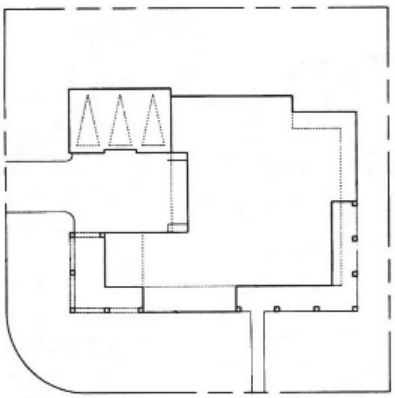
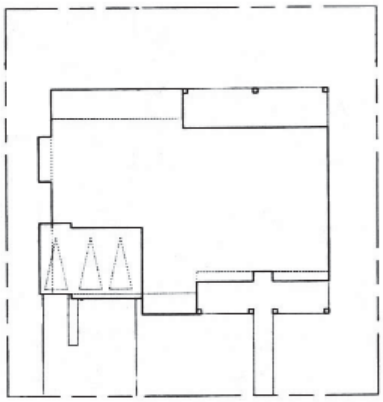
Plotting and Massing Criteria
Parcel WR-2
13,500+ S.F. Lots

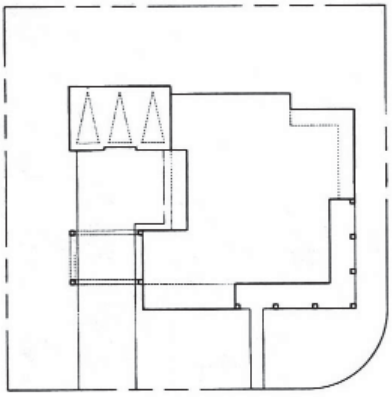


Stepped one and two-story massing
Swing-in garage from side street
Architecture wraps corner

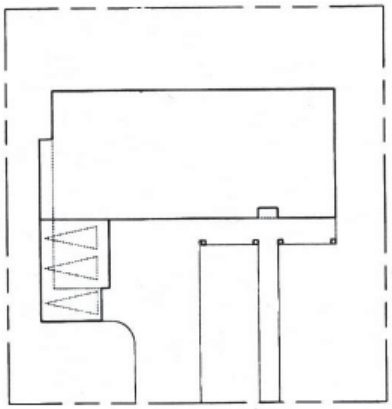


Stepped one and two-story massing
Front facing, shallow-recessed garage

Exhibit 5.4a



Stepped one and two-story massing
Front facing, deep-recessed garage
Architecture wraps corner
Porte cochere



Full two-story massing
Swing-in garage at front

Exhibit 5.4b

Notes: 1. These layouts are suggested alternatives only and are not intended to be the mandated plotting layouts.
2. Rear setbacks can be reduced for layouts utilizing a rear garage or courtyard. Refer to PC Regulations.

Plotting and Massing Criteria
Parcel WR-1
22,000+ S.F. Lots

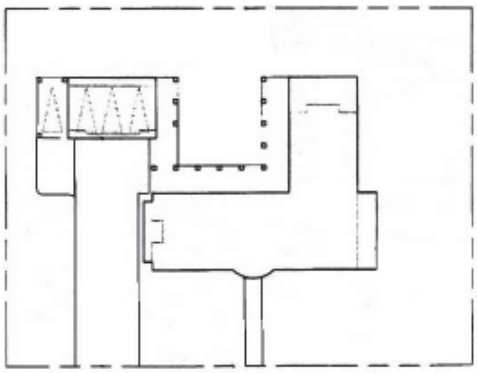
Architectural Styles - Selection open for style mix
American Colonial
Cape Cod
Craftsman
Monterey
European Cottage
European Estate
Italianate
Spanish Revival
Adobe Contemporary
Spanish Eclectic
Mission Italianate
Gill Inspired
Contemporary

Lot Specific Characteristics
Allows garages to be down played with varying garage locations
Optimizes architecture on the street frontage
Use of curb separated sidewalk provides a tree lined traditional foreground for homes

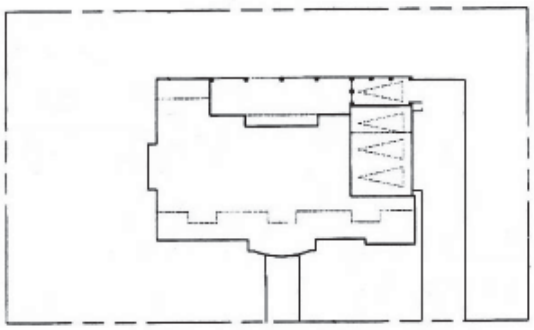
Product Characteristics
Undulated bldg. massing & setback variations
Corner lot plottable homes with garage on opposite street from entry
Front door identity toward street
Significant private usable rear yards
Varied roof pitches and direction
Stepped massing

Massing
Single story elements
Yes 50% of plans (where style appropriate)
Rear articulation
Varied with one 3-foot minimum offset on 60% of plans (where appropriate to style) – must be provided at first and second stories.
Side and Rear trim
Std.
Wrapping Articulation
Std.

Plotting and Massing Criteria
Parcel WR-1
22,000+ S.F. Lots

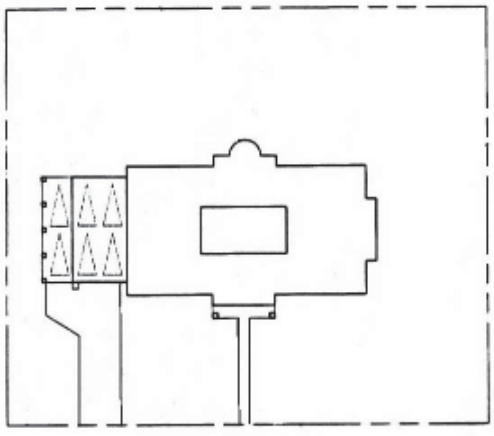


Stepped one and two-story massing
Front facing, deep-recessed garage

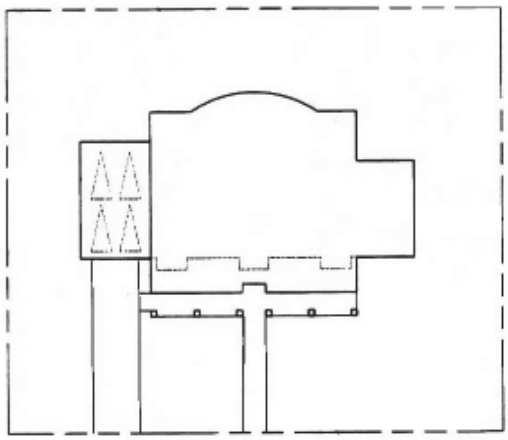


Stepped one and two-story massing
Swing-in garage at rear

Exhibit 5.5a



Full two-story massing
Front facing, tandem garage



Stepped one and two-story massing
Front facing mid-recessed, tandem garage

Exhibit 5.5b

Notes: 1. These layouts are suggested alternatives only and are not intended to be the mandated plotting layouts.
2. Rear setbacks can be reduced for layouts utilizing a rear garage or courtyard. Refer to PC Regulations.

II.4.5.3.5 Architectural Styles

General

The arts and crafts vernacular of architecture, in combination with the diversity and heritage of styles will characterize the background and setting of The Woods. The choice of an acceptable style is meant to fulfill an authentic sense of place for the community. Therefore, it is important that the application of these styles be as authentic as possible to their historical character and avoid "stage-front" architecture.

Much like attractive, established urban neighborhoods, the variety of architecture will add to the character and provide a higher degree of value for the community. These neighborhoods were built over time with architecture that is as appropriate today as it was yesterday. The Woods will not be designed with trends that merely respond to whims of the current marketplace, but with styles that have established themselves as classics over the years.

The palette of styles permitted for The Woods at EastLake are:

American Styles:
- American Colonial
- Cape Cod
- Craftsman
- Monterey
- Contemporary

European Styles:
- European Cottage
- European Estate
- Italianate
- Spanish Revival

San Diego Spanish Styles:
- Southwest Adobe Contemporary
- Spanish Eclectic
- Mission Italianate
- Gill-Inspired

Intent

The architectural design characteristics, requirements, and details will provide a background for guidance and inspiration in creating appropriate images for the character and scale of each style. These styles are identified within a special time in history and the unique combination of scale, character and detail associated with each shall be maintained.

This goal will be achieved by having the community facilities, neighborhood centers, and residences embody authentically significant architectural massing, elements and details. This

community architectural character will be continued through village entry monumentation, neighborhood entries, community walls, signs, lighting and landscape. The use of walls as a character element will add a sense of consistency that is carried throughout The Woods.

Architectural Style Selection

ARCHITECTURAL STYLE MATRIX - The Woods at EastLake					
Architectural Styles	Parcel WR-1	Parcel WR-2	Parcel WR-3	Parcel WR-4	Parcel WR-5
American Styles					
American Colonial	**X**	**X**	**X**		
Cape Cod	**X**		**X**	**X**	**X**
Craftsman	**X**		**X**	**X**	**X**
Monterey	**X**		**X**	**X**	**X**
Contemporary	**X**				
European Styles					
European Cottage	**X**		**X**	**X**	**X**
European Estate	**X**	**X**			
Italianate	**X**	**X**	**X**		
Spanish Revival (Balboa Park)	**X**	**X**	**X**		
San Diego Spanish Styles					
Southwest Adobe - Contemporary	**X**				
Spanish Eclectic	**X**	**X**	**X**	**X**	**X**
Mission Italianate	**X**	**X**	**X**	**X**	
Gill-Inspired	**X**	**X**	**X**		

Criteria

Architectural styles shall vary between and within neighborhoods according to the selected style palette for each neighborhood (see Architectural Style Matrix above).

Each builder shall provide a minimum of three plans per neighborhood (four preferred). Each plan shall have a minimum of 3 different style elevations, demonstrating substantial differences in appearance. For 3-plan packages, no more than 35% of the units within a phase, tract, or street segment shall have the same style. For 4-plan packages, no more than 30% of the units within a phase, tract, or street segment shall have the same style.

The following section provides a brief description of each style and the design requirements necessary to execute each one with the appropriate level of authenticity.



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AMERICAN COLONIAL - PARCELS WR-1, WR-2, WR-3

Historical Precedent

This classic American style evolved from the first homes built in the New England colonies in the 17th century. Their beginnings were as small and unpretentious as the one story saltbox, favoring the cultures and traditions of the settlements.

As living functions became more defined and prosperity increased, so did the need for additional space. Second stories with overhangs, dormers and gabled roof forms became favored solutions, later evolving into classic elements of the traditional style.

With the event of Greek Revival styles in the 19th century, the front dormer window evolved into a standard, prominent roof or entry element, raising the level of sophistication of this style. Later, wings of smaller continuous gable forms were added to each side of the house, becoming a lasting characteristic of traditional form.

The details of this style further demonstrate the character of colonial revival influence. The use of brick veneer and/or wood siding with heavier trim above the doors and windows is typical.

Design Characteristics

The design characteristics provide the essentials for massing, scale, proportion, building materials, and details in understanding this style. They are identified as:

- One and two story roof elements
- Wrapped siding
- Traditional door and window surrounds
- Predominantly gabled roof forms
- Shutters or enhanced windows surrounds as a primary accent

The following sections of design requirements and details further define the elements for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 5:12 to 8:12 standard. Front to back gables as primary form. Secondary elements may be front facing gable or sheds.
Roof Material - Flat concrete or composition tile.
Overhangs - 12-inch to 24-inch standard
Siding - Siding will be used as an accent on all elevations, along with brick veneer.
Stucco Finish - Stucco will be a sand finish and match the siding color.
Chimneys - Chimneys will be detailed with brick veneer base and siding above.
Porches - Typically expressed as a portico, or a small covered area including the entry.
Balconies - None
Window Treatments - Wood or stucco trim shall occur on all windows. Shutters, when used, will be used widely beyond the front elevation.
Entry - The entry will be covered by a front porch or portico.
Doors - Entry doors will have wood/stucco trim surround and articulated with sidelights and or transom lights.
Garage Doors - Garage doors shall be a roll-up type with a variety of panel break-ups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevation - The lines of the roof will have gentle pitches and simple gables.
Character Details - Classic columns at entry, louvered wood shutters, broken pediment detail over entry or at eaves.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow-through of design detailing.



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CAPE COD - PARCELS WR-3, WR-4, WR-5

Historical Precedent

Evolving out of the traditional style of New England Colonial homes, the Cape Cod style possesses a blend of architectural styles dating back to the early 1600's.

This "folk style" house blended the simple, traditional New England character with a sense of asymmetry and a variety of roof forms. The evolution and use of dormer types such as the shed, eyebrow, arched, inset, and wall dormer, contributed to the eclectic look and more fashionable coastline of Cape Cod.

While most homes were completely wrapped by siding, many of the earliest residences also had stone veneer bases surrounding the footprint. The use of colonial type columns at wrapping porches, along with traditionally trimmed windows and doors, added to the distinct personality of these over sized "cottages" by the sea and countryside.

Design Characteristics

The design characteristics provide the essentials for massing, scale, proportion, building materials, and details in understanding this style. They are identified as:

- One and two story roof elements
- Wrapped siding – horizontal or shingle
- Articulated windows and doors with trim surrounds
- Colonial columns at porches
- Hip roof forms
- Wide variety of dormer types

The following sections of design requirements and details further define the elements for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 to 10:12 standard with hip and gable or gambrel roof forms.
Roof Material - Shake-like, composition or flat concrete.
Overhangs - 12-inch standard
Siding - Wrapped siding or shingle will be used as an accent in coordination with stone or brick veneer bases.
Stucco Finish - The stucco will be a fine to medium sand finish, the color being in slight contrast with the siding.
Chimneys - This detailing will be stone or brick veneer low with siding on the upper half of the stack toward the cap.
Porches - The porch will be large in size and scale, always covering the entry and wrapping the house.
Balconies - None
Window Treatments - A variety of dormer windows will be used beyond the front elevation. Wood or stucco trim shall occur on all windows.
Entry - The entry will be covered by the front wrapping porch and articulated sidelights.
Doors - The door shall be simple with wood/stucco surrounds.
Garage Doors - Garage doors shall be roll-up type with a variety of panel break-ups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Character Details - Transom or side lights at front door, small round or oval accent windows on front façade, weathervanes, window boxes.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow-through of design detailing.



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CRAFTSMAN - PARCELS WR-3, WR-4, WR-5

Historical Precedent

The Craftsman style was inspired by the English Arts and Crafts Movement of the late 19th century. The style stressed the importance of insuring that all exterior and interior elements receive both tasteful and "artful" attention. The movement influenced numerous California architects such as Green and Green, and Bernard Maybeck.

The resulting Craftsman style responded with extensive built-in elements and by treating details such as windows or ceilings as if they were furniture. The overall affect was the creation of a natural, warm and livable home.

The style is further characterized by the rustic texture of the building materials, broad overhangs with exposed rafter tails at the eaves and trellises over the porches. In Southern California, the Craftsman style spun out of bungalows that were the production home of the time. This type of architecture can be found in the classic tree lined neighborhoods of Mission Hills and Hillcrest in San Diego. This unique predominant look promoted hand crafted quality; thus the name Craftsman.

Design Characteristics

The design characteristics provide essentials for massing, scale and proportion and building materials, in understanding this particular style. They are identified as:

- Gently pitched roofs
- Projecting gable ends and exposed rafters
- Wood columns
- Porches with supporting stone or brick veneer bases
- Siding as an accent

The following sections of design requirements and details further define the elements for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 standard. Back to front and front facing gable roofs, and secondary shed roofs.
Roof Material - Flat concrete tile.
Overhangs - 18-inches to 30-inches standard.
Siding - Siding shall be used as an accent on all elevation sides, and in gable ends.
Stucco Finish - Stucco will be a sand finish and match the siding color.
Chimneys - Chimneys will be detailed with siding above, and stone or brick veneer below.
Porches - Porches shall cover the front door area and/or the full width of the front elevation. However large, the porch will be raised like a front stoop.
Balconies - Balconies will project out over the building plane and be articulated with wood detailing.
Window Treatments - Wood/stucco trim surrounds shall be on all windows. Dormers commonly used. Shutters will seldom be used.
Entry - The entry and surrounding raised stoop will be covered and contained by the porch.
Doors - Entry doors will have side-lights with wood trim surround.
Garage Doors - The doors shall be roll-up type with a variety of panel breakups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevation - The lines of the roof will be low and simple with wide projecting roofs.
Character Details - Applied siding in eaves, battered columns at porch/entry, balustraded porch

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow-through of design detailing.



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MONTEREY - PARCELS WR-3, WR-4, WR-5

Historical Precedent

The Monterey style is a combination of the original Spanish Colonial adobe construction methods with the basic two-story New England colonial house. Prior to this innovation in Monterey, all Spanish colonial houses in California were of single story construction.

First built by Thomas Larkin in 1835, it introduced two story residential construction and shingle roofs to California. This Monterey style and its single story counterpart eventually had a major influence on the development of modern architecture in the 1930's.

The style was popularized by the use of simple building forms. Roofs featured gables or hips with broad overhangs, often with exposed rafter tails. Shutters, balconies, verandas and porches are integral to the Monterey character.

Several architects, notably Roland Coate, H. Roy Kelly and John Byers promoted the Monterey style through their collective designs. Their interpretations maintained the simple elegance of the early prototypes, but added many refinements and new details.

Design Characteristics

The design characteristics provide essentials for massing, scale and proportion and building materials, in understanding this particular style. They are identified as:

- Balconies, verandas and porches
- Contrasting materials between first and second floors
- Exposed rafter tails

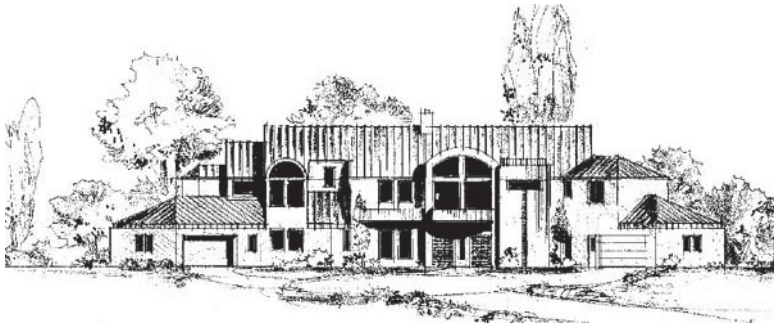
The following sections of design requirements and details further define the elements for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 breaking to 3:12 standard over front and rear porches or verandas. Primary roof line is front to a back gable with an opposing gable.
Roof Material - Flat or 'S' concrete.
Overhangs - Overhangs shall have tight rakes and extended eaves with exposed rafters.
Siding - Siding will be the material that differentiates the first and second floors.
Stucco Finish - The stucco will have very little texturing, fine to medium sand or smooth finish.
Chimneys - The chimney will be wrapped in stucco with a simple chimney cap.
Porches - The verandas shall be large and open with wood detailing.
Balconies - The balconies shall be an integral part of both the front and rear elevations.
Window Treatments - Shutters shall be used as accents and all windows will be trimmed.
Entry - The entry will be recessed and under the cover of the front veranda.
Doors - The entry doors will be typically simple with wood trim surrounds.
Garage Door - The doors shall be a roll-up type with a variety of panel breakups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevation - The overall form will be horizontal.
Character Details - Wood picket balcony railings, exposed rafter tails and French doors opening onto verandas.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow-through of design detailing.



CONTEMPORARY - PARCEL WR-1

Historical Precedent

Contemporary, by its mere description, should have little basis in the past, but rather be an accumulation of the latest in natural as well as man-made materials. Generally the plans are open and free-forming. The interiors reflect the exterior with an emphasis on indoor-outdoor relationships.

Characteristics of this style often include creative use of glass with long, but gentle, overhangs, repetitive lines to initiate rhythm and order. Detailing, particularly in the connections of materials, reflects originality and the essence of custom design.

The beauty of this style will be the designer's ability to create order using progressive geometry and unique ways of incorporating distinct materials. A unique challenge for any Contemporary design in WR-1 will be to create a contemporary home that must be in harmony with other non-contemporary homes.

Design Characteristics

The following design characteristics are common elements for the massing, scale, proportion and texture of the building:

- Long soaring overhangs
- Earth bermed walls to minimize scale
- Round edges at corners or precision sharp edges
- Balance of natural and man-made materials
- Flat or low roofs & parapits
- Large planes of glass for transparency
- Blending of rounded/curvilinear with sharp/square architectural features

Design Requirements

Roof Pitch: Flat to 6:12 parapets and play roof only when applicable

Roof Materials: All latest roofing materials, including, cooper and earth toned metals.

Overhangs: Should be long & soaring with emphasis on edge detail

Siding: Wood in small percentages with natural stone claddings encouraged.

Stucco Finishes: Sand or smooth

Chimneys: Chimneys shall be sculptured materials with artistic cap details.

Balconies: Balconies are to be used to break-up masses in design, but shall flow with existing geometry.

Window Treatments: Exterior roller shades or interior treatments should be concealed within soffit and hidden from view.

Entry: The entry shall be clearly defined geometrically, unique door materials are encouraged.

Garage Doors: Generally a gentle juxtaposition of geometry, combining an artistic balance of horizontal and vertical elements. The long overhang shall be used to terminate soaring scales and facades.



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EUROPEAN COTTAGE - PARCELS WR-3, WR-4, WR-5

Historical Precedent

The European Cottage is a style that evolved out of the medieval Tudor and Norman architecture. The evolving character that resulted in the English "cottage look" became extremely popular when the addition of stone and brick veneer details were added in the 1920's.

Although the cottage is looked upon as small and not costly, the style was quickly recognized as one of the most popular in America. Designs for the homes typically reflected the rural setting that they evolved in. Many established older neighborhoods in Southern California, contain homes with the charm and character of this unpretentious style.

Roof pitches for these homes are steeper than traditional homes, and are comprised of gables, hips and half-hip roof forms. The primary material is stucco with heavy use of stone and brick bases, veneers and tower elements. Some of the most recognizable features for this style are the stucco accents in gable end forms and the sculptured swooping walls at the front elevation.

Design Characteristics

The design characteristics provide the essentials for massing, scale, proportion, building materials, and details in understanding this style. They are identified as:

- Gentle to steep roof pitches
- Projecting gable ends
- Exposed rafter tails with tight rake
- Stone and brick as a major accent on wall, tower and veneer base

The following sections of design requirements and details further define the elements for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 to 8:12 standard with gabled roof forms and occasional swooping form at front.
Roof Material - Flat concrete tile.
Overhangs - 0 - 12-inch standard
Stone/Brick - Stone/brick on all elevations
Siding - None
Stucco Finish - The stucco will be a sand finish.
Chimneys - This detailing will have stone or brick veneer low with stucco on the upper half of the stack toward the cap.
Porches - The porch will vary in size and scale, but always covers the entry with a tower. Add stone or brick to tower element.
Balconies - Balconies shall have wood detailing as an attachment to the building plane.
Window Treatments - A variety of shutters will be used beyond the front elevation. Wood or stucco trim shall occur on all windows.
Entry - The entry will be covered by the front porch and articulated sidelights.
Doors - The door shall be simple with wood/stucco surrounds.
Garage Doors - Garage doors shall be the roll-up type with a variety of panel break-ups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevation - The elevation lines will be a symmetrical, simple and steep.
Character Details - Swooping wall at front façade, small accent windows with wrought iron trim, window boxes.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow-through of design detailing.



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EUROPEAN ESTATE - PARCELS WR-1, WR-2

Historical Precedent

The European Estate or Revival style is a picturesque style defined from medieval English prototypes. The elements in design of steeply pitched roofs and gables blossomed in the American Eclectic expressions in the 1920's & 1930's. Many of these homes have provided a strong influence in these remaining older communities.

The overall shapes and forms contain endless variations of one and two story asymmetrical facades. Relatively uncommon at the turn of the century, this style expanded in popularity with the widespread evolution of brick and stone veneering techniques. Moreover, the period detailing allowed homes to appear real and not simulated.

It is the use of brick and stone materials often mixed, that creates the embellishment for this specific architecture.

Design Characteristics

The design characteristics provide essentials for massing, scale and proportion and building materials, in understanding this particular style. They are identified as:

- Steeply pitched roofs
- Gables, dutch gables and hips elements
- Eave and gutter details
- Timbering in the stucco field
- Dormer windows
- Decorative wood trim surrounds
- Stone and brick applications at walls and chimney stack

The following sections of design requirements and details further define the elements for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Forms - 6:12 - 8:12 standard. Gables, clipped gables and occasional hipped forms.
Roof Material - Flat concrete tile with a slate-like appearance.
Overhangs - 0 - 12-inch standard
Siding - Siding shall be used as an accent, along with half timbering on selective sides.
Stucco Finish - Stucco will be a sand finish and match the siding color.
Chimneys - Chimneys will be detailed with stucco above, and stone or brick veneer below.
Porches - Porches shall cover the front door area and be raised on a front stoop.
Balconies - None
Window Treatments - Wood/stucco trim surrounds shall be on all windows. Shutters are seldom used.
Entry - The entry and surrounding raised stoop will be covered and contained by the porch.
Doors - The doors will have sidelights with wood trim surround.
Garage Doors - The doors shall be a roll-up type with a variety of panel breakups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevation - The lines of the roof will be steep and simple with wide projecting roofs.
Character Details - Swooping wall at front façade, arched shutters on windows, window boxes.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow-through of design detailing.



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ITALIANATE - PARCELS WR-1, WR-2, WR-3

Historical Precedent

The Italianate style began as part of the picturesque movement, a shift away from a strict classical direction in art and architecture. Although few American architects could afford to travel to Italy in the mid-nineteenth century, the European influence came through English buildings and pattern books. Old world prototypes were refined, adapted and embellished, evolving into a classic revival period style.

Although the new period style generated less formality, traditional classical elements such as the symmetrical façade, squared tower entry forms, arched windows, quoined corners and bracketed eaves persisted as the enduring traits of this style. When cast iron became a popular building material, it became a part of the Italianate vocabulary, embellishing homes with a variety of designs for porches, balconies, railings and fences.

Of the three styles of Italian homes built in America, the Villa, Italianate and Brownstone, the Italianate became the most popular. Although it's sophisticated façade and graceful details made it easily recognizable, the decorative brackets that articulate the eaves became such a prominent feature that it sometimes was known as the "Bracketed" style.

Design Characteristics

The design characteristics provide the essentials of massing, scale, proportion and building materials in understanding the principal concepts for this style. They are identified as:

- Low-pitched roofs with brackets under deep overhangs
- Elaboration and detail of the windows, cornices, porches and doorways
- Cornices at eave line
- Horizontal banding and quoins as predominant elements

The following sections of design requirements and details further define the elements for design concepts. Each style will be reviewed and approved based on the following representative

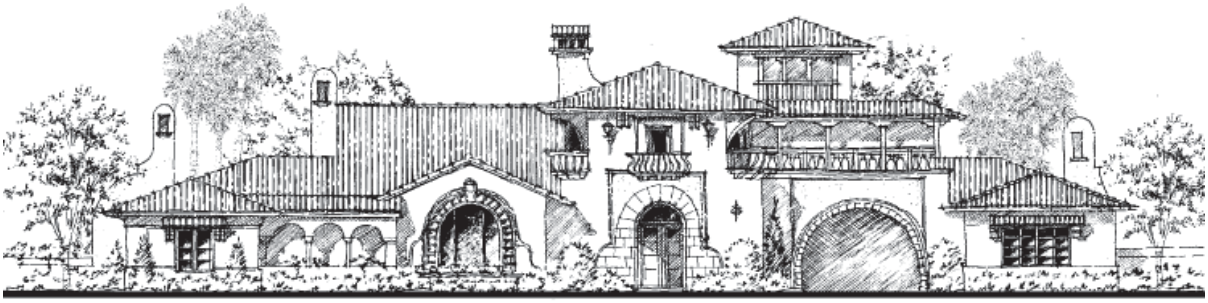
criteria and examples. Elements and details that vary from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 pitch standard. The large parallel section of roof shall be hipped.
Roof Material - Concrete 'S' or barrel tile
Overhangs - 12-inch to 24-inch overhanging eaves with soffits and decorative brackets below.
Stucco Finish - Stucco shall be smooth or light to medium sand finish
Brick/Stone/Tile - Cut stone may be applied as an entire surface material or used at the entry and corners as an accent. The use of decorative Italian tile is encouraged.
Chimneys - The stucco chimney stack will have an articulated cap detail.
Porches - Porches shall occur differently with the varied massing of this style; very formal, vertical and articulated with a square plan configuration or wider, more horizontal on a less formal facade.
Balconies - The balcony shall project from the building plane as a highly decorative wrought iron element or concrete with balusters.
Window Treatments - Shutters may be used occasionally. Arched and curved window tops will be used predominantly above rectangular windows, along with exterior stucco framing. Hooded window surrounds may be used.
Entry - The entry shall be pronounced with a detailed door surround, in wood or stone, or a porch or portico.
Doors - The doors shall be detailed with transom and sidelights. Transom will be arched to match the window detail.
Garage Doors - The doors shall be a roll-up type with a variety of panel break-ups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevation - With the two story square plan layout of this style, the massing will be vertical in appearance.
Character Details - Corbels under eaves, engaged columns, quoins arched forms at 1st story windows, entry, *etc.*

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow-through of design detailing



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SPANISH REVIVAL - PARCELS WR-1, WR-2, WL-3

Historical Precedent

Spanish Revival style is a culmination of Spanish styles brought to a sophisticated level of interpretation by Bertram Goodhue for the buildings of the 1915 California-Pacific Exposition in San Diego.

Borrowing elements of detailing from Moorish, Byzantine and Renaissance architecture in Spain, Goodhue romanticized the simple Spanish Colonial style massing with the use of ornate classical elements and details at entries, arcades, windows and balconies. Although the building mass remained simple, the style exemplified sophisticated fine classical detailing.

This style became popular and remained so into the 1930's, becoming the style of choice for Hollywood stars and fashionable Florida resorts.

Design Characteristics

The design characteristics provide the essentials for massing, scale, proportion, building materials, and details in understanding the primary concepts for this style. They are identified as:

- Simple two story massing
- Upper story balconies and verandas with embellished trim
- Ornate detailing at entries, windows and balconies/verandas
- Stucco finish with painted wood detailing

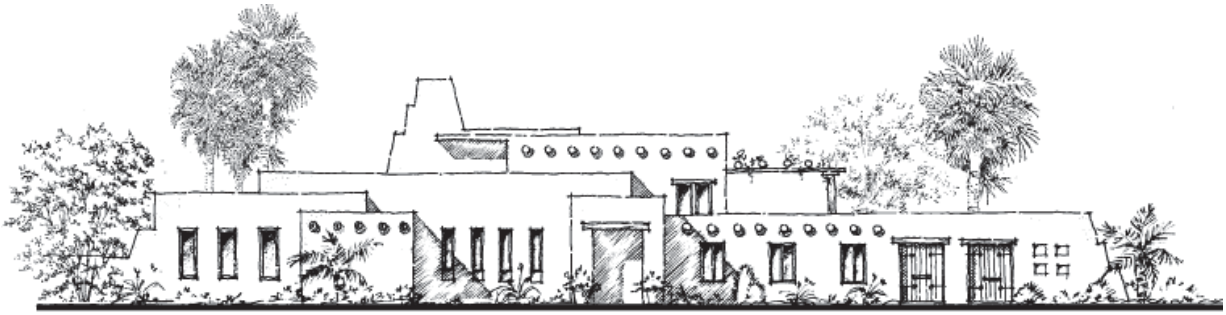
The following design requirements and details further define the character for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 and 5:12 pitch standard, primarily gables and occasional hips, 80% parallel and 20% opposing
Roof Material - Concrete 'S' or barrel tile
Overhangs - Overhangs will have tight rakes and 12-inch eaves
Siding - None
Stucco Finish - Stucco shall be smooth
Chimneys - Chimneys shall be sculpted stucco with an articulated cap detail.
Porches - Porches shall be expressed as an integral part of massing and form. They shall be recessed with ornamental elements such as columns, arched openings and trim surrounds.
Balconies - Balconies will project out over building plane to break up otherwise simple massing. Balustrades or wood rails and columns should reflect ornamental detailing.
Window Treatments - Recessed, singular or grouped vertical windows with ornamental trim surrounds.
Entry - Highly ornamental detailing surrounds entry facade or recessed doorway with added emphasis above portal or front door.
Doors - Carved or paneled doors with simple wood trim.
Garage Doors - The doors shall be a roll-up type with a variety of panel break-ups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevations - The elevations will be simple, primarily horizontal.
Character Details - Sculptural chimney forms. Carved ornamental details at entries, passageways and balconies or verandas. Classical or Mediterranean inspired columns.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow through of design detailing.



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SOUTHWEST ADOBE – CONTEMPORARY - PARCEL WR-1

Historical Precedent

Southwest Adobe style is a regional architecture developed in what is now the southwestern United States. Using Spanish and native Indian traditions, colonists in New Mexico, Texas and Arizona used the materials and labor at hand to produce a courtyard form of housing that was an effective shelter against hot desert climates and unfriendly Indian attacks.

The thick walls of these homes were composed of adobe; unfired brick made from clay, sand and straw, then covered with plaster inside and out. Although the plaster sealed the adobe brick, it was vulnerable to weather and had to be re-applied on the exterior. Even with regular care, the weather eventually wore the corners down to the soft, rounded forms typically seen on this style.
The Spanish influence introduced wooden doors and door frames,'portals' (porches), and heavy wooden courtyard gates to this architecture. The original flat roofs, both Spanish and Indian traditions, were supported by wooden beams or 'vigas' that extended through the exterior façade. These elements, once purely a matter of function and environment, were slowly refined and persist as the primary character elements of this style today.

Contemporary interpretations of this style include stepped geometric forms and a color palette that includes brighter shades of warm desert colors.

Design Characteristics

The design characteristics provide the essentials for massing, scale, proportion, building materials, and details in understanding the primary concepts for this style. They are identified as:

- Simple one and two story combined building mass, horizontal and asymmetrical in form
- Street front facades and courtyard plan forms
- Overall stucco finish with stained or painted wood details

The following design requirements and details further define the character for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details which vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 pitch standard with parapets, 90% parallel and 10% opposing
Roof Material - Concrete 'S' or barrel tile
Overhangs - none
Siding - None
Brick/Stone/Tile - The use of decorative Spanish tile is encouraged.
Stucco - Stucco shall be smooth or light to medium sand finish
Chimneys - Chimneys shall be sculpted stucco with an articulated cap detail.
Porches - Porches, where used, should occupy one third of the façade length. They are supported by heavy, rustic wood posts or columns with ornamental brackets and an open structure of rounded, wood poles above.
Balconies - Where used, balconies shall occur as an integral part of the building form and massing. Where overhead elements are used, wood rails and columns should reflect the same detailing style as described for porches.
Window Treatments - Deeply recessed, singular or grouped vertical windows. Extended facade walls (exterior) may have "punched" openings that appear as windows to the courtyard on the other side.
Entry - Shall be deeply recessed with simple wood trim surrounds or enclosed in an alcove.
Doors - Heavy carved relief or paneled doors with visible aesthetic hardware and simple wood trim surrounds.
Garage Doors - The doors shall be a roll-up door with a variety of panel break-ups to correspond with the elements of this style. If they have windows, they must be appropriate in form to this architectural style.
Front Elevations - The elevations will be simple, geometric, primarily horizontal.
Character Details - Sculptural chimney forms, exposed vigas, heavy black Spanish hardware on doors, gates, *etc.*

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow-through of design detailing.



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SPANISH ECLECTIC - PARCELS WR-1, WR-2, WR-3, WR-4, WR-5

Historical Precedent

Spanish Eclectic is an adaptation of Mission Revival enriched with additional Latin American details and elements. The style attained widespread popularity after the introduction of related, more sophisticated Spanish styles in the Panama-California Exposition of 1915.

The simple courtyards of the Spanish Colonial heritage with hanging pots, a flowering garden and sprawling shade trees are hardly surpassed as foreground design elements. Further architectural distinction was established through the use of tile roofs, stucco walls, heavily textured wooden doors and highlighted ornamental ironwork.

Key features of this style were adapted to the Southern California locale. The plans were informally organized around a courtyard with the front elevation very simply articulated and detailed. The charm of this style lies in the directness, adaptability and contrast of materials and textures.

Design Characteristics

The design characteristics provide essentials for massing, scale and proportion and building materials, in understanding this particular style. They are identified as:

- Exterior arches
- Round or square exterior columns
- Wrought iron accent grates
- Balcony railings
- Accent drain tiles
- Entry courtyard walls and gates

The following sections of design requirements and design details further define the elements for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details which vary or detract from the historical context shall not be accepted.

Design Requirement

Roof Pitch - 4:12 and 5:12 standard
Roof Material - Concrete 'S' or barrel tile.
Overhangs - Overhangs will have tight rakes and 12-inch eaves, and have exposed rafter tails as an accent.
Siding - None
Stucco Finish - Stucco will be smooth.
Chimneys - Chimneys shall be sculptured stucco with an articulated cap detail.
Porches - Porches shall wrap around courtyard elements in an 'L' shape and be accented by detailed columns, walls and gates.
Balconies - Balconies will project out over building planes to break up the front mass and be articulated with wood or wrought iron details.
Window Treatments - Shutters shall be used throughout on all elevations. One to two accent windows will be recessed on the front elevation. All windows shall be trimmed in stucco or wood at the top and bottom of the window.
Entry - The entry shall be covered and be part of the porch and courtyard layout.
Doors - They will be recessed and have stucco or wood trim surround along with articulated sidelights.
Garage Doors - The doors shall be a metal roll-up door with a variety of panel breakups to correspond with the elements of this style.
Front Elevation - Primarily horizontal asymmetrical forms and massing.
Character Details - Clay tile drains in eaves, wrought-iron details at balcony railings, windows and gates.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow through of design detailing.



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MISSION ITALIANATE - PARCELS WR-1, WR-2, WR-3

Historical Precedent

This San Diego regional style is derived from an eclectic mix of several other styles including Spanish Mission and Italianate and may have been influenced by the architecture of San Diego architect, Irving Gill.

The Mission style elements including sculpted wall forms, occasional parapets and 'punched' openings are expressed, although typically in a more subtle form. The typical two story boxed massing, with a dominant detailed porch or entry form, cornices and brackets at the eaves, and fine stucco surfaces are all reminiscent of the Italianate style. Irving Gill's simplified forms, few areas of trim and vertical 'punched 'openings probably influenced those examples built in San Diego during the early part of this century. These elements combined with an allover light colored stucco finish and few other materials create a very strong form with a subtle sophisticated appearance. The Mission Italianate style, influenced by San Diego's historical beginnings and an architect who made this city his home, can be considered a truly indigenous style.

Design Characteristics

The design characteristics provide the essentials for massing, scale, proportion, building materials, and details in understanding the primary concepts for this style. They are identified as:

- Simple box-like massing and courtyard plan
- Dominant porch or entry form
- 'Sculpted' wall and façade elements
- Deep recessed or 'punched' windows
- Overall stucco finish with few exposed trim materials

The following sections of design requirements and design details further define the character for this architectural style. Each style will be reviewed and approved based on the following

criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 pitch standard. Primarily hip and occasional parapet roof elements.
Roof Material - Concrete 'S' or barrel tile.
Overhangs - Deep overhangs 18– 24-inches with cornices at eaves and decorative brackets below soffit.
Siding - None
Stucco Finish - Stucco shall be smooth to fine sand finish.
Chimneys - Sculptural stucco chimney stack with articulated cap detail.
Porches - May be expressed as a portico or porch with sculpted façade details. Porch or portico may also serve as a second story balcony with punched openings in a solid balustrade.
Balconies - Where used may occur as an integral part of the building mass and form or project from the building plane, typically with sculpted wall details.
Window Treatments - All windows will be recessed on the front elevation. Vertical, sometimes arched, top windows shall be trimmed in stucco. Varied decorative mullion patterns are encouraged.
Entry - The entry shall be covered by a portico or porch element.
Doors - Simple doors shall be recessed and have wood trim in contrast to the surrounding stucco façade. They may be articulated with transom or sidelights.
Garage Doors - The garage doors shall be a roll-up type with a variety of panel break-ups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevation - The elevation lines are symmetrical, primarily vertical and simple two story boxed forms.
Character Details - Brackets under eaves, arched top accent windows, perforated openings in balustrades and garden walls.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow through of design detailing.



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GILL INSPIRED - PARCELS WR-1, WR-2, WR-3

Historical Precedent

Predating his European counterparts, San Diego architect Irving Gill developed what would appear to be an American derivation of the International style. With functional practicality, aesthetics and new construction methods in mind, Gill developed a system of design and construction that took on simple, clean and yet architecturally stylish forms.

His most well known innovation, that of 'lift-slab' concrete construction, was the one that drove the simple straight, box-like forms of this style. The wall surfaces were plain, with clean cut or 'punched' openings for windows and doors and often included garden walls that appeared as extensions of the façade. Gill retained a sense of regional style and character in his buildings by incorporating arched doorways, arcades, and details such as small balconies and window boxes. They were accomplished as an integral part of the monolithic wall slabs.

Integrating his indoor plan and exterior finishes with the outdoor environment, Gill used French doors opening onto terraces and garden rooms. Plantings were encompassed by extended garden walls and arcades making Gill's exterior living spaces an extension of the indoor environment.

Design Characteristics

- Overall, simple horizontal forms
- Arched windows and openings on facades and secondary massing elements
- Overall stucco finish with wood detailing
- Sculptured columns and open wood overheads at entry and patio/shade structures

The following sections of design requirements and details further define the character for this architectural style. Each style will be reviewed and approved based on the following criteria. Elements and details that vary or detract from the historical context shall not be accepted.

Design Requirements

Roof Form - 4:12 pitch standard. Primarily hipped or parapet roofs.
Roof Material - Concrete 'S' or barrel tile.
Overhangs - 12-inch to 18-inch overhanging eaves.
Siding - None.
Stucco Finish - Stucco shall be smooth to fine sand finish.
Chimneys - Simple stucco chimney stack with articulated cap detail.
Porches - Shall occur as arbor-like structure supported by sculpted stucco columns and covered by open wood overhead.
Balconies - May occur as an integral part of the building mass and form.
Window Treatments - Windows have the appearance of being 'punched' or deeply recessed. They are vertical in form and often grouped. Arched top windows may be used widely as character and accent forms on 1st story.
Entry - The entry shall be covered by a porch structure.
Doors - Simple doors shall be recessed and have wood trim in contrast to the surrounding stucco façade.
Garage Doors - The garage doors shall be a roll-up type with a variety of panel break-ups to correspond with the elements of this style. If the doors have windows, they must reflect the appropriate form for this architectural style.
Front Elevation - The elevation lines are asymmetrical, primarily horizontal and simple boxed forms.
Character Details - Perforated openings in extended facade and garden walls.

Design Details

The application of essential details will embellish each distinct architectural style. The elements identified herein will initiate the appropriate follow through of design detailing.

II.4.5.2.6 Secondary Elements

The following represents additional character elements to be reviewed for approval in the community. These elements typically go unnoticed as part of the architectural background in neighborhoods.

Appurtenant Structures - All detached structures to be used as living space shall conform to the design standards of the existing dwelling on the lot. This type of structure shall be reviewed for conformance with design standards and approval.

Awnings - Awnings may be used to reinforce the architectural character of the residence. When provided, they shall be compatible with the style, designed as an integral part of the architecture, and colored to match or complement the wall surface to which they are attached. Examples of acceptable awnings include:

- Solid color acrylic canvas fabric.
- Bahama shutters.

Entry Court Gates and/or Motorcourt Gates - Pedestrian and/or auto gates for individual lots shall submitted for design review and approval.

Exterior Lighting - Selection of light fixtures for highly visible locations (*i.e.*, entry areas, corner lots) shall be submitted for design review and approval.

Gutters and Downspouts - Exposed gutters will be colored to match the roof or wall material. Exposed downspouts will be colored to match the surfaces to which they are attached. As an exception, natural copper gutters and downspouts are permitted.

Mailboxes - Standard ganged postal service mailboxes will be provided according to the designated design for each neighborhood. The individual box type shall be submitted for design review and approval.

Mechanical Equipment - All air conditioning/heating equipment, soft water tanks, pool and spa equipment, and electric self-timer boxes for sprinklers or exterior landscape/lighting shall be completely screened from public view.

Meters - Both gas and electric meters and cable panels shall be screened from view. The details shall be submitted for design review and approval.

Patio Structures/Gazebos - The use of patio structures is encouraged. They shall be integrated into the building form to add articulation to otherwise large unbroken wall masses. Freestanding patio covers or gazebos shall be designed in conformance with the architectural

style of the primary residence. The design and details for any such structures shall be submitted for design review and approval.

Residential Address Numbers - All address fixtures shall be lit by photocell as a standard feature. The type and location of fixtures shall be appropriate to the architectural style of the residence and shall be submitted for design review and approval.

Roof Flashing & Vents - All flashing and vents shall be colored to match the material to which it is attached.

Stairs and Steps - Exterior stairs that are designed for access to second story living areas shall be designed to be incorporated and appropriately articulated with respect to the style of the residence.

Sky Lights - Sky lights shall be designed as an integral part of the roof. The glazing shall be clear or solar bronze; white glazing is prohibited. The framing materials shall be colored to match or blend with the roof.

II.4.5.2.7 Colors & Materials

General

The historic colors and materials used in the Arts and Crafts period demonstrate the concept of a building's organic growth from its site. The use of natural appearing materials and colors reflecting the local environment, such as earth tones, is desirable. Knowledgeable color experts anticipate color to reflect this environmental trend as consumers' awareness rises.

In the past, the tendency has been to hold on to the traditional before moving ahead. The use of traditional materials and colors will lead to new visual interpretations. Earth tones can be augmented with today's buyer interest of lighter colors.

Intent

The architectural styles that form the heritage for The Woods are found in the long established neighborhoods of San Diego. Borrowing from the elements of authenticity, specific interpretation of color and materials shall be encouraged.

Material selection will have a long-lasting impact on the local character and identity of each neighborhood, and will be crucial to the visual consistency and coherence of the entire community.

The primary purpose of the palette selection and criteria is to avoid monotony, and to avoid the over use of light colors. This palette selection must strive to achieve a sense of historical reference, permanence, color diversity, and a soft visual expression to complement the selected

architectural style. Builders must refer to The Woods at EastLake architectural color palette maintained by the master developer for specific colors.

II.4.5.3 Parking

The amount of parking required within each residential district is specified in the EastLake III PC District Regulations. Requirements for sizing and spacing are provided in the PC Regulations. Beyond providing the number of spaces required, the design of common parking areas for attached and multi-family neighborhoods is an important element in site planning. However, within single family neighborhoods, parking is provided in individual garages, driveway spaces (between back of sidewalk and garage face) and guest parking on-street. No special design criteria are required for these areas, except for WR-1, where additional on-street parking is limited requiring additional on-site parking for guests.

II.4.5.4 Special Standards

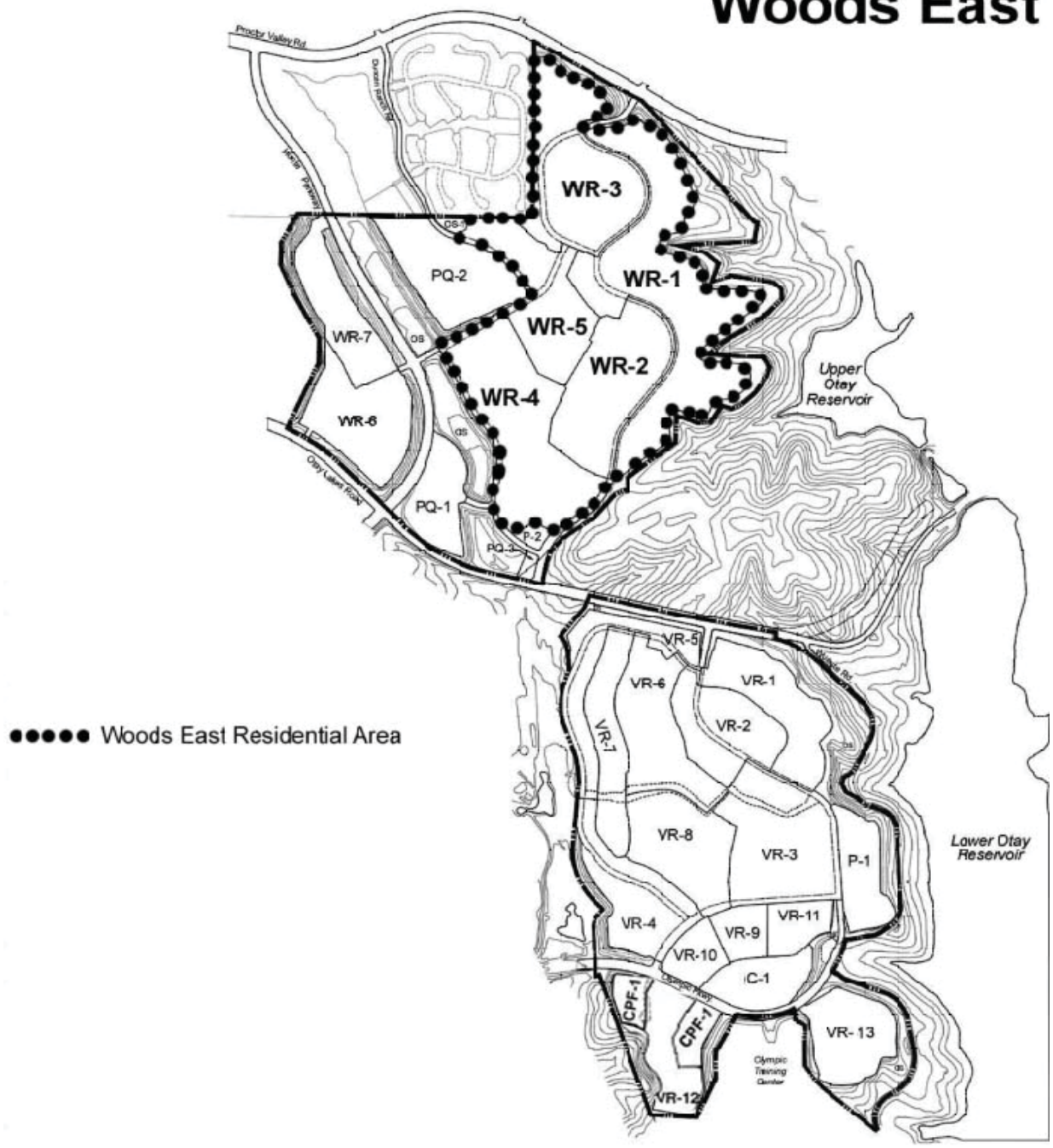
Some parcels in EastLake Woods are proposed to be gated neighborhoods/home groups with gates provided at each street entry. The gate and entry structure should be consistent with the community fencing design implemented adjacent to the entry. Adequate space for queuing and turn-around should also be provided in front of the gate so traffic does not backup on to the adjacent neighborhood street. The gated street entry design is depicted in Exhibit 4.12. Design standards for the common private driveways are provided in Exhibit 3.33 in the Chapter II.4.3.

II.4.5.5 Individual Parcel Design Criteria

The product descriptions and parcel plan features described in this section are those envisioned at the time of SPA Plan preparation. These designs and specifications are subject to change and refinement in conjunction with the tentative tract map approval, and are subject to such approval. All parcel plans which are prepared should respond to the listed planning and design criteria, implementing the techniques and solutions described in the previous sections of this text. All parcel plans shall conform to the development standards and other provisions of the EastLake III PC District regulations adopted by the City of Chula Vista. Each parcel description also includes a lotting concept exhibit which identifies the location of special design issues/responses.

The following are guidelines for site planning each of the residential parcels designated for single family detached products within the EastLake Woods East (refer to the Site Utilization Plan, Exhibit 5.1, for the location of each parcel).

Woods East



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A planned community by The EastLake Company

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0 400 800 1200
6/20/06

Exhibit 5.6

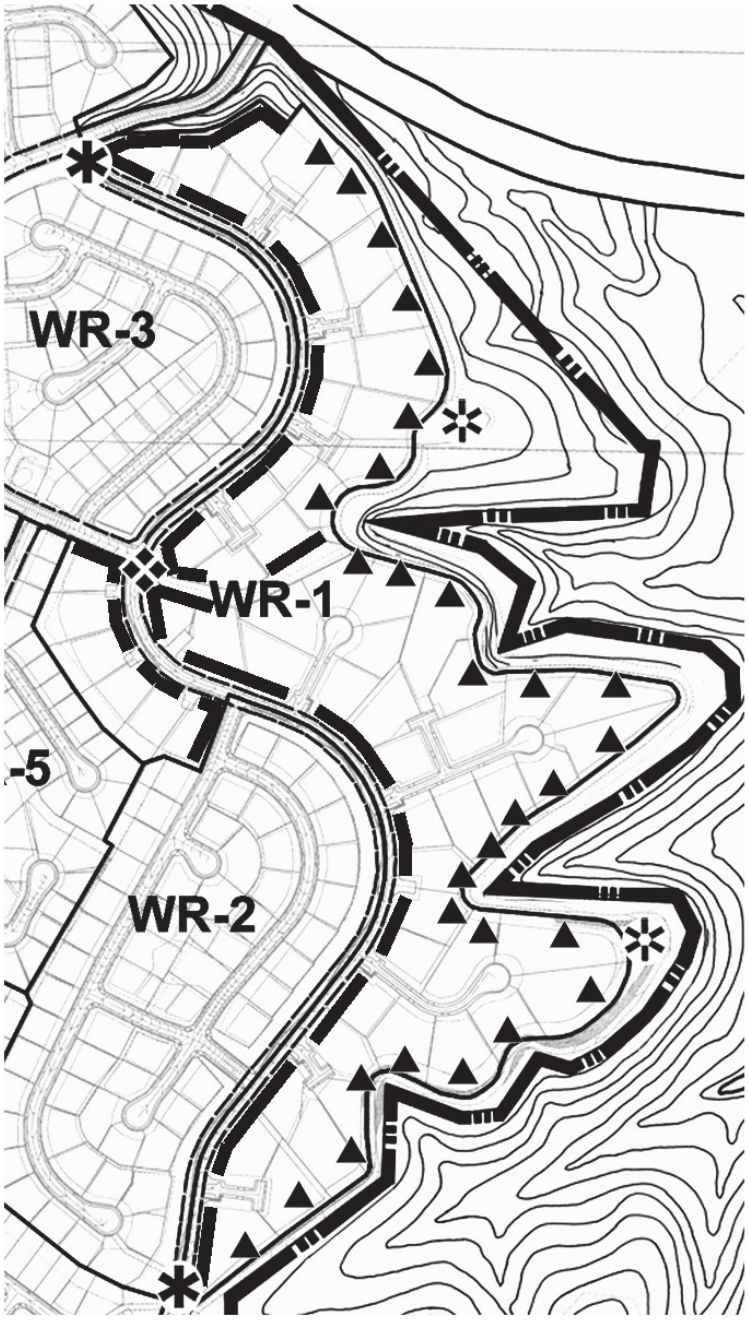
EASTLAKE WOODS EAST

Parcel WR-1
Design Issues Summary

Description: This is the lowest density housing area in the EastLake Woods neighborhood. It is comprised of estate-sized lots greater than 20,000 sq. ft. in area overlooking Upper Otay Reservoir. Access to each home site is via a gated private street or common driveway off the Spine Road. All new homes are expected to be custom designed for each site. The slopes down from the development area toward Upper Otay Reservoir are a part of the Chula Vista Greenbelt. Maximizing long range views across the lake from development sites is a primary site design objective. Short range views up-slope from the public trail to private home sites should be screened with plant materials planted low enough on the slope to avoid interference with lake views. Another view issue will be the siting and design of homes, which will be prominently visible from the lake. The proposed lotting pattern within the parcel will provide a variety of exposures and setbacks from the top of slope.

Land Use District:	RL1
Product:	22,000 sf Lot Estate Custom Homes
Views:	Views to and from Upper Otay Reservoir and Greenbelt trail
Entry:	Gated private street entries/common driveways from Spine Road
Fencing:	Off-site views; consistency with community theme fencing on edges
Edges:	Greenbelt along Upper Otay Reservoir
Landscaping:	Slopes adjoining Greenbelt (naturalized)
Special Requirements:	See Plotting and Massing Criteria summary (pg. II.4.5-22) and Building Siting Plans in the PC District Regulations for special setbacks and fencing requirements.
Design Review:	Required

Parcel WR-1



View Opportunity

Neighborhood Entry

Trail Access Point

Public Vista Point

Enhanced Elevations Edge

Enhanced Slope Edge

Location Map



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Exhibit 5.7

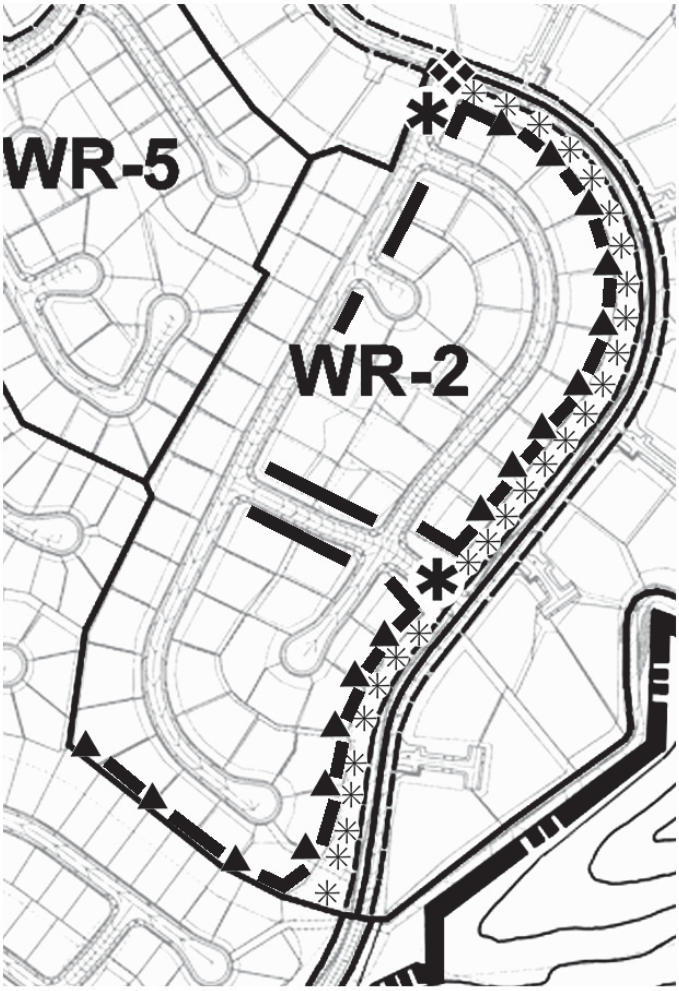
EASTLAKE WOODS EAST

Parcel WR-2
Design Issues Summary

Description: This parcel is located to the west and above the southern portion of parcel WR-1. Due its higher elevation, views over and across parcel WR-1 to the lake and beyond will be available in some locations. A down-slope along the eastern edge of the parcel is adjacent to the Spine Road. Landscaping of the slope should follow the streetscape design for the neighborhood street. Some views to and from the lake will be available but homes in this parcel will not be prominent when viewed from the lake because of the larger and more prominent WR-1 homes in the foreground.

Land Use District:	RL2
Product:	13,500 sf Lot Estate Single Family Residential
Views:	Views over and across parcel WR-1 in some locations
Entry:	Off Spine Road
Fencing:	Off-site views; consistency with community theme fencing on internal streets
Edges:	Spine Road edge
Landscaping:	Slopes adjoining Spine Road
Special Requirements:	See Plotting and Massing Criteria summary (pg. II.4.4-21–22)
Design Review:	Not Required

Parcel WR-2



View Opportunity

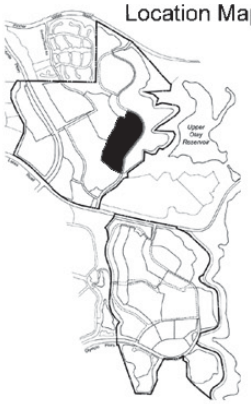
Neighborhood Entry

Trail Access Point

Enhanced Elevations Edge

Enhanced Slope Edge

Location Map



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Exhibit 5.8

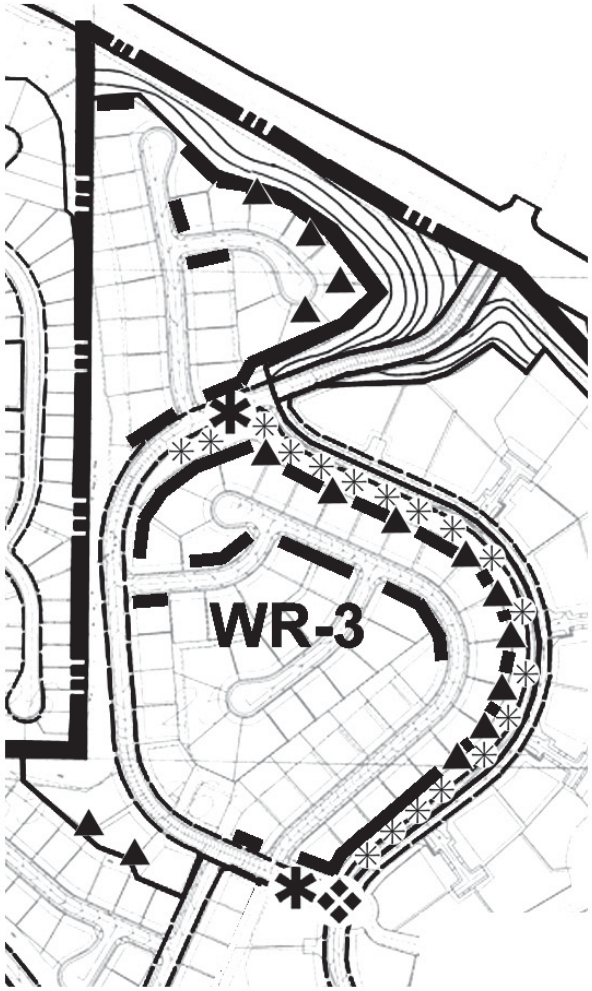
EASTLAKE WOODS EAST

Parcel WR-3
Design Issues Summary

Description: This parcel is located to the west and above the northern portion of parcel WR-1. Due its higher elevation, views over and across parcel WR-1 to the lake and beyond will be available in some locations. A down-slope along the eastern edge of the parcel is adjacent to the Spine Road. Landscaping of the slope should follow the streetscape design for the neighborhood street. Some views to and from the lake will be available but homes in this parcel will not be prominent when viewed from the lake because of the larger and more prominent WR-1 homes in the foreground.

Land Use District:	RL3
Product:	10,000 sf Lot Estate Single Family Residential
Views:	Views over and across parcel WR-1 in some locations
Entry:	Off Spine Road
Fencing:	Off-site views; consistency with community theme fencing along internal street
Edges:	Spine Road edge; slopes adjacent to Rolling Hills Ranch lots and Wueste Road off-site
Landscaping:	Slopes adjacent to streets and adjacent project
Special Requirements:	See Plotting and Massing Criteria summary (pg. II.4.4-19–20)
Design Review:	Not Required

Parcel WR-3



View Opportunity

Neighborhood Entry

Public Vista Point

Enhanced Elevations Edge

Enhanced Slope Edge



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Exhibit 5.9

EASTLAKE WOODS EAST

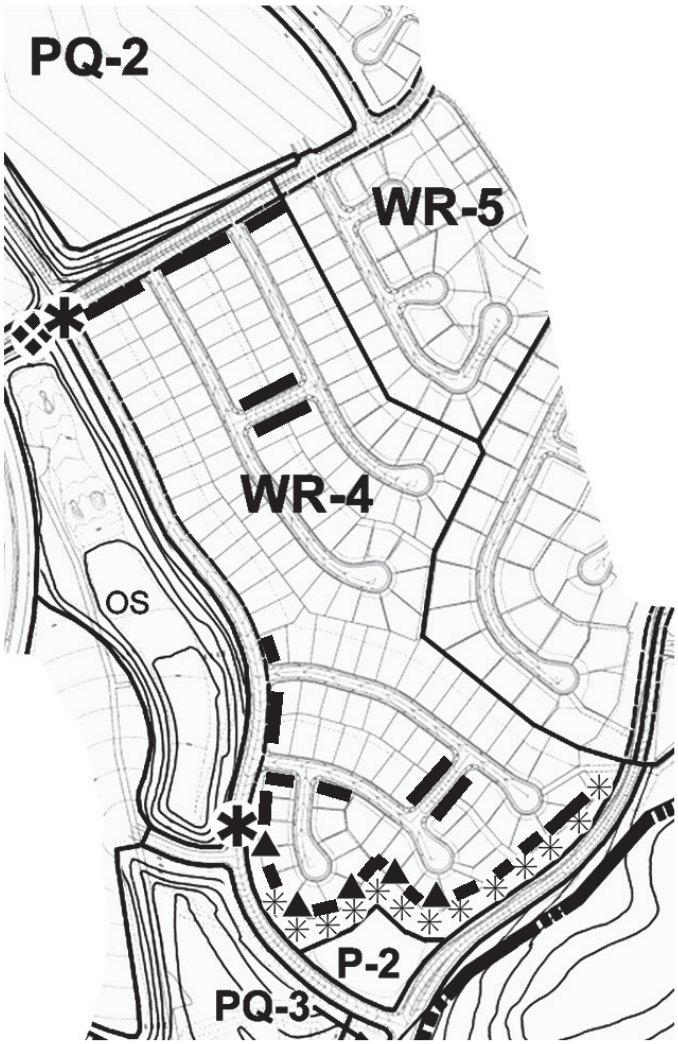
Parcel WR-4
Design Issues Summary

Description: This parcel is located immediately east of the Salt Creek Greenbelt and trail. A neighborhood street defines the edge of the Greenbelt along the entire parcel boundary, making it a part of the public view from the street. Providing appropriate visual and physical access into the Greenbelt will be an important site planning issue. Another will be the siting, design and front yard landscape of the homes facing the street along the greenbelt edge. Although front yard landscaping eventually is beyond the control of the developer, attention should be given to the design and initial landscape installation along this edge.

Land Use District:	RE2
Product:	7,000 sf Lot Single Family Residential
Views:	Some views to and from Salt Creek Greenbelt and trail
Entry:	"Bridge" neighborhood entry from Hunte Parkway
Fencing:	Some off-site views; consistency with community theme fencing along streets
Edges:	Homes fronting street along greentbelt edge
Landscaping:	Slopes along Spine Road
Special Requirements:	See Plotting and Massing Criteria summary (pg. II.4.4-15–16)
Design Review:	Required

EASTLAKE WOODS EAST

Parcel WR-4





View Opportunity

Neighborhood Entry

Trail Access Point

Enhanced Elevations Edge

Enhanced Slope Edge

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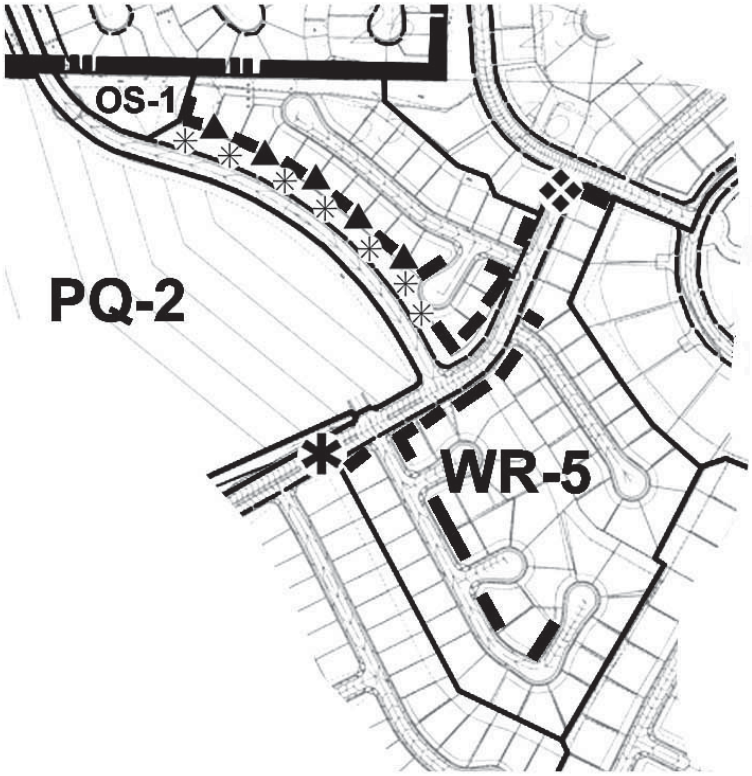
Exhibit 5.10

Parcel WR-5
Design Issues Summary

Description: This parcel is located in the central portion of the EastLake Woods neighborhood and has the highest elevations. As an "internal" parcel, it has no significant edge issues except maximizing views from home sites. Landscaping and community fencing issues are limited to slopes and fence lines along the neighborhood entry streets.

Land Use District:	RE1
Product:	8,000 sf Lot Single Family Residential
Views:	Views in all directions
Entry:	Via neighborhood entries from Hunte Parkway and Rolling Hills Ranch
Fencing:	Off-site views; consistency with community theme fencing along neighborhood entry streets
Edges:	None
Landscaping:	None
Special Requirements:	See Plotting and Massing Criteria summary (pg. II.4.4-17–18)
Design Review:	Not Required

Parcel WR-5



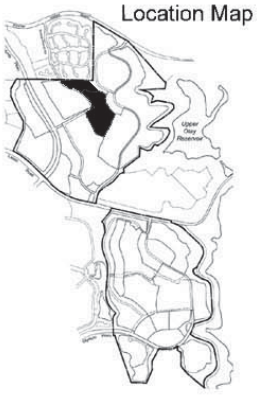
View Opportunity

Neighborhood Entry

Trail Access Point

Enhanced Elevations Edge

Enhanced Slope Edge



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Exhibit 5.11

II.4.6 Residential Design Guidelines: Multifamily

The EastLake III SPA identifies three parcels in EastLake Vistas for multifamily residential development and one parcel with a density that could be implemented with attached or detached products. All of these parcels are in the vicinity of the OTC entry, adjacent to the commercial sites.

Since this type of development is addressed in the City's Design Manual, detailed design guidance is not provided in these guidelines. The most important issue will be the integration of multi-family housing into the predominate single family residential mix. Careful consideration should be given to possible density/activity level conflicts which could arise at the edge of a multi-family parcel which abuts a single family parcel. Designing to avoid conflicts with adjacent commercial uses will also be an important issue.

Various types of multiple family units and single-family attached areas are planned for EastLake III to provide a greater variety in design and life-style preference. The following unit types may be developed within EastLake III multifamily parcels:

- Zero-Lot Line Homes: One or two story detached or attached homes where either a single structure is built on a single side lot line or two structures share a single wall astride a side lot line, thus increasing the usable side yard area.

- Patio Homes: Attached and detached homes clustered in a courtyard fashion, often in zero-lot line ownership and individually oriented toward an outdoor patio area.

- Duplex: Attached two story single family homes sharing a single wall on one or two lots.

- Town Houses: One and two story attached units in buildings with 4 to 8 or more units that are the traditional "Southern California Condominium." These may have individual fee ownership lots or condominium ownership.

- Stacked Flats: Two or more story stacked living units that are the traditional apartment style residence. Units may be individual ownership or rentals.


Site Utilization Plan
Multi-family Parcels Highlighted
WR-3
WR-1
PQ-2
WR-5
WR-7
WR-2
WR-4
WR-6
PQ-1
Upper Otay Reservoir
VR-5
VR-4
VR-1
VR-2
VR-7
VR-8
VR-3
P-1
Lower Otay Reservoir
VR-11
VR-9
VR-10
C-1
CPF-1
CPF-1
VR-13
VR-12
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10/14/05

Exhibit 6.1

II.4.6.1 Site Planning

Generally, site plans for attached products should consider the following issues: indoor and outdoor privacy, solar access, building appearance, and overall project design appeal. Buildings should be oriented to create courtyards and open space areas, thus increasing the aesthetic appeal of the site. Building architecture should incorporate a variety of units, building sizes and heights, and color accents. Building facades should include relief to avoid a monotonous appearance. Stairwells should be covered and integrated into the overall building design, and private spaces such as patios or balconies are encouraged for each unit. Another design consideration is the need to buffer group parking areas from the street and adjacent properties. A few of these design concepts are illustrated below and on the following pages.

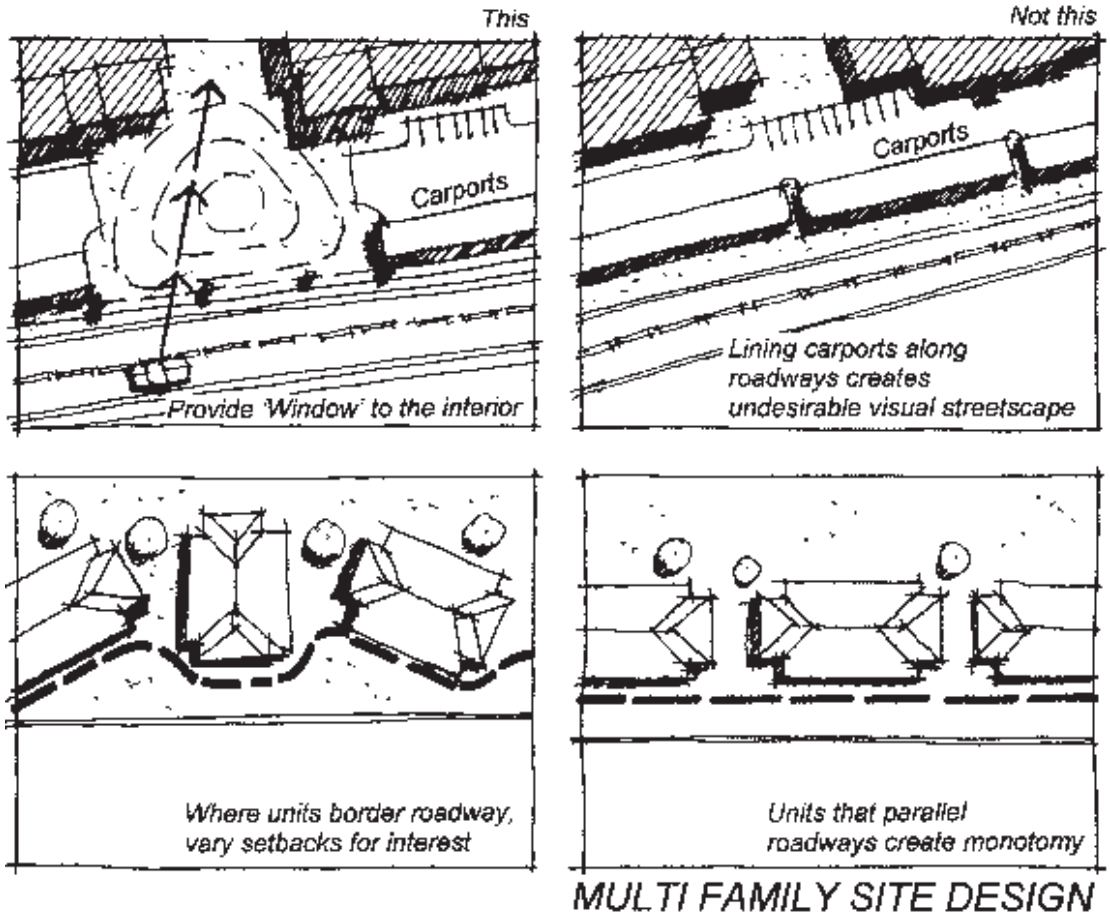


Exhibit 6.2

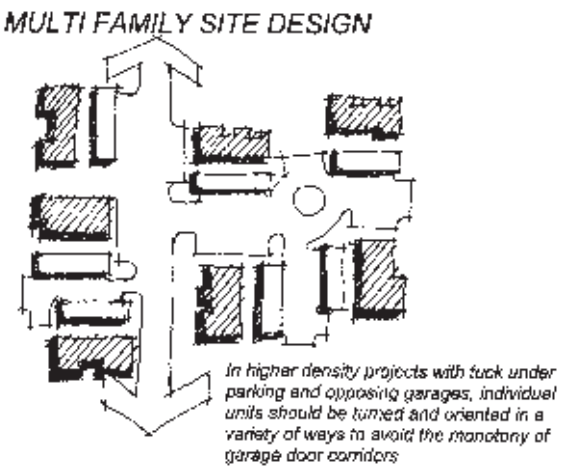


Exhibit 6.3

Building orientation in multiple family housing should consider indoor and outdoor privacy, solar access and overall aesthetic appearance.

1. Buildings should be oriented in such a way as to create courtyards and open space areas, thus increasing the aesthetic appeal of the area.

2. Building design should incorporate variety in the type of materials, colors, units, heights and facades.

3. Textured materials such as stucco, rough sawn wood and split faced block are encouraged.

4. Buildings with roof overhangs are encouraged to give a traditional residential appearance.

5. Building facades should include relief to avoid a monotonous line.

6. Private spaces such as patios or balconies are encouraged for each unit.

7. Solid walls or fences, not less than 5 feet in height, should be provided along property lines adjoining access or parking areas, except where adjacent to another multiple family housing area.

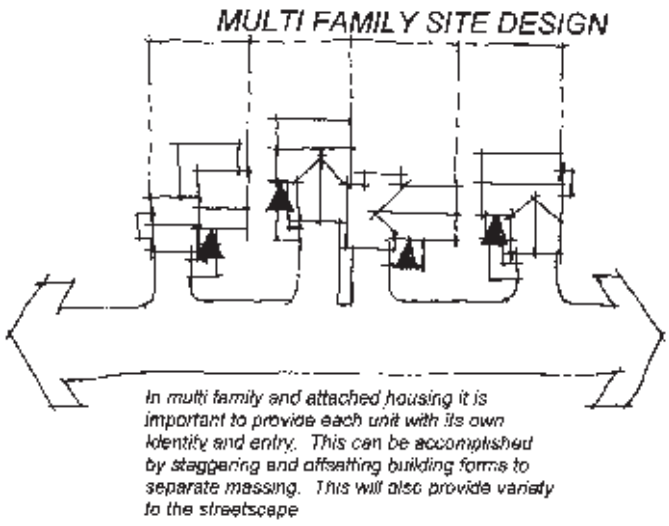


Exhibit 6.4

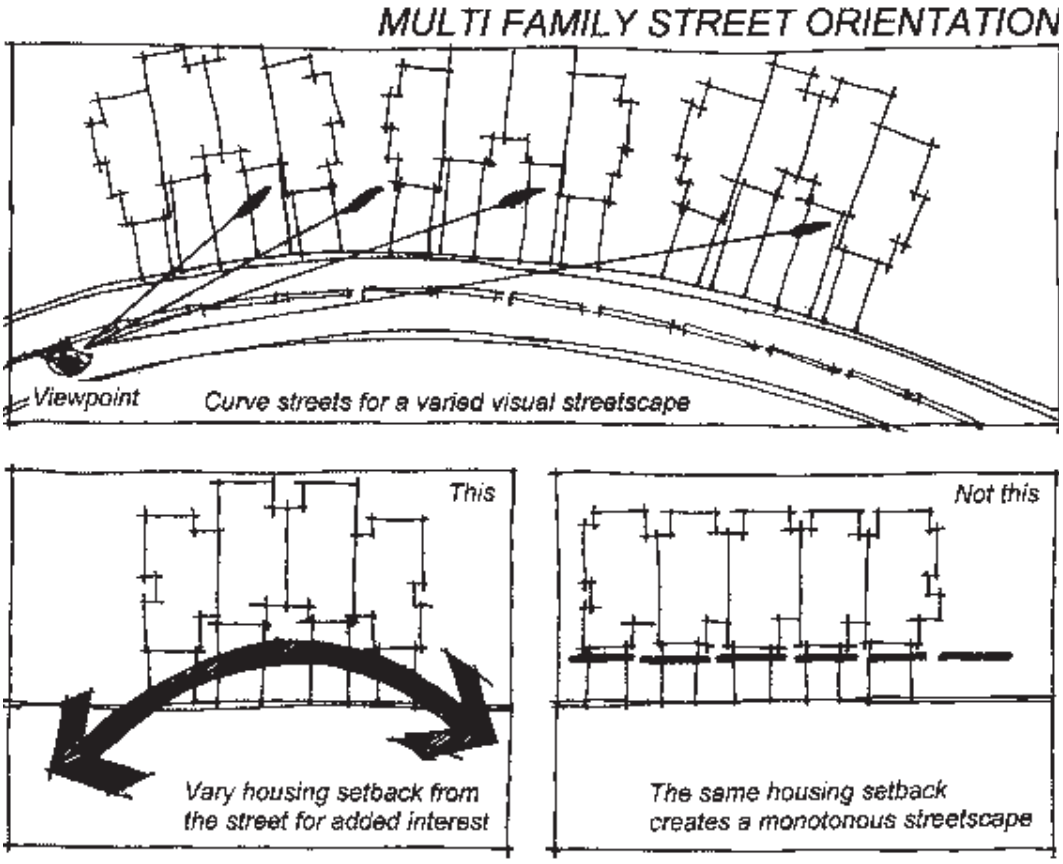


Exhibit 6.5

II.4.6.2 Individual Parcel Design Criteria

The product descriptions and parcel plan features described in this section are those envisioned at the time of SPA Plan preparation. These designs and specifications are subject to change and refinement in conjunction with the tentative tract map approval, and are subject to such approval. All parcel plans which are prepared should respond to the listed planning and design criteria, implementing the techniques and solutions described in the previous sections of this text. All parcel plans shall conform to the development standards and other provisions of the EastLake III PC District regulations adopted by the City of Chula Vista. Each parcel description also includes a lotting concept exhibit which identifies the location of special design issues/responses.

The following are guidelines for site planning each of the residential parcels designated for multifamily or single family attached products within the EastLake Vistas neighborhood (refer to the Site Utilization Plan, Exhibit 6.1, for the location of each parcel). None of these products are proposed within the EastLake Woods neighborhood.

EASTLAKE VISTAS

Parcel VR-9
Design Issues Summary

Description: Parcels VR-9, VR-10 and VR-11 are arranged is a semi-circular group north of the retail commercial site, between the commercial area and single family development areas to the north. Parcel VR-9 is the center parcel and lowest density of the group. It has a designated density of 10 du/ac which could be implemented in a variety of single family attached or multifamily product types. The most important site design issue is coordination with the adjacent higher density residential and commercial parcels. Placement of buildings, parking and service areas within each should respect the likely arrangement of adjacent sites and minimize negative effects on each other. Project entries also need to be coordinated with residential streets to the north to avoid awkward or conflicting turning movements. A pedestrian/bicycle path from the three residential parcels to the retail commercial site should be considered.

Land Use District:	RC
Product:	Single Family/Multifamily Residential 10 du/ac
Views:	None
Entry:	Align with residential streets to north; project entry statement at neighborhood street consistent with streetscape
Fencing:	Coordinate with adjacent parcels
Edges:	Coordinate with adjacent parcels
Landscaping:	Slopes
Building Detailing:	None
Design Review:	Required

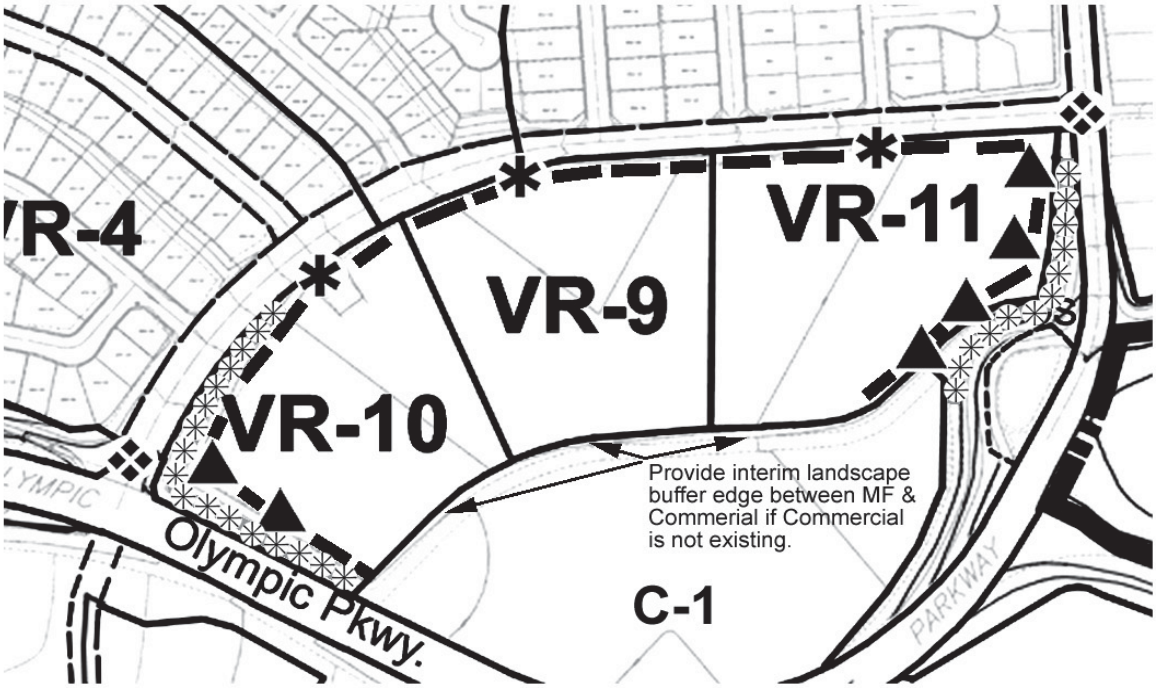
EASTLAKE VISTAS

Parcels VR-10 & 11
Design Issues Summary

Description: Parcels VR-9, VR-10 and VR-11 are arranged is a semi-circular shape north of the retail commercial site, between the commercial area and single family development areas to the north. Parcels VR-10 and VR-11 are the outside parcels and have higher densities than VR-9. Their designated 15 du/ac density will require a multifamily product type. Some off-site views will be available from the parcel edges at the top of slopes adjacent to Olympic Parkway and the neighborhood street. The most important site design issue is coordination with the adjacent lower density residential and commercial parcels. Placement of buildings, parking and service areas within each should respect the likely arrangement of adjacent sites and minimize negative effects on each other. Project entries also need to be coordinated with residential streets to the north to avoid awkward or conflicting turning movements. A pedestrian/bicycle path from the three residential parcels to the retail commercial site should be considered.

Land Use District:	RC
Product:	Multifamily Residential 15 du/ac
Views:	Some at west edge of VR-10 and east edge of VR-11
Entry:	Align with residential streets to north; project entry statement at neighborhood street consistent with streetscape
Fencing:	Off-site views and coordinate with adjacent parcels
Edges:	Coordinate with adjacent parcels
Landscaping:	Perimeter slopes (west side of VR-10 consistent with Olympic Parkway design)
Building Detailing:	None
Design Review:	Required

Parcels VR-9, VR-10 & VR-11



View Opportunity

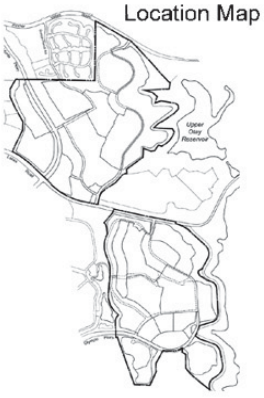
Neighborhood Entry

Trail Access Point

Public Vista Point

Enhanced Elevations Edge

Enhanced Slope Edge



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Exhibit 6.6

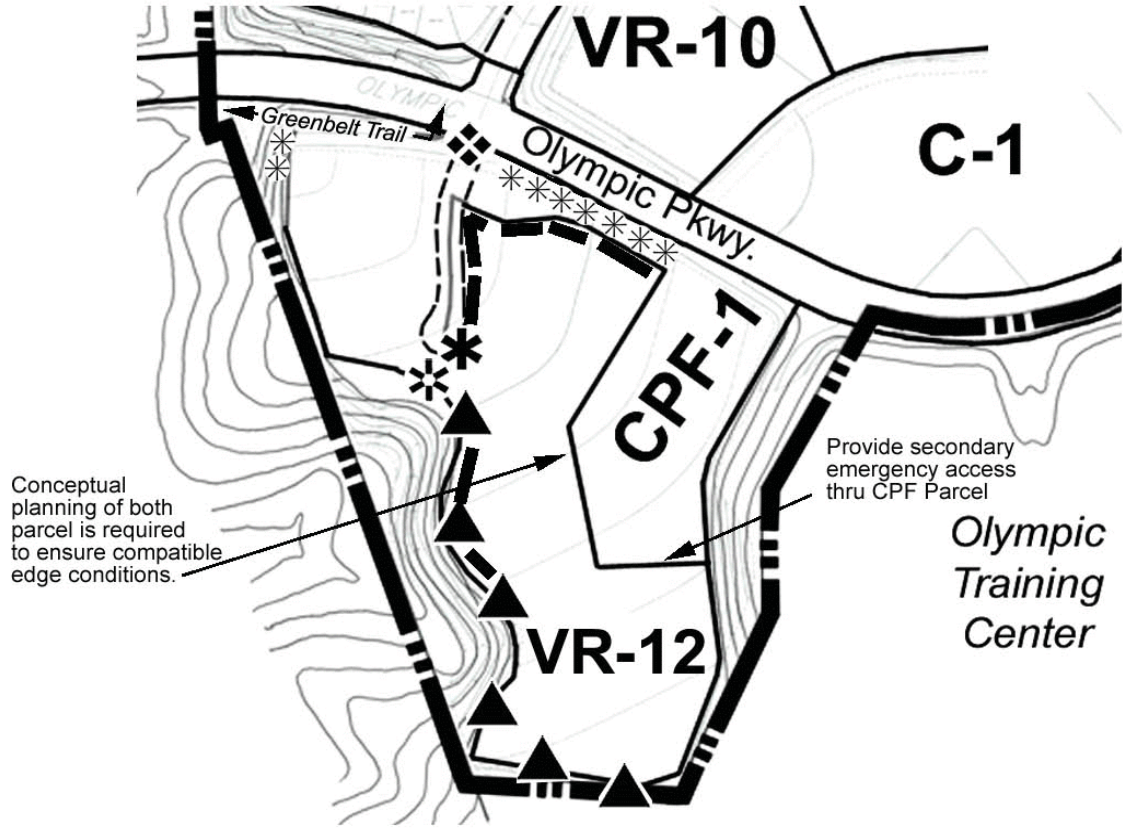
EASTLAKE VISTAS

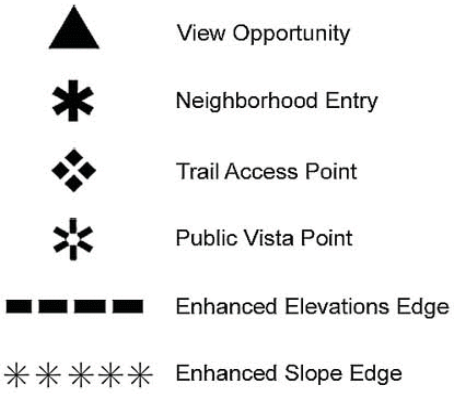
Parcel VR-12
Design Issues Summary

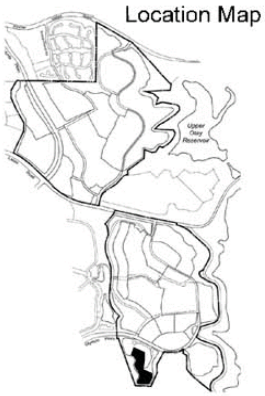
Description: Parcel VR-12 shares a site south of Olympic Parkway with the Community Purpose facility site (CPF-1). Because the two uses, with specific acreage allocations, share the site, all planning and design up to at least the conceptual site planning level must address the provision of both uses. Review and approval of development plans for either use must demonstrate that the other use remains viable, if developed later. Because of the range of potential CPF uses (*e.g.*, church, school, day care, community services, athletic facility), the type of CPF facility should be determined, or the range narrowed prior to approval of residential development. Because the site is relatively isolated from the rest of the neighborhood, internal compatibility issues are the predominate design concerns. Views to the west are available from the western edge of the parcel. Project entries need to be coordinated with the neighborhood street to the north to avoid awkward or conflicting turning movements. A strong pedestrian/-bicycle connection to the retail commercial site should be provided.

Land Use District:	RM
Product:	Multifamily Residential 20 du/ac (& 8.3 acres of CPF)
Views:	Off-site to the west
Entry:	Align with street to north; parcel entry on Olympic Parkway shared by residential and CPF uses
Fencing:	Off-site views; coordinate independent uses
Edges:	Internal use boundary
Landscaping:	Slopes at arterial road edge (consistent with Olympic Parkway design) and at perimeter
Building Detailing:	None

Parcel VR-12







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5-1-01

Exhibit 6.7

EASTLAKE VISTAS

Parcel VR-13
Design Issues Summary

Description: Parcel VR-13 is located south of Olympic Parkway, east of the OTC entry and overlooks Lower Otay Reservoir. It is designated for multi-family housing. Because the site is relatively isolated from the rest of the neighborhood, internal compatibility issues and connections to the other Activity Center components are the most significant design concerns. Expansive views to the east are available across the lake and should be incorporated into "common" spaces within the facility. The project entry needs to be coordinated with any parcel other entries in close proximity on the north side of Olympic Parkway. A strong pedestrian/bicycle connection to the retail commercial site and the Greenbelt trail along the lake should be provided.

Land Use District:	RM-1
Concept:	Multi-Family Residential
Views:	Expansive off-site to the east across the lake
Entry:	Parcel entry on Olympic Parkway coordinated with any nearby entries
Fencing:	Off-site views; coordinate with OTC fencing
Edges:	Greenbelt edge; possible internal use boundary
Landscaping:	Arterial road edge (consistent with Olympic Parkway design) and at perimeter adjoining Greenbelt Trail along Wueste Road; unify with OTC and VC parcel
Building Detailing:	All
Design Review:	Required

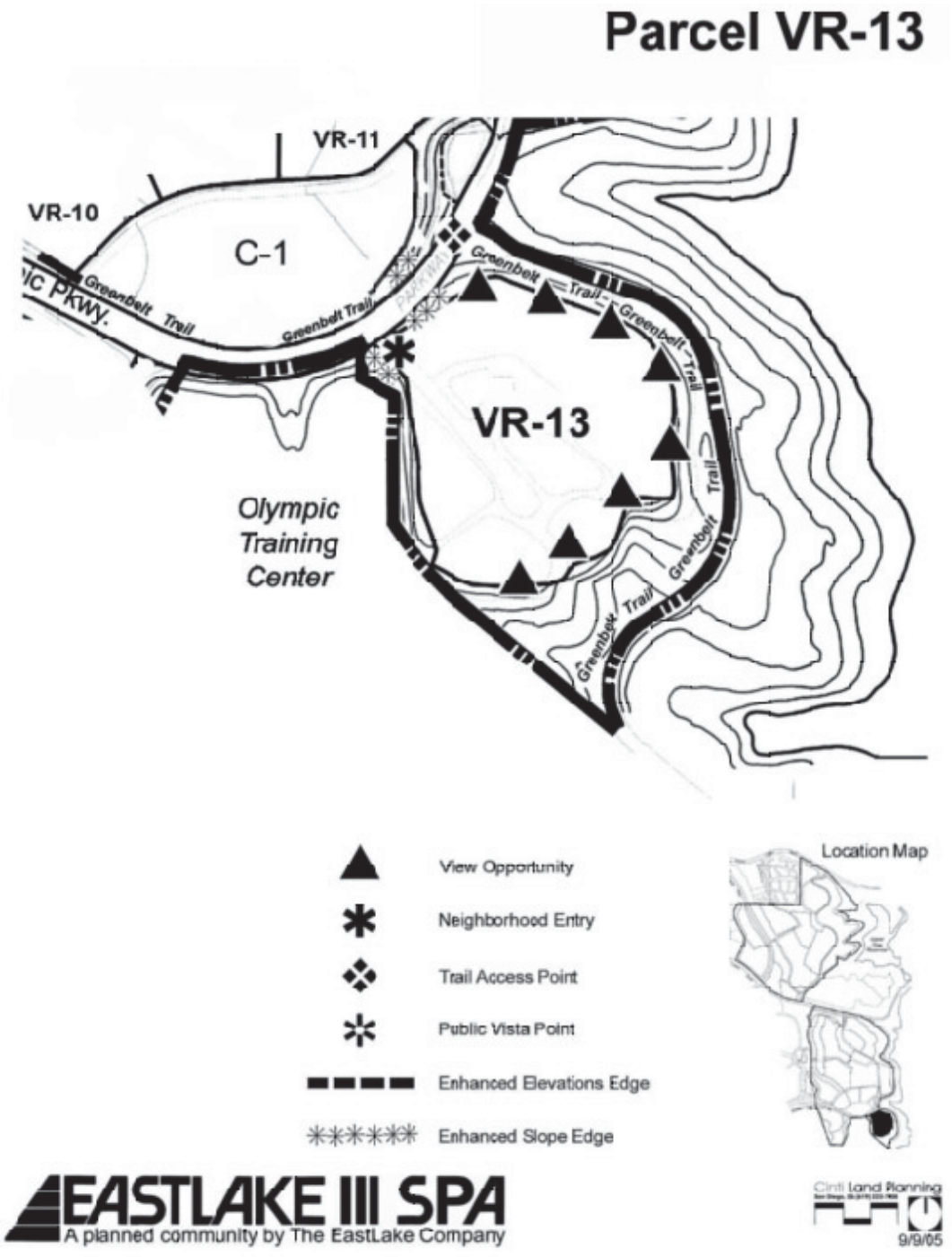

Parcel VR-13
VR-11
VR-10
C-1
Greenbelt Trail
Greenbelt Trail
PARKING
Greenbelt Trail
Greenbelt Trail
Greenbelt Trail
Greenbelt Trail
VR-13
Olympic Training Center
View Opportunity
Neighborhood Entry
Trail Access Point
Public Vista Point
Enhanced Elevations Edge
Enhanced Slope Edge
Location Map
EASTLAKE III SPA
A planned community by The EastLake Company
Cinti Land Planning
9/9/05

Exhibit 6.8

Parcel VR-13 Architectural Character



The architectural character and building massing for Parcel VR-13 should include a variety of visual elements as depicted in these design examples. The elements should be within a unified architectural style as shown.

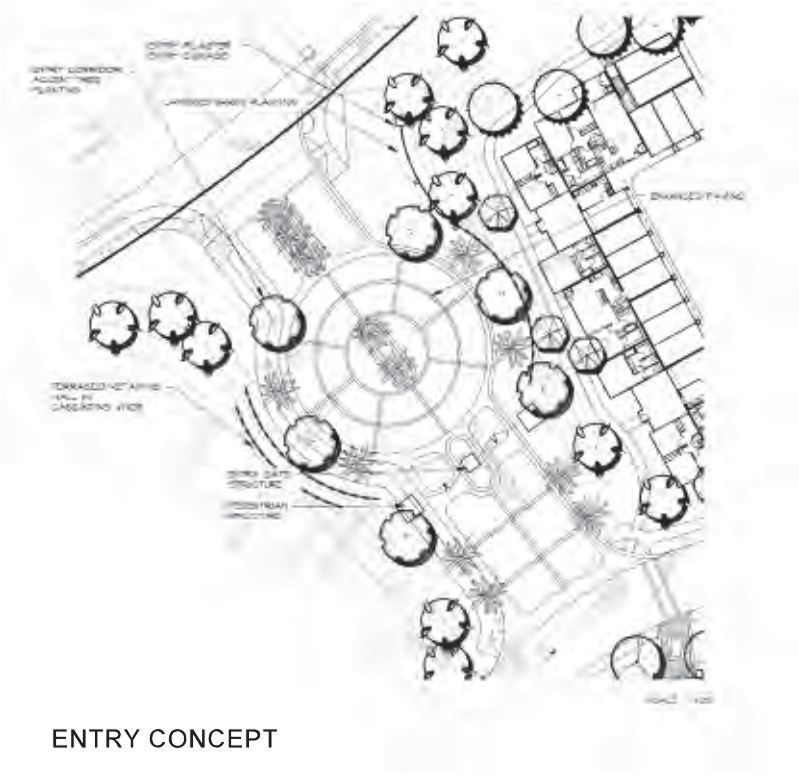


Exhibit 6.9

Project Features



CLUBHOUSE CONCEPT



ENTRY CONCEPT

Exhibit 6.10

Conceptual Landscape Plan

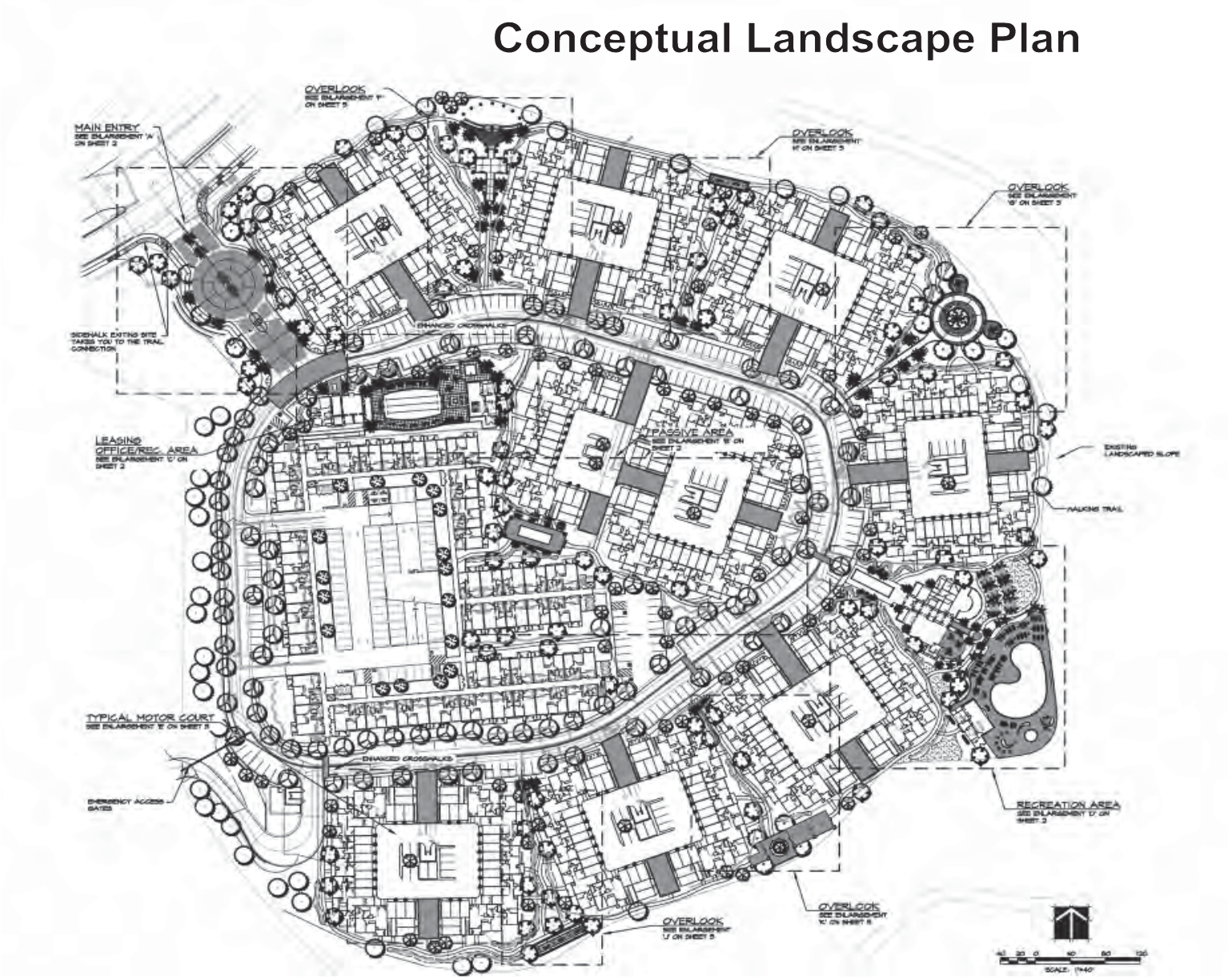
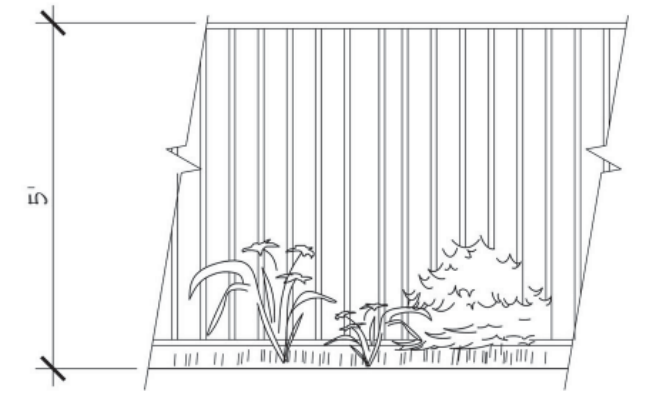
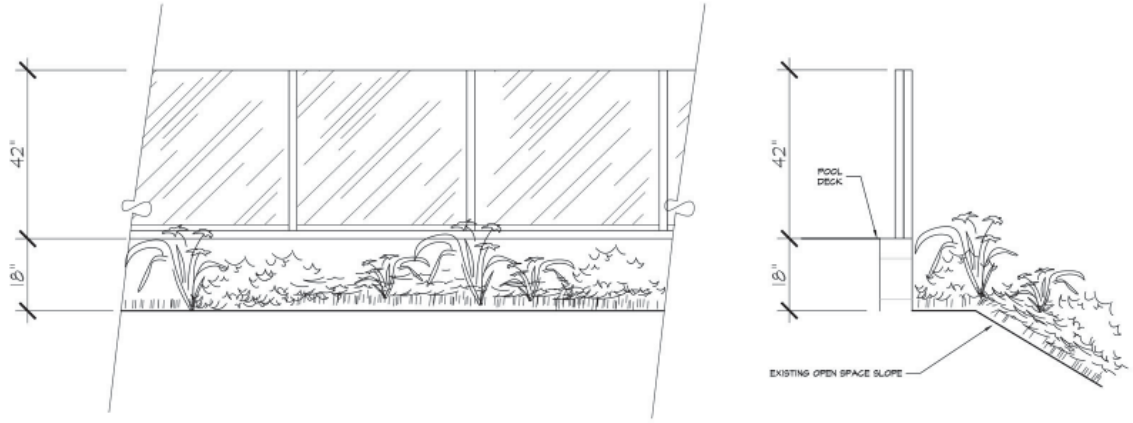


Exhibit 6.11

VR 13 FENCE



TUBULAR STEEL POOL FENCE



VIEW GLASS POOL FENCE

Exhibit 6.12

II.4.7 Commercial Design Guidelines

The EastLake III SPA identifies a parcel in EastLake Vistas for commercial development, in the vicinity of the OTC entry. The OTC, considered as a unique land use and its physical design and appearance along Olympic Parkway, is to establish the theme and character of the commercial sites. The OTC components most visible from Olympic Parkway and the retail commercial site are the entry drive with landscaped median, entry signage and monumentation, and streetscape including fencing and landscaping. Architecture and building design are not readily apparent at the entry. Rather, it is the activity of "world class athletics" in a campus setting that is the character impression at the entry.

The most important issue will be the integration of commercial uses with the OTC and higher density residential sites into the "Activity Center" concept described in the Eastern Territories Area Plan of the General Plan, the EastLake III GDP and SPA Plans. Careful consideration should be given to the details of the commercial uses, north of Olympic Parkway.

Since this type of development is addressed in the City's Design Manual, detailed design guidance is not provided in these guidelines.

II.4.7.1 Design Review Requirements

Each of the commercial sites will be subject to Design Review approval. The Design Review requirement may be met through use of a Master Design Review (with Guidelines) with phased approval of implementing Design Review for individual development phases, as has been utilized for the EastLake Village Center "activity center" area. The purpose of the Design Review requirements is to allow diversification in spatial relationships, density, buildings, parking, landscaping, and open space through detailed site plan review, along with architecture and signs. This level of review allows the City to tailor approvals to the specific requirements of the project, recognizing unique site conditions or project objectives. Each Design Review (or Master Design Review) will establish the detailed design solution for the site.

II.4.7.2 Architecture, Color & Materials

Architectural design, including colors and materials, will be formulated in design "precedents" with the approval of the initial Design Review(s). Since the OTC does not contribute significantly in these areas of design, no prescribed architectural style is required. Design should reflect the OTC character, as noted above, as well as unique site conditions such as the tourist commercial setting overlooking the lake. The selected overall architectural character and vocabulary for both sites should create a distinctive sense of place.

The selected theme should be reinforced through the selected use of appropriate building materials, plant palette, street furniture, colors, *etc.* Architectural design within each Design Review area should represent a unified style which is responsive to adjacent structures and the Activity Center setting. Architectural detailing and material selection is essential to good character definition. Accents in color, texture or pattern changes should be used to provide interest and provide scale.

All structures should exhibit articulated building planes, as well as, the use of appropriate textures and materials. Each structure should be evaluated using the criteria of a three-tiered hierarchy of articulation, materials and colors as described below:

- Ground Level - Scale and texture should be sensitive to pedestrian interaction. Elements such as landscape pockets, trellis, pergolas, and canopies as well as recessed windows to produce deep shadow lines should be provided. Textured materials are most effective if incorporated into the building design at this level so that the apparent mass of the structure is reduced.

- Mid-Level - The mid-level, generally the most dominant portion of the facade, should be designed with a sensitivity to rhythm and proportion so that a harmonious composition can be perceived from the major viewing angles.

- Top Level - Buildings should be designed with a definite termination at the top. The intent is to provide a "cap" so that the exterior walls do not "disappear" as they meet the sky.

The structural form of the Activity Center should exhibit a variety of building masses and heights. Landmarks and other special features may exceed typical building heights. If large or tall buildings are proposed, special consideration should be given to massing and proportion with respect to adjacent buildings. Buildings which are more than 3 stories tall should incorporate steps in the vertical plane.

Building complexes should be designed to create opportunities for pedestrian spaces such as plazas, courtyards, patios and decks. Landscaping may be used to reinforce this concept through the use of pergolas, trellises, *etc.* Buildings within a Design Review area should appear as an assemblage of integrated smaller forms, not as one large mass. Building masses should have an ordered "randomness" with focus, articulation and emphasis where appropriate such as entryways, major plazas, *etc.* Buildings located in "gatepost" locations (adjacent to major streets and/or entries), should be designed with a more distinct or "landmark" character.

A light colored stucco should be the predominate wall material used throughout the Activity Center. A single, unifying accent color should be used in such items as site furniture, landmarks, entry monuments and signs. Sloped roof areas should be of natural materials such as slate or concrete tile. Metal roofs may be acceptable, if approved by Design Review. Wood shake or shingle roofs are discouraged.

II.4.7.3 Screening

A critical design issue is screening of unattractive utility and mechanical equipment, trash receptacles and storage areas, loading and service areas. Certain restrictions can reduce some of these potential design issues, others must receive attention from the site designer. The EastLake III PC District regulations restrict or prohibit outdoor storage and require screening of ground and/or roof mounted equipment/utility connections. Loading or unloading should occur in the rear or on the side of buildings away from public streets or be screened.

Fences and walls which provide screening should be designed as an integral part of the building design concept and be constructed of materials, textures and colors that are complementary to the adjacent building.

Outdoor refuse collection areas should be completely enclosed and screened from view by a wall or fence constructed of materials which are complementary in color, finish and texture to adjacent buildings. All such areas should have concrete floors and loading pads and be of sufficient size to accommodate all business related refuse. Refuse collection areas should not be located adjacent to public streets.

II.4.7.4 Site Furnishings

Site furnishings, such as the following, should introduce a consistent system of architectural, color and material character unique to the Activity Center:

- Benches: A bench should be designed/selected for use in all the pedestrian areas within the Activity Center complementing the design elements described in the other site furnishings.

- Bollards: A concrete bollard should be used at the intersections of trail systems and vehicular crossings. They should contain internal light sources for safety at night.

- Lighting Fixtures: A designated "Activity Center" light standard base should be used for illumination of public areas.

- Trash receptacles: Pre-cast concrete trash receptacles should be used.

Site furnishings, transit shelters and other streetscape furniture should be placed in "pockets" so as to not obstruct pedestrian or bicycle circulation.

II.4.7.5 Lighting & Signage

Lighting and signage, when implemented in a consistent manner, play a large role in the unification of a development district. The purpose of these guidelines is to identify principles of lighting for streets, paths, open spaces and buildings. The signage component is intended to specify sign and monumentation criteria to insure that all individual graphics and signs are coordinated with each other and contribute to the overall theme of the Activity Center.

The final design and selection of on-site lighting standards and supports is to be developed as part of the Design Review submittal and in conformance with City Performance Standards.

Walkway/trail illumination should be provided by the use of low intensity fixtures for safety and comfort. The lighting pattern and intensity should become more intense at path intersections and vehicular crossings.

Within building groups, architectural and accent lighting should be indirect and subtle. Increased lighting levels should highlight pedestrian areas to clearly define the pedestrian path. Service area lighting should be contained within the service area boundaries/enclosure. The actual light bulb for service area lighting should not be visible from adjacent properties.

A complete signage program is to be developed as part of the Design Review submittal. All individual project/use identification signs should be designed to fit on a monument system that is compatible and part of the architectural style for the Activity Center. Signs associated with the identification of the community trail system and ancillary pathways should be designed as part of the overall streetscape vocabulary of site furnishings, lighting standards and special hardscape materials.

The signage program for each project should provide the means for adequate identification while regulating and controlling design, location and maintenance. The signage program should establish specific standards for all exterior signage to ensure aesthetic continuity and consistency. Sign programs for areas fronting on Olympic Parkway, a scenic corridor, should incorporate features consistent with the streetscape design program

II.4.7.6 Individual Parcel Design Criteria

The development descriptions and parcel plan features described in this section are those envisioned at the time of SPA Plan preparation. These designs and specifications are subject to change and refinement in conjunction with the tentative tract map approval, and are subject to such approval. All parcel plans which are prepared should respond to the listed planning and design criteria, implementing the techniques and solutions described in the previous sections of this text. All parcel plans shall conform to the development standards and other provisions of the EastLake III PC District regulations adopted by the City of Chula Vista. Each parcel description also includes a lotting concept exhibit which identifies the location of special design issues/responses.

The following are guidelines for site planning each of the parcels designated for commercial development within EastLake III (refer to the Site Utilization Plan, Exhibit 7.1, for the location of each parcel).

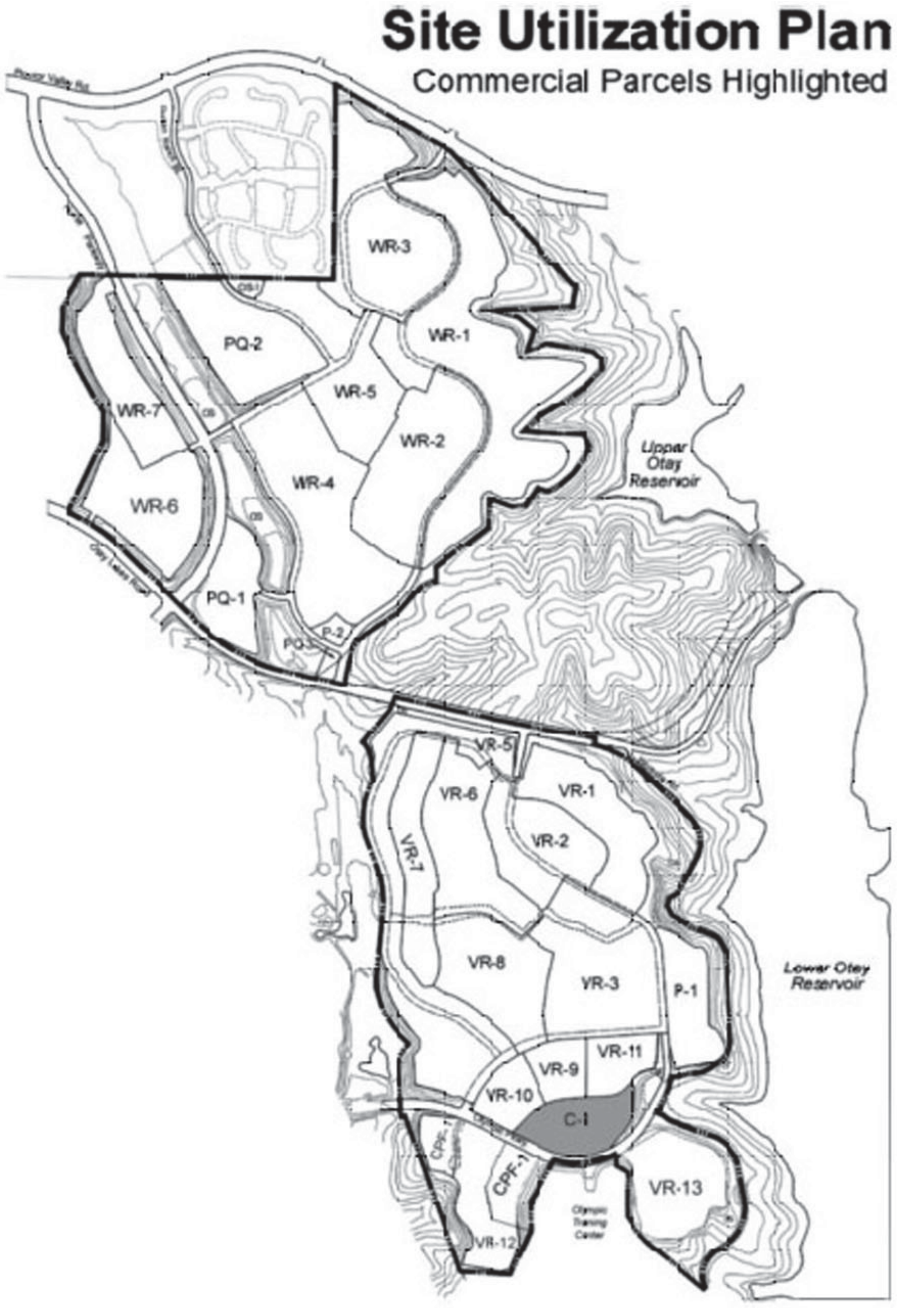

Site Utilization Plan
Commercial Parcels Highlighted
WR-3
WR-1
PQ-2
WR-5
WR-7
WR-2
WR-4
WR-6
PQ-1
P-2
Upper Otay Reservoir
VR-5
VR-6
VR-1
VR-2
VR-7
VR-8
VR-3
P-1
Lower Otay Reservoir
VR-11
VR-9
VR-10
C-I
CPF-1
VR-13
VR-12
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Exhibit 7.1

EASTLAKE VISTAS

Parcel C-1
Design Issues Summary

Description: Parcel C-1 is located north of Olympic Parkway immediately across from the OTC entry. It is designated for retail commercial uses which provide neighborhood level services and goods to EastLake and OTC residents as well as retail uses complementary to the OTC. All parcel edges are important. Residential uses are located along the northern edge at a slightly higher elevation. Olympic Parkway forms the parcel edge on the south while slopes to Olympic Parkway are at the eastern edge. Signs, entries and buildings close to the road should respect the scenic corridor. Loading and service areas typically found in the rear, adjacent to the residential parcels, should be carefully considered to minimize impacts to homes. This central commercial center should include a building or structure with "landmark" qualities to establish an identity for the overall Activity Center. Strong pedestrian/bicycle connections to other components of the Activity Center should also be provided.

Land Use District:	VC
Concept:	Neighborhood and OTC related retail/service commercial
Views:	None
Entry:	One aligned with OTC entry; parcel entries on Olympic Parkway
Fencing:	Complementary to OTC fencing, if used
Edges:	Scenic corridor and residential parcels
Landscaping:	Scenic corridor (consistent with Olympic Parkway design) and unified with OTC and TC parcel. Greenbelt Trail fronts parcel along Olympic Parkway.
Building Detailing:	Landmark and at pedestrian level
Design Review:	Required

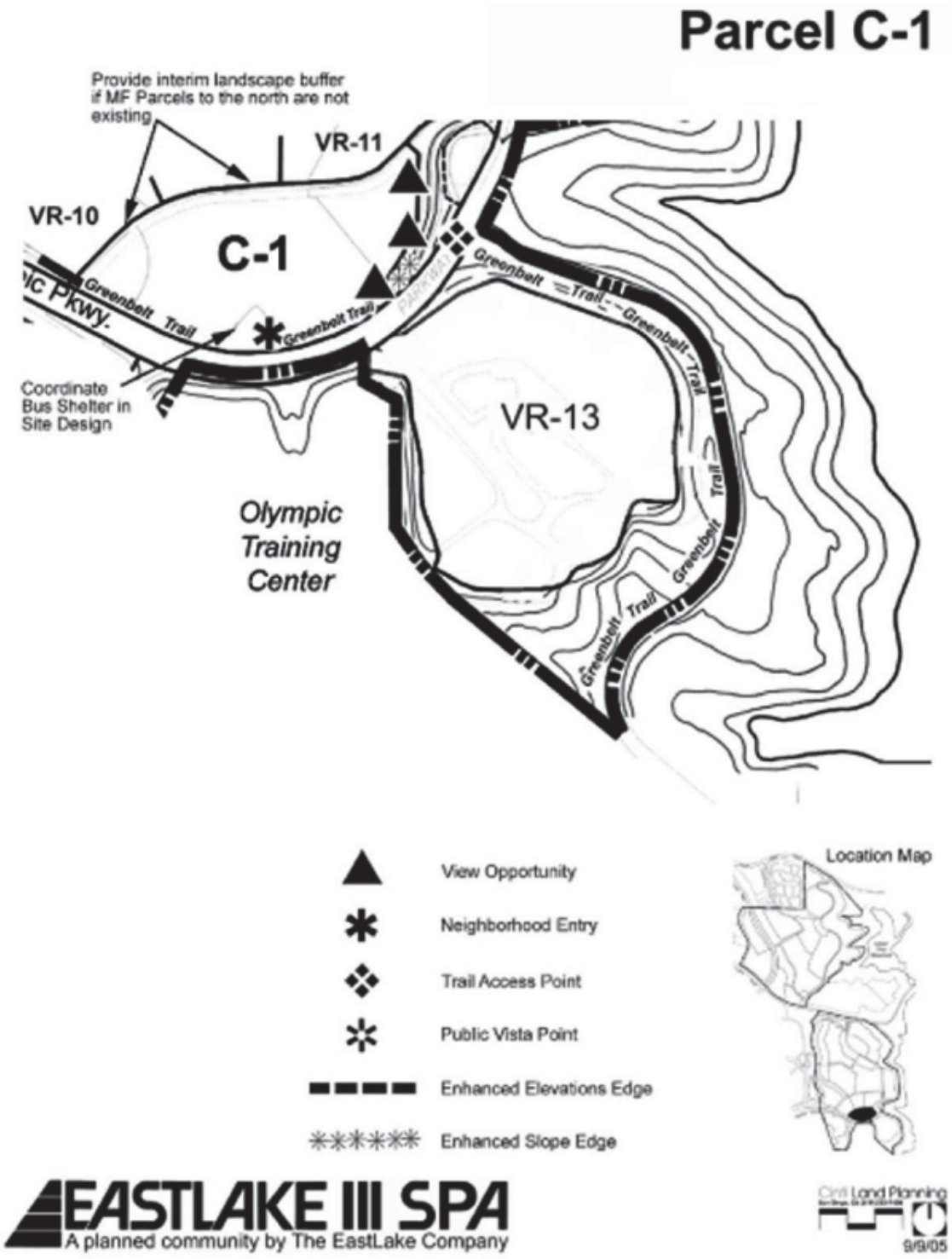

Parcel C-1
Provide interim landscape buffer if MF Parcels to the north are not existing
VR-11
VR-10
C-1
Greenbelt Trail
Greenbelt Trail
Greenbelt Trail
Greenbelt Trail
Coordinate Bus Shelter in Site Design
VR-13
Olympic Training Center
Greenbelt Trail
Greenbelt Trail
Greenbelt Trail
View Opportunity
Neighborhood Entry
Trail Access Point
Public Vista Point
Enhanced Elevations Edge
Enhanced Slope Edge
Location Map
EASTLAKE III SPA
A planned community by The EastLake Company
Civil Land Planning
9/9/05

Exhibit 7.2

EASTLAKE III SPA PLAN
PUBLIC FACILITIES FINANCE PLAN

Approved by:
Chula Vista City Council
Date: July 17, 2001, Resolution 2001-220

EastLake Seniors Amendment:
Approved by:
Chula Vista City Council
Date: June 20, 2006, Resolution 2006-190

Windstar Pointe Resort Amendment:
Approved by:
Chula Vista City Council
Date: April 8, 2008, Resolution 2008-095

Prepared by:

burkett & wong engineers

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EXECUTIVE SUMMARY

This supplemental Public Facilities Finance Plan (PFFP) Amendment addresses the public facility needs associated with the proposed Windstar Pointe Resort project. An amendment to the EastLake III SPA Plan is required to remove the references to the previously-approved active seniors project (aka The EastLake III – Seniors Project) ("the Seniors Project") and to address the "Windstar Pointe Resort" project. The proposed project is similar to the previously-approved Seniors Project and has the same number of 494 residential units.

The existing supplemental PFFP, dated April 13, 2006, addresses the public facility needs associated with an 18.4 acre multi-family seniors project. The EastLake III SPA Plan Amendment was approved by the Chula Vista City Council on June 20, 2006 (Resolution Number 2006-190). This amendment converted the aforementioned 18.4 acre site from the C-2, Tourist Commercial, to the VR-13, Multi-Family Seniors, designation. The amendment also reconfigured the CPF-1 and VR-12 sites without changing the size or density of the VR-12 site but increased the CPF-1 site from 10.8-acres to 12.9-acres. In addition, the amendment reduced the Open Space (OS) from 136.7-acres to 134.6-acres. The PFFP supplement was prepared under the requirements of the City of Chula Vista's Growth Management Program and Implementation Ordinance Number 2448.

The preparation of a supplemental PFFP amendment is required in conjunction with the preparation of the EastLake III General Development Plan (GDP) Amendment and the EastLake III Sectional Planning Area (SPA) Plan Amendment. This supplemental PFFP amendment ensures that the future development of the Windstar Pointe Resort project is consistent with the overall goals and policies of the City's General Plan, Growth Management Program, the Amended EastLake III GDP and the Amended EastLake III SPA Plan. Further, the PFFP ensures that the development of the project will not adversely impact the City's Quality of Life Standards.

The Windstar Pointe Resort planning area encompasses approximately 18.4 gross acres within the City of Chula Vista. The site is located between the Olympic Training Center (OTC) on the South and EastLake Vistas to the North. The site is a peninsula shape fronting on Olympic Parkway extending eastward towards the Lower Otay Reservoir. The site is approximately 9 miles east of the Chula Vista Civic Center. Exhibit 1 and 2 both illustrate the location of the Windstar Pointe Resort site and its proximity to the existing development within the EastLake community. The OTC is located to the south and west as well as bordering the Windstar Pointe Resort Project.

The project site is designated as High Density Residential in the City General Plan, and EastLake III GDP and SPA. The site is designated VR-13 Multi-Family Seniors on the approved SPA Site Utilization Plan. The SPA Plan Amendment will remove the "Seniors" designation. As envisioned in the approved GDP, the project site would accommodate the High Density Residential component of the GDP. The site was rough graded in 2002.

The project will consist of one primary development phase. Actual construction on individual building sites may occur over a several year period, which is similar to The EastLake Company's experience with EastLake I and II projects.

A. Public Facility Cost and Fee Summary

The following discussion identifies and summarizes the various facility costs associated with development of the 18.4-acre Windstar Resort project. The facilities and their cost are identified in detail in this supplemental PFFP. Each subsection indicates a recommended financing alternative for threshold facilities based upon current City practices and policies. However, where another financing mechanism may be shown at a later date to be more effective, the City may

implement such other mechanisms in accordance with City policies. In addition, Table A.1 summarizes the public facility phasing and associated costs within a table format.

Transportation Development Impact Fees (TDIF) generated by the Windstar Pointe Resort project total approximately $3,194,204. Traffic Signal Fees generated by the project are approximately $84,622. These fees do not include any credits the developer may have or may receive through a Development Agreement.

Backbone sewer and water improvements will be funded, in part, through the payment of DIF fees and capacity fees established for these purposes. The Developer will fund on-site facilities.

The total costs for the Windstar Pointe Resort project Capital Improvement Plan (CIP) Potable Water and Recycled Water Facilities will be determined by the Otay Water District (OWD). According to the OWD policy No. 26, OWD will provide reimbursement for construction and design costs associated with development of these improvements or pursuant to any agreement or provision in effect at the time.

The estimated fee cost for Wastewater for the Windstar Pointe Resort project is approximately $1,781,364 (does not include the Administration Fee for sewer connection permit). The entire project site is within the Salt Creek Sewer Basin DIF.

The Windstar Pointe Resort project will ~~not~~ trigger development impact fees for schools.

Police, fire and emergency medical services, parks (acquisition and development fees), recreation and libraries, civic center, corporation yard, and other public facilities will be funded from revenues generated from the payment of Public Facilities Development Impact Fees at building permit issuance. These fee revenues total approximately $8,033,570.

B. <u>Public Facility Thresholds</u>

City Council Resolution Number 13346 identified eleven different public facilities and services with related threshold standards and implementation measures. The following is a summary of the threshold compliance by the Windstar Pointe Resort project:

1. Traffic: Based upon the *Traffic Impact Analysis for the Windstar Pointe Resort, dated October 18, 2007 by Linscott, Law & Greenspan* the threshold compliance is projected to be maintained with implementation of the improvements identified in Section II.5.4.1.16 of this PFFP amendment and the payment of TDIF fees. The Windstar Resort project shall be conditioned to pay TDIF Fees and Traffic Signal Fees at the rate in effect at the time building permits are issued.

2. Police: Threshold compliance will be met with the payment of public facility fees; the fees shall be paid prior to the issuance of building permits, at the rate in effect at the time payment is made. The City will continue to monitor police responses to calls for service in both the Emergency (priority one) and Urgent (priority two) categories and report the results to the GMOC on an annual basis.

3. Fire and Emergency Medical Response: Threshold compliance will be met with the payment of public facility fees; the fees shall be paid prior to the issuance of building permits, at the rate in effect at the time payment is made. The City will continue to monitor Fire Department responses to emergency fire and medical calls and report the results to the Growth Management Oversight Commission (GMOC) on an annual basis.

4. Water: Threshold compliance will be met by the following:

   a) The Developer shall request and deliver to the City a service availability letter from the OWD prior to the issuance of building permits.

   b) The Developer shall provide potable water improvements according to OWD's Water Resource Master Plan and approved Sub-Area Master Plan (SAMP).

   c) The Developer shall provide recycled water improvements according to the SAMP. The OWD and the City of Chula Vista will coordinate recycled water requirements for the project. The phased construction of recycled water facilities, based on the SAMP, will be incorporated into the conditions of approval for the project.

5. Sewer: Threshold compliance will be met through the payment of sewer fees and the Salt Creek DIF by the developer, the construction of the city required facilities as identified in this PFFP and conditions of approval prior to the issuance of building permits.

6. Drainage: Threshold compliance will be met by the construction of city-required drainage facilities by the developer. Drainage facilities include but are not limited to graded swales, concrete swales, drainage inlets, pipes, headwalls, sedimentation basins, storm-water treatment devices, etc. In addition, the developer shall comply with all Federal, State, City of San Diego and City of Chula Vista water quality regulations and requirements.

7. Air Quality: The City continues to provide a development forecast to the APCD in conformance with the threshold standard. Prior to approval of building permits for each phase of the project, the applicant shall demonstrate that air quality control measures outlined in the EastLake III Air Quality Improvement Plan amendment pertaining to the design, construction and operational phases of the project have been implemented.

8. Fiscal: The EastLake III project including the Windstar Pointe Resort Project provides a positive fiscal impact of $620,300 in the first year and remains positive through to build-out.

9. Civic Center and Corporate Yard and other facilities: Threshold compliance will be met through the collection of the public facilities fees at the rate in effect at the time building permits are issued.

GENERAL CONDITIONS
FOR
EASTLAKE III - WINDSTAR POINTE RESORT
SUPPLEMENTAL PFFP AMENDMENT

A. All development within the boundaries of the Supplemental PFFP, as amended, for the Windstar Pointe Resort Project shall conform to the provisions of Section 19.09 of the Chula Vista Municipal Code (Growth Management Ordinance) and to the provisions and conditions of this Supplemental PFFP.

B. All development within the boundaries of the Supplemental PFFP, as amended, for the Windstar Pointe Resort Project shall be required to pay development impact fees for public facilities, transportation and other applicable fees pursuant to the most recently adopted program by the City Council, and as amended from time to time. Development within the boundaries of the Windstar Pointe Resort shall also be responsible for fair share proportionate fees that are necessary to meet the adopted facility performance standards as they relate to the SPA Plan.

C. The Supplemental PFFP, as amended, shall be implemented in accordance with Chula Vista Municipal Code 19.09.090. Future amendments shall be in accordance with CVMC 19.09.100 and shall incorporate newly acquired data, to add conditions and update standards as determined necessary by the City through the required monitoring program. Amendment to this Plan may be initiated by action of the Planning Commission, City Council or property owners at any time. Any such amendments must be approved by the City Council.

D. Approval of this Supplemental PFFP, as amended, does not constitute prior environmental review for projects within the boundaries of this Plan. All future projects within the boundaries of this Supplemental PFFP shall undergo environmental review as determined appropriate by the City of Chula Vista.

E. Approval of this Supplemental PFFP, as amended, does not constitute prior discretionary review or approval for projects within the boundaries of the Plan. All future projects within the boundaries of the Windstar Pointe Resort project area shall undergo review in accordance with the Chula Vista Municipal Code. This Supplemental PFFP analyzes the maximum allowable development potential for planning purposes only. The approval of this plan does not guarantee specific development densities.

F. The facilities and phasing requirements identified in this Supplemental PFFP, as amended, are based on the SPA Plan, which assumes that 18.4 acres with 494 Multi-Family Dwelling Units will be constructed. If there are changes, the total number of Dwelling Units calculated may change and facility requirements shall be adjusted proportionately.

G. The plan analysis is based upon one single phase of development as presented in this document. Any changes to phasing shall require an amendment to the Supplemental PFFP, as amended.

Table A.1
Windstar Pointe Resort Summary of Facilities[1]

Facility	Facility Description	Fee Estimate	DIF Program	Timing	Funding Source	Financing
Transportation	Transportation Facilities	$3,194,204	Transportation Facilities in Eastern Territories	Pay prior to issuance of Building Permit	DIF const./ exaction	Fee Program
	Traffic Signal	$84,622	Traffic Signal Fee		DIF exaction	Fee Program
Subtotal		**$3,278,826**				
Potable Water	980 Zone	To be Determined by OWD	City DIF fees do not apply to the OWD	Provide City Engineer OWD water availability letter and required improvements prior to issuance of Building Permit.	OWD CIP Fees	Capacity Fees and Exactions
Recycled Water (If Required)	950 Zone	To be Determined by OWD	City DIF fees do not apply to the OWD		OWD CIP Fees	Capacity Fees and Exactions
Sewer	Connect to exist sewer	$492,765	Salt Creek Sewer DIF	Pay prior to issuance of Building Permit	DIF exaction	Fee Program
		$1,288,599	Sewer Participation Fee		CIP/Development	Fee Program
Drainage	Connect to exist SD	N/A	DIF not required for Salt Creek	N/A	Developer funded	Exaction
Schools	No specific facility	N/A	School Fees	Provide documentation that school fees have been paid prior to issuance of Building Permit	Mello-Roos CFD	CFD
Parks	PAD Fees[2]	$4,225,818	PAD Fees	Pay prior to issuance of Building Permit	PAD Fees	Fee Program
Recreation	Pay PFDIF Fee	$488,072	Public Facilities DIF	Pay prior to issuance of Building Permit	$988/MF DU.	Fee Program
Library	Pay PFDIF Fee	$643,188	Public Facilities DIF	Pay prior to issuance of Building Permit	$1,302/MF DU.	Fee Program
Fire & EMS	Pay PFDIF Fee	$407,056	Public Facilities DIF	Pay prior to issuance of Building Permit	$824/MF DU.	Fee Program
Police	Pay PFDIF Fee	$798,798	Public Facilities DIF	Pay prior to issuance of Building Permit	$1,617/MF DU.	Fee Program
Civic	Pay PFDIF Fee	$1,059,630	Public Facilities DIF	Pay prior to issuance of Building Permit	$2,145/MF DU.	Fee Program
Corporate Yard	Pay PFDIF Fee	$159,562	Public Facilities DIF	Pay prior to issuance of Building Permit	$323/MF DU.	Fee Program
Administrative	Pay PFDIF Fee	$251,446	Public Facilities DIF	Pay prior to issuance of Building Permit	$509/MF DU.	Fee Program
Subtotal		**$9,814,934**				
Total		**$13,093,760**				

[1] Fees presented in this table are estimates only. The actual fee will be calculated prior to building permit issuance.
[2] See section II.5.4.6.8.1 for the details of the in-lieu agreement for Acquisition Fee and the requirement for the Development fee.

Vicinity Map

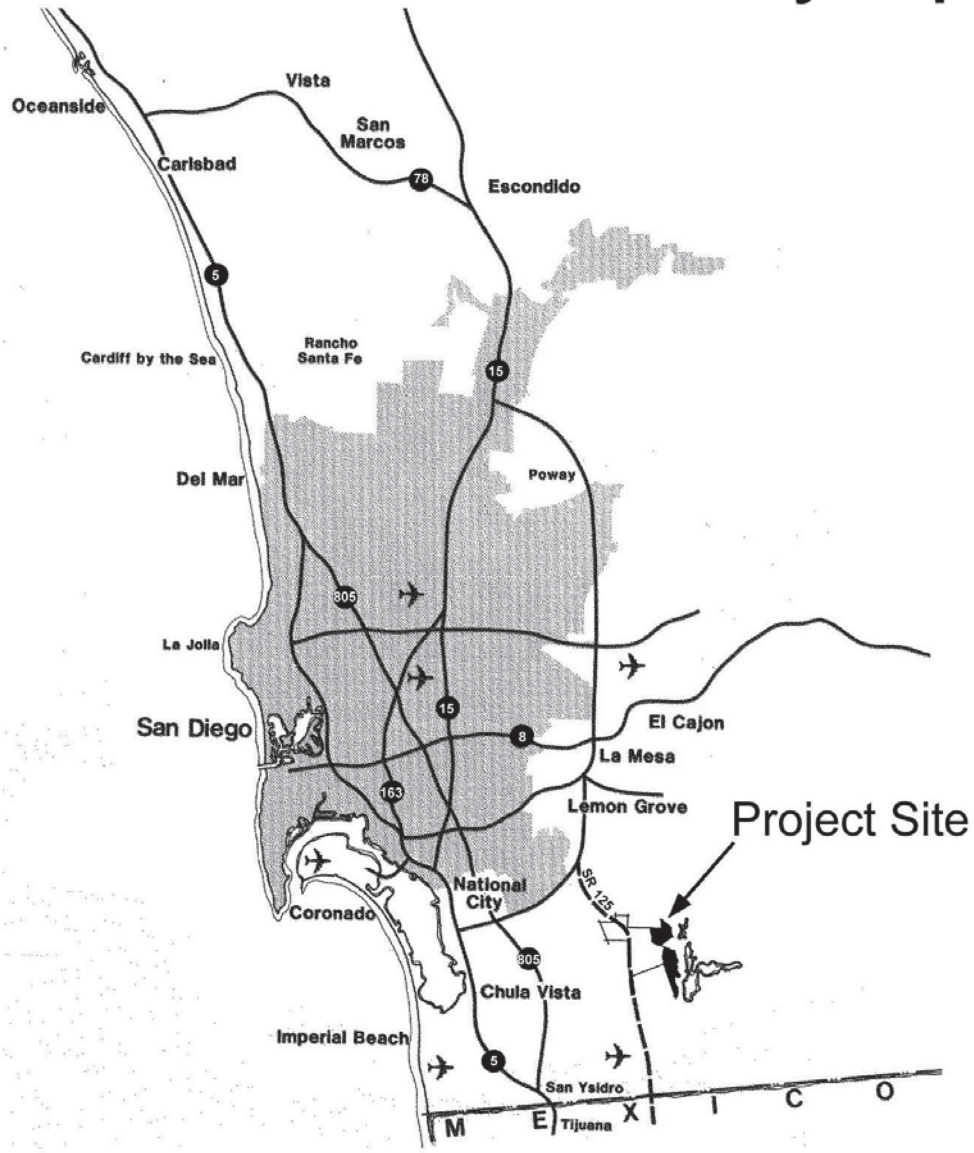
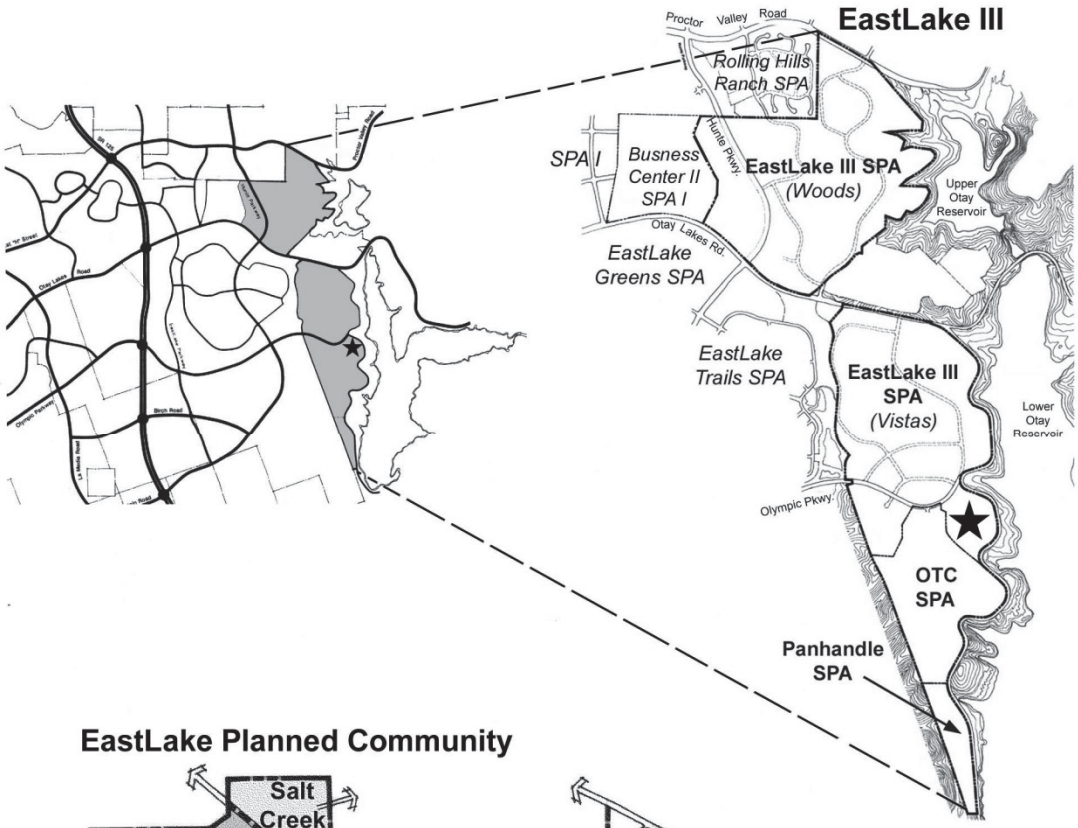
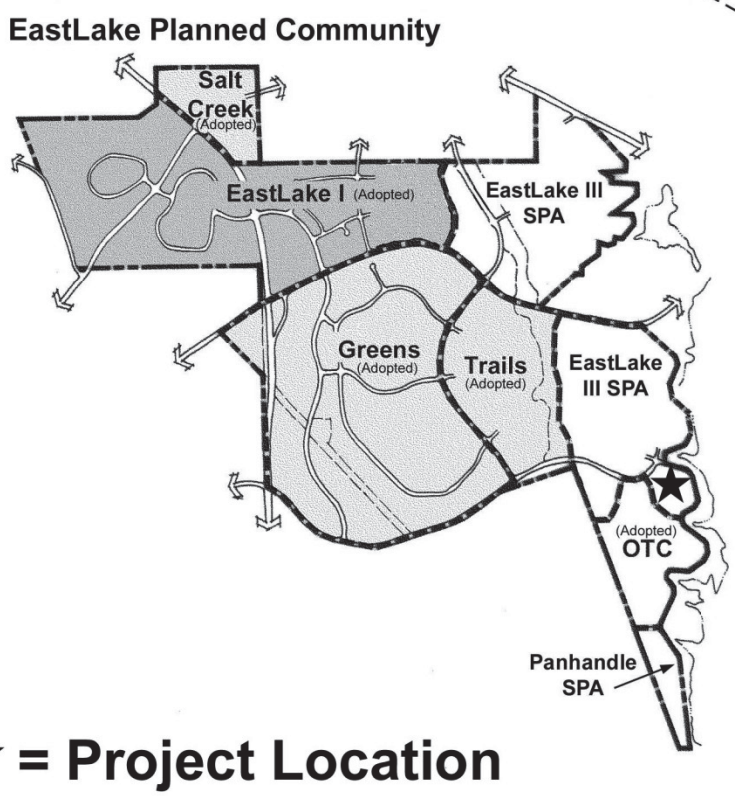


Exhibit 1

Project Location





★ = Project Location

Exhibit 2

II.5.1. INTRODUCTION:

This document amends the EastLake III – Seniors Project Supplemental PFFP. This Supplemental PFFP amendment identifies each improvement needed to service the Windstar Pointe Resort project, with the appropriate funding sources.

The implementing actions covered by the PFFP are:

- Use of Public Financing Mechanisms where applicable.
- Construction of major streets, sewer, water and drainage facilities.
- Internal subdivision improvements pursuant to the Subdivision Map Act.
- Provision of other public facilities.
- Maintenance of certain facilities such as open space areas and street medians.

II.5.1.1 BACKGROUND:

A Master Environmental Impact Report was completed for the 3,073-acre EastLake community in February, 1982, which considered the impacts associated with the annexation of the project site from the County of San Diego to the City of Chula Vista, as well as the potential impacts associated with the implementation of a General Plan amendment, prezoning, and General Development Plan for the future EastLake development. The discretionary actions associated with the EastLake proposal, including the zoning of the project area to Planned Community (PC) and adoption of the EastLake Policy Plan, were approved by the City of Chula Vista in August, 1982.

As its name suggests, the EastLake III General Development Plan (GDP) is the third in a series of approvals addressing development of the EastLake Planned Community. The first EastLake GDP, identified as EastLake I, included approximately forty percent of the property and was adopted in 1982. The EastLake I SPA included three residential neighborhoods, EastLake Hills, EastLake Shores, and Salt Creek I, along with the EastLake Business Center I employment center and EastLake Village Center commercial area.

The second major increment to the EastLake Planned Community was the planning of the EastLake Greens and EastLake Trails residential neighborhoods, located east of the proposed alignment of SR-125, between Otay Lakes Road, and Olympic Parkway. These two neighborhoods were planned as separate SPAs within the EastLake II GDP. At the time of approval, the EastLake II GDP was merged with the EastLake I GDP and the two areas combined are now known as the EastLake II GDP (see Exhibit 2).

Concurrent with the planning of EastLake II, the opportunity to develop the Olympic Training Center (OTC) was recognized. In order to allow for the preparation of a SPA Plan for the OTC, the original EastLake III GDP was adopted in 1990. An OTC SPA plan was subsequently approved and the training facility built.

In 1999, the EastLake Business Center II was removed from the EastLake III GDP and added to the EastLake II GDP to allow its accelerated development in response to economic development opportunities.

The project site is designated as High Density Residential in the City General Plan, and EastLake III GDP and SPA. The site is designated "VR-13" on the approved SPA Site Utilization Plan. As envisioned in the approved GDP, the project site would accommodate the High Density Residential component of the GDP.

The EastLake III SPA Plan Amendment, approved in 2006, converted the site from the C-2 (Commercial Tourist) to the "VR-13" Multi-Family Seniors designation. The amendment also reconfigured the CPF-1 and VR-12 sites without changing the size or density of the VR-12 site but increasing the CPF-1 site from 10.8-acres to 12.9-acres. In addition, the amendment reduced the Open Space (OS) from 136.7-acres to 134.6-acres.

In 2007, an amendment to the EastLake III SPA Plan was submitted to the City of Chula Vista to remove the references to the active seniors project (aka The EastLake III – Seniors Project) and replace it with the Windstar Pointe Resort Luxury Apartment project. The proposed project is similar to the previous approved Seniors Project and has the same number of 494 multi-family residential units. This supplemental PFFP Amendment addresses the public facility needs associated with the proposed Windstar Pointe Resort project.

II.5.1.2 PURPOSE:

The purpose of this document is to amend the 2006 Project Supplemental PFFP. That supplemental PFFP was prepared to supplement the original 2001 EastLake III PFFP and applies to the SPA Plan Amendments to the activity core south of the Vistas portion of the EastLake III GDP and SPA Plan. The project area was not built and the property is now proposed to be developed. Regarding the required public facilities needs, the supplemental PFFP, as amended, identifies a preliminary cost estimate for each improvement installation, phasing and appropriate funding sources.

The purpose of all PFFP's in the City of Chula Vista is to implement the City's Growth Management Program and to meet the General Plan goals and objectives, specifically those of the Growth Management Element. The Growth Management Program ensures that development occurs only when the necessary public facilities and services exist or are provided concurrent with the demands of new development. The Growth Management Program requires that a PFFP be prepared for every new development project, which requires either SPA Plan or tentative map approval. Similarly, amendments to a SPA Plan require an amendment or a supplement to the PFFP.

The PFFP is intended to be a dynamic and flexible document. The goal of the Financing Plan is to assure adequate levels of service are achieved for all public facilities impacted by the project. It is understood that assumed growth projections and related public facility needs are subject to a number of external factors, such as the state of the economy, the City's future land use approval decisions, etc. It is also understood that the funding sources specified herein may change due to financing programs available in the future or requirements of either state or federal law. It is intended that revisions to cost estimates and funding programs be handled as administrative revisions, whereas revisions to the facilities-driven growth phases are to be accomplished through an update process via an amendment to or a supplement to the PFFP.

II.5.1.3 ASSUMPTIONS

There are a number of key assumptions implicit to this supplemental PFFP Amendment. The assumptions play a major part in determining public facility needs, the timing of those needs and the staging of growth corresponding to the various facilities. Key land use and phasing assumptions can be summarized as follows:

A. The SPA Amendment for the EastLake III Windstar Pointe Resort affects one area~~s~~ within the EastLake Vistas portion of EastLake III (see adopted Site Utilization Plan (SUP) (see Exhibit 4) that is located south of Olympic Parkway adjacent to the OTC.

B. This document amends the EastLake III SPA Plan Supplemental PFFP that was adopted on June 20, 2006.

C. The EastLake III (GDP) Amendment, PC District Regulations Amendment, and the SPA Plan Amendment will regulate land use allocation and intensity of development for the VR-13 Multi-Family site.

D. The proposed project consists of developing approximately 18.4 acres of High Density Multi-Family Residential designated land into 494 luxury apartments.

E. One primary phase of development is envisioned to complete all the infrastructure improvements in a single increment. Build-out of all building sites may occur over a several year period.

II.5.1.4. THRESHOLD STANDARDS:

Chapter 19.09 of the Chula Vista Municipal Code provides the requirements for the Chula Vista Growth Management Plan. Subsection 19.09.040 provides the Quality of Life Threshold Standards for each public facility and improvement. There are eleven (11) standards that address a variety of different public services and environmental issues. Several topics are related to services provided by city departments, such as police, fire, libraries, parks and recreation, traffic, and drainage facilities. Each of the 11 threshold standards is stated in terms of a goal, objectives, and one or more standards. Table A.~~1~~ 2 provides a summary of the eleven "Threshold Standards."

A. <u>The Threshold Standards fall into three general categories:</u>

1. *A performance standard measuring overall level of service* is established for police, fire and emergency medical services, sewers, drainage facilities, and traffic;
2. *A ratio of facilities to population* is established for park and recreation facilities, and libraries; and
3. *A qualitative standard* is established for schools, water, air quality, and fiscal impacts.

The qualitative standard pertains to some services that are provided by agencies outside of the city -- schools are provided by the Chula Vista Elementary School District and the Sweetwater High School District; water service is provided by two independent water districts (Otay Water District and Sweetwater Authority); and sewer service is provided by the City of Chula Vista and has an agreement with the City of San Diego to treat the waste water. Finally, the air-quality and fiscal threshold standards do not relate to specific public services but are intended to determine whether growth is having an adverse impact on two other measures of quality of life: the air quality within the region and the city's overall fiscal health.

Table A.2 Chula Vista's Threshold Standards	
Air Quality	Annual report required from Air Pollution Control District on impact of growth on air quality.
Fiscal	Annual report required evaluating impacts on growth on city operations, capital improvements, and development impact fee revenues and expenditures.
Police	Respond to 84% of the Priority I emergency calls within 7 minutes and maintain average response time of 4.5 minutes. Respond to 62% of Priority II urgency calls within 7 minutes and maintain average response time of 7 minutes.
Fire/EMS	Respond to calls within 7 minutes in 85% of all cases.
Schools	An annual report is required to evaluate the school district's ability to accommodate new growth.
Library	Provide 500 square feet of library space adequately equipped and staffed per 1,000 population.
Parks & Recreation	Maintain 3 acres of neighborhood and community parkland with appropriate facilities per 1,000 residents east of Interstate 805.
Water	Annual report from water service agencies on impact of growth and future water availability.
Sewer	Sewage flows and volumes shall not exceed City Engineering Standards. Annual report from Metropolitan Sewer Authority on impact of growth on sewer capacity.
Drainage	Storm flows and volume shall not exceed City Engineering Standards. Annual report reviewing performance of city's storm drain system.
Traffic	Maintain Level of Service (LOS) "C" or better as measured by observed average travel speed on all signalized arterial streets, except, that during peak hours, an LOS "D" can occur for no more than any 2 hours of the day. Those signalized intersections west of Interstate 805 that do not meet the above standard may continue to operate at their 1991 LOS but shall not worsen.

B. **<u>The Threshold Standards are applied in three ways:</u>**

1. Many of the standards were used in the development and evaluation of the city's General Plan to ensure that quality-of-life objectives are met at the time of General Plan build-out during a 20-to-25 year period;
2. Certain standards are used in the evaluation of individual development projects to determine the possible impacts of the project and to apply appropriate conditions and requirements in order to mitigate those impacts; and
3. All of the standards are monitored by the Growth Management Oversight Commission (GMOC) on an annual basis to ensure that the cumulative impacts of new growth do not result in a deterioration of quality of life, as measured by these standards.

Threshold standards are used to identify when new or upgraded public facilities are needed to mitigate the impacts of new development. Building permits will not be issued unless compliance with these standards can be met. These threshold standards have been prepared to guarantee that public facilities or infrastructure improvements will keep pace with the demands of growth.

II.5.1.5. PFFP BOUNDARIES:

The Growth Management Implementation Ordinance requires that the City shall establish the boundaries of the PFFP at the time a SPA Plan or Tentative Map is submitted by the applicant. The boundaries shall be based upon the impact created by the Project on existing and future need for facilities. The project boundaries will correlate the proposed development project with existing and future development proposed for the area of impact to provide for the economically efficient and timely installation of both onsite and offsite facilities and improvements required by the development. In establishing the boundaries for the PFFP, the City shall be guided by the following considerations:

A. Service areas, drainage, sewer basins, and pressure zones that serve the Project;

B. Extent to which facilities or improvements are in place or available;

C. Ownership of property;

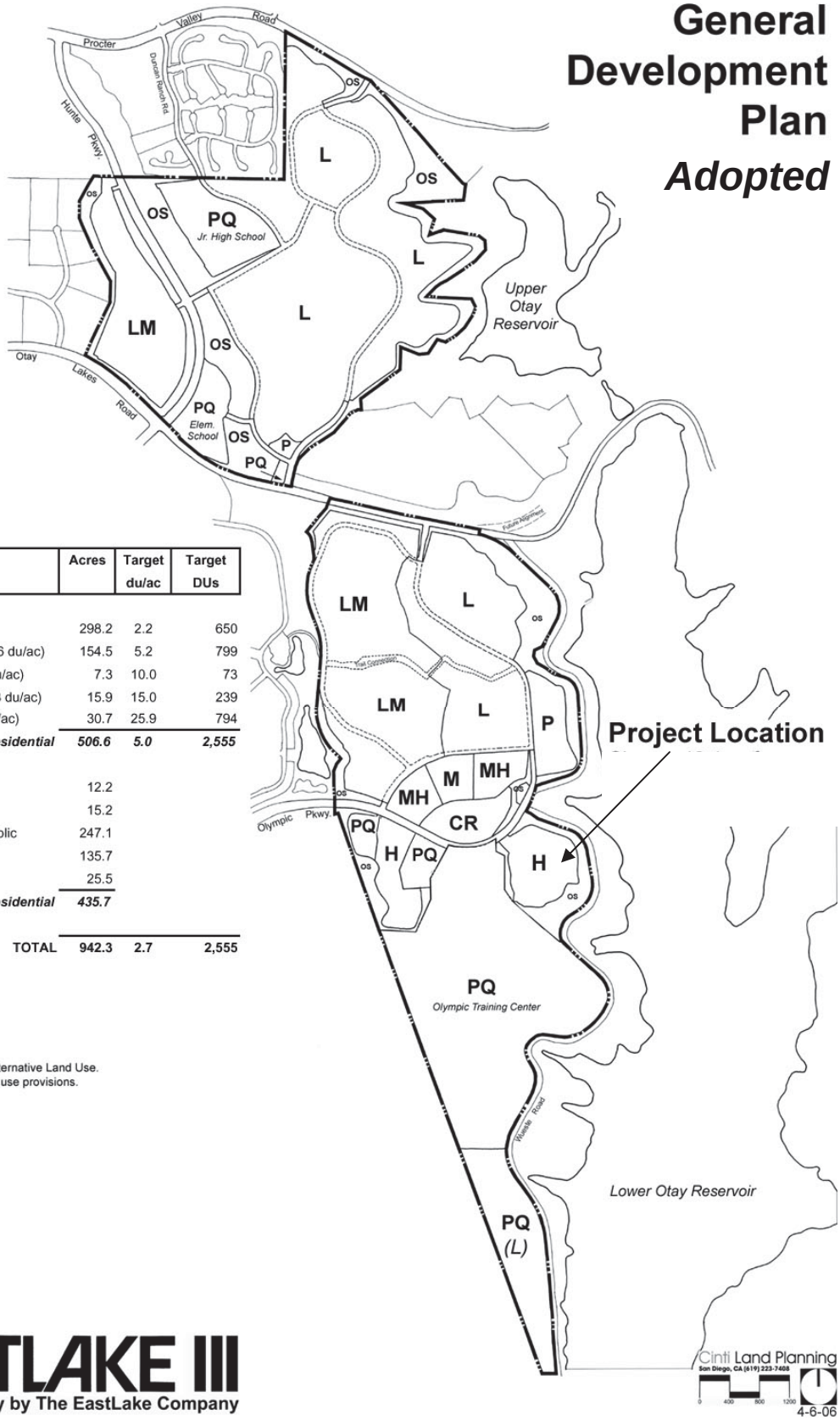
D. Project impact on public facilities relationships, especially the impact on the City's planned major circulation network;

E. Special district service territories;

F. Approved fire, drainage, sewer, or other facilities or improvement master plans.

The boundary of the Windstar Pointe Resort Project was established using the above criterion. The Supplemental PFFP Amendment boundaries are congruent with the Adopted GDP (see Exhibit 3) Area and the EastLake III SPA Plan Area (See Site Utilization Plan, Exhibit 4).

General Development Plan *Adopted*



Land Use		Acres	Target du/ac	Target DUs
RESIDENTIAL				
L	Low (0-3 du/ac)	298.2	2.2	650
LM	Low Medium (3-6 du/ac)	154.5	5.2	799
M	Medium (6-11 du/ac)	7.3	10.0	73
MH	Med-High (11-18 du/ac)	15.9	15.0	239
H	High (18-27+ du/ac)	30.7	25.9	794
	Sub-total Residential	***506.6***	***5.0***	***2,555***
NON-RESIDENTIAL				
CR	Comm. Retail	12.2		
P	Park	15.2		
PQ	Public/Quasi-Public	247.1		
OS	Open Space	135.7		
	Circulation	25.5		
	Subtotal Non-Residential	***435.7***		
	TOTAL	**942.3**	**2.7**	**2,555**

(L) = Underlying Low Density alternative Land Use.
Refer to text for alternative land use provisions.

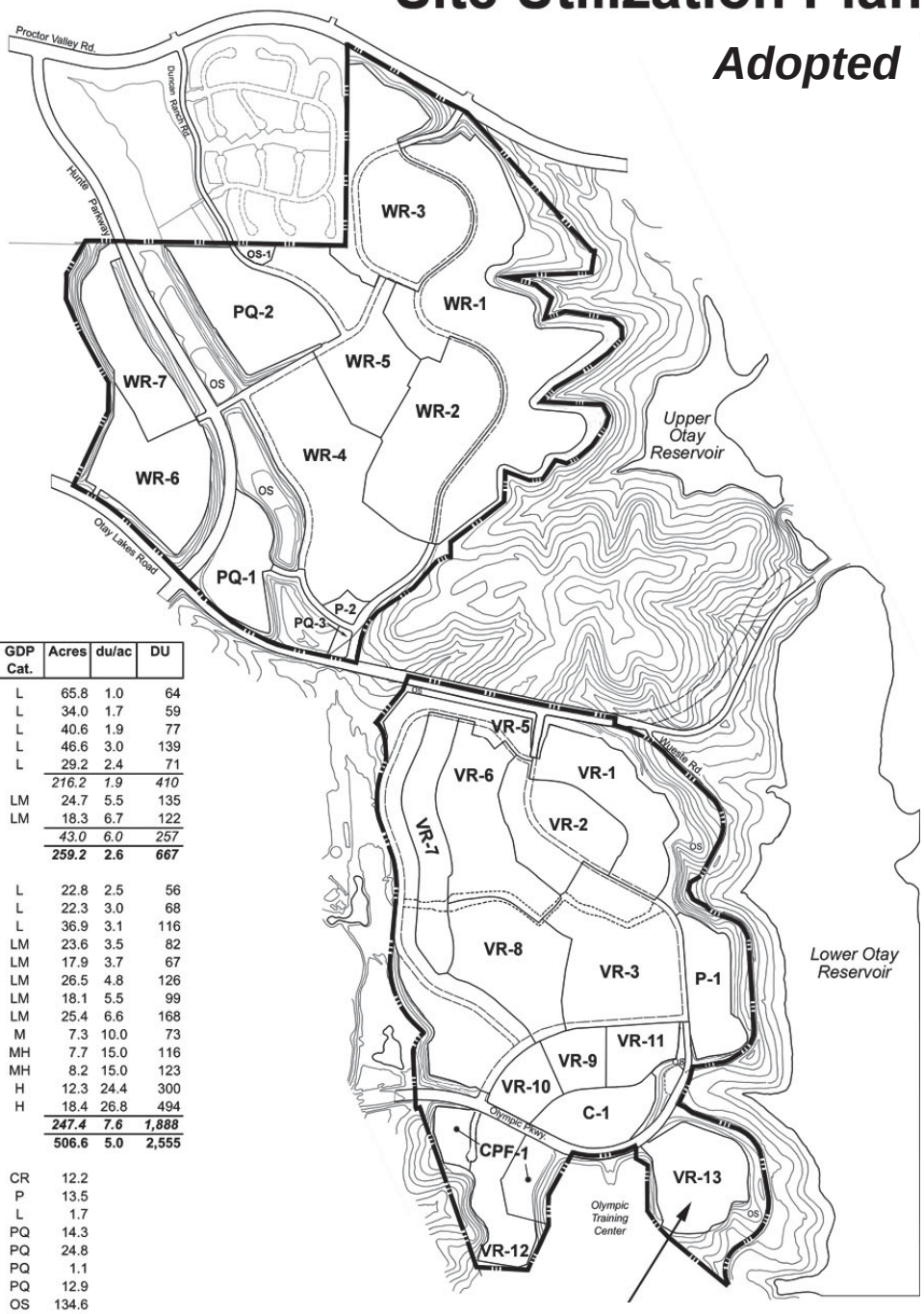
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Exhibit 3

Site Utilization Plan

Adopted



Project Location

RESIDENTIAL

Woods

Parcel Number	Land Use	GDP Cat.	Acres	du/ac	DU
WR-1	Single Family	L	65.8	1.0	64
WR-2	Single Family	L	34.0	1.7	59
WR-3	Single Family	L	40.6	1.9	77
WR-4	Single Family	L	46.6	3.0	139
WR-5	Single Family	L	29.2	2.4	71
Residential Sub-total *(Woods East)*			*216.2*	*1.9*	*410*
WR-6	Single Family	LM	24.7	5.5	135
WR-7	Single Family	LM	18.3	6.7	122
Residential Sub-total *(Woods West)*			*43.0*	*6.0*	*257*
Residential Sub-total (Woods):			***259.2***	***2.6***	***667***

Vistas

VR-1	Single Family	L	22.8	2.5	56
VR-2	Single Family	L	22.3	3.0	68
VR-3	Single Family	L	36.9	3.1	116
VR-4	Single Family	LM	23.6	3.5	82
VR-5	Single Family	LM	17.9	3.7	67
VR-6	Single Family	LM	26.5	4.8	126
VR-7	Single Family	LM	18.1	5.5	99
VR-8	Single Family	LM	25.4	6.6	168
VR-9	Single/Multi-Family	M	7.3	10.0	73
VR-10	Multi-Family	MH	7.7	15.0	116
VR-11	Multi-Family	MH	8.2	15.0	123
VR-12	Multi-Family	H	12.3	24.4	300
VR-13	Multi-Family Seniors	H	18.4	26.8	494
Residential Sub-total (Vistas):			***247.4***	***7.6***	***1,888***
Sub-total Residential			**506.6**	**5.0**	**2,555**

NON-RESIDENTIAL

C-1	Commercial- Retail	CR	12.2		
P-1	Public Park	P	13.5		
P-2	Private Recreation	L	1.7		
PQ-1	Elementary School	PQ	14.3		
PQ-2	Jr. High School	PQ	24.8		
PQ-3	Fire Station	PQ	1.1		
CPF-1	Comm. Purpose Fac.	PQ	12.9		
OS	Open Space*	OS	134.6		
OS-1	OS/School Parking	OS	1.1		
	Major Circulation	cir	25.5		
Sub-total Non-Residential			**241.7**		
PROJECT TOTAL			**748.3**	**3.4**	**2,555**

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Exhibit 4

II.5.2. DEVELOPMENT SUMMARY

The Windstar Pointe Resort Project is proposed on a site east of the OTC and south of Olympic Parkway. The site is designated VR-13 on the approved Site Utilization Plan in the Eastlake III SPA Plan. The property is located south of the intersection between Olympic Parkway and Wueste Road in the City of Chula Vista, California. The site is currently accessed from an unpaved driveway along Olympic Parkway near the northwest comer of the property. Olympic Parkway bounds the northwest portions of the site, and Wueste Road forms the irregular property boundary on the northeast, east and southeast portions of the property. The Lower Otay, Reservoir is located just east of Wueste Road. The OTC is located to the west of the site. The approximate location and extent of the site is shown on the Site Location Map (Exhibit 2).

The proposed project consists of developing the approximately 18.4 acres of High Density Multi-Family Residential land into a luxury apartment project. The approved seniors project converted 18.4 acres of Commercial-Tourist designated land to High Density Multi-Family Residential land. In addition, the seniors project reconfigured the CPF-1 and VR-12 sites. The reconfiguration increased the single CPF-1 site from 10.8 acres to 12.9 acres in two sites and decreased the 136.7 acres of OS to 134.6 acres. The VR-12 site remained at 12.3 acres with the original SPA density. The seniors project approval increased the total of residential units in EastLake III from 2,061 dwelling units to 2,555 dwelling units. Table A.3 provides a comparison of the GDP and SPA Plans.

Table A.3
GDP and SPA Plan Statistical Comparison

RESIDENTIAL						
GDP Designation	**SPA Designation**	**GDP Statistics**		**SPA Plan**		**Average Density**
		Acres	**DU**	**Acres**	**DU**	
EastLake Woods						
Low	WR-1 -WR-5	216.2	410	216.2	410	1.9 du/ac
Low-Medium	WR-6 - WR-7	43.0	257	43.0	257	6.0 du/ac
Subtotal		**259.2**	**667**	**259.2**	**667**	
EastLake Woods Avg. Density				**SPA = Low Density, 2.6 du/ac**		
EastLake Vistas						
Low	VR-1	22.0	56	82.0	56	2.5 du/ac
Low-Medium	VR-3 - VR-8	170.7	658	111.1	658	4.3 du/ac
Medium	VR-9	7.3	73	7.3	73	10 du/ac
Medium-High	VR-10-VR-11	15.0	239	15.0	239	15 du/ac
High	VR-12-VR-13	30.7	794	30.7	794	25.9 du/ac
Subtotal		**247.4**	**1,888**	**247.4**	**1,888**	
EastLake Vistas Avg. Density				**SPA = Medium Density, 6.1 du/ac**		
Residential Subtotal		**506.6**	**2,555**	**506.6**	**2,555**	**5.0 du/ac**
EastLake III Density				**GDP = Low Medium 5.0 du/ac** **SPA = Low Medium 5.0 du/ac**		

Table A.3 (cont'd.) GDP and SPA Plan Statistical Comparison						
NON-RESIDENTIAL						
EastLake Vistas						
Retail Comm.	C-1	12.2		12.2		
Open Space	OS	137.8	--	134.6*		
Public/PQ	PQ-1 - PQ-3	40.2	--	40.2	--	--
CPF	CPF-1	10.8		12.9*	--	--
Parks & Rec.	P-1 - P-2	15.2		15.2	--	--
Circulation		25.5		25.5	--	--
Subtotal		241.7		241.7		
Olympic Training Center SPA						
Public/PQ	PQ	150	--	N/A	--	--
Panhandle Parcel (future SPA)						
Public/PQ	N/A	45	--	N/A	--	
Nonresidential Subtotal		**436.7**	**--**	**241.7**	**--**	
TOTALS		**946.7**	**2,555**	**748.3**	**2,555**	**3.4 du/ac**
** Note: These statistics were adjusted based on adopted subdivision statistics.*						

Source: Cinti Land Planning

Actions that need to be approved by the City Council include, but not limited to: a GDP Amendment; a SPA Plan Amendment; PC District Regulations Amendment; and a revision to the EastLake III Affordable Housing Program Project CEQA documents have been prepared concurrently to document potential environmental impacts and identify mitigation measures to reduce potential impacts to below significance or eliminate potential impacts. Further, no new CEQA mitigation measures are required for the Windstar Pointe Resort project.

Subsequent to the approval of all the SPA level documents, grading and improvement plans will be prepared. These will provide the necessary details to actually construct the project described by the SPA level documents. These plans, the construction process and ultimate uses/activities within the SPA are required to be consistent with the applicable provisions of this Supplemental PFFP Amendment.

II.5.2.1. DEVELOPMENT PHASING:

One primary phase of development is envisioned due to the need of the project to complete the infrastructure improvements in a single increment. However, actual construction on individual building sites may occur over a several year period, as has been experienced within the existing Village Center/Business Center. This project will not be phased. A summary of the infrastructure public facility timing is provided in the following table.

Table A.4
Windstar Pointe Resort/Public Facility Timing

Facility	Facility Description	Timing	Financing Method
Traffic	Street Improvements	Prior to issuance of Building Permits	Subdivision exaction
	Pay DIF Fees	Prior to issuance of Building Permits	Fee Program
	Traffic Signal Fee	Prior to issuance of Building Permits	Fee Program
Potable Water	Service Avail Letter from OWD to City	Prior to issuance of Building Permits	N/A
	Water Improvements per OWD & SAMP	Prior to issuance of Building Permits	Capacity Fees and Exactions
	OWD CIP Fees	Prior to issuance of Building Permits	Capacity Fees and Exactions
Recycled Water	Improvements per OWD & SAMP	Prior to issuance of Building Permits	Capacity Fees and Exactions
Sewer	Connection to Salt Creek Basin Fee (Salt Creek Sewer DIF)	Prior to issuance of Building Permits	Fee Program
	Pay Sewerage Participation Fee	Prior to issuance of Building Permits	Fee Program
Storm Drain	Connect to exist. public storm drain system	Prior to issuance of Building Permits	Subdivision exaction
Schools	No specific facility Subject to School Fees	Pay-Prior to issuance of Building Permit	Mello-Roos CFD
Parks	Pay PAD Fees[3]	Prior to issuance of Building Permit	Fee Program
Recreation	Pay PFDIF Fee	Prior to issuance of Building Permit	Fee Program
Library	Pay PFDIF Fee	Prior to issuance of Building Permit	Fee Program
Fire & EMS	Pay PFDIF Fee	Prior to issuance of Building Permit	Fee Program
Police	Pay PFDIF Fee	Prior to issuance of Building Permit	Fee Program
Civic	Pay PFDIF Fee	Prior to issuance of Building Permit	Fee Program
Corp. Yd.	Pay PFDIF Fee	Prior to issuance of Building Permit	Fee Program
Admin	Pay PFDIF Fee	Prior to issuance of Building Permit	Fee Program

[3] Given the lack of available acreage that could be acquired to serve the development, according to city staff, the developer has negotiated a waiver of the acquisition component of the PAD Fee in exchange for a payment of $2,666,260, which can be utilized to fund construction of park and public facilities serving the EastLake Community (See section II.5.4.6.8.1). Any excess funds that remain once these facilities are complete can be utilized on other park or public facilities serving the Eastern Territories of Chula Vista. The Developer will pay the development component of the PAD Fee as required by the City.

II.5.2.2 DEVELOPMENT IMPACT FEES

A. Transportation

The current Transportation Development Impact Fee (TDIF) Ordinance sets forth the calculation of development impact fees. This PFFP uses the CVMC Chapter 3.54 as the basis for the estimated TDIF fees. Table A.5 below illustrates the current fee schedule:

Table A.5
TDIF Schedule

Land Use Classification		**TDIF Rate**
Residential (Low)	0-6 dwelling units per gross acre	$10,777 per DU
Residential (Med.)	6.1-18 dwelling units per gross acre	$8,622 per DU
Residential (High)	>18.1 dwelling units per gross acre	$6,466 per DU
Senior housing		$4,311 per DU
Residential mixed use	>18 dwelling units per gross acre	$4,311 per DU
Commercial mixed use	< 5 stories in height	$172,432 per 20,000 sq. ft.
General commercial (acre)		$172,432 per acre
Regional commercial (acre)	> 60 acres or 800,000 sq. ft.	$118,547 per acre
High rise commercial (acre)	> 5 stories in height	$301,756 per acre
Office (acre)	< 5 stories in height	$96,993 per acre
Industrial RTP (acre)		$86,218 per acre
18-hole golf course		$754,390 per acre
Medical center		$700,505 per acre

B. Public Facilities

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 19, 2002 by adoption of Ordinance 2887. The PFDIF is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The current fee for single-family residential development is $8,136/unit, multi-family residential is $7,708/unit, commercial (including office) development is $25,874/acre and industrial development is $8,173/acre. The PFDIF amount is subject to change as it is amended from time to time. The calculations of the PFDIF due for each facility are addressed in the following sections of this report. Table A.6 provides a break down of what facilities the fee funds.

Table A.6[4]
Public Facilities Estimated DIF Fee Components

Component	Single Family /DU	Multi-Family /DU	Commercial /Acre	Industrial /Acre
Civic Center	$2,264	$2,145	$7,224	$2,283
Police	$1,497	$1,617	$7,072	$1,525
Corporation Yard	$403	$323	$6,836	$3,220
Libraries	$1,302	$1,302	$0	$0
Fire Suppression	$1,144	$824	$3,025	$6022
GIS, Computers, Telecom & Records Management	$0	$0	$0	$0
Administration	$538	$509	$1,717	$543
Recreation	$988	$988	$0	$0
Total per Residential Unit	**$8,136**	**$7,708**		
Total per Com'l/Ind. Acre			**$25,874**	**$8,173**

The total number of acres for the Windstar Pointe Resort Project is 18.4. The calculations of the PFDIF due for each facility are addressed in the following sections of this report.

[4] DIF Fees based on Form 5509 dated 10/26/2007. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

II.5.4 FACILITY ANALYSIS

This portion of the PFFP contains 13 separate subsections for each facility addressed by this report. Of the 13 facilities, 11 have adopted threshold standards; the Civic Center and Corporation Yard do not. Table A.7 highlights the level of analysis for each facility.

Table A.7
Level of Analysis

Facility	Citywide	East of I-805	Service Area Sub-basin	Special District
Traffic	√	√		
Pedestrian Bridges			√	
Police	√			
Fire/EMS	√		√	
Schools				√
Libraries	√			
Parks, Recreation & Open Space		√		
Water			√	√
Sewer			√	
Drainage			√	
Air Quality	√			
Civic Center	√			
Corp. Yard	√			
Fiscal	√		√	

Each subsection analyzes the impact of the Windstar Pointe Resort Project based upon the adopted Quality of Life Standards. The analysis is based upon the specific goal, objective, threshold standard and implementation measures. The proposed SPA plan is used to determine facility adequacy and is referenced within the facility section.

Each analysis is based upon the specific project processing requirements for that facility, as adopted in the Growth Management Program. These indicate the requirements for evaluating the project consistency with the threshold ordinance at various stages (General Development Plan, SPA Plan/Public Facilities Finance Plan, Tentative Map, Final Map and Building Permit) in the development review process.

A service analysis section is included which identifies the service provided by each facility. The existing plus forecasted demands for the specific facility are identified in the subsection based upon the adopted threshold standard.

Each facility subsection contains an adequacy analysis followed by a detailed discussion indicating how the facility is to be financed. The adequacy analysis provides a determination of whether or not the threshold standard is being met and the finance section provides a determination if funds are available to guarantee the improvement. If the threshold standard is not being met, mitigation is recommended in the Threshold Compliance and Recommendations subsection which proposes the appropriate conditions or mitigation to bring the facility into conformance with the threshold standard.

II.5.4. PUBLIC FACILITIES THRESHOLD STANDARDS AND INFRASTRUCTURE REQUIREMENTS

II.5.4.1. TRAFFIC

II.5.4.1.1. GMOC THRESHOLD STANDARDS:

Citywide: Maintain Level of Service (LOS) "C" or better, as measured by observed average travel speed on all signalized arterial segments except that during peak hours a LOS of "D" can occur for no more than any two hours of the day.

II.5.4.1.2 GMOC LEVEL OF SERVICE (LOS) DEFINITION

Six levels of services (LOS) have been defined varying from A (free flow) to F (severe congestion). A general definition of LOS is summarized in Table B.1. The City of Chula Vista's GMOC uses an LOS definition for signalized arterial segments as a method for evaluating and comparing traffic conditions. Arterial LOS measurements consider average weekday peak hours and exclude seasonal and special circumstance variations. The following table summarizes the GMOC Traffic Quality of Life Threshold Standard for signalized arterial streets:

Table B.1
GMOC LOS Definition

Level of Service	Average Travel Speed (mph)		
	Class 1	Class 2	Class 3
A	> 35	> 30	> 25
B	> 28	> 24	> 19
C	> 22	> 18	> 13
D	> 17	> 14	> 9
E	> 13	> 10	> 7
F	< 13	< 10	< 7

SOURCE: Highway Capacity Manual, 1994.

The arterial streets are divided into the following three classifications:

A. Class I arterials are roadways where free flow traffic speeds range between 35 mph and 45 mph and the number of signalized intersections per mile is less than four (4). There is no parking and there is generally no access to abutting property.

B. Class II arterials are roadways where free flow traffic speeds range between 30 mph and 35 mph, the number of signalized intersections per mile range between four (4) and eight (8). There is some parking and access to abutting properties is limited.

C. Class III arterials are roadways where free flow traffic speeds range between 25 mph and 35 mph, and the number of signalized intersections per mile are closely spaced. There is substantial parking and access to abutting property is unrestricted.

II.5.4.1.3 FREEWAY SEGMENT LOS AND THRESHOLDS

The analysis of freeway segment LOS is based on the procedure developed by Caltrans District 11**,** which is based on methods described in the *1994 Highway Capacity Manual.* The procedure involves comparing the peak hour volume of the mainline segment to the theoretical capacity of the roadway (V/C). Directional and truck factors are also used to calculate the future freeway volumes. V/C ratios are then compared to the V/C ranges shown on the tables to determine the LOS for each segment. Caltrans recommends LOS E or better as an acceptable threshold for determining impacts on the regional freeway system. LOS E is used as the threshold of significance because a decrease from this level of service to LOS F determines the need to develop a freeway Deficiency Plan.

Table B.2
Caltrans District 11 Freeway Segment Level of Service Definitions

LOS	V/C	Congestion/Delay	Traffic Description
Used for freeways, expressways and conventional highways			
A	<0.41	None	Free flow
B	0.42-0.62	None	Free to stable flow, light to moderate volumes.
C	0.63-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
Used for conventional highways			
F	<1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 sec./vehicle
Used for freeways and expressways			
F(0)	1.01-1.25	Considerable 0-1 hr delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
F(l)	1.26-1.35	Severe 1-2 hr delay	Very heavy congestion, very long queues.
F(2)	1.36-1.45	Very Severe 2-3 hr delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
F(3)	>1.46	Extremely Severe 3+ hours of delay	Gridlock

SOURCE: Caltrans 1992

Caltrans LOS Definition

The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety. LOS for freeway segments can generally be categorized per Table B.2.

II.5.4.1.4 SEGMENT LOS STANDARDS AND THRESHOLDS

This section presents the LOS standards and thresholds utilized by the City of Chula Vista to analyze roadway segment performance. Table B.3 presents the City of Chula Vista roadway segment capacity and level of service standards for arterial roadways.

Table B.3 Chula Vista Segment Capacity and LOS Standards Average Daily Traffic Volumes					
Functional Classification	**Level of Service**				
	A	**B**	**C**	**D**	**E**
Expressway (6-lane)	52,500	61,300	70,000	78,800	87,500
Prime Arterial (6-lane)	37,500	43,800	50,000	56,300	62,500
Major Street (6-lane)	30,000	35,000	40,000	45,000	50,000
Major Street (4-lane)	22,500	26,300	30,000	33,800	37,500
Village Entry	16,500	19,300	22,000	24,800	27,500
Secondary Village Entry w/ Median	5,600	6,600	7,500	8,400	9,400
Secondary Village Entry/Promenade (1)	5,600	6,600	7,500	8,400	9,400

(1) If driveway access to adjacent properties is permitted all applicable values of LOS are reduced by 2,500 ADT.

SOURCE: City of Chula Vista Subdivision Manual (Revised 7/1/2002)

II.5.4.1.5 ROADWAY SEGMENT LOS STANDARDS AND THRESHOLDS

This section presents the LOS standards and thresholds utilized by the City of Chula Vista to analyze arterial roadway segment performance. Table B.4 presents the City of Chula Vista roadway segment capacity and LOS standards for arterial roadways.

Table B.4 Arterial Segment LOS Threshold Descriptions	
LOS	**Description**
A	Describes primarily free-flow operations. Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.
B	Also represents reasonably free-flow, and speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.
C	Provides for flow with speeds still at or near the free-flow speed of the roadway. Freedom to maneuver within the traffic stream is noticeably restricted at LOS C, and lane changes require more vigilance on the part of the driver. The driver now experiences a noticeable increase in tension because of the additional vigilance required for safe operation.
D	The level at which speeds begin to decline slightly with increasing flows. In this range, density begins to deteriorate somewhat more quickly with increasing flows. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.
E	Describes operation at capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream. At capacity, the traffic stream has no ability to dissipate even the most minor disruptions, and any incident can be expected to produce a serious breakdown with extensive queuing.
F	Describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points such as traffic incidents and recurring points of congestion. Whenever LOS F conditions exist, there is a potential for them to extend upstream for significant distances.

SOURCE: Highway Capacity Manual, 1994.

The street segment LOS is based on the functional classification of the roadway, the maximum desired LOS capacity, roadway geometries, and the existing or forecasted average daily traffic (ADT) volume. City of Chula Vista LOS D are used to determine if a segment would operate over or under capacity. Table B.5, Street Segment Level of Service Threshold Descriptions, is a description of the various street segment LOS thresholds.

Table B.5 Chula Vista Segment Capacity and LOS Standards Average Daily Traffic Volumes					
Functional Classification	**Level of Service**				
	A	**B**	**C**	**D**	**E**
Expressway (6-lane)	52,500	61,300	70,000	78,800	87,500
Prime Arterial (6-lane)	37,500	43,800	50,000	56,300	62,500
Major Street (6-lane)	30,000	35,000	40,000	45,000	50,000
Major Street (4-lane)	22,500	26,300	30,000	33,800	37,500
Class I Collector (4-lane)	16,500	19,300	22,000	24,800	27,500
Class II Collector (3-lane)	9,000	10,500	12,000	13,500	15,000
Class III Collector (2-lane)	5,600	6,600	7,500	8,400	9,400

SOURCE: City of Chula Vista Street Design Standards Policy (July 1991)

II.5.4.1.6 INTERSECTION LOS STANDARDS AND THRESHOLD

The City of Chula Vista requires an analysis of existing and projected peak hour intersection performance be conducted using the methodology documented in the *1994 Highway Capacity Manual (Transportation Research Board Special Report 209).* LOS D or better indicates acceptable operating conditions for signalized intersections during AM and/or PM peak hour conditions. Those intersections found to have LOS E or F under an analysis of future conditions are considered to have significant impacts and will require mitigation.

Table B.6 Intersection LOS Threshold Descriptions	
LOS	**Description**
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

SOURCE: Highway Capacity Manual, 1994.

A. <u>Signalized Intersection Analysis</u>

The City of Chula Vista requires an analysis of signalized intersections during the AM and PM peak hours by determining the average delay per vehicle entering the

intersection. The delay is determined by using a computer program that utilizes the methodology found in Chapter 9 of the 1997 Highway Capacity Manual (HCM). The delay values (seconds) are qualified by giving a Level of Service (LOS) or "Grade" to the corresponding delay value for the intersection as a whole. LOS for signalized intersections vary from A (free flow, little delay) to F (forced flow, significant delays). Table B.6 is a description of the various intersection LOS thresholds.

B. Unsignalized Intersection Analysis

The City of Chula Vista requires an analysis of unsignalized intersections be analyzed by determining the delay and LOS based on Chapter 10 of the 1997 HCM. Different methodologies are used to assess two-way stop-controlled intersections and all-way stop-controlled intersections.

II.5.4.1.7 Intersection LOS Standards and Threshold

The analysis of existing and projected peak hour intersection performance was conducted using the methodology documented in the *1994 Highway Capacity Manual (Transportation Research Board Special Report 209).* LOS C or better indicates acceptable operating conditions for signalized intersections during AM and/or PM peak hour conditions. Those intersections found to have LOS E or F under an analysis of future conditions are considered to have significant impacts and will require mitigation.

II.5.4.1.7.1 Signalized Intersection Analysis

The measure of effectiveness for intersection operations is level of service. In the 2000 Highway Capacity Manual (HCM), LOS for signalized intersections is defined in terms of delay. The LOS analysis results in seconds of delay expressed in terms of letters A through F (see Table B.7).

Table B.7
Level of Service Thresholds
For Signalized Intersections

Average Control Delay per Vehicle (Seconds/Vehicle)	**Level Of Service**
0.0 ≤ 10.0	A
10.1 to 20.0	B
21.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.0	F

SOURCE: Highway Capacity Manual, 2000.

Table B.8 Intersection LOS Threshold Descriptions	
Level of Service	**Description**
A	LOS A describes operations with very low delay, (i.e. less than 10.0 seconds per vehicle). This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	LOS B describes operations with delay in the range 10.1 seconds and 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	LOS C describes operations with delay in the range 20.1 seconds and 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	LOS D describes operations with delay in the range 35.1 seconds and 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or higher v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are more frequent.
E	LOS E describes operations with delay in the range of 55.1 seconds to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	LOS F describes operations with delay in excess of over 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

SOURCE: Highway Capacity Manual, 2000.

Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Table B.8 is a description of the various intersection LOS thresholds.

II.5.4.1.7.2 Unsignalized Intersection Analysis

For unsignalized intersections, level of service is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. Table B.9 below depicts the criteria, which are based on the average control delay for any particular minor movement.

Table B.9 Level of Service Thresholds for Unsignalized Intersections		
Average Control Delay Per Vehicle (Seconds/Vehicle)	**Level of Service**	**Expected Delay to Minor Street Traffic**
0.0 ≤ 10.0	A	Little or no delay
10.1 to 15.0	B	Short traffic delays
15.1 to 25.0	C	Average traffic delay
25.1 to 35.0	D	Long traffic delays
35.1 to 50.0	E	Very long traffic delays
≥ 50.0	F	Severe congestion

Source: Highway Capacity Manual, 2000.

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to safely cross through a major street traffic stream. This LOS is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches. The method, however, is based on a constant critical gap size; that is, the critical gap remains constant no matter how long the side-street motorist waits. LOS F may also appear in the form of side-street vehicles selecting smaller-than-usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior, which are more difficult to observe in the field than queuing.

II.5.4.1.8 CHULA VISTA TRAFFIC MONITORING PROGRAM

The Traffic Monitoring Program (TMP) stipulates that the existing level of service on arterial segments in Chula Vista be maintained at LOS C or better, with the exception that LOS D is acceptable on signalized arterial segments for two hours per day maximum. The Engineering Department of the City of Chula Vista evaluates LOS for arterial roadway segments utilizing the HCM methodology, Chapter 11, based on average travel speeds to adhere to the Growth Management traffic threshold standards. The adopted Growth Management Ordinance mandates the project's participation in the traffic section as it relates to the City's annual review of network performance. All major circulation element facilities within the City of Chula Vista are subject to review. Those facilities where traffic volumes have increased by at least 10% since the last review or have experienced a significant change in conditions or are at the upper fringes of LOS C approaching LOS D are included in the annual traffic study, which is reviewed for conformance by the Growth Management Oversight Commission (GMOC). The City of Chula Vista requires the application of these guidelines to the development of the Winsdstar Pointe Resort Supplemental SPA Amendment Project.

Utilization of the roadway and intersection performance standards presented in this chapter and the required adherence to the Growth Management Traffic Threshold Standards will result in full conformance with the requirements of the City of Chula Vista.

II.5.4.1.9 SERVICE ANALYSIS

The Engineering & General Services Department of the City of Chula Vista is responsible for ensuring that traffic improvements are provided to maintain a safe and efficient street system within the City. Through project review, City staff ensures the timely provision of adequate local circulation system capacity in response to planned development while maintaining acceptable LOS. To accomplish their review the Engineering Department has adopted guidelines for Traffic Impact Studies (January, 2001). These guidelines ensure uniformity in the preparation of traffic studies. Further, the guidelines assist in maintaining acceptable standards for planned new roadway segments and signalized intersections at the build out of the City's General Plan and Circulation Element. The Circulation Element of the General Plan serves as the overall facility master plan.

In conformance with requirements of the Congestion Management Program (CMP), an analysis of CMP freeways and arterials is required for any project that generates 2,400 daily, or 200 peak hour trips (As detailed in the 1991 Congestion Management Program). This analysis, *Traffic Impact Analysis for Windstar Pointe Resort, October 18, 2007 by Linscott, Law and Greenspan* (LL&G) was prepared for the City of Chula Vista. This

document is referred to as the "LL&G Traffic Analysis" throughout this PFFP. The LL&G Traffic Analysis addresses both existing and planned circulation system conditions, details necessary improvements and outlines the incremental circulation improvements based upon planned project phasing. Further, the LL&G Traffic Impact Analysis also includes an evaluation of impacts that are considered significant as a result of project development.

A. Background

The site was analyzed in the EastLake III Woods and Vistas Replanning Program Final Subsequent EIR and associated Addendum (City EIR#01-01); June 2001 and has been rough graded. In 2006 the subject site was converted from Commercial Tourist to Multi-Family Seniors designation. A Subsequent Environmental Impact Report (SEIR) with an updated Traffic Analysis (*Traffic Impact Analysis for EastLake Senior Residential Community, August 16, 2005, by* LL&G) was prepared for the Seniors Project and approved in 2006.

In 2007 a SPA Plan Amendment was submitted to the city to permit the Windstar Pointe Resort luxury apartment project on the previously approved site. This project is the subject of the LL&G Traffic Analysis.

B. Traffic Modeling

The basis of the LL&G Traffic Analysis is the Series 10.0, 2030 City/County Forecast Traffic Model, which is produced by the San Diego Association of Governments (SANDAG). LL&G worked with the City of Chula Vista and SANDAG to input the proper land use and network designations into the model for the following scenarios:

- Near-Term without Project
- Near-Term with Project
- Year 2030 without Project
- Year 2030 with Project

Linscott Law & Greenspan ran a model with the appropriate land use, City of Chula Vista circulation element including a constructed SR 125 for each scenario. The Windstar Pointe Resort project land use was coded into the Traffic Model exactly as proposed/adopted, as appropriate. After the proper land use intensities and network configurations were entered into the model for each study scenario, the model was run. The SANDAG model outputs ADTs on all Circulation Element street segments.

C. GMOC Analysis

The Chula Vista Traffic Monitoring Program (TMP) assesses the operating performance of the City's arterial street system for compliance with the Threshold Standards of the GMOC. The threshold standards specify that a Level of Service (LOS) of C or better, as measured by average travel speeds on the arterial, shall be maintained with an exception that during peak hours LOS D can occur for no more than any two hours of the day or LOS E for one hour.

Olympic Parkway operates at an LOS A with or without the Windstar Pointe Resort project. Therefore, no GMOC TMP Analysis is required.

II.5.4.1.10 PROJECT PROCESSING REQUIREMENTS

The PFFP is required by the Growth Management Program to address the following issues for the Traffic Facilities:

A. Identify onsite and offsite impacts and improvements by phase of development.

B. Provide cost estimates for all improvements.

II.5.4.1.11. EXISTING TRAFFIC FACILITIES:

This section summarizes the operation of the existing transportation network in the Windstar Pointe Resort Project Study Area for the key street segments and intersections. The following discussion presents the key existing and future street segments and intersections that were analyzed in the LL&G Traffic Analysis.

A. Study Area:

The study area includes the street network and intersections along Olympic Parkway between East Palomar Street and Wueste Road. The study area was selected by LL&G based on the project traffic distribution, which was determined using a select zone assignment (SZA) obtained for the project from SANDAG (see Exhibit 5). The project study area includes the following:

Intersections

- Olympic Parkway/ East Palomar Street
- Olympic Parkway/ SR 125 SB Ramps (Future)
- Olympic Parkway/ SR 125 NB Ramps (Future)
- Olympic Parkway/ Eastlake Parkway
- Olympic Parkway/ Hunte Parkway (South)
- Olympic Parkway/ Olympic Vista Road
- Olympic Parkway/ Project Driveway (Future)
- Olympic Parkway/ Wueste Road (North)

Segments

Olympic Parkway

- East Palomar Street to Eastlake Parkway
- Eastlake Parkway to Hunte Parkway
- Hunte Parkway to Wueste Road (South)

B. Street Network:

The principal roadways in the project study area are described briefly below. The description includes the physical characteristics, and intersection traffic control.

Olympic Parkway is classified as a Six-Lane Prime Arterial from 1-805 to Hunte Parkway, and as a Four-Lane Major east of Hunte Parkway in the City of Chula Vista Circulation Plan. Currently, it is built to its ultimate classification. On-street parking is prohibited. The posted speed limit is 45 mph. Bike Lanes are provided. A raised

median is provided along Olympic Parkway between Wueste Road and the Olympic Training Center driveway. A median opening is also provided for the project.

Wueste Road is classified as a Two-Lane Class III Collector in the project vicinity. No direct access is provided to the project via Wueste Road.

C. Street Segments:

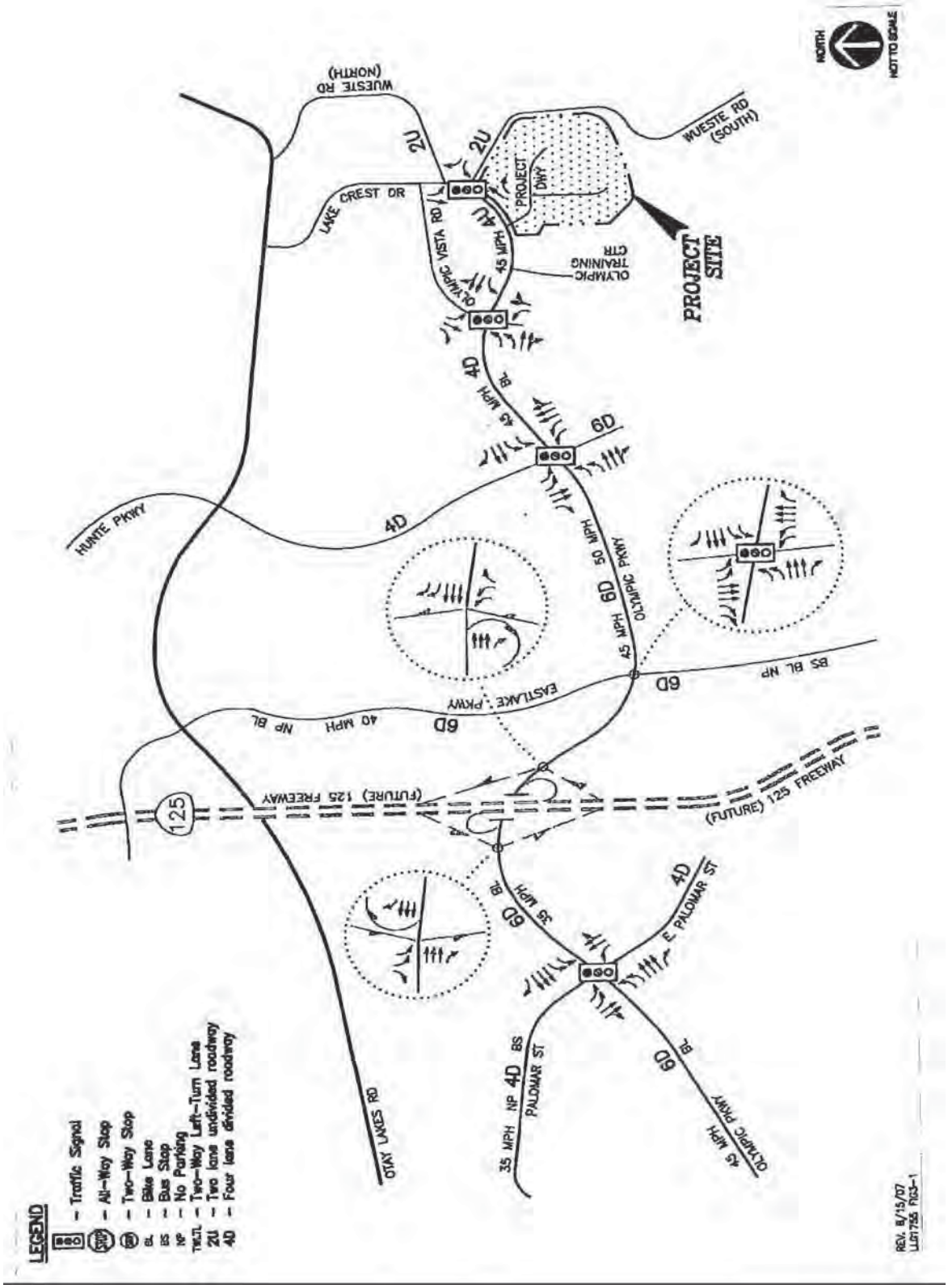
Table B.10 summarizes the daily segment operations for existing conditions. As seen in the following table, all segments in the study area are calculated to currently operate at LOS C or better. In addition, the improvement in the current LOS is due to the opening of SR 125.

Table B.10
Existing Street Segment Operations

Segment	Existing Classification	LOS "C" Capacity	Existing ADT	LOS
Olympic Parkway				
East Palomar St. to Eastlake Pkwy.	Prime Arterial (6L)	50,000	27,127	A
Eastlake Pkwy. to Hunte Pkwy.	Prime Arterial (6L)	50,000	11,300	A
Hunte Pkwy. to Wueste Rd.	Major Arterial (4L)	30,000	6,280	A

Source: LL&G

Existing Street Network
Exhibit 5



D. Existing Intersection Operations:

Table B.11 summarizes the peak hour intersection operations for existing conditions. As seen in Table B.11, all key signalized intersections are calculated to currently operate at LOS C or better. Currently, a traffic signal is installed at the Olympic Parkway/Wueste Road intersection. The critical movements at the Olympic Parkway/Wueste Road intersection are calculated to operate at LOS C or better conditions.

Table B.11
Existing Intersection Operations

Intersection	Control	Peak Hour	Delay [a]	LOS [b]
1. Olympic Pkwy/East Palomar St.	Signalized	AM PM	32.4 22.7	C C
2. Olympic Pkwy/SR 125 SB Ramps	c	AM PM	c	c
3. Olympic Pkwy/SR 125 NB Ramps	c	AM PM	c	c
4. Olympic Pkwy/Eastlake Pkwy.	Signalized	AM PM	28.0 27.0	C C
5. Olympic Pkwy/Hunte Parkway	Signalized	AM PM	28.5 26.8	C C
6. Olympic Pkwy/Olympic Vista Rd.	Signalized	AM PM	31.7 24.6	C C
7. Olympic Pkwy/Project Dwy.	TWSC [d]	AM PM	c	c
8. Olympic Parkway/Wueste Rd.	Signalized	AM PM	14.4 15.4	B B

Footnotes:
a. Average delay in seconds per vehicle
b. Level of Service
c. Intersection does not currently exist
d. TWSC – Two Way Stop Controlled intersection. Minor left turn delay.

Source: LL&G

II.5.4.1.12 TRANSIT

Potential transit stops will be strategically located near vehicular and pedestrian main access points along Hunte Parkway, Olympic Parkway and/or Otay Lakes Road to serve future EastLake Woods and EastLake Vistas residents. Medium-high to high level transit facilities are expected to be provided in the EastLake III/OTC Activity Center and lower level facilities at other locations.

MTDB has developed the "Transit First" service concept to reduce the public's dependence upon the automobile. Transit and land use patterns should work together. The easy access to transit facilities in correlation with the service offered can make transit a viable travel mode alternative to the automobile, thus reducing traffic congestion. Currently, two percent of trips are conducted on public transit in the region. Efforts should be made to increase this travel mode split by making transit accessible and convenient. Additionally, providing transit facilities will meet the objectives of the City's CO_2 Reduction Plan which mentions transit as one of the action measures to reducing CO_2 emissions along with enhanced pedestrian

connections to transit, increased housing density near transit, and site design with transit orientation.

The "Transit First" strategy includes a network of service types ranging from neighborhood shuttles serving short-distance trips, to higher-speed, limited stop routes for longer distance trips. The service types planned for the areas east of I-805 are as follows:

A. Yellow Car: Serves longer-distance trips (6+ miles), maintaining high average speeds (35-40 mph) with limited stops. Yellow Car routes would complement Red Car services to form the spine of the regional transit system. Yellow Car services would require extensive use of transit priority treatments such as dedicated running ways, queue jumpers, and signal priority. Yellow Car service is used in two ways:
   - Serving corridors where longer station spacing is justified based on links between major origins and destinations and land use patterns that lead to longer-distance trip making.
   - Serving as an overlay in selected Red Car corridors where a faster, more limited-stop service is justified (in addition to Red Car service) for high-volume, long-distance trip needs.

B. Red Car: Serves medium-distance trips (1-9 miles), maintaining relatively high average speeds (20-25 mph) with limited stops. Red Car services are often linked to Blue Car service for local distribution. The current San Diego Trolley system and the County's express bus routes mostly operate as Red Car service. Red Car services would require use of transit priority treatments such as dedicated running ways, queue jumpers, and signal priority.

C. Green Car: Serves community-level trip making that could include neighborhood circulators, feeder access to Yellow and Red Car service, and/or specialized fixed-route shuttles. Green Car services would likely use smaller shuttle vehicles. In some situations, Green Car services would benefit from dedicated running ways and queue jumpers.

D. Blue Car: Serves short-distance trips (0-5 miles) with frequent stop spacing. Blue Car service provides basic mobility, albeit at low speeds (10-25 mph), on primarily local and arterial streets. Most of the current San Diego region bus system operates as Blue Car service.

Potential transit stops will be strategically located near vehicular and pedestrian main access points along Hunte Parkway, Olympic Parkway and/or Otay Lakes Road to serve future EastLake Woods and EastLake Vistas residents. Medium-high to high level transit facilities are expected to be provided in the EastLake III/OTC Activity Center and lower level facilities at other locations.

The planned transit system within EastLake III is shown in the Transit Plan, Exhibit 8. Bus stops are based on Green Car and Blue Car service concepts described in the adopted *Transit Works* Strategic Plan by MTDB. The Green Car represents local circulators using mini to mid-size buses. The Green Car would act as a collector and provide feeder access to Blue Car and/or Red Car concepts. Bus stop facilities would be Low to Medium level with service provided on residential streets and major streets. The Blue Car provides short distance trips (1-5 miles) with frequent stops. This concept describes the current Chula Vista Transit service. Bus stop facilities would be at a Medium to High level. Service is provided on major streets and arterials. The Red Car concept is the light rail service planned for the Otay Ranch area.

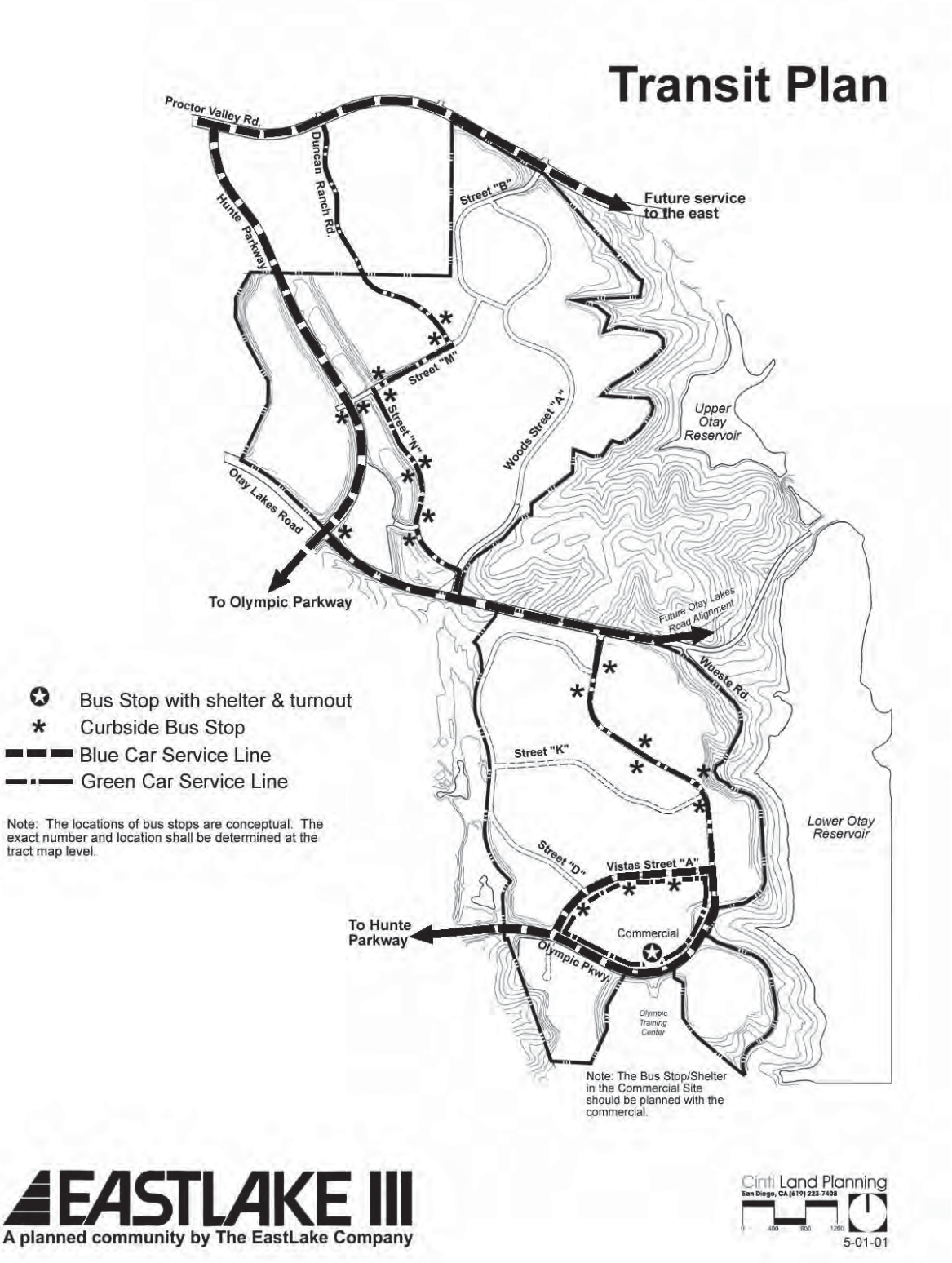

Transit Plan
Proctor Valley Rd.
Duncan Ranch Rd.
Hunte Parkway
Street "B"
Future service to the east
Street "M"
Street "N"
Woods Street "A"
Upper Otay Reservoir
Otay Lakes Road
To Olympic Parkway
Future Otay Lakes Road Alignment
Wueste Rd.
Bus Stop with shelter & turnout
Curbside Bus Stop
Blue Car Service Line
Green Car Service Line
Note: The locations of bus stops are conceptual. The exact number and location shall be determined at the tract map level.
Street "K"
Lower Otay Reservoir
Street "D"
Vistas Street "A"
To Hunte Parkway
Commercial
Olympic Pkwy.
Olympic Training Center
Note: The Bus Stop/Shelter in the Commercial Site should be planned with the commercial.
EASTLAKE III
A planned community by The EastLake Company
Cinti Land Planning
San Diego, CA (619) 223-7408
0 400 800 1200
5-01-01

Exhibit 6

Table B.12
Trip Generation Summary
Proposed Project

Land Use	Quantity	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
		Rate (a)	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Apartments	494 Units	6/Unit	2,964	8%	20:80	47	190	237	9%	70:30	187	80	267

Footnotes:
(a) Rates based on SANDAG's "Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region", April 2002.

Source: LL&G

II.5.4.1.13. TRIP GENERATION AND PHASING:

II.5.4.1.13.1 Project Trip Generation

Table B.12 summarizes the trip generation for the project. The project trip generation was calculated by LL&G using trip generation rates obtained from the *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, dated April 2002, by the San Diego Association of Governments (SANDAG). As seen in Table B. 12, the proposed project is calculated to generate 2,964 ADT with 237 trips (47 inbound and 190 outbound) during the AM peak hour, and 267 trips (187 inbound and 80 outbound) during the PM peak hour. In addition, the LL&G Traffic Analysis considered the SR 125 was open by the time the project is built and occupied.

A. Segment Analysis

According to the LL&G Traffic Analysis**,** all of the key segment operations, in the study area for the near-term and long-term scenarios, are calculated to operate at LOS C or better (see Table B.13).

B. Intersection Analysis

Table B.14 summarizes the near-term intersection operations for the aforementioned scenarios. According to LL&G, with the addition of the project traffic for near term operations, all key signalized intersections are calculated to continue to operate at LOS C or better.

II.5.4.1.13.2 Project Phasing

The LL&G Traffic Analysis assumed that the build out of the Windstar Pointe Resort Supplemental SPA Plan Amendment would occur prior to 2010. This results in total trips of 2,964 daily trips loaded onto the circulation network at the build-out of the development. One primary phase of development is envisioned due to the need of the project to complete the infrastructure improvements in a single increment.

Table B.13 Near & Long-Term Segment Operations											
Segment	**Roadway Class [a]**	**LOS E Capacity [b]**	**Near-term without Project**		**Near-term with Project**		**Type of Impact**	**Year 2030 without Project**		**Year 2030 with Project**	
			ADT[c]	**LOS**	**ADT[c]**	**LOS**		**ADT[c]**	**LOS**	**ADT[c]**	**LOS**
Olympic Parkway											
East Palomar Street to Eastlake Parkway	6-Lane Prime Arterial	50,000	29,990	A	31,620	A	None	44,000	C	45,630	C
Eastlake Parkway to Hunte Parkway	6-Lane Prime Arterial	50,000	16,380	A	18,450	A	None	24,800	A	26,875	A
Hunte Parkway to Wueste Road (South)	4-Lane Major Arterial	30,000	11,430	A	14,100	A	None	24,000	B	26,965	C

a. Roadway Classification per City of Chula Vista Circulation Element
b. Based on City of Chula Vista Roadway Capacity Standards
c. Average Daily Vehicle Trips.
d. Level of Service

Source: LL&G

Table B.14
Near-Term Intersection Operations

Intersection	Traffic Control	Peak Hour	Near-term without Project		Near-term with Project		Increase in delay due to Project	Impact Type
			Delay[a]	LOS[b]	Delay[a]	LOS[b]		
1. Olympic Pkwy / Palomar St.	Signal	AM	32.5	C	32.5	C	-	None
		PM	22.8	C	23.7	C	0.9	None
2. Olympic Pkwy / SR 125 SB Ramps	Signal	AM	13.8	B	13.9	B	0.1	None
		PM	8.3	A	10.2	B	1.9	None
3. Olympic Pkwy / SR 125 NB Ramps	Signal	AM	12.9	B	13.0	B	0.1	None
		PM	8.1	A	8.2	A	0.1	None
4. Olympic Pkwy / Eastlake Pkwy.	Signal	AM	33.3	C	33.5	C	0.2	None
		PM	32.2	C	32.4	C	0.2	None
5. Olympic Pkwy / Hunte Parkway	Signal	AM	30.3	C	30.5	C	0.2	None
		PM	27.3	C	27.5	C	0.2	None
6. Olympic Pkwy / Olympic Vista Rd.	Signal	AM	32.2	C	32.5	C	0.3	None
		PM	24.1	C	24.6	C	0.5	None
7. Olympic Pkwy / Project Driveway.	TWSC[c]	AM	DNE[d]	-	20.9	C	-	None
		PM	DNE[d]	-	20.8	C	-	None
8. Olympic Parkway / Wueste Rd.	Signal	AM	15.8	B	15.6	B	0.1	None
		PM	19.5	B	23.6	B	0.3	None

Footnotes:

a. Average delay expressed in seconds per vehicle.

b. Level of Service.

c. TWSC – Two Way Stop Controlled intersection.

d DNE- Does Not Exist

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0<10.0	A	0.0<10.0	A
10.1 to 20.0	B	10.1 to15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
>80.1	F	>50.1	F

II.5.4.1.14 Adequacy Analysis

The City of Chula Vista created the Guidelines For Traffic Impact Studies in February 2001. This document establishes written guidelines for identification of project traffic impacts in Environmental Impact Report documents. Prior to the establishment of the guidelines, the City of Chula Vista hired BRW to review criteria that was being utilized by the City of San Diego and traffic impact study guidelines recommended by the San Diego Traffic Engineer's Council (SANTEC) / Institute of Transportation Engineers (ITE). The objective was to determine the applicability of these standards to developments and facilities within the City of Chula Vista, and develop a specific set of standards for the City of Chula Vista based on this review. The City of San Diego and SANTEC/ITE standards were used to reevaluate several completed studies in the City of Chula Vista to determine potential changes in the identification of project impacts. Results of this evaluation were communicated to the City of Chula Vista department heads and staff through a series of workshops. Discussions, comments and recommendations precipitated from these workshops provided the foundation for the guidelines.

The guidelines provide written criteria for determining the need and scope of traffic studies and identifying impacts. The use of these guidelines ensures uniformity in the preparation and review of traffic studies for developments within the City of Chula Vista. In addition, the guidelines help determine timelines for the implementation of specific improvements to address identified deficiencies.

A. <u>Determining When A Study Is Needed</u>

In conformance with requirements of the Congestion Management Program (CMP), an analysis of CMP freeways and arterials will be required for any project that generates 2,400 daily, or 200 peak hour trips (As detailed in the 1991 CMP).

For those developments that do not satisfy the requirements for a CMP analysis, a traffic study may be required based on direction provided by the City Engineer and the Environmental Review Coordinator.

B. <u>Methodology</u>

1. Study Area Definition

a. Volume Thresholds for Study of CMP Freeway Facilities: All freeway segments are by definition included in the CMP network. All freeway mainline segments to which the proposed project will add 2400 total trips (Average Daily Trips or ADT) or 150 or more peak hour trips in either direction must be analyzed.

b. Volume Thresholds for Study of CMP Arterial Facilities: All CMP arterial segments, including Regionally Significant Arterials (RSA) and other CMP arterial segments and intersections (including freeway on/off ramp intersections), to which the proposed project will add 800 or more total trips (ADT) or 50 or more peak hour trips in either direction must be analyzed.

c. Volume Thresholds for Local Roadways and Intersections: Traffic studies will be required to review those local and collector roadway facilities that are

not included in the CMP network based on direction provided by the City Engineer.

2. Analysis Scenarios

Each of the study area freeway segments, roadway segments, and intersections must be analyzed for the following scenarios:

a. Existing Conditions

b. Existing Conditions + Proposed Project

c. Existing Conditions + Approved and Pending Projects + Proposed Project (Only for non-master planned projects)

d. Horizon Years (Usually defined as five-year incremental study years for project, i.e. 2005, 2010, 2015, & 2020. However, final determination on years to be studied may vary based on direction of the City Engineer)

e. Regional Buildout Year + Proposed Project

Additional scenarios may be required depending on the size and phasing of any proposed development. For each analyzed scenario, peak hour analysis will include the AM and PM peaks. At the direction of the City Engineer, special studies of midday peak or other off-peak periods may be required.

3. Growth Management Oversight Committee (GMOC) Near-Term Analysis

As determined by the City Engineer, analysis of roadway segments under near-term conditions (Years 0-4) may be conducted using the methodology described in Chapter 11 (Arterial Streets) of the most recent version of the Highway Capacity Manual, which determines segment level of service based on speed, as detailed in the Significance Criteria below. Classification of facilities and definition of segment lengths must be consistent with the City's current Growth Management Traffic Monitoring Program. The Threshold Standard for these arterial analyses requires the maintenance of LOS C or better as measured by average travel speeds except that LOS D can occur for no more than any two hours of the day. Thus, if LOS D conditions are determined for any period of two (2) hours, additional analysis may be required along these high volume segments based on direction provided by the City Engineer.

For planned arterial facilities that are not currently included in the current Traffic Monitoring Program, the definition of segment length and facility classification will be based on direction provided by the City Engineer.

C. Significance Criteria

Project impacts will be defined as either project specific impacts or cumulative impacts. Project specific impacts are those impacts for which the addition of project trips result in an identifiable degradation in LOS on freeway segments, roadway segments, or intersections, triggering the need for specific project-related improvement strategies. Cumulative impacts are those in which the project trips contribute to a poor level of service, at a nominal level.

Study horizon year as used herein is intended to describe a future period of time in the traffic studies, which corresponds to Sandag's traffic model years, and are meant to

synchronize study impacts to be in line with typical study years of 2005, 2010, 2015 and 2020.

Criteria for determining whether the project results in either project specific or cumulative impacts on freeway segments, roadway segments, or intersections are as follows:

1. Short-term (Study Horizon Year 0 to 4)

For purposes of the short-term analysis roadway sections may be defined as either links or segments. A link is typically that section of roadway between two adjacent Circulation Element intersections and a segment is defined as that combination of contiguous links used in the Growth Management Plan Traffic Monitoring Program. Analysis of roadway links under short-term conditions may require a more detailed analysis using the GMOC methodology if the typical planning analysis using volume to capacity ratios on an individual link indicates a potential impact to that link. The GMOC analysis uses the Highway Capacity Manual (HCM) methodology of average travel speed based on actual measurements on the segments as listed in the Growth Management Plan Traffic Monitoring Program.

a. Intersections
    1. Project specific impact if both the following criteria are met:
        a) LOS E or LOS F.
        b) Project trips comprise 5% or more of entering volume.
    2. Cumulative impact if only (i) above is met.

b. Street Links/Segments
    If the planning analysis using the volume to capacity ratio indicates LOS C or better, there is no impact. If the planning analysis indicates LOS D, E or F, the GMOC method should be utilized. The following criteria would then be utilized.
    1. Project specific impact if all the following criteria are met:
        a) LOS D for more than 2 hours or LOS E/F for 1 hour
        b) Project trips comprise 5% or more of segment volume.
        c) Project adds greater than 800 ADT to the segment.
    2. Cumulative impact if only (i) above is met.

c. Freeways
    1. Project specific impact if both the following criteria are met:
        a) Freeway segment LOS is LOS E or LOS F
        b). Project comprises 5% or more of the total forecasted ADT on that freeway segment.

b. Cumulative impact if only (i) above is met.

2. Long-term (Study Horizon Year 5 and later)

a. Intersections
    1. Project specific impact if both the following criteria are met:
        a) Level of service is LOS E or LOS F.
        b) Project trips comprise 5% or more of entering volume.
    2. Cumulative impact if only (i) above is met.

b. Street Segments

Use the planning analysis using the volume to capacity ratio methodology only. The GMOC analysis methodology is not applicable beyond a four-year horizon.

1. Project specific impact if all three of the following criteria are met:
   a) Level of service is LOS D, LOS E, or LOS F.
   b) Project trips comprise 5% or more of total segment volume.
   c) Project adds greater than 800 ADT to the segment.
2. Cumulative impact if only (i) above is met. However, if the intersections along a LOS D or LOS E segment all operate at LOS D or better, the segment impact is considered not significant since intersection analysis is more indicative of actual roadway system operations than street segment analysis. If segment Level of Service is LOS F, impact is significant regardless of intersection LOS.
4. Notwithstanding the foregoing, if the impact identified in paragraph a. above occurs at study horizon year 10 or later, and is offsite and not adjacent to the project, the impact is considered cumulative. Study year 10 may be that typical SANDAG model year which is between 8 and 13 years in the future. In this case of a traffic study being performed in the period of 2000 to 2002, because the typical model will only evaluate traffic at years divisible by 5 (i.e. 2005, 2010, 2015 and 2020) study horizon year 10 would correspond to the Sandag model for year 2010 and would be 8 years in the future. If the model year were less than 7 years in the future, study horizon year 10 would be 13 years in the future.
5. In the event a direct identified project specific impact in paragraph a. above occurs at study horizon year 5 or earlier and the impact is offsite and not adjacent to this project, but the property immediately adjacent to the identified project specific impact is also proposed to be developed in approximately the same time frame, an additional analysis may be required to determine whether or not the identified project specific impact would still occur if the development of the adjacent property does not take place. If the additional analysis concludes that the identified project specific impact is no longer a direct impact, then the impact shall be considered cumulative.

c. Freeways

1. Project specific impact if both the following criteria are met:
   a) Freeway segment LOS is LOS E or LOS F
   b) Project comprises 5% or more of the total forecasted ADT on that freeway segment.
2. Cumulative impact if only (i) above is met.

II.5.4.1.15. FINANCING TRAFFIC IMPROVEMENTS:

A. Transportation Development Impact Fees (TDIF):

The project is within the boundaries of the TDIF program and, as such, the project is subject to the payment of the fees at the rates in effect at the time building permits are issued. However, the improvements identified in the Threshold Compliance and Requirements Section II.5.4.1.16 of this PFFP is required to be constructed prior to approval of the first building permit.

The current Transportation Development Impact Fee (TDIF) Ordinance sets forth the calculation of development impact fees. This PFFP uses the CVMC Chapter 3.54 as the basis for the estimated fees. This amount is subject to change as it is amended from time to time. The current TDIF charged for "Residential Low" density (0-6 DU/gross acre) is $10,777/DU. The amount charged for "Residential Medium" density (6.1-18 DU/gross acre) is $8,622/DU. The amount charged for "Residential High" density (>18.1 DU/gross acre) is $6,466/DU. The estimated TDIF for the Windstar Pointe Resort Project is presented in Table B.15 below.

Table B.15
Windstar Pointe Resort TDIF Fees

Land Use	Number of Acres	Number of Units	Fee per Residential High Density Dwelling Unit	Total Fees
Windstar Pointe Resort	18.4	494	$6,466	$3,194,204
Totals	**18.4**	**494**		**$3,194,204**

B. Traffic Signal Fees:

Future development within the project will be required to pay Traffic Signal Fees in accordance with Chula Vista Council Policy No. 475-01. The estimated fee is calculated based on the current fee of $28.55 (the date of this PFFP) per vehicle trip generated per day for various land use categories. The table is provided as an estimate only. Fees may change depending upon the actual number dwelling units, the actual acreage for commercial and industrial land and the current city fee, which is subject to change from time to time. Final calculations will be known at time building permits are applied for.

Table B.16
Windstar Pointe Resort Traffic Signal Fees

Land Use	Residential Trips	Traffic Signal Fee @ $28.55/Trip
Windstar Pointe Resort	2,964	$84,622
Total	**2,964**	**$84,622**

II.5.4.1.16. THRESHOLD COMPLIANCE AND REQUIREMENTS:

Based upon the *Traffic Impact Analysis for Windstar Pointe Resort, October 18, 2007, by Linscott, Law and Greenspan*, threshold compliance is projected to be maintained with implementation of the identified measures and improvements and the payment of the TDIF Fees. The following measures are recommended to maintain compliance with city threshold standards:

A. Threshold compliance shall continue to be monitored through the annual congestion monitoring program.

B. The Windstar Pointe Resort project shall be conditioned to pay TDIF Fees and Traffic Signal Fees prior to the issuance of building permits; the fees shall be paid at the rate in effect at the time payment is made.

C. Prior to approval of the first building permit or as otherwise determined by the City Engineer, the Developer shall:

1. Design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the Olympic Parkway/Project Driveway intersection. The design of the traffic signal shall be to the satisfaction of the City Engineer and conform to City standards. The intersection geometry shall be the following:

   Westbound: One left-turn lane (with 100 feet of storage) and two through lanes;
   Northbound: One left-turn lane and one right-turn lane (with a storage length of 75 feet in each lane);
   Eastbound: One shared through/right-turn lane and one through lane;
   Southbound: None.

   A traffic signal shall be installed at the project driveway and two outbound (northbound) lanes, one left-turn and one right-turn lane and two inbound (southbound) lanes shall be provided.

2. Relocate the median opening on Olympic Parkway further west from its current location to accommodate the proposed project driveway. In addition, the applicant shall provide the pertinent landscape improvements to the satisfaction of the Director of Planning & Building, and the Director of General Services.

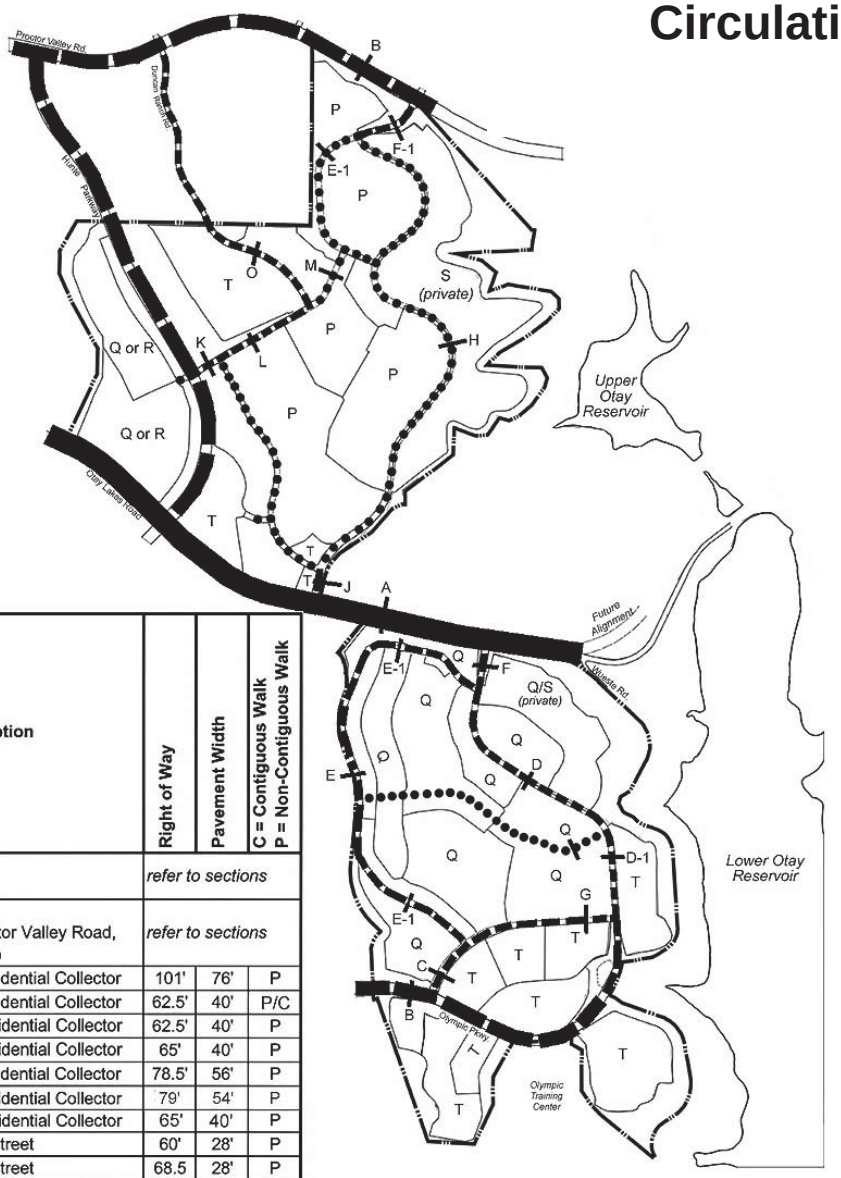
3. Provide pedestrian ramps to the satisfaction of the City Engineer.

4. Install a "No U Turn" sign for eastbound traffic on Olympic Parkway at the Olympic Parkway/Wueste Road intersection.

The Developer shall fully design the aforementioned improvements in conjunction with the improvement plans for the related project to the satisfaction of the City Engineer.

Circulation

II.2.3-3



Map Symbol/ Section Key	Description	Right of Way	Pavement Width	C = Contiguous Walk P = Non-Contiguous Walk
A	6 Lane Prime (Otay Lakes Road)	*refer to sections*		
B	4 Lane Major (Hunte Parkway, Proctor Valley Road, and Olympic Parkway)	*refer to sections*		
C	Modified Class III Residential Collector	101'	76'	P
D/D-1	Modified Class III Residential Collector	62.5'	40'	P/C
E	Modified Class III Residential Collector	62.5'	40'	P
E-1	Modified Class III Residential Collector	65'	40'	P
F	Modified Class III Residential Collector	78.5'	56'	P
F-1	Modified Class III Residential Collector	79'	54'	P
G	Modified Class III Residential Collector	65'	40'	P
H	Modified Residential Street	60'	28'	P
I	Modified Residential Street	68.5	28'	P
J	Modified Class III Residential Collector	85'	54'	P
K	Modified Class III Residential Collector	70'	54'	C
L	Modified Class III Residential Collector	82'	54'	P
M	Modified Residential Collector	62'	34'	P
N	Modified Residential Street	62.5'	40'	P/
O	Modified Class III Residential Collector	69.5'	44'	C/P
P	Modified Residential Street	59'	34'	P
Q	Modified Residential Street	56'	36'	P
R	Residential Street	56'	36'	C
S	Pri. Common Hammerhead Dr.	40'	20'	NA
T	Internal Streets & Drives	*per Site Plan*		

Note: Transitions of street classification changes (or to existing roads) and phasing of improvements to be determined at Tentative Map stage.

6 Lane Prime Arterial

4 Lane Major Arterial

Class III Residential Collector

Residential Street

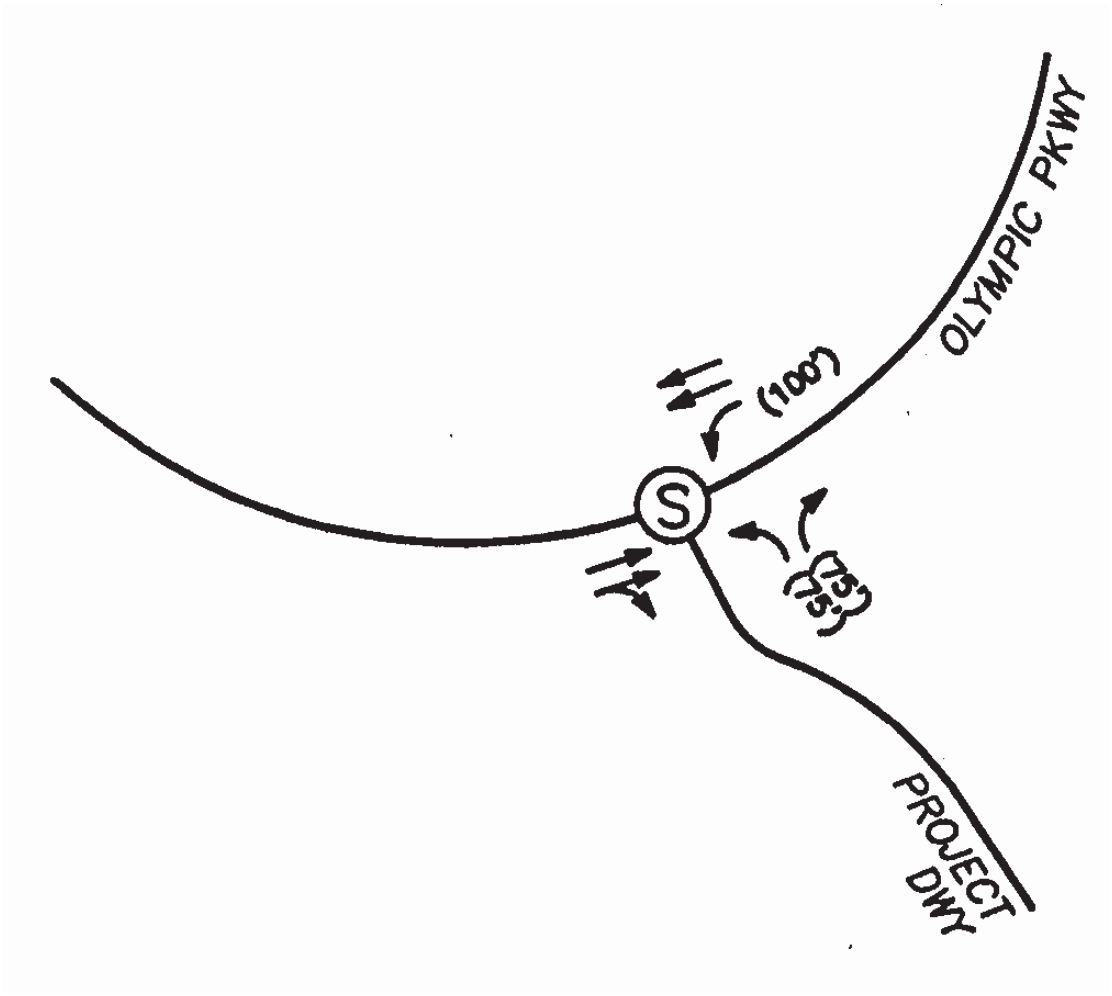
Note: *Refer to Sections for Modifications*

EASTLAKE III
A planned community by The EastLake Company

Cinti Land Planning
San Diego, CA (619) 223-7408
0 400 800 1200
7-17-01

Exhibit 7

Circulation Improvements



LEGEND

(xx)– Recommended Turn lane storage length in feet

Exhibit 8

II.5.4.2 POLICE

II.5.4.2.1 Threshold Standard

A. Emergency Response: properly equipped and staffed police units shall respond to 81% of "Priority One" Emergency calls throughout the city within 7 minutes and shall maintain an average response time to all "Priority One" emergency calls of 5.5 minutes or less (measured annually).

B. Urgent Response: Properly equipped and staffed police units shall respond to 57% of "Priority Two" Urgent calls throughout the city within 7 minutes and maintain an average response time to all "Priority Two" calls of 7.5 minutes or less (measured annually).

II.5.4.2.2 Service Analysis

The City of Chula Vista Police Department provides police services. The purpose of the Threshold Standard is to maintain or improve the current level of police services throughout the City by ensuring that adequate levels of staff, equipment and training are provided. Police threshold performance was analyzed in the "Report on Police Threshold Performance 1990-1999", completed April 13, 2000. In response to Police Department and GMOC concerns the City Council amended the threshold standards for Police Emergency Response on May 28, 2002, with adoption of Ordinance 2860. Police Facilities are also addressed in *A Master Plan for the Chula Vista Civic Center Solving City Space Needs Through Year 2010,* dated May 8, 1989.

II.5.4.2.3 Project Processing Requirements

The PFFP is required by the Growth Management Program to address the following issues for Police Services.

A. Services reviewed must be consistent with the proposed phasing of the project.

B. Able to demonstrate conformance with *A Master Plan for the Chula Vista Civic Center* dated May 8, 1989, as amended.

II.5.4.2.4 Existing Conditions

The Chula Vista Police Department (CVPD) provides law enforcement services to the area encompassing the project. The CVPD is located in a new headquarters building at the corner 4th Avenue and F Street in Chula Vista. This new facility is expected to be adequate through the build-out of eastern Chula Vista. Currently, CVPD maintains a staff of approximately 253 sworn officers and approximately 115 civilian support personnel. The Project is within Police Patrol Beat 32 that is served by at least one Beat Officer per shift.

Police Facility Inventory

- New Police Headquarters at 4th Avenue and F Street.

II.5.4.2.5 Adequacy Analysis

According to the GMOC 2005 7 Annual Report the response times for "Priority One" Calls for Service (CFS) were met during the 2005 -2006 time period (see Table C.1). The department is in compliance with "Priority One" CFS with 82.3% of the calls responded to within 7.00 minutes. "Priority Two" CFS during the same period were not met. The Priority Two CFS has not been met for several years. For Priority Two CFS, the department responded to 40% of the calls within an average of 12.5 minutes. The GMOC has determined that "Priority Two" or the Urgent Emergency Response time threshold has not been met.

According to the GMOC, police response time is just one measure of how these services are keeping pace with growth. The city has implemented measures to improve police response time. These measures range from maintaining full staffing to technological improvements. Two measures that do relate to the ability of the Police Department to maintain the quality of life and are growth related are maintaining adequate staffing and reducing false alarms.

As the table below indicates, the Police Department has made progress in reducing their response time over the past several years. The Police Department is engaged in several current or proposed initiatives to continue the reduction in response times.

Table C.1
Historic Response Times
Priority I -- Emergency Response, Calls For Service

	Call Volume	% of Call Response w/in 7 Minutes	Average Response Time
Threshold		81.0%	5:30
FY2005-06	1,068 of 73,075	82.3%	4:51
FY2004-05	1,289 of 74,106	80.0%	5:11
FY2003-04	1,322 of 71,000	82.1%	4:52
FY 2002-03	1,424 of 71,268	80.8%	4:55
FY 2001-02	1,539 of 71,859	80.0%	5:07
FY 2000-01	1,734 of 73,977	79.7%	5:13
FY 1999-00	1,750 of 76,738	75.9%	5:21
CY 1999[5]	11,890 of 74,405	70.9%	5:50

Source: GMOC 2007 Annual Report

In response to the Urgent Emergency Response time threshold not being met, the GMOC recommended that the City Council direct the City Manager to have the Police Department prepare and implement an action plan addressing the decline in performance relative to meeting the GMOC threshold. The GMOC recommends that this be done by 2008 so that progress in developing and implementing the plan can be reflected in the Police Department's next report to the GMOC.

[5] The FY98-99 GMOC Report used calendar 1999 data due to the implementation of the new CAD system in mid-1998.

The Police Department has requested GMOC support for various upgrades/improvements. While the GMOC is not opposed to any of these, it would be beneficial to understand how implementation of any of these initiatives will specifically improve Priority 2 response times.

II.5.4.2.6 Financing Police Facilities

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 19, 2002 by adoption of Ordinance 2887. The Public Facilities Development Impact Fee (PFDIF) is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The Police Public Facilities DIF Fee for Multi-Family Development is $1,617/unit (see Table A.6)[6]. This amount is subject to change as it is amended from time to time. The project will be subject to the payment of the fee at the rate in effect at the time building permits are issued. At the current fee rate, the project Police Fee obligation at buildout is $798,798.

Table C.2
Police Fee For -Windstar Pointe Resort

Development	Number of DUs	Police Fee/DU	Police Fee for Windstar Pointe Resort
Windstar Pointe Resort project	494	$1,617	$798,798

The projected fee illustrated in Table C.2 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities, industrial acreage or commercial acreages.

II.5.4.2.7. THRESHOLD COMPLIANCE AND REQUIREMENTS

A. The City will continue to monitor police responses to calls for service in both the Emergency (priority one) and Urgent (priority two) categories and report the results to the GMOC on an annual basis.

B. That the Police Department remain diligent in meeting and achieving shorter response times than what is indicated as the Threshold Standard through the active pursuit and implementation of their current and planned programs and report on how these measures improved response times to next years GMOC.

C. Compliance will be satisfied with the payment of Public Facilities Fees. The proposed project will be required to pay public facilities fees for police services, based on the number of dwelling units, prior to the issuance of building permits; the fees shall be paid at the rate in effect at the time payment is made.

[6] Fee based on Form 5509 dated 10/26/2007. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

II.5.4.3 FIRE AND EMERGENCY MEDICAL SERVICES

II.5.4.3.1 Threshold Standard

Emergency response: Properly equipped and staffed fire and medical units shall respond to calls throughout the City within seven (7) minutes in 80 percent (current service to be verified) of the cases (measured annually).

II.5.4.3.2 Service Analysis

The City of Chula Vista Fire Department (CVFD) provides Fire and Emergency Medical Services (EMS). EMS is provided on a contract basis with American Medical Response (AMR). The City also has countywide mutual and automatic aid agreements with surrounding agencies, should the need arise for their assistance. The purpose of the Threshold Standard and the monitoring of response times are to maintain and improve the current level of fire protection EMS in the City. Fire/EMS facilities are provided for in the 1997 Fire Station Master Plan, as amended. The Fire Station Master Plan indicates that the number and location of fire stations primarily determine response time. The Fire Station Master Plan evaluates the planning area's fire coverage needs, and recommends a nine (9) station network at build out to maintain compliance with the threshold standard (see Table D.1).

II.5.4.3.3 Existing Conditions

There are currently eight (8) city stations and one (1) fire protection district station serving the City of Chula Vista. The existing and future stations are listed below:

Table D.1
Fire Station Inventory

CHULA VISTA EXISTING FACILITIES	**LOCATION**	
Station #1 & Fire Prevention Bureau	447 "F" Street	
Station #2	80 East "J" Street	
Station #3	1410 Brandywine	
Station #4 + Fire Training Tower	850 Paseo Ranchero	
Station #5 (Montgomery)	391 Oxford Street	
Station #6	Rolling Hills	
Otay Ranch #7	1640 Santa Venetia	
Station #8 (Woods Fire Station)	1180 Woods Drive	
COUNTY FIRE PROTECTION DISTRICT FACILITY[7]		
Bonita/Sunnyside Fire Protection District.	4900 Bonita Road	
PLANNED CHULA VISTA FACILITIES		**COST ESTIMATE**[8]
Station #5 (to be reconstructed)	391 Oxford Street	$1,200,000
OTHER CAPITAL IMPROVEMENTS		
Public Safety Communications (CAD/RMS)	Dispatch Center	$4,612,050
Public Safety Communications (800MHz)	Citywide	None Established
Brush Engine	Eastern Territories	$225,000

[7] The City of Chula Vista has an Automatic Aid Agreement with Bonita/Sunnyside and the cities of National City, Imperial Beach, Coronado and San Diego.

[8] Cost Estimates are approximate figures and subject to refinement by the City of Chula Vista.

II.5.4.3.4 Adequacy Analysis

The City of Chula Vista Fire Department (CVFD) currently serves areas within the City's boundaries, including the Windstar Pointe Resort project. The closest CVFD stations to the project site are:

- Fire Station #4, located Rancho Del Rey
- Fire Station #6, located in Rolling Hills
- Fire Station #7, located in Village 2.
- Fire Station #8, located in EastLake III

The station nearest to the Windstar Pointe Resort project is Station #8. This station is within 2 miles of the Windstar Pointe Resort project. Station #8 is located in the EastLake Woods neighborhood.

The Fire/EMS response time threshold was met for calendar year 2006. This is the second year in a row that the CVFD met the threshold even with a substantial increase in the number of reported emergency calls. Dispatch time improved significantly with full operation of its dispatch center.

American Medical Response (AMR) provides emergency medical services to the project site, on a contract basis for the City of Chula Vista. There are two AMR stations, which provide paramedic with EMT services to the City of Chula Vista exclusively.

Table D.2
Windstar Pointe Resort Supplemental PFFP Amendment
Fire/EMS - Emergency Response Times Since 1994

Years	Call Volume	% of All Call Response Within 7:00 Minutes
CY 2006	10,390	85.2%
CY 2005	9,907	81.6%
FY 2003-04	8,420	72.9%
FY 2002-03	8,088	75.5%
FY 2001-02	7,626	69.7%
FY 2000-01	7,128	80.8%
FY 1999-00	6,654	79.7%
CY 1999	6,344	77.2%
CY 1998	4,119	81.9%
CY 1997	6,275	82.4%
CY 1996	6,103	79.4%
CY 1995	5,885	80.0%
CY 1994	5,701	81.7%

Source: GMOC 2007 Annual Report

II.5.4.3.5. FIRE & EMS FACILITY ANALYSIS:

Growth does not appear to be a factor in the Department's ability to meet the response time threshold. Furthermore, since the department began this reporting data process

several technical issues, with regards to the Computer Aided Dispatch (CAD), have been addressed that will help improve the overall response time. For example the purchase of Netscape will allow the Police Department and Fire Department to access CAD data from remote computer locations without disruption to "live" dispatch operations. Other CAD enhancements are being worked on to improve efficiency and reporting capabilities. The Fire Department has hired a Public Safety Analyst, who started on March 18, 2005 and will help with data quality assurance and reporting. Additionally, the Fire Department has completed a Strategic Business Plan, developed performance measures and is in the process of integrating the Plan and measures into individual performance plans, which will be used to guide performance in regards to turnout times.

Development of Windstar Pointe Resort project is not anticipated to change the need for fire service in the area. Fire Station No. 8, located at 1180 Woods Drive in the EastLake Woods neighborhood, would be the primary station to serve Windstar Pointe Resort.

II.5.4.3.6. FINANCING FIRE & EMS FACILITIES:

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 19, 2002 by adoption of Ordinance 2887. The Public Facilities Development Impact Fee (PFDIF) is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The Fire Public Facilities DIF Fee for Multi-Family Development is $824/unit (see Table A.6)[9]. This amount is subject to change as it is amended from time to time. The project will be subject to the payment of the fee at the rate in effect at the time building permits are issued. At the current fee rate, the project Fire Fee obligation at buildout is $407,056.

Table D.3
Fire/EMS Fee For Windstar Pointe Resort

Development	Number of DUs	Fire/EMS Fee/DU	Fire/EMS Fee for Windstar Pointe Resort
Windstar Pointe Resort project	494	$824	$407,056

The projected fee illustrated in Table D.3 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities, industrial acreage or commercial acreages.

II.5.4.3.7 THRESHOLD COMPLIANCE AND REQUIREMENTS:

A. The City will continue to monitor fire department responses to emergency fire and medical calls and report the results to the GMOC on an annual basis.

B. The Windstar Pointe Resort Project shall pay public facilities fees prior to the issuance of building permits; the fees shall be paid at the rate in effect at the time payment is made.

[9] Fee based on Form 5509 dated 10/26/2007. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

II.5.4.4 SCHOOLS

II.5.4.4.1 Threshold Standard

The City annually provides the two local school districts with a 12 to 18 month development forecast and requests an evaluation of their ability to accommodate the forecast and continuing growth. The Districts' replies should address the following:

1. Amount of current capacity now used or committed.
2. Ability to absorb forecasted growth in affected facilities.
3. Evaluation of funding and site availability for projected new facilities.
4. Other relevant information the District(s) desire(s) to communicate to the City and GMOC.

II.5.4.4.2 Service Analysis

School facilities and services in Chula Vista are provided by two school districts. The Chula Vista Elementary School District (CVESD) administers education for kindergarten through sixth grades. The Sweetwater Union High School District (SUHSD) administers education for the Junior/Middle and Senior High Schools of a large district, which includes the City of Chula Vista. The purpose of the threshold standard is to ensure that the districts have the necessary school sites and funds to meet the needs of students in newly developing areas in a timely manner, and to prevent the negative impacts of overcrowding on the existing schools. Through the provision of development forecasts, school district personnel can plan and implement school facility construction and program allocation in line with development.

On November 3, 1998, California voters approved Proposition 1A, the Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998. Prior to the passage of Proposition 1A, school districts relied on statutory school fees established by Assembly Bill 2926 ("School Fee Legislation") which was adopted in 1986, as well as judicial authority (i.e., Mira-Hart-Murrieta court decisions) to mitigate the impacts of new residential development. In a post Proposition 1A environment, the statutory fees provided for in the School Fee Legislation remains in effect and any mitigation requirements or conditions of approval not memorialized in a mitigation agreement, after January 1, 2000, will be replaced by Alternative Fees (sometimes referred to as Level II and Level III Fees). The statutory fee for residential development is referred to in these circumstances as the Level I Fee (i.e., currently for unified school districts at $2.63 per square foot for new residential construction and $0.42 per square foot for new commercial and industrial construction).

CVESD utilizes their current School Facilities Needs Analysis (SFNA), February 2007, to quantify, for the next five-year period, the impacts of new residential development on the district’s school facilities, and to calculate the permissible Alternative Fees to be collected from such new residential development. To ensure the timely construction of school facilities to house students from residential development, alternative fees or implementation of a Mello Roos Community Facilities District (CFD) will be necessary.

In compliance with Government Code Section 65995 et. Seq. the SFNA provides the determination of eligibility for and the calculation of a Level II Fee of $2.80 per square

foot of new residential construction. A corresponding Level III Fee of $5.60 per square foot of new residential construction is also identified.

Sweetwater Union High School District utilizes their current "Sweetwater Union High School District Long Range Comprehensive Master Plan" dated July 20, 2004. Implementation of the SUHSD Plan is ongoing and has resulted in the upgrading of older schools and accommodating continuing growth. The district has leveraged $187 million from Proposition BB into a $327 million effort utilizing state funding to modernize and upgrade eight campuses. Additional work efforts associated with Proposition O have commenced and construction could begin as early as 2008.

II.5.4.4.3 Project Processing Requirements

The PFFP is required by the Growth Management Program to address the following issues for School Services:

1. Identify student generation by phase of development.
2. Specific siting of proposed school facilities will take place in conformance with the *Sweetwater Union High School District Long Range Comprehensive Plan,* and Chula Vista Elementary School District's Standards and Criteria.
3. Reserve school sites, if necessary, or coordinate with the district for additional school classrooms.
4. Provide cost estimates for facilities.
5. Identify facilities consistent with proposed phasing.
6. Demonstrate the ability to provide adequate facilities to access public schools in conjunction with the construction of water and sewer facilities.
7. Secure financing.

II.5.4.4.4 Existing Conditions

School Facilities Inventory, Chula Vista Elementary School District

Currently, the CVESD's inventory consists of 43 elementary schools including 6 Charter schools. Approximately 25 schools are on a traditional calendar and 18 are on a year-round calendar. Table E.1 lists existing schools together with the capacity and enrollment of each. Capacity using existing facilities is approximately 30,517. Projected enrollment for December 2007 is currently approximately 26,800. Thirty-seven of the 43 schools have capacity. Three schools are near capacity and 3 schools are over capacity (see Table E.1). At this time there is sufficient capacity throughout the district to accommodate additional students. In addition, this project is located in the district's EastLake Community Facilities District No. 1.

Table E.1 Chula Vista Elementary School District Enrollments vs. Capacity			
School	**Projected Enrollment 12/31/07**	**Approximate Capacity**	**Approximate Remaining Capacity**
Allen/Ann Daly	415	446	31
Arroyo Vista Charter	818	852	34
Casillas	626	736	110
Castle Park	509	598	89
Chula Vista Hills	542	634	92
Chula Vista LCC	584	600	16
Clear View Charter	520	623	103
Cook	514	599	85
Discovery Charter	756	938	182
EastLake	648	798	150
Feaster/Ed Charter	1020	1193	173
Finney*	516	597	81
Halecrest	478	574	96
Harborside	674	813	139
Hedenkamp	1045	1033	-12
Heritage	891	923	32
Hilltop Drive	537	583	46
Juarez-Lincoln	652	751	99
Kellogg	396	662	266
Lauderbach	797	973	176
Liberty	586	790	204
Loma Verde	492	594	102
Los Altos	404	438	34
Marshall	769	765	-4
McMillin	860	867	7
Montgomery	408	503	95
Mueller Charter	1025	971	-54
Olympic View	815	852	37
Otay	568	588	20
Palomar	411	467	56
Parkview	445	661	216
Rice	646	849	203
Rogers East/West	532	552	20
Rohr	419	507	88
Rosebank	686	776	90
Salt Creek	938	963	25
Silver Wing	523	525	2
Sunnyside*	395	463	68
Tiffany	571	680	109
Valle Lindo	560	680	120
Valley Vista	553	563	10
Veterans	631	736	105
Vista Square	625	795	170
Total	**26,800**	**30,517**	**3,866**

Source: GMOC 2007 Annual Report

* Estimated based on CVESD data.

Table E.2 Sweetwater Union High School District Enrollments vs. Capacity			
School Site	**Adjusted Total Capacity**	**12/2007 Forecasted Enrollment**	**Capacity vs. Forecasted**
Middle Schools			
Bonita Vista	1,530	1,127	403
Castle Park	1,530	1,246	284
Chula Vista	1,410	1,254	156
EastLake	1,665	1,360	305
Granger*	1,380	1,200	180
Hilltop	1,410	1,254	156
Mar Vista*	1,581	1,340	241
Montgomery	1,614	1,100	514
National City*	1,054	890	164
Rancho del Rey	1,440	1,342	98
Southwest*	1,350	900	450
Subtotal	**15,964**	**13,013**	**2,951**
High Schools			
Bonita Vista	2,550	2,226	324
Castle Park	1,920	1,930	-10
Chula Vista	2,850	2,736	114
EastLake	2,940	2,344	596
Hilltop	2,550	2,240	310
Mar Vista*	1,879	2,300	-421
Montgomery*	2,440	2,300	140
Otay Ranch	2,900	2,351	549
Olympian	2,460	719	1,741
Palomar	600	484	116
San Ysidro*	2,400	1,804	596
Southwest*	2,400	2,446	-46
Sweetwater*	2,163	2,673	-510
Subtotal	**30,052**	**26,553**	**3,499**
Total	**46,016**	**39,566**	**6,450**

Source: GMOC 2007 Annual Report

* Schools outside of the City of Chula Vista

School Facilities Inventory, Sweetwater Union High School District

The SUHSD currently administers eleven (11) junior high/middle schools and thirteen (13) senior high schools including one continuation high school within the District. Of the eleven junior highs, six have been converted to middle schools serving grades seven and eight. In 2002, the district completed construction of the San Ysidro High School. In 2003 the district opened the Otay Ranch High School, which is adjacent to the Otay Ranch Village 2 Planning Area. Also, in 2003 the district opened EastLake Middle School. Planned for the future is middle school #12 and high school #14.

The district wide student enrollment is very stable (in fact it is declining at many schools). According to the district, the Windstar Pointe Resort project is within the EastLake Middle School and the EastLake High School and the Otay Ranch High School attendance areas. In addition, the site is with in CFD 1.

II.5.4.4.5 School Sizing and Location

The project is proposed to consist of 494 dwelling units at build out. At completion, the proposed project could generate approximately 173 students using the following Student Generation Factors:

		Multi-Family Attached[10]
Elementary (K-6)	=	.35[11] students/d.u.
Middle School (7-8)	=	.0516 students/d.u.
High School (9-12)	=	.1057 students/d.u.

By school category, the project is expected to generate the following students:

Table E.3
Student Generation

Multi- Family Dwelling Units	Elementary (K-6)	Middle (7-8)	High School (9-12)	Total Students
494	173	25	52	250

School Size Standards:

Elementary	750-1000 students
Middle	1,500 students
Senior High	2,400 students

Chula Vista Elementary School District

As noted in Table E.3, the build-out of the EastLake Windstar Pointe Resort would generate the need to house approximately 173 elementary school age students. The District is currently awaiting clearance from the California Department of Education (CDE) to build a school in Village 11 of Otay Ranch. Upon clearance, the district plans to proceed with the purchase of a site at 1650 Exploration Falls Drive. This would be the nearest school (at completion) to the Project. Students would be bussed to a nearby school should the construction of this school not be completed by the time the Windstar Pointe Resort project becomes occupied.

[10] Includes Apartment units.
[11] Rate from CVESD

Sweetwater Union High School District

The maximum capacity of a middle school is approximately 1,500 students. It is anticipated that the approximately 25 middle school students generated by the EastLake Windstar Pointe Resort project will attend the EastLake Middle School located approximately 3 miles north of the EastLake Windstar Pointe Resort project. Currently, EastLake Middle has the capacity to accept the estimated students generated by the project.

The maximum capacity of a high school is approximately 2,400 students. It is anticipated that approximately 52 high school students will be generated from the EastLake Windstar Pointe Resort project. These students will attend EastLake high school located approximately 3 miles northwest of the project. Currently, EastLake High has the capacity to accept the estimated students generated by the project.

Demand for adult school facilities will be satisfied within existing facilities in the Sweetwater Union High School District, until a new facility can be constructed in the Eastern Urban Center (EUC) or a site reserved pursuant to the Otay Ranch GDP.

II.5.4.4.6 Financing School Facilities

California Government Code section 65995 et. seq. and Education Code Section 17620 et. seq. authorizes school districts to impose facility mitigation exactions on new development as a way to address increasing enrollment caused by that development.

Although the collection of school fees is one method available to defray the cost of new development, it is not an acceptable solution since the maximum amount that could be collected by law represents less than one-fourth the cost to construct schools. The SUHSD is unable to meet the needs of this project with current school facilities and it is unable to construct new facilities to meet the impacts of this project through the provision of school fees.

In recognition of this funding deficiency, it is the policy of each district to fully mitigate the facility impacts caused by a master planned community via the creation of a Mello Roos Community Facilities District. The following Mello-Roos Districts have been created by each district:

SUHSD

CFD Number	Location
1	EastLake
2	Bonita Long Canyon
3	Rancho del Rey
4	Sunbow
5	Annexable
6	Otay Ranch
7	Rolling Hills Estate
8	Coral Gate (Otay Mesa)
9	Ocean View Hills
10	Remington Hills/Annexable
11	Lomas Verdes
12	Otay Ranch (Village 1 West)
13	San Miguel Ranch
14	Otay Ranch Village 11

CVED

CFD Number	Location
1	EastLake
2	Bonita Long Canyon
3	Rancho del Rey
4	Sunbow
5	Annexable
6	Otay Ranch
10	Annexable for future annexations
11	Otay Ranch (Lomas Verde)
12	Otay Ranch (Village 1, West)
13	San Miguel Ranch
14	Otay Ranch Village 11 (Brookfield/Shea)
15	Otay Ranch Village 6 (ORC)

Based on historical data available from each district an estimate of costs for the construction of school facilities on a per student basis is provided. Both districts follow state standards for determining the costs and size for school construction. The cost for a high school, including land acquisition, is approximately $31,250 per student (2005 dollars). Excluding land, the cost for a high school is approximately $22,900 per student. The cost for a middle school, including land acquisition, is approximately $23,333 per student (2005 dollars). Excluding land, the cost for a middle school is $16,666 per student. The cost for an elementary school, including land acquisition, is approximately $40,340 per student (2005 dollars). Excluding the land, the cost for an elementary school is approximately $27,340 per student. Land acquisition cost is calculated at approximately $1,000,000/net usable acre (10 acre elementary school site). Using the aforementioned costs per student together with the school size, the following costs per facility can be anticipated.

Elementary School Cost

(800 students) ($27,340/student w/o land cost)	$21,871,000
(800 students) ($40,340/student w/land cost)	$32,271,000

Middle School Cost

(1,500 students) ($16,666/student w/o land cost)	$25,000,000
(1,500 students) ($23,333/student w/ land cost)	$35,000,000

High School Cost

(2,400 students) ($22,900/student w/o land cost)	$55,000,000
(2,400 students) ($31,250/student w/ land cost)	$75,000,000

II.5.4.4.7 Threshold Compliance and Recommendations

1. Prior to building permit approval, the project proponent(s) shall provide documentation to the City confirming satisfaction of SUHSD and CVESD facility funding requirements to offset student generation impacts. Funding shall be satisfied through the Mello-Roos Community Facilities District financing method or other means acceptable to each District. In addition, condition the project to require that no building permits shall be issued unless and until a school facility financing mechanism is in place to the satisfaction of the Sweetwater Union High School District and the Chula Vista Elementary School District.

2. Since this project is a part of EastLake, portions of the school mitigation have been satisfied through participation in the CFD for both districts. The mitigation agreement also established a fee due at the time permits for residential units are pulled. The rate in effect should be verified with the SUHSD and CVESD at the time building permits are requested.

II.5.4.5 LIBRARIES

II.5.4.5.1 Threshold Standard

In the area east of I-805, the city shall construct, by buildout (approximately year 2030) 60,000 Gross Square Feet (GSF) of library space beyond the citywide June 30, 2000 GSF total. The construction of said facilities shall be phased such that the city will not fall below the citywide ratio of 500 GSF per 1,000 population. Library facilities are to be adequately equipped and staffed.

II.5.4.5.2 Service Analysis

The City of Chula Vista Library Department provides library facilities.

II.5.4.5.3 Project Processing Requirements

The PFFP is required by the Growth Management Program to address the following issues for Library services:

1. Identify phased demands in conjunction with the construction of streets, water and sewer facilities.
2. Specifically identify facility sites in conformance with the Chula Vista Library Master Plan.

II.5.4.5.4 Existing Conditions

The City provides library services through the Chula Vista Public Library at Fourth and "F" Street (Civic Center), the South Chula Vista Library in the Montgomery/Otay planning area, and the library at the EastLake High School. The Castle Park and Woodlawn Libraries have been closed. The existing and future libraries are listed on the Table F.1 and Table F.2, respectively.

Table F.1
Existing Library Facilities

Existing Libraries	**Square Footage**
Civic Center	55,000
South Chula Vista	37,000
EastLake	10,000
Total Existing Square Feet	**102,000**

II.5.4.5.5 Adequacy Analysis

Using the threshold standard of 500 square feet of library space per 1,000 population, the demand for library space based on Chula Vista's estimated population for year end 2005~~5~~ 6 of a population of 227,673[12] is 113,836 square feet. Chula Vista currently provides 102,000 square feet of library space. This represents a 11,836 square foot deficit. The demand by the 2011 forecasted population (GMOC 2007 Annual Report) of 263,300 is 131,650 square feet. Comparing this demand to the existing library square footage of

[12] GMOC 2007 Annual Report

102,000 square feet results in a deficit of 33,000 square feet unless the first Regional Library is completed before 2011. The SANDAG buildout population for Chula Vista is approximately 282,664. This population will require approximately 152,000 square feet of Library Facilities.

The Chula Vista Public Library Master Plan addresses such topics as library siting and phasing, the impacts of new technologies on library usage, and floor space needs. The plan calls for the construction of a full service regional library of approximately 30,000 square feet in the Rancho del Rey area at the corner of Paseo Ranchero and East H Street by late Fall 2006 and the construction of a second full service regional library of similar size in the Otay Ranch Eastern Urban Center (EUC). Public Facilities Development Impact Fees have been and are being collected to pay 100% of the costs of these facilities.

Future library facilities are listed in the following table:

Table F.2
Future Library Facilities

Future Libraries	Square Footage	Estimated Cost
1st regional library (Rancho Del Rey) @ 30,000 sf	30,000*	$30,000,000±
2nd regional library (Otay Ranch EUC) @ 30,000 sf	20,000**	Unknown
Estimated Total Future Net Square Feet	**50,000**	
Total Master Plan Library Square Feet (existing and future)	**150,000**	

* Assumes construction of the first 30,000-square foot regional library by Summer 2008.

** Assumes construction of the second 20,000-square foot (minimum size) regional library and the closure of the 10,000-square foot EastLake library, per the Chula Vista Public Library Master Plan.

Table F.3 highlights existing plus forecasted project demands for library space as compared to the existing and scheduled library space as well as the impact of the project on library facilities. The project can be accommodated in the projected 2008 Rancho Del Rey Regional Library.

Table F.3
EastLake III Windstar Pointe Resort SPA
Library Space Demand vs. Supply

	Population[13]	Demand Square Footage	Supply Square Footage	Above/(Below) Standard
Estimated Existing Citywide 12/31/06	227,673	113,836	102,000	(11,836)
1st regional library (Rancho del Rey) 2008			30,000	18,164
Forecasted Projects to 2011	35,627	17,814		
Subtotal	**263,300**	**131,650**	**132,000**	**350**

[13] Based on City of Chula Vista Estimates, GMOC 2007 Annual Report.

11.5.4.5.6 Financing Library Facilities

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 19, 2002 by adoption of Ordinance ~~2886 and~~ 2887. The Public Facilities Development Impact Fee (PFDIF) is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The Library Public Facilities DIF Fee for Multi-Family Development is $1,302/unit (see Table A.6)[14]. This amount is subject to change as it is amended from time to time. The project will be subject to the payment of the fee at the rate in effect at the time building permits are issued. At the current fee rate, the estimated Library Fee obligation at buildout is $643,188.

Table F.4
Library Fee For Winstar Pointe Resort

Development	Number of DUs	Library Fee/DU	Library Fee for Winstar Pointe Resort
Windstar Pointe Resort project	494	$1,302	$643,188

The projected fee illustrated in Table F.4 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities, industrial acreage or commercial acreages.

11.5.4.5.7 Threshold Compliance and Recommendations

Based upon the analysis contained in this section, the city's current library facilities (approximately 102,000 square feet) are 11,836 square feet below the threshold standard (see Table F.3). The existing plus proposed new library space totals 132,000 square feet. The total forecasted projects including the Windstar Pointe Resort SPA project totals a demand of approximately 131,650 square feet by 2011. This results in an excess (above standard) supply of 350 square feet.

No mitigation is required other than the payment of the Public Facilities DIF for library facilities at the rate in effect prior to the approval of building permits.

[14] Fee based on Form 5509 dated 9/25/2007. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

II.5.4.6 PARKS, TRAILS AND OPEN SPACE

II.5.4.6.1 Park Threshold Standard

Three (3) acres of neighborhood and community parkland with appropriate facilities shall be provided per 1,000 residents. This standard is specified in Section 17.10.040 of the Chula Vista Municipal Code.

II.5.4.6.2 Service Analysis

The City of Chula Vista provides public park and recreational facilities and programs through the General Services, Public Works, and Recreation Departments which are responsible for the acquisition and development of parkland. All park development plans are reviewed by City staff and presented to the Parks and Recreation Commission for review. A recommendation is made by this Commission to the deciding body, the City Council.

The City Council approved the Chula Vista Parks and Recreation Master Plan in November 2002. The Plan provides guidance for planning, siting and implementation of neighborhood and community parks.

II.5.4.6.3 Project Processing Requirements

1. Identify phased demands in conformance with the number of dwelling units constructed, street improvements and in coordination with the construction of water and sewer facilities.
2. Specific siting of the facility will take place in conformance with the Chula Vista Parks and Recreation Master Plan.
3. Site/s reserved for park purposes within the project.

II.5.4.6.4 Existing Conditions

The existing and future parks as depicted in the Park and Recreation Element of the General Plan and as updated by the inclusion of more recent information are contained in the city's Parks and Recreation Master Plan.

II.5.4.6.5 Project Park Requirements

Compliance with Public Park Standards

The Windstar Pointe Resort Project generates an estimated population of 1,495 (494 dwelling units x 3.026[15] population factor). To meet the city threshold requirements the amount of parkland dedicated is based on a standard of 3 acres per 1,000 populations (see Table G.1). The standard is based on State of California Government Code 66477, also known as the Quimby Act, that allows a city to require by ordinance, the dedication of land or payment of fees for park or recreational purposes.

[15] GMOC 2007 Annual Report

Table G.1 Quimby Act Parkland Requirements		
Windstar Pointe Resort Population	**Standard**	**Parkland Acres Required**
1,495	3 acres per 1,000 population	4.48

All new development in the City of Chula Vista is subject to the requirements contained in the City's Parkland Dedication Ordinance CVMC Chapter 17.10. The ordinance establishes fees for park land acquisition and development, sets standards for dedication and establishes criteria for acceptance of parks and open space by the City of Chula Vista. Fees vary depending upon the type of dwelling unit that is proposed. There are four types of housing; Single Family dwelling units (defined as all types of single family detached housing and condominiums), Multi-Family dwelling units (defined as all types of attached housing including townhouses, attached condominiums, duplexes, triplexes and apartments), Mobile Homes and Hotel/Motel Rooms. Single Family Housing is defined as a free-standing structure with one residential unit. Multi-Family Housing is defined as any free-standing structure that contains two or more residential units. Parkland dedication requirements are shown below on Table G.2.

Table G.2 City of Chula Vista Parkland Dedication Ordinance Standards		
Dwelling Unit Type	**Land Dedication per Unit**	**Dwelling Units per Park Acre**
Single-Family	460 sf/du	95 du/ac.
Multi-Family	341 sf/du	128 du/ac.

Table G.3 Windstar Pointe Resort_Project Preliminary Parkland Dedication Requirements City Ordinance Applied to Planning Prediction of Unit Numbers and Types			
Dwelling Unit Type*	**Number of D.U.**	**Parkland Required/DU**	**Required Acres**
Multiple Family	494	341 sf/du	3.86
TOTALS	**494**		**3.86**

* Dwelling unit type - Note that number and type of units listed reflect 'Land Use Designations' listed in the EastLake III General Development Plan, since this level of information is all that is available at the time of this document's preparation. Definitions of dwelling unit type used for calculating park obligations are based upon from the City's Parkland Dedication Ordinance CVMC chapter 17.10. These definitions differ from the way unit types are defined from a planning, land-use and zoning perspective that uses unit density per acre to categorize the type of unit. CVMC chapter 17.10 uses product type to categorize the type of unit distinguishing between attached and detached units. Consequently, the figures in this chart are preliminary estimates, and shall be recalculated at the time when the obligations are due as determined by chapter 17.10 of the CVMC.

The City's Parklands and Public Facilities Ordinance (CVMC 17.10) is based on the Quimby Act. Based on the City's Parklands and Public Facilities Ordinance, the parkland requirement for the Windstar Pointe Resort_is approximately 3.86 acres (see Table G.3). However, the entire EastLake III SPA Amendment will be re-evaluated in the PFFP.

The Proposed Site Utilization Plan (Exhibit 4) identifies the park designations and acreage that are also shown in Table G.4. The Neighborhood Park has been graded and

and it is currently under construction. The City's Parkland Dedication Ordinance requirements for the EastLake III SPA 2006 Amendment are outlined in Table G.4.

Table G.4
EastLake III SPA 2006 Amendment
Park Acreage Provided and Eligible Credits

Neighborhood	Park Provided	Proposed Credit	Estimated Credit Acres
EastLake Woods	PAD Fees = 5.6 Ac	100%	5.6
EastLake Vistas P-1 Public Park & P-2 Private Park	12.9 Ac	100%	12.9
Total Provided	**18.5 Ac**	--	
Total Required	--	--	**21.51**
SPA Balance	--	--	**-3.01*ac**

*Any shortfall in parkland acreage dedication shall result in payment of the park acquisition component of the Park Acquisition and Development (PAD Fee). Given the lack of available acreage that could be acquired to serve the development, the acquisition component of the PAD Fee will be waived and a payment of $2,666,260 will be made which can be utilized to fund construction of park and public facilities serving the EastLake Community. Any excess funds that remain once these facilities are complete can be utilized on other park or public facilities serving the Eastern Territories of Chula Vista. The Developer will pay the development component of the PAD Fee as required by the City.

Source: Cinti Land Planning

Table G.4 estimates that the EastLake III SPA Amendment will provide parkland less than that required, by 3.01 acres, based on the Site Utilization Plan statistics. This park acreage calculation may be refined during the more detailed levels of review.

II.5.4.6.6 Park Adequacy Analysis

Table G.5 is a comparison of park acreage demands and supply east of Interstate 805 for existing, approved projects, as well as the phased addition of the project. A review of the existing and approved park demands for Chula Vista east of I-805 including the project indicates a projected 2011 demand of approximately 409.24 acres of Neighborhood and Community Park. The 2011 projected supply of park acreage east of I-805, 430.73 acres, is 21.49 acres more than the projected demand.

Table G.5
Estimated Park Acreage Demand Compared to Supply East of Interstate 805

	Population East of I-805[16]	Demand Park Acres[17]	Existing Park Acres	Eligible Credit Acres	Net Acres +/-Standard
Existing to 12/20~~04~~ 06	107,618	322.85	377.01[18]	377.01	+54.16
Forecasted Projects 2006 to 2011	28,797[19]	86.39	53.72[20]	53.72	-32.67
Total	**136.415**	**409.24**	**430.73**	**430.73**	**+21.49**

16 Population figures are from the GMOC 2007 Annual Report.
17 Based on City Threshold requirement of 3 acres of neighborhood and community parkland per 1,000 residents east of I-805.
18 Existing Park Acreage from the GMOC 2007 Annual Report.
19 Population figure derived from the GMOC 2007 Annual Report.
20 Park acreage from Park Acreage Table from the GMOC 2007 Annual Report.

Table G.6 EastLake III SPA Amendment Park Land Dedication Required					
Dwelling Unit Type	**Dwelling Units(DUs)**		**Park Area/DU**	**Park Acres Required (AC)**	
	Woods	**Vistas**		**Woods**	**Vistas**
Single Family	667	782	423 SQ FT/DU	6.48	7.59
Single Family Attached	0	73	366 SQ FT/DU	0	0.61
Multiple Family	0	1,033*	288 SQ FT/DU	0	6.83
TOTALS	**667**	**1,394**	**--**	**6.48**	**15.03****
PROJECT TOTAL	**2,555**		**--**	**21.51****	
* Increased by 494 Multi-Family Units. ** May not total due to rounding.					

Source: Cinti Land Planning

The dedication requirement for the EastLake III SPA, based on the proposed changes in dwellings calculated in Table G.6. The EastLake III SPA Amendment identifies a requirement of 21.51 acres net for parkland. However, the EastLake III SPA Amendment provides a total of 18.5 acres, which results in a shortfall of 3.01 acres.

II.5.4.6.7 Open Space, Trails and Recreation

A. <u>Open Space</u>

Open space within Eastlake III is to be provided for buffer areas, slopes and open space corridors as required by the Eastlake III GDP. Open space lands indicated on the Eastlake III Site Utilization Plan include the Salt Creek corridor within the Eastlake Woods neighborhood, slopes adjacent to both Upper and Lower Otay Reservoirs, slope/buffer areas adjacent to Otay Lakes Road, Hunte Parkway and Olympic Parkway, and a buffer between the western edge of the Eastlake Woods residential neighborhood and the Eastlake Business Center light industrial uses, off-site to the west.

B. <u>Trails</u>

Eastlake III is served by two types of trails. These include:

- Greenbelt trails
- Community trails

These trails provide non-vehicular circulation throughout the community linking Eastlake III with the adjacent regional trail system within the City's greenbelt. The trails also provide limited and controlled access into the open space areas and provide access for Eastlake III neighborhoods to the parks and community facilities. See Trails Plan for the location of the main framework of the trails system. It should be noted that these trails are in addition to concrete sidewalks required as part of street construction.

1. **Greenbelt/Multi-Purpose Trail**

   In accordance with the Chula Vista General Plan, the Greenbelt Trail is a proposed 26-mile continuous loop trail that generally encircles the city. The trail is designed as an eleven-foot wide, grade separated trail free from vehicular traffic.

2. **Community Trail**

   Community trails provide access to regional trails and destination points and are typically the internal routes of communities and neighborhoods. They can be similar in design to regional trails but are determined by volume. In some cases, the trail will be the concrete sidewalk in residential areas.

   The Eastlake Community Trail, extending from Eastlake Hills through the developed portion of the Eastlake Planned Community to its current terminus in Eastlake Trails within Salt Creek, will be extended across the Eastlake Vistas neighborhood to the park overlooking Lower Otay Lake. A pedestrian trail through Salt Creek park/open space corridor branch of the Greenbelt as well as along the Otay Lakes branch, will connect to the citywide system.

   All trails will be designed and constructed to City standards. In the absence of specific trail design standards, all trails will be designed and constructed to the satisfaction of the Director of Parks and Recreation.

II.5.4.6.8 Financing Park Facilities

Chapter 17.10 of the Chula Vista Municipal Code, as amended, governs the financing of parkland and improvements. Included as part of the regulations are Park Acquisition and Development (PAD) fees established for the purpose of providing neighborhood and community parks. The Ordinance provides that fees are paid to the City prior to approval of a final subdivision map, or in the case of a residential development that is not required to submit a final map, at the time of the final building permit application.

II.5.4.6.8.1 SPA Plan Amendment

The project is responsible for both the park development component and the acquisition component PAD Fees. The project parkland requirement is 21.51 acres based on CVMC 17.10 (Table G.6) in effect at the time the EastLake III SPA was approved in 2002. The 2006 SPA Plan Amendment provided 18.5 net acres of parkland. Any shortfall in parkland acreage dedication shall result in payment of the park acquisition component of the Park Acquisition and Development (PAD Fee). Given the lack of available acreage that could be acquired to serve the development, according to city staff, the developer has negotiated a waiver of the acquisition component of the PAD Fee in exchange for a payment of $2,666,260, which can be utilized to fund construction of park and public facilities serving the EastLake Community. Any excess funds that remain once these facilities are complete can be utilized on other park or public facilities serving the Eastern Territories of Chula Vista. The $2,666,260 payment must be paid at the time the development component of the PAD fee is paid, which is prior to issuance of building permits. The Developer will pay the development component of the PAD Fee as required by the City. The estimated development component of the PAD Fee is $1,559,558 (see Table G.7). Combined, the estimated fee for both components of the PAD Fee is $4,225,818.

Table G.7 Windstar Pointe Resort Project Acquisition and Development (PAD) Fees (Preliminary Calculation)				
Development	**Dwelling Unit Type***	**Acquisition Component of PAD Fee's/DU Total**	**Development Component of PAD Fee's/DU Total**	**Total Fees Due**
	MF	**Acquisition Payment per Agreement**	**MF @ $3,157**	
Windstar Pointe Resort	494	$2,666,260	$1,559,558	$4,225,818
Total	**494**	**$2,666,260**	**$1,559,558**	**$4,225,818**

* Dwelling unit type - Note that number and type of units listed reflect 'Land Use Designations' listed in the EastLake III General Development Plan, since this level of information is all that is available at the time of this document's preparation. Definitions of dwelling unit type used for calculating park obligations are based upon from the City's Parkland Dedication Ordinance CVMC chapter 17.10. These definitions differ from the way unit types are defined from a planning, land-use and zoning perspective that uses unit density per acre to categorize the type of unit. CVMC chapter 17.10 uses product type to categorize the type of unit distinguishing between attached and detached units. Consequently, the figures in this chart are preliminary estimates, and shall be recalculated at the time when the obligations are due as determined by chapter 17.10 of the CVMC.

PAD Fees are subject to periodic annual increases. Table G.7 identifies the estimated fees calculated for the parkland development component of the PAD fees. These fees are estimates only and are dependent upon the actual numbers of units filed on the final map. Fees are also subject to change by the City Council. Single Family dwelling units are defined as all types of single family detached housing and condominiums. Multi-Family dwelling units are defined as all types of attached housing including townhouses, attached condominiums, duplexes, triplexes and apartments.

II.5.4.6.9 Financing Recreation Facilities

Chapter 17.10 of the CVMC, which requires the collection of fees from residential developments to pay for parkland acquisition and various park facilities within the City of Chula Vista, is subject to changes by the City Council from time to time. On July 13, 2004, the City Council approved Resolution 2004-222 and on January 2004, City Council approved the Ordinance 2945. Resolution 2004-222 amended the master fee schedule to adjust the Parkland Acquisition and Development (PAD) Fees for Neighborhood and Community Park requirements. Ordinance 2945 amended Chapter 17.10 of the CVMC, which requires the collection of In-Lieu Park Acquisition and Development Fees from Residential developments that are not required to submit a subdivision map or parcel map.

Some of the previous council actions that contributed to an increase in the in-lieu fees for park development and land acquisition are Ordinances No. 2886 and 2887 (both approved on November 19, 2002). Ordinance 2886 amended Chapter 17.10 of the CVMC to update the Parks Acquisition and Development Fees. Ordinance 2887 amended Chapter 3.50 of the Municipal Code, as detailed in the *"Public Facilities DIF, November 2002 Amendment'*, adding a new recreation component to the Public Facilities DIF, updating the impact fee structure and increasing the overall fee.

Chapter 17.10 of the Chula Vista Municipal Code, first adopted in 1971, details requirements for parkland dedication, park improvements and the collection of in-lieu fees (i.e., PAD fees) from developers of residential housing in subdivisions or in divisions created by parcel maps, both east and west of I-805. PAD fees cover parkland acquisition and the cost of related capital items associated with parkland development, including:

- Drainage Systems
- Street Improvements
- Lighted Parking Lots
- Concrete Circulation Systems
- Security Lighting
- Park Fixtures *(drinking fountains, trash receptacles, bicycle racks, etc.)*
- Landscaping *(including disabled accessible surfacing)*
- Irrigation Systems
- Restrooms and Maintenance Storage
- Play Areas *(tot lots, etc.)*
- Picnic Shelters, Tables, Benches
- Utilities
- Outdoor Sports Venues *(tennis courts, baseball/softball fields. basketball courts, multi-purpose sports fields, skateboard and roller blade venues)*

In addition to parks-related items, a 1987 revision called for the dedication, within community parks, of major recreation facilities to serve newly developing communities, including:

- Community centers
- Gymnasiums
- Swimming pools

Historically, PAD fees have not been sufficient to construct these additional large capital items. However, major recreation facilities are now funded through a newly created component of the Public Facilities DIF. The major capital items to be included in the new component are: community centers, gymnasiums, swimming pools, and senior/teen centers. Based on the Parks and Recreation Master Plan, 140,595 square feet of major recreation facilities will be required to meet new development growth through build-out at a gross construction cost of over $32 million. Since the demand for major public recreation facilities is created by residential development, facilities costs are not spread to commercial/industrial development. Table G.8 provides an estimate of the Recreational PDIF Fees for the project.

Table G.8 Windstar Pointe Resort Project Public Facilities Fees for Recreation[21] (Preliminary Calculation)					
Development	**Dwelling Units**		**Recreation Fee**		**Total**
	SF	**MF**	**$988/SF Unit**	**$988/MF Unit**	
Windstar Pointe Resort Project	0	494	0	$488,072	$488,072
Total	**494**		**0**	**$488,072**	**$488,072**

The projected fee illustrated in Table G.8 is an estimate only. Actual fees may be different. Recreation Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities.

II.5.4.6.10 Threshold Compliance and Recommendations

Based upon the analysis contained in this section of the PFFP, the parks standard for both neighborhood and community parks measured on an area-wide basis east of Interstate 805 is projected to be met at the completion of the project.

Prior to issuance of the building permit, the Developer shall pay to the City the applicable acquisition in lieu fee payment and the development component of the PAD fee in accordance with CVMC Chapter 17.10, Parkland Dedication Ordinance ("PDO") and Recreation Fees. The developer has negotiated a waiver of the acquisition component of the PAD Fee in exchange for an in lieu payment of $2,666,260, which can be utilized to fund construction of park and public facilities serving the EastLake Community.

[21] Fee based on Form 5509 dated 10/26/2007. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

II.5.4.7 WATER

II.5.4.7.1 CITY THRESHOLD STANDARDS:

A. Developer will request and deliver to the City a service availability letter from the Water District for each project, as defined by the City.

B. The City shall annually provide the San Diego County Water Authority, the Sweetwater Authority, and the Otay Water District with a 12 to 18 month development forecast and requests an evaluation of their ability to accommodate the forecast and continuing growth. The Districts' replies should address the following:

1. Water availability to the City and Planning Area, considering both short and long term perspectives.
2. Amount of current capacity, including storage capacity, now used or committed.
3. Ability of affected facilities to absorb forecasted growth.
4. Evaluation of funding and site availability for projected new facilities.
5. Other relevant information the District(s) desire(s) to communicate to the City and GMOC.

The growth forecast and water district response letters shall be provided to the GMOC for inclusion in its review.

II.5.4.7.2 EXISTING CONDITIONS:

The Otay Water District (OWD) provides water service for EastLake Village Center North project including the proposed Windstar Pointe Resort project. The OWD has existing facilities in the vicinity of the project that can provide water service. The OWD also provides recycled water to the project and has existing facilities in the vicinity of the project.

The OWD utilizes the 1995 *Water Resources Master Plan* prepared by Montgomery Watson. This document is the planning document used for all future CIP water facilities work. An environmental impact report was also prepared to assess the impacts of the Master Plan.

The City of Chula Vista Growth Management Ordinance requires a Water Conservation Plan to accompany a SPA Plan. The EastLake III SPA Plan Amendment for the Windstar Pointe Resort project includes a Water Conservation Plan. Details of the project and developer commitments to minimize the use of water can be found in the Water Conservation Plan chapter of the EastLake III SPA Amendment. No SPA application shall be deemed complete or accepted, by the city, unless:

A. It is accompanied by a city approved Water Conservation Plan; or

B. A Water Conservation Plan which includes the project has already been initiated; or

C. The applicant initiates the preparation of a Water Conservation Plan that is acceptable to the Director of Planning.

This section of the PFFP is based upon the Windstar Pointe Resort On-site Fire Service Study dated, November 30, 2007, by PBS&J. In addition, the PBS&J Report uses the approved *Sub-Area Water Master Plan for EastLake III (SAMP)* dated January 2002 by PBS&J as the basis of their report.

II.5.4.7.3 WATER FACILITY ANALYSIS

A. Potable Water:

The design criteria implemented to evaluate the potable water systems for the Project area are established in accordance with the aforementioned 1995 Water Resources Master Plan. The design criteria are utilized for analysis of the existing water system as well as for design and sizing of proposed improvements and expansions to the existing system to accommodate demands of the proposed Project.

1. Pressure Zones: OWD has established criteria to determine pressure zone boundaries within new and existing developments. Minimum pressure criteria are based on maximum day and fire flow requirements while maximum pressure limitations are imposed to protect internal residential and commercial building water piping from failure under static and transient operating conditions. Maintaining water pressures within the limitations summarized in Table H.1 will also protect the water distribution system piping, valves, pumps, and other appurtenances from premature failure or increased maintenance requirements.

Table H.1
Water Pressure Criteria

Operating Condition	Criteria	Pressure
Static	Minimum Pressure	65 psi
Static[22]	Maximum Pressure	200 psi
Peak Hour	Minimum Pressure	40 psi
Maximum Day plus Fire Flow	Minimum Pressure	20 psi @ Fire Hydrant

The potable water distribution system is typically designed to maintain static pressures between 65 pounds per square inch (psi) and 200 psi. The potable water distribution system has been designed to yield a minimum of 40 psi residual pressure at any location under peak hour demand flows and a minimum residual pressure of 20 psi during maximum day demand (MDD) plus fire flow conditions. In addition, potable water mains are sized to maintain a maximum velocity of 10 feet per second (fps) under a maximum day plus fire flow scenario and a maximum velocity of ~~6~~ 8 fps under peak hour flow conditions.

The supply of potable water to the Project will be furnished from the existing and proposed District reservoirs, pump stations, and transmission mains. The 980 Pressure Zone (PZ) will serve the Project. Base on a graded pad elevation range of 556 to 568.5 feet, it is anticipated that static hydraulic pressures within the proposed on-site domestic system will range approximately 178 psi to 183 psi.

2. Water Consumption: Domestic water use projections by PBS&J were based on planning criteria provided in the 2001 California Plumbing Code (2001 CPC), Charts A-2 and A-3 of Appendix A. Estimated peak water demands for each building and for the total Development are provided in Table H.2. The peak water demand for the Development is estimated at 1,210 gallons per minute (gpm) based on a total Development fixture count of 9,540 fixture units.

[22] Static pressure is based on high water level of operational reservoir.

Average Day Demands (ADD) and Maximum Day Demands (MDD) were computed by PBS&J. Conservative peaking factors of 7 were used to convert the peak demand to ADD and 3.6 to convert the ADD to MDD. Based on these peaking factors, the estimated MDD is 622 gpm (896,091 gpd), and ADD is 173 gpm (248,914 gpd) for the Development. In addition, the domestic water demand projections were estimated for the purpose of evaluating the capacity of existing off-site regional facilities during a peak hour flow condition.

Table H.2
Projected On-Site Water Demands

Unit	No. Buildings	Building Fixture Units	Unit Peak Demand (gpm)
Motorcourt (Buildings 1-17)	17	364.5	100
Wrap (Building 18)	1	3,168.0	450
Leasing Building	1	13.5	10
Pool Buildings	2	38.5	22
Rec Building	1	84.5	40
Site Total		9,540	

Source: PBS&J

3. **Fire Flows:** The Chula Vista Fire Department utilizes the 2001 Uniform Fire Code (2001 UFC) for determining the required fire flows and durations for new developments. The Chula Vista Fire Department required a minimum Fire Flow of 8,000 gpm for a duration of 4 hours for the Windstar Pointe Resort project. The fire flow includes hydrant and building sprinkler requirements. Since anticipated fire flow requirements to the site will exceed peak domestic flow rates, the existing regional potable water system, as analyzed in the SAMP, will have sufficient capacity to provide adequate domestic water and fire service for the proposed Windstar Pointe Resort project.

B. **Recycled Water**

Recycled water will be used to irrigate all landscaped areas identified in the sub-area master plan, and shall be consistent with the Water Conservation Plan. Land that drains to the Upper and Lower Otay Reservoirs (Tributary Basin) will not be included. This includes the Windstar Pointe Resort project within the Tributary Basin, potable water will be used for irrigation to avoid the potential for contamination of the drinking water supplies in the reservoirs. Exhibits 9and 10 illustrate the Adopted Potable Water Plan and Recycled Water Plan for EastLake III, respectively.

II.5.4.7.4 RECOMMENDED ON-SITE WATER DISTRIBUTION SYSTEM

A. **Potable Water:**

The proposed private potable or domestic service system consists of 8-inch water service lines and service laterals ranging from 3/4-inch to 6-inches in diameter supplied through a 10-inch connection to the existing public 12-inch main in Olympic Parkway. A master meter and backflow prevention device are also required at the domestic service connection. No fire service will be provided from the private onsite domestic water service system.

B. Fire Flows:

The proposed PBS&J fire service distribution system is supplied from a recommended 18-inch connection to the 12-inch 980 PZ public main at the Development's entry way in Olympic Parkway. The connection will manifold two 10-inch District-approved reduced pressure backflow devices to isolate the private fire line from the public main. The fire backflow prevention devices are sized based on Febco MasterSeries manufacturer's data. No domestic service connections will be made to this main. The on-site fire service loop consists of 12-inch PVC, and 16-inch and 18-inch HDPE pipe with 12-inch PVC dead-end lines branching from the loop to serve the hydrants.

Sizing of the riser stubs, fire sprinkler laterals to the buildings and associated pressure and flow for each fire service will be determined during detailed design. The necessary on-site fire service facilities will be verified and provided to ensure that the minimum design criteria per the Fire Department, Building Department, and relevant fire service standards and codes are met prior to final approval of the design plans.

C. Recycled Water

The Windstar Pointe Resort Project will connect to the existing 16-inch recycled water main within Olympic Parkway.

II.5.4.7.5. FACILITY PHASING:

It is anticipated that the project water facilities will be built in one phase.

II.5.4.7.6. FINANCING WATER FACILITIES:

Potable Water:

There are two methods of financing and construction of potable water facilities for the Windstar Pointe Resort project. These methods are as follows:

A. Capacity Fees: OWD's Capital Improvement Program (CIP) provides for the design and construction of facilities by OWD. Through this program, OWD collects an appropriate share of the cost from Developers via the collection of capacity fees from water meter purchases. The capacity fees are collected upon the sale of water meters after building permit issuance according to OWD's fee schedule in effect at the time of sale.

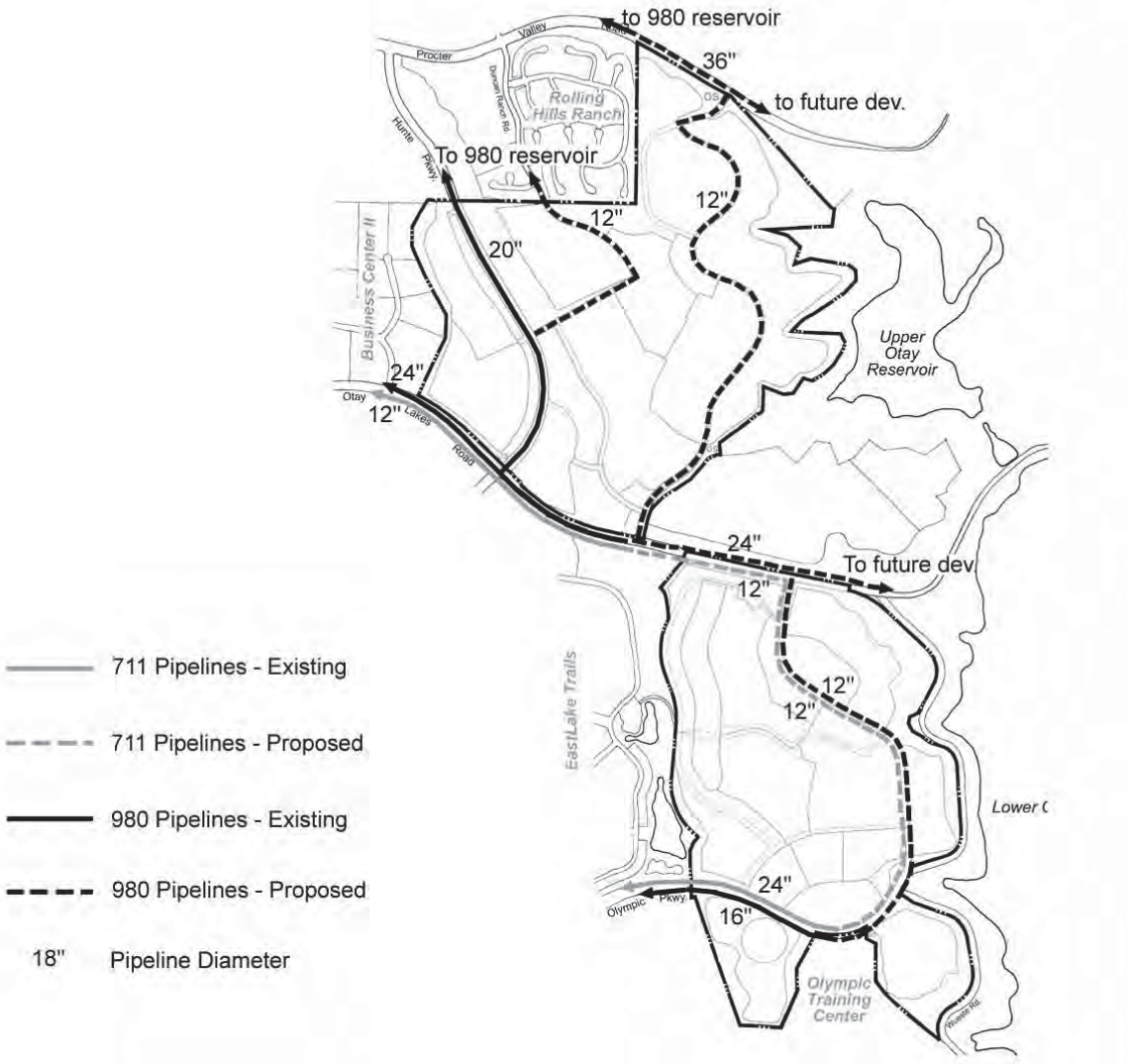
   CIP projects typically include supply facilities, pumping facilities, operational storage, terminal storage, and transmission mains. Specific CIP projects, if required, are identified in OWD's approved SAMP. The OWD may require amendment to the SAMP for this project.

B. Exaction: The Developer designs and constructs facilities that serve their development only. Upon completion, the facilities are dedicated to OWD. According to OWD's policy No. 26, OWD will provide reimbursement for construction and design costs associated with development of these improvements.

II.5.4.7.7. THRESHOLD COMPLIANCE AND REQUIREMENTS:

1. Prior to issuance of the building permit, the Developer shall present verification to the City Engineer in the form of a letter from Otay Water District that the subdivision will be provided adequate water service and long-term water storage facilities.
2. The developer shall provide water and recycled improvements according the OWD approved SAMP for the EastLake III SPA Plan Amendment. The construction of potable water and recycled water facilities, based on the approved SAMP, shall be completed prior to the approval of building permits.

Potable Water System



711 Pipelines - Existing

711 Pipelines - Proposed

980 Pipelines - Existing

980 Pipelines - Proposed

18" Pipeline Diameter

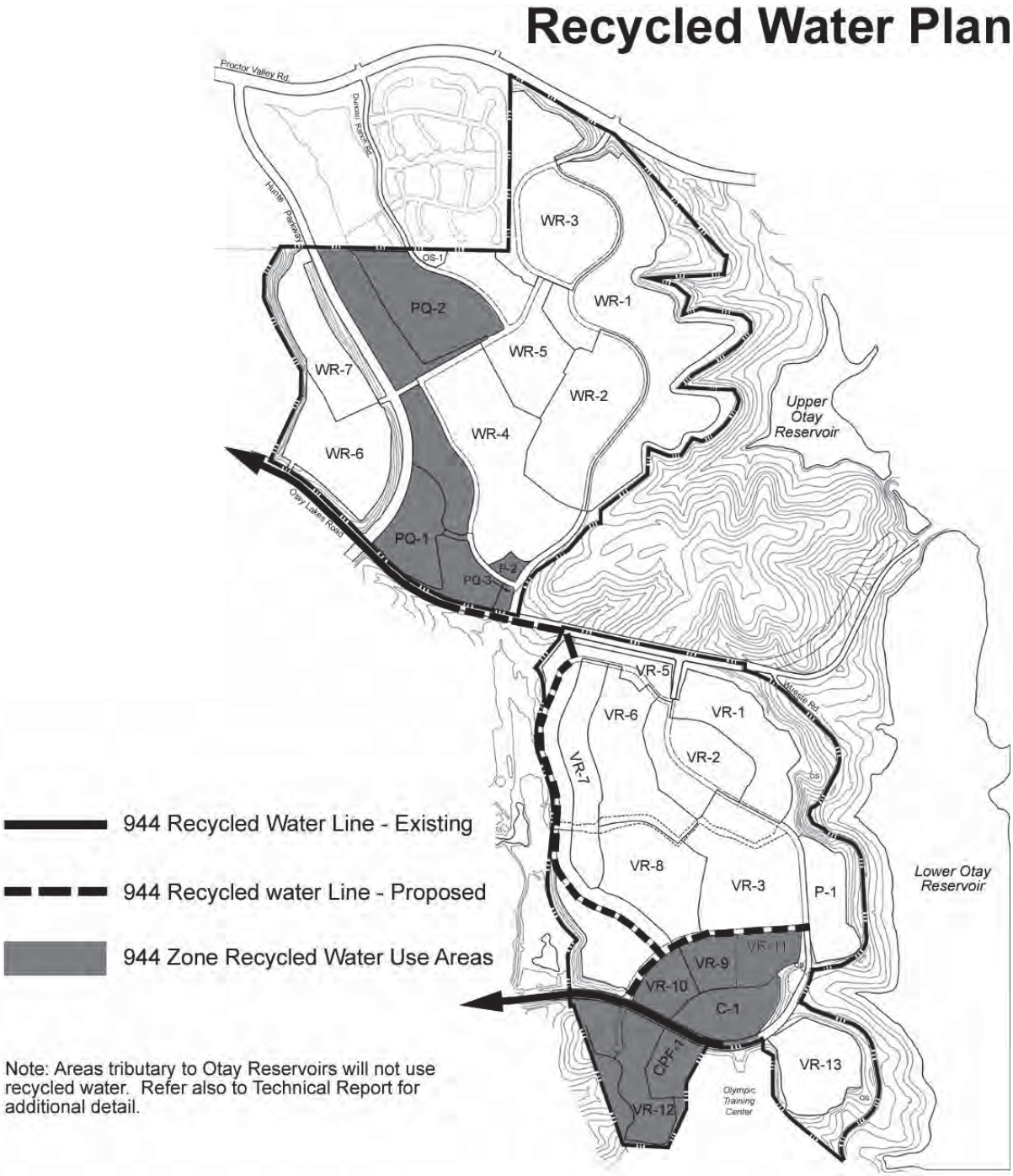
Source: John Powell/PBS&J

EASTLAKE III SPA
A planned community by The EastLake Company

Cinti Land Planning
San Diego, CA (619) 222-7408
10-16-00

Exhibit 9

Recycled Water Plan



Note: Areas tributary to Otay Reservoirs will not use recycled water. Refer also to Technical Report for additional detail.

Source: John Powell/PBS&J

EASTLAKE III
A planned community by The EastLake Company

Cinti Land Planning
San Diego, CA (619) 223-7408
0 400 800 1200
12/7/05

Exhibit 10

II.5.4.8. SEWER

II.5.4.8.1 CITY THRESHOLD STANDARDS:

A. Sewage flows and volumes shall not exceed City Engineering Standards.

B. The City annually provides the City of San Diego Wastewater Department (Metro) with a 12-18 month development forecast and requests confirmation that the projection is within the City's purchased capacity rights and an evaluation of their ability to accommodate the forecast and continuing growth, or the City Engineering Department staff gathers the necessary data. The information provided to the GMOC includes the following:

1. Amount of current capacity now used or committed.
2. Ability of affected facilities to absorb forecast growth.
3. Evaluation of funding and site availability for projected new facilities.
4. Other relevant information.

II.5.4.8.2. EXISTING CONDITIONS:

The City of San Diego Metro provides sewer treatment services for the City of Chula Vista and 14 other participating agencies in accordance with the terms of a multi-agency agreement (Metro Agreement). The Metro system currently has adequate sewage treatment capacity to serve the region until approximately 2025. The Developer shall pay capacity fees prior to building permit issuance. Development shall not occur without adequate sewer capacity as determined by the City Engineer. Building permits will not be issued if the City Engineer has determined that adequate sewer capacity does not exist. All development must comply with the Municipal Code, specifically Municipal Code sections 19.09.010(A) 6 and 13.14.030.

Sewer service to the project site is provided by the City of Chula Vista. The Windstar Pointe Resort project is located in the Salt Creek drainage basin. The project will connect to the existing public 8 and 12-inch gravity sewer mains located north of Olympic Parkway in the approved Neighborhood C-1 site of the EastLake SPA Plan. This sewer collects flows generated from the VR-9, VR-10, VR-11 and C-1 sites and conveys the flows to the 15-inch diameter main in Olympic Parkway. The 15-inch main connects to the 18-inch Salt Creek Interceptor. The capacity of these facilities to serve the previous Seniors project was assessed in the *Final EastLake Peninsula off-site Sewer Capacity Analysis Study* dated November 8, 2005, by PBS&J. A letter dated June 20, 2007, from PBS&J, was requested by city staff to be revised per city comments dated July 17, 2007. PBS&J responded with the *Final Windstar Pointe Resort Off-Site Sewer Capacity Analysis Study*, dated September 18, 2007. This study is the basis for the Supplemental PFFP Amendment sewer analysis.

Table-I.1
Adopted Wastewater Flow Projections

Description	Land Use	Units	Population/ Unit	Unit Generation	Total Avg Flow (gpd)	EDU
Adopted	MF Residential	494 DU	2.5	80 gpd/person	98,800	373
Previous Land Use	Hotel/Resort	18.2 AC	-	2,500 gpd/ac	45,500	172
Increase		-	-	-	**53,300**	**201**
Note: EDU Factor of 265 gpd/EDU was used per City of Chula Vista Subdivision Manual						

Projected wastewater flows from the Windstar Pointe Resort Project will ultimately discharge into the Salt Creek Interceptor. Based upon the approved Tentative Map, the previous land use for the site was a Hotel/Resort. The average daily sewage flow for the hotel was estimated to be 45,500 gpd or 172 equivalent dwelling units (EDU). Subsequent to the approved TM, a multi-family residential project was adopted. Table I.1 presents a comparison of the average wastewater flow projections between the multi-family residential and previously approved hotel land uses. The Windstar Pointe Resort Project will result in an increase in average flow of 53,300 gpd or 201 EDUs to the Salt Creek Interceptor.

According to the GMOC 2007 Annual Report and City Staff, the City's current contracted capacity rights with Metro are expected to be exceeded in about five years (see Table I.2). The city has begun working with Metro to address the best way to increase the city's allocated amount of sewage treatment capacity in order to meet buildout sewage flow estimates.

The City of San Diego provides sewer treatment services for the City of Chula Vista and 14 other participating agencies in accordance with the terms of a multi-agency agreement (Metro Agreement). The City of Chula Vista holds capacity rights of 19.843 mgd in the Metro system. The City's current average wastewater flow into the Metro system is approximately 17.062 mgd. The Metro system currently has adequate sewerage treatment capacity to serve the region until approximately 2025 when new treatment facilities are expected to become operational. The City of Chula Vista may reach its contractual capacity limits prior to 2025. The Metro system includes the Point Loma Sewage Treatment Plant, the North City Reclamation Plant and the Southbay Treatment Plant.

For the longer term capacity needs the Wastewater Master Plan, completed in 2005, provides the city's buildout treatment capacity and infrastructure needs. In addition, it also established the basis for the sewer capacity fee update.

Table I.2
Sewage Flow and Treatment Capacity

	02/03 Fiscal Year	03/04 Fiscal Year	04/05 Fiscal Year	05/06 Fiscal Year	06/07 Fiscal Year	Projection for next 18 mo.	Projection for next 5 years	Projection "Buildout"
Average Flow (MGD)	16.346	15.787	17.021	16.979	17.062	18.44	19.92	26.2*
Capacity	19.843	19.843	20.864**	20.864**	20.864**	20.864**	20.864**	20.864**

* Buildout Projection based on the General Plan Update (Adopted General Plan "Buildout" = 26.2 MGD)
** Increase in capacity is based on the allocation of additional capacity rights resulting from the construction of the new Southbay Treatment Plant.

Source: City of Chula Vista

II.5.4.8.3. FACILITY ANALYSIS:

The PBS&J study was prepared with calculations in accordance with the methods described in the City of Chula Vista Subdivision Manual. Dwelling unit counts for the Windstar Pointe Resort project were based upon information provided by P&D Consultants and the Preliminary Sewer Study for Eastlake III Woods and Vistas. The average daily wastewater inflows to the off-site sewer were calculated at each node by land use type (see *Final Windstar Pointe Resort Off-Site Sewer Capacity Analysis Study* dated September 18, 2007, by PBS&J for details).

The Salt Creek Interceptor Sewer Hydraulic Basis of Design Report, dated 2002 by Dudek & Associates, identified Reach 5 as a critical reach of the interceptor sewer. Since the 2002

analysis assumed a connection point for the EUC flows downstream of Reach 5, the EUC flow contribution, as well as University - Phase 1 and High Tech High, were not originally considered. The PBS&J September 18, 2007, study reevaluates Reach 5 with the addition of the current estimate of flows to verify that capacity is available in the Salt Creek Interceptor.

The City of Chula Vista's 2004 Update to the Salt Creek Sewer Basin Plan (2004 Basin Plan Update) identified changes in development projections in the Salt Creek Basin as of August 2004, but this was used as an internal accounting document only. PBS&J obtained city projections from the Chula Vista Planning Department. "Current Projections" in Table I.3 reflect revisions to the 2004 Basin Plan Update that include planned developments that have since been converted to open space. Table I.3 provides a comparison of development flow projections and the respective equivalent dwelling units that are tributary to the critical reach.

Table I.3 indicates that the 16,477 EDUs currently projected to contribute flows to Reach 5 are less than the 2002 Design Report total. Further, the capacity of the critical reach under current projections was analyzed by PBS&J in accordance with the more conservative City Subdivision Manual criteria of 265 gpd/EDU. Table I.4 illustrates that the critical reach identified in the 2002 Design Report will temporarily flow slightly above 75% full under the interim maximum condition. Once the Rock Mountain Road Trunk Sewer is constructed and the offsite, interim units are switched to that system, Reach 5 will flow at less than 75% full.

Table I.3
Development Projections for Reach 5

Development	2002 Design Report		2004 Basin Plan Update		Current Projections	
	Average Flow (gpd)	Total Units (EDU)	Average Flow (gpd)	Total Units (EDU)	Average Flow (gpd)	Total Units (EDU)
Peninsula Senior Housing					98,800	373
Olympic Training Center (E.L. III)	744,200	2,808	418,700	1,580	373,200	1,408
Planning Area 16	0	0	108,836	411	0	0
Rolling Hills Ranch	485,035	1,830	337,870	1,275	337,870	1,275
Eastlake Business Center II	309,000	1,166	0	0	0	0
Eastlake Woods – West	67,575	255	67,840	256	67,840	256
Eastlake Woods	159,355	601	150,708	569	150,708	569
Eastlake Greens	545,994	2,060	259,634	980	259,634	980
Eastlake Trails	328,019	1,238	327,270	1,235	327,270	1,235
Eastlake Vistas	322,259	1,216	325,979	1,230	325,979	1,230
Village 14	0	0	487,009	1,838	0	0
Village 13 (Resort)	622,062	2,347	695,235	2,624	695,235	2,624
High Tech High School	0	0	0	0	19,345	73
University	0	0	0	0	158,735	599
Village 11	769,653	2,904	625,930	2,362	625,930	2,362
EUC	0	0	0	0	808,250	3,050
Otay Ranch House	81,420	307	80,669	304	80,669	304
Bella Lago	0	0	37,100	140	37,100	140
Total	**4,434,572**	**16,734**	**3,922,779**	**14,803**	**4,366,565**	**16,477**

Notes:
1. Current projected EDUs as received from the City of Chula Vista based on approved Tentative Maps.

Source: PBS&J

As shown in Table I.3, the 12,755 EDUs currently projected are less than the 2002 Design Report and the 2004 Basin Plan Update totals. Additionally, the capacity of the critical reach under current projections was analyzed in accordance with the City Subdivision Manual. Table I.4 illustrates that the critical reach identified in the 2002 Design Report will have adequate capacity to accommodate the increased flows from the Project.

Table I.4.
Critical Reach Calculation

Average flow based on maximum interim condition of 3,050 EDU5 from the EUC. 2.											
Pipe	**Average Daily Flow***		**Equivalent Population**	**Peaking Factor**	**Peak Design Flow****		**Dia (in)**	**Slope (%)**	**Depth (in)**	**Depth/Dia (%)**	**Velocity (fps)**
	EDU	**gpd**			**gpd**	**gpm**					
Reach 5	**16,477**	**4,366,565**	**54,582**	**1.65**	**7,204,832**	**5,003**	**24**	**0.23**	**18.7**	**77.7%**	**4.26**
Average flow based on maximum ultimate condition of 563 EDU5 from the EUC.											
Pipe	**Average Daily Flow***		**Equivalent Population**	**Peaking Factor**	**Peak Design Flow****		**Dia (in)**	**Slope (%)**	**Depth (in)**	**Depth/Dia (%)**	**Velocity (fps)**
	EDU	**gpd**			**gpd**	**gpm**					
Reach 5	**13,990**	**3,707,378**	**46,342**	**1.66**	**6,154,247**	**4,274**	**24**	**0.23**	**16.4**	**68.3%**	**4.17**

Source: PBS&J

II.5.4.8.4. FACILITY PHASING

One primary phase of development is proposed due to the need to balance grading and complete infrastructure improvements in a single increment. The development of individual building sites will commence as the market dictates. Build-out of all building sites may occur over a several year period. Sewer laterals to serve the proposed project are the responsibility of the developer.

II.5.4.8.5. FINANCING SEWER FACILITIES:

To fund the necessary future improvements to the Salt Creek Interceptor Sewer, development impact fees have been established by the City of Chula Vista. Adoption of City of Chula Vista Ordinance Number 2617, as amended, established a fee to be paid for future development within the Salt Creek Basin that connects into the existing system. The Chula Vista City Council has authorized the collection of a fee to aid in the cost of processing sewerage generated in the city. The current fee is $1,330/EDU. Single Family Dwellings are considered 1.00 EDU and Multi-Family Units (apartments and condominiums) are considered .75 EDU. The Sewer Capacity Fee for commercial projects is based on the number of Equivalent Fixture Units (EFU). The Sewer Capacity Fee is subject to periodic adjustments. The following table summarizes the fees to be paid by the Windstar Pointe Resort Project. These fees will be collected before building permits are issued.

Table I.5[23] Projected -Windstar Pointe Resort Estimated Sewer Fees				
Land Use	**Acres**	**EDU's/**	**Fee**	**Estimated Fee**
Windstar Pointe Resort project	18.2	370.5	Salt Creek Sewer DIF $1,330/-EDU	$492,765
Windstar Pointe Resort	18.2	370.5	Sewerage Participation Fee $3,478/EDU	$1,288,599
Total	**18.2**	**370.5**		**$1,781,364**

II.5.4.8.6. THRESHOLD COMPLIANCE AND REQUIREMENTS:

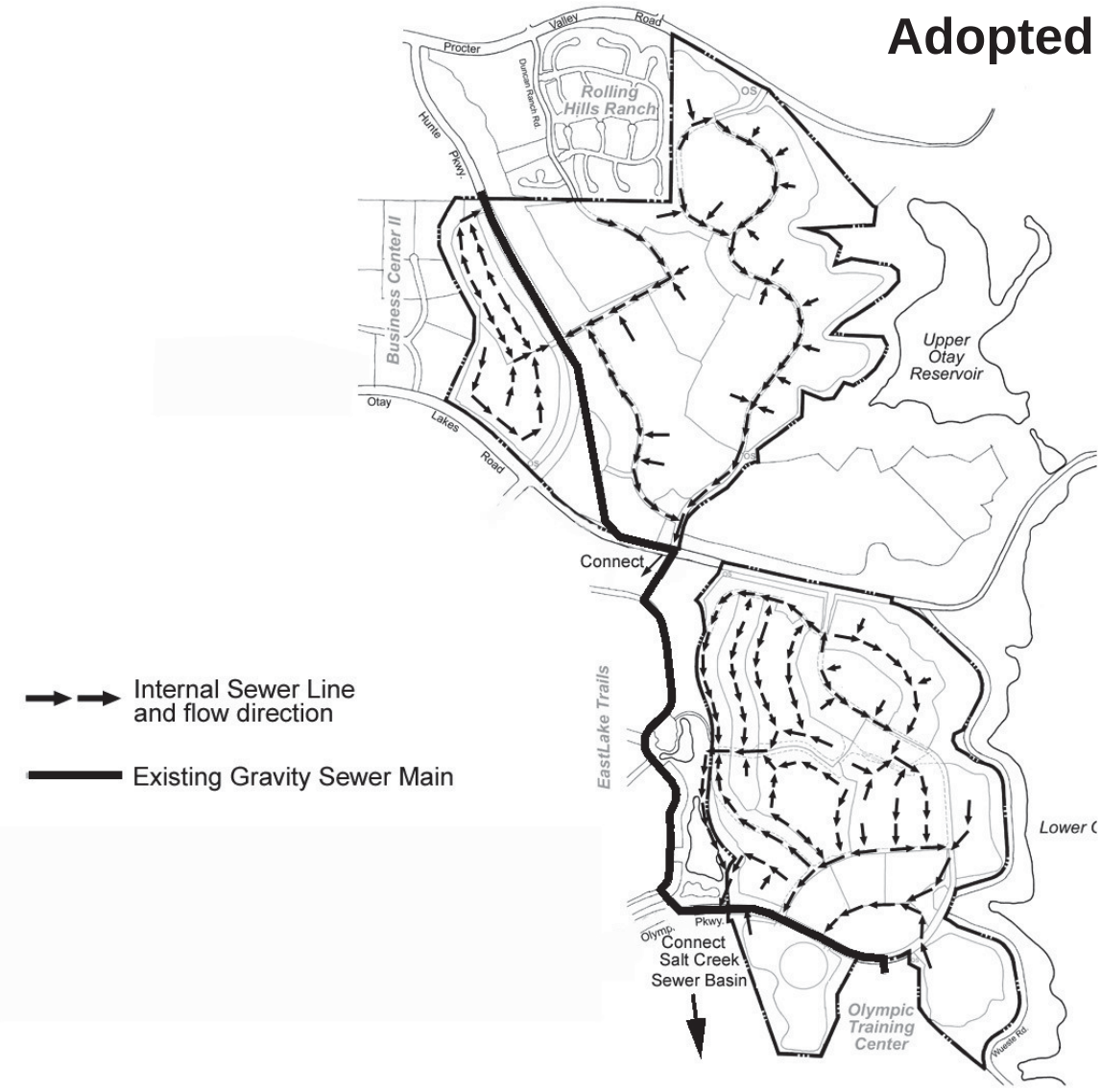
Based on the PBS&J off-site sewer analysis, there are no significant impacts to the existing off-site wastewater facilities due to the proposed Windstar Pointe Resort Project. The critical reach in the Salt Creek Interceptor and the off-site pipe reaches are in compliance with the City Design Criteria.

The Windstar Pointe Resort Project shall pay fees pursuant to City of Chula Vista ordinance, as may be amended from time to time, or provide sewer improvements, as needed. Fees shall be paid prior to the issuance of Building Permits.

The City of San Diego Metropolitan Wastewater Department ("Metro") provides sewer treatment services for the City of Chula Vista and 14 other participating agencies in accordance with the terms of a multi-agency agreement ("Metro Agreement"). The Metro system currently has adequate sewerage treatment capacity to serve the region until approximately 2025 when new treatment facilities are expected to become operational. The City of Chula Vista, however, may reach its contractual capacity limits sooner than 2025. The developer shall pay capacity fees at building permit issuance. Development shall not occur without adequate sewer capacity as determined by the City Engineer. Building permits will not be issued if the City Engineer has determined that adequate sewer capacity does not exist. All development must comply with the Municipal Code, specifically M.C. Sections 19.09.010 (A) 6 and 13.14.030.

[23] This table is only an estimate of the potential fees that may be required for the Windstar Pointe Resort Project. Actual fees will be calculated at the time building permits are issued and may be different than this table. Table does not include the current Sewer Administration Fee, which is currently $45/Building Connection.

Sewer Plan
Adopted



Note: The sewer system indicated is subject to technical refinement during the subdivision process. Refer also to Techinical Sewer Reports for additional detail.

Source: SB&O, Inc.

EASTLAKE III SPA
A planned community by The EastLake Company

Cinti Land Planning
San Diego, CA (619) 223-7408
0 400 800 1200
12/7/05

Exhibit 11

II.5.4.9. DRAINAGE

II.5.4.9.1. EXISTING CITY THRESHOLD STANDARDS:

A. Storm water flows and volumes shall not exceed City Engineering Standards.

B. The GMOC shall annually review the performance of the City's storm drain system to determine its ability to meet the City's goals and objectives.

II.5.4.9.2. EXISTING CONDITIONS:

The Windstar Pointe Resort property is located southwest of the intersection of Olympic Parkway and Wueste Road. The elevations on the parcel range from approximately 520 to 580 feet above mean sea level. The proposed development is located on an undeveloped, graded parcel consisting of approximately 18.4-acres of graded pad area and approximately 1.7-acres of vegetated slopes. The 1.7-acres is designated open space and is not the subject of the EastLake III SPA Amendment.

The 18.4-acre site is proposed for 494 multi-family residential units. The project will include eighteen three and four-story multi-family residential complexes and a two-story recreation building, including a swimming pool. The project will also include garages and structured parking.

II.5.4.9.3. DRAINAGE FACILITY ANALYSIS:

The letter report entitled *Storm Drain to "C-2" Hotel Site*, dated August 5, 2005, by Rick Engineering analyzed the performance of the storm drain system as a result of the proposed change in land use from a commercial site (hotel) to a senior housing site. Similar to the Seniors Project, the Windstar Pointe Resort Project will include the construction of a high density residential project with the associated streets, sidewalks, landscaping and utilities. Post developed rational method flows results for the Seniors project site are addressed and presented in the Rick Engineering 2005 report.

According to the 2005 Rick Engineering Report, using the Rational Method, the results of using a 50-year storm event for the high-density residential site yielded a discharge of approximately 58.9 cfs, which is lower than the Commercial land use analysis, which yielded a discharge of 59.1 cfs. Therefore, the Rick Engineering Report concluded that the change in land use to that of an active senior housing project will not have a negative impact on the size of the existing storm drain stubbed to the site.

An updated drainage report has been prepared for the Windstar Pointe Resort Project. The report is entitled *Preliminary Drainage Study for Windstar Pointe Resort,* dated September 19, 2007 by Rick Engineering. This study indicates that on-site flows naturally sheet flow to a desilting basin located at the northwestern corner of the project area. The desilting basin has an outlet structure that ties into the existing 42-inch storm drain system along Olympic Parkway.

As development and grading commence, a storm drain system will be constructed to serve the onsite drainage associated with Windstar Pointe Resort project, ultimately conveying runoff to the exiting 42-inch pipe at the northwestern corner of the project area. General project drainage patterns will remain unchanged after grading of the project site is completed. This project, in both pre- and post-project conditions, drains

into the existing Olympic Parkway storm drain system, and ultimately into Salt Creek just south of an existing detention basin that was designed to account for the ultimate development of the Windstar Pointe Resort site.

The current Rick study presents onsite post-project hydrologic analyses for the 50-year storm event. In addition, 50-year hydraulic analyses were performed for the downstream existing storm drain system along Olympic Parkway. Rick Engineering determined that the storm drain system has capacity to convey the runoff associated with the Windstar Pointe Resort project. Furthermore, an existing regional detention basin is located in Salt Creek, upstream of where the storm drain associated with the Windstar Pointe Resort site discharges. The regional facility was designed to over-attenuate flows for the 5-, 10-, 50-, and 100-year storm event to account for the ultimate buildout of the watershed associated with the Windstar Pointe Resort project. Although it was not designed with the specific intention to do so, the detention basin also over attenuates the 2-year storm event to pre-project levels. The current Rick study concludes that since the ultimate development of the area including the Windstar Pointe Resort site was incorporated into the design of the existing downstream improvements, the project will not include any detention and the slight increase associated with the on-site flows will be conveyed in the existing downstream storm drain facility.

II.5.4.9.4. URBAN RUN-OFF:

The Windstar Pointe Resort project is subject to National Pollutant Discharge Elimination System (NPDES) requirements. NPDES requirements are contained in Section 402(p) of the Federal Clean Water Act, which established a framework for regulating storm water discharges from municipal, industrial, and construction activities. These requirements are implemented through permits issued by the State Water Resources Control Board (SWRCB) or the local Regional Water Quality Control Board in which the project is located. In San Diego County the local board is the California Regional Water Quality Control Board San Diego Region, herein (SDRWQCB). Further, the requirements are implemented through the City of Chula Vista, which is the governing municipality where the project is located.

The *Water Quality Technical Report for Windstar Pointe Resort*, dated September 19, 2007, by Rick Engineering summarizes post-construction storm water protection requirements for Windstar Pointe Resort project: The Windstar Pointe Resort is planned as attached residential development. The Windstar Pointe Resort project applies to three priority project categories based on Appendix B of the City of Chula Vista's Storm Water Standards Manual: (1) Home subdivisions of over 10 units, (2) Parking lots 5,000 square feet or more with 15 or more parking spaces, and potentially exposed to urban runoff, and (3) Streets, roads, highways, and freeways.

For the purposes of post-construction storm water quality management, the proposed Windstar Pointe Resort project will follow the guidelines and requirements set forth in the following documents:

- *Development and Redevelopment Projects Storm Water Management Standards Requirements Manual*, dated June 12, 2002 and adopted by the City of Chula Vista. This manual is referred to as the "Storm Water Standards Manual." The Storm Water Standards Manual contains the City of Chula Vista's Standard Water Mitigation Plan (SUSMP) requirements.

- San Diego Regional Water Quality Control Board Order (SDRWQCB) No. R9-2007-0001 or "Municipal Storm Water Permit."

The SDRWQCB Order No. R9-2007-0001 was adopted by the board on January 24, 2007. Guidance for implementation of new requirements based on this SDRWQCB Order will be developed over a period of time. Enough information is provided in the SDRWQCB Order such that the preliminary design of the Windstar Pointe Resort can incorporate design elements in anticipation of the new standards. The new standards will be in effect by the time development plans for the specific districts within the Windstar Pointe Resort are prepared, while still meeting the requirements of the City of Chula Vista's existing Storm Water Standards Manual.

Based on the Storm Water Standards Manual, the Windstar Pointe Resort project as a whole can be expected to generate the following pollutants: sediment, nutrients, heavy metals, organic compounds, trash and debris, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides; because it includes the following priority project categories: "Attached Residential Development," "Parking Lots," and "Streets, Highways & Freeways."

The San Diego Basin Plan dated September 8, 1994, indicates that the proposed Windstar Pointe Resort project is located in the following hydrologic basin planning area: Savage Hydrologic Sub Area within the Dulzura Hydrologic Area within the Otay Hydrologic Unit. The corresponding number designation is 910.31 (Region '9', Hydrologic Unit '10', Hydrologic Area '3', Hydrologic Sub Area '1'). The drainage path for the Windstar Pointe Resort, however, goes through the Otay Valley Hydrologic Area (910.20) which also contains Poggi Canyon Creek, a 303(d) listed water body. The drainage from the Windstar Pointe Resort project does not directly discharge to Poggi Canyon Creek. Based on the definition of primary pollutants of concern from the Storm Water Standards Manual, there are no primary pollutants of concern for the project. For projects where no primary pollutants of concern exist, the identified pollutants of concern shall be considered secondary pollutants of concern. Post-construction BMPs have been selected for the project based on the anticipated pollutants.

The Water Quality Technical Report (WQTR) indicates a strong focus on Low Impact Development (LID) principles through the implementation of Integrated Management Practices (IMPs) where feasible for post-construction storm water management for the Windstar Pointe Resort project. As described in the project's WQTR, LID IMPs can be classified as conventional BMPs. Site design and source control BMPs will also be implemented. The site design and source control BMPs are detailed in the WQTR (Sections 3.2 and 3.3 of the report). LID IMPs and BMPs are also detailed the WQTR (Sections 3.4 and 3.5).

Generally, the LID IMPs will consist of vegetated swales dispersed throughout the site's landscape in addition to in ground planters located in the courtyards of each of the 8 residential complexes. Detention and slow filtration through biologically active soil in the in ground planters and the grass in the vegetated swales will provide treatment.

Table J.1 Historical and Post Project Flow Rates for Salt Creek (Immediately South of Olympic Pkwy)					
Condition	Area (sq miles)	Flow Rate (cfs*)			
		2-Year	10-Year	50-Year	100-Year
Historical	2.52	388	860	1,650	1,950
Post-Project	3.19	298	660	1,170	1,360

* cfs: cubic feet per second. *Source: Rick Engineering*

In both the pre and post project condition the project area drains northerly from the Windstar Pointe Resort project site and then joins an existing storm drain system along Olympic Parkway. Runoff from the project site will drain northerly from the site and confluence with an existing storm drain system along Olympic Parkway. As a second line of defense against runoff pollution, an existing CDS unit is located in this storm drain system. The existing storm drain system will convey flows westerly to Salt Creek. The flows outlet in Salt Creek just downstream of an existing detention facility designed to over detain for the ultimate buildout of the Windstar Pointe Resort site. Salt Creek will convey the flows southerly to the Otay River. The Otay River conveys the flows westerly until ultimately conveyed to the Pacific Ocean. Potential impacts to downstream channels and habitat have been evaluated and addressed in WQTR (Section 2.1.3).

Just upstream of where the Olympic Parkway system confluence's with Salt Creek,' there is an existing detention basin which has been designed to over-detain flows to account for the ultimate buildout of the surrounding area. This detention basin is in essence two detention basins in series. The Olympic Parkway storm drain system does not outlet into either of the detention basins. However, this detention basin has been designed to over detain for the 5-, 10-, 25-, 50-, and 100-year storm events for the ultimate development of the surrounding area, .including the project site. Because a 2-year storm analysis is required to show that this detention basin is mitigating for possible erosion problems, a 2-year analysis was run by Rick Engineering. The historic and post project results from the 2-, 10-, 50-, and 100-year analyses are shown in Table J.1. The HEC-1 analyses for the 2-, 10-, 50-, and 100-year storm events can be found in the WQTR (Appendix D). Because the existing detention basin adequately mitigates for the 2-, 10-, 50-, and 100-year storm events, no on site detention is necessary and no pre-project analyses for the Windstar Pointe Resort site were performed.

The area surrounding the proposed Windstar Pointe Resort Project is associated with a larger development commonly referred to as the Eastlake Vistas. The area associated with the Eastlake Vistas was designed assuming the ultimate buildout of the Windstar Pointe Resort site in mind. For example, the Olympic Parkway storm drain system, the CDS unit, and the Salt Creek detention facility were all designed assuming ultimate buildout of the Windstar Pointe Resort site.

Upon final design, Operation and Maintenance Plans (O&M Plans) will be prepared to describe the designated responsible parties to manage the IMPs BMPs and the training requirements, operating schedule, maintenance frequency, routine service schedule, specific maintenance activities, copies of resource agency permits (if applicable), record keeping requirements, and any other necessary activities. The project property owner or

HOA will be responsible for funding and maintenance for all storm water BMPs. Typical maintenance activities are provided in the WQTR for the LID IMPs and conventional BMPs.

II.5.4.9.5. FINANCING DRAINAGE FACILITIES:

A. On-site facilities: City policy requires that all master planned developments provide for the conveyance of storm waters throughout the project to City Engineering standards. As such, the Developer will be required to construct those facilities to the satisfaction of the City Engineer.

B. Maintenance of On-site Facilities: Storm drain facilities not located within the right of way of a public street or easement dedicated to the City of Chula Vista shall be private and maintained by the property owners. These facilities include graded swales, concrete swales, drainage inlets, pipes, headwalls, sedimentation basins, stormwater treatment devices, etc. Before the approval of grading plans for the site, the Developer shall enter into a Storm Water Maintenance Agreement with the City to ensure the maintenance and operation of the aforementioned On-site Facilities.

C. Off-site facilities: Any permanent or temporary storm drain facilities required by the City Engineer of Chula Vista, shall be designed and installed pursuant to city standards.

D. Maintenance of Off-site facilities: Storm drain facilities constructed to convey, collect, detain or retain runoff from the project, that are not located within the right of way of a public street or easement dedicated to the City of Chula Vista, will be maintained by the City of Chula Vista. These facilities include but are not limited to graded swales, concrete swales, drainage inlets, pipes, headwalls, sedimentation basins, detention basins, stormwater treatment devices, etc.

II.5.4.9.6. THRESHOLD COMPLIANCE AND REQUIREMENTS:

A. The Developer of the Windstar Pointe Resort project shall enter in to a Storm Water Facilities Maintenance Agreement with the City before approval of the grading plans for the site. The Developer shall agree to install, inspect, maintain, repair and replace all private Storm Water Management Facilities within the Developer's project.

B. Prior to approval of grading plans, the Developer shall demonstrate the adequacy of existing drainage runoff detention facilities or include, in the grading plans, the construction of additional detention facilities, to ensure that the maximum allowable discharges after development do not exceed pre-development discharges, all to the satisfaction of the City Engineer. The Developer shall provide for the future maintenance of the detention basin facilities through the establishment of a Master Home Owners Association, or other funding mechanism as approved by the City.

C. Development of this project shall comply with all requirements of State Water Resources Control Board (SWRCB) NPDES General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity. In accordance with said Permit, a Storm Water Pollution Prevention Plan (SWPPP) and a Monitoring Program Plan shall be developed and implemented concurrent with the commencement of grading activities. The SWPPP shall specify both construction and post-construction structural and non-structural pollution prevention measures. The SWPPP shall also address operation and maintenance of post-construction pollution prevention measures, including short-term and long-term funding sources and the party or parties that will be responsible for the implementation of said measures.

A complete and accurate Notice-of-Intent (NOI) must be filed with the SWRCB. A copy of the acknowledgement from the SWRCB that a NOI has been received for this project shall be filed with the City of Chula Vista when received. Further, a copy of the completed NOI from the SWRCB showing the Permit Number for this project shall be filed with the City of Chula Vista when received.

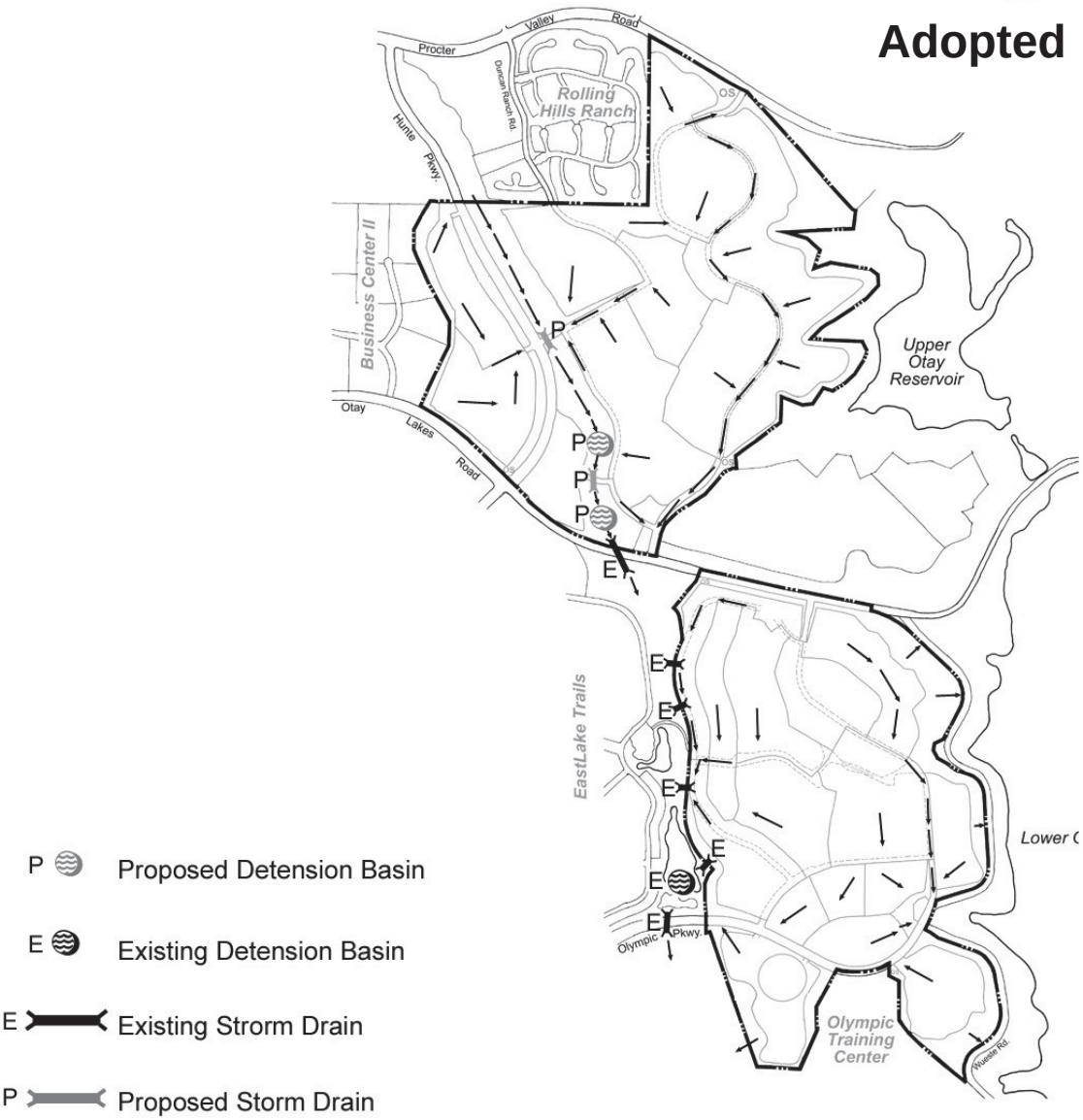
The applicant is required to complete the applicable forms (see City of Chula Vista's Development and Redevelopment Storm Water Management Requirements Manual) and comply with the Manual's requirements. The Storm Water Manual is available on the web at:

http://www.chulavistaca.gov/City_Services/Development_Services/Engineering/stormWaterManual.asp

Pursuant to NPDES Municipal Permit, Order No. 2007-0001, the proposed project is considered a Priority Development Project and therefore subject to the requirements of the Standard Urban Storm Water Mitigation Plans (SUSMPs) and Numeric Sizing Criteria.

Storm Drainage

Adopted



P Proposed Detension Basin

E Existing Detension Basin

E Existing Strorm Drain

P Proposed Storm Drain

Direction of Drainage

Source: SB&O, Inc.

EASTLAKE III SPA
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Cinti Land Planning
San Diego, CA (619) 223-7408
0 400 800 1200
10-16-00

Exhibit 12

II.5.4.10. AIR QUALITY

II.5.4.10.1. CITY THRESHOLD STANDARDS:

The City annually provides the San Diego Air Pollution Control District (APCD) with a 12 to 18 month development forecast and requests an evaluation of its impact on current and future air quality management programs, along with recent air quality data. The growth forecast and APCD response letters must be provided to the GMOC for inclusion in its review.

II.5.4.10.2. SERVICE ANALYSIS:

Air Quality Improvement Plan:

The City of Chula Vista has a Growth Management Element (GME) in its General Plan. One of the stated objectives of the GME is to be proactive in its planning to meet federal and state air quality standards. This objective is incorporated into the GME's action program. Although adopted in 1989, the GME has remained current by not only requiring air pollution reduction measures identified in 1989 but also "measures developed in the future."

To implement the GME, the City Council has adopted the Growth Management Program that requires Air Quality Improvement Plans (AQIP) for major development projects (50 residential units or commercial/industrial projects with equivalent air quality impacts). Title 19 (Sec. 19.09.0508) of the Chula Vista Municipal Code requires that a SPA submittal contain an AQIP. The AQIP shall include an assessment of how the project has been designed to reduce emissions as well as identify mitigation measures in accordance with the adopted AQIP Guidelines. See the *Air Quality Improvement Plan SPA Plan EastLake III –Windstar Pointe Resort Proposed Amendment May 9, 2007, by Bud Gray & Associates.*

The developer of the Windstar Pointe Resort Project, labeled VR-13 on the Site Utilization Plan (Exhibit 4) has committed to the first option in Chula Vista's AQIP Guidelines and will participate in the Greenstar Building Efficiency Program. The majority (50% or greater) of the structures shall be designed to exceed the California 2001 Title 24, Part 6, Energy Efficiency Standards (CA 9110, effective 6/1/01) Title 24 by 10%.

Because energy conservation technology and programs are constantly maturing, the specific program will be identified prior to the issuance of building permits. The particular building efficiency program to be used, including a custom building program and the buildings to be constructed under the program, shall be identified on the building permit application and approved prior to issuance of a building permit.

The Air Pollution Control District is responsible for the Air Quality Maintenance Program in compliance with the California Clean Air Act. There is no local Master Plan for Air Quality. An Air Quality Improvement Plan – EastLake III SPA dated August 13, 2002. The plan identifies the following goals:

A. To minimize air quality impacts during and after construction of the Project.

B. To comply with the air quality standards and policies of the City of Chula Vista and

San Diego County APCD.

C. To create a framework for the design and implementation of air quality mitigation measures in this commercial and employment development project.

D. To be economically efficient and cost effective.

II.5.4.10.4. THRESHOLD COMPLIANCE AND REQUIREMENTS:

The City will continue to provide a development forecast to the APCD in conformance with the threshold standard. See the *Air Quality Improvement Plan SPA Plan EastLake III – Windstar Pointe Resort Proposed Amendment May 9, 2007, by Bud Gray & Associates*, located in the EastLake III SPA Plan Amendment.

A. Prior to approval of building permits for Windstar Pointe Resort project, the applicant shall demonstrate that air quality control measures outlined in the Air Quality Improvement Plan pertaining to the design, construction and operational phases of the project have been implemented.

B. Prior to approval of the grading permit for Windstar Pointe Resort project, the following measures shall be placed as notes on all grading plans and implemented during grading of each phase of the project:

1. Minimize simultaneous operation of multiple construction equipment units;
2. Use low pollutant-emitting equipment;
3. Use catalytic reduction for gasoline-powered equipment;
4. Use injection timing retard for diesel-powered equipment;
5. Water the grading areas twice daily to minimize fugitive dust;
6. Stabilize graded areas as quickly as possible to minimize fugitive dust;
7. Apply chemical stabilizer or pave the last 100 feet of internal travel path within the construction site prior to public road entry;
8. Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads;
9. Remove any visible track-out into traveled public streets within 30 minutes of occurrence;
10. Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred;
11. Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads;
12. Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling;
13. Suspend all soil disturbance and travel on unpaved surfaces if winds exceed 25 mph;
14. Cover/water onsite stockpiles of excavated material; and
15. Enforce a 20 mile-per-hour speed limit on unpaved surfaces.

II.5.4.11. CIVIC CENTER:

II.5.4.11.1 CITY THRESHOLD STANDARDS:

There is no adopted threshold standards for these facilities. The facility information is being provided in this report to aid in establishing operational benchmarks which will determine construction phasing of the Civic Center. These facilities are funded through the collection of the DIF fees in effect at the time building permits are issued.

II.5.4.11.2 SERVICE ANALYSIS:

Although the existing Civic Center successfully accommodated city administration offices prior to the mid-1980's population growth, increase in City staff to meet new demands of growth has caused increasing congestion problems. City staff in the Public Services Building experience space shortages, lack of privacy and storage, and frequent noise distractions. This was reported in a survey, which is included in the Civic Center Master Plan dated May 8, 1989. Site Alternative Three "The Suburban Scheme" was selected from the master plan at a City Council conference on June 22, 1989.

II.5.4.11.3 EXISTING CONDITIONS:

In July of 2001, the final master plan for the renovations to the Civic Center was approved by City Council. Rebuilding the Civic Center will cost approximately $50 million, which will primarily be funded by development fees (89%). The Civic Center Redevelopment is currently underway and expected to be completed in three phases by 2009.

The new City Hall Redevelopment, or Phase One of the Civic Center Complex, is completed. Phase Two, the construction of the new Public Services Building is also complete. Phase Three is the gutting and remodeling of the old Police Station for additional offices. Phase Three is currently in process and will be completed in July 2008.

II.5.4.11.4 ADEQUACY ANALYSIS:

The need for the Civic Center cannot be easily related to population figures or acres of commercial and industrial land, which will be developed in the future. The original facilities, according to the master plan, are inadequate because of the lack of space. This has worsened as employee numbers and their workloads have increased in response to demands for services, which have been generated by new development. Expansion of the Civic Center Complex is currently underway. This expansion included space planning, design, and construction is expected to keep pace with demand for additional work space. City Hall facilities have been renovated and now include a new state of the art Council Chambers. Consistent with the Master Plan, further expansions and renovations include a conversion of the old Police Station to additional office space and re-building of the Public Services Building.

II.5.4.11.5 FINANCING CIVIC CENTER FACILITIES:

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 19, 2002 by adoption of Ordinance 2887. The Public Facilities Development Impact Fee (PFDIF) is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The PFDIF amount is subject to change as it is amended from time to time. The Civic Center DIF Fee for Multi-Family Development is $2,145/unit (see Table A.6)[24].

The Windstar Pointe Resort Supplemental SPA Amendment project is within the boundaries of the PFDIF Program and, therefore, the project will be subject to the payment of the fee at the rate in effect at the time building permits are issued. At the current fee rate, the Windstar Pointe Resort Civic Center Fee obligation at buildout is $1,059,630 (see Table K.1).

Table K.1
Civic Center Fee For Windstar Pointe Resort

Development	Number of DUs	Civic Fee/MF DU	Civic Center Fee
Windstar Pointe Resort project	494	$2,145/DU	$1,059,630

The projected fee illustrated in Table K.1 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities, industrial acreage or commercial acreages.

II.5.4.11.6. THRESHOLD COMPLIANCE AND REQUIREMENTS:

Civic Center facilities will be funded through the payment of the public facilities fees; the fees shall be paid prior to the issuance of building permits, at the rate in effect at the time payment is made.

[24] Fee based on Form 5509 dated 10/26/2007. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

II.5.4.12 CORPORATION YARD

II.5.4.12.1 THRESHOLD STANDARDS:

There is no adopted threshold standard for this facility. The facility information is being provided in this report to aid the City in establishing operational benchmarks which will determine construction phasing of the corporation yard.

II.5.4.12.2 SERVICE ANALYSIS:

New development, with its resultant increase in required maintenance services, creates a need for a larger corporation yard. A new 25-acre yard located at 1800 Maxwell Road was completed this year by the city.

II.5.4.12.3 EXISTING CONDITIONS:

The new 25-acre Corporate Yard Facility was previously an SDG&E equipment and repair facility. The city has renovated and added new improvements for the maintenance and repair of city owned equipment. This facility consists of a renovated building that serves as the administration building for the Corporate Yard. Existing shop buildings have been renovated and new shops have been added as well as a new maintenance building. The Corporate Yard includes parking for employees, city vehicles and equipment. In addition, there is a Bus Wash/Fuel Island/CNG and associated equipment.

II.5.4.12.4 ADEQUACY ANALYSIS:

The need for a Corporate Yard cannot be easily related to population figures or acres of commercial and industrial land, which will be developed in the future. The growth in population, increase in street miles and the expansion of developed areas in Chula Vista, requires more equipment for maintenance as well as more space for storage and the administration of increased numbers of employees. The need for a larger Corporation Yard has been specifically related to new development.

II.5.4.12.5. FINANCING CORPORATE YARD FACILITIES:

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 19, 2002 by adoption of Ordinance 2887. The Public Facilities Development Impact Fee (PFDIF) is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The PFDIF amount is subject to change as it is amended from time to time. The Corporate Yard DIF Fee for Multi-Family Development is $323/unit (see Table A.6)[25].

The Windstar Pointe Resort Supplemental SPA Amendment project is within the boundaries of the PFDIF Program and, therefore, the project will be subject to the payment of the fee at the rate in effect at the time building permits are issued. At the current fee rate, the Windstar Pointe Resort Corporate Yard Fee obligation at buildout is $159,562 (see Table L.1).

[25] Fee based on Form 5509 dated 10/26/2007. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

Table L.1 Corporate Yard Fee For Windstar Pointe Resort			
Development	**Number of DUs**	**Corporate Yard Fee/MF DU**	**Estimated Corporate Yard Fee**
Windstar Pointe Resort	494	$323	$159,562

The projected fee illustrated in Table L.1 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities, industrial acreage or commercial acreages.

II.5.4.12.6. THRESHOLD COMPLIANCE AND REQUIREMENTS:

Corporate Yard facilities will be funded through the payment of the public facilities fees; the fees shall be paid prior to the issuance of building permits, at the rate in effect at the time payment is made.

II.5.4.13. OTHER PUBLIC FACILITIES

II.5.4.13.1. THRESHOLD STANDARD:

There is no adopted threshold standard for these facilities which are part of the Public; Facilities Development Impact Fee Program and include GIS, Computer Systems, Telecommunications, Records Management System and Administration. The information regarding these capital items is being provided in this section of the PFFP to aid the City and the Developer in calculating the PFDIF fees to be paid by the Windstar Pointe Resort Project.

II.5.4.13.2. EXISTING CONDITIONS:

The City continues to collect funds from building permit issuance in the Eastern Territories for deposit to the accounts associated with Administration costs only and not the other aforementioned public facilities. These other public facilities that funds are not currently collected include records management, telecommunications, computer systems and GIS.

II.5.4.13.3. FINANCING ADMINISTRATION FACILITIES:

The Public Facilities Development Impact Fee (PFDIF) was updated by the Chula Vista City Council on November 19, 2002 by adoption of Ordinance 2887. The Public Facilities Development Impact Fee (PFDIF) is adjusted every October 1st pursuant to Ordinance 3050, which was adopted by the City Council on November 7, 2006. The PFDIF amount is subject to change as it is amended from time to time. The Administration DIF Fee for Multi-Family Development is $509/unit (see Table A.6)[26].

The Windstar Pointe Resort Supplemental SPA Amendment project is within the boundaries of the PFDIF Program and, therefore, the project will be subject to the payment of the fee at the rate in effect at the time building permits are issued. At the current fee rate, the Windstar Pointe Resort Other Public Facilities Fee obligation at buildout is $251,446 (see Table M.1).

Table M.1
Public Facilities Fees For Administration Facilities

Development	DUs	Administration Facilities Fee /MF DU	Administration Facilities Fee
Windstar Pointe Resort	494	$509	$251,446

The projected fee illustrated in Table M.1 is an estimate only. Actual fees may be different. PFDIF Fees are subject to change depending upon City Council actions and or Developer actions that change residential densities, industrial acreage or commercial acreages.

[26] Fee based on Form 5509 dated 10/26/2007. Actual fee may be different, please verify with the City of Chula Vista at the time of building permit.

II.5.4.13.4 THRESHOLD COMPLIANCE AND REQUIREMENTS:

Administration Facilities will be funded through the payment of public facility fees; the fees shall be paid prior to the issuance of building permits, at the rate in effect at the time payment is made.

II.5.4.14. FISCAL:

II.5.4.14.1. THRESHOLD STANDARD:

A. The GMOC shall be provided with an annual fiscal impact report, which provides an evaluation of the impacts of growth on the City, both in terms of operations and capital improvements. This report should evaluate actual growth over the previous 12-month period, as well as projected growth over the next 12-18 month period, and 3-5 year period.

B. The GMOC shall be provided with an annual "economic monitoring report" which provides an analysis of economic development activity and indicators over the previous 12-month period, as well as projected growth over the next 12-18 month period, and 3-5 year period.

II.5.4.14.2. FISCAL IMPACT ASSUMPTIONS AND CONCLUSIONS:

There is no existing Master Plan for fiscal issues. However, the City of Chula Vista has a fiscal model that is used to determine the land use changes to the General Plan. A Fiscal Impact Analysis was prepared by CIC Research, Inc., (see Appendix A), based on the city's model, it identifies the estimated fiscal impact that the Windstar Pointe Resort_Project will have on the operation and maintenance budgets of the City of Chula Vista (general fund).

The *Fiscal Impact Analysis of EastLake III Project*, dated December 21, 2007, by CIC Research, Inc. is based on the EastLake III SPA Project, as amended including the Windstar Pointe Resort Project, being developed within the City of Chula Vista. The entire CIC Fiscal Analysis is attached as Appendix A to this PFFP. The 18.4-acre Windstar Pointe Resort is a proposed multi-family housing project located northeast of the Olympic Training Center (OTC). The project site is adjacent to Olympic Parkway, between the OTC and the Lower Otay Reservoir. The projected absorption schedule occurs over a three-year period (2007-2009) as used in the CIC fiscal report. For the purpose of this analysis, absorption represents commercial and residential land developed that is sold and occupied for EastLake III.

The CIC analysis of revenues and expenditures did not include DIF fees. The analysis focused on the city's general fund account for city services. Estimated revenues were from property taxes (secured and unsecured), property transfer tax, sales & use tax, franchise fees, Transient Occupancy Tax (TOT), business licenses, utility taxes, parking citations, gas tax, etc. Estimated expenditures were from police, fire, administration, public works and planning.

Table N.1 presents the results of the fiscal impact associated with the Windstar Pointe Resort Project. The net fiscal impact from developing the Windstar Pointe Resort Project is positive in year one (a positive $620,300) and remains so throughout. At build-out, the net fiscal impact is estimated to result in a surplus of $466,300 (See Appendix A for details).

All values are in 2007 dollars. No annual adjustments to revenues or costs were utilized. The estimated annual flows of costs and revenues are primarily related to the estimated project absorption and street maintenance schedules.

Table N.1 Net Fiscal Impact of the Eastlake III Project with Windstar Pointe Resort On the City of Chula Vista			
Revenue Sources	**Revenues (In Thousands)**		
	2007	**2008**	**2009**
Secured Property Tax	$ 1,292.8	$ 1,308.8	$ 1,447.5
Unsecured Property Tax	0.0	0.0	4.9
Property Transfer Tax	93.7	94.8	100.4
Sales & Use Tax	424.6	429.3	496.2
Franchise Tax	64.4	65.0	106.6
TOT Tax	5.9	5.9	8.5
Utility Tax	62.5	63.0	103.0
Business License	0.0	0.0	9.7
Miscellaneous Revenues	583.6	589.0	746.9
TOTAL REVENUES	**$2,527.5**	**$2,555.9**	**$3,023.8**
Expenditure Sources	**Expenditures (In Thousands)**		
	2007	**2008**	**2009**
Legislative & Administrative	$ 35.6	$ 35.9	$ 45.8
Development and Maintenance Services	252.1	254.4	377.1
Police	697.4	702.8	937.8
Fire	377.2	380.4	503.8
Cultural and Leisure	489.1	493.7	621.9
Non-Departmental	55.9	56.4	71.1
TOTAL EXPENDITURES	**$1,907.3**	**$1,923.6**	**$2,557.5**
	2007	**2008**	**2009**
TOTAL REVENUES	$2,527.5	$2,555.9	$3,023.8
TOTAL EXPENDITURES	$1,907.3	$1,923.6	$2,557.5
NET FISCAL IMPACT	**$620.3**	**$632.3**	**$466.3**

Source: CIC Research

II.5.4.14.3. THRESHOLD COMPLIANCE AND REQUIREMENTS:

CIC Research, Inc prepared an analysis of the fiscal impacts of the EastLake III SPA project development. The CIC analysis concluded that the net fiscal impact from developing the project is positive in year one at $620,300 and remains so throughout the time period analyzed.

The results of the analysis will be included in the next annual fiscal and economic report prepared for the GMOC.

II.5.4.15. PUBLIC FACILITIES FINANCE

II.5.4.15.1 OVERVIEW:

All development within the City of Chula Vista must be in compliance with the City's Growth Management Program. The appropriate public facility financing mechanisms are required and approved by the City to fund the acquisition, construction and maintenance of public facilities. New facilities will be required to support the planned development of the project.

The public facilities are generally provided or financed in one or more of the following ways: Subdivision Exaction, Development Impact Fee and Debt Financing. It is anticipated that two methods will be utilized for the project to construct and finance public facilities.

II.5.4.15.2.-DEVELOPMENT IMPACT FEE (DIF):

Public infrastructure is funded through the collection of an impact fee. Constructed by the public agency or Developer constructed with a reimbursement or credit against specific fees.

Development Impact Fees (DIF) are acceptable methods to contribute to the financing of capital improvements within the city of Chula Vista. The Windstar Pointe Resort Project is subject to fees established to help defray costs of facilities that will benefit the project. These fees include but may not be limited to:

A. Transportation Development Impact Fee (TDIF): Established to provide financing for circulation element road projects of regional significance.

B. Public Facilities Development Impact Fee (PFDIF): Established to collect funds for civic center facilities, police, corporation yard, libraries, fire suppression system, recreation and administration.

C. Traffic Signal Fees: To pay for traffic signals associated with circulation element streets.

D. Otay Water District Fees: The district may require annexation to an existing improvement district or creation of some other finance mechanism that may result in specific fees being modified.

E. Salt Creek Sewer Development Impact Fee: To pay for sewer facilities within the Salt Creek Sewer Basin.

II.5.4.15.3. DEBT FINANCE PROGRAMS:

The City of Chula Vista has a history of using assessment districts to finance a number of street improvements, as well as sewer and drainage facilities. The Otay Municipal Water District has used such improvement districts for water system improvements. Both school districts have implemented Mello-Roos Community Facility Districts to finance school facilities.

A. Assessment Districts

Special assessment districts may be proposed for acquiring, constructing and/or maintaining certain public improvements under the Municipal Improvement Act of 1913 and the Improvement Bond Act of 1915. The City has suspended the use of the Lighting and Landscape Act of 1972 for new open space district formation due to the passage of Proposition 218. The administration of the special assessment district is the responsibility of the public agency.

B. Community Facilities District (CFD)

On January 13, 1998, the City Council adopted the "City of Chula Vista statement of goals and policies regarding the establishment of Community Facilities Districts" (CFD's). The approval of this document ratified the use of CFD's as a public financing mechanism for:

- The construction and/or acquisition of public infrastructure, and
- The financing of authorized public services, including services provided by open space districts.

On April 28, 1998, the City Council enacted the "Chula Vista Community Facilities District Ordinance." This ordinance adopted the Mello-Roos Act with modifications to additionally include the following:

- Incorporate all maintenance activities authorized by the "Landscaping & Lighting Act of 1972" (1972 Act) and
- Include maintenance activities not listed in the "Mello-Roos Act" or the "1972 Act."

Special assessment financing may be appropriate when the value or benefit of the public facility can be assigned to specific properties. Assessments are levied in specific amounts against each individual property on the basis of relative benefit. Special assessments may be used for both publicly dedicated on-site and off-site improvements.

C. Mello-Roos Community Facilities Act of 1982

The Mello-Roos Community Facilities Act of 1982 authorizes formation of community facilities districts that impose special taxes to provide financing for certain public facilities or services. Facilities which can be provided under the Act include the purchase, construction, expansion, or rehabilitation of: Local park, recreation, or parkway facilities; Elementary and secondary school sites and structures; Libraries; and, any other governmental facilities that legislative bodies are authorized to construct, own or operate. In addition, the City has enacted an ordinance that adopted the Mello-Roos Act with modifications to accomplish the maintenance of facilities.

II.5.4.15.4. OTHER METHODS USED TO FINANCE FACILITIES:

A. General Fund:

The City of Chula Vista's general fund serves to pay for many public services throughout the City. Those facilities and services identified as being funded by general fund sources represent those that will benefit not only the residents of the proposed project, but also Chula Vista residents throughout the City. In most cases, other financing mechanisms are available to initially construct or provide the facility or service, and then general fund moneys would only be expected to fund the maintenance costs once the facility is accepted by the City.

B. State and Federal Funding:

Although rarely available to fund an entire project, Federal and State financial and technical assistance programs have been available to public agencies, in particular the public school districts.

C. Dedications:
Dedication of sites by Developers for public capital facilities is a common financing tool used by many cities.

D. Developer Reimbursement Agreements:
Certain facilities that are located off-site of a project and/or provide regional benefits may be constructed in conjunction with the development of the project. In such instances, developer reimbursement agreements may be executed to provide for a future payback to the Developer for the additional cost of these facilities. Future developments are required to pay back their fair share of the costs for the shared facility when development occurs.

E. Special Agreements/Development Agreement:
This category includes special development programs for financing special arrangements between the City and the Developer such as credits against fees, waiver of fees, or charges for the construction of specific facilities.

A development agreement can play an essential role in the implementation of the Public Facilities Financing Plan. The Public Facilities Finance Plan clearly details all public facility responsibilities and assures that the construction of all necessary public improvements will be appropriately phased with actual development, while the development agreement identifies the obligations and requirements of both parties.

F. Park Acquisition and Development Fees: Fee established to pay land and improvements by new development.

II.5.4.15.5. CUMULATIVE DEBT

The City of Chula Vista has an established policy limiting the maximum debt to be placed on a residential dwelling unit to an additional one percent above the property tax. This policy was restated in the adopted Growth Management Program.

Like many other cities, Chula Vista has long understood that it is not the only agency that can utilize public finance mechanisms and, therefore, can not always guarantee that the total debt will remain at or below a maximum of 2 percent. The City needs to coordinate its debt finance programs with the other special districts that provide service to the residents of Chula Vista to ensure that the cumulative debt does not become excessive. Coordination is also necessary to guarantee all public facilities needed to support a development can be financed and constructed as needed.

II.5.4.15.6. LIFECYCLE COST

Section 19.09.060 Analysis subsection F(2) of the Growth Management Ordinance requires the following:

"...The inventory shall include Life Cycle Cost ("LCC") projections for each element in 19.09.060(E) ... as they pertain to City fiscal responsibility. The LCC projections shall be for estimated life cycle for each element analyzed. The model used shall be able to identify and estimate initial and recurring life cycle costs...

A. Background:

Life Cycle Costing (LCC) is a method of calculating the total cost of asset ownership over the life span of the asset. Initial costs and all Subsequent expected costs of significance are included in the LCC analysis as well as disposal value and any other quantifiable benefits to be derived as a result of owning the asset. Operating and maintenance costs over the life of an asset often times far exceed initial costs and must be factored into the decision process.

LCC analysis should not be used in each and every purchase of an asset. The process itself carries a cost and therefore can add to the cost of the asset. LCC analysis can be justified only in those cases in which the cost of the analysis can be more than offset by the savings derived through the purchase of the asset.

Four major factors that may influence the economic feasibility of applying LCC analysis are:

1. Energy Intensiveness - LCC should be considered when the anticipated energy costs of the purchase are expected to be large throughout its life.

2. Life Expectancy - For assets with long lives (i.e., greater than five years), costs other than purchase price take on added importance. For assets with short lives, the initial costs become a more important factor.

3. Efficiency - The efficiency of operation and maintenance can have significant impact on overall costs. LCC is beneficial when savings can be achieved through reduction of maintenance costs.

4. Investment Cost - As a general rule, the larger the investment the more important LCC analysis becomes.

B. Applications for LCC Analysis

The City of Chula Vista currently utilizes LCC analysis in determining the most cost effective purchase of capital equipment as well as in the determination of replacement costs for a variety of rolling stock. The use of LCC techniques takes place in the preparation of the City's Five Year Capital Improvement Budget (CIP) as well as in the Capital Outlay sections of the annual Operating Budget.

There are no project facilities that are not covered by LCC analysis. In these existing processes, the City should require the use of LCC analysis prior to or concurrent with the design of public facilities required by new development. Such a requirement will assist in the determination of the most cost effective selection of public facilities.

APPENDIX A
FISCAL IMPACT ANALYSIS

FISCAL IMPACT ANALYSIS
OF THE EASTLAKE III

Prepared for:

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Chula Vista, CA 91910

Prepared by:
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December 21, 2007



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INTRODUCTION

This analysis identifies the estimated fiscal impact that the Eastlake III development will have on the operation and maintenance budgets of the City of Chula Vista (general fund). Information pertaining to the scope of development was derived from the Eastlake III specific plan..

Two basic methodologies were utilized in estimating public agency revenues and expenditures; the case study and per unit/acre multiplier methods. The case study method was used to estimate secured property tax. The case study method is based on specific characteristics of the project from which revenues can be estimated. Appropriate city officials were contacted to identify actual tax rates. The per unit/acre multiplier method, which represents a more general approach was utilized to estimate unsecured property tax, sales tax, TOT, property transfer tax, utility tax, license fees, fines, other revenues and fees and all expenditures. The City of Chula Vista's Fiscal Model was utilized to estimate per unit/acre multipliers.

Future revenues and expenditures are presented in current (2007) dollars. The development absorption schedule is based on information provided by the City as well as estimations on future absorption made by CIC.

PROJECT DESCRIPTION

The Eastlake III Project is proposed to be developed in the City of Chula Vista and will have 1439 single family residential units, 549 multi-family residential units, 494 apartments, 12.2 retail commercial acres, 15.2 acres of parks and approximately 41 acres of quasi public space..

Presented in Table 1 is a description of the land uses and projected absorption schedule. For the purpose of this analysis, absorption represents new units being sold and occupied.

Housing market values were determined by analyzing current assessed value for residential units in the project that have already been sold. These ranged from $300,000 to over $900,000. The values used in the table represent a conservative estimate of the unit price for each of the types of land uses in the development.

PROJECT DEMOGRAPHICS AND LAND USES

In developing per unit/acre multipliers for expenditures, CIC utilized demographic and land use information related to the City of Chula Vista as a whole and, more specifically, the subject Eastlake III Project. Included in Table 2 are population, housing, land-use and infrastructure characteristics.

Table 1
EASTLAKE III DEVELOPMENT
ABSORPTION SCHEDULE AND MARKET VALUES BY LAND USE

Land Use	Per Unit/ Net Acre Value (000's)	Cumulative Developed and Occupied Units/Net Acres 2007	2008	2009	TOTAL
SINGLE FAMILY RESIDENTIAL UNITS					
Low (0 to 3 per Acre)	$900	619	632	645	645
Low to Medium (3 to 6 per Acre)	$600	784	789	794	794
TOTAL SINGLE FAMILY UNITS		1403	1421	1439	1439
MULTI FAMILY RESIDENTIAL UNITS	$300	549	549	549	549
APARTMENTS	$160	0	0	494	494
RETAIL COMMERCIAL ACRES	$2,800	0.0	0.0	12.2	12.2
PARKS		15.2	15.2	15.2	15.2
PUBLIC USE		41.0	41.0	41.0	41.0

Source: Brookfield Homes,
CIC Research, Inc.

Table 2
EASTLAKE III PROJECT FISCAL IMPACT
GENERAL ASSUMPTIONS

Chula Vista		Sources
Population	227,723	Chula Vista Budget
Occupied Housing Units	74,606	Chula Vista Budget
Persons Per Household	3.05	Chula Vista Budget
Median Housing Price	$297,000	U.S. Census Bureau
Median Monthly Rent	$1,053	U.S. Census Bureau
Land Uses (Developed Acres)		
Commercial	1,206.70	CV Planning
Industrial	867.50	CV Planning
Residential	8,226.81	CV Planning
Park	1,708.42	CV Planning
Eastlake III Project		
Estimated Population	7,570	CIC Research, Inc
Housing Units	2,482	CV Planning
Estimated Median Housing Price	$600,000	CIC Research, Inc
Estimated Monthly Rent	$1,600	CIC Research, Inc

REVENUES

Operating revenues for the City of Chula Vista resulting from the development of the proposed Eastlake III Project are estimated in this section. The major revenue sources which are expected to be generated from the subject developments and detailed in this chapter include property tax, property transfer tax, sales tax, franchise fees, TOT, utility tax, license revenue, miscellaneous fines, motor vehicle license fees, gas tax and charges for various current services. The City of Chula Vista's Budget (FY 2006) for these revenue items is detailed in Table 3 along with allocation rates. The following section details each of the revenue sources and the methodology employed to estimate revenues from the subject developments. For each identified revenue source, a detailed table reflecting the revenue flow of the project is presented in the Appendix of this report. All dollar figures are presented in 2007 dollars.

Table 3
EASTLAKE III PROJECT FISCAL IMPACT
REVENUE GENERATION ASSUMPTIONS

Revenues	City of Chula Vista FY2006 Revenues	Allocation Assumption
Property Taxes		
Secured	$19,193,563	Based on 10.844% of 1% of TAV
Un-Secured	840,000	$405 per commercial acre
Other Taxes		
Property Transfer Tax	$2,407,777	Annual Avg. $.078 per $1,000 of assessed value for residential and $.039 per $1,0000 of assessed value for commercial and apartments
Sales & Use Tax	26,788,000	$293 per housing unit for single family, $122 per housing unit for multi-family residential, $92 per housing unit for apartments, $1,776 per commercial acre
Franchise Fees	6,700,000	$33 per housing unit, $2,027 per commercial acre
TOT	2,410,301	$3 per housing unit , $90 per commercial acre
Utility Tax	6,400,000	$32 per housing unit, $1,936 per commercial acre
Licenses		
Business License	$1,229,948	$795 per commercial acre
Other Licenses	108,677	$1.46 per housing unit

Table 3 (continued)
EASTLAKE III PROJECT FISCAL IMPACT
REVENUE GENERATION ASSUMPTIONS

Revenues	City of Chula Vista FY2006 Revenues	Allocation Assumption
Fines		
Law Enforcement	$279,645	$3.75 per housing unit
Parking Citations	574,183	$5.77 per housing unit, $90.40 per commercial acre
Other Fines	411,565	$5.52 per housing unit
Revenues from other Agencies		
Gas Tax	$3,858,091	$45.25 per housing unit, $303.70 per commercial acre
Charges for Current Service		
Recreation	$900,00	$12.06 per housing unit
Other Revenues		
Vehicle Licenses Fees	$16,800,000	$225.18 per housing unit

Secured Property Tax

Secured property tax revenues generated from the proposed developments were calculated on the basis of a one- percent tax rate on the current market value of the residential and commercial construction. According to the County of San Diego, the City of Chula Vista would receive 10.844 percent of the one-percent of the property taxes collected in those tax rate areas. It should be noted that the citywide average share of property tax is roughly 14.7 percent.

As previously mentioned, market values (assessed values) for the residential units were estimated by examining property tax records by selecting random properties already sold, while the market values for the apartment and retail land uses were estimated using recent property purchases in the region. Although assessed values increase two percent per year and readjust after the property resells, this analysis assumes no inflation and all values remain in 2007 dollars. Included in Tables A-2 in the appendix is the cumulative assessed value over the build-

out of the developments. Total assessed values for Eastlake III Project is estimated to be $1.192 billion currently and increase to $1.335 billion at build-out.

The City of Chula Vista's share of the collected annual property tax is estimated to be $1.3 million in the first year rising to $1.5 million (Table A-3) at build-out.

Unsecured Property Tax

Unsecured property, which includes personal property such as equipment, inventory, furniture, etc. is taxed for primarily commercial and industrial businesses. It is estimated that $4,900 in unsecured property taxes are expected to be generated by the project at buildout.

Property Transfer Tax

Sales of real property in San Diego County are taxed at a rate of $1.10 per $1,000 of the sales price. Chula Vista would receive 50 percent of the tax. An analysis conducted by the San Diego Association of Governments (SANDAG) indicates that the average turnover rate for residential property is once every seven years and once every 14 years for nonresidential property. The following formulas, which take both the transfer tax formula and the average turnover rate into account, were utilized to yield average annual per unit property transfer tax.

Single Family Residential	$\frac{\$.55}{\$1,000}$ X	1/7	=	.00007857
Commercial/Industrial	$\frac{\$.55}{\$1,000}$ X	1/14	=	.00003929

Using these formulas, an estimated annual average property tax can be calculated. The Eastlake III development would generate $100,400 (refer to Table A-5) in average, annual property transfer tax at build-out.

Sales Tax

This fiscal impact methodology estimates the sales tax generated by residential units and commercial businesses that create new demand. Per household sales taxes were estimated by imputing the household income based on the cost of housing. Average household income for those purchasing residential units is projected to be between approximately $60,000

and $190,000 based on mortgage payments comprising 29% of gross income. Rents are expected to average $1,600 per month requiring an income of $56,000 based on 34% of income used for rent. Utilizing the Consumer Expenditure Survey of the U. S. Bureau of Labor Statistics, the amount of taxable sales is estimated to be 23% or between $12,000 and $39,000 per household for the different housing categories. Conservatively 66.7 percent of those taxable sales would be expected to be spent in Chula Vista. Therefore it is estimated that each household would generate between $82 and $260 per household (refer to Table A-6) in sales taxes annually for the City of Chula Vista. This amount includes the property tax shift the State reimburses the City for the loss of sales taxes. Total annual sales tax generated by Eastlake III at build out is estimated to be $496,200.

Franchise Fees

The City of Chula Vista receives a franchise tax fee from sales of natural gas, electricity, cable television and trash collection. Using the sale of gas and electricity as a guideline and based on a study prepared by San Diego Gas and Electric (SDG&E), 37 percent of the franchise fees are attributed to residential uses, 36.5 percent to retail/office uses and the remaining 26.5 percent is attributed to industrial uses. Using these guidelines, the city budget, area demographics and land use information results in an estimated $33 in annual franchise fees per housing unit and $2,027 per commercial acre. Utilizing these ratios results in a total annual franchise fee of $64,400 in the 2007 and $106,600 at build-out for Eastlake III (see Table A-7).

Transient Occupancy Tax

Transient occupancy tax (TOT) is a tax added to the price charged for the use of a hotel or motel room. The majority of the tax is associated with new hotel developments. Since there is no planned hotel/motel development in this project, TOT would be generated by the demand Chula Vista residents create for local hotels/motels. The San Diego Convention and Visitors Bureau estimates that of all visitors who stay in hotels and motels eight percent are visiting

friends or relatives and an additional nine percent are here for non-convention business. Utilizing the City's budget for TOT of $2,410,301 results in multiplier ratios of roughly $3 per household and $90 per commercial acre. Using this ratio the City of Chula Vista will receive at build-out a total annual TOT tax of $8,500 associated with the Eastlake III (refer to Table A-8).

Utility Users' Tax

The City of Chula Vista's FY2006 budget for utility taxes is $6,400,00. These taxes are paid by the residents and businesses on gas, electric and telephone services. CIC utilized the same methodology for utility taxes and franchise fees. Using the land use allocation of 37 percent residential uses, 36.5 percent to retail/office uses and 26.5 percent to industrial uses, results in an estimated $32 in annual utility tax per housing unit and $1,936 per commercial acre. These ratios result in a total annual utility tax of $62,500 in the first year rising to $103,000 at build-out (refer to Table A-9).

Business License Fees

Business license fees are allocated for commercial and industrial uses. On average, the City receives $795 per year per acre of commercial land in business taxes. At build-out, Eastlake III should generate $9,700 per year (Table A-10).

Miscellaneous Revenues

CIC grouped numerous revenues into the category of miscellaneous. These revenues include: animal licenses, bicycle licenses, motor vehicle licenses, library fines, parking citations, swimming pool fees, recreation programs and park reservation fees. With the exception of gas tax and parking citations, all the revenues are assumed to be allocated entirely to residential uses. For these revenues, multipliers were developed by dividing the total revenues by the total number of citywide occupied housing units and commercial acreage. Total miscellaneous revenues attributed to Eastlake III are $746,900 per year at build-out (refer to Table A-11). The allocation of gas tax and parking citations was calculated as follows:

Gasoline Tax

Gasoline tax revenue accrues on the basis of a complicated formula utilizing county to state and incorporated to unincorporated portion of population. According to the City of San Diego's "Fiscal Impact of New Development" and the Department of Motor Vehicle's auto registration records, an estimated 50 percent is attributed to residential uses and the remaining 50 percent is allocated based on vehicle registration (75% residential, 19% commercial and 6% industrial).

Parking Citations

Parking violation revenues were allocated by vehicle registration classification as estimated by the Department of Motor Vehicles (75% residential, 19% commercial and 6% industrial).

OPERATING EXPENDITURES

Operating expenditures for the City of Chula Vista resulting from development of the Eastlake III are outlined in this section. CIC utilized the cost factors developed by Economic Research Associates (ERA) and the City of Chula Vista Finance Department. Table 4 presents those cost factors. Detailed tables reflecting the annual expenditure cash flows are presented in the appendix to this report.

Table 4

EASTLAKE III PROJECT FISCAL IMPACT

COST ALLOCATION ASSUMPTIONS

	Population (Per person)	Retail (Per Acre)	Office (Per Acre)	Hotel (Per Acre)	Industrial (Per Acre)	Residential (Per DU)	Private Parks (Per Acre)	Public Parks (Per Acre)	Public Use (Per Acre)	Open Space (Per Acre)	Other (Per Acre)
Legislative & Administrative											
City Council	$ 1.87										
Boards and Commissions											
City Clerk	$ 0.72										
City Attorney		$ 37.30	$ 40.28	$ 23.84	$ 9.84	$ 5.64					
Administration	$ 0.08					$ 0.40					
Management and Information serv	$ 1.33										
Human Resources	$ -										
Finance	$ -										
Total Legislative & Administrative	$ 4.00	$ 37.30	$ 40.28	$ 23.84	$ 9.84	$ 6.04	$ -	$ -	$ -	$ -	$ -
Development and Maintenance Services											
Community Development	$ 0.82	$ 906.12	$ 978.61	$ 579.20	$ 239.01	$ 8.00					$ 8.32
Planning and building services	$ 1.32	$ 106.60	$ 114.59	$ 70.54	$ 33.02	$ 15.92					$ 15.71
Engineering		$ 1,245.44	$ 659.35	$ 293.05	$ 124.54	$ 13.92		$ 76.91			$ 76.91
Public Works Operations		$ 2,544.11	$ 1,346.88	$ 598.61	$ 254.41	$ 28.43		$ 29.93	$ 149.65		$ 149.65
General Services	$ 17.18										
Total Development and Maintenance Se	$ 19.32	$ 4,802.27	$ 3,099.43	$ 1,541.40	$ 650.98	$ 66.27	$ -	$ 106.84	$ 149.65	$ -	$ 250.59
Public Safety											
Police	$ 7.19	$ 6,860.31	$ 6,860.31	$ 6,860.31	$ 916.58	$ 273.73	$ 822.48	$ 2,140.94	$ 2,140.94		$ 2,140.94
Fire	$ 1.17	$ 2,538.77	$ 2,538.77	$ 2,538.77	$ 313.56	$ 176.70	$ 132.27	$ 132.27	$ 132.27	$ 132.27	$ 132.27
Total Public Safety	$ 8.36	$ 9,399.08	$ 9,399.08	$ 9,399.08	$ 1,230.14	$ 450.43	$ 954.75	$ 2,273.21	$ 2,273.21	$ 132.27	$ 2,273.21
Cultural and Leisure											
Recreation	$ 24.60										
Library	$ 55.09										
Nature Centure						$ 7.51					
Total Cultural and Leisure	$ 79.69	$ -	$ -	$ -	$ -	$ 7.51	$ -	$ -	$ -	$ -	$ -
Non-Departmental											
Operations	$ 9.39										
Total Non-Departmental	$ 9.39	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Cost Factor Citywide	$ 120.76	$14,238.65	$12,538.79	$10,964.32	$ 1,890.96	$ 530.25	$ 954.75	$ 2,380.05	$ 2,422.86	$ 132.27	$ 2,523.80

Source: City of Chula Vista, Budget Analysis
Economic Research Associates
October, 2007

Legislative and Administration

The cost for the City Council, various boards and commissions, the City Clerks office, the City Attorney's office and general city administration make up the legislative and administration cost center. Based on the City's and ERA's analysis, the cost for the Eastlake III project is allocated at a rate of $37.40 per commercial retail acre, $6.04 per dwelling unit and $4.00 per person. Table A-12 in the appendix shows annual legislative and administration expenditures for the development of $45,800 at build-out.

Development and Maintenance Service

Development and Maintenance Services include community development, planning and building services, engineering, and public works operations. Residential land uses are allocated costs of $66.27 per dwelling, $4,802.27 per commercial acre, $106.84 per park acre and $149.65 per acre of public use. Residential populations are allocated an additional $19.32 per capita in costs. These multipliers translate into Development and Maintenance Services costs of $377,100 for the finished project (refer to Table A-13).

Police

Police services costs are allocated to all land uses. Residential land uses are allocated on the basis of $273.73 per dwelling unit with an additional allocation of $7.19 per capita for the residential population. Retail land uses are allocated police costs of $6,860.31 per acre and parks and public use land allocated $2,140.94 in police costs per acre. Total police costs at build-out is estimated to be $937,800 (refer to Table A-14)

Fire Protection

Fire costs are $176.70 per dwelling unit for residential land uses, $2,538.77 per acre of commercial land, and $132.27 per acre for parks, public use and open space. An additional $1.17 per capita is allocated to the residential population. These ratios result in annual fire protection costs of $503,800 for the Eastlake III Project (refer to Table A-15) at build-out.

Cultural and Leisure

Based on the City of Chula Vista model, cultural and leisure costs are only allocated to residential development. This sector is made up of the costs associated with the recreation department, the library, and the nature center. For the Eastlake III Project residents were assessed $7.51 per dwelling unit and $79.69 per capita to determine their cultural and leisure costs. The total cost at build-out is estimated to be $621,900 (Table A-16).

Other Non-Departmental

Other non-departmental costs are assigned to residential development at a rate of $9.39 per capita. Total costs for the Eastlake III Project is $71,100 (Table A-17).

NET FISCAL IMPACT

Utilizing the previously mentioned methodologies estimated net fiscal impacts are presented in Tables 5. As previously mentioned, all values are in 2007 dollars. No annual adjustments to revenues or costs were utilized. The estimated annual flows of costs and revenues are primarily related to the estimated project absorption.

Table 5 presents the results of the fiscal impact associated with the Eastlake III Project. Fiscal revenues would begin at $2.6 million annually and rise to $3.0 million at build-out. Fiscal expenditures would be initially 1.9 million and rise to $2.6 million at build-out. The net fiscal impact from developing the Eastlake III is positive through-out the development and at build-out results in a surplus of with a surplus of $466,300.

Table 5

NET FISCAL IMPACT OF THE EASTLAKE III PROJECT ON THE CITY OF CHULA VISTA

Revenue Sources	Revenues (In Thousands)		
	2007	2008	2009
Secured Property Tax	$1,292.8	$1,308.8	$1,447.5
Unsecured Property Tax	0.0	0.0	4.9
Property Transfer Tax	93.7	94.8	100.4
Sales & Use Tax	424.6	429.3	496.2
Franchise Tax	64.4	65.0	106.6
TOT Tax	5.9	5.9	8.5
Utility Tax	62.5	63.0	103.0
Business License	0.0	0.0	9.7
Miscellaneous Revenues	583.6	589.0	746.9
TOTAL REVENUES	**$2,527.5**	**$2,555.9**	**$3,023.8**

Expenditure Sources	Expenditures (In Thousands)		
	2007	2008	2009
Legislative & Administrative	$ 35.6	$ 35.9	$ 45.8
Development and Maintenance Services	252.1	254.4	377.1
Police	697.4	702.8	937.8
Fire	377.2	380.4	503.8
Cultural and Leisure	489.1	493.7	621.9
Non-Departmental	55.9	56.4	71.1
TOTAL EXPENDITURES	**$1,907.3**	**$1,923.6**	**$2,557.5**

	2007	2008	2009
TOTAL REVENUES	$2,527.5	$2,555.9	$3,023.8
TOTAL EXPENDITURES	$1,907.3	$1,923.6	$2,557.5
NET FISCAL IMPACT	**$620.3**	**$632.3**	**$466.3**

Source: CIC Research, Inc.

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APPENDIX A

Detailed Tables

Table A-1
ABSORPTION SCHEDULE BY LAND USE

Land Use	Per Unit/ Net Acre Value (000's)	Cumulative Developed and Occupied Units/Net Acres 2007	2008	2009	TOTAL
SINGLE FAMILY RESIDENTIAL UNITS					
Low (0 to 3 per Acre)	$900	619	632	645	645
Low to Medium (3 to 6 per Acre)	$600	784	789	794	794
TOTAL SINGLE FAMILY UNITS		1403	1421	1439	1439
MULTI FAMILY RESIDENTIAL UNITS	$300	549	549	549	549
APARTMENTS	$160	0	0	494	494
POPULATION		***5,954***	***6,009***	***7,570***	***7,570***
RETAIL COMMERCIAL ACRES	$2,800	0.0	0.0	12.2	12.2
PARKS		15.2	15.2	15.2	15.2
PUBLIC USE		41.0	41.0	41.0	41.0
OPEN SPACE		135.7	135.7	135.7	135.7

Table A-2
ASSESSED VALUE

Land Use	Per Unit/ Net Acre Value (000's)	Cumulative Assessed Value(000's) 2007	2008	2009
SINGLE FAMILY RESIDENTIAL UNITS				
Low (0 to 3 per Acre)	$900	$ 557,100	$ 568,800	$ 580,500
Low to Medium (3 to 6 per Acre)	$600	$ 470,400	$ 473,400	$ 476,400
TOTAL SINGLE FAMILY UNITS		$ 1,027,500	$ 1,042,200	$ 1,056,900
MULTI FAMILY RESIDENTIAL UNITS	$300	$ 164,700	$ 164,700	$ 164,700
APARTMENTS	$160	$ -	$ -	$ 79,040
RETAIL COMMERCIAL ACRES	$2,800	$ -	$ -	$ 34,160

Table A-3
SECURED PROPERTY TAX REVENUE

2006 Budget
For Secured Property Tax $19,193,563

SECURED PROPERTY TAX REVENUES		Secured Property Tax Revenue (000s) 2007	2008	2009
TOTAL EASTLAKE VILLAGE III				
Total Assessed Values		$ 1,192,200	$ 1,206,900	$ 1,334,800
Tax Rate	1.0%	$11,922	$12,069	$13,348
Total Chula Vista Share	10.844%	**$1,292.8**	**$1,308.8**	**$1,447.5**

Table A-4
UNSECURED PROPERTY TAX REVENUE

2006 Budget	
For Unsecured Property Tax	$840,000

UNSECURED PROPERTY TAX	Tax Per Acre	Unsecured Property Tax Revenue (000's) 2007	2008	2009
Commercial Uses	$405	$0.0	$0.0	$4.9
Total Unsecured Property Tax		**$0.0**	**$0.0**	**$4.9**

Table 5
ESTIMATED PROPERTY TRANSFER TAX REVENUES

2006 Budget	
For Property Transfer Tax	$2,407,777
Residential Resale Ratio	0.00007857
Commercial/Apartments Resale Ratio	0.00003929

Product	Resale Rate (Years)	Property Transfer Tax (000s) 2007	2008	2009
Total Single Family Units	7	$80.7	$81.9	$83.0
Total Multi Family Units	7	$12.9	$12.9	$12.9
Total Apartments	14	$0.0	$0.0	$3.1
Total All Commercial Acres	14	$0.0	$0.0	$1.3
Total Property Transfer Tax		**$93.7**	**$94.8**	**$100.4**

Table A-6
ESTIMATED SALES TAX REVENUES

FY2006 Budget	
For Sales Tax	$26,788,000

Land Use	Sales Tax Per Unit/Acre (000s)	City of Chula Vista's Share of Sales Tax (00 2007	2008	2009
Total Single Family Units	$0.260	$364.8	$369.5	$374.1
Total Multi Family Units	$0.109	$59.8	$59.8	$59.8
Total Apartments	$0.082	$0.0	$0.0	$40.5
Total Retail Commercial Acres	$1.776	$0.0	$0.0	$21.7
Total Sales Tax		**$424.6**	**$429.3**	**$496.2**

Table A-7
ESTIMATED FRANCHISE FEES

FY2006 Budget	
For Franchise Fees	$6,700,000

Land Use	Per Unit	Franchise Fee Revenue (000's) 2007	2008	2009
Total Single Family Units	$33	$46.3	$46.9	$47.5
Total Multi Family Units	$33	$18.1	$18.1	$18.1
Total Apartments	$33	$0.0	$0.0	$16.3
Total Commercial Acres	$2,027	$0.0	$0.0	$24.7
Total Franchise Fees		**$64.4**	**$65.0**	**$106.6**

Table A-8
ESTIMATED TRANSIENT OCCUPANCY TAX

FY2006 Budget For Transient Occupancy Tax	$2,410,301

Land Use	TOT per Unit/Net Acre	Transient Occupancy Tax (000's) 2007	2008	2009
Total Single Family Units	$3	$4.2	$4.3	$4.3
Total Multi Family Units	$3	$1.6	$1.6	$1.6
Total Apartments	$3	$0.0	$0.0	$1.5
Total Retail Commercial Acres	$90	$0.0	$0.0	$1.1
Total TOT		**$5.9**	**$5.9**	**$8.5**

Table A-9
ESTIMATED UTILITY TAX

FY2006 Budget For Utility Tax	$6,400,000

Land Use	Tax per Unit/Net Acre	Utility Tax Revenue (000's) 2007	2008	2009
Total Single Family Units	$32	$44.9	$45.5	$46.0
Total Multi Family Units	$32	$17.6	$17.6	$17.6
Total Apartments	$32	$0.0	$0.0	$15.8
Total All Commercial Acres	$1,936	$0.0	$0.0	$23.6
Total Utility Tax		**$62.5**	**$63.0**	**$103.0**

Table A-10
ESTIMATED BUSINESS LICENSE REVENUE

FY2006 Budget For Business License Tax	$1,229,948

Land Use	Average Business License Fee Per Acre	Business License Fees (000's) 2007	2008	2009
Total All Commercial Acres	$795	$0.0	$0.0	$9.7
Total Business License Fees		**$0.0**	**$0.0**	**$9.7**

Table A-11
ESTIMATED MISCELLANEOUS REVENUES

FY2006 Budget	Total Budget	Allocation of Budget: Residential	Allocation of Budget: Commercial	Per House Unit	Per Comm. Acre
Animal License & Bicycle Licenses	$108,677	$108,677		$1.46	
Motor Vehicle Licenses	$16,800,000	$16,800,000		$225.18	
Gas Tax	$3,858,091	$3,375,830	$366,519	$45.25	$303.7
Law Enforcement Fines	$279,645	$279,645		$3.75	
Other Fines	$411,565	$411,565		$5.52	
Parking Citations	$574,183	$430,637	$109,095	$5.77	$90.4
Charges for Current Services					
Recreation Program	$900,000	$900,000		$12.06	
Total Misc. Revenue	$22,932,161	$22,306,354	$475,613		
	Per Unit/Acre			$298.99	$394.14

Land Use	Per Unit/Acre	Miscellaneous Revenue (000's) 2007	2008	2009
Total Single Family Units	$299	$419.5	$424.9	$430.3
Total Multi Family Units	$299	$164.2	$164.2	$164.2
Total Apartments	$299	$0.0	$0.0	$147.7
Total All Commercial Acres	$394	$0.0	$0.0	$4.8
Total Miscellaneous Revenues		**$583.6**	**$589.0**	**$746.9**

Table A-12
ESTIMATED LEGISLATIVE AND ADMINISTRATIVE EXPENDITURES

Legislative & Administrative			Estimated Cost (000's) 2007	2008	2009
Single Family Residential	$ 6.04	per du	$ 8.5	$ 8.6	$ 8.7
Multi-Family Residential	$ 6.04	per du	$ 3.3	$ 3.3	$ 3.3
Apartments	$ 6.04	per du	$ -	$ -	$ 3.0
Population	$ 4.00	per person	$ 23.8	$ 24.0	$ 30.3
Retail Commercial	$ 37.30	per acre	$ -	$ -	$ 0.5
Parks			$ -	$ -	$ -
Public Use			$ -	$ -	$ -
Open Space			$ -	$ -	$ -
Total Legislative & Administrative			$ 35.6	$ 35.9	$ 45.8

Table A-13
ESTIMATED DEVELOPMENT AND MAINTENANCE SERVICES EXPENDITURES

Development and Maintenance Services		Estimated Cost (000's) 2007	2008	2009
Single Family Residential	$ 66.27	$ 93.0	$ 94.2	$ 95.4
Multi-Family Residential	$ 66.27	$ 36.4	$ 36.4	$ 36.4
Apartments	$ 66.27	$ -	$ -	$ 32.7
Population	$ 19.32	$ 115.0	$ 116.1	$ 146.3
Retail Commercial	$ 4,802.27	$ -	$ -	$ 58.6
Parks	$ 106.84	$ 1.6	$ 1.6	$ 1.6
Public Use	$ 149.65	$ 6.1	$ 6.1	$ 6.1
Open Space		$ -	$ -	$ -
Total Development and Maintenance Services		$ 252.1	$ 254.4	$ 377.1

Table A-14
ESTIMATED POLICE SERVICES EXPENDITURES

Police		Estimated Cost (000's) 2007	2008	2009
Single Family Residential	$ 273.73	$ 384.0	$ 389.0	$ 393.9
Multi-Family Residential	$ 273.73	$ 150.3	$ 150.3	$ 150.3
Apartments	$ 273.73	$ -	$ -	$ 135.2
Population	$ 7.19	$ 42.8	$ 43.2	$ 54.4
Retail Commercial	$ 6,860.31	$ -	$ -	$ 83.7
Parks	$ 2,140.94	$ 32.5	$ 32.5	$ 32.5
Public Use	$ 2,140.94	$ 87.8	$ 87.8	$ 87.8
Open Space		$ -	$ -	$ -
Total Police		$ 697.4	$ 702.8	$ 937.8

Table A-15
ESTIMATED FIRE SERVICES EXPENDITURES

Fire		Estimated Cost (000's) 2007	2008	2009
Single Family Residential	$ 176.70	$ 247.9	$ 251.1	$ 254.3
Multi-Family Residential	$ 176.70	$ 97.0	$ 97.0	$ 97.0
Apartments	$ 176.70	$ -	$ -	$ 87.3
Population	$ 1.17	$ 7.0	$ 7.0	$ 8.9
Retail Commercial	$ 2,538.77	$ -	$ -	$ 31.0
Parks	$ 132.27	$ 2.0	$ 2.0	$ 2.0
Public Use	$ 132.27	$ 5.4	$ 5.4	$ 5.4
Open Space	$ 132.27	$ 17.9	$ 17.9	$ 17.9
Total Fire		$ 377.2	$ 380.4	$ 503.8

Table A-16
ESTIMATED CULTURAL AND LEISURE EXPENDITURES

Cultural and Leisure		Estimated Cost (000's) 2007	2008	2009
Single Family Residential	$ 7.51	$ 10.5	$ 10.7	$ 10.8
Multi-Family Residential	$ 7.51	$ 4.1	$ 4.1	$ 4.1
Apartments	$ 7.51	$ -	$ -	$ 3.7
Population	$ 79.69	$ 474.5	$ 478.9	$ 603.3
Parks		$ -	$ -	$ -
Public Use		$ -	$ -	$ -
Open Space		$ -	$ -	$ -
Total Cultural and Leisure		$ 489.1	$ 493.7	$ 621.9

Table A-17
ESTIMATED OTHER NON-DEPARTMENTAL EXPENDITURES

Non-Departmental		Estimated Cost (000's) 2007	2008	2009
Population	$ 9.39	$ 55.9	$ 56.4	$ 71.1
Total Non-Departmental		$ 55.9	$ 56.4	$ 71.1

COMPREHENSIVE AFFORDABLE HOUSING PROGRAM

SECTION II.6

A COMPREHENSIVE PLAN FOR THE PROVISION OF AFFORDABLE HOUSING

EASTLAKE III

EASTLAKE TRAILS,
WOODS, VISTAS
AND
"LAND SWAP" PARCELS

Adopted July 17, 2001
by Resolution No. 2001-220

Amended June 20, 2006
by Resolution No. 2006-190

Amended April 8, 2008
by Resolution No. 2008-095

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SECTION II.6
COMPREHENSIVE AFFORDABLE HOUSING PROGRAM

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II.6.1 INTRODUCTION

The City of Chula Vista ("City"), along with all other cities in California, is required by state law to have a Housing Element as a component of its General Plan. The Housing Element describes the housing needs of the community and the responses necessary to fulfill them.

The City of Chula Vista Housing Element of 1991 contains numerous objectives, policies and related action programs to accomplish these objectives. Key among these policies is the affordable housing policy which requires that residential development with fifty (50) or more dwelling units provide a minimum of 10% of the total dwelling units for low and moderate income households, one-half of these units (5% of the total project) being designated to low income and the remaining five percent (5%) to moderate income households.

In order to guarantee the provision of Affordable Housing opportunities, the City requires that a specific Affordable Housing Program ("AHP") and agreement be consistent with the Housing Element of the Chula Vista General Plan and be prepared and signed by the Developer. This Affordable Housing Program is intended to delineate how, when and where the units would be provided, intended subsidies, income rent restrictions and methods to verify compliance. The program may be implemented through various mechanisms including development agreements, tentative map conditions, and specific housing project agreements which may impose additional terms and conditions consistent herewith.

The EastLake Comprehensive Affordable Housing Program, as used herein, applies to the following future neighborhoods identified in the EastLake II & EastLake III General Development Plans.

- EastLake Trails (EastLake II GDP)
- EastLake Vistas (EastLake III GDP)
- EastLake Woods (EastLake III GDP)
- EastLake Land Swap Parcels (EastLake II GDP)

The EastLake Comprehensive Affordable Housing Program is consistent with the City's affordable housing policies and is expected to be completed in four phases. Construction of 30 low income and 30 moderate income housing units in the Initial Phase is scheduled to begin before the issuance of the 1,001st building permit. The second phase is scheduled to start before the issuance of the 2,401st building permit. The third phase is scheduled to start before the issuance of the 3,201st building permit, while the fourth phase will start before the issuance of the 3,954st building permit (see the section entitled "Implementation Schedule" in this program). EastLake II & III are planned to include a total of 4,448 housing units.

The low income housing units (223) shall be located at five sites in the different neighborhoods as shown on Exhibit 1, Low Income Housing Sites. The moderate income housing units (223) are expected to be distributed throughout the project in Residential - Medium Density, Residential - Medium-High Density, and Residential - High Density.

II.6.2 DEFINITIONS

Affirmative Marketing Plan:

An outline that details actions the developer will take to provide information and otherwise attract eligible persons in the housing market area to the available housing without regard to race, sex, sexual orientation, marital status, familiar status, color, religion, national origin, ancestry, handicap, age, or any other category which may be defined by law now or in the future.

Low Income Household:

A household of persons who claim primary residency at the same unit with combined incomes that do not exceed 80% of the Area Median Income for the San Diego area (adjusted annually) based on household size, as established by and amended from time to time pursuant to Section 8 of the United States Housing Act of 1937 and as also published in the California Administrative Code. See Exhibit "2" for the annual income limits as published by the United States Department of Housing and Urban Development (HUD). Household size is calculated by the number of persons residing at the same unit as their primary residency.

Moderate Income Household:

A household of persons who claim primary residency at the same unit with combined incomes between 80% to 120% of the Area Median Income for the San Diego area (adjusted annually) based on household size, as established by and amended from time to time pursuant to Section 8 of the United States Housing Act of 1937 and as also published in the California Administrative Code. See Exhibit "2" for the annual income limits as published by the United States Department of Housing and Urban Development (HUD). Household size is calculated by the number of persons residing at the same unit as their primary residency.

San Diego Area Median Income:

The San Diego County area median income level as determined from time to time by the Department of Housing and Urban Development, United States Government, based on household size.

Subsidized Financing:

Any financing provided by any public agency specifically for the development and construction of low or moderate income housing units, including but not limited to the following:

- Low Income Housing Tax Credits (LIHTC) – statewide competition;
- Housing Bonds – State;
- Housing Bonds – City;
- Redevelopment Low and Moderate-income Housing fund – Redevelopment agency;
- HOME – City and County;
- CDBG – City; and,
- Other Public Financing – State and Federal

II.6.3 NEEDS ASSESSMENT

According to SANDAG's Preliminary 2020 Cities/County Forecast, Chula Vista is expected to gain 46,000 new residents and 13,801 new households. The characteristics of the City's population, housing, and employment that affect its housing goals, policies, and programs include:

- Chula Vista residents have household income and age characteristics that nearly match the regional median.
- The population has more diversity in race/ethnicity than the region, in that 44 percent of the population is white (non-Hispanic) and 42 percent is Hispanic (all races), this compares to 61 percent and 23 percent respectively.
- Household size is slightly larger than the region, at 3.0 persons per household for Chula Vista, compared to 2.83 persons per household for the region.
- A large supply of vacant developable land is planned for communities with a wide variety of densities and land use types.
- The well established neighborhoods and master planned neighborhoods create different opportunities and require a different set of policies and programs to address housing needs.
- The City's diverse employment base will grow by more than 47 percent between 1995 and 2005, with the majority of growth in the retail, service, and government sectors.
- A high rate of new home construction is anticipated due to the many approved master planned communities in the City.
- Reinvestment in the well-established neighborhoods of Western Chula Vista continues to be needed.
- Approximately 13,000 units will be 50 years or older by 2004.
- A home ownership rate of 53 percent is nearly the same as the region's rate of 54 percent.
- The very low rental vacancy rate of 1.1 percent indicates likely increased housing costs and greater likelihood of over-crowding.
- The median housing cost (resale) of $177,000 is $18,500 less than the region's median cost of $195,500.

- Average rents are 10 percent to 30 percent lower than the region wide average rents.

The City has two sets of numerical housing goals established by SANDAG, which are also addressed in the Housing Element; the City's share of the region's future housing needs (regional share goals) and the affordable housing goal for self-certification. The total regional share goal is 10,401 new housing units of which 1,889 are very low-income units and 1,535 are low-income units. The estimated affordable housing goal for self-certification in 2004 is 1,029 housing opportunities for low-income households.

II.6.4 EASTLAKE II & III AFFORDABLE HOUSING PROGRAM

II.6.4.1 LOW INCOME HOUSING

- Requirements

The EastLake Trails, "Land Swap" parcels, and EastLake III Developments are required to provide a minimum of 10% of the number of permitted dwelling units as affordable housing, of which one-half shall be provided as low income housing and one- half will be provided as moderate income housing

Based on the total number of permitted dwelling units, a total of 446 low and moderate-income housing units are required to be provided within the project, of which 223 will be provided for low-income households, and 223 will be provided for moderate-income households.

- Types of Affordable Housing

The housing policies and programs established in the City of Chula Vista General Plan Housing Element advocate a broad variety and diversity of housing types. The affordable housing obligations of Eastlake Trails, "Land Swap" parcels, and Eastlake III developments will be met through a combination of housing types that may include rental housing, "for-sale" housing, second dwelling units or other forms of housing. In general, low income housing needs will be satisfied through the provision of rental units and "for-sale" housing. Housing opportunities to meet the needs of moderate-income households will be primarily provided by "for-sale" housing.

- Site Selection Criteria

The location of affordable housing developments shall take into consideration proximity and availability of the following:

a. Existing or proposed public transit facilities, including bus routes along arterial highways, or transportation routes;

b. Existing or proposed community facilities and services, such as retail, commercial and support services, public facilities and schools; and,

c. Existing or future employment opportunities.

Every effort will be made to ensure compatibility with adjacent residential units (i.e., densities, design, etc.).

- Design

Affordable housing shall be compatible with the design and use of the market rate units, in terms of appearance, materials, and finish quality. The developer shall have the option of reducing the interior amenities, levels, and square footage of the affordable units.

- Unit Mix By Bedroom Count

The affordable units shall have an overall unit mix by bedroom count which reflects the appropriate community need. Given that 14 percent of the households in Chula Vista (according to the 1990 Census) are large families of five persons or more and a desire on the part of the City to have housing opportunities for these families throughout the City, proposed affordable housing developments shall provide a minimum number of three or more bedrooms. The minimum number of three or more bedroom units shall be based upon the number of large households of five or more persons in Chula Vista using such sources as Census information or other reliable data sources as agreed to by the City. Affordable housing to be sold and occupied by income eligible households (for sale units) shall also provide a minimum of two bedrooms.

Should the developer satisfy the affordable housing obligation through the provision of housing for senior citizens as defined by Section 51.3 of the California Civil Code, the developer does not need to provide three bedroom units. However, the developer may only satisfy such obligation through the provision of housing for senior citizens if the City considers such housing to be a high priority need and it provides advantages as to location, diversity of housing types, and/or affordability levels.

- Affordable Housing Credits For Large Units

Given that 14 percent of the households in Chula Vista, according to the 1990 Census, are large families of five persons or more and a lack of large units to accommodate these households, the city desires to encourage the development of large family units of three or more bedrooms. The City will provide and additional 0.5 unit credit for those three bedroom units created and a 1 unit credit for those four bedroom units.

- Low Income Housing Sites

Five sites have been selected for low income housing units within EastLake II & III, with one potential off-site location (See Exhibit 1).

> Site 1. This site is located within the Vistas neighborhood, south of Olympic Parkway in close proximity to the Olympic Training Center. The site is designated High (18-27 du/ac). The low income units at this site will supplement the on site dorms at the Olympic Training Center.

Site 2. This site is located within the Trails North neighborhood on the south side of Otay Lakes Road in proximity to the future Salt Creek Community Park. The site is designated Medium Residential (6-11 du/ac).

Site 3. This site is located in the "Land Swap" Parcel (R-9) which is designated Medium High (11-18 du/ac) with a density range of 15-25 du/ac and a target of 750 dwelling units. The low income housing units will be integrated into the development of Parcel R-9, which is located on EastLake Parkway, adjacent to the EastLake Activity Corridor.

Site 4. This site is located in the western portion of the EastLake Greens neighborhood (Parcel GR-26) which is designated Medium High (11-18 du/ac) with a target of 260 dwelling units. The low income housing units will be integrated into the development of Parcel GR-26, which is also located on EastLake Parkway, adjacent to the EastLake Activity Corridor.

Site 5 (5a). Site 5 is located in the Olympic Training Center (OTC) parcel which is designated Public/Quasi-public. Resident housing for athletes is permitted within the mix of uses allowed by the OTC SPA Plan. The low income housing units will be integrated into the overall development of the training facility. The specifics of this affordable housing project have not yet been finalized. If the athletic housing project does not come to fruition, an alternative off-site location (Site 5a) will be selected based on the site selection criteria above and the number of units remaining in the affordable housing requirement. Should no site be available, the developer and the City may, as an alternative, negotiate an "in-lieu" fee that would be used for other affordable housing programs in the City.

- Phasing

The low income housing units would be completed in four phases. The Initial Phase consists of 30 units and the Remaining Phases consist of 82, 86 and 25 units respectively, for a total of 223 units. Every effort will be made by the Developer to produce additional low income units at the first and second phases if the opportunity to produce such units becomes feasible.

- Implementation Schedule

Low Income Housing EastLake Comprehensive Affordable Housing Program PHASE I	
Timing	**Items to be Completed**
Prior to approval of the 401st building permit	Submit a SPA application for EastLake III identifying specific low income housing sites consistent with the Affordable Housing Program and provide proof of control of sites for all phases in the form of a trust deed or an option agreement.
Prior to issuance of the 501st building permit	Identify intended subsidies, incentives, and financing mechanisms for all phases to the satisfaction of the Director of Community Development.
Prior to issuance of the 601st building permit	Submit and obtain approval for a marketing plan from the Community Development Department.
Prior to issuance of the 701st building permit	Submit a design development plan to the Planning Department for the construction of Phase I low income housing units (30 units).
Prior to issuance of the 901st building permit	Obtain Design Review approval for the construction of the Phase I low income housing units.
Prior to issuance of the 1,001st building permit for EastLake Trails	Obtain building permits for the construction of the Phase I low income units and identify specific location of low income units within project.
Prior to the issuance of the 1,301st building permit or one year from the date of the issuance of the first low income building permit issuance, whichever occurs first.	Obtain City's final inspection and utilities release for low income units or obtain Director of Community Development approval of up to a maximum of six month extension based upon market pre-sales rate of low income units.
Total Low Income Housing Units, Phase I	30

Low Income Housing EastLake Comprehensive Affordable Housing Program PHASE II	
Timing	**Items to be Completed**
Prior to approval of the 1,601st building permit	Confirm location of low income housing site for Phase II.
Prior to issuance of the 1,701st building permit	Confirm intended subsidies, incentives, and financing mechanisms for all phases.
Prior to issuance of the 1,801st building permit	Submit and obtain approval for a marketing plan from the Community Development Department.
Prior to issuance of the 1,901st building permit	Submit a design development plan to the Planning Department for the construction of Phase II low income housing units (82 units).
Prior to issuance of the 2,101st building permit	Obtain Design Review approval for the construction of the Phase II low income housing units.
Prior to issuance of the 2,401st building permit	Obtain building permits for the construction of the Phase II low and moderate income units and identify specific location of low and moderate income units within project(s).
Prior to the issuance of the 2,701st building permit or one year from the date of the building permit issuance, whichever occurs first.	Obtain City's final inspection and utilities release for low income units or obtain Director of Community Development approval of up to a maximum of six month extension based upon pre-sales rate of low income units.
Total Low Income, Phase II	82

Low Income Housing EastLake Comprehensive Affordable Housing Program PHASE III	
Timing	**Items to be Completed**
Prior to approval of the 2,401st building permit	Confirm location of low income housing site for Phase III.
Prior to issuance of the 2,501st building permit	Confirm intended subsidies, incentives, and financing mechanisms for all phases.
Prior to issuance of the 2,601st building permit	Submit and obtain approval for a marketing plan from the Community Development Department.
Prior to issuance of the 2,701st building permit	Submit a design development plan to the Planning Department for the construction of Phase III low income housing units (86 units).
Prior to issuance of the 3,001st building permit	Obtain Design Review approval for the construction of the Phase III low income housing units (86 units).
Prior to issuance of the 3,201st building	Obtain building permits for the construction of the Phase III low income units and identify specific location of low income units within project.
Prior to the issuance of the 3,501st building permit or one year from the date of the building permit issuance, whichever occurs first.	Obtain City's final inspection and utilities release for low income units or obtain Director of Community Development approval of up to a maximum of six month extension based upon pre-sales rate of low income units.
Total Low Income, Phase III	86

Low Income Housing EastLake Comprehensive Affordable Housing Program PHASE IV	
Timing	**Items to be Completed**
Prior to approval of the 3,954st building permit	Confirm location of low income housing site for Phase IV.
Prior to issuance of the 3,992nd building permit	Confirm intended subsidies, incentives, and financing mechanisms for all phases.
Prior to issuance of the 4,068,th building permit	Submit and obtain approval for a marketing plan from the Community Development Department.
Prior to issuance of the 4,144 th building permit	Submit a design development plan to the Planning Department for the construction of Phase IV low income housing units (25 units).
Prior to issuance of the 4,220 th building permit	Obtain Design Review approval for the construction of the Phase IV low income housing units (25 units).
Prior to issuance of the 4,334 th building	Obtain building permits for the construction of the Phase IV low income units and identify specific location of low income units within project.
Prior to the issuance of the 4,448 th building permit or one year from the date of the building permit issuance, whichever occurs first.	Obtain City's final inspection and utilities release for low income units or obtain Director of Community Development approval of up to a maximum of six month extension based upon pre-sales rate of low income units.
Total Low Income, Phase IV	25

- Contingency Plan

Developer shall diligently pursue completion of the construction of the low-income housing units as per the above implementation schedule. However, if the performance obligations are not achieved as per the implementation schedule, in addition to any and all other rights and remedies the City may have to enforce Developer's affordable housing obligations, the City shall have the right to require that the EastLake Greens surplus low-income units be automatically used to satisfy the low-income housing obligation of EastLake II and III.

II.6.4.2 MODERATE INCOME HOUSING

- Moderate Income Housing Requirements

EastLake II & III includes 4,448 housing units of which five percent (5%), or two hundred twenty-three (223), must be moderate income housing units. The moderate income housing obligation may be met through a combination of housing types including rental and "for sale" housing.

- Moderate Income Housing Sites

The residential densities of Medium, Medium-High and High have been selected as the sites for moderate income housing units within the EastLake II & III project. The location of these parcels are distributed throughout the project (refer to General Development Plans).

- Phasing

The moderate income housing would be completed in four phases. The Initial Phase consists of 66 units and the Remaining Phases consist of 67, 65 and 25 units.

- Implementation Schedule

Moderate Income Housing EastLake Comprehensive Affordable Housing Program PHASE I	
Timing	**Items to be Completed**
Prior to issuance of the 1,201st building permit.	Provide proof to the satisfaction of the Community Development Director that 33 Moderate Income housing units have been delivered to Moderate Income family households.
Prior to the issuance of the 1,501st building permit	Provide proof to the satisfaction of the Community Development Director that 33 Moderate Income housing units have been delivered to moderate income households.
Total Moderate Income, Phase I	66
Moderate Income Housing EastLake Comprehensive Affordable Housing Program PHASE II	
Timing	**Items to be Completed**
Prior to issuance of the 2,401st building	Provide proof to the satisfaction of the Community Development Director that 33 Moderate Income housing units have been delivered to Moderate Income family households.
Prior to the issuance of the 2,701st building permit	Provide proof to the satisfaction of the Community Development Director that 34 Moderate Income housing units have been delivered to moderate income households.
Total Moderate Income, Phase II	67
Moderate Income Housing EastLake Comprehensive Affordable Housing Program PHASE III	
Timing	**Items to be Completed**
Prior to issuance of the 3,201st building	Provide proof to the satisfaction of the Community Development Director that 32 Moderate Income housing units have been delivered to Moderate Income family households.
Prior to the issuance of the 3,501st building permit or one year from the date of the building permit issuance, whichever occurs first.	Provide proof to the satisfaction of the Community Development Director that 33 Moderate Income housing units have been delivered to moderate income households.
Total Moderate Income, Phase III	65

Moderate Income Housing EastLake Comprehensive Affordable Housing Program PHASE IV	
Timing	**Items to be Completed**
Prior to issuance of the 3,751st building	Provide proof to the satisfaction of the Community Development Director that 13 Moderate Income housing units have been delivered to Moderate Income family households.
Prior to the issuance of the 3,851st building permit or one year from the date of the building permit issuance, whichever occurs first.	Provide proof to the satisfaction of the Community Development Director that 12 Moderate Income housing units have been delivered to moderate income households.
Total Moderate Income, Phase IV	25

II.6.4.3 AFFORDABLE HOUSING RESTRICTIONS

- Income Eligibility

To determine the eligibility of a household for the low income housing unit, the household purchasing or renting the affordable unit must qualify as a low income household, as established by and amended from time to time pursuant to Section 8 of the United States Housing Act of 1937 and as also published in the California Administrative Code. See Exhibit 2 for the annual income limits as published by the United States Department of Housing and Urban Development (HUD).

- Affordable Monthly Rents

For rental housing, compliance with the affordable housing requirements is determined by verifying that the total rent cost paid by the tenant is considered affordable as defined below.

To determine affordable rent costs, monthly "Affordable Rent" includes all actual or projected monthly payments for the following:1

- Use and occupancy of a housing unit and the associated land and facilities;
- Any separately charged fees and service charges assessed by the lessor which are required by all tenants but is not to include security deposits;
- A reasonable allowance for utilities (including garbage collection, sewer, water, electricity, gas and other heating, cooking, and refrigeration fuels but

1 25 California Code of Regulations Section 6918

not to include telephone service, cable TV, or high speed modem) as defined by the Federal Regulations for the Tenant Based Rental Assistance Program; and,

- Possessory interest taxes or other fees and charges assessed for use of the associated land and facilities by a public or private entity other than the lessor.

Affordable monthly rent is not to exceed the following calculations:

- Very Low Income: 50 percent of the Area Median Income (AMI) for San Diego County, adjusted for household size appropriate for the unit, multiplied by 30 percent and divided by 12.
- Low Income: 80 percent of the Area Median Income (AMI) for San Diego County, adjusted for household size appropriate for the unit, multiplied by 30 percent and divided by 12.
- Moderate-income: 120 percent of the Area Median Income (AMI) for San Diego County, adjusted for household size appropriate for the unit, multiplied by 28 but not more that 35 percent and divided by 12.

Should subsidized financing and other incentives from a public agency be proposed and obtained, the affordable monthly rent shall be dictated by such program or granting Agency. If no affordable rent is specified, affordable monthly rents shall be established in accordance with Section 50053 of the California Health and Safety Code.

- Affordable Housing Costs for Owner Occupied Housing

For ownership housing (for sale units), compliance with the affordable housing requirements is determined by verifying that the sales price paid by the buyer equates to a total housing cost that is considered affordable as defined below.

To determine affordable housing costs, monthly "Housing Payments" includes all actual or projected monthly payments for the following:

- Principal and interest on a mortgage loan, including rehabilitation loans, at the time of initial purchase by the home buyer;
- Allowances for property and mortgage insurance;
- Property taxes and assessments; and
- Homeowner association fees.

Affordable monthly housing payments are not to exceed the following calculations:

- Very Low Income: 50 percent of the Area Median Income (AMI) for San Diego County, adjusted for household size appropriate for the unit, multiplied by 30 percent and divided by 12.
- Low Income: 80 percent of the Area Median Income (AMI) for San Diego County, adjusted for household size appropriate for the unit, multiplied by 30 percent and divided by 12.
- Moderate-income: 120 percent of the Area Median Income (AMI) for San Diego County, adjusted for household size appropriate for the unit, multiplied by 28 but not more that 35 percent and divided by 12.

Should subsidized financing and other incentives from a public agency be proposed and obtained, the affordable monthly housing payment shall be dictated by such program or granting Agency. If no affordable monthly housing payment is specified, the affordable monthly housing payment shall be established in accordance with Section 50052.5 of the California Health and Safety Code.

- Underwriting Requirements

To ensure the preservation of affordability of proposed low and moderate-income housing and the financial viability of program participants, the City shall encourage the following policies:

- Fixed rate mortgages only. No adjustable rate mortgages;
- Affordable monthly housing payments not to exceed 33 percent of household income ("Front End Ratio"). Total debt payments not to exceed 45 percent of household income ("Back End Ratio");
- No "teaser" rates; and,
- No non-occupant co-borrowers.

- Resale Provisions of Owner Occupied Housing

In order to ensure the continued affordability of the units, resale of the units must be restricted for the required term of thirty (30) years. After initial sale of the affordable units to a low-income household, all subsequent buyers of such units must also be income eligible and the unit must be sold at an affordable price. A developer may opt to have no income or sales price restriction for subsequent buyers, provided however that restrictions to the satisfaction of the City are in place that would result in the recapture by the City or its designee of a financial interest in the units equal to the amount of subsidy necessary to make the unit affordable to a low income household and a proportionate share of any equity, to be determined and specified within the Affordable Housing Agreement executed for the proposed affordable housing development. Funds recaptured by the City shall be used to provide assistance to other identified affordable housing production or contributions to a special needs housing project or program. To the extent possible, projects using for-sale

units to satisfy the obligations of developers under the City's Affordable Housing Program shall be designed to be compatible with conventional mortgage financing programs including secondary market requirements.

- Term of Affordability Restrictions

Should subsidized financing be proposed and obtained, income and rent restrictions for an affordable rental project shall be implemented for the remaining life of the project, which is presumed to be a minimum of fifty-five (55) years from the date of completion of the final inspection for each structure. In the event that no subsidized financing is obtained, such affordability restrictions shall remain in effect for thirty (30) years from the date of completion of the final inspection for each structure. The term of affordability and resale restrictions for affordable for-sale units is more appropriately described above, "Resale Provisions of Owner Occupied Housing".

II.6.4.4 SUBSIDIES, INCENTIVES AND FINANCING MECHANISMS

The City agrees to use its reasonable best efforts to assist the developer in pursuing the benefit of certain financing mechanisms, subsidies, and other incentives to facilitate the provision of affordable housing for low and moderate income households to the extent such resources and programs for this purpose are available. These mechanisms, subsidies, and incentives, which could reduce the cost of providing affordable housing, include, but are not limited to, local, state and federal subsidies, City density bonuses, planning and design and development techniques and standards, and City fee deferrals or waivers (collectively, the "Cost Reducing Mechanisms").

Potential subsidies, incentives, and financing mechanisms that may be used to facilitate the provision of affordable housing include the following:

- Low Income Housing Tax Credits (LIHTC) - statewide competition;
- Housing Bonds - State;
- Housing Bonds - City;
- Redevelopment Low and Moderate-income Housing fund - Redevelopment Agency;
- HOME - City and County;
- CBDG - City; and
- Other Public Financing - State and Federal.

This list is not intended to limit the use of other subsidies, incentives, or other financing mechanisms that are now available or may become available in the future.

The parties acknowledge that the City is not hereby committing and cannot guarantee the availability of any Cost Reducing Mechanisms to the Developer for EastLake II & III. The City reserves the right to approve or disapprove, in its sole discretion, any developer request for substantial financing.

- Density Bonus

Projects which meet the applicable requirements of State Law (Government Code Section 65915) as a result of the affordable housing units are entitled to a density bonus or other additional incentives in accordance with the provisions of such law.

II.6.4.5 COMPLIANCE REPORTING

All Compliance Reports shall be submitted to the City of Chula Vista Community Development Department and an independent trustee hired by the Developer to monitor the Developer's compliance. The requirements imposed by providers of subsidized financing or other Cost Reducing mechanisms may replace the terms described below if City so approves.

Rental Units' Compliance Packet and Audit

a. Should a Developer seek approval by the City to credit a tenant toward its low income housing obligation, the Developer must give the City, at a minimum, a compliance packet including the following:

   - Supplemental Rental Application - Exhibit 3A
   - Semi-Annual Report - Exhibit 4-B, 4-C
   - Authorization to Release Information by Purchaser
   - Acknowledgment that the Information is for City's Reporting and Administration Use Only

   Developer shall not be required to perform any extraordinary investigation or verification regarding such information other than Developer's usual and customary means of income verification. Developer shall retain the Supplemental Rental Application and any supporting documents for a period of at least three (3) years after the applicant ceases to occupy a low income housing unit.

b. Should a Developer seek approval by the City to credit a dwelling unit towards its moderate income housing obligation, the Developer must give the City, at a minimum, a report verifying compliance with the terms of this document and/or the subsidized financing program:

   - Annual Moderate Income Affordable Housing Monitoring Report (Exhibit 5).

   Developer shall retain any supporting documents for a period of at least three (3) years after the initial occupancy of the unit to verify the accuracy of the monitoring report.

Developer shall not be required to perform any investigation or verification of income for purposes of qualifying the household for moderate income eligibility.

c. A household occupying a designated low income unit whose annual income increases subsequent to occupying said unit (referred to as "over income household") and thus exceeds the 80% of area median income, need not vacate the apartment. However, at the Developer's discretion, this over income household's monthly rent (including utilities) may be increased to the market rate. Regardless of a rent increase, the Developer can no longer credit this over income household toward its 5% low income requirement and is obligated to replace this unit by renting the next comparable unit to a low income household as per the paragraph below. Thus, the Developer shall ensure appropriate language is included in the lease requiring tenant to provide income information biannually and acknowledge that should its income increase, the household may be subject to a higher rent. Adjusted monthly incomes can be calculated using rules according to the HUD Handbook 4350/3 Occupancy Requirements for HUD Subsidized Multifamily Housing.

The location of the designated units may change over time (to be referred to as "floating units") as long as the total number of affordable units remains constant and that substituted units are comparable in terms of size, features, and the number of bedrooms, as determined by the Director of the Community Development Department. If the over income household does not vacate the unit, the Developer must assure that when the next comparable apartment becomes vacant, the newly available unit must be rented to a low and/or moderate income household, as a floating unit, to replace the previously designated unit no longer housing a low income household. If the over income household chooses to leave, the vacated unit retains its low income unit designation.

If a residential apartment complex is designated as 100% low income, the over income household will not be required to vacate, if it pays the increased rent, and the unit will not be replaced with a "floating unit". When the over income household vacates the unit, the unit retains its low income unit designation.

d. If the city determines that an outside audit is necessary to verify the accuracy of the submitted rent roll, then on a basis no more frequently than once a year, it may require such an audit at the expense of Developer. In such event, within ten (10) days after delivery of the City's written request for such outside audit, Developer shall deliver to the City the names of three (3) certified public accountants doing business in the Metropolitan San Diego area. City will promptly deliver to Developer notice of approval by the City of one or more of said names.

The audit shall be completed by an approved certified public accountant, at Developer's sole cost and expense, within sixty (60) days after the delivery to Developer of City's approval. The certified public accountant shall promptly deliver

a copy of the written audit to the City. Such audit shall be an audit of Developer's records, including the information supplied to Developer by the low income tenants. The auditor shall not be required to verify the accuracy of the information provided by the low income tenants.

- Home Ownership Units' Compliance Packet

Should Developer seek approval by the City to credit a home purchase toward its low income housing obligation, the Developer must give the City at a minimum a compliance packet including the following:

- Copy of Settlement Sheet

- Final 1003, Uniform Underwriting Transmittal Summary Settlement Statement, or 1008 and Good Faith Estimate
- Verification of low income buyer completed by developer under or on behalf of the City

Developer shall not be required to perform any extraordinary investigation or verification regarding such information other than Developer's usual and customary means of income verification.

Developer may contact the City's Community Development Housing Division's Housing Coordinator to confirm the City's acceptance of the applicant as credit toward Developer's low income housing unit obligation. Developer may contact the City prior to the sale of the unit for consultation purposes if desired; however, approval will be given in writing only after required documents are reviewed and accepted by the City.

Should Developer seek approval by the City to credit a home purchase toward its moderate income housing obligation, the Developer must give the City at a minimum a compliance packet including the following:

- Homebuyer’s Qualifying Form (Exhibit 6).

Developer shall retain any supporting documents, such as copies of settlement sheets, the Final 1003 or other appropriate documents, for a period of at least three (3) years after the initial sale of the unit to verify the accuracy of the monitoring report.

Developer shall not be required to perform any investigation or verification of income for purposes of qualifying the household for moderate income eligibility.

II.6.4.6 AFFIRMATIVE MARKETING PLAN

Developer shall provide a marketing plan acceptable to the City, in the City's reasonable discretion, for proactively marketing the low and moderate income housing units to low and moderate income tenants and purchasers, respectively, at the time specified in the Implementation Schedules in Sections A5 and B4 above. Developer shall use good faith and reasonable best efforts to market the low and moderate income housing units to low and moderate income tenants and purchasers according to the affirmative marketing plan. See Exhibit 7, attached hereto, which sets forth the plan requirements.

The City will in its discretion use good faith and reasonable best efforts to assist Developer in marketing low and moderate income housing units to low and moderate income tenants and purchasers, obtaining the services of a third-party organization in connection with such marketing efforts, processing the applications of prospective tenants and purchasers of low and moderate income housing units, and complying with the reporting requirements as required herein.

II.6.4.7 IMPLEMENTING AGREEMENTS AND CONDITIONS

This AHP may be implemented through various mechanisms including development agreements, tentative map conditions, and specific housing project agreements which may impose additional terms and conditions consistent herewith.

II.6.5 EXHIBITS

EXHIBIT 1

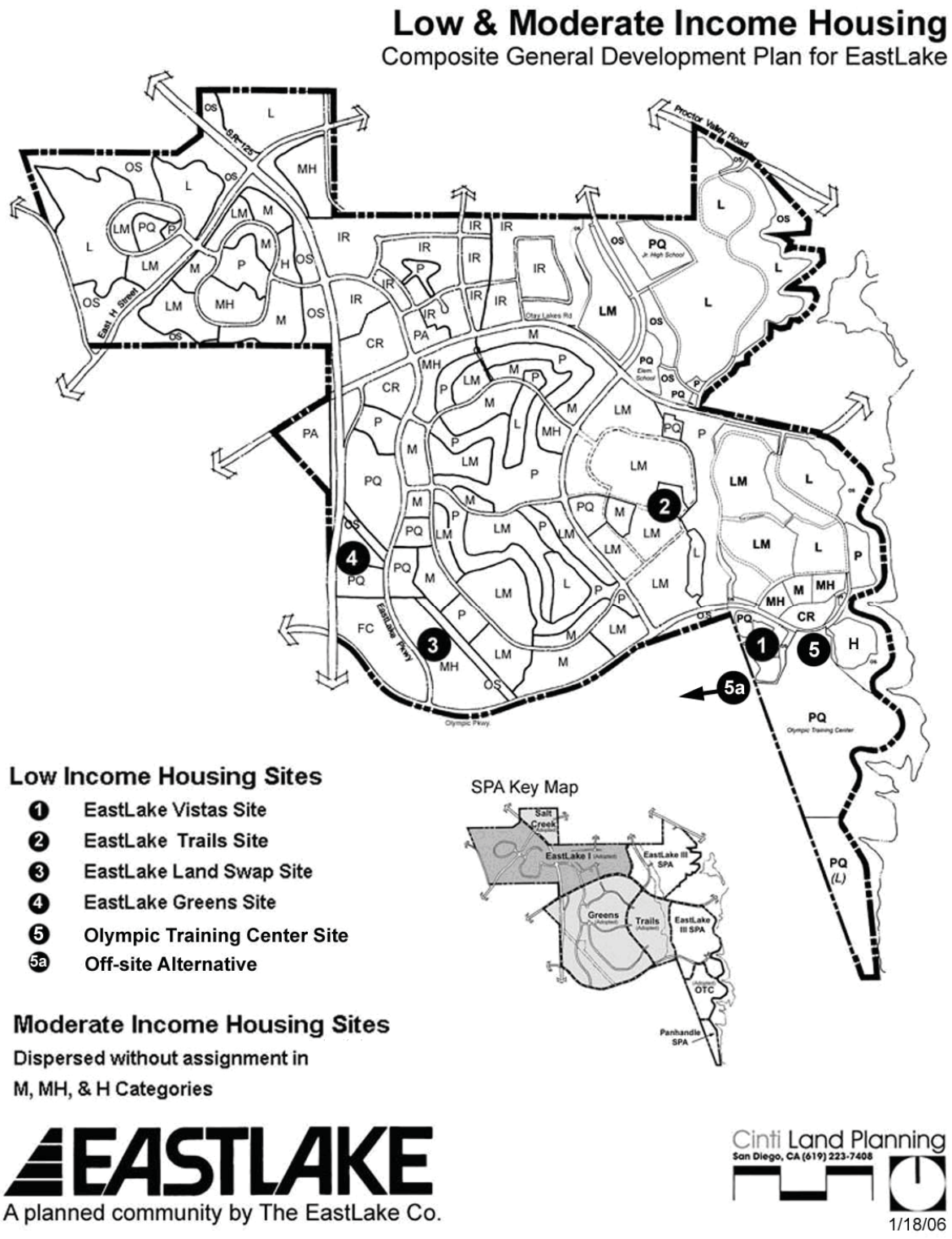


EXHIBIT 2

CITY OF CHULA VISTA
INCOME AND MAXIMUM HOUSING EXPENSES FOR LOWER AND MODERATE-INCOME HOUSEHOLDS

(Based upon 2002 HUD Median Income Data Effective December 10, 2001)

HOUSEHOLD SIZE	30% VERY LOW INCOME				40% VERY LOW INCOME				50% VERY LOW INCOME			
	ANNUAL INCOME	MONTHLY INCOME	25%	30%	ANNUAL INCOME	MONTHLY INCOME	25%	30%	ANNUAL INCOME	MONTHLY INCOME	25%	30%
ONE	$12,600	$1,050	$263	$315	$16,850	$1,404	$351	$421	$21,050	$1,754	$439	$526
TWO	$14,400	$1,200	$300	$360	$19,250	$1,604	$401	$481	$24,050	$2,004	$501	$601
THREE	$16,250	$1,354	$339	$406	$21,650	$1,804	$451	$541	$27,050	$2,254	$564	$676
FOUR	$18,050	$1,504	$376	$451	$24,050	$2,004	$501	$601	$30,050	$2,504	$626	$751
FIVE	$19,450	$1,621	$405	$486	$25,950	$2,163	$541	$649	$32,450	$2,704	$676	$811
SIX	$20,900	$1,742	$435	$523	$27,900	$2,325	$581	$698	$34,850	$2,904	$726	$871
SEVEN	$22,350	$1,863	$466	$559	$29,800	$2,483	$621	$745	$37,250	$3,104	$776	$931
EIGHT	$23,800	$1,983	$496	$595	$31,750	$2,646	$661	$794	$39,650	$3,304	$826	$991

HOUSEHOLD SIZE	60% LOW INCOME				70% LOW INCOME				80% LOW INCOME			
	ANNUAL INCOME	MONTHLY INCOME	25%	30%	ANNUAL INCOME	MONTHLY INCOME	25%	30%	ANNUAL INCOME	MONTHLY INCOME	25%	30%
ONE	$25,250	$2,104	$526	$631	$29,450	$2,454	$614	$736	$33,650	$2,804	$701	$841
TWO	$28,850	$2,404	$601	$721	$33,650	$2,804	$701	$841	$38,450	$3,204	$801	$961
THREE	$32,450	$2,704	$676	$811	$37,850	$3,154	$789	$946	$43,250	$3,604	$901	$1,081
FOUR	$36,050	$3,004	$751	$901	$42,050	$3,504	$876	$1,051	$48,100	$4,008	$1,002	$1,203
FIVE	$38,950	$3,246	$811	$974	$45,450	$3,788	$947	$1,136	$51,950	$4,329	$1,082	$1,299
SIX	$41,850	$3,488	$872	$1,046	$48,800	$4,067	$1,017	$1,220	$55,750	$4,646	$1,161	$1,394
SEVEN	$44,700	$3,725	$931	$1,118	$52,150	$4,346	$1,086	$1,304	$59,600	$4,967	$1,242	$1,490
EIGHT	$47,600	$3,967	$992	$1,190	$55,500	$4,625	$1,156	$1,388	$63,450	$5,288	$1,322	$1,586

HOUSEHOLD SIZE	90% MODERATE INCOME				100% MODERATE INCOME				110% MODERATE INCOME				120% MODERATE INCOME			
	ANNUAL INCOME	MONTHLY INCOME	25%	30%	ANNUAL INCOME	MONTHLY INCOME	25%	30%	ANNUAL INCOME	MONTHLY INCOME	25%	30%	ANNUAL INCOME	MONTHLY INCOME	25%	30%
ONE	$37,850	$3,154	$789	$946	$39,850	$3,321	$830	$996	$46,300	$3,858	$965	$1,158	$50,500	$4,208	$1,052	$1,263
TWO	$43,250	$3,604	$901	$1,081	$45,500	$3,792	$948	$1,138	$52,900	$4,408	$1,102	$1,323	$57,700	$4,808	$1,202	$1,443
THREE	$48,700	$4,058	$1,015	$1,218	$51,200	$4,267	$1,067	$1,280	$59,500	$4,958	$1,240	$1,488	$64,900	$5,408	$1,352	$1,623
FOUR	$54,100	$4,508	$1,127	$1,353	$56,900	$4,742	$1,185	$1,423	$66,100	$5,508	$1,377	$1,653	$72,120	$6,010	$1,503	$1,803
FIVE	$58,400	$4,867	$1,217	$1,460	$61,450	$5,121	$1,280	$1,536	$71,400	$5,950	$1,488	$1,785	$77,900	$6,492	$1,623	$1,948
SIX	$62,750	$5,229	$1,307	$1,569	$66,000	$5,500	$1,375	$1,650	$76,700	$6,392	$1,598	$1,918	$83,650	$6,971	$1,743	$2,091
SEVEN	$67,050	$5,588	$1,397	$1,676	$70,550	$5,879	$1,470	$1,764	$82,000	$6,833	$1,708	$2,050	$89,450	$7,454	$1,864	$2,236
EIGHT	$71,400	$5,950	$1,488	$1,785	$75,100	$6,258	$1,565	$1,878	$87,250	$7,271	$1,818	$2,181	$95,200	$7,933	$1,983	$2,380

1. Annual Income = Gross annual income adjusted by household size.
2. Monthly Income = The annual income adjusted by household size divided by 12 months.
3. 25% = The monthly amount of household income used for total housing expenses (i.e., Monthly Income times .25).
4. 30% = The monthly amount of household income used for total housing expenses (i.e., Monthly Income times .30).

Specific program requirements may vary. Please contact the City of Chula Vista Community Development Department Housing Division for specific program information.

EXHIBIT 3A

SUPPLEMENTAL RENTAL APPLICATION

The rental unit for which you are applying has received governmental assistance under programs to encourage more affordable housing. As a result, the unit carries a rent level restriction and is restricted to occupancy by low and moderate income households.

The information required on this form is necessary to determine you income eligibility to occupy the unit. You must report all household income. Information provided will be confidential and not subject to public disclosure pursuant to State Government Code Section 6254(h).

---

1. Rental Unit Address _____

2. Applicant Name _____

3. Other Household Members _____

4. Total Current Annual Household Income from all Sources:
   TOTAL $_____

   Detail:

Household Member	Income	Source

5. Total Gross Annual Household Income shown on most recent Federal Tax return (attach copies of most recent Federal Tax returns for all household members receiving income. Include other verification of income not appearing on tax forms.)
   TOTAL $_____

APPLICANT'S STATEMENT

I certify, under penalty of perjury, that the foregoing information is true and correct to the best of my knowledge. I understand that any misrepresentation of the information contained herein may be cause for eviction.

Signature _____ Date _____
Applicant

EXHIBIT 3B

OWNER'S STATEMENT

Based on the foregoing information, I certify, under penalty of perjury, that the applicant is eligible to occupy this restricted affordable unit. Eligibility is based on finding that the applicant household=s current annual income is $_____ and does not exceed the current maximum household income of $_____ allowed under the terms of a Development Agreement with the City of Chula Vista regarding this residential development.

Name _____

Title _____

Signature _____ Date _____

EXHIBIT 4-A

Owner's Certification

I am the owner or owner's representative for an affordable housing development in the City of Chula Vista, which is bound by a Housing Agreement with the City.

I certify under penalty or perjury that the attached rent roll for affordable units at my project is true and correct to the best of my knowledge and complies with the terms and conditions stipulated in the Affordable Housing Agreement, or any agreement that implements the same, with the City of Chula Vista.

Name _____

Title _____

Signature _____ Date _____

CITY OF CHULA VISTA

SEMI-ANNUAL AFFORDABLE HOUSING MONITORING REPORT

EXHIBIT 4-B

Project Name: _____

Project Address: _____

Contact Person: _____ Title: _____

Telephone No.: _____ Fax No.: _____

As of (Date): ❒ June 30, _____ ❒ December 31, _____

Reviewed By: _____ Date: _____

Bdrm Size	Restricted - Affordable	Non-Restricted		TOTAL
	No. of Units	No. of Units	Avg Monthly Rent	
Studio				
1 Bedroom				
2 Bedrooms				
3+Bedrooms				
TOTAL				

	Unit No.	Bdrm Size	Monthly Rent $	Name of Household	No. of Occupants	Total Monthly Household Income $	Percent Median Income	Seniors – One Occupant 60 Yrs+ (Y/N)	Date of Last Income Re-Examination	FOR CITY USE ONLY: Unit in Compliance (Y/N)
	Example	2	$695	Doe, John	2	$2,800	%	N/A	1/99	
1.			$			$	%			
2.			$			$	%			
3.			$			$	%			

CITY OF CHULA VISTA

SEMI-ANNUAL AFFORDABLE HOUSING MONITORING REPORT

Project Name: _____

As of (Date): ❒ June 30, _____ ❒ December 31, _____

	Unit No.	Bdrm Size	Monthly Rent $	Name of Household	No. of Occupants	Total Monthly Household Income $	Percent Median Income	Seniors – One Occupant 60 Yrs+ (Y/N)	Date of Last Income Re-Examination	FOR CITY USE ONLY: Unit in Compliance (Y/N)
4.			$			$	%			
5.			$			$	%			
6.			$			$	%			
7.			$			$	%			
8.			$			$	%			
9.			$			$	%			
10.			$			$	%			
11.			$			$	%			
12.			$			$	%			
13.			$			$	%			
14.			$			$	%			
15.			$			$	%			
16.			$			$	%			
17.			$			$	%			
18.			$			$	%			
19.			$			$	%			
20.			$			$	%			

Deadline for Submittal: January 15th and July15th of each year.

CITY OF CHULA VISTA

SEMI-ANNUAL AFFORDABLE HOUSING MONITORING REPORT

EXHIBIT 4-C

Narrative Summary for Transitional Housing Programs

Project/Program Description:

Notable Objectives:

Analysis of the Completion of Objectives:

Reasons for Changes/Delays in Completion of Objectives:

Procedures/Actions to Increase/Decrease Effectiveness of the Program:

Other Comments:

Exhibit 5

CITY OF CHULA VISTA

ANNUAL MODERATE INCOME AFFORDABLE HOUSING MONITORING REPORT

Project Name (*include Master Plan Community if applicable*): _____

Project Address: _____

Contact Person: _____ Title: _____

Telephone No.: _____ Fax No.: _____

As of (Date): ❒ June 30, _____ ❒ December 31, _____

Reviewed By: _____ Date: _____

Bdrm Size	Affordable-Moderate Income		Non-Restricted/Market Rate		TOTAL UNITS
	No. of Units	Monthly Rent	No. of Units	Avg Monthly Rent	
Studio					
1 Bedroom					
2 Bedrooms					
3 Bedrooms					
4 Bedrooms					
TOTAL					

Deadline for Submittal: 15 days after year end
(04/08/08)

Revised: June 201
AFFORDABLE HOUSING PROGRAM

Exhibit 5

CITY OF CHULA VISTA

ANNUAL MODERATE INCOME AFFORDABLE HOUSING MONITORING REPORT

Owner's Certification

I am the owner or owner's representative for an affordable housing development in the City of Chula Vista, which is bound by a Housing Agreement with the City.

I certify under penalty or perjury that the attached rent roll for affordable units at my project is true and correct to the best of my knowledge and complies with the terms and conditions stipulated in the Affordable Housing Agreement, or any agreement that implements the same, with the City of Chula Vista.

Name _____

Title _____

Signature _____ Date _____

EXHIBIT 6

CITY OF CHULA VISTA

HOMEBUYER'S QUALIFYING FORM

BUYER'S INFORMATION

Buyer's Name: _____

Current Address: _____

Current Household Income: $_____ Household Size: _____

NEW HOME INFORMATION

Master Plan Community: _____

Name of Residential Development: _____

Tract: _____ Lot No.: _____

Lot Address: _____

No. of Bedrooms: _____

Purchase Price2: _____

Monthly PITI Payment: $_____ % of Income: _____%

Year of Purchase: _____

Sales Representative: _____

_____ _____

Signature of Homebuyer
Authorizing Release to City

Date

This information is for the City's Reporting and Administrative Use Only

2 The sales price of any unit being sold in partial satisfaction of Developer's obligation to provide moderate income housing shall not exceed the affordable housing costs for owner occupied housing as defined within the Affordable Housing Program for the master plan community.

EXHIBIT 7

City of Chula Vista Equal Housing Opportunity Requirements For The Low/Moderate Income Housing Affirmative Marketing Plan

Every Developer complying with the City of Chula Vista's Housing Element's "Affordable Housing Plan" shall submit to the City an Affirmative Marketing Plan for City Review and Approval which details actions the Developer will take to provide information and otherwise attract eligible persons in the housing market area to the available housing without regard to race, sex, sexual orientation, marital status , family status, color, religion, national origin, ancestry, or handicap, age or any other category which may be defined by law now or in the future.

I. The City of Chula Vista Affirmative Marketing Requirements are as follows. Please note, however, the Plan is not limited to these Requirements.

(i) Detail methods for informing the public, buyers and potential tenants about Federal fair housing laws and the City of Chula Vista's affirmative marketing policy;

(ii) Publicize to minority persons the availability of housing opportunities through the type of media customarily utilized by the applicant, including minority outlets which are available in the housing market area;

(iii) Identify by language and by number any significant number of persons in a community within the housing market area who have limited fluency in the English language:

(iv) Where there is a significant number of persons in a community within the housing market area who have limited fluency in the English language, the Plan shall:

(a) Identify the media most likely to reach such persons.

(b) Advertise for the housing development in the native language of such persons, in addition to the English language, and

(c) Describe the provisions which the housing sponsor will make for handling inquiries by and negotiations with such persons for the rental or sale of units in the development.

(v) Detail procedures to be used by the Developer and/or property manager to inform and solicit applications from persons in the housing market area who are not likely to apply for the housing without special outreach (e.g., use of community organizations, places of worship, employment centers, fair housing groups, or housing counseling agencies).

II. Records must be kept describing actions taken by the Developer and/or property managers to affirmatively market units and records to assess the results of these actions:

(i) The records shall include a copy or transcript of the advertisement copy, the identity of the media in which it was disseminated, and the date(s) of each appearance. The housing sponsor shall also keep a record of the dates and places of any meetings or communications between the housing sponsor and any individual or group referred to the housing sponsor by the agency or organizations representing any of the groups within the community acting on behalf of any classification of minority persons described above. Such records shall be retained for a period of five years;

(ii) A description of how the Developer and/or property managers will annually assess the success of affirmative marketing actions and what corrective actions will be taken where affirmative marketing requirements are not met; and

(iii) The Developer/property manager shall furnish all information and reports required hereunder and will permit access to its books, records and accounts by the City of Chula Vista, HUD or its agent, or other authorized Federal and State officials for purposes of investigation to ascertain compliance with the rules, regulations and provisions stated herein.

III. The City of Chula Vista may from time to time review the Plan and the Developer's and property manager's activities pursuant to the Plan and may require amendments to the Plan if it does not fully comply with the requirements of this section.

IV. An affirmative marketing program shall be in effect for the duration of the Qualified Term defined in the Affordable Housing Agreement.

V. If a source of funding used in a low/moderate income housing development, such as federal or state funds, has affirmative marketing requirements more restrictive than the City of Chula Vista's affirmative marketing requirements, then the more restrictive applies.

SECTION II.6

EASTLAKE COMPREHENSIVE AFFORDABLE HOUSING PROGRAM

Supplemental to Incorporate the Windstar Pointe Resort Project

April 8, 2008

II.6.4.1LOW INCOME HOUSING (additional information)

The Windstar Pointe Resort Project (494 units) will trigger the requirement for 25 low income units. This requirement shall be satisfied prior to the issuance of any building permit(s) for the Windstar Pointe Resort Project.

- Low Income Housing Sites

  Site 5. This site is located in the Olympic Training Center (OTC) parcel which is designated Public/Quasi-public. Resident housing for athletes is permitted within the mix of uses allowed by the OTC SPA Plan. The low income housing units will be integrated into the overall development of the training facility.

  Site 5a. This represents an alternative location for affordable housing that is not located within Eastlake II and III ("off-site") that has yet to be determined. In determining an appropriate off-site location, site selection criteria as specified within this Program and the number of units remaining to satisfy the affordable housing requirement shall be considered.

- Alternative Methods of Compliance

As of February 1, 2006, entitlements have been received on all properties within Eastlake II and III, with the exception of the Windstar Pointe Resort site. Additionally, building permits have been issued and/or finalized for approximately 84% of the total housing units. Based upon the timing of development, the remaining obligation of 25 low income housing units (Phase IV), difficulty in integrating the affordable housing within the remaining development opportunities, the new construction of units may present an "unreasonable hardship" and alternative methods of compliance may be required.

Consistent with Policy 3.1 of the City's Housing Element of the General Plan, Phase IV of the low income housing obligation may be produced at an alternative off-site location. The proposed offsite location within the EastLake Community is proposed to be located on the Olympic Training Center (OTC).

Approximately 80 percent of the athletes in training at the OTC are considered to be of very low income and a significant number of the employees are at an income level which would qualify them as low income. The OTC has only developed a portion of the Center's housing units for its athletes, requiring the majority of them to seek housing elsewhere within the Chula Vista area. Affordable housing, public transportation and neighborhood services are not within close proximity to the OTC. Athletes must therefore seek housing opportunities in

more affordable areas of the community and take on the costs of residing far from their place of training/work. By providing affordable housing within the OTC, athletes and employees will have greater opportunities to reside onsite and therefore, will result in less impact on the affordable housing stock within Chula Vista and costs to the athlete.

If it is determined that the inclusion of affordable housing for athletes and employees of the OTC within Site 5 is not feasible, the affordable housing obligation may be satisfied through the production or operation of affordable housing at another off-site location yet to be determined if the City determines, at its sole discretion, that the public interest would be better served by allowing such off-site alternative. In considering an appropriate off-site location the following factors should be addressed:

- Preferred product type to meet the most pressing needs of low income residents;
- Affordability in excess of the requirements of the City's Affordable Housing Program;
- Balance of housing opportunities for lower income households throughout the community to avoid concentrations of low income housing; and,
- Location advantages such as proximity to jobs, schools, transportation and services.

Should an off-site location be determined to be infeasible, at the sole discretion of the City, the City may allow the payment of an in-lieu fee, as may be adopted by the City Council. Such fee shall be based upon the cost of the subsidy necessary to bring the market-rate cost of housing to the required affordability level for low income households

AIR QUALITY IMPROVEMENT PLAN

SECTIONAL PLANNING AREA (SPA) PLAN

EASTLAKE III – WINDSTAR POINTE RESORT

ADDENDUM APRIL 2008

Adopted April 8, 2008
by Resolution No. 2008-095

Project Sponsor
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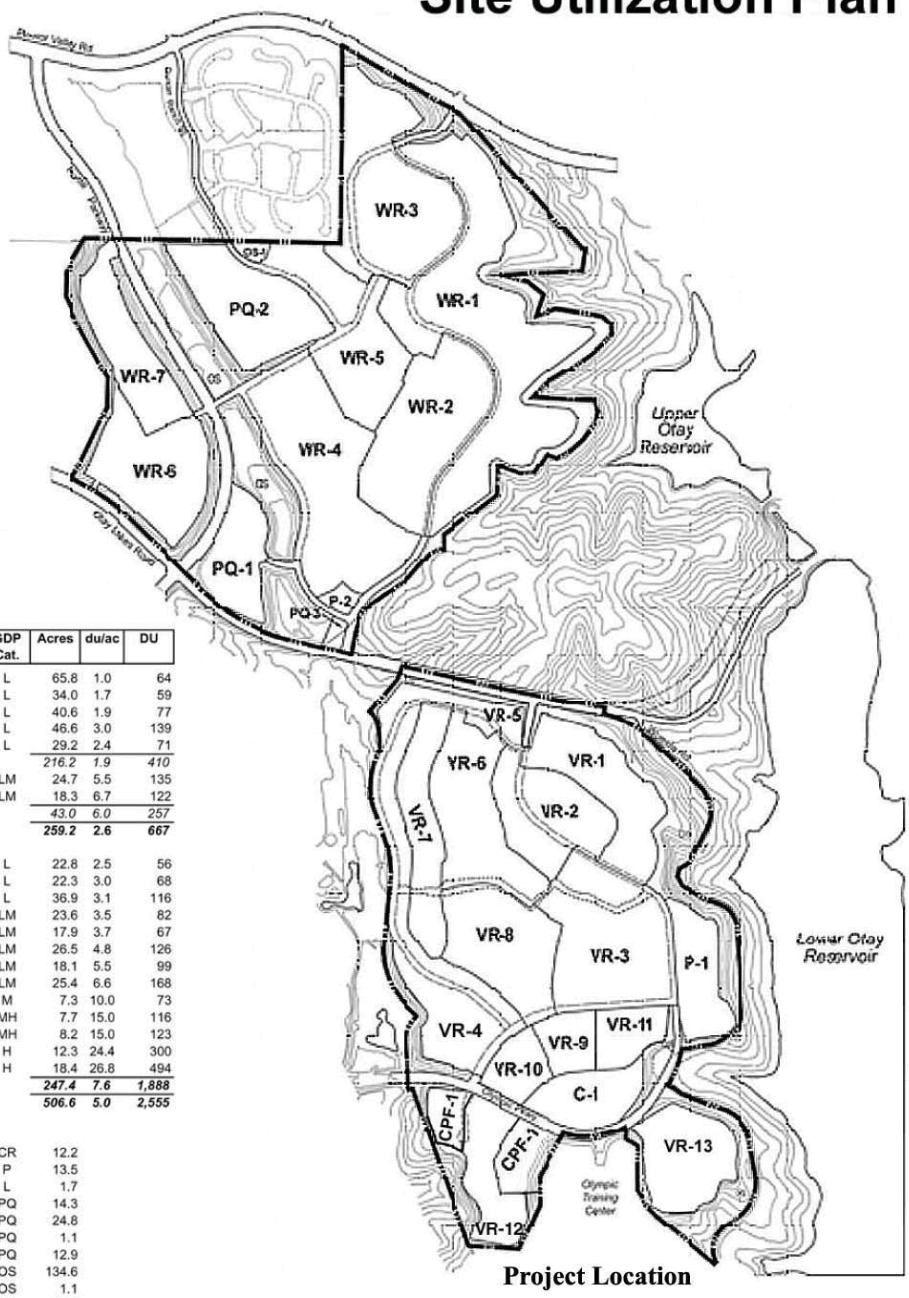
EASTLAKE III - WINDSTAR POINTE RESORT
SECTIONAL PLANNING AREA (SPA) PLAN

Project Description

The project site is located at the eastern terminus of Olympic Parkway and is indicated as parcel VR-13 on the EastLake III Site Utilization Plan (Exhibit AQ-1). It is located on approximately 18.4 acres overlooking the Lower Otay Reservoir. Southwest of the site is the Olympic Training Center. To the north and west are multi-family residential and commercial uses. Immediately to the east is, along Weuste Road is the Chula Vista Greenbelt Regional Trail and the reservoir. A short walk to the north is the EastLake III neighborhood park.

The project is intended to be a multi-family residential project featuring outstanding quality and design amenities. It will consist of a series of two and three story cluster courtyards along with a four story wrap building. Parking for the courtyards are provided within covered garages and parking for the wrap building will be contained within a multi-level parking structure located within the interior space of the building. In addition to the residential buildings, a leasing office and community recreation building (approx. 8,000 square feet) will be provided.

Site Utilization Plan



RESIDENTIAL
Woods

Parcel Number	Land Use	GDP Cat.	Acres	du/ac	DU
WR-1	Single Family	L	65.8	1.0	64
WR-2	Single Family	L	34.0	1.7	59
WR-3	Single Family	L	40.6	1.9	77
WR-4	Single Family	L	46.6	3.0	139
WR-5	Single Family	L	29.2	2.4	71
Residential Sub-total *(Woods East)*			*216.2*	*1.9*	*410*
WR-6	Single Family	LM	24.7	5.5	135
WR-7	Single Family	LM	18.3	6.7	122
Residential Sub-total *(Woods West)*			*43.0*	*6.0*	*257*
Residential Sub-total (Woods):			***259.2***	***2.6***	***667***
Vistas					
VR-1	Single Family	L	22.8	2.5	56
VR-2	Single Family	L	22.3	3.0	68
VR-3	Single Family	L	36.9	3.1	116
VR-4	Single Family	LM	23.6	3.5	82
VR-5	Single Family	LM	17.9	3.7	67
VR-6	Single Family	LM	26.5	4.8	126
VR-7	Single Family	LM	18.1	5.5	99
VR-8	Single Family	LM	25.4	6.6	168
VR-9	Single/Multi-Family	M	7.3	10.0	73
VR-10	Multi-Family	MH	7.7	15.0	116
VR-11	Multi-Family	MH	8.2	15.0	123
VR-12	Multi-Family	H	12.3	24.4	300
VR-13	Multi-Family	H	18.4	26.8	494
Residential Sub-total (Vistas):			***247.4***	***7.6***	***1,888***
			506.6	***5.0***	***2,555***
Sub-total Residential					
NON-RESIDENTIAL					
C-1	Commercial- Retail	CR	12.2		
P-1	Public Park	P	13.5		
P-2	Private Recreation	L	1.7		
PQ-1	Elementary School	PQ	14.3		
PQ-2	Jr. High School	PQ	24.8		
PQ-3	Fire Station	PQ	1.1		
CPF-1	Comm. Purpose Fac.	PQ	12.9		
OS	Open Space*	OS	134.6		
OS-1	OS/School Parking	OS	1.1		
	Major Circulation	cir	25.5		
Sub-total Non-Residential			**241.7**		
PROJECT TOTAL			**748.3**	**3.4**	**2,555**

EASTLAKE III
A planned community by The EastLake Company

Civil Land Planning
0 400 800 1200
6/20/06

Exhibit AQ-1

Impact Reduction Measures:

This section of the AQIP amendment demonstrates how the Windstar Pointe Resort addresses key design issues, at the SPA Plan level, which are directed toward reducing air pollution impacts. The design issues addressed below would be incorporated as conditions of approval for the Project:

a. Street/Circulation Design with Pedestrian/Bicycle Orientation

The Project does not alter the original air quality improvement plan implementation measures, such as: trail system, pedestrian connection among centers, bicycle lanes and other components to promote non-vehicular transportation. Instead, the Project would be required to incorporate pedestrian connections to the existing pedestrian/bicycle route connections to promote the use of non-motorized modes of transportations.

b. Housing Density Near Transit

The project provides and allows for additional housing within close proximity of area bus routes, allowing for a reduction of vehicle miles traveled for those able to work and live in the East Lake community.

c. Land Use Mix/Proximity

The Project introduces a full range of amenities to serve the needs of project residents. This approach will result in less trips traveling west to seek recreational opportunities.

d. Site Design with Transit Orientation

The proposed and permitted future buildings will increase the concentration of housing in the immediate area which may encourage and support the use of transit services, thereby reducing total vehicle miles traveled.

e. Bicycle Route Integration with Transit & Employment

Bike lanes are designated on Olympic Parkway within the project area. On other internal streets, bicyclists will be readily able to share the road with motor vehicles due to the low volumes and limited speeds allowed. Project bicycle routes connect to regional systems as indicated in the Circulation Element of the General Plan and provide access to all regional destinations including the park-and-ride facility, and nearby commercial centers and residential areas. The project will include connecting sidewalks to the established walks, and paths and transit facilities.

f. Energy Efficient Landscaping

The project will include landscaping of the parking lots, perimeter grounds, as well as near the proposed buildings to provide shade and reduce heat gain and energy usage for both vehicles and buildings.

g. Alternative Fuels/Telecenter

The project is provided with high-speed telecommunications services to facilitate both on-site and off-site communications allowing for reduced commutation. The project is proposed to include internet cable service. These facilities will be maintained with the latest industry standards for communications.

h. Overall Sustainability of Project

The project fits into the overall community plan and achieves the objectives of providing a job-housing balance whereby the high-quality rental apartments will enable employees to live and work within the EastLake community, thereby improving overall efficiency, community, quality of life and sustainability.

i. Commitment to Chula Vista Greenstar Program

The developer of the subject project may participate in the Greenstar Building Efficiency Program. The majority (50% or greater) of the structures shall be designed to exceed the California 2001 Title 24, Part 6, Energy Efficiency Standards (CA 9110, effective 6/1/01) Title 24 by 10%.

Because energy conservation technology and programs are constantly maturing, the specific program will be identified with application for building permits. The particular building efficiency program to be used (potentially including a custom building program) and the buildings to be constructed under the program, shall be identified on the building permit application and approved prior to issuance of a building permit. Energy calculations demonstrating program compliance will be included with the Building Permit application.

AIR QUALITY IMPROVEMENT PLAN

EASTLAKE III

Adopted August 13, 2002

by Resolution No 2002-306

Project Sponsor
The EastLake Company
900 Lane Avenue, Suite 100
Chula Vista, CA 91914
Contact: Guy Asaro
(619) 421-0127

SECTION II.7
AIR QUALITY IMPROVEMENT PLAN

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Criterion Planners, INDEX Pilot Test: SPA Air Quality Improvement Plans, June 2002.

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EASTLAKE III

SECTION II.7 AIR QUALITY IMPROVEMENT PLAN

II.7.1 Introduction

Chula Vista's Growth Management Ordinance requires all major development projects (50 dwelling units or greater) to prepare an Air Quality Improvement Plan (AQIP). On November 14, 2000, the City Council adopted the Carbon Dioxide (CO2) Reduction Plan, that included twenty action measures intended to promote clean fuel vehicles, alternatives to driving, transportation efficient land use planning and energy efficient building construction. Twelve of the action measures directly relate to land use planning and air quality improvements. The AQIP includes implementation of applicable measures identified in the CO2 Reduction Plan.

The City is developing guidelines for the preparation and implementation of required AQIP's. A pilot study was initiated to identify and evaluate the relative effectiveness and costs of applying various design and energy conservation features in new development projects. One of the goals of the study is to identify implementation measures that reduce air pollutants and CO2 emissions and exceed existing mandates wherever possible including the Title 24 Energy Code. The INDEX computer model, developed by Criterion Planners/Engineers, was used in the pilot study to analyze the project.

The twelve land use measures identified in the CO2 Reduction Plan were translated into action measures for the pilot study as follows:

Land-Use

1. Compact development – minimize sprawl
2. Density – intensity of land use.
3. Diversity – mix and variety of uses.
4. Orientation toward pedestrian and bicycles.
5. Orientation toward transit.

Buildings

6. General energy design and equipment – improve efficiency.
7. Solar Use – solar thermal applications and power generation.
8. Vegetation – uptakes air pollutants and greenhouse gases.

Transportation

9. Pedestrian Facilities – system design and improvements.
10. Bicycle facilities – system design and improvements.
11. Transit facilities – system design and improvements.

Infrastructure

12. Water Use – land planning that reduces water consumption.

The *INDEX Pilot Test: SPA Air Quality Improvement Plans* report prepared by Criterion Planners/Engineers identifies various options available to improve energy efficiency and air quality. See Appendix.

II.7.2 Purpose

The purpose of the EastLake III Air Quality Improvement Plan (AQIP) is to reduce emissions and energy use and to fulfill the requirements of the Growth Management Ordinance. The AQIP addresses design methods to reduce vehicle trips, maintain or improve traffic flow, and reduce vehicle miles traveled. It also identifies a means of reducing emissions (direct or indirect) from the project, and defines a program to monitor compliance.

II.7.3 Regulatory Framework

Federal, state and local agencies share responsibilities for developing and implementing air quality regulations and improvement plans. The federal and state agencies have established air quality standards and requirements for compliance. The local agencies focus on adopting strategies and regulations to achieve compliance with the state and federal mandates. Specific air quality analysis for the project is included in the Environmental Impact Report prepared for the EastLake III SPA Plan. As mentioned earlier, the City of Chula Vista's Growth Management Ordinance requires preparation and implementation of an Air Quality Improvement Plan (AQIP) for those projects with 50 dwelling units or greater.

II.7.3 Project Description

The Project encompasses approximately 793 acres located within the City of Chula Vista, and is bordered by the Rolling Hills Ranch development to the north, and the planned EastLake Business Center II, EastLake Trails subdivision, and Otay Ranch Village Eleven to the west. The Upper and Lower Otay Reservoirs form the eastern boundary of the Project. The planning area consists of two subdivisions identified in the EastLake III General Development Plan as EastLake Woods and EastLake Vistas. The Project area also includes the property located directly adjacent to the southern boundary of the Olympic Training Center, and is referred to as the Panhandle Site, which is designated as part of a future University of California campus. Specific land use has not been determined for the Panhandle Site and, therefore, this area was not included in this study. A separate AQIP will be prepared for the site once more specific proposed land uses are determined. Proposed land uses for the planning area are summarized in Figure 1.

As was indicated by the initial INDEX scores, the design of the EastLake III SPA contains energy-efficient features that improve air quality and reduce CO2 emissions beyond levels that are found in traditional suburban communities.

II.7.4 Air Quality Indicators

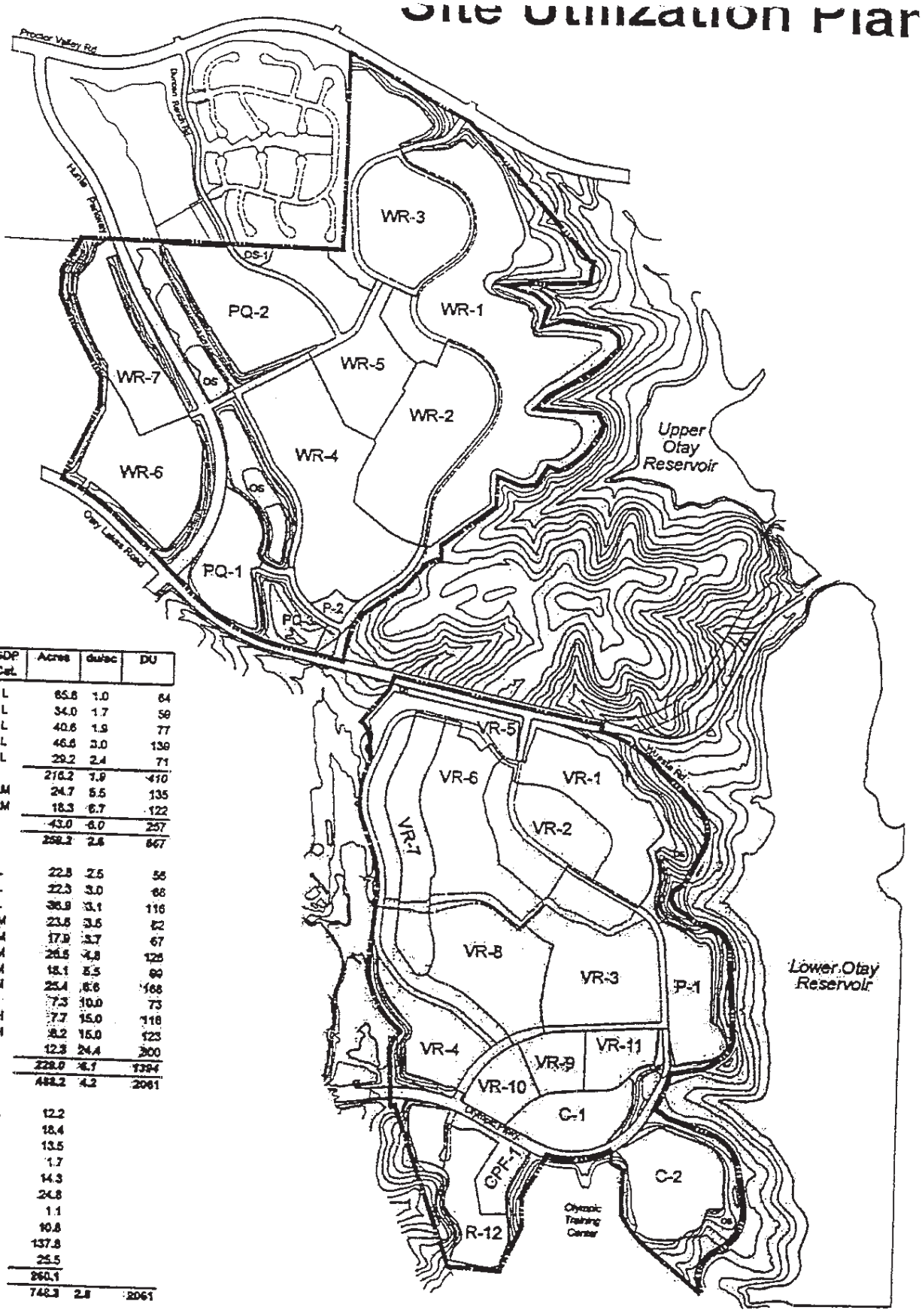
As described in the attached report, twelve action measures identified in the Carbon Dioxide (CO2) Reduction Plan were used to select 52 key indicators. The indicators gauge the key characteristics of the twelve action measures and focus on the goals of the pilot study. The 52 indicators were selected to address the energy efficiency and emission reduction aspects of the proposed land development.

II.7.5 Project Evaluation

Baseline Values

The first step in INDEX modeling was the calculation of the baseline values. These are "pre-efficiency" indicator scores representative of land development practices in the 1970s and 80s. These scores form a baseline that the EastLake III proposal was judged against.

Site Utilization Plan



RESIDENTIAL

Parcel Number	Land Use	GDP Cat.	Acres	du/ac	DU
WR-1	Single Family	L	65.6	1.0	64
WR-2	Single Family	L	34.0	1.7	58
WR-3	Single Family	L	40.6	1.9	77
WR-4	Single Family	L	46.6	3.0	139
[illegible]	Single Family	L	29.2	2.4	71
[illegible]	Residential Sub-total (Woods East)		216.2	1.9	410
[illegible]	Single Family	LM	24.7	5.5	135
WR-7	Single Family	LM	18.3	6.7	122
	Residential Sub-total (Woods West)		43.0	6.0	257
	Residential Sub-total (Woods):		259.2	2.6	667
Vistas					
VR-1	Single Family	L	22.8	2.5	56
VR-2	Single Family	L	22.3	3.0	66
VR-3	Single Family	L	36.9	3.1	116
VR-4	Single Family	LM	23.6	3.5	82
VR-5	Single Family	LM	17.9	3.7	67
VR-6	Single Family	LM	26.6	4.8	128
VR-7	Single Family	LM	18.1	5.5	99
VR-8	Single Family	LM	25.4	6.6	168
VR-9	SFA/Multi-Family	M	7.3	10.0	73
VR-10	Multi-Family	MH	7.7	15.0	116
VR-11	Multi-Family	MH	8.2	15.0	123
VR-12	Multi-Family	H	12.3	24.4	300
	Residential Sub-total (Vistas):		229.0	4.1	1394
	Total Residential		488.2	4.2	2061

NON-RESIDENTIAL

C-1	Commercial - Retail	CR	12.2
C-2	Commercial - Tourist	CT	18.4
P-1	Public Park	P	13.5
P-2	Private Recreation	P	1.7
PQ-1	Elementary School	PQ	14.3
PQ-2	Jr. High School	PQ	24.8
PQ-3	Fire Station	PQ	1.1
PF-1	Comm. Purpose Fac.	PQ	10.8
OS	Open Space*	OS	137.8
	Major Circulation	R	25.5
	Sub-total Non-Residential		260.1
	PROJECT TOTAL		748.3 2.8 2061

* Permits School Parking

EASTLAKE III
planned community by The EastLake Company

FIGURE 1

As shown in Table 1, baseline values were computed by measuring the three pre-efficiency neighborhoods and then calculating a weighted average score for each indicator. Exceptions to the weighted average occur with six indicators as noted in Table 1, where anomalous conditions in the neighborhoods produced scores that could not be considered typical. In these instances, City staff adjusted the values to more common or practical levels (see Table 1 footnotes). To assist in interpreting the baseline scores, Table 1 also includes comments on the scores' relationship to common principles of energy-efficient land-use planning.

Original EastLake III Proposal

Having set baseline values, the next step was INDEX modeling of the original EastLake III proposal to obtain its indicator scores. Those EastLake III scores were then compared to the baseline values as shown in Table 2.

The principal finding from the first round of INDEX modeling is that EastLake III is about 5% more energy efficient than the baseline.

Notable characteristics of EastLake III and differences between its scores and the baseline are summarized below by element category:

- *Land-use*. EastLake III enjoys favorable employment density and high neighborhood completeness, but unfavorable scores in residential density and some circulation features, e.g. walk distance to retail and transit-oriented residential density. In general, EastLake III achieves its energy and emissions advantage over the baseline in this element primarily through higher total population densities, which reduces space conditioning, travel, and infrastructure energy use.

- *Transportation*. There was little change between EastLake III scores and baseline values in this element, except for significant increases in pedestrian network coverage.

- *Infrastructure*. EastLake III was notably higher than the baseline due to its larger lots whose greater amount of landscaping is estimated to consume more water.

Table 1

BASELINE INDICATOR SCORES

Element	Indicator	Units	Pre-Efficiency Neighborhoods: Terra Nova	College Estates I	College Estates II	*Weighted By*	Weighted Average	Comments
Demographics	1. Population	residents	3482	3249	1839	*NA*	---	
	2. Households	dwelling units	1159	1083	613	*NA*	---	
	3. Employment	employees	40	245	40	*NA*	---	
	4. Land Area	acres	199	242	141	*NA*	---	
Land-Use	5. Development Footprint	acres/resident	0.06	0.07	0.06	*residents*	0.064	Typical scores for suburban residential.
	6. Street Network Extent	street mi./capita	2.43	2.76	2.66	*residents*	2.604	Typical scores for suburban residential.
	7. Amenity Proximity (retail)	ft. to closest amenity	2363	3491	4240	*dwelling units*	3193.902	Distances over 2,640 ft. are pedestrian unfriendly.
	8. Single-Family Dwelling Density	DU/acre	8.22	5.51	6.94	*dwelling units*	6.917	Typical results for suburban residential.
	9. Multi-Family Dwelling Density	DU/acre	16.66	NA	NA	*staff adjusted (1)*	16.000	Terra Nova score is favorable; lack of MF in CE 1 & 2 unfairly drags weighted average too low.
	10. Average Residential Density	DU/acre	9.98	5.51	6.94	*dwelling units*	7.632	Comments above will ripple here.
	11. Employment Density	employees/acre	2.51	12.01	4.08	*staff adjusted (2)*	12.000	TN & CE2 scores are understandable because of schools only; CE1 is at low end of transit feasibility.

Table 1 *Continued*

Element	Indicator	Units	Pre-Efficiency Neighborhoods: Terra Nova	College Estates I	College Estates II	*Weighted By*	Weighted Average	Comments
Land-Use *Continued*	12. Commercial Building Density	avg. floor area ratio	NA	0.08	NA	*staff adjusted (3)*	0.350	Baseline projects not sufficiently commercial to calculate reasonable baseline of 0.25-0.50; adjusted to conform with applicable development standard.
	13. Use Mix	0 to 1 index	0.33	0.27	0.36	*land area (acres)*	0.312	Typical suburban residential scores; generally 0.4 or higher denotes high mix areas.
	14. Use Balance	0 to 1 index	0.52	0.34	0.34	*land area (acres)*	0.402	Typical suburban residential scores; generally 0.75 or higher is desired.
	15. Neighborhood Completeness	% of key uses	40	40	40	*residents*	40.000	Coincidental identical scores, all favorable; generally 50 or higher is desired.
	16. Block Size	acres	23.48	9.08	10.75	*land area (acres)*	14.407	Blocks larger than 4-5 acres are pedestrian unfriendly.
	17. Pedestrian Orientation of Buildings	avg. setback ft.	NA	103	NA	*feet of setback*	103.000	Pedestrian friendly setbacks are 0-30 ft.
	18. Internal Connectivity for Pedestrians	0 to 1 index	0.73	0.81	0.75	*no. of ped. intersections*	0.764	All favorable scores; generally 0.75 or higher is desired.
	19. Internal Connectivity for Vehicles	0 to 1 index	0.77	0.79	0.66	*no. of street intersections*	0.742	All favorable except CE2; generally 0.75 is desired.
	20. External Access for Pedestrians	ft. between access points	1138	804	1983	*study perimeter (ft.)*	1298.648	Scores below 1,200 ft. are favorable.

Table 1 *Continued*

Element	Indicator	Units	Pre-Efficiency Neighborhoods: Terra Nova	College Estates I	College Estates II	*Weighted By*	Weighted Average	Comments
Land-Use *Continued*	21. External Access for Vehicles	ft. between access points	1934	2011	2644	*study perimeter (ft.)*	2184.007	Scores below 1,200 ft. are favorable.
	22. Street Network Density	centerline miles/sq. mi.	15.37	19.71	18.83	*land area (acres)*	18.013	Typical scores for suburban residential.
	23. Housing Proximity to Transit	ft. to closest stop	1439	1667	861	*dwelling units*	1401.385	Scores below 1,200 ft. are favorable.
	24. Employment Proximity to Transit	ft. to closest stop	2819	445	984	*employees*	803.523	Scores below 1,200 ft. are favorable.
	25. Transit-Oriented Residential Density	DU/acre w/i 1/4 mi. stop	11	5	7	*staff adjusted (4)*	10.000	TN score is favorable, others are not; minimum should be 10.
	26. Transit-Oriented Employment Density	emps./acre w/i 1/4 mi. stop	3	12	4	*employees w/in 1/4 mi.*	11.252	CE1 score is minimum favorable.
Buildings	27. Title 24 Exceedence	% structures	0	0	0	*structures*	0	
	28. Building Efficiency Program Participation	% structures	0	0	0	*structures*	0	
	29. Solar Thermal Applications	% structures	0	0	0	*structures*	0	
	30. Solar Power Applications	% structures	0	0	0	*structures*	0	
	31. Vegetative CO2 Uptake	lbs./yr.	0	0	0	*land area (acres)*	0.000	
Transportation	32. Pedestrian Network Coverage	ped. routes/streets ratio	1.41	1.19	1.31	*total street miles*	1.284	All favorable scores (anything above 1.0) .
	33. Pedestrian Crossing Distance	avg. curb to curb ft.	45	41	39	*no. of street intersections*	41.726	Pedestrian friendly crossing distances are 30 ft. or less.
	34. Pedestrian Route Directness	walk ft./straightline ft. ratio	1.62	1.76	1.45	*dwelling units*	1.637	Scores above 1.5 are unfavorable.

Table 1 *Continued*

Element	Indicator	Units	Pre-Efficiency Neighborhoods: Terra Nova	College Estates I	College Estates II	*Weighted By*	Weighted Average	Comments
Transportation *Continued*	35. Bicycle Network Coverage	% of streets bikeable	100	100	100	*staff adjusted (5)*	90.000	
	36. Transit Service Coverage	stops/sq. mi.	8	11	23	*land area (acres)*	12.873	10-20 is favorable range.
	37. Daily Auto Driving	veh-mi./day/capita	22	22	22	*residents (6)*	22.000	Typical suburban value; generally 20 or less is desirable.
Infrastructure	38. Residential Water Use	gal./day/capita	128	171	153	*residents (7)*	149.667	
Environment	39. Park Space Supply	acres/1000 residents	11.20	3.62	7.89	*staff adjusted (8)*	3.000	TN score is abnormally high.
	40. Park Proximity	ft. to closest park	2090	2732	1266	*dwelling units*	2156.611	Distances above 1,200 ft. are unfavorable for pedestrians.
	41. Open Space Supply	% of land area	19	2	6	*land area (acres)*	8.779	TN score again unusually high; however, weighted average may be reasonable.
	42. Open Space Contiguity	0 to 1 index	0.72	0.53	0.58	*open space acres*	0.679	Scores above 0.5 are favorable.
	43. Housing Energy Use	MMBtu/yr./capita	28	28	36	*residents*	31.084	Typical scores.
	44. Household Transportation Energy Use	MMBtu/yr./capita	47	47	47	*residents*	46.800	Typical suburban score; generally 40 or less is desirable.
	45. Nonresidential Building Energy Use	MMBtu/yr./emp.	N/A	18	N/A	*employees*	18.026	CE1 score representative of strip malls; generally 12 or less is desirable.
	46. Total Energy Use	MMBtu/yr./person	74	75	81	*residents & employees*	75.561	Typical suburban residential scores for San Diego region.
	47. NOx Emissions	lbs./yr./person	33.01	33.45	33.82	*residents & employees*	33.349	Derived from energy scores.
	48. SOx Emissions	lbs./yr./person	0.72	0.83	0.92	*residents & employees*	0.805	Derived from energy scores.

Table 1 *Continued*

Element	Indicator	Units	Pre-Efficiency Neighborhoods: Terra Nova	College Estates I	College Estates II	*Weighted By*	Weighted Average	Comments
Environment *Continued*	49. HC Emissions	lbs./yr./person	58.43	58.44	58.44	*residents & employees*	58.435	Derived from energy scores.
	50. CO Emissions	lbs./yr./person	452.06	452.13	452.23	*residents & employees*	452.133	Derived from energy scores.
	51. PM Emissions	lbs./yr./person	0.13	0.14	0.16	*residents & employees*	0.140	Derived from energy scores.
	52. C02 Emissions	lbs./yr./person	10238	10566	10846	*residents & employees*	10492.572	Derived from energy scores.

1. Terra Nova score was consistent with citywide average east of I-805; rounded to 16.0.
2. Terra Nova and College Estates 2 scores are for school employment only and do not include any retail or commercial; College Estates 1 score is typical for suburban strip commercial employment; rounded to 12.0.
3. Adjusted value is based on allowable development standard.
4. College Estates 1 and 2 scores are beneath transit minimum; adjusted value is typical minimum for feasible transit service.
5. All three neighborhood scores are considered unusually high; adjusted value reflects likelihood of less-than-full coverage.
6. Estimated by Criterion and Fehr & Peers based on SANDAG regional data.
7. Water use estimated by INDEX and confirmed with City data.
8. Value adjusted to be consistent with adopted City standard.

Table 2

ORIGINAL SPA PLAN INDICATOR SCORES

Element	Indicator		Units	Baseline	EastLake III
Demographics	1. Population		residents	–	6173
	2. Households		dwelling units	–	2,061
	3. Employment		employees	–	792
	4. Land Area		acres	–	744
Land-Use	5. Development Footprint		acres/capita	0.064	0.071
	6. Street Network Extent		street mi./capita	2.604	1.38
	7. Amenity Proximity (retail)		ft. to closest amenity	3193.902	6,224
	8. Single-Family Dwelling Density	*	DU/acre	6.917	4.50
	9. Multi-Family Dwelling Density	*	DU/acre	16.000	17.25
	10. Average Residential Density		DU/acre	7.632	5.77
	11. Employment Density	*	employees/acre	12.000	11.25
	12. Commercial Building Density		avg. floor area ratio	0.350 (a)	0.35 (a)
	13. Use Mix	*	0 to 1 index	0.312	0.32
	14. Use Balance	*	0 to 1 index	0.402	0.44
	15. Neighborhood Completeness	*	% of key uses	40.000	80
	16. Block Size		acres	14.407	18.43
	17. Pedestrian Orientation of Buildings		avg. setback ft.	103.000	15.000 (a)
	18. Internal Connectivity for Pedestrians		0 to 1 index	0.764	0.920
	19. Internal Connectivity for Vehicles	*	0 to 1 index	0.742	0.740
	20. External Access for Pedestrians		ft. between access points	1298.648	2595
	21. External Access for Vehicles		ft. between access points	2184.007	4672
	22. Street Network Density	*	centerline miles/sq. mi.	18.013	15.59
	23. Housing Proximity to Transit		ft. to closest stop	1401.385	1327
	24. Employment Proximity to Transit		ft. to closest stop	803.523	1077
	25. Transit-Oriented Residential Density		DU/acre w/l 1/4 mi. stop	10.000	6.05
	26. Transit-Oriented Employment Density		emps./acre w/l 1/4 mi. stop	11.252	10
Buildings	27. Title 24 Exceedence		% structures	0	0
	28. Building Efficiency Program Participation		% structures	0	0
	29. Solar Thermal Applications		% structures	0	0
	30. Solar Power Applications		% structures	0	0
	31. Vegetative CO2 Uptake		lbs./yr.	0.000	169,950

Table 2 *Continued*

Element	Indicator		Units	Baseline	EastLake III
Transportation	32. Pedestrian Network Coverage	*	ped. routes/streets ratio	1.284	1.82
	33. Pedestrian Crossing Distance		avg. curb to curb ft.	41.726	52
	34. Pedestrian Route Directness	*	walk ft./straight-line ft. ratio	1.637	1.610
	35. Bicycle Network Coverage		% of streets bikeable	90.000	97
	36. Transit Service Coverage		stops/sq. mi.	12.873	18
	37. Daily Auto Driving		veh-mi./day/capita	22.000 (b)	23.000 (b)
Infrastructure	38. Residential Water Use		gal./day/capita	149.667	193
Environment	39. Park Space Supply		acres/1000 residents	3.000	3.08
	40. Park Proximity		ft. to closest park	2156.611	1804
	41. Open Space Supply		% of land area	8.779	16
	42. Open Space Connectivity		0 to 1 index	0.679	0.67
	43. Housing Energy Use		MMBtu/yr./capita	31.084	28.890
	44. Household Transportation Energy Use		MMBtu/yr./capita	46.800 (c)	46.801 (c)
	45. Nonresidential Building Energy Use		MMBtu/yr./emp.	18.026	42.719
	46. Total Energy Use		MMBtu/yr./person (capita + emp)	75.561	71.942
	47. NOx Emissions		lbs./yr./person (capita + emp)	33.349	33.353
	48. SOx Emissions		lbs./yr./person (capita + emp)	0.805	0.806
	49. HC Emissions		lbs./yr./person (capita + emp)	58.435	58.435
	50. CO Emissions		lbs./yr./person (capita + emp)	452.133	452.134
	51. PM Emissions		lbs./yr./person (capita + emp)	0.140	0.140
	52. C02 Emissions		lbs./yr./person (capita + emp)	10492.572	10,470.883

Notes:

a) Values are assumed based on applicable development regulations.
b) Typical suburban value; generally 20 or less is desirable.
c) Typical suburban value; generally 40 or less desirable.

* "Top ten" indicators of urban design-based energy efficiency.

- *Environment*. This element contains the energy and emission scores that summarize the combined effects of land-use, buildings, transportation, and infrastructure. Of the ten energy and emission indicators, the principal indicator is total energy use per year by residents and employees combined. EastLake III exceeded the baseline in efficiency terms, largely due to higher population density. The project's favorable energy scores are mirrored by similar reductions in pollutant and greenhouse gas emissions.

Modified EastLake III Proposal

The next step in the pilot test was an invitation for developers to submit modified SPA plans that achieved even greater energy efficiency and air quality than the original proposals. SPA developers had the following options available for modifying their plans in ways that further increased energy efficiency and improved air quality:

- *Land-use density*. This is the intensity of use on properties measured in dwelling units per acre for residential uses and employees per acre for non-residential uses. Extensive research nationally and internationally has conclusively demonstrated that the strongest urban planning technique for increasing energy efficiency is increasing land-use density. Density increases produce significant energy savings in building space conditioning, travel, and infrastructure operations. Although it may have been too late for major density changes in the three test SPAs, this option should be examined in future SPA processes because of its sizable benefits.

- *Land-use diversity*. This is the mix of residential and non-residential uses in an area. Research has also demonstrated that another important technique for increasing energy efficiency is increasing the diversity of land-uses. Greater diversity produces energy savings in the same space conditioning, travel, and infrastructure end-uses as density does through better use of system capacities. Again, it may have been too late to consider diversity changes in the three test SPAs, but the option warrants future consideration in other SPAs.

- *Multimodal circulation design*. Another strong technique for saving energy in land development is designing an efficient and convenient multimodal circulation system. Such a system is composed of features that allow walking, biking, and transit use in addition to auto driving. Important components include relatively dense street networks, completeness of sidewalks, and relatively direct routes from common origins to popular destinations. As with density and diversity, it may have been too late for significant circulation changes in the test SPAs.

- *Building construction standards.* SPA developers may opt for a commitment to reduce building energy use by exceeding Title 24. Developers could propose the amount of Title 24 exceedence per building type and the number of buildings that will participate in such exceedence. A developer could exercise this option by committing to a utility or comparable energy efficiency program that offers beyond-code services, or by simply committing that merchant builders will achieve the stipulated exceedence by means of their own choosing.

- *Solar systems.* SPA developers could opt to reduce grid-supplied energy by installing solar thermal or PV systems in buildings. Developers could propose the type and capacity of systems to be used, and the number of structures that will receive such systems.

- *Tree planting.* This category allowed SPA developers to offer additional tree planting that will offset greenhouse gas emissions. Selection of this option will not improve a SPA's energy efficiency or air pollutant emissions, but will help mitigate climate change.

After consideration of these options, EastLake III voluntarily selected the following action measures to improve its energy efficiency and air quality: 72 single-family homes will achieve a 15% Title 24 exceedence using ComfortWise, SDG&E California Energy Star Program or equivalent program; 255 single-family homes will achieve a 15% Title 24 exceedence using the SDG&E California Energy Star Program; and an additional 855 trees will be planted.

With these modifications, EastLake III was modeled again to recalculate indicator scores and identify final energy savings and air quality improvements. These results are shown in Table 3 indicating an approximate 1% energy use reduction for EastLake III. This is in addition to the 4.8% energy use reduction between the original EastLake III plan and the baseline.

Table 3

MODIFIED SPA PLAN INDICATOR SCORES

Element	Indicator	Units	Baseline	Original EastLake III	Modified EastLake III
Demographics	1. Population	residents	--	6173	6173
	2. Households	dwelling units	--	2061	2061
	3. Employment	employees	--	792	792
	4. Land Area	acres	--	744	744
Land-Use	5. Development Footprint	acres/resident	0.064	0.071	0.071
	6. Street Network Extent	street mi./capita	2.604	1.38	1.38
	7. Amenity Proximity (retail)	ft. to closest amenity	3193.902	6224	6224
	8. Single-Family Dwelling Density	DU/acre	6.917	4.50	4.50
	9. Multi-Family Dwelling Density	DU/acre	16.000	17.25	17.25
	10. Average Residential Density	DU/acre	7.632	5.77	5.77
	11. Employment Density	emps./acre	12.000	11.25	11.25
	12. Commercial Building Density	avg. floor area ratio	0.350	0.35	0.35
	13. Use Mix	0 to 1 index	0.312	0.32	0.32
	14. Use Balance	0 to 1 index	0.402	0.44	0.44
	15. Neighborhood Completeness	% of key uses	40.000	80	80
	16. Block Size	acres	14.407	18.43	18.43
	17. Pedestrian Orientation of Buildings	avg. setback ft.	103.000	15.000	15.000
	18. Internal Connectivity for Pedestrians	0 to 1 index	0.764	0.920	0.920
	19. Internal Connectivity for Vehicles	0 to 1 index	0.742	0.740	0.740
	20. External Access for Pedestrians	ft. between points	1298.648	2595	2595
	21. External Access for Vehicles	ft. between points	2184.007	4672	4672
	22. Street Network Density	miles/sq. mi.	18.013	15.59	15.59
	23. Housing Proximity to Transit	ft. to closest stop	1401.385	1327	1327
	24. Employment Proximity to Transit	ft. to closest stop	803.523	1077	1077
	25. Transit-Oriented Residential Density	DU/acre w/i 1/4 mi.	10.000	6.05	6.05
	26. Transit-Oriented Employment Density	emps./acre w/i 1/4 mi.	11.252	10	10

Table 3 *Continued*

Element	Indicator	Units	Baseline	Original EastLake III	Modified EastLake III
Buildings	27. Title 24 Exceedence	% structures	0	0	23
	28. Building Efficiency Program Participation	% structures	0	0	0
	29. Solar Thermal Applications	% structures	0	0	0
	30. Solar Power Applications	% structures	0	0	0
	31. Vegetative CO2 Uptake	lbs./yr.	0.000	169950	212700
Transportation	32. Pedestrian Network Coverage	ped. routes/streets ratio	1.284	1.82	1.82
	33. Pedestrian Crossing Distance	ft. curb to curb	41.726	52	52
	34. Pedestrian Route Directness	walk ft./straightline ft. ratio	1.637	1.610	1.610
	35. Bicycle Network Coverage	% of streets w/route	90.000	97	97
	36. Transit Service Coverage	stops/sq. mi.	12.873	18	18
	37. Daily Auto Driving	veh-mi./day/capita	22.000	23.000	23.000
Infrastructure	38. Residential Water Use	gal./day/capita	149.667	193	193
Environment	39. Park Space Supply	acres/1000 residents	3.000	3.08	3.08
	40. Park Proximity	ft. to closest park	2156.611	1804	1804
	41. Open Space Supply	% of land area	8.779	16	16
	42. Open Space Contiguity	0 to 1 index	0.679	0.67	0.67
	43. Housing Energy Use	MMBtu/yr./capita	31.084	28.890	28.040
	44. Household Transportation Energy Use	MMBtu/yr./capita	46.800	46.801	46.801
	45. Nonresidential Building Energy Use	MMBtu/yr./emp	18.026	42.719	42.719
	46. Total Energy Use	MMBtu/yr./person	75.561	71.942	71.189
	47. NOx Emissions	lbs./yr./person	33.349	33.353	33.272
	48. SOx Emissions	lbs./yr./person	0.805	0.806	0.786
	49. HC Emissions	lbs./yr./person	58.435	58.435	58.435
	50. CO Emissions	lbs./yr./person	452.133	452.134	452.116
	51. PM Emissions	lbs./yr./person	0.140	0.140	0.140
	52. C02 Emissions	lbs./yr./person	10492.572	10470.883	10403.764

Final Results

Based on the modified EastLake III plan, the final results for energy savings, air quality improvements, and greenhouse gas reductions are as follows:

	Baseline	EastLake III
Total energy use (MMBtu/yr/capita)	75.56	71.19
% energy reduction	---	5.8
Total air pollutant emissions (lbs/yr/capita)	544.85	544.75
% air pollutant emissions reduction	---	0.01
Total greenhouse gas emissions (lbs/yr/capita)	10493	10404
% greenhouse gas emissions reduction	---	0.85

II.7.6 Implementation Measures

The following Air Quality Measures will be implemented in EastLake III:

1. Building Energy Efficiency Program & Title 24 Exceedence:

   EastLake Woods – 72 single-family homes will participate in ComfortWise, SDG&E California Energy Star Program or equivalent program resulting in approximately 15% Title 24 exceedence.

   EastLake Woods – 255 single-family homes will participate in the SDG&E California Energy Star Program resulting in approximately 15% Title 24 exceedence.

   Participation in building efficiency programs will be confirmed and coordinated with the Building Division and the GreenStar Program Coordinator.

   To further promote the AQIP, the Master Developers will encourage all merchant builders to participate in a building efficiency program.

2. Additional Tree Planting to offset Greenhouse Gas Emissions.

In addition to the 3,399 street trees originally proposed, another 855 trees will be planted within the slopes and other open space areas as follows:

EastLake Woods – 262 trees
EastLake Woods West – 233 trees
EastLake Vistas – 360 trees

The Master Developer shall obtain certification by a Registered Landscape Architect that additional trees have been included on the Master Landscape Plan for EastLake III.

3. Comply with Section 4.8.5 Mitigation Measures, in EastLake III Woods and Vistas Replanning Program Final Subsequent Environmental Impact Report #01-01. June 2001.

II.7.7 References

EastLake III Woods and Vistas Replanning Program Final Subsequent Environmental Impact Report (EIR #01-01); June 2001, prepared by RECON.

II.7.8 Appendix

Criterion Planners/Engineers, INDEX Pilot Test: SPA Air Quality Improvement Plans, June 2002.

Final Report

INDEX PILOT TEST: SPA AIR QUALITY IMPROVEMENT PLANS

June 2002

Prepared by the
CITY OF CHULA VISTA CALIFORNIA
DEPARTMENT OF PLANNING & BUILDING
and

CRITERION
PLANNERS
ENGINEERS

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EXECUTIVE SUMMARY

A pilot test has been conducted of an innovative technique for preparing Sectional Planning Area SPA Plan air quality improvement plans as required by the City's growth management ordinance. In the pilot test, three SPA plans were compared to older "baseline" neighborhoods to gauge the SPAs' relative energy efficiency and air quality characteristics. The baseline neighborhoods were selected to reflect land development practices prior to any special consideration of energy efficiency. The objective was to determine how much energy is being saved by current SPA design practices in comparison to the older baseline neighborhoods and in turn, how much lower the SPAs' air pollutant emissions are in comparison to the baseline. The test SPAs were compared to the baseline twice: first, as originally submitted to the City; and second, as voluntarily modified to further improve energy efficiency and air quality.

Baseline Neighborhoods

To establish a baseline of energy efficiency, three neighborhoods constructed in the 1970s and 80s were modeled: Terra Nova, College Estates I, and College Estates II. When combined on a weighted average basis, these neighborhoods have a total baseline energy use of 76 million Btu/yr/capita.

Original SPA Proposals

The three test SPAs were modeled as originally submitted to the City and found to be notably more energy efficient than the baseline. Their total energy use and comparison to the baseline value are as follows:

SPA	MMBtu/Yr/Capita	% Change From Baseline
OR Village Six	69.05	-8.6
OR Village Eleven	67.39	-10.8
EastLake III	71.94	-4.8

A majority of the SPA energy savings come from residential densities that are higher than the baseline neighborhoods. Higher densities reduce space conditioning energy use due to more common walls and ceilings that reduce energy losses from the buildings. Higher densities also encourage travel energy savings through greater walking, biking, and transit use.

Modified SPA Proposals

The next step in the pilot test was an invitation to the SPA developers to modify their plans to achieve even greater energy efficiency and air quality improvements. Because the three test SPAs were at an advanced stage of their approval process, it was not feasible to make major changes in their land-use and circulation designs. This left the following three action measures as the developers' principal choices if additional energy efficiencies were to be achieved:

- *Building Construction Standards.* SPA developers could opt for a commitment to reduce building energy use by exceeding California Code of Regulations Title 24, Part 6. Developers could propose the amount of Title 24 exceedence per building type and the number of buildings that will participate in such exceedence.

- *Solar Systems.* SPA developers could opt to reduce grid-supplied energy by installing solar thermal or PV systems and buildings. Developers could propose the type and capacity to be used, and the number of structures that will receive such systems.

- *Tree Planting.* This measure allowed SPA developers to commit to additional tree planting that will offset greenhouse gas emissions. Selection of this option will not improve a SPA's energy efficiency or air pollutant emissions, but will help mitigate climate change.

After considering these options, the SPA developers voluntarily elected to add the following action measure commitments:

- *EastLake III.* 72 single-family homes will achieve a 15% Title 24 exceedence through the ComfortWise, SDG&E California Energy Star Program or equivalent program; 255 single-family homes will achieve a 15% Title 24 exceedence through the SDG&E California Energy Star Program; and an additional 855 trees will be planted.

- *Otay Ranch Village Six.* 482 single-family homes will achieve a 10% Title 24 exceedence through energy-efficient building design and construction techniques to be selected by home designers/builders; and 792 additional trees will be planted.

- *Otay Ranch Village Eleven.* No additional action measures were selected by this developer.

The addition of these measures reduced Village Six total energy use to 68.25 million Btu/yr/capita or approximately a 1% reduction from the original SPA proposal; and EastLake III dropped to 71.19 million Btu/yr/capita or approximately a 1% reduction from its original proposal. Also, the additional tree planting in Village Six and EastLake III resulted in beneficial CO2 uptake increases of 22% and 25%, respectively.

Final Results

Based on the modified SPA plans, the pilot test's final results for energy savings, air quality improvements, and greenhouse gas reductions are as follows:

	Baseline	Village Six	Village Eleven	EastLake III
Total energy use (MMBtu/yr/capita)	75.56	68.25	67.39	71.19
% energy reduction	---	9.70	10.80	5.80
Total air pollutant emissions (lbs/yr/capita)	544.85	543.68	543.59	544.75
% air pollutant emissions reduction	---	0.21	0.23	0.01
Total greenhouse gas emissions (lbs/yr/capita)	10,493.00	9,873.00	9,833.00	10,404.00
% greenhouse emissions reduction	---	5.90	6.29	0.85

1. OVERVIEW

The City of Chula Vista is experiencing rapid growth, particularly in the eastern territories. The City's adopted Growth Management Ordinance requires that all major development projects (50 dwelling units or greater) prepare an Air Quality Improvement Plan (AQIP). There have been no formal, adopted guidelines to-date, and developers have prepared the required AQIPs based largely on State and Federal mandates. The City Council recently adopted the Carbon Dioxide (CO_2) Reduction Plan which provides for further consideration of land-use and energy efficient measures in new development to reduce CO_2 emissions, energy consumption and air pollution. It is now the expectation of the City Council that the required AQIP will include implementation of applicable measures identified in the CO_2 Reduction Plan. As a result, the City is undertaking an effort to prepare and adopt formalized guidelines for the preparation and implementation of required AQIPs.

The City contracted with Criterion Planners/Engineers to use the INDEX model to analyze the relative effectiveness and costs of applying various design and energy conservation features in new development projects. One of the goals is to exceed existing mandates wherever possible such as the Title 24 Energy Code, and reduce air pollutants and CO_2 emissions. The INDEX model can be used as a tool to assist in the efficient design of master planned communities.

There are three major SPA Plans (EastLake III, Otay Ranch Village Six and Village Eleven) under preparation. The developers of these projects participated in the INDEX pilot study to assess the benefits of specific project design features and energy conservation measures. By doing so the developers satisfy the AQIP requirement for these SPA Plans and the City can obtain the necessary data for developing future AQIP guidelines and amendments to the Growth Management Ordinance.

The SPA Plan project analysis occurred in two stages. The first stage evaluated the SPA Plans as proposed, assessing the benefits of the project's design and other features in comparison to the baseline project by means of the computer model. The model analyzed and quantified emissions reductions and energy savings for the individual SPA projects.

Stage two involved a comparative assessment of making project design amendments and adding construction-level features identified by Criterion's evaluation to further air quality improvements, CO_2 reduction and energy conservation. The model was re-run using the selected design amendments and construction level features.

2. INDEX MODELING SYSTEM

2.1 Introduction

INDEX is a GIS-based planning support system that uses indicators to measure the attributes and performance of community plans. For each community where it is applied, INDEX is customized to address issues of interest or high priority. This is accomplished with the selection of indicators that measure conditions related specifically to those issues. The objective is to support decision-making by using indicators to benchmark existing conditions, evaluate alternative courses of action, select goals, and monitor change over time.

In Chula Vista, INDEX is being focused on the related issues of energy efficiency, climate change, and air quality. The City has improvement goals in each of these areas and is interested in helping achieve them when large parts of the community are first planned for development. For this reason, the sectional planning area (SPA) process was selected as an appropriate application opportunity for INDEX. The City's growth management ordinance requires air quality improvement plans (AQIPs) as part of the SPA process, and INDEX was seen as an AQIP tool for quantifying the emission characteristics of SPA plans.

The application of INDEX was conducted as a pilot test under a U.S. Environmental Protection Agency grant to the City for climate change activities. The pilot test included the following major steps:

- *Selection of action measures*. A menu of action measures for SPAs was taken from the City's CO_2 Reduction Plan. Twelve measures were selected from the CO_2 Plan's action categories of land-use, transportation, and buildings.

- *Selection of indicators*. Indicators were configured to quantify key characteristics of the twelve action measures. A total of 52 indicators were selected and programmed in INDEX.

- *Establishment of baselines*. Calculating SPA air quality, CO_2 emissions, and energy efficiencies required that baselines be established for the SPAs to be measured against. These baselines were set for each indicator using three older, existing neighborhoods that were developed without special considerations.

- *Scoring of SPA plans*. A test sample of three SPA plans were selected for two rounds of indicator scoring. First, the SPA plans were scored as originally submitted by their developers. Second, the plans were voluntarily modified by the developers to increase their efficiencies and then rescored.

- *Incorporation of results into AQIPs*. The energy, air quality, and climate change improvements measured between the baselines and the modified SPA plans were translated into AQIPs for the SPAs.

2.2 Action Measures

The first step in customizing INDEX for Chula Vista was selection of action measures that would be available to SPA developers. As part of the City's CO_2 Reduction Plan preparation, several hundred measures were analyzed extensively. From that universe of measures, the most appropriate ones for Chula Vista were prioritized according to local feasibility and included as action measures in the final Plan. From this group of action measures, the following twelve were selected for the INDEX pilot test:

<u>*Land-Use*</u>

1. *Compact development*. This is concerned with land and natural resource conservation generally by minimizing sprawl. Compact development saves energy and reduces emissions by reducing travel and infrastructure-related energy consumption.

2. *Density*. This is the intensity of land-use as measured by the density of structures and persons. Higher densities reduce travel and infrastructure-related energy use and emissions, and also reduce building energy demand as a consequence of more common-wall construction.

3. *Diversity*. This measure is concerned with the mix and variety of land-uses that constitute "complete" neighborhoods. Greater diversity or "completeness" in an area reduces travel-related energy consumption and emissions.

4. *Orientation toward pedestrian and bicycles*. This measure is focused on land planning that facilitates pedestrian and bicycle travel, both of which offer energy and emission savings over motor vehicles.

5. *Orientation toward transit*. This measure addresses land development design that facilitates transit travel, which can be highly energy-efficient with sufficient ridership.

Buildings

6. *General energy design and equipment*. This measure encompasses building design, materials, and equipment that improve efficiency generally.

7. *Solar use*. This includes solar thermal applications such as domestic hot water heating and pool heating, and solar power generation using photovoltaic (PV) technology.

8. *Vegetation*. This measure recognizes the use of vegetation that cools ambient air temperatures, reduces building energy use for cooling, and uptakes air pollutants and greenhouse gases.

Transportation

9. *Pedestrian facilities*. This measure addresses transportation system design and improvements specifically for walking.

10. *Bicycle facilities*. This measure focuses on transportation system design and improvements for bicycle travel.

11. *Transit facilities*. This measure includes transportation system design and improvements dedicated to transit service.

Infrastructure

12. *Water use*. This measure is concerned with land planning that reduces water consumption. Less water consumption translates into reduced energy use for water distribution.

The characteristics of these measures are further summarized in Table 1 according to type of energy savings, general cost-effectiveness, technological maturity, durability, support for business and job creation, and notable non-energy community benefits. The Table 1 assessment is a qualitative characterization of the measures based on Criterion's experience and professional judgment, including preparation of the 1994 Regional Energy Plan for SANDAG. Terms used in Table 1 are defined as follows:

- *Type of energy savings*. These are the end-use or supply sectors affected by a given action measure.

- *Near-term and long-term competitiveness*. This represents generalized cost-effectiveness within 3-5 years for near-term measures, and 5-10 years for long-term measures.

- *Stability*. This refers to potential volatility in a measure's ongoing operating and maintenance costs.

- *Technological maturity*. This is the degree of proven commercial reliability in a measure.

- *Durability*. This characterizes the relative length of a measure's useful life, which is the length of time it fulfills its intended functions. In the case of land-use measures, useful life is the length of time that the built feature exists after construction, e.g. an area's density would exist for the life of the neighborhood's buildings. Most land-use measures have high durability because they exist for several decades, e.g. 60-100 years.

- *Support for regional jobs*. This notes those measures whose implementation would create jobs in the region.

- *Non-energy community benefits*. These measures have notable non-energy benefits, such as transportation measures that reduce traffic congestion and pollutant emissions while also savings energy.

- *High and moderate ratings*. Implementation cost, technological maturity, and durability are rated with "high" and "moderate" terms that represent qualitative judgment based on resource evaluations in the San Diego Regional Energy Plan and current technical literature. It is worth noting that all action measures are rated favorably under all criteria.

Table 1

ACTION MEASURE CHARACTERISTICS

Action Measures	Type of Energy Savings				Implementation Cost Competitiveness			Technological Maturity	Durability	Support for Regional Jobs	Non-Energy Community Benefits
	Buildings	Transportation	Municipal Infrastructure	Energy Supply Grid	Near Term	Long Term	Stability				
Compact development		✔	✔	✔	High	High	High	NA	High		✔
Land-use density	✔	✔	✔	✔	High	High	High	NA	High		✔
Land-use diversity		✔	✔	✔	High	High	High	NA	High		✔
Land-use orientation toward pedestrian/bicycles		✔			High	High	High	NA	High		✔
Land-use orientation toward transit		✔			High	High	High	NA	High		✔
General building energy design/equipment	✔			✔	High	High	High	High	High	✔	✔
Solar use	✔			✔	Moderate	High	High	High	High	✔	
Vegetation use	✔				Moderate	High	High	NA	High	✔	✔
Pedestrian facilities		✔			High	High	High	NA	High	✔	✔
Bicycle facilities		✔			High	High	High	NA	High	✔	✔
Transit facilities		✔			High	High	High	NA	High	✔	✔
Water conservation			✔		High	High	High	NA	High	✔	✔

All of the measures in Table 1 have been feasibly implemented to varying degrees in projects throughout the San Diego region over the past 5-10 years. In fact, most of the land-use and transportation measures have gained acceptance as standard features in regional land development. The same is true for water conservation measures.

Of the 12 action measures available to SPA developers, the building construction and solar measures are notable for two reasons:

- They are the only measures whose implementation will be passed from the SPA developers onto merchant builders.

- They are the only measures that have notable economic sensitivities.

Therefore, any decision to choose these measures will be based on their economic and financial implications for developers and builders, and to some degree the positive marketing implications of having "environment-friendly" features in a project. Key variables on the economic side of this equation include:

- *Timing of efficiency investment*. Because energy economics are constantly changing, the feasibility of a particular investment will be affected by the timing of that investment. For SPA developers choosing building or solar measures, the actual capital outlay by builders for the measures will not occur until some undefined point in the future.

- *Cost of energy*. The basic hurdle for any efficiency measure is to produce energy savings at a cost beneath current energy prices. For example, any measure displacing electricity in Chula Vista today should be feasible if the cost of conserved energy is roughly 7¢/kWh or less. However, recent events have shown how volatile energy prices can be and any investment decision has to take such uncertainty into consideration.

- *Applicable incentives*. At any given point in time there are various government and utility financial incentives available for efficiency measures. However, the scope, amount, and eligibility requirements of these incentives change periodically and need to be monitored along with energy prices.

- *Investment criteria*. Each developer and builder will have their own set of criteria for determining whether an investment is financially acceptable. Factors such as interest rates, required return on investment, and possible cost-sharing will vary among developers and builders.

Considerations on the intangible marketing side of the equation include:

- *Public perception of energy and environmental issues*. Public opinion research shows consistent and growing support for energy efficiency. To the extent that a land development is perceived as energy conscious, its public reputation in the marketplace should be enhanced accordingly.

- *Ability to distinguish a product in the competitive market*. Recent experience has also shown that land developments incorporating environment-friendly features are able to successfully distinguish themselves among competing products in the marketplace, and achieve faster sales at premium prices in the process.

Because of the variability in all of these factors, both economic and intangible, it is not possible to specify with certainty which building construction and/or solar measures will always be feasible. However, there is ample evidence that developers and builders are finding such measures increasingly feasible given the growing amount of investment in the measures. The latest energy crisis in California has only accelerated this trend.

Building Measures

This elective action category gave SPA developers two options for reducing energy use in buildings that will ultimately be constructed in the SPAs:

- *Title 24 exceedence*. The SPA developer works with the City to commit that a certain percentage of structures will exceed Title 24 energy standards by a certain amount. Both the percent of structures and amount of Title 24 exceedence are elective choices of the SPA developer. Measures to achieve the exceedence can include any combination of building design, construction materials, or equipment for space conditioning, water heating, or lighting.

- *Energy efficient building program participation*. The SPA developer works with the City to commit that a certain percentage of structures will participate at a specified level in a formal building energy efficiency program sponsored by a utility or comparable organization. Both the percent of structures and level of participation are elective choices of the SPA developer. Program participation would include the same types of measures described for Title 24 exceedence.

Local developers and builders are already taking such actions with increasing regularity. San Diego Gas and Electric reports that standard building practices in the region consistently exceed Title 24 by approximately 5%. Similarly, utility-sponsored efficiency incentive programs are often fully subscribed. Even before the recent energy price shocks in California, energy-efficient construction techniques and equipment were making good economic sense. Table 2 summarizes the latest national survey of energy-saving measures for the residential and commercial building sectors. As shown in the column entitled "Cost of Conserved Energy-$/kWh," there are a wide variety of highly cost-effective measures available in today's market. In fact, 62 of the 66 measures listed are cost-effective in the San Diego region at present where Table 2 indicates their cost of conserved energy at or below $0.07/kWh.

The Table 2 survey is consistent with general rules-of-thumb among building energy design professionals that most new residential and commercial construction can cost-effectively exceed Title 24 by as much as 10-20 percent. In fact, being able to cost-effectively achieve these levels has been confirmed by the exceedence terms of efficiency programs administered by SDG&E and organizations such as ConSol. Examples of components in these programs include engineered HVAC design, tight ducts, spectrally selective glass, third-party inspections and diagnostics, and home energy ratings.

If SPA developers select one or both of the building measure options, and merchant builders are called upon to implement the commitment, one technical resource for evaluating the feasibility of specific packages of measures is the California Energy Commission (CEC) Database for Energy Efficient Resources (DEER). DEER is an electronic database of over 250 building energy measures with the latest information on measure capacities, efficiencies, useful lives, installed costs, and savings. DEER can be downloaded from the CEC's website (www.energy.ca.gov/deer). The CEC and San Diego Regional Energy Office (SDREO) also both operate databases of building measure financial incentives with the latest information on amounts and eligibilities.

Table 2

REPRESENTATIVE BUILDING MEASURE COSTS OF SAVINGS

Measure	Category	Cost of Conserved Energy /kWh	/MMBtu
High Priority			
High-Efficiency Vertical-Axis Clothes Washers	Appliance	Negative	N/A
Aerosol-Based Duct Sealing	HVAC	$0.02	$2.00
Commissioning Existing Commercial Buildings	HVAC	$0.03	N/A
Dual Source Heat Pumps	HVAC	$0.02	N/A
Improved Ducts and Fittings	HVAC	$0.00	$0.00
Improved Heat Exchangers	HVAC	$0.01	N/A
Integrated Lighting Fixtures and Controls	Lighting	$0.02	N/A
Reduced-Cost and/or Higher Efficiency CFLs	Lighting	$0.00	N/A
Metal Halide Replacements for Incandescents	Lighting	$0.00	N/A
Integrated New Home Design	Practice	$0.03	$2.80
Integrated Commercial Building Design	Practice	$0.03	$3.00
Integrated Gas- and Oil-Fired Space/Water Heating Systems	DHW	N/A	$2.30
Medium Priority			
"Low-leak" Home Electronics	Appliance	$0.02	N/A
One kwh/day Refrigerator/Freezers	Appliance	$0.05	N/A
High-Efficiency Dishwashers	Appliance	Negative	Negative
Improved Efficiency Air Conditioning Compressors	Appliance	$0.06	N/A
Improved Efficiency Refrigeration Compressors	Appliance	$0.02	N/A
Advanced Clothes Washer and Dishwasher Controls	Appliance	$0.06	$4.40
Switched Reluctance Drives	Drive	$0.05	N/A
Commercial Distribution System Air Sealing	HVAC	$0.02	$1.70
Indirect-Direct Evaporative Coolers	HVAC	$0.05	N/A
Evaporative Condenser Air Conditioning	HVAC	$0.04	N/A
Advanced Metering/Billing Systems	Information	$0.00	N/A
Improved Fluorescent Dimming Ballasts	Lighting	$0.04	N/A
One-Lamp Fixtures and Task Lighting	Lighting	$0.03	N/A
Compact Fluorescent Floor and Table Lamps	Lighting	$0.01	N/A
Fuel Cells	Power	$0.05	N/A
Microturbines	Power	$0.04	N/A
Dry-Type Distribution Transformers	Power	$0.03	N/A
Heat Reflecting Roof Coatings	Shell	$0.04	N/A
High R (>4) Windows	Shell	N/A	$4.00
Integrated Elec. Space Conditioning/Water Heating Systems	DHW	$0.02	N/A
Residential Heat Pump Water Heaters	DHW	$0.04	N/A
Lower Priority			
Laundry Microfiltration Wastewater Recovery	Laundry	N/A	Negative
Ozonated Commercial Laundering	Laundry	N/A	Negative
Copper Rotor Motors	Drive	$0.00	N/A
Electronically Commutated Permanent Magnet Motors	Drive	$0.04	N/A
Premium Lubricants	Drive	Negative	N/A
Written Pole Motors	Drive	$0.08	N/A
Motor Systems Performance Optimization	Drive	Negative	N/A
Residential Absorption Heat Pumps	HVAC	N/A	$3.10
Ductless Thermal Distribution Systems	HVAC	$0.04	$4.20
High-Efficiency Commercial Packaged Acs	HVAC	$0.04	N/A
Condensing Commercial Boilers and Furnaces	HVAC	N/A	$4.40
Cool Storage Roof	HVAC	$0.05	N/A
Engine Driven Vapor Compression Heat Pumps	HVAC	$0.07	N/A
Geothermal Heat Pumps	HVAC	$0.06	N/A
Transpired Solar Collectors for Preheating Ventilation Air	HVAC	N/A	$2.00
Smart Residential HVAC Controls	HVAC	$0.04	N/A
Integrated Chillers with Heat Recovery	HVAC	$0.05	$4.90

Table 2 *Continued*

Measure	Category	Cost of Conserved Energy /kWh	/MMBtu
Modulating Gas Furnaces	HVAC	N/A	$4.40
Indirect Lighting	Lighting	$0.03	N/A
Electrodeless Lamps, Power Supplies and Luminaires	Lighting	$0.04	N/A
Sulphur Lighting	Lighting	$0.04	N/A
General Service Halogen Infrared Reflecting Lamps	Lighting	$0.03	N/A
Improved Daylighting Controls	Lighting	$0.03	N/A
Daylighting Devices	Lighting	$0.05	N/A
Advanced Lighting Distribution Systems	Lighting	$0.04	N/A
Plastic Downlight Luminaires	Lighting	$0.00	N/A
LED Lighting	Lighting	$0.08	N/A
ENERGY STAR® Multifunction Devices	Office Eq	$0.00	N/A
High-Efficiency Packaged Refrigeration Equipment	Refrigeration	$0.01	N/A
Electrochromic Glazing	Shell	$0.06	N/A
Low-e Spectrally Selective Retrofit Window Films	Shell	$0.07	N/A
GFX Drain Water Heat Recovery Device	DHW	$0.03	N/A
Very Low-Flow Showerheads	DHW	$0.00	$0.00
Thermosiphon/Free Siphon Solar Water Heaters	DHW	$0.07	N/A
Commercial Heat Pump Water Heaters	DHW	$0.03	N/A
Not a Priority			
Residential Heat Pump Clothes Dryers	Appliance	$0.09	N/A
Ultrasonic Clothes Washers	Laundry	$2.04	$416.40
Photovoltaic Roofing (2,000 sqft home)	Power	$0.14	N/A
Photovoltaic Roofing (12,000 sqft com bldg.)	Power	$0.14	N/A
Low-e Interior Surfaces	Shell	$0.05	$4.90

Note: This table is intended to be an illustrative sampling of building efficiency measures rather than an exhaustive inventory. Costs of savings for specific measures and bundles of measures will vary based on site-specific conditions.

Source: Energy Saving Technologies & Practices for the Building Sector, American Council for an Energy-Efficiency Economy, 1998

Solar Measures

This category gave SPA developers two elective options for reducing grid-supplied energy demands from the buildings that will be constructed in the SPAs:

- *Solar thermal applications*. The SPA developer would work with the City to make a commitment that a certain percentage of structures will be equipped with solar thermal systems of a certain capacity. The percentage of structures and size of systems are elective choices of the SPA developer. Such systems may include domestic water heating and pool heating.

- *Solar power applications*. The SPA developer would work with the City to make a commitment that a certain percentage of structures will be equipped with solar photovoltaic (PV) power generation systems. The percent of structures and size of systems are elective choices of the SPA developer.

The following examples provided by the SDREO give a snapshot of current residential economics for both types of solar applications:

- *Solar water heating in new home construction*. Using Shea Home's pricing for the SunSystem CopperSun ($2,250/dwelling installed), the $750 State rebate, today's natural gas prices ($1.60/therm), 200 therms/month of consumption (CEC data), and a 40% solar fraction, the homeowner is in positive cash flow from day one.

- *Photovoltaic (PV) power generation in new home construction*. Using AstroPower's pricing quote for buildings ($4,200 for a 1.2 kW system, includes the 50% State rebate), $0.15/kWh cost of electricity, 7% loan rate for 30 years, 31% tax bracket, PV output of 1500 kWh/kW/year, and maintenance costs of $0.02/kWh, the homeowner comes out about breakeven over the length of the mortgage assuming electric rates remain high. This feasibility would improve proportionately as the number of involved homes and PV systems increase, e.g. 100 homes being equipped in one project. It should be noted that the initial cost of the PV system is considerably less for new construction than to retro-fit an existing house. Builders dealing directly with the manufacturers for large volumes of product obtain better prices.

There are currently four financial incentives available to homeowners who are installing PV systems in California:

- *The Renewable Energy Buy-Down Program*. This CEC program offers cash rebates on eligible renewable energy electric generating systems of up to $4,500 per kilowatt or 50% of an eligible system purchase price (whichever is less).

- *The California Property Tax Exemption for Solar Systems*. Exempts the additional value of PV systems vs. conventional systems from property tax assessments.

- *Battery Rebate Program (SB-1345)*. A CEC grant program that supports the purchase and installation of solar energy systems including back up batteries for PV systems.

- *The California Tax Credit (SB-17)*. Effective October 9, 2001, allows a tax credit of either 15% of the purchase and installation of a solar energy system or 7.5% of the net cost after the buy-down rebate (whichever is less).

As with energy-efficient construction generally, the solar cost/benefit equation has steadily improved in recent years. California's recent energy crises has further underscored the attractiveness of this option. A prominent regional example is the Scripps Ranch project being constructed by Shea Homes, where 297 homes will reportedly have solar water heating systems and 100 homes will have PV systems.

Although large-scale projects such as the Scripps Ranch project are demonstrating that residential solar PV is increasingly feasible, the cost-effectiveness of this option continues to be sensitive to economies of scale for equipment purchases and the competing price of grid-delivered electricity. If local electric rates begin to increase again and solar PV systems can be purchased in quantity, then this option deserves serious consideration. At a minimum, it warrants close ongoing monitoring of relevant conditions.

The feasibility of PVs in commercial buildings is even better than residential because businesses can take advantage of state and federal incentives not available to households. For example, a 100 kW system would cost an estimated $235,000 after all incentives and be able to generate electricity for approximately 10¢/kWh (source: SDREO). Financial incentives currently available for solar PV in general include:

- *San Diego Self-Generation Program*. This SDREO program offers rebates of $4.50/watt up to 50% of eligible project costs for PV systems between 30 kW and 1 MW. This incentive program can be used or the CEC Emerging Renewable Buy-Down Program, but not both.

- *California Energy Commission Emerging Renewable Buydown Program*. The CEC, through its Emerging Renewable Buydown Account, offers rebates of up to $4.50/watt or 50% of the cost for eligible renewable energy generation equipment, including solar PV.

- *California Property Tax Exemption*. This law exempts the additional value of solar systems versus conventional systems from property tax assessments.

- *Federal Tax Incentives*. There are two federal tax incentives available to commercial entities to encourage private investment in solar energy equipment and systems: a 10% investment tax credit and a 5-year accelerated depreciation schedule.

If SPA developers select one or both of the solar options, and builders are called upon to implement the commitment, they can receive valuable technical assistance from SDREO and CEC solar programs, along with resources provided by the California Solar Energy Industries Association.

2.3 Indicators

The second step in customizing INDEX to Chula Vista was the selection of indicators to gauge key characteristics of the 12 action measures. Indicators are quantitative measurements of community characteristics or conditions. They focus on small pieces of larger systems to give people insight into the larger situation. In community planning, indicators are usually focused on conditions related to key goals and policies. The premise is that plan preparation and implementation can be valuably informed by a standard set of policy based measurements that are used to gauge planning actions.

Criterion's INDEX software is designed to support community planning by applying indicators geographically to current conditions and proposed changes. Figure 1 illustrates the integration of INDEX indicators into a typical community planning process. In the case of Chula Vista, the software has been focused on implementation of the CO_2 Reduction Plan through energy efficient land-use planning.

Given this objective, project participants selected 52 indicators to address the energy and emission aspects of proposed land developments. The indicators are given in Table 3 with definitions, units of measurement, and applicable land-uses. These indicators were used to score the baseline and SPA energy values, and quantify the amount of air quality and climate change benefits embodied in the final SPA plans.

2.4 Baselines

The next step in the pilot test was calculation of the baseline values that SPA plans would be judged against. The baseline represents "pre-efficiency" approaches to land development without any special effort to reduce energy use or emissions. To set the baseline, a group of three Chula Vista neighborhoods built in the 1970s and 80s was measured with the INDEX indicators, and a weighted average score was calculated for each indicator to constitute a baseline value for that indicator.

In choosing baseline neighborhoods, the City staff looked for areas that would be comparable to those areas currently being developed in the community. The baseline areas needed to have land-use mixes with individual design features similar to current SPA proposals. The selected baseline neighborhoods included Terra Nova, and two neighborhoods in the College Estates area, all shown in Figure 2. For purposes of the pilot study, these neighborhoods are referred to as College Estates I and II.

These neighborhoods were not considered to be practical baselines for three action measures: building construction, solar use, and vegetation. This is because no records exist to document these conditions at the time of the neighborhoods' original development. Instead, these measures were addressed as follows:

- *Building efficiency*. This category includes Title 24 exceedence and participation in building efficiency programs sponsored by utilities or similar organizations. The baseline was set at zero exceedence and zero program participation under the assumption that no extra efforts were made to achieve higher efficiencies at the time of original development in the 1970s and 80s.

Figure 1

SUPPORT OF COMMUNITY PLANNING WITH INDEX

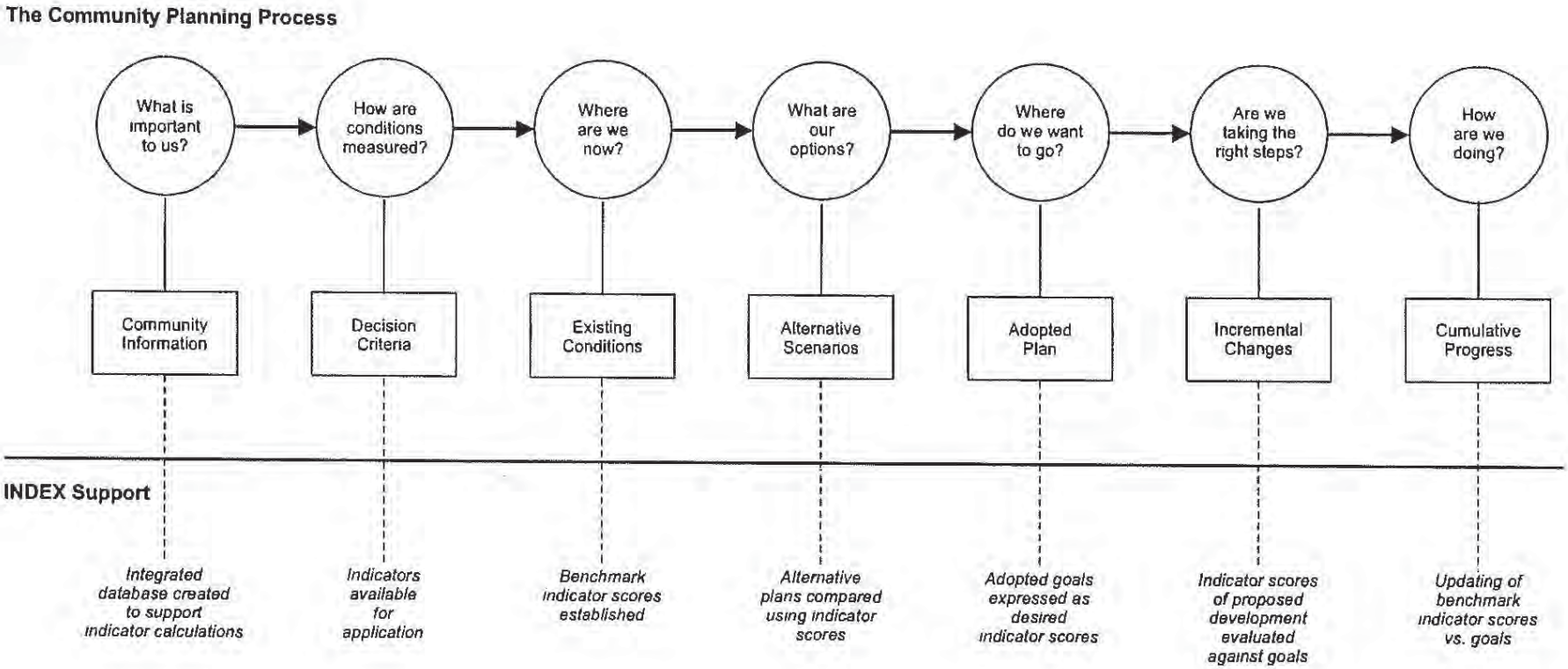


Table 3
CHULA VISTA INDICATORS

Indicator	Indicator Definition	Applicable Land-Use	
		Residential	Non-Residential
1. Population	Total residents.	✔	
2. Households	Total dwelling units.	✔	
3. Employment	Total jobs.		✔
4. Land area	Total area in acres.	✔	✔
5 Development footprint	Total developed acres (exclusive of open space) divided by total residents.	✔	✔
6. Street network extent	Total street centerline distance divided by total residents.	✔	✔
7. Amenity proximity (retail)	Average travel distance from all dwellings to closest amenity (retail) in ft.	✔	
8. Single-family dwelling density	Single-family dwelling units per net acre of residential land.	✔	
9. Multi-family dwelling density	Multi-family dwelling units per net acre of residential land.	✔	
10. Average residential density	Dwelling units per net acre of residential land.	✔	
11. Employment density	Number of employees per net acre of nonresidential land.		✔
12. Commercial building density	Average commercial floor area ratio.		✔
13. Use mix	Proportion of dissimilar land uses among adjacent one-acre grid cells (scale of 0 - 1).	✔	✔
14 Use balance	Proportions of land uses by land area within total area (scale of 0 - 1).	✔	✔
15. Neighborhood completeness	Percent of key uses present or adjacent (see footnote 1).	✔	✔
16. Block size	Average size of blocks in acres.	✔	✔
17 Pedestrian orientation of buildings	Average non-residential building set-back from sidewalks in ft.		✔
18 Sidewalk and trail connectivity	Ratio of sidewalk and trail intersections vs intersections and dead-ends (scale of 0-1).	✔	✔
19. External access for pedestrians	Average ft. between pedestrian access points on area boundary in ft.	✔	✔
20 External access for vehicles	Average ft. between vehicle access points on area boundary in ft.	✔	✔
21. Street connectivity	Ratio of street intersections vs. intersections and cull-de-sacs longer than 150 ft. (scale of 0 - 1).	✔	✔
22. Street network density	Length of street centerlines in miles per sq.mi.	✔	✔

Table 3 *Continued*

Indicator	Indicator Definition	Applicable Land-Use	
		Residential	Non-Residential
23. Housing proximity to transit	Average travel distance from all dwellings to closest transit stop.	✔	
24. Employment proximity to transit	Average travel distance from all businesses to closest transit stop.		✔
25. Transit-oriented residential density	Average number of dwellings per net residential acre within 1/4 mi. walk of transit stops.	✔	✔
26. Transit-oriented employment density	Average number of employees per net non-residential acre within 1/4 mi. walk of transit stops.	✔	✔
27. Title 24 exceedence	Percent of structures committed to exceeding Title 24 (see footnote 2).	✔	✔
28. Building efficiency program participation	Percent of structures committed to building efficiency program participation (see footnote 3).	✔	✔
29. Solar thermal applications	Percent of structures committed to solar thermal applications (see footnote 4).	✔	✔
30. Solar power applications	Percent of structures committed to solar power applications.	✔	✔
31. Vegetative CO_2 uptake	Total CO_2 uptake from street trees in lbs/yr.	✔	✔
32. Pedestrian network coverage	Ratio of total pedestrian network centerline distance vs. total street centerline distance.	✔	✔
33. Pedestrian crossing distance	Average street width curb-to-curb in ft.	✔	✔
34. Pedestrian route directness	Average ratio of shortest walkable distance from multiple origins to designated nodes vs straight line distance between same points.	✔	✔
35. Bicycle network coverage	Percent of streets bikeable (total secondary street centerline distance plus centerline distance of major streets with designated routes.	✔	✔
36. Transit service coverage	Miles of transit routes divided by total acres.	✔	✔
37. Daily auto driving	Vehicle miles traveled/capita/day.	✔	
38. Residential water use	Indoor and outdoor residential water consumption in gals per day per capita including effects of xeriscaping.	✔	
39. Park space supply	Acres of park per 1,000 residents.	✔	
40. Park proximity	Average distance from all dwellings to closest park in ft.	✔	
41. Open space supply	Percent of total land area dedicated to open space (see footnote 5).	✔	✔
42. Open space contiguity	Proportion of adjacent open space designations among a grid of one-acre cells (scale of 0 - 1).	✔	✔
43. Housing energy use	Total energy use in residences in MMBtu/capita/year.	✔	

Table 3 *Continued*

Indicator	Indicator Definition	Applicable Land-Use	
		Residential	Non-Residential
44. Household transportation energy use	Total energy use in household travel in MMBtu/capita/year.	✔	
45. Nonresidential building energy use	Total energy use in nonresidential buildings in MMBtu/capita/year.		✔
46. Total energy use	Total residential and nonresidential energy use in MMBtu/capita/year.	✔	✔
47. NOx emissions	NOx emissions in lbs./capita/year.	✔	✔
48. SOx emissions	SOx emissions in lbs./capita/year.	✔	✔
49. HC emissions	HC emissions in lbs./capita/year.	✔	✔
50. CO emissions	CO emissions in lbs./capita/year.	✔	✔
51. PM emissions	PM emissions in lbs./capita/year.	✔	✔
52. CO_2 emissions	CO_2 emissions in lbs./capita/year.	✔	✔

1. Key uses for "neighborhood completeness" include: fire/police station, library, park, school, and/or general commercial/retail uses.
2. Title 24 exceedence can include building design, construction material, space conditioning, water heating, and lighting measures for buildings not participating in a formal energy efficiency program sponsored by utilities or comparable organizations.
3. Building energy efficiency program participation through utilities or comparable organizations can include space conditioning, lighting, water heating, and appliance measures.
4. Solar thermal applications can include domestic hot water heating and pool heating.
5. Land area to be included in open space calculation includes any off-site open space associated with a specific SPA plan.

Figure 2

BASELINE NEIGHBORHOODS



- *Solar use*. This includes thermal applications for domestic water and pool heating, and PV power generation applications. In both cases the baseline was set at zero under the assumption that very little solar was installed in the 1970s and 80s in such developments.

- *Vegetation*. This category includes the use of street trees to accomplish air pollution and greenhouse gas uptake. The baseline was set at zero to reflect limited tree planting practices at the time of original development.

2.5 Proposed SPA Plans

The final component of the pilot test was the group of proposed SPAs being modeled for air quality improvement purposes. As shown in Figure 3, the SPAs selected by City staff for the pilot test included:

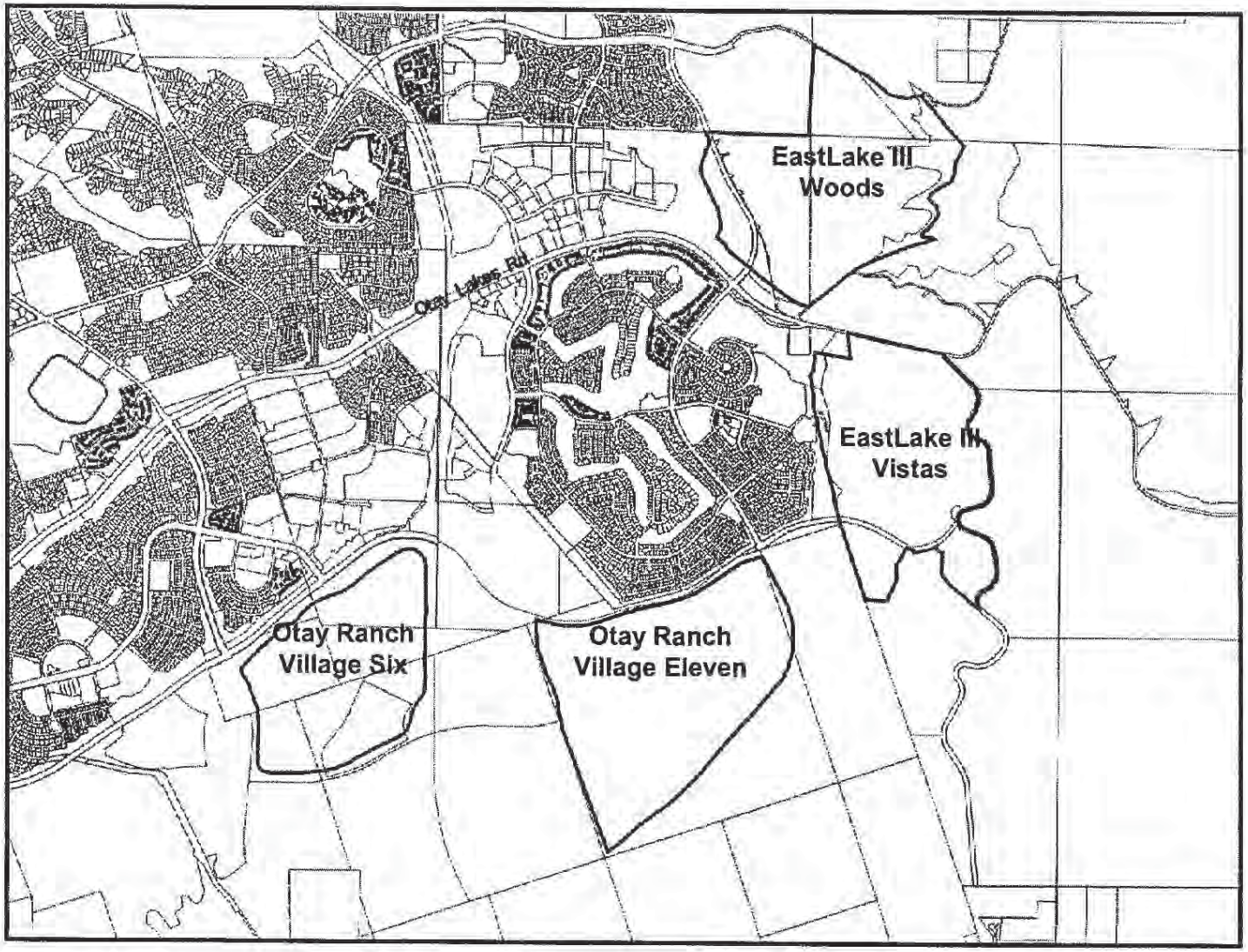
- *Otay Ranch Village Six*. This is a 386-acre project containing approximately 2000 dwellings and a mix of commercial and public uses.

- *Otay Ranch Village Eleven*. This 489-acre project includes about 2300 dwellings and commercial and public uses.

- *EastLake III*. This is a 748-acre project that includes a 259-acre component known as the Woods with approximately 660 dwellings; and the Vistas, a 229-acre area of about 1400 dwellings and a mix of commercial and public uses.

As originally proposed, these SPAs already contained some level of energy-efficient features that improve air quality and reduce CO_2 emissions. The challenge of the pilot test was to determine if additional benefits can be identified and achieved.

Figure 3
SPA LOCATIONS



3. PILOT TEST

3.1 Baseline Values

Having assembled the components of the pilot test, the first step in INDEX modeling was the calculation of the baseline values. As described in the previous section, these are "pre-efficiency" indicator scores representative of land development practices in the 1970s and 80s. These scores form a baseline that current SPA proposals can be judged against.

As shown in Table 4, baseline values were computed by measuring the three pre-efficiency neighborhoods and then calculating a weighted average score for each indicator. Exceptions to the weighted average occur with six indicators as noted in Table 4, where anomalous conditions in the neighborhoods produced scores that could not be considered typical. In these instances, City staff adjusted the values to more common or practical levels (see Table 4 footnotes). To assist in interpreting the baseline scores, Table 4 also includes comments on the scores' relationship to common principles of energy-efficient land-use planning.

3.2 Original SPA Proposals

Having set baseline values, the next step was INDEX modeling of the original SPA proposals to obtain their indicator scores. Those SPA scores were then compared to the baseline values as shown in Table 5.

The principal finding from the first round of INDEX modeling is that all three original SPA plans are more energy-efficient than the baseline. Village Six is about 9% more energy-efficient than the baseline, Village Eleven is about 11% more efficient, and EastLake 3 is about 5% better.

Table 4

BASELINE INDICATOR SCORES

			Pre-Efficiency Neighborhoods					
Element	Indicator	Units	Terra Nova	College Estates I	College Estates II	*Weighted By*	Weighted Average	Comments
Demographics	1. Population	residents	3482	3249	1839	*NA*	---	
	2. Households	dwelling units	1159	1083	613	*NA*	---	
	3. Employment	employees	40	245	40	*NA*	---	
	4. Land Area	acres	199	242	141	*NA*	---	
Land-Use	5. Development Footprint	acres/resident	0.06	0.07	0.06	*residents*	0.064	Typical scores for suburban residential.
	6. Street Network Extent	street mi./capita	2.43	2.76	2.66	*residents*	2.604	Typical scores for suburban residential.
	7. Amenity Proximity (retail)	ft. to closest amenity	2363	3491	4240	*dwelling units*	3193.902	Distances over 2,640 ft. are pedestrian unfriendly.
	8. Single-Family Dwelling Density	DU/acre	8.22	5.51	6.94	*dwelling units*	6.917	Typical results for suburban residential.
	9. Multi-Family Dwelling Density	DU/acre	16.66	NA	NA	*staff adjusted (1)*	16.000	Terra Nova score is favorable; lack of MF in CE 1 & 2 unfairly drags weighted average too low.
	10. Average Residential Density	DU/acre	9.98	5.51	6.94	*dwelling units*	7.632	Comments above will ripple here.
	11. Employment Density	employees/acre	2.51	12.01	4.08	*staff adjusted (2)*	12.000	TN & CE2 scores are understandable because of schools only; CE1 is at low end of transit feasibility.

Table 4 *Continued*

Element	Indicator	Units	Pre-Efficiency Neighborhoods: Terra Nova	College Estates I	College Estates II	*Weighted By*	Weighted Average	Comments
Land-Use *Continued*	12. Commercial Building Density	avg. floor area ratio	NA	0.08	NA	*staff adjusted (3)*	0.350	Baseline projects not sufficiently commercial to calculate reasonable baseline of 0.25-0.50; adjusted to conform with applicable development standard.
	13. Use Mix	0 to 1 index	0.33	0.27	0.36	*land area (acres)*	0.312	Typical suburban residential scores; generally 0.4 or higher denotes high mix areas.
	14. Use Balance	0 to 1 index	0.52	0.34	0.34	*land area (acres)*	0.402	Typical suburban residential scores; generally 0.75 or higher is desired.
	15. Neighborhood Completeness	% of key uses	40	40	40	*residents*	40.000	Coincidental identical scores, all favorable; generally 50 or higher is desired.
	16. Block Size	acres	23.48	9.08	10.75	*land area (acres)*	14.407	Blocks larger than 4-5 acres are pedestrian unfriendly.
	17. Pedestrian Orientation of Buildings	avg. setback ft.	NA	103	NA	*feet of setback*	103.000	Pedestrian friendly setbacks are 0-30 ft.
	18. Internal Connectivity for Pedestrians	0 to 1 index	0.73	0.81	0.75	*no. of ped. intersections*	0.764	All favorable scores; generally 0.75 or higher is desired.
	19. Internal Connectivity for Vehicles	0 to 1 index	0.77	0.79	0.66	*no. of street intersections*	0.742	All favorable except CE2; generally 0.75 is desired.
	20. External Access for Pedestrians	ft. between access points	1138	804	1983	*study perimeter (ft.)*	1298.648	Scores below 1,200 ft. are favorable.

Table 4 *Continued*

			Pre-Efficiency Neighborhoods					
Element	**Indicator**	**Units**	**Terra Nova**	**College Estates I**	**College Estates II**	***Weighted By***	**Weighted Average**	**Comments**
Land-Use *Continued*	21. External Access for Vehicles	ft. between access points	1934	2011	2644	*study perimeter (ft.)*	2184.007	Scores below 1,200 ft. are favorable.
	22. Street Network Density	centerline miles/sq. mi.	15.37	19.71	18.83	*land area (acres)*	18.013	Typical scores for suburban residential.
	23. Housing Proximity to Transit	ft. to closest stop	1439	1667	861	*dwelling units*	1401.385	Scores below 1,200 ft. are favorable.
	24. Employment Proximity to Transit	ft. to closest stop	2819	445	984	*employees*	803.523	Scores below 1,200 ft. are favorable.
	25. Transit-Oriented Residential Density	DU/acre w/i 1/4 mi. stop	11	5	7	*staff adjusted (4)*	10.000	TN score is favorable, others are not; minimum should be 10.
	26. Transit-Oriented Employment Density	emps./acre w/i 1/4 mi. stop	3	12	4	*employees w/in 1/4 mi.*	11.252	CE1 score is minimum favorable.
Buildings	27. Title 24 Exceedence	% structures	0	0	0	*structures*	0	
	28. Building Efficiency Program Participation	% structures	0	0	0	*structures*	0	
	29. Solar Thermal Applications	% structures	0	0	0	*structures*	0	
	30. Solar Power Applications	% structures	0	0	0	*structures*	0	
	31. Vegetative CO2 Uptake	lbs./yr.	0	0	0	*land area (acres)*	0.000	
Transportation	32. Pedestrian Network Coverage	ped. routes/streets ratio	1.41	1.19	1.31	*total street miles*	1.284	All favorable scores (anything above 1.0)
	33. Pedestrian Crossing Distance	avg. curb to curb ft.	45	41	39	*no. of street intersections*	41.726	Pedestrian friendly crossing distances are 30 ft. or less.
	34. Pedestrian Route Directness	walk ft./straightline ft. ratio	1.62	1.76	1.45	*dwelling units*	1.637	Scores above 1.5 are unfavorable.

Table 4 *Continued*

			Pre-Efficiency Neighborhoods					
Element	**Indicator**	**Units**	**Terra Nova**	**College Estates I**	**College Estates II**	***Weighted By***	**Weighted Average**	**Comments**
Transportation *Continued*	35. Bicycle Network Coverage	% of streets bikeable	100	100	100	*staff adjusted (5)*	90.000	
	36. Transit Service Coverage	stops/sq. mi.	8	11	23	*land area (acres)*	12.873	10-20 is favorable range.
	37. Daily Auto Driving	veh-mi./dav/capita	22	22	22	*residents (6)*	22.000	Typical suburban value; generally 20 or less is desirable.
Infrastructure	38. Residential Water Use	gal./dav/capita	128	171	153	*residents (7)*	149.667	
Environment	39. Park Space Supply	acres/1000 residents	11.20	3.62	7.89	*staff adjusted (8)*	3.000	TN score is abnormally high.
	40. Park Proximity	ft. to closest park	2090	2732	1266	*dwelling units*	2156.611	Distances above 1,200 ft. are unfavorable for pedestrians.
	41. Open Space Supply	% of land area	19	2	6	*land area (acres)*	8.779	TN score again unusually high; however, weighted average may be reasonable.
	42. Open Space Contiguity	0 to 1 index	0.72	0.53	0.58	*open space acres*	0.679	Scores above 0.5 are favorable.
	43. Housing Energy Use	MMBtu/yr./capita	28	28	36	*residents*	31.084	Typical scores.
	44. Household Transportation Energy Use	MMBtu/yr./capita	47	47	47	*residents*	46.800	Typical suburban score; generally 40 or less is desirable.
	45. Nonresidential Building Energy Use	MMBtu/yr./emp.	N/A	18	N/A	*employees*	18.026	CE1 score representative of strip malls; generally 12 or less is desirable.
	46. Total Energy Use	MMBtu/yr./person	74	75	81	*residents & employees*	75.561	Typical suburban residential scores for San Diego region.
	47. NOx Emissions	lbs./yr./person	33.01	33.45	33.82	*residents & employees*	33.349	Derived from energy scores.
	48. SOx Emissions	lbs./yr./person	0.72	0.83	0.92	*residents & employees*	0.805	Derived from energy scores.

Table 4 *Continued*

			Pre-Efficiency Neighborhoods					
Element	**Indicator**	**Units**	**Terra Nova**	**College Estates I**	**College Estates II**	***Weighted By***	**Weighted Average**	**Comments**
Environment *Continued*	49. HC Emissions	lbs./yr./person	58.43	58.44	58.44	*residents & employees*	58.435	Derived from energy scores.
	50. CO Emissions	lbs./yr./person	452.06	452.13	452.23	*residents & employees*	452.133	Derived from energy scores.
	51. PM Emissions	lbs./yr./person	0.13	0.14	0.16	*residents & employees*	0.140	Derived from energy scores.
	52. C02 Emissions	lbs./yr./person	10238	10566	10846	*residents & employees*	10492.572	Derived from energy scores.

1. Terra Nova score was consistent with citywide average east of I-805; rounded to 16.0.
2. Terra Nova and College Estates 2 scores are for school employment only and do not include any retail or commercial; College Estates 1 score is typical for suburban strip commercial employment; rounded to 12.0.
3. Adjusted value is based on allowable development standard.
4. College Estates 1 and 2 scores are beneath transit minimum; adjusted value is typical minimum for feasible transit service.
5. All three neighborhood scores are considered unusually high; adjusted value reflects likelihood of less-than-full coverage.
6. Estimated by Criterion and Fehr & Peers based on SANDAG regional data.
7. Water use estimated by INDEX and confirmed with City data.
8. Value adjusted to be consistent with adopted City standard.

Table 5

ORIGINAL SPA PLAN INDICATOR SCORES

Element	Indicator		Units	Baseline	SPAs		
					OR Village Six	OR Village Eleven	EastLake III
Demographics	1. Population		residents	--	6261	6,974	6173
	2. Households		dwelling units	--	2086	2,304	2,061
	3. Employment		employees	--	241	305	792
	4. Land Area		acres	--	386	489	744
Land-Use	5. Development Footprint		acres/capita	0.064	0.038	0.039	0.071
	6. Street Network Extent		street mi./capita	2.604	1.78	2.05	1.38
	7. Amenity Proximity (retail)		ft. to closest amenity	3193.902	2205	2806	6,224
	8. Single-Family Dwelling Density	*	DU/acre	6.917	8.14	7.07	4.50
	9. Multi-Family Dwelling Density	*	DU/acre	16.000	24.98	15.80	17.25
	10. Average Residential Density		DU/acre	7.632	12.26	10.39	5.77
	11. Employment Density	*	employees/acre	12.000	5.05	6.80	11.25
	12. Commercial Building Density		avg. floor area ratio	0.350 (a)	0.35 (a)	0.35 (a)	0.35 (a)
	13. Use Mix	*	0 to 1 index	0.312	0.37	0.31	0.32
	14. Use Balance	*	0 to 1 index	0.402	0.48	0.49	0.44
	15. Neighborhood Completeness	*	% of key uses	40.000	60	60	80
	16. Block Size		acres	14.407	6.14	9.29	18.43
	17. Pedestrian Orientation of Buildings		avg. setback ft.	103.000	15.000 (a)	15.000 (a)	15.000 (a)
	18. Internal Connectivity for Pedestrians		0 to 1 index	0.764	0.99	0.97	0.920
	19. Internal Connectivity for Vehicles	*	0 to 1 index	0.742	0.91	0.91	0.740
	20. External Access for Pedestrians		ft. between access points	1298.648	1279	619	2595
	21. External Access for Vehicles		ft. between access points	2184.007	1512	1599	4672
	22. Street Network Density	*	centerline miles/sq. mi.	18.013	17.86	19.37	15.59
	23. Housing Proximity to Transit		ft. to closest stop	1401.385	944	1560	1327
	24. Employment Proximity to Transit		ft. to closest stop	803.523	1064	1040	1077
	25. Transit-Oriented Residential Density		DU/acre w/l 1/4 mi. stop	10.000	12.26	10.40	6.05
	26. Transit-Oriented Employment Density		emps./acre w/l 1/4 mi. stop	11.252	4	6	10
Buildings	27. Title 24 Exceedence		% structures	0	0	0	0
	28. Building Efficiency Program Participation		% structures	0	0	0	0
	29. Solar Thermal Applications		% structures	0	0	0	0
	30. Solar Power Applications		% structures	0	0	0	0
	31. Vegetative CO2 Uptake		lbs./yr.	0.000	179300	163,350	169,950

Table 5 *Continued*

Element	Indicator		Units	Baseline	SPAs		
					OR Village Six	OR Village Eleven	EastLake III
Transportation	32. Pedestrian Network Coverage	*	ped. routes/streets ratio	1.284	2.18	2.25	1.82
	33. Pedestrian Crossing Distance		avg. curb to curb ft.	41.726	35	34	52
	34. Pedestrian Route Directness	*	walk ft./straight-line ft. ratio	1.637	1.51	1.38	1.610
	35. Bicycle Network Coverage		% of streets bikeable	90.000	95	100.000	97
	36. Transit Service Coverage		stops/sq. mi.	12.873	16	5	18
	37. Daily Auto Driving		veh-mi./day/capita	22.000 (b)	22.000 (b)	22.000 (b)	23.00 (b)
Infrastructure	38. Residential Water Use		gal./day/capita	149.667	150	160	193
Environment	39. Park Space Supply		acres/1000 residents	3.000	1.50 (c)	2.65 (c)	3.08
	40. Park Proximity		ft. to closest park	2156.611	1357	1626	1804
	41. Open Space Supply		% of land area	8.779	10	13	16
	42. Open Space Connectivity		0 to 1 index	0.679	0.61	0.35	0.67
	43. Housing Energy Use		MMBtu/yr./capita	31.084	24.352	22.563	28.890
	44. Household Transportation Energy Use		MMBtu/yr./capita	46.800 (d)	46.801 (d)	46.801 (d)	46.801 (d)
	45. Nonresidential Building Energy Use		MMBtu/yr./emp.	18.026	14.189	22.364	42.719
	46. Total Energy Use		MMBtu/yr./person (capita + emp)	75.561	69.045	67.392	71.942
	47. NOx Emissions		lbs./yr./person (capita + emp)	33.349	32.659	32.507	33.353
	48. SOx Emissions		lbs./yr./person (capita + emp)	0.805	0.634	0.596	0.806
	49. HC Emissions		lbs./yr./person (capita + emp)	58.435	58.432	58.431	58.435
	50. CO Emissions		lbs./yr./person (capita + emp)	452.133	451.983	451.950	452.134
	51. PM Emissions		lbs./yr./person (capita + emp)	0.140	0.110	0.104	0.140
	52. C02 Emissions		lbs./yr./person (capita + emp)	10492.572	9,942.781	9,832.839	10,470.883

Notes:

a) Values are assumed based on applicable development regulations.
b) Typical suburban value; generally 20 or less is desirable.
c) Additional park acreage is provided off-site to meet the City requirement of 3 acres/1000 residents.
d) Typical suburban value; generally 40 or less desirable.

* "Top ten" indicators of urban design-based energy efficiency.

Notable characteristics of the SPAs and differences between their scores and the baseline are summarized below by element category:

- *Demographics*. Villages Six and Eleven are relatively similar, each with about 350–500 acres of land accommodating 6,000–7,000 residents, and a relatively small amount of non-residential uses equating to 250–300 jobs. EastLake III is notably larger in land area at approximately 750 acres, and in employment at about 800 jobs.

- *Land-use*. Villages Six and Eleven generally score better than EastLake III in comparison to baseline values. Villages Six and Eleven have favorable residential densities, neighborhood completeness, circulation connectivity, and proximity to transit. EastLake III enjoys better employment density and the highest neighborhood completeness, but unfavorable scores in residential density and some circulation features, e.g. walk distance to retail and transit-oriented residential density. In general, all three SPAs achieve their energy and emissions advantage over the baseline in this element primarily through higher total population densities, which reduces space conditioning, travel, and infrastructure energy use.

- *Transportation*. There was little change between SPA scores and baseline values in this element, except for significant increases in pedestrian network coverage in all three SPAs, and a drop in transit service coverage in Village Eleven.

- *Infrastructure*. Villages Six and Eleven residential water use scored close to the baseline, while EastLake III was notably higher due to its lower density, larger lots whose greater amount of landscaping is estimated to consume more water.

- *Environment*. Village Six has a park space supply score notably below the City standard (but is nonetheless meeting its park demand through the provision of a seven-acre neighborhood park on-site consistent with City requirements, and the community park acreage is being met off-site pursuant to the Otay Ranch General Development Plan). Villages Six and Eleven improved park proximity for their residents in comparison to the baseline, but that distance worsened in EastLake III. Village Eleven's open space contiguity score is unusually low, suggesting unfavorable fragmentation of spaces (generally 0.5 or higher is desirable). This element also contains the energy and emission scores that summarize the combined effects of land-use, buildings, transportation, and infrastructure. Of the ten energy and emission indicators, the principal indicator is total energy use per year by residents and employees combined. All three SPAs exceed the baseline in efficiency terms, largely due to higher

population densities. The SPAs' favorable energy scores are mirrored by similar reductions in pollutant and greenhouse gas emissions.

3.3 Modified SPA Proposals

The next step in the pilot test was an invitation for developers to submit modified SPA plans that achieved even greater energy efficiency and air quality than the original proposals. SPA developers had the following options available for modifying their plans in ways that further increased energy efficiency and improved air quality:

- *Land-use density*. This is the intensity of use on properties measured in dwelling units per acre for residential uses and employees per acre for non-residential uses. Extensive research nationally and internationally has conclusively demonstrated that the strongest urban planning technique for increasing energy efficiency is increasing land-use density. Density increases produce significant energy savings in building space conditioning, travel, and infrastructure operations. Although it may have been too late for major density changes in the three test SPAs, this option should be examined in future SPA processes because of its sizable benefits.

- *Land-use diversity*. This is the mix of residential and non-residential uses in an area. Research has also demonstrated that another important technique for increasing energy efficiency is increasing the diversity of land-uses. Greater diversity produces energy savings in the same space conditioning, travel, and infrastructure end-uses as density does through better use of system capacities. Again, it may have been too late to consider diversity changes in the three test SPAs, but the option warrants future consideration in other SPAs.

- *Multimodal circulation design*. Another strong technique for saving energy in land development is designing an efficient and convenient multimodal circulation system. Such a system is composed of features that allow walking, biking, and transit use in addition to auto driving. Important components include relatively dense street networks, completeness of sidewalks, and relatively direct routes from common origins to popular destinations. As with density and diversity, it may have been too late for significant circulation changes in the test SPAs.

- *Building construction standards*. SPA developers may opt for a commitment to reduce building energy use by exceeding Title 24. Developers could propose the amount of Title 24 exceedence per building type and the number of buildings that will participate in such exceedence. A developer could exercise this option by committing to a utility or comparable energy efficiency

program that offers beyond-code services, or by simply committing that merchant builders will achieve the stipulated exceedence by means of their own choosing.

- *Solar systems*. SPA developers could opt to reduce grid-supplied energy by installing solar thermal or PV systems in buildings. Developers could propose the type and capacity of systems to be used, and the number of structures that will receive such systems.

- *Tree planting*. This category allowed SPA developers to offer additional tree planting that will offset greenhouse gas emissions. Selection of this option will not improve a SPA's energy efficiency or air pollutant emissions, but will help mitigate climate change.

After consideration of these options, the test SPA developers voluntarily selected the following action measures to improve their projects' energy efficiency and air quality:

- *EastLake III*. 72 single-family homes will achieve a 15% Title 24 exceedence using ComfortWise, SDG&E California Energy Star Program, or equivalent program; 255 single-family homes will achieve a 15% Title 24 exceedence using the SDG&E California Energy Star Program; and an additional 855 trees will be planted.

- *Otay Ranch Village Six*. 482 single-family homes will achieve a 10% Title 24 exceedence using designer/builder-selected measures; and an additional 792 trees will be planted.

- *Otay Ranch Village Eleven*. No additional measures selected.

With these modifications, the SPA plans were modeled again to recalculate indicator scores and identify final energy savings and air quality improvements. These results are shown in Table 6 indicating an approximate 1% energy use reduction for EastLake III and Village Six between original and modified plans. Also, the additional tree planting in EastLake III and Village Six resulted in beneficial CO2 uptake increases of 25% and 22%, respectively.

Table 6

MODIFIED SPA PLAN INDICATOR SCORES

Element	Indicator	Units	Baseline	Original Village Six	Modified Village Six	Original EastLake III	Modified EastLake III
Demographics	1. Population	residents	--	6261	6261	6173	6173
	2. Households	dwelling units	--	2086	2086	2061	2061
	3. Employment	employees	--	241	241	792	792
	4. Land Area	acres	--	386	386	744	744
Land-Use	5. Development Footprint	acres/resident	0.064	0.038	0.038	0.071	0.071
	6. Street Network Extent	street mi./capita	2.604	1.78	1.78	1.38	1.38
	7. Amenity Proximity (retail)	ft.	3193.902	2205	2205	6224	6224
	8. Single-Family Dwelling Density	DU/acre	6.917	8.14	8.14	4.50	4.50
	9. Multi-Family Dwelling Density	DU/acre	16.000	24.98	24.98	17.25	17.25
	10. Average Residential Density	DU/acre	7.632	12.26	12.26	5.77	5.77
	11. Employment Density	emps./acre	12.000	5.05	5.05	11.25	11.25
	12. Commercial Building Density	ratio	0.350	0.35	0.35	0.35	0.35
	13. Use Mix	0 to 1 index	0.312	0.37	0.37	0.32	0.32
	14. Use Balance	0 to 1 index	0.402	0.48	0.48	0.44	0.44
	15. Neighborhood Completeness	% of key uses	40.000	60	60	80	80
	16. Block Size	acres	14.407	6.14	6.14	18.43	18.43
	17. Pedestrian Orientation of Buildings	ft.	103.000	15.000	15.000	15.000	15.000
	18. Internal Connectivity for Pedestrians	0 to 1 index	0.764	0.99	0.99	0.920	0.920
	19. Internal Connectivity for Vehicles	0 to 1 index	0.742	0.91	0.91	0.740	0.740
	20. External Access for Pedestrians	ft. between points	1298.648	1279	1279	2595	2595
	21. External Access for Vehicles	ft. between points	2184.007	1512	1512	4672	4672
	22. Street Network Density	miles/sq. mi.	18.013	17.86	17.86	15.59	15.59
	23. Housing Proximity to Transit	ft. to closest stop	1401.385	944	944	1327	1327
	24. Employment Proximity to Transit	ft. to closest stop	803.523	1064	1064	1077	1077
	25. Transit-Oriented Residential Density	DU/acre w/i 1/4 mi.	10.000	12.26	12.26	6.05	6.05
	26. Transit-Oriented Employment Density	emps./acre w/i 1/4 mi.	11.252	4	4	10	10

Table 6 *Continued*

Element	Indicator	Units	Baseline	Original Village Six	Modified Village Six	Original EastLake III	Modified EastLake III
Buildings	27. Title 24 Exceedence	% structures	0	0	46	0	23
	28. Building Efficiency Program Participation	% structures	0	0	0	0	0
	29. Solar Thermal Applications	% structures	0	0	0	0	0
	30. Solar Power Applications	% structures	0	0	0	0	0
	31. Vegetative CO2 Uptake	lbs./yr.	0.000	179300	218900	169950	212700
Transportation	32. Pedestrian Network Coverage	ped. routes/streets ratio	1.284	2.18	2.18	1.82	1.82
	33. Pedestrian Crossing Distance	ft. curb to curb	41.726	35	35	52	52
	34. Pedestrian Route Directness	walk ft./straightline ft. ratio	1.637	1.51	1.51	1.610	1.610
	35. Bicycle Network Coverage	% of streets bikeable	90.000	95	95	97	97
	36. Transit Service Coverage	stops/sq. mi.	12.873	16	16	18	18
	37. Daily Auto Driving	veh-mi./day/capita	22.000	22.000	22.000	23.000	23.000
Infrastructure	38. Residential Water Use	gal./day/capita	149.667	150	150	193	193
Environment	39. Park Space Supply	acres/1000 residents	3.000	1.50	1.50	3.08	3.08
	40. Park Proximity	ft. to closest park	2156.611	1357	1357	1804	1804
	41. Open Space Supply	% of land area	8.779	10	10	16	16
	42. Open Space Contiguity	0 to 1 index	0.679	0.61	0.61	0.67	0.67
	43. Housing Energy Use	MMBtu/yr./capita	31.084	24.352	23.529	28.890	28.040
	44. Household Transportation Energy Use	MMBtu/yr./capita	46.800	46.801	46.801	46.801	46.801
	45. Nonresidential Building Energy Use	MMBtu/yr./emp	18.026	14.189	14.189	42.719	42.719
	46. Total Energy Use	MMBtu/yr./person	75.561	69.045	68.254	71.942	71.189
	47. NOx Emissions	lbs./yr./person	33.349	32.659	32.574	33.353	33.272
	48. SOx Emissions	lbs./yr./person	0.805	0.634	0.613	0.806	0.786
	49. HC Emissions	lbs./yr./person	58.435	58.432	58.431	58.435	58.435
	50. CO Emissions	lbs./yr./person	452.133	451.983	451.964	452.134	452.116
	51. PM Emissions	lbs./yr./person	0.140	0.110	0.110	0.140	0.140
	52. C02 Emissions	lbs./yr./person	10492.572	9942.781	9873.000	10470.883	10403.764

3.4 Final Results

Based on the modified SPA plans, the pilot test's final results for energy savings, air quality improvements, and greenhouse gas reductions are as follows:

	Baseline	Village Six	Village Eleven	EastLake III
Total energy use (MMBtu/yr/capita)	75.56	68.25	67.39	71.19
% energy reduction	---	9.70	10.80	5.80
Total air pollutant emissions (lbs/yr/capita)	544.85	543.68	543.59	544.75
% air pollutant emissions reduction	---	0.21	0.23	0.01
Total greenhouse gas emissions (lbs/yr/capita)	10,493.00	9,873.00	9,833.00	10,404.00
% greenhouse gas emissions reduction	---	5.90	6.29	0.85

WATER CONSERVATION PLAN

SECTIONAL PLANNING AREA (SPA) PLAN
EASTLAKE III GDP

EASTLAKE III – WINDSTAR POINTE RESORT

ADDENDUM APRIL 2008

Amendment Adopted April 8, 2008
by Resolution No. 2008-095

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SECTION II.8
WATER CONSERVATION PLAN

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II.8.1 Executive Summary

When the EastLake III SPA was originally adopted, the entire project was included in a water conservation pilot program to determine which conservation measures were practical and efficient. Based on the results from that program, the City of Chula Vista has established a formal program of water conservation measures to be included in new SPAs or SPA amendments such as the proposed EastLake III Windstar Pointe Resort. This Water Conservation Plan implements those requirements for the SPA Amendment project area.

As detailed in this plan, numerous features have been included in the project and commitments made by the developer to minimize the use of water during the construction and use of development within the EastLake III Windstar Pointe Resort. These measures are expected to result in an average water savings of 0.009 million gallons per day (MGD).

The following water conservation measures will be implemented in the project:

Table 1
Water Conservation Measures

- Hot Water Pipe Insulation
- Pressure Reducing Valves
- Water Efficient Dishwashers
- Evapotranspiration Controllers
- Water Efficient Landscaping

II.8.2 Introduction

The EastLake III Windstar Pointe Resort is a development component of the EastLake Planned Community located in the eastern portion of the City of Chula Vista (City). The EastLake III SPA includes two separate residential neighborhoods, EastLake Woods and Eastlake Vistas, and a mixed-use "Activity Core" at the southern end of the SPA, adjacent to the Olympic Training Center (OTC) entrance. The predominate land use in the EastLake III SPA is single family residential with a large complement of public school sites, a commercial site and a CPF site in the Activity Core, and a greenbelt along Salt Creek. The proposed Windstar Pointe Resort will be located in the Activity Core, at the southern end of the EastLake Vistas neighborhood on a parcel that was originally designated visitor commercial uses but was never developed.

The approach to water conservation outlined in this plan is intended to be comprehensive and implemented throughout the life of the development project. Water conservation during construction and after occupancy is addressed, as well as the installation of water conserving landscaping, appliances and fixtures.

The following are goals of the EastLake III Windstar Pointe Resort Water Conservation Plan (WCP):

1. To conserve water during and after construction of the project.

2. To comply with the water conservation standards and policies of the City of Chula Vista and Otay Water District.

3. To create a comprehensive framework for the design, implementation and maintenance of water conserving measures, both indoor and outdoor.

4. To be economically efficient and cost effective.

II.8.3 Purpose

The purpose of this Water Conservation Plan (WCP) is to respond to the Growth Management Policies of the City of Chula Vista which require larger development projects to prepare a WCP. The water conservation measures presented in this plan are intended to respond to the long term need to conserve water in new development.

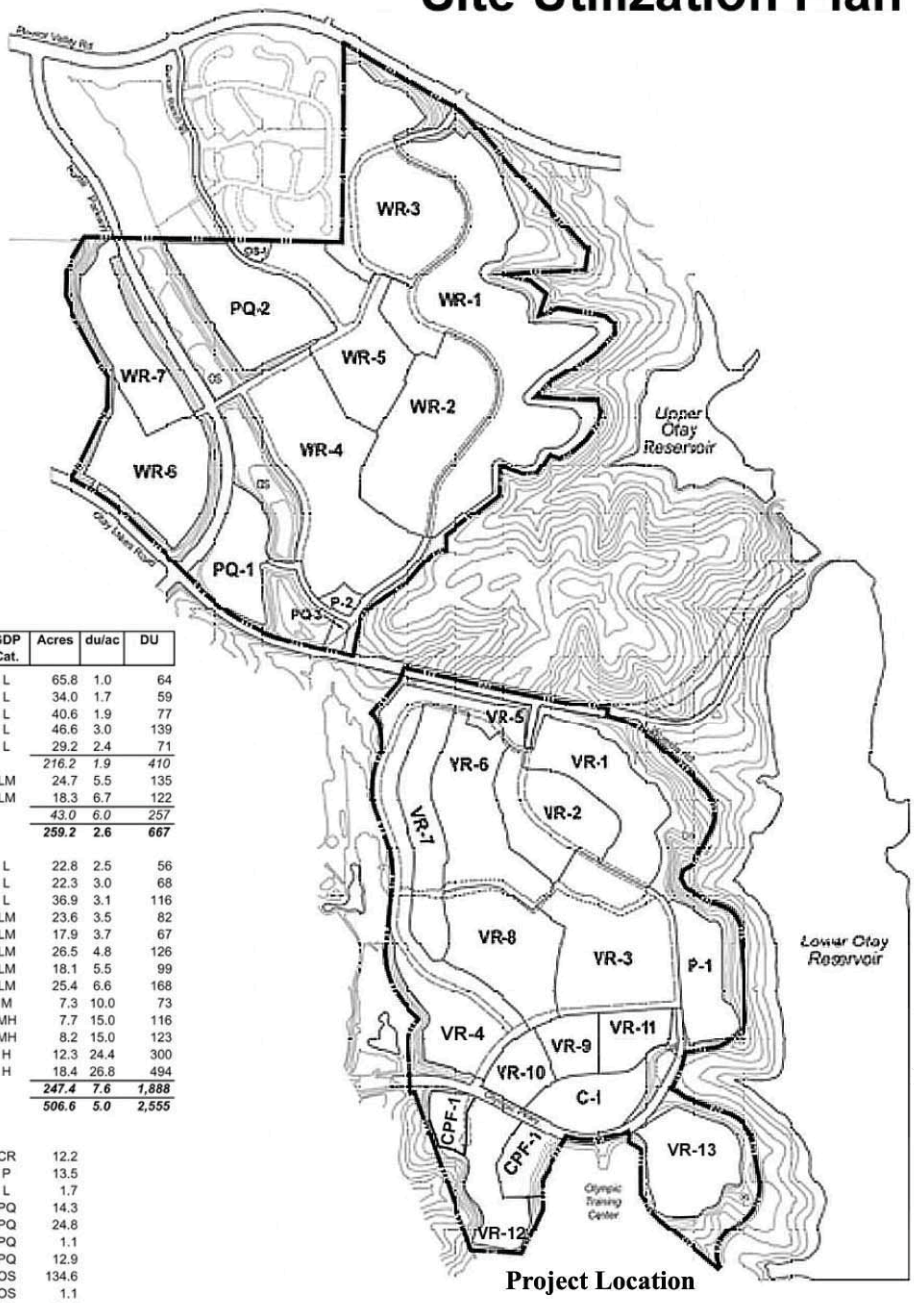
The City has adopted formal guidelines for the preparation and implementation of the required WCPs. This WCP incorporates the requirements of the adopted guidelines by following the mandated format for WCPs and incorporating the required water conservation measures into the EastLake III Windstar Pointe Resort. The guidelines require the following water conservation measures in all large residential projects subject to WCP requirements:

- Hot water pipe insulation
- Pressure reducing valves
- Water efficient dishwashers
- At least one water conservation measure from the outdoor category identified on the Residential Water Conservation Measures list.
- At least one additional water conservation measure from either the indoor or outdoor categories identified on the Residential Water Conservation Measures list.

II.8.4 Project Description

The EastLake III Windstar Pointe Resort is an amendment to the adopted EastLake SPA Plan to convert a parcel designated for tourist commercial development to multi-family residential development. The 18.4 acre parcel is located within the Activity Core of EastLake III, just east of the entrance to the OTC. The site is accessed via Olympic Parkway and overlooks Lower Otay Reservoir (see Site Utilization Plan Exhibit WC-1). The parcel is proposed to be developed with 494 dwelling units in multi-story buildings at an average density of 26.8 dwelling units/acre.

Site Utilization Plan



RESIDENTIAL
Woods

Parcel Number	Land Use	GDP Cat.	Acres	du/ac	DU
WR-1	Single Family	L	65.8	1.0	64
WR-2	Single Family	L	34.0	1.7	59
WR-3	Single Family	L	40.6	1.9	77
WR-4	Single Family	L	46.6	3.0	139
WR-5	Single Family	L	29.2	2.4	71
Residential Sub-total *(Woods East)*			*216.2*	*1.9*	*410*
WR-6	Single Family	LM	24.7	5.5	135
WR-7	Single Family	LM	18.3	6.7	122
Residential Sub-total *(Woods West)*			*43.0*	*6.0*	*257*
Residential Sub-total (Woods):			***259.2***	***2.6***	***667***
Vistas					
VR-1	Single Family	L	22.8	2.5	56
VR-2	Single Family	L	22.3	3.0	68
VR-3	Single Family	L	36.9	3.1	116
VR-4	Single Family	LM	23.6	3.5	82
VR-5	Single Family	LM	17.9	3.7	67
VR-6	Single Family	LM	26.5	4.8	126
VR-7	Single Family	LM	18.1	5.5	99
VR-8	Single Family	LM	25.4	6.6	168
VR-9	Single/Multi-Family	M	7.3	10.0	73
VR-10	Multi-Family	MH	7.7	15.0	116
VR-11	Multi-Family	MH	8.2	15.0	123
VR-12	Multi-Family	H	12.3	24.4	300
VR-13	Multi-Family	H	18.4	26.8	494
Residential Sub-total (Vistas):			***247.4***	***7.6***	***1,888***
			506.6	***5.0***	***2,555***

Sub-total Residential
NON-RESIDENTIAL

C-1	Commercial- Retail	CR	12.2		
P-1	Public Park	P	13.5		
P-2	Private Recreation	L	1.7		
PQ-1	Elementary School	PQ	14.3		
PQ-2	Jr. High School	PQ	24.8		
PQ-3	Fire Station	PQ	1.1		
CPF-1	Comm. Purpose Fac.	PQ	12.9		
OS	Open Space*	OS	134.6		
OS-1	OS/School Parking	OS	1.1		
	Major Circulation	cir	25.5		
Sub-total Non-Residential			**241.7**		
PROJECT TOTAL			**748.3**	**3.4**	**2,555**

EASTLAKE III
A planned community by The EastLake Company

Cinti Land Planning
6/20/06

Exhibit WC-1

II.8.5 Water Service & Supply

Most of the potable water used in San Diego County is imported from the Colorado River and the Sacramento-San Joaquin Rivers Delta. A small portion is from local surface water storage reservoirs and groundwater.

The Otay Water District (OWD) provides water service to the EastLake III SPA project area. The OWD is a member of the San Diego County Water Authority (CWA) which purchases the imported water from the Metropolitan Water District of Southern California (MWD). The OWD obtains filtered water from CWA and delivers it local customers.

The EastLake III SPA is located within the OWD's Central Service Area. The project will receive its water supply from the District's Central Area System. Potable water is provided to the Central Service Area of the Otay Water District via the Second San Diego Aqueduct. Water is delivered at aqueduct connections No. 10 and No. 12 and is conveyed by gravity to the Central Service Area emergency/operating reservoirs at a grade of 624 feet. Water is then pumped to the existing 711 and 980 service zones. The proposed EastLake III Windstar Pointe Resort will be served from the 980 service zone.

The OWD also provides recycled water to the project area. The District owns and operates the Ralph W. Chapman Water Recycling Facility located near the intersection of Singer Lane and Highway 94. This plant has a stated capacity of 1.3 million gallons of recycled water per day for non-potable water uses such as irrigation of golf courses, school playing fields, public parks, and public landscaping. An additional recycled water supply will be available from the City of San Diego's 15.0 million gallons per day (MGD) capacity South Bay Water Reclamation Plant, which is located in the Tijuana River Valley at Monument and Dairy Mart Roads near the Mexican border. The initial phase of this plant was recently completed.

Recycled water requirements for the project will be coordinated by the Otay Water District and the City of Chula Vista. The phased construction of potable and recycled water facilities, based on the District-approved master plans, will be incorporated into the EastLake III SPA Public Facilities Financing Plan and/or subdivision map conditions for the project to assure timely provision of required facilities. The current tentative map conditions do not require recycled water use to this project because of its proximity to the Otay Lakes and the potential for recycled water runoff to the lakes.

II.8.6 Projected Water Use

This section presents information on the anticipated water demand of the EastLake III Windstar Pointe Resort only. As noted previously, the remainder of the EastLake III SPA development was included in the City of Chula Vista's Water Conservation Pilot Program and the adopted Water Conservation Plan remains in effect for that area outside of the EastLake III Windstar Pointe Resort.

Table 2 shows projected water use in the EastLake III Windstar Pointe Resort, based on average use rates from the Otay Water District's 2002 Water Resources Master Plan, which do not reflect significant conservation measures, and the proposed land use statistics.

Table 2
Potable Water Demand

Land Use	Net Area (ac)	Dwelling Units	Unit Demand	Average Annual Day Demand (gpd)*
MF Residential	18.4	494	300 gpd/du	148,200
TOTAL				**0.148 mgd**
* gpd = gallons per day; mgd = million gallons per day				

The projected demand for landscape irrigation in the EastLake III Windstar Pointe Resort is 0.006 MGD, as shown in Table 3 below.

Table 3
Irrigation Demand

Land Use	Net Area (ac)	Percent Irrigated	Irrigated Area (ac)	Irrigation Rate (gpd/ac)	Average Day Demand (gpd)*
MF Residential	18.4	15%	2.8	2,152	5,940
TOTAL					**0.006 mgd**
* gpd = gallons per day; mgd = million gallons per day					

II.8.7 State & Federal Water Conservation Requirements

Some water conservation measures are mandated by state or federal law. The federal water efficiency plumbing standards were included in the Energy Policy Act enacted in 1992, and effective January 1, 1994. Passage of the Act provided a uniform standard for manufacturers of water-using fixtures including ultra-low-flow toilets, low-flow showerheads and faucets, aerators, washing machines and other appliances and fixtures.

State regulation of water efficiency is based on the California Constitution and Water Code. The Constitution provides the basis for efficient water use and is the foundation for the state's subsequent policies and mandates regarding water conservation and reuse. Additionally, the Urban Water Management Planning Act which was adopted by the California Legislature in 1983 and amended serially through 1995. The Act requires advance planning for water supplies to meet projected demands in the short term and long term with emphasis on water conservation, water recycling, emergency planning for drought restrictions on water use, among other provisions.

In California, regulation of manufacturing and installation of hot-water-related plumbing fittings is under the jurisdiction of the California Energy Commission. The efficiency requirements and regulations are incorporated in the California Code of Regulations Title 20, Appliance Efficiency Regulations. These regulations establish the maximum flow rate for all new showerheads, lavatory faucets, sink faucets, and tub spout diverters manufactured, sold or offered for sale in California.

In effect, current federal and state legislation require the use of certain plumbing devices that meet specified maximum flow rates. These devices include:

- Showerheads
- Lavatory Faucets
- Sink Faucets
- Metering Faucets in Public Restrooms
- Tub Spout Diverters
- Residential Water Closets
- Flushometer Valves
- Commercial Water Closets
- Urinals

Water savings in a typical single family home in Southern California through use of mandated fixtures has been calculated to be approximately 25% of the pre-conservation total.

II.8.8 Local Water Conservation Requirements

In addition to the State and Federal requirements identified above, the City of Chula Vista and the Otay Water District have also adopted water conservation requirements.

The City of Chula Vista Growth Management Ordinance, Municipal Code Section 19.09.050C, requires a Water Conservation Plan (WCP) to be submitted with all Sectional Planning Area (SPA) Plans. The WCP is to provide an analysis of water usage requirements of the proposed project, as well as a detailed plan of proposed measures for water conservation, use of reclaimed water, and other means of reducing per capita water consumption from the proposed project, as well as defining a program to monitor compliance.

As noted in Section II.8.3 Purpose, all projects subject to a WCP are required to include a specific set of water conservation measures from a menu provided by the City. Per that requirement, the following water conservation measures will be incorporated in the EastLake III Windstar Pointe Resort, which is entirely residential:

-Hot water pipe insulation
-Pressure reducing valves
-Water efficient dishwashers
-Evapotranspiration Controllers
-Water-efficient landscaping for all developer and builder installed landscaping

These measures are detailed along with estimates of water savings due to conservation in the following chapter.

Landscape irrigation is another significant opportunity for water conservation and local agencies have established their own mandates. The City of Chula Vista Landscape Manual requires the use of recycled water, if available, for landscape irrigation within all designated areas as allowed by state and local health codes. Further, Section 26 of the OWD ordinances state that it is the District's policy that reclaimed water shall be used "...whenever its use is financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment." The use of recycled water in the EastLake III Windstar Pointe Resort is not a condition of the current tentative map because of the project's proximity to Otay Lakes and the potential for excess recycled water to runoff to the lakes.

II.8.9 Water Conservation Estimated Savings

Each of the selected water conservation measures included in the project is detailed below along with an estimate of the water savings associated with each.

Indoor Measures

Hot Water Pipe Insulation
Insulation of hot water pipes and separation of the hot and cold pipes to reduce heat exchange can reduce the amount of time a faucet will need to flow to produce hot water. The estimated water savings is 2,400 gallons per residential unit per year.

Pressure Reducing Valves
Installation of a pressure-reducing valve at the water service connection can maintain the pressure below 60 psi, reducing the volume of leakage that may be present and prevent excessive flow of water from all appliances and fixtures. The estimated water savings is 1,800 gallons per residential unit per year.

Water-Efficient Dishwashers
Dishwashers with water saving features such as water level sensors instead of timed fillers. The estimated water savings is 650 gallons per unit per year.

Outdoor Measures

Evapotranspiration Controllers
Timed, fixed irrigation scheduling based on estimates of actual plant evapotranspiration rates. Radio signal from a central control station or satellite transmits information to the controllers to operate the sprinklers for the appropriate length of time. The estimated water savings with evapotranspiration controllers is 20,000 gallons per year per single family residential unit. This projected water savings is excessive for a 494 unit apartment complex which is estimated to only use an average of 5940 gallons per day (2.17 million gallons per year) for irrigation. For this analysis, it is assumed that 10 percent of the irrigated water use or 0.217 million gallons per year can be conserved through use of evapotranspiration controllers.

Water-Efficient Landscaping
Guidelines for water-efficient landscaping are included in the City's Landscape Design Manual. Water efficient landscaping will be utilized on all developer and builder installed landscaping. The estimated water savings by using water efficient landscaping is up to 50 percent of non-efficient landscaping. For a 2,100 square foot (0.048 acre) landscaped area, a water savings of 12,000 gallons per year is estimated. This is equivalent to 250,000 gallons per acre. If 2.8 acres is projected to be irrigated, then the water savings would be 700,000 gallons per year.

Based on the savings estimates associated with each of the water conservation measures detailed above, the total water conservation estimate for the EastLake III Windstar Pointe Resort is 0.009 million gallons per day, per Table 4 below.

Table 4
Total Water Conservation Estimate

Conservation Measure	Estimated Savings (gallons per year)	Units/Acres	Conservation Estimate (gallons/year)
Hot Water Pipe Insulation	2,400 per MF Unit	494	1.186 million
Pressure Reducing Valve	1,800 per MF Unit	494	0.889 million
Water Efficient Dishwasher	650 per MF Unit	494	0.321 million
Evapotranspiration Controllers	6 77,500 per acre	2.8	0.217 million
Water Efficient Landscaping	250,000 per acre	2.8	0.700 million
TOTAL			**3.313 million**
Average Daily Savings	**- -**		**0.009 MGD**

II.8.10 Implementation Measures

Implementation Measures

In addition to the implementation measures outlined in the previously adopted EastLake III SPA, the Applicant of the subject Project has committed to following the water conservation measures:

- Indoor water conservation measures:
    - Hot-Water Pipe Insulation: Install insulation on all hot water pipes in all common areas and all tenant-developed areas.
    - Pressure Reducing Valves: Provide pressure reducing valves at all meters, set to deliver water at no higher than 60 psi.
- At least one outdoor water conservation measure and at least one additional water conservation measure from either the indoor or outdoor categories.
    - Outdoor Water Conservation Measures
        - Water Efficient Irrigation System – Use of rain sensors and soil moisture measuring devices for scheduling and controlling all landscape irrigation programs in commercial, industrial and business centers including tenant areas.
        - Evapotranspiration (ET) Controllers – Timed, fixed irrigation scheduling based on estimates of actual plant evapotranspiration rates. Radio signal from a central control station or satellite transmits information to the controllers to operate the sprinklers for the appropriate length of time.
        - Water-Efficient Landscaping – Use of native vegetation and drought tolerant plant materials, avoiding grass and turf to the extent practical and use of irrigation systems and controllers as required by the Chula Vista Landscape Manual Use. In addition, the use of drip irrigation where possible and restriction of sprinkler irrigation as recommended by the water purveyors.
        - Recycled Water – Expand use of recycled water beyond areas mandated by the water purveyor to those areas where landscaping is within a reasonable reach of recycled water pipelines, to the extent that such use is acceptable to regulatory authorities.
        - Outdoor Garden Sales – All tenants with outdoor garden sales areas to install micro-irrigation systems (trickle or drip irrigation) and provide water conservation educational materials for consumers.

- Indoor Water Conservation Measures
  - Dual-Flush Toilets – Install dual-flush (ULFT) toilets in public restrooms including gas station restrooms.
  - Waterless Urinals – Install waterless urinals in public restrooms (men's rooms) including gas station restrooms.
  - Pre-Rinse Sprayer on Sinks – Install automatic shut-off sprayer for pre-rinsing dishes with a maximum flow rate of 1.6 gpm in all restaurant and fast-food units.
  - High-Efficiency Dishwashers – Install high-efficiency dishwashers in restaurant buildings.
  - Air-Cooled Ice Machines – Install air-cooled ice machines instead of water-cooled machines in restaurants.
  - Conductivity Meters – Install conductivity meters on cooling towers to regulate cycling of cooling water and chemicals.
- Optional Water Conservation Measures
  - Sub-meter all individual tenants in buildings.
  - Provide educational materials and guidance to tenants.

Implementation Timing

The implementation measures shall be incorporated in the building plans and installed prior to issuance of certificate of occupancy.

II.8.11 Monitoring

In order to ensure that all provisions of this plan are met, the standard review of landscape and construction documents performed by the City will include an evaluation of compliance with the provisions of this Water Conservation Plan. This approach will allow for a formal determination by the City that each of the required measures is implemented. Future discretionary or administrative actions with regard to development within the EastLake III Windstar Pointe Resort (*e.g.*, tentative map, building or grading permit, *etc.*) may be utilized to address or ensure compliance with the prescribed water conservation measures.

EASTLAKE III SPA
WATER CONSERVATION PLAN

April 2002

PBS&J Project No.: 131/620911.01

Prepared For:

THE EASTLAKE COMPANY

Prepared By:

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ATTACHMENT 10

Acknowledgements

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Abbreviations and Terms

Abbreviations

ac	Acre
CAS	Central Area System
CPF	Community Purpose Facility
CSA	Central Service Area
CFD	Community Facilities District
DU	Dwelling Unit
HOA	Home Owners Association
GDP	General Development Plan
gpd	Gallons per day
gpm	Gallons per minute
MG	Million gallons
MGD	Million gallons per day
MWD	Metropolitan Water District
psi	Pounds per square inch
SDCWA	San Diego County Water Authority
SPA	Sectional Planning Area
WCP	Water Conservation Plan
WRF	Water Recycling Facility
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Terms

District	Otay Water District
Project	EastLake III
City	City of Chula Vista

WATER EQUIVALENCIES TABLE

Measure		Equivalencies		
1 cubic foot	(cf)	7.48	gallons	(gal)
1 cubic foot per second	(cfs)	62.4	pounds of water	(lbs)
1 acre-foot	(ac-ft)	43,560	cubic feet	(cf)
1 ac-ft		3,259,000	gallons	(gal)
1 cfs		450	gallons per minute	(gpm)
1 cfs		646,320	gallons per day	(gpd)
1 million gallons per day	(mgd)	1,120	acre-feet per year	(ac-ft/yr)

Note:
An acre-foot covers 1 acre of land 1 foot deep

Section II.8 - Water Conservation Plan

II.8.1 Executive Summary

The EastLake III development (Project) is a master-planned community located within the City of Chula Vista (City). The Project encompasses approximately 793 acres and is bordered by the Rolling Hills Ranch development to the north, and the planned EastLake Business Center II, EastLake Trails subdivision, and Otay Ranch Village 11 to the west. The Upper and Lower Otay Reservoirs form the eastern boundary of the Project. The Project area consists of two subdivisions identified in the EastLake III General Development Plan (GDP) as EastLake Woods and EastLake Vistas. Additionally, the Project includes the property located directly adjacent to the southern boundary of the Olympic Training Center referred to as the Panhandle Site which is designated as part of a future University of California campus.

The City's Growth Management Ordinance requires that all major development projects consisting of 50 dwelling units or more prepare a Water Conservation Plan (WCP) at the time of Sectional Planning Area (SPA) plan preparation. Since there are currently no formal guidelines for the preparation of the WCP, developers have typically prepared the required plans based primarily on State and Federally mandated water conservation measures and closely reflect the requirements of the local water districts.

The City has undertaken an effort to develop and adopt guidelines for the preparation and implementation of required WCPs. The plan is intended to respond to the long-term need to conserve water in new and future developments. Additionally, it is intended that the plan will be implemented over the life of the projects and will establish standards that will be acceptable to future project residents regardless of water availability.

The City's effort involves a pilot study of three master-planned projects, including the EastLake III development. The pilot study will evaluate the relative effectiveness, costs, and issues associated with the implementation of additional water conservation measures beyond those currently mandated. Specific non-mandated water conservation measures identified for implementation in the EastLake III project include:

- Hot water pipe insulation
- Pressure reducing valves
- Water efficient dishwashers
- Evapotranspiration (ET) Controllers
- Drought tolerant landscaping
- Educational Program

The estimated total potable water savings for the Project due to implementation of the non-mandated quantifiable conservation measures is approximately 59,566 gallons per day (gpd), which is approximately 5.3 percent of the total projected potable water demand for the Project. Additional conservation measures are estimated to reduce the projected total potable water demand by an additional 59,070 gallons per day (gpd), which is also approximately 5.3%. Note that recycled water conservation measures were not included in the estimated savings through non-mandated measures.

Merchant builders will be encouraged to display the following conservation measures in model homes and offer them as options to potential homebuyers.

- Dual Flush Toilets
- High-Efficiency Washing Machines
- Hot-Water On-Demand Units

II.8.2 Introduction

The Project is an approved master-planned community located within the City. As mandated by the City's Growth Management Ordinance, a WCP for the Project is being prepared concurrently with preparation of the SPA Plan. Consistent with the Master Planned Communities Outline, Section II.8 of the EastLake III SPA Plan contains the WCP. In addition to the general requirements specified in the Growth Management Ordinance, the Project has been included in a pilot study to assess specific non-mandated water conservation measures. Consequently, this WCP has been prepared in accordance with the pilot study.

The approach to water conservation outlined in this plan includes identification of specific non-mandated water conservation measures to be implemented throughout the life of the development project. The WCP includes a description of the measures and presents targeted water use reduction goals for the Project.

II.8.3 Purpose

The purpose of the WCP for the EastLake III development is to identify specific non-mandated water conservation measures to be implemented as part of a pilot study currently being performed by the City. In accordance with the Growth Management Policies of the City, the water conservation measures presented in this plan are intended to respond to the long-term need to conserve water in new and future developments. This plan is intended to be implemented over the life of the project and to establish standards that will be acceptable to future project residents regardless of water availability.

The City's Growth Management Ordinance requires that all major development projects consisting of 50 dwelling units or more prepare a WCP at the time of SPA plan preparation. Currently, there are no guidelines for the preparation of the WCP. Developers have typically prepared the required plans based primarily on State and Federally mandated water conservation measures and reflect the requirements of the local water districts. The City Council has expressed a desire that other currently non-mandated water conservation measures including potential use of gray water and expanded recycled water systems be considered in future WCPs.

In response, the City is undertaking an effort to develop and adopt guidelines for the preparation and implementation of required WCPs. The effort involves a pilot study of three master-planned projects, including the EastLake III development. The pilot study will evaluate the relative effectiveness, costs, and issues associated with the implementation of additional water conservation measures beyond those currently mandated. The results of the evaluation will assist the City and developers in identifying the most beneficial conservation features to be implemented in a particular development.

Specific non-mandated water conservation measures identified for implementation in the EastLake III project include:

- Hot water pipe insulation
- Pressure reducing valves
- Water efficient dishwashers
- Evapotranspiration (ET) Controllers
- Drought tolerant landscaping
- Educational Program

Project Description

The Project encompasses approximately 793 acres located within the City of Chula Vista bordered by the Rolling Hills Ranch development to the north, and the planned EastLake Business Center II, EastLake Trails subdivision, and Otay Ranch Village 11 to the west. The Upper and Lower Otay Reservoirs form the eastern boundary of the Project. The planning area consists of two subdivisions identified in the EastLake III GDP as EastLake Woods and EastLake Vistas. The Project area also includes the property located directly adjacent to the southern boundary of the Olympic Training Center, and is referred to as the Panhandle Site, which is designated as part of a future University of California campus. Specific land use has not been determined for the Panhandle Site and, therefore, this area was not included in this study. A separate WCP will be prepared for the site once land use is determined. Proposed land uses for the planning area are summarized in Table 1.

Table 1
Adopted Land Use

SPA Unit	Land Use	Acres	Dwelling Units
Single-Family Residential			
The Woods			
WR-1	SF Residential	63.3	64
WR-2	SF Residential	34.1	57
WR-3	SF Residential	48.2	88
WR-4	SF Residential	48.3	139
WR-5	SF Residential	22.4	59
WR-6	SF Residential	25.4	136
WR-7	SF Residential	18.7	119
Subtotal		*260.4*	*662*
The Vistas			
VR-1	SF Residential	22.6	58
VR-2	SF Residential	21.9	66
VR-3	SF Residential	36.6	112
VR-4	SF Residential	23.1	81
VR-5	SF Residential	17.8	67
VR-6	SF Residential	26.8	125
VR-7	SF Residential	18.3	99
VR-8	SF Residential	25.3	168
Subtotal		*192.2*	*776*
SF Residential Total		*452.6*	*1,438*
Multi-Family Residential			
The Vistas			
VR-9	MF Residential	7.50	75
VR-10	MF Residential	7.9	119
VR-11	MF Residential	8.6	129
VR-12	MF Residential	15.0	300
Subtotal		*39.0*	*623*
MF Residential Total		*39.0*	*623*
Miscellaneous			
The Woods			
PQ-2	Jr High School	25.1	-
PQ-1	Elementary School	14.3	-
PQ-3	Fire Station	1.0	-
P-2	Private Park	1.7	-
Subtotal		*42.1*	
The Vistas			
C-1	Commercial	12.0	-
C-2	Commercial	18.7	-
CPF-1	CPF	10.8	-
P-1	Public Park	13.5	-
Subtotal		*55.0*	
Miscellaneous Total		*97.1*	
PROJECT TOTAL		*588.7*	*2,061*
	WOODS TOTAL	**302.5**	**662**
	VISTAS TOTAL	**286.2**	**1,399**
	PANHANDLE TOTAL	**44.5**	**-**
	OPEN SPACE [2]	**136.8**	**-**
	CIRCULATION [2]	**25.5**	**-**
	PROJECT TOTAL	*795.5*	*2,061*

1. Based on Panhandle Site land use of UC campus.
2. Based on the Site Utilization Plan (see Appendix A).
3. Unit breakdown of Open Space and Circulation area not available.

Information pertaining to HOA or CFD controlled landscape areas was not available at the time this study was prepared and, therefore, delineation of these parcels is not included.

II.8.4 Water Supply and Service

The Project is situated within the Otay Water District (District) and will receive potable and recycled water supply from the District's Central Area System (CAS). The District is a member of the San Diego County Water Authority, which purchases imported water from the Metropolitan Water District of Southern California. The Project will receive water supply from extensions to the existing CAS transmission network.

The District will also provide recycled water service to the Project. As mandated by District policy, recycled water will be utilized for landscape irrigation on all approved greenbelts. Recycled water supply is currently available from the District's Ralph W. Chapman Water Recycling Facility (WRF) located near the intersection of Singer Lane and Highway 94. The plant has a practical capacity of 1.0 million gallons per day (MGD) of recycled water for non-potable water uses such as irrigation of golf courses, school playing fields, public parks, and public and private landscaping. Recycled water supply is also anticipated to be available from the City of San Diego's 15.0 MGD capacity South Bay Water Reclamation Plant, located in the Tijuana River Valley near the US-Mexico border. The South Bay Water Reclamation Plant is expected to be completed in 2002.

II.8.5 Projected Water Use

Potable Water

Table 2 contains a summary of the estimated EastLake III potable water demand based on land use type and projected residential density. The unit demands are based on data provided by the District and do not reflect implementation of recommended conservation measures.

Table 2
Projected EastLake III Potable Water Demand

LAND USE	UNITS	UNIT DEMAND[1]	DEMAND
Residential			
Single-Family Low Density	531 DU	856 gpd/DU	454,536 gpd
Single-Family Med Density	907 DU	385 gpd/DU	349,195 gpd
Multi-Family	623 DU	188 gpd/DU	117,124 gpd
Mixed Use/Commercial			
Community Purpose	10.8 ac	1,785 gpd/ac	19,278 gpd
Elementary School	14.3 ac	1,250 gpd/ac	17,875 gpd
Junior High School	25.1 ac	1,785 gpd/ac	44,804 gpd
Commercial	30.7 ac	1,785 gpd/ac	54,800 gpd
Fire Station	1.0 ac	1,785 gpd/ac	1,785 gpd
Open Space/Park			
Open Space[2]	15.0 ac	2,232 gpd/ac	33,480 gpd
Park[3]	13.5 ac	2,232 gpd/ac	30,132 gpd
TOTAL			1,123,008 gpd

1) Unit demand sources:
Residential demand adapted from actual annual water consumption data provided by Jim Peasley, Otay Water District, 10/22/01
Mixed Use/Commercial demand from OWD Water Resources Master Plan (1995)
Park irrigation demand from OWD Water Resources Master Plan (1995)
Open Space irrigation demand from OWD Water Resources Master Plan (1995)
2) Approximately 15.0 ac of open space will be irrigated with potable water because it is tributary to Lower Otay Lake
3) Park P-1 (13.5 ac) will be irrigated with potable water because it is tributary to Lower Otay Lake.
Park P-2 (1.7 ac) will be irrigated with recycled water

The total projected potable water use, without non-mandated conservation measures is approximately 1,123,008 gpd.

Recycled Water

The City requires the use of recycled water, if available, for landscape irrigation within designated areas as defined by state and local health codes. Based on current OWD policies regarding new subdivision development, landscape irrigation for parks, school, greenbelts, road medians, and multi-family residential is required to utilize, where available, recycled water. Recycled water will be used for landscape irrigation on common landscape parcels in the Project in accordance with District Ordinance *Section 26: Water Reclamation Plan and Implementing Procedures* (Appendix B).

Developers have recognized that expansion of the recycled water system to serve irrigation of single-family homes may provide an opportunity for potable water to be offset by recycled water use. Although this has been identified as a potential water conservation measure, the District does not currently support the expansion of the recycled water system to include single-family residential units. Current District policy excludes the use of recycled water for irrigation of land uses not specifically identified in the Master Plan as designated recycled water use areas.

Additional project areas where use of recycled water is specifically prohibited by the District include slopes that lie within the Lower or Upper Otay Reservoir drainage basins. Recycled water will be used for landscape irrigation on all common landscape parcels controlled by homeowner associations, as well as City-maintained slopes, medians, and open space.

The Project will receive recycled water supply from extensions to the existing CSA recycled water transmission system which is currently under construction, but not yet complete. Proposed recycled water use areas within EastLake III are illustrated in the figure included in Appendix C. As specified in the District's Master Plan, the recycled water duty used to convert irrigated acreage into average annual demand (AAD) is 2,232 gallons per day (gpd) per gross acre for all land use types within the Project. The estimated recycled water demands for the Project are presented in Table 3.

Table 3
Projected Recycled Water Demands

SPA Unit	Land Use	Acres [1] (gross/ac)	% to be Irrigated (%)	Irrigated Acreage (ac)	Unit Demand (gpd/ac)	AAD Demand (gpd)
The Woods						
PQ-2	Jr. High School	25.1	20	5.0	2,232	11,204.6
PQ-1	Elementary School	14.3	20	2.9	2,232	6,383.5
PQ-3	Fire Station	1.0	20	0.2	2,232	446.4
P-2[2]	Public Park	1.7	100	1.7	2,232	3,794.4
	Woods Subtotal	*42.1*		*9.8*		21,829
The Vistas						
VR-9 to VR-12	MF Residential	39.0	15	5.9	2,232	13,168.8
C-1 and C-2	Commercial	30.7	10	3.1	2,232	6,852.2
CPF-1	CPF	10.8	20	2.2	2,232	4,821.1
	Vistas Subtotal	*80.5*		*11.2*		*24,842.2*
	Circulation	25.5	10	2.6	2,232	5,691.6
	Open Space	121.8	50	60.9	2,232	135,928.8
	Total	269.9		84.4		188,292

1. Based on the Site Utilization Plan (see Appendix A).
2. Park P-1 will be irrigated with potable water because it is tributary to Lower Otay Lake, therefore this demand is not included herein.
3. Open space areas that will be irrigated with potable water were not included. Assumed 50 percent of remaining open space irrigated with recycled water.

The total projected recycled water use is approximately 188,292 gpd.

II.8.6 Mandated Conservation Measures

The Federal water efficiency plumbing standards are included in the Energy Policy Act enacted in 1992, and effective January 1, 1994. Passage of the Act provided a uniform standard for manufacturers of water-using fixtures including ultra-low-flow toilets, low-flow showerheads and faucets, aerators, washing machines and other appliances and fixtures.

State regulation of water use efficiency is based on the California Constitution and Water Code. The Constitution provides the basis for efficient water use and is the foundation for the State's subsequent policies and mandates regarding water conservation and reuse. Additionally, the Urban Water Management Planning Act which was adopted by the California Legislature in 1983 and amended serially through 1995 requires advance planning for water supplies to meet projected demands in the short term and long term, with emphasis on water conservation, water recycling, emergency planning for drought restrictions on water use and other provisions.

In California, regulation of manufacturing and installation of hot-water-related plumbing fittings is under the jurisdiction of the California Energy Commission. The efficiency requirements and regulations are incorporated in the California Code of Regulations Title 20, Chapter 2, Subchapter 4, Energy Conservation, Article 4: Appliance Efficiency Regulations, California. The regulations establish the maximum flow rate of all new showerheads, lavatory faucets, sink faucets, and tub spout diverters manufactured, sold or offered for sale in California.

In summary, current federal and state legislation mandates apply to the required use of certain plumbing devices that meet specified maximum flow rates. These devices include:

- Showerheads
- Lavatory Faucets
- Sink Faucets
- Metering Faucets in Public Restrooms
- Tub Spout Diverters
- Residential Water Closets
- Flushometer Valves
- Commercial Water Closets
- Urinals

In addition, the City of Chula Vista's Landscape Manual, Part One, General City Requirements, 4.4.3 Water Management Element, requires the use of recycled water, if available, for landscape irrigation within all designated areas as defined by state and local health codes.

II.8.7 Non-Mandated Conservation Measures

As part of the Water Conservation Pilot Study, the City and participating developers evaluated numerous potential water conservation measures for use within the designated development projects. Based on the evaluation, the developer selected three indoor and three outdoor measures for implementation in all of the participating projects. The indoor measures included Hot Water Pipe Insulation, Pressure Reducing Valves, and Water Efficient Dishwashers. In addition, the master developer of EastLake III has identified outdoor measures for

implementation within the Project. The outdoor measures include an Educational Program, use of ET Controllers, and Water Efficient Landscaping.

The *Water Use Efficiency: Strategies for Proposed Residential Development* report prepared by Bahman Sheikh, Ph.D., P.E. for the City includes a benefit/cost summary of potential conservation measures and may be referred to for such information.

INDOOR MEASURES

Hot Water Pipe Insulation

Insulation of hot water pipes and separation of the hot and cold pipes to reduce heat exchange will reduce the amount of time the faucet will need to flow to produce hot water. The estimated unit water savings is 6.58 gpd/DU, which is equivalent to an average annual water savings of 2,400 gallons per residential dwelling unit.

Pressure Reducing Valves

Installation of a pressure-reducing valve at the water connection location can maintain the pressure within residential units below 60 psi, thereby reducing the volume of leakage that may be present and prevent excessive flow of water from all appliances and fixtures. The estimated unit water savings is 4.93 gpd/DU or an average annual water savings of 1,800 gallons per residential dwelling unit.

Water Efficient Dishwashers

New water efficient dishwashers can save as much as 2 gallons per cycle over a non-efficient model. Based on 0.9 cycles per day per single-family residence, the estimated unit water savings is 1.78 gpd/DU, which equates to an annual water savings of 650 gallons per residential dwelling unit.

OUTDOOR MEASURES

Educational Program

Education of the homeowner as to how to design, maintain and monitor their landscape irrigation system is one of the most cost effective ways to implement water conservation. A key component of the Educational Program will include an Informational Booklet. By creating a laymen's handbook that is instructive on how to properly landscape and irrigate and providing it to each homeowner could provide a substantial potable water savings. According to the City's consultant, the average homeowner can save 15 percent of their watering cost by implementing recommended planting, irrigation, and landscape maintenance practices. For the purpose of this evaluation, an average reduction in landscape irrigation of 15 percent was used for estimation purposes. This is equivalent to 30 gal/day per medium density, single-family dwelling unit and 60 gal/day for low-density single-family dwelling units. The estimated annual water savings is 10,950 gallons per medium density, single-family dwelling unit and 21,900 gallons per low-density single-family dwelling units.

The Educational Program will be a cooperative effort among the City of Chula Vista, the Otay Water District and the Master Developer to train and assist homeowners in the design and installation of water efficient landscaping. The program will include educational seminars conducted by the Master Developer for new homebuyers throughout the construction phase of the Project. The Master Developer will provide all educational materials. The contents of the educational program including an information booklet, shall be approved by the Director of Planning and Building.

Evapotranspiration (ET) Controllers

ET controlled irrigation systems are designed to operate with timed, fixed irrigation scheduling. Radio signals from a central control station transmit the appropriate information to irrigation controllers that operate a number of sprinklers. The controllers activate the irrigation system for the appropriate length of time to deliver the precise amount of water based on real-time estimates of actual plant evapotranspiration. The estimated average water savings per acre is approximately 737 gpd which is approximately a 33 percent savings.

Water-Efficient Landscaping

Guidelines for water-efficient landscaping are included in the City's Landscape Design Manual. Water efficient landscaping will be utilized on open space slopes to be irrigated with potable water. These areas, as well as the approved landscape pallets, are shown in Appendix D. The estimated average water savings per acre is 1,116 gpd which is approximately a 50 percent savings.

OPTIONAL MEASURES

The Master Developer will encourage merchant builders to offer other non-mandated conservation options to homebuyers. It is envisioned that the following water conservation components be displayed in model homes and offered as options to homebuyers. The options may include:

- Dual Flush Toilets
- High-Efficiency Washing Machines
- Hot-Water On-Demand Units

Dual Flush Toilets

Dual-Flush Toilets are designed to provide the user the option to flush with a partial (0.8 gallons) flow of water or with a full (1.6 gallon) flow, depending on need. According to the pilot study report, the estimated annual water savings is 4,000 gallons per residential unit.

High-Efficiency Washing Machines

High-efficiency washing machines are front-loading models of clothes washers. Also referred to as horizontal-axis washing machines, they require approximately 60 percent of the water used by conventional washing machines and can provide an annual water savings of 7,000 gallons per residential unit according to the pilot study report.

Hot-Water On-Demand Units

There are currently two types of hot-water on-demand devices available. The two types include the Pump-Back Device and the Point-of-Use, or Tank-less Water Heater. The frequency of use of the fixture determines the amount of savings.

The Pump-Back Device includes a combination of a valve and a pump. When activated, the cold water residing in the pipe between the water heater storage tank and the fixture is forced into the cold-water pipes until the water arrives at the fixture. Operational cost of the pump-back units involves expenditure of some electrical energy. However, according to the pilot study report, the estimated water savings from pump-back hot water demand units is 5,300 gallons per year per residential unit which is equivalent to 14.5 gpd/DU.

The Point-of-Use, or Tank-less Water Heater includes the installation of small water heaters located very close to the point of use. Water is heated only when and precisely as much as needed and to the exact temperature necessary. According to the pilot study report, the estimated water savings from the Point-of-Use units is 5,300 gallons per year per residential unit which is equivalent to 14.5 gpd/DU.

Gray Water

Gray water is untreated household wastewater originating from baths, showers, lavatories, and clothes washers, which does not come in contact with toilet waste. The state requirements for use of gray water for landscape irrigation are contained in the California Plumbing Code. The Code contains detailed and strict plumbing design requirements for the collection system, storage, overflow, bypass and distribution of the gray water. Currently, there are no federal regulations affecting the use of gray water.

Based on an economic evaluation performed by the Master Developer, current regulatory limitations, and the uncertainty of future implementation requirements, the Master Developer of the Project has chosen not to include the use of gray water as an optional conservation measure at this time.

II.8.8 Water Conservation Target

Table 4 provides the estimated potable water savings for the Project due to implementation of the non-mandated conservation measures, excluding those identified as optional measures, described above. Note that the estimated savings are applicable to projected potable water use within the Project. Recycled water conservation measures have not been considered.

The total projected water savings for the Project, due to implementation of non-mandated quantifiable measures, is approximately 59,566 gallons per day (gpd), which is approximately 5.3 percent of the total projected potable water demand summarized in Table 2. It is estimated that the Educational Program could reduce the projected total potable water demand by an additional 59,070 gallons per day (gpd), which is approximately 5.3%.

Table 4
EastLake III Potable Water Savings Due To Non-Mandated Measures

Water Saving Measures	Units	Unit Water Savings[1]	Savings
Quantifiable			
Residential			
Hot Water Pipe Insulation	2061 DU	6 58 gpd/DU	13,561 gpd
Pressure Reducing Valves	2061 DU	4 93 gpd/DU	10,161 gpd
Water Efficient Dishwashers	2061 DU	1.78 gpd/DU	3,669 gpd
ET Controllers for Parkway Irrigation	9.2 ac	737 gpd/ac	6,780 gpd
Open Space			
Use of Water Efficient Landscaping	15 0 ac	1,116 gpd/ac	16,740 gpd
ET Controllers for OS Irrigation	23.5 ac	368 gpd/ac	8,655 gpd
Subtotal			**59,566 gpd**
Saving Based on Total Demand[2]			**5.3 %**
Estimated			
Residential			
Educational Program (Low Density)	531 DU	60 gpd/DU	31,860 gpd
Educational Program (Med Density)	907 DU	30 gpd/DU	27,210 gpd
Subtotal			**59,070 gpd**
Saving Based on Total Demand[2]			**5.3 %**
Total Saving Based on Total Demand(2)			**118,636 gpd** **11 %**

1) Unit water savings data sources:
Pipe insulation, pressure reducing valves, efficient dishwasher savings from draft *Water Use Efficiency: Strategies for Proposed Residential Developments* (9/01)
Information booklet for low density assumes 15% reduction of 6,000 SF of turf landscaping demand (City of Chula Vista, 3/02)
Information booklet for medium density assumes 15% reduction of 3,000 SF of turf landscaping demand (City of Chula Vista, 3/02)
ET controllers used in Parkways assumes 33% reduction in irrigation demand from OWD Water Resources Master Plan (1995)
Water efficient landscaping for open space assumes 50% reduction in irrigation demand from OWD Water Resources Master Plan (1995)
ET controllers used in open space assumes 33% reduction of water efficient landscaping demand
2) See Table 2 for Total Projected Potable Water Demand

II.8.9 Implementation Measures

The water conservation measures selected by the developer and required to be implemented as part of the WCP for the Project include three indoor and three outdoor measures.

The required indoor measures selected include:

1. Hot Water Pipe Insulation,
2. Pressure Reducing Valves,
3. Water Efficient Dishwashers.

The required outdoor measures selected include:

1. Educational Program,
2. ET Controllers,
3. Water Efficient Landscaping.

The estimated potable water savings due to implementation of the selected non-mandated conservation measures described in Section II.8.7, are summarized in Table 4.

To additionally promote the WCP, the developer will encourage merchant builders to offer other non-mandated conservation options to homebuyers. These options will be displayed in the model homes and may include Dual Flush Toilets, High-Efficiency Washing Machines and Hot-Water On-Demand Units.

Implementation of the WCP shall include the following efforts by the Master Developer. In addition to establishing requirements and guidelines for merchant builders, the Master Developer will be responsible for the following:

- Provide educational materials and guidance to new homeowners;
- Install drought tolerant landscaping, approved by the City, in selected streetscapes and open areas;
- Require the inclusion of drought tolerant plant materials and efficient irrigation systems in the majority of builder installed landscaping; and
- Organize and conduct educational seminars on a semi-annual basis or as agreed upon by the City, the District and the Master Developer throughout the construction phase of the Project. The seminars will serve to educate the homeowners on proper use and maintenance of the water conservation measures as well as inform them of any additional options available.

A significant responsibility will also rest with the City of Chula Vista to ensure and enforce the provisions of this conservation plan, specifically the Planning & Building Department and the Building and Parks Construction Department. The departments will review plan submittals and develop an internal program to ensure that water conservation measures are properly implemented in public areas, and approve planting and irrigation plans for public parks and open spaces. The program should also allow the City to monitor water usage. Additional actions will include a cooperative effort among the Master Developer, the City of Chula Vista, the Otay Water District and the merchant builders to develop and conduct seminars and other outreach programs intended to educate and inform the homeowners of methods to conserve water. The seminars should also include information on the location and use of recycled water within EastLake III. The Master Developer shall provide all educational materials for use in the Educational Program.

The provision of recycled water is the responsibility of the District, which will also be responsible for enforcing water quality regulations. The determination to use recycled water for irrigation for public parks and open spaces rests with the City. To ensure that all provisions of this plan are met, the standard review of landscape and construction documents performed by the City will include an evaluation of compliance with the provisions of this WCP. This approach will allow for a formal determination by the City that each of the required measures is implemented. Future discretionary or administrative actions with regard to development within the EastLake III project may be utilized to address or ensure compliance with the prescribed water conservation measures.

II.8.10 Monitoring

It is anticipated that the merchant builders will be providing potential homebuyers the option to include additional non-mandated conservation options other than those selected by the Master Developer. The Master Developer will assist the merchant builder in developing a program to track the options selected by the homebuyers.

The EastLake Company anticipates attaining the water conservation targets for the EastLake III development project through the implementation of various water conservation measures. Among these water conservation measures is an Educational Program which will include an information booklet on water conservation measures. The EastLake Company believes that a substantial savings will be realized by educating homeowners in how to design, maintain and monitor their landscape irrigation.

Recognizing the importance of monitoring the effectiveness of such an informational campaign, a monitoring program will be established for the EastLake III development to be conducted over a 12-month period to measure the effectiveness of the Educational Program and Information Booklet. The preliminary outline for the monitoring program is provided below.

Baseline Information - EastLake Trails

Homeowners from the EastLake Trails community will be offered an opportunity to participate in the study. A maximum of 15 participants will be selected. The sites will be selected from lot sizes ranging from 4500 sq ft. to 7000 sq. ft. The following specific information will be obtained:

- Number of occupants and makeup (i.e. adults, children)
- Size of residence
- Does anyone stay home during the day
- How long the landscaping has been installed
- Occupation of residents

Each selected participant will be required to have had landscaping for at least six months prior to commencing the study. Photographs will be taken for documentation of landscaping conditions prior to, during and subsequent to implementation of the monitoring program.

Participants will be asked to mail a copy of their monthly water bills to the EastLake Company for a period of one year, or allow the District to provide their water bill information directly to the EastLake Company. The EastLake Company agrees to create a financial incentive for participation in the study. This information will be collected and used to establish a base scenario of usage for specific lot and home sizes without the benefit of the Educational Program or the information booklet.

EastLake III Monitoring

All residents of the EastLake III development will be provided an Information Booklet. In addition, the EastLake Company agrees to conduct annual seminars, for up to three years, regarding the implementation of the Educational Program and Information Booklet.
Homeowners within the EastLake III community will be offered an opportunity to participate in the Program. A maximum of 15 participants with similar profiles to those in the EastLake Trails development will be selected. The sites will be selected from lot sizes ranging from 4500 sq ft. to 7000 sq. ft. The following specific information will be obtained:

- Number of occupants and makeup (i.e. adults, children)
- Size of residence

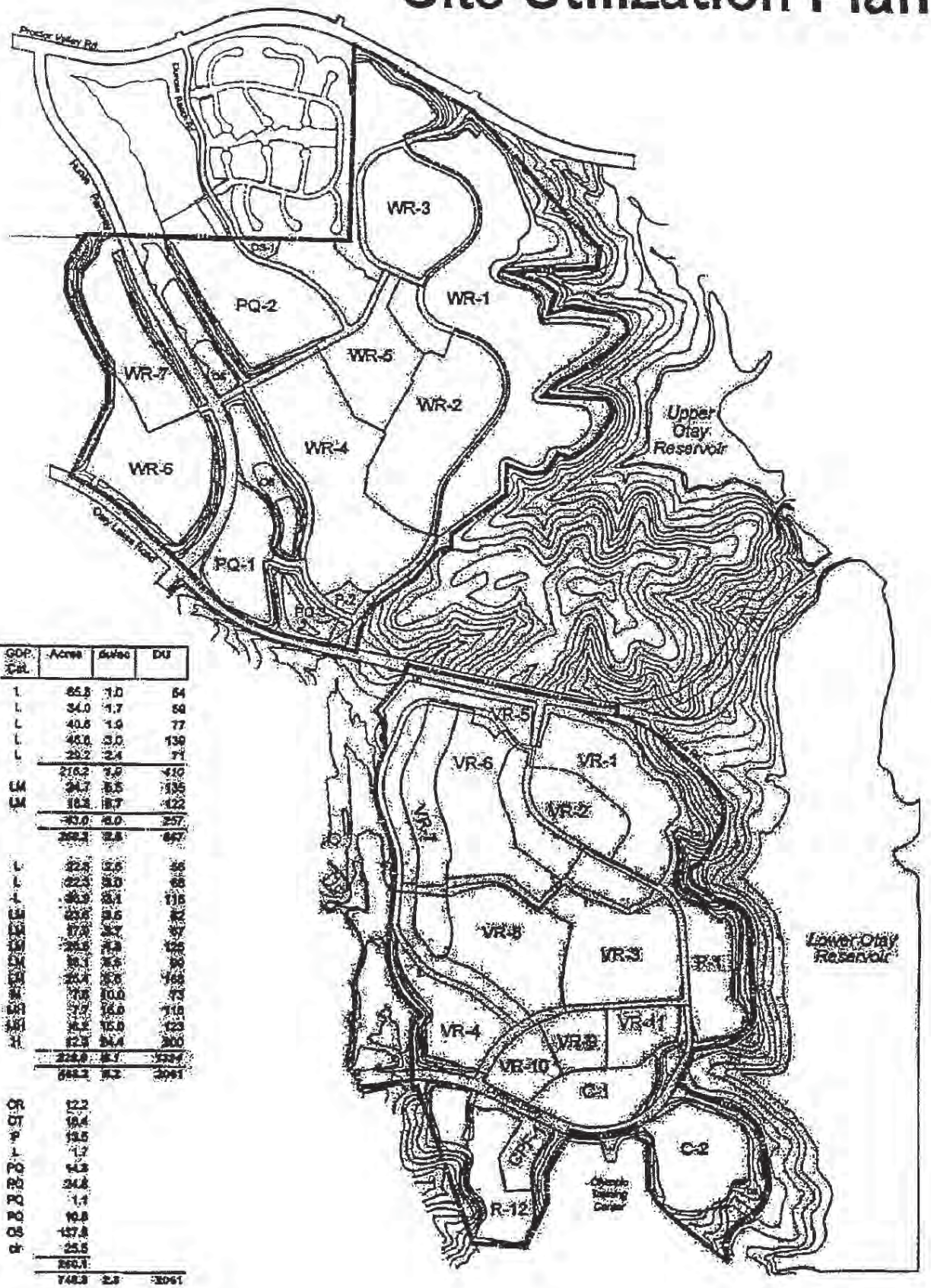
- Does anyone stay home during the day
- How long the landscaping has been installed
- Occupation of residents

Each selected participant will have to have installed landscaping at least six months prior to the study. Each participant agrees that they will implement the measures and methods outlined in the Information Booklet. Participants will be asked to mail a copy of their water bills to the EastLake Company for a period of one year or allow the District to provide their water bill information directly to the EastLake Company. The EastLake Company agrees to create a financial incentive for participation in the study.

The data will be collected during the same time period from both study groups and will be used to create a usage table for comparison purposes. The EastLake Company will collect data on a monthly basis to provide accurate analysis of which conservation measures are beneficial. During the monitoring period EastLake would provide the City with Quarterly reports as well as a summary of the study once completed.

Appendix A
Site Utilization Plan

Site Utilization Plan



IDENTIAL

Land Use	GDP Cat.	Acres	du/ac	DU
Single Family	L	65.8	1.0	64
Single Family	L	34.0	1.7	58
Single Family	L	40.6	1.9	77
Single Family	L	46.0	3.0	139
Single Family	L	29.2	2.4	71
Subtotal (Woods East)		216.2	1.9	410
Single Family	M	24.7	5.5	135
Single Family	M	18.2	6.7	122
Subtotal (Woods West)		43.0	6.0	257
Subtotal (Woods)		259.2	2.6	667
Single Family	L	22.5	2.6	58
Single Family	L	22.3	3.0	68
Single Family	L	40.3	3.1	116
Single Family	M	23.6	3.5	82
Single Family	M	17.0	3.7	67
Single Family	M	26.0	4.9	128
Single Family	M	38.1	5.5	209
Single Family	M	29.4	5.6	165
Sr. Affordable Family	M	7.5	10.0	75
Multi Family	M	7.5	16.0	119
Multi Family	M	12.5	16.0	123
Multi Family	M	12.5	24.4	300
Subtotal (Otay)		224.9	6.1	1334
Subtotal		484.2	4.2	2061
Commercial - Retail	CR	12.2		
Commercial - Tourist	CT	18.4		
Public Park	P	19.5		
Private Recreation	P	1.7		
Elementary School	SC	14.3		
Jr. High School	SC	24.8		
Fire Station	SC	1.1		
Comm. Purpose Fac.	SC	10.8		
Open Space	OS	137.8		
Major Circulation	R	25.5		
Subtotal Non-Residential		260.1		
TOTAL		748.3	2.8	2061

public school Facility

EASTLAKE III

Planned community by The EastLake Company

Civil Land Planning

4-19-01

Appendix B
Otay Water District Ordinance

SECTION 26 WATER RECLAMATION PLAN AND IMPLEMENTING PROCEDURES

26.01 FINDINGS

The state policies regarding use of reclaimed water are in the best interest of the Otay Water District. The majority of jurisdictions in San Diego County have adopted measures to promote water reclamation. This ordinance is necessary to protect the common water supply of the region which is vital to public health and safety, and to prevent endangerment of public and private property. San Diego County is highly dependent on limited imported water for domestic, agricultural and industrial uses. The reliability of the supply of imported water is uncertain. By developing and utilizing reclaimed water, the need for additional imported water can be reduced. In light of these circumstances, certain uses of potable water may be considered unreasonable or to constitute a nuisance where reclaimed water is available or production of reclaimed water is unduly impaired. Reclaimed water would be more readily available in seasons of drought when the supply of potable water for nonessential uses may be uncertain.

26.02 USE OF RECLAIMED WATER

A. District Policy: It is the policy of the District that reclaimed water shall be used within the jurisdiction wherever its use is financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment.

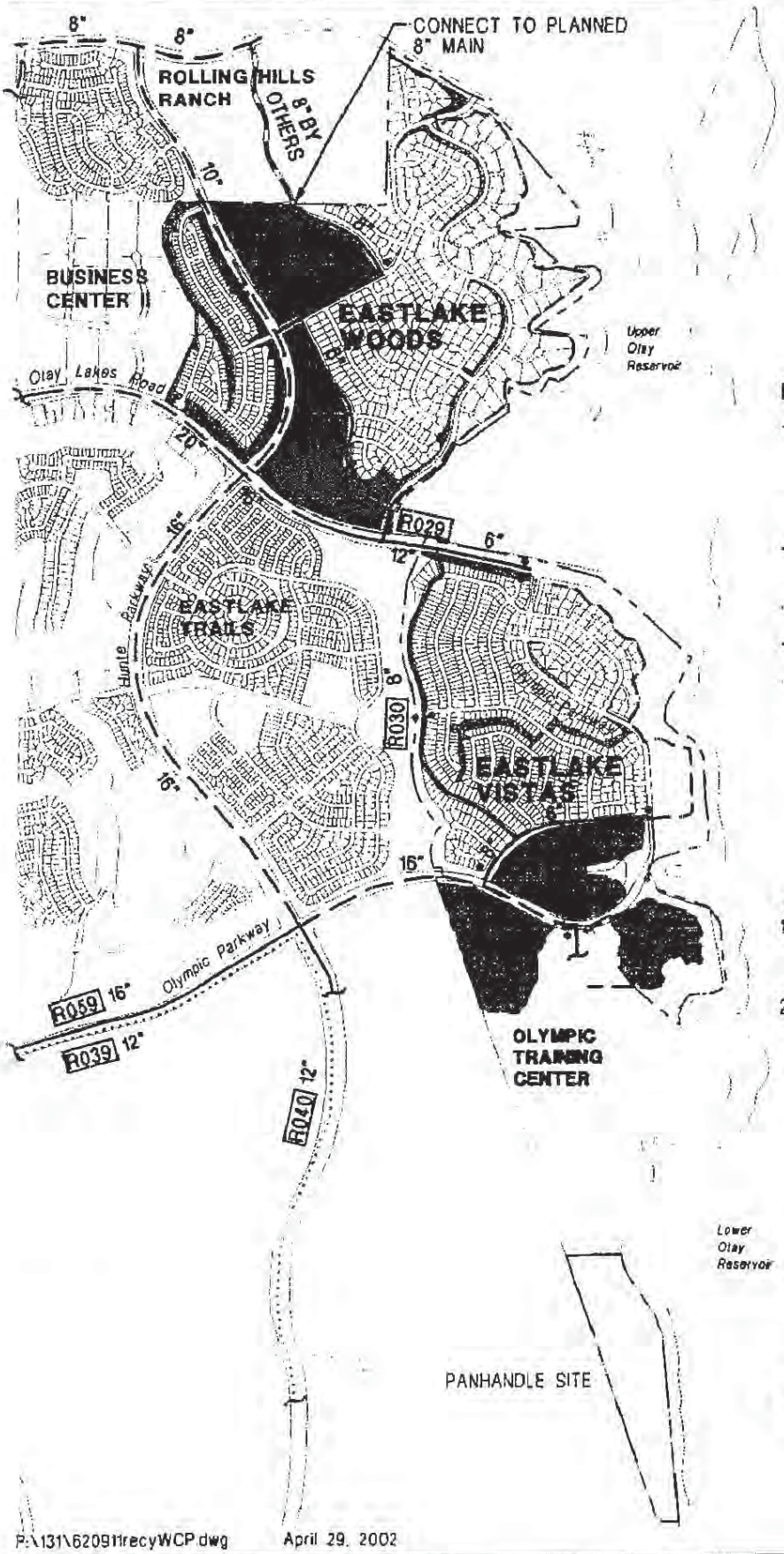
B. Required Use for Greenbelt Purposes: No customer of the District shall make, cause, use or permit the use of potable water supplied by the District for greenbelt uses, including, but not limited to, cemeteries, golf courses, parks and highway landscaped areas, when, following notice and a hearing, the District finds that reclaimed water is available under the following conditions:

1. the reclaimed water is of adequate quality and is available for such greenbelt use;

2. the reclaimed water may be furnished to such areas at a reasonable cost, comparable to or less than the cost of supplying potable domestic water;

3. the State Department of Health Services has determined that such use would not be detrimental to public health; and

Appendix C
Proposed Recycled Water Use Areas



N

SCALE: 1"=2000

LEGEND

- PROJECT BOUNDARY
- 944 ZONE RECYCLED WATER USE AREAS
- OTAY LAKES TRIBUTAR BASIN BOUNDARY
- 944 PL - EXISTING
- 944 PL - PROPOSED
- 680 PL - PROPOSED
- R030 — CIP PROJECT NUMBER
- 12" — PIPE DIAMETER
- PROPOSED IRRIGATION METER

NOTE:
1 PRIVATE ON-SITE RECYCLED WATER SYSTEM NOT SHOWN.

2. OTAY LAKES TRIBUTARY BASIN BOUNDARY NEAR THE PANHANDLE SITE HAS NOT BEEN DEFINED RECYCLED WATER MAY BE USED OUTSIDE OF THE TRIBUTARY BASIN

PROPOSED RECYCLED WATER USE AREAS

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Appendix D
Water Efficient Landscaping Pallets

EASTLAKE III: General Landscape Plant Palette

Vistas - Thematic Corridor Trees

POPULUS FREMONTII 'NEVADA'	FREMONT COTTONWOOD

Vistas - Parkways, Entries, and Open Space

TREES

ARBUTUS UNEDO	STRAWBERRY TREE
CERCIS OCCIDENTALIS	WESTERN REDBUD
CUPANIOPSIS ANACARDIOIDES	CARROTWOOD TREE
JACARANDA MIMOSIFOLIA	JACARANDA
KOELREUTERIA BIPINNATA	CHINESE LANTERN TREE
LAGERSTROEMIA SPP.	CRAPE MYRTLE
METROSIDEROS TOMENTOSUS	NEW ZEALAND X'MAS TREE
PINUS CANARIENSIS	CANARY ISLAND PINE
PINUS ELDARICA	AFGHAN PINE
PLATANUS RACEMOSA	CALIFORNIA SYCAMORE
POPULUS FREMONTII 'NEVADA'	FREMONT COTTONWOOD
QUERCUS AGRIFOLIA	COAST LIVE OAK
RHUS LANCEA	AFRICAN SUMAC
SCHINUS MOLLE	CALIFORNIA PEPPER
TRISTANIA CONFERTA	BRISBANE BOX

SHRUBS

ABELIA PROSTRATA	PROSTRATE ABELIA
AGAPANTHUS AFRICANUS CV.	LILY OF THE NILE
ARTEMESIA 'POWIS CASTLE'	POWIS CASTLE WORMWOOD
BUXUS M. JAPONICA	JAPANESE BOXWOOD
CALLISTEMON C. 'LITTLE JOHN'	DWARF BOTTLEBRUSH
DIETES BICOLOR	FORTNIGHT LILY
ESCALLONIA FRADESII	ESCALLONIA
GREVILLEA SPP.	GREVILLEA
HEMEROCALLIS HYB.	EVERGREEN HYBRID DAYLILY
HETEROMELES ARBUTIFOLIA	CALIFORNIA HOLLY
LANTANA MONTEVIDENSIS	LAVENDER LANTANA
LAVANDULA SPP.	LAVENDER
MYRTUS C. 'COMPACTA'	DWARF MYRTLE
NANDINA 'HARBOUR DWARF'	HEAVENLY BAMBOO
OLEA E. 'LITTLE OLLIE'	DWARF OLIVE
PHORMIUM SPP.	NEW ZEALAND FLAX
PITTOSPORUM SPP.	VARIEGATED TOBIRA
RAPHIOLEPIS INDICA	INDIA HAWTHORN
ROSMARINUS SPP.	ROSEMARY
TULBAGHIA VIOLACEA	SOCIETY GARLIC
WESTRINGIA FRUTICOSA	COAST ROSEMARY

Woods - Parkways, Entries, and Open space

TREES

ARBUTUS UNEDO	STRAWBERRY TREE
CITRUS SPP.	CITRUS
CUPRESSUS SEMPERVIRENS	ITALIAN CYPRESS
CYCAS REVOLUTA	SAGO PALM
ERIOBOTRYA DEFLEXA	BRONZE LOQUAT
FICUS RUBIGINOSA	RUSTY LEAF FIG
LAURUS NOBILIS 'SARATOGA'	SWEET BAY
OLEA EUROPA 'SWAN HILL'	FRUITLESS OLIVE
PAULOWNIA TOMENTOSA	EMPRESS TREE
PHOENIX CANARIENSIS	CANARY ISLAND PALM
PINUS PINEA	ITALIAN STONE PINE
PLATANUS ACERIFOLIA	LONDON PLANE TREE
POPULUS NIGRA	LOMBARDY POPLAR
PYRUS CALLERYANA 'ARISTOCRAT'	ORNAMENTAL PEAR
QUERCUS ILEX	HOLLY OAK
TIPUANA TIPU	TIPU TREE

SHRUBS

AGAPANTHUS AFRICANUS CV.	LILY OF THE NILE
BUXUS M. JAPONICA	JAPANESE BOXWOOD
CALLISTEMON C. 'LITTLE JOHN'	DWARF BOTTLEBRUSH
CYCAS REVOLUTA	SAGO PALM
DIETES BICOLOR	FORTNIGHT LILY
ESCALLONIA FRADESII	ESCALLONIA
HEMEROCALLIS HYB.	EVERGREEN HYBRID DAYLILY
ILEX C. 'BURFORDII'	BURFORD HOLLY
LANTANA MONTEVIDENSIS	LAVENDER LANTANA
LAVANDULA SPP.	LAVENDER
LIGUSTRUM J. TEXANUM	TEXAS PRIVET
MYRTIS C. 'COMPACTA'	DWARF MYRTLE
NANDINA 'HARBOUR DWARF'	HEAVENLY BAMBOO
OLEA E. 'LITTLE OLLIE'	DWARF OLIVE
OSMANTHUS FRAGRANS	SWEET OLIVE
PHORMIUM SPP.	NEW ZEALAND FLAX
PITTOSPORUM SPP.	VARIEGATED TOBIRA
PUNICA GRANATUM CV	POMEGRANITE
RAPHIOLEPIS INDICA CV.	INDIA HAWTHORNE
ROSMARINUS OFFICINALIS CV.	ROSEMARY
SYZYGIUM PANICULATUM CV.	BRUSH CHERRY
TULBAGHIA VIOLACEA	SOCIETY GARLIC
VIBURNUM TINUS CV.	LAURUSTINUS
WESTRINGIA FRUTICOSA	COAST ROSEMARY

GROUND COVERS / VINES

AGAPANTHUS A. 'PETER PAN'	DWARF LILY-OF-THE-NILE
ARMERIA MARITIMA	SEA PINK
BOUGAINVILLEA SPP.	BOUGAINVILLEA
CLYTOSTOMA CALLISTIGIOIDES	LAVENDER TRUMPET VINE
DISTICTIS BUCCINATORIA	BLOOD-RED TRUMPET VINE
HIBBERTIA SCANDENS	GUINEA GOLD VINE
MARATHON TURF	TALL FESCUE MIX
MYOPORUM P. 'PUTAH CREEK'	PROSTRATE MYOPORUM
TRACHELOSPERMUM JASMINOIDES	STAR JASMINE
PELARGONIUM PELTATUM CV.	IVY GERANIUM
WISTERIA SINENSIS	CHINESE WISTERIA

Vistas - Interior Slopes

TREES

CERCIS OCCIDENTALIS	WESTERN REDBUD
JACARANDA MIMOSIFOLIA	JACARANDA
GINKGO BILOBA	MAIDENHAIR TREE
KOELREUTERIA BIPINNATA	CHINESE FLAME TREE
PINUS CANARIENSIS	CANARY ISLAND PINE
QUERCUS AGRIFOLIA	COAST LIVE OAK
RHUS LANCEA	AFRICAN SUMAC
TRISTANIA CONFERTA	BRISBANE BOX

SHRUBS

ARCTOSTAPHYLOS SPP.	MANZANITA
CISTUS PURPUREUS	ORCHID ROCKROSE
COTONEASTER LACTEUS	RED CLUSTERBERRY
ESCALLONIA FRADESII	ESCALLONIA
HETEROMELES ARBUTIFOLIA	TOYON
LANTANA CAMARA	YELLOW SAGE
LEPTOSPERMUM SCOPARIUM	NEW ZEALAND TEA TREE
NERIUM OLEANDER	OLEANDER
RHAPHIOLEPIS INDICA	INDIA HAWTHORN
RHUS INTEGRIFOLIA	LEMONADE BERRY
XYLOSMA CONGESTUM	SHINY XYLOSMA

GROUND COVERS

MYOPORUM PACIFICUM 'PUTAH CREEK'	MYOPORUM

Woods - Interior Slopes

TREES

CEDRUS ATLANTICA	ATLAS CEDAR
CUPRESSUS SEMPERVIRENS	ITALIAN CYPRESS
FRAXINUS O. 'RAYWOOD'	RAYWOOD ASH
LAURUS NOBILIS 'SARATOGA'	SWEET BAY
OLEA EUROPA 'SWAN HILL'	FRUITLESS OLIVE
PHOENIX CANARIENSIS	CANARY ISLAND PALM
PINUS ELDERICA	AFGHAN PINE
PINUS PINEA	ITALIAN STONE PINE
PLATANUS ACERIFOLIA	LONDON PLANE TREE
POPULUS NIGRA	LOMBARDY POPLAR
QUERCUS ILEX	HOLLY OAK

SHRUBS

BOUGAINVILLEA SPP.	BOUGAINVILLEA
CISTUS PURPUREUS	ORCHID ROCKROSE
ECHIUM FASTUOSUM	PRIDE OF MADIERA
ESCALLONIA FRADESII	ESCALLONIA
HETEROMELES ARBUTIFOLIA	TOYON
JASMINUM MESNEYI	PRIMROSE JASMINE
MYRTUS COMMUNIS	MYRTLE
NERIUM OLEANDER	OLEANDER
PLUMBAGO AURICULATA CV.	CAPE PLUMBAGO
PRUNUS ILICIFOLIA	HOLLYLEAF CHERRY
RAPHIOLEPIS INDICA	INDIA HAWTHORN
ROSA BANKSIAE	LADY BANK'S ROSE
ROSMARINUS OFFICINALIS CV.	ROSEMARY

GROUND COVERS

MYOPORUM PACIFICUM 'PUTAH CREEK'	MYOPORUM

Transition (Eastern) Slopes

SMALL TREES/LARGE SHRUBS:

ARBUTUS UNEDO	STRAWBERRY TREE
CERCIS OCCIDENTALIS	WESTERN REDBUD
FEIJOA SELLOWIANA	PINEAPPLE GUAVA
HETEROMELES ARBUTIFOLIA	TOYON
MYRICA CALIFORNICA	PACIFIC WAX MYRTLE

SHRUBS

BOUGAINVILLEA SPP.	BOUGAINVILLEA
ECHIUM FASTUOSUM	PRIDE OF MADIERA
MYRTUS COMMUNIS	MYRTLE
NERIUM OLEANDER	OLEANDER
RHAMNUS C. SPP. CALIFORNICA	COFFEEBERRY
ROSMARINUS OFFICINALIS CV.	ROSEMARY
WESTRINGIA FRUTICOSA	COAST ROSEMARY

GROUND COVERS

DELOSPERMA ALBA	TRAILING WHITE ICE PLANT
DROSANTHEMUM FLORIBUNDUM	ROSEA ICE PLANT
GAZANIA RIGENS L. HYBRIDS	TRAILING GAZANIA
MYOPORUM PARVIFOLIUM 'PUTAH CREE	PROSTRATE MYOPORUM

HOA Eastern Slopes /

Lower Salt Creek Slope between Wetlands and Trail

SMALL TREES/LARGE SHRUBS:

CERCIS OCCIDENTALIS	WESTERN REDBUD
HETEROMELES ARBUTIFOLIA	TOYON
QUERCUS DUMOSA	SCRUB OAK
RHUS INTEGRIFOLIA	LEMONADE BERRY

SHRUBS

ARTEMESIA CALIFORNICA	CALIFORNIA SAGEBRUSH
BACCHARIS P. SPP. CONSANGUINEA	COYOTE BRUSH
CEANOTHUS TOMENTOSUS	WOOLLYLEAF CEANOTHUS
DUDLEYA PULVERULENTA	CHALK LETTUCE
FEROCACTUS VIRIDESCENS	SAN DIEGO BARREL CACTUS
LONICERA SUBSPICATA	SAN DIEGO HONEYSUCKLE
OPUNTIA LITTORALIS	COASTAL PRICKLY-PEAR
OPUNTIA PROLIFERA	COASTAL CHOLLA
RHAMNUS C. SPP. CALIFORNICA	COFFEEBERRY
RIBES SPECIOSUM	FUCHSIA-FLOWERED GOOSEBERRY
ROSA MINUTIFOLIA	BAJA CALIFORNIA WILD ROSE
YUCCA SCHIDIGERA	MOHAVE YUCCA

NATIVE HYDROSEED MIX

ARTEMESIA CALIFORNICA	CALIFORNIA SAGEBRUSH
BACCHARIS PILULARIS VAR. PILULARIS	CHAPARRAL BROOM
BACCHARIS SAROTHROIDES	BROOM BACCHARIS
CASTILLEJA EXSERTA	OWL'S CLOVER
DICHELOSTEMMA CAPITATUM	BLUE DICKS
ENCELIA CALIFORNICA	COASTAL DAISY
EREMOCARPUS SETIGERUS	DOVEWEED
ERIOGONUM FASCICULATUM	CALIFORNIA BUCKWHEAT
ERIOPHYLLUM CONFERTIFLORUM	GOLDEN YARROW
GNAPHALIUM CALIFORNICUM	CALIFORNIA EVERLASTING
HELIANTHEMUM SCOPARIUM	SUN ROSE
ISOCOMA MENZIESII VAR. DECUMBENS	DECUMBENT GOLDENBUSH
LASTHENIA CALIFORNICA	GOLDFIELDS
LOTUS SCOPARIUS	DEERWEED
LUPINUS BICOLOR	LUPINE
MIMULUS AURANTIACUS	RED MONKEYFLOWER
NASSELLA PULCHRA	PURPLE NEEDLE GRASS
PLANTAGO OVATA	PLANTAIN
SALVIA APIANA	WHITE SAGE
SALVIA COLUMBARIAE	CHIA
SISYRINCHIUM BELLUM	BUE-EYED GRASS
VIGUIERA LACINIATA	SAN DIEGO COUNTY VIGUIERA

Appendix E
City Review Comments