



Laguna Entrada

Conceptual Specific Plan

CRP 341 Community Design Lab

CAL POLY STATE UNIVERSITY SAN LUIS OBISPO
COLLEGE OF ARCHITECTURE AND ENVIRONMENTAL DESIGN
CITY AND REGIONAL PLANNING DEPARTMENT
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Kevin Moy • Donald Nielsen
Sean Tiedgen • Tyler Hartrich



DESIGN GROUP

Conceptual Specific Plan



Figure 1.1 Site Plan of Laguna Entrada



SketchUP Model of Laguna Entrada

Reshaping our Community

This document contains the Conceptual Specific Plan for Laguna Entrada. This design shares many of the attributes found in the new urbanist ideal, while coupling with the LEED ND criterion.

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1. INTRODUCTION

1.1 SCOPE OF THE SPECIFIC PLAN FOR LAGUNA ENTRADA

The Laguna Entrada site is located in the North West corner of the city of San Luis Obispo. The site is currently outside the urban reserve line outlined in the cities general plan. The general plan requires that a specific plan for the entire site be adopted prior to annexation by the city. This specific plan provides information bridging the city's general plan to the detail development plans that will occur within the site. These include; designation of land uses, designation of circulation elements, location of new and existing infrastructure, phasing of development, and establishing standards for development.

1.2 PLAN GOALS AND CONSISTENCY WITH THE GENERAL PLAN

The Laguna Entrada specific plan shall provide framework for future development on the site, which is also concurrent with the city's general plan. These policies and standards in the Laguna Entrada specific plan will guide development and phasing within the site.

THE OVERALL GOALS OF THE SPECIFIC PLAN ARE:

- Maintain open space and preserve the natural environment
- Provide a variety of housing options within the site
- Protect and enhance the wetland habitat in the floodplain and around creeks/streams

- Provide active public space ex plazas/ recreational parks
- Connect the Laguna Entrada site to the rest of the city
- Provide adequate noise barriers for new residents from LOVR and Foothill Blvd
- Allow for multiple forms of transportation to and from the site

See Figure 1.1 Project Area

1.3 LOCATION OF LAGUNA ENTRADA

The site is currently bordered by Laguna Lake, Cerro San Luis, and two heavily traveled arterials; Los Osos Valley Road and Foothill Boulevard. The entire site encompasses 1,386 acres which is split by four owners. The southern part of the site is in a 100 year flood plain which contains a fault line through the flood plain and the north eastern part of the site is adjacent to Cerro San Luis. At this time the site is predominately made up of agricultural uses, open space, and wetland habitat. Currently there are no plans for development or guidelines set forth in the general plan. There is no existing public infrastructure on the site. Within the specific plan area there are 4 different owners and 6 different parcels.

Laguna Entrada's Location: Context Map



Introduction

1.4 NEIGHBORHOOD FEATURES & PLANNING CHARACTER

Developments around the site are mainly made up of single family residences that encompass Laguna Lake. The 1,386 acre Laguna Entrada site is characterized by slopes from Cerro San Luis and a large expanse of low lying grassland around Laguna Lake. At the corner of Foothill Boulevard and Los Osos Valley Road the Laguna Entrada site is ideal for scenic views of Cerro San Luis and the surrounding Morro's. The Laguna Entrada site provides unobstructed views of Cerro San Luis and the surrounding foothills while the site has excellent view shed the majority of developable area will not disturb these views.

The Laguna Entrada area includes a variety of natural features such as creeks, wetlands, grasslands, the slopes of Cerro San Luis, Laguna Lake, and a variety of plant species. Figure NUMBER!! shows the natural habitats and public resources available around the site.

The Laguna Entrada specific plan current land uses include agricultural lands mainly grazing, single family residential uses and open space. While the city has no vision or guidelines set forth in the general plan the city has recognized the need for annexation of this site.

1.5 SPECIFIC PLAN FEATURES

The major features of the Laguna Entrada specific plan include protection of open space and creation park land, while maximizing use of developable land. The Laguna Entrada specific plan also provides plans to connect the site with San Luis Obispo by creating 4

different connections from the site to major arterials. The center of the site is characterized by a village core which is surrounded by multiple different housing typologies such as town homes HUD units and single family units creating a hierarchy of uses. The core also contains most of the site commercial area along with the majority of the site proposed mixed use units. Laguna Entrada site also features a development on the corner of Foothill Blvd and Los Osos Valley Road, the development also has a Resort/Spa. The Laguna Entrada site is designed to protect the natural resources of the site with generous reservations of open space in the most environmentally sensitive areas. An amphitheater library or community center can, become a major focal point for this community. The mixture of housing that shall be developed on site should also have a combination of densities. This specific plan requires for a balanced mix of housing, that includes single family, multi family, and mixed use residential. The Laguna Entrada site also contains live work units, and HUD apartments. The development of the Laguna Entrada site will be phased to ensure that public infrastructure and services are able to cope with the approximately 2,000 new residents.

VISION

Laguna Entrada will be a unique community that promotes sustainability, healthy living, and environmental sensitivity while preserving the areas character, culture, and connections to the surrounding communities.

Introduction

Objectives / Design Elements

1. Land Use and Development Standards

1.1 INTENT

The city's General Plan Land Use Map has no designation for the Laguna Entrada area. However, the city of San Luis Obispo cites the Laguna Entrada area as within its sphere of influence and anticipates its eventual annexation the city.

2. PARKS & OPEN SPACE

2.1 INTENT

The key goals within this specific plan are guidelines to protect and enhance the creek and wetland habitats, visual aspects to and from Cerro San Luis, and enhancing the livability of the future Laguna Entrada development.

2.2.1 PARKS

Goal 2.2.A To provide parks that encourages social interaction

Policy 2.2.1 Playgrounds and sports fields shall be interspersed throughout the neighborhoods

Policy 2.2.2 Public plazas shall be interspersed throughout the commercial oriented areas

2.2 OPEN SPACE

Goal 2.2A Restoration of the natural wetlands and habitat. The location around Laguna Entrada will act as an integral part in allowing the biodiversity to remain vital throughout this area through natural wildlife restoration practices.

Policy 2.2.1: Phase removal of agricultural practices including grazing.

Policy 2.2.2: Phase of wetland restoration

Policy 2.2.3: Provide for a 4:1 ratio of open space to the built environment

2.3 NATURAL ENVIRONMENT

Goal 2.3A Preserve and enhance the surrounding natural environment

Policy 2.1.1 Trails shall be constructed that help educate people on the surrounding wetlands and sensitive habitat.

Policy 2.2.2 Wetland habitat shall be restored within the site.

3.2 LAND USE DESIGNATIONS & ZONING

3.2.1 GENERAL LAND USE

Goal 3.2.A Provide a mixture of Land Uses that compliment the surrounding community and environment.

Policy 3.2.1 Overlay zones shall be implemented in areas abutting existing residential areas that limit building intensity and height

Policy 3.2.2 Transitional zones of 50' from the urban edge to open space shall be required

3.2.2 DESIGN SPECIFICS

Goal 3.2.B To incorporate a hierarchy of design patterns

Policy 3.2.3 Allow for higher densities within the core, lessening as it radiates outward

Policy 3.2.4 Height restrictions on buildings will limit to 40'

4. VILLAGE CORE

4.1 INTENT

The village core will act as the focal point within Laguna Entrada.

4.2 COMMUNITY DESIGN

Introduction

Goal 4.2.A Create a diverse and economically viable pedestrian market

Policy 4.2.1 Have 'destination' restaurants and retail shops

Policy 4.2.2 Provide a local grocery store

Goal 4.2.B To establish a unique and distinctive public center

Policy 4.2.3 Public art shall be utilized throughout the site

Policy 4.2.4 Sustainable practices and green building shall be mandatory

5. CIRCULATION

5.1 INTENT

The objective of the circulation plan is to provide access to and throughout the Laguna Entrada area by developing a network of arterials that will link the adjacent pre-existing arterials to the Laguna Entrada Specific Plan area. The development of the circulation in the Laguna Entrada area includes the provision of alternative means of transportation.

5.2 INTEGRATED STREET NETWORK

5.2.1 ACCESSABILITY

Goal 5.2.A To diversify the transit options available to the public and residents

Policy 5.2.1 Provide a separate 15' bike and walking path

To integrate with the laguna entrada site with the existing bicycle plan

Policy 5.2.2 Re-route bus lines through the site

5.2.2 STREET NETWORK

Goal 5.2B Create a highly connective street network

Policy 5.2.3 A modified grid structure shall be used throughout the site and link

proposed streets to existing thoroughfares
Policy 5.2.4 There shall be a 10' minimum sidewalk/planter right of way

To improve existing thoroughfares (Los Osos Valley Road & Foothill Blvd)

In order to improve circulation a strict street hierarchy will be implemented throughout the site.

6. PUBLIC FACILITIES / UTILITIES

6.1 INTENT

Public Utilities and facilities within the Laguna Entrada area are currently non-existent. These facilities and utilities include potable and recycled water, wastewater treatment, electricity natural gas cable and police, fire and hospitals.

6.2 PUBLIC FACILITIES

Goal 6.2.A Construct facilities that promote community interaction

Policy 6.2.1 A new public library and community center(possibly a satellite hospital office) shall be constructed

Policy 6.2.2 An outdoor amphitheater shall be provided

Goal 4.2.B Public spaces will be functional, safe, and aesthetically pleasing

Policy 6.2.3 Acorn Streetlamps will be placed at 30' intervals along sidewalks

Policy 6.2.4 Public seating and waste bins will be dispersed throughout the spaces

Trees shall be planted every 40' intervals

7. IMPLEMENTATION

In the following chapters of the Laguna Entrada Specific Plan the following elements including Land Use, Open space, Circulation, Public Facilities, Implementation, and Village Core will be detailed.

Site Analysis

PHYSICAL & NATURAL ATTRIBUTES PROJECT LOCATION

The project area is located directly north and west of the San Luis Obispo City limits. With nearly 1200 acres of undeveloped land, the site currently provides large amounts of wildlife habitats and grazing lands. The mountain peak, Cerro San Luis, is the eastern boundary of the site. To the south is the City's Laguna Lake and nature preserve. The north and west boundaries of the site are the heavily traveled Los Osos Valley Road and Foothill Boulevard.

TOPOGRAPHY

The site is mostly covered by low sloped grazing lands. To the east and north of the site are two of the areas well known morros, Cerro San Luis and Bishop's Peak. In addition to the large peak along the eastern edge of the site, there are also several serpentinite rock hills at the center of the site.

CLIMATE AND WINDS

The project site has a climate similar to the rest of San Luis Obispo. The site has a very mild, Mediterranean like climate. Most days are sunny or partly cloudy, and the city has an annual average temperature of 70 degrees. A notable difference between the city and the project area is the presence of thick morning and evening fog that rolls in from the coast through the Los Osos Valley. In the afternoons, the strongest winds come from the northwest before continuing through the Los Osos Valley towards the airport.

NOISE

The central and southern portions of the site are protected from noise due

to cars. As you travel north or west towards Los Osos Valley Road or Foothill Blvd. the sound of cars overtake the serene sounds found through the rest of the site. Cerro San Luis protects the site from the noise of cars traveling along Highway 101.

HYDROLOGY AND DRAINAGE

Laguna Lake lies at the southwestern portion of the site. When the lake level rises, a seasonal creek forms and drains through the site out to Morro Bay. The site is a part of the San Luis Creek watershed. Flooding has been known to occur in and around the site after heavy rain storms. Because the site is in a valley, water from the surrounding hills flows into the site before moving towards the bay.

SOILS AND GEOLOGY

The soil and geology types found on the site determine the types of buildings that can be placed in each area. Loamy clay soils dominate the low lying wetland areas. Serpentine rocks are present along the lower portions of the Cerro and smaller hills while dacite, a volcanic rock formation covers the peak of the mountain. 120-Concepcion loam, 2 to 5 percent slopes. This very deep, moderately well drained, gently sloping soil is on marine terraces. It formed in old alluvium weathered alluvium weathered from sedimentary rocks. Areas are irregular in shape and range from 30 to 225 acres. The natural vegetation is mainly annual and perennial grasses and forbs with a few areas of scattered brush. Elevation ranges from 10 to 800 feet. The average annual precipitation ranges from 17 to 24 inches, and the average annual air

Site Analysis (Continued)

temperature is about 58 degrees F. The average frost-free season ranges from 300 to 330 days, depending on location.

Typically, the surface layer is dark grayish brown loam about 14 inches thick. The next layer is light brownish gray sandy loam about 5 inches thick. The subsoil is brown or dark brown clay to a depth of 47 inches. The underlying material to a depth of 60 inches or more is sandy clay loam with mixed colors of light brownish gray and light gray. The profile is slightly acid at the surface and becomes moderately alkaline as depth increases. Some small areas of this soil have slightly lighter acid in the surface layer

Permeability of this soil is very slow, and available water capacity is moderate or high. Surface runoff is slow, and the hazard of water erosion is slight. The soil has a high shrink-swell potential in the subsoil. The dense clay subsoil, however, restricts movement of water and penetration of plant roots. This increases the importance of the importance of maintaining a permanent plant cover. This soil is typically open grassland. Major forage is annuals, including burclover and other legumes. Undesirable plants include horehound, California sagebrush, and mustard.

Building sites and most other engineering practices often require special design considerations because of the high shrink-swell potential, low strength and hardness to pack of the subsoil. Foundations and footings need to be designed to compensate for these soil characteristics. Care should be taken to avoid removal of the surface layer on

areas that are to be landscaped so that the dense clay subsoil is not exposed.

Local road and street design can require that the base material be replaced or covered with a more suitable material in order to reduce maintenance. This soil is well suited to pond reservoir areas. The amount and rate of applications of irrigation water must be controlled to prevent waterlogging and excessive runoff. Sprinkler or drip methods of irrigation are best suited to this soil. 128-Cropley clay, 2 to 9 percent slopes. This very deep, moderately well drained, gently sloping and moderately sloping soil is on alluvial fans and plains. The natural vegetation is mainly annual and perennial grasses. Elevation ranges from 100 to 700 feet. The average annual precipitation ranges from 14 to 20 inches, and the average annual air temperature is about 58 degrees F.

Typically, the surface layer is darkgray, very dark gray, and light brownish gray clay about 36 inches thick. The underlying material is pale brown and light yellowish brown silty clay loam to a depth of 60 inches or more. When the soil is dry, large cracks extend to a depth of 40 inches or more.

This soil is well suited to rangeland. However, the clay texture increases the hazard of compaction. This can be reduced by grazing when the surface layer is moderately dry. The high available water capacity of this soil influences a rather long, slow growing forage season. Erosion can be controlled by maintaining adequate plant residue on the soil surface. This soil typically produces

Site Analysis (Continued)

annual plants, including burclover and other legumes. Livestock grazing should be managed so that the desired balance of plant species is maintained. Undesirable plants include milkthistle, poison-hemlock, and cheeseweed.

Urban development is increasingly important on this soil. Foundation and footing designs need to compensate for the high shrink-swell potential and low strength. Septic tank absorption fields do not function properly because of the slow permeability. Using sandy backfill for trench lines and increasing the size of the absorption field helps to compensate for the slow permeability. Local road and street design can require more suitable material so that maintenance is minimized.

This site is a favorable site for pond reservoir areas; however, slopes of more than 6 percent can reduce the strength, and hardness to pack make this soil a poor material for the construction of embankments, dikes, and levees. 129-Diablo clay, 5 to 9 percent slope. This deep, well drained, gently rolling soil is on low lying foothills. It formed in residual material weathered from sandstone, shale, or mudstone. Areas are irregular in shape and mainly annual grasses and forbs. Elevation ranges from 200 to 600 feet. The average annual precipitation ranges from 14 to 25 inches, and the average annual air temperature is about 59 degrees F.

Typically, the surface layer is very dark gray clay about 38 inches thick. The underlying material to a depth of about 58 inches is olive gray clay. This is underlain by weathered mudstone. Permeability of this

Diablo soil is slow, and the available water capacity is moderate to very high. Surface runoff is medium, and the hazard of water erosion is slight or moderate. The effective rooting depth ranges from 45 to 58 inches. This soil has high shrink-swell potential.

This soil is well suited to rangeland. The clay texture, however, increases the hazard of surface compaction. This hazard can be reduced by grazing when the surface layer is moderately dry. Erosion can be controlled by maintaining adequate plant residue on the soil surface.

This soil is increasingly important for urban development. The main limitations are high shrink-swell potential, low strength, and slow permeability. The soil is hard to pack because of the high clay content. These limitations can require special design considerations for urban development and most other engineering practices. Foundation and footing designs need to offset these limitations. Shallow excavations are difficult to perform because of the high clay content. Septic tank absorption fields do not function properly because of the slow permeability and depth to rock. Using sandy backfill for trench lines and increasing the size of the absorption field helps to compensate for the slow permeability.

Local road and street design can require that the base material be replaced or covered with a more suitable material so that maintenance is minimized. This soil is a moderately favorable site for pond reservoir areas. However, the slope can create minor problems by reducing the storage

Site Analysis (Continued)

potential. The high shrink-swell potential, low strength, and hardness to pack make this soil a poor material for the construction of embankments, dikes, and levees. 162-Los Osos-Diablo complex, 5 to 9 percent slopes. These gently rolling soils are on foothills and mountain ridge tops. Areas are irregular in shape and range from 10 to 350 acres. The natural vegetation is mainly annual grasses and forbs. Elevation ranges from 200 to 1500 feet. The average annual precipitation from 15 to 25 inches, and annual air temperature is about 59 degrees F. This complex is about 35% Los Osos soil and 30% Diablo soil. The Diablo soil differs from the Los Osos soil by being deep and having clay texture throughout.

The Los Osos soil is moderately deep and well drained. It formed in residual material weathered from sandstone or shale. Typically, the surface layer is brown loam and about 14 inch thick. The subsoil is yellowish brown clay and light yellowish brown clay loam from about 18 inches thick.

Permeability of the Los Osos soil is slow, and the available water capacity is low or moderate. Surface runoff is medium, and the hazard of water erosion is moderate. This soil has a high shrink-swell potential in the subsoil. The Diablo soil is deep and well drained. Typically the surface layer is very dark gray clay about 38 inches thick. The underlying material to a depth of about 58 inches is olive gray clay. Below this is weathered mudstone.

Permeability of Diablo soil is slow, and the availability of water capacity is moderate to very high. Surface runoff is medium, and the hazard of water erosion is slight.

This soil has high shrink-swell potential. Most areas of these soils are used for hay crops and small grains or as rangeland. A few areas are used for urban development.

These soils are well suited to rangeland. The clay subsoil of the Los Osos soil, however, restricts uniform movement of water and penetration of plant roots. The clay subsoil and the loam surface layer make this soil subject to gully erosion. For this reason, it is important to maintain a permanent plant cover and leave adequate plant residue on the soil surface. The clay texture of the Diablo soil increases the hazard of soil compaction. This hazard can be reduced by grazing when the surface layer is moderately dry. The clay texture of Diablo soil and the Los Osos subsoil influences a rather long, slow growing forage season.

These soils are increasingly important for urban development. The main limitations are high shrink-swell potential, low strength, and slow permeability. The high clay content of the Diablo soil and the Los Osos subsoil makes these soils hard to pack. These limitations can require special design considerations for urban development and most other engineering practices. Foundations and footings should be designed to offset these limitations. Septic tank absorption fields do not function properly because of slow permeability and depth to rock. The use of sandy backfill for the trench and long absorption lines helps to compensate for these limitations. 163-Los Osos-Diablo complex, 9 to 15 percent slopes. Same as 162-Los Osos-Diablo Complex. 183-Obispo-Rock outcrop complex, 15 to 75 percent slopes. This complex is about

Site Analysis (Continued)

50% Obispo soil and 30% Rock outcrop. This moderately steep to very steep soil and Rock outcrop are on mountain ridges and side slopes. Areas are irregular in shape and range from 5 to 1500 acres. The natural vegetation is mainly annual and perennial grasses and forbs with a few areas of brush. Elevation ranges from 200 to 2500 feet. The average annual precipitation ranges from 16 to 35 inches, and the average annual air temperature is about 58 degrees F.

The Obispo soil is shallow and well drained. It formed in residual material weathered from serpentine rock. Typically, the surface layer is very dark gray clay about 11 inches thick. This is directly underlain by firm to hard serpentine.

Permeability of the Obispo soil is slow, and the available water capacity is very low or low. Surface runoff is rapid or very rapid, and the hazard of water erosion is high or very high. Effective rooting depth ranges from 8 to 20 inches. The Rock outcrop is exposed, hard serpentine at or near the soil surface.

This complex is poorly suited to rangeland. Because of the clay surface layer and steep slopes, the Obispo soil is subject to sheet erosion. The exposed cobbles and Rock outcrop hinder livestock movement and increase soil erosion hazards. The rocks prevent water infiltration, increasing the amount of surface runoff. Natural terrain barriers should be utilized as management area boundaries. The serpentine parent material causes a calcium-magnesium imbalance, which prevents the normal growth of many plants. The forage produced of this soil is often of low palatability. The major forage

plants are perennial grasses, including squirreltail and purple needlegrass. Undesirable plants include California sagebrush, locoweed, and tocalote.

Most engineering practices require special design consideration because of slope, shallow depth, and high clay content. Septic tank absorption fields do not function properly because of the high clay content and shallow depth of this soil. Increasing the size of the absorption field can minimize these problems. Placement of the absorption field can be difficult because of the high amount of rock at or near the surface. Excavations for foundations and road construction are also hindered. The base material may need to be replaced with a more suitable material. All disturbed areas should be protected from erosion by minimum grading, using runoff and sediment control structures, and establishing a permanent plant cover on side slopes.

*(soil information taken directly from the USDA: Soil Survey of San Luis Obispo County, California Coastal Part)

WILDLIFE & VEGETATION

Because of the pristine condition of the site, there are several bird, amphibian, and mammal species that call this site home. The site is also an important wildlife corridor for many of the wildlife species. Some of the species that can be found on the site include many bird species that have been listed as species of local concern. There are also three predominant vegetation habitats on the site. They are the Coast Live Oak Woodland, coastal

scrub and grassland communities. The Coast Live Oak and coastal scrub habitats preside on the higher slopes of Cerro San Luis while the grassland and wetland vegetation species are found on the lower slopes throughout the rest of the site.

Cerro San Luis Natural Reserve Two plant communities dominated by introduced plant species are also prominent. These include areas supporting Opuntia scrub habitat, a variation of the coastal scrub community that is dominated by the introduced mission-fig cactus (*Opuntia ficus-indica*), and woodland habitat comprised largely of introduced trees such as blue gum (*Eucalyptus globulus*), Monterey cypress (*Cupressus macrocarpa*), and Peruvian pepper (*Schinus molle*). Generally the southern half of the CSLNR, on the lower eastfacing slopes is dominated by grassland habitat. The northern half of the CSLNR is vegetated with a mosaic of grassland, coastal scrub, oak woodland, and introduced trees. Grassland habitat occupies nearly two thirds of the site (64 percent). Roughly sixteen percent of the CSLNR supports a varying coastal scrub community and nine percent is vegetated with coast live oak woodland. The remainder of the site consists of vegetation growing beneath the canopy of introduced trees or in areas occupied by a plant community dominated by the introduced cactus (5.5 and 4.8 percent, respectively). The composition and abundance of dominant species within each community is variable.

GRASSLAND HABITAT

Grassland habitat is present on the middle and lower slopes of Cerro San Luis, occupying

a combined area of approximately 76 acres within the Reserve boundaries. The plant assemblage within grassland areas is dominated by introduced annual grasses and forbs, but includes a mixture of native grasses and herbs. Generally, the composition of plant species found in grassland habitat within the CSLNR is typical of sites that have sustained years of use as rangeland for cattle. Plant species commonly encountered in grassland habitat on the site include:

- Foxtail barley (*Hordeum* sp.)
- Ryegrass (*Lolium* sp.)
- Wild oats (*Avena fatua*)
- Ripgut (*Bromus diandrus*)
- Purple needlegrass (*Nasella pulchra*)
- California sagebrush (*Artemisia californica*)
- Fennel (*Foeniculum vulgare*)
- Teasel (*Dipsacus sativus*)
- Knotted dock (*Rumex conglomeratus*)
- Dandelion (*Taraxacum officinale*)
- Mustard (*Hirschfeldia incana*)
- Saw-toothed goldenbush (*Hazardia squarrosa*)

• Turkey mullein (*Eremocarpus setigerus*)

Although surveys were conducted at a time of year when native wildflowers are not in bloom and often difficult to detect, three common species were noted in grassland areas during surveys. These included the California poppy (*Eschscholzia californica*), morning glory (*Calystegia macrostegia*), and tarweed (*Hemizonia fasciculata*). Grassland areas provide habitat for burrowing animals, groundnesting/ foraging birds, various reptiles, and cursorial species such as the black-tailed jackrabbit (*Lepus californicus*). Grassland areas also offer important foraging habitat for a variety of

hawks and owls.

PLANT SPECIES

Commonly noted within coastal scrub habitat during the surveys include:

- California sagebrush (*Artemisia californica*)
- Black sage (*Salvia mellifera*)
- Coyote bush (*Baccharis pilularis*)
- Chamise (*Adenostoma fasciculatum*)
- Toyon (*Heteromeles arbutifolia*)
- Coast live oak (*Quercus agrifolia*)
- Deerweed (*Lotus junceus*)
- Poison oak (*Toxicodendron diversilobum*)
- Monkeyflower (*Mimulus* sp.)
- Blue elderberry (*Sambucus mexicana*)
- Wild buckwheat (*Eriogonum* sp.)
- Morning glory (*Calystegia macrostegia*)
- Saw-toothed goldenbush (*Hazardia squarrosa*)
- Wild rose (*Rosa californica*)

Coast Live Oak Woodland Habitat

These woodland areas are relatively open and typically support undergrowth comprised of plant species from surrounding coastal scrub habitat. Common species identified within coast live oak woodland include:

- Coast live oak (*Quercus agrifolia*)
- Poison oak (*Toxicodendron diversilobum*)
- Coffeeberry (*Rhamnus californica*)
- Monkeyflower (*Mimulus* spp.)
- Mugwort (*Artemisia douglasiana*)
- Hummingbird sage (*Salvia spathacea*)
- Blackberry (*Rubus ursinus*)
- Bracken fern (*Pteridium aquilinum*)

Coast live oak woodlands provide important nesting, roosting, and foraging habitat for a great number of bird species including titmice, woodpeckers, wrens, warblers, and various raptors. Habitat

features such as logs and rocks that are situated in the leaf litter beneath closed canopy oak woodlands offer shelter and a rich foraging environment for small mammals, reptiles, and amphibians. In addition to oaks, the canopy trees in this area include western sycamore (*Platanus racemosa*), black cottonwood (*Populus balsamifera*), and introduced species such as the Monterey cypress and blue gum. Understory vegetation in the vicinity of the seeps is more diverse than in other oak woodland areas and includes a mixture of native and introduced shrubs, trees, and herbaceous species. Vegetation unique to seep areas (in coast live oak woodland and grassland habitat) included umbrella sedge (*Cyperus eragrostis*), cattails (*Typha latifolia*), watercress (*Rorippa nasturtium-aquaticum*), spikerush (*Eleocharis macrostachya*), and saltgrass (*Distichlis spicata*).

The dominant plant species within Opuntia scrub habitat generally include:

- Indian-fig cactus (*Opuntia ficus-indica*)
- California sagebrush (*Artemisia californica*)
- Coyote bush (*Baccharis pilularis*)
- Poison oak (*Toxicodendron diversilobum*)
- Monkeyflower (*Mimulus* spp.)
- Black sage (*Salvia mellifera*)
- Toyon (*Heteromeles arbutifolia*)
- Coast live oak (*Quercus agrifolia*)
- Coffeeberry (*Rhamnus californica*)

The introduced tree species identified within the Reserve include:

- Blue gum (*Eucalyptus globulus*)
- Monterey cypress (*Cupressus macrocarpa*)
- Peruvian pepper (*Schinus molle*)

Site Analysis (Continued)

- Lemon (*Citrus limon*)

Several species of local concern were encountered during wildlife surveys, including the western skink (*Eumeces skiltonianus*), yellowrumped warbler (*Dendroica coronata*), rufous-crowned sparrow (*Aimophila ruficeps*), and monarch butterfly (*Danaus plexippus*).

BIRD SPECIES

The CSLNR offers a mixture of habitats that support a varied assemblage of bird species. A total of 46 bird species was identified during the CSLNR wildlife survey including two local species of concern, the yellow rumped warbler (*Dendroica coronata*) and the rufouscrowned sparrow (*Aimophila ruficeps*). Additionally, two species of wrens, the Bewick's wren (*Thryomanes bewickii*) and the house wren (*Troglodytes aedon*), various sparrows, including the lark sparrow (*Chondestes grammacus*), golden-crowned sparrow (*Zonotrichia atricapilla*), whitecrowned sparrow (*Zonotrichia leucophrys*), chipping sparrow (*Spizella passerina*), and a second warbler species, the Townsend's warbler (*Dendroica townsendi*) were identified during surveys. The bird species most commonly encountered in the Reserve included the northern mockingbird (*Mimus polyglottis*), Anna's hummingbird (*Calypte anna*), western scrub jay (*Aphelocoma californica*), California towhee (*Pipilo crissalis*), and morning dove (*Zenaidura macroura*). Turkey vultures (*Cathartes aura*) and red-tailed hawks (*Buteo jamaicensis*) were frequently visible in the sky above the CSLNR during daytime surveys. Sizable flocks of American crows (*Corvus brachyrhynchos*) and foraging cliff swallows (*Petrochelidon pyrrhonota*)

were also observed on occasion in the sky above the Reserve. Three owl species were detected during surveys from either direct observation during nighttime surveys or the identification of pellets found at the base of trees and fence posts. Table 1 presents a list of the birds identified during the surveys. A more extensive seasonal sampling effort would undoubtedly detect additional resident and migratory bird species.

*Information taken directly from Cerro San Luis Reserve: Conservation Plan (<http://www.ci.san-luis-obispo.ca.us/naturalresources/download/cslconplan.pdf>).

OPPORTUNITIES

- The diversity of wildlife and plant species appeals to nature enthusiasts
- Lack of developed land gives designers a clean slate to work with
- Low slopes throughout the site are ideal for building upon
- Viewsheds of the valleys and peaks around the site are relatively undisturbed
- Most of the vegetation types in the buildable areas are non native and easily removable
- The proximity to the city allows the site to connect two corners of the city

CONSTRIANTS

- Wildlife corridors and species need to be preserved
- The flood plain can present major problems when large storms occur
- Because of the large viewsheds, new buildings can easily disturb the views
- Wind from the northwest can be heavy at times and should be taken into consideration when designing the site
- Steep slopes are not ideal for building upon

HISTORIC, CULTURAL & SOCIAL ATTRIBUTES HISTORIC BACKGROUND

When incorporated in 1856, San Luis Obispo was little more than a train stop for people passing between San Francisco and Los Angeles. As years passed, the area began to expand as the population grew. Today, more than 44,000 people reside within the city. The growth of the city over the last 100 years is largely attributed to the location of Cal Poly, a major university in the Cal State system. Home to nearly 20,000 students, the university has been the main factor for the area's economic success. The history of San Luis Obispo dates back to 1772 when Junipero Serra built one of his 21 missions in the previously unsettled area. With the mission, San Luis Obispo had a strong point to build around, and provided developers an opportunity to expand the city. One of these developers, Alex Madonna, had a strong vision for California's central coast throughout the 1900's. As an owner of much of the land in the area, Madonna played an important role in shaping the future of San Luis Obispo. Although Madonna successfully developed large areas of his land, much of it remains undeveloped to this day. San Luis Obispo is the economical, governmental, and residential core of San Luis Obispo County. As the size of Cal Poly State University and local families continue to grow, more development will be needed in the future. We researched the historic, cultural and social attributes of the site in order to understand the site's history and recognize the community's visual preferences for possible residential, commercial

and recreational uses for the area.

Nearby Property Owners and Developments

Encompassing our site is undeveloped land controlled by various property owners. The four property owners combined possess 922.5 acres. The site we are constructing is owned by Congregation Beth David, which is approximately 92.5 acres and is located on the corner of Los Osos Valley Road and Foothill Boulevard. 18.5 acres of CBD's land is available for development. Adjacent to CBD's property is an estate of 160 acres owned by R & C Twisselman, who are also owners of the ranch located on property. Adjacent to their site is 390 acres owned by T & K Twisselman. Next to the Twisselman's property is another large property of 280 acres owned and managed by J & S Madonna, relatives of Alex Madonna who was a prominent real estate developer and builder on the Central Coast.

CONGREGATION BETH DAVID

Our site is home to Congregation Beth David, a LEED certified structure recognized throughout the central coast for being solar-heated, naturally ventilated and solar powered. Another remarkable attribute about the building is that it is controlled by an advanced computer system which monitors interior and exterior climates. The San Luis Sustainability Group and local architects were commissioned by the congregation to design a high-performance green building while reserving over half the site for wetlands and open space. The landscape architecture of the site is also very impressive. The area is built with a 10' high landscaped slope, protecting the environment from wind

and traffic noise, while offering a pleasant entry to the congregation. The site began construction in June of 2005 and was completed in December of 2006. The first religious service for the Congregation was held on December 6, 2006.

THE CLUBHOUSE

The Clubhouse is a historical landmark in San Luis Obispo County located adjacent to our site right across Foothill Boulevard. The historical site is a well known restaurant that was once part of the Old Bishop Dairy. The building was originally built as a family home in 1917. It was converted to a restaurant in 1950 by Pat and Whitey Arson. Ever since then it has been owned by various proprietors, and has been remodeled and expanded several times. With a rich history of oil tycoons, World War II soldiers, and local cowboys coming in and out its doors, The Clubhouse is a local gem that continues to thrive with all kinds of visitors.

THE PACIFIC COAST RAILWAY

Rock, sand and gravel were common requirements for roads, embankments and building foundations and, of course, railroads; especially for ballast. In the late 1800s the most efficient way to ship this heavy, bulky material was by rail. And so it was on the central coast. Originally the Pacific Coast Railway used flatcars and later sides were added to the flatcars to contain the material and increase volume. The Pacific Coast Railway's primary line ran from Los Olivos, Los Alamos, up through Santa Maria, Nipomo, Arroyo Grande, continuing up to San Luis Obispo, and finally heading southwest to Avila and Port Harford. One of their

spur lines ran up to the base of Bishop's Peak carrying quarried rock materials. Rock for embankments and portions of the breakwater at Avila in the early years came from Bishop Peak. The Bishop Peak quarry and rail connection could still be easily identified adjacent to Foothill Boulevard up through the 1970's. The right of way alignment and connection to the incline was located just as Foothill started its descent from the San Luis Obispo city limits toward Los Osos Valley Road just before one reached the restaurant site formerly known as "This Old House". A small steam locomotive, called a "tug", would uncouple and the loaded flatcar would be fitted with a cable from the hoist house at the left that will lower it down the hill to the main Pacific Coast spur adjacent to Foothill Boulevard. The load will then be forwarded along the 3-mile spur which traverses what is today Laguna Lake Park to the mainline just southwest of the San Luis Obispo yard (Higuera and South St.). This quarrying operation apparently terminated around 1908.

LAGUNA LAKE COMMUNITY

The site is surrounded by primarily low density residential (R-1). Bordering the site to the southeast is Laguna Lake Park and Natural Reserve. The park is 375 acres and features group barbeque areas, picnic tables, a sand volleyball court, a playground, restrooms and much more. Both Laguna Hills Park and Smith Park are located in the adjacent neighborhoods as well. These parks serve as an area for children and families to relax and play. Laguna Lake Golf Course is on Los Osos Valley Road; this 9-hole executive length course provides an entertainment

Site Analysis (Continued)

opportunity for the entire family. C.L. Smith Elementary School and Laguna Middle School are also nearby. C.L. Smith Elementary School is approximately 2 miles from the site while Laguna Middle School is approximately 1.5 miles, both being easily accessible from the site.

COMMUNITIES VISUAL PREFERENCE FOR THE SITE

We distributed visual preference studies in order to gather the community's aesthetic preferences. We did three studies on housing, commercial and parks. Each study included three images and a ranking of how appropriate each would be, -3 being least appropriate and 3 being most appropriate. The survey also included a space to write features they liked and disliked. We had ten people from the community fill out each of the three surveys and we summarized their responses below.

For housing we showed images of mixed use, senior living and town homes. Overall, the public thought the townhouses were the least appropriate. While they could potentially serve as a good neighborhood for young children, especially with an elementary school and middle school nearby, there was nothing special as far as aesthetics. People liked the mixed use but didn't find it most appropriate; they liked the landscaping, the European architecture and the concept of mixed use, but thought it was too large scale for the site. The most appropriate type of housing was the senior living. The public thought it was a good scale for the city and site, the landscaping was a nice feature and that the environment looked welcoming.

For commercial we had pictures of small shops, a commercial center and a large mall. The small shops were thought to be the most appropriate; the scale was fitting and the architecture fit the style of the surrounding area. The community didn't find the large mall to be suitable for the site; it appeared pedestrian friendly but was too large scale. The public strongly opposed the commercial center; it was too large scale, the parking was unattractive and mentioned that there is already larger scale shopping located close by on Los Osos Valley Road and Madonna Road.

As far as parks we had images of a trail going through open space, a community park, and an open park. The community thought the trail going through open space was most appropriate; they thought it was best to keep the space natural. They thought the community park was a family oriented area but that there were other parks nearby that served the same purpose. For the open park, they thought it was an aesthetically pleasing space but wasn't necessarily the most appropriate for this specific site.

Site Analysis (Continued)

CIRCULATION & LAND USE

AIRPORT PLAN

When dealing with a proposed development that is within the vicinity of an airport, one needs to make sure that the property does not conflict with any noise regulations from air traffic control. According to the Airport Land Use Plan for the San Luis Obispo County Regional Airport, "55dB CNEL or DNL is the most appropriate value for adoption as a residential noise compatibility criterion in such settings" (11). Residential developments should not be developed within 55 decibel levels in proximity to the site. As seen in figure __, one can see that the Beth David Site does not lie in this zone. Because of this, we are free to develop residential and commercial uses on the site. In addition, the site is free from any emergency landing zones so we do not have to worry about any disaster accidents occurring in or around the development. Considering this, we have no constraints with development in terms of conflicting with the airport plan.

PUBLIC TRANSPORTATION

The Beth David site is located adjacent to two of San Luis Obispo's City transit lines, routes 4 and 5. Both lines stop in front of the Beth David site at Valle Vista, directly in front of the Beth David Synagogue, offering future inhabitants access to the Cal Poly campus and downtown San Luis Obispo. In addition, these routes offer transit stops at Blarney Avenue, located near the northern edge of the property. These routes provide visitors and residents of the Beth David property accessibility to the rest of San Luis Obispo in an easy and sustainable way.

CIRCULATION PATTERNS

The main traffic circulation patterns on the Beth David site are through the intersection of Los Osos Valley Road and Foothill Blvd. This intersection has high traffic volumes since it connects the two sides of San Luis Obispo. People use this route to avoid taking Highway 101. During the day the intersection operates with a Level of Service A, but during peak commute hours in the evening the Level of Service drops to C. Please see the attached appendix, Appendix A, for a full traffic analysis. Side streets around the site receive little to no traffic since they are mostly used by residents to get to and from their homes. The intersection at Los Osos Valley Road and Foothill Blvd also connects San Luis Obispo to the town of Los Osos and other highways. The area of the site closest to the intersection could be used as a gateway to the city.

LAND USE AND EXISTING BUILDINGS

Currently, the site is designated as agricultural land. There is only one existing building on the site, which is the Beth David Synagogue. The site is primarily surrounded by agricultural lands. Directly adjacent to the south side of the site is the De Vul Ranch, which is occasionally used as a refuge for the homeless. To the north of the site along Oconnor Way there are a few suburban residential and rural residential units as well as a church, Agape Christian Fellowship. Additional suburban housing is located to the southwest of the site off of Los Osos Valley Road. South of the site, along Los Osos Valley Road there is Laguna Village Shopping Center that encompasses several restaurants, an Albertsons, and several service stores.

Site Analysis (Continued)

Further south is Irish Hills Plaza a large commercial district with big box retailers such as, Costco, Home Depot, and a variety of other stores. East of the site along Foothill Boulevard there is single-family housing as well as The Club House, a restaurant and sports bar. Further east of the site there is a mix of single-family and multi-family housing along with several churches and public facilities, such as schools.

OPPORTUNITIES

- potential location for northwest gateway into San Luis Obispo
- Intersection of Foothill and Los Osos Valley Road is a busy transit hub
- Churches/non profits have expressed building on site
- Synagogue supports various uses
- Connectivity: connects the site to the rest of the City of San Luis Obispo
- Enough space for a variety of land uses

CONSTRAINTS

- Currently outside of city limits: need to provide own sewage/water
- Owners of surrounding land are against development: not all support annexation
- Currently designated open space
- flood plains, slopes and creeks (80% of site is flood hazard)
- Preserving views and sites natural qualities
- Limited accessibility to site:
- Only two bus routes
- No pedestrian access
- only two major roads border site: North, West

PUBLIC INFRASTRUCTURES & FACILITIES

Chad Endicott, Annalisa Perea,
Brady Kennedy, Marco Gonzalez

The proposed site being considered for annexation into the City of San Luis Obispo at the corner of Foothill and Los Osos Valley Road. There is no existing infrastructure on the site; this includes plumbing, electrical, roads, and phone lines. Public facilities serving the nearby communities do exist with the SLO city limits. The following report will list the nearby public facilities, and whether or not they can service a new development at the proposed site. The facilities discussed in the report are schools, fire stations, parks, police stations, and hospitals.

MEDICAL FACILITIES

In deciding whether or not the Beth David site area needs a medical facility we had to gather data regarding the capacity of patients that neighboring facilities can withstand. There are many medical facilities in the city of San Luis Obispo, with a wide range of specializations. Some of these include the Urgent Care Center, West Dermatology, Mental Health Systems, Planned Parenthood, San Luis Diagnostic Center. Our concern though is with the places that can provide medical services to our project site area. There are two major hospitals in San Luis Obispo. There is the French Hospital which is located off of Johnson Ave. and Lizzie St. We contacted this hospital and asked about how many patients that they could have, but they did not provide us with this data. This is not a major problem because this hospital is really far from the site we are working on. Another hospital, The Sierra

Site Analysis (Continued)

Vista Regional Medical Center, is much closer being located on Murray St. which is right by Foothill St. This hospital informed us that they could hold 165 patients at a time. Even closer to our site is an urgent care type center called Medical Stop. This facility informed us that in the past year they have seen approximately 20,000 patients, and they could take about 5,000 more patients a year making it 25,000 patients. So in regards to the site that we are working on, it would be best to keep some medical facilities in mind. The Sierra Medical Hospital is close enough for major emergencies, and the medical stop can treat more people, however we should plan for alternative facilities to serve our project site. Having a few private doctors' offices like family, optometrist, dentist, etc., would help adhere to the needs of new residents in this site and the surrounding neighborhoods. This way there will be somewhere close to more conveniently serve the current and future residents in and near our project site.

POLICE DEPARTMENTS

The San Luis Obispo Police Department, located at 1042 Walnut St, serves all of San Luis Obispo. The police department is approximately 4.1 miles from our project site. The estimated response time for a call from the site, if a vehicle is dispatched from the department, is somewhere in the neighborhood of 15 minutes. Response times may be faster if there are patrol cars in the vicinity. When considering whether or not this particular police station will be able to serve the proposed site, the best example would be to look at the Laguna lake area. The Walnut Street Police Department serves the Laguna Lake developments, and the

proposed site is located in the same area. Another branch of law enforcement in San Luis Obispo is the Highway Patrol, located at 4115 Broad St. The Highway Patrol Office is approximately 4.9 miles, or about 12 minutes, from the proposed site.

FIRE STATIONS

There are currently four fire stations in San Luis Obispo. The fire stations were completed in 1954 (Fire Station Two), 1960 (Fire Station 3), 1978 (Fire Station Four), and the most recent fire station that was completed, Fire Station One located at 2160 Barbara Avenue, cost \$3.2 million to build and was designed to support the fire department into the next century. The amenities present there include a maintenance shop, administrative offices, the Fire Prevention Bureau, and emergency response vehicles. San Luis Ambulance operates from Fire Station One as well, and stores an ambulance on site. Fire Station One is also manned by a four person paramedic truck company. Currently there are 55 full time employees of the San Luis Obispo City Fire Department. 45 of those employees are fire fighters with emergency response capabilities. There are also 13 captains, 15 engineers, 11 administrators and fire prevention bureau personnel, and there is one mechanic. Because Fire Station One was built to withstand growth for the fire department into the next century, one can assume that very little development for new fire stations would have to be done for the Cerro Vista area. The only other precautions that would have to be taken for new development in the project area would include the hiring of more fire fighters and paramedic crews.

Site Analysis (Continued)

PARKS

There are four parks close to the project area. Three of those parks, including Vista Lago Park, Priolo Martin Park, and Laguna Hills Park are neighborhood specific parks whose primary access points are through neighborhood streets. These parks are relatively small, with amenities including picnic tables and play areas. Laguna Lake Park, bounded by Madonna Road and Laguna Lake, is by far the largest park, amassing 375 acres. Laguna Lake Park also has the most amenities out of the four parks. Park services include two barbeque areas, a pavilion, picnic tables, a volleyball arena, play areas, restaurants, and a fitness trail. Park visitors are also allowed to use Laguna Lake for fishing, sail boarding, row boating, and power boating under 1 horsepower. The lake and park is also migratory stop for waterfowl and is frequently used by birdwatchers. There is also the Laguna Lake Golf Course located off of Los Osos Valley Road. It is a nine-hole executive length golf course. Services included at the golf course include a pro shop, a driving range, and golf lessons. Based on the proposed open space to growth ratio of 4:1, there is great opportunity to build additional parks or recreational areas within the project site. The flood plain and wetland area must be taken into consideration though when concerning landscaping and plant choice. Storm water management must be a concern for park development due to the fact that the project area acts as a major watershed for the Morro Bay estuary which is already at a critical water capacity level. The site is a prime location for a walking and bike trail that

can continue from the Laguna Lake Park's current fitness trail to connect major thoroughfares such as Foothill Rd, Los Osos Valley Road, and Madonna Road. Opportunities for wildlife reserves in environmentally vulnerable areas such as wetland zones would harbor public support from San Luis Obispo residents and environmental activists.

SCHOOLS

An issue that will arise when taking into consideration school facilities would be whether or not the existing school structures will be able to accompany for the future proposed residential developments that will be placed onto our project site. The 3 existing public schools that are closest to our project site are: C.L. Smith Elementary School, Laguna Middle School, and San Luis Obispo High School. These are the public schools that currently serve to the majority of the existing neighborhoods around our project site. In order to better predict whether or not we would have to provide new public school facilities for the future users of the site, we must take into consideration the current student enrollment statistics as well as the maximum capacity for each existing public school nearest to the project site. In other words, it is imperative to conclude whether or not the current existing schools will be able to function for those future users of our site. After talking to representatives from each one of the schools listed above, we were able to come to the conclusion that all 3 of the schools are already close to their maximum capacity and would not be able to accommodate

for future residents of our site area. This information shows that we must plan for new school services in order to provide for the needs of the future residents.

There are several existing public facilities within the city limits of San Luis Obispo that could potentially accommodate for current and future users of our proposed project site. For facilities that can not serve the site for any number of reasons, the option of constructing a new facilities on the site is a possibility.

EXISTING REGULATORY FRAMEWORK & LAND USE OVERVIEW

This document contains information pertaining to the physical attributes on the site located to the west of San Luis Obispo between Los Osos Valley Road, Foothill Road, Morro San Luis, and the Laguna Lake city park. The site includes a 922 acre lot of which 179 are developable. There is a need for sensitive design due to the terrain that is present, including a relatively large flood plain, steep slopes towards the northernmost region of the site and habitat that is present with the adjacency to Laguna Lake. Historically, there has been opposition with surrounding homeowners as to whether development in this region would be beneficial or detrimental to the area.

GENERAL PLAN

The general plan document provides guidelines for procedural measures that the city of San Luis Obispo requires per development. Several

key elements pertain to our site include the current zoning regulations of the existing area, the setbacks that dictate where buildable areas of the site can be located, easements within the site and their locations, floodplains, and endangered species. All of these issues are addressed in the general plan, bestowing what is law, and further directing the managing and design process of development.

THE CITY OF SAN LUIS OBISPO BICYCLE TRANSPORTATION PROPOSED BIKE PLAN

Proponents of the city of San Luis Obispo have proposed the adoption of a bicycle corridor that would extend from the Laguna Lake, through the proposed project area between Los Osos Valley Road and Foothill Road. The basis of this plan is to increase the amount of bicycle trips in and around San Luis Obispo. The Bicycle Transportation Plan provides guidance for current and future development of bicycle facilities within city limits. Shall development occur within this site, bicycle transportation would play a key role in connecting traffic from either side of the city of SLO.

LAGUNA LAKE PARK MASTER PLAN

Since the inception of Laguna Lake, the primary goal of its purpose has been in the form of recreational activities in and around the area. The Laguna Lake master plan was developed to account for the uses that pertain to the site. The document includes five specific goals that were intended to serve the creation and maintenance of Laguna Lake. Furthermore, the preservation of the natural wetlands that the Lake embodies

Site Analysis (Continued)

both protection and awareness, and are outlined as a focal point within the Laguna Lake Park Master Plan creation.

The General Plan of the City of San Luis Obispo is the preeminent document to be considered whenever a project is to be undertaken. It details many of the cities goals and policies, as well as the voters' wishes. This section will select the three most pertinent sections of the General Plan as they apply to the rest of the document, and they are: Land Use, Housing, and Conservation and Open Space.

LAND USE

Land use is very important to lay out because it dictates what can be done with the land as well as the requirements that are set down by the city. One aspect that San Luis Obispo tries to control is development that takes place within the city's green belt. This is done through the requirement that any new development in this zone would have to take on the Cluster Development Design Standards. This means that the development would have to be at a minimum of 150 feet from any public road, be screened from public view, be located on land other than prime agriculture, not located within stream corridors or wetlands, ridgelines, or other natural features detailed in the Conservation and Open Space Element, and finally Cluster Development is to preserve any historic or archeological significant sites (Section 1.9.4). The land use element also details the appropriateness of neighborhood development. It is designed to protect established neighborhoods as well as promote new homes that work with the existing structures. This section also

mandates that any new development should have a street and sidewalk pattern that promotes community cohesion (Section 2.1.4).

HOUSING ELEMENT

The housing element of the General Plan gives a more detailed view of what the City of San Luis Obispo requires than what is laid out in the Land Use section. There is an inclusionary housing program for low and very low income families, so as to ensure that there are fair housing options for everyone. This will also help out with the city's fourth (4th) goal of implementing mixed income neighborhoods.

Furthermore the city requires that any development over 20 units have a mixture of housing types from mixed use, to live-work, to townhomes so as to avoid a continuous expanse of the same building (Section 3.9.2). Furthermore the city is determined to work with both Cal Poly and Cuesta College in order to provide and meet the residential needs of both campuses.

In addition to that San Luis Obispo is also determined to make its housing stock more sustainable and green by implementing new policies concerning solar design and other renewable technologies (Section 3.17.1, Goal #9). In conjunction with this the city is also making it so that new neighborhood designs make it so that sustainability efforts are maximized (Section 3.17.2).

HOUSING ELEMENT

The Conservation and Open Space section of the General Plan is to emphasize the city's goals and policies to protect natural resources on the land that

Site Analysis (Continued)

surrounds the city. For projects that have some type of “urban” development going on outside of all easements, wetlands, and other mitigated areas, there will be a requirement of 5% of residential dwellings needing to use solar energy if the development is 20 units or more. It should also be taken into account of when a new project starts because the city has mandated that each year they will increase the solar requirement by 4% each year, starting in 2008 and going until 2020 (Policy 4.6.17).

This element also dictates that before any site is to be developed it is required to have a study done in order to determine if any heritage trees exist; if they do then they may not be removed. Furthermore, if there are any creeks running through or by the site then the city states that there is a minimum 20 to 50 foot creek setback (Property Development Standards, Section 17.16.025). In addition to that, if a development is to take place outside or abutting the Urban Reserve Line it must have a 50 foot minimum transition zone between the development and the line.

CURRENT LAND USES

The current land uses that are involved within the site includes residential and agriculture. The current zoning limits development to these specific zoning standards. However, it is possible for annexation of this property, and a proposal for a specific plan could enable new zoning uses to be acquired.

SET BACKS

Set backs play a pivotal role in dictating building placement within a site, and vary depending on the type of land use.

ENDANGERED SPECIES

Endangered species are one of the most stringent pieces of development on a CEQA (California Environmental Quality Act) document. This measure looks to limit the impact of a site, and to make sure that the impact that does occur, is non intrusive of endangered species and the natural environment. This includes plant and animal species, and is one of California's most controversial development laws.

EASEMENTS

Passing through the site included several powerlines that limit the growth around these areas. Easements are a form of a setback that disables building to occur within the designated easement area. It is important to understand where these areas are located within the site, and how to best serve design in these locations.

FLOODPLAINS

There is a major floodplain that cuts directly through the central part of the site, and is not developable with structures. The slope of the floodplain is gradual, but must be left from development due to the potential flooding from what is called a one hundred year flood, in which a flood within that time frame is likely to occur. Extending almost directly across from the floodplain is Laguna Lake, a man made feature that has natural wildlife, and plant species that has sensitive elements growing in and around the area.

PARKS & OPEN SPACE

2.1 INTENT

Key goals of this specific plan are to protect and enhance Laguna Entrada, creek and wetland habitats, visual aspects to and from Cerro San Luis, and enhancing the livability of the future Laguna Entrada Development.

2.2 PARKS

Goal 2.2A To provide parks that encourage social interaction among community members. Park areas will act as a catalyst for recreational and social engagement.

Policy 2.2.1: Playgrounds and sports fields shall be interspersed throughout the neighborhood.

Policy 2.2.2: Public plazas shall be interspersed throughout the commercial oriented areas.

2.3 OPEN SPACE

Goal 2.3A Restoration of the natural wetlands and habitat. The location around Laguna Entrada will act as an integral part in allowing the biodiversity to remain vital throughout this area through natural wildlife restoration practices.

Policy 2.2.1: Phase removal of agricultural practices including grazing.

Policy 2.2.2: Phase of wetland restoration

Policy 2.2.3: Provide for a 4:1 ratio of open space to the built environment

2.4 NATURAL ENVIRONMENT

Goal 2.4A Preserve and enhance the surrounding natural environment. The design of Laguna Entrada minimizes the

impact on the natural environment by utilizing a compact growth layout.

Policy 2.2.1: Trails shall be constructed that help educate people on the surrounding wetlands and sensitive habitat.

Policy 2.2.2: Wetland habitat shall be restored within the site.

OVERVIEW

The village of Laguna Entrada will create parks & open space that utilizes land that is best suited for recreational and social activities. The locations of parks will be evenly spread across the site, allowing for residents to have equal access these spaces.

SPORTS FIELDS

A soccer field has been proposed on the site for multi use sports.

RENEWABLE ENERGY LOCATIONS

Solar and wind power will reside within centralized locations in open space areas.

WETLAND RESTORATION PROCURMENT

The floodplain adjacent to Laguna Lake will be utilized to extend towards Beth David in order to procure the local wildlife.

LAND USE AND DEVELOPMENT STANDARDS

3.1 INTENT

The City's General Plan Land Use Map designates the Laguna Entrada Area as a major open space area in the City's Sphere of Influence and anticipates annexation of this area into the City. This section contains the land use goals, policies and standards applicable to Laguna Entrada, and describes the overall development program.

Laguna Entrada is projected to offer a wide variety of housing types and commercial components, along with protection and preservation of open space features such as Cerro San Luis, the extensive creek network, and the Laguna Lake floodplain. Provisions are made to establish a village core at the center of the neighborhood development. Land is also earmarked for a potential library, community center, and amphitheatre.

See Figure 1.2 City of San Luis Obispo Zoning

3.2 LAND USE DESIGNATIONS AND ZONING

3.2.1 RESIDENTIAL

Goal 3.2a: Develop residential areas that provide privacy for residents while facilitating neighborhood interaction through safe, pedestrian-friendly outdoor areas. Residential areas should have attractive views, and a blend of sunny and shady environments, adequate residential parking, pleasant parks, open space, and bicycle/pedestrian paths between residential areas.

Goal 3.2b: Multiple housing types of varying cost to attract a variety of

homeowners and renters, with incomes ranging from very-low to high.

Policy 3.2.10: The Laguna Entrada Specific Plan includes Low-Density Residential (R-2), and High Density Residential (R-4). The allocation of zones is shown in Figure 1.3.

Policy 3.2.11: Residential use and development standards contained in the City zoning regulations shall apply to residential development in Laguna Entrada unless otherwise identified in this Specific Plan. Where standards may conflict, the Laguna Entrada Specific Plan standards supersede city's zoning ordinance standards.

Policy 3.2.12: Affordable housing will be included in all R-2 and R-4 zones, either by direct construction or with in lieu fees to be applied within the Laguna Entrada Specific Plan Area. (Refer to Affordable Housing Section 3.3)

Policy 3.2.13: Uses allowed in the Laguna Entrada residential land use designations shall be consistent with the city's zoning regulations, with the exception of the following uses which shall be prohibited in all residential areas unless otherwise noted: agriculture (crop production and grazing), mobile home parks, and churches on maximum lot sizes of 10,000 square feet.

Medium-Density Residential (R-2)

The medium density residential areas will be located primarily in the northeastern and central portions of the Laguna Entrada Specific Plan with the highest concentration in the northeast.

Policy 3.2.14: Medium-density residential development should provide a compact arrangement where no lot shall exceed

5,000 square feet.

Policy 3.2.15: The majority of medium-density residential development should be comprised of detached and attached single-family homes; use of zero lot lines is encouraged.

Policy 3.2.16: Street frontages allowed in the medium density (R-2) are limited to: Common yard or Porch and Fence.

Policy 3.2.16b: The buildings disposition shall constitute an Edgeyard or Sideyard

High Density Residential (R-4)

The multi-family residential development (R-4) will generally be concentrated in the northern, western, and central portions of Laguna Entrada. This will facilitate easy access to the village core, bike trails, and open space.

Policy 3.2.17: The majority of high development (R-4) should be comprised of duplexes, multiplexes, apartments, condominiums, or townhomes.

Policy 3.2.17a: Street Frontages allowed within the high density (R-4) zone are limited to: Porch & Fence, Terrace or Lightwell, Forecourt, Stoop, or Shop-front.

Policy 3.2.17b: The building disposition shall constitute an Edgeyard, Sideyard, Rearyard, or Courtyard.

Policy 3.2.18: High density development (R-4) should be developed either as multi-family apartments with common compact outdoor areas.

Policy 3.2.19: A Housing and Urban Development (HUD) area shall provide at least 201 units for elderly or special needs care in the north central area of the area.

Policy 3.2.19a Multiplex and multi-family apartment units shall have access

to common greens or interior parkways.

Policy 3.2.19b: A homeowner's association for multiplexes or the property owner of multi-family apartments shall maintain all common outdoor areas.

3.2.2 Mixed Use (MU)

Goal 3.2.2a: Commercial-office, retail services, and live work units will focus on those living, working, or using the parks in Laguna Entrada.

Policy 3.2.20: Encourage commercial, office, and retail uses up to a maximum of 5,000 square feet to be located on the ground floor. Appropriate uses include small shops, art galleries, and personal care services. The intent is to encourage local users who could walk to the area to participate in a small scale, pedestrian intense commercial area.

Policy 3.2.21: The off-street parking requirement for the mixed use zone shall be: 1 parking space per dwelling unit, 1 parking space per 1000 square feet of office or commercial; all off-street parking shall be placed toward the rear property line.

Policy 3.2.22: No building shall be more than 10' from the front property line, nor have any parking directly in front, with the exception of on street parking.

Policy 3.2.23: Encourage home/offices (live/work) in the multifamily residential portion of the community commercial. Additional precluded uses in the community commercial would be: mobile homes, or low intensity uses that do not contribute to a pedestrian intense environment.

Policy 3.2.24: Street Frontages allowed on the Mixed Use zones are limited to: Stoop,

Shopfront, Arcade, or Gallery.

Policy 3.2.25: Building disposition shall constitute Courtyard or Commercial Block.

3.2.3 Conservation/Open Space (C/OS)
The Conservation/Open Space designation will apply to Tower Hill, Cerro San Luis, and the Laguna Lake floodplain.

Policy 3.2.30: Property development standards in the City's zoning regulations shall apply to Conservation/Open Space designations in Laguna Entrada.

Policy 3.2.31: Uses permitted in Laguna Entrada C/OS zones shall be consistent with the City's zoning regulations.

Policy 3.2.32: Agricultural uses, such as grazing and animal keeping are permitted to continue, only to be phased out as the project approaches maximum build-out.

Policy 3.2.33: There shall be an open space preservation ratio of 4:1 or at minimum 80% of the total area.

See Figure 1.3 San Luis Obispo County Zoning

3.2.4 AGRICULTURE

Agricultural use on the project site has included cattle and horse grazing for several decades. There are currently cattle grazing on Tower Hill and the Laguna Lake floodplain. According to the United States Department of Agriculture Soils Survey for San Luis Obispo, the plan area does not include prime soils or soils suitable for most agricultural activities. The plan area includes properties zoned Agriculture (AG) and is used for animal keeping and grazing activities throughout the project area.

Program 3.2.40: Agriculture activities in the Plan Area, including grazing and animal

keeping, will be phased out and will cease by build-out. Grazing and animal keeping are not authorized uses for any land use or zoning designation in Laguna Entrada.

3.2.5 Public Facilities/Special Function Uses (PF)

The Public Facility zone in the Specific Plan Area is intended to provide for public recreation and education uses on public property.

Policy 3.2.50: Authorized uses in the PF zone include a library, community center, amphitheatre, and transit hub.

Policy 3.2.51: Development in the PF-SP zone is subject to the City's PF Property Development Standards included in the City's Zoning Regulations (Section 17.36.020)

3.2.6 Park Space (P)

The park space zone in the Laguna Entrada Specific Plan is intended to provide public recreational uses on public property.

Policy 3.2.60: Authorized uses in the P zone shall be linear parks, creek walks, bicycle trails, playgrounds, public soccer and baseball fields or tennis courts.

3.2.7 Commercial (CM)

The commercial (CM) zone in the Laguna Entrada Specific Plan is intended to provide a diversity of economic income and social interaction.

Policy 3.2.70: Authorized uses in the CM zone shall be retail, financial institutions, restaurants, and boutiques.

Policy 3.2.71: A Maximum 15,000 square foot grocery/market shall be provided to help the developments economic viability.

Policy 3.2.72: The off-street parking requirements for the commercial zone shall be: 1 parking space per 1,000 square feet, and set at the rear property line.

Land Use

Policy 3.2.73: No building shall be more than 10' off the front property line, nor have any parking directly in front with the exception of on street parking.

3.3 AFFORDABLE HOUSING

The City's General Plan Land Use Element requires that specific plans for major residential expansion areas include sites suitable for affordable and low-income rental and owner-occupied housing. Such sites shall be integrated within neighborhoods of market rate housing and shall be architecturally compatible with the neighborhood. The specific plans will designate sufficient areas at appropriate densities to accommodate a range of dwelling types, including detached and attached single-family dwellings, duplexes, apartments and condominiums, group housing, graduated care facilities, and creative housing cooperatives. To meet this requirement, the City will solicit and support new housing developments that include one or more of the following features:

- Allow Housing and Urban Development to construct 197 units specifically for elderly and special needs care.
- High Density Apartments or Condominiums
- Affordable "Starter" housing consisting of

small (approximately 600-750 square feet) apartments, condominiums, or studios.

Developers may choose to build one or more housing types, and to work with housing non-profits such as Peoples' Self-Help Housing Corporation, the San Luis Obispo Housing Authority, Habitat for Humanity, or other agencies or individuals to cooperatively plan, develop, and market affordable housing within their

developments.

City of San Luis Obispo Inclusionary Housing Policy. San Luis Obispo has adopted an inclusionary housing program that requires all new development projects include affordable housing units, dedicate land for affordable housing, or pay an in-lieu fee to increase affordable housing opportunities citywide. In annexation areas like Laguna Entrada, at least 5 percent of the new housing must be rented or sold at prices affordable to low income households. Another 10 percent of the new housing must be available for moderate income households.

New housing in San Luis Obispo must address the community's urgent need for affordable housing. For housing to qualify as "affordable," the housing developer must guarantee that the housing units will be developed and maintained in a manner consistent with the city's Affordable Housing Standards, which are updated annually with maximum sales prices and income limits for potential purchasers of affordable homes. As laid out in the following policies and programs, all of the required affordable housing will be constructed within Laguna Entrada. The low-income affordable housing requirement will be met by dedicating land to a city recognized low-income housing developer.

Laguna Entrada Affordable Housing

Goal 3.3: Multiple housing types of varying costs that attract a variety of homeowners and renters, with incomes ranging from very-low to high.

Policy 3.3.1: The City's inclusionary housing requirements shall be met by building the

Land Use

affordable units within the Laguna Entrada Specific Plan area.

Policy 3.3.5: Mixed Use development projects are exempt from the inclusionary housing requirements.

See Figure 3.1 Land Use Map

3.4 PUBLIC SAFETY

The residents of San Luis Obispo and Laguna Entrada may be subject to natural and human-caused hazards during their lifetime. Natural processes such as earthquakes, landslides, flooding, and wildfire can become hazards when they disrupt or otherwise affect the lives and property of people. Human-caused hazards can include the improper use and/or disposal of hazardous material, use, and/or construction of unsafe structures.

Goal 3.4: Protect life and property from natural and environmental hazards.

Policy 3.4.1: Avoid hazards associated with ground shaking, liquefaction, and slope instability.

Program 3.4.1a: Geotechnical Study. A geotechnical study shall be prepared by a State registered engineering geologist for each project site prior to site development. This report shall include an analysis of the liquefaction potential of the underlying materials according to the most current liquefaction analysis procedures, an evaluation of the potential for soil settlement beneath the project site, and an evaluation of the potential for expansive soils. If the site is confirmed to be in an area prone to seismically-induced liquefaction, have a high potential for settlement or have expansive soils, appropriate techniques to minimize liquefaction potential, reduce

settlement impacts or stabilize slopes shall be prescribed and implemented.

Program 3.4.1b: All structures, transportation infrastructure, and subgrades shall comply with applicable methods of the Uniform Building Code and all transportation infrastructure shall comply with the most current California Department of Transportation design standards.

Policy 3.4.2: Avoid exposure to hazardous environmental conditions.

Program 3.4.2a: A Phase I Environmental Site Assessment shall be conducted to identify the presence of recognized environmental conditions associated with soil and groundwater contamination at the site. If recognized conditions are encountered then a Phase II Environmental Site.

LEED NEIGHBORHOOD DEVELOPMENT DESIGNING WITH LEED ND

The design of Laguna Entrada has applied the LEED ND rating system in order to incorporate sustainable design principles within the village. LEED for Neighborhood Development is a rating system that combines elements of smart growth, new urbanism, and green building into the first national standard for neighborhood design. Within this rating system, there are several categories that must be applied when designing for LEED ND. These include smart location & linkages, neighborhood design pattern & design, green construction & technology and innovation. Each of these topics are intertwined with one another, and collectively help minimize the impact on the environment, reduce the energy demanded throughout the site and create enjoyable places for the residence to live.

KDST DESIGN GROUP Approach to LEED ND
Prior to the design process KDST Design Group sat down to think holistically about how to best incorporate these principles into Laguna Entrada. Successfully, as the design stands today, all of these main topics have been implemented with detail to each specific rating category and credit.

SMART LOCATION & LINKAGE

Laguna Entrada utilizes the smart location & linkages category by emphasizing a site that connects to a greater urban fabric in order to reduce the distance needed for travel to and from the site, that provides a well designed circulation network for bicyclist and pedestrians, and that accounts for the sensitivity of the site by mitigation and wetland restoration surrounding the site.

NEIGHBORHOOD PATTERN & DESIGN

The design layout of Laguna Entrada utilizes compact development in order to enhance the walkability within the village, and to minimize the sensitive environment surrounding the site. A mixture of building types have been included, helping to reduce the need to leave the village for such amenities as food, recreation and entertainment.

GREEN CONSTRUCTION & TECHNOLOGY

All structures that will be built within the development of Laguna Entrada have been proposed to be built to a LEED NC bronze certification. This means that many of the requirements for this category will be absorbed in the designing of the buildings on the site, including solar orientation when applicable, renewable energy

sources, use of green materials, reduced construction pollution, minimized heat island effect, building reuse and many others.

INNOVATION

Laguna Entrada will be making use of renewable energy on site such as wind energy and solar panels. Our goal is to provide 100% of the energy needed to power the village by means of renewable energy. To accomplish this task, centralized locations that are best suited for both solar gain and wind energy will be utilized. A “pulper” will also be available to convert all of the food waste generated on site into liquid bio fuel for automotive fuel, and the pulp to be used for plant bedding within the community garden.



Wind turbine proposed for Laguna Entrada



Solar Array system proposed for Laguna Entrada

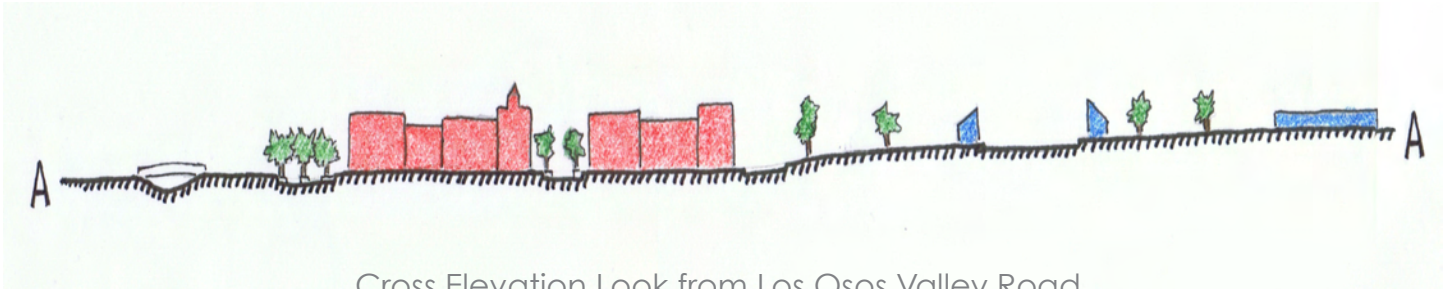
Village Core

VILLAGE CORE

The main feature of the Laguna Entrada Specific Plan will be its Village Core. Within this core, residents and visitors alike will experience a sophisticated yet human surrounding. Pedestrians will be able to stroll down the 10' wide lighted sidewalks, while motorists putt about on the narrow tree-lined roadways. There are a mix of uses that cause the core to have a constant beat and a different face throughout the day. The multi storied buildings reflect the turn of the century while still showing elements of a modern sustainable society. A person walking down the boulevard will know that all these elements have been combined to create a new community, a new neighborhood, a new way of living. One of the most striking features of The Core is Tower Hill. This is a Serpentine rock outcrop that offers unparallel views of the Los Osos Valley, including Cerro San Luis, Bishops Peak, the Irish Hills, and Laguna Lake. After Tower Hill, the next most striking feature is the tree and boutique lined North Victoria Ave. Here, wide sidewalks offer a chance for open air dining or window shopping. The new marketplace provides fresh locally grown produce and other products without the hassle of having to leave Laguna Entrada. Furthermore the core provides two new Live-Work villages so as to facilitate new and growing businesses. Other companies join residents in the upper stories to create a more viable and real streetscape. Townhomes, apartments, and Single family homes ring the main commercial sector of The Core, including the Townsend, a Housing and Urban Development (HUD) project for the elderly and special

needs persons. These 197 townhomes offer quality housing and surroundings, providing tree lined paseos and rose gardens among many other amenities. In total The Core provides 891 residential units that will help to sustain itself. A library and community center help to further The Core's sense of community by allowing people to relax and have fun within their own community. Additionally, residents will be able to enjoy classic music due to the new amphitheatre at the southern end of The Core. These, in addition to the myriad parks and trails will provide residents with countless opportunities to exercise a healthy lifestyle.

See Figure 3.2 Site Plan



Cross Elevation Look from Los Osos Valley Road



Cross Elevation Look from Foothill BLVD

Aerial view of Laguna Entrada



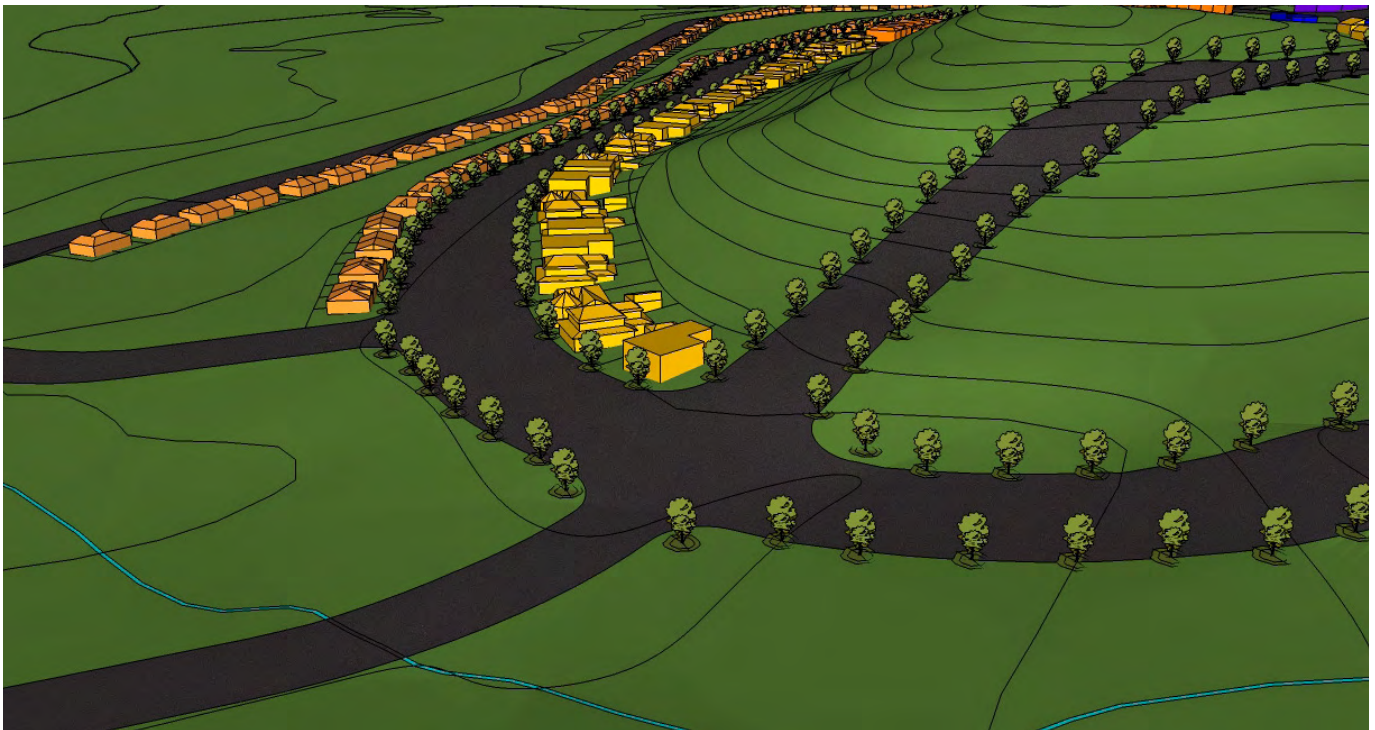
View of the corner at Los Osos Valley Road & Foothill BLVD



Image looking south toward the center of the site



View of circulation and residential homes



5. CIRCULATION

5.1 INTENT

The objective of the circulation element is to provide access to and through out the Laguna Entrada area by developing a network of arterials that will link the adjacent pre-existing arterials to the Laguna Entrada Specific Plan area. The proposed street network within the site maximizes the accessibility of the site by providing a modified grid street pattern. The development of the circulation in the Laguna Entrada area includes the provision of alternative means of transportation.

5.2 CONSISTENCY WITH THE GENERAL PLAN

The circulation element of the Laguna Entrada Site abides by the general plan by providing maximum accessibility throughout the site while mitigating future traffic impacts by providing for road improvements for the bordering arterials.

Goal- To diversify the transit options available to the public and residents

Policy Bicycle transportation Consistent with the Circulation Element's goal of promoting alternative modes of transportation this Specific Plan includes bicycle and pedestrian circulation routes which provide access throughout the interior of the Laguna Entrada Area and connect to the existing pedestrian and bicycle network outside the Laguna Entrada Area. Pedestrian circulation is provided along arterial, collector, and local streets in the Laguna Entrada Area. Policy- Provide a separate 15' bike and walking path along most arterials

To integrate with the Laguna Entrada site with the existing bicycle plan, By providing bicycle lanes on all road (except for alleys)

See Figure 4.1 Circulation Map

Policy- Public Transportation

The City currently provides daily public transportation to the Laguna Entrada via Route 4 & 5. Routes 4 and 5 follows Foothill Blvd. to Los Osos Valley Road, and then continues on Madonna to the downtown area. Re-route bus lines through the site with in site stops. The re-routed buses will be only marginally effected by route changes along foothill Blvd and the corner of Foothill and LOVR.

Goal- Create a highly connective street network

Main arterials and collectors

Foothill Blvd and Los Osos Valley road are the arterials that service the Laguna Entrada area. Los Osos Valley road is contiguous with two sides of the Specific Plan Area and consists of two lanes with Class II bicycle lanes on both sides of the road from the intersection with Foothill Blvd and the Diablo Road. Foothill Blvd. borders the north end of the Laguna Entrada area is contiguous with two sides of the Specific Plan Area and consists of two lanes with Class II bicycle lanes on both sides of the road

Policy- To improve existing thoroughfares (Los Osos Valley Road & Foothill Blvd) In order to keep the level of service on the boarding thoroughfares improvements will be proposed, such as widening LOVR and Foothill Blvd and adding

Circulation

additional stop lights at new intersections. Policy- A modified grid structure shall be used throughout the site and link proposed streets to existing thoroughfares

Goal- In order to improve circulation within and around the site a strict street hierarchy will be implemented throughout the site.

MAIN ARTERIALS

The main arterials within The Laguna Entrada Area connect to four main thoroughfares; Madonna Road, Los Osos Valley Road, Marsh Street, and Foothill Blvd. The traffic generated by the Laguna Entrada site will not have a major impact on the levels of service of those thoroughfares. The Main arterials within the Laguna Entrada Site are four lane roads, bordered by bike lanes and a 10' median with parallel parking on both sides. The purpose of the main arterials is to gather traffic from the collectors within the site and disperse them out throughout the site.

Policy- There shall be a 10' minimum sidewalk/planter right of way on all street typologies.

COLLECTOR STREETS

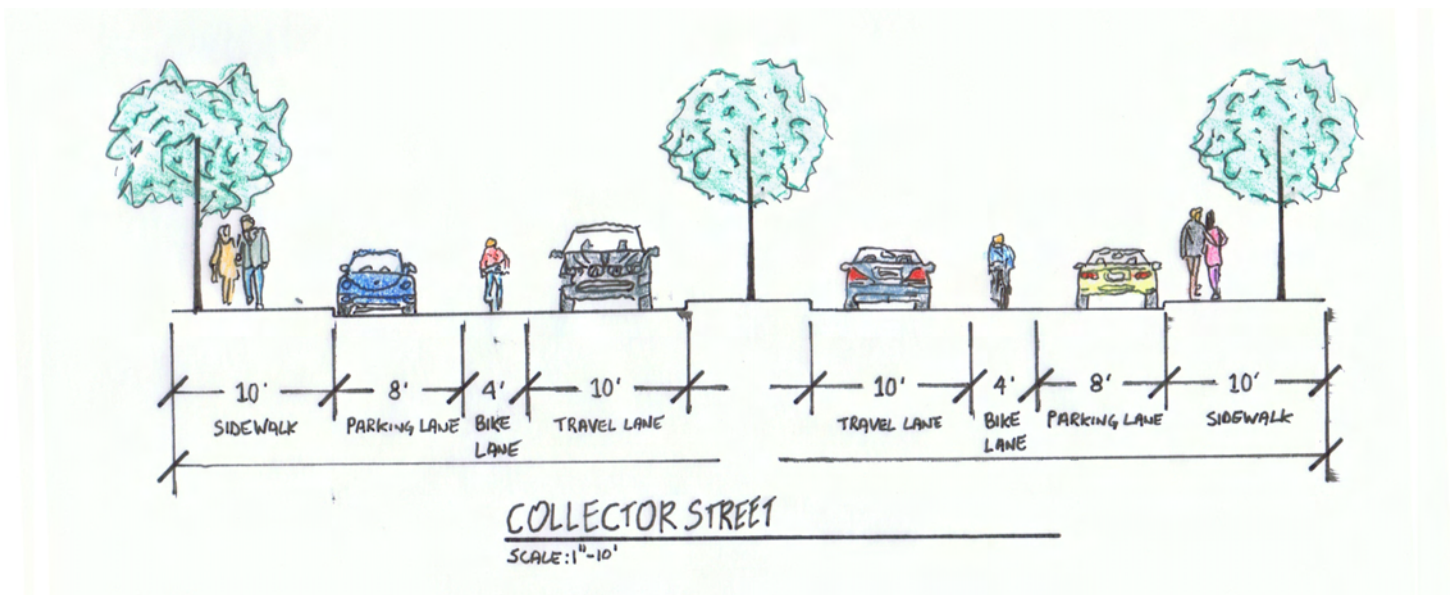
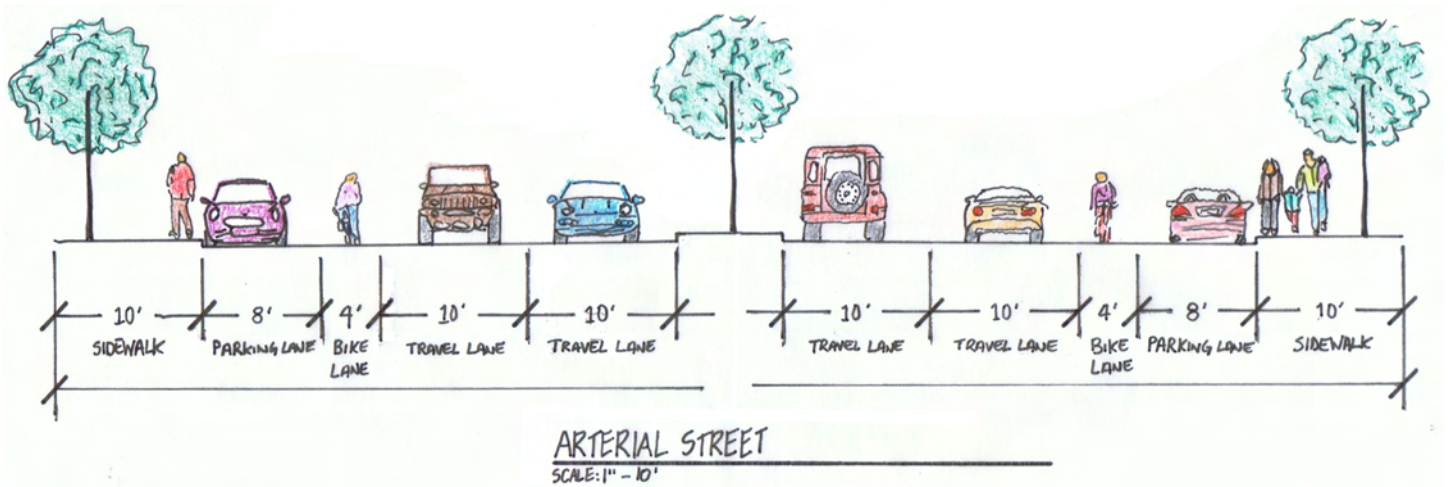
The function of collector streets within the Laguna Entrada area will be to connect the residential areas to the main arterials that connect to Los Osos Valley Road and Foothill Blvd. The collector streets will be two lane roads with parallel parking and bicycle lanes on both sides.

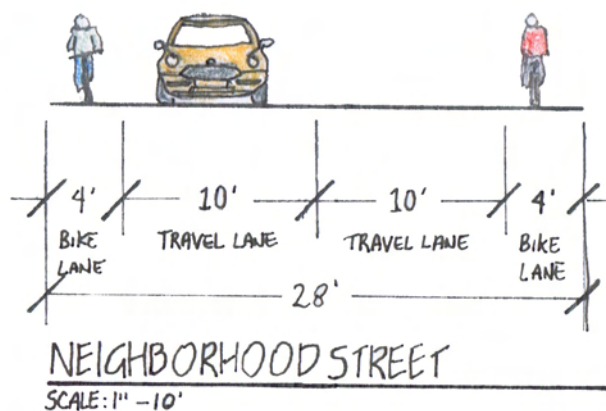
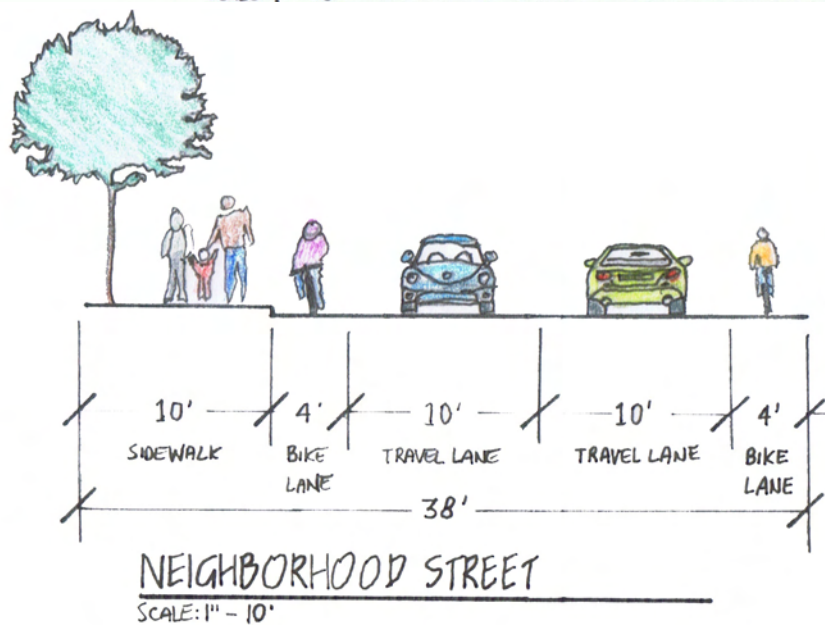
NEIGHBORHOOD STREETS

The function of Neighborhood streets is to move traffic from the residential

areas to collector streets. While exact locations and layout of local streets are not established by the Specific Plan, certain connection points for local streets have been identified which are necessary to provide for adequate property access and interior neighborhood circulation. The Neighborhood streets will vary from two lanes with parking on both sides, two lane roads with no parking and with bicycle lanes, and to four lane roads with no parking.

See Figure 4.2 Proposed Bicycle Plan





Public Facilities

6. PUBLIC FACILITIES / UTILITIES

6.1 INTENT

Public Utilities and facilities within the Laguna Entrada area are currently non-existent. These facilities and utilities include potable and recycled water, wastewater treatment, electricity, natural gas, cable and police fire hospitals. Critical to both the City and the various property owners within the Laguna Entrada Specific Plan Area is the ability to equitably distribute costs for major facilities and infrastructure requirements. In addition to off-site requirements (typically transportation and utilities) that will be directly affected by development within the Laguna Entrada area, there is the need to allocate costs within LESP since different owners will be required to provide different components of the essential street, utilities, drainage and park systems.

PUBLIC FACILITIES

Goal- Construct facilities that promote community interaction and promote active living

Policy- A new public library and community center (possibly a satellite hospital office) shall be constructed.

Policy- An outdoor amphitheater shall be provided.

Goal- Public spaces will be functional, safe, and aesthetically pleasing.

Policy- Acorn Streetlamps will be placed at 30' intervals along sidewalks.

Policy- Public seating and waste bins will be dispersed throughout the spaces
Trees shall be planted every 40' intervals.

See Figure 5.1 Public Facilities

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7 IMPLEMENTATION

7.1 ENVIRONMENTAL REVIEW

This draft Specific Plan addresses the land uses, types of development, and densities proposed for the 922-acre Laguna Entrada Area located within Sphere of Influence 9. It will serve as the Hearing Draft for the environmental review process and provide a description of the project that will be used to conduct environmental review and prepare environmental documents for agency and public review. Upon receipt of this Hearing Draft Specific Plan, the City (or its consultant) will prepare an Environmental Impact Report (EIR) scoping document, detailing the issues to be addressed in the EIR for the Specific Plan. The City will prepare the draft EIR for public comment and hearings on identified impacts associated with the Specific Plan. After the hearings, the City will respond to public input and prepare a final EIR. Concurrently, this Hearing Draft Specific Plan will be finalized to incorporate public comments. A final public comment and hearing process will be conducted prior to certification of the final EIR and adoption of the final Specific Plan. Once the environmental review process is complete, the Specific Plan will be adopted. Following adoption of the Specific Plan, the Laguna Entrada property owners will work with Local Agency Formation Commission (LAFCO) to finalize annexation of their individual property into the City.

7.2 ANNEXATION

The City anticipates allowing annexation by individual Laguna Entrada owners soon after adoption of the final Specific Plan by the City. Pre-annexation agreements

between the City and the landowners will detail the requirements for providing public facilities for the properties. Annexation agreements will address such issues as development entitlements, affordable housing, parks/open space, stormwater facilities, maintenance, water supply, wastewater facilities, and development fees. The timing of annexation will be at the discretion of each property owner.

7.3 ZONING AND SUBDIVISION

The Laguna Entrada Area will be zoned consistent with the land uses identified by the Specific Plan. The "SP" overlay will be added to the City zone category applied to each property. Section 3.2 shows the zoning designations for the Laguna Entrada Area, along with permitted and required uses in those zones. City zoning designations will take effect upon annexation. The exact location of streets, utilities, and boundaries of development areas will be finalized as subdivision maps and development plans are generated. The designated residential zone boundaries may be adjusted slightly to reflect subdivision maps as they are approved provided that the Community Development Director makes a finding that the adjustment is consistent with the intent of the Specific Plan.

7.4 PHASING

The development of the Laguna Entrada Area will be phased in accordance with the City's growth management goals outlined in the General Plan and the City's Residential Growth Management Phasing Schedule, Adopted April 2006. Phasing of the Laguna Entrada Area residential development is also designed in response to expressed interests by the

Laguna Entrada Area property owners for development on their properties as well as comments from the City of San Luis Obispo. There will be several major development phases designed to implement the specific plan. Each major phase may have sub-phases, which are to be determined at the time of development proposal for each landowner. The primary goal is to provide adequate facilities and infrastructure for the development proposed for each phase or sub-phase. Individual owners or their representative developer may exchange their place within a phase depending on the conditions such as financing, willingness to proceed, and personal considerations. A three year rolling average, as defined by the City, shall determine the units that may be constructed in any particular year.

7.5 ARCHITECTURAL REVIEW

Commercial, institutional, multi-family residential and single-family tract construction will undergo architectural review per City requirements. Individual single-family dwellings are not subject to architectural review, unless they are located on "sensitive sites." For projects subject to architectural review, the "minor or incidental" procedure should be used for those projects meeting this Specific Plan's design standards.

7.6 BUILDING PERMITS

The City building permit process of plan-check, inspection and occupancy release will typically be the final and most detailed step in City review of private site development. Impact fees are due at the time building permits are issued.

7.7 TRANSFER OF DEVELOPMENT CREDIT/ DENSITY CREDITS (TDC)

The TDC program was developed to concentrate urban development inside the City's adopted urban reserve line, while protecting open space outside the line for agriculture, scenery, wildlife habitat, and urban buffer. To date, the TDC program has not been implemented and therefore is deemed to have no effect on the Specific Plan.

7.8 CONSTRUCTION AND MAINTENANCE OF REQUIRED IMPROVEMENTS

Public facilities will be funded through a variety of mechanisms depending on the nature of the facility and the primary beneficiary. General community revenues, augmented with development impact fees, will fund area-wide public services such as police, fire, and street maintenance. Facilities such as local streets, utility lines, park components, and stormwater facilities will be funded and constructed by the developers of the area and dedicated to the City. New water supplies or transit centers outside the Specific Plan Area will be funded by development impact fees that apply uniformly throughout the City. Those fees are typically paid as building permits are obtained. The City and the Laguna Entrada Area property owners/developers will share the costs of some facilities, such as expansion of the City's Water Reuse capacity, the water reuse distribution mains, and the wastewater facility improvements. Laguna Entrada Area developer's share of the costs associated with these infrastructure improvements (water reuse facility expansion and distribution

system and wastewater system) may be structured as impact fees paid at the time of the building permit or as assessments on parcels. Agreements for costs shared by the City and the Laguna Entrada Area developers will be detailed in a Development Agreement with the City. Within the Laguna Entrada Area, the amounts of development potential and the extent of land dedication and public facilities are not equal for each property owner; however they will be used and developed to their fullest and best potential. Financing mechanisms are structured to achieve equity among the owners, based on development potential and other dedications (such as parks and open space).

7.9 AMENDMENT TO THE SPECIFIC PLAN

The Specific Plan may not solve or respond to all potential questions that may surface as development in the area progresses. There may also be the desire to develop some features differently from the original proposals. The City will use interpretations, adjustments, and amendments to clarify, refine, and alter the Specific Plan.

INTERPRETATIONS

Interpretations are generally limited to details where the features of the plan appear to conflict with other features in the plan or with adopted City policy. Interpretation may be necessary during discretionary development application (such as subdivision map) or ministerial development applications (such as building permits). In circumstances when interpretation is necessary, the person or body approving the application will make the interpretation. In the case of ministerial development

applications, the Community Development Director will make the interpretation. For discretionary applications, the Community Development Director, the Architectural Review Commission, Planning Commission, or the City Council may make the interpretation, depending on the type of application. The interpreting authority should consult with any other affected City departments. Interpretations are subject to appeal.

ADJUSTMENTS

Adjustments are minor changes to specific features of the Specific Plan that do not significantly alter the development type and still meet the intent of the Plan. The Specific Plan allows for refinement of Plan features provided that any change is clearly consistent with the intent of the Specific Plan. The City anticipates that street and bicycle path locations may be slightly modified through approval of subdivision maps.

AMENDMENTS

Amendments are changes to the Specific Plan involving differences in the type or capacity of development or public services. Examples of changes requiring amendment include:

- Eliminating or reclassifying major streets;
- Increasing the number of street intersections on Foothill Blvd or Los Osos Valley Road;
- Eliminating any segment of the bicycle-pedestrian circulation system (unless replaced with a new segment providing equally convenient access);
- Changing the proposed cross-section design of streets so that

Implementation

one or more components are eliminated (such as sidewalks, parking, landscaped parkway, or bikeways);

- Changing zoning on a parcel as indicated in the Specific Plan;
- Significantly altering residential densities from the proposed range; or
- Significantly altering the regional stormwater detention basin design or its capacity.

Amendments usually involve a question of consistency with the original intent of the Specific Plan or with the General Plan. Amendments require a hearing and recommendation by the Planning Commission and action by the City Council.

ENVIRONMENTAL REVIEW

Nearly all actions to implement this Specific Plan are subject to environmental determinations by the City. For projects that are consistent with this Specific Plan, the environmental determination is expected to be that the project is "categorically exempt" due to its type or size, or that further environmental review is not needed because the EIR for the Specific Plan has adequately addressed all environmental issues. Additional environmental review may be required if the project involves an amendment to the Specific Plan, a previously unknown environmental resource or hazard is involved, or if citywide conditions have changed substantially since the certification of the EIR.

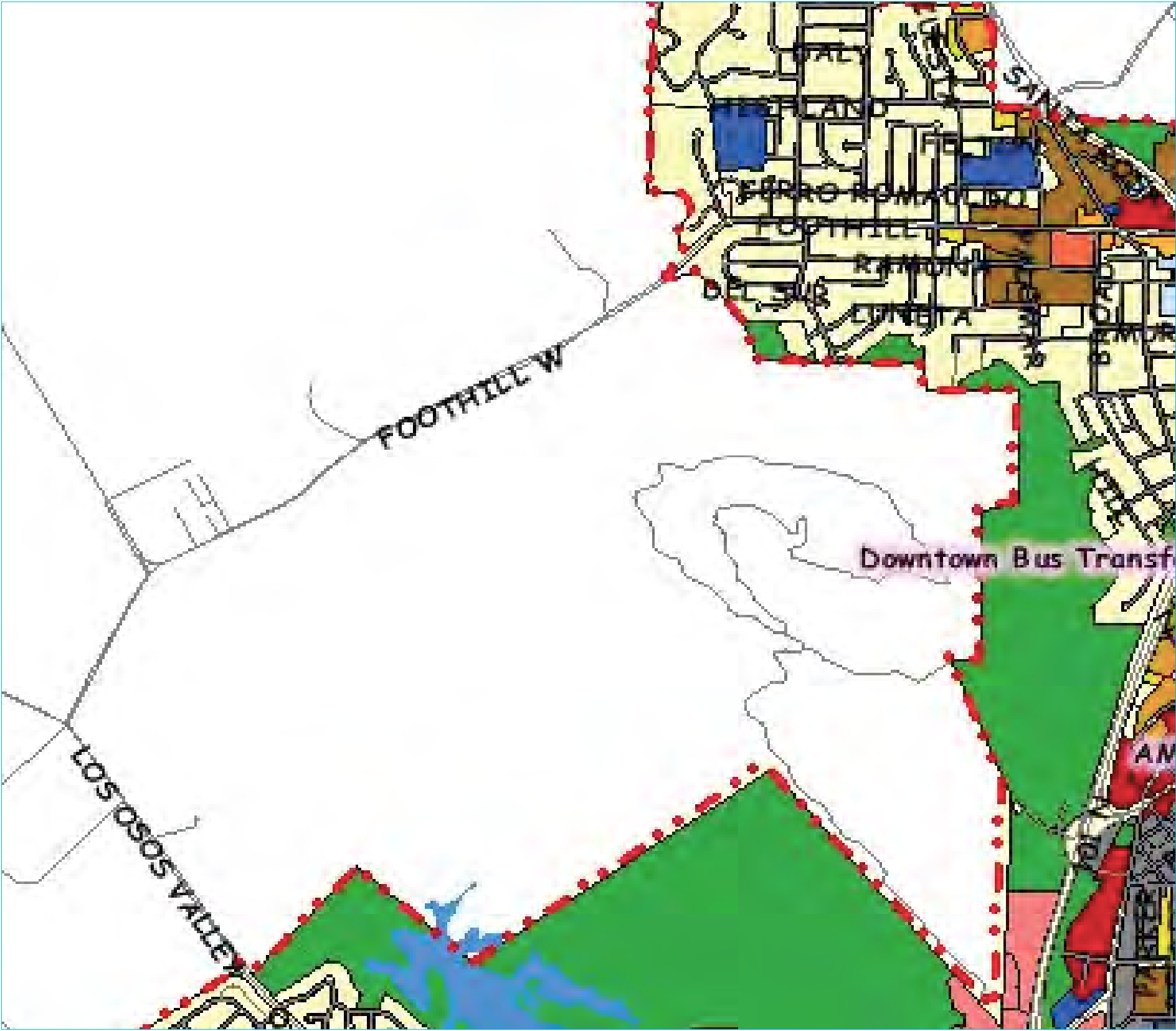
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Figure 1.1 Project Area



Figure Courtesy of
Google Inc.

Figure 1.2 City of San Luis Obispo Zoning



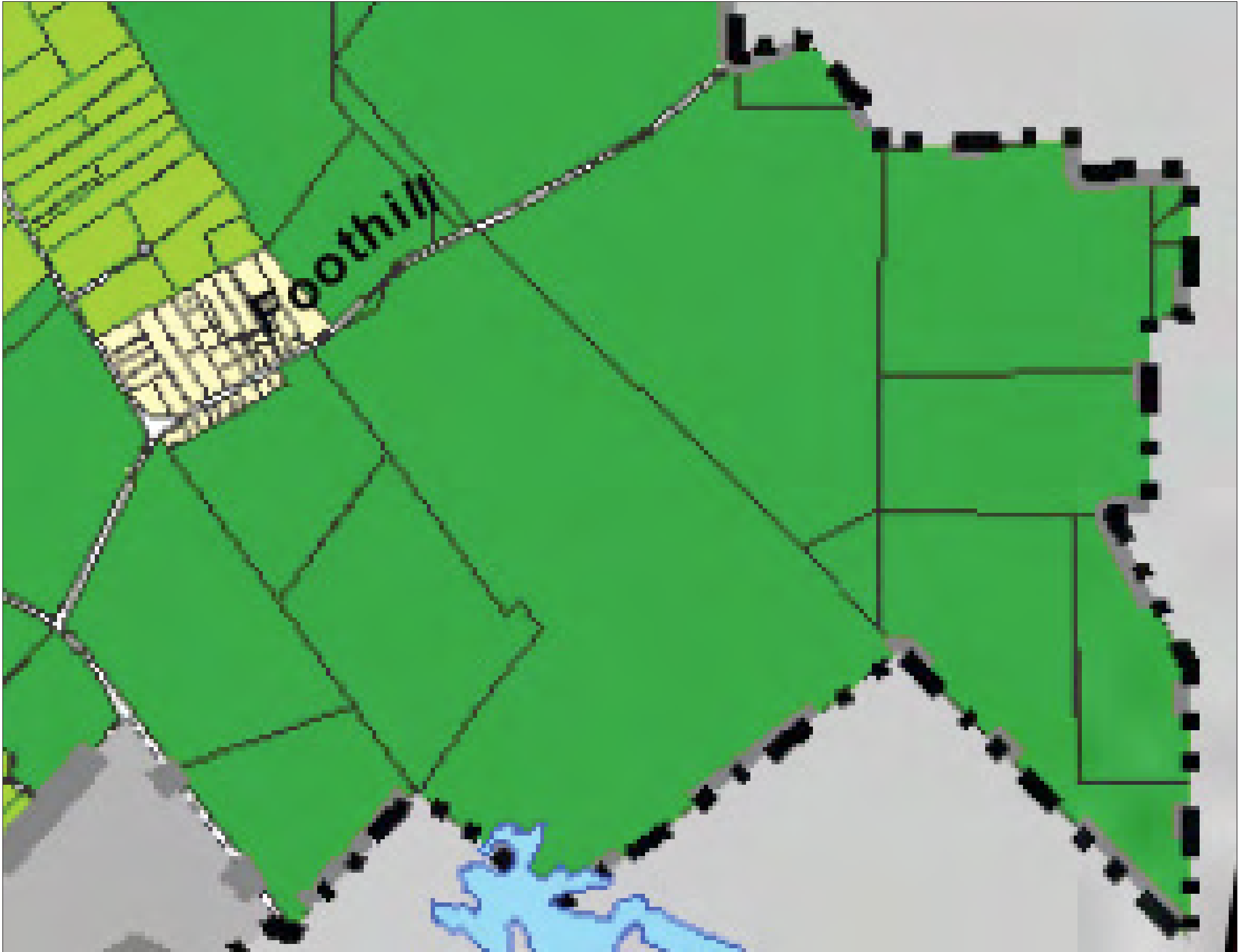
Laguna Entrada

Conceptual Specific Plan

- Low Density Residential
- Park
- Civic
- Water

Figure Courtesy of City of San Luis Obispo, Community Development

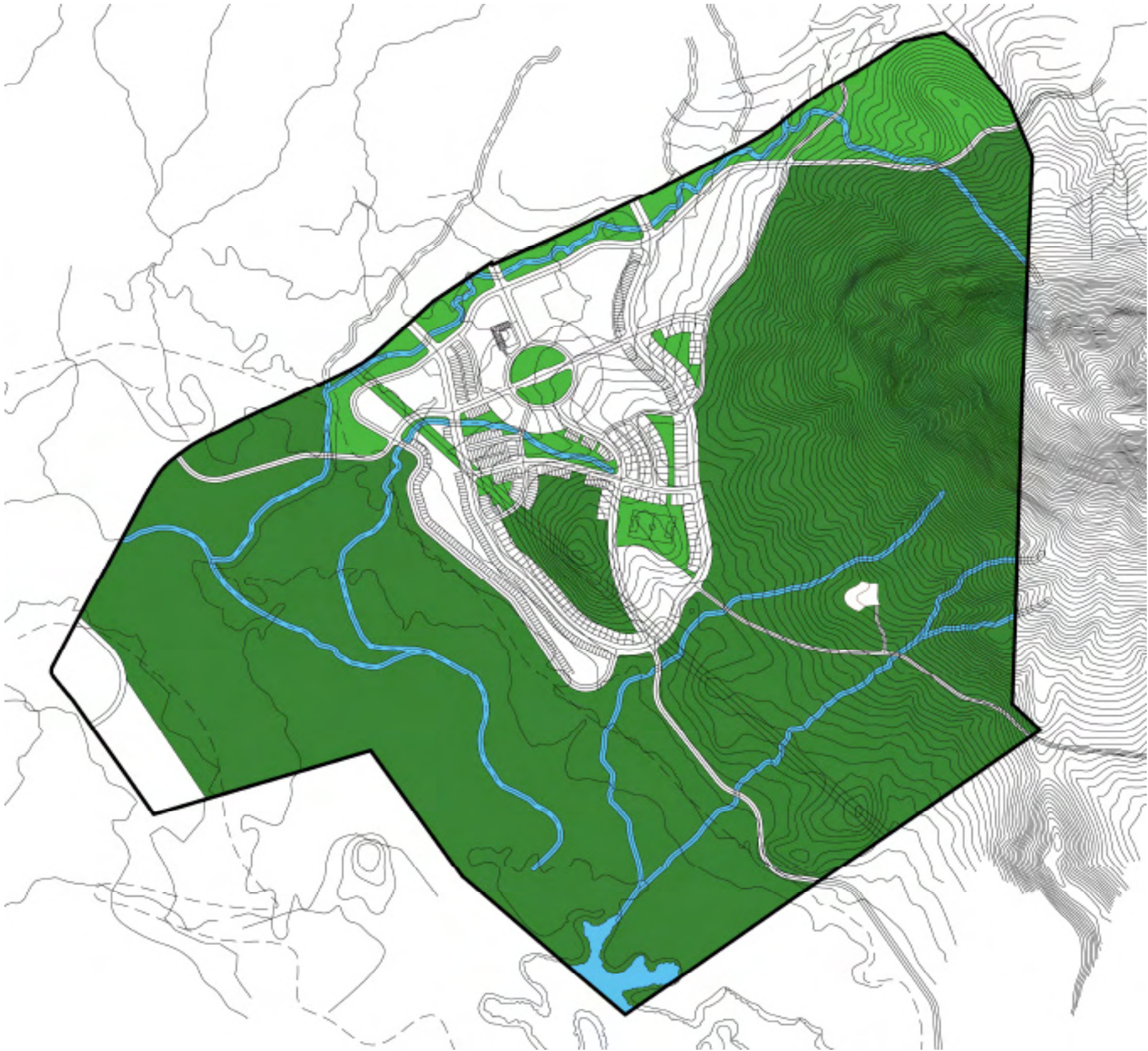
Figure 1.3 San Luis Obispo County Zoning



- Residential Suburban
- Residential Rural
- Agriculture
- Water

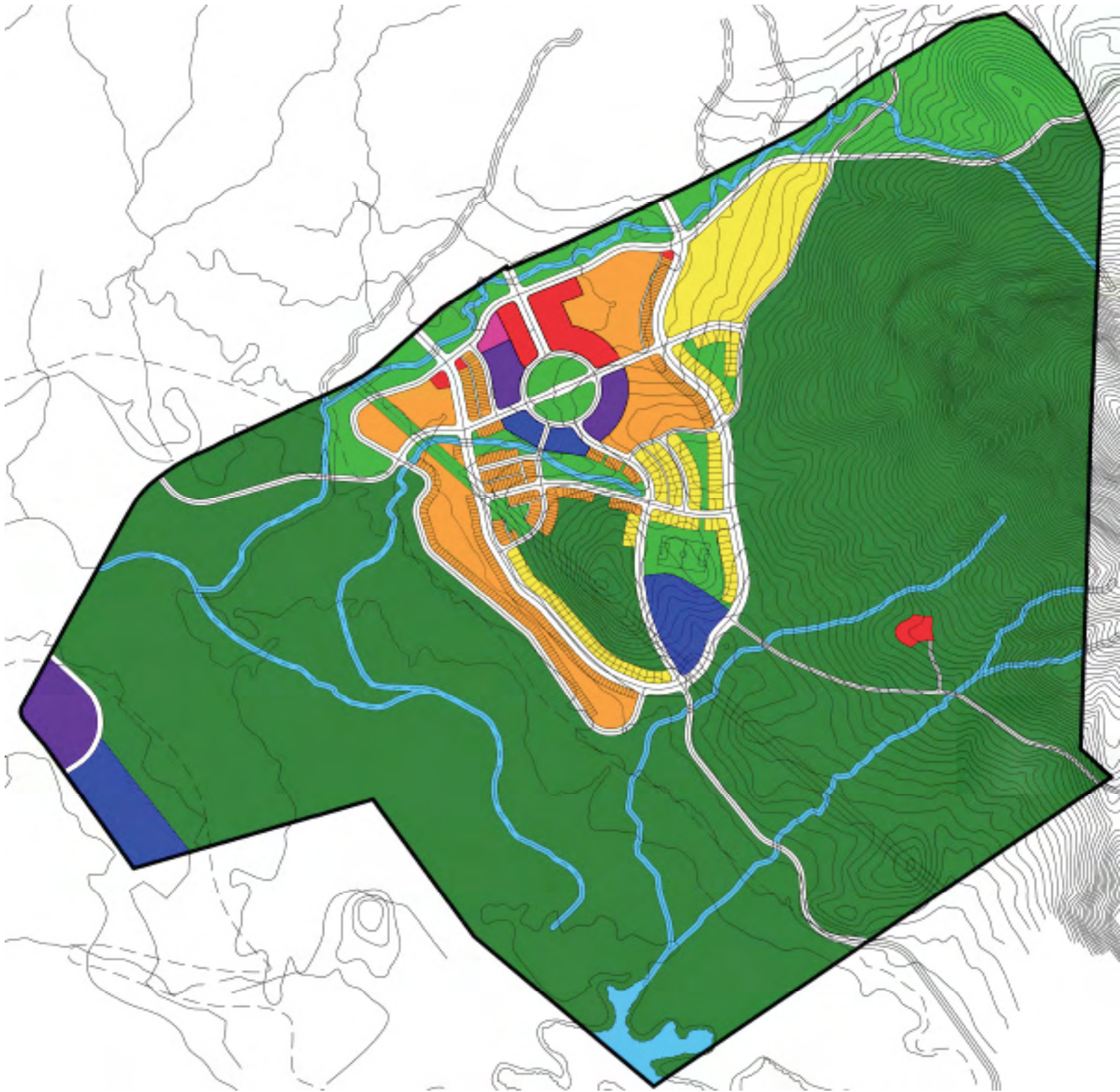
Figure Courtesy of the County of San Luis Obispo, Community Development

Figure 2.1 Parks and Open Space



- Open Space
- Park
- Water

Figure 3.1 Land Use Map



- Commercial (CM)
- Mixed Use (MU)
- Office (O)
- High Residential (R-4)
- Low Residential (R-2)
- Public Facilities (PF)
- Open Space (OS)
- Park (P)
- Water

Figure 3.2 Village Core

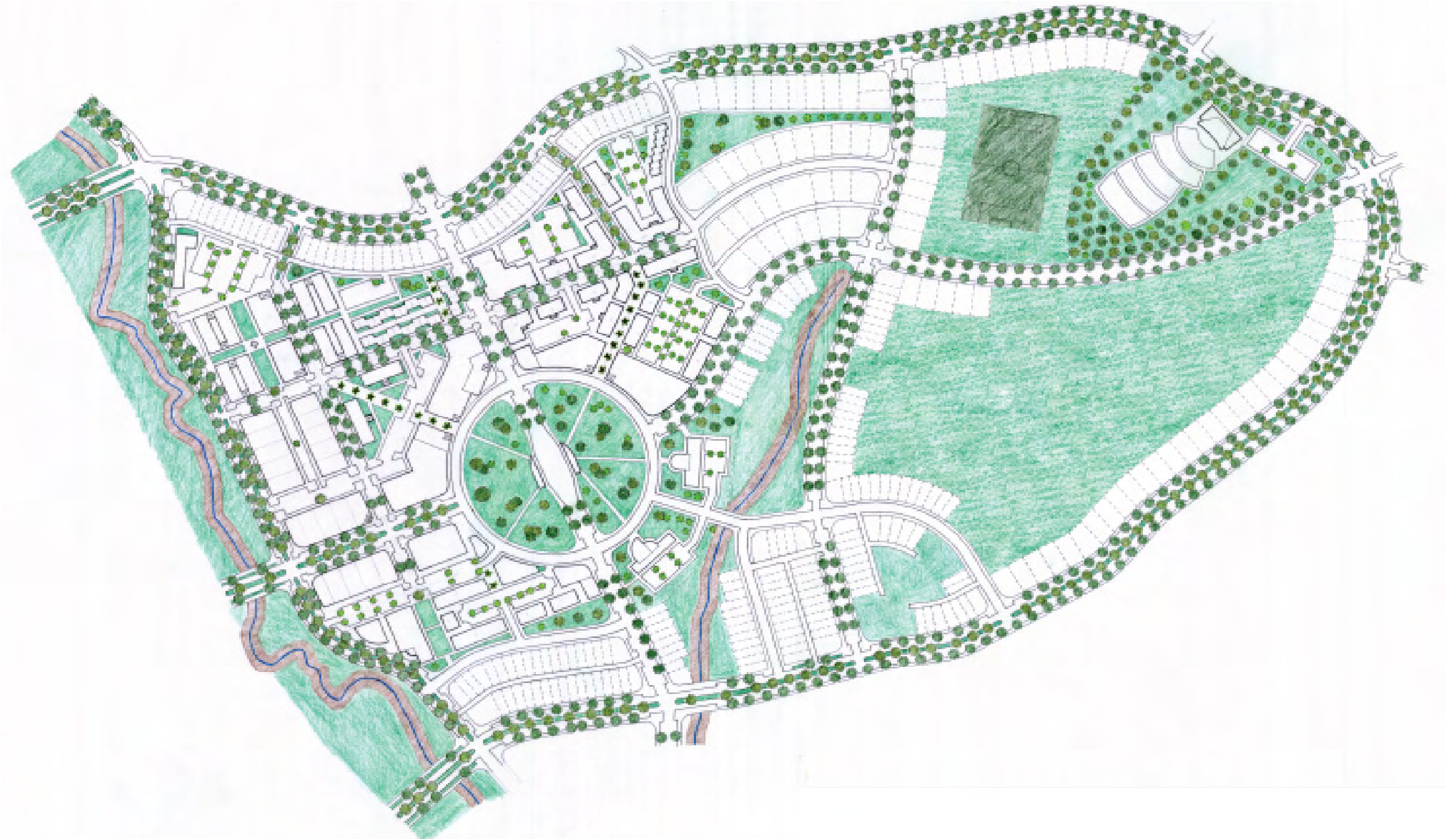


Figure 4.1 Circulation Map

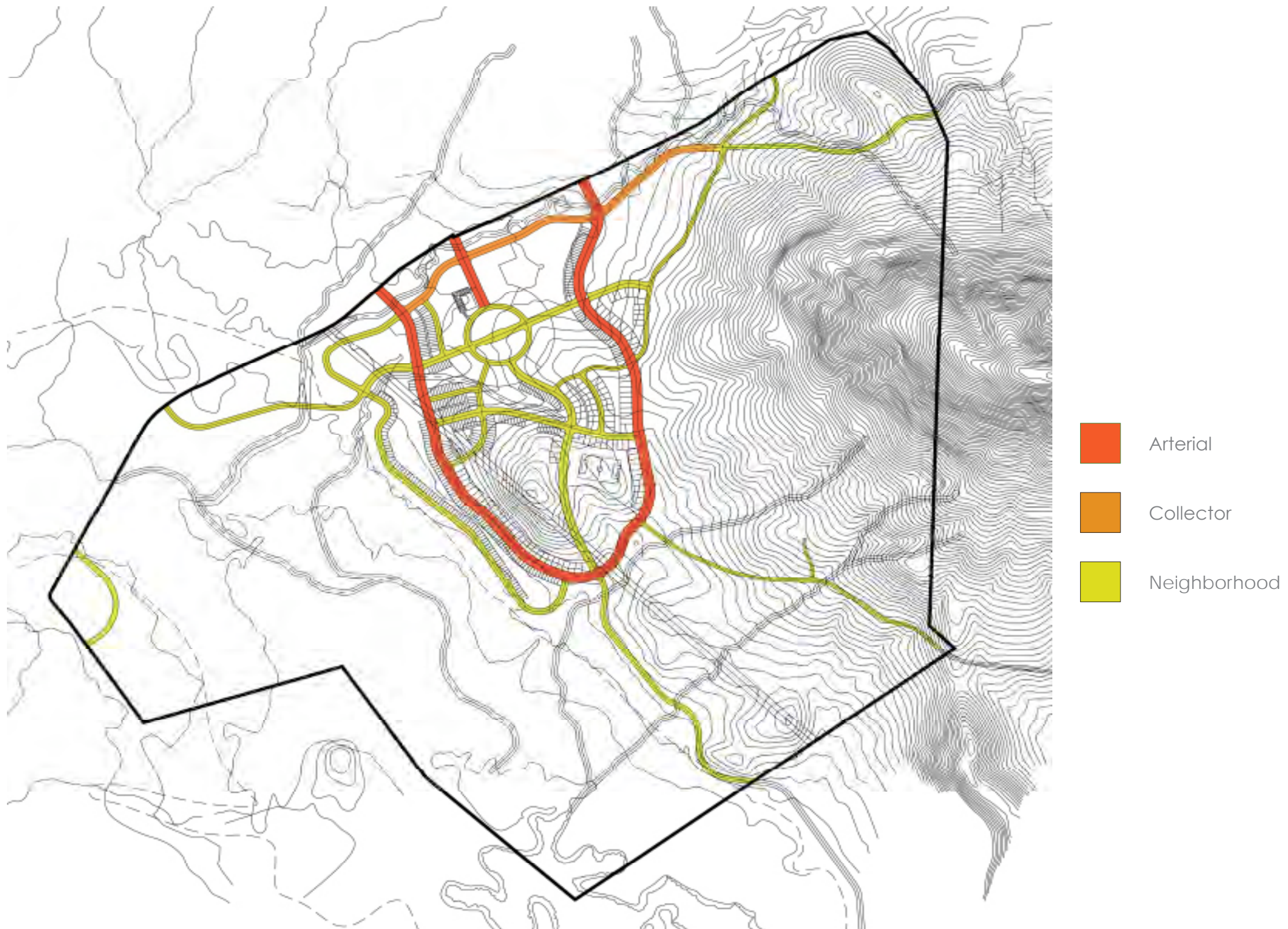


Figure 4.2 Proposed Bicycle Plan

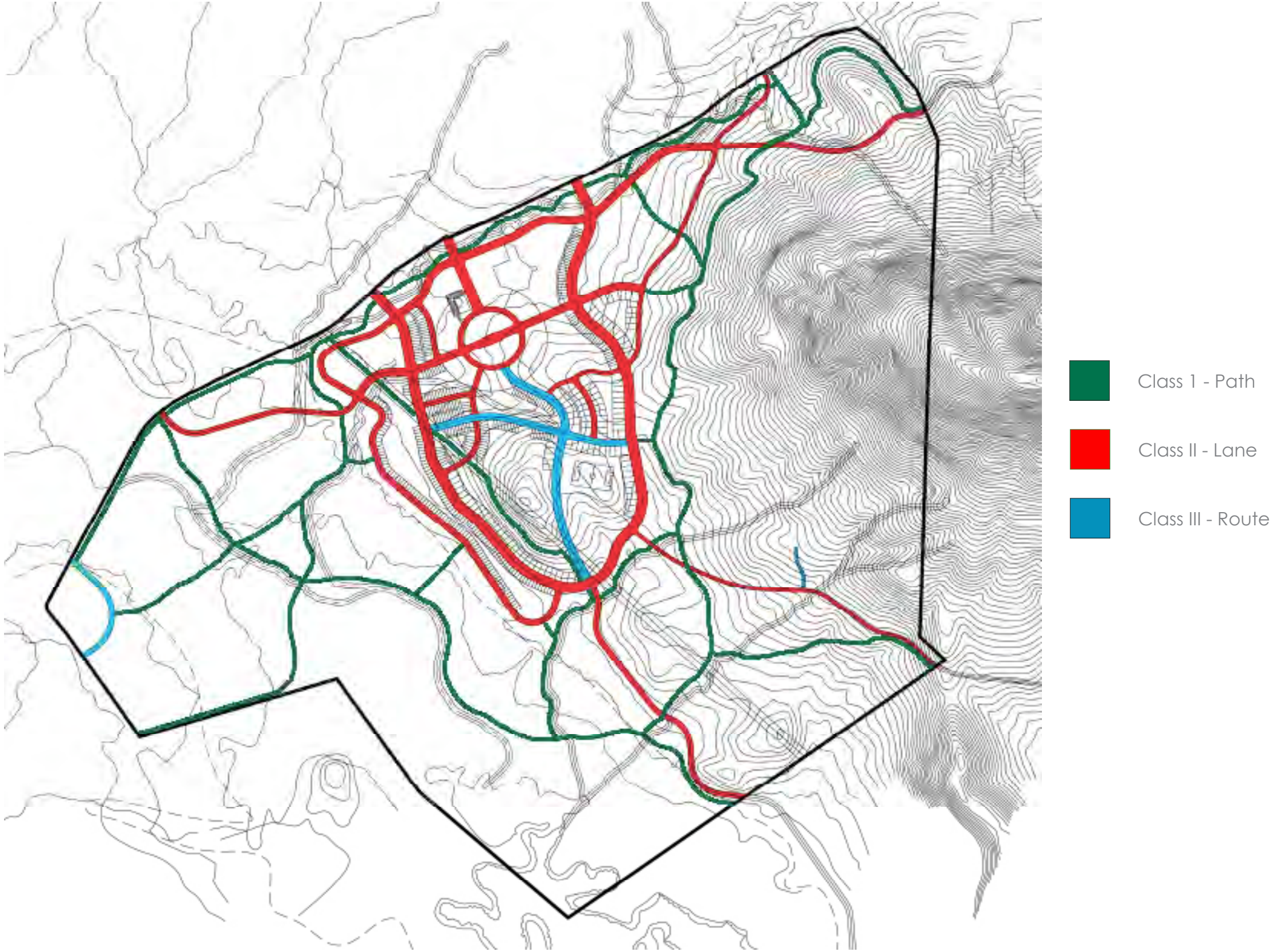


Figure 5.1 Public Facilities



Public Facilities (PF)



DESIGN GROUP

CASE STUDIES



Image 1.1 Community of Seaside, Florida



Image 1.2 City of Ventura, California

From the New Urbanist Ideal

Over the past several decades, new urbanism has found its place around the world. This document critiques two communities, determining whether key elements are present within these urban sites.

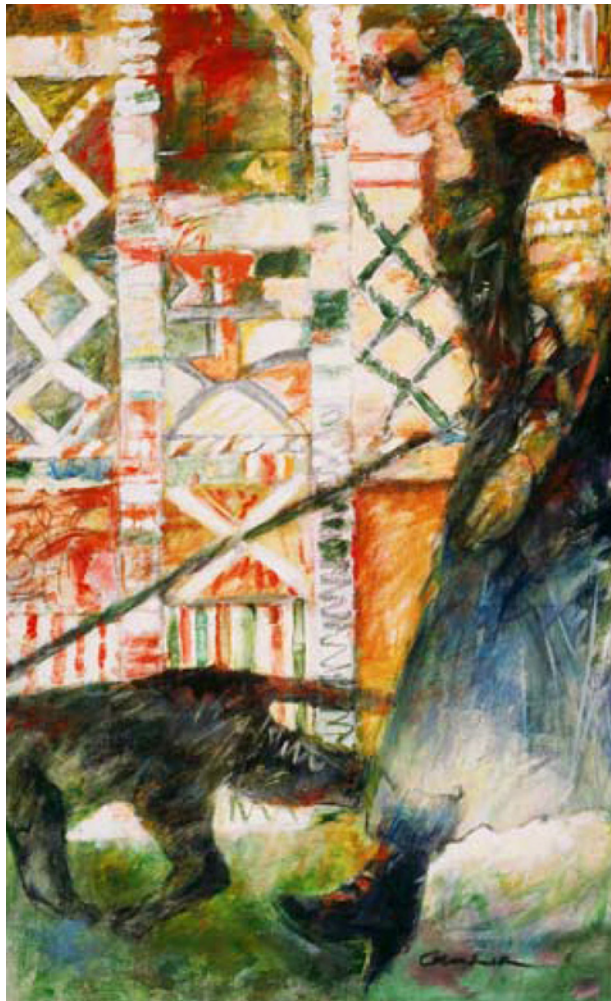


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Introduction

In order to appreciate how our site can be influenced by theory, the team first individually analyzed a separate book or article to find out what the current frameworks and principles that are being practiced for new development. The team then collaborated as a group to create a theoretical framework that would consist of several main concepts which include: Land Use, Housing, Parks & Open Space, Circulation, Transportation, and Safety. Within this theoretical framework there are some overlying themes such as walkability and accessibility, which have been emphasized more so in our framework. Two case studies were then selected (Seaside, FL and the Ventura Downtown Specific Plan) and analyzed as to how they met our theoretical framework. In conjunction with that, both case studies were analyzed using specific LEED ND criteria. Furthermore LEED ND was analyzed by each individual member of the team so that there was a clear understanding of what the requirements were.



Chloe Murdoch - "Walking the Dog"
(Municipal Art Collection)

Analysis of: Community by Design: New Urbanism for Suburbs and Small Communities, by Kenneth Hall and Gerald Porterfield

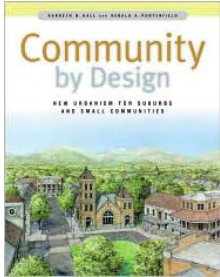


Image 1.3 Community by Design Cover

The book, *Community by Design*, is a great book for anyone curious or interested in the movement of New Urbanism or by professionals wanting to know how to create communities using New Urbanist practices. This book is designed to first explain the parts of New Urbanism and then to explain how to put it all together. The intent is to help the reader get a sense of what they like and don't like about their community, to provide an understanding of how our communities, residences, and transportation have become what they are today, and to provide them with a look at the alternatives, which encourages the reader to become involved in their community and help promote the ideas and goals of New Urbanism.

Throughout the book, the authors help the reader understand the differences of traditional design versus a new urban design by comparing traditional development seen today with an alternative new urban approach. They then go to explain what those differences are as well as the pros and cons of each side. In the latter half

of the book it goes into more detail by providing examples of the design parameters for residences, commercial/retail areas, parks and open space, and other elements of a community from the point of a New Urbanist. Throughout the book you will find 3-4 page case studies that help to provide further examples of New Urbanism projects, their successes and challenges, and their uniqueness.

With this book being all about small communities it is essential that it be realized by readers that the concepts are designed to look at smaller communities and the book almost assumes an ideal situation of non-developed land to build upon. The unique challenge is in identifying where a community can try to implement these ideas and concepts one area at a time, instead of trying to apply it to a whole city. By starting small first a city or community is able to deal with the current issues of suburbia and transform their community into a place of uniqueness, distinct landmarks, mixtures of uses and housing types, and promotes a healthy environment.

Individual Work

Analysis of: Design First: Design-based Planning for Communities, by David Walters and Linda Brown

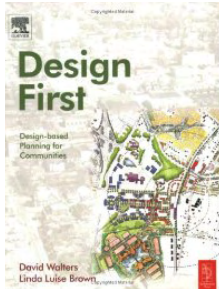


Image 1.4 Design First book cover, Courtesy Barnes and Nobel

Design First: Design-based Planning for Communities is an excellent book that is easy to read and covers a range of topics, which include: the history of urban development, growth management, and case studies. However, one of the more pertinent sections of this book

is the theory section, which covers traditional urbanism (new urbanism and smart growth) and different devices & designs that could be used for developing a good urban design.

In the traditional urbanism section it is interesting to see that the current design guidelines for 'new urbanism' are actually two different concepts meshed together: traditional neighborhood development and transit oriented development. Traditional neighborhood development was developed on the east coast of the United States and focused more on creating walkable neighborhoods that reflected the earlier more traditional American towns. Transit oriented development (TOD) was developed more on the west coast of the States and focused more on creating dense neighborhoods around a transit hub. When these two concepts were finally officially mixed it helped developments create a sense of an integrated and lively community, something that the United States had not seen since the building boom after World War II.

All of this, however, would not have worked if a man named Clarence Perry did not come up with the idea of residents walking to almost all of their daily needs (i.e. shopping, school, work, etc.). With that in mind he came up with the maximum distance that a person was willing to walk to all of these places and he came up with about quarter ($\frac{1}{4}$) mile or a nice 5 min walk for the average person. Based upon Perry's quarter ($\frac{1}{4}$) mile walk he was able to explain that it would allow for up to 5,000 persons, a large enough community to sustain itself yet small enough not to lose its sense of community. Over time the walking distance was increased from 5 minutes to 10 minutes and from a quarter ($\frac{1}{4}$) mile to a half ($\frac{1}{2}$). In doing this it would allow for a larger more urban community than what was first proposed yet not so large that it overpowers a person's sense of place.

Analysis of: The New Urbanism, by Peter Katz

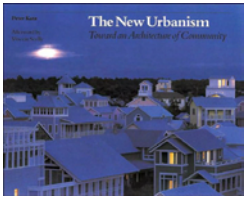


Image 1.5 The New Urbanism book cover, courtesy Barnes and Nobel

The profession of City Planning in America is in its fifth generation of planners. Now more than ever we are asked to plan for the future development of cities and regions across

the country and world. New Urbanism was born out of the hands of such visionaries as Sim Van der Ryn, Peter Calthorpe and Peter Katz. In the book *The New Urbanism*, Peter Katz walks the reader through a series of case studies that were designed with the intent of New Urbanism as the premise for design.

Peter Katz articulates each case study thoroughly, writing about the key components of what makes a community function as intended. The overall layout of the book provides for a well formatted and logical progression, demonstrating the positive and negative attributes of the case study. The preface and forward explain some of general terms and concepts that planners have since understood as common practice.

The question that must be asked as to whether or not a community is functioning properly can be addressed when looking at the following topics. Does the community have open space and parks, a mix of building uses, plazas for social interaction, pedestrian and bicycle friendly routes, and public transportation. Another question to ask when questioning the success of a community design is to ask whether people from a mix of uses are gathering in a common area. Throughout the case studies represented in this book, you see the

commons as a place of importance. The studies show the uniqueness within a community center, decreeing the importance of these objectives, and that collectively creates a defining imagery of place.

Katz mentions the importance of spaces and there relationships with one another. Architectural details, orientations of buildings, densities/hierarchy and open spaces, collectively make up what is called the fabric of a city or community. Throughout the studies, there is cohesion within these areas that defines a sense of place, without necessarily including each and every detail. It is in this respect that cities/communities gain there character, providing visitors, both residents and guests with a place to relax and indulge in work or relaxation.

The important thing to realize about the case studies within this book is two fold. First off, we should understand that there is no such thing as a perfect design. That although we may plan for a certain issue to arise, or rather something that we want to avoid may not in actuality be what happens. Secondly, we must remember that these designs were of the first in the movement of new urbanism, and that there were many elements that worked, and that didn't work, and that we have learned from since that time. Throughout these case studies there are elements that have transpired to other projects by urban designers that should be dully noted. That is the reason in fact that we look at case studies, to understand the things that worked, and conversely the elements that did not. Overall, this book presents these projects factually, and with the intent to show design truly and fairly.

Individual Work

Analysis of: LEED ND, by Kevin Moy

The LEED Neighborhood Development Rating system aims to encourage developers and planners to create sustainable communities when constructing or renewing developments. The LEED Rating system rates new communities, which meet the pre-requisites, based on credits that contribute to an overall certification. These credits are based on smart growth and sustainable building practices.

The LEED ND criteria has 6 pre-requisites of a site even before submittal, first you must have a “smart location” which means you must build your new community near existing communities or public transportation infrastructure. The second pre-requisite is having Smart Location and Linkage: basically means having access to water and water treatment. The third is making sure that the new community is not displacing endangered species and altering the surrounding natural habitat. The fourth pre-requisite is protection of wetlands and water bodies within the site. Fifth is the conservation of agricultural land and sixth is floodplain avoidance. The LEED ND criteria also give credits to developments that develop on Brownfield locations. The LEED ND criteria also give credits to developments that help reduce automobile trips and increase the usage of bicycles. The LEED ND criteria also maintain that proximity from housing to jobs and schools must be close in order to reduce vehicle trips as well as making communities more walkable. The LEED ND criteria also give credits based on protection and restoration of wetlands within the site.

The LEED-ND certification also gives credits for community design. First the prerequisites you must have an open community (no gate or walled communities), second compact design which must make walking around the community easy. The LEED ND criteria also cite having diversity of uses and housing types as important factors in the certification process. The LEED ND criteria also give credits based on affordability and access to transportation facilities. In addition the LEED ND criteria also give credits for access to the surrounding communities, public spaces and community outreach.

LEED ND also credits developments that adhere to normal LEED certification of building practices. Such as building green buildings, reusing historical buildings, reducing pollution, increasing energy and water efficiency, storm water management, and on site energy generation.

Overall the LEED ND Certification process encourages developers to create more active and sustainable communities. The LEED-ND process has 4 certification levels each depending on what guidelines the developers chose to follow; certified, silver, gold, and platinum. The LEED Neighborhood Development Rating system is a process that can help guide development in both infill and new developments.

Individual Work

Analysis of: LEED ND, by Sean Tiedgen

The LEED ND (Leadership in Energy and Environmental Design – Neighborhood Development) program is designed to help bring recognition to those who design a neighborhood plan using sustainable, “green”, and new urbanism practices. The concept was created combining ideas from the movements of Smart Growth, Green Building, and the Congress for New Urbanism. There are three organizations who have come together in order to create this program: U.S Green Building Council (USGBC), Congress for New Urbanism (CNU), and the Natural Resources Defense Council (NRDC) and they have created a rating system, that has been in the process for approximately three years, which designates a set of guidelines that give credits to the project based upon various principles.

How the rating system works is that anyone who has created a design for a neighborhood can voluntarily submit their project to be evaluated to see if it meets the guidelines of a LEED ND project and then can receive either a certification or for a silver, gold, or platinum LEED certification. These projects can be either a whole neighborhood, a portion of a neighborhood, several neighborhoods (for example a specific plan that covers several thousand acres), or possibly infill sites. The process includes three stages:

Pre-approval (optional stage)– in which the site may be looked at before being built and if it fulfills the requirements a letter is stated that if the project is built as viewed then it would attain certification, Certification of an Approved Plan (stage 2) – In which once

a plan has been approved by the residing government then a statement is issued that the approved project will attain a certification if built as approved, and Certification of a Completed Neighborhood (stage 3) – In which when the project is completed or near completion it is re-evaluated to ensure that it was built under the originally approved plans and then given its corresponding plaque based on certification and given public acknowledgement on the USGBC web page.

The highest goal of this process is to promote the design of neighborhoods to be sustainable, healthy, walkable, to include a mixture of land uses, housing and many other considerations. This includes having a project being close jobs, having affordable housing, conserving energy and resource consumption, staying out of protected natural areas, having low impact on the environment, low pollution, and many other guidelines.

Individual Work

Analysis of: LEED ND, by Donald Nielsen

LEED ND was born out of a desire to help guide how new developments should look like. A development could have many green buildings on it, but its location and how it is laid out could have a negative impact on the projects surroundings. The requirements address an array of issues from site selection to neighborhood design to green buildings. .

In the category of Smart Location and Linkage LEED ND looks at where the site is located so as to have the best possible location to connect to all the public services and utilities. It also tries to minimize the loss of new land and encourages the revitalization of brownfields. Additionally this section looks to see if it improves the surrounding area by creating a compact mixed use design that is open to everyone.

The Neighborhood Pattern & Design prerequisites look at a number of different aspects, most notably its compact design. However this section also gives out points to having a wide spectrum of building types, how its transit system links up with the rest of the city, and a person's access to open space by way of walkable streets. It is also important to note that community gardens are encouraged under this section.

LEED-ND pulls from the rating system of the LEED-NC green building guidelines in order to meet its Green Construction and Technology prerequisites. Adaptive building reuse, historic building reuse (if applicable), storm water management, and the lowering of the heat island

effect are all major concerns for this section.

If the developer decides to go above and beyond some of the prerequisites then they have a chance to gain even more points under the Innovation and Design Process section. This is done through the inclusion of green practices not set out in LEED ND and the inclusion of LEED NC when constructing the buildings.

One of the major problems that new developments face is the fact that they do not integrate themselves with the surroundings. It is LEED ND's job to help counter this as well as many other aspects so as to help guide developers in creating high quality developments that are safe and walkable. An area's environment will have to be another consideration when developing new neighborhoods, as well as the building materials used for the buildings. Overall, LEED ND will change the way our communities and cities expand, and it will provide for a safer and healthier living conditions.

Individual Work

Analysis of: LEED ND, by Tyler Hartrich

The LEED-ND rating system was established by a joint effort from the CNU (Congress for New Urbanism), the NRDC (National Resource Defense Council) and the USGBC (United States Green Building Council). Collectively this rating system, which is due out in early 2009 will transpire the way that developments are conceived. The requirements look at a range of issues, from site selection, to the neighborhood pattern and design. The intent of LEED-ND is to look at a much broader holistic scope that the LEED NC program, which looks specifically at buildings.

Smart Location & Linkage prerequisites look at what makes for the best connections to public services, minimizes environmental degradation, utilizes pre developed brownfield sites, and enhances the area through compact mixed used design. These points are awarded primarily on the developments location, and the impact on the environment.

Neighborhood Pattern & Design look at the ability to design for a compact design scheme within the neighborhood pattern & design is awarded in the LEED-ND points system, looking at the diverse uses of buildings, the connection to transit systems outside of the community development, access to open space, walkable streets and even including the cultivation of locally grown food production.

Green Construction & Technology prerequisites draw from the rating system of LEED-NC green building guidelines,

the adaptive reuse of buildings, and the management of wastes that enter and then leave the site. The primary concern deals with green building strategies, the reuse of historic buildings (if applicable), stormwater management, heat island effect and many more.

As is true with the LEED-NC rating system, LEED-ND offers an innovation and design process for those elements that designers can gain points for utilizing. This piece of the certification awards exceptional performance for going above and beyond the specified points system. This may include innovative performance in green building, new urbanist and smart growth categories that are not specifically addressed within the LEED-ND rating system.

The intention of the LEED-Neighborhood Development rating system is to understand the relationships between the community and its interworking functions, and its relations with the greater region it is encompass within. Is the community self sufficient, are there regional connections, and does the development enhance or hinder the natural and built environment? These are some of the questions that arise when designing for a LEED-ND development, and are addressed quite well within the points rating system.

Theoretical Framework

When analyzing the makeup of a community, there are several key aspects that determine a theoretical grading scheme for how well it functions as a system. These include Land use, circulation, the housing element, parks & open space, transportation and safety. When applied, these act as the cornerstone in devising an ideal community.

Land Use: Land use plays an important role in determining zoning hierarchies in the greater context of a city or community, establishing the town center, and the URL (urban reserve line) as the perimeter. Land use underscores the importance of dedicating specific uses and where they will be located. Land Use also plays an important role in mixing uses, Land Use often influence how communities expand and grow.

Circulation: Circulation relates to several concepts when diagnosing its effectiveness within a community. These include the grid system or layout of the streets and its functionality. Circulation also pertains to bicycle and pedestrian corridors, and the ease of being able to get from one place to another with efficiently and safety. Motor vehicle circulation is important in keeping traffic levels down, so as to avoid bottleneck like instances. Traffic calming is a measure that is used within high density locations and is affective with slowing the rate of automobile speeds within these areas. Rail transportation and use of major thoroughfares promotes the movement of people through an area with avoidance of congestion. Ideal Circulation will encourage high connectivity through all forms of transportation on a grid-like street structure.

Housing: The main focus of the housing Element looks at a balanced percentage of housing types. These include single family, multi family, mixed use and affordable housing. Together, these make up the types of housing, all of which are important to include, as residents have differing demands and opinions on where they choose to live. With this said, it is important to have a sense of place. One way of obtaining this is to have similar architectural styles that resemble each other. The mix of housing is an important and central part of how a community functions, especially when integrating affordable housing.

Parks & Open Space: The ability to strategically place parks & open spaces is an integral part in designing a community. One rule of thumb suggests that the placement of these areas be located within the highest density/proximity to where people live. The placement of multiple parks throughout a community is important, making the distance for residence as accessible as possible, and to encourage walk ability to and from the site. Neighborhood parks create a central gathering place for a moderate influx of people, whereas pocket parks are intended for the use of immediate residents.

Transportation: With the onset of TOD's (transit oriented developments) first coined by Peter Calthorpe in the early 1990's, it has been found that providing public transportation in close proximity to housing developments increases rider ship, relieves congestion from roadways, and promotes a more efficient manor of moving people in the masses. When selecting an area to develop, it is wise to make use of locations

Theoretical Framework

adjacent to rail systems. Bicycle and pedestrian accessibility is also a major function of moving within short distances within a community, which is a must within new urbanism design.

Safety: The safety of a community can encompass the safety at night, both in lighting roadways, the prevention of domestic violence and the overall ability to feel safe as a citizen within that area. It can also mean that the quality of air and water pollution is above acceptable conditions. Bicycle and pedestrian safety along roadways and crosswalks are also an important part of safety, considering how cities are often only auto oriented.

Seaside, FL Theoretical

The Community of Seaside in Walton County Florida has been viewed by many as a highly successful development. It found its popularity in the movie “The Truman Show” starring Jim Carrey. The overall character of the community is well represented through its architecture and beach community feel, offering a warm and comforting appeal.

The circulation with Seaside conforms well to the movement of pedestrians throughout the development. There are pedestrian passageways free of auto traffic that offers for a relaxing ambiance for social interaction. The grid system that Seaside is built upon allows for a connectedness with residential homes, and nearby shops, again promoting the pedestrian over the automobile. It is important to note that the community is located adjacent to highway 30, which parallels the oceanfront of the Gulf Coast. This propinquity allows for trips to be made to and from the beach through the mode of bicycling and walking.

Seasides Parks and Open Space is well represented as seen by the Central Plaza. It lies within the heart of the community acts as a hub for the development, including retail shops and office areas, providing for a collective area for social interaction. Provisions have been made for public access in the vicinity of the beach location. It is important to preserve places of natural integrity, especially in the case of a development that borders a coastline. Seaside made great use of the beachfront by dedicating areas specifically to restoration and preservation, while making cut-troughs for pedestrian travel to and from the beach area. Pocket parks are a

great way to isolate populations within the direct vicinity of a neighborhood towards a particular park. They are small in scale and consist of an acre or less of grass for walking dogs, exercising or other other small scale recreational activities. Seaside located several of these nearing the beachfront. For larger scale recreational activities, tennis courts, and a grander scale park have conveniently been located towards the north eastern portion of the community.

New urbanism constitutes transportation as one of the most important issues concerning communities. Although Seaside has made several promising design decisions, in regards to the location of land uses, there has been some neglect with public transportation. For example, the community of Seaside has no bus system to bring residents or visitors to the community, leaving much travel to be auto dependent. Because of this, trips to neighboring towns such as Panama City Beach which is about 25 miles to the east which means that trips are quite lengthy, often taken by automobile. An important issue that often concerns pedestrian travel is the roadway system. Seaside does a great job of following new urbanism methods of street cross sections. Narrow lanes, wide sidewalks, medians, cobblestone streets and small intersections all work towards pedestrian friendly streetscapes, thus enhancing the ease of use for bicyclists and pedestrians.

The community was designed with an integrated set of uses that mix and provide a cohesive layout. The civic and retail/commercial uses were located within the center of the community in such a way that it becomes easily

Seaside, FL Theoretical

accessible for all residents within a short walk for services and provides access along the county road, increasing the chance to draw passersby as they travel either to the site for an event or to stop and peruse the shops. The site is interspersed with pocket parks and much of the community has open space between houses, providing a very private environment. The residential areas surround the “town center” and the mixture of housing types and density area mixed so that there is more variety and less uniformity.

The housing for Seaside has its roots from the early Georgian Colonial (1700-1850) and Colonial Revival era (1900-1940) styles. The modern “twist” that is added is a mixture of housing types that are seen in typically medium density residential areas: cottages, townhomes, and condominiums. This provides for more units in the project site, however the interaction with the other uses provides for a more single family atmosphere between the units. With the sites location practically every residence has a phenomenal view of the surrounding landscape or ocean, making them all prime homes.

While the project does have wonderful character and unique colonial feel it would be preferable to have a starker contrast of housing styles (i.e. craftsman, bungalow, Italianate) that would make each home distinct and exclusive to its owner.

The Seaside community does lend itself to being quite pedestrian friendly in the way that its uses are laid out and the way in which pedestrian walkways are dispersed along the

streets and in connecting the many open space areas. Walkways exclusively for pedestrians are found between residential homes and create the rear boundary of units, especially for the residences along the beach. The project also helps to create a distinction between the area for vehicles and pedestrians as red brick is used to delineate where vehicles are allowed to travel and pedestrian access is provided alongside. One criticism is that the pedestrian area and vehicular area are not grade separated by say curbs, however only by a slight inclined grade between the road and the start of the residential yard (typically bordered by a white fence). This can become difficult for those handicapped and pedestrians may not feel as safe as they would with a slightly larger grade separation between the road and pedestrian pathways.

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Seaside, FL LEED ND

Smart Location & Linkage: The first several prerequisites for LEED ND involve site selection, which arguably was a good choice in the location of this community due to its proximity to the ocean. The rating system looks for a site that does little to no harm to the surrounding environment, that is close to a source of fresh drinking water, minimizes the threat to imperiled species and ecological communities. It also looks at reduced auto dependency, housing proximity, steep slope protection, site design/restoration for habitat or wetland conservation and others. Out of these prerequisites Seaside holds up quite well. The site selection is close to the ocean, which decreases the auto travel to and from the beach. The Gulf Coast, especially in Florida has habitats that need to be protected; for example the Everglades are a subtropical wetland that must be protected from development. The housing density is fairly dense with 350 houses and 300 apartments, although many of which are single family dwellings. There is protection along the beachfront for the protection of native wetlands and habitat. The community makes the attempt to withhold the LEED-ND criteria, but the plan of the now 27 year old development fails in too many aspects of its design.

Neighborhood Pattern & Design: The strength of the Seaside development is apparent in the neighborhood pattern and design. Some of the prerequisites include compact design with an open community, a mix of uses, affordable housing, reduced parking footprint, street and transit networks, having accessibility to public spaces, community outreach and local food production. The site is designed to be compact,

and makes good use of this, regardless of the fact that there is a large percentage of single family dwellings. The community is open, however the style and layout of the community is made to feel closed off specifically to the residents who reside within the community; except in the commercial area. The street system is compact, offering limited parking for those visitors. The transit network lacks in public transportation, with no designated bus system running throughout the entire community; however it may be possible that one stop may exist, but that has been unable to be verified. It is acknowledge though that the streets do have a high connectivity that allows for easy flow throughout the neighborhood and no cul-de-sacs exist; a huge plus for LEED ND projects. Highway 30 does run parallel to the freeway, offering ease of access, but again makes the community auto dependent. Seaside scores well with the level of accessibility in relation to public spaces and open space, but lacks with food production and public outreach. One more mention about housing is that this project is not at all close to becoming affordable or even has an affordable element as the average home sells between \$1.5 and \$2.5 million. Overall, seaside has adopted many new urbanism elements, but some of them are taken away with the theme as a beach community, and the style of housing that is used. If Seaside was to be graded against the LEED-ND criteria it would fall short of becoming certified. Although there are many good ideas within the community, the holistic view is that LEED for Neighborhood Development calls for is too stringent.

Ventura, CA Theoretical

The Ventura Downtown Specific Plan (Ventura DTSP) uses Form Based Code (FBC) for its land use. FBC moves away from the ‘one size fits all’ zoning and uses the more versatile Transect Zones. This creates a hierarchy of uses by allowing the greatest number of uses in the highest ‘T’ zone (T 6.1) and then restricting more uses the lower the sections go. This will help to create a dense urban core with multiple uses that range from restaurants and shops to hotels and residential while protecting predominantly residential neighborhoods from loud people generators. It is designed to “bring many activities of daily living within walking distance of homes.” In addition to the transect zones the FBC allows for overlay zones make it so that the plan is considerate to its surroundings. In the Ventura DTSP the following are all overlay zones: Westside Workplace, Eastside Workplace, and the Hillside. All of these overlays make it so that the plan is able to make a smooth transition on its boundaries with other planning communities. A surprising aspect of this plan though is the fact that there is no set density per acre because it is based off of the building type selected within that ‘T’ zone.

Residential development is allowed in all of the transect zones within the specific plan, so as to create a more pedestrian friendly atmosphere. Because of this the DTSP dictates the building type and street frontage. The building types vary from mansion style multifamily to row homes to courtyard housing. However the building type is dependent on the lot width, if the lot is too narrow then some of the options are not available, and the same goes for if the lot is too wide. In addition to that, each transect gives a

different option for the buildings street frontage so as to avoid the monotony of the tract homes. Furthermore the FBC addresses the architectural style of the building, to make sure it meshes with its surroundings.

The Downtown Specific Plan recognizes the need for accessible public spaces under Goal 8: Sustainable Infrastructure. The Sustainable Infrastructure section of the plan puts forth regulations and policies to increase pedestrian linkages between historical areas, parks, and open space. In another section of the Ventura Downtown Specific Plan specifies on how to provide a walk able environment throughout the downtown district. There are specific plans for certain streets that will improve the current streetscapes to emphasize walk ability and visual qualities along the sidewalks.



There are guidelines on the plans implementation of improvements to streetscapes; however the plan does not explain how distribution of open space will effect new development or redevelopment in the downtown area. It also does not explain how pedestrian linkages will be utilized to improve the walk ability and accessibility to parks for the surrounding community and those visiting the downtown area.

Ventura, CA Theoretical

Because of Downtown Ventura's age, its street system was based upon the grid. This has allowed for a high level of connectivity between all of the uses as well as allowing for a high volume of traffic. Additionally this street structure is conducive to the walkability of the downtown region. However the 101 Freeway cuts right through Downtown, effectively cutting off access to the beach in all but a handful of spots.

The Ventura downtown specific plan sets a specific goal for transportation within the downtown area: "Create an integrated transportation system that effectively serves the downtown area... where people prefer to walk, bike or ride public transportation rather than drive a car." The Mobility section of the DTSP stipulates that plazas, paseos, and sidewalks must be accessible to the handicapped. While the plan encourages use of public transportation, it does not overlook the fact that the bulk of visitors to the downtown area will continue to use automobiles and provides a compromise by introducing the "Park Once" management strategy. The "Park Once" strategy recognizes that most visitors who visit downtown will arrive by automobile, but will attempt to persuade visitors to reach their destinations within downtown by foot or public transportation. To implement these goals the DTSP uses parking revenue to improve streetscapes and supplement public transportation.

While the Ventura downtown specific plan encourages use of public transportation and increased walk ability, the plan does reference how public transportation will link downtown to

the rest of the community.

The plan also adequately addresses the issue of pedestrian safety by laying out plans to improve crosswalks throughout the site. Furthermore, the DTSP also lays out plans to improve on lighting on mains arterials and other streets. It highlights several streets where streetscape improvements will help implement the overall goal of improved pedestrian and public safety. The DTSP mainly addresses public safety through improved street aesthetics and economic development to reduce blight. While the Ventura DTSP guidelines for improvements cover safety issues related to pedestrians it does not go into detail on bicycle or public transportation safety improvements or guidelines.

Ventura, CA LEED ND

Smart Location & Linkage: One of the Prerequisites for LEED ND is that the development has to be located on a smart location i.e. close to city utilities and services. Ventura's Downtown Specific Plan is a smart location because it will be creating a dense urban core over an already existing city center. Currently most of the wetlands in Ventura have been drained or built upon, however the Ventura River Sanctuary and San Jon Baranca have been cited as preservation sites for existing wetlands. Additionally the city is taking measures to ensure the water quality of its street runoff, which empties directly into the Pacific Ocean. Due to downtown's close proximity to the river and its historical growth pattern the Ventura River floodplain was already built upon, thus making it unavoidable for Ventura to meet LEED ND's prerequisite of floodplain avoidance.

However, Ventura has and is implementing a 'park once' policy in the downtown so as to reduce the areas dependence on the automobile. This is being accomplished by providing parking garages, improved transit lines and options, and upgrading the streets and sidewalks. In addition to lessening the areas dependence on the automobile the DTSP has a goal to enhance the bicycle network throughout the downtown, which would allow Ventura to meet ND's bicycle network credit. Another goal of the DTSP is to offer more housing options throughout the downtown region in addition to the creation of more jobs. This is laid out in the DTSP because it will cause a more vibrant and lively downtown, as well as meeting one of ND's credits.

Neighborhood Pattern & Design: While the DTSP does not mention connectivity between the downtown district to the rest of the city, the downtown is directly connected to the rest of the city by means of several thoroughfares and the 101 Freeway. Since Ventura has existed for some time, there is a strong precedence to conserve what little open space that is still undeveloped. The developed areas cited in the DTSP are subject to higher density uses, while the preservation of the hillsides, beach, and other open spaces are of primary concern. In addition to that, the DTSP promotes a diversity of uses in the downtown area by providing guidelines that preserve and enhance the historic character of the downtown area. Furthermore, the downtown area was built out using the grid system, therefore making any LEED-ND credits obligatory.

The Downtown Specific Plan also provides guidelines that will enhance the current access to the surrounding community, by improving the streetscapes and enhancing the areas transit options. Currently the downtown has several constraints that make it difficult to enter and exit and sometime move around the area. Both the 101 Freeway and train tracks block access to the beach on the southern boundary, the northern and western boundaries are inhibited by natural topography (hillsides, the Ventura River, and agriculture), while the eastern boundary is already blocked by urban development. Within the downtown area there are several parks and open spaces that are easily within LEED-ND requirements of walking distance from business and homes; they include: Grant Park, the Ventura River Wilderness Sanctuary, Plaza Park, Mission Park, Seaside Park, and San Buenaventura State

Ventura, CA LEED ND

Beach. On another note, the DTSP does not provide any land for agricultural use the site is boarder by agricultural land. However the DTSP does provide areas for “cultural events” which does support a farmers market, the site also has county fair grounds that boarder it which may also provide residents with access to locally grown foods.

Conclusion

All of this analysis has been done in order for the team of KDST Group to better understand planning theory and to see its “real world” application in the form of established projects through the eyes of Smart Growth, Green Building, and New Urbanism. These movements have become the current approach and remedy for many cities, communities, and neighborhoods today in light of the more political issues of sustainability and climate change. It is also acknowledged that planners and community members are seeing that the system of design for our communities used 40 years ago is outdated, inefficient, and do not serve the goodwill of the public. It is with this knowledge, analysis, review of the case studies of Seaside, Florida and the Ventura Specific Plan, and inspiration that KDST is prepared to take upon the challenges of the Laguna Entrada site implementing the guidelines of LEED ND, New Urbanism, and Smart Growth in order to create a unique and landmark new cornerstone for the City of San Luis Obispo.



Figure 1.1 Community of Seaside, FL Master Plan

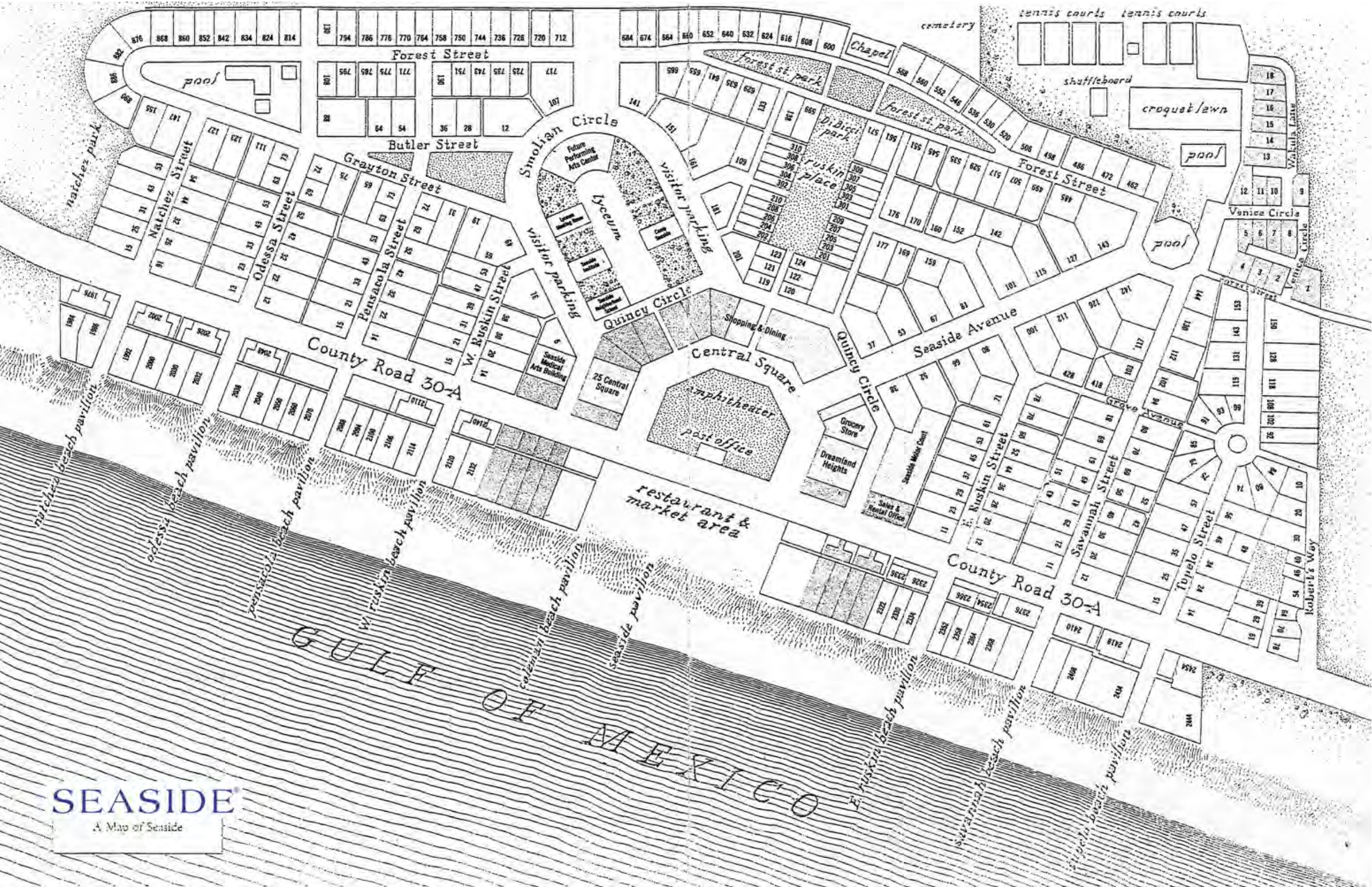


Figure 1.2 Community of Seaside, FL Street Layout

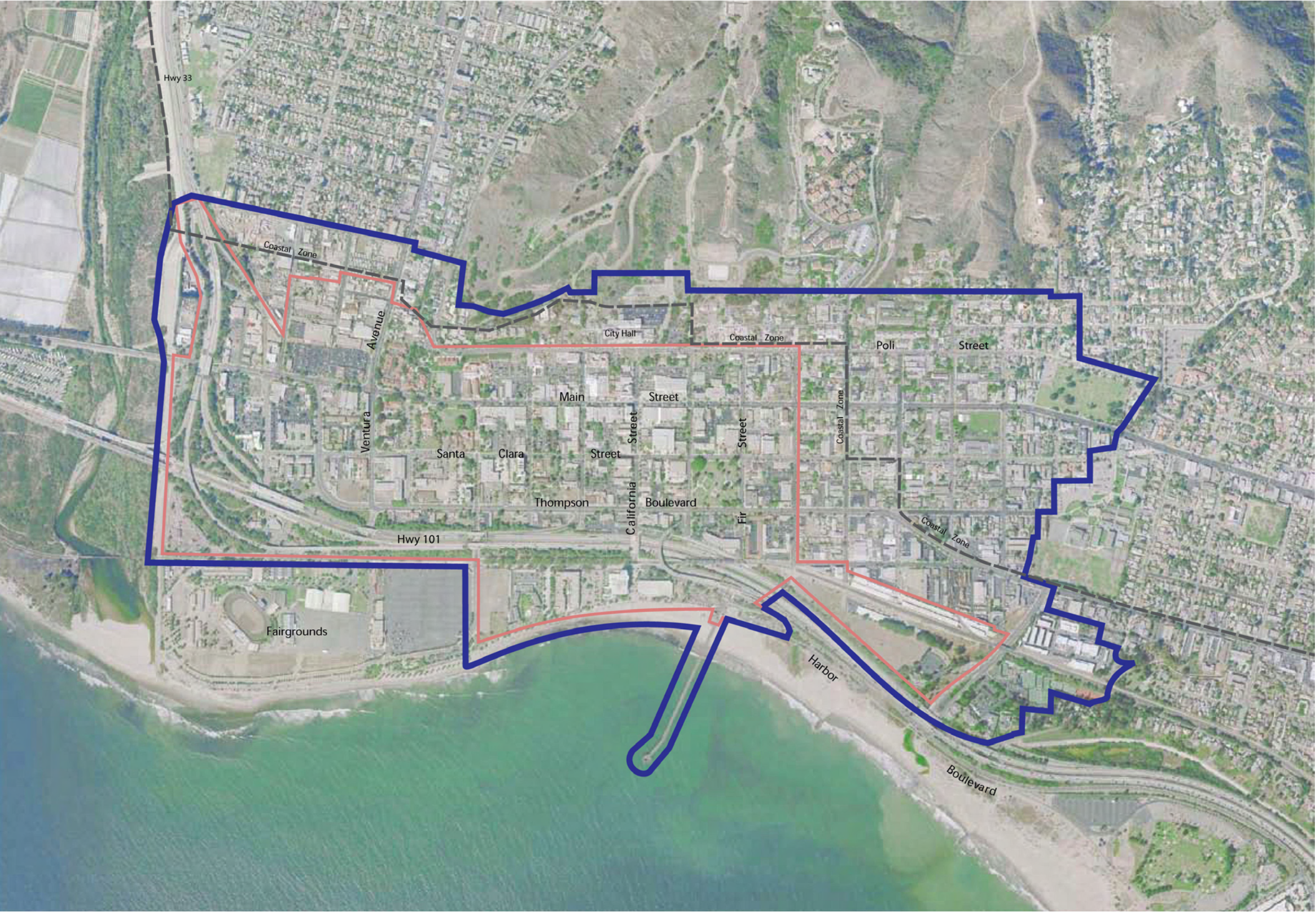
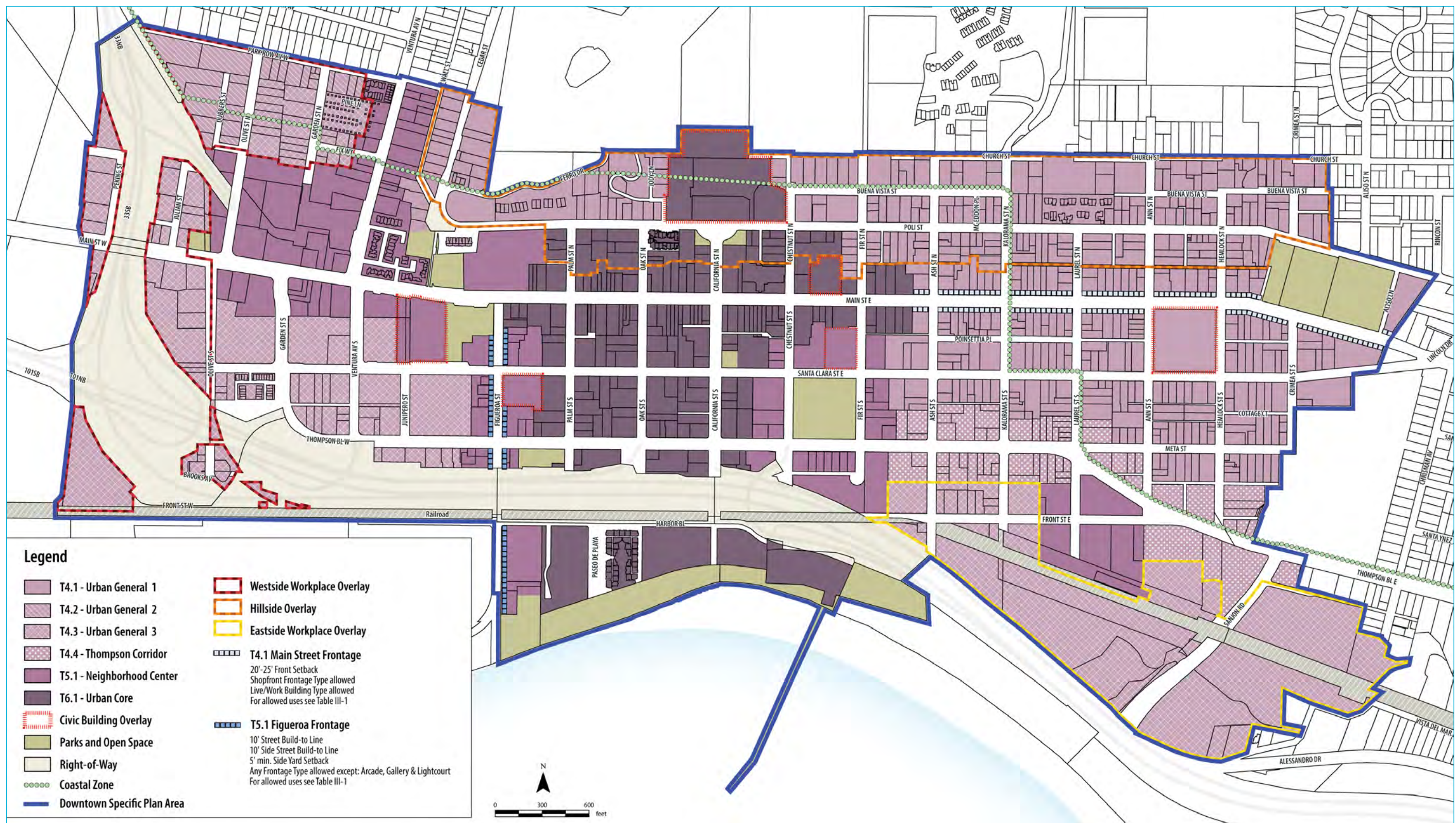


Figure 1.3 City of Ventura Downtown Specific Plan Boundary

Figure 1.4 City of Ventura Downtown Transect Zones



- City of San Buenaventura. (2007). Downtown Specific Plan. Ventura, CA: City Print Shop.
- Crawford, Daniel & Karen Parolek. 2008. Form Based Code: A Guide for Planners, Urban Designers, Municipalities, and Developers. New Jersey. Wiley & Sons.
- Community Development Department. (2006). General Plan of the City of San Luis Obispo. San Luis Obispo, CA: City print shop
- Community Development Department. (2008). Zoning Regulations. San Luis Obispo, CA: City print shop.
- Community Development Department. (2007). Bicycle Transportation Plan. San Luis Obispo, CA: city print shop.
- Community Development Department. (2005). Laguna Lake Park Master Plan. San Luis Obispo, CA: city print shop.
- Community Development Department. (). Waterway Management Plan: Volume 1. San Luis Obispo, CA: city print shop.
- Hall, B. Kenneth & Porterfield, A. Gerald. (2001). Community by Design: New Urbanism for Suburbs and Small Communities.
- Katz, Peter. 1994. The New Urbanism: Toward an Architecture of Community. New York, McGraw Hill.
- Langdon, Stevteville B. (2003). Principle of Human-scale Communities. New Urban News Smartcode and Modules Version 9.0
- Walters, D., & Brown, L.L. (2004). Design first: design-based planning for communities. Amsterdam: Elsevier.