.f.	\$69.00	\$0.00
4 Street Trees (1 per 50' street)	152	each	\$120.00	\$18,240.00
			Subtotal	\$588,240.00
STORM DRAIN				
5 Storm Drain Line	10,900	each	\$40.00	\$436,000.00
6 Storm Drain Structures	55	l.f.	\$1,500.00	\$82,500.00
7 Outfall Structure	1	each	\$5,000.00	\$5,000.00
			Subtotal	\$523,500.00
SANITARY SEWER				
8 Manholes	33	each	\$2,000.00	\$66,000.00
9 Sewer Line	7,600	l.f.	\$40.00	\$304,000.00
10 Off-Site Sewer Line	800	l.s	\$75.00	\$60,000.00
11 Off-Site Sewer Line (shared with Subarea 7)	3,000	l.s	\$82.00	\$246,000.00
			Subtotal	\$676,000.00
WATER SUPPLY				
12 Fire Hydrants	19	each	\$1,800.00	\$34,200.00
13 Water Line	7,600	l.f.	\$30.00	\$228,000.00
14 Additional Zone 7 Connection (portion)	1	l.s	\$35,000.00	\$35,000.00
			Subtotal	\$297,200.00
ELECTRICAL				
15 Underground Electric (Joint Trench)	7,600	l.f.	\$30.00	\$228,000.00
16 Electroliers	30	each	\$2,000.00	\$60,000.00
			Subtotal	\$288,000.00
			Subtotal Construction Cost	\$2,690,940.00
			20% Contingency	\$538,188.00
			TOTAL Construction Cost	\$3,229,128.00

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

**Subarea 7 - Alternative TDR
 In Tract Costs
 12 Units**

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Finished Pad Grading	0	c.y.	\$3.00	\$0.00
			Subtotal	\$0.00
STREETWORK				
2 Minor Street	0	l.f.	\$69.00	\$0.00
3 Parking Bay (.5 per unit)	0	each	\$212.00	\$0.00
4 Street Trees (1 per 50' street)	0	each	\$120.00	\$0.00
			Subtotal	\$0.00
STORMDRAIN				
5 Storm Drain line (80% of road length)	0	l.f.	\$40.00	\$0.00
6 Storm Drain Structures (1 per 200 l.f.)	0	each	\$1,500.00	\$0.00
7 Culvert Crossings	0	each	\$18,000.00	\$0.00
			Subtotal	\$0.00
SANITARY SEWER				
8 Manholes (1 per 400 l.f.)	0	each	\$2,000.00	\$0.00
9 Laterals (1 per unit)	0	each	\$400.00	\$0.00
10 Sewer Line	0	l.f.	\$40.00	\$0.00
			Subtotal	\$0.00
WATER SUPPLY				
11 Water Services (1 per unit)	0	each	\$450.00	\$0.00
12 Fire Hydrants (1 per 400 l.f.)	0	each	\$1,800.00	\$0.00
13 Water Line	0	l.f.	\$30.00	\$0.00
			Subtotal	\$0.00
ELECTRICAL				
14 Underground Electric (Joint Trench)	0	l.f.	\$30.00	\$0.00
15 Underground Electric Laterals	0	each	\$4,000.00	\$0.00
16 Electroliers (1 per 250 l.f.)	0	each	\$2,000.00	\$0.00
			Subtotal	\$0.00
			Subtotal Construction Cost	\$0.00
			20% Contingency	\$0.00
			TOTAL Construction Cost	\$0.00

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

**Subarea 7 - Alternative TDR - 12 Units
 Backbone Costs**

Item Description	Qty	Unit	Unit Price	Amount
GRADING				
1 Earthwork (1,000 cu/yd/lot)	12,000	c.y.	\$3.00	\$36,000.00
			Subtotal	\$36,000.00
STREETWORK				
2 Major Street with Median	0	l.f.	\$105.00	\$0.00
3 Major Street	5,000	l.f.	\$75.00	\$375,000.00
4 Minor Street	0	l.f.	\$69.00	\$0.00
5 Street Trees (1 per 50' Street)	0	each	\$120.00	\$0.00
6 Bridge	1	each	\$300,000.00	\$300,000.00
			Subtotal	\$675,000.00
STORMDRAIN				
7 Storm Drain Line (80% of road length)	0	l.f.	\$40.00	\$0.00
8 Storm Drain Structures (1 per 200 l.f.)	0	each	\$1,500.00	\$0.00
9 Retention Pond	0	each	\$10,000.00	\$0.00
10 Culvert Crossings	0	each	\$18,000.00	\$0.00
11 Outlet Structure	0	each	\$5,000.00	\$0.00
			Subtotal	\$0.00
SANITARY SEWER				
12 Manholes (1 per 400 l.f.)	0	each	\$2,000.00	\$0.00
13 Sewer Line	0	l.f.	\$40.00	\$0.00
14 Sewer Line (off site)	0	l.f.	\$75.00	\$0.00
15 Sewer Line (off site shared with subarea 7)	0	l.f.	\$82.00	\$0.00
			Subtotal	\$0.00
WATER SUPPLY				
16 Fire Hydrants (1 per 400 l.f.)	4	each	\$1,800.00	\$7,200.00
17 Water Line	0	l.f.	\$30.00	\$0.00
18 Storage Tank (above ground)	0	each	\$200.00	\$0.00
19 Pump Station	0	each	\$85,000.00	\$0.00
20 Zone 7 Connection	0	each	\$100,000.00	\$0.00
21 Water Line (to storage tank)	0	l.f.	\$50.00	\$0.00
			Subtotal	\$7,200.00
ELECTRICAL				
22 Overhead Electric Joint Trench	5,000	l.f.	\$10.00	\$50,000.00
23 Electroliers (1 per 250 l.f.)	0	each	\$2,000.00	\$0.00
			Subtotal	\$50,000.00
			Subtotal Construction Cost	\$768,200.00
			20% Contingency	\$153,640.00
			TOTAL Construction Cost	\$921,840.00

This preliminary estimate is based on a 200 scale site plan prepared by WRT. Estimate does not include jurisdictional fees or design costs. Estimate does not include demolition or relocation of existing facilities.

Appendix C

Cost Allocation Model and Financial Feasibility Analysis

Appendix C - Table Index
Cost Allocation Model and Financial Feasibility Analysis
South Livermore Valley Feasibility Study

Table Number	Table Title	Active Subarea
Table C-1	Summary of Allocation Factors by Subarea	Subarea 3
Table C-2	Backbone Costs by Improvement and Subarea	Subarea 3
Table C-3	In-Tract Costs by Improvement and Subarea	Subarea 3
Table C-4	Detailed Project Description by Subarea and Land Use	All Subareas
Table C-5	External Roadway Costs and Traffic Fee Credits	All Subareas
Table C-6	Estimated School Exactions by Subarea	Subarea 3
Table C-7	Sewer and Water DUE Calculations	Subarea 3
Table C-8	City and County Fee Schedule	Subarea 3
Table C-9	Storm Drainage Fee Credit Calculations	All Subareas
Table C-10	Open Spaces Requiring Landscaping	All Subareas
Table C-11	Summary of Regional Trail Costs	All Subareas
Table C-12	Total Cost Burdens by Land Use	Subarea 3

Note: Some tables show calculations for only one active subarea; others show calculations for all subareas.

Table C-1
Summary of Allocation Factors by Subarea
South Livermore Valley Specific Plan: Subarea 3

Potential Allocation Methodology ¹	Factor Ref.	Totals	Proposed Land Uses/Units/Sqft								
			Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant ²	Inn	Bed & Breakfast	Commercial Center
Future Developed Acres											
Total Developed Acres ³	1	59.80	0.00	5.90	49.90	0.00	0.00	1.00	0.00	3.00	0.00
% Distribution		100.0%	0.0%	9.9%	83.4%	0.0%	0.0%	1.7%	0.0%	5.0%	0.0%
Dwelling Units and Square Feet											
Dwelling Units	2	177	0	15	162	0					
% Distribution		100.0%	0.0%	8.5%	91.5%	0.0%					
Commercial Square Footage	3	6,600					0	3,000	0	3,600	0
% Distribution		100.0%					0.0%	45.5%	0.0%	54.5%	0.0%
No. of Commercial Sites		2					0	1	0	1	0
No. of Inn Rooms		4					0	0	0	4	0
Square Feet per DU			0	2,800	2,300	0					
Sewer Flows											
Wastewater Flows gpd/acre ⁴			420	420	420	420	260	260	260	260	260
Total Wastewater Flows	4	24,476	0	2,479	20,957	0	0	260	0	780	0
% Distribution		100.0%	0.0%	10.1%	85.6%	0.0%	0.0%	1.1%	0.0%	3.2%	0.0%
Water Flows											
Domestic Water Flows gpd/acre ⁵	5		1,500	1,500	1,500	1,500	800	800	800	800	800
Total Water Flows		86,900	0	8,855	74,845	0	0	800	0	2,400	0
% Distribution			0.0%	10.2%	86.1%	0.0%	0.0%	0.9%	0.0%	2.8%	0.0%
Storm Runoff											
Storm Runoff cfs/acre ⁶	6		1.00	1.00	1.00	1.00	2.30	2.30	2.30	2.30	2.30
Total Storm Runoff		65.00	0.00	5.90	49.90	0.00	0.00	2.30	0.00	6.90	0.00
% Distribution		100.0%	0.0%	9.1%	76.8%	0.0%	0.0%	3.5%	0.0%	10.6%	0.0%
Trip Generation											
PM Peak Hour Trip Rates ⁷			1.01	1.01	1.01	1.01	0.00	0.23	0.68	0.68	10.60
New PM Peak Hour Trips per unit	7	195	0	15	164	0	0	9	0	7	0
% Distribution		100.0%	0.0%	7.8%	84.0%	0.0%	0.0%	4.7%	0.0%	3.5%	0.0%
Demographic Characteristics											
Persons per household ⁸			2.70	2.70	2.70	2.70					
New Population	8	478	0	41	437	0					
% Distribution		100.0%	0.0%	8.6%	91.4%	0.0%					
Employment: Employee per Winery/Employee per B&B/Sqft per employee⁹											
New Employees	9	9					10	450	1	2	400
% Distribution		100.0%					0.0%	76.9%	0.0%	23.1%	0.0%
Daytime Population¹⁰											
New Daytime Population	10	482	0	41	437			3		1	
% Distribution		100.0%	0.0%	8.5%	90.7%			0.6%		0.2%	

¹ The Allocation Factor column in Table 1 indicates which of these factors have been applied to allocate each particular category of costs.

² The acreage for the large restaurant in Subarea 5 is included in the acreage for the 30-room inn.

³ Developed acres include all urban development plus landscaping, parks and schools.

⁴ Sewer demand based on allocation factors provided by Nolte & Associates, April 30, 1997

⁵ Water demand based on allocation factors provided by Nolte & Associates, April 30, 1997

⁶ Storm drainage run-off based on allocation factors provided by Nolte & Associates, April 30, 1997

⁷ Trip generation factors are per unit for residential and per room for the Inn/B&B, per seat for the restaurant, per case for the winery, and per 1 000 square feet for commercial. Factors provided by Fehr & Peers.

⁸ Persons per household based on midpoint of range provided in the South Livermore Specific Plan EIR, page 31.

⁹ Assumes ten employees per winery, two employees per B&B, one restaurant employee per 450 sqft, one employee per inn room, and one employee per 400 sqft of retail.

¹⁰ Daytime population is defined as population plus half of the employment. This is intended to reflect lower impacts on service costs by employees than by residents.

Sources: City of Livermore; WRT; Nolte and Associates; Fehr and Peers Associates, Inc.; Economic & Planning Systems, Inc.

Table C-2
Backbone Costs by Improvement and Subarea
South Livermore Valley Specific Plan: Subarea 3

Facility or Fee Item	Total Costs/Units 177	Allocation Factor Utilized ¹	Proposed Land Use Units/Sqft									
			Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center	
			0	15	162	0	0	3,000	0	3,600	0	
Backbone Infrastructure												
External Roadways	\$1,035,075.00	Per Unit ⁷ (Tbl A-1)	\$0	\$87,718	\$947,357	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Street Work	\$447,516.00	Trips ⁵ (Tbl A-1)	\$0	\$34,810	\$375,944	\$0	\$0	\$21,139	\$0	\$15,624	\$0	\$0
Water System	\$240,480.00	Domestic Water Flows ⁴ (Tbl A-1)	\$0	\$24,505	\$207,120	\$0	\$0	\$2,214	\$0	\$6,642	\$0	\$0
Sewer System	\$314,400.00	Wastewater Flows ⁶ (Tbl A-1)	\$0	\$31,849	\$269,192	\$0	\$0	\$3,340	\$0	\$10,019	\$0	\$0
Storm Drainage ²	\$363,720.00	Storm Runoff ¹ (Tbl A-1)	\$0	\$33,034	\$279,206	\$0	\$0	\$12,870	\$0	\$38,610	\$0	\$0
Grading ²	\$291,600.00	Developed Acres ¹⁰ (Tbl A-1)	\$0	\$28,786	\$243,308	\$0	\$0	\$4,876	\$0	\$14,629	\$0	\$0
Electrical	\$96,720.00	Daytime Population	\$0	\$8,227	\$87,690	\$0	\$0	\$602	\$0	\$201	\$0	\$0
Eng. & Design ³	\$175,444.00	10% of costs ⁹ (Tbl A-1)	\$0	\$16,121	\$146,246	\$0	\$0	\$4,504	\$0	\$8,572	\$0	\$0
Park(Trails/Landscaping Costs ⁴	\$157,579.00	Population	\$0	\$13,516	\$144,063	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fire Engine	\$0.00	Daytime Population ¹⁰ (Tbl A-1)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plan Preparation Costs ⁵	\$144,878.00	Per Unit	\$0	\$12,278	\$132,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Infrastructure	\$3,267,411.00			\$290,844	\$2,832,726			\$49,545		\$94,297		
Other Costs												
Agricultural Mitigation Costs ⁶	\$4,158,000.00	Units/Developed Acres/Sqft	\$0	\$372,833	\$3,785,167	\$0	\$0	\$0	\$0	\$0	\$0	\$0
School Exactions ⁷	\$2,485,434.00	Fee Rates	\$0	\$251,580	\$2,231,874	\$0	\$0	\$900	\$0	\$1,080	\$0	\$0
Park Fees ⁸	\$423,384.00	Fee Rates	\$0	\$35,880	\$387,504	\$0	n/a	n/a	n/a	n/a	n/a	n/a
Low-income housing fee	\$324,441.00	Fee Rates	\$0	\$27,495	\$296,946	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Traffic Impact Fees ⁹	\$412,289.00	Fee Rates	\$0	\$33,105	\$357,534	\$0	\$0	\$16,884	\$0	\$4,766	\$0	\$0
Major Attraction Fee ¹⁰	\$132,750.00	Fee Rates	\$0	\$11,250	\$121,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal	\$7,936,298.00		\$0	\$732,143	\$7,180,525	\$0	\$0	\$17,784	\$0	\$5,846	\$0	\$0
TOTAL COSTS	\$11,203,710.00		\$0	\$1,022,987	\$10,013,250	\$0	\$0	\$67,329	\$0	\$100,144	\$0	\$0

¹ See Table C-1 for cost allocation factors.

² Storm drainage and grading costs for the large restaurant in Subarea 5 are included in the costs for the Inn.

³ Engineering and design costs and utility maintenance costs are included in the external road costs. Therefore the 10% factor is applied only to internal subarea infrastructure costs.

⁴ Park development costs in Subarea 2 are assumed to be \$100,000 per acre. Landscaping costs are assumed to range from \$50,000 to \$100,000 per acre for the linear pocket parks and natural areas in all Subareas. Regional trail development costs are estimated for all Subareas (see Tables A-1 0 and A-1 1 for more detail).

⁵ The plan preparation cost for all subareas is \$818.52 per unit.

⁶ Mitigation costs assume that an acre for every acre developed, and an acre for every unit developed, are planted in cultivated agriculture and a conservation easement is dedicated. The cost of planting and establishing vines or orchards and dedicating a conservation easement was estimated to be \$18,000 per acre on average. Mitigation costs are only paid for residential uses, with the exception of the commercial center in Subarea 5. The cost for the commercial center is \$2.50 per sqft. Subarea 7 pays no agricultural mitigation costs.

⁷ School exactions are assumed to be \$5.99 per residential square feet and \$0.28 per commercial square feet. See Table C-6 for calculations of school exactions.

⁸ Park fees are paid by all subareas except Subarea 2 where an 12.50 acre park is dedicated in lieu of park fees.

⁹ No credits are shown against the City's Traffic Impact Fees (TIF).

¹⁰ Satisfied through the dedication of a historic winery site for Subarea 7.

Sources: City of Livermore; WRT; Nolte and Associates; Fehr and Peers Associates, Inc.; Economic & Planning Systems, Inc.

**Table C-3
 In-Tract Costs by Improvement and Subarea
 South Livermore Valley Specific Plan: Subarea 3**

Facility or Fee Item	Total Costs	Allocation Factor Utilized ¹	Proposed Land Uses								
			Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center
Subarea In-Tract Costs											
Street Work	\$852,547	Trips ⁷ (Tbl A-1)	\$0	\$66,315	\$716,197	\$0	\$0	\$40,270	\$0	\$29,765	\$0
Water System	\$493,020	Domestic Water Flows ⁵ (Tbl A-1)	\$0	\$49,943	\$422,128	\$0	\$0	\$5,237	\$0	\$15,712	\$0
Sewer System	\$603,360	Wastewater Flows ⁴ (Tbl A-1)	\$0	\$61,121	\$516,602	\$0	\$0	\$6,409	\$0	\$19,228	\$0
Storm Drainage ²	\$437,760	Storm Runoff ⁶ (Tbl A-1)	\$0	\$39,758	\$336,042	\$0	\$0	\$15,490	\$0	\$46,470	\$0
Grading ²	\$134,976	Developed Acres ¹ (Tbl A-1)	\$0	\$13,325	\$112,623	\$0	\$0	\$2,257	\$0	\$6,771	\$0
Electrical	\$543,960	Daytime Population ¹⁰ (Tbl A-1)	\$0	\$46,270	\$493,175	\$0	\$0	\$3,386	\$0	\$1,129	\$0
Eng. & Design ³	\$306,562	10% of costs	\$0	\$27,673	\$259,677	\$0	\$0	\$7,305	\$0	\$11,907	\$0
Subtotal Infrastructure	\$3,372,186		\$0	\$304,405	\$2,856,445	\$0	\$0	\$80,354	\$0	\$130,982	\$0
Other Costs											
City Storm Drainage ⁴	\$0	Fee Rates/(5)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
County Storm Drainage	\$121,306	Fee Rates	\$0	\$10,050	\$108,540	\$0	\$0	\$1,372	\$0	\$1,344	\$0
Sanitary Sewer Connection Fees	\$717,333	Fee Rates	\$0	\$58,035	\$626,778	\$0	\$0	\$18,000	\$0	\$14,520	\$0
City Water Storage ⁶	\$0	Fee Rates	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
County Water Connection	\$645,265	Fee Rates	\$0	\$53,925	\$582,390	\$0	\$0	\$3,580	\$0	\$5,370	\$0
Recycled Water Fee	\$129,053	Fee Rates	\$0	\$10,785	\$116,478	\$0	\$0	\$716	\$0	\$1,074	\$0
Subtotal	\$1,612,957		\$0	\$132,795	\$1,434,186	\$0	\$0	\$23,668	\$0	\$22,308	\$0
TOTAL COSTS	\$4,985,143		\$0	\$437,200	\$4,290,631	\$0	\$0	\$104,022	\$0	\$153,290	\$0

¹ See Table C-1 for cost allocation factors.

² Storm drainage and grading costs for the large restaurant in Subarea 5 are included in the costs for the Inn.

³ Engineering and design costs and utility maintenance costs are included in the external road costs. Therefore the 10% factor is applied only to internal subarea infrastructure costs.

⁴ It is assumed that all subareas will receive a credit for storm drain lines over 24". See Table A-9 for estimation of City storm drainage fees and credits.

⁵ Storm Drainage Fees are distributed based on the total fee for each land use category as a percent of the total storm drainage fees the Subarea would pay if they were not receiving a credit against the City storm drainage fees.

⁶ Only Subareas 1 and 2 are subject to the City Water Storage fee.

Sources: City of Livermore; WRT; Nolle and Associates; Fehr and Peers Associates, Inc.; Economic & Planning Systems, Inc.

Table C-4
Project Description
South Livermore Valley Specific Plan

Subarea	Prototype	Gross	Less:	Less:	Net	Net		Res.	Total Res.	Total Res.	Com.	Com.	Total	Total	Gross	Total	Total	Total	Com.			
		Res. Dev.	Non-Mit.	Mitigable	Mitigation	Mitigable	Lot Size	Unit Size	Developed	Mitigation	Unit Size	Lot Size	Total	Total	Gross	Total	Total	Total	Price per	Price per		
		Acres	Acres ¹	Acres ¹	Credits ⁹	Acres	Unit Type	Units	Sq. Ft.	Sq. Ft.	Acres	Acres	Sq. Ft.	Acres	Sites	Sq Ft.	Acres	Acres	Sales Price	Sq. Ft.	Unit	Unit
1	Custom Estates						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
1	Custom Estates						Unit	83	14,000	3,100	37.17	33.08	0	0	0	0	37.17	37.17	\$470,000	\$152		
1	Vineyard Large Lot						Unit	50	11,400	2,800	18.23	16.22	0	0	0	0	18.23	18.23	\$421,000	\$150		
1	Vineyard Std. Lot						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
1	Vineyard Villas						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
1	Winery						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	Sq. Ft.
1	Restaurant						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	Sq. Ft.
1	Inn						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	room
1	Bed & Breakfast						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	Sq. Ft.
1	Commercial						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	Sq. Ft.
Subtotal		55.40	4.90	50.50	1.20	49.30		133			55.40	49.30		0.00	0.00	0.00	55.40					
2	Custom Estates						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
2	Custom Estates						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
2	Vineyard Large Lot						Unit	167	11,000	2,500	69.20	60.46	0	0	0	0	69.20	69.20	\$399,000	\$160		
2	Vineyard Std. Lot						Unit	382	9,000	2,300	129.50	113.16	0	0	0	0	129.50	129.50	\$345,000	\$150		
2	Vineyard Villas						Unit	25	7,750	2,200	7.30	6.38	0	0	0	0	7.30	7.30	\$300,000	\$136		
2	Winery						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	Sq. Ft.
2	Restaurant						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	Sq. Ft.
2	Inn						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	room
2	Bed & Breakfast						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	Sq. Ft.
2	Commercial						Sq. Ft.	0	0	0	0	0	0	0	0	0	0.00	0.00			n/a	Sq. Ft.
Subtotal		206.00	16.70	189.30	9.30	180.00		574			206.00	180.00		0	0	0.130	206.00					
3	Custom Estates						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
3	Custom Estates						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
3	Vineyard Large Lot						Unit	15	11,500	2,800	5.90	5.71	0	0	0	0	5.90	5.90	\$425,000	\$152		
3	Vineyard Std. Lot						Unit	162	9000	2,300	49.90	48.29	0	0	0	0	49.90	49.90	\$345,000	\$150		
3	Vineyard Villas						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
3	Winery						Sq. Ft.	0	0	0	0.00	0.00	0	0.00	0	0	0.00	0.00			n/a	Sq. Ft.
3	Restaurant						Sq. Ft.	0	0	0	0.00	0.00	3,000	1.00	1	3,000	1.00	1.00			\$150	Sq. Ft.
3	Inn						Sq. Ft.	0	0	0	0.00	0.00	0	0.00	0	0	0.00	0.00			n/a	room
3	Bed & Breakfast ^b						Sq. Ft.	0	0	0	0.00	0.00	3,600	3.00	1	3,600	3.00	3.00			\$150	Sq. Ft.
3	Commercial						Sq. Ft.	0	0	0	0.00	0.00	0	0.00	0	0	0.00	0.00			n/a	Sq. Ft.
Subtotal^f		55.80	0.70	55.10	1.10	54.00		177			55.80	54.00		2	6,600	4.00	59.80					
4	Custom Estates						Unit	11	22,000	3,500	8.47	7.69	0	0	0	0	8.47	8.47	\$525,000	\$150		
4	Custom Estates						Unit	78	17,000	3,200	46.39	42.16	0	0	0	0	46.39	46.39	\$514,000	\$161		
4	Vineyard Large Lot						Unit	41	13,000	3,000	18.65	16.95	0	0	0	0	18.65	18.65	\$473,000	\$158		
4	Vineyard Std. Lot						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
4	Vineyard Villas						Unit	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	\$0	na		
4	Winery ^g						Sq. Ft.	0	0	0	0	0	10,000	3.00	3	30,000 ⁹	9.00	9.00			\$100	Sq. Ft.
4	Olive Press						Sq. Ft.	0	0	0	0	0	3,500	1.00	1	3,500	1.00	1.00			\$100	Sq. Ft.
4	Restaurant						Sq. Ft.	0	0	0	0	0	0	0.00	0	0	0.00	0.00			n/a	Sq. Ft.
4	Inn						Sq. Ft.	0	0	0	0	0	0	0.00	0	0	0.00	0.00			n/a	room
4	Bed & Breakfast						Sq. Ft.	0	0	0	0	0	0	0.00	0	0	0.00	0.00			n/a	Sq. Ft.
4	Commercial						Sq. Ft.	0	0	0	0	0	0.00	0	0	0	0.00	0.00			n/a	Sq. Ft.
Subtotal		73.50	3.60	69.90	3.10	66.80		130			73.50	66.80		4	33,500	10.00	83.50					

Subarea	Prototype	Gross	Less:	Less:	Net	Unit	Total	Net	Res.	Total Res.	Total Res.	Com.	Com.	Total	Total	Gross	Total	Total	Total	Com.	
		Res. Dev.	Non-Mit.	Mitigable	Mitigation			Mitigable	Lot Size	Unit Size	Developed	Mitigation	Unit Size	Lot Size	Com.	Com.	Total	Total	Gross	Total	Total
		Acres	Acres ¹	Acres ¹	Credits ⁹	Acres	Type	Sq. Ft.	Sq. Ft.	Acres	Acres	Sq. Ft.	Acres	Sites	Sq Ft.	Acres	Acres	Price	Sq. Ft.	Price per	Unit
5	Custom Estates					Unit	6	22,500	3,500	5.09	4.58	0	0	0	0	0	5.09	\$513,000	\$147		
5	Custom Estates					Unit	33	16,000	3,200	19.30	17.37	0	0	0	0	0	19.30	\$492,000	\$154		Sq. Ft.
5	Vineyard Large Lot					Unit	126	12,300	3,000	58.42	52.58	0	0	0	0	0	58.42	\$461,000	\$154		room
5	Vineyard Std. Lot					Unit	12	9,500	2,300	4.30	3.87	0	0	0	0	0	4.30	\$333,000	\$145		
5	Vineyard Villas					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		Sq. Ft.
5	Winery					Sq. Ft.	0	0	0	0	0	10,000	3.00	2	20,000	6.00	6.00				\$100 Sq. Ft.
5	Restaurant ¹⁰					Sq. Ft.	0	0	0	0	0	7,500	0.00	1	7,500	0.00	0.00				\$150 Sq. Ft.
5	Inn					Sq. Ft.	0	0	0	0	0	10,000	3.00	1	10,000	3.00	3.00				\$78,000 room
5	Bed & Breakfast ¹¹					Sq. Ft.	0	0	0	0	0	0	0.00	0	0	0.00	0.00				n/a Sq. Ft.
5	Commercial					Sq. Ft.	0	0	0	0	0	25,000	3.00	1	25,000	3.00	3.00				\$200 Sq. Ft.
Subtotal		87.1	7.2	79.9	1.5		177			87.1	78.4			5	62,500	12	99.1				
6	Custom Estates					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		
6	Custom Estates					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		
6	Vineyard Large Lot					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		
6	Vineyard Sid. Lot					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		
6	Vineyard Villas					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		
6	Winery					Sq. Ft.	0	0	0	0	0	50,000	8.00	1	50,000	8.00	8.00				\$100 Sq. Ft.
6	Restaurant					Sq. Ft.	0	0	0	0	0	0	0	0	0	0	0.00				n/a Sq. Ft.
6	Inn					Sq. Ft.	0	0	0	0	0	0	0	0	0	0	0.00				n/a room
6	Bed & Breakfast					Sq. Ft.	0	0	0	0	0	0	0	0	0	0	0.00				n/a Sq. Ft.
6	Commercial					Sq. Ft.	0	0	0	0	0	0	0	0	0	0	0.00				n/a Sq. Ft.
Subtotal		0.00		0.00			0		0.00	0			1	50,000	8.00						
7	Custom Estates					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		
7	Custom Estates ¹²					Unit	12	457,380	3,850	120.00	120	0	0	0	0	0	120.00	\$947,000	\$246		
7	Vineyard Large Lot					Unit	0	0	0	0.00	0	0	0	0	0	0	0.00	\$0	na		
7	Vineyard Sid. Lot					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		
7	Vineyard Villas					Unit	0	0	0	0.00	0.00	0	0	0	0	0	0.00	\$0	na		
7	Winery					Sq. Ft.	0	0	0	0	0	20,000	2.40	1	20,000	2.40	2.40				\$100 Sq. Ft.
7	Restaurant					Sq. Ft.	0	0	0	0	0	3,000	0.36	1	3,000	0.36	0.36				n/a Sq. Ft.
7	Inn					Sq. Ft.	0	0	0	0	0	27,000	3.24	1	27,000	3.24	3.24				n/a room
7	Bed & Breakfast					Sq. Ft.	0	0	0	0	0	0	0	0	0	0	0.00				n/a Sq. Ft.
7	Commercial					Sq. Ft.	0	0	0	0	0	0	0	0	0	0	0.00				n/a
Subtotal¹³		120.00	0.00	120.00	0.00		12		120.00	120.00	50,000	6.00	3	50,000	6.00	126.00					
Grand Total		597.80	33.10	564.70	16.20		1,203		597.80	548.50		15.00		202,600	40.00	629.80					

¹ Mitigable area equals the sum of the acreage in developable lots and street rights-of-way; mitigation is not required for landscaped portion of developed area.

² Discount for proximity to Sandia Labs.

³ Discount for proximity to Industrial Park.

⁴ View lot premiums.

⁵ Discount for proximity to power lines.

⁶ Either a Bed & Breakfast or a small winery will be developed in Subarea 3. For the purposes of this analysis, it is assumed that a B&B will be developed which represents the worst case scenario.

⁷ Subarea 3 developed acres exclude 20 acres for the school site.

⁸ Either a small winery or a small restaurant will be developed in Subarea 4. For the purposes of this analysis, it is assumed that a small winery will be developed which represents the worst case scenario.

⁹ Non-mitigation acres include natural areas, public parks, and trail corridors. Mitigation credits we included for trails.

¹⁰ The restaurant and the inn would be developed one site, and the acreage is shown under the inn. Thus, there are only 4 commercial sites in Subarea 5, but 5 commercial sites.

¹¹ A 3,600 sqft Bed & Breakfast may also be developed in Subarea 5. If developed, it would replace two Vineyard Large Lot units and would result in a total of 175 units rather 17-7 units in Subarea 5.

¹² The Custom Estates price is based on weighted average of six 20-acre parcels and six 11-acre units. The 20 acre parcels assume a unit price of \$1.5 mil. less planting costs of \$18,000 per acre for an average of 17 acres per 20 acre site (net 6 acres of commercial spread over all lots). The 1-acre unit price is \$700,000.

¹³ Non-mitigation acres include six 2-acre homesites on six 20-acre parcels. These homesites will be mitigated on-site. SBA7 receives 330 acres of mitigation credits for the Regional Park dedication. Only the on-site mitigation credits are shown here. In effect SBA7 will have no agricultural mitigation costs.

Table C-5
South Livermore Valley Specific Plan - All Subareas
South Livermore Valley Road Improvements

Street	Total Cost
South Vasco Rd	\$2,575,000
East Avenue	\$400,000
Concannon Blvd	\$1,100,000
Arroyo Road	\$530,000
Vallecitos at Wetmore	\$2,000,000
Vallecitos at Vineyard (25%)	\$375,000
Foley Road	\$55,000
Total	\$7,035,000
Total Units all Subareas	\$1,203
Cost per Unit	\$5,848

Source: South Livermore Valley Specific Plan Model Development Agreement and Pre-Annexation Agreement, June 22, 1998.

Table C-6
Estimated School Exactions by Subarea
South Livermore Valley Specific Plan: Subarea 3

Item	Proposed Land Uses									Total	
	Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center		
Residential Development											
Residential Development - Units	0	15	162	0						177	
Av. Sq.Ft. per Dwelling Unit	0	2,800	2,300	0							
Residential Development - Sq. Ft.	0	42,000	372,600	0						414,600	
Estimated Impact Fee Revenue	\$0	\$251,580	\$2,231,874	\$0						\$2,483,454	
Commercial Development											
Commercial Development - Sq. Ft.						0	3,000	0	3,600	0	\$6,600
Estimated Impact Fee Revenue						\$0	\$900	\$0	\$1,080	\$0	\$1,980
TOTAL SCHOOL EXACTIONS										\$2,485,434	

¹ Residential Exaction Fee - per Sq. Ft. \$5.99

Commercial Impact Fee - per Sq. Ft. \$0.30

Source: City of Livermore; Economic & Planning Systems, Inc.

Table C-7
Sewer and Water DUE Calculations
South Livermore Valley Specific Plan: Subarea 3

Dwelling Unit Equivalent Items	Proposed Land Uses									Totals
	Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center	
Sewer System										
Sanitary Sewer Flow (gallons/day/acre)	420	420	420	420	260	260	260	260	260	2,980
Developed Acres	0.00	5.90	49.90	0.00	0.00	1.00	0.00	3.00	0.00	59.80
Total Gallons Per Day	0	2,479	20,957	0	0	260	0	780	0	24,476
Percentage Distribution	0.0%	10.1%	85.6%	0.0%	0.0%	1.1%	0.0%	3.2%	0.0%	100.0%
Water System										
Domestic Water Flow (gallons/day/acre)	1,500	1,500	1,500	1,500	800	800	800	800	800	10,000
Developed Acres	0.00	5.90	49.90	0.00	0.00	1.00	0.00	3.00	0.00	59.80
Total Gallons Per Day	0	8,855	74,845	0	0	800	0	2,400	0	86,900
Percentage Distribution	0.0%	10.2%	86.1%	0.0%	0.0%	0.9%	0.0%	2.8%	0.0%	100.0%

Sources: City of Livermore Sewer Master Plan, March 1995; Nolte and Associates and Economic & Planning Systems, Inc.

Table C-8
City and County Fee Schedule
South Livermore Valley Specific Plan: Subarea 3

Project Description/ Impact Fee	Unit of Measure for Fee	Commercial		Proposed Land Uses/Units/Sqft							Bed & Breakfast	Commercial Center	
		Sq. Ft. Fees	Per Unit Fees	Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn			Total
Number of Units				177	0	15	162	0					
Unit Size					0	2,800	2,300	0					
Commercial Sq Ft.				6,600					0	3,000	0	3,600	0
No. of Commercial Sites									0	1	0	1	0
Impervious Surface									0	9,800	0	9,600	0
No. of Rooms										0		4	
Number of Fixtures Per Commercial Building									0	0	0	30	0
City Storm Drainage¹	Per Unit or S.F. impervious surface	\$0	\$574	\$103,208	\$0	\$8,610	\$92,988	\$0	\$0	\$813	\$0	\$797	\$0
County Storm Drainage	Per Unit or S.F. impervious surface	\$0	\$670	\$121,306	\$0	\$10,050	\$108,540	\$0	\$0	\$1,372	\$0	\$1,344	\$0
Sanitary Sewer Connection Park³	Per Unit or Per Fixture ² Per Unit	\$484 na	\$3,869 \$2,392	\$717,333 \$423,384	\$0	\$58,035 \$35,880	\$626,778 \$387,504	\$0	\$0	\$18,000 \$0	\$0	\$14,520 \$0	\$0
City Water Storage	Per Unit or S.F.	\$0.569	\$2,598	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Alameda County Water Connection⁵	Per Unit/Meter	varies	\$3,595	\$645,265	\$0	\$53,925	\$582,390	\$0	\$0	\$3,580	\$0	\$5,370	\$0
Recycled Water Fee	20% of Al. Co. Water Fee	varies	\$719	\$129,053	\$0	\$10,785	\$116,478	\$0	\$0	\$716	\$0	\$1,074	\$0
In-Lieu Low Income Housing Fee	Per Unit	na	\$1,833	\$324,441	\$0	\$27,495	\$296,946	\$0	\$0	\$0	\$0	\$0	\$0
Traffic Impact Fee	Per Unit/Per 1,000 S.F./	varies by use	\$2,207	\$412,289	\$0	\$33,105	\$357,534	\$0	\$0	\$16,884	\$0	\$4,766	\$0
Major Attraction Fee	Per Unit	na	\$750	\$132,750	\$0	\$11,250	\$121,500	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL FEES⁶			\$19,207	\$3,009,030	\$0	\$249,135	\$2,690,658	\$0	\$0	\$41,365	\$0	\$27,871	\$0
PER UNIT/SQ. FT.				\$17,000	\$0	\$16,609	\$16,609	\$0	\$0	\$14	\$0	\$8	\$0

¹ Credits for city storm drainage impact fees may be granted for the construction of facilities that provide a regional benefit. This table shows fees before these credits are applied

² An estimate of the sanitary sewer connection fees for the restaurants the medium winery were provided by the City of Livermore, Jan. 31, 1997. The estimates are based on the average sewer loading for other similar uses
³ 1.37 Acres per 100 Lots can be dedicated as park space in lieu of fee payment. Subarea 2 dedicates park acres rather than in lieu fees

⁴ Only Subareas 1 and 2 are subject to the City Water Storage fee.

⁵ The City of Livermore requires a sprinkler system in all new development and this requires a 1 inch water meter capacity. Single Family residences generally only require a 5/8 inch water meter capacity, so the developer is immediately credited the difference in cost between the 1 inch and the 5/8 inch meter. The small winery and the small restaurant require a 5/8" meter, and large restaurant the B&B require a 3/4" meter, and all other commercial uses require a 1" meter.

⁶ Total fees do not include School Exactions. See Table C-6 for School Exaction calculation.

Sources: City of Livermore, January 1997; Nolte & Associates; Economic and Planning Systems, Inc.

Table C-9
Storm Drainage Fee Credit Calculations
South Livermore Valley Feasibility Study

Item	Total	Subarea					
		1	2	3	4	5	7
Costs Eligible for Credit ¹	\$1,355,168	\$62,883	\$526,578	\$279,556	\$250,656	\$235,495	\$0
City Storm Drain Fees	\$720,717	\$76,342	\$329,476	\$103,208	\$80,181	\$114,886	\$16,624
Net Fees after Credit Applied	\$30,083	\$13,459	\$0	\$0	\$0	\$0	\$16,624
Actual Credit Value	\$690,635	\$62,883	\$329,476	\$103,208	\$80,181	\$114,886	\$0

¹ Allowable credits for storm drain lines over 24" were estimated by Nolte and Associates.
 Source: Nolte & Associates; Economic and Planning Systems, Inc.

Table C-10
Open Spaces Requiring Landscaping
South Livermore Valley Specific Plan

Open Space Type (Acres)	Total Plan Area ⁵	Subarea					
		1	2	3	4	5	7
Developed Park ¹	16.5	1.3	12.5	0.0	1.5	1.2	0.0
Passive Open Spaces ²	8.8	0.0	4.2	0.7	2.1	1.8	0.0
Natural Areas ³	9.1	4.9	0.0	0.0	0.0	4.2	0.0
Riparian Corridor Enhancement ⁴	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Open Space ⁵	34.4	6.2	16.7	0.7	3.6	7.2	0.0

¹ Developed park acres are assumed to be dedicated in lieu of park fees. Development costs for the neighborhood park are assumed to equal: \$100,000 per acre

² Passive open spaces within the developments will require some tree planting and minimal landscaping. These landscaping costs are assumed to equal: \$100,000 per acre

³ Natural areas on the periphery of the Subareas will require less intensive landscaping. These natural area landscaping costs are assumed to equal: \$50,000 per acre

⁴ Riparian corridors will require minimal enhancement at: \$10,890 per acre.

⁵ Total Plan Area open spaces exclude trails. See Table C-11 for estimation of trail costs.

Source: South Livermore Specific Plan, WRT, May 1997; Economic and Planning Systems, Inc.

Table C-1 1
Summary of Regional Trail Costs
South Livermore Valley Specific Plan - All Subareas

Assumptions	Unit	Total ¹	Subarea						
			1	2 ²	3	4	5	6 ²	7
Internal Regional Trails									
Trail lengths	linear ft	27,200	2,100	13,300	3,700	7,100	1,000	0	0
Costs of Trail Construction ¹ (per linear foot)	\$23.67	\$643,824	\$49,707	\$314,811	\$87,579	\$168,057	\$23,670	\$0	\$0
External Regional Trails									
Trail lengths	linear ft	17,600							
Costs of Trail Construction ¹ (per linear foot)	\$23.67	\$416,592							
Area-wide Regional Trail Costs³	100%	\$416,592							
Allocation of Trail Costs									
Population		3,248	359	1,550	478	351	478	0	32
% Share of Total		100.0%	11.1%	47.7%	14.7%	10.8%	14.7%	0.0%	1.0%
Share of External Regional Trail Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Regional Trail System Costs⁴		\$643,824	\$49,707	\$314,811	\$87,579	\$168,057	\$23,670	\$0	\$0

¹ Trail costs provided by WRT.

² Subarea 2 assumes trail costs for 6,150 linear feet of trails in Subarea 6. Subarea 2 is assumed to receive mitigation credits for this acreage

³ LARPD has agreed to pay 100% of area wide trail costs.

⁴ Trail costs do not include the cost of purchasing right of ways. It is assumed that all trail ROWs are dedicated. Landowners receive credit against their mitigation acres for trail ROW dedications

Source: South Livermore Valley Specific Plan, WRT, May, 1997, Economic & Planning Systems, Inc., City of Livermore

Table C-1 2
Total Cost Burdens by Land Use
South Livermore Valley Specific Plan: Subarea 3

Item	Total Estimated Cost	Proposed Land Uses/Units/Sqft								
		Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast ⁴	Commercial Center
Total Residential Cost Allocation ¹	\$12,603,219	\$0	\$1,155,782	\$11,447,436	\$0					
Percent of Total Cost	100%	0%	9%	91%	0%					
Total Commercial Cost Allocation	\$213,448					\$0	\$90,997	\$0	\$122,452	\$0
Percent of Total Cost	100%					0%	43%	0%	57%	0%
Total Cost Allocation	\$12,816,667	\$0	\$1,155,782	\$11,447,436	\$0	\$0	\$90,997	\$0	\$122,452	\$0
Percent of Total Cost	100.0%	0.0%	9.0%	89.0%	0.0%	0.0%	0.7%	0.0%	1.0%	0.0%
Avg. Cost Per Dwelling Unit²	\$71,205	\$0	\$77,052	\$70,663	\$0					
Avg. Cost Per Commercial Sq.Ft/Room³	\$32					\$0	\$30	\$0	\$34	\$0
Assumed Market Values per DU		\$0	\$425,000	\$345,000	\$0					
Total Residential Market Value	\$62,265,000	\$0	\$6,375,000	\$55,890,000	\$0					
Allocated Costs as % of Res. Value	20.2%	0.0%	18.1%	20.5%	0.0%					
Commercial Market Value per Sq.Ft./Room						\$0	\$150	\$0	\$150	\$0
Total Commercial Market Value	\$990,000					\$0	\$450,000	\$0	\$540,000	\$0
Allocated Costs as % of Comm. Value	21.6%					0.0%	20.2%	0.0%	22.7%	0.0%
Total Market Value	\$63,255,000	\$0	\$6,375,000	\$55,890,000	\$0	\$0	\$450,000	\$0	\$540,000	\$0
Costs as % of Total Value	20.3%	0.0%	18.1%	20.5%	0.0%	0.0%	20.2%	0.0%	22.7%	0.0%

¹ Total cost includes infrastructure costs, agriculture mitigation costs and all applicable City and County fees.

² Equals total costs allocated to residential uses divided by total units.

³ Equals total costs allocated to commercial uses divided by total square feet. For inns, this equals the total costs allocated to inns divided by total inn rooms

⁴ If a bed & breakfast is developed in Subarea 5 in lieu of two dwelling units, the average costs per commercial square foot in Subarea 5 will be slightly reduced to \$21.32 and the commercial cost burdens will be 12.8% of total commercial market value. There would be essentially no change to the residential cost burdens.

Sources: City of Livermore; WRT; Nolte and Associates; Fehr and Peers Associates, Inc.; Economic & Planning Systems, Inc.

Appendix D
Residual Land Value Analysis

Appendix D- Table Index
Residual Land Value Analysis
South Livermore Valley Specific Plan Feasibility Analysis

Table No.	Table Title
Table D-1	Summary of Total Estimated Backbone Costs by Subarea (\$1997 Constant)
Table D-2	Summary of Total Estimated In-Tract Costs by Subarea (\$1997 Constant)
Table D-3	Summary of Backbone Infrastructure Costs, Ag. Mitigation and Fees by Subarea and Land Use (\$1997 Constant)
Table D-4	Per Unit Backbone Infrastructure Costs, Ag. Mitigation and Fees by Subarea and Land Use (\$1997 Constant)
Table D-5	Summary of In-Tract Costs and City and County Fees by Subarea and Land Use (\$1997 Constant)
Table D-6	Total Residual Land Value by Product Type including Agricultural Mitigation Costs
Table D-7	Residual Land per Acre by Product Type and Subarea including Agricultural Mitigation Costs

Table D-1
Summary of Total Estimated Backbone Costs by Subarea (\$1997 Constant)
South Livermore Valley Specific Plan Feasibility Analysis

Facility or Fee Item	Infrastructure Costs and Estimated Agricultural Mitigation Costs and Fees by Subarea						
	Total Costs	Subarea 1	Subarea 2	Subarea 3	Subarea 4	Subarea 5	Subarea 7
Basic Infrastructure							
External Roadways ¹	\$7,035,000	\$778,000	\$3,357,000	\$1,035,000	\$760,000	\$1,035,000	\$70,000
Street Work	\$4,925,000	\$373,000	\$2,082,000	\$448,000	\$506,000	\$706,000	\$810,000
Water System	\$2,718,000	\$161,000	\$849,000	\$240,000	\$1,106,000	\$353,000	\$9,000
Sewer System	\$3,227,000	\$285,000	\$1,544,000	\$314,000	\$273,000	\$811,000	\$0
Storm Drainage	\$3,028,000	\$298,000	\$1,559,000	\$364,000	\$180,000	\$627,000	\$0
Grading	\$2,529,000	\$325,000	\$1,220,000	\$292,000	\$267,000	\$382,000	\$43,000
Electrical	\$1,850,000	\$179,000	\$935,000	\$97,000	\$232,000	\$347,000	\$60,000
Eng. & Design	\$1,827,000	\$162,000	\$819,000	\$175,000	\$256,000	\$323,000	\$92,000
Park/rail/Landscaping Costs	\$3,630,000	\$425,000	\$1,985,000	\$158,000	\$528,000	\$534,000	\$0
Fire Engine	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plan Preparation Costs ²	\$985,000	\$109,000	\$470,000	\$145,000	\$106,000	\$145,000	\$10,000
Subtotal	\$31,754,000	\$3,095,000	\$14,820,000	\$3,268,000	\$4,214,000	\$5,263,000	\$1,094,000
Other Costs							
Agricultural Mitigation Costs ³	\$29,213,000	\$3,281,000	\$13,572,000	\$4,158,000	\$3,542,000	\$4,660,000	\$0
School Exactions ⁴	\$18,930,000	\$2,380,000	\$8,093,000	\$2,485,000	\$2,473,000	\$3,207,000	\$292,000
Park Fees ⁵	\$1,504,000	\$318,000	\$0	\$423,000	\$311,000	\$423,000	\$29,000
Low-income housing fee ⁶	\$2,204,000	\$244,000	\$1,052,000	\$324,000	\$238,000	\$324,000	\$22,000
Traffic Impact Fee	\$3,118,000	\$294,000	\$1,267,000	\$412,000	\$361,000	\$657,000	\$127,000
Major Attraction Fee	\$895,000	\$100,000	\$431,000	\$133,000	\$98,000	\$133,000	\$0
Subtotal	\$55,864,000	\$6,617,000	\$24,415,000	\$7,935,000	\$7,023,000	\$9,404,000	\$470,000
TOTAL COSTS	\$87,618,000	\$9,712,000	\$39,235,000	\$11,203,000	\$11,237,000	\$14,667,000	\$1,564,000

¹ External roadway costs reflect a \$5,847 charge per unit, based on total road improvement costs of \$7,035,000

² The plan preparation cost for all subareas is \$818.52 per unit.

Mitigation costs assume that an acre for every acre developed, and an acre for every unit developed, are planted in cultivated agriculture and a conservation easement is dedicated.

Subarea 7 has no agricultural mitigation costs due to mitigation credits for a regional park dedication. The cost of planting and establishing vines, or orchards, and dedicating a conservation easement was estimated to be \$18,000 per acre on average.

⁴ School exactions are assumed to be \$5.99 per residential square foot and \$0.30 per square foot for commercial uses

⁵ Park fees, equal to \$2,436 per unit, are paid by all subareas except Subarea 2 where a 12.5 acre park is dedicated in lieu of park fees

⁶ Low-income housing fees are \$1,833 per unit.

Source: South Livermore Specific Plan, WRT, adopted Nov 17, 1997 and amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates;

Table D-2
Summary of Total Estimated In-Tract Costs by Subarea (\$1997 Constant)
South Livermore Valley Specific Plan Feasibility Analysis

Facility or Fee Item	Subarea Total Costs	In-tract Costs plus City and County Fees by Subarea					
		Subarea 1	Subarea 2	Subarea 3	Subarea 4	Subarea 5	Subarea 7
<u>In-tract Costs</u>							
Street Work	\$4,359,000	\$434,000	\$1,537,000	\$853,000	\$717,000	\$818,000	\$0
Water System	\$2,590,000	\$271,000	\$1,005,000	\$493,000	\$333,000	\$488,000	\$0
Sewer System	\$3,186,000	\$323,000	\$1,183,000	\$603,000	\$482,000	\$595,000	\$0
Storm Drainage	\$2,040,000	\$75,000	\$766,000	\$438,000	\$369,000	\$392,000	\$0
Grading	\$605,000	\$90,000	\$199,000	\$135,000	\$42,000	\$139,000	\$0
Electrical	\$2,876,000	\$299,000	\$1,110,000	\$544,000	\$413,000	\$510,000	\$0
Eng. & Design	\$1,566,000	\$149,000	\$580,000	\$307,000	\$236,000	\$294,000	\$0
Subtotal	\$17,222,000	\$1,641,000	\$6,380,000	\$3,373,000	\$2,592,000	\$3,236,000	\$0
<u>City and County Fees</u>							
City Storm Drainage ¹	\$30,000	\$13,000	\$0	\$0	\$0	\$0	\$17,000
County Storm Drainage	\$856,000	\$89,000	\$385,000	\$121,000	\$96,000	\$141,000	\$24,000
Sanitary Sewer Connection Fees	\$4,770,000	\$515,000	\$2,221,000	\$717,000	\$519,000	\$798,000	\$0
City Water Storage ²	\$1,837,000	\$346,000	\$1,491,000	\$0	\$0	\$0	\$0
County Water Connection	\$4,336,000	\$478,000	\$2,064,000	\$645,000	\$482,000	\$667,000	\$0
Recycled Water Fee ³	\$877,000	\$96,000	\$413,000	\$129,000	\$96,000	\$133,000	\$10,000
Subtotal	\$12,706,000	\$1,537,000	\$6,574,000	\$1,612,000	\$1,193,000	\$1,739,000	\$51,000
TOTAL COSTS	\$29,928,000	\$3,178,000	\$12,954,000	\$4,985,000	\$3,785,000	\$4,975,000	\$51,000

¹ City storm drainage fees are net of credits for citywide improvements (See Table C-9).

² Applies only to Subareas 1 and 2.

³ The recycled water fee is equal to 20% of the County Water Connection Fee.

Source: Nolte & Associates; City of Livermore; Economic and Planning Systems, Inc.

Table D-3
Summary of Backbone Infrastructure Costs, Ag. Mitigation and Fees by Subarea and Land Use (\$1997 Constant)
South Livermore Valley Specific Plan Feasibility Analysis

Item	Total Estimated Cost	Cost Burdens by Proposed Land Uses								
		Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center
Average Market Values (per unit/sqft/room)		\$518,000	\$430,000	\$345,000	\$300,000	\$100	\$150	\$78,000	\$150	\$200
Subarea 1										
Backbone Infrastructure Costs	\$3,094,330	\$1,986,666	\$1,108,264	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Agricultural Mitigation Costs	\$3,281,400	\$2,089,357	\$1,192,043	\$0	\$0	\$0	\$0	\$0	\$0	\$0
City and School Fees	\$3,335,033	\$2,137,333	\$1,197,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Costs	\$9,710,763	\$6,212,756	\$3,498,006	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subarea 2										
Backbone Infrastructure Costs	\$14,817,619	\$0	\$4,566,905	\$9,650,609	\$600,105	\$0	\$0	\$0	\$0	\$0
Agricultural Mitigation Costs	\$13,572,000	\$0	\$4,094,344	\$8,912,868	\$564,789	\$0	\$0	\$0	\$0	\$0
City and School Fees	\$10,842,549	\$0	\$3,300,755	\$7,092,594	\$449,200	\$0	\$0	\$0	\$0	\$0
Total Costs	\$39,232,168	\$0	\$11,962,004	\$25,656,071	\$1,614,093	\$0	\$0	\$0	\$0	\$0
Subarea 3										
Backbone Infrastructure Costs	\$3,267,411	\$0	\$290,844	\$2,832,726	\$0	\$0	\$49,545	\$0	\$94,297	\$0
Agricultural Mitigation Costs	\$4,158,000	\$0	\$372,833	\$3,785,167	\$0	\$0	\$0	\$0	\$0	\$0
City and School Fees	\$3,778,298	\$0	\$359,310	\$3,395,358	\$0	\$0	\$17,784	\$0	\$5,846	\$0
Total Costs	\$11,203,710	\$0	\$1,022,987	\$10,013,250	\$0	\$0	\$67,329	\$0	\$100,144	\$0
Subarea 4										
Backbone Infrastructure Costs	\$4,215,252	\$2,750,372	\$1,103,876	\$0	\$0	\$361,004	\$0	\$0	\$0	\$0
Agricultural Mitigation Costs	\$3,542,400	\$2,499,365	\$1,043,035	\$0	\$0	\$0	\$0	\$0	\$0	\$0
City and School Fees	\$3,480,134	\$2,364,917	\$1,031,232	\$0	\$0	\$83,985	\$0	\$0	\$0	\$0
Total Costs	\$11,237,785	\$7,614,654	\$3,178,143	\$0	\$0	\$444,989	\$0	\$0	\$0	\$0
Subarea 5										
Backbone Infrastructure Costs	\$5,261,770	\$1,091,949	\$3,043,445	\$258,959	\$0	\$203,221	\$40,083	\$119,515	\$0	\$504,598
Agricultural Mitigation Costs	\$4,659,700	\$1,097,121	\$3,214,459	\$285,620	\$0	\$0	\$0	\$0	\$0	\$62,500
City and School Fees	\$4,744,896	\$1,038,716	\$3,169,152	\$251,508	\$0	\$50,140	\$44,460	\$42,720	\$0	\$148,200
Total Costs	\$14,666,365	\$3,227,786	\$9,427,056	\$796,086	\$0	\$253,361	\$84,543	\$162,235	\$0	\$715,298
Subarea 6										
Backbone Infrastructure Costs	\$1,094,021	\$369,720	\$0	\$0	\$0	\$220,539	\$153,144	\$350,618	\$0	\$0
Agricultural Mitigation Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
City and School Fees	\$469,666	\$353,922	\$0	\$0	\$0	\$50,140	\$17,784	\$47,820	\$0	\$0
Total Costs	\$1,563,687	\$723,642	\$0	\$0	\$0	\$270,679	\$170,928	\$398,438	\$0	\$0
Total Plan Area										
Backbone Infrastructure Costs	\$31,750,402	\$6,198,107	\$10,113,333	\$12,742,293	\$600,105	\$784,764	\$242,771	\$470,133	\$94,297	\$504,598
Agricultural Mitigation Costs	\$29,213,500	\$5,685,843	\$9,916,714	\$12,983,654	\$564,789	\$0	\$0	\$0	\$0	\$62,500
City and School Fees	\$26,650,576	\$5,894,888	\$9,058,149	\$10,739,460	\$449,200	\$184,265	\$80,028	\$90,540	\$5,846	\$148,200
Total Costs	\$87,614,478	\$17,778,838	\$29,088,197	\$36,465,407	\$1,614,093	\$969,029	\$322,799	\$560,673	\$100,144	\$715,298
Per Unit Backbone/Sq. Ft. Infra. Costs	n/a	\$27,794	\$25,347	\$22,918	\$24,004	\$6.35	\$17.98	\$12.71	\$26.19	\$20.18
Per UnWSq. Ft. Ag. Mitigation Costs	n/a	\$25,497	\$24,854	\$23,352	\$22,592	\$0.00	\$0.00	\$0.00	\$0.00	\$2.50
Per Un1tfSq. Ft. City and School Fees	n/a.	\$26,434	\$22,702	\$19,316	\$17,968	\$1.49	\$5.93	\$2.45	\$1.62	\$5.93
Total Per Unit/Sq. Ft. Costs	n/a	\$79,726	\$72,903	\$65,585	\$64,564	\$7.85	\$23.91	\$15.15	\$27.82	\$28.61

Sources: City of Livermore; WRT; Nolte and Associates; Fehr and Peers Associates, Inc.; Economic & Planning Systems, Inc.

Table D-4
Per Unit Backbone Infrastructure Costs, Ag. Mitigation and Fees by Subarea and Land Use (\$1997 Constant)
South Livermore Valley Specific Plan Feasibility Analysis

Item	Per Unit Cost Burdens by Proposed Land Uses								
	Semi-Custom	Vineyard	Vineyard	Vineyard	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center
	Estates	Large Lots	Std. Lots	Villas					
Average Market Values (per unit/sqft/room)	\$518,000	\$430,000	\$345,000	\$300,000	\$100	\$150	\$78,000	\$150	\$200
<u>Subarea 1</u>									
Backbone Infrastructure Costs	\$23,929	\$22,165	\$0	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Agricultural Mitigation Costs	\$25,173	\$23,841	\$0	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
City and School Fees	\$25,751	\$23,954	\$0	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total Costs	\$74,852	\$69,960	\$0	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<u>Subarea 2</u>									
Backbone Infrastructure Costs	\$0	\$27,347	\$25,263	\$24,004	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Agricultural Mitigation Costs	\$0	\$24,517	\$23,332	\$22,592	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
City and School Fees	\$0	\$19,765	\$18,567	\$17,968	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total Costs	\$0	\$71,629	\$67,162	\$64,564	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<u>Subarea 3</u>									
Backbone Infrastructure Costs	\$0	\$19,390	\$17,486	\$0	\$0.00	\$16.51	\$0.00	\$26.19	\$0.00
Agricultural Mitigation Costs	\$0	\$24,856	\$23,365	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
City and School Fees	\$0	\$23,954	\$20,959	\$0	\$0.00	\$5.93	\$0.00	\$1.62	\$0.00
Total Costs	\$0	\$68,199	\$61,810	\$0	\$0.00	\$22.44	\$0.00	\$27.82	\$0.00
<u>Subarea 4</u>									
Backbone Infrastructure Costs	\$30,903	\$26,924	\$0	\$0	\$10.78	\$0.00	\$0.00	\$0.00	\$0.00
Agricultural Mitigation Costs	\$28,083	\$25,440	\$0	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
City and School Fees	\$26,572	\$25,152	\$0	\$0	\$2.51	\$0.00	\$0.00	\$0.00	\$0.00
Total Costs	\$85,558	\$77,516	\$0	\$0	\$13.28	\$0.00	\$0.00	\$0.00	\$0.00
<u>Subarea 5</u>									
Backbone Infrastructure Costs	\$27,999	\$24,154	\$21,580	\$0	\$10.16	\$5.34	\$11.95	\$0.00	\$20.18
Agricultural Mitigation Costs	\$28,131	\$25,512	\$23,802	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$2.50
City and School Fees	\$26,634	\$25,152	\$20,959	\$0	\$2.51	\$5.93	\$4.27	\$0.00	\$5.93
Total Costs	\$82,764	\$74,818	\$66,341	\$0	\$12.67	\$11.27	\$16.22	\$0.00	\$28.61
<u>Subarea 7</u>									
Backbone Infrastructure Costs	\$30,810	\$0	\$0	\$0	\$11.03	\$51.05	\$12.99	\$0.00	\$0.00
Agricultural Mitigation Costs	\$0	\$0	\$0	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
City and School Fees	\$29,494	\$0	\$0	\$0	\$2.51	\$5.93	\$1.77	\$0.00	\$0.00
Total Costs	\$60,304	\$0	\$0	\$0	\$13.53	\$56.98	\$14.76	\$0.00	\$0.00

Sources: City of Livermore; WRT; Nolte and Associates; Fehr and Peers Associates, Inc.; Economic & Planning Systems, Inc.

Table D-5
Summary of In-Tract Costs and City and County Fees by Subarea and Land Use (\$1997 Constant)
South Livermore Valley Specific Plan Feasibility Analysis

Item	Total Estimated Cost	Cost Burdens by Proposed Land Uses								
		Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center
Average Market Values (per unit/sqft/room)		\$518,000	\$430,000	\$345,000	\$300,000	\$0	\$150	\$200	\$78,000	\$150
<u>Subarea 1</u>										
In-Tract Costs	\$1,640,046	\$1,062,532	\$577,514	\$0	\$0	\$0	\$0	\$0	\$0	\$0
City and County Fees	\$1,536,442	\$958,832	\$577,610	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Costs	\$3,176,488	\$2,021,364	\$1,155,124	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Per Unit/Sqft In-Tract Costs	n/a	\$12,802	\$11,550	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Per Unit/Sqft City & County Fees	n/a	\$11,552	\$11,552	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Per Unit/Sqft Total Costs	n/a	\$24,354	\$23,102	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Subarea 2</u>										
In-Tract Costs	\$6,380,280	\$0	\$2,012,278	\$4,117,909	\$250,092	\$0	\$0	\$0	\$0	\$0
City and County Fees	\$6,572,874	\$0	\$1,912,317	\$4,374,282	\$286,275	\$0	\$0	\$0	\$0	\$0
Total Costs	\$12,953,154	\$0	\$3,924,595	\$8,492,191	\$536,367	\$0	\$0	\$0	\$0	\$0
Per Unit/Sqft In-Tract Costs	n/a	\$0	\$12,050	\$10,780	\$10,004	\$0	\$0	\$0	\$0	\$0
Per Unit/Sqft City & County Fees	n/a	\$0	\$11,451	\$11,451	\$11,451	\$0	\$0	\$0	\$0	\$0
Per Unit/Sqft Total Costs	n/a	\$0	\$23,501	\$22,231	\$21,455	\$0	\$0	\$0	\$0	\$0
<u>Subarea 3</u>										
In-Tract Costs	\$3,372,186	\$0	\$304,405	\$2,856,445	\$0	\$0	\$80,354	\$0	\$130,982	\$0
City and County Fees	\$1,612,957	\$0	\$132,795	\$1,434,186	\$0	\$0	\$23,668	\$0	\$22,308	\$0
Total Costs	\$4,985,143	\$0	\$437,200	\$4,290,631	\$0	\$0	\$104,022	\$0	\$153,290	\$0
Per Unit/Sqft In-Tract Costs	n/a	\$0	\$20,294	\$17,632	\$0	\$0.00	\$26.78	\$0.00	\$36.38	\$0.00
Per Unit/Sqft City & County Fees	n/a	\$0	\$8,853	\$8,853	\$0	\$0.00	\$7.89	\$0.00	\$6.20	\$0.00
Per Unit/Sqft Total Costs	n/a	\$0	\$29,147	\$26,485	\$0	\$0.00	\$34.67	\$0.00	\$42.58	\$0.00
<u>Subarea 4</u>										
In-Tract Costs	\$2,592,521	\$1,558,212	\$612,246	\$0	\$0	\$422,063	\$0	\$0	\$0	\$0
City and County Fees	\$1,193,668	\$787,917	\$362,973	\$0	\$0	\$42,778	\$0	\$0	\$0	\$0
Total Costs	\$3,786,189	\$2,346,129	\$976,219	\$0	\$0	\$464,841	\$0	\$0	\$0	\$0
Per Unit/Sqft In-Tract Costs	n/a	\$17,508	\$14,933	\$0	\$0	\$12.60	\$0.00	\$0.00	\$0.00	\$0.00
Per Unit/Sqft City & County Fees	n/a	\$8,853	\$8,853	\$0	\$0	\$1.28	\$0.00	\$0.00	\$0.00	\$0.00
Per Unit/Sqft Total Costs	n/a	\$26,361	\$23,786	\$0	\$0	\$13.88	\$0.00	\$0.00	\$0.00	\$0.00
<u>Subarea 5</u>										
In-Tract Costs	\$3,235,843	\$613,924	\$1,619,364	\$131,148	\$0	\$163,922	\$48,184	\$104,901	\$0	\$554,400
City and County Fees	\$1,738,671	\$345,267	\$1,115,478	\$106,236	\$0	\$23,872	\$54,398	\$57,660	\$0	\$35,760
Total Costs	\$4,974,514	\$959,191	\$2,734,842	\$237,384	\$0	\$187,794	\$102,582	\$162,561	\$0	\$590,160
Per Unit/Sqft In-Tract Costs	n/a	\$15,742	\$12,852	\$10,929	\$0	\$8.20	\$6.42	\$10.49	\$0.00	\$22.18
Per Unit/Sqft City & County Fees	n/a	\$8,853	\$8,853	\$8,853	\$0	\$1.19	\$7.25	\$5.77	\$0.00	\$1.43
Per Unit/Sqft Total Costs	n/a	\$24,595	\$21,705	\$19,782	\$0	\$9.39	\$13.68	\$16.26	\$0.00	\$23.61
<u>Subarea 6</u>										
In-Tract Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Item	Total Estimated Cost	Cost Burdens by Proposed Land Uses								
		Semi-Custom Estates	Vineyard Large Lots	Vineyard Std. Lots	Vineyard Villas	Winery	Restaurant	Inn	Bed & Breakfast	Commercial Center
City and County Fees	\$51,146	\$23,556	\$0	\$0	\$0	\$9,636	\$2,901	\$15,053	\$0	\$0
Total Costs	\$51,146	\$23,556	\$0	\$0	\$0	\$9,636	\$2,901	\$15,053	\$0	\$0
Per Unit/Sqft In-Tract Costs	n/a	\$0	\$0	\$0	\$0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Per Unit/Sqft City & County Fees	n/a	\$1,963	\$0	\$0	\$0	\$0.48	\$0.97	\$0.56	\$0.00	\$0.00
Per Unit/Sqft Total Costs	n/a	\$1,963	\$0	\$0	\$0	\$0.48	\$0.97	\$0.56	\$0.00	\$0.00
<u>Total Plan Area</u>										
In-Tract Costs	\$17,220,875	\$3,234,667	\$5,125,808	\$7,106,502	\$250,092	\$585,985	\$128,539	\$104,901	\$131	\$554,400
City and County Fees	\$12,705,758	\$2,115,572	\$4,101,173	\$5,914,704	\$286,275	\$76,286	\$80,967	\$72,713	\$22,308	\$35,760
Total Costs	\$29,926,633	\$5,350,239	\$9,226,980	\$13,020,206	\$536	\$662,271	\$209,506	\$177,614	\$153,290	\$590,160
Per Unit/Sqft In-Tract Costs	n/a	\$14,505	\$12,847	\$12,780	\$10,004	\$4.74	\$9.52	\$2.84	\$36.38	\$22.18
Per Unit/Sqft City & County Fees	n/a	\$9,487	\$10,279	\$10,638	\$11,451	\$0.62	\$6.00	\$1.97	\$6.20	\$1.43
Per Unit/Sqft Total Costs	n/a	\$23,992	\$23,125	\$23,418	\$21,455	\$5.36	\$15.52	\$4.80	\$42.58	\$23.61

Sources: City of Livermore; WRT; Nolte and Associates; Fehr and Peers Associates, Inc.; Economic & Planning Systems, Inc.

Table D-6
Total Residual Land Value by Product Type including Agricultural Mitigation Costs
South Livermore Valley Specific Plan

Product Type/Subarea/Units	Units	Subarea 1 133 units	Subarea 2 574 units	Subarea 3 177 units	Subarea 4 130 units	Subarea 5 177 units	Subarea 7 12 units	Total Plan Area 1,203 units
Semi-Custom/Country Estate (1-2 du/acre)	223	\$33,200,000		\$0	\$4,450,000	\$1,560,000	\$4,440,000	\$13,770,000
Vineyard Large Lots (3 du/acre)	399	\$2,150,000	\$7,181,000	\$645,000	\$2,501,000	\$7,308,000	\$0	\$19,785,000
Vineyard Std. Lots (4 du/acre)	556		\$8,786,000	\$3,888,000	\$0	\$192,000	\$0	\$12,866,000
Vineyard Villas (5-6 du/acre)	25		\$0	\$0	\$0	\$0	\$0	\$0
TDR Payments (if Applicable)							\$9,120,000	\$9,120,000
Park Land Payments							\$4,575,000	\$4,575,000
Total Residual Land Value for Plan Area	1,203	\$5,470,000	\$15,967,000	\$4,533,000	\$6,951,000	\$9,060,000	\$18,135,000	\$55,541,000
Total Residual Value/Per Acre	598	\$9,900,078,000		\$81,000	\$95,000	\$104,000	\$151,000	\$93,000
Per Square Foot		\$2.27	\$1.79	\$1.86	\$2.18	\$2.39	\$3.47	\$2.13
Per Lot		\$41,000	\$28,000	\$26,000	\$53,000	\$51,000	\$1,511,000	\$46,000

Source: South Livermore Specific Plan, WRT, adopted Nov 17, 1997 and amended Jan 25, 1999; Nolte & Associates; City of Livermore; Fehr & Peers Associates; Economic and Planning Systems, Inc

Table D-7
Residual Land Value per Acre by Product Type and S including Agricultural Mitigation Costs
South Livermore Valley Specific Plan

Product Type/Subarea/Units	Total Developed Acres ¹	Subarea 1 55 acres 133 units	Subarea 2 206 acres 574 units	Subarea 3 56 acres 177 units	Subarea 4 73.5 acres 130 units	Subarea 5 87 acres 177 units	Subarea 7 120 acres 12 units	Total Plan Area 598 acres 1,203 units
Semi-Custom/Country Estate (1 -2 du/acre)	236	\$89,000	\$0	\$0	\$81,000	\$64,000	\$37,000	\$58,000
Vineyard Large Lots (3 du/acre)	170	\$118,000	\$104,000	\$109,000	\$134,000	\$125,000	\$0	\$116,000
Vineyard Std. Lots (4 du/acre)	184	na	\$68,000	\$78,000	na	\$45,000	\$0	\$70,000
Vineyard Villas (5-6 du/acre)	7	na	\$0	na	na	na	\$0	\$0
Total Residual Value per Lot²		\$41,000	\$28,000	\$26,000	\$53,000	\$51,000	\$1,511,000	\$46,000
Total Residual Land Value per Acre	598	\$99,000	\$78,000	\$81,000	\$95,000	\$104,000	\$151,000	\$93,000
Residual Land Value Per Square Foot		\$2.27	\$1.79	\$1.86	\$2.18	\$2.39	\$3.47	\$2.13

¹ Developed acres exclude the 20-acre school site in Subarea 3.

² Represents a weighted average value across all product types.

Sources: City of Livermore; WRT; Nolte and Associates; Fehr and Peers Associates, Inc.; Economic & Planning Systems, Inc.

Appendix E

Residual Land Value Analysis by Land Use and Subarea

Appendix E - Table Index
Residual Land Value Analysis by Land Use and Subarea
South Livermore Valley Specific Plan Feasibility Analysis

Table No.	Table Title
Table E-1	Residual Land Value Analysis for: Semi-Custom/Country Estates Subarea 1
Table E-2	Residual Land Value Analysis for: Vineyard Large Lots Subarea 1
Table E-3	Residual Land Value Analysis for: Vineyard Large Lots Subarea 2
Table E-4	Residual Land Value Analysis for: Vineyard Std. Lots Subarea 2
Table E-5	Residual Land Value Analysis for: Vineyard Villas Subarea 2
Table E-6	Residual Land Value Analysis for: Vineyard Large Lots Subarea 3
Table E-7	Residual Land Value Analysis for: Vineyard Std. Lots Subarea 3
Table E-8	Residual Land Value Analysis for: Semi-Custom/Country Estates Subarea 4
Table E-9	Residual Land Value Analysis for: Vineyard Large Lots Subarea 4
Table E-10	Residual Land Value Analysis for: Semi-Custom/Country Estates Subarea 5
Table E-11	Residual Land Value Analysis for: Vineyard Large Lots Subarea 5
Table E-12	Residual Land Value Analysis for: Vineyard Std. Lots Subarea 5
Table E-13	Residual Land Value Analysis for: Semi-Custom/Country Estates Subarea 7

Table E-1
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Semi-Custom/Country Estates
Subarea 1

Prototype Description:	Single Family Detached Unit	
Lot Size (sqft):	14,000	
Unit Size (sqft):	3,100	
 Per Unit Revenue:		
Finished Unit Average Sales Price		\$470,000
Less: Sales & Marketing Expense ¹	7% of sale price	\$33,000
Net Per Unit Sale Price		\$437,000
 Less: Builder Development Costs		
Direct Construction @	\$60 /sq.ft.	\$186,000
Design, landscaping, interest, builder OH ²		\$49,000
Builder Profit as % of Sale Price	12%	\$56,000
Building Permit Fees ³		\$3,000
Sewer/Water Connection & Storage Fees ⁴		\$12,000
Tax on Construction ⁵		\$3,000
Total Builder Costs		\$309,000
 Finished Lot Price		
(As % of net sales price)		\$128,000 29.29%
Less: In-tract Costs		\$13,000
Total In-tract Costs		\$13,000
 Paper Lot Price		
(As % of net sales price)		\$115,000 26.32%
 Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$24,000
Agricultural Mitigation Costs		\$25,000
<u>School, Park, Low-income Housing and Traffic Fees</u>		\$26,000
Total Backbone Costs		\$75,000
 TOTAL COSTS		 \$397,000
 Raw Land Residual Per Lot		 \$40,000
(As % of net sales price)		9.15%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-2
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Vineyard Large Lots
Subarea 1

Prototype Description:		Single Family Detached Unit
Lot Size (sqft):		11,400
Unit Size (sqft):		2,800
Per Unit Revenue:		
Finished Unit Average Sales Price		\$421,000
Less: Sales & Marketing Expense ¹	7% of sale price	<u>\$29,000</u>
Net Per Unit Sale Price		\$392,000
Less: Builder Development Costs		
Direct Construction @	\$55 /sq.ft.	\$154,000
Design, landscaping, interest, builder OH ²		\$44,000
Builder Profit as % of Sale Price	12.00%	\$51,000
Building Permit Fees ³		\$3,000
Sewer/Water Connection & Storage Fees ⁴		\$12,000
Tax on Construction ⁵		<u>\$3,000</u>
Total Builder Costs		<u>\$267,000</u>
Finished Lot Price		\$125,000
(As % of net sales price)		31.89%
Less: In-tract Costs		<u>\$12,000</u>
Total In-tract Costs		\$12,000
Paper Lot Price		\$113,000
(As % of net sales price)		28.83%
Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$22,000
Agricultural Mitigation Costs		\$24,000
<u>School, Park, Low-income Housing and Traffic Fees</u>		<u>\$24,000</u>
Total Backbone Costs		<u>\$70,000</u>
TOTAL COSTS		\$349,000
Raw Land Residual Per Lot		\$43,000
(As % of net sales price)		10.97%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-3
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Vineyard Large Lots
Subarea 2

Prototype Description:		Single Family Detached Unit
Lot Size (sqft):		11,000
Unit Size (sqft):		2,500
Per Unit Revenue:		
Finished Unit Average Sales Price		\$399,000
Less: Sales & Marketing Expense ¹	7% of sale price	<u>\$28,000</u>
Net Per Unit Sale Price		\$371,000
Less: Builder Development Costs		
Direct Construction @	\$55 /sq.ft.	\$138,000
Design, landscaping, interest, builder OH ²		\$42,000
Builder Profit as % of Sale Price	12.00%	\$48,000
Building Permit Fees ³		\$3,000
Sewer/Water Connection & Storage Fees ⁴		\$11,000
Tax on Construction ⁵		<u>\$2,000</u>
Total Builder Costs		<u>\$244,000</u>
Finished Lot Price		\$127,000
(As % of net sales price)		34.23%
Less: In-tract Costs		<u>\$12,000</u>
Total In-tract Costs		\$12,000
Paper Lot Price		\$115,000
(As % of net sales price)		31.00%
Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$27,000
Agricultural Mitigation Costs		\$25,000
<u>School, Park, Low-income Housing and Traffic Fees</u>		<u>\$20,000</u>
Total Backbone Costs		<u>\$72,000</u>
TOTAL COSTS		\$328,000
Raw Land Residual Per Lot		\$43,000
(As % of net sales price)		11.59%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-4
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Vineyard Std. Lots
Subarea 2

Prototype Description:		Single Family Detached Unit
Lot Size (sqft):		9,000
Unit Size (sqft):		2,300
Per Unit Revenue:		
Finished Unit Average Sales Price		\$345,000
Less: Sales & Marketing Expense ¹	7% of sale price	<u>\$24,000</u>
Net Per Unit Sale Price		\$321,000
Less: Builder Development Costs		
Direct Construction @	\$55 /sq.ft.	\$127,000
Design, landscaping, interest, builder OH ²		\$37,000
Builder Profit as % of Sale Price	12%	\$41,000
Building Permit Fees ³		\$2,000
Sewer/Water Connection & Storage Fees ⁴		\$11,000
Tax on Construction ⁵		<u>\$2,000</u>
Total Builder Costs		<u>\$220,000</u>
Finished Lot Price		\$101,000
(As % of net sales price)		31.46%
Less: In-tract Costs		<u>\$11,000</u>
Total In-tract Costs		\$11,000
Paper Lot Price		\$90,000
(As % of net sales price)		28.04%
Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$25,000
Agricultural Mitigation Costs		\$23,000
<u>School, Park, Low-income Housing and Traffic Fees</u>		<u>\$19,000</u>
Total Backbone Costs		<u>\$67,000</u>
TOTAL COSTS		\$298,000
Raw Land Residual Per Lot		\$23,000
(As % of net sales price)		7.17%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-6
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Vineyard Large Lots
Subarea 3

Prototype Description:	Single Family Detached Unit	
Lot Size (sqft):	11,500	
Unit Size (sqft):	2,800	
Per Unit Revenue:		
Finished Unit Average Sales Price		\$425,000
Less: Sales & Marketing Expense ¹	7% of sale price	<u>\$30,000</u>
Net Per Unit Sale Price		\$395,000
Less: Builder Development Costs		
Direct Construction @	\$55 /sq.ft.	\$154,000
Design, landscaping, interest, builder OH ²		\$45,000
Builder Profit as % of Sale Price	12%	\$51,000
Building Permit Fees ³		\$2,000
Sewer/Water Connection & Storage Fees ⁴		\$9,000
Tax on Construction ⁵		<u>\$3,000</u>
Total Builder Costs		<u>\$264,000</u>
Finished Lot Price		\$131,000
(As % of net sales price)		33.16%
Less: In-tract Costs		<u>\$20,000</u>
Total In-tract Costs		\$20,000
Paper Lot Price		\$111,000
(As % of net sales price)		28.10%
Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$19,000
Agricultural Mitigation Costs		\$25,000
School, Park, Low-income Housing and Traffic Fees		<u>\$24,000</u>
Total Backbone Costs		<u>\$68,000</u>
TOTAL COSTS		\$352,000
Raw Land Residual Per Lot		\$43,000
(As % of net sales price)		10.89%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-7
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Vineyard Std. Lots
Subarea 3

Prototype Description:	Single Family Detached Unit	
Lot Size (sqft):	9,000	
Unit Size (sqft):	2,300	
 Per Unit Revenue:		
Finished Unit Average Sales Price		\$345,000
Less: Sales & Marketing Expense ¹	7% of sale price	\$24,000
Net Per Unit Sale Price		\$321,000
 Less: Builder Development Costs		
Direct Construction @	\$55 /sq.ft.	\$127,000
Design, landscaping, interest, builder OH ²		\$37,000
Builder Profit as % of Sale Price	12.00%	\$41,000
Building Permit Fees ³		\$2,000
Sewer/Water Connection & Storage Fees ⁴		\$9,000
Tax on Construction ⁵		\$2,000
Total Builder Costs		\$218,000
 Finished Lot Price		
(As % of net sales price)		\$103,000 32.09%
 Less: In-tract Costs		
		\$18,000
Total In-tract Costs		\$18,000
 Paper Lot Price		
(As % of net sales price)		\$85,000 26.48%
 Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$17,000
Agricultural Mitigation Costs		\$23,000
<u>School, Park, Low-income Housing and Traffic Fees</u>		\$21,000
Total Backbone Costs		\$61,000
 TOTAL COSTS		 \$297,000
 Raw Land Residual Per Lot		
(As % of net sales price)		\$24,000 7.48%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-8
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Semi-Custom/Country Estates
Subarea 4

Prototype Description:	Single Family Detached Unit	
Lot Size (sqft):	0	
Unit Size (sqft):	3,237	
 Per Unit Revenue:		
Finished Unit Average Sales Price		\$515,000
Less: Sales & Marketing Expense ¹	7% of sale price	\$36,000
Net Per Unit Sale Price		\$479,000
Less: Builder Development Costs		
Direct Construction @	\$60 /sq.ft.	\$194,000
Design, landscaping, interest, builder OH ²		\$54,000
Builder Profit as % of Sale Price	12.00%	\$62,000
Building Permit Fees ³		\$3,000
Sewer/Water Connection & Storage Fees ⁴		\$9,000
Tax on Construction ⁵		\$3,000
<u>Total Builder Costs</u>		<u>\$325,000</u>
 Finished Lot Price		 \$154,000
(As % of net sales price)		32.15%
 Less: In-tract Costs		 <u>\$18,000</u>
Total In-tract Costs		\$18,000
 Paper Lot Price		 \$136,000
(As % of net sales price)		28.39%
 Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$31,000
Agricultural Mitigation Costs		\$28,000
<u>School, Park, Low-income Housing and Traffic Fees</u>		<u>\$27,000</u>
Total Backbone Costs		\$86,000
 TOTAL COSTS		 \$429,000
 Raw Land Residual Per Lot		 \$50,000
(As % of net sales price)		10.44%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-9
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Vineyard Large Lots
Subarea 4

Prototype Description:	Single Family Detached Unit	
Lot Size (sqft):	13,000	
Unit Size (sqft):	3,000	
Per Unit Revenue:		
Finished Unit Average Sales Price		\$473,000
Less: Sales & Marketing Expense ¹	7% of sale price	<u>\$33,000</u>
Net Per Unit Sale Price		\$440,000
Less: Builder Development Costs		
Direct Construction @	\$55 /sq.ft.	\$165,000
Design, landscaping, interest, builder OH ²		\$50,000
Builder Profit as % of Sale Price	12%	\$57,000
Building Permit Fees ³		\$3,000
Sewer/Water Connection & Storage Fees ⁴		\$9,000
Tax on Construction ⁵		<u>\$3,000</u>
Total Builder Costs		<u>\$287,000</u>
Finished Lot Price		\$153,000
(As % of net sales price)		34.77%
Less: In-tract Costs		<u>\$15,000</u>
Total In-tract Costs		\$15,000
Paper Lot Price		\$138,000
(As % of net sales price)		31.36%
Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$27,000
Agricultural Mitigation Costs		\$25,000
School, Park, Low-income Housing and Traffic Fees		<u>\$25,000</u>
Total Backbone Costs		<u>\$77,000</u>
TOTAL COSTS		\$379,000
Raw Land Residual Per Lot		\$61,000
(As % of net sales price)		13.86%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-10
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Semi-Custom/Country Estates
Subarea 5

Prototype Description:	Single Family Detached Unit
Lot Size (sqft):	17,000
Unit Size (sqft):	3,247
Per Unit Revenue:	
Finished Unit Average Sales Price	\$495,000
Less: Sales & Marketing Expense ¹	7% of sale price
	\$35,000
Net Per Unit Sale Price	\$460,000
Less: Builder Development Costs	
Direct Construction @	\$60 /sq.ft. \$195,000
Design, landscaping, interest, builder OH ²	\$52,000
Builder Profit as % of Sale Price	12% \$59,000
Building Permit Fees ³	\$3,000
Sewer/Water Connection & Storage Fees ⁴	\$9,000
Tax on Construction ⁵	\$3,000
Total Builder Costs	\$321,000
Finished Lot Price	\$139,000
(As % of net sales price)	30.22%
Less: In-tract Costs	\$16,000
Total In-tract Costs	\$16,000
Paper Lot Price	\$123,000
(As % of net sales price)	26.74%
Less: Backbone Costs and Agricultural Mitigation	
Backbone Infrastructure Costs	\$28,000
Agricultural Mitigation Costs	\$28,000
<u>School, Park, Low-income Housing and Traffic Fees</u>	\$27,000
Total Backbone Costs	\$83,000
TOTAL COSTS	\$420,000
Raw Land Residual Per Lot	\$40,000
(As % of net sales price)	8.70%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-11
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Vineyard Large Lots
Subarea 5

Prototype Description:		Single family Detached Unit
Lot Size (sqft):		12,300
Unit Size (sqft):		3,000
Per Unit Revenue:		
Finished Unit Average Sales Price		\$461,000
Less: Sales & Marketing Expense ¹	7% of sale price	<u>\$32,000</u>
Net Per Unit Sale Price		\$429,000
Less: Builder Development Costs		
Direct Construction @	\$55 /sq.ft.	\$165,000
Design, landscaping, interest, builder OH ²		\$48,000
Builder Profit as % of Sale Price	12%	\$55,000
Building Permit Fees ³		\$3,000
Sewer/Water Connection & Storage Fees ⁴		\$9,000
Tax on Construction ⁵		<u>\$3,000</u>
Total Builder Costs		<u>\$283,000</u>
Finished Lot Price		\$146,000
(As % of net sales price)		34.03%
Less: In-tract Costs		<u>\$13,000</u>
Total In-tract Costs		\$13,000
Paper Lot Price		\$133,000
(As % of net sales price)		31.00%
Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$24,000
Agricultural Mitigation Costs		\$26,000
<u>School, Park, Low-income Housing and Traffic Fees</u>		<u>\$25,000</u>
Total Backbone Costs		<u>\$75,000</u>
TOTAL COSTS		\$371,000
Raw Land Residual Per Lot		\$58,000
(As % of net sales price)		13.52%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-12
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Vineyard Std. Lots
Subarea 5

Prototype Description:	Single Family Detached Unit	
Lot Size (sqft):	9,500	
Unit Size (sqft):	2,300	
Per Unit Revenue:		
Finished Unit Average Sales Price		\$333,000
Less: Sales & Marketing Expense ¹	7% of sale price	\$23,000
Net Per Unit Sale Price		\$310,000
Less: Builder Development Costs		
Direct Construction @	\$55 /sq.ft.	\$127,000
Design, landscaping, interest, builder OH ²		\$36,000
Builder Profit as % of Sale Price	12%	\$40,000
Building Permit Fees ³		\$2,000
Sewer/Water Connection & Storage Fees ⁴		\$9,000
Tax on Construction ⁵		\$2,000
<u>Total Builder Costs</u>		<u>\$216,000</u>
Finished Lot Price		\$94,000
(As % of net sales price)		30.32%
Less: In-tract Costs		<u>\$11,000</u>
Total In-tract Costs		\$11,000
Paper Lot Price		\$ 83,000.00
(As % of net sales price)		26.77%
Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$22,000
Agricultural Mitigation Costs		\$24,000
<u>School, Park, Low-income Housing and Traffic Fees</u>		<u>\$21,000</u>
Total Backbone Costs		\$67,000
TOTAL COSTS		\$294,000
Raw Land Residual Per Lot		\$16,000
(As % of net sales price)		5.16%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Table E-13
Residual Land Value Analysis for:
South Livermore Valley Specific Plan

Semi-Custom/Country Estates
Subarea 7

Prototype Description:	Single family Detached Unit	
Lot Size (sqft):	457,380	
Unit Size (sqft):	3,850	
Per Unit Revenue:		
Finished Unit Average Sales Price		\$947,000
Less: Sales & Marketing Expense ¹	7% of sale price	<u>\$66,000</u>
Net Per Unit Sale Price		\$881,000
Less: Builder Development Costs		
Direct Construction @	\$60 /sq.ft.	\$231,000
Design, landscaping, interest, builder OH ²		\$97,000
Builder Profit as % of Sale Price	12.00%	\$114,000
Building Permit Fees ³		\$3,000
Sewer/Water Connection & Storage Fees ⁴		\$2,000
Tax on Construction ⁵		<u>\$4,000</u>
Total Builder Costs		<u>\$451,000</u>
Finished Lot Price		\$430,000
(As % of net sales price)		48.81%
Less: In-tract Costs		<u>\$0</u>
Total In-tract Costs		\$0
Paper Lot Price		\$430,000
(As % of net sales price)		48.81%
Less: Backbone Costs and Agricultural Mitigation		
Backbone Infrastructure Costs		\$31,000
Agricultural Mitigation Costs		\$0
School, Park, Low-income Housing and Traffic Fees		<u>\$29,000</u>
Total Backbone Costs		<u>\$60,000</u>
TOTAL COSTS		\$511,000
Raw Land Residual Per Lot		\$370,000
(As % of net sales price)		42.00%

¹ Includes warranty and commissions.

² Includes \$350 for design; \$2,000 for landscaping; builder overhead and management at 5% of sales price; and financing costs at 5% of sales price

³ Includes plan check fees, building, electrical, plumbing, mechanical and fire permit fees.

⁴ Includes City and County storm drainage fees; sanitary sewer connection fees; City water storage fees (in Subareas 1 and 2 only); and County water connection fees

⁵ Tax on construction is equal to the greater of 1.75% of the costs of construction or \$650

Appendix F
Plan Preparation Costs

**Plan Preparation Costs
 South Livermore Valley Property Owner Contributions**

PROPERTY	OWNER	TOTAL PAID	% OF TOTAL	INTEREST	TOTAL CREDIT	UNITS OF CREDIT
1-A	Frydendal	\$11,330.30	2.6%	\$441.68	\$11,771.98	14.38
1-G	Rios-Lovell	\$2,833.50	0.6%	\$110.45	\$2,943.95	3.60
1-F	Wise & Reid	\$2,833.50	0.6%	\$110.45	\$2,943.95	3.60
1-E	Minaker	\$2,833.50	0.6%	\$110.45	\$2,943.95	3.60
6-A	RMC Lonestar	\$48,152.70	11.0%	\$1,877.12	\$50,030.82	61.10
2-A	Wente Bros.	\$96,308.40	22.0%	\$3,754.28	\$100,062.68	122.20
2-B	Dymond Devel.	\$25,493.10	5.8%	\$993.77	\$26,486.87	32.35
2-D	Davey Tree	\$4,814.10	1.1%	\$187.66	\$5,001.76	6.11
2-E	Volkman	\$4,487.60	1.0%	\$174.93	\$4,662.53	5.69
3-A	CDJ Partners	\$59,484.00	13.6%	\$2,318.79	\$61,802.79	75.48
4-C	McKissack	\$9,914.50	2.3%	\$386.49	\$10,300.99	12.58
4-B	Corbett	\$9,914.50	2.3%	\$386.49	\$10,300.99	12.58
4-A	Hansen	\$11,330.30	2.6%	\$441.68	\$11,771.98	14.38
4-D	Zumbach	\$9,914.50	2.3%	\$386.49	\$10,300.99	12.58
5-A	Tolentino	\$3,399.30	0.8%	\$132.51	\$3,531.81	4.31
5-B	Nelson	\$9,914.50	2.3%	\$386.49	\$10,300.99	12.58
5-D	Alameda Co.	\$31,158.30	7.0%	\$1,214.61	\$32,372.91	39.54
7-A	Olivina Ranch	\$94,577.58	21.6%	\$3,686.80	\$98,264.38	120.01
	TOTAL	\$438,695.18	10000.0%	\$17,101.13	\$455,796.31	556.67
					CITY CONTRIBUTION \$649,621.96	793.35
					TOTAL UNITS	1350.00

Acknowledgements

ACKNOWLEDGEMENTS

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Ayn Wieskamp

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