County of Los Angeles

Millennium-Playa Del Mar Apartments Project

Recirculated Draft Environmental Impact Report

State Clearinghouse Number 2006101014

County Project Number R2009-02015

Permits: RCUPT200900150
RPAT200900013
RZCT200900013
RENTV200600147
RPKD2010000005

County of Los Angeles
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012

August 2010

RECIRCULATED DRAFT
ENVIRONMENTAL IMPACT REPORT

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1.0 INTRODUCTION

PURPOSE

This introduction is included to provide the reader with an overview of (1) the California Environmental Quality Act (CEQA) requirements for recirculation of an Environmental Impact Report (EIR); (2) the scope and content of the Recirculated EIR prepared by the County of Los Angeles for the proposed Millennium-Playa del Mar Apartments Project; and (3) the Recirculated EIR review process. The analysis contained in this document supplements the Draft EIR (State Clearinghouse No. 2006101014) for the Millennium-Playa del Mar Apartments Project

1.1 PURPOSE OF AN ENVIRONMENTAL IMPACT REPORT

The County of Los Angeles distributed a Draft EIR for **Millennium-Playa del Mar Apartments Project** for public review and comment from **March 18, 2010,** to **May 17, 2010**. An initial public hearing on the project and the Draft EIR was scheduled before the Los Angeles County Regional Planning Commission (RPC) on May 12, 2010 but the hearing was continued at the request of the project proponent to revise the proposed project to address expressed concerns of the surrounding neighborhood. The initial public hearing before the RPC was held on July 14, 2010, at which public testimony was formally received by the RPC. At the conclusion of that hearing, the RPC continued the public hearing to October 6, 2010, in order for select environmental analysis on the project proponent's revised project design to be recirculated for public comment in compliance with CEQA.

1.2 REQUIREMENTS FOR RECIRCULATION OF AN EIR

This Draft EIR containing sections for recirculation has been prepared in accordance with CEQA and the State Guidelines for the implementation of CEQA. The requirements for recirculation of an EIR prior to certification, defined by Section 15088.5 of the *State CEQA Guidelines,* which provides as follows:

(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation includes, for example, a disclosure showing that:

1. A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

2. A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

3. A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

4. The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

(b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.

(c) If the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified. (*Emphasis added.*)

(d) Recirculation of an EIR requires notice pursuant to Section 15087, and consultation pursuant to Section 15086.

(e) A decision not to recirculate an EIR must be supported by substantial evidence in the administrative record.

As described below in **Section 1.3, Scope and Content of this Recirculated EIR**, new information regarding a revised project design was submitted by the project proponent subsequent to the initial circulation of the Draft EIR in March 2010. In order to provide the public with a meaningful opportunity to comment upon select potential impacts related to the revised project design, including additional discretionary requests for a parking deviation and a yard modification, the County decided to revise and to recirculate for additional public review certain sections of the Draft EIR for the Millennium-Playa del Mar Apartments Project.

1.3 SCOPE AND CONTENT OF THIS RECIRCULATED EIR

This Recirculated Draft EIR considers in detail potential impacts on visual resources, and traffic-access and parking of the proposed revised project design described in Section 3.0 Project Description. The revised project design includes a reduction in the number of apartment units requested to 196 units, a reduction in the number of parking spaces provided to 353, which is less than the County zoning code required two spaces for each dwelling unit, a modification in the proposed building heights to a maximum of 49 feet, the inclusion of new structures for private garage units and carriage units placed above in the northwest portion of the project site, and the proposed construction of an 8-foot-tall concrete block wall along the northern property boundary.

The following three sections of the Draft EIR have been revised for this recirculation:

3.0, Project Description, to describe the changes for the revised project design, which reduces the proposed number of apartment units from 216 to 196, and an associated reduction in the proposed building heights.

4.5, Traffic/Access, to clarify project access to the proposed internal parking structure and to analyze and discussion potential parking impacts associated with a request to provide less than the County code required spaces.

4.6, Visual Resources, to augment the discussion of the shade-shadow analysis, and to augment the discussion of potential impacts from new structures along the northern property boundary.

With this recirculation of portions of the Draft EIR, there is no change to the conclusion of significant impacts discussed in the March 2010 Draft EIR, which concludes that construction activity air pollution emissions associated with the development of the proposed project would exceed Southern California Air Quality Management District's threshold of significance and noise levels during some phases of site redevelopment would exceed standards for daytime construction noise as set by the County Noise Ordinance resulting in significant and unavoidable impacts.

1.4 RECIRCULATED EIR REVIEW PROCESS

Recirculation of the portions of the Draft EIR noted below is being made in accordance with the requirements of *State CEQA Guidelines* Section 15088.5. Recirculation will occur for a period of 45 days, from August 19, 2010, to October 6, 2010.

During this public review period, written comments concerning the adequacy of the document may be submitted by any interested person and/or affected agency to the County of Los Angeles, Department of Regional Planning, Impact Analysis Section, Attention: Anthony Curzi, Room 1348, 320 West Temple Street, Los Angeles, California 90012.

The County of Los Angeles requests that commenters limit comments to only the revised sections provided in this document. Comments received on the Draft EIR during the previous comment period will be responded to in the Final EIR and need not be re-submitted on the revised sections. The County intends to respond only to comments submitted during the recirculation period that relate to portions of the EIR that are revised and included in this recirculation.

Following the public review periods for the Draft EIR and the recirculated Draft EIR sections, written responses will be prepared for comments submitted either in writing during the public review periods or orally at public hearings held during the process, provided that such comments raise environmental issues. At least 10 days prior to a hearing to certify the Final EIR, proposed responses to comments from public agencies on the Draft EIR will be sent to those agencies. The Final EIR will be submitted to the RPC as well as the Board of Supervisors, which will determine whether to certify the document as reflecting the County's independent judgment and having been properly prepared in accordance with CEQA. No aspect of the proposed project will be approved until after the Final EIR is certified.

3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

The project description is the starting point for all environmental analysis required by the *California Environmental Quality Act (CEQA) Guidelines*. The purpose of the project description is to describe the project in a way that will be meaningful to the public, reviewing agencies, and decision makers. *State CEQA Guidelines* Section 15124 states that the project description need not be exhaustive but should supply sufficient detail necessary to perform the evaluation and review of a project's potential environmental impacts. The guidelines require that a project description provide (1) the precise location and boundaries of the project, (2) a statement of project objectives, (3) a description of the project, and (4) a statement briefly describing the intended uses of the environmental impact report (EIR) and a listing of required approvals.

The project evaluated in this draft EIR is the Millennium-Playa Del Mar Apartments Project (project), submitted for consideration to Los Angeles County by Din/Cal, Inc., on December 9, 2009. The proposed project is a request for a Conditional Use Permit (CUP) to allow 196~~216~~ apartments in ~~one~~ multiple buildings with a maximum height of four stories (49~~60~~ feet) along with 353 total parking spaces (329 spaces in a parking garage, 20 parking spaces in private garages, and 4 on-grade parking spaces opposite the leasing office). The 329-space parking garage would have a maximum height of 35 feet.~~a 433-space parking structure with a maximum height of 4.5 stories (approximately 50 feet);~~ In addition to the CUP, a zone change from R-3-DP and R-1 to R-4-DP and a general plan amendment to change the land use designation from Low Density Residential 1 to High Density Residential 4 is requested. The existing church, parking lot, and single-family residence will be removed.

3.2 PROJECT LOCATION

The project site is located in the southern portion of Los Angeles County, at 5550 Grosvenor Boulevard (**Figure 3.0-1**). In total, the project site is 4.93 gross acres in size (4.36 acres net size not including County roadway right-of-ways) and comprises five parcels (County Assessor's Parcel Numbers (APN) 4221-003-040, 4221-003-042, 4221-003-038, 4211-003-068 and 4211-003-041). APN 4221-003-68 presently contains two connected buildings about 30 feet in height that are part of an existing church facility (City of Angels Church of Religious Sciences of Los Angeles). The remainder of this parcel is used as a paved surface parking lot. APN 4221-003-041 at the northwestern corner of the site contains a one-story home and associated landscaping, which is owned by the church. The existing buildings and all associated parking area elements would be removed as part of the proposed project. Additional

information and figures on existing conditions and surrounding land uses are provided in **Section 4.0** of ~~this~~ the March 2010 ~~draft~~ DEIR. The Playa del Rey Elementary school is situated at 1221 Juniette Street in the City of Los Angeles approximately three blocks east of the northern perimeter of the project site and east of Centinela Avenue.

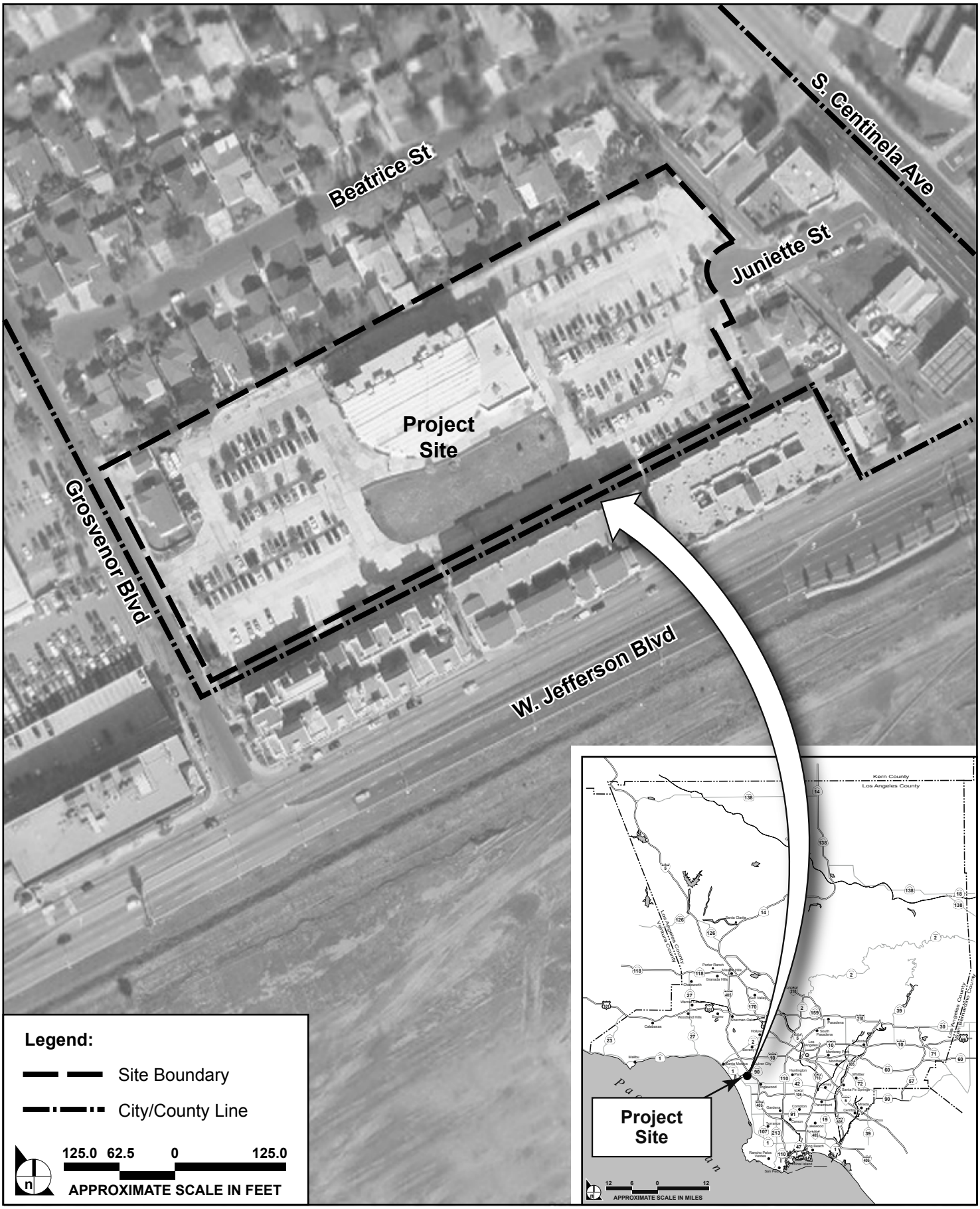
The project site is mounded in the center, and the church building is located on the apex of this raised topographical feature. Little of the site is vegetated save for some ornamental trees in the parking lots and a small recessed lawn-like green to the east of the main church building. The parking lots are paved and surround the building, and contain a few trees, overhead lights, concrete curbing, a non-linear corrugate fence, and some signage. A series of fencing and walls surround the site. From the entrance on Juniette Street, traveling clockwise around the site to the entrance on Grosvenor Boulevard, the site is bordered by an ornamental iron fence on the south that is owned by the church. The site is bordered on the north by a mixture of masonry block and wood wall and fences that are primarily owned by the individual homeowners along the northwest boundary of the site.

The site is trapezoidal in shape, with its two longer sides running parallel. The perimeter of the site is bordered by Grosvenor Boulevard on its west side, and connects with Juniette Street on its east side. Single-family homes are located along the northern site boundary, and a four-story multi-family apartment complex adjoins the south boundary, separated from the site by an existing 25-foot-wide alley. The project site adjoins lands of the City of Los Angeles across the alley to the south, to the east and across Grosvenor Boulevard to the west. Nearby intersections are primarily within City of Los Angeles jurisdiction. Therefore, in addition to the project's relationship to applicable County plans and regulations, consideration of relevant City regulations and plans is provided in the EIR, particularly those pertaining to the traffic analysis.

3.3 PROJECT OBJECTIVES

The project applicant proposes to redevelop the project site in order to meet the following objectives.

- Contribute toward an adequate supply of housing preserved and maintained in sound condition, located within safe and decent neighborhoods, as stated in the 2008 Housing Element.
- Provide new housing to meet current and future needs in an area with significant unmet demand for housing.
- Construct high-quality multi-family housing at a density, physical scale, and architectural style compatible with and complimentary to adjacent uses and the surrounding neighborhood.



SOURCE: Google Earth – 2006, Impact Sciences, Inc. – December 2009

FIGURE **3.0-1**

Regional and Local Project Location

1052-001•12/09

- Design a residential building that will provide a height transition between the single-family homes north of the project site.
- Provide housing in an area of the County that SCAG has defined as jobs rich and in a geographic zone with a defined housing need, and where nearby employment sectors, recreational resources and coastal access opportunities interact to improve mobility through the consideration of jobs/housing balance and locating housing where recreational opportunities exist.
- Avoid unnecessary environmental impacts associated with grading and excavation by building structures above a level grade to the extent feasible.
- Generate additional revenues to the County in the form of development fees and tax revenues.

3.4 PROJECT CHARACTERISTICS

3.4.1 Overview of Site Plan

The proposed project is a request to develop the site with 196~~216~~ apartments in one primary building with a maximum height of four stories (49 feet; 51~~60~~ feet at the stairwell towers) and three two-story buildings (22 feet) at the northwest property boundary. ~~along with~~The proposed project includes a 329~~433~~-space parking structure with a maximum height of four~~.5~~ stories (approximately 35~~50~~ feet) in addition to 20 private garages along the northwest property boundary. The existing church, parking lot, and single-family residence will be removed. ~~Ingress and e~~Egress only will be provided by an existing alley south of the project site~~,~~ and ingress and egress will be provided by a new private driveway and fire ~~alley~~ lane along the northern part of the site.

The project consists of one, primary, maximum four-story apartment building and five one-bedroom, carriage units in three structures, collectively containing a total of 196~~216~~ apartment units. The apartment building is designed to be organized on three sides (to the north, east and west) around a four~~.5~~-story-deck (approximately 35~~50~~ feet high) aboveground parking structure and incorporates open courtyard areas. Emphasis has been placed on a building design that provides a graduated-height transition along the northern and ~~western~~ southern site perimeters. Building height is limited to ~~one and~~ two stories (~~17 and 31~~ 28 feet~~, respectively~~) along the northerly edge of the structure (in proximity to the single-family residences located northerly of the site), and increases to a maximum of four stories (approximately 49~~55~~ feet) as the building transitions from north to south across the site toward the existing apartment complex that is sited adjacent to the subject property to the south. The four-story portion of the apartment building are along the western and eastern perimeters and adjacent to the parking structure. **Figure 3.0-2** shows the proposed site plan for the project. **Figures 3.0-3** through **3.0-4** provide architectural elevations for the proposed project. A total of 353 parking spaces (329 spaces in a parking garage, 20 parking spaces in

private garages, and 4 on-grade parking spaces opposite the leasing office) would be provided as a part of the proposed project. The 329 space parking garage would have a maximum height of 35 feet and is proposed to be mechanically ventilated to reduce noise and vehicle emissions along the southern alley. ~~The proposed project would provide a total of 433 parking spaces within an above-ground parking structure on the project site.~~ The number of parking spaces is not consistent with current County Code requirements (a total of 394~~433~~ spaces are required by County Code for apartments) and a parking deviation for less than the required parking is being requested by the project applicant as a part of the project approval. The project would also include ~~five~~ four courtyards, an outdoor pool in courtyard one, a leasing office, a fitness center, and rest rooms. The existing (25-foot-wide) alleyway that occurs along the southern perimeter of the site would be widened to 28 feet. All interior spaces would be air conditioned.

The proposed project will require a yard modification for a proposed 8-foot-tall concrete block wall along the north property line, which will serve as a visual and noise buffer for the single family residences site northerly of the project site.

The proposed buildings would cover approximately ~~43~~ 50 percent of the site while the parking structure would cover about ~~16~~ 15 percent of the site. The courtyards, fire lanes and other vehicle and pedestrian circulation routes and exterior landscaping associated with the building would cover the remaining ~~41~~ 35 percent of the project site.

3.4.2 Proposed Building Layout

The proposed buildings would provide 196~~216~~ apartment units. Three two-story structures would be located on the northwestern portion of the project site. These buildings would be designed as one-bedroom "carriage units" with parking on the ground level and apartment units on the second floor. Five residential units would be contained in the three two-story structures, with 20 parking spaces to be provided below. The primary residential building, ranging from two to four stories, would contain an entrance lobby, courtyards, elevator bays, stairwells, and vehicular and pedestrian access to the garage. Floor plans for each of the four residential levels of the project are illustrated on **Figures 3.0-5** to **3.0-8**. Total interior square footage of the building, exclusive of courtyard and parking areas, is approximately ~~294,980~~261,447 square feet.

3.4.2.1 Apartment Units

There are ~~nine~~ eight unit types (floor plans) proposed for the project, ranging in size from a 724-square-foot one-bedroom unit to a ~~1,361~~1,137-square-foot two-bedroom unit. Average unit size would be approximately ~~917~~ 898 square feet with a majority having attached balconies or patios (not

included in square footage calculations). The proposed project would consist of 95 one-bedroom units and 101 two-bedroom units. **Table 3.0-1** presents the number of each size of unit that would be constructed in the building.

Table 3.0-1
Proposed Unit Types

Unit Type	Unit Size in square feet	Total Units
1 bedroom/1 bath (A1)	724	~~62~~61
1 bedroom/1 bath (A2)	729	37
1 bedroom/1 bath (A3)	~~791~~747	2
~~1 bedroom/1 bath (A4)~~Carriage	~~805~~791	5
2 bedroom/2 bath (B1)	1,067	~~48~~29
2 bedroom/2 bath (B2)	1,093	~~31~~20
2 bedroom/2 bath (B5~~3~~)	~~1,111~~1,067	~~7~~16
2 bedroom/2 bath (B4)	1,137	~~22~~26
~~2 bedroom/2.5 bath townhouse (TH)~~	~~1,361~~	~~2~~
TOTAL	**~~917~~ 898 average**	**~~216~~196**

Source: Architects Orange, 2010~~09~~

3.4.2.2 Pedestrian Access and Courtyards

A 28-foot-wide paved fire lane would extend the length of the site along the northern project boundary. The fire lane would serve three functions: (1) provide Fire Department access to the portion of building on this side of the property; (2) provide a setback between the proposed building and the single-family residential properties to the north; and (3) provide pedestrian access around the building and to courtyards located on each side of the building.

The proposed primary building would contain five courtyards, two enclosed and three opening to the northern alleyway. The enclosed courtyard located in the western portion of the building would include a pool and spa tub for residents of the project. All courtyards would be landscaped with ornamental paving materials and vegetation.

3.4.2.3 Building Height

As described previously, in order to ensure the project's physical compatibility with surrounding uses, the project is designed with ~~an~~ open space ~~buffer~~ and two-story carriage units along the northerly side of

the project site~~building~~ and provides a height transition from the single-story single-family homes located just northerly of the subject property. Along the northern boundary, the primary residential building would be set back a minimum of approximately 35 feet and a maximum of about 43 feet from the northern site boundary. The ~~one- and~~ two-story perimeter structures would not exceed ~~31~~ 28 feet in exterior height (excluding chimney heights) along the northern project margin. At the northwest corner of the project site, a three-story portion of the building would reach a height of ~~40~~ 39.5 feet. At approximately 80 feet from the northern property line, the building would transition to a height of four stories, or about 49~~53.5~~ feet, exclusive of architectural projections (see **Figure 3.0-9**). The height of the parking structure would be approximately 35~~50~~ feet. The height of the carriage units is 22 feet.

The project also would contain architectural elements of towers built above the stairwells. These architectural elements are included to provide access to the roof and to vary the roofline of the project. These features would not exceed ~~60~~ 51 feet in exterior height. These features could include windows. Additionally, it is not anticipated that any of these architectural features would substantially shade any existing single-story homes (see **Section 4.6, Visual Resources**, for more information).

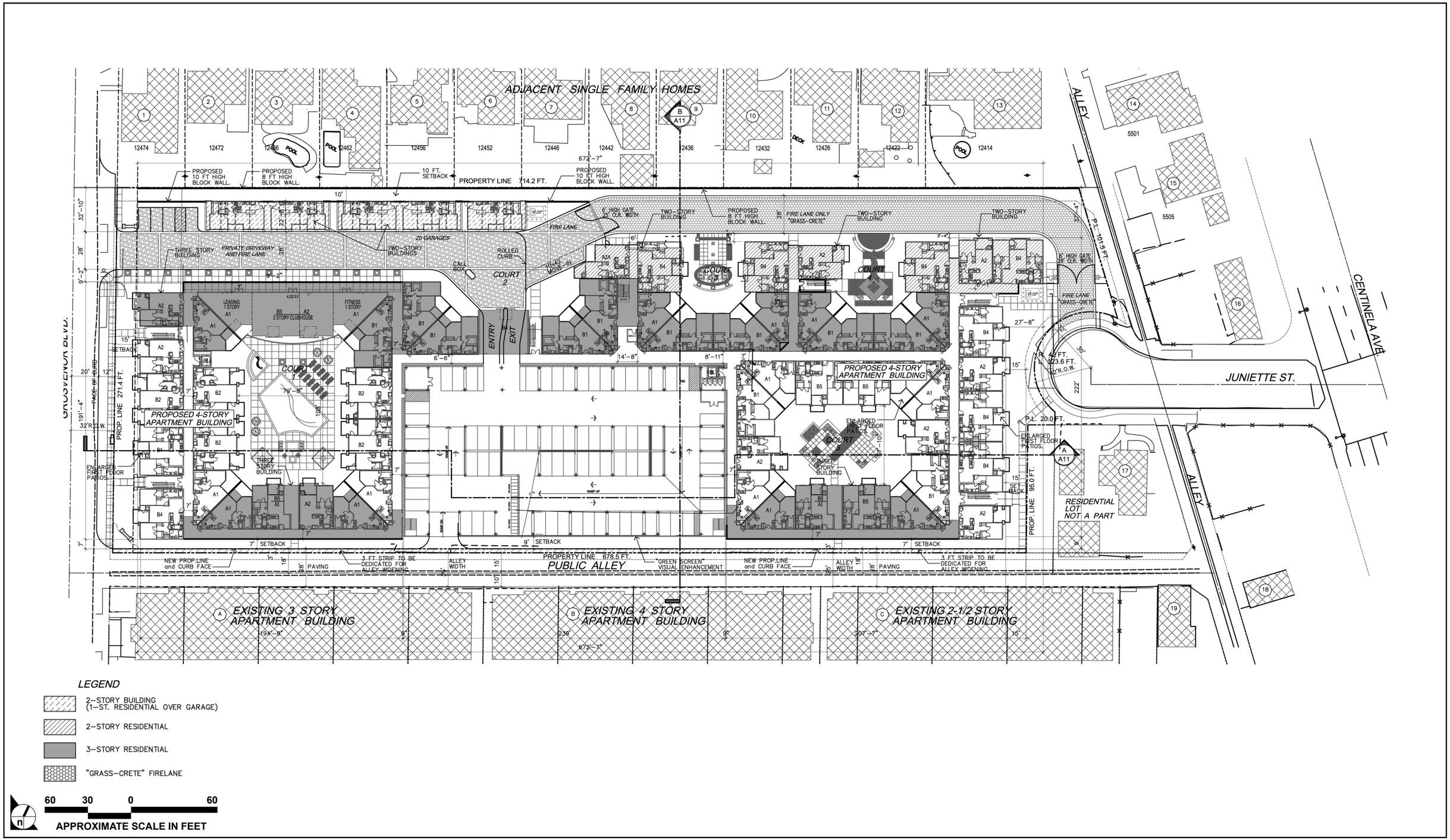
3.4.2.4 Access and Parking

A total of 353 parking spaces (329 spaces in a parking garage, 20 parking spaces in private garages, and 4 on-grade parking spaces opposite the leasing office) would be provided as a part of the proposed project. The 329-space parking garage would have a maximum height of 35 feet. ~~The proposed project would provide a total of 433 parking spaces (379 standard spaces and 54 guest spaces) within an above-ground parking structure with a maximum height of 4.5 stories (approximately 50 feet). In addition, there will be five spaces for the leasing office located outside of the parking garage.~~ **Table 3.0-2** provides a breakdown of the parking spaces ~~provided~~required by County standards.

Table 3.0-2
Parking Spaces Required by County Standards

Space Type	Total per Type
Standard	~~379~~345
Guest	49~~54~~
Leasing Office	~~5~~0
Total Provided	**~~438~~353**
County Requirements	~~433~~394

Source: Raju Associates 2010~~09~~



SOURCE: Architects Orange – July 2010

FIGURE **3.0-2**

Playa del Mar Site Plan

1052-001•07/10

SOUTH ELEVATION

NORTH ELEVATION

Note: Two-story private garage and carriage units are removed from foreground on right side of illustration for clarity. In addition, the 8-foot block wall on the northern property boundary is not depicted here

25.0 12.5 0 25.0

APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

FIGURE **3.0-3**

Building Elevations: South and North

1052-001•08/10

EAST ELEVATION

GROSVENOR BLVD. - WEST ELEVATION

30 15 0 30

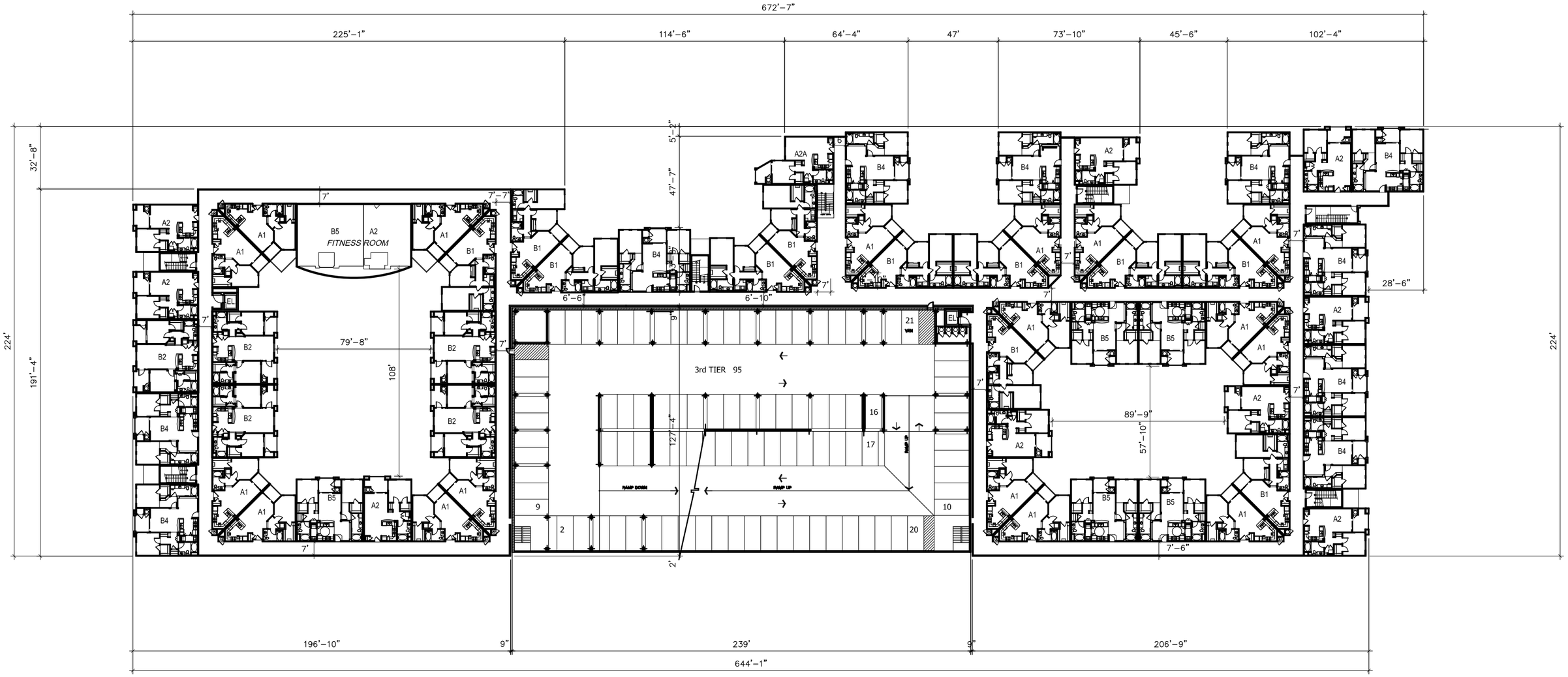
APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

FIGURE **3.0-4**

Building Elevations: East and West

1052-001•08/10



60 30 0 60

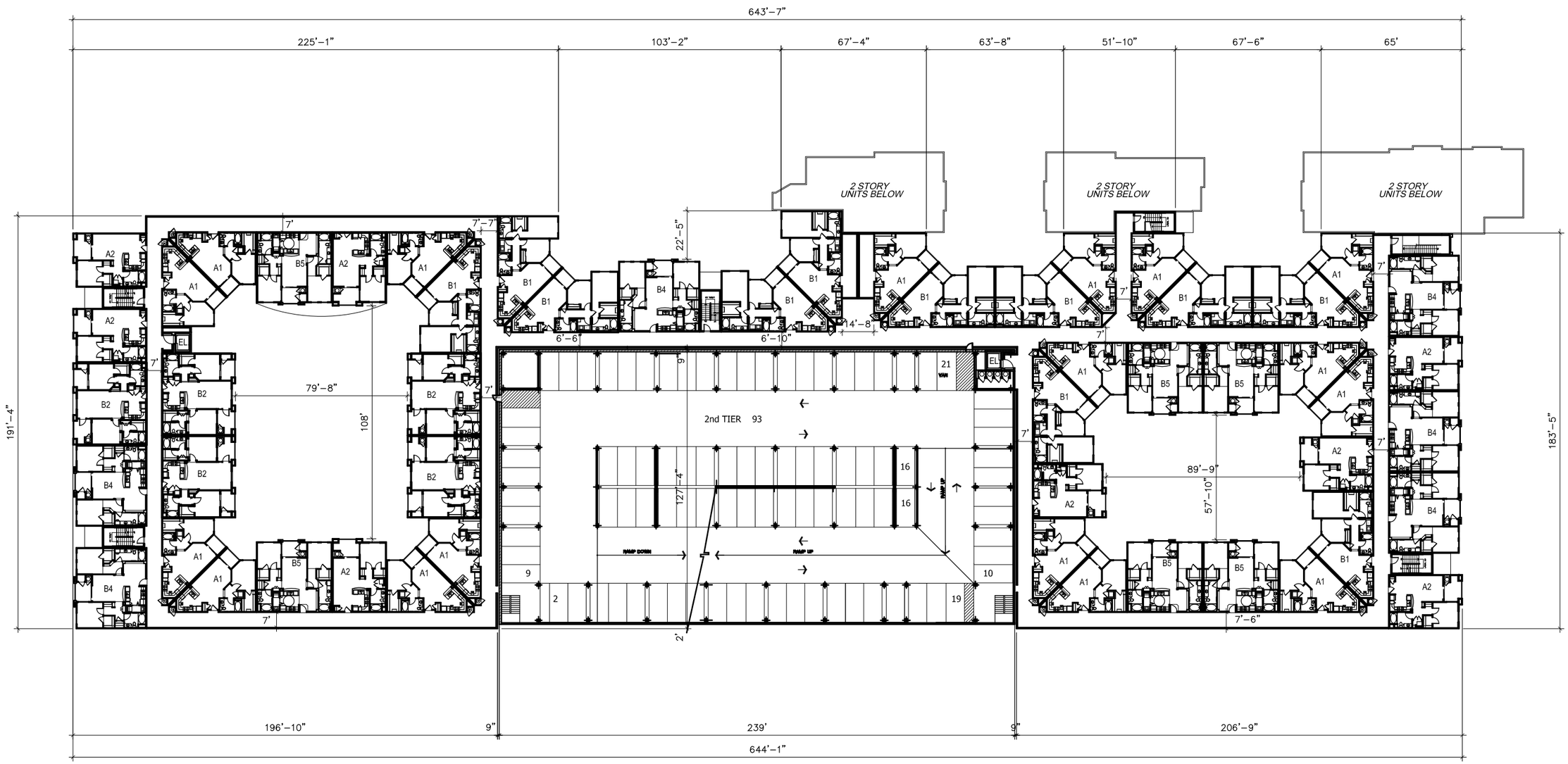
APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

FIGURE **3.0-5**

Second Level Floor Plan

1052-001•07/10



60 30 0 60

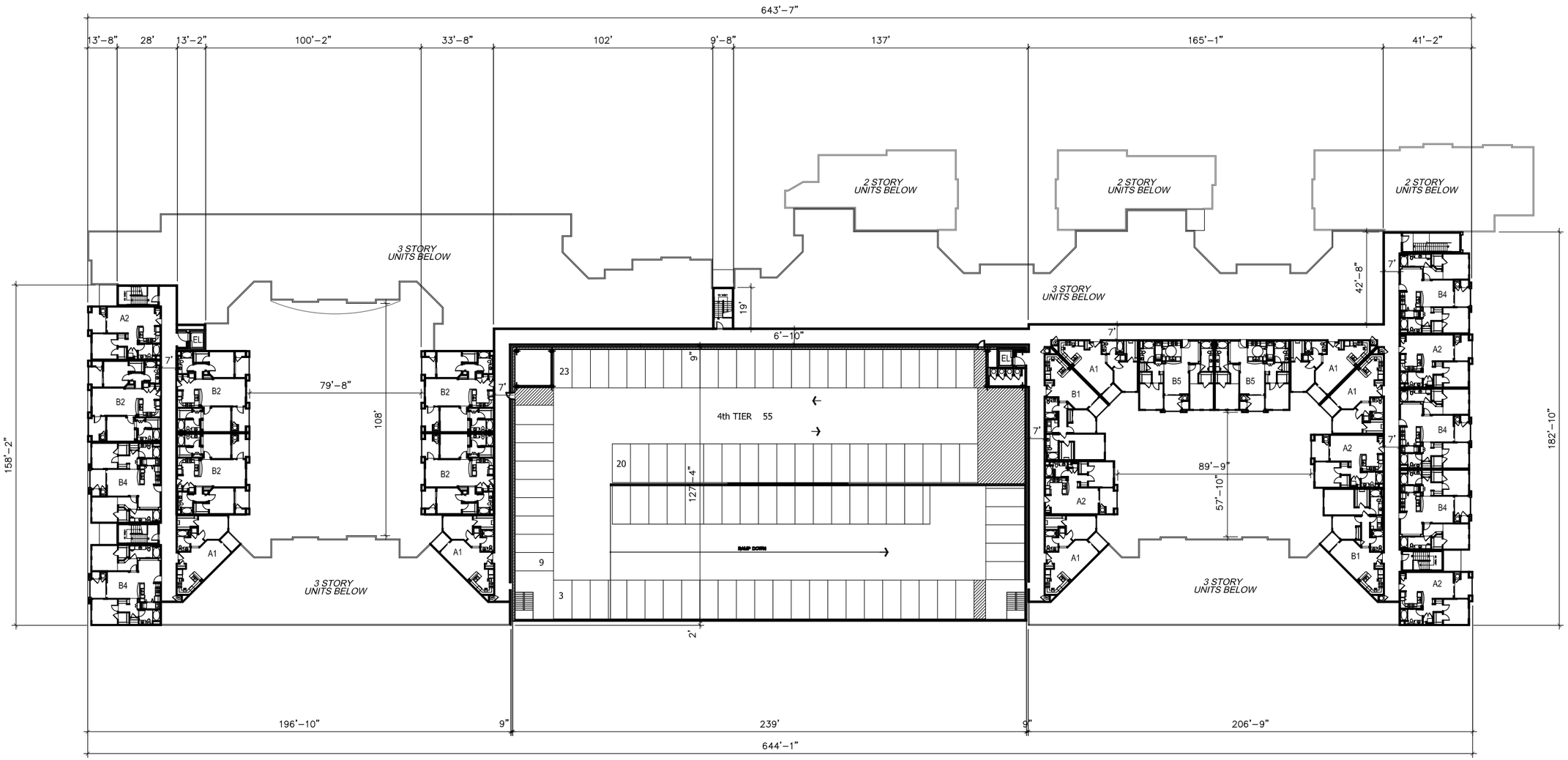
APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

FIGURE **3.0-6**

Third Level Floor Plan

1052-001•07/10



60 30 0 60

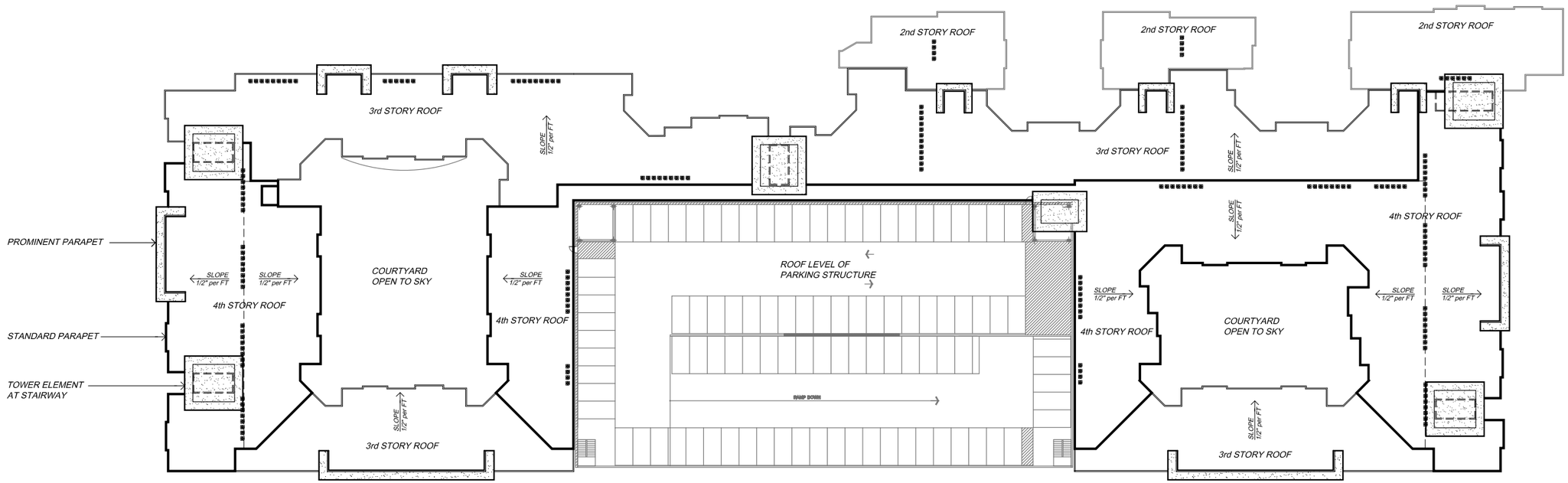
APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

FIGURE **3.0-7**

Fourth Level Floor Plan

1052-001•07/10

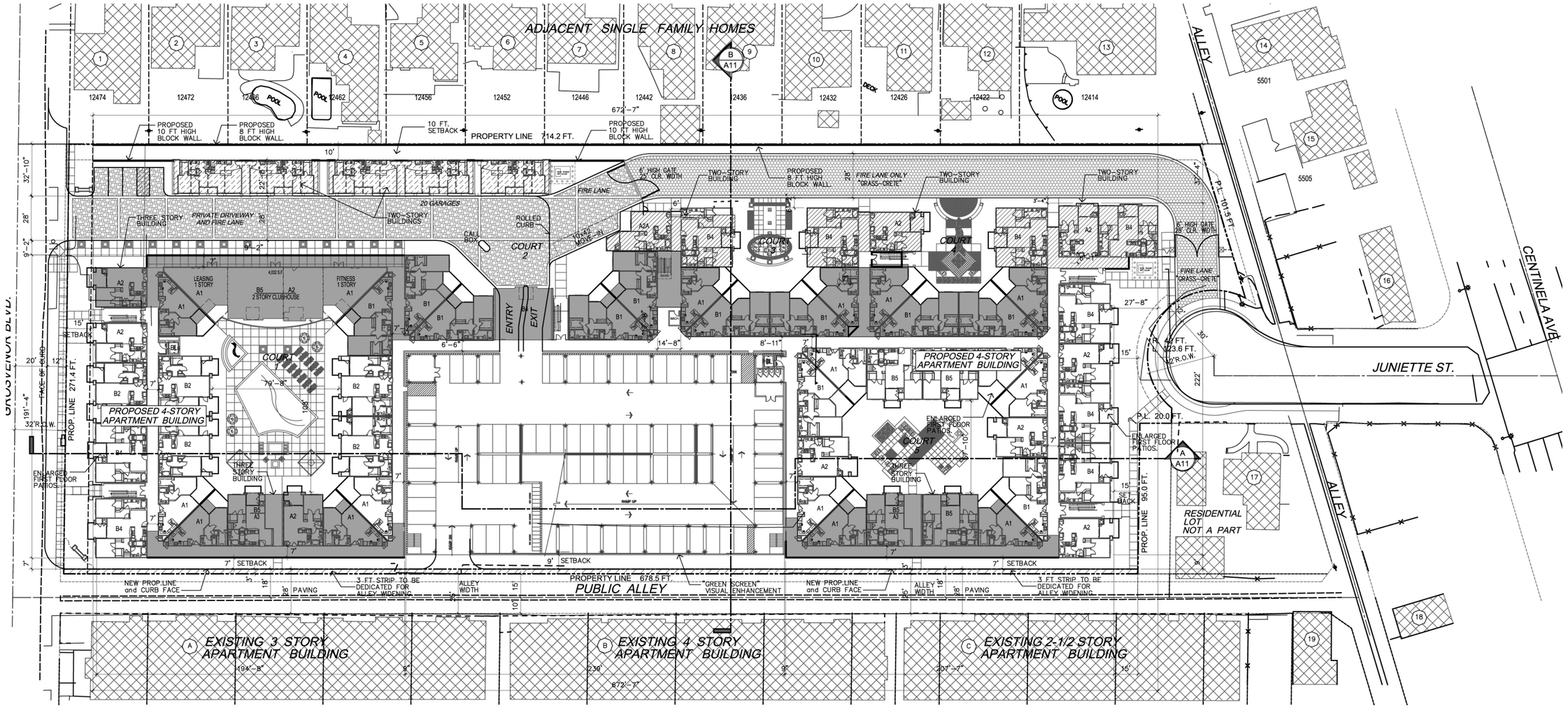


SOURCE: Architects Orange – July 2010

FIGURE **3.0-8**

Roof Plan

1052-001•07/10



LEGEND

- 2-STORY BUILDING (1-ST. RESIDENTIAL OVER GARAGE)
- 2-STORY RESIDENTIAL
- 3-STORY RESIDENTIAL
- "GRASS-CRETE" FIRELANE

60 30 0 60

APPROXIMATE SCALE IN FEET

Note:
Two story = 28'0"
Three story = 39'7"
Four story = 47'-0"
Architectual embellishment is excluded.

SOURCE: Architects Orange – July 2010

FIGURE **3.0-9**

Building Heights

The project applicant is seeking a parking deviation based upon a study of parking demand and supply in the region surrounding the project site at comparable apartment housing complexes. The project applicant is seeking a reduction of 41 total parking spaces from the County requirement of 394 total spaces to be provided on the project site. The blended ratio of parking spaces to residential units to be provided on the project site by County standards is 2.04 to 1. The project as designed will provide 1.80 parking spaces for every residential unit proposed. Please see **Section 4.5, Traffic and Access,** for discussion on project parking provisions. **Table 3.0-3** provides a breakdown of the parking spaces proposed by the revised project design.

Vehicular access to and from the parking structure would be provided via entrances located along the northern and southern alleyways. Vehicles would access the entrance along the northern driveway from Grosvenor Boulevard. Vehicles would access the entrance along the southern alleyway from either Grosvenor Boulevard or an existing north-south alleyway to the east of the project site.

Table 3.0-3
Parking Spaces to be Provided in Project

Space Type	Total per Type
Standard	318
Guest	31
Leasing Office	4
County Requirements	*394*
Total Provided	**353**

Source: Raju Associates 2010

3.4.2.5 Fire Access and Safety

The residential building would be a Type V construction with a 1-hour fire rating and a fire sprinkler system. As shown in **Figure 3.0-10**, to provide Fire Department access, the project site would feature a 28-foot-wide pedestrian driveway along the northern boundary of the parcel. Fire access to portions of the building along the southern boundary would be taken from a widened version (25 feet existing; 28 feet proposed) of the existing off-site alley located adjacent to the southern project site boundary. Along the eastern site boundary, fire access would be taken from the existing cul-de-sac at the end of Juniette Street and/or an existing north-south alleyway to the east of the project site while fire access from the western site boundary would be from Grosvenor Boulevard that fronts the project site.

3.4.2.6 Infrastructure Improvements

Because the site is already developed and is located in a developed area, all infrastructure and utilities needed to serve the project are located proximal to the project site. The project would construct or participate in the construction of all improvements necessary to serve their proposed uses, including improvements to existing off-site facilities (primarily water and sewer connections in Grosvenor). All infrastructure would be designed and constructed in accordance with policies and standards set forth by the County of Los Angeles Department of Public Works. Additional information on on-site infrastructure for the project is provided in **Section 3.4.3, Site Construction.**

3.4.3 Site Construction

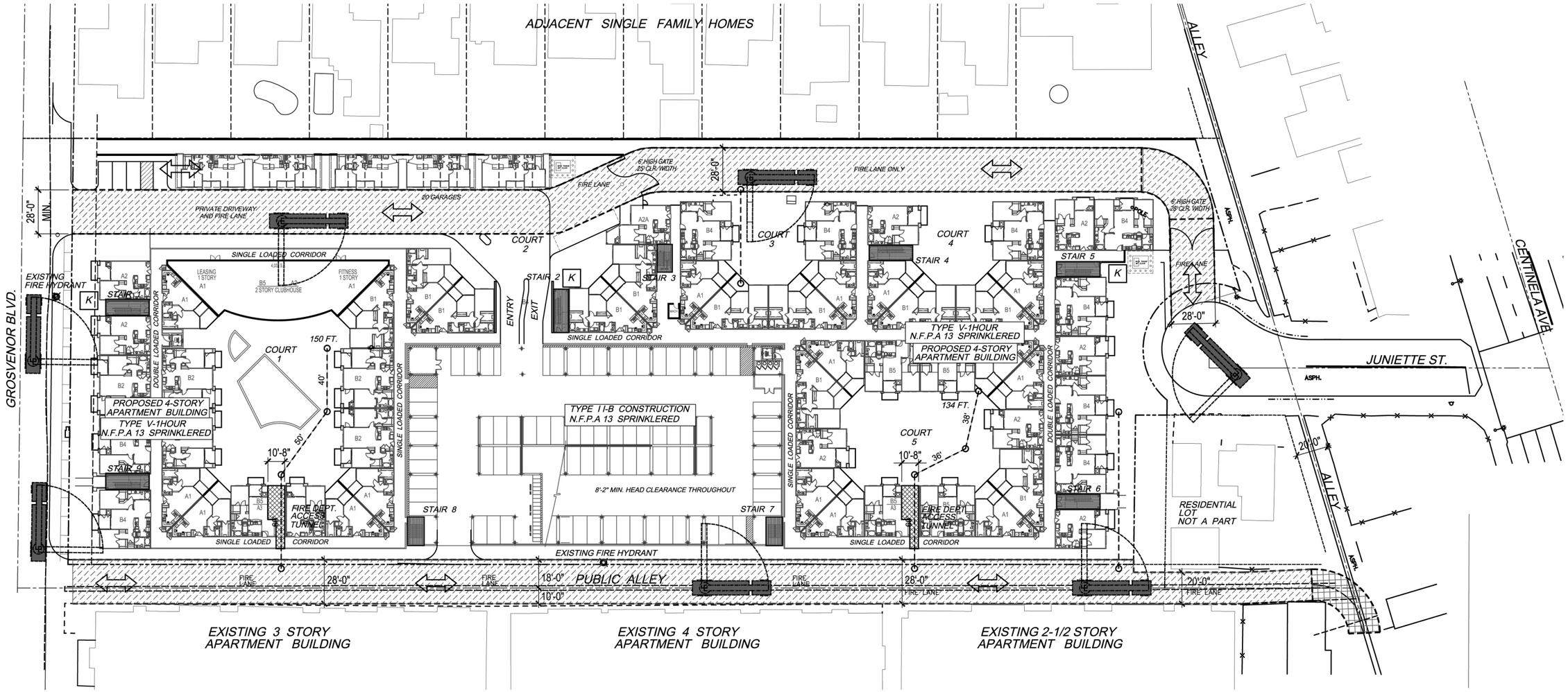
3.4.3.1 Construction Schedule and Phasing

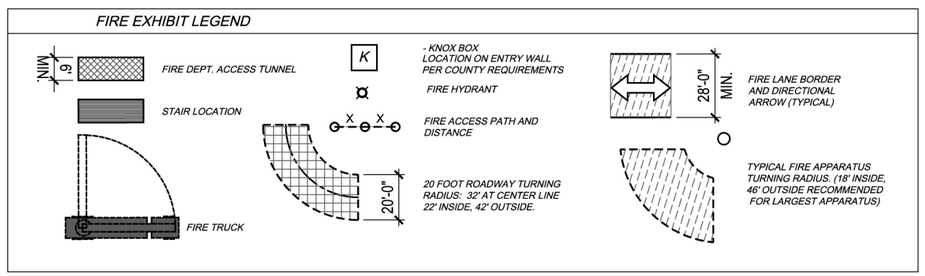
Construction of the project would be phased. Site development is anticipated to begin as early as June 2011, with demolition of existing structures requiring an estimated one month. Excavation and grading would begin in July 2011, and would require one month to complete. Project construction would then be initiated in August 2011, and the buildings would be ready for occupancy by approximately December 2012 (16 months after initiation of project construction). In total, this would represent an 18-month total construction/development schedule.

3.4.3.2 Demolition

Demolition of the existing buildings is anticipated to begin in June 2011, and would continue for approximately four weeks, or 20 days of work at five days per week. Preparing the site for development would involve breaking down existing surface materials, and removing existing structures. Prior to the start of any demolition, grading, or construction work, the entire site (excluding public streets) would be fenced and secured. No public access would be permitted without permission.

All existing structures on the project site, including the surface parking lots, would be removed prior to grading and/or construction. Most or all of the existing ornamental landscaping also would be removed. Demolition equipment would include large excavators with jackhammer attachments (hoe rams), small bulldozers, small tractors, and loaders.





2001 CFC SECTION 902.2
FIRE APPARATUS ACCESS ROADS

902.2.1 REQUIRED ACCESS. FIRE APPARATUS ACCESS ROADS SHALL BE PROVIDED IN ACCORDANCE WITH SECTIONS 901 AND 902.21 FOR EVERY FACILITY, BUILDING OR PORTION OF A BUILDING HEREAFTER CONSTRUCTED OR MOVED INTO OR WITHIN THE JURISDICTION WHEN ANY PORTION OF THE FACILITY OR ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY OF THE BUILDING IS LOCATED MORE THAN 150 FEET FROM FIRE APPARATUS ACCESS AS MEASURED BY AND APPROVED ROUTE AROUND THE EXTEERIOR OF THE BUILDING OR FACILITY. SEE ALSO SECTION 902.3 FOR PERSONNEL ACCESS TO BULDINGS.

EXCEPTIONS: 1. WHEN BUILDINGS ARE COMPLETELY PROTECTED WITH AN APPORVED AUTOMATIC FIRE SPRINKLER SYSTEM, THE PROVISIONS OF SECTIONS 902.2.1 AND 902.2.2 MAY BE MODIFIED BY THE CHIEF.

60 30 0 60
APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

FIGURE **3.0-10**

Fire Access Plan

1052-001•07/10

Existing buildings on the site are made of concrete reinforced with rebar, wood, glass, and interior finishings. Wood and trash debris from demolition of existing structures would be hauled to the Downtown Diversion Facility in Wilmington, while asphalt and concrete would be hauled to the Lovco crushing facility located in Wilmington. Hauling would occur from Monday through Friday in accordance with County and City of Los Angeles requirements. Haul routes to be used by trucks during the excavation process will be established in consultation with County traffic officials. Locally it is expected the haul route would proceed south on Grosvenor, east on Jefferson to I-405.

It is anticipated that, in total, 15,000 cubic yards (cy) of demolition material would be created. Consistent with County Ordinance 2005-0004 Section 1, 2005, at least 50 percent of all construction and demolition debris would be recycled or reused. When possible this material would be reused on site. Any materials that would be landfilled or taken off site for recycling would be removed by hauling trucks. In total, it is anticipated that approximately 750 round-trip hauling trucks trips would be required to remove the demolition material.[1] Given a 20-day demolition schedule, it is estimated that roughly 38 truckloads of debris per day would be hauled off site for recycling or disposal during the one-month demolition phase.[2]

3.4.3.3 Excavation and Grading

Excavation and grading on the project site would commence approximately July 2011, and would require four weeks. Total site grading would involve approximately 54,900~~31,700~~ cy of earth material. The site is currently mounded toward the center of the site. Site preparation would include excavation of this mounded material and the export of earth material would be required. In total, it is estimated that 15,000 cy of excavation material would be removed and taken to a landfill as capping material or used on other construction sites. Approximately 500 to 750 round trip hauling truck trips[3] would be required to remove this material, or approximately 9 to 13 round trip truck trips per working day during this period.[4]

After excavation is complete, the site would be graded to prepare the area for building foundations, garages, and to level the site to match the elevations found in the surrounding terrain. Consistent with state and federal environmental policies, all grading would be performed in a manner that minimizes the amount of wind-blown dust and soil entering nearby water drains. Additionally, trucks with sprinklers would be used to apply water to the grading soils to ensure proper compaction.

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1 Based on a hauling capacity of 20 cy per truck.

2 Based on the removal of 750 cy per day (15,000 cy/20 days).

3 Based on a hauling capacity of 20–30 cy per truck.

4 Based on the removal of 261 cy per day (15,000 cy/58 days).

3.4.3.4 Building Construction

Building construction is anticipated to take 16 months, beginning in August 2011, and ending in December 2012. At its peak, project construction would include a maximum of approximately 80 to 100 professional construction workers on the site during typical working hours. Senior construction staff would be on site at all times during construction. When construction is not taking place, and during off-work hours, the site would be locked and secured.

Consistent with state and federal environmental policies, all demolition and grading would be performed in a manner that minimizes the amount of wind-blown dust and soil entering the nearby storm water drainage system. Additionally, trucks with sprinklers would be used to apply water to the grading soils to ensure proper compaction.

3.4.3.5 Landscaping

Once construction is complete, the majority of the site would be developed with a building, courtyards and paved circulation routes and a conscientiously developed landscaped planting plan. According to the landscape plan illustrated in **Figure 3.0-11**, there would be landscaping throughout the site and along the northern and southern boundaries of the property. In each of these perimeter areas, a single row of trees would be planted along with a mixture of ornamental shrubs and vines. It is anticipated that the trees would grow to a maximum of approximately 30 to 45 feet over a period of three to five years. Proposed project landscaping along the northern project boundary is illustrated in **Figure 3.0-12**.

3.5 INTENDED USES OF THIS DRAFT EIR

This draft EIR will be used to provide decision makers and the general public with relevant information to use in considering approval of the project by the Los Angeles County Regional Planning Commission and Board of Supervisors. Following certification of the final EIR by the Board of Supervisors, the County would use the final EIR as environmental documentation to support the approval or denial of legislative acts (General Plan and zoning changes) and various permits and entitlements.

3.5.1 Discretionary Approvals

The proposed project would be subject to review and approval according to the regulatory approval processes in Los Angeles County.

General Plan Amendment. A General Plan amendment is being requested to change the General Plan land use designation from Low-Density 1 (1 to 6 dwelling units (du)/acre) to High Density 4 (22 or more du/acre).

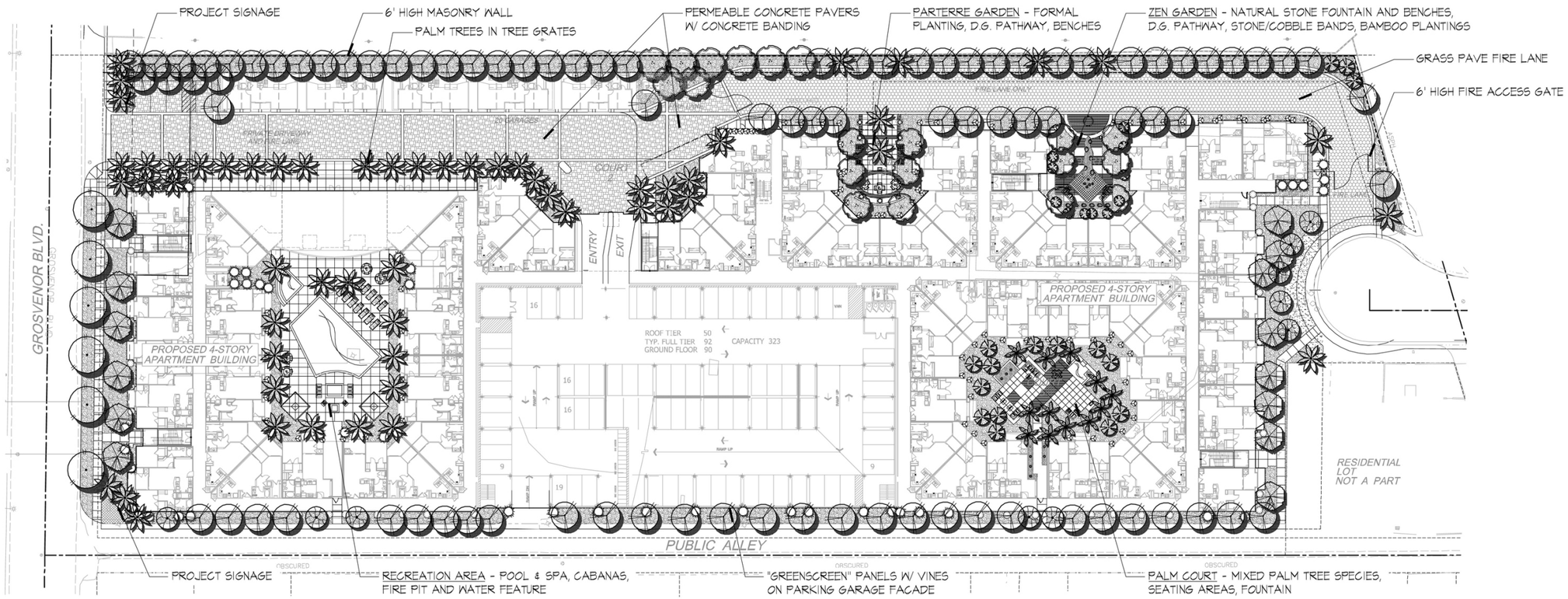
Zone Change. A zone change is being requested to change the zoning on the site from R-3-DP (4.22 acres) and R-1 (0.14 acre) to R-4-DP.

Conditional Use Permit. A Conditional Use Permit is being requested to authorize the development program for residential uses consistent with this zone change.

Parking Deviation. A parking deviation to allow 1.8 parking spaces per unit (including guest parking), less than code required.

~~**Variance**~~**Yard Modification.** A yard modification to allow for a height of 8 feet for a concrete block wall to be located on the northern edge of the project site boundary.

Subsequent to these approvals, the applicant would request other development permits, including building permits, grading permits, etc.



LANDSCAPE DEVELOPMENT PLANT PALETTE

SYM.	LOCATION	BOTANICAL NAME/COMMON NAME	FORM	FUNCTION	SIZE
TREES					
	PROJECT ENTRY	PHOENIX DACTYLIFERA 'MEDJOOL' / DATE PALM	UPRIGHT (15'-25' SPREAD)	FORMAL EVERGREEN ENTRY ACCENT PALM	100%/22' BTH
	COURTYARDS / LIGHT WELLS	WASHINGTONIA FILIFERA / CALIFORNIA FAN PALM TRACHYCARPUS FORTUNEI/ WINDMILL PALM	UPRIGHT (15'-25' SPREAD)	FORMAL EVERGREEN ACCENT PALM	100%/20' BTH
	COUTRTYARDS	WASHINGTONIA FILIFERA/CALIFORNIA FAN PALM	UPRIGHT (10'-20' SPREAD)	FORMAL EVERGREEN ACCENT PALM	100%/22' BTH
	SMALL FLOWERING ACCENT TREE	CASSIA LEPTOPHYLLA / GOLD MEDALLION TREE PRUNUS CERASIFERA / FLOWERING PLUM	BROADLEAF (20'-40' SPREAD)	FLOWERING DECID. CANOPY TREES	100%/24" BOX
	GROSVENOR STREET TREES	PER CITY STANDARDS & SELECTION	BROADLEAF (20'-30' SPREAD)	EVERGREEN CANOPY TREES	AS REQUIRED
	EVERGREEN SCREEN TREE	TRISTANIA CONFERTA / BRISBANE BOX MELALEUCA QUINQUINERVIA	BROADLEAF (20'-40' SPREAD)	FORMAL EVERGREEN CANOPY SHADE TREES	100%/36" BOX
	LARGE FLOWERING ACCENT TREE	PYRUS SPECIES / FLOWERING PEAR	BROADLEAF (20'-40' SPREAD)	WINTER SUN/SUMMER SHADE CANOPY TREES	100%/24" BOX
	CANOPY TREE	JACARANDA MIMSIFOLIA / JACARANDA PODOCARPUS GRACILIOR / FERN PINE MAGNOLIA GRANDIFLRA / SOUTHERN MAGNOLIA	BROADLEAF (20'-30' SPREAD)	EVERGREEN CANOPY TREE	100%/24" BOX
	LIGHT WELLS	BAMBUSA TEXTILIS / BAMBOO SPECIES	BROADLEAF (20'-30' SPREAD)	UPRIGHT SCULPTURAL EVERGREEN ACCENT	100%/24" BOX
	SMALL VERTICAL ACCENT TREE	PODOCARPUS 'MAKI' / SHRUBBY JAPANESE YEW	EVERGREEN (5-6' HEIGHT)	LARGE FOUNDATION / SCREENING SHRUBS	100% /15 GAL.
	LARGE VERTICAL ACCENT TREE	CUPRESSUS SEMPERVIRENS / ITALIAN CYPRESS	EVERGREEN, VERTICAL (15'-30' HEIGHT)	COLUMNAR FOUNDATION SHRUBS	100% /15 GAL.

SHRUBS & GROUNDCOVERS	BOTANICAL NAME / COMMON NAME	FORM	FUNCTION	SIZE	SPACING
	AGAVE SPECIES / AGAVE ALOE SPECIES / ALOE ANIGOZANTHOS SPECIES / KANGAROO PAW CAREX TUMULICOLA / BERKELEY SEDGE ECHEVERIA SPECIES / HENS AND CHICKS NASSELLA TENUISSUMA / MEXICAN FEATHER GRASS	EVERGREEN (1.5'-3')	ACCENT SHRUBS	70%/1 GAL. 30%/5 GAL.	3' ON CENTER AVG. SPACING
	AGAVE ATTENUATA / GREEN AGAVE BOUGAINVILLEA SPECIES / BOUGAINVILLEA ROSMARINUS OFFICINALIS 'TUSCAN BLUE' MUHLENBERGIA SPECIES / PINK MUHLY PITTOSPORUM TOBIRA / MOCK ORANGE SALVIA GREGII / AUTUMN SAGE SALVIA LEUCANTHA / MEXICAN BUSH SAGE STRELITZIA REGINAE / BIRD OF PARADISE	EVERGREEN SHRUB (3'-5' HEIGHT)	FOUNDATION SHRUBS	70%/5 GAL. 30%/15 GAL.	4' ON CENTER AVG. SPACING
	SENECIO MANDRALISCAE / BLUE CHALK STICKS	EVERGREEN	FLOWERING GROUNDCOVER	100%/FLATS	12" ON CENTER AVG. SPACING
	DROUGHT TOLERANT TURF ALTERNATIVE (CAREX PANSA)				

60 30 0 60

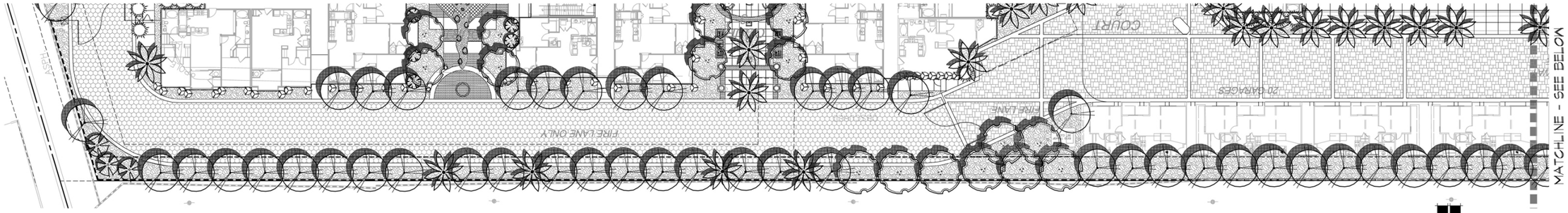
APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

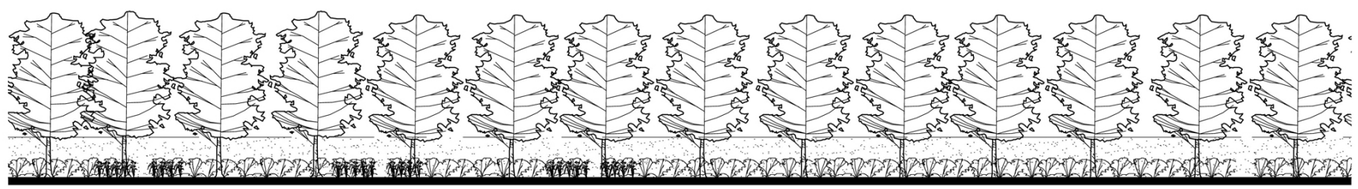
FIGURE **3.0-11**

Landscape Plan

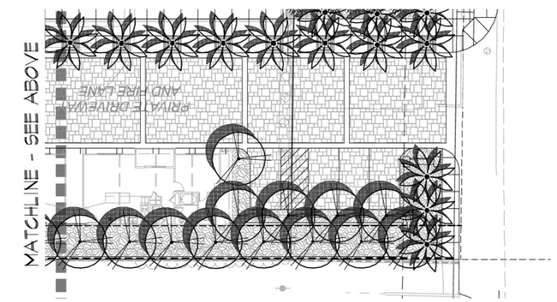
1052-001•07/10



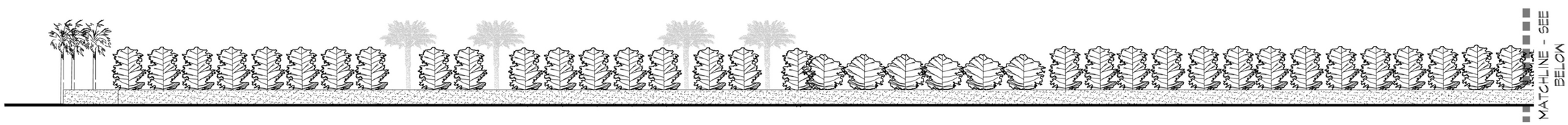
PLAN VIEW ENLARGEMENT SCALE: 1"=20'-0"



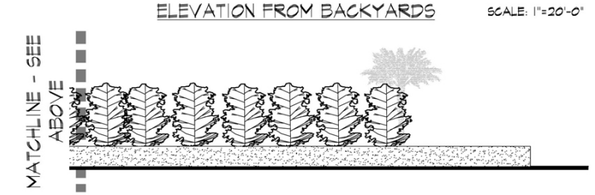
ELEVATION ENLARGEMENT FROM DRIVEWAY SCALE: 1"=10'-0"



PLAN VIEW ENLARGEMENT SCALE: 1"=20'-0"



ELEVATION FROM BACKYARDS SCALE: 1"=20'-0"



ELEVATION FROM BACKYARDS SCALE: 1"=20'-0"

LANDSCAPE DEVELOPMENT PLANT PALETTE

SYM.	LOCATION	BOTANICAL NAME/COMMON NAME
TREES		
	PROJECT ENTRY	PHOENIX DACTYLIFERA 'MEDJOOL' / DATE PALM
	COURTYARDS / LIGHT WELLS	WASHINGTONIA FILIFERA / CALIFORNIA FAN PALM TRACHYCARPUS FORTUNEI/ WINDMILL PALM
	COUTRTYARDS	WASHINGTONIA FILIFERA/CALIFORNIA FAN PALM
	SMALL FLOWERING ACCENT TREE	CASSIA LEPTOPHYLLA / GOLD MEDALLION TREE PRUNUS CERASIFERA / FLOWERING PLUM
	GROSVENOR STREET TREES	PER CITY STANDARDS & SELECTION

LANDSCAPE DEVELOPMENT PLANT PALETTE

SYM.	LOCATION	BOTANICAL NAME/COMMON NAME
TREES		
	EVERGREEN SCREEN TREE	TRISTANIA CONFERTA / BRISBANE BOX MELALEUCA QUINQUINERVIA
	LARGE FLOWERING ACCENT TREE	PYRUS SPECIES / FLOWERING PEAR
	CANOPY TREE	JACARANDA MIMSIFOLIA / JACARANDA PODOCARPUS GRACILIOR / FERN PINE MAGNOLIA GRANDIFLRA / SOUTHERN MAGNOLIA
	LIGHT WELLS	BAMBUSA TEXTILIS / BAMBOO SPECIES
	SMALL VERTICAL ACCENT TREE	PODOCARPUS 'MAKI' / SHRUBBY JAPANESE YEW
	LARGE VERTICAL ACCENT TREE	CUPRESSUS SEMPERVIRENS / ITALIAN CYPRESS

50 25 0 50

APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

FIGURE **3.0-12**

Northern Perimeter Landscaping

1052-001•07/10

4.0 SECTIONS NOT RECIRCULATED

4.1 INTRODUCTION

The project is subject to the *California Environmental Quality Act (CEQA) Guidelines*, Section 15088.5, Recirculation of an EIR Prior to Certification. This section of the *State CEQA Guidelines* describes the conditions under which a lead agency is required to recirculate a public draft EIR. The revised project design contains significant new information with addition of three proposed private garage structures with five second floor carriage units, and a request to provide less than the required number of parking spaces for the revised project design of 196 units.

Section 15088.5 allows a lead agency to recirculate only a few chapters of an environmental impact report EIR and there should be substantial evidence of why the other chapters do not require recirculation. The discussion below explains which environmental chapters are not recirculated in this document and the reasons why this decision was made.

4.2 SUMMARY OF CHANGES TO THE PROJECT FROM PUBLIC DRAFT EIR TO RECIRCULATED PUBLIC DRAFT EIR

The proposed revised project design differs from that described in the publicly distributed March 2010 Draft EIR in four primary changes that summarized here:

1. A reduction in the number of proposed residential units from a total of 216 to 196

2. A reduction in the ratio of number of parking spaces from 2:1 to 1.8:1 (an overall reduction from a proposed 433 parking spaces to 353 parking spaces), necessitating a new entitlement request for reduced parking (a parking deviation) to allow for fewer than County code mandated parking spaces to be provided for the project design

3. A new entitlement request (yard modification) to construct an 8-foot-tall masonry wall along the northern boundary of the project site

4. Site plan reconfigurations that would result in a change to the estimated on-site excavation quantities that had been anticipated under the original proposed project design

These four changes have resulted in the need to conduct additional analysis in regards to Traffic and Access and Visual Resources. These two environmental sections have been revised to include new analysis that reflects the changes of the revised project design described above.

The remaining seven environmental impact analysis sections included in the public March 2010 Draft EIR do not need to be recirculated as a result of the four primary changes to the project described above. The reasons why these seven sections do not require recirculation are provided below.

4.1 Land Use and Planning

Project Impacts

Threshold 1: Would the project physically divide an established community?

Development of the Millennium-Playa del Mar Apartments Revised Project Design would not physically divide the existing community because the project site is situated in an area typified by a variety of residential housing types that vary from low- to high-density land uses as well as commercial and industrial land uses. Low-density residential uses occur to the north and east of the project site. West of the project site are commercial land uses and south of the project site are existing and approved high density attached residential uses. Rather than divide an established community, the revised project would continue the recent development of higher density residential and commercial uses that currently border the site and are present or are planned in the nearby Playa Vista project that is situated farther to the south and west, thereby contributing to the coherence of the community by being consistent with contemporary land uses. The existing roadway infrastructure in this portion of the County would provide access to the project site, so there would be no disruption of existing arterials. Based on this, the revised project does not have the potential to divide the existing community. Also, the proposed project in conjunction with the dispersed related projects would not have the potential to divide the existing communities in the project area.

The 196-unit revised project would result in the same less than significant impact anticipated to occur under the more dense design of the project in the March 2010 DEIR. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the original project design.

Threshold 2: Would the project conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The analysis of this threshold with respect to the proposed revised project design is assessed by determining the project's consistency with the County of Los Angeles General Plan (all applicable

elements, and applicable goals, policies, and objectives), the Regional Comprehensive Plan and Guide, Southern California Association of Governments (SCAG) projections and plans, California Regional Water Quality Control Board (RWQCB) Water Quality Control Plan, Los Angeles County Congestion Management Program (CMP), and Los Angeles County Green Building Program. The proposed project of the March 2010 DEIR was assessed to result in no conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Therefore impacts were determined to be less than significant.

The two new entitlements required in the reduced density, revised project design: (1) a deviation for parking that requests a reduction in parking from County code requirements; and (2) a yard modification to allow for the construction of an 8-foot-tall masonry wall on the northern boundary of the project site.

The revised project design would result in the same less than significant impact anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 3: Would the conflict with any applicable habitat conservation plan or natural community conservation plan?

The project site is not located within a County-designated Significant Ecological Area (SEA) or SEA Buffer,[1] and there are currently no habitat or natural community conservation plans in the project area. As a result, development of the Millennium-Playa del Mar Apartments Project and related projects would not conflict with any habitat conservation plan or natural community conservation plan because no such plans are applicable to the project site or its vicinity.

The revised project design would result in the same less than significant impact anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Cumulative Impacts

The reasonably foreseeable projects all consist of individual development projects that do not involve any site improvements that would combine to physically divide any existing community, neighborhood, or district in communities surrounding the project site. All identified reasonably foreseeable projects would

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1 Los Angeles County Department of Regional Planning, GIS-NET, http://regionalgis.co.la.ca.us/imf/sites /GISNET_pub/jsp/launch.jsp. Accessed August 22, 2007.

be reviewed for consistency with adopted land use plans and policies by the jurisdiction where each reasonably foreseeable project is located and are anticipated to be consistent with applicable General Plan and zoning requirements, or be subject to an allowable exception, and further, would be subject to CEQA, mitigation requirements, and design review. No cumulative impacts, therefore, would result. Consequently, the incremental effect of the project would not be cumulatively considerable and the revised project's cumulative impacts would be less than significant as in the March 2010 DEIR.

4.2 Geology

Project Impacts

Threshold 1: **Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: (1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (2) Strong seismic ground shaking; (3) Seismic-related ground failure, including liquefaction; or (4) Landslides.**

The project site is not located within an Alquist-Priolo Earthquake Fault Zone. The project site is located in a seismically active region, and is in relative proximity to active faults. Based on regional data for the area (reference Geotechnical Analysis in **Appendix 4.2** of the March 2010 DEIR), relatively large peak ground accelerations (pga) are possible with strong earthquakes on the project site. A seismic hazard analysis indicated the potential ground shaking on site is 0.45 pga with an associated magnitude of 6.6 with a 10 percent probability of being exceeded in 50 years. Development of the proposed revised project design would expose future residents to strong seismic ground shaking associated with large magnitude earthquakes. The site would not be significantly affected by smaller seismic events due to the distance of the nearest active fault. Strong seismic ground shaking could damage buildings, roadways, and other structures associated with the proposed project. The project characteristics would not cause a greater risk of seismic shaking to residents or structures beyond what is currently experienced in the region. Project impacts related to seismic ground shaking would be less than significant and the revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 2: Would the project result in substantial soil erosion or the loss of topsoil?

The Geotechnical report (**Appendix 4.2** in the March 2010 DEIR) found no impact to potential loss of topsoil or soil erosion. This is due to the lack of water bodies and other sources of soil erosion in the vicinity.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 3: Is the project located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Approval of the revised project design would permit the construction and operation of a four-level apartment building and associated 4-story-deck parking structure. According to the Geotechnical report (**Appendix 4.2** in the March 2010 DEIR), the project site would be subject to ground shaking during a strong seismic event. During a strong seismic event, the project site could be subject to liquefaction if the sandy soils on the project site become saturated.

No oil or gas wells have historically occurred on the project site, but the project site is located proximal to potential sources of methane gas that are present in the vicinity of abandoned oil wells. As a result, methane concentrations beneath the project site could be high enough to concentrate within the proposed buildings. Construction compliance required under the County Building Code includes specifications for sites with the potential to contain methane gas, and would result in a less than significant impact.

To mitigate potential impacts associated with unstable soils and other geotechnical hazards as discussed in the March 2010 DEIR, Mitigation Measures 4.2-1 through 4.2-28 of the March 2010 DEIR would be implemented and incorporated into the design and construction of the proposed structures.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense proposed project with the incorporation of identified mitigation measures. Therefore, impacts would remain the same with the new project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 4 **Is the project located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.**

According to the Geotechnical report, (**Appendix 4.2** in the March 2010 DEIR), the project site has a low potential for expansive soils and does not meet the definition in Table 18-1-B of the Uniform Building Code (1994). Furthermore, the revised project design and construction of the structure at the project site would be required to be consistent with the UBC. Therefore, impacts related to expansive soils are considered less than significant.

Cumulative Impacts

Potential geologic or seismic impacts discussed above affect the project site and its inhabitants. Implementing the revised project design would not significantly increase the risk of geologic or seismic impacts to the surrounding communities of Los Angeles County and nearby incorporated cities. The potential for geologic and seismic impacts of and to the various adjacent and adjoining sites would be less than significant since these impacts would be mitigated prior to commencement of construction through compliance with the UBC and general engineering standards of care. Therefore, the cumulative impact of implementing the revised project design with respect to geology would not be significant.

4.3 Noise

Project Impacts

Threshold 1 **Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the applicable General Plan or noise ordinance.**

Interior space is regulated by Title 24, Section 2 of the California Code of Regulations. The code requires that multi-family buildings be constructed in such a way that private interior space is not subjected to noise levels in excess of 45 dB(A). Therefore, as a matter of law and regulatory compliance, the revised project design would have to be sufficiently insulated to maintain interior noise levels below state and County standards. Further, all interior spaces would be air conditioned. A building with open windows will typically attenuate noise levels by approximately 17 dB(A). However, with closed windows and air conditioning in-place, interior noise standards would be achieved and no impact would occur as discussed in the March 2010 DEIR.

The project traffic study conducted by Raju Associates, Inc. compiled traffic counts in May 2009 with data collected at 14 intersections located in the City of Los Angeles and Culver City that surround the project

site. The revised project would contribute traffic volumes that would increase noise levels from 0.0 dB(A) to 0.7 dB(A) along the studied roadways segments. This increase is not generally perceptible to most individuals and the operational noise levels are close to the applied standard. Therefore, impacts are not considered significant given County noise assessment methodologies and current assessment standards.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 2 **Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**

The primary vibration source associated with development involves the use of pile drivers during foundation construction because pile divers create a high intensity, repetitious noise that is disturbing and can result in substantial ground vibrations. Without mitigation, this construction vibration represents a potentially significant impact. However, implementation of Mitigation Measure 4.3-1 of the March 2010 DEIR would reduce potential vibration impacts to a less than significant level.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project with the incorporation of mitigation measures identified in the March 2010 DEIR. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 3 **Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

The primary source of noise as a result of the project is roadway noise from vehicle traffic. The revised project design would increase noise levels from 0.0 dB(A) to 0.7 dB(A) along studied roadways segments. This increase is not generally perceptible to most individuals. In general, changes in noise levels of less than 3 dB(A) are not typically noticed by the human ear. As indicated above, the County has indicated that an increase of 3 dB(A) above the applied standard would be considered a significant increase. As the revised project design traffic would not result in an increase of 3 dB(A), and is therefore not audible, impacts are not considered significant, and sensitive receptors that are located adjacent to the project site and the nearby Playa Del Rey Elementary School would not be substantially affected by noise generated by project traffic.

Noise generated by vehicles traveling on the alleyways along the northern and southern boundaries of the project site could result in a substantial permanent increase in ambient noise levels at the adjacent single- and multi-family residences, respectively. An analysis of potentially significant impacts is provided below.

Upon completion of the proposed project site, residents of the Millennium-Playa del Mar Apartments would be able to access the property on the northern side via a driveway off of Grosvenor Boulevard and exit the property from the same driveway or off the southern alley onto Grosvenor Boulevard. The private northern driveway off Grosvenor of the proposed project site is expected to have 956 ADT during operation of the project site and the southern driveway and access way is expected to have 478 egress only ADT during operation, as determined from the project traffic study for a 196-unit project.

Model results indicate that a noise level of 45.5 dB(A) CNEL could be expected at the adjacent residential land uses to the north of the project site if all 956 project-generated trips were to travel along the private drive. This noise level would be without the attenuation of the proposed private garages and carriage units, the block wall between, and the landscaping strip between the proposed project and the residential uses to the north. The following provides an analysis of the attenuation factors of each of these barriers that would be located between the noise source (vehicles using the northern driveway) and the residential units to the north.

Analysis has been conducted to determine the attenuation of this noise level with only the development of parking garages and carriage units between the noise source and the residential units to the north. The enclosed buildings would be constructed in such a way that the walls are composed of plywood covered with stucco on the outside and gypsum board on the inside with R-11 insulation added within the interior of the wall. The two-story buildings would be approximately 22 feet in depth and (a maximum of 22 feet in height. The U.S. Department of Housing and Urban Development's *Noise Guidebook* was used to model the attenuation rates of the estimated noise level if this garage was developed. Based on the results of the model, if a 22-foot-tall garage and carriage unit was developed on the northern side of the project site between the residential uses to the north and the proposed project itself, the 45.5 dB(A) CNEL noise level would be attenuated by 17.4 dB(A) CNEL. This would result in a noise level of 28.1 dB(A) CNEL.

Analysis has also been conducted to determine the attenuation of this noise level if an 8-foot-tall block wall was the only barrier constructed between the project site and the residential uses to the north of the project site. The U.S. Department of Housing and Urban Development's *Noise Guidebook* was used to model the attenuation rates of the estimated noise level if the 8-foot-tall block wall was developed. Based on the results of the model, if a 8-foot-block wall was developed on the northern side of the project site

between the residential uses to the north and the proposed project itself, the 45.5 dB(A) CNEL noise level would be attenuated by 11.4 dB(A) CNEL. This would result in a noise level of 34.1 dB(A) CNEL. The resulting noise levels at the adjacent residential homes from the 8-foot-tall block wall would not exceed allowable noise levels as standardized by the County of Los Angeles. The above analysis assumes a standard concrete block wall.

Furthermore, the applicant of the proposed project would include the development of a 10-foot-wide setback just south of the proposed property line block-wall that would be landscaped with mature trees ranging in height between 12 to 16 feet. The 10-foot wide landscape setback would be reduced to 6 feet at the fire access gate. Additionally, south of this 10-foot-wide setback and north of the driveway the applicant is proposing to develop a two-story (a maximum height of 22 feet) enclosed private garages and carriage units. This structure would be insulated as described above and composed of stucco covered wood-framed walls, approximately 22 feet in depth and at least 250 feet in length.

The proposed project 10-foot-wide landscaped area between the northern side of the garage and the block wall separating the residential units to the north from the project site would provide minimal noise attenuation. Sound is attenuated by foliage primarily by reflection or scattering. The reduction of a direct beam of sound by foliage can be estimated in terms of the leaf area per unit volume of the foliage's canopy, leaf width, breadth of the canopy, and wavelength of the sound. Because leaves diffuse concentrated sound effectively but absorb little, best results are obtained when a screen of vegetation is placed on a line of sight between a direct source and a listener and closer to the source than the listener. Sound that is already diffuse is reduced relatively little.[2] Depending on these factors, vegetation can attenuate noise between 0.0 dB(A) to 3.7 dB(A)[3].

Development of the private garages and carriage units, the vegetative landscape area and the 8-foot-tall block wall would attenuate the noise levels to which residents north of the project site would be exposed. However, due to the height of the garages and carriage units (22 feet tall) and the height of the foliage in the landscaped area (12 to 16 feet tall), development of the 8-foot-high block wall would not appreciably attenuate the noise level any lower than with the development of the first two "barriers". The line-of-sight would be broken by the garage and foliage, but would not be broken by the 8-foot-tall block wall since it is shorter than the private garages and carriage units and landscape strip. Therefore, with the development of the garages and carriage units, the 10-foot-wide landscaped area and the 8-foot-tall block

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2 Donald E. Aylor, Department of Ecology and Climatology, The Connecticut Agricultural Experiment Station, "Some Physical and Psychological Aspects of Noise Attenuation by Vegetation."

3 Donald E. Aylor, Department of Ecology and Climatology, The Connecticut Agricultural Experiment Station, "Some Physical and Psychological Aspects of Noise Attenuation by Vegetation" Figure 1.

wall, noise is expected to be attenuated between 15.1 dB(A) to 21.1 dB(A), thus resulting in exterior noise levels experienced by the residents to the north of the project of between 24.4 dB(A) to 30.4 dB(A). Impacts from operational noise would be less than significant. For comparison, a noise level of 60 dB(A) CNEL may be compared to the quiet range of human conversation.

The proposed parking structure would be enclosed. Multi-family residences located adjacent to the south of the project site would be approximately 37 feet south of the parking structure after project construction. While the enclosed structure would act as a barrier, noise generated by vehicles traveling away from the parking structure such as tires squealing, car stereos and horns honking would pass along he alley. These sources of noise may be audible at the northernmost residential units within the adjacent multi-family complexes and may result in temporary annoyances. However, this noise would be temporary and periodic and occur most intensely during the AM and PM peak periods when project residents are leaving to work. Further, the proposed parking structure is not anticipated to introduce a substantial permanent noise source that would exceed defined County Standards in the ambient noise level. Therefore, impacts would be less than significant.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 4 **Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

The construction phase is planned for a period of 16 months, and will be broken into sub-phases that will overlap for short periods. These sub-phases will consist of (1) removal of all existing structures and paving on site and export of materials; (2) underground utility, plumbing and sewage installation; (3) site leveling and grading, including soil export; (4) excavation of foundation and export of soils; (5) foundation construction (pour-in-place concrete); (6) framing; (7) above ground wiring and plumbing installation; (8) interior and exterior wall installation and roofing; (9) installation of plumbing fixtures and appliances; (10) application of exterior and interior architectural coatings; and (11) landscaping.

Noise levels were calculated to be highest during the phases of site development that included building demolition and removal, site grading, and excavation for the proposed building foundation. During these phases multiple pieces of heavy mobile equipment (backhoes, haul trucks, etc.) would be used on the site.

The noise level for building demolition equipment, at a distance of 50 feet is calculated to be 87.7 dB(A). The noise levels calculated for the foundation and pavement demolition, and fence removal equipment is 93.5 dB(A) at 50 feet.

Noise levels for demolition, grading, and excavation would be audible and substantially above the permitted daytime standards of 75 and 80 dB(A) for single- and multi-family residential land uses and schools, as established in the County Noise Ordinance and shown previously in **Table 4.3-2** in the March 2010 DEIR. Construction activities, therefore, are expected to result in intermittent daytime exceedances of the County noise guidelines for short periods. As sensitive receptors are located adjacent to and in the vicinity of the project site, this intermittent increase in noise would result in a significant impact and would most substantially impact those homes located north of the project site. Mitigation measures suggested by the County will reduce construction noise, but not to levels below County significance thresholds, which will result in a short-term, significant and unavoidable noise impact.

Project construction will require the use of heavy trucks to haul equipment and materials to the site, as well as transport debris and earth excavated during demolition of existing structures and grading of the site. To limit noise impacts associated with construction traffic on nearby land uses, truck haul routes have been established which route vehicles away from sensitive uses to the maximum extent feasible. As proposed the haul route will be Grosvenor south to Jefferson and Jefferson east to the 405 Freeway (I-405).

Noise impacts from construction traffic would be greatest during the demolition and grading phases of project development, when (excepting construction employees trips) heavy trucks are expected to make up to 38 (round) trips on average per working day to haul debris and excess cut material from the site. This construction traffic would only be traveling to and from the site during working hours. Therefore, a temporary significant impact would result from trucks traveling to and from the project site along the haul route during the demolition and grading phases of the project. Mitigation Measures 4.3-2 to 4.3-4 of the March 2010 DEIR is incorporated to reduce the severity of construction noise impacts.

Although the mitigation measures set forth above would reduce the severity of the construction noise impacts, the impacts would nevertheless remain significant and unavoidable.

The revised project design would result in the same significant and unavoidable impacts anticipated to occur under the more dense original proposed project, even after incorporation of mitigation measures. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Cumulative Impacts

As discussed previously, the primary source of noise in the project area is roadway noise from vehicle traffic. With regional growth in traffic volumes and increased traffic due to other nearby development projects, it is likely that there will be cumulative roadway noise impacts along other roadways in the project area. The proposed project would contribute traffic volumes in the future that would increase noise levels from 0.0 dB(A) to 0.7 dB(A) along studied roadways segments. This increase is not generally perceptible to most individuals and would not exceed defined County standards. For purposes of calculating cumulative contribution to noise impacts, the project-specific contribution of any given project must be perceptible because an imperceptible noise contribution is functionally equal to a contribution of zero. Although it is likely that there will be regional traffic noise impacts along arterial roadways due to regional traffic growth, the proposed project would not contribute perceptible noise to these cumulative impacts.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

4.4 Air Quality

Project Impacts

Threshold 1 **Would the project construction emissions exceed any of SCAQMD's daily construction emission thresholds?**

Construction Emissions

The proposed project's estimated construction emissions from the Draft EIR are shown in **Table 4.4-1**, **Estimated Construction Emissions (Draft EIR)**. As shown, the proposed project would exceed the South Coast Air Quality Management District (SCAQMD) significance threshold for emissions of volatile organic compounds (VOCs).

Table 4.4-1
Estimated Construction Emissions (Draft EIR)

Construction Year	Maximum Emissions in Pounds per Day					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2011						
Demolition	3.50	29.71	16.71	0.01	7.08	2.62
Mass Grading	7.46	71.09	34.81	0.04	13.86	5.32
Building Construction	6.20	46.32	62.68	0.08	3.08	2.62
Maximum pounds per day:	**7.46**	**71.09**	**62.68**	**0.08**	**13.86**	**5.32**
SCAQMD Threshold:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO
2012						
Building Construction	5.75	42.34	58.96	0.08	2.82	2.39
Architectural Coating	145.45	0.14	2.47	0.00	0.03	0.01
Asphalt Paving	2.56	14.89	10.98	0.00	1.28	1.17
Maximum pounds per day:	**153.75**	**57.37**	**72.41**	**0.09**	**4.12**	**3.57**
SCAQMD Threshold:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	**YES**	NO	NO	NO	NO	NO

Source: Impact Sciences, Inc.
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

The revised project's estimated construction emissions are shown in **Table 4.4-2**, **Estimated Construction Emissions (Revised Project)**. The revised project's construction emissions would result in increased respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) compared to the project analyzed in the Draft EIR. The increase is due to the additional grading and excavation amounts for the revised project. As discussed in the Draft EIR, the proposed project would incorporate SCAQMD-recommended Best Available Control Measures to control and reduce fugitive dust emissions. The emissions modeling in the Draft EIR accounted for PM_{10} and $PM_{2.5}$ reductions from the watering of exposed surfaces and unpaved roads and the implementation of soil stabilization measures during equipment loading and unloading during site grading. The revised project would incorporate two additional measures that would reduce construction-related fugitive dust emissions. These measures include requiring that vehicles traveling over unpaved roads reduce speeds to 15 miles per hour or less and the implementation of soil stabilization measures on inactive areas within the project site.

As shown in **Table 4.4-2**, the revised project's emissions are similar to the project analyzed in the Draft EIR. Construction emissions of VOC, nitrogen oxides (NO_X), carbon monoxide (CO), and sulfur oxides (SO_X) would be the same or slightly lower than the proposed project's emissions due to the decrease in the number of dwelling units that would be constructed as part of the revised project. Air quality impacts for both projects would be significant for VOC emissions; however, the revised project would generally result in lower VOC emissions.

Table 4.4-2
Estimated Construction Emissions (Revised Project)

Construction Year	Maximum Emissions in Pounds per Day					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2011						
Demolition	3.50	29.71	16.71	0.01	10.16	3.26
Mass Grading	7.46	71.09	34.81	0.04	14.07	5.37
Building Construction	6.12	45.78	60.91	0.08	3.04	2.60
Maximum pounds per day:	**7.46**	**71.09**	**60.91**	**0.08**	**14.07**	**5.37**
SCAQMD Threshold:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO
2012						
Building Construction	5.67	41.85	57.32	0.08	2.79	2.36
Architectural Coating	142.67	0.13	2.36	0.00	0.02	0.01
Asphalt Paving	2.56	14.89	10.98	0.00	1.28	1.17
Maximum pounds per day:	**150.89**	**56.88**	**70.65**	**0.09**	**4.09**	**3.54**
SCAQMD Threshold:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	**YES**	NO	NO	NO	NO	NO

Source: Impact Sciences, Inc.
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

Impacts related to construction emissions associated with the revised project design would be considered significant when the project exceeds the limit for VOC. The revised project design would implement Mitigation Measures 4.4-1 through 4.4-4 described in the March 2010 DEIR to reduce construction air quality impacts.

Threshold 2 **Would the project construction and operational emissions exceed any of SCAQMD's localized significance thresholds?**

Construction Localized Significance Thresholds

The proposed project's impacts with respect to the localized significance thresholds from construction emissions from the Draft EIR are shown in **Table 4.4-3**, **Localized Significance Thresholds Analysis (Draft EIR)**. As shown, the proposed project would not exceed the SCAQMD localized significance thresholds during construction.

Table 4.4-3
Localized Significance Thresholds Analysis (Draft EIR)

Significance Threshold	Pollutant (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction				
Maximum Daily On-site Emissions:	71.09	62.68	12.48	4.16
Localized Significance Threshold:	**182.04**	**1,632.37**	**13.41**	**7.32**
Exceeds Threshold?:	NO	NO	NO	NO

Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology*, (2008), Appendix C.*
NOTE: There has been an error in reporting the on-site construction emissions of NO_X and CO. The numbers shown in the EIR and in this table represent the on-site and off-site total emissions of NO_X and CO.
[1] *LST thresholds are interpolated from the values in this document, based on the project, location, project size, and the distance to the nearest sensitive receptor.*
[2] *The NO_X LST thresholds contained in the SCAQMD lookup tables are based on emissions of NO_X from construction of the project and assume gradual conversion to NO_2 based on the distance from the project site boundary.*

The revised project's impacts with respect to the SCAQMD localized significance thresholds from construction emissions are shown in **Table 4.4-4**, **Localized Significance Thresholds Analysis (Revised Project)**. The revised project's construction emissions would result in an increased in localized PM_{10} and $PM_{2.5}$ impacts due to the additional grading activities. However, the revised project would incorporate two additional measures that would reduce construction-related fugitive dust emissions (requiring that vehicles traveling over unpaved roads reduce speeds to 15 miles per hour or less and the implementation of soil stabilization measures on inactive areas within the project site). With these additional measures, the revised project would not exceed the LST thresholds for any of the pollutants.

It should be noted that the U.S. Environmental Protection Agency (EPA) promulgated a new 1-hour National Ambient Air Quality Standard (NAAQS) for nitrogen dioxide (NO_2). The new 1-hour standard is 100 parts per billion (ppb) (188 micrograms per cubic meter [$\mu g/m^3$]) and went into effect on April 12,

2010 (after circulation of the Draft EIR). Compliance with the standard is determined on a statistical basis (i.e., the 3-year average of the 98th-percentile of the annual distribution of daily maximum 1-hour concentrations).

The localized significance thresholds analysis should be based on the most stringent ambient air quality standards in effect. Prior to the new U.S. EPA standard, the 1-hour California Ambient Air Quality Standard (CAAQS) for NO_2 was the most stringent standard at 180 ppb. The SCAQMD screening tables for NO_2 are based on the 1-hour CAAQS. The SCAQMD has not revised the LST screening tables to correspond to the new U.S. EPA 1-hour NO_2 standard. However, as shown in **Table 4.4-4**, the NO_X emissions are less than 23 percent of the previous threshold. Given that the project's NO_X emissions are substantially less than the previous threshold, the revised project would not exceed the new U.S. EPA 1-hour NO_2 standard at nearby sensitive receptors.

Table 4.4-4
Localized Significance Thresholds Analysis (Revised Project)

Significance Threshold	Pollutant (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction				
Maximum Daily On-site Emissions:	40.97	22.78	12.70	4.21
Localized Significance Threshold:	**182.04**	**1,632.37**	**13.41**	**7.32**
Exceeds Threshold?:	NO	NO	NO	NO

Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology*, (2008), Appendix C.*
[1] *LST thresholds are interpolated from the values in this document, based on the project, location, project size, and the distance to the nearest sensitive receptor.*
[2] *The NO_X LST thresholds contained in the SCAQMD lookup tables are based on emissions of NO_X from construction of the project and assume gradual conversion to NO_2 based on the distance from the project site boundary.*

Threshold 3 **Would project operational emissions exceed any of SCAQMD's daily operational thresholds?**

Operational Emissions

The revised project's operational emissions would be lower than the emissions presented in the Draft EIR for the proposed project due to the decrease in the number of dwelling units. Therefore, operational emissions are not provided as operational emission impacts would remain less than significant.

Parking Structure CO Hotspots

Motor vehicles entering and exiting the proposed parking structure could potentially queue for several minutes resulting in localized CO emissions. The queuing of motor vehicles at intersections or at other "bottleneck" points has the potential to result in the formation of CO hotspots, which are localized areas that exceed the NAAQS or the CAAQS. Typically, the potential for CO hotspots is highest at traffic congested intersections. However, given the proximity of the existing apartment buildings to the entrance of the proposed parking structure, a CO hotspots analysis was performed for the parking structure. Projects that contribute to the formation of CO hotspots that exceed the NAAQS or CAAQS at sensitive receptors would be considered to result in a significant impact.

The CO hotspots analysis for the proposed parking structure was based on conservative assumptions in order to estimate worst-case impacts. The analysis utilized the U.S. EPA's screening dispersion model, SCREEN3, which is a single source Gaussian plume model that provides maximum pollutant concentrations for point, area, flare, and volume sources. The model utilizes worst-case meteorological conditions (i.e., calm winds and stable atmosphere) to estimate maximum impacts. The model requires the user to characterize the emissions source, provide emission rates, and specify receptor distances from the emissions source.

The California Air Resources Board (CARB) and the SCAQMD generally recommend that motor vehicles be modeled as volume sources. A volume source is a three-dimensional source of pollutant emissions. Consistent with CARB and SCAQMD recommendations, a volume source was used to model the motor vehicle emissions. The volume source was located at the entrance of the parking structure. This is a conservative assumption because it assumes that all CO emissions from the parking structure would be emitted from one location. In reality, motor vehicles could be operating in several different locations and on different levels and CO emissions would likely be emitted from several different points. By concentrating the emissions at one location, the analysis would result in worst-case maximum impacts.

The CO emission rate was calculated using CARB's EMFAC2007 on-road vehicle emissions model. Emission rates were calculated for passenger vehicles and light-duty trucks (e.g., pick-up trucks, SUVs) assuming a representative vehicle fleet age distribution for year 2012. The CO emission rate was also calculated based on the peak hour trip rate of 136 trips for the proposed project. It was assumed that 136 vehicles would enter or exit the proposed parking structure and each vehicle would queue for 5 minutes with the engine on. This would result in a conservative analysis because it is unlikely that all 136 vehicles would enter/exit the proposed parking structure at the same entrance/exit point and it is unlikely that all 136 vehicles would queue for 5 minutes. The revised project has fewer dwelling units

and would actually result in fewer than 136 peak hour trips. However, the peak hour trips identified in the Draft EIR was used as another conservative assumption.

The distance to the nearest receptor is estimated at 25 feet based on the width of the alley between the proposed project and the existing apartment buildings on the south end of the project site. The results of the analysis are provided in **Table 4.4-5, Parking Structure CO Hotspots Analysis**.

Table 4.4-5
Parking Structure CO Hotspots Analysis

Averaging Period	Receptor Distance (feet)	Parking Structure CO Conc. (ppm)	Peak Background CO Conc. (ppm)	Total CO Conc. (ppm)	Threshold	Standard Exceeded?
1-hour	25	0.09	4	4.1	20	NO
8-hour	25	0.06	2.5	2.6	9.0	NO

Source: Impact Sciences, Inc., (2010)

As shown in **Table 4.4-5**, the queuing of motor vehicles at the parking structure would not result in peak CO concentrations that exceed the 1- and 8-hour thresholds, including the existing background levels. Therefore, impacts would be less than significant.

Threshold 4 **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? Would the project conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

Greenhouse Gas Emissions

The construction greenhouse gas emissions of the revised proposed project would likely be slightly higher than the proposed project during grading/excavation due to the increase in grading and excavation amounts. However, the decrease in the number of dwelling units associated with the revised project would reduce operational greenhouse gas emissions compared to the proposed project. The reduction in operational greenhouse gas emissions would more than offset the increase in annualized construction greenhouse gas emissions. Therefore, the revised project design would result in similar or reduced greenhouse gas impacts compared to the proposed project in the March 2010 DEIR. As such, the revised project design would have a less than significant impact on global climate change.

4.7 Hydrology and Water Quality

Project Impacts

Threshold 1: Would the project result in on- or off-site flooding?

Project Construction: As the proposed Millennium-Playa del Mar Apartments revised project design would disturb more than 1 acre, the project would require an NPDES permit. The project applicant would need to identify and implement BMPs to control water quality impacts during construction via a SWPPP. This permit generally includes the use of sandbags and other retention features that limit erosion and the downstream flow of suspended material to local storm drains during construction. This plan shall be approved prior to demolition by LACDPW.

Project Operation: The revised project design includes landscaped setbacks and increase landscaped garden areas as project design features that would increase permeable surfaces (surfaces capable of natural percolation of storm water) from 9 percent on the existing site to approximately 19 percent under the proposed project. After project buildout, runoff from the project site would be 8.3 cfs during a 50-year storm event, which is 2.2 cfs less than the existing conditions on site. Los Angeles County policy on levels of flood protection require that projects be designed for runoff from a 50-year storm event. As runoff volumes during the 50-year storm event would be less than the existing condition and the project would be required to comply with County flood protection standards, and impacts would be less than significant.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 2: Would the project result in increased erosion or sedimentation?

Project construction activities, including demolition, grading/excavation, and building construction could result in increased water and wind erosion and a potential for the discharge of sediment to the storm drain system. Increased sedimentation could result in a significant erosion and sedimentation impact unless mitigated. The project applicant would be required to prepare a SWPPP pursuant to the NPDES that would identify the various BMPs that would be implemented at the construction site (see below for a discussion on BMPs). Specifically BMPs may include the use of sand bags, manufactured straw berms, and the plastic covering of exposed earth material. Mitigation Measure 4.7-1 in the March 2010 DEIR is

recommended that in conjunction with identified BMPs would reduce erosion and sedimentation impacts to less than significant levels.

Upon project completion, the project site would be covered with non-erosive surfaces, including roofs, pavement, and/or permanent vegetation, which would reduce sediment in site runoff (as described above). As a result, the potential for post-development sedimentation would be reduced or eliminated and impacts associated with project operation are not significant.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project with incorporation of the specified mitigation measures. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Threshold 3: Would the project result in impacts that would affect surface or groundwater quality?

Storm Water Quality Impacts; Demolition and Construction Water Quality Impacts: Demolition and construction activities that would disturb more than 1 acre would require a NPDES permit to mitigate demolition- and construction-related water quality impacts. Pollutants typical of demolition and construction activities include sediments from wind and water erosion, nutrients from fertilizing new landscaping, trace metals, pesticides, toxic chemicals (e.g., adhesives, cleaners, sealants, solvents, etc.) and miscellaneous wastes (e.g., debris, wash water from concrete mixers, paints, solid wastes, etc.). Because the site improvements were originally constructed prior to bans on asbestos and lead paint, there is potential for these materials to enter storm flows unless the project contractor takes the required steps to remove and dispose such materials pursuant to federal and state law. Pollutants that may occur within water collected from the existing parking lot may include petroleum products, including gasoline and oil, rubber and other car fluids. Therefore, the project applicant would be required to prepare a SWPPP pursuant to the NPDES that would identify the various BMPs that would be implemented on the site during demolition and construction (see below for a discussion on BMPs). The project applicant is responsible for obtaining the necessary NPDES construction permit for the project site from the RWQCB, Wastewater Division. With compliance, requirements of the NPDES construction permit, demolition- and construction-related water quality impacts would reduce impacts to levels less than are considered significant.

Storm Water Quality Impacts; Post-Construction Water Quality Impacts: Common concerns related to surface water quality include the potential deposition of pollutants generated by motor vehicles and the

maintenance and operation of landscape areas. Urban runoff contains almost every type of water pollutant, including suspended solids, bacteria, heavy metals, oxygen-demanding substances, nutrients and oil and grease. Primary sources of urban runoff pollutants include animal droppings, atmospheric fallout, land erosion, lawn runoff (pesticides, herbicides, fertilizers), and pavement runoff.[4] These pollutant sources are described below.

Land Erosion: Land erosion can affect water quality by contributing biological oxygen demand (BOD), suspended solids, and heavy metals. The potential for erosion was discussed previously in this impact section.

Landscape Runoff: Runoff from landscaped areas can contribute BOD, pesticides/herbicides/fungicides and nitrates to surface and subsurface water bodies. Similar to the existing condition, the majority of the project site would be paved. Thus, there is a minor potential for increased quantities of pesticides/herbicides/fungicides and nitrates to enter and incrementally degrade surface water if runoff were to enter the drainage system. Furthermore, landscaped areas would help control runoff by allowing some percolation into the soil rather than allowing direct runoff into surface water bodies as does paved surfaces. All proposed vegetation swales are to be located in landscaped areas. Based on the above, water quality impacts from landscape runoff are considered less than significant.

Pavement Runoff: Runoff from paved surfaces can contribute BOD, suspended solids and heavy metals to water bodies. Oil and grease (hydrocarbons), in particular, represent a low level, chronic release of pollutants into water bodies and may originate from a number of small, non-point sources: vehicle exhausts, crankcase oils, fuel oils, etc. Since a portion of the project site is presently developed as surface parking lot which is used both for church parking as well as for office employee overflow parking, existing surface runoff from the project site contains such material, which discharges directly into the ocean via the Ballona Channel. However, the proposed project would place most parking within covered parking structure where pollutants would be contained; such pollutants are less likely to be transported by rainfall into the storm drain system. Furthermore, if required by the LACDPW during preparation of the final drainage plan, the project would contain bioswales or similar features to capture runoff before discharging into it into the small-craft harbor. All proposed vegetation swales are to be located in landscaped areas. As a result, pollutants from pavement runoff are likely to be less than experienced under existing conditions and would be considered as less than significant.

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4 Robert A. Corbitt, *Standard Handbook of Environmental Engineering*, (New York City: McGraw-Hill Publishing Company, 1989), p. 753.

Animal Droppings: Animal droppings contribute bacteria, nitrates, and BOD[5] to water sources. With more intensive redevelopment of the site, more domesticated animals are expected to reside on the project site than under current conditions. Unless mitigated, the additional droppings would continue to degrade water quality impacts relative to pollutants associated with animal droppings.

Atmospheric Fallout: Atmospheric fallout can contribute to BOD, nutrients and heavy metals to surface water quality. Atmospheric deposition occurs in the form of precipitation (e.g., acid rain) or as dustfall. Although acid rain is not a major concern in the project area, dustfall, especially during periods of high (Santa Ana) wind conditions, would be considered a source of pollution of surface water bodies. However, the surrounding land areas are mostly paved and the site is near the ocean, which serves to limit the amount of fugitive dust entrained in the wind. Further, the project would contain erosion-controlling vegetation which would capture and hold atmospheric fallout which does reach the project site. Atmospheric fallout that would settle onto the site would likely remain on the site during the rainy seasons rather than flow into the small-craft harbor due to the presence of an improved drainage network that must contain design features that limit pollutant runoff pursuant to the SWPPP during project construction.

The project applicant would also be required to address long-term monitoring and implementation of BMPs on the project site. With implementation of BMPs and considering project design, water quality impacts of the associated with the Millennium-Playa del Mar Apartments Project would be less than significant.

Best Management Practices: The County will require BMPs to minimize pollutants entering local water bodies. BMPs are actions and procedures established to reduce the pollutant loadings in storm drain systems. The two main categories of BMPs, which may be part of public agency activities or, in some cases, applicable to development projects, are "source control" and "treatment control." Source control BMPs are usually the most effective and economical in preventing pollutants from entering storm and non-storm runoff. Examples of source control BMPs that are relevant to the project were included in the March 2010 DEIR

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5 Biological Oxygen Demand (BOD) is a standard test to determine the amount of dissolved oxygen utilized by organic material over a five-day period. It determines the amount of organic material in a water sample.

Storm water runoff from the site will be treated by an off-line centralized SUSMP device and/or BMP filter, or approved equivalent, in the on-site storm drain system prior to release into public facilities.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Cumulative Impacts

Cumulative impacts for this analysis are discussed relative to buildout of the upstream tributary watershed in which the project lies. Development and redevelopment projects in the watershed must comply with storm drainage design criteria that prohibit significant increases in post-development storm flows and significant increases in storm flow velocities. As a result, overall storm runoff discharge quantities into the Ballona Channel under post-development runoff conditions would be no greater than under existing conditions.

Because on-site drainage facilities would have adequate capacity to capture and convey off-site flows from the site and from developed upstream areas during a 50-year frequency storm, and because any new or upgraded storm drainage improvements in the remainder of the watershed would be required to convey design year storm flows, no significant increases in velocity and related scouring, and no significant cumulative project flooding impacts are expected to occur downstream of the site.

Furthermore, the development and redevelopment of the remainder of the watershed would result in water quality impacts similar to those of the proposed project and would be subject to the same types of water quality requirements as the project. Therefore, no cumulative water quality impacts are anticipated.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project in the March 2010 DEIR.

4.8 Sewer Service

Project Impacts

Threshold 1: **Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

Threshold 2: **Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

Threshold 3: **Would the project result in the determination by the wastewater treatment provider, which serves or may serve the project, that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

Construction Impacts: Construction activities on the project site are expected to begin in June 2011 and would require a total of approximately 18 months to complete. Anticipated buildout would be completed in December 2012.

Demolition of existing on-site uses would not disrupt sewer services to adjacent residential land uses, as the sewer lines on the project site would be disconnected on site prior to removal of the existing structures.

Construction contractor activities on site during construction would not contribute any quantifiable amount of wastewater to the sewer because contractors provide portable on-site sanitation facilities for use during demolition and construction that would be serviced by approved and licensed operators that maintain agreements with local treatment plants to dispose of their domestic sewage. Therefore, wastewater that would be generated during construction would not have a significant impact on local wastewater treatment facilities.

Operation Impacts; Wastewater Collection System Improvements: Based on information obtained from Development Resource Consultants, the sewage collection and conveyance system designed to serve the proposed Millennium-Playa del Mar Apartments Project would connect to the existing 8-inch sewer main located in Grosvenor Boulevard. The City and County of Los Angeles have evaluated the increase in sewer flows due to the project and has found there to be sufficient capacity in the receiving mains (reference **Appendix 4.8** in March 2010 DEIR).

The project would require construction of a new main that would connect to the existing 8-inch main located in Grosvenor Boulevard. The LACDPW requires that any developer constructing a new sewer line must coordinate the construction and dedication of the sewer with the department's Water Works and Sewer Maintenance Division for future operation and maintenance. All local collector sewer lines within the project boundaries would be constructed to the standards set forth by LACDPW, and would be sized to accommodate sewage flows generated at project buildout. Impacts to the wastewater collection system would be less than significant.

Operation Impacts; Wastewater Treatment System: As shown below in **Table 4.8-2**, the proposed Millennium-Playa del Mar Apartments Project would generate approximately 27,160 gpd of domestic wastewater. This represents a net increase of 25,265 gpd of domestic sewage due to the increased number of apartment units when compared with the church and single residential unit.

Sewage generated on the project site would be conveyed via the mains identified to the HTP for treatment. With the HTP currently operating 130 mgd below capacity, the addition of approximately 25,265 net gpd generated by the proposed Millennium-Playa del Mar Apartments Project would not exceed current plant exceeding capacity. This fact has been confirmed by the City of Los Angeles Bureau of Engineering that has issued a report indicating sewage treatment capacity was available and approved the request for the project. This approval is contained in **Appendix 4.8** in the March 2010 DEIR. Therefore, adequate capacity exists to treat sewage generated by the project, and the impact of the proposed project on the sewage treatment system is less than significant.

Table 4.8-2
Proposed Millennium-Playa del Mar Apartments Project Wastewater Generation

Land Use	Units	Generation Rate	Daily Generation (gal/day)
Apartments			
One bedroom	105	120 gal/day	12,600
Two bedroom	91	160 gal/day	14,560
Subtotal	**196**		**27,160**
Less Existing Uses			1,895
Net Project Total:			**25,265**

Source: Impact Sciences, Inc., August 2010.
du = dwelling unit.
[1] *Generation Rates are from the Los Angeles CEQA Thresholds Guide, City of Los Angeles, 2006, page M.2-23 through Page M.2-26.*

The Millennium-Playa del Mar Apartments Project applicant must pay connection fees to the City of Los Angeles in order to fund incremental expansion of treatment capacity. The project applicant has obtained a will serve letter prior to issuance of building permits demonstrating the ability of the treatment plant and collection system to accommodate project generated effluent. Within the County, all sewer improvement will be required to be annexed to the Consolidated Sewer Maintenance District. Based on the above, no significant impacts to wastewater treatment facilities will occur as a result of the proposed project.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Cumulative Impacts

As shown in **Table 4.8-3** in the March 2010 DEIR, buildout of the Millennium-Playa del Mar Apartments Project and related projects occurring within the CSMD and MSMD would generate an estimated 2,061,356 gpd of domestic wastewater, which does not exceed the 130 mgd currently available at the HTP. Therefore, capacity is available at the HTP under current contracts. In addition, each future project is required to provide adequate capacity to convey sewage to a safe point of discharge and pay fees to connect to the sewage system. In this manner, the existing sewage collection and conveyance system would be upgraded to accommodate sewage created by the development of future projects.

The revised project design would result in the same less than significant impacts anticipated to occur under the more dense original proposed project. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

4.9 Solid Waste Service

Project Impacts

Threshold 1: **Would the project be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.**

Threshold 2: **Would the project not comply with federal, state, and local statutes and regulations related to solid waste.**

Construction Impacts

Construction of the Millennium-Playa del Mar Apartments Project would initiate in June 2011, and would require a total of approximately 18 months to complete. As proposed, the project would require the removal of the existing church and residential unit. Demolition of existing uses would generate approximately 15,000 cubic yards (cy) of construction debris. Prior to the commencement of demolition, appropriate testing for asbestos containing materials and lead-based paint within the existing structures shall be completed. Abatement of identified materials will occur prior to building removal. Building materials containing asbestos, if any, would be handled, transported, and disposed of in accordance with applicable laws and regulations prior to building removal.

Nonhazardous waste materials generated during construction and operation are expected to include typical construction debris, such as concrete, stucco, asphalt, rocks, building materials, wood, paper, glass, plastic, metals, cardboard, and other inert wastes (i.e., wastes that are not likely to produce leachates of environmental concern), and green wastes.

On January 4, 2005, Los Angeles County adopted an amendment to Title 20, Utilities, of the Los Angeles County Code, to add Chapter 20.87, Construction and Demolition Debris Recycling, to provide for the recycling and reuse of construction and demolition debris in the unincorporated areas of the County of Los Angeles. The Millennium-Playa del Mar Apartments Project would comply with this amendment. The project proponent is required to prepare a Waste Management Plan to recycle, at a minimum, 50 percent of the construction and demolition debris. Reports would be submitted to the Los Angeles County Environmental Programs Division for review and approval.

To comply with County code requirements for construction debris recycling, waste generated during demolition and construction, demolition debris will be trucked from the site to one of several locations. It can be assumed that a portion of the trash and wood generated during demolition would be delivered to

the Downtown Diversion facility located in Los Angeles, while a portion of the asphalt and stucco would be delivered to the Lovco crushing facility in Wilmington. The Downtown Diversion facility has a 1,500-ton capacity per day.[6] Other non-hazardous construction debris would be collected by local solid waste disposal companies and disposed of at local landfills. Given the sufficiency of available capacity at the Downtown Diversion facility, the Lovco Crushing facility, and local Class III landfills, the disposal of demolition and construction debris would not result in impacts that are considered significant. No mitigation is proposed or is required.

Site grading would require the export of 31,700 cy of earth material. The project applicant indicates that excess earth material would be disposed of at the Puente Hills landfill. In 2011, when the 15,000 cy (18,150 tons) of excess earth material is disposed of, the Puente Hills landfill has an available capacity of 6.4 million tons (reference **Table 4.9-3** in the March 2010 DEIR). Although it is anticipated that the soil exported from the Project site would be used as cover material rather than treated as solid waste, if all of the 15,000 cy of soil were disposed in the landfill as solid waste, then the impact of disposal of 18,150 tons of earth material would be to use approximately 0.28 percent of the remaining Puente Hills capacity. As such, the disposal of excess earth material at the Puente Hills landfill in 2009 is not considered significant.

Operation Impacts; Solid Waste Generation and Disposal: As shown in **Table 4.9-2, Millennium-Playa del Mar Apartments-Proposed Project Solid Waste Generation (No Recycling)**, the proposed Millennium-Playa del Mar Apartments Project would generate a net increase over existing uses of approximately 749.16 pounds per day, or about 121.3 tons per year, of solid waste. These quantities represent a worst-case scenario, with no recycling activities in place. However, project uses would be required to provide adequate areas for collecting and loading recyclable materials in accordance with the County's model ordinance to reduce the volume of solid waste entering landfills. This recycling, implemented in concert with the Countywide efforts and programs, would substantially reduce the volume of solid waste generated by the project and entering landfills. Although the project would generate a net increase of approximately 121.3 tons per year of solid waste per year, the County required waste diversion program (e.g., adequate areas for collecting and loading recyclables) would result in the project meeting at least the minimum recycling level established by Los Angeles County. If the project succeeds in achieving the 50 percent reduction level mandated for the County by CIWMA, it would divert at least 60.65 tons of solid waste per year. Meeting the 2006 recycling levels (54 percent) would result in a further reduction of 4.85 tons of solid waste per year.

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6 California Integrated Waste Management Board, http://www.ciwmb.ca.gov/SWIS/19-AR-1224/Detail/.

Table 4.9-2
Millennium- Playa del Mar Apartments – Proposed Project Solid Waste Generation (No Recycling)

Land Use[1]	Units	Quantity	Generation Factor[1] (lbs/day/per unit)	Daily Generation (lbs/day)	Annual Generation (tons/year)
Proposed Residential	du	196	5.31 lbs/unit/day	1040.76	172.3
	Less Existing Uses			**(291.6)**	**(52.0)**
	Net Project Total:			**749.16**	**121.3**

Source: Impact Sciences, Inc., August 2010.
du = dwelling unit.
Source: California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Residential Developments, http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm.

As discussed above, the County of Los Angeles identifies landfill capacity in 15-year planning periods, which currently ends in 2021. As shown in **Table 4.9-3, Existing Landfill Capacity and Regional Needs Analysis for Los Angeles County**, in the March 2010 DEIR, excess capacity would occur from 2010 through 2013. A shortfall in capacity would occur in 2014 and beyond 2021. However, it is unlikely that all existing landfill space will reach capacity and that no new landfill space or disposal options will be made available. Because untreated solid waste is a public health risk (e.g., from disease), it will be necessary for either local agencies or the state to intervene to assist with implementing new landfills and/or other disposal options. Nonetheless, because of the current County landfill deficit under a worst-case scenario, project-generated solid waste impacts related to the project would be significant unless additional landfill space or other disposal alternatives are approved. Mitigation to reduce the amount of project-generated solid waste disposed of at landfills would reduce impacts to solid waste, but not to levels of insignificance.

Site grading would require the export of 15,000 cy of earth material. The project applicant indicates that excess earth material would be disposed of at the Puente Hills landfill that currently accepts earth material at no charge (as earth material is used for daily capping operations). Although it is anticipated that the soil exported from the Project site would be used as cover material rather than treated as solid waste, if all of the 15,000 cy of soil were disposed in the landfill as solid waste, then the impact of disposal of 18,150 tons of earth material would be to use approximately 0.28 percent of the remaining Puente Hills capacity (reference **Table 4.9-3** in the March 2010 DEIR). As such, the disposal of excess earth material at the Puente Hills landfill in 2011 is not considered significant. Mitigation Measure 4.9-1 and 4.9-2 of the March 2010 DEIR would reduce the significant impacts, there are no mitigation measures known to be available that would mitigate significant impacts to a level of insignificance.

The revised project design would result in the same significant and unavoidable impacts anticipated to occur under the more dense original proposed project, even after incorporation of mitigation measures. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the March 2010 DEIR.

Cumulative Impacts

As shown in **Table 4.9-4**, the Millennium-Playa del Mar Apartments Project and other related projects would generate an estimated 147,017 pounds per day, or 26,998 tons per year, of solid waste and are assumed operational by 2012. These quantities represent a worst-case scenario, with no recycling activities in place. However, future projects would be required to provide adequate areas for collecting and loading recyclable materials in accordance with the County's Model Ordinance to reduce the volume of solid waste entering landfills. This recycling, implemented in concert with the Countywide efforts and programs, would reduce the volume of solid waste generated by the project and entering landfills. Assuming that cumulative projects will divert at least 50 percent of the waste stream annually, cumulative projects would generate approximately 13,499 tons of solid waste per year.

Table 4.9-4
Cumulative Solid Waste Generation (No Recycling) – Proposed Project and Related Projects

Land Use	Units	Quantity (Net)	Generation Factor[1] (lbs/day/unit)	Daily Generation (lbs/day)	Annual Generation (tons/year)
Related Projects					
Multi-family	du	7,857	5.31 lbs/unit/day	41,720.7	7,614.0
Hotel/Motel	rooms	77	2 lbs/room/day	154.0	28.1
Warehouse	sq. ft.	1,264,457	0.059 lbs/sq. ft./day	74,604.7	13,615.4
Commercial	sq. ft.	590,296	5 lbs/1,000 sq. ft./day	2,951.5	538.6
Office	sq. ft	4,636,988	6 lbs/1,000 sq. ft./day	27,821.9	5,077.5
Restaurant	sq. ft.	3,000	0.005 lbs/sq. ft./day	15.0	2.7
Subtotal:				**147,267.8**	**26,876.3**
Proposed Project (Net)	**--**	**--**		**749.16**	**121.3**
Total:				**148,017**	**26,998**

Source: Impact Sciences, Inc., August 2010.
du = dwelling unit; sq. ft. = square feet
Note: Numbers may not total exactly due to rounding.
[1] *Source: California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Residential Developments, http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm.*

It is reasonable to assume the market forces that drive the waste disposal industry will place pressure on the industry and governmental agencies to continually identify new economically feasible means of waste disposal in the future to accommodate this growth. However, because an adequate supply of landfill capacity for this waste does not occur, waste management facilities in the County are deemed inadequate. Therefore, the cumulative increase in solid and hazardous waste generation would cause a significant impact unless additional landfill space or other disposal alternatives are approved.

Mitigation Measures: There are no cumulative mitigation measures known to be available that would mitigate significant impacts to a level of insignificance.

The revised project design would result in the same significant and unavoidable impacts anticipated to occur under the more dense original proposed project, even after incorporation of mitigation measures. Therefore, impacts would remain the same with the new revised project design as they were anticipated to be under the proposed project design in the DEIR.

4.5 TRAFFIC AND ACCESS

4.5.1 INTRODUCTION AND METHODOLOGY

This section ~~summarizes~~ summarized the findings of a detailed traffic study for the original 216-unit project design prepared for the Millennium-Playa del Mar Apartments Project by Raju Associates, Inc., in December 2009. A complete copy of this traffic reports ~~is~~ was included in **Appendix 4.5** of ~~this~~ the March 2010 draft environmental impact report (DEIR). The traffic report has been reviewed and approved by the County of Los Angeles Department of Public Works (reference approval letter incorporated as part of **Appendix 4.5**).

The December 2009 Traffic Study analyzed the traffic impacts of the original residential project of 216 apartment units with 438 parking spaces. This 216-unit apartment project was projected to generate a net total of 1,078 new daily trips, 88 AM peak hour trips and 115 PM peak hour trips. The updated proposed project consists of 196 apartment units with 353 parking spaces on site. This project is estimated to generate a net total of 956 new daily trips, 78 AM peak hour trips and 104 PM peak hour trips. The proposed revised project design of 196 apartment units would generate fewer trips during both AM and PM peak hour trips (10 and 11 less trips, respectively) and would result in project traffic that would be less in magnitude than that projected for the 216 apartment unit project. Therefore, the traffic impact analysis of the original 216-unit project provided in the December 2009 Traffic Study prepared by Raju Associates, Inc., would also address the traffic effects resulting from the revised 196-unit project and that no further traffic analysis would be required. The trip generation estimates of the updated proposed project are provided in **Table 4.5-6, Project Vehicle Trip Generation**. The mitigation measure of installing a traffic signal at the intersection of Grosvenor Boulevard and Jefferson Boulevard proposed in the March 2010 DEIR would equally apply to the revised project design.

4.5.2 EXISTING CONDITIONS

4.5.2.1 Study Area

The traffic report study area analyzed 14 intersections, 12 of which are controlled by traffic signals. The remaining two intersections (Centinela Avenue/Juniette Street and Grosvenor Boulevard/Jefferson Boulevard) are presently unsignalized and controlled by stop signs along the minor approaches. These 14 project area intersections are expected to be most directly affected by the project traffic generation. The following 14 intersections were analyzed:

1. Lincoln Boulevard/Jefferson Boulevard

2. Westlawn Avenue/Jefferson Boulevard
3. Grosvenor Boulevard/Jefferson Boulevard (unsignalized)
4. Centinela Avenue/Washington Boulevard
5. Centinela Avenue/Culver Boulevard
6. Centinela Avenue/SR-90 Westbound Ramps
7. Centinela Avenue/SR-90 Eastbound Ramps
8. Centinela Avenue/Juniette Street (unsignalized)
9. Centinela Avenue/Jefferson Boulevard
10. Inglewood Boulevard/Jefferson Boulevard
11. I-405 Southbound Ramps/Jefferson Boulevard*
12. I-405 Northbound Ramps/Jefferson Boulevard*
13. Sepulveda Boulevard/Centinela Avenue*
14. SR-90/Slauson Avenue*

* *Partially or completely in Culver City*

4.5.2.2 Regional Setting

The existing street system within the study area consists of a regional highway system including major arterials and a local street system including secondary arterials, collectors, and local streets. SR-90 is located approximately 0.35 mile north of the project site and I-405 is located approximately 0.75 mile east of the project site. This regional setting remains as described in the March 2010 DEIR.

4.5.2.3 Local Project Setting

The existing site includes an approximately 39,000-square-foot church that will be removed. Currently, driveways are located on Grosvenor Boulevard and Juniette Street and provide full access to the existing church site. An adjacent alley located south of the project site provides connectivity between Grosvenor Boulevard and Juniette Street.

The east-west alley between the project site and the apartment buildings on Jefferson Boulevard currently carries approximately 1,060 daily trips of which 930 trips (87.5 percent) travel in the eastbound direction. These trips travel along this alley (which is functioning like a local street) then to a north-south alley to Juniette Street and finally to Centinela Avenue. These vehicles are using this path because it is extremely difficult to find simultaneous 'gaps' in Jefferson Boulevard traffic for them to turn left at the Grosvenor Boulevard and Jefferson Boulevard intersection.

4.5.2.3.1 Existing Traffic Volumes and Level of Service

Weekday morning and evening peak hour traffic counts were compiled from data collected at the analyzed intersections in May 2009 and June 2009. Traffic volumes in **Figure 4.5-2, Existing Conditions Peak Hour Traffic Volumes,** of the March 2010 DEIR remain the same.

4.5.2.3.2 Level of service

Table 4.5-2, Existing Intersection Performance, summarizes the results of the intersection capacity analysis for existing conditions at each of the 14 intersections in the study area. The table indicates the existing V/C ratio (delay for stop-controlled intersections) during the morning and evening peak hours and the corresponding LOS at the study intersections.

Table 4.5-2
Existing Intersection Performance

No.	Intersection	AM Peak Hour		PM Peak Hour	
		V/C or delay	LOS	V/C or delay	LOS
1.	Lincoln Boulevard & Jefferson Boulevard	0.544	A	0.725	C
2.	Westlawn Avenue & Jefferson Boulevard	0.387	A	0.463	A
3.*	Grosvenor Boulevard & Jefferson Boulevard	0.777	C	0.495	A
4.	Centinela Avenue & Washington Boulevard	0.740	C	0.765	C
5.	Centinela Avenue & Culver Boulevard	0.697	B	0.695	B
6.	Centinela Avenue & Marina Fwy. WB Ramp	0.635	B	0.598	A
7.	Centinela Avenue & Marina Fwy. EB Ramp	0.456	A	0.779	C
8.*	Centinela Avenue & Juniette Street	0.383	A	0.401	A
9.	Centinela Avenue & Jefferson Boulevard	0.642	B	0.541	A
10.	Inglewood Boulevard & Jefferson Boulevard	0.602	B	0.661	B
11.	I-405 SB Ramps & Jefferson Boulevard	0.394	A	0.448	A
12.	I-405 NB Ramps & Jefferson Boulevard	0.543	A	0.548	A
13.	Sepulveda Boulevard & Centinela Avenue	0.848	D	0.753	C
14.	SR-90 & Slauson Avenue	0.786	C	0.646	B

* *Unsignalized intersection – stop-controlled on minor approach(es). CMA methodology, using a capacity of 1,200, was used to determine the LOS*

Source: Raju Associates, 2009.

As illustrated in **Table 4.5-2**, all of the 14 study intersections are currently operating at LOS D or better during both the morning and evening peak hours. There are currently no intersections operating at LOS E or LOS F conditions.

4.5.2.4 Existing On-site and Local Parking Availability

On-site Parking: The proposed project site currently has a church, a single-family residence, and a paved surface parking lot. The surface parking lot with approximately 375 spaces has been leased in the past for employee parking on weekdays to two local companies.

4.5.3 REGULATORY CONSIDERATIONS AND CONSISTENCY

4.5.3.1 Los Angeles County General Plan and Parking Standards

There are no goals or policies found in the Circulation Chapter of the Los Angeles County General Plan that apply to residential projects of this size.

The County does apply parking standards to any new development. Consistency with Los Angeles parking standards is addressed in **Subsection 4.5.4.4**. A new parking ~~nalysis~~analysis indicates that the project would provide sufficient parking although not enough to meet County zoning standards.

4.5.4 PROJECT IMPACTS

4.5.4.1 Significance Criteria

According to Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, significant impacts to traffic and access would occur if the project would

- cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ration on roads, or congestion at intersections);
- exceed, either individually or cumulatively, a level of service standard established by the County congestion management agency for designated roads or highways;
- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- result in inadequate emergency access;
- result in inadequate parking capacity; or
- conflict with adopted policies, plans, or programs supporting alternate transportation (e.g., bus turnouts, bicycle racks).

4.5.4.2 Impacts Not Considered Further

4.5.4.2.2 Project Access

Currently, driveways located on Grosvenor Boulevard and Juniette Street provide full access to the existing church site. Vehicular access to and from the proposed parking structure would be provided via an entrance accessible from a proposed new private driveway and fire lane located along the northern property boundary. In addition, a southern access point from the parking structure would be to the existing but widened alleyway. Vehicles would access the entrance along the northern driveway from Grosvenor Boulevard. Vehicles would ~~access~~ use the ~~entrance~~ exit along the southern alleyway ~~from~~ to reach Grosvenor Boulevard.

As proposed, these driveway and alley would provide adequate site access and circulation and would be designed and built according to Los Angeles County Fire Department and Los Angeles Department of Public Works Standards to ensure adequate emergency access and circulation. Therefore, access to and circulation on the project site is subject to review and approval by these two County agencies.

4.5.4.3 Intersection Level of Service Impacts

4.5.4.3.5 Future Year 2013 Base Conditions Intersection LOS Analysis

Future Year 2013 Base Conditions peak hour traffic volumes were analyzed at each of the 14 study intersections to determine the V/C ratio (or the delay for stop sign-controlled intersections) and corresponding level of service. **Table 4.5-5, Future Year 2013 Base Conditions Intersection Performance,** presents the results of the Future Year 2013 Base Conditions traffic analysis.

Table 4.5-5
Future Year 2013 Base Conditions Intersection Performance

No.	Intersection	AM Peak Hour V/C or delay	AM Peak Hour LOS	PM Peak Hour V/C or delay	PM Peak Hour LOS
1.	Lincoln Boulevard & Jefferson Boulevard	0.696	B	0.856	D
2.	Westlawn Avenue & Jefferson Boulevard	0.435	A	0.547	A
3.*	Grosvenor Boulevard & Jefferson Boulevard	0.593	A	0.578	A
4.	Centinela Avenue & Washington Boulevard	0.857	D	0.859	D
5.	Centinela Avenue & Culver Boulevard	0.776	C	0.802	D
6.	Centinela Avenue & Marina Fwy. WB Ramp	0.496	A	0.480	A
7.	Centinela Avenue & Marina Fwy. EB Ramp	0.421	A	0.455	A
8.*	Centinela Avenue & Juniette Street	0.468	A	0.519	A
9.	Centinela Avenue & Jefferson Boulevard	0.712	C	0.626	B
10.	Inglewood Boulevard & Jefferson Boulevard	0.532	A	0.576	A
11.	I-405 SB Ramps & Jefferson Boulevard	0.485	A	0.543	A
12.	I-405 NB Ramps & Jefferson Boulevard	0.659	B	0.825	D
13.	Sepulveda Boulevard & Centinela Avenue	1.024	F	0.909	E
14.	SR-90 & Slauson Avenue	0.673	B	0.783	C

* *Unsignalized intersection: CMA methodology, using a capacity of 1,200, was used to determine the LOS.*
Source: Raju Associates, December 2009.

As indicated in **Table 4.5-5**, with regional cumulative growth, 13 intersections during the morning peak hour and 13 intersections during the evening peak hour are projected to operate at LOS D or better under Year 2013 conditions. The remaining intersection, the intersection of Sepulveda Boulevard/Centinela Avenue, is projected to operate at LOS F during the morning peak hour and LOS E during the evening peak hour.

4.5.4.3.6 Millennium-Playa del Mar Apartments Project Traffic Volumes

Implementation of the Millennium-Playa del Mar Apartments Project would develop ~~216~~ 196 multi-family dwelling units (apartments). The existing site includes an approximately 39,000-square-foot church that would be removed.

Utilizing rates from the ITE *Trip Generation Informational Report*, 8th Edition, the proposed project's total and net trip generation was determined. **Table 4.5-6, Project Vehicle Trip Generation,** presents details of the proposed project's trip generation including type of use, size, applicable rate and trip generation estimates. Other calculations within the tables also provide for trip generation reductions from existing uses.

Table 4.5-6
Project Vehicle Trip Generation

Trip Generation and Distribution	Daily	AM Peak Hour			PM Peak Hour		
		I/B	O/B	Total	I/B	O/B	Total
Proposed Project ~~216~~ 196 Apartments	~~1,433~~1,311	~~22~~20	~~88~~80	~~110~~100	~~88~~81	~~48~~44	~~136~~125
Existing Uses (To Be Removed) 38,978 sf Church	(355)	(14)	(8)	(22)	(10)	(11)	(21)
Net New Trips with Project	**~~1,078~~956**	**~~86~~**	**~~80~~72**	**~~88~~78**	**~~78~~71**	**~~37~~33**	**~~115~~104**
Trip Rates{1}							
Apartments (ITE Land Use 220)	[2]	*20%*	*80%*	*[2]*	*65%*	*35%*	*[2]*
Church (ITE Land Use 560)	*9.11 trips per 1,000 s.f.*	*62%*	*38%*	*0.56*	*48%*	*52%*	*0.55*

I/B = inbound trips; O/B = outbound trips, s.f. = square feet.
[1] Rates from ITE. Trip Generation 8th Edition, Informational Report
[2] Trip generation for apartment was calculated using the following formulas:
Daily: T=6.06(X) + 123.35
AM Peak Hour: T=0.49(X) + 3.73
PM Peak Hour: T=0.55(X) + 17.65
Where:
T = Two-way volume of traffic (total trip-ends)
X = Area in 1,000 gross square feet of leaseable area
Source: Raju Associates, ~~2009~~2010.

As shown in **Table 4.5-6**, the project's trip generation would result in a net total of approximately ~~1,078~~956 daily trips of which, ~~88~~ 78 trips would occur during the morning peak hour and ~~115~~ 104 trips during the evening peak hour.

Trip counts at the current church parking lot driveways were conducted. It was noted that approximately 102 PM peak hour trips currently utilize these driveways. These trips are captured within the existing traffic counts at the analyzed intersections. With project development, these trips would be replaced by the new uses of the site.

4.5.4.3.6.1 Project Trip Distribution

The geographic distribution for project trips the same as shown in **Figure 4.5-4, Project Trip Distribution** of the March 2010 DEIR.

4.5.4.3.7 Future Year 2013 Base Conditions Plus Project Traffic Volumes

Future Year 2013 Base Conditions Plus Project traffic conditions were analyzed utilizing the methodologies and assumptions per the City of Los Angeles traffic study guidelines. Future Year 2013 Base Conditions Plus Project peak hour traffic volumes were analyzed to determine the V/C ratio (delay for stop-controlled intersections) and LOS at each of the analyzed intersections.

The results of this analysis ~~are~~ were summarized in **Table 4.5-7, Future Year 2013 Base Conditions Plus Project Intersection Level of Service/Delay Analysis,** of the March 2010 DEIR.

The results of the Future Year 2013 Base Conditions Plus Project traffic analysis indicate that none of the analyzed intersections would be significantly impacted by the proposed project under Future Year 2013 Conditions with the exception of the intersection of Grosvenor Boulevard and Jefferson Boulevard during the morning peak hour. Therefore, the project would result in a significant cumulative impact prior to mitigation. Mitigation appropriate to this impact is defined below.

4.5-1 A traffic signal including the provision of an ATSAC ATCS shall be installed at the intersection of Grosvenor Boulevard/Jefferson Boulevard. The project shall make a deposit of $200,000.00 to the City of Los Angeles for the installation of the traffic signal given provisions defined by the County of Los Angeles Department of Public Works (the **Traffic Study** in **Appendix 4.5**).

Significance After Mitigation: A traffic signal at the intersection of Grosvenor Boulevard and Jefferson Boulevard would fully mitigate project-related impact at this location. Additionally, a traffic signal at this location would allow for safe left turns in and out of Grosvenor Boulevard and provide a safer pedestrian connection to destinations within Playa Vista located south of the project site. The signal would also alleviate existing and future traffic circulation issues at the intersection of Westlawn Avenue and Jefferson Boulevard. As indicated in **Table 4.5-8, Intersection Level of Service with Recommended Traffic Signal**, of the March 2010 DEIR, the Grosvenor Boulevard/Jefferson Boulevard intersection would improve from a LOS B to a LOS A during the AM peak hour with installation of the signal.

Without the signal, project traffic from nearby commercial uses would be forced to use the traffic signal at Westlawn Avenue/Jefferson Boulevard to make left turns in and out of the area north of Jefferson Boulevard. With the signal at Grosvenor Boulevard/Jefferson Boulevard, some of these trips that are currently at Westlawn Avenue/Jefferson Boulevard would equilibrate to this intersection.

The intersection of Grosvenor Boulevard and Jefferson Boulevard is currently a stop-controlled intersection with Grosvenor Boulevard southbound traffic stopping and yielding to Jefferson Boulevard traffic. Existing traffic control at the intersection does not require Jefferson Boulevard traffic to stop or yield to Grosvenor Boulevard traffic. The Grosvenor Boulevard outbound (southbound) traffic either waits to turn left to go eastbound along Jefferson Boulevard and then continue past Centinela or turn left to Centinela Boulevard northbound; or simply right from Grosvenor Boulevard to westbound Jefferson. This traffic has to find "acceptable gaps" simultaneously, in both fast-moving eastbound and westbound Jefferson Boulevard traffic in order to turn left, cross westbound Jefferson Boulevard travel lanes and merge with the eastbound Jefferson Boulevard traffic.

With the development and occupancy of the Playa Vista First Phase Project, traffic along Jefferson Boulevard has been steadily increasing, thereby decreasing the availability of the number of acceptable gaps for Grosvenor Boulevard traffic. As a consequence of this difficulty in making the turns from Grosvenor to Jefferson Boulevard, Grosvenor outbound traffic is using the alley along the southern project boundary to access Centinela Avenue via Juniette, where some gaps in traffic are currently available. When the office campus of Playa Vista along Centinela Avenue south of Jefferson Boulevard, gets fully developed, these gaps would decrease making egress from Grosvenor Boulevard very difficult.

Alley traffic counts indicate a strong directionality in traffic along the east-west alley adjacent on the south to the project site. A total of 87.5 percent of the traffic along the alley is currently traveling eastbound in order to access Centinela Avenue via Juniette. At Centinela Avenue, this traffic turns right to go south along Centinela and eventually eastbound along Jefferson Boulevard; or north along Centinela Avenue to SR-90, Culver Boulevard and points north. This traffic is using this alley system mainly in the eastbound direction, to access the regional roadway system, for the reasons described above.

The Millennium-Playa del Mar Apartment project proposes to provide funding for the design and implementation of a traffic signal at the intersection of Grosvenor and Jefferson Boulevards. This signal would provide the required traffic control hardware and software at this intersection to optimally operate this location. With the provision of that signal, traffic along Grosvenor turning left onto Jefferson to go eastbound would be able to do so directly from the intersection without having to travel along the alley and then turn to Centinela to access Jefferson. Additionally, traffic headed to Centinela Avenue would also be able to access Jefferson Boulevard at the signalized intersection without having to find "gaps" at the intersection of Juniette and Centinela Avenue to be able to turn to Centinela Avenue from Jefferson Boulevard. The provision of this signal would direct and send traffic to the appropriately controlled regional intersections rather than find the alternate route along the alley system to a different unsignalized intersection. The traffic volumes along the alley would likely be dramatically lower than the

current traffic due to the provision of this signal at Grosvenor Boulevard and Jefferson Boulevard and the roadway system would operate in a balanced manner.

4.5.4.4 Parking Impacts

The proposed project consists of ~~216~~ 196 multi-family dwelling units (apartments) divided into ~~106~~ 95 one-bedroom apartments and ~~110~~ 101 two-bedroom apartments. The proposed project would provide a total of ~~433~~ 353 parking spaces, ~~(379 standard spaces and 54 guest spaces)~~of which 329 parking spaces would be located within an aboveground parking structure with a maximum height of ~~4.5~~4 stories (approximately ~~50~~ 35 feet) and 20 surface parking spaces in private parking garages north of the primary apartment building. In addition, there will be ~~five~~ four spaces for the leasing office located ~~outside~~ opposite of the ~~parking structure~~office. Required parking for multifamily residential per the County of Los Angeles parking requirements are as follows:

- One-bedroom apartment – 1.5 covered spaces per dwelling unit (~~106~~ 95 × 1.5 = ~~159~~143)
- Two-bedroom apartment – 1.5 covered spaces plus 0.5 uncovered space (~~110~~ 101 × 1.5 = ~~165~~ 152 covered 0.5 × 110 = ~~55~~ 50 uncovered)
- Guest parking (a minimum of 10 dwelling units) – 1 space per 4 dwelling units (~~216~~196/4 = ~~54~~49)

Based on these requirements, the proposed project would require a total of ~~433~~ 394 covered spaces. As shown in **Table 4.5-9, Project Parking**, the project would provide a total of ~~433~~ 329 covered spaces within the parking structure, 20 covered spaces in private parking garages and ~~5~~ 4 spaces for the leasing office, for a total of ~~438~~ 353 parking spaces. Because the project would not meet County code requirements, the impacts related to parking ~~would~~ could be ~~less than~~ significant and has requested a parking deviation.

Table 4.5-9
Project Parking

	1-Bedroom Unit	2-Bedroom Units
Units	~~106~~95	~~110~~101
Covered Parking Spaces Required per Unit	1.5	1.5
Uncovered Parking Spaces Required per Unit	--	0.5
Total Spaces Required for Residences	~~159~~143	~~220~~202
Total Residences Parking Required	~~379~~345	
Guest Parking Required (.25 space per unit)	~~54~~49	
Total Parking Required	**~~433~~394**	
Parking Provided	~~438~~353	

Source: Raju Associates, 2008.

Raju Associates, Inc. has prepared a parking study for the 196-unit Millennium-Playa del Mar project design, submitted as a July 7, 2010, memorandum to the County of Los Angeles Department of Regional Planning. This parking study is included as **Appendix 4.5** to this Recirculated Draft EIR. This parking study includes an evaluation of the proposed revised project peak parking demand to the parking supply proposed by the project to assess parking supply adequacy, and consequently, the parking impact of the proposed project. The study was conducted to determine the appropriate supply of parking spaces to be provided in order to adequately satisfy the projected parking demand of the revised Millennium-Playa del Mar residential project and not cause any significant parking impact on the surrounding neighborhood by limiting the likelihood that project residents or their guests would be inclined to park on local streets in the vicinity of the project site. This evaluation estimated the parking demand for the project using a calculation based on nationally published parking demand rates, and estimating based on historical data from actual observed demands in Southern California.

The proposed revised project design would provide a total parking supply of 353 parking spaces, with 329 in a parking structure and 24 surface parking spaces (20 in private parking garages and 4 spaces for the leasing facility). This translates to a parking supply ratio of 1.8 spaces per dwelling unit. While this parking supply would satisfy the actual demand of the proposed project, and would meet the requirements of the State of California for residential projects with low-income housing, it does not meet the County of Los Angeles' standard Zoning Code parking requirements for rental apartments; as such, the applicant has requested a parking deviation of the County Zoning Code to allow a reduced parking ratio for the project of 1.8 parking stalls per dwelling unit.

Many cities in the U.S. have recognized the trend toward smaller dwelling units and the reduced number of persons per unit and, consequently, adjusted their parking requirements accordingly. Some jurisdiction examples of such changes include:

- Dallas, Texas (Urban District) 1.0 space per dwelling unit
- Dallas, Texas (Remainder) 1.5 spaces per dwelling unit
- Seattle, Washington 1.1 to 1.5 spaces per dwelling unit based on location
- Chicago, Illinois 1.0 space per dwelling unit
- Tucson, Arizona 1.25 spaces per dwelling unit
- Salt Lake City, Utah 0.5 to 1.0 space per dwelling unit

A summary of zoning code parking requirements for selected California cities and counties indicates that the Millennium-Playa del Mar Apartment revised project design would require a range in the number of required parking spaces from 196 (equal to one parking space per dwelling unit) to 346. Therefore, the Millennium-Playa del Mar revised project would exceed the parking requirement in all 32 cities and counties in California surveyed.

Raju Associates has reviewed several recent residential parking studies to compile parking surveys conducted at numerous sites. The sites sampled were all rental units ranging in unit count from 142 to 532, the smallest being in Long Beach, California and the largest in Santa Monica, California. This survey resulted in the parking supply ratio to be less than or equal to 1.8 at all but one location in San Diego where the ratio was 1.94 spaces per dwelling unit. All of these locations are operating adequately relative to parking. In the vicinity of the project site, the parking supply varied from 1.32 spaces per dwelling unit in Santa Monica to 1.57 spaces per dwelling unit in Marina del Rey.

The parking demand at a number of these same sites was also surveyed and the results varied from 0.66 spaces per occupied dwelling unit to 1.59 spaces per occupied dwelling unit. In the vicinity of the project site, the parking demand varied from 0.91 spaces per occupied dwelling unit in Marina del Rey to 1.22 spaces per dwelling unit in Santa Monica. Three of the surveyed projects have unit counts similar to or in the range of the revised Millennium-Playa del Mar project design. The supply varies from 1.26 to 1.59 spaces per dwelling unit while the observed peak demands at the same sites varied from 0.77 to 1.59 spaces per occupied dwelling unit.

Two national publications provide information on parking demand ratios for residential products, including apartments, portions of both documents are included in **Appendix 4.5**. They include:

- *Parking Generation, Third Edition;* An Informational Report by the Institute of Transportation Engineers (ITE), 2004.
- *Shared Parking, Second Edition;* A Report by the Urban Land Institute (ULI), 2005.

The ITE's Parking Generation Informational Report provides a relationship between average peak parking demand and number of dwelling units for projects in both suburban and urban locations. The peak average parking demand per the ITE for mid-rise apartments was 1.02 spaces per dwelling unit.

The ULI sponsored a national study that updated the basic methodology for analyzing parking demand in mixed-use developments and developed averages for parking rates by land uses. The ULI study noted base peak parking demands of 1.65 spaces per dwelling unit (1.5 spaces for residents and 0.15 space per dwelling unit for guests).

Two recent parking surveys at sites in Long Beach were surveyed in 2001 by Kaku Associates, Inc. The peak parking demand ratio at these two sites was observed to be 1.26 spaces per occupied dwelling unit and 1.52 spaces per occupied dwelling unit.

Utilizing the ULI parking demand rates, the peak parking demand for the Millennium-Playa del Mar revised project design would be equal to 324 (1.65 × 196) spaces. The proposed project would provide 353 parking spaces on site, sufficient to meet the ULI requirement. Therefore, using ULI's well recognized parking demand rates, the proposed revise project design would have a surplus of 29 parking spaces on site, and there would be no parking impact on neighboring local streets from implementation of the proposed revised Millennium-Playa del Mar Apartment project.

4.5.5 CUMULATIVE IMPACTS

As discussed above, there would be one cumulative LOS impact at the intersection of Grosvenor and Jefferson Boulevards but the majority of the intersections studied during AM and PM peak hours would be below the threshold of significance. This impact would be ~~due to~~as a result of regional traffic growth and other related projects, and the Millennium-Playa del Mar Apartments Project, however, this impact would not considerably contribute to these cumulative traffic impacts with implementation of **Mitigation Measure 4.5-1**.

Therefore, due to the improvement in LOS, the traffic signal at this location would fully mitigate the project-related impact at the intersection of Grosvenor Boulevard and Jefferson Boulevard. As a result, the project's cumulative impact would be reduced to a less than significant level.

4.5.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts associated with project traffic are not significant with mitigation.

4.6 VISUAL RESOURCES

4.6.1 INTRODUCTION

This section presents the existing visual resources setting, potential impacts to visual quality, and mitigation measures for the proposed project. The analysis is based on field reconnaissance, review of project site plans, and computerized visual simulations.

4.6.1.1 Methodology

Methods of analysis include (1) identification of viewsheds through which the project would be observed, (2) identification of "prominent visual features" within those viewsheds, and (3) computer simulations of the proposed project. "Prominent visual features" are visual elements that stand out in relation to their surroundings.

Views of the proposed development that are completely obstructed or are partially obscured are not considered visually prominent and are not emphasized in this analysis. However, it is not the intent of this analysis to suggest that the project site is only visible from the viewing locations discussed.

Deep Blue Prints~~VisionScape Imagery~~, a visual imagery firm, as a consultant to Gillespie Moody Paterson, using ~~photographed~~ photographs of the project site ~~and~~ with identified reference points, based on Google Earth imagery.~~used global positioning system (GPS) technology, and~~ identified fields of vision for each view. From these, three locations (Viewing Locations One, Two, and Three) were selected for the visual simulations that provided prominent public views of the proposed project. Three additional locations were selected for analysis (Viewing Locations Four, Five, and Six) that were rendered by Deep Blue Prints~~Architects Orange~~. Using the site plans and technical drawing files provided by Architects Orange, Deep Blue Prints~~VisionScape Imagery and Architects Orange~~ digitized the base data and view locations for the extrusion of a three-dimensional (3D) wire-frame model of each station. They then generated a series of 3D computer models illustrating the proposed elevations~~ and natural and finished grades~~. These included modeling of existing and surrounding contextual elements such as streets, terrain, pads, and adjacent buildings. Based on the architectural drawings, including colored elevations provided by Architects Orange, Deep Blue Prints~~VisionScape Imagery and Architects Orange~~ applied materials, textures, colors, and visual effects such as lighting, shadows, contours, and landscaping.

Deep Blue Prints~~VisionScape Imagery and Architects Orange~~ inserted the modeling into the photographs taken using camera match technology, aligning a computer model camera with the on-site photography

to depict the project setting within the view. Lastly, Deep Blue Prints~~VisionScape Imagery and Architects Orange~~ applied the digital imaging and landscape architecture concept.

4.6.2 EXISTING CONDITIONS

4.6.2.1 Regional Area

The visual character of the region is dominated by urban uses associated with the County and City of Los Angeles. The architecture of the buildings surrounding the project site lacks a cohesive theme and there is a minimal amount of landscaping in the area.

The area features mostly older single-family houses, multi-family apartment buildings, offices, and light industrial commercial uses. Recent development in the project area is primarily high density residential, particularly to the south and southeast of the project site, where the Playa Vista development is being constructed in the City of Los Angeles. There are also new neighborhood retail and service businesses in the area.

Review of the County and City of Los Angeles General Plans indicates there are no defined scenic roadways, scenic resources, or scenic features near the project site. Scenic resources are defined as large area landscape features such as undeveloped natural open space, vegetation or a combination of these features that provide for a pleasing or unique scenic vista. Scenic features generally are defined as specific places with unusual or rare visual features.

One-story single-family houses are located north of the northern site boundary. A row of four-story apartment buildings is located along the southern border of the project site, separated by an existing 25-foot-wide public alley. Older commercial and industrial buildings are at the northeastern and northwestern corners of the site. At the western site boundary, across Grosvenor Boulevard, is a more modern office building that features a black glass exterior, two-story parking structure and a large surface parking area.

Figure 4.6-1, Existing Views of the Project Site from Grosvenor Boulevard, provides a view of the project site from Grosvenor Boulevard, **Figure 4.6-2, Existing Views of the Project Site from Juniette Street**, shows view of the site from Juniette Street and **Figure 4.6-3, Existing Views of the Project Site from Beatrice Street**, shows views of the project site from Beatrice Street.

SOURCE: Impact Sciences, Inc. – October 2006

FIGURE **4.6-1**

Existing Views of the Project Site from Grosvenor Boulevard

539-003•07/07

SOURCE: Impact Sciences, Inc. – October 2006

FIGURE **4.6-2**

Existing Views of the Project Site from Juniette Street

539-003•03/10

SOURCE: VisionScape Imagery – July 2007

FIGURE **4.6-3**

Existing Views of the Project Site from Beatrice Street

539-03•02/08

4.6.2.2 Project Site

The project site is located in the southern portion of Los Angeles County, at 5550 Grosvenor Boulevard. In total, the project site is 4.93 gross acres in size (4.36 acres net size not including County roadway right-of-ways) and comprises five parcels (County Assessor's Parcel Numbers (APN) 4221-003-040, 4221-00342, 4221-003-038, 4211-003-068 and 4211-003-041). APN 4221-003-68 presently contains two connected buildings about 30 feet in height that are part of an existing church facility (City of Angels Church of Religious Sciences of Los Angeles). The remainder of this parcel is used as a paved surface parking lot. APN 4221-003-041 at the northwestern corner of the site contains a one-story home and associated landscaping, which is owned by the church. The buildings and all associated parking area elements would be removed as part of the project. **Figure 4.6-4, Existing Views of the Church Facility**, shows pictures of each of the two connected church buildings.

At the northwestern corner of the site, contains a one-story house and associated landscaping, which is owned by the church. The house is visible in the foreground of the second image of **Figure 4.6-1**.

The project site is mounded in the center, and the church building is located on the apex of this raised topographical feature. Little of the site is vegetated save for some ornamental trees in the parking lots and a small recessed lawn-like green to the east of the main church building. The parking lots are paved and surround the building, and contain a few trees, overhead lights, concrete curbing, a non-linear corrugate fence, and some signage. A series of fencing and walls surround the site. From the entrance on Juniette Street, traveling clockwise around the site to the entrance on Grosvenor Boulevard, the site is bordered by ornamental iron fencing on the south that is owned by the church. The site is bordered on the north by a mixture of masonry block and wood wall and fences that are primarily owned by the individual homeowners along the northwest boundary of the site.

In general, the visual character of the site is one of low aesthetic quality. The church building elements are poorly integrated with each other and have few architectural features. The single-family house on the property does not contain any unique architectural elements or other distinguishing features.

4.6.2.3 Light and Glare

The project site and vicinity contains a variety of night lighting. Principal light sources on the project site and project area include wall-mounted fixtures for the church, residential, and commercial buildings, street and parking lot pole-mounted fixtures, and vehicle headlights. None of these light sources are considered exceptionally bright or unique. They are considered typical in urban settings.

4.6.3 REGULATORY CONSIDERATIONS AND PROJECT CONSISTENCY

The Los Angeles County General Plan includes policies related to scenic resources and roadways. The goals and policies are not relevant to the proposed project since it is not located in an area of scenic resources or within the vicinity of a scenic roadway. The proposed project is not within a specified planning area that requires design review, as designated by the Los Angeles County General Plan. However, the Department of Regional Planning, the Los Angeles County Regional Planning Commission, and Board of Supervisors would review the project design as part of project approval, before the plan check is initiated.

4.6.4 PROJECT IMPACTS

4.6.4.1 Significance Criteria

According to Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, significant impacts to visual quality would occur if the project would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare or shade/shadow, which would adversely affect day or nighttime views in the area.

4.6.4.2 Impacts Not Considered Further

The project would not affect a scenic vista because the project site is not located near any defined scenic vistas or in the vicinity of a scenic highway. The project site is situated in an urban area and is developed with a church, single-family house, parking lots, landscaping, and associated facilities, and is in a built-out urban area.

Project development would not damage any scenic resources such as trees, rock outcroppings, or historic buildings within a state scenic highway. Therefore, implementation of the proposed project would not cause any significant impacts.

SOURCE: Impact Sciences, Inc. – October 2006

FIGURE **4.6-4**

Existing Views of the Church Facility

539-003•02/08

4.6.4.3 Project Analysis; Would the Project Substantially Degrade the Existing Visual Character or Quality of the Site and Its Surroundings?

The applicable threshold of significance is listed below followed by analysis of the significance of any potential impacts. Mitigation measures are also identified that would reduce or avoid potential impacts.

Threshold 3 **Substantially degrade the existing visual character or quality of the site and its surroundings.**

4.6.4.3.1 Changes to Visual Character

The visual character of the project site would be intensified to high-density residential within an urban area. The proposed project would result in the development of a high-density residential project, which is similar to the medium/high-density residential projects to the south of the project site. The design would be substantially taller than the adjacent single-family housing. The proposed buildings with the apartments will reach a maximum height of ~~60~~ 49 feet (51 feet including the stairwell towers) while the ~~433~~329-space parking structure will reach a maximum height of approximately ~~50~~ 35 feet. The project site would be developed from a church facility with minimal architectural features to a modern, residential project. In addition, the proposed landscaping and buffers (also used for Fire Department access) would minimize visual quality impacts.

Figure 4.6-5 provides two existing views and visual simulations of the proposed project looking east from Grosvenor Boulevard. **Figure 4.6-6** shows three existing views and visual simulations of the proposed project looking south from Beatrice Street. **Figure 4.6-7** provides an existing view and a visual simulation of the proposed project looking west from Juniette Street.

4.6.4.3.2 Temporary Changes to Visual Character

Analysis: During construction phases, the existing structures and facilities on the project site, including the surface parking lots, would be removed along with most or all of the existing ornamental landscaping. Site preparation would include excavation of the mounded material in the center of the site. During these periods, the visual character of the site would consist of soil and excavation trenches. After excavation and grading, construction on the building would commence and proceed. In total, the site would be visually impacted during the majority of the 16-month development period. These changes in visual character would occur with any development of the site, and would be temporary in nature. Because the character of the site is not presently of high visual quality, and because the site does not contain any visual resources, these impacts would be considered less than significant and no mitigation is required.

4.6.4.3.3 Conclusion Without Mitigation

Less than significant

4.6.4.3.4 Permanent Changes to Visual Character

Analysis: As shown in **Figures 4.6-5** through **4.6-7**, implementation of the project would result in a permanent change to the visual character of the site as the existing buildings and parking lot elements are replaced by the proposed residential building, parking structure and landscaping. As described in **Section 3.0, Project Description**, the project consists of one, maximum four-story building containing a total of ~~216~~ 196 apartment units (**Figure 3.0-9**). The building would cover approximately 43 percent of the site while the parking structure would cover about 16 percent of the site. The courtyards, fire lanes and other vehicle and pedestrian circulation routes and exterior landscaping associated with the building would cover the remaining 41 percent of the project site. Although the project would result in permanent changes to the existing visual character of the site, the analysis of significance focuses on whether this change would substantially degrade the visual character of the site and its surroundings.

A professional architecture firm, Architects Orange, designed the project in a manner to be organized on three sides (to the north, east, and west) around a 4~~.5~~-story-deck (approximately ~~50~~ 35 feet high) aboveground parking structure and incorporates open courtyard areas. Emphasis has been placed on a building design that provides a graduated-height transition along the northern and western site perimeters. Building height is limited to ~~one and~~ two stories (~~17 and 31~~28 feet~~, respectively~~) along the northerly edge of the structure (in proximity to the single-family residences located northerly of the site), and increases to a maximum of four stories (approximately ~~55~~ 49 feet) as the building transitions from north to south across the site toward the existing apartment complex that is sited to the subject property to the south.

In order to ensure the project's physical compatibility with surrounding uses, the project is designed with an open space buffer along the northerly side of the building and provides a transition from the single-story single-family homes located just north of the subject property. Along the northern boundary, the primary apartment building would be set back a minimum of approximately 35 feet and ~~a maximum of~~ the three carriage unit structures would be set back about ~~43~~ 10 feet from the northern site boundary. The ~~one- and~~ two-story perimeter structures would not exceed ~~31~~ 28 feet in exterior height (excluding chimney heights) along the northern project margin. At the northwest corner of the project site, a three-story portion of the building would reach a height of ~~40~~ 38.5 feet.

Existing

With Project

SOURCE: Gillespie Moody Patterson, Inc. - August 2010

FIGURE **4.6-5a**

Existing View and Visual Simulation of the Proposed Project Looking East from Grosvenor Blvd.

1052-001•08/10

Existing

With Project

SOURCE: Gillespie Moody Patterson, Inc. - August 2010

FIGURE **4.6-5b**

Existing View and Visual Simulation of the Proposed Project Looking East from Grosvenor Blvd. (cont'd)

1052-001•08/10

Existing

With Project

SOURCE: Gillespie Moody Patterson, Inc. - August 2010

FIGURE **4.6-6a**

Existing View and Visual Simulation of the Proposed Project Looking South from Beatrice Street

1052-001•08/10

Existing

With Project

SOURCE: Gillespie Moody Patterson, Inc. - August 2010

FIGURE **4.6-6b**

Existing View and Visual Simulation of the Proposed Project Looking South from Beatrice Street (cont'd)

1052-001•08/10

Existing

With Project

SOURCE: Gillespie Moody Patterson, Inc. - August 2010

FIGURE **4.6-6c**

Existing View and Visual Simulation of the Proposed Project Looking South from Beatrice Street (cont'd)

1052-001•08/10

Existing

With Project

SOURCE: Gillespie Moody Patterson, Inc. - August 2010

FIGURE **4.6-7**

Existing View and Visual Simulation of the Proposed Project Looking West from Juniette Street

1052-001•08/10

At approximately 80 feet from the northern property line, the building would transition to a height of four stories, or about ~~53.5~~38.5 feet, exclusive of architectural projections.

The project would also contain architectural elements of towers built above the stairwells. These architectural elements are included to provide access to the roof and to vary the roofline of the project. These features would not exceed ~~60~~ 51 feet in exterior height. These features could include windows that will add a visually pleasing effect to the outside of the building.

Development of the project site would also include a ~~4.5~~-story-deck, approximately ~~50~~35-foot-tall parking structure located in the middle of the property along the southern boundary of the site. The proposed structure would provide ~~433~~ 353 parking spaces, with ~~5~~ 4 spaces reserved outside of the parking structure for the leasing office. The parking garage is proposed to be mechanically ventilated to reduce noise and vehicle emissions along the southern alley Some residents of the existing apartment complex located approximately 33 feet south of the project property line would have a direct view of the parking structure from their apartment units (only those apartment residents whose units are located along the northerly side of the existing apartment complex would be affected). To visually enhance this view, the proposed project parking garage would step down along the alley from west to east, from 35 feet to 27 feet in height allowing for multiple façades similar to the residential structure. ~~includes~~ Between the garage face and the alley would be a 9-foot-wide landscaped ~~"green~~area to help screen~~" project design feature that would consist of wire screen with vines that would cover the façade of the parking structure~~ the garage from the adjacent apartments to the south. ~~To further shield views of the parking structure from apartment residents looking north, the project includes as a project design feature a row of tall planted trees that when mature, would provide additional screening of the parking structure.~~

Finally, additional project design features include new trees, shrubs, and turf that would be added to the project site as a part of the development. Two gardens would be located on the northeast portion of the property and both would include formal planting, pathways, benches, natural stone fountain, and bamboo plantings. Next, a palm court would be located toward the southeastern section of the property and would include mixed palm tree species, a fountain, and seating areas, while a recreation area would be located toward the ~~southwestern~~ northwestern portion of the property and would include a pool, spa, and a mixture of date palm and broadleaf evergreen tree species. Finally, landscaping would occur around the perimeter of the project site and within the common areas and would include more vegetation than is currently found on the site. To further screen the proposed project from existing residents situated to the north, extensive landscaping that, when mature, would provide a visual buffer along the northern site perimeter of the project site (**Figure 4.6-8**). In addition, the five carriage units in three buildings above

private garages will be sited in the northwesterly portion of the site as a mechanism to provide additional visual and noise screening for the single-family residences located northerly of the project site.

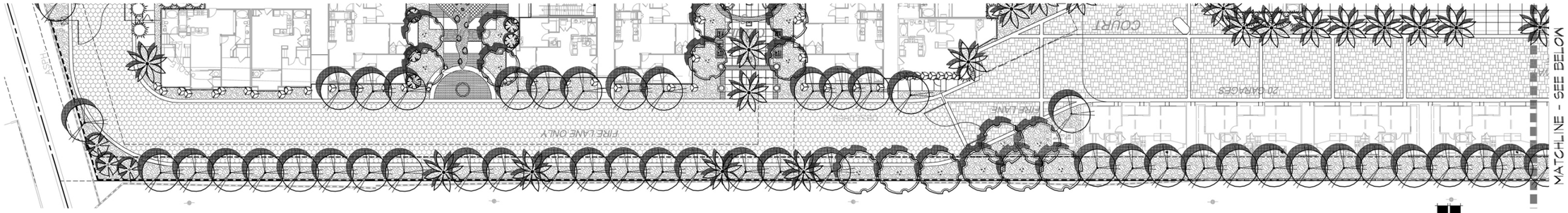
Project design features are not mitigation measures because these features are part of the proposed project. The project design features described above would be subject to review by the staff of the Department of Regional Planning, followed by review and approval by both the Los Angeles County Regional Planning Commission and the County Board of Supervisors; these project design features would be made enforceable by the County by imposing them as conditions of approval for the project. The project applicant will be required to incorporate revisions on project design imposed by these entities.

Current views to the north from the existing apartments along Jefferson Boulevard may provide vistas of the Santa Monica and San Gabriel Mountains in the distance. This would be most probable for those apartment buildings not currently in the line-of-sight of the existing church. The proposed building height of the Millennium-Playa del Mar Apartments will be comparable to the existing height of the four-story apartments to the south along Jefferson Boulevard and the existing church peak, after the central mound is removed during construction. While a change in viewshed for the apartment units along the alley will occur, this is not considered a significant impact as no specifically identified scenic resource is designated in this community. In addition, there is no legal protection in state law that preserves viewsheds.

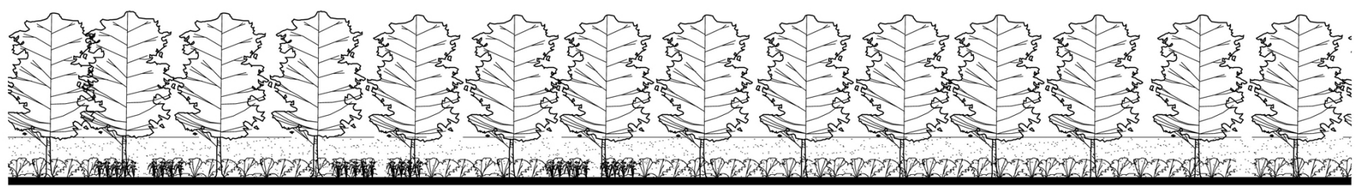
The existing character of the site is not one of high visual quality and the project would not degrade this existing visual character of the site. The project is located in an urban area that does not contain sensitive visual resources, utilizes an architectural design that would provide a height transition between adjacent properties, and would have professionally designed architectural features and landscaping that are aesthetically pleasing. Furthermore, the architect has incorporated many design revisions recommended by Los Angeles County. Therefore, permanent changes to the visual character of the site would not substantially degrade the visual character of the site and its surroundings, but, on the contrary, would be beneficial and, therefore, would be considered to be less than significant. No mitigation is proposed or necessary.

4.6.4.3.5 Conclusion Without Mitigation

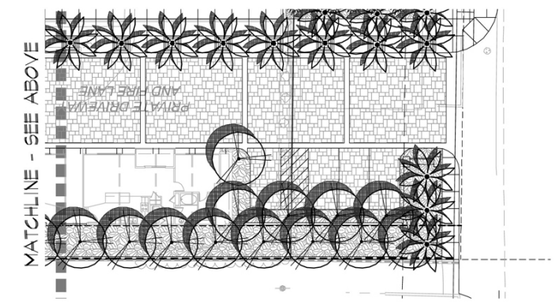
Less than significant.



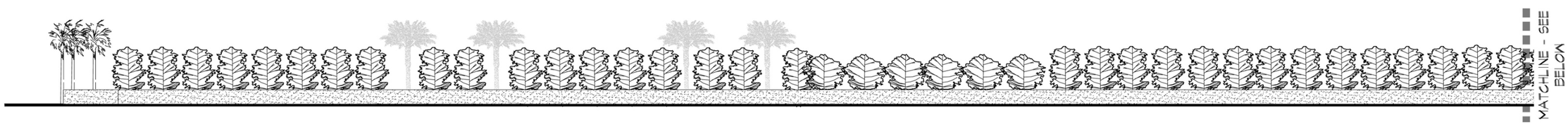
PLAN VIEW ENLARGEMENT SCALE: 1"=20'-0"



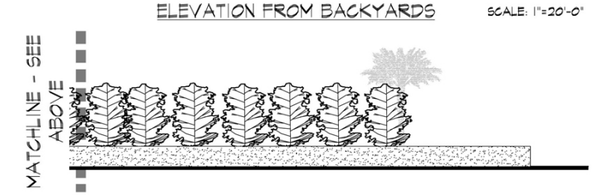
ELEVATION ENLARGEMENT FROM DRIVEWAY SCALE: 1"=10'-0"



PLAN VIEW ENLARGEMENT SCALE: 1"=20'-0"



ELEVATION FROM BACKYARDS SCALE: 1"=20'-0"



ELEVATION FROM BACKYARDS SCALE: 1"=20'-0"

LANDSCAPE DEVELOPMENT PLANT PALETTE

SYM.	LOCATION	BOTANICAL NAME/COMMON NAME
TREES		
	PROJECT ENTRY	PHOENIX DACTYLIFERA 'MEDJOOL' / DATE PALM
	COURTYARDS / LIGHT WELLS	WASHINGTONIA FILIFERA / CALIFORNIA FAN PALM TRACHYCARPUS FORTUNEI/ WINDMILL PALM
	COUTRTYARDS	WASHINGTONIA FILIFERA/CALIFORNIA FAN PALM
	SMALL FLOWERING ACCENT TREE	CASSIA LEPTOPHYLLA / GOLD MEDALLION TREE PRUNUS CERASIFERA / FLOWERING PLUM
	GROSVENOR STREET TREES	PER CITY STANDARDS & SELECTION

LANDSCAPE DEVELOPMENT PLANT PALETTE

SYM.	LOCATION	BOTANICAL NAME/COMMON NAME
TREES		
	EVERGREEN SCREEN TREE	TRISTANIA CONFERTA / BRISBANE BOX MELALEUCA QUINQUINERVIA
	LARGE FLOWERING ACCENT TREE	PYRUS SPECIES / FLOWERING PEAR
	CANOPY TREE	JACARANDA MIMSIFOLIA / JACARANDA PODOCARPUS GRACILIOR / FERN PINE MAGNOLIA GRANDIFLRA / SOUTHERN MAGNOLIA
	LIGHT WELLS	BAMBUSA TEXTILIS / BAMBOO SPECIES
	SMALL VERTICAL ACCENT TREE	PODOCARPUS 'MAKI' / SHRUBBY JAPANESE YEW
	LARGE VERTICAL ACCENT TREE	CUPRESSUS SEMPERVIRENS / ITALIAN CYPRESS

50 25 0 50

APPROXIMATE SCALE IN FEET

SOURCE: Architects Orange – July 2010

FIGURE **4.6-8**

Northern Perimeter Landscaping

1052-001•07/10

4.6.4.4 Project Analysis; Would the Project Create a New Source Of Substantial Light or Glare, or Shade/Shadow Which Would Adversely Affect Day Or Nighttime Views in the Area?

The applicable threshold of significance is listed below followed by analysis of the significance of any potential impacts. Mitigation measures are also identified that would reduce or avoid potential impacts.

Threshold 4 **Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.**

Analysis (Light/Glare): As part of the parking and landscape areas, new pole lights would be installed to provide adequate lighting for safe access to the building, parking structure, courtyards, and pool area. Proposed lighting on soffit-mounted fixtures for the building would illuminate the exterior and interior of the building. The Property Manager would be responsible for the maintenance of the lighting. There would be an increase in vehicular headlights because of the increase in the number of vehicles generated by the new residents and visitors to the site. Over time, (approximately three to five years), landscaping proposed along the southern boundary of the project site would grow to an approximate height of 30 to 45 feet and would serve to screen against light emitted from vehicular headlights in the parking structure. Also, a vegetated screen would be constructed on the southern façade of the parking structure to further limit headlamp illumination as well as interior lighting of the parking structure.

The combination of these project design features would be to reduce or eliminate light and glare associated with parking structure operation on the existing apartment structures situated to the south. In the interim, an increase in vehicular headlights would be visible from the multi-family residential units adjacent to the project site to the south as vehicles travel along the alley and ~~in~~ out of the parking garage. The alley that runs along the southern boundary of the project site is part of the existing condition and adjacent residents are currently exposed to vehicular headlights. Therefore, the increase in light generated by vehicles accessing the project site after buildout would not represent a substantial source of light during the period when project landscaping is growing to mature heights. Impacts would be less than significant.

To avoid generating significant glare, proposed mitigation would require that building materials and paint colors would not be highly reflective. In addition, proposed mitigation would also require that proposed wrought iron balconies, rails, decorative metal mesh, metal canopies, and metal trellis, would not be highly reflective. In addition, access of the parking structure on the southern alley will be limited to egress only.

The introduction of this lighting is not anticipated to generate significant impacts as mitigation would require that lights fixtures be shielded to prevent light from spilling over onto adjacent properties. In addition, they would be typical of a high-density residential project and an urban area. The lighting levels would be consistent with safety standards in a residential project.

Analysis (Shade/Shadow): The shade and shadow created by an object blocking sunlight varies dependent upon the time of year and time of day. This variation is a result of the sun's seasonal position in relation to the earth given the earth's annual orbit and the altitude of the sun relative to the earth. Because the sun is lowest in the southern sky during the winter, project development would cast the longest shadows during this season (worst-case condition). During the summer months, the sun is more directly overhead, and the shadow length is more limited. County of Los Angeles Department of Regional Planning thresholds define a significance threshold that states, "Is the project likely to create substantial sun shadow, light or glare problems?"

The threshold standard defined by the County can be considered qualitative. City of Los Angeles thresholds for sun and shadow impacts are more quantitative. City thresholds state that "A project impact would normally be considered significant if shadow-sensitive uses would be shaded by project-related structures for more than 3 hours between the hours of 9:00 AM and 3:00 PM Pacific Standard Time (between late October and early April), or for more than 4 hours between the hours of 9:00 AM and 5:00 PM Pacific Daylight Time (between early April and late October)." Due to the proximity of the City of Los Angeles to the project site, it is appropriate to use the more quantitative City thresholds. As defined in **Figure 4.6-9**, structures north and south of the project site would not be shaded for more than 3 hours between 9:00 AM and 5:00 PM during both the Summer Solstice (June 21) and the Winter Solstice (December 21). As can be seen in **Figure 4.6-9**, the proposed project would cast shadows on the residential units between 9:00 AM to 11:00 AM during the Winter Solstice. Therefore, using these more quantitative standards established in the City of Los Angeles, shade impacts associated with the proposed project are not considered significant.

4.6.4.4.1 Conclusion Without Mitigation

Not significant

4.6.4.4.2 Mitigation Measures

To mitigate potential impacts associated with light and glare the following mitigation measure would be implemented during the design of the proposed structure.

4.6-1 Proposed building materials, paint colors, wrought iron balconies, rails, decorative metal mesh, metal canopies, and metal trellis, shall not be constructed with highly reflective material.

4.6-2 Exterior lighting and lighting within the parking structure shall be shielded to prevent light from spilling over onto adjacent properties. Exterior lighting and internal parking structure lighting plans shall be submitted to and approved by the Los Angeles County Department of Regional Planning prior to construction.

4.6-3 Exterior landscape plans and plans for the parking structure vegetated screen shall be submitted to and approved by the Los Angeles County Department of Regional Planning prior to construction.

4.6.4.4.3 Conclusion With Mitigation

Less than significant

4.6.5 CUMULATIVE IMPACTS

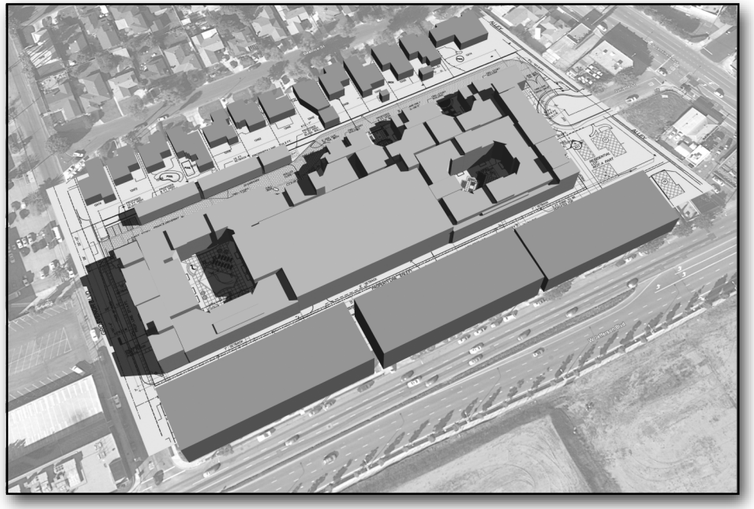
In general, in already-developed urban areas, visual impacts are site-specific and do not contribute to cumulative visual impacts. Because there are no scenic resources in the project area, there would not be cumulative visual impacts related to implementation of the project and other related development projects.

4.6.5.1 Conclusion Without Mitigation

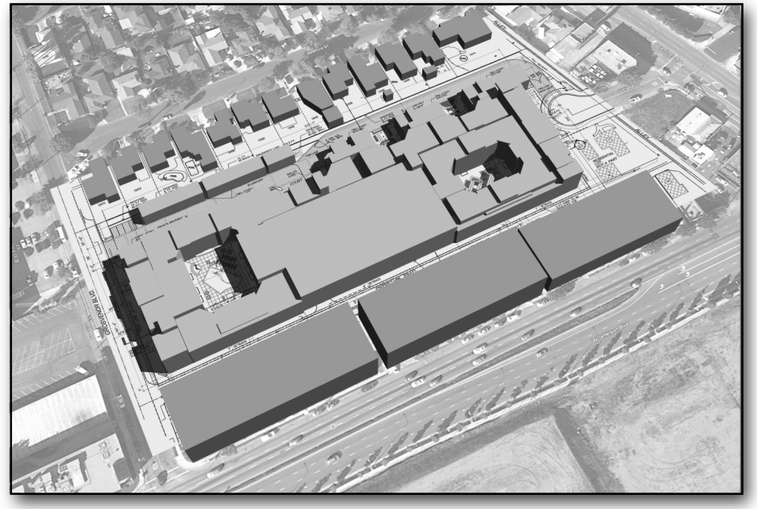
Not significant

4.6.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

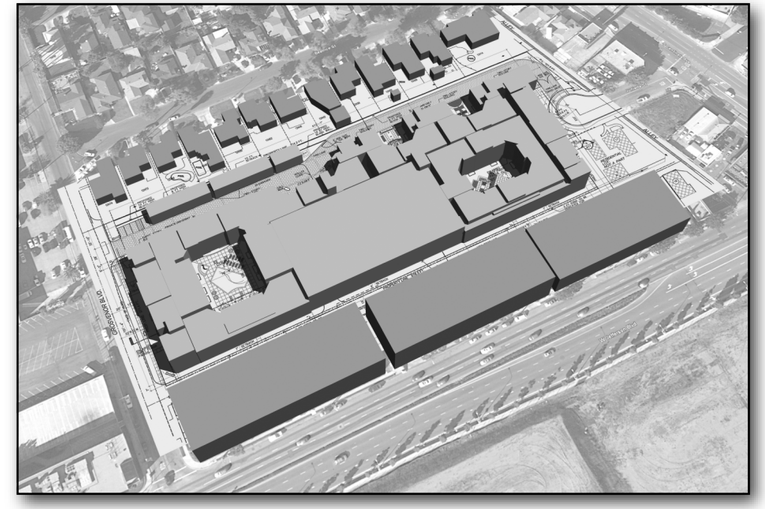
With mitigation site development would not significantly impact the visual environment either during site construction or operation.



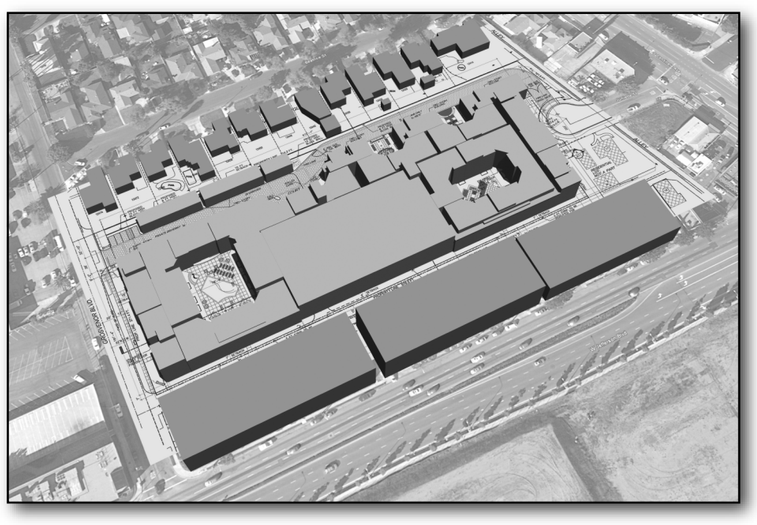
9:00 AM



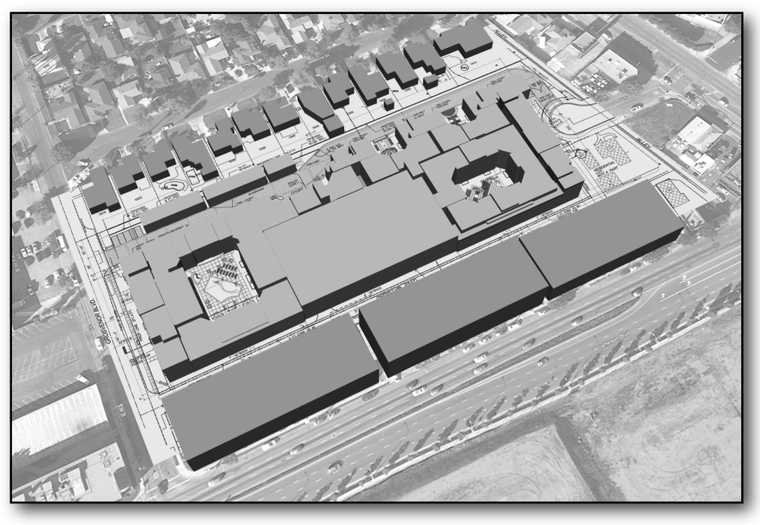
10:00 AM



11:00 AM



12:00 PM



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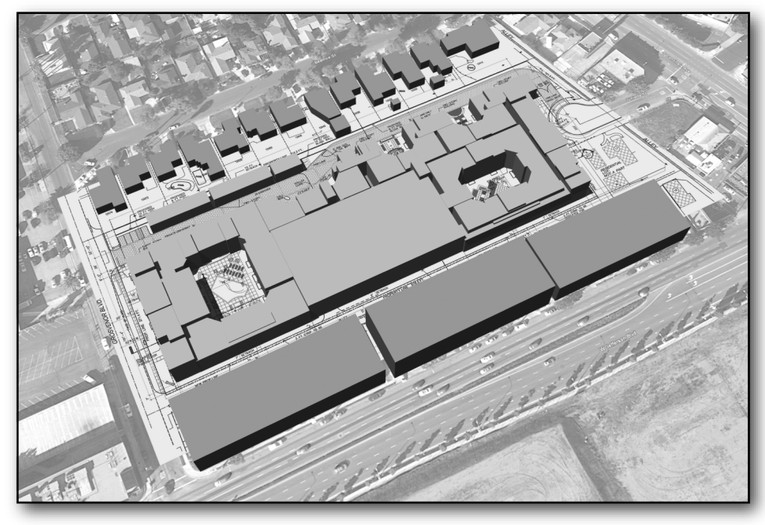


2:00 PM

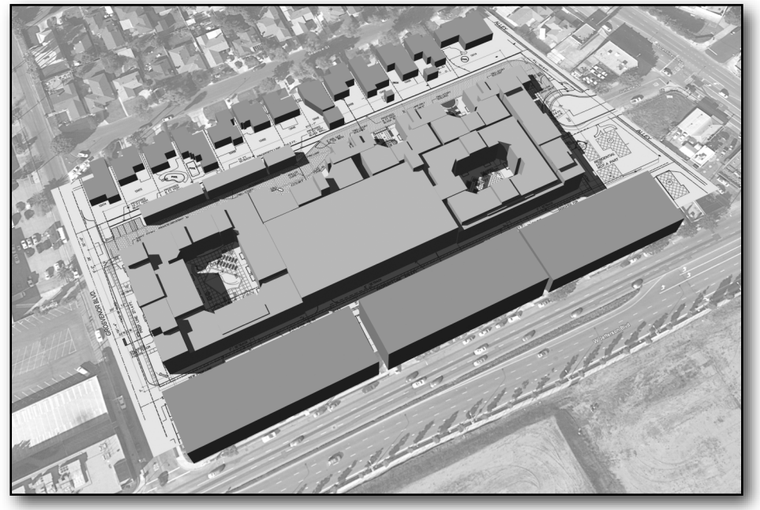
SOURCE: Impact Sciences, Inc. – July 2010

FIGURE **4.6-9a**

Shade & Shadow Effects: June 21 (Summer Solstice)

1052-001•07/10

3:00 PM



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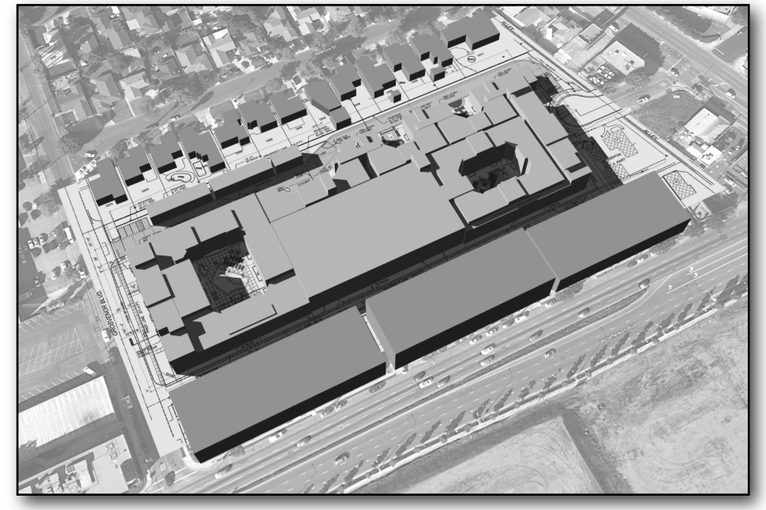


5:00 PM

SOURCE: Impact Sciences, Inc. – July 2010

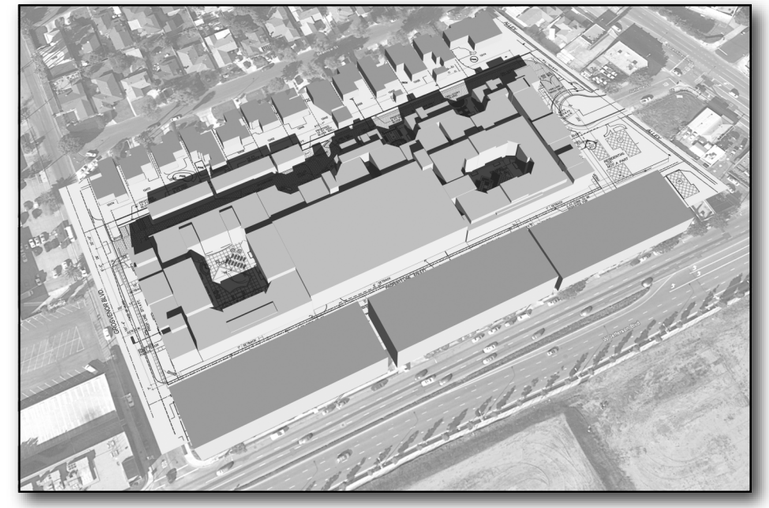
FIGURE **4.6-9b**

Shade & Shadow Effects: June 21 (Summer Solstice)

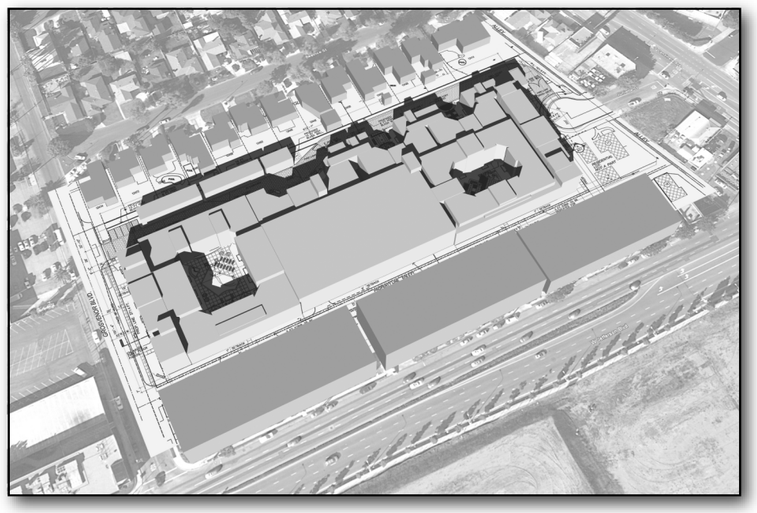
539-003•07/10

9:00 AM

10:00 AM



11:00 AM



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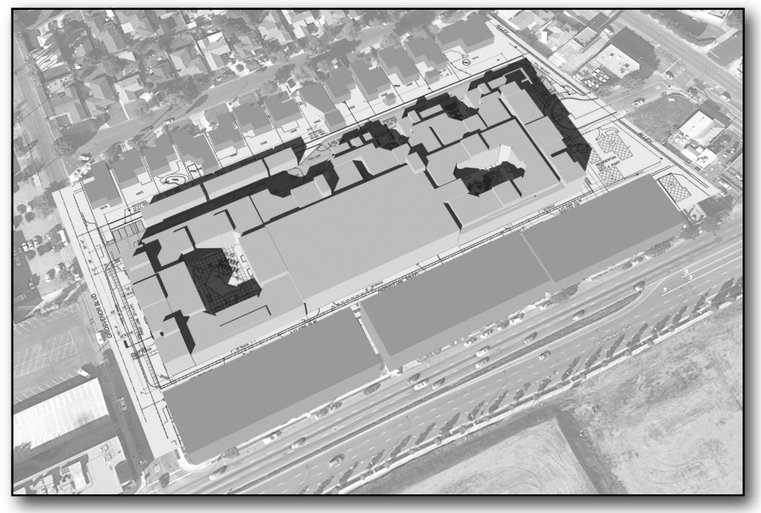

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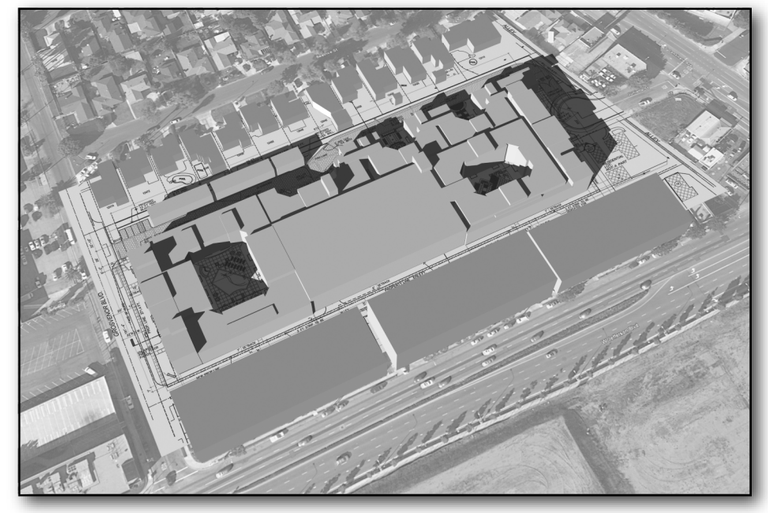

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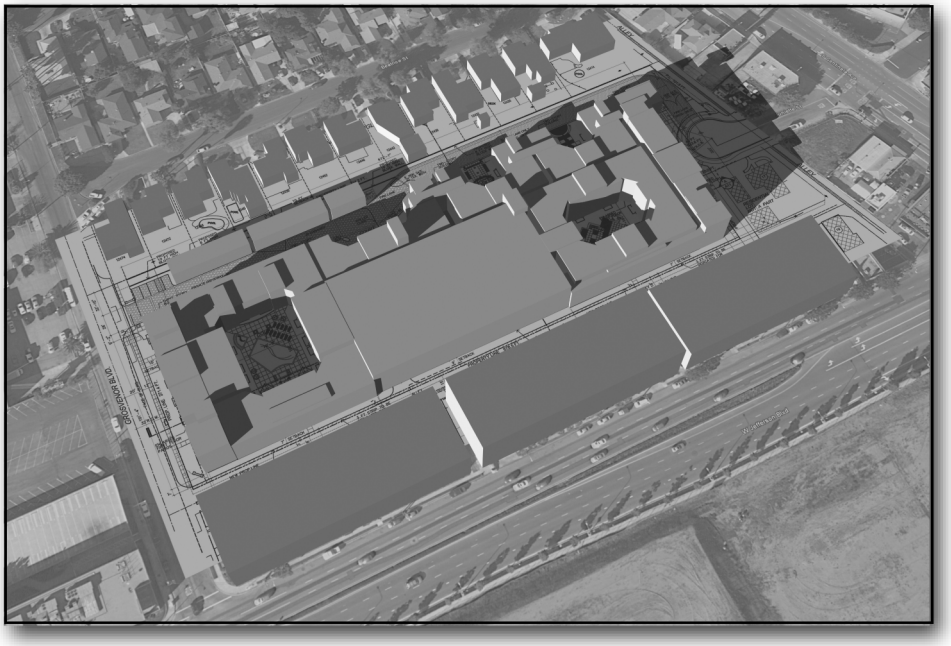
SOURCE: Impact Sciences, Inc. – July 2010

FIGURE **4.6-9c**

Shade & Shadow Effects: December 21 (Winter Solstice)

1052-001•07/10



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SOURCE: Impact Sciences, Inc. – July 2010

FIGURE **4.6-9d**

Shade & Shadow Effects: December 21 (Winter Solstice)

APPENDIX 4.0

Air Quality Worksheets

Revised Project
URBEMIS2007 Construction Emissions

SMAQMD Ton-Mile Calculation Worksheet for Cut/Fill Activities
High Level of Detail Fugitive Dust Quantification Method
(Prepared by EDAW Inc. March 2009)

Instructions: When using the High Level of Detail Fugitive Dust Quantification Method in the Mass Site Grading phase of the URBEMIS Construction Module, the District recommends using this spreadsheet to calculate the Onsite and/or Offsite Haulage data fields. If a project would involve both onsite and offsite cut/fill operations, analysts should create two separate Ton-Mile Calculation Worksheets (i.e., one worksheet calculation for onsite and one for offsite).

Project Name:	1052.01
Grading Activity/Phase:	Excavation

User inputs
Input to use in URBEMIS
Calculation (do not change)

Cut/Fill Operations

Description	Amount	Units	Notes
Total Cut/Fill Volume	96,690	cubic yards	Enter information
Months of Activity	1	months	Enter information
Days of Activity	22	days	
Daily Cut/Fill Volume	4395.00	cubic yards/day	

Soil Density by Soil Type and Condition

Soil Type	Bulk Density (grams/cubic centimeter)	Density (pounds/cubic yard)	Density (tons/cubic yard)
Sandy	1.69	2,849	1.42
Loamy Coarse-Loamy	1.63	2,747	1.37
Loamy Fine-Loamy	1.60	2,697	1.35
Loamy Coarse-Silty	1.60	2,697	1.35
Loamy Fine-Silty	1.54	2,596	1.30
Clayey 25-25% clay	1.49	2,511	1.26
Clayey >45% clay	1.39	2,343	1.17

Source: U.S. Department of Agriculture, Natural Resources Conservation Service, 2007. National Soil Survey Handbook, title 430-VI. [Online] Available at <http://soils.usda.gov/technical/handbook/>.

URBEMIS 2007 Ton-Mile Calculation

Description	Amount	Units	Notes
Soil Type	Sandy		Use drop-down menu to select soil type. Assume Sandy unless project-specific soil type is known.
Soil Density	1.42	tons/cubic yard	Enter project specific soil density if known
Haul Distance (Round Trip On-Site)	0.13	miles	Enter distance
Ton-Mile per Day	813.76	ton-miles/day	

Notes:
On-site ton-mile assumes cut/fill volume is moved by scrapers.
Off-site ton-mile assumes cut/fill volume is moved by haul trucks.

7/27/2010 06:28:03 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Air Quality\1052.01 Millennium-Playa Del Mar Apartments\Emissions\Construction Emissions\Construction with Default fugitive
Project Name: Millennium-Playa Del Mar Apartments Construction Emissions
Project Location: South Coast AQMD
On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006
Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:
CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2011 TOTALS (lbs/day unmitigated)	7.46	71.09	60.91	0.08	172.17	3.39	175.56	35.98	3.12	39.10
2011 TOTALS (lbs/day mitigated)	7.46	71.09	60.91	0.08	10.68	3.39	14.07	2.25	3.12	5.37
2012 TOTALS (lbs/day unmitigated)	150.89	56.88	70.65	0.09	0.36	3.73	4.09	0.13	3.42	3.54
2012 TOTALS (lbs/day mitigated)	150.89	56.88	70.65	0.09	0.36	3.73	4.09	0.13	3.42	3.54

Construction Unmitigated Detail Report:
CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 6/1/2011-6/30/2011 Active Days: 22	3.50	29.71	16.71	0.01	8.56	1.60	10.16	1.79	1.47	3.26
Demolition 06/01/2011-06/30/2011	3.50	29.71	16.71	0.01	8.56	1.60	10.16	1.79	1.47	3.26
Fugitive Dust	0.00	0.00	0.00	0.00	8.51	0.00	8.51	1.77	0.00	1.77
Demo Off Road Diesel	2.85	21.76	12.70	0.00	0.00	1.28	1.28	0.00	1.18	1.18
Demo On Road Diesel	0.62	7.89	3.04	0.01	0.04	0.32	0.36	0.01	0.29	0.30
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 7/1/2011-7/29/2011 Active Days: 21	7.46	**71.09**	34.81	0.04	172.17	3.39	175.56	35.98	3.12	39.10
Mass Grading 07/01/2011-07/31/2011	7.46	71.09	34.81	0.04	172.17	3.39	175.56	35.98	3.12	39.10
Mass Grading Dust	0.00	0.00	0.00	0.00	172.01	0.00	172.01	35.92	0.00	35.92
Mass Grading Off Road Diesel	5.06	40.97	21.80	0.00	0.00	2.18	2.18	0.00	2.01	2.01
Mass Grading On Road Diesel	2.36	30.03	11.55	0.04	0.15	1.21	1.36	0.05	1.11	1.16
Mass Grading Worker Trips	0.05	0.08	1.46	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Time Slice 8/1/2011-12/30/2011 Active Days: 110	6.12	45.78	60.91	0.08	0.33	2.71	3.04	0.12	2.48	2.60
Building 08/01/2011-11/30/2012	6.12	45.78	60.91	0.08	0.33	2.71	3.04	0.12	2.48	2.60
Building Off Road Diesel	3.39	24.04	14.00	0.00	0.00	1.78	1.78	0.00	1.64	1.64

Building Vendor Trips	1.74	19.88	14.78	0.04	0.14	0.82	0.95	0.05	0.75	0.80
Building Worker Trips	0.99	1.86	32.13	0.04	0.19	0.11	0.30	0.07	0.09	0.16
Time Slice 1/2/2012-9/28/2012 Active Days: 195	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Time Slice 10/1/2012-10/31/2012 Active Days: 23	148.34	41.99	59.67	0.08	0.35	2.46	2.81	0.12	2.25	2.38
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Coating 10/01/2012-11/30/2012	142.67	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	142.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Time Slice 11/1/2012-11/30/2012 Active Days: 22	**150.89**	56.88	**70.65**	**0.09**	0.36	**3.73**	4.09	0.13	**3.42**	3.54
Asphalt 11/01/2012-11/30/2012	2.56	14.89	10.98	0.00	0.01	1.26	1.28	0.01	1.16	1.17
Paving Off-Gas	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14
Paving On Road Diesel	0.04	0.44	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02
Paving Worker Trips	0.05	0.10	1.82	0.00	0.01	0.01	0.02	0.00	0.01	0.01
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Coating 10/01/2012-11/30/2012	142.67	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	142.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01

Phase Assumptions

Phase: Demolition 6/1/2011 - 6/30/2011 - Default Demolition Description

Building Volume Total (cubic feet): 405224

Building Volume Daily (cubic feet): 20271.89

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On Road Truck Travel (VMT): 281.55

Off-Road Equipment:

1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

Phase: Mass Grading 7/1/2011 - 7/31/2011 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 4.32

Maximum Daily Acreage Disturbed: 1.08

Fugitive Dust Level of Detail: High

Onsite Haulage: 813.76 ton-miles/day; Offsite haulage: 0 ton-mils/day

On Road Truck Travel (VMT): 1071.43

Off-Road Equipment:

1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 11/1/2012 - 11/30/2012 - Type Your Description Here

Acres to be Paved: 1.08

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 8/1/2011 - 11/30/2012 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2012 - 11/30/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

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Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 6/1/2011-6/30/2011 Active Days: 22	3.50	29.71	16.71	0.01	8.56	1.60	10.16	1.79	1.47	3.26
Demolition 06/01/2011-06/30/2011	3.50	29.71	16.71	0.01	8.56	1.60	10.16	1.79	1.47	3.26
Fugitive Dust	0.00	0.00	0.00	0.00	8.51	0.00	8.51	1.77	0.00	1.77
Demo Off Road Diesel	2.85	21.76	12.70	0.00	0.00	1.28	1.28	0.00	1.18	1.18
Demo On Road Diesel	0.62	7.89	3.04	0.01	0.04	0.32	0.36	0.01	0.29	0.30
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 7/1/2011-7/29/2011 Active Days: 21	7.46	**71.09**	34.81	0.04	10.68	3.39	14.07	2.25	3.12	5.37
Mass Grading 07/01/2011-07/31/2011	7.46	71.09	34.81	0.04	10.68	3.39	14.07	2.25	3.12	5.37
Mass Grading Dust	0.00	0.00	0.00	0.00	10.52	0.00	10.52	2.20	0.00	2.20
Mass Grading Off Road Diesel	5.06	40.97	21.80	0.00	0.00	2.18	2.18	0.00	2.01	2.01
Mass Grading On Road Diesel	2.36	30.03	11.55	0.04	0.15	1.21	1.36	0.05	1.11	1.16
Mass Grading Worker Trips	0.05	0.08	1.46	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Time Slice 8/1/2011-12/30/2011 Active Days: 110	6.12	45.78	60.91	0.08	0.33	2.71	3.04	0.12	2.48	2.60
Building 08/01/2011-11/30/2012	6.12	45.78	60.91	0.08	0.33	2.71	3.04	0.12	2.48	2.60
Building Off Road Diesel	3.39	24.04	14.00	0.00	0.00	1.78	1.78	0.00	1.64	1.64
Building Vendor Trips	1.74	19.88	14.78	0.04	0.14	0.82	0.95	0.05	0.75	0.80
Building Worker Trips	0.99	1.86	32.13	0.04	0.19	0.11	0.30	0.07	0.09	0.16
Time Slice 1/2/2012-9/28/2012 Active Days: 195	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Time Slice 10/1/2012-10/31/2012 Active Days: 23	148.34	41.99	59.67	0.08	0.35	2.46	2.81	0.12	2.25	2.38
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36

Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Coating 10/01/2012-11/30/2012	142.67	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	142.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Time Slice 11/1/2012-11/30/2012 Active Days: 22	**150.89**	56.88	**70.65**	**0.09**	0.36	**3.73**	4.09	0.13	**3.42**	3.54
Asphalt 11/01/2012-11/30/2012	2.56	14.89	10.98	0.00	0.01	1.26	1.28	0.01	1.16	1.17
Paving Off-Gas	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14
Paving On Road Diesel	0.04	0.44	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02
Paving Worker Trips	0.05	0.10	1.82	0.00	0.01	0.01	0.02	0.00	0.01	0.01
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Coating 10/01/2012-11/30/2012	142.67	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	142.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2011 - 7/31/2011 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Air Quality\1052.01 Millennium-Playa Del Mar Apartments\Emissions\Construction Emissions\Construction with Default fugitive
Project Name: Millennium-Playa Del Mar Apartments Construction Emissions
Project Location: South Coast AQMD
On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006
Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:
CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2011 TOTALS (lbs/day unmitigated)	7.46	71.09	60.91	0.08	172.17	3.39	175.56	35.98	3.12	39.10
2011 TOTALS (lbs/day mitigated)	7.46	71.09	60.91	0.08	10.68	3.39	14.07	2.25	3.12	5.37
2012 TOTALS (lbs/day unmitigated)	150.89	56.88	70.65	0.09	0.36	3.73	4.09	0.13	3.42	3.54
2012 TOTALS (lbs/day mitigated)	150.89	56.88	70.65	0.09	0.36	3.73	4.09	0.13	3.42	3.54

Construction Unmitigated Detail Report:
CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 6/1/2011-6/30/2011 Active Days: 22	3.50	29.71	16.71	0.01	8.56	1.60	10.16	1.79	1.47	3.26
Demolition 06/01/2011-06/30/2011	3.50	29.71	16.71	0.01	8.56	1.60	10.16	1.79	1.47	3.26
Fugitive Dust	0.00	0.00	0.00	0.00	8.51	0.00	8.51	1.77	0.00	1.77
Demo Off Road Diesel	2.85	21.76	12.70	0.00	0.00	1.28	1.28	0.00	1.18	1.18
Demo On Road Diesel	0.62	7.89	3.04	0.01	0.04	0.32	0.36	0.01	0.29	0.30
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 7/1/2011-7/29/2011 Active Days: 21	7.46	**71.09**	34.81	0.04	172.17	3.39	175.56	35.98	3.12	39.10
Mass Grading 07/01/2011-07/31/2011	7.46	71.09	34.81	0.04	172.17	3.39	175.56	35.98	3.12	39.10
Mass Grading Dust	0.00	0.00	0.00	0.00	172.01	0.00	172.01	35.92	0.00	35.92
Mass Grading Off Road Diesel	5.06	40.97	21.80	0.00	0.00	2.18	2.18	0.00	2.01	2.01
Mass Grading On Road Diesel	2.36	30.03	11.55	0.04	0.15	1.21	1.36	0.05	1.11	1.16
Mass Grading Worker Trips	0.05	0.08	1.46	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Time Slice 8/1/2011-12/30/2011 Active Days: 110	6.12	45.78	60.91	0.08	0.33	2.71	3.04	0.12	2.48	2.60
Building 08/01/2011-11/30/2012	6.12	45.78	60.91	0.08	0.33	2.71	3.04	0.12	2.48	2.60
Building Off Road Diesel	3.39	24.04	14.00	0.00	0.00	1.78	1.78	0.00	1.64	1.64

Building Vendor Trips	1.74	19.88	14.78	0.04	0.14	0.82	0.95	0.05	0.75	0.80
Building Worker Trips	0.99	1.86	32.13	0.04	0.19	0.11	0.30	0.07	0.09	0.16
Time Slice 1/2/2012-9/28/2012 Active Days: 195	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Time Slice 10/1/2012-10/31/2012 Active Days: 23	148.34	41.99	59.67	0.08	0.35	2.46	2.81	0.12	2.25	2.38
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Coating 10/01/2012-11/30/2012	142.67	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	142.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Time Slice 11/1/2012-11/30/2012 Active Days: 22	**150.89**	56.88	**70.65**	**0.09**	0.36	**3.73**	4.09	0.13	**3.42**	3.54
Asphalt 11/01/2012-11/30/2012	2.56	14.89	10.98	0.00	0.01	1.26	1.28	0.01	1.16	1.17
Paving Off-Gas	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14
Paving On Road Diesel	0.04	0.44	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02
Paving Worker Trips	0.05	0.10	1.82	0.00	0.01	0.01	0.02	0.00	0.01	0.01
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Coating 10/01/2012-11/30/2012	142.67	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	142.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01

Phase Assumptions

Phase: Demolition 6/1/2011 - 6/30/2011 - Default Demolition Description

Building Volume Total (cubic feet): 405224

Building Volume Daily (cubic feet): 20271.89

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On Road Truck Travel (VMT): 281.55
Off-Road Equipment:
1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

Phase: Mass Grading 7/1/2011 - 7/31/2011 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 4.32
Maximum Daily Acreage Disturbed: 1.08
Fugitive Dust Level of Detail: High
  Onsite Haulage: 813.76 ton-miles/day; Offsite haulage: 0 ton-mils/day
On Road Truck Travel (VMT): 1071.43
Off-Road Equipment:
1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
1 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 11/1/2012 - 11/30/2012 - Type Your Description Here
Acres to be Paved: 1.08
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 8/1/2011 - 11/30/2012 - Default Building Construction Description
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2012 - 11/30/2012 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

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Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 6/1/2011-6/30/2011 Active Days: 22	3.50	29.71	16.71	0.01	8.56	1.60	10.16	1.79	1.47	3.26
Demolition 06/01/2011-06/30/2011	3.50	29.71	16.71	0.01	8.56	1.60	10.16	1.79	1.47	3.26
Fugitive Dust	0.00	0.00	0.00	0.00	8.51	0.00	8.51	1.77	0.00	1.77
Demo Off Road Diesel	2.85	21.76	12.70	0.00	0.00	1.28	1.28	0.00	1.18	1.18
Demo On Road Diesel	0.62	7.89	3.04	0.01	0.04	0.32	0.36	0.01	0.29	0.30
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 7/1/2011-7/29/2011 Active Days: 21	7.46	**71.09**	34.81	0.04	10.68	3.39	14.07	2.25	3.12	5.37
Mass Grading 07/01/2011-07/31/2011	7.46	71.09	34.81	0.04	10.68	3.39	14.07	2.25	3.12	5.37
Mass Grading Dust	0.00	0.00	0.00	0.00	10.52	0.00	10.52	2.20	0.00	2.20
Mass Grading Off Road Diesel	5.06	40.97	21.80	0.00	0.00	2.18	2.18	0.00	2.01	2.01
Mass Grading On Road Diesel	2.36	30.03	11.55	0.04	0.15	1.21	1.36	0.05	1.11	1.16
Mass Grading Worker Trips	0.05	0.08	1.46	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Time Slice 8/1/2011-12/30/2011 Active Days: 110	6.12	45.78	60.91	0.08	0.33	2.71	3.04	0.12	2.48	2.60
Building 08/01/2011-11/30/2012	6.12	45.78	60.91	0.08	0.33	2.71	3.04	0.12	2.48	2.60
Building Off Road Diesel	3.39	24.04	14.00	0.00	0.00	1.78	1.78	0.00	1.64	1.64
Building Vendor Trips	1.74	19.88	14.78	0.04	0.14	0.82	0.95	0.05	0.75	0.80
Building Worker Trips	0.99	1.86	32.13	0.04	0.19	0.11	0.30	0.07	0.09	0.16
Time Slice 1/2/2012-9/28/2012 Active Days: 195	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Time Slice 10/1/2012-10/31/2012 Active Days: 23	148.34	41.99	59.67	0.08	0.35	2.46	2.81	0.12	2.25	2.38
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36

Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Coating 10/01/2012-11/30/2012	142.67	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	142.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Time Slice 11/1/2012-11/30/2012 Active Days: 22	**150.89**	56.88	**70.65**	**0.09**	0.36	**3.73**	4.09	0.13	**3.42**	3.54
Asphalt 11/01/2012-11/30/2012	2.56	14.89	10.98	0.00	0.01	1.26	1.28	0.01	1.16	1.17
Paving Off-Gas	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	8.99	0.00	0.00	1.24	1.24	0.00	1.14	1.14
Paving On Road Diesel	0.04	0.44	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02
Paving Worker Trips	0.05	0.10	1.82	0.00	0.01	0.01	0.02	0.00	0.01	0.01
Building 08/01/2011-11/30/2012	5.67	41.85	57.32	0.08	0.33	2.45	2.79	0.12	2.25	2.36
Building Off Road Diesel	3.18	22.41	13.79	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Building Vendor Trips	1.59	17.74	13.64	0.04	0.14	0.72	0.86	0.05	0.66	0.71
Building Worker Trips	0.90	1.71	29.89	0.04	0.19	0.11	0.31	0.07	0.09	0.16
Coating 10/01/2012-11/30/2012	142.67	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	142.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.36	0.00	0.02	0.01	0.02	0.01	0.01	0.01

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2011 - 7/31/2011 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Z:\Air Quality\1052.01 Millennium-Playa Del Mar Apartments\Emissions\Construction Emissions\Construction with Default fugitive dust\Play
Project Name: Millennium-Playa Del Mar Apartments Construction Emissions
Project Location: South Coast AQMD
On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006
Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:
CONSTRUCTION EMISSION ESTIMATES

	CO2
2011 TOTALS (tons/year unmitigated)	701.94
2011 TOTALS (tons/year mitigated)	701.94
Percent Reduction	0.00
2012 TOTALS (tons/year unmitigated)	1,273.53
2012 TOTALS (tons/year mitigated)	1,273.53
Percent Reduction	0.00

Construction Unmitigated Detail Report:
CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	CO2
2011	701.94
Demolition 06/01/2011-06/30/2011	37.70
Fugitive Dust	0.00
Demo Off Road Diesel	23.20
Demo On Road Diesel	13.13
Demo Worker Trips	1.37
Mass Grading 07/01/2011-07/31/2011	91.87
Mass Grading Dust	0.00
Mass Grading Off Road Diesel	42.23
Mass Grading On Road Diesel	47.68
Mass Grading Worker Trips	1.96
Building 08/01/2011-11/30/2012	572.37
Building Off Road Diesel	129.80
Building Vendor Trips	217.30
Building Worker Trips	225.27

2012	1,273.53
Building 08/01/2011-11/30/2012	1,248.72
Building Off Road Diesel	283.20
Building Vendor Trips	474.12
Building Worker Trips	491.40
Coating 10/01/2012-11/30/2012	7.26
Architectural Coating	0.00
Coating Worker Trips	7.26
Asphalt 11/01/2012-11/30/2012	17.55
Paving Off-Gas	0.00
Paving Off Road Diesel	13.99
Paving On Road Diesel	0.82
Paving Worker Trips	2.74

Phase Assumptions

Phase: Demolition 6/1/2011 - 6/30/2011 - Default Demolition Description
Building Volume Total (cubic feet): 405224
Building Volume Daily (cubic feet): 20271.89
On Road Truck Travel (VMT): 281.55
Off-Road Equipment:
1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

Phase: Mass Grading 7/1/2011 - 7/31/2011 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 4.32
Maximum Daily Acreage Disturbed: 1.08
Fugitive Dust Level of Detail: High
Onsite Haulage: 813.76 ton-miles/day; Offsite haulage: 0 ton-mils/day
On Road Truck Travel (VMT): 1071.43
Off-Road Equipment:
1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
2 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
1 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

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1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 11/1/2012 - 11/30/2012 - Type Your Description Here
Acres to be Paved: 1.08
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 8/1/2011 - 11/30/2012 - Default Building Construction Description
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 10/1/2012 - 11/30/2012 - Default Architectural Coating Description
Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100
Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50
Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:
CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	CO2
2011	701.94
Demolition 06/01/2011-06/30/2011	37.70
Fugitive Dust	0.00
Demo Off Road Diesel	23.20
Demo On Road Diesel	13.13
Demo Worker Trips	1.37
Mass Grading 07/01/2011-07/31/2011	91.87

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Mass Grading Dust	0.00
Mass Grading Off Road Diesel	42.23
Mass Grading On Road Diesel	47.68
Mass Grading Worker Trips	1.96
Building 08/01/2011-11/30/2012	572.37
Building Off Road Diesel	129.80
Building Vendor Trips	217.30
Building Worker Trips	225.27
2012	1,273.53
Building 08/01/2011-11/30/2012	1,248.72
Building Off Road Diesel	283.20
Building Vendor Trips	474.12
Building Worker Trips	491.40
Coating 10/01/2012-11/30/2012	7.26
Architectural Coating	0.00
Coating Worker Trips	7.26
Asphalt 11/01/2012-11/30/2012	17.55
Paving Off-Gas	0.00
Paving Off Road Diesel	13.99
Paving On Road Diesel	0.82
Paving Worker Trips	2.74

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2011 - 7/31/2011 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Revised Project
Parking Structure CO Hotspots Analysis

Project: Millenium Playa Del Mar Apartments
Source: EMFAC2007 (Version 2.3)
Parking Structure Emissions (Queueing and Idling)
Running Exhaust Emissions

Emission Factors (grams/mile @ 1 MPH)[1]	Carbon Monoxide (grams/mile)
2012 ALL (LDA, LDT1, LDT2)	4.59

[1] Emission factors are based on running exhaust emissions from EMFAC2007 for year 2012 for light duty automobiles (LDA) and light duty trucks (LDT1 and LDT2) at a speed of 1 MPH. EMFAC2007 does not provide emission factors for idling; therefore a speed of 1 MPH was used as a surrogate for idling emission factors. As a conservative estimate, the emission factors represent the winter season at 47 degrees Fahrenheit and 30% relative humidity.

Proposed Project Emission Rate:

Queueing Emissions (LDA ALL) (grams/second)	Carbon Monoxide (grams/sec)	Peak Hourly Trip Rate per Unit	Unit	Minutes Idling
Parking Structure	0.0145	136	1	5

SCREEN3 Model Results:

Averaging Period	Modeled Distances from Source (meters)	Modeled Concentration (converted to units of parts per million)	Peak Background Concentration in the past 3 years (SRA 3, 2006-2008) (parts per million)	Most Stringent Standard (parts per million)	Standard Exceeded?
1 hour	25	0.09	4.0	20	NO
8 hour	25	0.06	2.5	9.0	NO

Notes:
1. The emission calculations are based on the following assumptions:
   (a) Peak hourly trip rate of 136 vehicles.
   (b) Scenario year 2012. Per unit emissions for subsequent years are presumed to decrease due to more stringent vehicle emission standards.
   (c) Assumed 5 minutes idling per vehicle.

2. The CO hotspots determination was done using the U.S. EPA Screening Dispersion Model (SCREEN3).
   (a) The modeled distances from source represent the distance from the parking structure entrance/exit to a potential receptor.
   (b) The 8 hour averaging period concentrations are calculating based on a persistence factor of 0.7 as recommended by the SCAQMD.
   (c) Peak background concentrations are based on SCAQMD monitored data in Source Receptor Area 3 (Southwest Los Angeles County Coastal).

07/28/10

19:13:50
  *** SCREEN3 MODEL RUN ***
  *** VERSION DATED 96043 ***

 C:\ISC-Aermod\1052.01\CO.scr

 SIMPLE TERRAIN INPUTS:
    SOURCE TYPE   =   VOLUME
    EMISSION RATE (G/S)   =   0.145000E-01
    SOURCE HEIGHT (M)   =   1.0000
    INIT. LATERAL DIMEN (M) =   1.1600
    INIT. VERTICAL DIMEN (M) =   22.3300
    RECEPTOR HEIGHT (M)   =   2.0000
    URBAN/RURAL OPTION   =   URBAN

 THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

 BUOY. FLUX =   0.000 M**4/S**3; MOM. FLUX =   0.000 M**4/S**2.

 *** FULL METEOROLOGY ***

 ****
 *** SCREEN DISCRETE DISTANCES ***
 ****

 *** TERRAIN HEIGHT OF   0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

   DIST   CONC   U10M   USTK MIX HT   PLUME   SIGMA   SIGMA
    (M)   (UG/M**3)   STAB (M/S) (M/S)   (M)   HT (M)   Y (M)   Z (M)
DWASH
 ------- ---------- ---- ----- ----- ------ ------ ------ ------
-----
      8.   101.3   5   1.0   1.0 10000.0   1.00   1.99   22.74
NO

  DWASH=   MEANS NO CALC MADE (CONC = 0.0)
  DWASH=NO MEANS NO BUILDING DOWNWASH USED
  DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
  DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
  DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

      ****
      *** SUMMARY OF SCREEN MODEL RESULTS ***
      ****

  CALCULATION   MAX CONC   DIST TO   TERRAIN
   PROCEDURE   (UG/M**3)   MAX (M)   HT (M)
 --------------   -----------   -------   -------
 SIMPLE TERRAIN   101.3   8.   0.

 ****
 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
 ****

APPENDIX 4.5

Parking and Traffic Studies

RAJU Associates, Inc.

524 S. Rosemead Blvd.,
2nd Floor,
Pasadena, CA 91107
Voice:(626) 792-2700
Fax: (626) 792-2772

MEMORANDUM

TO: Mr. Anthony Curzi and Ms. Mi Kim
Los Angeles County Planning Department

FROM: Srinath Raju, P.E.

SUBJECT: Millennium-Playa Del Mar Residential Project Parking Study

DATE: July 7, 2010 **REF:** RA312

This memorandum provides documentation of a parking study conducted for the Millennium Playa Del Mar Residential Project located in Los Angeles County, CA. The documentation includes a description of the purpose and goals of the study, the estimated project parking demand and the comparisons to required parking supply. An evaluation of the peak parking demand of the proposed project to the parking supply proposed for the project is also conducted to assess parking supply adequacy, and consequently, the parking impact of the proposed project.

PURPOSE & GOALS

The purpose of this Study is to determine the appropriate supply of parking spaces to be provided to satisfy the projected parking demand of the Millennium Playa Del Mar Residential Project and thereby not cause any significant parking impact by limiting the likelihood that project residents or their guests would be inclined to park on local streets in the vicinity of the subject property. This evaluation estimated the parking demand for the project using several methods – calculation based on nationally-published parking demand rates, and estimating based on historical data from actual observed demands in Southern California.

This study also compared the parking demand derived from nationally published sources, previously completed studies of similar projects and local requirements.

PROJECT BACKGROUND

The proposed project site is located along Grosvenor Boulevard immediately north of Jefferson Boulevard within the County of Los Angeles. This site currently includes a 38,987 square-foot church, a single family residential unit (rented out by the church) and associated surface parking. The existing site can be accessed from Juniette Street as well as Grosvenor Boulevard.

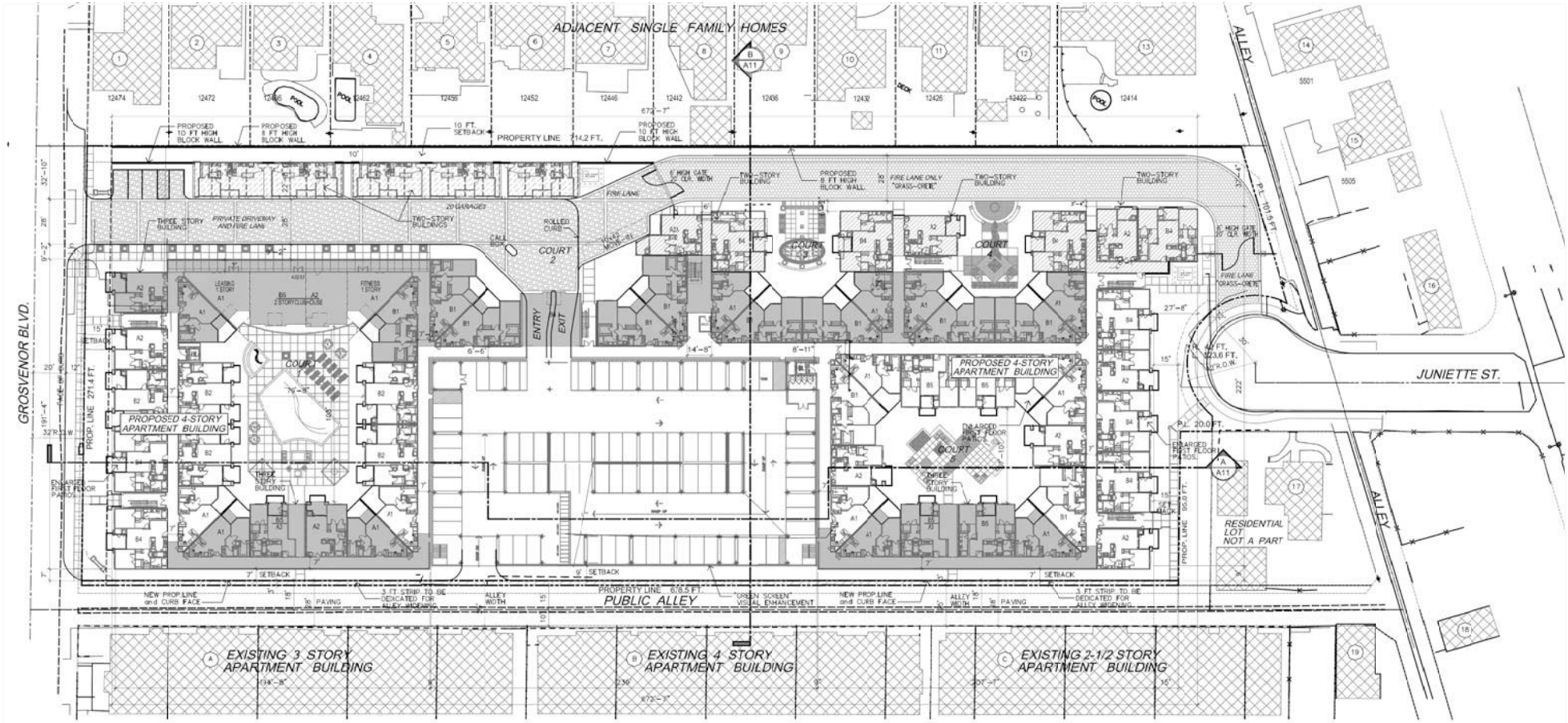
The proposed Millennium Playa Del Mar Residential Project consists of 196 apartments. The Project also includes provision of a multi-level parking structure containing 329 parking spaces for residents and guests. The parking structure would obtain access from Grosvenor Boulevard. The Proposed Project Site Plan is shown in Figure 1.

The Project proposes to provide a total parking supply of 353 parking spaces – 329 in a parking structure and 24 surface parking spaces (20 in private parking garages and 4 spaces for the leasing facility). This translates to a parking supply ratio of 1.8 spaces per dwelling unit. While this parking supply will satisfy the actual demand of the Project, and meets the requirements of the State of California for residential projects with low-income housing, it does not meet the County of Los Angeles' standard Code parking requirements for rental apartments; as such, the applicant has requested a Parking Deviation of the County Zoning Code to allow a reduced parking ratio for the Project of 1.8 parking stalls per dwelling unit.

COUNTY OF LOS ANGELES ZONING CODE

The proposed project consisting of 196 units has the following breakdown:

- 95 one-bedroom units
- 101 two-bedroom units



SOURCE: ARCHITECTS ORANGE

FIGURE 1
PROJECT SITE PLAN

RAJU Associates, Inc.

The County of Los Angeles zoning code specifies the following requirements for rental apartments:

- 1-bedroom apartment – one-and-a-half (1½) covered spaces per dwelling unit
- 2-bedroom apartment - one-and-a-half (1½) covered spaces plus one-half (½) uncovered space per dwelling unit
- Guest parking (a minimum of 10 dwelling units) – one (1) space for every four (4) units

Based on the County parking requirements, the Project would require a total of 394 parking spaces, as follows:

- 95 one-bedroom units – 143 parking spaces
- 101 two-bedroom units – 202 parking spaces
- Guest parking (196 units) – 49 parking spaces

As noted, the 353 spaces being provided for the Project thus falls short of meeting the general parking requirements per the County zoning code. Raju Associates has conducted a review of parking zoning codes from various cities within the United States as well as within the State of California. A discussion of these parking zoning codes follows.

PARKING ZONING CODES

Many cities in the U.S. have recognized the trend toward smaller units and reduced the number of persons per unit and, consequently, adjusted their parking requirements accordingly. Some of the examples of such changes include:

Dallas, Texas (Urban District)	1.0 space per dwelling unit
Dallas, Texas (Remainder)	1.5 spaces per dwelling unit
Seattle, Washington	1.1 to 1.5 spaces per dwelling unit based on location
Chicago, Illinois	1.0 space per dwelling unit
Tucson, Arizona	1.25 spaces per dwelling unit
Salt Lake City, Utah	0.5 to 1.0 space per dwelling unit

Table 1 shows a summary of parking zoning code requirements for selected California cities and counties. The parking requirement for each size unit along with guest parking requirement, if any, is shown in the table. The final column in the table shows the calculation of the parking requirement for the Millennium Playa Del Mar Project if it were built under that code. It can be seen from Table 1 that the parking provisions for the Millennium Playa Del Mar Project would exceed the parking requirement in 32 cities and counties in California.

It is now more important than ever to recognize that the various cities and counties are adapting to match the parking supply with the actual demand, and the parking zoning code requirements are being reduced to reflect lower parking demands.

PARKING SUPPLY AND DEMAND SURVEYS

There are various residential parking studies that have been conducted over the last decade and a half. Raju Associates has reviewed several studies to compile parking surveys conducted at numerous sites. The sites were all rental units ranging in size from 142 to 532, the smallest being in Long Beach, CA and the largest in Santa Monica, CA.

Table 2 shows the cities, sizes of the projects and the actual parking supply provided. Also included in this table is the ratio of number of parking spaces per dwelling unit. It can be observed from the table that the parking supply ratio is less than or equal to 1.8 at all but one location in San Diego where the ratio was 1.94 spaces per dwelling unit. All these locations are operating adequately relative to parking. In the vicinity of the Project Site, the supply varied from 1.32 spaces per dwelling unit in Santa Monica to 1.57 spaces per dwelling unit in Marina Del Rey.

The parking demands at a number of these sites were also surveyed and the results of the same are summarized in Table 3. The parking demands varied from 0.66 spaces per occupied dwelling unit to 1.59 spaces per occupied dwelling unit. In the vicinity of the Proposed Millennium Playa Del Mar Project, the parking demands varied from 0.91 spaces per occupied dwelling unit in Marina Del Rey to 1.22 spaces per dwelling unit in Santa Monica. Three of these project sites have sizes similar to or in the range of that proposed for the Millennium Playa Del Mar Project. The supply varies from 1.26 to 1.59 spaces per dwelling unit while the observed peak demands at the same sites varied from 0.77 to 1.59 spaces per occupied dwelling unit.

TABLE 1
PARKING ZONING CODE REQUIREMENTS--CALIFORNIA CITIES

CITY	PARKING SPACES REQUIRED PER UNIT(1)					RESULTING SPACES REQ'D FOR MILLENNIUM
	STUDIO	1 BR	2 BR	3 BR	GUEST	
Daly City	1	1.5	2	2	0	345
Fairfield	1	1.3	1.5	2	0.2	314
Fresno	1.5	1.5	1.5	1.5	0	294
Hawaiian Gardens	1	1	1	1	0.33	261
Hayward	1.7	1.7	1.7	1.7	0	333
Irvine	1	1.4	1.6	2	0.25	344
La Mirada	1.5	1.5	2	2	0	345
Los Angeles	1	1	1	1.5	0	196
Napa	1.25	1.25	1.5	1.75	0.25	319
Newport Beach	1.5	1.5	1.5	1.5	0	294
Oakland	1.5	1.5	1.5	1.5	0	294
Oceanside	1.5	1.5	2	2	0	345
Palm Springs	1	1.25	1.5	2.25	0.25	319
Pasadena	1	1	2	2	0.1	317
Redlands	1	1	1.5	2	0	247
Richmond	1	1	1	1	0	196
Riverside	1.5	1.5	2	2	0	345
Riverside County	1.25	1.25	2.25	2.75	0	346
Sacramento	1.5	1.5	1.5	1.5	0.07	308
Salinas	1.6	1.6	1.6	1.6	0	314
San Buenaventura	1	1	2	2	0.25	346
San Diego CBD	1	1	2	2	0	297
San Diego County	1.5	1.5	1.5	2	0	294
San Francisco	1	1	1	1	0	196
San Jose	1.5	1.5	1.8	2	0	324
San Luis Obispo County	1	1	1.5	2	0.25	296
Santa Barbara County	1	1	2	2.5	0.2	336
Santa Maria	1.5	1.5	1.75	2	0	319
Stockton	1	1	1	1	0	196
Thousand Oaks	1	1	1.5	2	0.5	345
Visalia	1	1	1	1	0	196
Westminister	1.5	1.5	2	2.5	0	345

(1) Source: California Parking Standards for Selected Cities and Counties, Walker Parking Consultants, June 1995

TABLE 2
RENTAL MULTI-FAMILY RESIDENTIAL PARKING SURVEY

LOCATION	TOTAL NUMBER OF DWELLING UNITS	PARKING SUPPLY	
		SUPPLY PROVIDED	RATIO (sp/du)
SAN DIEGO	387	387	1.00
SAN DIEGO	192	241	1.26
SAN DIEGO	514	902	1.75
SAN DIEGO	312	566	1.81
SAN DIEGO	318	616	1.94
LONG BEACH	142	212	1.49
LONG BEACH	184	292	1.59
MARINA DEL REY	224	351	1.57
SANTA MONICA	532	700	1.32
LOS ANGELES	438	759	1.73
WOODLANDS	393	681	1.73
HOUSTON	309	525	1.70
CHARLOTTE	369	376	1.02
TAMPA	379	598	1.58

Sources:

1. Residential Parking Demand Study, Southern California Coastal Zone, Kaku Associates, Inc., June 2001
2. Parking Study for the Avventura Apartment Complex, Darrell & Associates, Inc., December 1996
3. Data assembled by Raju Associates, Inc. June 2010

TABLE 3
RENTAL MULTI-FAMILY RESIDENTIAL PARKING SURVEY

LOCATION	TOTAL NUMBER OF DWELLING UNITS	PARKING SUPPLY/DEMAND			
		SUPPLY PROVIDED	RATIO (sp/du)	DEMAND	RATIO (sp/occ du)
SAN DIEGO	387	387	1.00	251	0.66
SAN DIEGO	192	241	1.26	145	0.77
SAN DIEGO	514	902	1.75	607	1.18
SAN DIEGO	312	566	1.81	431	1.38
SAN DIEGO	318	616	1.94	482	1.52
LONG BEACH	142	212	1.49	174	1.26
LONG BEACH	184	292	1.59	292	1.59
MARINA DEL REY	224	351	1.57	256	1.22
SANTA MONICA	532	700	1.32	455	0.91

Sources:

1. Residential Parking Demand Study, Southern California Coastal Zone, Kaku Associates, Inc., June 2001
2. Parking Study for the Avventura Apartment Complex, Darrell & Associates, Inc., December 1996

Two national publications provide information on parking demand ratios for residential products. They include:

- *Parking Generation, Third Edition;* An Informational Report by the Institute of Transportation Engineers (ITE), 2004.
- *Shared Parking, Second Edition;* A Report by the Urban Land Institute (ULI), 2005.

These publications provide parking demand data for apartments. The ITE's Parking Generation Informational Report provides a relationship between average peak parking demand and number of dwelling units for projects in both suburban and urban locations. The peak average parking demand per the ITE for mid-rise apartments was 1.02 spaces per dwelling unit. Attachment A includes relevant information from the Parking Generation Report.

The ULI sponsored a national study that updated the basic methodology for analyzing parking demand in mixed-use developments and developed averages for parking rates by land uses. The ULI study noted base peak parking demands of 1.65 spaces per dwelling unit (1.5 spaces for residents and 0.15 space per dwelling unit for guests). Attachment B includes excerpts from the ULI *Shared Parking, Second Edition* reference.

Two recent parking surveys at sites in Long Beach that were surveyed in 2001 by Kaku Associates, Inc. were conducted again by Fehr and Peers Transportation Consultants in March, 2008. The peak parking demand ratio at these two sites was observed to be 1.26 spaces per occupied dwelling unit and 1.52 spaces per occupied dwelling unit.

Utilizing the ULI parking demand rates, the peak parking demand for the Millennium Playa Del Mar Project would be equal to 324 (1.65*196) spaces. As noted, the Project is proposing to provide 353 parking spaces on-site. Therefore, using ULI's well recognized and established parking demand rates, there would be a surplus of 29 parking spaces on-site, and there would be no parking impact due to the Proposed Millennium Playa Del Mar Project.

ANALYSIS FINDINGS AND CONCLUSION

A summary of residential parking rates per unit, inclusive of resident and guest parking, based on nationally-recognized published sources and recent counts at dense residential developments around southern California is provided below:

Parking Generation, Third Edition, ITE Reference:	1.02 spaces per dwelling unit
Shared Parking, Second Edition, ULI Reference:	1.65 spaces per dwelling unit
Residential Parking Study, California Coastal Commission:	1.59 spaces per dwelling unit
Recent Counts in Long Beach, Fehr & Peers Study:	1.26 spaces per dwelling unit
	1.52 spaces per dwelling unit

Utilizing the highest rate shown above, the peak parking demand for the Millennium Playa Del Mar Project would be 324 spaces (1.65*196). The Project therefore proposes an adequate on-site parking supply of 353 parking spaces, with a surplus of 29 spaces. There would be no parking impact from the proposed Millennium Playa Del Mar Project.

The parking zoning code requirements at 32 different California cities and counties were examined and the parking requirements for the Millennium Playa Del Mar Project built under those codes were evaluated. It was determined that the parking provisions for the Proposed Project would exceed the parking requirements per the codes of all the 32 California cities and counties.

Finally, parking demands at sites in the vicinity of the Proposed Project for products similar in size were examined. Based on recent surveys, it was observed that the maximum observed parking demand was 1.59 spaces per unit. The Proposed Project intends to provide 1.8 spaces per unit. The Proposed Project will provide adequate parking and will not cause any parking impact.

ATTACHMENT A

3rd Edition

Parking Generation

ite

Author: Ransford S. McCourt, P.E., PTOE
Technical Editor: Kevin G. Hooper, P.E.

Institute of Transportation Engineers

1 Introduction

Purpose of Report

The 3rd Edition of *Parking Generation* is an update to *Parking Generation*, 2nd Edition published in 1987 by the Institute of Transportation Engineers (ITE). The data included in the 2nd Edition were transferred to a digital data warehouse and a substantial number of new studies were added to the ITE parking demand database. Several new features were added to summarize the data and statistical information of the studies submitted.

It should be understood that collection and assemblage of data contained in this report is done by volunteers and is not the result of a financed research effort. The ranges of information and statistics are provided ***only*** as an informational guide to planners and designers regarding parking demand. **This informational report does not provide authoritative findings, recommendations, or standards on parking demand.**

The Database

Data submitted to ITE have been reviewed, analyzed and organized to provide users with as much understanding of the strengths and weaknesses of the *Parking Generation* data warehouse as practical. The review included screening of all data submissions to ensure that adequate information was provided (parking demand observations, time and date of observations and independent variable). Issues associated with the data submitted were resolved with the data provider before entry. In some cases, data were rejected.

The data submitted represent parking demand studies where one or more hours of observations were conducted on a given day. While the majority of data are from the 1980s (mostly the late 1980s), significant new parking study data have been added in the 1990s and from the past few years due in part to ITE requests for new data in 2000 and 2001.

Parking demand data are included for 91 land uses. A few land uses have extensive data sets that enable statistical analysis of parking demand by hour of day, day of week, month of year and area type.

Several land uses have sufficiently large data sets to enable parking demand evaluation by time of day and day of the week (weekday vs. weekend).

Most land uses enable modest levels of parking demand evaluation, such as peak period parking demand ratios and some background regarding variability during the course of a day. The evaluation typically demonstrates a reasonable relationship between parking demand and a single

independent variable. The findings for these land uses are likely the starting point of parking demand analysis and suggest the need for supplemental data collection.

Numerous land uses have small data sets that provide only an initial indication of parking demand. In a few cases, good correlation between an independent variable and parking demand appears to exist. However, data from these data sets should be viewed as speculative in terms of parking demand estimation due to limited quantity.

Even when only one study was submitted for a land use category, the data are provided as a reference point. **Users of this report should exercise caution when utilizing data that is based on small numbers of data points or when quality of data indices are outside reliable ranges.**

There is one more group of land uses—those with no data. Membership surveys conducted by ITE in the 1990s identified the lack of adequate data as the most common complaint regarding the 2nd Edition of *Parking Generation*. With publication of the 3rd Edition, many of the gaps in data availability were filled. It is hoped this new edition of *Parking Generation* will stimulate new data collection and submission, further filling the gaps in the current data warehouse.

Parking Demand Data Analysis

In the first two editions of *Parking Generation*, emphasis was placed on averaging the maximum observed parking demand ratios from study sites that were primarily isolated, suburban sites. This edition begins a process of segregating parking data records for future analysis and research into various factors that may affect parking demand. Parking data are linked to the hour of observation to provide a temporal understanding of parking demand and the peak hour of parking demand. Additionally, this update separates out the influences of area type[1] on parking demand, including (where data are available) information about sites that have priced parking.

The 3rd Edition only begins to explore the variations in parking demand based upon these other factors. **Most of the data currently available are from suburban sites with isolated single land uses with free parking.** More parking data are needed in order to understand the complex nature of parking demand. As future studies are submitted, the findings will provide a basis to assess factors such as type of area, parking pricing, transit availability and quality, transportation demand management plans, mixing of land uses, pedestrian friendly design, land use density, trip chaining/multi-stop trip activity, the split between employee and visitor parking, the split between long-term and short-term parking and other issues in more detail. Where information of this type is available, it has been reported. However, at this time, the extent of data in these areas is limited.

Cautions

The quality and quantity of parking demand data vary significantly by land use code. While obtaining statistically reliable data for each land use is a long-term goal, it will take substantially more data to achieve that end.

Parking Generation is only the beginning point of information to be used in estimating parking demand. Local conditions and area type can influence parking demand. *Parking Generation's* wide array of data blends many site conditions and may not best reflect local conditions. Therefore, surveys of comparable local conditions should

[1] Some land uses have enough data from sites other than suburban settings to distinguish potentially different parking demand characteristics. Where those conditions exist for a land use, data are presented to illustrate the potential effects of variations between area types on parking demand.

always be considered as one of the best means to estimate parking demand to account for local factors.

While *Parking Generation* is not the final word on parking demand or an authoritative standard, this report contains the *best available data* on the subject of parking demand related to land use. It represents only the *beginning* of information that may be necessary to accurately determine what the parking demand may be for a specific land use given unique site characteristics. It is provided as information to help analysts seek accurate estimates of parking demand.

Organization of Report

The 3rd Edition of *Parking Generation* provides the following sections:

- **Issues to Consider in the Use of *Parking Generation***
  Chapter 2 identifies considerations to ensure proper understanding and application of the data contained in this report. This section identifies several important relationships between parking demand and various independent variables.
- **Definitions**
  Chapter 3 provides a glossary of terms used in this document to describe parking demand statistics and other terms within the context of Parking Generation.
- **Parking Demand Data Summaries**
  Chapter 4 presents a description of the core data for Parking Generation, *including a summary of how the data for each land use code are organized and where key information can be found.*
- **Parking Demand Data**
  This section of the report provides the core data for Parking Generation, *organized by land use code.*
- **Parking Demand Data Reduction Methodology**
  Appendix A presents the methodology used to consolidate the submitted parking demand data into the data presented in the data summaries and plots.
- **Mixed-Use/Multi-Use Parking Demand Data**
  Appendix B summarizes a limited number of studies submitted to ITE for mixed-use/multi-use sites. Although little statistical data are provided, these studies provide analysts with sample parking demand case studies.
- **Parking Demand Data Collection**
  Appendix C provides information on how to collect parking demand information and includes resources such as the parking demand data collection form. It also suggests some approaches that local ITE chapters, sections, districts, or others may employ to increase the quantity and quality of parking demand data.
- **ITE Land Use Codes**
  Appendix D presents a list of all ITE Land Use Codes used in either Trip Generation *or* Parking Generation.
- **Index**
  Appendix E provides a comprehensive index of Parking Generation.

Land Use: 221
Low/Mid-Rise Apartment

Land Use Description

Low/mid-rise apartments are rental dwelling units located within the same building with at least three other dwelling units, for example quadraplexes and all types of apartment buildings. The study sites in this land use have one, two, three, or four levels. High-rise apartment (Land Use 222) is a related use.

Database Description

The database consisted of a mix of suburban and urban sites. Parking demand rates at the suburban sites differed from those at urban sites and therefore the data were analyzed separately.

- Average parking supply ratio: 1.4 parking spaces per dwelling unit (44 study sites). This ratio was the same at both the suburban and urban sites.
- Suburban site data: average size of the dwelling units at suburban study sites was 1.7 bedrooms and the average parking supply ratio was 0.9 parking spaces per bedroom (three study sites).
- Urban site data: average size of the dwelling units was 2.2 bedrooms with an average parking supply ratio of 0.8 spaces per bedroom (eight study sites).

Saturday parking demand data were only provided at two suburban sites. The average Saturday parking demand at these two sites was 1.13 vehicles per dwelling unit.

One urban site with 15 dwelling units was counted on a Sunday during consecutive hours between 1:00 p.m. and 5:00 a.m. Peak parking demand occurred between 12:00 and 5:00 a.m. and was measured at 1.00 vehicle per dwelling unit.

About half of the urban sites were identified as affordable housing.

Several of the suburban study sites provided data regarding the number of bedrooms in the apartment complex. Although these data represented only a subset of the complete database for this land use, they demonstrated a correlation between number of bedrooms and peak parking demand. Study sites with an average of less than 1.5 bedrooms per dwelling unit in the apartment complex reported peak parking demand at 92 percent of the average peak parking demand for all study sites with bedroom data. Study sites with less than 2.0 but greater than or equal to 1.5 bedrooms per dwelling unit reported peak parking demand at 98 percent of the average. Study sites with an average of 2.0 or greater bedrooms per dwelling unit reported peak parking demand at 13 percent greater than the average.

Land Use: 221
Low/Mid-Rise Apartment

For the urban study sites, the parking demand data consisted of single or discontinuous hourly counts and therefore a time-of-day distribution was not produced. The following table presents a time-of-day distribution of parking demand at the suburban study sites.

Based on Vehicles per Dwelling Unit (Suburban)	*Weekday Data*	
Hour Beginning	Percent of Peak Period	Number of Data Points*
12:00–4:00 a.m.	100	19
5:00 a.m.	96	15
6:00 a.m.	92	22
7:00 a.m.	74	15
8:00 a.m.	64	2
9:00 a.m.	–	0
10:00 a.m.	–	0
11:00 a.m.	–	0
12:00 p.m.	–	0
1:00 p.m.	–	0
2:00 p.m.	–	0
3:00 p.m.	–	0
4:00 p.m.	44	1
5:00 p.m.	59	1
6:00 p.m.	69	1
7:00 p.m.	66	10
8:00 p.m.	75	9
9:00 p.m.	77	11
10:00 p.m.	92	26
11:00 p.m.	94	11

* Subset of database

Parking studies of apartments should attempt to obtain information on occupancy rate and on the mix of apartment sizes (in other words, number of bedrooms per apartment and number of units in the complex). Future parking studies should also indicate the number of levels contained in the apartment building.

Additional Data

- Apartment occupancy can affect parking demand ratio. In the United States, successful apartment complexes commonly have a vacancy rate between 5 and 8 percent.[2]
- While auto ownership has increased over time, based on the limited data sample, the parking demand ratios for the provided data set did not vary significantly with age. There is a wide range of data from the 1960s to 2000s (primarily from the 1980s to 2000s) in the database. In fact, a series of surveys conducted in 1961 and 1963 found a peak parking demand ratio very similar to the data collected in *Parking Generation*. The study conducted in Hayward, CA[3] surveyed 53 apartment complexes with a total of 1,759 dwelling units between the hours of 3:00 and 5:00 a.m. on seven consecutive days in both years. The study found an average of 1.26 parked vehicles per dwelling unit.

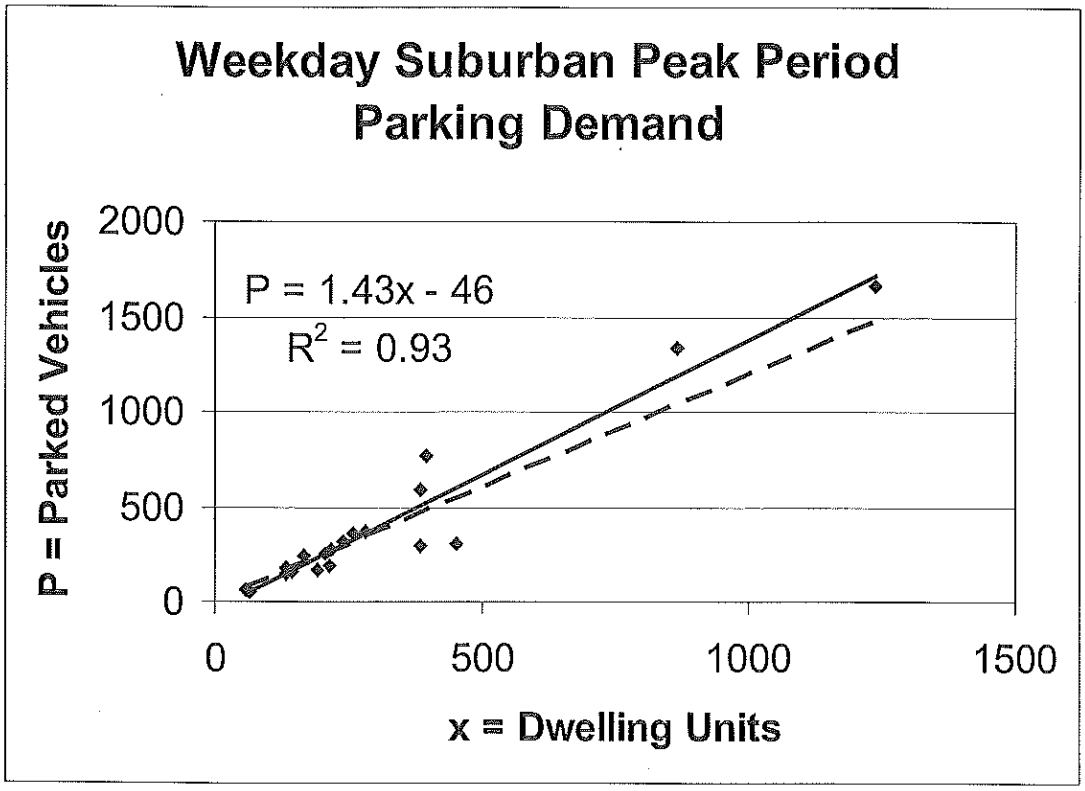
[2] Rental and Homeowner Vacancy Rates for the United States: 1960 to 2001, U.S. Census Bureau. www.census.gov/hhes/www/housing/hvs/q401tab1.html

[3] Crommelin, Robert. *Planning for Parking: Residential Requirements,* Proceedings of the 16th California Street and Highway Conference. UC Berkeley: Institute of Transportation Studies, January 30, 1964.

Land Use: 221
Low/Mid-Rise Apartment

Average Peak Period Parking Demand vs: Dwelling Units
On a: Weekday
Location: Suburban

Statistic	Peak Period Demand
Peak Period	12:00–5:00 a.m.
Number of Study Sites	19
Average Size of Study Sites	320 dwelling units
Average Peak Period Parking Demand	1.20 vehicles per dwelling unit
Standard Deviation	0.32
Coefficient of Variation	26%
Range	0.68–1.94 vehicles per dwelling unit
85th Percentile	1.46 vehicles per dwelling unit
33rd Percentile	1.09 vehicles per dwelling unit

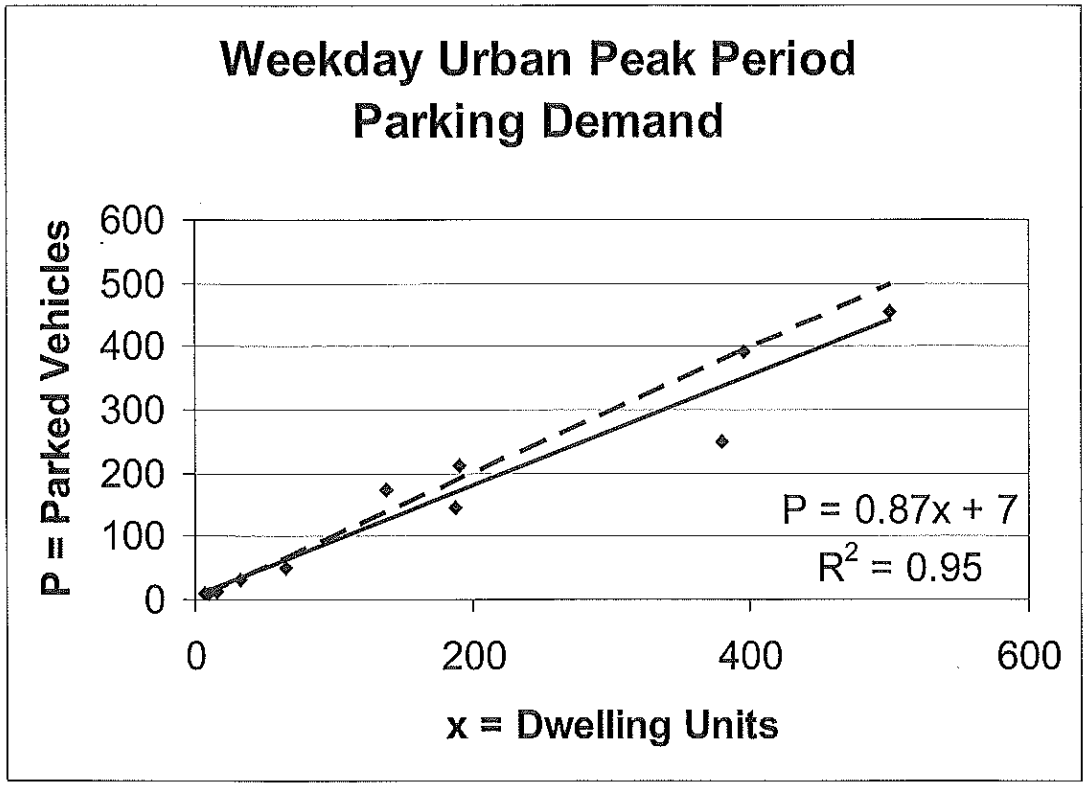


◆ Actual Data Points ——— Fitted Curve - - - - Average Rate

Land Use: 221
Low/Mid-Rise Apartment

Average Peak Period Parking Demand vs: Dwelling Units
On a: Weekday
Location: Urban

Statistic	Peak Period Demand
Peak Period	9:00 p.m.–5:00 a.m.
Number of Study Sites	12
Average Size of Study Sites	165 dwelling units
Average Peak Period Parking Demand	1.00 vehicles per dwelling unit
Standard Deviation	0.22
Coefficient of Variation	22%
Range	0.66–1.43 vehicles per dwelling unit
85th Percentile	1.17 vehicles per dwelling unit
33rd Percentile	0.92 vehicles per dwelling unit

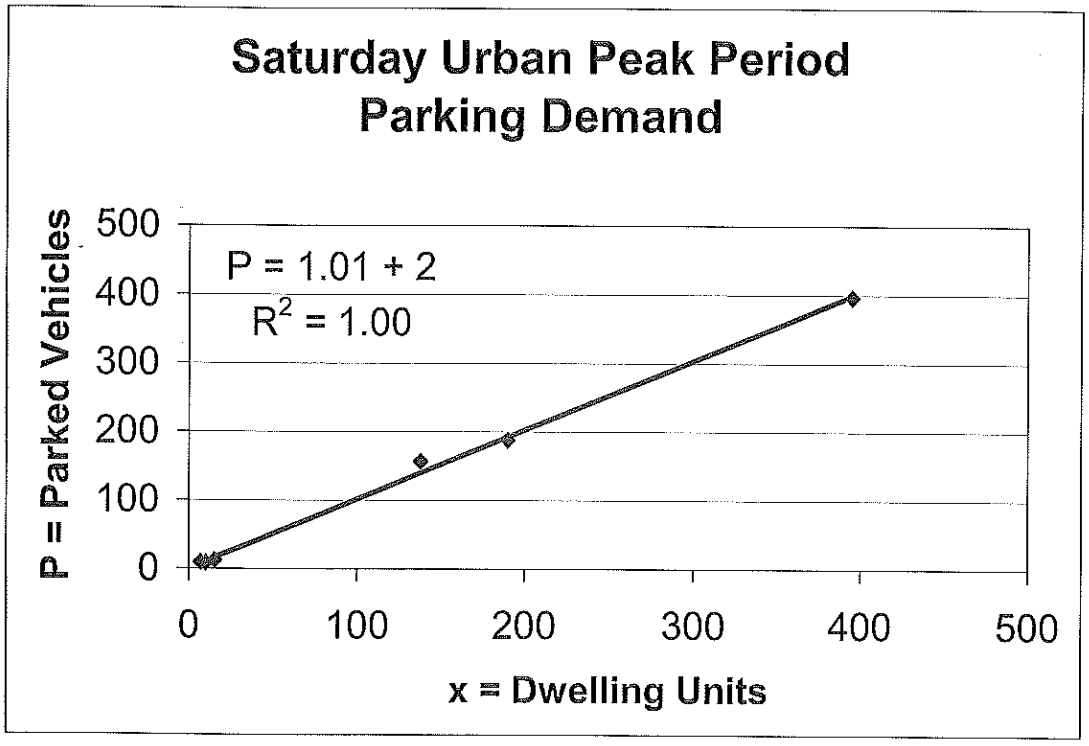


◆ Actual Data Points ——— Fitted Curve - - - - Average Rate

Land Use: 221
Low/Mid-Rise Apartment

Average Peak Period Parking Demand vs: Dwelling Units
On a: Saturday
Location: Urban

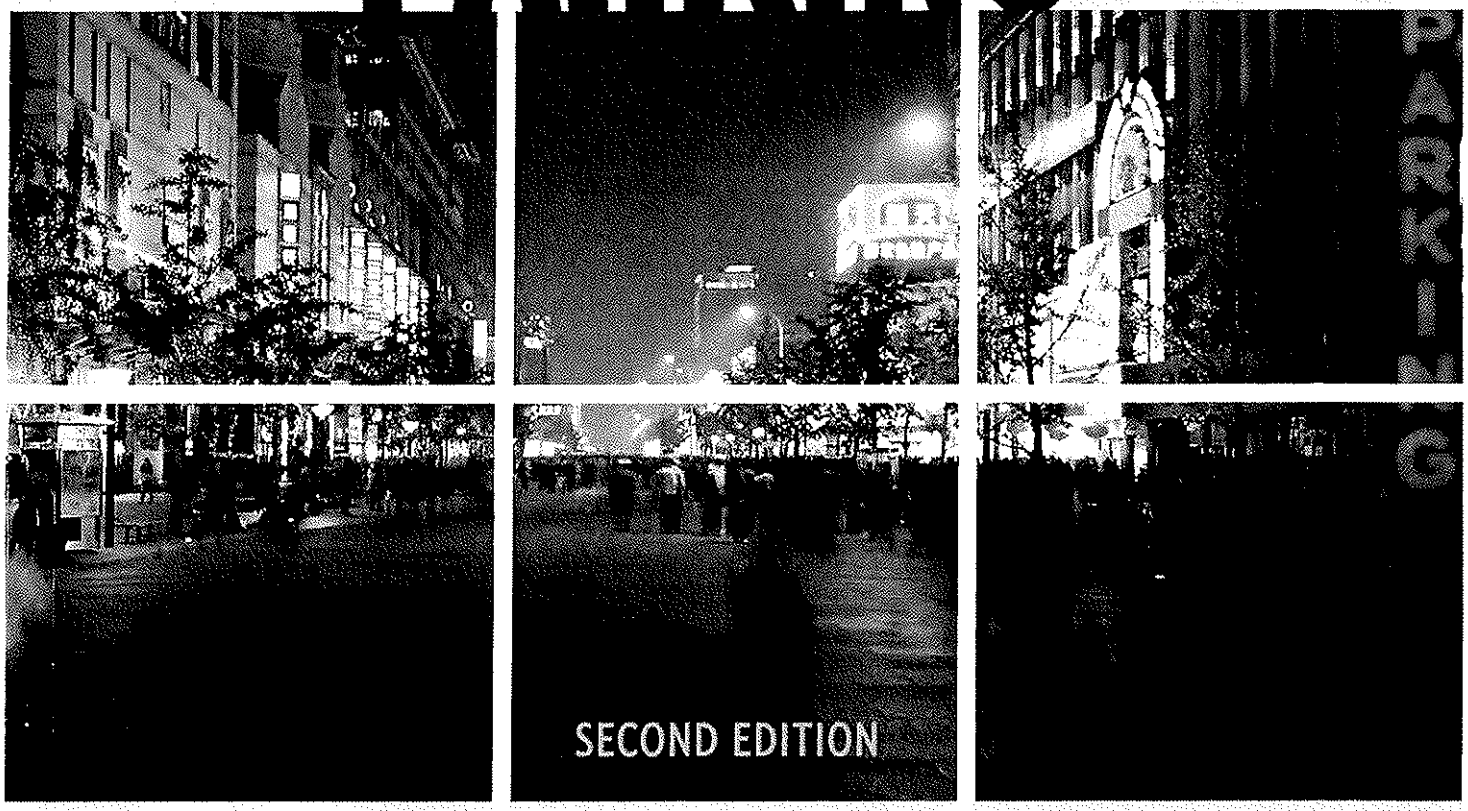
Statistic	Peak Period Demand
Peak Period	9:00 p.m.–7:00 a.m.
Number of Study Sites	7
Average Size of Study Sites	110 dwelling units
Average Peak Period Parking Demand	1.02 vehicles per dwelling unit
Standard Deviation	0.21
Coefficient of Variation	20%
Range	0.80–1.43 vehicles per dwelling unit
85th Percentile	1.17 vehicles per dwelling unit
33rd Percentile	0.90 vehicles per dwelling unit



◆ Actual Data Points ——— Fitted Curve/Average Rate

ATTACHMENT B

SHARED PARKING



SECOND EDITION

Urban Land Institute

International Council of Shopping Centers

About ULI-the Urban Land Institute

ULI-the Urban Land Institute is a nonprofit education and research institute that is supported by its members. Its mission is to provide responsible leadership in the use of land in order to enhance the total environment.

ULI sponsors education programs and forums to encourage an open international exchange of ideas and sharing of experiences; initiates research that anticipates emerging land use trends and issues and proposes creative solutions based on that research; provides advisory services; and publishes a wide variety of materials to disseminate information on land use and development. Established in 1936, the Institute today has more than 26,000 members and associates from more than 80 countries representing the entire spectrum of the land use and development disciplines.

Richard Rosan

President

For more information about ULI and the resources that it offers related to parking and a variety of other real estate and urban development issues, visit ULI's Web site at www.uli.org.

About the International Council of Shopping Centers

Founded in 1957, the International Council of Shopping Centers (ICSC) is the global trade association of the shopping center industry. Its more than 54,000 members in the United States, Canada, and more than 96 other countries include shopping center owners, developers, managers, marketing specialists, investors, lenders, retailers, and other professionals as well as academics and public officials. As the global industry trade association, ICSC links with more than 25 national and regional shopping center councils throughout the world.

Michael P. Kercheval

President

For more information about ICSC and the products and services that it offers, including publications and research data, visit ICSC's Web site at www.icsc.org.

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Introduction

Chapter

The Concept of Shared Parking

Shared parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment. The ability to share parking spaces is the result of two conditions:

- variations in the accumulation of vehicles by hour, by day, or by season at the individual land uses, and
- relationships among the land uses that result in visiting multiple land uses on the same auto trip.

Although the ULI methodology for shared parking analysis was developed in the early 1980s,[1] the concept of shared parking was already well established: a fundamental principle of downtown planning from the earliest days of the automobile has always been to share parking resources rather than to allocate parking for each use or building. The resurgence of many central cities resulting from the addition of vibrant residential, retail, restaurant, and entertainment developments continues to rely heavily on shared parking for economic viability. In addition, mixed-use projects in many different settings have benefited from shared parking.

Parking is a key element of any site development plan. Parking can consume 50 percent or more of the building and land area of a development. An oversupply of parking can result in excess storm drainage impacts and unnecessarily high expenses (surface stalls can cost $2,000 to $3,000 per space and structured spaces $15,000 to $25,000 or more). Insufficient parking can result in the intrusion of parking into neighborhoods or adjoining properties, excessive vehicle circulation, and unhappy users. Ultimately, great parking alone won't make a mixed-use project successful; however, inadequate or poorly designed parking can limit its potential success.

The key goal of shared parking analysis, then, is to find the balance between providing adequate parking to support a development from a commercial viewpoint and minimizing the negative aspects of excessive land area or resources devoted to parking. Mixed-use developments that share parking result in greater density, better pedestrian connec-

tions, and, in turn, reduced reliance on driving, typically because multiple destinations can be accessed by walking. Higher-density development, especially on infill sites, is also more likely to support alternative modes of travel, including transit and carpools.

Concern for the negative impacts of growth has stimulated a search for better ways to develop land. "Smart growth" is a collection of planning principles and strategies designed to facilitate development without sprawl. Smart growth projects typically are designed to create transportation options and reduce driving, especially for short trips. Walkable live/work/play environments, located near established transportation and infrastructure resources, are central to the concept. Some communities are questioning the economic costs of abandoning infrastructure in the city only to rebuild it further out.[2] Ironically, a critical element of such pedestrian-oriented districts is adequate parking.

One of the hottest real estate trends is known as "place making," the development of town centers and urban villages with mixed uses in pedestrian-friendly settings. Another significant trend today is transit-oriented development, which seeks to cluster development near transit stations. With housing located within walking distance of rail transit, some trips and, in turn, some parking spaces can be eliminated.

Shared parking is a critical factor in the success of all these development approaches, and thus the importance of shared parking will continue to grow in future years. This report aims to provide planners, engineers, developers, and agencies with tools to better quantify and understand how shared parking can be successful.

Objective of the Second Edition

The widely accepted methodology for shared parking analysis was established in 1983 with the publication of the first edition of *Shared Parking*. Two decades later, ULI and ICSC convened a working group of parking experts to examine the question of whether shared parking is still appropriate, given changes in society, transportation, and mixed-use development trends. The consensus was that the underlying concept and methodology are still viable, but that an update of the default factors would be appropriate. The following three examples illustrate how changing trends have affected parking needs.

- When *Shared Parking* was first published, a multiscreen cinema complex had two or three screens. By the late 1990s, new cinema developments had as many as 30 screens. It is far less likely that every seat in a 30-screen cineplex is filled than in a two- or three-screen cinema. The proliferation of these complexes has had a profound impact on the movie industry, and the parking needs of cineplexes will be discussed later in this report.
- Changing lifestyles have led to a significant increase in the proportion of family meals eaten outside the home, which has caused a marked increase in the proportion of newly developed space that is occupied by restaurants. In 1955, 25 percent of expenditures for food in the United States was spent in restaurants (both limited and full service); in 2003, restaurants' share of the food dollar was 46.4 percent.[3]
- As more women have joined the workforce, there has been an increase in the proportion of shopping trips that occur in evenings and a significant increase in "trip-chaining," owing to commuters making multiple stops to drop off or pick up children at daycare and to take care of household errands.

A committee of the Institute of Transportation Engineers (ITE) also agreed that the methodology recommended in the first edition of *Shared Parking* is still the correct approach to shared parking analysis, but it called for updating some default values.[4] It found that almost half of all local governments had incorporated shared parking into local codes, either directly or as an option, and many of those codes cited the ULI shared parking methodology.

The development of updated references on the parking needs of individual land uses also made an update of *Shared*

Parking timely. In 1998, ULI and ICSC commissioned an update of *Parking Requirements for Shopping Centers*, the most widely recognized reference regarding that land use. That reference's second edition recommended a 10 percent reduction in the parking ratio for centers over 600,000 square feet and modified its recommendations for centers with more than 10 percent of GLA in restaurant, entertainment, or cineplex uses.[5] In particular, when more than 20 percent of the space in centers is allocated to those uses, shared parking analysis should be employed to determine the appropriate number of parking spaces.

ITE also has updated its *Trip Generation*[6] and *Parking Generation*[7] publications. The third edition of *Parking Generation* includes four times as much data as the second edition, with over 100 land uses now incorporated. This document provides much-needed information on the parking needs of individual land uses, but it simply provides statistical analysis of the data. It makes no recommendations regarding appropriate parking ratios to be used in parking studies, including shared parking analysis. In fact, the limited data in many land use classifications are not statistically reliable, and professional experience and judgment must be employed in their use. One of the purposes of this report is to formulate recommendations regarding the parking ratios to be used in shared parking analysis, using, to the extent appropriate, the data found in *Parking Generation*. Both documents are complementary.

ULI and ICSC concluded that the timely coordination of an updated *Shared Parking* publication with these other documents would result in a vastly improved set of tools for transportation planners to determine the appropriate number of parking spaces for mixed-use developments.

Definition of Terms

A key to understanding the shared parking methodology is the definition of terms and assumptions inherent in the use of those terms.

Parking ratio is the number of parking spaces that should be provided per unit of land use, if parking serves only that land use. The ratios recommended herein are based on the expected peak accumulation of vehicles at the peak hour on a design day (see below), assuming nearly 100 percent modal split to auto use and minimal ridesharing. The recommended ratios also include consideration of effective supply issues.

Parking accumulation is the number of parked vehicles observed at a site.

Parking supply is the total number of spaces available to serve a destination. It may include spaces that are on site, off site, on street, or shared with other uses.

Effective parking supply is the number of occupied spaces at optimum operating efficiency. A parking facility will be perceived as full at somewhat less than its actual capacity, generally in the range of 85–95 percent occupancy. (The range is because regular users learn where spaces are likely to be available at a particular time of day and thus require less of an extra cushion than unfamiliar users.) It is appropriate to have a small cushion of spaces over the expected peak-hour accumulation of vehicles. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. It further provides for operating fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking. The effective supply cushion in a system also provides for unusual peaks in activities.

A design day or design hour is one that recurs frequently enough to justify providing spaces for that level of parking activity. One does not build for an average day and have insufficient supply for the peak (if not multiple) hours on 50 percent of the days in a year. Conversely, it is not appropriate to design for the peak accumulation of vehicles ever observed at any site with that land use. That peak accumula-

tion might last only for an hour or so, while there are 8,760 hours in a year. A traffic engineer does not design a street system to handle the peak volume that would ever occur; instead, the level of activity that represents the 85th or 90th percentile of observed traffic volumes in peak hours on average days is used for design. This second edition of *Shared Parking* uses the 85th percentile of peak-hour observations for recommended parking ratios, unless otherwise noted. See chapter 3 for further discussion of design hour issues.

Mode adjustment is employed to adjust the base parking ratios for local transportation characteristics. Two factors must be considered in such adjustments: modal split for private auto and auto occupancy, both of which are terms commonly used in transportation planning. The parking ratios herein assume that nearly all users arrive by private auto with typical auto occupancy for the specific use. It should be noted that even in locations without transit, some walking and dropoffs occur, as well as some ridesharing. The base ratios are appropriate for conditions of free parking and negligible use of public transit. The mode adjustment then reflects local transit availability, parking fees, ride sharing programs, and so on. See chapter 3 for further discussion of mode adjustments.

Modal split is the percentage of persons arriving at a destination in different modes of transportation. Among the modes that may be available are commuter rail, light rail, bus, private automobile (including trucks, vans, and SUVs used for personal transportation), carpools and vanpools, walking, and bicycling. The percentage of persons who arrive at the destination by private automobile is generally called "auto mode split" and includes both driver and passengers.

Auto occupancy is the average number of persons per private automobile arriving at the destination. Vehicle occupancy (as employed in transportation planning) refers to the average number of persons per vehicle including all vehicle types, such as public and chartered buses.

Noncaptive ratio is an estimate of the percentage of parkers at a land use in a mixed-use development or district who are not already counted as being parked at another of the land uses. For example, when employees of one land use visit a nearby food court or coffee store, there usually is not any additional parking demand generated. See chapter 3 for further discussion.

Units of Land Uses

Parking ratios are generally stated as a ratio of *x* spaces per *y* units, with the unit being the most statistically valid independent variable for that land use. In the vast majority of uses, the unit is square feet of building area. Other units that may be used are employees, dwelling units, hotel rooms, or seats. This publication uses the most widely accepted independent variable, generally in accordance with *Parking Generation*. The following terms describe specific formulas for parking ratios.

Gross Floor Area (GFA): Total gross floor area, including exterior building walls of all floors of a building or structure. Also referred to as gross square feet or GSF.

Gross Leasable Area (GLA): The portion of GFA that is available for leasing to a tenant. Generally, GLA is equal to GFA less "common" areas that are not leased to tenants, including spaces for circulation to and from tenant spaces (lobbies, elevator cores, stairs, corridors, atriums, and so on), utility/mechanical spaces, and parking areas.

Net Floor Area (NFA): Total floor area, excluding exterior building walls.

Net Rental Area (NRA): The portion of NFA that is rentable to a tenant. Also called net leasable area.

Thus, GFA and GLA are calculated out-to-out of exterior walls, while NFA and NRA are calculated between interior faces of exterior walls. GLA is commonly used for shopping centers, but GFA or NFA is more commonly used for office uses. No matter what calculation method is employed, the

vehicular parking and loading areas and the floor area occupied by mechanical, electrical, communications, and security equipment are deducted from the floor area for the purpose of calculating parking needs.

Organization of This Report

Chapter 2 of this report presents key findings, including the recommended default values for shared parking analysis. Chapter 3 discusses the methodology, with an example analysis, and chapter 4 discusses the parking needs of individual land uses and the derivation of the default values. Chapter 5 presents case studies, while chapter 6 discusses the design, operation, and management of shared parking.

Notes

1. ULI-the Urban Land Institute, *Shared Parking* (Washington, D.C.: ULI-the Urban Land Institute, 1983).

2. "About Smart Growth," www.smartgrowth.org/about (October 2003).

3. 2004 Restaurant Industry Forecast, National Restaurant Association.

4. ITE Technical Council Committee 6F-52, *Shared Parking Planning Guidelines* (Washington, D.C.: Institute of Transportation Engineers, 1995).

5. ULI-the Urban Land Institute and the International Council of Shopping Centers, *Parking Requirements for Shopping Centers*, 2nd ed. (Washington, D.C.: ULI-the Urban Land Institute, 1999).

6. ITE Technical Council Committee, *Trip Generation*, 7th ed. (Washington, D.C.: Institute of Transportation Engineers, 2004).

7. ITE Technical Council Committee, *Parking Generation*, 3rd ed. (Washington, D.C.: Institute of Transportation Engineers, 2004).

Chapter

Key Findings

This report presents recommendations for the methodology as well as recommended default values for certain assumptions to be employed in a shared parking analysis

Methodology

Shared parking methodology provides a systematic way to apply appropriate adjustments to parking ratios for each use in a mixed-use development or district. This methodology is summarized in Figure 2-1. Chapter 3 discusses the importance of each of these steps. Steps 1 and 9, which involve developing an understanding of the project before starting analysis, and developing site design and parking management plans that will facilitate shared parking (after the recommended number of spaces is determined), are often neglected in many shared parking studies. The analysis may reliably project the peak accumulation of vehicles, but if the design and management of the parking system do not facilitate the sharing of spaces, parking may be inadequate. While management practices can often be changed to improve the situation, a poorly designed site for shared parking often cannot be significantly improved, and more spaces may ultimately have to be added. Chapter 6 is devoted to this topic.

One of the key changes in the methodology from the first edition of *Shared Parking* is the separation of parking ratios into visitor/customer, employee/resident, and reserved components. This delineation facilitates application of different noncaptive and mode adjustments, since those characteristics may be distinctly different in certain locations and with certain combinations of land uses.

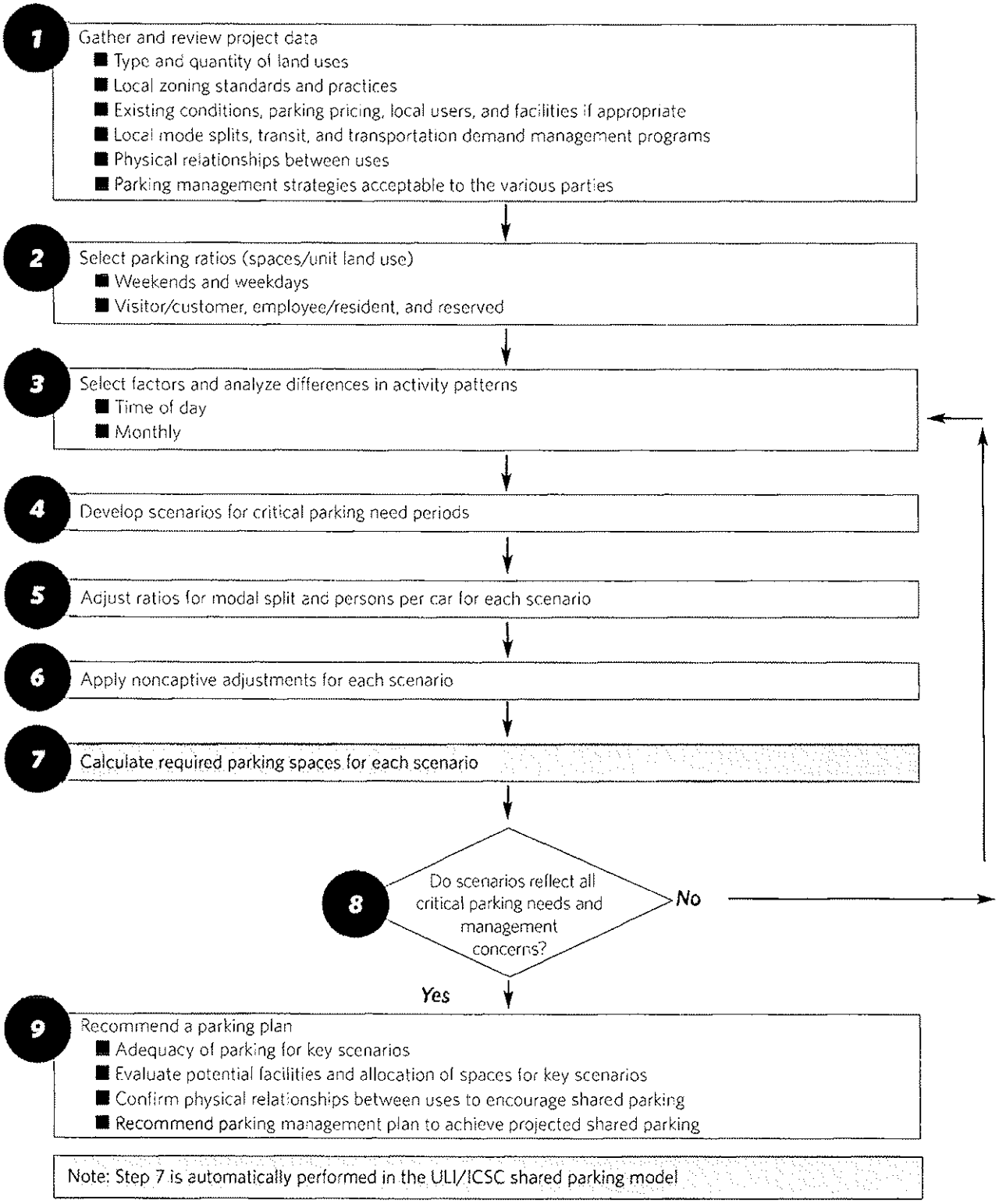
Most important, if spaces are reserved for specific users, they cannot be shared with other land uses. For example, in some cases where a shared parking analysis was found to be unreliable, it had assumed that residential spaces would be shared, but the residential leasing plan developed later in the process included separated, dedicated stalls for the residents' parking needs. Leasing deals for office and retail tenants may also include reserved parking. Spaces that are

reserved for specific users are part of the parking needed for that land use, whether or not a vehicle is present.

The terms "weekday" and "weekend" have also been modified. Weekdays are now defined as extending from 6 a.m. Monday to 5 p.m. Friday. Weekends include Friday evening and all day Saturday. This categorization avoids increasing weekday factors to reflect Friday evening activity at restaurants, cinemas, and other venues where there is considerably more demand on Friday evenings than other weekdays. Parking requirements on Sundays are not considered here, as they are rarely a significant factor in parking planning and there is currently inadequate data on which to base recommended ratios for Sunday conditions at most land uses.

When performed manually, the determination of critical scenarios for peak parking needs is usually an iterative process. Depending on the relative quantities of retail, dining, and entertainment, a shopping center may have peak demand in December or in July. Therefore, with few exceptions, it is important to develop several scenarios for modeling parking needs to assure that the peak hour is identified. ULI and ICSC have made available a shared parking model that greatly eases the number of iterations required to determine the overall peak need for parking. Using the default values recommended in this report, along with user input of quantities of land uses, mode, and noncaptive adjustments, the model calculates the parking needs in each hour of the day from 6 a.m. to midnight, weekdays and weekends, for each month. It then determines the peak hour of the peak month for weekdays and weekends. If necessary, the user can make further manual adjustments to finalize the analysis.

Figure 2-1 Shared Parking Methodology



Another key change in the methodology is that it is strongly recommended that mode and noncaptive adjustments be modified for each scenario. Generally speaking, these factors vary by four combinations of time/day of week:

- weekday daytime,
- weekday evening,
- weekend daytime, and
- weekend evening.

For example, a significantly higher proportion of the patrons of a restaurant near large concentrations of office workers will be captive on a weekday at noon than would be true that same evening. There may be differences in mode adjustments for employees on weekdays and weekends and by time of day, depending on the service schedules of local transit systems, the perception of security at certain times of the day, and other factors.

Although captive market effects are discussed in this report for a number of land uses, the magnitude will be affected significantly by the combinations of land uses and more specifically the relative quantities. For example, the noncaptive adjustments for a 10,000-square-foot restaurant in a 40,000-square-foot strip shopping center will be distinctly different than the adjustments for a restaurant of that size in a mixed-use project with significant office space or hotel rooms. Even ranges of noncaptive factors for each land use thus would be misleading. Therefore, suggested ranges of noncaptive factors are not tabulated in this report. The sole exception is hotels, where there typically is a rational relationship between the number of guest rooms and the square feet of restaurants and meeting and conference/banquet space. Chapter 3 includes a discussion of how to develop noncaptive adjustments, and examples are provided in the case studies of chapter 5.

Regarding step 5 of the methodology, the wide availability of information regarding modal splits for commuters in a particular community (or even in a census tract) greatly assists in the development of mode adjustments for employees. Information is also available on auto ownership by household that can be identified by community or a more specific area. This information can be obtained through local surveys of comparable conditions. Adjustments for differences in auto occupancy are more likely to affect employee parking than visitor parking. In particular, formal ridesharing programs at employment centers can and will increase the auto occupancy of commuters above that found in low-density suburban developments.

Step 8 is another particularly critical step in the process. Even when one is using the ULI/ICSC model, which will determine the peak demand for the assumptions that have been entered into it, there may be other scenarios that should be factored into parking planning. It may be important to document that one scenario indeed reflects greater demand, in order to encourage a developer's acceptance of the findings or to provide input for parking planning and management. The number of spaces provided in each parking area or facility may be driven by particular needs at specific times of the day that should be documented in order to ensure adequate and convenient parking for tenants.

Parking Ratios and Other Default Factors

This edition of *Shared Parking* significantly increases the number of land uses for which recommended parking ratios are presented, and it subdivides some land uses into more refined categories. These changes are summarized in Table 2-1.

Chapter 4 discusses each land use, the derivation of the parking ratios, and the sources for time of day and monthly factors in detail. The key findings, however, follow. Table 2-2 presents the recommended parking ratios, while Tables 2-3 and 2-4 present recommended monthly factors for customer and employee/resident parking needs, respectively. Tables 2-5 and 2-6 present time-of-day factors for weekdays and weekends, respectively.

Table 2-1 Land Use Changes between First and Second Editions of *Shared Parking*

Land Use[1] in Second Edition	Land Use in First Edition	Comment
Office (701) <25,000 sq. ft. Office (701) 25,000 to 100,000 sq. ft. Office (701) 100,000 to 500,000 sq. ft. Office (701) >500,000 sq. ft. Data Processing Center Medical/Dental Office (720) Bank with Drive-in (912)	Single category: Office	Per *Parking Generation*, separation is appropriate.
Retail Community Center <400,000 sq. ft. (820) Regional Center 400,000 to 600,000 sq. ft. (820) Super Regional Center >600,000 sq. ft. (820)	Retail (400,000 sq. ft.) Retail (600,000 sq. ft.)[2]	n/a
Fine/Casual Dining (Quality Restaurant, 931; High Turnover with Bar, 932) Family Restaurant (High Turnover with No Bar, 932) Fast Food (ITE Fast Food, 933)	Single category: Restaurant	Unpublished study by team member and *Parking Generation* indicated separation is appropriate.
Cineplex (444) (>10 screens)	Same	First-edition ratio was applicable for 1-5 screens.
Residential, Rented (221, 222, 224) Residential, Owned (230)	Single category: Residential	Per *Parking Generation*, separation is appropriate. Specific time of day and adjustment factors are provided for suburban and transit/CBD oriented locations.
Leisure Hotel (330)—Rooms Business Hotel (312)—Rooms Restaurant/Lounge Conference Center/Banquet (20 to 50 sq. ft./room) Convention (>50 sq. ft./room)	Guest Rooms Restaurant/Lounge Conference Rooms Convention Area	Per published references, separation is appropriate.
Convention Center (455)	Not covered	Common in shared parking situations, especially in central business districts.
Health Club (492)	Not covered	Common in shared parking situations.
Performing Arts Center (441)	Not covered	Common in shared parking situations.
Active Entertainment (400 series)	Not covered	Significant trend in retail development; due to wide variation in specific tenants, default values for parking ratios are not provided.
Nightclub	Not covered	Significant trend in retail development.
Arena	Not covered	Common in shared parking situations.
Baseball Stadium	Not covered	Common in shared parking situations.
Football Stadium	Not covered	Common in shared parking situations.

Notes

[1]The ITE *Parking Generation* land use code is provided in parenthesis.

[2]The text of the first edition of *Shared Parking* recommended that, between 400,000 and 600,000 sq. ft., the ratio should be linearly interpolated from 4.0 to 5.0 spaces per thousand sq. ft., which was consistent with the then-current ULI/ICSC publication on *Parking Requirements for Shopping Centers*. The table summarizing the parking ratios, however, identified retail as noted and thus was not completely clear regarding the ratio to be used between 400,000 and 600,000 sq. ft.

Table 2-2 Summary of Recommended Base Parking Ratios (Spaces per Unit Land Use)

Land Use	Weekday		Weekend		Unit	Source
	Visitor	Employee	Visitor	Employee		
Community Shopping Center (<400,000 sq. ft.)	2.9	0.7	3.2	0.8	/ksf GLA	1
Regional Shopping Center (400,000 to 600,000 sq. ft.)	Sliding scale between 400,000 and 600,000 sq. ft.				/ksf GLA	1
Super Regional Shopping Center (>600,000 sq. ft.)	3.2	0.8	3.6	0.9	/ksf GLA	1
Fine/Casual Dining	15.25	2.75	17.0	3.0	/ksf GLA	2, 3
Family Restaurant	9.0	1.5	12.75	2.25	/ksf GLA	3
Fast-Food Restaurant	12.75	2.25	12.0	2.0	/ksf GLA	2
Nightclub	15.25	1.25	17.5	1.5	/ksf GLA	3
Active Entertainment	Custom to each tenant					
Cineplex	0.19	0.01	0.26	0.01	/seat	3, 2
Performing Arts Theater	0.3	0.07	0.33	0.07	/seat	2
Arena	0.27	0.03	0.3	0.03	/seat	3
Pro Football Stadium	0.3	0.01	0.3	0.01	/seat	3
Pro Baseball Stadium	0.31	0.01	0.34	0.01	/seat	3
Health Club	6.6	0.4	5.5	0.25	/ksf GFA	3, 4
Convention Center	5.5	0.5	5.5	0.5	/ksf GLA	3
Hotel—Business	1.0	0.25	0.9	0.18	/room	2, 3
Hotel—Leisure	0.9	0.25	1.0	0.18	/room	2, 3
Restaurant/Lounge	10.0	—	10.0	—	/ksf GLA	2, 3, 5
Conference Center/Banquet (20 to 50 sq. ft./guest room)	30.0	—	30.0	—	/ksf GLA	2, 3, 5
Convention Space (>50 sq. ft./guest room)	20.0	—	10.0	—	/ksf GLA	2, 3, 5
Residential, Rental	0.15	1.5[2]	0.15	1.5[2]	/unit	2
Residential, Owned	0.15	1.7[2]	0.15	1.7[2]	/unit	2
Office (<25,000 sq. ft.)	0.3	3.5	0.03	0.35	/ksf GFA	2
Office (25,000 to 100,000 sq. ft.) Sliding scale between					/ksf GFA	2
25,000 sq. ft.:	0.3	3.5	0.03	0.35		
100,000 sq. ft.:	0.25	3.15	0.03	0.32		
Office (100,000 to 500,000 sq. ft.) Sliding scale between					/ksf GFA	2
100,000 sq. ft.:	0.25	3.15	0.03	0.32		
500,000 sq. ft.:	0.2	2.6	0.02	0.26		
Office >500,000 sq. ft.	0.2	2.6	0.02	0.26	/ksf GFA	2
Data Processing Office	0.25	5.75	0.03	0.58	/ksf GFA	2, 3
Medical/Dental Office	3.0	1.5	3.0	1.5	/ksf GFA	2, 3
Bank, Branch with Drive-in	3.0	1.6	3.0	1.6	/ksf GFA	2

Notes

Ratios based on peak parking spaces required with virtually 100% auto use and typical ridesharing for suburban conditions.
/ksf = per thousand sq. ft.
[2] 1.0 spaces reserved for residents' sole use, 24 hours a day; remainder shared with visitors and other uses.

Sources:

1. *Parking Requirements for Shopping Centers*, 2nd ed. (Washington, D.C.: ULI-the Urban Land Institute, 1999).
2. *Parking Generation*, 3rd ed. (Washington, D.C.: Institute of Transportation Engineers, 2004)
3. Data collected by team members.
4. John W. Dorsett, "Parking Requirements for Health Clubs," *The Parking Professional*, April 2004.
5. Gerald Salzman, "Hotel Parking: How Much is Enough?" *Urban Land*, January 1988.

The first edition of *Shared Parking* employed a single ratio of 3.0 spaces/ksf (per thousand square feet) for parking at office uses on weekdays, with 0.5 spaces/ksf on weekends. This edition stratifies office uses into six categories, four for general office with ratios decreasing as size of office space increases (3.8 to 2.8 spaces/ksf on weekdays and 0.38 to 0.28 spaces/ksf on weekends), plus separate new categories for data processing offices and medical and dental offices. In addition, a new category is now provided for bank branches with drive-in facilities.

For retail, the update of *Parking Requirements for Shopping Centers* in 1999 recommended the same parking ratios for less than 400,000 square feet of retail (4.0 spaces/ksf) but lowered the ratio for centers larger than 600,000 square feet from 5.0 spaces/ksf to 4.5 spaces/ksf. This change also results in slightly different ratios when scaled between 400,000 and 600,000 square feet. This edition recommends a similarly scaled ratio of 3.5 to 4.0 spaces/ksf for weekday parking needs, as compared with the flat 3.8 spaces/ksf ratio of *Shared Parking's* first edition. Monthly and time-of-day factors for retail have been modified considerably to represent more recent shopping patterns.

Parking Requirements for Shopping Centers also recommended that where dining and entertainment uses (including cinema) represent more than 20 percent of the total GLA, shared parking methodology should be employed. When dining and entertainment uses constitute 10–20 percent of the GLA, *Parking Requirements for Shopping Centers* recommended that the base ratio for retail be increased by 0.03 for each additional 1 percent of dining/entertainment space over 10 percent. The case studies in chapter 6 indicate that the use of shared parking methodology may be more accurate for shopping centers where dining and entertainment uses exceed 10 percent of the GLA. The case studies also confirm that it is not necessary or appropriate to further stratify retail uses such as discount superstores, big-box retail uses, and supermarkets and drug stores (using more refined base ratios for each); rather, the base ratios recommended for shopping centers should be employed for all retail tenancies.

Parking ratios for restaurants have also been considerably modified in this edition. The first edition recommended a single ratio of 20.0 spaces/ksf for both weekdays and weekends for restaurant use. This second edition separates restaurants into three categories: fine/casual dining (with bars), family restaurants (no bar), and fast-food restaurants. The Saturday ratio for fine/casual dining remains 20.0 spaces/ksf, but the weekday ratio is now 18.0 spaces/ksf, with ratios of 15.0 on Saturday and 10.5 on weekdays for family restaurants. In addition to the lower ratios, a key reason for this differentiation between restaurants with and without bars is that family restaurants have peak parking needs at noon, while fine/casual establishments peak in the evenings. Differentiation also enables analysts to employ more captive patronage (and thus a lower noncaptive adjustment) for fast-food uses than for restaurants, where the typical patron stays for an hour or more. Ratios of 15 spaces/ksf on weekdays and 14 spaces/ksf on Saturdays are recommended for fast-food restaurants.

The ratios for cineplexes have been lowered from 0.3 on weekends and 0.25 on weekdays to 0.27 and 0.2, respectively, reflecting the significant changes in the movie theater business in the last 20 years.

Separate ratios of 1.65 and 1.85 spaces/unit are now recommended as the starting points for rental and owned residential units (the same ratios are employed weekdays and weekends), rather than the single ratio of "1.0 spaces per auto owned per dwelling unit" recommended in the first edition. The latter was intended to be adjusted according to auto ownership per dwelling unit but was commonly used as simply 1.0 space/unit. For this edition, the study team concluded that it was more appropriate to give ratios reflecting auto ownership for "cornfield" residential projects and to allow adjustment for

the specific location of the units. (A cornfield project is a free-standing land use in an area with little or no transit and only weak pedestrian connections with other uses.)

For hotels, while ratios of 1.25 spaces/room (for overnight guests and employees) continue to be used for business hotels on weekdays, a lower ratio of 1.18 spaces/room is now recommended for such hotels on the weekends, and reversed ratios of 1.18 and 1.25 spaces per room are recommended for weekdays and weekends, respectively, at leisure hotels. In addition, while the same ratio of 10 spaces/ksf is still recommended for hotel restaurants/lounges for weekdays and weekends, the recommended ratios for convention areas (now defined as more than 50 ksf/guest room) have been lowered from 30 spaces/ksf both weekdays and weekends to 20 ksf on weekdays and 10 ksf on weekends. The ratios for banquet/meeting space (20 to 50 ksf/guest room) have been converted from 0.5 spaces/seat to 30 spaces/ksf for weekdays and weekends. The sole category with recommended default values for mode and noncaptive adjustments is hotels.

The remaining eight uses presented in this edition were not considered in the first edition. These include nightclubs, active entertainment venues, performing arts theaters, arenas, pro football and baseball stadiums, health clubs, and convention centers.

The time-of-day variations in parking needs continue to be the most significant determinants of the potential for shared parking at project sites. Where uses have been considered in both editions, the time-of-day factors recommended here are significantly different in many cases than those recommended previously.

Seasonal variations also continue to have a large impact on parking, especially for retail demand and cinemas. A significant improvement in the reliability of the methodology has been achieved by considering the period between Christmas and New Year's Day as a "13th month" because cineplex activity patterns are considerably different in the postholiday period than in the holiday shopping season.

Captive markets also have a large influence on parking. Office workers and hotel guests in particular can provide important markets for nearby retail and restaurants without requiring additional parking. Significant levels of carpooling, transit, or pedestrian access can reduce parking demands. Individual estimates must be made for particular local situations.

Conclusion

The shared parking study team evaluated significant amounts of national information that have been found to be appropriate for estimating parking demand. Where good local data exist, however, such as peak parking statistics for single land uses, high transit use, or noncaptive rates, they are preferable to the national data.

- Shared parking analysis is still a valid method for estimating parking requirements of mixed-use projects. There are now many more components, and this update includes estimates for a much wider range of land uses.
- Designing for the peak hour of parking demand requires a broad consideration of many potential scenarios, as well as extensive data on the hourly and seasonal variations, much of which is included here.
- In order for shared parking to be most effective, it is important that all spaces be conveniently located and accessible to all users. Various techniques of managing parking can be used to encourage the sharing of parking.

Trip Generation Estimates of the Updated Proposed Project

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MEMORANDUM

TO: Mr. Bill Winter, LACDPW (Traffic and Lighting)
Mr. Jeff Pletyak, LACDPW (Traffic and Lighting)
CC: Mr. Josh Vasbinder, The Dinerstein Companies

FROM: Srinath Raju, P.E.

SUBJECT: 5550 Grosvenor Boulevard Residential Project
Trip Generation Estimates of Updated Proposed Project

DATE: August 2, 2010 **REF:** RA312-2

This memorandum documents the trip generation estimates of the updated proposed project at the 5550 Grosvenor Boulevard site in Los Angeles, CA, and compares the same to the trip generation estimates of the proposed project for which a comprehensive and detailed traffic study was prepared by Raju Associates, Inc. in December 2009, and approved by the Los Angeles County Department of Public Works (Traffic and Lighting).

The December 2009 Traffic Study analyzed the traffic impacts of a residential project of size 216 apartment units with 438 parking spaces. This 216-unit apartment project was projected to generate a net total of 88 AM peak hour trips and 115 PM peak hour trips. The updated proposed project consists of 196 apartment units with 353 parking spaces on-site. This project is estimated to generate a net total of 78 AM peak hour trips and 104 PM peak hour trips. The updated Proposed Project of 196 apartment units would generate less trips during both AM and PM peak hour trips (10 and 11 less trips, respectively) and would result in project traffic that would be less in magnitude than those of the 216 apartment units. Therefore, the traffic impact analysis of the 216-unit Project provided in the December 2009 Traffic Study prepared by Raju Associates Inc. would also address the traffic effects resulting from the 196-unit project and that no further traffic analysis would be required. The trip generation estimates of the updated proposed project are attached in Table 1.

TABLE 1
ESTIMATED UPDATED PROJECT TRIP GENERATION

	Size	Daily	AM Peak Hour			PM Peak Hour		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Updated Proposed Project Apartment	196 d.u.	1,311	20	80	100	81	44	125
Existing Uses-To be removed Church	(38,987) s.f.	(355)	(14)	(8)	(22)	(10)	(11)	(21)
Net Updated Project Trip Generation Total		956	6	72	78	71	33	104
Trip Rates [1] Apartment (ITE Land Use 220) Church (ITE Land Use 560)	 Trips per d.u. Trips per 1,000 s.f.	 [2] 9.11	 20% 62%	 80% 38%	 [2] 0.56	 65% 48%	 35% 52%	 [2] 0.55

December 2009 Raju Associates, Inc. Traffic Study Project Trip Generation

	Size	Daily	AM Peak Hour			PM Peak Hour		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Original Proposed Project Apartment	216 d.u.	1,433	22	88	110	88	48	136
Existing Uses-To be removed Church	(38,987) s.f.	(355)	(14)	(8)	(22)	(10)	(11)	(21)
Net Project Trip Generation Total		1,078	8	80	88	78	37	115
Trip Rates [1] Apartment (ITE Land Use 220) Church (ITE Land Use 560)	 Trips per d.u. Trips per 1,000 s.f.	 [2] 9.11	 20% 62%	 80% 38%	 [2] 0.56	 65% 48%	 35% 52%	 [2] 0.55

[1] Rates from ITE, *Trip Generation, 8th Edition, Informational Report*

[2] Trip generation for apartment was calculated using the following formulas:

Daily: $T = 6.06(X) + 123.35$
AM Peak Hour: $T = 0.49 (X) + 3.73$
PM Peak Hour: $T = 0.55 (X) + 17.65$

Where:
T = Two-way volume of traffic (total trip-ends)
X = Area in 1,000 gross square feet of leasable area