County of Los Angeles

# Re-Circulated Draft Environmental Impact Report

# NEPTUNE MARINA APARTMENTS AND ANCHORAGE/WOODFIN SUITE HOTEL AND TIMESHARE RESORT PROJECT

## Volume II - Technical Appendices

SCH#2007031114






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Prepared for:

County of Los Angeles
Department of Regional Planning

June 2009

# Recirculated Draft Environmental Impact Report

# NEPTUNE MARINA APARTMENTS AND ANCHORAGE/WOODFIN SUITE HOTEL AND TIMESHARE RESORT PROJECT

## Volume II – Appendices

### State Clearinghouse No. 2007031114

**Prepared for:**

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

**Parcel 10R**
**Project R2006-03647**
RCDPT200600008
RCUPT200600289
RENVT200600217
RPAT200600013
RVART200600013

**Parcel FF**
**Project R2006-03652**
RCDPT200600009
RCUPT200600290
RENVT200700024
RPAT200600014
RVART200600014

**Parcel 9U North**
**Project TR067861**
RCDPT200600007
RCUPT200600288
RENVT200600216
RPKPT200600020
RVART200600012
TR067861

**Parcel 9U South**
**Project R2006-03643**
RCDPT200600006

**Basin Adjacent to Parcel 9U**
**Project R2006-03644**
RPPT200602191

**June 2009**

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**California Coastal Commission's April 23, 2009, Adopted Revised Findings (Page 137)**

**CALIFORNIA COASTAL COMMISSION**
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

April 23, 2009

TO: COMMISSIONERS AND INTERESTED PERSONS

FROM: John Ainsworth, Deputy Director
Teresa Henry, South Coast District Manager
Deborah Lee, San Diego Coast District Manager
Elizabeth A. Fuchs, *AICP*, Manager, Statewide Planning
Al Padilla, Coastal Analyst

**SUBJECT: Adopted Revised Findings to support the Commission's January 9, 2008 approval of the Los Angeles County's Marina del Rey Periodic LCP Review staff report and recommendations.**

**EXECUTIVE SUMMARY**:
This is the Revised Findings adopted by the Commission on October 16, 2008, with modifications made during the October hearing, which have been incorporated herein, to support the Commission's action on January 9, 2008, on the report evaluating the implementation of the Marina del Rey LCP pursuant to Section 30519.5 of the Coastal Act. A Periodic Review evaluation does not amend the LCP. Rather, it identifies policy areas where County actions have implemented the certified LCP in a manner that is not in conformity with the Coastal Act, and where the specific provisions of a certified LCP do not reflect new information or changed conditions such that the LCP is not being implemented in conformity with the Coastal Act. Section 30519.5 of the Coastal Act provides that if the Commission determines that a certified LCP is not being carried out in conformity with any policy of the Coastal Act, the Commission shall submit to the local government recommendations of corrective actions that should be taken. Within a year following submission of any recommendations, the local government is required, if the recommended action is not taken, to forward to the Commission a report setting forth its reasons for not taking the recommended action. As part of the planning process, information developed through evaluation in a Periodic Review can also help inform future LCP Amendments.

On January 9, 2008, the Commission approved the recommendations made in the Periodic Review staff report with changes. The changes made by the Commission at the hearing have been incorporated into this Revised Findings report. The Commissioner's that voted on the prevailing side are as follows:

*This Report was prepared with financial assistance from the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration, under the provisions of Section 309 of the Coastal Act Reauthorization Amendments of 1990.*

Further, the County, and the Commission on appeal of the County's permits, has required a 28 foot wide pedestrian promenade (20 foot wide fire access and 8 foot wide walkway) along the waterfront to improve access and recreational opportunities on new waterfront development. Since certification of the 1996 LCP, there have been four waterfront development projects involving six parcels approved by the County, or by the Commission on appeal of the County's permit, with the required walkway (see Table 11: Local Permits and Access Requirements). Since certification of the 1996 plan, the Marina has continued to provide other visitor-serving facilities such as hotels, restaurants and commercial recreation.

The certified LCP also recognizes that the provision of adequate parking in support of recreation and visitor-serving uses is important and it is equally important that all development provide sufficient parking to meet their needs to avoid parking conflicts with recreational and visitor-serving users.

All new development has been required and has provided parking consistent with the certified LCP. The LCP also requires that public parking lots be conveniently located near key visitor attractions with adequate location signage (Recreation and Visitor-Serving uses, Policy e.8). Furthermore, no public parking lots are permitted to be converted to other uses other than for public park purposes (Recreation and Visitor-Serving uses, Policy e.12). At this time, there have been no new public parking lots constructed or converted to other uses. Since certification of the LCP, the County has maintained the existing public parking lots located throughout the Marina consistent with the LCP. These lots for the most part are located near key recreation and visitor attractions, such as parks and Fisherman's Village However, there are a few of public parking lots that the County provides that are not located adjacent to key visitor attractions and may be underutilized due to their location. Parcels FF and OT are examples of such parking lots. Parcel FF, located along Marquesas Way, is designated in the LCP as a potential parcel to be converted to a park but is currently operated as a public parking lot. The nearest key visitor-serving or recreational facilities are Marina Beach and the North Jetty, both located over 1,000 feet from the parking lot. The closest recreational facility is the promenade, which runs along a portion of the parking lot. Although the promenade is a significant recreational facility, people generally access the promenade in other areas and do not rely on this parking lot. Parcel OT, located on the northern side of Admiralty Way and northeast of Marina Beach, is approximately 600 feet from Marina Beach, but because of its location, the use of the lot may not be maximized.

Furthermore, approved development has been required to provide parking to be integrated into the overall design of all development and landscaped to soften their visual appearance and be attractively designed with a buffer of landscaping, berms or other screening materials (Recreation and Visitor-Serving uses, Policy e.7). A number of development projects were approved since certification of the LCP in 1996 that incorporated these design requirement into their plans; however, currently only one to two have commenced construction so it is too early to observe the actual development design to determine how effective the requirements are.

# APPENDIX 5.2

# Noise Modeling

**Table N-1**
**EXISTING (2007) NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A)<br>CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 18,310 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.9 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 16,580 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.4 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 24,840 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.2 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 39,840 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.5 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,020 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.3 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 16,655 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.2 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,020 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.0 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential/Recreation | 4 | 12 | 3,880 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.4 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,430 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.6 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,260 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.5 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-2**
**EXISTING PLUS PROJECT NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 18,820 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.0 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 18,790 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.0 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 26,320 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.4 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 39,840 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.5 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,290 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.4 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 17,725 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.5 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,730 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 57.3 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 3,880 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.4 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,470 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.6 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,260 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.5 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-3**
**EXISTING PLUS PARCEL 10R NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 18,380 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.9 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 17,390 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.6 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 25,390 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.3 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 39,860 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.5 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,110 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.3 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 17,025 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.3 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,440 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.8 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 3,880 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.4 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,460 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.6 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,260 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.5 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-4**
**EXISTING PLUS PARCEL FF NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 18,380 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.9 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 16,960 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.5 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 25,100 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.2 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 39,850 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.5 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,070 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.3 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 16,835 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.3 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,310 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.6 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 3,880 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.4 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,440 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.6 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,260 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.5 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-5**
**EXISTING PLUS PARCEL 9U NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 18,610 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.9 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 17,600 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.7 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 25,510 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.3 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 39,860 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.5 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,150 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.3 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 17,175 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.4 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,020 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.0 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 3,880 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.4 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,430 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.6 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,260 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.5 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-6**
**2013 AMBIENT WITHOUT PROJECT NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 18,980 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.0 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 17,190 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.6 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 25,740 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.3 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 41,290 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.7 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,680 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.5 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 17,270 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.4 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,090 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.1 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 4,030 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.5 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,660 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.7 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,350 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.7 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-7**
**2013 AMBIENT PLUS PROJECT NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 19,490 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.1 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 19,400 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.1 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 27,200 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.6 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 41,340 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.7 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,950 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.5 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 18,340 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.6 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,800 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 57.4 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 4,030 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.5 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,700 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.7 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,350 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.7 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-8**
**AMBIENT PLUS PARCEL 10R NOISE LEVELS**

| ROADWAY NAME Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix Medium Trucks | Vehicle Mix Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 19,120 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.0 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 18,000 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.8 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 26,290 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.4 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 41,310 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.7 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,770 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.5 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 17,640 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.5 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,510 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.9 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 4,030 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.5 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,690 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.7 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,350 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.7 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-9**
**2013 AMBIENT PLUS PARCEL FF NOISE LEVELS**

| ROADWAY NAME Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix Medium Trucks | Vehicle Mix Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 19,050 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.0 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 17,570 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.7 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 26,000 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.4 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 41,300 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.7 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,730 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.5 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 17,450 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.4 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,380 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.7 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 4,030 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.5 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,670 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.7 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,350 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.7 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-10**
**2013 AMBIENT PLUS PARCEL 9U NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 19,280 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.1 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 18,210 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 67.8 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 26,410 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.4 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 41,310 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 72.7 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 18,810 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.5 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 17,790 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 66.5 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,090 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.1 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 4,030 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 59.5 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 6,660 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 61.7 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,350 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.7 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-11**
**2013 CUMULATIVE WITHOUT PROJECT NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 21,710 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.6 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 20,600 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.4 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 29,080 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 69.9 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 48,180 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 73.3 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 21,140 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 67.0 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 19,840 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 67.0 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,970 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 57.7 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 4,940 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 60.4 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 8,640 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 62.8 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,350 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.7 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

**Table N-12**
**2013 CUMULATIVE PLUS PROJECT NOISE LEVELS**

| ROADWAY NAME<br>Segment | Land Use | Lanes | Median Width | ADT Volume | Design Speed (mph) | Dist. from Center to Receptor | Alpha Factor (1) | Barrier Attn. dB(A) | Vehicle Mix<br>Medium Trucks | <br>Heavy Trucks | dB(A) CNEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WASHINGTON BOULEVARD | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 0 | 22,210 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.7 |
| VIA MARINA | | | | | | | | | | | |
| South of Admiralty Way | Residential | 4 | 0 | 22,810 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 68.8 |
| ADMIRALTY WAY | | | | | | | | | | | |
| East of Via Marina | Park | 4 | 0 | 30,560 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 70.1 |
| LINCOLN BOULEVARD | | | | | | | | | | | |
| North of Fiji Way | Hospital | 6 | 12 | 48,230 | 40 | 50 | 0 | 0 | 1.8% | 0.7% | 73.3 |
| FIJI WAY | | | | | | | | | | | |
| West of Lincoln Boulevard | Residential | 2 | 0 | 21,410 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 67.0 |
| MINDANAO WAY | | | | | | | | | | | |
| East of Lincoln Boulevard | Residential | 4 | 0 | 20,910 | 35 | 50 | 0 | 0 | 1.8% | 0.7% | 67.2 |
| MARQUESAS WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 3,680 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 58.6 |
| PANAY WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 4 | 12 | 4,940 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 60.4 |
| PALAWAN WAY | | | | | | | | | | | |
| South of Washington Boulevard | Recreation | 4 | 12 | 8,680 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 62.9 |
| TAHITI WAY | | | | | | | | | | | |
| East of Via Marina | Residential | 2 | 0 | 2,350 | 30 | 50 | 0 | 0 | 1.8% | 0.7% | 56.7 |

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

| Assumed 24-Hour Traffic Distribution: | Day | Evening | Night |
|---|---|---|---|
| Total ADT Volumes | 75.00% | 10.00% | 15.00% |
| Medium-Duty Trucks | 75.00% | 5.00% | 20.00% |
| Heavy-Duty Trucks | 75.00% | 7.00% | 17.00% |

# APPENDIX 5.4
## Air Quality

# Existing Land Uses

**4/11/2008 02:12:31 PM**

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Glu\Various Project\Neptune Marina\April 2008 Revision\Existing Conditions\Neptune Existing Operational Emissions.urb924

Project Name: Neptune Marina Existing Conditions

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 7.88 | 1.37 | 4.01 | 0.00 | 0.01 | 0.01 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 13.67 | 13.93 | 132.77 | 0.10 | 16.41 | 3.20 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 21.55 | 15.30 | 136.78 | 0.10 | 16.42 | 3.21 |

**4/11/2008 02:12:31 PM**

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | 0.10 | 1.33 | 0.57 | 0.00 | 0.00 | 0.00 |
| Hearth | | | | | | |
| Landscape | 0.29 | 0.04 | 3.44 | 0.00 | 0.01 | 0.01 |
| Consumer Products | 6.98 | | | | | |
| Architectural Coatings | 0.51 | | | | | |
| TOTALS (lbs/day, unmitigated) | 7.88 | 1.37 | 4.01 | 0.00 | 0.01 | 0.01 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| Apartments low rise | 6.72 | 7.00 | 68.24 | 0.05 | 8.23 | 1.61 |
| Blank (Edit this description) | 6.95 | 6.93 | 64.53 | 0.05 | 8.18 | 1.59 |
| TOTALS (lbs/day, unmitigated) | 13.67 | 13.93 | 132.77 | 0.10 | 16.41 | 3.20 |

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2007 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 8.50 | 3.96 | dwelling units | 136.00 | 538.56 | 4,763.56 |
| Blank (Edit this description) | | 2.88 | unknown | 198.00 | 570.24 | 4,733.01 |
| | | | | | 1,108.80 | 9,496.57 |

**4/11/2008 02:12:31 PM**

Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.8 | 2.0 | 97.6 | 0.4 |
| Light Truck < 3750 lbs | 6.9 | 5.8 | 91.3 | 2.9 |
| Light Truck 3751-5750 lbs | 22.8 | 0.9 | 99.1 | 0.0 |
| Med Truck 5751-8500 lbs | 10.0 | 2.0 | 98.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.4 | 0.0 | 85.7 | 14.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.4 | 0.0 | 50.0 | 50.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.4 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 100.0 | 0.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 82.6 | 17.4 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 12.5 | 75.0 | 12.5 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Blank (Edit this description) | | | | 2.0 | 1.0 | 97.0 |

**4/11/2008 02:12:53 PM**

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Glu\Various Project\Neptune Marina\April 2008 Revision\Existing Conditions\Neptune Existing Operational Emissions.urb924

Project Name: Neptune Marina Existing Conditions

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 7.59 | 1.33 | 0.57 | 0.00 | 0.00 | 0.00 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 13.59 | 16.91 | 129.37 | 0.08 | 16.41 | 3.20 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 21.18 | 18.24 | 129.94 | 0.08 | 16.41 | 3.20 |

**4/11/2008 02:12:53 PM**

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | 0.10 | 1.33 | 0.57 | 0.00 | 0.00 | 0.00 |
| Hearth | | | | | | |
| Landscaping - No Winter Emissions | | | | | | |
| Consumer Products | 6.98 | | | | | |
| Architectural Coatings | 0.51 | | | | | |
| TOTALS (lbs/day, unmitigated) | 7.59 | 1.33 | 0.57 | 0.00 | 0.00 | 0.00 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| Apartments low rise | 6.85 | 8.50 | 66.28 | 0.04 | 8.23 | 1.61 |
| Blank (Edit this description) | 6.74 | 8.41 | 63.09 | 0.04 | 8.18 | 1.59 |
| TOTALS (lbs/day, unmitigated) | 13.59 | 16.91 | 129.37 | 0.08 | 16.41 | 3.20 |

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2007 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 8.50 | 3.96 | dwelling units | 136.00 | 538.56 | 4,763.56 |
| Blank (Edit this description) | | 2.88 | unknown | 198.00 | 570.24 | 4,733.01 |
| | | | | | 1,108.80 | 9,496.57 |

**4/11/2008 02:12:53 PM**

Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.8 | 2.0 | 97.6 | 0.4 |
| Light Truck < 3750 lbs | 6.9 | 5.8 | 91.3 | 2.9 |
| Light Truck 3751-5750 lbs | 22.8 | 0.9 | 99.1 | 0.0 |
| Med Truck 5751-8500 lbs | 10.0 | 2.0 | 98.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.4 | 0.0 | 85.7 | 14.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.4 | 0.0 | 50.0 | 50.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.4 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 100.0 | 0.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 82.6 | 17.4 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 12.5 | 75.0 | 12.5 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Blank (Edit this description) | | | | 2.0 | 1.0 | 97.0 |

# All Project Components

**Neptune Marina and Woodfin Suite Hotel Combined Construction Emissions**
**All Emissions**

| Construction Year (Scenario)** | Parcel/Activity | VOC | $NO_X$ | CO | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|---|
| 2011 (1) | 10R Demolition* | 8.22 | 76.43 | 39.20 | 0.05 | 27.71 | 8.55 |
| | 9U-N Grading | 4.90 | 41.20 | 23.96 | 0.02 | 11.62 | 4.11 |
| | **Total** | **13.12** | **117.63** | **63.16** | **0.07** | **39.33** | **12.66** |
| 2011 (2) | 10R Grading | 12.88 | 117.31 | 62.81 | 0.07 | 25.66 | 9.63 |
| | 9U-N Grading | 4.90 | 41.20 | 23.96 | 0.02 | 11.62 | 4.11 |
| | **Total** | **17.78** | **158.51** | **86.77** | **0.09** | **37.28** | **13.74** |
| 2011 (3) | 10R Grading | 12.88 | 117.31 | 62.81 | 0.07 | 25.66 | 9.63 |
| | 9U-N Construction | 13.24 | 100.45 | 65.48 | 0.01 | 5.85 | 5.33 |
| | **Total** | **26.12** | **217.76** | **128.29** | **0.08** | **31.51** | **14.96** |
| 2011 (4) | 10R Construction | 12.25 | 90.95 | 76.95 | 0.06 | 5.70 | 5.08 |
| | FF Demolition* | 1.40 | 11.00 | 6.99 | - | 1.15 | 0.68 |
| | 9U-N Construction | 13.24 | 100.45 | 65.48 | 0.01 | 5.85 | 5.33 |
| | Wetland Park Grading | 2.22 | 18.66 | 9.88 | - | 1.08 | 0.86 |
| | **Total** | **29.11** | **221.06** | **159.30** | **0.07** | **13.78** | **11.95** |
| 2011 (5) | 10R Construction | 12.25 | 90.95 | 76.95 | 0.06 | 5.70 | 5.08 |
| | FF Grading | 7.05 | 58.92 | 33.47 | 0.02 | 12.24 | 4.85 |
| | 9U-N Construction | 13.24 | 100.45 | 65.48 | 0.01 | 5.85 | 5.33 |
| | Wetland Park Grading | 2.22 | 18.66 | 9.88 | - | 1.08 | 0.86 |
| | **Total** | **34.76** | **268.98** | **185.78** | **0.09** | **24.87** | **16.12** |
| 2012 (6) | 10R Construction | 14.53 | 68.97 | 63.17 | 0.06 | 4.05 | 3.58 |
| | FF Grading | 6.59 | 54.61 | 31.91 | 0.02 | 11.92 | 4.57 |
| | 9U-N Construction | 25.59 | 79.04 | 51.85 | 0.01 | 4.10 | 3.73 |
| | Wetland Park Construction | 2.94 | 19.58 | 15.16 | - | 1.45 | 1.32 |
| | **Total** | **49.65** | **222.20** | **162.09** | **0.09** | **21.52** | **13.20** |
| 2012 (7) | 10R Construction | 14.53 | 68.97 | 63.17 | 0.06 | 4.05 | 3.58 |
| | FF Construction | 6.23 | 48.93 | 32.84 | 0.02 | 2.73 | 2.47 |
| | 9U-N Construction | 25.59 | 79.04 | 51.85 | 0.01 | 4.10 | 3.73 |
| | Wetland Park Construction | 2.94 | 19.58 | 15.16 | - | 1.45 | 1.32 |
| | **Total** | **49.29** | **216.52** | **163.02** | **0.09** | **12.33** | **11.10** |
| 2012 (8) | 10R Construction | 14.53 | 68.97 | 63.17 | 0.06 | 4.05 | 3.58 |
| | FF Construction | 6.35 | 34.74 | 23.80 | 0.02 | 1.70 | 1.53 |
| | 9U-N Construction | 25.59 | 79.04 | 51.85 | 0.01 | 4.10 | 3.73 |
| | Wetland Park Construction | 2.94 | 19.58 | 15.16 | - | 1.45 | 1.32 |
| | **Total** | **49.41** | **202.33** | **153.98** | **0.09** | **11.30** | **10.16** |
| 2013 (9) | 10R Construction | 13.90 | 63.28 | 60.22 | 0.06 | 3.63 | 3.20 |
| | FF Construction | 6.11 | 31.98 | 22.78 | 0.02 | 1.53 | 1.37 |
| | **Total** | **20.01** | **95.26** | **83.00** | **0.08** | **5.16** | **4.57** |

Source: Emission estimates from URBEMIS2007, On-site emissions, (2009).
* SCAQMD Mitigation Measures, Table XI-A. Demolition watering reduces fugitive dust by 36%.
** Each scenario represents a different set of overlapping construction phases amongst the four parcels.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maximum Emissions | 10R | 14.53 | 117.31 | 76.95 | 0.07 | 27.71 | 9.63 |
| | FF | 7.05 | 58.92 | 33.47 | 0.02 | 12.24 | 4.85 |
| | 9U | 25.59 | 100.45 | 65.48 | 0.02 | 11.62 | 5.33 |
| | WP | 2.94 | 19.58 | 15.16 | 0.00 | 1.45 | 1.32 |
| | Combined | 49.65 | 268.98 | 185.78 | 0.09 | 39.33 | 16.12 |

# Neptune Marina Parcel 10R

**5/27/2009 09:03:03 PM**

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel 10R.urb924
Project Name: Neptune Marina Parcel 10R
Project Location: Los Angeles County
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) | 12.88 | 117.30 | 76.94 | 0.07 | 86.52 | 5.98 | 92.50 | 18.10 | 5.50 | 23.60 |
| 2011 TOTALS (lbs/day mitigated) | 12.88 | 117.30 | 76.94 | 0.07 | 37.15 | 5.98 | 41.02 | 7.75 | 5.50 | 11.31 |
| 2012 TOTALS (lbs/day unmitigated) | 14.54 | 68.97 | 63.19 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| 2012 TOTALS (lbs/day mitigated) | 14.54 | 68.97 | 63.19 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| 2013 TOTALS (lbs/day unmitigated) | 13.90 | 63.28 | 60.23 | 0.06 | 0.24 | 3.40 | 3.63 | 0.08 | 3.11 | 3.20 |
| 2013 TOTALS (lbs/day mitigated) | 13.90 | 63.28 | 60.23 | 0.06 | 0.24 | 3.40 | 3.63 | 0.08 | 3.11 | 3.20 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 21.75 | 3.96 | 4.76 | 0.00 | 0.02 | 0.02 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 15.96 | 18.29 | 169.28 | 0.22 | 35.40 | 6.88 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 37.71 | 22.25 | 174.04 | 0.22 | 35.42 | 6.90 |

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 5/2/2011-6/30/2011 Active Days: 44 | 8.22 | 76.42 | 39.20 | 0.05 | 37.15 | 3.87 | 41.02 | 7.75 | 3.56 | 11.31 |
| Demolition 05/01/2011-06/30/2011 | 8.22 | 76.42 | 39.20 | 0.05 | 37.15 | 3.87 | 41.02 | 7.75 | 3.56 | 11.31 |
| Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 36.97 | 0.00 | 36.97 | 7.69 | 0.00 | 7.69 |
| Demo Off Road Diesel | 5.29 | 41.29 | 23.53 | 0.00 | 0.00 | 2.41 | 2.41 | 0.00 | 2.22 | 2.22 |
| Demo On Road Diesel | 2.88 | 35.05 | 14.15 | 0.05 | 0.17 | 1.46 | 1.63 | 0.06 | 1.34 | 1.40 |
| Demo Worker Trips | 0.05 | 0.09 | 1.52 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 |
| | | | | | | | | | | |
| Time Slice 7/1/2011-9/30/2011 Active Days: 66 | 12.88 | **117.30** | 62.81 | **0.07** | **86.52** | **5.98** | **92.50** | **18.10** | **5.50** | **23.60** |
| Fine Grading 07/01/2011-09/30/2011 | 2.08 | 13.90 | 10.23 | 0.00 | 5.01 | 1.10 | 6.11 | 1.05 | 1.02 | 2.06 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 5.00 | 1.04 | 0.00 | 1.04 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 07/01/2011-09/30/2011 | 10.80 | 103.41 | 52.57 | 0.07 | 81.51 | 4.88 | 86.39 | 17.05 | 4.49 | 21.54 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 81.26 | 0.00 | 81.26 | 16.97 | 0.00 | 16.97 |
| Mass Grading Off Road Diesel | 6.73 | 54.59 | 30.89 | 0.00 | 0.00 | 2.84 | 2.84 | 0.00 | 2.62 | 2.62 |
| Mass Grading On Road Diesel | 4.01 | 48.70 | 19.66 | 0.07 | 0.24 | 2.03 | 2.27 | 0.08 | 1.87 | 1.94 |
| Mass Grading Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| | | | | | | | | | | |
| Time Slice 10/3/2011-11/30/2011 Active Days: 43 | 12.24 | 90.94 | **76.94** | 0.06 | 0.25 | 5.43 | 5.68 | 0.09 | 4.99 | 5.07 |
| Asphalt 10/01/2011-11/30/2011 | 2.88 | 15.69 | 10.76 | 0.00 | 0.02 | 1.30 | 1.32 | 0.01 | 1.20 | 1.20 |
| Paving Off-Gas | 0.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.34 | 14.17 | 8.17 | 0.00 | 0.00 | 1.24 | 1.24 | 0.00 | 1.14 | 1.14 |
| Paving On Road Diesel | 0.12 | 1.40 | 0.57 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.05 | 0.06 |
| Paving Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Building 10/01/2011-11/30/2013 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building Off Road Diesel | 7.58 | 64.16 | 29.40 | 0.00 | 0.00 | 3.63 | 3.63 | 0.00 | 3.34 | 3.34 |
| Building Vendor Trips | 0.87 | 9.39 | 7.57 | 0.02 | 0.07 | 0.40 | 0.47 | 0.02 | 0.37 | 0.39 |
| Building Worker Trips | 0.92 | 1.71 | 29.21 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 12/1/2011-12/30/2011 Active Days: 22 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building 10/01/2011-11/30/2013 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building Off Road Diesel | 7.58 | 64.16 | 29.40 | 0.00 | 0.00 | 3.63 | 3.63 | 0.00 | 3.34 | 3.34 |
| Building Vendor Trips | 0.87 | 9.39 | 7.57 | 0.02 | 0.07 | 0.40 | 0.47 | 0.02 | 0.37 | 0.39 |
| Building Worker Trips | 0.92 | 1.71 | 29.21 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Time Slice 1/2/2012-3/30/2012 Active Days: 65 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building 10/01/2011-11/30/2013 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building Off Road Diesel | 7.17 | 58.98 | 28.70 | 0.00 | 0.00 | 3.36 | 3.36 | 0.00 | 3.09 | 3.09 |
| Building Vendor Trips | 0.79 | 8.41 | 7.01 | 0.02 | 0.07 | 0.35 | 0.42 | 0.02 | 0.32 | 0.35 |
| Building Worker Trips | 0.83 | 1.57 | 27.22 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Time Slice 4/2/2012-12/31/2012 Active Days: 196 | **14.54** | 68.97 | 63.19 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building 10/01/2011-11/30/2013 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building Off Road Diesel | 7.17 | 58.98 | 28.70 | 0.00 | 0.00 | 3.36 | 3.36 | 0.00 | 3.09 | 3.09 |
| Building Vendor Trips | 0.79 | 8.41 | 7.01 | 0.02 | 0.07 | 0.35 | 0.42 | 0.02 | 0.32 | 0.35 |
| Building Worker Trips | 0.83 | 1.57 | 27.22 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Coating 04/01/2012-11/30/2013 | 5.74 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/1/2013-11/29/2013 Active Days: 239 | 13.90 | 63.28 | 60.23 | 0.06 | 0.24 | 3.40 | 3.63 | 0.08 | 3.11 | 3.20 |
| Building 10/01/2011-11/30/2013 | 8.16 | 63.27 | 60.00 | 0.06 | 0.24 | 3.39 | 3.63 | 0.08 | 3.11 | 3.20 |
| Building Off Road Diesel | 6.68 | 54.37 | 28.19 | 0.00 | 0.00 | 2.98 | 2.98 | 0.00 | 2.75 | 2.75 |
| Building Vendor Trips | 0.72 | 7.46 | 6.46 | 0.02 | 0.07 | 0.31 | 0.38 | 0.02 | 0.29 | 0.31 |
| Building Worker Trips | 0.76 | 1.44 | 25.34 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Coating 04/01/2012-11/30/2013 | 5.74 | 0.01 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Phase Assumptions

Phase: Demolition 5/1/2011 - 6/30/2011 - Demolition
Building Volume Total (cubic feet): 1938064
Building Volume Daily (cubic feet): 88013.4
On Road Truck Travel (VMT): 1222.41
Off-Road Equipment:
1 Off Highway Tractors (267 hp) operating at a 0.65 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 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: Fine Grading 7/1/2011 - 9/30/2011 - Project serving sewer line/Water line
Total Acres Disturbed: 1
Maximum Daily Acreage Disturbed: 0.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Mass Grading 7/1/2011 - 9/30/2011 - Mass Site Grading/Excavation
Total Acres Disturbed: 7.32
Maximum Daily Acreage Disturbed: 1.83
Fugitive Dust Level of Detail: High
Onsite Haulage: 0 ton-miles/day; Offsite haulage: 128 ton-mils/day
On Road Truck Travel (VMT): 1698.55
Off-Road Equipment:
4 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 10/1/2011 - 11/30/2011 - Paving
Acres to be Paved: 6
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
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 10/1/2011 - 11/30/2013 - Building Construction
Off-Road Equipment:
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
5 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
5 Rough Terrain Forklifts (93 hp) operating at a 0.6 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 4/1/2012 - 11/30/2013 - Architectural Coating
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 Summer Pounds Per Day, Mitigated

| | ROG | NOx | CO | SO2 | PM10 Dust | PM10 Exhaust | PM10 | PM2.5 Dust | PM2.5 Exhaust | PM2.5 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 5/2/2011-6/30/2011 Active Days: 44 | 8.22 | 76.42 | 39.20 | 0.05 | 37.15 | 3.87 | 41.02 | 7.75 | 3.56 | 11.31 |
| Demolition 05/01/2011-06/30/2011 | 8.22 | 76.42 | 39.20 | 0.05 | 37.15 | 3.87 | 41.02 | 7.75 | 3.56 | 11.31 |
| Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 36.97 | 0.00 | 36.97 | 7.69 | 0.00 | 7.69 |
| Demo Off Road Diesel | 5.29 | 41.29 | 23.53 | 0.00 | 0.00 | 2.41 | 2.41 | 0.00 | 2.22 | 2.22 |
| Demo On Road Diesel | 2.88 | 35.05 | 14.15 | 0.05 | 0.17 | 1.46 | 1.63 | 0.06 | 1.34 | 1.40 |
| Demo Worker Trips | 0.05 | 0.09 | 1.52 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 7/1/2011-9/30/2011 Active Days: 66 | 12.88 | **117.30** | 62.81 | **0.07** | 15.56 | **5.98** | 21.54 | 3.28 | **5.50** | 8.78 |
| Fine Grading 07/01/2011-09/30/2011 | 2.08 | 13.90 | 10.23 | 0.00 | 0.89 | 1.10 | 2.00 | 0.19 | 1.02 | 1.20 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.89 | 0.19 | 0.00 | 0.19 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 07/01/2011-09/30/2011 | 10.80 | 103.41 | 52.57 | 0.07 | 14.67 | 4.88 | 19.55 | 3.09 | 4.49 | 7.58 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 14.42 | 0.00 | 14.42 | 3.01 | 0.00 | 3.01 |
| Mass Grading Off Road Diesel | 6.73 | 54.59 | 30.89 | 0.00 | 0.00 | 2.84 | 2.84 | 0.00 | 2.62 | 2.62 |
| Mass Grading On Road Diesel | 4.01 | 48.70 | 19.66 | 0.07 | 0.24 | 2.03 | 2.27 | 0.08 | 1.87 | 1.94 |
| Mass Grading Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| | | | | | | | | | | |
| Time Slice 10/3/2011-11/30/2011 Active Days: 43 | 12.24 | 90.94 | **76.94** | 0.06 | 0.25 | 5.43 | 5.68 | 0.09 | 4.99 | 5.07 |
| Asphalt 10/01/2011-11/30/2011 | 2.88 | 15.69 | 10.76 | 0.00 | 0.02 | 1.30 | 1.32 | 0.01 | 1.20 | 1.20 |
| Paving Off-Gas | 0.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.34 | 14.17 | 8.17 | 0.00 | 0.00 | 1.24 | 1.24 | 0.00 | 1.14 | 1.14 |
| Paving On Road Diesel | 0.12 | 1.40 | 0.57 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.05 | 0.06 |
| Paving Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Building 10/01/2011-11/30/2013 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building Off Road Diesel | 7.58 | 64.16 | 29.40 | 0.00 | 0.00 | 3.63 | 3.63 | 0.00 | 3.34 | 3.34 |
| Building Vendor Trips | 0.87 | 9.39 | 7.57 | 0.02 | 0.07 | 0.40 | 0.47 | 0.02 | 0.37 | 0.39 |
| Building Worker Trips | 0.92 | 1.71 | 29.21 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| | | | | | | | | | | |
| Time Slice 12/1/2011-12/30/2011 Active Days: 22 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building 10/01/2011-11/30/2013 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building Off Road Diesel | 7.58 | 64.16 | 29.40 | 0.00 | 0.00 | 3.63 | 3.63 | 0.00 | 3.34 | 3.34 |
| Building Vendor Trips | 0.87 | 9.39 | 7.57 | 0.02 | 0.07 | 0.40 | 0.47 | 0.02 | 0.37 | 0.39 |
| Building Worker Trips | 0.92 | 1.71 | 29.21 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| | | | | | | | | | | |
| Time Slice 1/2/2012-3/30/2012 Active Days: 65 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building 10/01/2011-11/30/2013 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building Off Road Diesel | 7.17 | 58.98 | 28.70 | 0.00 | 0.00 | 3.36 | 3.36 | 0.00 | 3.09 | 3.09 |
| Building Vendor Trips | 0.79 | 8.41 | 7.01 | 0.02 | 0.07 | 0.35 | 0.42 | 0.02 | 0.32 | 0.35 |
| Building Worker Trips | 0.83 | 1.57 | 27.22 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 4/2/2012-12/31/2012 Active Days: 196 | **14.54** | 68.97 | 63.19 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building 10/01/2011-11/30/2013 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building Off Road Diesel | 7.17 | 58.98 | 28.70 | 0.00 | 0.00 | 3.36 | 3.36 | 0.00 | 3.09 | 3.09 |
| Building Vendor Trips | 0.79 | 8.41 | 7.01 | 0.02 | 0.07 | 0.35 | 0.42 | 0.02 | 0.32 | 0.35 |
| Building Worker Trips | 0.83 | 1.57 | 27.22 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Coating 04/01/2012-11/30/2013 | 5.74 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | | | | |
| Time Slice 1/1/2013-11/29/2013 Active Days: 239 | 13.90 | 63.28 | 60.23 | 0.06 | 0.24 | 3.40 | 3.63 | 0.08 | 3.11 | 3.20 |
| Building 10/01/2011-11/30/2013 | 8.16 | 63.27 | 60.00 | 0.06 | 0.24 | 3.39 | 3.63 | 0.08 | 3.11 | 3.20 |
| Building Off Road Diesel | 6.68 | 54.37 | 28.19 | 0.00 | 0.00 | 2.98 | 2.98 | 0.00 | 2.75 | 2.75 |
| Building Vendor Trips | 0.72 | 7.46 | 6.46 | 0.02 | 0.07 | 0.31 | 0.38 | 0.02 | 0.29 | 0.31 |
| Building Worker Trips | 0.76 | 1.44 | 25.34 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Coating 04/01/2012-11/30/2013 | 5.74 | 0.01 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 7/1/2011 - 9/30/2011 - Project serving sewer line/Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 7/1/2011 - 9/30/2011 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | 0.30 | 3.92 | 1.67 | 0.00 | 0.01 | 0.01 |
| Hearth | | | | | | |
| Landscape | 0.25 | 0.04 | 3.09 | 0.00 | 0.01 | 0.01 |
| Consumer Products | 20.52 | | | | | |
| Architectural Coatings | 0.68 | | | | | |
| TOTALS (lbs/day, unmitigated) | 21.75 | 3.96 | 4.76 | 0.00 | 0.02 | 0.02 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| Apartments low rise | 12.21 | 14.27 | 133.39 | 0.17 | 27.64 | 5.37 |
| Boat Slips | 3.75 | 4.02 | 35.89 | 0.05 | 7.76 | 1.51 |
| TOTALS (lbs/day, unmitigated) | 15.96 | 18.29 | 169.28 | 0.22 | 35.40 | 6.88 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Temperature (F): 80 Season: Summer
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 25.00 | 3.96 | dwelling units | 400.00 | 1,584.00 | 16,002.84 |
| Boat Slips | | 2.88 | unknown | 174.00 | 501.12 | 4,496.55 |
| | | | | | 2,085.12 | 20,499.39 |

## Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Boat Slips | | | | 2.0 | 1.0 | 97.0 |

## Operational Changes to Defaults

**5/27/2009 09:03:17 PM**

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel 10R.urb924
Project Name: Neptune Marina Parcel 10R
Project Location: Los Angeles County
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) | 12.88 | 117.30 | 76.94 | 0.07 | 86.52 | 5.98 | 92.50 | 18.10 | 5.50 | 23.60 |
| 2011 TOTALS (lbs/day mitigated) | 12.88 | 117.30 | 76.94 | 0.07 | 37.15 | 5.98 | 41.02 | 7.75 | 5.50 | 11.31 |
| 2012 TOTALS (lbs/day unmitigated) | 14.54 | 68.97 | 63.19 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| 2012 TOTALS (lbs/day mitigated) | 14.54 | 68.97 | 63.19 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| 2013 TOTALS (lbs/day unmitigated) | 13.90 | 63.28 | 60.23 | 0.06 | 0.24 | 3.40 | 3.63 | 0.08 | 3.11 | 3.20 |
| 2013 TOTALS (lbs/day mitigated) | 13.90 | 63.28 | 60.23 | 0.06 | 0.24 | 3.40 | 3.63 | 0.08 | 3.11 | 3.20 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 21.50 | 3.92 | 1.67 | 0.00 | 0.01 | 0.01 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 15.66 | 22.04 | 160.59 | 0.18 | 35.40 | 6.88 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 37.16 | 25.96 | 162.26 | 0.18 | 35.41 | 6.89 |

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 5/2/2011-6/30/2011 Active Days: 44 | 8.22 | 76.42 | 39.20 | 0.05 | 37.15 | 3.87 | 41.02 | 7.75 | 3.56 | 11.31 |
| Demolition 05/01/2011-06/30/2011 | 8.22 | 76.42 | 39.20 | 0.05 | 37.15 | 3.87 | 41.02 | 7.75 | 3.56 | 11.31 |
| Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 36.97 | 0.00 | 36.97 | 7.69 | 0.00 | 7.69 |
| Demo Off Road Diesel | 5.29 | 41.29 | 23.53 | 0.00 | 0.00 | 2.41 | 2.41 | 0.00 | 2.22 | 2.22 |
| Demo On Road Diesel | 2.88 | 35.05 | 14.15 | 0.05 | 0.17 | 1.46 | 1.63 | 0.06 | 1.34 | 1.40 |
| Demo Worker Trips | 0.05 | 0.09 | 1.52 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 |
| Time Slice 7/1/2011-9/30/2011 Active Days: 66 | 12.88 | **117.30** | 62.81 | **0.07** | **86.52** | **5.98** | **92.50** | **18.10** | **5.50** | **23.60** |
| Fine Grading 07/01/2011-09/30/2011 | 2.08 | 13.90 | 10.23 | 0.00 | 5.01 | 1.10 | 6.11 | 1.05 | 1.02 | 2.06 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 5.00 | 1.04 | 0.00 | 1.04 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 07/01/2011-09/30/2011 | 10.80 | 103.41 | 52.57 | 0.07 | 81.51 | 4.88 | 86.39 | 17.05 | 4.49 | 21.54 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 81.26 | 0.00 | 81.26 | 16.97 | 0.00 | 16.97 |
| Mass Grading Off Road Diesel | 6.73 | 54.59 | 30.89 | 0.00 | 0.00 | 2.84 | 2.84 | 0.00 | 2.62 | 2.62 |
| Mass Grading On Road Diesel | 4.01 | 48.70 | 19.66 | 0.07 | 0.24 | 2.03 | 2.27 | 0.08 | 1.87 | 1.94 |
| Mass Grading Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Time Slice 10/3/2011-11/30/2011 Active Days: 43 | 12.24 | 90.94 | **76.94** | 0.06 | 0.25 | 5.43 | 5.68 | 0.09 | 4.99 | 5.07 |
| Asphalt 10/01/2011-11/30/2011 | 2.88 | 15.69 | 10.76 | 0.00 | 0.02 | 1.30 | 1.32 | 0.01 | 1.20 | 1.20 |
| Paving Off-Gas | 0.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.34 | 14.17 | 8.17 | 0.00 | 0.00 | 1.24 | 1.24 | 0.00 | 1.14 | 1.14 |
| Paving On Road Diesel | 0.12 | 1.40 | 0.57 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.05 | 0.06 |
| Paving Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Building 10/01/2011-11/30/2013 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building Off Road Diesel | 7.58 | 64.16 | 29.40 | 0.00 | 0.00 | 3.63 | 3.63 | 0.00 | 3.34 | 3.34 |
| Building Vendor Trips | 0.87 | 9.39 | 7.57 | 0.02 | 0.07 | 0.40 | 0.47 | 0.02 | 0.37 | 0.39 |
| Building Worker Trips | 0.92 | 1.71 | 29.21 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Time Slice 12/1/2011-12/30/2011 Active Days: 22 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building 10/01/2011-11/30/2013 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building Off Road Diesel | 7.58 | 64.16 | 29.40 | 0.00 | 0.00 | 3.63 | 3.63 | 0.00 | 3.34 | 3.34 |
| Building Vendor Trips | 0.87 | 9.39 | 7.57 | 0.02 | 0.07 | 0.40 | 0.47 | 0.02 | 0.37 | 0.39 |
| Building Worker Trips | 0.92 | 1.71 | 29.21 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 1/2/2012-3/30/2012 Active Days: 65 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building 10/01/2011-11/30/2013 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building Off Road Diesel | 7.17 | 58.98 | 28.70 | 0.00 | 0.00 | 3.36 | 3.36 | 0.00 | 3.09 | 3.09 |
| Building Vendor Trips | 0.79 | 8.41 | 7.01 | 0.02 | 0.07 | 0.35 | 0.42 | 0.02 | 0.32 | 0.35 |
| Building Worker Trips | 0.83 | 1.57 | 27.22 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Time Slice 4/2/2012-12/31/2012 Active Days: 196 | **14.54** | 68.97 | 63.19 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building 10/01/2011-11/30/2013 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building Off Road Diesel | 7.17 | 58.98 | 28.70 | 0.00 | 0.00 | 3.36 | 3.36 | 0.00 | 3.09 | 3.09 |
| Building Vendor Trips | 0.79 | 8.41 | 7.01 | 0.02 | 0.07 | 0.35 | 0.42 | 0.02 | 0.32 | 0.35 |
| Building Worker Trips | 0.83 | 1.57 | 27.22 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Coating 04/01/2012-11/30/2013 | 5.74 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/1/2013-11/29/2013 Active Days: 239 | 13.90 | 63.28 | 60.23 | 0.06 | 0.24 | 3.40 | 3.63 | 0.08 | 3.11 | 3.20 |
| Building 10/01/2011-11/30/2013 | 8.16 | 63.27 | 60.00 | 0.06 | 0.24 | 3.39 | 3.63 | 0.08 | 3.11 | 3.20 |
| Building Off Road Diesel | 6.68 | 54.37 | 28.19 | 0.00 | 0.00 | 2.98 | 2.98 | 0.00 | 2.75 | 2.75 |
| Building Vendor Trips | 0.72 | 7.46 | 6.46 | 0.02 | 0.07 | 0.31 | 0.38 | 0.02 | 0.29 | 0.31 |
| Building Worker Trips | 0.76 | 1.44 | 25.34 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Coating 04/01/2012-11/30/2013 | 5.74 | 0.01 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Phase Assumptions

Phase: Demolition 5/1/2011 - 6/30/2011 - Demolition

Building Volume Total (cubic feet): 1938064

Building Volume Daily (cubic feet): 88013.4

On Road Truck Travel (VMT): 1222.41

Off-Road Equipment:

1 Off Highway Tractors (267 hp) operating at a 0.65 load factor for 8 hours per day

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

1 Rubber Tired Dozers (357 hp) operating at a 0.59 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: Fine Grading 7/1/2011 - 9/30/2011 - Project serving sewer line/Water line
Total Acres Disturbed: 1
Maximum Daily Acreage Disturbed: 0.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Mass Grading 7/1/2011 - 9/30/2011 - Mass Site Grading/Excavation
Total Acres Disturbed: 7.32
Maximum Daily Acreage Disturbed: 1.83
Fugitive Dust Level of Detail: High
Onsite Haulage: 0 ton-miles/day; Offsite haulage: 128 ton-mils/day
On Road Truck Travel (VMT): 1698.55
Off-Road Equipment:
4 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 10/1/2011 - 11/30/2011 - Paving
Acres to be Paved: 6
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
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 10/1/2011 - 11/30/2013 - Building Construction
Off-Road Equipment:
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
5 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
5 Rough Terrain Forklifts (93 hp) operating at a 0.6 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 4/1/2012 - 11/30/2013 - Architectural Coating
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 Winter Pounds Per Day, Mitigated

| | ROG | NOx | CO | SO2 | PM10 Dust | PM10 Exhaust | PM10 | PM2.5 Dust | PM2.5 Exhaust | PM2.5 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 5/2/2011-6/30/2011 Active Days: 44 | 8.22 | 76.42 | 39.20 | 0.05 | 37.15 | 3.87 | 41.02 | 7.75 | 3.56 | 11.31 |
| Demolition 05/01/2011-06/30/2011 | 8.22 | 76.42 | 39.20 | 0.05 | 37.15 | 3.87 | 41.02 | 7.75 | 3.56 | 11.31 |
| Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 36.97 | 0.00 | 36.97 | 7.69 | 0.00 | 7.69 |
| Demo Off Road Diesel | 5.29 | 41.29 | 23.53 | 0.00 | 0.00 | 2.41 | 2.41 | 0.00 | 2.22 | 2.22 |
| Demo On Road Diesel | 2.88 | 35.05 | 14.15 | 0.05 | 0.17 | 1.46 | 1.63 | 0.06 | 1.34 | 1.40 |
| Demo Worker Trips | 0.05 | 0.09 | 1.52 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 |
| Time Slice 7/1/2011-9/30/2011 Active Days: 66 | 12.88 | **117.30** | 62.81 | **0.07** | 15.56 | **5.98** | 21.54 | 3.28 | **5.50** | 8.78 |
| Fine Grading 07/01/2011-09/30/2011 | 2.08 | 13.90 | 10.23 | 0.00 | 0.89 | 1.10 | 2.00 | 0.19 | 1.02 | 1.20 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.89 | 0.19 | 0.00 | 0.19 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 07/01/2011-09/30/2011 | 10.80 | 103.41 | 52.57 | 0.07 | 14.67 | 4.88 | 19.55 | 3.09 | 4.49 | 7.58 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 14.42 | 0.00 | 14.42 | 3.01 | 0.00 | 3.01 |
| Mass Grading Off Road Diesel | 6.73 | 54.59 | 30.89 | 0.00 | 0.00 | 2.84 | 2.84 | 0.00 | 2.62 | 2.62 |
| Mass Grading On Road Diesel | 4.01 | 48.70 | 19.66 | 0.07 | 0.24 | 2.03 | 2.27 | 0.08 | 1.87 | 1.94 |
| Mass Grading Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Time Slice 10/3/2011-11/30/2011 Active Days: 43 | 12.24 | 90.94 | **76.94** | 0.06 | 0.25 | 5.43 | 5.68 | 0.09 | 4.99 | 5.07 |
| Asphalt 10/01/2011-11/30/2011 | 2.88 | 15.69 | 10.76 | 0.00 | 0.02 | 1.30 | 1.32 | 0.01 | 1.20 | 1.20 |
| Paving Off-Gas | 0.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.34 | 14.17 | 8.17 | 0.00 | 0.00 | 1.24 | 1.24 | 0.00 | 1.14 | 1.14 |
| Paving On Road Diesel | 0.12 | 1.40 | 0.57 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.05 | 0.06 |
| Paving Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Building 10/01/2011-11/30/2013 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building Off Road Diesel | 7.58 | 64.16 | 29.40 | 0.00 | 0.00 | 3.63 | 3.63 | 0.00 | 3.34 | 3.34 |
| Building Vendor Trips | 0.87 | 9.39 | 7.57 | 0.02 | 0.07 | 0.40 | 0.47 | 0.02 | 0.37 | 0.39 |
| Building Worker Trips | 0.92 | 1.71 | 29.21 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Time Slice 12/1/2011-12/30/2011 Active Days: 22 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building 10/01/2011-11/30/2013 | 9.36 | 75.25 | 66.18 | 0.06 | 0.24 | 4.13 | 4.36 | 0.08 | 3.79 | 3.87 |
| Building Off Road Diesel | 7.58 | 64.16 | 29.40 | 0.00 | 0.00 | 3.63 | 3.63 | 0.00 | 3.34 | 3.34 |
| Building Vendor Trips | 0.87 | 9.39 | 7.57 | 0.02 | 0.07 | 0.40 | 0.47 | 0.02 | 0.37 | 0.39 |
| Building Worker Trips | 0.92 | 1.71 | 29.21 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 1/2/2012-3/30/2012 Active Days: 65 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building 10/01/2011-11/30/2013 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building Off Road Diesel | 7.17 | 58.98 | 28.70 | 0.00 | 0.00 | 3.36 | 3.36 | 0.00 | 3.09 | 3.09 |
| Building Vendor Trips | 0.79 | 8.41 | 7.01 | 0.02 | 0.07 | 0.35 | 0.42 | 0.02 | 0.32 | 0.35 |
| Building Worker Trips | 0.83 | 1.57 | 27.22 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Time Slice 4/2/2012-12/31/2012 Active Days: 196 | **14.54** | 68.97 | 63.19 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building 10/01/2011-11/30/2013 | 8.80 | 68.96 | 62.94 | 0.06 | 0.24 | 3.81 | 4.05 | 0.08 | 3.50 | 3.58 |
| Building Off Road Diesel | 7.17 | 58.98 | 28.70 | 0.00 | 0.00 | 3.36 | 3.36 | 0.00 | 3.09 | 3.09 |
| Building Vendor Trips | 0.79 | 8.41 | 7.01 | 0.02 | 0.07 | 0.35 | 0.42 | 0.02 | 0.32 | 0.35 |
| Building Worker Trips | 0.83 | 1.57 | 27.22 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Coating 04/01/2012-11/30/2013 | 5.74 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/1/2013-11/29/2013 Active Days: 239 | 13.90 | 63.28 | 60.23 | 0.06 | 0.24 | 3.40 | 3.63 | 0.08 | 3.11 | 3.20 |
| Building 10/01/2011-11/30/2013 | 8.16 | 63.27 | 60.00 | 0.06 | 0.24 | 3.39 | 3.63 | 0.08 | 3.11 | 3.20 |
| Building Off Road Diesel | 6.68 | 54.37 | 28.19 | 0.00 | 0.00 | 2.98 | 2.98 | 0.00 | 2.75 | 2.75 |
| Building Vendor Trips | 0.72 | 7.46 | 6.46 | 0.02 | 0.07 | 0.31 | 0.38 | 0.02 | 0.29 | 0.31 |
| Building Worker Trips | 0.76 | 1.44 | 25.34 | 0.04 | 0.17 | 0.10 | 0.27 | 0.06 | 0.08 | 0.14 |
| Coating 04/01/2012-11/30/2013 | 5.74 | 0.01 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 7/1/2011 - 9/30/2011 - Project serving sewer line/Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 7/1/2011 - 9/30/2011 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | 0.30 | 3.92 | 1.67 | 0.00 | 0.01 | 0.01 |
| Hearth | | | | | | |
| Landscaping - No Winter Emissions | | | | | | |
| Consumer Products | 20.52 | | | | | |
| Architectural Coatings | 0.68 | | | | | |
| TOTALS (lbs/day, unmitigated) | 21.50 | 3.92 | 1.67 | 0.00 | 0.01 | 0.01 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| Apartments low rise | 12.13 | 17.20 | 126.33 | 0.14 | 27.64 | 5.37 |
| Boat Slips | 3.53 | 4.84 | 34.26 | 0.04 | 7.76 | 1.51 |
| TOTALS (lbs/day, unmitigated) | 15.66 | 22.04 | 160.59 | 0.18 | 35.40 | 6.88 |

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 25.00 | 3.96 | dwelling units | 400.00 | 1,584.00 | 16,002.84 |
| Boat Slips | | 2.88 | unknown | 174.00 | 501.12 | 4,496.55 |
| | | | | | 2,085.12 | 20,499.39 |

## Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Boat Slips | | | | 2.0 | 1.0 | 97.0 |

## Operational Changes to Defaults

# Neptune Marina Parcel FF

**5/27/2009 09:12:02 PM**

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel FF.urb924
Project Name: Neptune Marina Parcel FF
Project Location: Los Angeles County
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) | 7.04 | 58.92 | 33.47 | 0.02 | 27.22 | 3.23 | 30.45 | 5.69 | 2.97 | 8.67 |
| 2011 TOTALS (lbs/day mitigated) | 7.04 | 58.92 | 33.47 | 0.02 | 4.89 | 3.23 | 8.12 | 1.03 | 2.97 | 4.00 |
| 2012 TOTALS (lbs/day unmitigated) | 6.59 | 54.61 | 32.85 | 0.02 | 27.22 | 2.92 | 30.14 | 5.69 | 2.69 | 8.38 |
| 2012 TOTALS (lbs/day mitigated) | 6.59 | 54.61 | 32.85 | 0.02 | 4.89 | 2.92 | 7.81 | 1.03 | 2.69 | 3.72 |
| 2013 TOTALS (lbs/day unmitigated) | 6.10 | 31.97 | 22.77 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| 2013 TOTALS (lbs/day mitigated) | 6.10 | 31.97 | 22.77 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 6.89 | 1.26 | 2.08 | 0.00 | 0.01 | 0.01 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 3.84 | 4.49 | 42.02 | 0.05 | 8.71 | 1.69 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 10.73 | 5.75 | 44.10 | 0.05 | 8.72 | 1.70 |

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 10/3/2011-10/31/2011 Active Days: 21 | 1.40 | 11.00 | 6.99 | 0.00 | 0.86 | 0.62 | 1.48 | 0.18 | 0.57 | 0.75 |
| Demolition 10/01/2011-10/31/2011 | 1.40 | 11.00 | 6.99 | 0.00 | 0.86 | 0.62 | 1.48 | 0.18 | 0.57 | 0.75 |
| Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.85 | 0.00 | 0.85 | 0.18 | 0.00 | 0.18 |
| Demo Off Road Diesel | 1.31 | 10.15 | 5.90 | 0.00 | 0.00 | 0.58 | 0.58 | 0.00 | 0.53 | 0.53 |
| Demo On Road Diesel | 0.07 | 0.81 | 0.33 | 0.00 | 0.00 | 0.03 | 0.04 | 0.00 | 0.03 | 0.03 |
| Demo Worker Trips | 0.02 | 0.04 | 0.76 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 11/1/2011-12/30/2011 Active Days: 44 | **7.04** | **58.92** | **33.47** | **0.02** | **27.22** | **3.23** | **30.45** | **5.69** | **2.97** | **8.67** |
| Fine Grading 11/01/2011-01/31/2012 | 2.08 | 13.90 | 10.23 | 0.00 | 5.01 | 1.10 | 6.11 | 1.05 | 1.02 | 2.06 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 5.00 | 1.04 | 0.00 | 1.04 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 11/01/2011-01/31/2012 | 4.96 | 45.03 | 23.23 | 0.02 | 22.21 | 2.13 | 24.34 | 4.65 | 1.96 | 6.60 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 22.14 | 0.00 | 22.14 | 4.62 | 0.00 | 4.62 |
| Mass Grading Off Road Diesel | 3.87 | 32.09 | 16.78 | 0.00 | 0.00 | 1.59 | 1.59 | 0.00 | 1.46 | 1.46 |
| Mass Grading On Road Diesel | 1.06 | 12.86 | 5.19 | 0.02 | 0.06 | 0.54 | 0.60 | 0.02 | 0.49 | 0.51 |
| Mass Grading Worker Trips | 0.04 | 0.07 | 1.27 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| | | | | | | | | | | |
| Time Slice 1/2/2012-1/31/2012 Active Days: 22 | 6.59 | 54.61 | 31.91 | **0.02** | **27.22** | 2.92 | 30.14 | **5.69** | 2.69 | 8.38 |
| Fine Grading 11/01/2011-01/31/2012 | 1.92 | 12.91 | 10.11 | 0.00 | 5.01 | 0.99 | 5.99 | 1.05 | 0.91 | 1.95 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 5.00 | 1.04 | 0.00 | 1.04 |
| Fine Grading Off Road Diesel | 1.89 | 12.85 | 9.16 | 0.00 | 0.00 | 0.98 | 0.98 | 0.00 | 0.91 | 0.91 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.05 | 0.95 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 11/01/2011-01/31/2012 | 4.67 | 41.71 | 21.80 | 0.02 | 22.21 | 1.93 | 24.15 | 4.65 | 1.78 | 6.43 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 22.14 | 0.00 | 22.14 | 4.62 | 0.00 | 4.62 |
| Mass Grading Off Road Diesel | 3.66 | 30.14 | 15.97 | 0.00 | 0.00 | 1.46 | 1.46 | 0.00 | 1.34 | 1.34 |
| Mass Grading On Road Diesel | 0.97 | 11.50 | 4.65 | 0.02 | 0.06 | 0.47 | 0.53 | 0.02 | 0.43 | 0.45 |
| Mass Grading Worker Trips | 0.04 | 0.07 | 1.18 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| | | | | | | | | | | |
| Time Slice 2/1/2012-2/29/2012 Active Days: 21 | 6.23 | 48.93 | 32.85 | 0.02 | 0.08 | 2.66 | 2.74 | 0.03 | 2.44 | 2.47 |
| Asphalt 02/01/2012-02/29/2012 | 2.29 | 14.20 | 9.14 | 0.00 | 0.01 | 1.02 | 1.03 | 0.00 | 0.94 | 0.94 |
| Paving Off-Gas | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.01 | 13.46 | 8.15 | 0.00 | 0.00 | 0.99 | 0.99 | 0.00 | 0.91 | 0.91 |
| Paving On Road Diesel | 0.06 | 0.70 | 0.28 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 |
| Paving Worker Trips | 0.02 | 0.04 | 0.71 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| | | | | | | | | | | |
| Time Slice 3/1/2012-7/31/2012 Active Days: 109 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 8/1/2012-12/31/2012 Active Days: 109 | 6.35 | 34.74 | 23.81 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Coating 08/01/2012-10/31/2013 | 2.41 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 2.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.00 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/1/2013-10/31/2013 Active Days: 218 | 6.10 | 31.97 | 22.77 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| Building 02/01/2012-10/31/2013 | 3.69 | 31.97 | 22.68 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| Building Off Road Diesel | 3.23 | 29.17 | 12.66 | 0.00 | 0.00 | 1.33 | 1.33 | 0.00 | 1.22 | 1.22 |
| Building Vendor Trips | 0.23 | 2.35 | 2.04 | 0.01 | 0.02 | 0.10 | 0.12 | 0.01 | 0.09 | 0.10 |
| Building Worker Trips | 0.24 | 0.45 | 7.98 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Coating 08/01/2012-10/31/2013 | 2.41 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 2.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.00 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Phase Assumptions

Phase: Demolition 10/1/2011 - 10/31/2011 - Demolition
Building Volume Total (cubic feet): 44521.2
Building Volume Daily (cubic feet): 2028.84
On Road Truck Travel (VMT): 28.18
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 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: Fine Grading 11/1/2011 - 1/31/2012 - Water line
Total Acres Disturbed: 1
Maximum Daily Acreage Disturbed: 0.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Mass Grading 11/1/2011 - 1/31/2012 - Mass Site Grading/Excavation
Total Acres Disturbed: 2.04
Maximum Daily Acreage Disturbed: 1.02
Fugitive Dust Level of Detail: High
Onsite Haulage: 0 ton-miles/day; Offsite haulage: 34 ton-mils/day
On Road Truck Travel (VMT): 448.59
Off-Road Equipment:
2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 2/1/2012 - 2/29/2012 - Paving
Acres to be Paved: 1.6
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 2/1/2012 - 10/31/2013 - Building Construction
Off-Road Equipment:
2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
5 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

Phase: Architectural Coating 8/1/2012 - 10/31/2013 - Architectural Coating
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 Summer Pounds Per Day, Mitigated

| | ROG | NOx | CO | SO2 | PM10 Dust | PM10 Exhaust | PM10 | PM2.5 Dust | PM2.5 Exhaust | PM2.5 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 10/3/2011-10/31/2011 Active Days: 21 | 1.40 | 11.00 | 6.99 | 0.00 | 0.86 | 0.62 | 1.48 | 0.18 | 0.57 | 0.75 |
| Demolition 10/01/2011-10/31/2011 | 1.40 | 11.00 | 6.99 | 0.00 | 0.86 | 0.62 | 1.48 | 0.18 | 0.57 | 0.75 |
| Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.85 | 0.00 | 0.85 | 0.18 | 0.00 | 0.18 |
| Demo Off Road Diesel | 1.31 | 10.15 | 5.90 | 0.00 | 0.00 | 0.58 | 0.58 | 0.00 | 0.53 | 0.53 |
| Demo On Road Diesel | 0.07 | 0.81 | 0.33 | 0.00 | 0.00 | 0.03 | 0.04 | 0.00 | 0.03 | 0.03 |
| Demo Worker Trips | 0.02 | 0.04 | 0.76 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Time Slice 11/1/2011-12/30/2011 Active Days: 44 | **7.04** | **58.92** | **33.47** | **0.02** | 4.89 | **3.23** | 8.12 | 1.03 | **2.97** | 4.00 |
| Fine Grading 11/01/2011-01/31/2012 | 2.08 | 13.90 | 10.23 | 0.00 | 0.89 | 1.10 | 2.00 | 0.19 | 1.02 | 1.20 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.89 | 0.19 | 0.00 | 0.19 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 11/01/2011-01/31/2012 | 4.96 | 45.03 | 23.23 | 0.02 | 4.00 | 2.13 | 6.13 | 0.84 | 1.96 | 2.80 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 3.93 | 0.00 | 3.93 | 0.82 | 0.00 | 0.82 |
| Mass Grading Off Road Diesel | 3.87 | 32.09 | 16.78 | 0.00 | 0.00 | 1.59 | 1.59 | 0.00 | 1.46 | 1.46 |
| Mass Grading On Road Diesel | 1.06 | 12.86 | 5.19 | 0.02 | 0.06 | 0.54 | 0.60 | 0.02 | 0.49 | 0.51 |
| Mass Grading Worker Trips | 0.04 | 0.07 | 1.27 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| Time Slice 1/2/2012-1/31/2012 Active Days: 22 | 6.59 | 54.61 | 31.91 | **0.02** | 4.89 | 2.92 | 7.81 | 1.03 | 2.69 | 3.72 |
| Fine Grading 11/01/2011-01/31/2012 | 1.92 | 12.91 | 10.11 | 0.00 | 0.89 | 0.99 | 1.88 | 0.19 | 0.91 | 1.10 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.89 | 0.19 | 0.00 | 0.19 |
| Fine Grading Off Road Diesel | 1.89 | 12.85 | 9.16 | 0.00 | 0.00 | 0.98 | 0.98 | 0.00 | 0.91 | 0.91 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.05 | 0.95 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 11/01/2011-01/31/2012 | 4.67 | 41.71 | 21.80 | 0.02 | 4.00 | 1.93 | 5.93 | 0.84 | 1.78 | 2.62 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 3.93 | 0.00 | 3.93 | 0.82 | 0.00 | 0.82 |
| Mass Grading Off Road Diesel | 3.66 | 30.14 | 15.97 | 0.00 | 0.00 | 1.46 | 1.46 | 0.00 | 1.34 | 1.34 |
| Mass Grading On Road Diesel | 0.97 | 11.50 | 4.65 | 0.02 | 0.06 | 0.47 | 0.53 | 0.02 | 0.43 | 0.45 |
| Mass Grading Worker Trips | 0.04 | 0.07 | 1.18 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| Time Slice 2/1/2012-2/29/2012 Active Days: 21 | 6.23 | 48.93 | 32.85 | 0.02 | 0.08 | 2.66 | 2.74 | 0.03 | 2.44 | 2.47 |
| Asphalt 02/01/2012-02/29/2012 | 2.29 | 14.20 | 9.14 | 0.00 | 0.01 | 1.02 | 1.03 | 0.00 | 0.94 | 0.94 |
| Paving Off-Gas | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.01 | 13.46 | 8.15 | 0.00 | 0.00 | 0.99 | 0.99 | 0.00 | 0.91 | 0.91 |
| Paving On Road Diesel | 0.06 | 0.70 | 0.28 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 |
| Paving Worker Trips | 0.02 | 0.04 | 0.71 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 3/1/2012-7/31/2012 Active Days: 109 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Time Slice 8/1/2012-12/31/2012 Active Days: 109 | 6.35 | 34.74 | 23.81 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Coating 08/01/2012-10/31/2013 | 2.41 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 2.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.00 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/1/2013-10/31/2013 Active Days: 218 | 6.10 | 31.97 | 22.77 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| Building 02/01/2012-10/31/2013 | 3.69 | 31.97 | 22.68 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| Building Off Road Diesel | 3.23 | 29.17 | 12.66 | 0.00 | 0.00 | 1.33 | 1.33 | 0.00 | 1.22 | 1.22 |
| Building Vendor Trips | 0.23 | 2.35 | 2.04 | 0.01 | 0.02 | 0.10 | 0.12 | 0.01 | 0.09 | 0.10 |
| Building Worker Trips | 0.24 | 0.45 | 7.98 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Coating 08/01/2012-10/31/2013 | 2.41 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 2.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.00 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/1/2011 - 1/31/2012 - Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 11/1/2011 - 1/31/2012 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | 0.10 | 1.24 | 0.53 | 0.00 | 0.00 | 0.00 |
| Hearth | | | | | | |
| Landscape | 0.12 | 0.02 | 1.55 | 0.00 | 0.01 | 0.01 |
| Consumer Products | 6.46 | | | | | |
| Architectural Coatings | 0.21 | | | | | |
| TOTALS (lbs/day, unmitigated) | 6.89 | 1.26 | 2.08 | 0.00 | 0.01 | 0.01 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| Apartments low rise | 3.84 | 4.49 | 42.02 | 0.05 | 8.71 | 1.69 |
| TOTALS (lbs/day, unmitigated) | 3.84 | 4.49 | 42.02 | 0.05 | 8.71 | 1.69 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Temperature (F): 80 Season: Summer
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 7.88 | 3.96 | dwelling units | 126.00 | 498.96 | 5,040.89 |
| | | | | | 498.96 | 5,040.89 |

## Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |

% of Trips - Commercial (by land use)

## Operational Changes to Defaults

**5/27/2009 09:12:18 PM**

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel FF.urb924
Project Name: Neptune Marina Parcel FF
Project Location: Los Angeles County
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) | 7.04 | 58.92 | 33.47 | 0.02 | 27.22 | 3.23 | 30.45 | 5.69 | 2.97 | 8.67 |
| 2011 TOTALS (lbs/day mitigated) | 7.04 | 58.92 | 33.47 | 0.02 | 4.89 | 3.23 | 8.12 | 1.03 | 2.97 | 4.00 |
| 2012 TOTALS (lbs/day unmitigated) | 6.59 | 54.61 | 32.85 | 0.02 | 27.22 | 2.92 | 30.14 | 5.69 | 2.69 | 8.38 |
| 2012 TOTALS (lbs/day mitigated) | 6.59 | 54.61 | 32.85 | 0.02 | 4.89 | 2.92 | 7.81 | 1.03 | 2.69 | 3.72 |
| 2013 TOTALS (lbs/day unmitigated) | 6.10 | 31.97 | 22.77 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| 2013 TOTALS (lbs/day mitigated) | 6.10 | 31.97 | 22.77 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 6.77 | 1.24 | 0.53 | 0.00 | 0.00 | 0.00 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 3.82 | 5.42 | 39.80 | 0.04 | 8.71 | 1.69 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 10.59 | 6.66 | 40.33 | 0.04 | 8.71 | 1.69 |

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 10/3/2011-10/31/2011 Active Days: 21 | 1.40 | 11.00 | 6.99 | 0.00 | 0.86 | 0.62 | 1.48 | 0.18 | 0.57 | 0.75 |
| Demolition 10/01/2011-10/31/2011 | 1.40 | 11.00 | 6.99 | 0.00 | 0.86 | 0.62 | 1.48 | 0.18 | 0.57 | 0.75 |
| Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.85 | 0.00 | 0.85 | 0.18 | 0.00 | 0.18 |
| Demo Off Road Diesel | 1.31 | 10.15 | 5.90 | 0.00 | 0.00 | 0.58 | 0.58 | 0.00 | 0.53 | 0.53 |
| Demo On Road Diesel | 0.07 | 0.81 | 0.33 | 0.00 | 0.00 | 0.03 | 0.04 | 0.00 | 0.03 | 0.03 |
| Demo Worker Trips | 0.02 | 0.04 | 0.76 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 11/1/2011-12/30/2011 Active Days: 44 | **7.04** | **58.92** | **33.47** | **0.02** | **27.22** | **3.23** | **30.45** | **5.69** | **2.97** | **8.67** |
| Fine Grading 11/01/2011-01/31/2012 | 2.08 | 13.90 | 10.23 | 0.00 | 5.01 | 1.10 | 6.11 | 1.05 | 1.02 | 2.06 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 5.00 | 1.04 | 0.00 | 1.04 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 11/01/2011-01/31/2012 | 4.96 | 45.03 | 23.23 | 0.02 | 22.21 | 2.13 | 24.34 | 4.65 | 1.96 | 6.60 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 22.14 | 0.00 | 22.14 | 4.62 | 0.00 | 4.62 |
| Mass Grading Off Road Diesel | 3.87 | 32.09 | 16.78 | 0.00 | 0.00 | 1.59 | 1.59 | 0.00 | 1.46 | 1.46 |
| Mass Grading On Road Diesel | 1.06 | 12.86 | 5.19 | 0.02 | 0.06 | 0.54 | 0.60 | 0.02 | 0.49 | 0.51 |
| Mass Grading Worker Trips | 0.04 | 0.07 | 1.27 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| | | | | | | | | | | |
| Time Slice 1/2/2012-1/31/2012 Active Days: 22 | 6.59 | 54.61 | 31.91 | **0.02** | **27.22** | 2.92 | 30.14 | **5.69** | 2.69 | 8.38 |
| Fine Grading 11/01/2011-01/31/2012 | 1.92 | 12.91 | 10.11 | 0.00 | 5.01 | 0.99 | 5.99 | 1.05 | 0.91 | 1.95 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 5.00 | 1.04 | 0.00 | 1.04 |
| Fine Grading Off Road Diesel | 1.89 | 12.85 | 9.16 | 0.00 | 0.00 | 0.98 | 0.98 | 0.00 | 0.91 | 0.91 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.05 | 0.95 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 11/01/2011-01/31/2012 | 4.67 | 41.71 | 21.80 | 0.02 | 22.21 | 1.93 | 24.15 | 4.65 | 1.78 | 6.43 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 22.14 | 0.00 | 22.14 | 4.62 | 0.00 | 4.62 |
| Mass Grading Off Road Diesel | 3.66 | 30.14 | 15.97 | 0.00 | 0.00 | 1.46 | 1.46 | 0.00 | 1.34 | 1.34 |
| Mass Grading On Road Diesel | 0.97 | 11.50 | 4.65 | 0.02 | 0.06 | 0.47 | 0.53 | 0.02 | 0.43 | 0.45 |
| Mass Grading Worker Trips | 0.04 | 0.07 | 1.18 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| | | | | | | | | | | |
| Time Slice 2/1/2012-2/29/2012 Active Days: 21 | 6.23 | 48.93 | 32.85 | 0.02 | 0.08 | 2.66 | 2.74 | 0.03 | 2.44 | 2.47 |
| Asphalt 02/01/2012-02/29/2012 | 2.29 | 14.20 | 9.14 | 0.00 | 0.01 | 1.02 | 1.03 | 0.00 | 0.94 | 0.94 |
| Paving Off-Gas | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.01 | 13.46 | 8.15 | 0.00 | 0.00 | 0.99 | 0.99 | 0.00 | 0.91 | 0.91 |
| Paving On Road Diesel | 0.06 | 0.70 | 0.28 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 |
| Paving Worker Trips | 0.02 | 0.04 | 0.71 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| | | | | | | | | | | |
| Time Slice 3/1/2012-7/31/2012 Active Days: 109 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 8/1/2012-12/31/2012 Active Days: 109 | 6.35 | 34.74 | 23.81 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Coating 08/01/2012-10/31/2013 | 2.41 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 2.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.00 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/1/2013-10/31/2013 Active Days: 218 | 6.10 | 31.97 | 22.77 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| Building 02/01/2012-10/31/2013 | 3.69 | 31.97 | 22.68 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| Building Off Road Diesel | 3.23 | 29.17 | 12.66 | 0.00 | 0.00 | 1.33 | 1.33 | 0.00 | 1.22 | 1.22 |
| Building Vendor Trips | 0.23 | 2.35 | 2.04 | 0.01 | 0.02 | 0.10 | 0.12 | 0.01 | 0.09 | 0.10 |
| Building Worker Trips | 0.24 | 0.45 | 7.98 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Coating 08/01/2012-10/31/2013 | 2.41 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 2.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.00 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Phase Assumptions

Phase: Demolition 10/1/2011 - 10/31/2011 - Demolition
Building Volume Total (cubic feet): 44521.2
Building Volume Daily (cubic feet): 2028.84
On Road Truck Travel (VMT): 28.18
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 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: Fine Grading 11/1/2011 - 1/31/2012 - Water line
Total Acres Disturbed: 1
Maximum Daily Acreage Disturbed: 0.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Mass Grading 11/1/2011 - 1/31/2012 - Mass Site Grading/Excavation
Total Acres Disturbed: 2.04
Maximum Daily Acreage Disturbed: 1.02
Fugitive Dust Level of Detail: High
Onsite Haulage: 0 ton-miles/day; Offsite haulage: 34 ton-mils/day
On Road Truck Travel (VMT): 448.59
Off-Road Equipment:
2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 2/1/2012 - 2/29/2012 - Paving
Acres to be Paved: 1.6
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 2/1/2012 - 10/31/2013 - Building Construction
Off-Road Equipment:
2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
5 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

Phase: Architectural Coating 8/1/2012 - 10/31/2013 - Architectural Coating
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 Winter Pounds Per Day, Mitigated

| | ROG | NOx | CO | SO2 | PM10 Dust | PM10 Exhaust | PM10 | PM2.5 Dust | PM2.5 Exhaust | PM2.5 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 10/3/2011-10/31/2011 Active Days: 21 | 1.40 | 11.00 | 6.99 | 0.00 | 0.86 | 0.62 | 1.48 | 0.18 | 0.57 | 0.75 |
| Demolition 10/01/2011-10/31/2011 | 1.40 | 11.00 | 6.99 | 0.00 | 0.86 | 0.62 | 1.48 | 0.18 | 0.57 | 0.75 |
| Fugitive Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.85 | 0.00 | 0.85 | 0.18 | 0.00 | 0.18 |
| Demo Off Road Diesel | 1.31 | 10.15 | 5.90 | 0.00 | 0.00 | 0.58 | 0.58 | 0.00 | 0.53 | 0.53 |
| Demo On Road Diesel | 0.07 | 0.81 | 0.33 | 0.00 | 0.00 | 0.03 | 0.04 | 0.00 | 0.03 | 0.03 |
| Demo Worker Trips | 0.02 | 0.04 | 0.76 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Time Slice 11/1/2011-12/30/2011 Active Days: 44 | **7.04** | **58.92** | **33.47** | **0.02** | 4.89 | **3.23** | 8.12 | 1.03 | **2.97** | 4.00 |
| Fine Grading 11/01/2011-01/31/2012 | 2.08 | 13.90 | 10.23 | 0.00 | 0.89 | 1.10 | 2.00 | 0.19 | 1.02 | 1.20 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.89 | 0.19 | 0.00 | 0.19 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 11/01/2011-01/31/2012 | 4.96 | 45.03 | 23.23 | 0.02 | 4.00 | 2.13 | 6.13 | 0.84 | 1.96 | 2.80 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 3.93 | 0.00 | 3.93 | 0.82 | 0.00 | 0.82 |
| Mass Grading Off Road Diesel | 3.87 | 32.09 | 16.78 | 0.00 | 0.00 | 1.59 | 1.59 | 0.00 | 1.46 | 1.46 |
| Mass Grading On Road Diesel | 1.06 | 12.86 | 5.19 | 0.02 | 0.06 | 0.54 | 0.60 | 0.02 | 0.49 | 0.51 |
| Mass Grading Worker Trips | 0.04 | 0.07 | 1.27 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| Time Slice 1/2/2012-1/31/2012 Active Days: 22 | 6.59 | 54.61 | 31.91 | **0.02** | 4.89 | 2.92 | 7.81 | 1.03 | 2.69 | 3.72 |
| Fine Grading 11/01/2011-01/31/2012 | 1.92 | 12.91 | 10.11 | 0.00 | 0.89 | 0.99 | 1.88 | 0.19 | 0.91 | 1.10 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.89 | 0.19 | 0.00 | 0.19 |
| Fine Grading Off Road Diesel | 1.89 | 12.85 | 9.16 | 0.00 | 0.00 | 0.98 | 0.98 | 0.00 | 0.91 | 0.91 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.05 | 0.95 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 11/01/2011-01/31/2012 | 4.67 | 41.71 | 21.80 | 0.02 | 4.00 | 1.93 | 5.93 | 0.84 | 1.78 | 2.62 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 3.93 | 0.00 | 3.93 | 0.82 | 0.00 | 0.82 |
| Mass Grading Off Road Diesel | 3.66 | 30.14 | 15.97 | 0.00 | 0.00 | 1.46 | 1.46 | 0.00 | 1.34 | 1.34 |
| Mass Grading On Road Diesel | 0.97 | 11.50 | 4.65 | 0.02 | 0.06 | 0.47 | 0.53 | 0.02 | 0.43 | 0.45 |
| Mass Grading Worker Trips | 0.04 | 0.07 | 1.18 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 |
| Time Slice 2/1/2012-2/29/2012 Active Days: 21 | 6.23 | 48.93 | 32.85 | 0.02 | 0.08 | 2.66 | 2.74 | 0.03 | 2.44 | 2.47 |
| Asphalt 02/01/2012-02/29/2012 | 2.29 | 14.20 | 9.14 | 0.00 | 0.01 | 1.02 | 1.03 | 0.00 | 0.94 | 0.94 |
| Paving Off-Gas | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.01 | 13.46 | 8.15 | 0.00 | 0.00 | 0.99 | 0.99 | 0.00 | 0.91 | 0.91 |
| Paving On Road Diesel | 0.06 | 0.70 | 0.28 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 |
| Paving Worker Trips | 0.02 | 0.04 | 0.71 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 3/1/2012-7/31/2012 Active Days: 109 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Time Slice 8/1/2012-12/31/2012 Active Days: 109 | 6.35 | 34.74 | 23.81 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building 02/01/2012-10/31/2013 | 3.94 | 34.73 | 23.71 | 0.02 | 0.07 | 1.64 | 1.71 | 0.03 | 1.50 | 1.53 |
| Building Off Road Diesel | 3.43 | 31.59 | 12.92 | 0.00 | 0.00 | 1.49 | 1.49 | 0.00 | 1.37 | 1.37 |
| Building Vendor Trips | 0.25 | 2.65 | 2.21 | 0.01 | 0.02 | 0.11 | 0.13 | 0.01 | 0.10 | 0.11 |
| Building Worker Trips | 0.26 | 0.49 | 8.57 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Coating 08/01/2012-10/31/2013 | 2.41 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 2.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.00 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/1/2013-10/31/2013 Active Days: 218 | 6.10 | 31.97 | 22.77 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| Building 02/01/2012-10/31/2013 | 3.69 | 31.97 | 22.68 | 0.02 | 0.07 | 1.46 | 1.53 | 0.03 | 1.34 | 1.36 |
| Building Off Road Diesel | 3.23 | 29.17 | 12.66 | 0.00 | 0.00 | 1.33 | 1.33 | 0.00 | 1.22 | 1.22 |
| Building Vendor Trips | 0.23 | 2.35 | 2.04 | 0.01 | 0.02 | 0.10 | 0.12 | 0.01 | 0.09 | 0.10 |
| Building Worker Trips | 0.24 | 0.45 | 7.98 | 0.01 | 0.05 | 0.03 | 0.08 | 0.02 | 0.03 | 0.05 |
| Coating 08/01/2012-10/31/2013 | 2.41 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 2.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.00 | 0.01 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/1/2011 - 1/31/2012 - Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 11/1/2011 - 1/31/2012 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | 0.10 | 1.24 | 0.53 | 0.00 | 0.00 | 0.00 |
| Hearth | | | | | | |
| Landscaping - No Winter Emissions | | | | | | |
| Consumer Products | 6.46 | | | | | |
| Architectural Coatings | 0.21 | | | | | |
| TOTALS (lbs/day, unmitigated) | 6.77 | 1.24 | 0.53 | 0.00 | 0.00 | 0.00 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| Apartments low rise | 3.82 | 5.42 | 39.80 | 0.04 | 8.71 | 1.69 |
| TOTALS (lbs/day, unmitigated) | 3.82 | 5.42 | 39.80 | 0.04 | 8.71 | 1.69 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Temperature (F): 60 Season: Winter
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 7.88 | 3.96 | dwelling units | 126.00 | 498.96 | 5,040.89 |
| | | | | | 498.96 | 5,040.89 |

## Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |

% of Trips - Commercial (by land use)

## Operational Changes to Defaults

# Woodfin Suite Hotel and Timeshare Resort
# (Parcel 9U-N)

**5/27/2009 09:07:54 PM**

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel 9U.urb924
Project Name: Neptune Marina Parcel 9U
Project Location: Los Angeles County
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) | 13.24 | 100.44 | 65.48 | 0.02 | 28.60 | 5.76 | 30.98 | 5.98 | 5.30 | 8.17 |
| 2011 TOTALS (lbs/day mitigated) | 13.24 | 100.44 | 65.48 | 0.02 | 5.14 | 5.76 | 7.52 | 1.08 | 5.30 | 5.33 |
| 2012 TOTALS (lbs/day unmitigated) | 25.59 | 79.04 | 51.85 | 0.02 | 0.07 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| 2012 TOTALS (lbs/day mitigated) | 25.59 | 79.04 | 51.85 | 0.02 | 0.07 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 1.13 | 2.32 | 3.49 | 0.00 | 0.01 | 0.01 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 10.02 | 12.48 | 111.71 | 0.15 | 24.11 | 4.68 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 11.15 | 14.80 | 115.20 | 0.15 | 24.12 | 4.69 |

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 5/2/2011-7/29/2011 Active Days: 65 | 4.90 | 41.20 | 23.96 | **0.02** | **28.60** | 2.38 | **30.98** | **5.98** | 2.19 | **8.17** |
| Fine Grading 05/01/2011-07/31/2011 | 2.08 | 13.90 | 10.23 | 0.00 | 5.01 | 1.10 | 6.11 | 1.05 | 1.02 | 2.06 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 5.00 | 1.04 | 0.00 | 1.04 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 05/01/2011-07/31/2011 | 2.82 | 27.30 | 13.73 | 0.02 | 23.59 | 1.28 | 24.87 | 4.94 | 1.18 | 6.11 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 23.52 | 0.00 | 23.52 | 4.91 | 0.00 | 4.91 |
| Mass Grading Off Road Diesel | 1.68 | 13.65 | 7.72 | 0.00 | 0.00 | 0.71 | 0.71 | 0.00 | 0.65 | 0.65 |
| Mass Grading On Road Diesel | 1.12 | 13.62 | 5.50 | 0.02 | 0.07 | 0.57 | 0.63 | 0.02 | 0.52 | 0.54 |
| Mass Grading Worker Trips | 0.02 | 0.03 | 0.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 8/1/2011-8/31/2011 Active Days: 23 | 13.24 | **100.44** | **65.48** | 0.02 | 0.08 | **5.76** | 5.84 | 0.03 | **5.30** | 5.33 |
| Asphalt 08/01/2011-08/31/2011 | 2.79 | 16.01 | 11.40 | 0.00 | 0.02 | 1.36 | 1.38 | 0.01 | 1.25 | 1.26 |
| Paving Off-Gas | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.48 | 15.15 | 9.07 | 0.00 | 0.00 | 1.33 | 1.33 | 0.00 | 1.22 | 1.22 |
| Paving On Road Diesel | 0.06 | 0.74 | 0.30 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 |
| Paving Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Building 08/01/2011-12/31/2012 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building Off Road Diesel | 10.03 | 82.46 | 43.51 | 0.00 | 0.00 | 4.31 | 4.31 | 0.00 | 3.96 | 3.96 |
| Building Vendor Trips | 0.13 | 1.43 | 1.22 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.06 | 0.06 |
| Building Worker Trips | 0.29 | 0.55 | 9.35 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 9/1/2011-12/30/2011 Active Days: 87 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building 08/01/2011-12/31/2012 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building Off Road Diesel | 10.03 | 82.46 | 43.51 | 0.00 | 0.00 | 4.31 | 4.31 | 0.00 | 3.96 | 3.96 |
| Building Vendor Trips | 0.13 | 1.43 | 1.22 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.06 | 0.06 |
| Building Worker Trips | 0.29 | 0.55 | 9.35 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 1/2/2012-3/30/2012 Active Days: 65 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building 08/01/2011-12/31/2012 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building Off Road Diesel | 9.53 | 77.25 | 41.83 | 0.00 | 0.00 | 3.95 | 3.95 | 0.00 | 3.63 | 3.63 |
| Building Vendor Trips | 0.12 | 1.28 | 1.14 | 0.00 | 0.01 | 0.05 | 0.06 | 0.00 | 0.05 | 0.05 |
| Building Worker Trips | 0.27 | 0.50 | 8.71 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 4/2/2012-12/31/2012 Active Days: 196 | **25.59** | 79.04 | 51.85 | 0.02 | 0.07 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building 08/01/2011-12/31/2012 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building Off Road Diesel | 9.53 | 77.25 | 41.83 | 0.00 | 0.00 | 3.95 | 3.95 | 0.00 | 3.63 | 3.63 |
| Building Vendor Trips | 0.12 | 1.28 | 1.14 | 0.00 | 0.01 | 0.05 | 0.06 | 0.00 | 0.05 | 0.05 |
| Building Worker Trips | 0.27 | 0.50 | 8.71 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Coating 04/01/2012-12/31/2012 | 15.66 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 15.66 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Phase Assumptions

Phase: Fine Grading 5/1/2011 - 7/31/2011 - Water line

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 0.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

Phase: Mass Grading 5/1/2011 - 7/31/2011 - Mass Site Grading/Excavation
Total Acres Disturbed: 2.2
Maximum Daily Acreage Disturbed: 0.55
Fugitive Dust Level of Detail: High
Onsite Haulage: 3 ton-miles/day; Offsite haulage: 36 ton-mils/day
On Road Truck Travel (VMT): 475.09
Off-Road Equipment:
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 8/1/2011 - 8/31/2011 - Paving
Acres to be Paved: 1.65
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 - 12/31/2012 - Building Construction
Off-Road Equipment:
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
2 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
1 Off Highway Tractors (267 hp) operating at a 0.65 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
2 Rubber Tired Dozers (357 hp) operating at a 0.59 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 4/1/2012 - 12/31/2012 - Architectural Coating
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 Summer Pounds Per Day, Mitigated

| | ROG | NOx | CO | SO2 | PM10 Dust | PM10 Exhaust | PM10 | PM2.5 Dust | PM2.5 Exhaust | PM2.5 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 5/2/2011-7/29/2011 Active Days: 65 | 4.90 | 41.20 | 23.96 | **0.02** | 5.14 | 2.38 | 7.52 | 1.08 | 2.19 | 3.27 |
| Fine Grading 05/01/2011-07/31/2011 | 2.08 | 13.90 | 10.23 | 0.00 | 0.89 | 1.10 | 2.00 | 0.19 | 1.02 | 1.20 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.89 | 0.19 | 0.00 | 0.19 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 05/01/2011-07/31/2011 | 2.82 | 27.30 | 13.73 | 0.02 | 4.24 | 1.28 | 5.52 | 0.89 | 1.18 | 2.07 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 4.17 | 0.00 | 4.17 | 0.87 | 0.00 | 0.87 |
| Mass Grading Off Road Diesel | 1.68 | 13.65 | 7.72 | 0.00 | 0.00 | 0.71 | 0.71 | 0.00 | 0.65 | 0.65 |
| Mass Grading On Road Diesel | 1.12 | 13.62 | 5.50 | 0.02 | 0.07 | 0.57 | 0.63 | 0.02 | 0.52 | 0.54 |
| Mass Grading Worker Trips | 0.02 | 0.03 | 0.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 8/1/2011-8/31/2011 Active Days: 23 | 13.24 | **100.44** | **65.48** | 0.02 | 0.08 | **5.76** | 5.84 | 0.03 | **5.30** | 5.33 |
| Asphalt 08/01/2011-08/31/2011 | 2.79 | 16.01 | 11.40 | 0.00 | 0.02 | 1.36 | 1.38 | 0.01 | 1.25 | 1.26 |
| Paving Off-Gas | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.48 | 15.15 | 9.07 | 0.00 | 0.00 | 1.33 | 1.33 | 0.00 | 1.22 | 1.22 |
| Paving On Road Diesel | 0.06 | 0.74 | 0.30 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 |
| Paving Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Building 08/01/2011-12/31/2012 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building Off Road Diesel | 10.03 | 82.46 | 43.51 | 0.00 | 0.00 | 4.31 | 4.31 | 0.00 | 3.96 | 3.96 |
| Building Vendor Trips | 0.13 | 1.43 | 1.22 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.06 | 0.06 |
| Building Worker Trips | 0.29 | 0.55 | 9.35 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 9/1/2011-12/30/2011 Active Days: 87 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building 08/01/2011-12/31/2012 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building Off Road Diesel | 10.03 | 82.46 | 43.51 | 0.00 | 0.00 | 4.31 | 4.31 | 0.00 | 3.96 | 3.96 |
| Building Vendor Trips | 0.13 | 1.43 | 1.22 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.06 | 0.06 |
| Building Worker Trips | 0.29 | 0.55 | 9.35 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 1/2/2012-3/30/2012 Active Days: 65 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building 08/01/2011-12/31/2012 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building Off Road Diesel | 9.53 | 77.25 | 41.83 | 0.00 | 0.00 | 3.95 | 3.95 | 0.00 | 3.63 | 3.63 |
| Building Vendor Trips | 0.12 | 1.28 | 1.14 | 0.00 | 0.01 | 0.05 | 0.06 | 0.00 | 0.05 | 0.05 |
| Building Worker Trips | 0.27 | 0.50 | 8.71 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 4/2/2012-12/31/2012 Active Days: 196 | **25.59** | 79.04 | 51.85 | 0.02 | 0.07 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building 08/01/2011-12/31/2012 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building Off Road Diesel | 9.53 | 77.25 | 41.83 | 0.00 | 0.00 | 3.95 | 3.95 | 0.00 | 3.63 | 3.63 |
| Building Vendor Trips | 0.12 | 1.28 | 1.14 | 0.00 | 0.01 | 0.05 | 0.06 | 0.00 | 0.05 | 0.05 |
| Building Worker Trips | 0.27 | 0.50 | 8.71 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Coating 04/01/2012-12/31/2012 | 15.66 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 15.66 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 5/1/2011 - 7/31/2011 - Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 5/1/2011 - 7/31/2011 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | 0.17 | 2.30 | 1.94 | 0.00 | 0.00 | 0.00 |
| Hearth | | | | | | |
| Landscape | 0.12 | 0.02 | 1.55 | 0.00 | 0.01 | 0.01 |
| Consumer Products | 0.00 | | | | | |
| Architectural Coatings | 0.84 | | | | | |
| TOTALS (lbs/day, unmitigated) | 1.13 | 2.32 | 3.49 | 0.00 | 0.01 | 0.01 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| Hotel | 10.02 | 12.48 | 111.71 | 0.15 | 24.11 | 4.68 |
| TOTALS (lbs/day, unmitigated) | 10.02 | 12.48 | 111.71 | 0.15 | 24.11 | 4.68 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Temperature (F): 80 Season: Summer
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Hotel | | 5.34 | rooms | 288.00 | 1,537.92 | 13,968.16 |
| | | | | | 1,537.92 | 13,968.16 |

Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Hotel | | | | 5.0 | 2.5 | 92.5 |

Operational Changes to Defaults

**5/27/2009 09:08:04 PM**

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel 9U.urb924
Project Name: Neptune Marina Parcel 9U
Project Location: Los Angeles County
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) | 13.24 | 100.44 | 65.48 | 0.02 | 28.60 | 5.76 | 30.98 | 5.98 | 5.30 | 8.17 |
| 2011 TOTALS (lbs/day mitigated) | 13.24 | 100.44 | 65.48 | 0.02 | 5.14 | 5.76 | 7.52 | 1.08 | 5.30 | 5.33 |
| 2012 TOTALS (lbs/day unmitigated) | 25.59 | 79.04 | 51.85 | 0.02 | 0.07 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| 2012 TOTALS (lbs/day mitigated) | 25.59 | 79.04 | 51.85 | 0.02 | 0.07 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 1.01 | 2.30 | 1.94 | 0.00 | 0.00 | 0.00 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 10.21 | 15.04 | 106.54 | 0.12 | 24.11 | 4.68 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 11.22 | 17.34 | 108.48 | 0.12 | 24.11 | 4.68 |

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 5/2/2011-7/29/2011 Active Days: 65 | 4.90 | 41.20 | 23.96 | **0.02** | **28.60** | 2.38 | **30.98** | **5.98** | 2.19 | **8.17** |
| Fine Grading 05/01/2011-07/31/2011 | 2.08 | 13.90 | 10.23 | 0.00 | 5.01 | 1.10 | 6.11 | 1.05 | 1.02 | 2.06 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 5.00 | 1.04 | 0.00 | 1.04 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 05/01/2011-07/31/2011 | 2.82 | 27.30 | 13.73 | 0.02 | 23.59 | 1.28 | 24.87 | 4.94 | 1.18 | 6.11 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 23.52 | 0.00 | 23.52 | 4.91 | 0.00 | 4.91 |
| Mass Grading Off Road Diesel | 1.68 | 13.65 | 7.72 | 0.00 | 0.00 | 0.71 | 0.71 | 0.00 | 0.65 | 0.65 |
| Mass Grading On Road Diesel | 1.12 | 13.62 | 5.50 | 0.02 | 0.07 | 0.57 | 0.63 | 0.02 | 0.52 | 0.54 |
| Mass Grading Worker Trips | 0.02 | 0.03 | 0.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 8/1/2011-8/31/2011 Active Days: 23 | 13.24 | **100.44** | **65.48** | 0.02 | 0.08 | **5.76** | 5.84 | 0.03 | **5.30** | 5.33 |
| Asphalt 08/01/2011-08/31/2011 | 2.79 | 16.01 | 11.40 | 0.00 | 0.02 | 1.36 | 1.38 | 0.01 | 1.25 | 1.26 |
| Paving Off-Gas | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.48 | 15.15 | 9.07 | 0.00 | 0.00 | 1.33 | 1.33 | 0.00 | 1.22 | 1.22 |
| Paving On Road Diesel | 0.06 | 0.74 | 0.30 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 |
| Paving Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Building 08/01/2011-12/31/2012 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building Off Road Diesel | 10.03 | 82.46 | 43.51 | 0.00 | 0.00 | 4.31 | 4.31 | 0.00 | 3.96 | 3.96 |
| Building Vendor Trips | 0.13 | 1.43 | 1.22 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.06 | 0.06 |
| Building Worker Trips | 0.29 | 0.55 | 9.35 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 9/1/2011-12/30/2011 Active Days: 87 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building 08/01/2011-12/31/2012 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building Off Road Diesel | 10.03 | 82.46 | 43.51 | 0.00 | 0.00 | 4.31 | 4.31 | 0.00 | 3.96 | 3.96 |
| Building Vendor Trips | 0.13 | 1.43 | 1.22 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.06 | 0.06 |
| Building Worker Trips | 0.29 | 0.55 | 9.35 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 1/2/2012-3/30/2012 Active Days: 65 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building 08/01/2011-12/31/2012 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building Off Road Diesel | 9.53 | 77.25 | 41.83 | 0.00 | 0.00 | 3.95 | 3.95 | 0.00 | 3.63 | 3.63 |
| Building Vendor Trips | 0.12 | 1.28 | 1.14 | 0.00 | 0.01 | 0.05 | 0.06 | 0.00 | 0.05 | 0.05 |
| Building Worker Trips | 0.27 | 0.50 | 8.71 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 4/2/2012-12/31/2012 Active Days: 196 | **25.59** | 79.04 | 51.85 | 0.02 | 0.07 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building 08/01/2011-12/31/2012 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building Off Road Diesel | 9.53 | 77.25 | 41.83 | 0.00 | 0.00 | 3.95 | 3.95 | 0.00 | 3.63 | 3.63 |
| Building Vendor Trips | 0.12 | 1.28 | 1.14 | 0.00 | 0.01 | 0.05 | 0.06 | 0.00 | 0.05 | 0.05 |
| Building Worker Trips | 0.27 | 0.50 | 8.71 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Coating 04/01/2012-12/31/2012 | 15.66 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 15.66 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Phase Assumptions

Phase: Fine Grading 5/1/2011 - 7/31/2011 - Water line

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 0.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

Phase: Mass Grading 5/1/2011 - 7/31/2011 - Mass Site Grading/Excavation
Total Acres Disturbed: 2.2
Maximum Daily Acreage Disturbed: 0.55
Fugitive Dust Level of Detail: High
Onsite Haulage: 3 ton-miles/day; Offsite haulage: 36 ton-mils/day
On Road Truck Travel (VMT): 475.09
Off-Road Equipment:
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 8/1/2011 - 8/31/2011 - Paving
Acres to be Paved: 1.65
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 - 12/31/2012 - Building Construction
Off-Road Equipment:
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
2 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
1 Off Highway Tractors (267 hp) operating at a 0.65 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
2 Rubber Tired Dozers (357 hp) operating at a 0.59 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 4/1/2012 - 12/31/2012 - Architectural Coating
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 Winter Pounds Per Day, Mitigated

| | ROG | NOx | CO | SO2 | PM10 Dust | PM10 Exhaust | PM10 | PM2.5 Dust | PM2.5 Exhaust | PM2.5 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 5/2/2011-7/29/2011 Active Days: 65 | 4.90 | 41.20 | 23.96 | **0.02** | 5.14 | 2.38 | 7.52 | 1.08 | 2.19 | 3.27 |
| Fine Grading 05/01/2011-07/31/2011 | 2.08 | 13.90 | 10.23 | 0.00 | 0.89 | 1.10 | 2.00 | 0.19 | 1.02 | 1.20 |
| Fine Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.89 | 0.19 | 0.00 | 0.19 |
| Fine Grading Off Road Diesel | 2.05 | 13.84 | 9.22 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 1.01 | 1.01 |
| Fine Grading On Road Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fine Grading Worker Trips | 0.03 | 0.06 | 1.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Mass Grading 05/01/2011-07/31/2011 | 2.82 | 27.30 | 13.73 | 0.02 | 4.24 | 1.28 | 5.52 | 0.89 | 1.18 | 2.07 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 4.17 | 0.00 | 4.17 | 0.87 | 0.00 | 0.87 |
| Mass Grading Off Road Diesel | 1.68 | 13.65 | 7.72 | 0.00 | 0.00 | 0.71 | 0.71 | 0.00 | 0.65 | 0.65 |
| Mass Grading On Road Diesel | 1.12 | 13.62 | 5.50 | 0.02 | 0.07 | 0.57 | 0.63 | 0.02 | 0.52 | 0.54 |
| Mass Grading Worker Trips | 0.02 | 0.03 | 0.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Time Slice 8/1/2011-8/31/2011 Active Days: 23 | 13.24 | **100.44** | **65.48** | 0.02 | 0.08 | **5.76** | 5.84 | 0.03 | **5.30** | 5.33 |
| Asphalt 08/01/2011-08/31/2011 | 2.79 | 16.01 | 11.40 | 0.00 | 0.02 | 1.36 | 1.38 | 0.01 | 1.25 | 1.26 |
| Paving Off-Gas | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 2.48 | 15.15 | 9.07 | 0.00 | 0.00 | 1.33 | 1.33 | 0.00 | 1.22 | 1.22 |
| Paving On Road Diesel | 0.06 | 0.74 | 0.30 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 |
| Paving Worker Trips | 0.06 | 0.12 | 2.03 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| Building 08/01/2011-12/31/2012 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building Off Road Diesel | 10.03 | 82.46 | 43.51 | 0.00 | 0.00 | 4.31 | 4.31 | 0.00 | 3.96 | 3.96 |
| Building Vendor Trips | 0.13 | 1.43 | 1.22 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.06 | 0.06 |
| Building Worker Trips | 0.29 | 0.55 | 9.35 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 9/1/2011-12/30/2011 Active Days: 87 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building 08/01/2011-12/31/2012 | 10.45 | 84.44 | 54.08 | 0.01 | 0.06 | 4.40 | 4.46 | 0.02 | 4.04 | 4.07 |
| Building Off Road Diesel | 10.03 | 82.46 | 43.51 | 0.00 | 0.00 | 4.31 | 4.31 | 0.00 | 3.96 | 3.96 |
| Building Vendor Trips | 0.13 | 1.43 | 1.22 | 0.00 | 0.01 | 0.06 | 0.07 | 0.00 | 0.06 | 0.06 |
| Building Worker Trips | 0.29 | 0.55 | 9.35 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Time Slice 1/2/2012-3/30/2012 Active Days: 65 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building 08/01/2011-12/31/2012 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building Off Road Diesel | 9.53 | 77.25 | 41.83 | 0.00 | 0.00 | 3.95 | 3.95 | 0.00 | 3.63 | 3.63 |
| Building Vendor Trips | 0.12 | 1.28 | 1.14 | 0.00 | 0.01 | 0.05 | 0.06 | 0.00 | 0.05 | 0.05 |
| Building Worker Trips | 0.27 | 0.50 | 8.71 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 4/2/2012-12/31/2012 Active Days: 196 | **25.59** | 79.04 | 51.85 | 0.02 | 0.07 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building 08/01/2011-12/31/2012 | 9.92 | 79.03 | 51.68 | 0.01 | 0.06 | 4.04 | 4.10 | 0.02 | 3.71 | 3.73 |
| Building Off Road Diesel | 9.53 | 77.25 | 41.83 | 0.00 | 0.00 | 3.95 | 3.95 | 0.00 | 3.63 | 3.63 |
| Building Vendor Trips | 0.12 | 1.28 | 1.14 | 0.00 | 0.01 | 0.05 | 0.06 | 0.00 | 0.05 | 0.05 |
| Building Worker Trips | 0.27 | 0.50 | 8.71 | 0.01 | 0.05 | 0.03 | 0.09 | 0.02 | 0.03 | 0.05 |
| Coating 04/01/2012-12/31/2012 | 15.66 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Architectural Coating | 15.66 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coating Worker Trips | 0.01 | 0.01 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 5/1/2011 - 7/31/2011 - Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 5/1/2011 - 7/31/2011 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | 0.17 | 2.30 | 1.94 | 0.00 | 0.00 | 0.00 |
| Hearth | | | | | | |
| Landscaping - No Winter Emissions | | | | | | |
| Consumer Products | 0.00 | | | | | |
| Architectural Coatings | 0.84 | | | | | |
| TOTALS (lbs/day, unmitigated) | 1.01 | 2.30 | 1.94 | 0.00 | 0.00 | 0.00 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| Hotel | 10.21 | 15.04 | 106.54 | 0.12 | 24.11 | 4.68 |
| TOTALS (lbs/day, unmitigated) | 10.21 | 15.04 | 106.54 | 0.12 | 24.11 | 4.68 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Temperature (F): 60 Season: Winter
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Hotel | | 5.34 | rooms | 288.00 | 1,537.92 | 13,968.16 |
| | | | | | 1,537.92 | 13,968.16 |

Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Hotel | | | | 5.0 | 2.5 | 92.5 |

Operational Changes to Defaults

# Restored Wetland and Upland Buffer
# (Parcel 9U-S)

**3/5/2009 09:19:06 PM**

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0209\Emissions\Neptune Wetland Park.urb924
Project Name: Neptune Marina Wetland Park
Project Location: Los Angeles County
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) | 2.22 | 18.67 | 9.89 | 0.00 | 1.05 | 0.89 | 1.93 | 0.22 | 0.82 | 1.04 |
| 2011 TOTALS (lbs/day mitigated) | 2.22 | 18.67 | 9.89 | 0.00 | 0.19 | 0.89 | 1.08 | 0.04 | 0.82 | 0.86 |
| 2012 TOTALS (lbs/day unmitigated) | 2.93 | 19.57 | 15.17 | 0.01 | 0.03 | 1.43 | 1.45 | 0.01 | 1.31 | 1.32 |
| 2012 TOTALS (lbs/day mitigated) | 2.93 | 19.57 | 15.17 | 0.01 | 0.03 | 1.43 | 1.45 | 0.01 | 1.31 | 1.32 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 0.12 | 0.02 | 1.55 | 0.00 | 0.01 | 0.01 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 0.27 | 0.41 | 3.63 | 0.00 | 0.78 | 0.15 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 0.39 | 0.43 | 5.18 | 0.00 | 0.79 | 0.16 |

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 10/3/2011-12/30/2011 Active Days: 65 | 2.22 | 18.67 | 9.89 | 0.00 | **1.05** | 0.89 | **1.93** | **0.22** | 0.82 | 1.04 |
| Mass Grading 10/01/2011-12/31/2011 | 2.22 | 18.67 | 9.89 | 0.00 | 1.05 | 0.89 | 1.93 | 0.22 | 0.82 | 1.04 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 1.04 | 0.22 | 0.00 | 0.22 |
| Mass Grading Off Road Diesel | 2.18 | 18.44 | 9.05 | 0.00 | 0.00 | 0.88 | 0.88 | 0.00 | 0.81 | 0.81 |
| Mass Grading On Road Diesel | 0.02 | 0.18 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| Mass Grading Worker Trips | 0.02 | 0.04 | 0.76 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 1/2/2012-1/31/2012 Active Days: 22 | **2.93** | **19.57** | **15.17** | **0.01** | 0.03 | **1.43** | 1.45 | 0.01 | **1.31** | **1.32** |
| Asphalt 01/01/2012-01/31/2012 | 1.79 | 10.79 | 8.52 | 0.00 | 0.01 | 0.92 | 0.93 | 0.00 | 0.84 | 0.85 |
| Paving Off-Gas | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 1.72 | 10.64 | 6.84 | 0.00 | 0.00 | 0.91 | 0.91 | 0.00 | 0.84 | 0.84 |
| Paving On Road Diesel | 0.01 | 0.06 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Worker Trips | 0.05 | 0.10 | 1.65 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 |
| Building 01/01/2012-10/31/2012 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building Off Road Diesel | 1.06 | 8.63 | 4.13 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.46 | 0.46 |
| Building Vendor Trips | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Building Worker Trips | 0.08 | 0.15 | 2.52 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |
| | | | | | | | | | | |
| Time Slice 2/1/2012-10/31/2012 Active Days: 196 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building 01/01/2012-10/31/2012 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building Off Road Diesel | 1.06 | 8.63 | 4.13 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.46 | 0.46 |
| Building Vendor Trips | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Building Worker Trips | 0.08 | 0.15 | 2.52 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |

Phase Assumptions

Phase: Mass Grading 10/1/2011 - 12/31/2011 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 1.46
Maximum Daily Acreage Disturbed: 0.36
Fugitive Dust Level of Detail: High
Onsite Haulage: 1.7 ton-miles/day; Offsite haulage: 0.5 ton-mils/day
On Road Truck Travel (VMT): 6.39
Off-Road Equipment:
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2012 - 1/31/2012 - Default Paving Description
Acres to be Paved: 0.15
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 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 1/1/2012 - 10/31/2012 - Default Building Construction Description
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

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 10/3/2011-12/30/2011 Active Days: 65 | 2.22 | 18.67 | 9.89 | 0.00 | 0.19 | 0.89 | 1.08 | 0.04 | 0.82 | 0.86 |
| Mass Grading 10/01/2011-12/31/2011 | 2.22 | 18.67 | 9.89 | 0.00 | 0.19 | 0.89 | 1.08 | 0.04 | 0.82 | 0.86 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.00 | 0.18 | 0.04 | 0.00 | 0.04 |
| Mass Grading Off Road Diesel | 2.18 | 18.44 | 9.05 | 0.00 | 0.00 | 0.88 | 0.88 | 0.00 | 0.81 | 0.81 |
| Mass Grading On Road Diesel | 0.02 | 0.18 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| Mass Grading Worker Trips | 0.02 | 0.04 | 0.76 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/2/2012-1/31/2012 Active Days: 22 | **2.93** | **19.57** | **15.17** | **0.01** | 0.03 | **1.43** | 1.45 | 0.01 | **1.31** | **1.32** |
| Asphalt 01/01/2012-01/31/2012 | 1.79 | 10.79 | 8.52 | 0.00 | 0.01 | 0.92 | 0.93 | 0.00 | 0.84 | 0.85 |
| Paving Off-Gas | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 1.72 | 10.64 | 6.84 | 0.00 | 0.00 | 0.91 | 0.91 | 0.00 | 0.84 | 0.84 |
| Paving On Road Diesel | 0.01 | 0.06 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Worker Trips | 0.05 | 0.10 | 1.65 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 |
| Building 01/01/2012-10/31/2012 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building Off Road Diesel | 1.06 | 8.63 | 4.13 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.46 | 0.46 |
| Building Vendor Trips | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Building Worker Trips | 0.08 | 0.15 | 2.52 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |
| Time Slice 2/1/2012-10/31/2012 Active Days: 196 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building 01/01/2012-10/31/2012 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building Off Road Diesel | 1.06 | 8.63 | 4.13 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.46 | 0.46 |
| Building Vendor Trips | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Building Worker Trips | 0.08 | 0.15 | 2.52 | 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 10/1/2011 - 12/31/2011 - Default Mass Site Grading/Excavation Description

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | | | | | | |
| Hearth | | | | | | |
| Landscape | 0.12 | 0.02 | 1.55 | 0.00 | 0.01 | 0.01 |
| Consumer Products | | | | | | |
| Architectural Coatings | | | | | | |
| TOTALS (lbs/day, unmitigated) | 0.12 | 0.02 | 1.55 | 0.00 | 0.01 | 0.01 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| City park | 0.27 | 0.41 | 3.63 | 0.00 | 0.78 | 0.15 |
| TOTALS (lbs/day, unmitigated) | 0.27 | 0.41 | 3.63 | 0.00 | 0.78 | 0.15 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Temperature (F): 80 Season: Summer
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| City park | | 34.25 | acres | 1.46 | 50.01 | 454.17 |
| | | | | | 50.01 | 454.17 |

## Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| City park | | | | 5.0 | 2.5 | 92.5 |

## Operational Changes to Defaults

**3/5/2009 09:19:17 PM**

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0209\Emissions\Neptune Wetland Park.urb924
Project Name: Neptune Marina Wetland Park
Project Location: Los Angeles County
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) | 2.22 | 18.67 | 9.89 | 0.00 | 1.05 | 0.89 | 1.93 | 0.22 | 0.82 | 1.04 |
| 2011 TOTALS (lbs/day mitigated) | 2.22 | 18.67 | 9.89 | 0.00 | 0.19 | 0.89 | 1.08 | 0.04 | 0.82 | 0.86 |
| 2012 TOTALS (lbs/day unmitigated) | 2.93 | 19.57 | 15.17 | 0.01 | 0.03 | 1.43 | 1.45 | 0.01 | 1.31 | 1.32 |
| 2012 TOTALS (lbs/day mitigated) | 2.93 | 19.57 | 15.17 | 0.01 | 0.03 | 1.43 | 1.45 | 0.01 | 1.31 | 1.32 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | | | | | | |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 0.31 | 0.49 | 3.46 | 0.00 | 0.78 | 0.15 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| TOTALS (lbs/day, unmitigated) | 0.31 | 0.49 | 3.46 | 0.00 | 0.78 | 0.15 |

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 10/3/2011-12/30/2011 Active Days: 65 | 2.22 | 18.67 | 9.89 | 0.00 | **1.05** | 0.89 | **1.93** | **0.22** | 0.82 | 1.04 |
| Mass Grading 10/01/2011-12/31/2011 | 2.22 | 18.67 | 9.89 | 0.00 | 1.05 | 0.89 | 1.93 | 0.22 | 0.82 | 1.04 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 1.04 | 0.00 | 1.04 | 0.22 | 0.00 | 0.22 |
| Mass Grading Off Road Diesel | 2.18 | 18.44 | 9.05 | 0.00 | 0.00 | 0.88 | 0.88 | 0.00 | 0.81 | 0.81 |
| Mass Grading On Road Diesel | 0.02 | 0.18 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| Mass Grading Worker Trips | 0.02 | 0.04 | 0.76 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Time Slice 1/2/2012-1/31/2012 Active Days: 22 | **2.93** | **19.57** | **15.17** | **0.01** | 0.03 | **1.43** | 1.45 | 0.01 | **1.31** | **1.32** |
| Asphalt 01/01/2012-01/31/2012 | 1.79 | 10.79 | 8.52 | 0.00 | 0.01 | 0.92 | 0.93 | 0.00 | 0.84 | 0.85 |
| Paving Off-Gas | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 1.72 | 10.64 | 6.84 | 0.00 | 0.00 | 0.91 | 0.91 | 0.00 | 0.84 | 0.84 |
| Paving On Road Diesel | 0.01 | 0.06 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Worker Trips | 0.05 | 0.10 | 1.65 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 |
| Building 01/01/2012-10/31/2012 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building Off Road Diesel | 1.06 | 8.63 | 4.13 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.46 | 0.46 |
| Building Vendor Trips | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Building Worker Trips | 0.08 | 0.15 | 2.52 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |
| | | | | | | | | | | |
| Time Slice 2/1/2012-10/31/2012 Active Days: 196 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building 01/01/2012-10/31/2012 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building Off Road Diesel | 1.06 | 8.63 | 4.13 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.46 | 0.46 |
| Building Vendor Trips | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Building Worker Trips | 0.08 | 0.15 | 2.52 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |

Phase Assumptions

Phase: Mass Grading 10/1/2011 - 12/31/2011 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 1.46
Maximum Daily Acreage Disturbed: 0.36
Fugitive Dust Level of Detail: High
Onsite Haulage: 1.7 ton-miles/day; Offsite haulage: 0.5 ton-mils/day
On Road Truck Travel (VMT): 6.39
Off-Road Equipment:
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2012 - 1/31/2012 - Default Paving Description
Acres to be Paved: 0.15
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 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 1/1/2012 - 10/31/2012 - Default Building Construction Description
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

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 10/3/2011-12/30/2011 Active Days: 65 | 2.22 | 18.67 | 9.89 | 0.00 | 0.19 | 0.89 | 1.08 | 0.04 | 0.82 | 0.86 |
| Mass Grading 10/01/2011-12/31/2011 | 2.22 | 18.67 | 9.89 | 0.00 | 0.19 | 0.89 | 1.08 | 0.04 | 0.82 | 0.86 |
| Mass Grading Dust | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.00 | 0.18 | 0.04 | 0.00 | 0.04 |
| Mass Grading Off Road Diesel | 2.18 | 18.44 | 9.05 | 0.00 | 0.00 | 0.88 | 0.88 | 0.00 | 0.81 | 0.81 |
| Mass Grading On Road Diesel | 0.02 | 0.18 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| Mass Grading Worker Trips | 0.02 | 0.04 | 0.76 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Time Slice 1/2/2012-1/31/2012 Active Days: 22 | **2.93** | **19.57** | **15.17** | **0.01** | 0.03 | **1.43** | 1.45 | 0.01 | **1.31** | **1.32** |
| Asphalt 01/01/2012-01/31/2012 | 1.79 | 10.79 | 8.52 | 0.00 | 0.01 | 0.92 | 0.93 | 0.00 | 0.84 | 0.85 |
| Paving Off-Gas | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Off Road Diesel | 1.72 | 10.64 | 6.84 | 0.00 | 0.00 | 0.91 | 0.91 | 0.00 | 0.84 | 0.84 |
| Paving On Road Diesel | 0.01 | 0.06 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Paving Worker Trips | 0.05 | 0.10 | 1.65 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.00 | 0.01 |
| Building 01/01/2012-10/31/2012 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building Off Road Diesel | 1.06 | 8.63 | 4.13 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.46 | 0.46 |
| Building Vendor Trips | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Building Worker Trips | 0.08 | 0.15 | 2.52 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 |
| Time Slice 2/1/2012-10/31/2012 Active Days: 196 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building 01/01/2012-10/31/2012 | 1.14 | 8.78 | 6.65 | 0.00 | 0.02 | 0.51 | 0.52 | 0.01 | 0.47 | 0.47 |
| Building Off Road Diesel | 1.06 | 8.63 | 4.13 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.46 | 0.46 |
| Building Vendor Trips | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 | -0.00 |
| Building Worker Trips | 0.08 | 0.15 | 2.52 | 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 10/1/2011 - 12/31/2011 - Default Mass Site Grading/Excavation Description

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
|---|---|---|---|---|---|---|
| Natural Gas | | | | | | |
| Hearth | | | | | | |
| Landscaping - No Winter Emissions | | | | | | |
| Consumer Products | | | | | | |
| Architectural Coatings | | | | | | |
| TOTALS (lbs/day, unmitigated) | | | | | | |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| Source | ROG | NOX | CO | SO2 | PM10 | PM25 |
|---|---|---|---|---|---|---|
| City park | 0.31 | 0.49 | 3.46 | 0.00 | 0.78 | 0.15 |
| TOTALS (lbs/day, unmitigated) | 0.31 | 0.49 | 3.46 | 0.00 | 0.78 | 0.15 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Temperature (F): 60 Season: Winter
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| City park | | 34.25 | acres | 1.46 | 50.01 | 454.17 |
| | | | | | 50.01 | 454.17 |

## Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| City park | | | | 5.0 | 2.5 | 92.5 |

## Operational Changes to Defaults

# Greenhouse Gas Emissions

# Existing Land Uses

**8/3/2008 12:54:56 PM**

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Z:\Glu\Neptune Marina\April 2008 Revision\Existing Conditions\Neptune Existing Operational Emissions.urb924

Project Name: Neptune Marina Existing Conditions

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 311.65 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 1,728.42 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 2,040.07 |

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Natural Gas | 310.64 |
| Hearth | |
| Landscape | 1.01 |
| Consumer Products | |
| Architectural Coatings | |
| TOTALS (tons/year, unmitigated) | 311.65 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Apartments low rise | 871.98 |
| Blank (Edit this description) | 856.44 |
| TOTALS (tons/year, unmitigated) | 1,728.42 |

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2007 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 8.50 | 3.96 | dwelling units | 136.00 | 538.56 | 4,763.56 |
| Blank (Edit this description) | | 2.88 | unknown | 198.00 | 570.24 | 4,733.01 |
| | | | | | 1,108.80 | 9,496.57 |

Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.8 | 2.0 | 97.6 | 0.4 |
| Light Truck < 3750 lbs | 6.9 | 5.8 | 91.3 | 2.9 |
| Light Truck 3751-5750 lbs | 22.8 | 0.9 | 99.1 | 0.0 |
| Med Truck 5751-8500 lbs | 10.0 | 2.0 | 98.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.4 | 0.0 | 85.7 | 14.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.4 | 0.0 | 50.0 | 50.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.4 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 100.0 | 0.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |

| | | | | |
|---|---|---|---|---|
| Motorcycle | 2.3 | 82.6 | 17.4 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 12.5 | 75.0 | 12.5 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Blank (Edit this description) | | | | 2.0 | 1.0 | 97.0 |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Area Sources**
**Existing Sources**

| GHG | Emission Factor (kg/MMBtu)[1] | GWP |
|---|---|---|
| $CO_2$ | 53 | 1 |
| $N_2O$ | 0.0001 | 310 |
| $CH_4$ | 0.0059 | 21 |
| $CO_2E$ | 1.0029 | |
| | **Annual $CO_2$ (tons/yr)[2]** | **Annual $CO_2E$ (MT $CO_2E$/yr)[3]** |
| Existing Land Use | 310.6 | 282.7 |
| Misc. Area Sources | 1.0 | 0.9 |
| Total Area Sources | | 283.6 |

Sources:

1. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 57.

2. Estimated emissions from URBEMIS2007

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| GWP | global warming potential |
| kg/MMBtu | kilograms/million Btu |
| MT | metric ton (= 1.102 tons) |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Project Electrical Demand**
**Existing Sources**

| Case | Land Use | Dwelling Units | Electrical Demand Factor[1,2] (kWh/unit/yr) | $CO_2E$ Emission Factor[2] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Existing Uses | Apartments | 136 DU | 7,000 | 0.880 | 380.00 |

Sources:

1. CAPCOA, *CEQA & Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, (2008) 61.

2. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| MT | metric tons (= 2,204.62 lbs) |
| yr | year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Area Sources**
**Existing Sources**

| GHG | Emission Factor (kg/MMBtu)[1] | GWP |
|---|---|---|
| $CO_2$ | 53 | 1 |
| $N_2O$ | 0.0001 | 310 |
| $CH_4$ | 0.0059 | 21 |
| $CO_2E$ | 1.0029 | |
| | **Annual $CO_2$ (tons/yr)[2]** | **Annual $CO_2E$ (MT $CO_2E$/yr)[3]** |
| Existing Land Use | 310.6 | 282.7 |
| Misc. Area Sources | 1.0 | 0.9 |
| Total Area Sources | | 283.6 |

Sources:

1. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 57.

2. Estimated emissions from URBEMIS2007

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| GWP | global warming potential |
| kg/MMBtu | kilograms/million Btu |
| MT | metric ton (= 1.102 tons) |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Project Electrical Demand**
**Existing Sources**

| Case | Land Use | Dwelling Units | Electrical Demand Factor[1,2] (kWh/unit/yr) | $CO_2E$ Emission Factor[2] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Existing Uses | Apartments | 136 DU | 7,000 | 0.880 | 380.00 |

Sources:

1. CAPCOA, *CEQA & Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, (2008) 61.

2. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| MT | metric tons (= 2,204.62 lbs) |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Potable Water Supply, Conveyance, Treatment, and Distribution**
**Existing Sources**

| Case | Activity | Potable Water Needs Estimate[1] (Mgal/yr) | Electrical Demand Factor[2,3] (kW-hr/Mgal) | Annual Electrical Demand ($10^6$ kW-hr/year) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Existing | Supply & Conveyance | 5.96 | 2,117 | 0.013 | 0.880 | 5.03 |
| | Treatment | 5.96 | 111 | 0.001 | 0.880 | 0.26 |
| | Distribution | 5.96 | 1,272 | 0.008 | 0.880 | 3.02 |
| | Total | | | | | 8.32 |

Sources:

1. Section 5.9, Water Service.
2. California Energy Commission, *California's Water-Energy Relationship, Final Staff Report (CEC-700-2005-011-SF)*, (2005) 26.
3. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report (CEC-500-2006-118)*, (2006) 22. Prepared by Navigant Consulting, Inc.

Where:

| | |
|---|---|
| $CO_2E$ | Carbon dioxide equivalent |
| GWP | Global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Wastewater Treatment**
**Existing Sources**

**Wastewater Treatment**

| Case | Dwelling Units[1] | Wastewater Generation Rate[2] (gal/yr) | Electrical Demand Factor[3] (kW-hr/Mgal) | Annual Demand Factor ($10^6$ kW-hr/yr) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Existing | 136 DU | 43,800 | 1,911 | 0.011 | 0.880 | 4.54 |

Sources:

1. Section 5.8, Sewer Service.

2. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California*, PIER Final Project Report (CEC-500-2006-118), (2006) 22. Prepared by Navigant Consulting, Inc.

3. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

**Wastewater Treatment Process**

| Case | Estimated Population[1] | Per Unit $CO_2$ Emission Factor GWP=1 (MT $CO_2$/yr) | Per Unit $CH_4$ Emission Factor[2] GWP=21 (MT $CO_2E$/yr) | Per Unit $N_2O$ Emission Factor[2] GWP=310 (MT $CO_2E$/yr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Existing | 189 pop | --- | 0.053 | 0.027 | 15.03 |

Sources:

1. Section 5.11, Population and Housing.

2. US Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006 (EPA 430-R-08-005)*, (2008) 8-15. The emissions were divided by the population of the United States in 2006, estimated at 303,000,000, to obtain a per capita value.

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| gal | gallons |
| GWP | global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Solid Waste**
**Existing Sources**

| Case | Solid Waste Generation[1] (MT/yr) | $CO_2E$ Emission Factor[2] (MT $CO_2E$/MT waste) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|
| Existing | 144.24 | 0.11 | 15.87 |

Sources:

1. Section 5.10, Solid Waste Service. Values converted to metric tons.
2. US Environmental Protection Agency, Office of Solid Waste and Emergency Response, *Greenhouse Gas Emission Factors for Management of Selected Materials in Municipal Solid Waste* (EPA-530-R-98-013), (1998). The factor is based on mixed municipal disposed in landfills without landfill gas recovery.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| MT | metric ton |
| yr | year |

# All Project Components

**Naptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Construction**
**All Components**

| Construction Year | Equipment Type | Annual $CO_2$ Emissions[1] (Tons $CO_2$/yr) | Annual $CO_2$ Emissions (MT $CO_2$/yr) | $CO_2$ to $CO_2e$ Ratio | Annual $CO_2e$ Emissions (MT $CO_2e$/yr) |
|---|---|---|---|---|---|
| 2011 | Off-Road | 1,303.14 | 1,182.19 | 1.000 | 1,182.19 |
| 2011 | On-Road | 466.67 | 423.36 | 1.000 | 423.36 |
| 2011 | Vendor | 77.35 | 70.17 | 1.000 | 70.17 |
| 2011 | Worker/Autos | 220.20 | 199.76 | 0.950 | 210.28 |
| **Total 2011** | | **2,067.36** | **1,875.48** | | **1,885.99** |
| 2012 | Off-Road | 2,882.95 | 2,615.37 | 1.000 | 2,615.37 |
| 2012 | On-Road | 22.24 | 20.18 | 1.000 | 20.18 |
| 2012 | Vendor | 354.70 | 321.78 | 1.000 | 321.78 |
| 2012 | Worker/Autos | 800.86 | 726.53 | 0.950 | 764.77 |
| **Total 2012** | | **4,060.75** | **3,683.85** | | **3,722.09** |
| 2013 | Off-Road | 1,462.26 | 1,326.54 | 1.000 | 1,326.54 |
| 2013 | On-Road | - | - | 1.000 | - |
| 2013 | Vendor | 289.30 | 262.45 | 1.000 | 262.45 |
| 2013 | Worker/Autos | 556.02 | 504.41 | 0.950 | 530.96 |
| **Total 2013** | | **2,307.58** | **2,093.40** | | **2,119.95** |
| **Total** | | **8,435.69** | **7,652.73** | | **7,728.03** |
| **Annualized over Project Lifetime (30 years)** | | | | | **257.60** |

Source:
1. Estimated $CO_2$ emissions from URBEMIS2007.

Where:

| | |
|---|---|
| $CH_4$ | Methane |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalent |
| gal | Gallons |
| GWP | Global warming potential |
| kg | Kilograms |
| MT | Metric ton |
| $N_2O$ | Nitrous oxide |
| yr | Year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Summary of Operational Greenhouse Gas Emissions**
**($CO_2E$ MT/yr)**

| Component | Mobile Sources | Area Sources | Electrical Generation | Water Supply | Wastewater Treatment | Solid Waste | Total |
|---|---|---|---|---|---|---|---|
| Neptune Marina Parcel 10R | 3,567.9 | 832.4 | 1,117.7 | 24.5 | 66.6 | 46.7 | 5,655.7 |
| Neptune Marina Parcel FF | 879.1 | 262.4 | 352.1 | 7.7 | 20.9 | 14.7 | 1,536.8 |
| Woodfin Suite Hotel and Timeshare Resort (Parcel 9U-N) | 2,414.8 | 459.7 | 812.2 | 22.5 | 61.4 | 21.4 | 3,791.9 |
| Wetland Park (Parcel 9U-S) | 78.5 | 0.5 | — | — | — | — | 79.0 |
| Total Combined Components | 6,940.3 | 1,554.9 | 2,281.9 | 54.7 | 148.8 | 82.7 | 11,063.4 |
| Existing Land Uses | 1,650.5 | 283.6 | 380.0 | 8.3 | 19.6 | 15.9 | 2,357.9 |
| Net Combined Components | 5,289.8 | 1,271.3 | 1,901.9 | 46.4 | 129.2 | 66.9 | 8,705.5 |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Summary of Motor Vehicle Greenhouse Gas Emissions**

| Component | Annual $CO_2$ Emissions (tons/year)[1] | Annual $CO_2E$ (MT/yr)[2,3] |
|---|---|---|
| Neptune Marina Parcel 10R | 3,736.3 | 3,567.9 |
| Neptune Marina Parcel FF | 920.6 | 879.1 |
| Woodfin Suite Hotel and Timeshare Resort (Parcel 9U-N) | 2,528.7 | 2,414.8 |
| Wetland Park (Parcel 9U-S) | 82.2 | 78.5 |
| Total Combined Components | 7,267.8 | 6,940.3 |
| Existing Land Uses | 1,728.4 | 1,650.5 |
| Net Combined Components | | 5,289.8 |

1. Estimated emissions from URBEMIS2007.
2. $CO_2$ emissions are assumed to be 95% of GHG emissions on a $CO_2$ equivalent basis. (U.S. EPA, "Emission Facts - Greenhouse Gas Emissions from a Typical Passenger Vehicle", Office of Transportation and Air Quality, EPA420-F-05-004, February 2005)
3. 1 metric ton = 1.102 tons

Where:

| | |
|---|---|
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |

# Neptune Marina Parcel 10R

**5/27/2009 09:03:38 PM**

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel 10R.urb924

Project Name: Neptune Marina Parcel 10R

Project Location: Los Angeles County

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) | 1,134.71 |
| 2011 TOTALS (tons/year mitigated) | 1,134.71 |
| Percent Reduction | 0.00 |
| | |
| 2012 TOTALS (tons/year unmitigated) | 1,784.34 |
| 2012 TOTALS (tons/year mitigated) | 1,784.34 |
| Percent Reduction | 0.00 |
| | |
| 2013 TOTALS (tons/year unmitigated) | 1,634.85 |
| 2013 TOTALS (tons/year mitigated) | 1,634.85 |
| Percent Reduction | 0.00 |

AREA SOURCE EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 914.69 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 3,736.28 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 4,650.97 |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| | CO2 |
|---|---|
| 2011 | 1,134.71 |
| Demolition 05/01/2011-06/30/2011 | 199.54 |
| Fugitive Dust | 0.00 |
| Demo Off Road Diesel | 81.45 |
| Demo On Road Diesel | 113.98 |
| Demo Worker Trips | 4.10 |
| Fine Grading 07/01/2011-09/30/2011 | 50.52 |
| Fine Grading Dust | 0.00 |
| Fine Grading Off Road Diesel | 46.42 |
| Fine Grading On Road Diesel | 0.00 |
| Fine Grading Worker Trips | 4.10 |
| Mass Grading 07/01/2011-09/30/2011 | 406.91 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 161.14 |
| Mass Grading On Road Diesel | 237.57 |
| Mass Grading Worker Trips | 8.20 |
| Asphalt 10/01/2011-11/30/2011 | 34.14 |
| Paving Off-Gas | 0.00 |
| Paving Off Road Diesel | 24.34 |
| Paving On Road Diesel | 4.46 |
| Paving Worker Trips | 5.35 |
| Building 10/01/2011-11/30/2013 | 443.60 |
| Building Off Road Diesel | 266.12 |
| Building Vendor Trips | 61.12 |
| Building Worker Trips | 116.36 |
| 2012 | 1,784.34 |
| Building 10/01/2011-11/30/2013 | 1,781.13 |
| Building Off Road Diesel | 1,068.57 |
| Building Vendor Trips | 245.41 |
| Building Worker Trips | 467.15 |
| Coating 04/01/2012-11/30/2013 | 3.21 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 3.21 |

| | |
|---|---|
| 2013 | 1,634.85 |
| Building 10/01/2011-11/30/2013 | 1,630.95 |
| Building Off Road Diesel | 978.50 |
| Building Vendor Trips | 224.73 |
| Building Worker Trips | 427.72 |
| Coating 04/01/2012-11/30/2013 | 3.91 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 3.91 |

Phase Assumptions

Phase: Demolition 5/1/2011 - 6/30/2011 - Demolition
Building Volume Total (cubic feet): 1938064
Building Volume Daily (cubic feet): 88013.4
On Road Truck Travel (VMT): 1222.41
Off-Road Equipment:
1 Off Highway Tractors (267 hp) operating at a 0.65 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 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: Fine Grading 7/1/2011 - 9/30/2011 - Project serving sewer line/Water line
Total Acres Disturbed: 1
Maximum Daily Acreage Disturbed: 0.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Mass Grading 7/1/2011 - 9/30/2011 - Mass Site Grading/Excavation
Total Acres Disturbed: 7.32
Maximum Daily Acreage Disturbed: 1.83
Fugitive Dust Level of Detail: High
Onsite Haulage: 0 ton-miles/day; Offsite haulage: 128 ton-mils/day
On Road Truck Travel (VMT): 1698.55
Off-Road Equipment:
4 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 10/1/2011 - 11/30/2011 - Paving
Acres to be Paved: 6
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
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 10/1/2011 - 11/30/2013 - Building Construction
Off-Road Equipment:
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
5 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
5 Rough Terrain Forklifts (93 hp) operating at a 0.6 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 4/1/2012 - 11/30/2013 - Architectural Coating
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 | 1,134.71 |
| Demolition 05/01/2011-06/30/2011 | 199.54 |
| Fugitive Dust | 0.00 |
| Demo Off Road Diesel | 81.45 |
| Demo On Road Diesel | 113.98 |
| Demo Worker Trips | 4.10 |
| Fine Grading 07/01/2011-09/30/2011 | 50.52 |
| Fine Grading Dust | 0.00 |
| Fine Grading Off Road Diesel | 46.42 |
| Fine Grading On Road Diesel | 0.00 |
| Fine Grading Worker Trips | 4.10 |
| Mass Grading 07/01/2011-09/30/2011 | 406.91 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 161.14 |
| Mass Grading On Road Diesel | 237.57 |
| Mass Grading Worker Trips | 8.20 |
| Asphalt 10/01/2011-11/30/2011 | 34.14 |
| Paving Off-Gas | 0.00 |
| Paving Off Road Diesel | 24.34 |
| Paving On Road Diesel | 4.46 |
| Paving Worker Trips | 5.35 |
| Building 10/01/2011-11/30/2013 | 443.60 |
| Building Off Road Diesel | 266.12 |
| Building Vendor Trips | 61.12 |
| Building Worker Trips | 116.36 |
| | |
| 2012 | 1,784.34 |
| Building 10/01/2011-11/30/2013 | 1,781.13 |
| Building Off Road Diesel | 1,068.57 |
| Building Vendor Trips | 245.41 |
| Building Worker Trips | 467.15 |
| Coating 04/01/2012-11/30/2013 | 3.21 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 3.21 |

| | |
|---|---|
| 2013 | 1,634.85 |
| Building 10/01/2011-11/30/2013 | 1,630.95 |
| Building Off Road Diesel | 978.50 |
| Building Vendor Trips | 224.73 |
| Building Worker Trips | 427.72 |
| Coating 04/01/2012-11/30/2013 | 3.91 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 3.91 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 7/1/2011 - 9/30/2011 - Project serving sewer line/Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 7/1/2011 - 9/30/2011 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Natural Gas | 913.66 |
| Hearth | |
| Landscape | 1.03 |
| Consumer Products | |
| Architectural Coatings | |
| TOTALS (tons/year, unmitigated) | 914.69 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Apartments low rise | 2,922.61 |
| Boat Slips | 813.67 |
| TOTALS (tons/year, unmitigated) | 3,736.28 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Season: Annual
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 25.00 | 3.96 | dwelling units | 400.00 | 1,584.00 | 16,002.84 |
| Boat Slips | | 2.88 | unknown | 174.00 | 501.12 | 4,496.55 |
| | | | | | 2,085.12 | 20,499.39 |

Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Boat Slips | | | | 2.0 | 1.0 | 97.0 |

## Operational Changes to Defaults

**Naptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Construction**
**Neptune Marina Parcel 10R**

| Construction Year | Equipment Type | Annual $CO_2$ Emissions[1] (Tons $CO_2$/yr) | Annual $CO_2$ Emissions (MT $CO_2$/yr) | $CO_2$ to $CO_2e$ Ratio | Annual $CO_2e$ Emissions (MT $CO_2e$/yr) |
|---|---|---|---|---|---|
| 2011 | Off-Road | 579.47 | 525.69 | 1.000 | 525.69 |
| 2011 | On-Road | 356.01 | 322.97 | 1.000 | 322.97 |
| 2011 | Vendor | 61.12 | 55.45 | 1.000 | 55.45 |
| 2011 | Worker/Autos | 138.11 | 125.29 | 0.950 | 131.89 |
| **Total 2011** | | **1,134.71** | **1,029.39** | | **1,035.99** |
| 2012 | Off-Road | 1,068.57 | 969.39 | 1.000 | 969.39 |
| 2012 | On-Road | - | - | 1.000 | - |
| 2012 | Vendor | 245.41 | 222.63 | 1.000 | 222.63 |
| 2012 | Worker/Autos | 470.36 | 426.70 | 0.950 | 449.16 |
| **Total 2012** | | **1,784.34** | **1,618.73** | | **1,641.18** |
| 2013 | Off-Road | 978.50 | 887.68 | 1.000 | 887.68 |
| 2013 | On-Road | - | - | 1.000 | - |
| 2013 | Vendor | 224.73 | 203.87 | 1.000 | 203.87 |
| 2013 | Worker/Autos | 431.63 | 391.57 | 0.950 | 412.18 |
| **Total 2013** | | **1,634.86** | **1,483.12** | | **1,503.73** |
| **Total** | | **4,553.91** | **4,131.24** | | **4,180.90** |
| **Annualized over Project Lifetime (30 years)** | | | | | **139.36** |

Source:
1. Estimated $CO_2$ emissions from URBEMIS2007.

Where:

| | |
|---|---|
| $CH_4$ | Methane |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalent |
| gal | Gallons |
| GWP | Global warming potential |
| kg | Kilograms |
| MT | Metric ton |
| $N_2O$ | Nitrous oxide |
| yr | Year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Area Sources**
**Parcel 10R**

| GHG | Emission Factor (kg/MMBtu)[1] | GWP |
|---|---|---|
| $CO_2$ | 53 | 1 |
| $N_2O$ | 0.0001 | 310 |
| $CH_4$ | 0.0059 | 21 |
| $CO_2E$ | 1.0029 | |
| | **Annual $CO_2$ (tons/yr)[2]** | **Annual $CO_2E$ (MT $CO_2E$/yr)[3]** |
| Parcel 10R | 913.7 | 831.5 |
| Misc. Area Sources | 1.0 | 0.9 |
| Total Area Sources | | 832.4 |

Sources:

1. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 57.

2. Estimated emissions from URBEMIS2007

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| GWP | global warming potential |
| kg/MMBtu | kilograms/million Btu |
| MT | metric ton (= 1.102 tons) |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Project Electrical Demand**
**Parcel 10R**

| Case | Land Use | Dwelling Units | Electrical Demand Factor[1,2] (kWh/unit/yr) | $CO_2E$ Emission Factor[2] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Parcel 10R | Apartments | 400 DU | 7,000 | 0.880 | 1,117.65 |

Sources:

1. CAPCOA, *CEQA & Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, (2008) 61.

2. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| MT | metric tons (= 2,204.62 lbs) |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Potable Water Supply, Conveyance, Treatment, and Distribution**
**Parcel 10R**

| Case | Activity | Potable Water Needs Estimate[1] (Mgal/yr) | Electrical Demand Factor[2,3] (kW-hr/Mgal) | Annual Electrical Demand ($10^6$ kW-hr/year) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Parcel 10R | Supply & Conveyance | 17.52 | 2,117 | 0.037 | 0.880 | 14.80 |
| | Treatment | 17.52 | 111 | 0.002 | 0.880 | 0.78 |
| | Distribution | 17.52 | 1,272 | 0.022 | 0.880 | 8.90 |
| | Total | | | | | 24.48 |

Sources:

1. Section 5.9, Water Service.
2. California Energy Commission, *California's Water-Energy Relationship, Final Staff Report (CEC-700-2005-011-SF)*, (2005) 26.
3. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report (CEC-500-2006-118)*, (2006) 22. Prepared by Navigant Consulting, Inc.

Where:

| | |
|---|---|
| $CO_2E$ | Carbon dioxide equivalent |
| GWP | Global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Wastewater Treatment**
**Parcel 10R**

**Wastewater Treatment**

| Case | Dwelling Units[1] | Per Unit Wastewater Generation Rate[2] (gal/yr) | Electrical Demand Factor[3] (kW-hr/Mgal) | Annual Demand Factor ($10^6$ kW-hr/yr) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Parcel 10R | 400 DU | 61,776 | 1,911 | 0.047 | 0.880 | 18.85 |

Sources:

1.. Section 5.8, Sewer Service.

2.. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California*, PIER Final Project Report (CEC-500-2006-118), (2006) 22. Prepared by Navigant Consulting, Inc.

3. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

**Wastewater Treatment Process**

| Case | Estimated Population[1] | Per Unit $CO_2$ Emission Factor GWP=1 (MT $CO_2$/yr) | Per Unit $CH_4$ Emission Factor[2] GWP=21 (MT $CO_2E$/yr) | Per Unit $N_2O$ Emission Factor[2] GWP=310 (MT $CO_2E$/yr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Parcel 10R | 600 Pop | --- | 0.053 | 0.027 | 47.72 |

Sources:

1. Section 5.11, Population and Housing.

2. US Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006 (EPA 430-R-08-005)*, (2008) 8-15. The emissions were divided by the population of the United States in 2006, estimated at 303,000,000, to obtain a per capita value.

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| gal | gallons |
| GWP | global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Solid Waste**
**Parcel 10R**

| Case | Solid Waste Generation[1] (MT/yr) | $CO_2E$ Emission Factor[2] (MT $CO_2E$/MT waste) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|
| Parcel 10R | 424.56 | 0.11 | 46.70 |

Sources:

1. Section 5.10, Solid Waste Service. Values converted to metric tons.
2. US Environmental Protection Agency, Office of Solid Waste and Emergency Response, *Greenhouse Gas Emission Factors for Management of Selected Materials in Municipal Solid Waste* (EPA-530-R-98-013), (1998). The factor is based on mixed municipal disposed in landfills without landfill gas recovery.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| MT | metric ton |
| yr | year |

# Neptune Marina Parcel FF

**5/27/2009 09:12:33 PM**

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel FF.urb924

Project Name: Neptune Marina Parcel FF

Project Location: Los Angeles County

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) | 157.38 |
| 2011 TOTALS (tons/year mitigated) | 157.38 |
| Percent Reduction | 0.00 |
| | |
| 2012 TOTALS (tons/year unmitigated) | 824.20 |
| 2012 TOTALS (tons/year mitigated) | 824.20 |
| Percent Reduction | 0.00 |
| | |
| 2013 TOTALS (tons/year unmitigated) | 672.72 |
| 2013 TOTALS (tons/year mitigated) | 672.72 |
| Percent Reduction | 0.00 |

AREA SOURCE EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 288.31 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 920.62 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 1,208.93 |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| | CO2 |
|---|---|
| 2011 | 157.38 |
| Demolition 10/01/2011-10/31/2011 | 12.86 |
| Fugitive Dust | 0.00 |
| Demo Off Road Diesel | 10.63 |
| Demo On Road Diesel | 1.25 |
| Demo Worker Trips | 0.98 |
| Fine Grading 11/01/2011-01/31/2012 | 33.68 |
| Fine Grading Dust | 0.00 |
| Fine Grading Off Road Diesel | 30.95 |
| Fine Grading On Road Diesel | 0.00 |
| Fine Grading Worker Trips | 2.73 |
| Mass Grading 11/01/2011-01/31/2012 | 110.84 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 65.59 |
| Mass Grading On Road Diesel | 41.83 |
| Mass Grading Worker Trips | 3.42 |
| | |
| 2012 | 824.20 |
| Fine Grading 11/01/2011-01/31/2012 | 16.84 |
| Fine Grading Dust | 0.00 |
| Fine Grading Off Road Diesel | 15.47 |
| Fine Grading On Road Diesel | 0.00 |
| Fine Grading Worker Trips | 1.37 |
| Mass Grading 11/01/2011-01/31/2012 | 55.42 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 32.79 |
| Mass Grading On Road Diesel | 20.91 |
| Mass Grading Worker Trips | 1.71 |
| Asphalt 02/01/2012-02/29/2012 | 15.29 |
| Paving Off-Gas | 0.00 |
| Paving Off Road Diesel | 13.10 |
| Paving On Road Diesel | 1.22 |
| Paving Worker Trips | 0.98 |

| | |
|---|---|
| Building 02/01/2012-10/31/2013 | 735.90 |
| Building Off Road Diesel | 530.36 |
| Building Vendor Trips | 70.79 |
| Building Worker Trips | 134.75 |
| Coating 08/01/2012-10/31/2013 | 0.75 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 0.75 |
| | |
| 2013 | 672.72 |
| Building 02/01/2012-10/31/2013 | 671.23 |
| Building Off Road Diesel | 483.76 |
| Building Vendor Trips | 64.57 |
| Building Worker Trips | 122.89 |
| Coating 08/01/2012-10/31/2013 | 1.50 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 1.50 |

## Phase Assumptions

Phase: Demolition 10/1/2011 - 10/31/2011 - Demolition
Building Volume Total (cubic feet): 44521.2
Building Volume Daily (cubic feet): 2028.84
On Road Truck Travel (VMT): 28.18
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 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: Fine Grading 11/1/2011 - 1/31/2012 - Water line
Total Acres Disturbed: 1
Maximum Daily Acreage Disturbed: 0.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Mass Grading 11/1/2011 - 1/31/2012 - Mass Site Grading/Excavation
Total Acres Disturbed: 2.04
Maximum Daily Acreage Disturbed: 1.02
Fugitive Dust Level of Detail: High
Onsite Haulage: 0 ton-miles/day; Offsite haulage: 34 ton-mils/day
On Road Truck Travel (VMT): 448.59
Off-Road Equipment:
2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 2/1/2012 - 2/29/2012 - Paving
Acres to be Paved: 1.6
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 2/1/2012 - 10/31/2013 - Building Construction
Off-Road Equipment:
2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
5 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

Phase: Architectural Coating 8/1/2012 - 10/31/2013 - Architectural Coating
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 | 157.38 |
| Demolition 10/01/2011-10/31/2011 | 12.86 |
| Fugitive Dust | 0.00 |
| Demo Off Road Diesel | 10.63 |
| Demo On Road Diesel | 1.25 |
| Demo Worker Trips | 0.98 |
| Fine Grading 11/01/2011-01/31/2012 | 33.68 |
| Fine Grading Dust | 0.00 |
| Fine Grading Off Road Diesel | 30.95 |
| Fine Grading On Road Diesel | 0.00 |
| Fine Grading Worker Trips | 2.73 |
| Mass Grading 11/01/2011-01/31/2012 | 110.84 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 65.59 |
| Mass Grading On Road Diesel | 41.83 |
| Mass Grading Worker Trips | 3.42 |
| | |
| 2012 | 824.20 |
| Fine Grading 11/01/2011-01/31/2012 | 16.84 |
| Fine Grading Dust | 0.00 |
| Fine Grading Off Road Diesel | 15.47 |
| Fine Grading On Road Diesel | 0.00 |
| Fine Grading Worker Trips | 1.37 |
| Mass Grading 11/01/2011-01/31/2012 | 55.42 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 32.79 |
| Mass Grading On Road Diesel | 20.91 |
| Mass Grading Worker Trips | 1.71 |
| Asphalt 02/01/2012-02/29/2012 | 15.29 |
| Paving Off-Gas | 0.00 |
| Paving Off Road Diesel | 13.10 |
| Paving On Road Diesel | 1.22 |
| Paving Worker Trips | 0.98 |

| | |
|---|---|
| Building 02/01/2012-10/31/2013 | 735.90 |
| Building Off Road Diesel | 530.36 |
| Building Vendor Trips | 70.79 |
| Building Worker Trips | 134.75 |
| Coating 08/01/2012-10/31/2013 | 0.75 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 0.75 |
| | |
| 2013 | 672.72 |
| Building 02/01/2012-10/31/2013 | 671.23 |
| Building Off Road Diesel | 483.76 |
| Building Vendor Trips | 64.57 |
| Building Worker Trips | 122.89 |
| Coating 08/01/2012-10/31/2013 | 1.50 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 1.50 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 11/1/2011 - 1/31/2012 - Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 11/1/2011 - 1/31/2012 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Natural Gas | 287.80 |
| Hearth | |
| Landscape | 0.51 |
| Consumer Products | |
| Architectural Coatings | |
| TOTALS (tons/year, unmitigated) | 288.31 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Apartments low rise | 920.62 |
| TOTALS (tons/year, unmitigated) | 920.62 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Season: Annual
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Apartments low rise | 7.88 | 3.96 | dwelling units | 126.00 | 498.96 | 5,040.89 |
| | | | | | 498.96 | 5,040.89 |

## Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |

% of Trips - Commercial (by land use)

## Operational Changes to Defaults

**Naptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Construction**
**Neptune Marina Parcel FF**

| Construction Year | Equipment Type | Annual $CO_2$ Emissions[1] (Tons $CO_2$/yr) | Annual $CO_2$ Emissions (MT $CO_2$/yr) | $CO_2$ to $CO_2e$ Ratio | Annual $CO_2e$ Emissions (MT $CO_2e$/yr) |
|---|---|---|---|---|---|
| 2011 | Off-Road | 107.17 | 97.22 | 1.000 | 97.22 |
| 2011 | On-Road | 43.08 | 39.08 | 1.000 | 39.08 |
| 2011 | Vendor | - | - | 1.000 | - |
| 2011 | Worker/Autos | 7.13 | 6.47 | 0.950 | 6.81 |
| **Total 2011** | | **157.38** | **142.77** | | **143.11** |
| 2012 | Off-Road | 591.72 | 536.80 | 1.000 | 536.80 |
| 2012 | On-Road | 22.13 | 20.08 | 1.000 | 20.08 |
| 2012 | Vendor | 70.79 | 64.22 | 1.000 | 64.22 |
| 2012 | Worker/Autos | 139.56 | 126.61 | 0.950 | 133.27 |
| **Total 2012** | | **824.20** | **747.70** | | **754.37** |
| 2013 | Off-Road | 483.76 | 438.86 | 1.000 | 438.86 |
| 2013 | On-Road | - | - | 1.000 | - |
| 2013 | Vendor | 64.57 | 58.58 | 1.000 | 58.58 |
| 2013 | Worker/Autos | 124.39 | 112.84 | 0.950 | 118.78 |
| **Total 2013** | | **672.72** | **610.28** | | **616.22** |
| **Total** | | **1,654.30** | **1,500.76** | | **1,513.70** |
| **Annualized over Project Lifetime (30 years)** | | | | | **50.46** |

Source:
1. Estimated $CO_2$ emissions from URBEMIS2007.

Where:

| | |
|---|---|
| $CH_4$ | Methane |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalent |
| gal | Gallons |
| GWP | Global warming potential |
| kg | Kilograms |
| MT | Metric ton |
| $N_2O$ | Nitrous oxide |
| yr | Year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Area Sources**
**Parcel FF**

| GHG | Emission Factor (kg/MMBtu)[1] | GWP |
|---|---|---|
| $CO_2$ | 53 | 1 |
| $N_2O$ | 0.0001 | 310 |
| $CH_4$ | 0.0059 | 21 |
| $CO_2E$ | 1.0029 | |
| | **Annual $CO_2$ (tons/yr)[2]** | **Annual $CO_2E$ (MT $CO_2E$/yr)[3]** |
| Parcel FF | 287.8 | 261.9 |
| Misc. Area Sources | 0.5 | 0.5 |
| Total Area Sources | | 262.4 |

Sources:

1. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 57.

2. Estimated emissions from URBEMIS2007

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| GWP | global warming potential |
| kg/MMBtu | kilograms/million Btu |
| MT | metric ton (= 1.102 tons) |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Project Electrical Demand**
**Parcel FF**

| Case | Land Use | Dwelling Units | Electrical Demand Factor[1,2] (kWh/unit/yr) | $CO_2E$ Emission Factor[2] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Parcel FF | Apartments | 126 DU | 7,000 | 0.880 | 352.06 |

Sources:

1. CAPCOA, *CEQA & Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, (2008) 61.

2. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| MT | metric tons (= 2,204.62 lbs) |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Potable Water Supply, Conveyance, Treatment, and Distribution**
**Parcel FF**

| Case | Activity | Potable Water Needs Estimate[1] (Mgal/yr) | Electrical Demand Factor[2,3] (kW-hr/Mgal) | Annual Electrical Demand ($10^6$ kW-hr/year) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Parcel FF | Supply & Conveyance | 5.52 | 2,117 | 0.012 | 0.880 | 4.66 |
| | Treatment | 5.52 | 111 | 0.001 | 0.880 | 0.24 |
| | Distribution | 5.52 | 1,272 | 0.007 | 0.880 | 2.80 |
| | Total | | | | | 7.71 |

Sources:

1. Section 5.9, Water Service.
2. California Energy Commission, *California's Water-Energy Relationship, Final Staff Report (CEC-700-2005-011-SF)*, (2005) 26.
3. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report (CEC-500-2006-118)*, (2006) 22. Prepared by Navigant Consulting, Inc.

Where:

| | |
|---|---|
| $CO_2E$ | Carbon dioxide equivalent |
| GWP | Global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Wastewater Treatment**
**Parcel FF**

**Wastewater Treatment**

| Case | Dwelling Units[1] | Per Unit Wastewater Generation Rate[2] (gal/yr) | Electrical Demand Factor[3] (kW-hr/Mgal) | Annual Demand Factor ($10^6$ kW-hr/yr) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Parcel FF | 126 DU | 60,833 | 1,911 | 0.015 | 0.880 | 5.85 |

Sources:

1. Section 5.8, Sewer Service.

2. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California*, PIER Final Project Report (CEC-500-2006-118), (2006) 22. Prepared by Navigant Consulting, Inc.

3. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

**Wastewater Treatment Process**

| Case | Estimated Population[1] | Per Unit $CO_2$ Emission Factor GWP=1 (MT $CO_2$/yr) | Per Unit $CH_4$ Emission Factor[2] GWP=21 (MT $CO_2E$/yr) | Per Unit $N_2O$ Emission Factor[2] GWP=310 (MT $CO_2E$/yr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Parcel FF | 189 Pop | --- | 0.053 | 0.027 | 15.03 |

Sources:

1. Section 5.11, Population and Housing.

2. US Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006 (EPA 430-R-08-005)*, (2008) 8-15. The emissions were divided by the population of the United States in 2006, estimated at 303,000,000, to obtain a per capita value.

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| gal | gallons |
| GWP | global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Solid Waste**
**Parcel FF**

| Case | Solid Waste Generation[1] (MT/yr) | $CO_2E$ Emission Factor[2] (MT $CO_2E$/MT waste) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|
| Parcel FF | 133.36 | 0.11 | 14.67 |

Sources:

1. Section 5.10, Solid Waste Service. Values converted to metric tons.
2. US Environmental Protection Agency, Office of Solid Waste and Emergency Response, *Greenhouse Gas Emission Factors for Management of Selected Materials in Municipal Solid Waste* (EPA-530-R-98-013), (1998). The factor is based on mixed municipal disposed in landfills without landfill gas recovery.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| MT | metric ton |
| yr | year |

# Woodfin Suite Hotel and Timeshare Resort
# (Parcel 9U-N)

**5/27/2009 09:08:23 PM**

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0509\Emissions\Neptune Parcel 9U.urb924

Project Name: Neptune Marina Parcel 9U

Project Location: Los Angeles County

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) | 714.14 |
| 2011 TOTALS (tons/year mitigated) | 714.14 |
| Percent Reduction | 0.00 |
| | |
| 2012 TOTALS (tons/year unmitigated) | 1,279.91 |
| 2012 TOTALS (tons/year mitigated) | 1,279.91 |
| Percent Reduction | 0.00 |

AREA SOURCE EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 505.09 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 2,528.72 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 3,033.81 |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| | CO2 |
|---|---|
| 2011 | 714.14 |
| Fine Grading 05/01/2011-07/31/2011 | 49.76 |
| Fine Grading Dust | 0.00 |
| Fine Grading Off Road Diesel | 45.72 |
| Fine Grading On Road Diesel | 0.00 |
| Fine Grading Worker Trips | 4.04 |
| Mass Grading 05/01/2011-07/31/2011 | 107.14 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 39.67 |
| Mass Grading On Road Diesel | 65.44 |
| Mass Grading Worker Trips | 2.02 |
| Asphalt 08/01/2011-08/31/2011 | 18.74 |
| Paving Off-Gas | 0.00 |
| Paving Off Road Diesel | 14.63 |
| Paving On Road Diesel | 1.26 |
| Paving Worker Trips | 2.86 |
| Building 08/01/2011-12/31/2012 | 538.50 |
| Building Off Road Diesel | 459.26 |
| Building Vendor Trips | 16.23 |
| Building Worker Trips | 63.01 |
| 2012 | 1,279.91 |
| Building 08/01/2011-12/31/2012 | 1,277.69 |
| Building Off Road Diesel | 1,089.70 |
| Building Vendor Trips | 38.50 |
| Building Worker Trips | 149.49 |
| Coating 04/01/2012-12/31/2012 | 2.23 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 2.23 |

Phase Assumptions

Phase: Fine Grading 5/1/2011 - 7/31/2011 - Water line
Total Acres Disturbed: 1
Maximum Daily Acreage Disturbed: 0.25
Fugitive Dust Level of Detail: Default
  20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Mass Grading 5/1/2011 - 7/31/2011 - Mass Site Grading/Excavation
Total Acres Disturbed: 2.2
Maximum Daily Acreage Disturbed: 0.55
Fugitive Dust Level of Detail: High
  Onsite Haulage: 3 ton-miles/day;  Offsite haulage: 36 ton-mils/day
On Road Truck Travel (VMT): 475.09
Off-Road Equipment:
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 8/1/2011 - 8/31/2011 - Paving
Acres to be Paved: 1.65
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 - 12/31/2012 - Building Construction
Off-Road Equipment:
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
2 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
1 Off Highway Tractors (267 hp) operating at a 0.65 load factor for 8 hours per day
2 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
2 Rubber Tired Dozers (357 hp) operating at a 0.59 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 4/1/2012 - 12/31/2012 - Architectural Coating
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 | 714.14 |
| Fine Grading 05/01/2011-07/31/2011 | 49.76 |
| Fine Grading Dust | 0.00 |
| Fine Grading Off Road Diesel | 45.72 |
| Fine Grading On Road Diesel | 0.00 |
| Fine Grading Worker Trips | 4.04 |
| Mass Grading 05/01/2011-07/31/2011 | 107.14 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 39.67 |
| Mass Grading On Road Diesel | 65.44 |
| Mass Grading Worker Trips | 2.02 |
| Asphalt 08/01/2011-08/31/2011 | 18.74 |
| Paving Off-Gas | 0.00 |
| Paving Off Road Diesel | 14.63 |
| Paving On Road Diesel | 1.26 |
| Paving Worker Trips | 2.86 |
| Building 08/01/2011-12/31/2012 | 538.50 |
| Building Off Road Diesel | 459.26 |
| Building Vendor Trips | 16.23 |
| Building Worker Trips | 63.01 |

| | |
|---|---|
| 2012 | 1,279.91 |
| Building 08/01/2011-12/31/2012 | 1,277.69 |
| Building Off Road Diesel | 1,089.70 |
| Building Vendor Trips | 38.50 |
| Building Worker Trips | 149.49 |
| Coating 04/01/2012-12/31/2012 | 2.23 |
| Architectural Coating | 0.00 |
| Coating Worker Trips | 2.23 |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 5/1/2011 - 7/31/2011 - Water line

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Mass Grading 5/1/2011 - 7/31/2011 - Mass Site Grading/Excavation

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Natural Gas | 504.58 |
| Hearth | |
| Landscape | 0.51 |
| Consumer Products | |
| Architectural Coatings | |
| TOTALS (tons/year, unmitigated) | 505.09 |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Hotel | 2,528.72 |
| TOTALS (tons/year, unmitigated) | 2,528.72 |

Operational Settings:

Does not include correction for passby trips
Does not include double counting adjustment for internal trips
Analysis Year: 2013 Season: Annual
Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| Hotel | | 5.34 | rooms | 288.00 | 1,537.92 | 13,968.16 |
| | | | | | 1,537.92 | 13,968.16 |

Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| Hotel | | | | 5.0 | 2.5 | 92.5 |

## Operational Changes to Defaults

**Naptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Construction**
**Woodfin Suite Hotel and Timeshare Resort (Parcel 9U-N)**

| Construction Year | Equipment Type | Annual $CO_2$ Emissions[1] (Tons $CO_2$/yr) | Annual $CO_2$ Emissions (MT $CO_2$/yr) | $CO_2$ to $CO_2e$ Ratio | Annual $CO_2e$ Emissions (MT $CO_2e$/yr) |
|---|---|---|---|---|---|
| 2011 | Off-Road | 559.28 | 507.37 | 1.000 | 507.37 |
| 2011 | On-Road | 66.70 | 60.51 | 1.000 | 60.51 |
| 2011 | Vendor | 16.23 | 14.72 | 1.000 | 14.72 |
| 2011 | Worker/Autos | 71.93 | 65.25 | 0.950 | 68.69 |
| **Total 2011** | | **714.14** | **647.86** | | **651.29** |
| 2012 | Off-Road | 1,089.70 | 988.56 | 1.000 | 988.56 |
| 2012 | On-Road | - | - | 1.000 | - |
| 2012 | Vendor | 38.50 | 34.93 | 1.000 | 34.93 |
| 2012 | Worker/Autos | 151.72 | 137.64 | 0.950 | 144.88 |
| **Total 2012** | | **1,279.92** | **1,161.12** | | **1,168.37** |
| **Total** | | **1,994.06** | **1,808.98** | | **1,819.66** |
| **Annualized over Project Lifetime (30 years)** | | | | | **60.66** |

Source:
1. Estimated $CO_2$ emissions from URBEMIS2007.

Where:

| | |
|---|---|
| $CH_4$ | Methane |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalent |
| gal | Gallons |
| GWP | Global warming potential |
| kg | Kilograms |
| MT | Metric ton |
| $N_2O$ | Nitrous oxide |
| yr | Year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Area Sources**
**Parcel 9U-N (Woodfin)**

| GHG | Emission Factor (kg/MMBtu)[1] | GWP |
|---|---|---|
| $CO_2$ | 53 | 1 |
| $N_2O$ | 0.0001 | 310 |
| $CH_4$ | 0.0059 | 21 |
| $CO_2E$ | 1.0029 | |
| | **Annual $CO_2$ (tons/yr)[2]** | **Annual $CO_2E$ (MT $CO_2E$/yr)[3]** |
| Parcel 9U-N | 504.6 | 459.2 |
| Misc. Area Sources | 0.5 | 0.5 |
| Total Area Sources | | 459.7 |

Sources:

1. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 57.

2. Estimated emissions from URBEMIS2007

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| GWP | global warming potential |
| kg/MMBtu | kilograms/million Btu |
| MT | metric ton (= 1.102 tons) |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Project Electrical Demand**
**Parcel 9U-N (Woodfin)**

| Case | Land Use | Units | Electrical Demand Factor[1,2] (kWh/unit/yr) | $CO_2E$ Emission Factor[2] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Parcel 9U-N | Hotel/Timeshare | 204,504 ksf | 9.95 | 0.880 | 812.22 |

Sources:

1. South Coast Air Quality Management District, CEQA Air Quality Handbook, (1993) Table A9-11-A
2. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| MT | metric tons (= 2,204.62 lbs) |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Potable Water Supply, Conveyance, Treatment, and Distribution**
**Parcel 9U-N (Woodfin)**

| Case | Activity | Potable Water Needs Estimate[1] (Mgal/yr) | Electrical Demand Factor[2,3] (kW-hr/Mgal) | Annual Electrical Demand ($10^6$ kW-hr/year) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Parcel 9U-N | Supply & Conveyance | 16.13 | 2,117 | 0.034 | 0.880 | 13.63 |
| | Treatment | 16.13 | 111 | 0.002 | 0.880 | 0.71 |
| | Distribution | 16.13 | 1,272 | 0.021 | 0.880 | 8.19 |
| | Total | | | | | 22.54 |

Sources:

1. Section 5.9, Water Service.
2. California Energy Commission, *California's Water-Energy Relationship, Final Staff Report (CEC-700-2005-011-SF)*, (2005) 26.
3. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report (CEC-500-2006-118)*, (2006) 22. Prepared by Navigant Consulting, Inc.

Where:

| | |
|---|---|
| $CO_2E$ | Carbon dioxide equivalent |
| GWP | Global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Potable Water Supply, Conveyance, Treatment, and Distribution**
**Parcel 9U-N (Woodfin)**

| Case | Activity | Potable Water Needs Estimate[1] (Mgal/yr) | Electrical Demand Factor[2,3] (kW-hr/Mgal) | Annual Electrical Demand ($10^6$ kW-hr/year) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Parcel 9U-N | Supply & Conveyance | 16.13 | 2,117 | 0.034 | 0.880 | 13.63 |
| | Treatment | 16.13 | 111 | 0.002 | 0.880 | 0.71 |
| | Distribution | 16.13 | 1,272 | 0.021 | 0.880 | 8.19 |
| | Total | | | | | 22.54 |

Sources:

1. Section 5.9, Water Service.
2. California Energy Commission, *California's Water-Energy Relationship, Final Staff Report (CEC-700-2005-011-SF)*, (2005) 26.
3. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report (CEC-500-2006-118)*, (2006) 22. Prepared by Navigant Consulting, Inc.

Where:

| | |
|---|---|
| $CO_2E$ | Carbon dioxide equivalent |
| GWP | Global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Wastewater Treatment**
**Parcel 9U-N (Woodfin)**

**Wastewater Treatment**

| Case | Hotel/Time Share Rooms[1] | Per Unit Wastewater Generation Rate[2] (gal/yr) | Electrical Demand Factor[3] (kW-hr/Mgal) | Annual Demand Factor ($10^6$ kW-hr/yr) | $CO_2E$ Emission Factor[4] (lbs $CO_2E$/kW-hr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|---|
| Parcel 9U-N | 288 rooms | 79,083 | 1,911 | 0.044 | 0.880 | 17.37 |

Sources:

1. Section 5.8, Sewer Service.
2. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California*, PIER Final Project Report (CEC-500-2006-118), (2006) 22. Prepared by Navigant Consulting, Inc.
3. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 91-93.

**Wastewater Treatment Process**

| Case | Hotel/Time Share Rooms[1] | Per Unit $CO_2$ Emission Factor GWP=1 (MT $CO_2$/yr) | Per Unit $CH_4$ Emission Factor[2] GWP=21 (MT $CO_2E$/yr) | Per Unit $N_2O$ Emission Factor[2] GWP=310 (MT $CO_2E$/yr) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|---|---|
| Parcel 9U-N | 288 rooms | --- | 0.1014 | 0.0513 | 43.99 |

Sources:

1. Section 5.11, Population and Housing.
2. US Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006 (EPA 430-R-08-005)*, (2008) 8-15. The emissions were divided by the population of the United States in 2006, estimated at 303,000,000, to obtain a per capita value. The factors for CH4 and N2O for the hotel were estimated using the ratio of wastewater generated by the Parcel 10R apartments and the hotel converted a per unit basis.

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| gal | gallons |
| GWP | global warming potential |
| kW-hr | kilowatt-hour |
| lbs | pounds |
| Mgal | million gallons |
| MT | metric ton |
| $N_2O$ | nitrous oxide |
| yr | year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Solid Waste**
**Parcel 9U-N (Woodfin)**

| Case | Solid Waste Generation[1] (MT/yr) | $CO_2E$ Emission Factor[2] (MT $CO_2E$/MT waste) | Annual $CO_2E$ Emissions (MT $CO_2E$/yr) |
|---|---|---|---|
| Parcel 9U-N | 194.14 | 0.11 | 21.36 |

Sources:

1. Section 5.10, Solid Waste Service. Values converted to metric tons.
2. US Environmental Protection Agency, Office of Solid Waste and Emergency Response, *Greenhouse Gas Emission Factors for Management of Selected Materials in Municipal Solid Waste* (EPA-530-R-98-013), (1998). The factor is based on mixed municipal disposed in landfills without landfill gas recovery.

Where:

| | |
|---|---|
| $CO_2E$ | carbon dioxide equivalent |
| MT | metric ton |
| yr | year |

# Restored Wetland and Upland Buffer
# (Parcel 9U-S)

**3/5/2009 09:19:45 PM**

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: Z:\Alan Sako\460.04 Neptune Marina\Recirculated 0209\Emissions\Neptune Wetland Park.urb924

Project Name: Neptune Marina Wetland Park

Project Location: Los Angeles County

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) | 61.13 |
| 2011 TOTALS (tons/year mitigated) | 61.13 |
| Percent Reduction | 0.00 |
| | |
| 2012 TOTALS (tons/year unmitigated) | 171.65 |
| 2012 TOTALS (tons/year mitigated) | 171.65 |
| Percent Reduction | 0.00 |

AREA SOURCE EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 0.51 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 82.22 |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

| | CO2 |
|---|---|
| TOTALS (tons/year, unmitigated) | 82.73 |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| | CO2 |
|---|---|
| 2011 | 61.13 |
| Mass Grading 10/01/2011-12/31/2011 | 61.13 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 57.22 |
| Mass Grading On Road Diesel | 0.88 |
| Mass Grading Worker Trips | 3.03 |
| 2012 | 171.65 |
| Asphalt 01/01/2012-01/31/2012 | 13.27 |
| Paving Off-Gas | 0.00 |
| Paving Off Road Diesel | 10.77 |
| Paving On Road Diesel | 0.11 |
| Paving Worker Trips | 2.39 |
| Building 01/01/2012-10/31/2012 | 158.38 |
| Building Off Road Diesel | 122.19 |
| Building Vendor Trips | -0.00 |
| Building Worker Trips | 36.19 |

Phase Assumptions

Phase: Mass Grading 10/1/2011 - 12/31/2011 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 1.46

Maximum Daily Acreage Disturbed: 0.36

Fugitive Dust Level of Detail: High

Onsite Haulage: 1.7 ton-miles/day; Offsite haulage: 0.5 ton-mils/day

On Road Truck Travel (VMT): 6.39

Off-Road Equipment:

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

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

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 1/1/2012 - 1/31/2012 - Default Paving Description
Acres to be Paved: 0.15
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 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 1/1/2012 - 10/31/2012 - Default Building Construction Description
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

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

| | CO2 |
|---|---|
| 2011 | 61.13 |
| Mass Grading 10/01/2011-12/31/2011 | 61.13 |
| Mass Grading Dust | 0.00 |
| Mass Grading Off Road Diesel | 57.22 |
| Mass Grading On Road Diesel | 0.88 |
| Mass Grading Worker Trips | 3.03 |
| | |
| 2012 | 171.65 |
| Asphalt 01/01/2012-01/31/2012 | 13.27 |
| Paving Off-Gas | 0.00 |
| Paving Off Road Diesel | 10.77 |
| Paving On Road Diesel | 0.11 |
| Paving Worker Trips | 2.39 |
| Building 01/01/2012-10/31/2012 | 158.38 |
| Building Off Road Diesel | 122.19 |
| Building Vendor Trips | -0.00 |
| Building Worker Trips | 36.19 |

## Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 10/1/2011 - 12/31/2011 - Default Mass Site Grading/Excavation Description

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 Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| Natural Gas | |
| Hearth | |
| Landscape | 0.51 |
| Consumer Products | |
| Architectural Coatings | |
| TOTALS (tons/year, unmitigated) | 0.51 |

## Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| Source | CO2 |
|---|---|
| City park | 82.22 |
| TOTALS (tons/year, unmitigated) | 82.22 |

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

## Summary of Land Uses

| Land Use Type | Acreage | Trip Rate | Unit Type | No. Units | Total Trips | Total VMT |
|---|---|---|---|---|---|---|
| City park | | 34.25 | acres | 1.46 | 50.01 | 454.17 |
| | | | | | 50.01 | 454.17 |

## Vehicle Fleet Mix

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 53.3 | 0.4 | 99.4 | 0.2 |
| Light Truck < 3750 lbs | 6.8 | 1.5 | 97.0 | 1.5 |
| Light Truck 3751-5750 lbs | 23.0 | 0.4 | 99.6 | 0.0 |
| Med Truck 5751-8500 lbs | 10.1 | 1.0 | 99.0 | 0.0 |
| Lite-Heavy Truck 8501-10,000 lbs | 1.5 | 0.0 | 86.7 | 13.3 |
| Lite-Heavy Truck 10,001-14,000 lbs | 0.5 | 0.0 | 60.0 | 40.0 |
| Med-Heavy Truck 14,001-33,000 lbs | 0.9 | 0.0 | 22.2 | 77.8 |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.5 | 0.0 | 0.0 | 100.0 |
| Other Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Urban Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motorcycle | 2.3 | 56.5 | 43.5 | 0.0 |
| School Bus | 0.1 | 0.0 | 0.0 | 100.0 |
| Motor Home | 0.8 | 0.0 | 87.5 | 12.5 |

## Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 12.7 | 7.0 | 9.5 | 13.3 | 7.4 | 8.9 |
| Rural Trip Length (miles) | 17.6 | 12.1 | 14.9 | 15.4 | 9.6 | 12.6 |
| Trip speeds (mph) | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 32.9 | 18.0 | 49.1 | | | |
| | | | | | | |
| % of Trips - Commercial (by land use) | | | | | | |
| City park | | | | 5.0 | 2.5 | 92.5 |

## Operational Changes to Defaults

**Naptune Marina Apartments and Anchorage/Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Construction**
**Restored Wetland and Upland Buffer (Parcel 9U-S)**

| Construction Year | Equipment Type | Annual $CO_2$ Emissions[1] (Tons $CO_2$/yr) | Annual $CO_2$ Emissions (MT $CO_2$/yr) | $CO_2$ to $CO_2e$ Ratio | Annual $CO_2e$ Emissions (MT $CO_2e$/yr) |
|---|---|---|---|---|---|
| 2011 | Off-Road | 57.22 | 51.91 | 1.000 | 51.91 |
| 2011 | On-Road | 0.88 | 0.80 | 1.000 | 0.80 |
| 2011 | Vendor | - | - | 1.000 | - |
| 2011 | Worker/Autos | 3.03 | 2.75 | 0.950 | 2.89 |
| **Total 2011** | | **61.13** | **55.46** | | **55.60** |
| 2012 | Off-Road | 132.96 | 120.62 | 1.000 | 120.62 |
| 2012 | On-Road | 0.11 | 0.10 | 1.000 | 0.10 |
| 2012 | Vendor | - | - | 1.000 | - |
| 2012 | Worker/Autos | 39.22 | 35.58 | 0.950 | 37.45 |
| **Total 2012** | | **172.29** | **156.30** | | **158.17** |
| **Total** | | **233.42** | **211.76** | | **213.77** |
| **Annualized over Project Lifetime (30 years)** | | | | | **7.13** |

Source:
1. Estimated $CO_2$ emissions from URBEMIS2007.

Where:

| | |
|---|---|
| $CH_4$ | Methane |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalent |
| gal | Gallons |
| GWP | Global warming potential |
| kg | Kilograms |
| MT | Metric ton |
| $N_2O$ | Nitrous oxide |
| yr | Year |

**Neptune Marina Apartments and Anchorage/**
**Woodfin Suite Hotel and Timeshare Resort**
**Greenhouse Gas Emissions from Area Sources**
**Parcel 9U-S (Wetland Park)**

| GHG | Emission Factor (kg/MMBtu)[1] | GWP |
|---|---|---|
| $CO_2$ | 53 | 1 |
| $N_2O$ | 0.0001 | 310 |
| $CH_4$ | 0.0059 | 21 |
| $CO_2E$ | 1.0029 | |

| | Annual $CO_2$ (tons/yr)[2] | Annual $CO_2E$ (MT $CO_2E$/yr)[3] |
|---|---|---|
| Wetland Park | 0.0 | 0.0 |
| Misc. Area Sources | 0.5 | 0.5 |
| Total Area Sources | | 0.5 |

Sources:

1. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.0*, (2008) 57.
2. Estimated emissions from URBEMIS2007

Where:

| | |
|---|---|
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2E$ | carbon dioxide equivalent |
| GWP | global warming potential |
| kg/MMBtu | kilograms/million Btu |
| MT | metric ton (= 1.102 tons) |
| $N_2O$ | nitrous oxide |
| yr | year |

# Localized Significance Thresholds Analysis

# Localized Significance Threshold Analysis for Neptune Marina Apartments and Anchorage

# and

# Woodfin Suite Hotel and Timeshare Resort

**Prepared for:**

Legacy Partners Residential, Inc.
and
Woodfin Suite Hotels, LLC

**Prepared by:**

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**May 2009**

***SUMMARY***

*Legacy Partners Residential, Inc. and Woodfin Suite Hotels, LLC have proposed to build residential apartment buildings, boat slips, and a hotel and timeshare resort in Marina del Rey. The proposed project consists of four individual components: (1) the Neptune Marina Parcel 10R, (2) the Neptune Marina Parcel FF, (3) the Woodfin Suite Hotel and Timeshare Resort (Parcel 9U North), and (4) the Wetland Park (Parcel 9U South). The project would result in the generation of air pollutants during construction and operation. This study analyzes the impacts of the construction emissions (fugitive dust and motor vehicle and equipment exhaust) on ambient air quality concentrations in the vicinity of the construction site. The ambient air quality impacts are compared to thresholds established by the South Coast Air Quality Management District (SCAQMD). The significance threshold for fine particulate matter less than 10 microns in aerodynamic diameter ($PM_{10}$) represents compliance with Rule 403 (Fugitive Dust). The threshold for fine particulate matter ($PM_{2.5}$) is intended to constrain emissions so as to aid in progress toward attainment of the ambient air quality standards. The thresholds for nitrogen dioxide ($NO_2$) and carbon monoxide (CO) represent the allowable increase in concentrations above background levels in the vicinity of the project that would not cause or contribute to an exceedance of the relevant ambient air quality standards.*

*Localized significance threshold analysis shows that the maximum 24-hour $PM_{10}$ concentrations for Parcel 10R, Parcel FF and the Woodfin Suite Hotel and Timeshare Resort would exceed the thresholds of significance established by SCAQMD at receptors near to the project sites during individual construction of each component. The maximum 24-hour $PM_{2.5}$ concentration for Parcel 10R and the Woodfin Suite Hotel and Timeshare Resort would exceed the thresholds of significance established by SCAQMD at receptors near to the project sites during individual construction of each component. The maximum 1-hour $NO_2$ concentration for the Woodfin Suite Hotel and Timeshare Resort would also exceed the threshold of significance established by SCAQMD at receptors near to the project sites during individual construction. In addition, the ambient air quality impacts would exceed the 24-hour $PM_{10}$ and $PM_{2.5}$ threshold, and the 1-hour $NO_2$ threshold due to concurrent construction of the combined project components. Individual construction of the Wetland Park is not expected to exceed any of the established thresholds by itself.*

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**Appendices**


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B ISCST3 modeling files are available upon request
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## 1.0 GENERAL

### 1.1 Project Description

The proposed project consists of four components. Component 1 includes the landside and waterside development of Neptune Marina Parcel 10R and consists of three apartment buildings totaling 400 units and 174 boat slips. Development of Component 1 would require the removal of 136 existing multi-family residential units and 198 boat slips at Parcel 10R. Demolition is anticipated to commence in May 2011 and last for approximately two months. Grading and construction are anticipated to occur over approximately three months and 26 months, respectively. The Parcel 10R development would also include construction of new 10-inch sewer line for approximately 500 linear feet within Marquesas Way and 160 linear feet within Via Marina; and construction of an additional 180 linear feet of new 10-inch line and approximately 710 linear of a new 8-inch sewer line within existing site boundaries of Parcel 10R. Parcel 10R would also include the installation of approximately 500 feet of 18-inch diameter water main in Via Marina, including interconnections to existing water system, and all necessary appurtenances. The project would also include the water line infrastructure improvements.

Component 2 includes the development of Neptune Marina Parcel FF and consists of one apartment building totaling 126 units. Development of Component 2 would require removal of a parking lot, just over two acres in area. The parking lot would be removed about two weeks prior to grading and construction of the Neptune Marina Parcel FF. Demolition is anticipated to commence in October 2011 and last for about one month. Grading and construction are anticipated to occur over three months and 21 months, respectively. Parcel FF would include the installation of approximately 170 feet of 18-inch diameter water main in Via Marina, including interconnections to existing water system, and all necessary appurtenances.

Component 3 includes the development of the Woodfin Suite Hotel and Timeshare Resort in Parcel 9U North and consists of a 19-story hotel structure and timeshare resort. The hotel and timeshare resort is planned on the northern portion of Parcel 9U; the balance of Parcel 9U will be developed as a restored wetland park and is described below as Component 4. Grading for Component 3 is anticipated to begin in May 2011. Grading and construction are anticipated to occur over three months and 17 months, respectively. Parcel 9U North would include the installation of approximately 570 feet of 18-inch diameter water main in Via Marina, including interconnections to existing water system, and all necessary appurtenances (this is not considered part of the Parcel 9U North project but is included in the air quality analysis).

Component 4 includes the development of a restored wetland park located on the southern portion of Parcel 9U. The wetland park encompasses approximately 1.46 acres. Grading for Component 4 is anticipated to begin in October 2011. Grading and construction are anticipated to occur over three months and 10 months, respectively.

### 1.2 Regional Air Quality

The project is located in the portion of Los Angeles County in the South Coast Air Basin (the basin). The region is designated as a severe-17 nonattainment area for the federal 8-hour ozone standard and was an extreme nonattainment area for the state 1-hour ozone standard. The California Air Resources Board (CARB) has designated the basin as nonattainment for the state 8-hour ozone standard.[1] It is designated as an attainment area for the federal and state 1-hour and 8-hour CO standards. In addition, it is designated as an attainment/unclassifiable area for the federal $NO_2$ standard and as an attainment area for the state $NO_2$ standard. It has been designated as a serious nonattainment area for the federal 24-hour $PM_{10}$ standard and a nonattainment area for the state 24-hour and annual $PM_{10}$ standards. It is also designated as a nonattainment area for the federal 24-hour and annual $PM_{2.5}$ standards and the annual state $PM_{2.5}$ standard.[2,3]

### 1.3 Thresholds of Significance

**Table 1, Peak Background Concentrations for SRA 2 for the Period of 2005 to 2007**, shows the peak background concentrations of $NO_2$ and CO in Source Receptor Area (SRA) 2 (Northwest Coastal Los Angeles County) in which the proposed project is located. These are the values on which Localized Significance Threshold (LST) criteria for $NO_2$ and CO are based.

**Table 2, Localized Significance Criteria**, shows the threshold criteria recommended by the SCAQMD for determining whether the emissions resulting from construction of a development project have the potential to generate significant adverse local impacts on ambient air quality. The SCAQMD's concentration-based $PM_{10}$ threshold from its *Localized Significance Threshold Methodology* (*LST Methodology*)[4] is a 24-hour average concentration of 10.4 micrograms per cubic meter ($\mu g/m^3$) based on

---

1 CARB has not issued area classifications based on the new state 8-hour ozone standard. The previous classification for the 1-hour ozone standard was Extreme.

2 California Air Resources Board, "Area Designations (Activities and Maps)," http://www.arb.ca.gov/desig/desig.htm. 2007.

3 US Environmental Protection Agency, "Region 9: Air Programs, Air Quality Maps," http://www.epa.gov/region9/air/maps/maps_top.html. 2008. The US EPA revoked the annual $PM_{10}$ federal standard in December 2006 citing a lack of evidence linking health problems to long term exposure to coarse particle pollution.

4 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, June 2008.

compliance with Rule 403. The threshold for $PM_{2.5}$ is a 24-hour average concentration of 10.4 μg/m³ and is based on a derivation from $PM_{10}$ using mass fraction profiles from CARB.[5] The thresholds for $NO_2$ and CO were based on the maximum concentrations that occurred during the last three years (2005 to 2007) as shown in **Table 1**. These thresholds represent the allowable increase in $NO_2$ and CO ambient concentrations above current levels that could occur in SRA 2 without causing or contributing to exceedances of the California Ambient Air Quality Standards (CAAQS). For reference, the applicable CAAQS are also shown in **Table 2**.

**Table 1**
**Peak Background Concentrations for SRA 2 for the Period of 2005 to 2007**

| Pollutant | Averaging Period | Unit | 2005 | 2006 | 2007 | Peak Concentration |
|---|---|---|---|---|---|---|
| Nitrogen Dioxide ($NO_2$) | 1 hour | ppm | 0.08 | 0.08 | 0.08 | 0.08 |
| Carbon Monoxide (CO) | 1 hour | ppm | 3.0 | 3.0 | 3.0 | 3.0 |
| | 8 hours | ppm | 2.1 | 2.0 | 1.9 | 2.1 |

*Source: South Coast Air Quality Management District, "Historical Data by Year," http://www.aqmd.gov/smog/ historicaldata.htm. 2008.*

**Table 2**
**Localized Significance Criteria**

| Pollutant | Averaging Period | CAAQS/NAAQS[1] μg/m³ | CAAQS/NAAQS[1] ppm | Peak Conc. in ppm | LST Criteria[2] μg/m³ | LST Criteria[2] ppm |
|---|---|---|---|---|---|---|
| Respirable Particulate Matter ($PM_{10}$) | 24 hours | 50 | NA | NA | 10.4 | NA |
| Fine Particulate Matter ($PM_{2.5}$) | 24 hours | 35 | NA | NA | 10.4 | NA |
| Nitrogen Dioxide ($NO_2$) | 1 hour | 338 | 0.18 | 0.08 | 188 | 0.10 |
| Carbon Monoxide (CO) | 1 hour | 23,000 | 20 | 3.0 | 19,454 | 17 |
| Carbon Monoxide (CO) | 8 hours | 10,000 | 9.0 | 2.1 | 7,896 | 6.9 |

*Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, June 2008 and Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM2.5 Significance Thresholds, October 2006.*

*[1] California has not adopted a 24-hour AAQS for $PM_{2.5}$; the 24-hour $PM_{2.5}$ AAQS shown is the national standard. All other standards are the California standards.*

*[2] LST Criteria for $NO_2$ and CO are the difference between CAAQS and the Peak Concentration during the last three years.*

5 South Coast Air Quality Management District, *Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds*, October 2006.

## 2.0 EMISSION ESTIMATION METHODOLOGY

URBEMIS2007 (version 9.2.4) was used to estimate the construction emissions for criteria pollutants as directed by SCAQMD's *California Environmental Quality Act (CEQA) Air Quality Handbook*. The following information provided by the applicant was used to set up the URBEMIS2007 model. Where information was not available, the model default values were used. The model inputs are as indicated below. Summaries of the URBEMIS2007 results for each project component are found in **Appendix A**; the original URBEMIS2007 output is found in the URBEMIS2007–Construction and Operational Emissions section of **Appendix 5.4** of the Draft Environmental Impact Report.

### 2.1 Component 1: Neptune Marina Parcel 10R

- Total number of acres of land to be graded: 7.32 acres;
- Maximum acres graded per day: 1.83 acres;
- Amount of soil to be exported: 112,104 cubic yards (cy);
- Dust control measures: As required by SCAQMD Rule 403; and

### 2.2 Component 2: Neptune Marina Parcel FF

- Total number of acres of land to be graded: 2.04 acres;
- Maximum acres graded per day: 1.02 acre;
- Amount of soil to be exported: 29,607 cy;
- Dust control measures: As required by SCAQMD Rule 403; and

### 2.3 Component 3: Woodfin Suite Hotel and Timeshare Resort (Parcel 9U North)

- Total number of acres of land to be graded: 2.20 acres;
- Maximum acres graded per day: 0.55 acre;
- Amount of soil to be exported: 31,356 cy (33,680 cy cut and 2,324 cy fill);
- Dust control measures: As required by SCAQMD Rule 403; and

### 2.4 Component 4: Wetland Park (Parcel 9U South)

- Total number of acres of land to be graded: 1.46 acres;
- Maximum acres graded per day: 0.37 acre;

- Amount of soil to be imported: 422 cy (1,468 cy cut and 1,890 cy fill);
- Dust control measures: As required by SCAQMD Rule 403; and

The LST analysis considered impacts from the individual components of the project as well as the combined impacts. The combined analysis is necessary because the construction phases for the individual components overlap. To determine the impacts from the individual components, the maximum daily emissions that could occur on each project site from any construction phase were selected for the LST analysis. The maximum daily emissions for each pollutant may occur during a different subphase (e.g., grading, building construction). **Table 3, Estimated Maximum Construction Emissions Associated with the Proposed Project Components**, shows the estimated construction emissions associated with each proposed project that would occur on the project site.

**Table 3**
**Estimated Maximum Construction Emissions Associated with the Proposed Project Components**

| | Neptune Marina Parcel 10R (pounds per day) | | Neptune Marina Parcel FF (pounds per day) | | Woodfin Suite Hotel and Timeshare Resort (pounds per day) | | Wetland Park (pounds per day) | |
|---|---|---|---|---|---|---|---|---|
| Pollutant | Fugitive Dust | Mobile Sources | Fugitive Dust | Mobile Sources | Fugitive Dust | Mobile Sources | Fugitive Dust | Mobile Sources |
| $PM_{10}$ | 23.66 | 2.41 | 8.93 | 2.69 | 9.17 | 1.81 | 0.00 | 1.41 |
| $PM_{2.5}$ | 4.05 | 3.63 | 1.86 | 2.47 | 0.00 | 5.18 | 0.00 | 1.30 |
| $NO_X$ | — | 78.33 | — | 45.93 | — | 97.61 | — | 19.27 |
| CO | — | 40.11 | — | 26.00 | — | 52.58 | — | 10.97 |

*Source: Construction emissions were estimated using URBEMIS2007 (Version 9.2.4). Emissions reflect the worst-case scenario (i.e., highest daily emissions associated with a project component). The worst-case daily emissions may occur in different construction subphases.*
*Note: Maximum $PM_{10}$ and $PM_{2.5}$ emissions are the sum of fugitive dust and mobile source emissions.*

To determine the impacts from the combined project for each pollutant, the maximum daily emissions that could occur from all four project components was analyzed. The maximum combined daily emissions for $PM_{10}$ occurred during a time period when Parcel FF and the Wetland Park are not undergoing construction. Therefore, an additional combined case was analyzed specifically for $PM_{10}$ coinciding with the highest combined $PM_{10}$ emissions when all four components are undergoing construction to account for combined potential impacts that could occur near those project components. Furthermore, additional combined cases were analyzed specifically for CO, $NO_X$, and $PM_{2.5}$ coinciding with the time period when only Parcel 10R and Parcel 9U North are undergoing construction. This was done because Parcel 10R and Parcel 9U North have the highest maximum CO, $NO_X$, and $PM_{2.5}$ emissions

during this time period and could result in higher localized impacts to receptors located near to those parcels. Refer to the emissions summaries and model input summaries in **Appendix A** and **Appendix C** for detailed emission estimates.

**Table 4, Estimated Construction Emissions Associated with the Proposed Combined Project**, shows the estimated daily construction emissions associated with each project component during the day with the greatest total emissions as well the as the emissions associated with the additional case for $PM_{10}$ and $PM_{2.5}$. Refer to **Appendix A** for a summary of the on-site emissions used in the LST analysis.

**Table 4**
**Estimated Construction Emissions Associated with the Proposed Combined Project**

| | | Day of Maximum Emissions for the Combined Project (pounds per day) | | Additional Model Analysis (pounds per day) | |
|---|---|---|---|---|---|
| Pollutant | Project Component | Fugitive Dust | Mobile Sources | Fugitive Dust | Mobile Sources |
| $PM_{10}$ | Parcel 10R | 23.66 | 2.41 | 0.00 | 4.87 |
| | Parcel FF | 0.00 | 0.00 | 8.93 | 2.69 |
| | Hotel (9U) | 9.17 | 1.81 | 0.00 | 4.31 |
| | Wetland (9U) | 0.00 | 0.00 | 0.18 | 0.88 |
| $PM_{2.5}$ | Parcel 10R | 0.00 | 4.48 | 4.05 | 3.63 |
| | Parcel FF | 1.86 | 2.47 | 0.00 | 0.00 |
| | Hotel (9U) | 0.00 | 3.96 | 0.00 | 5.18 |
| | Wetland (9U) | 0.04 | 0.81 | 0.00 | 0.00 |
| $NO_X$ | Parcel 10R | — | 78.33 | | |
| | Parcel FF | — | 45.93 | | |
| | Hotel (9U) | — | 82.46 | | |
| | Wetland (9U) | — | 18.44 | | |
| CO | Parcel 10R | — | 37.57 | | |
| | Parcel FF | — | 26.00 | | |
| | Hotel (9U) | — | 43.51 | | |
| | Wetland (9U) | — | 9.05 | | |

*Source: Construction emissions were estimated using URBEMIS2007 (Version 9.2.4).*

## 3.0 LOCALIZED SIGNIFICANCE THRESHOLD ANALYSIS

Per the recommendation of the SCAQMD, ambient $PM_{10}$, $PM_{2.5}$, $NO_2$, and CO concentrations due to the construction of proposed project were analyzed using methods described in the SCAQMD's *LST*

*Methodology*.[6] The US Environmental Protection Agency-approved dispersion model Industrial Source Complex – Short Term, ISCST3,[7] was used for the analysis to model the dispersion of the pollutants of concern.

### 3.1 Modeling Approach

The modeling for this analysis was conducted for each project component separately and for the combined project components. For the individual project components, modeling was conducted based on the estimated emissions presented in **Table 3**. For the combined project, modeling was conducted based on the estimated concurrent emissions presented in **Table 4**. The general modeling approach is as follows:

- Sources: The project site for the Neptune Marina Parcel 10R was divided into four roughly equal areas, and the project sites for the Neptune Marina Parcel FF, the Woodfin Suite Hotel and Timeshare Resort, and the Wetland Park were each divided into two areas. This approach was based on the assumption that grading or construction activity would occur on a portion of the overall project site on the day with the worst-case emissions, and that the grading or construction activity was equally likely to occur in any of these portions. Fugitive dust emissions were treated as area sources distributed over the project sites. Per the LST methodology, the area sources were given a ground level release height and a 1-meter initial vertical dimension to represent the initial vertical spread of the emissions. Dry depletion parameters, per the LST methodology, were used to evaluate the $PM_{10}$ ambient impacts. Equipment and motor vehicle exhaust emissions of $PM_{10}$, $PM_{2.5}$, $NO_2$, and CO were modeled as volume sources with a release height of 5 meters (m), which represents the mid-range of the expected plume rise from frequently used construction equipment during daytime atmospheric conditions.[8] To simulate the exhaust emissions, 4 to 12 elevated volume sources with dimensions of 20 m by 20 m were distributed throughout the four portions of Neptune Marina Parcel 10R and throughout the two portions of Neptune Marina Parcel FF, the Woodfin Suite Hotel and Timeshare Resort, and the Wetland Park project sites. **Figure 1, Modeled Areas for Each Project Component**, and **Figure 2, Modeled Areas for Combined Project Components**, show the areas that were used to model the impacts of the construction emissions of each project component and of the combined project components, respectively.

- Receptors: Discrete fenceline receptors and discrete Cartesian receptors were used to determine air quality impacts in the vicinity of the project sites. The fenceline receptors were placed at 25-m intervals from the construction site boundaries out to 500 meters. Since the project area is relatively flat, flat terrain was assumed.

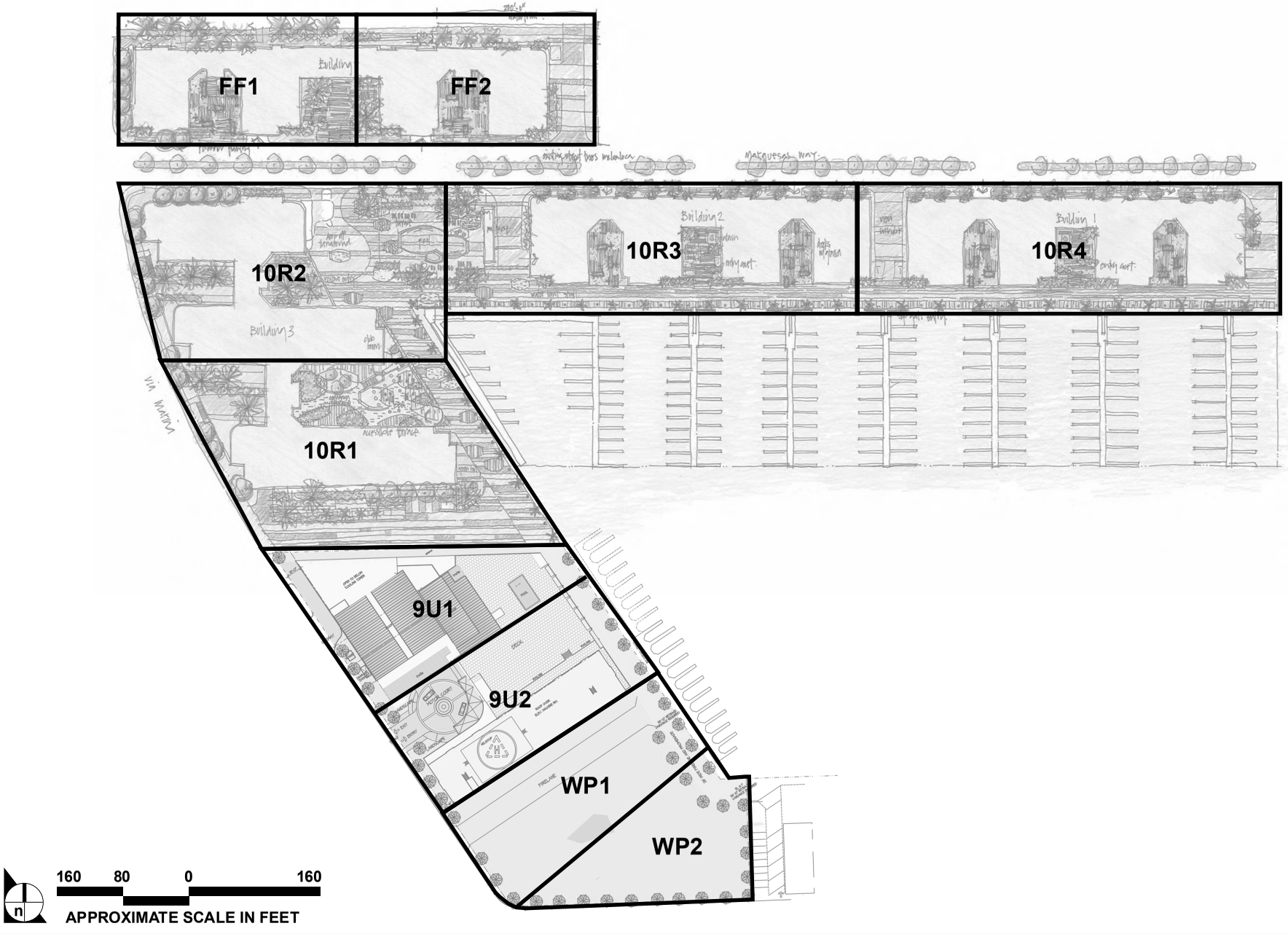
- Meteorology: West Los Angeles was identified as the nearest meteorological monitoring station for the proposed project. Deposition meteorological data were used for $PM_{10}$ sources. These data were obtained from the SCAQMD.

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6 Ibid.

7 Lakes Environmental Software, ISC-AERMOD View (Version 5.6.0).

8 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, June 2003, p. 2-2.

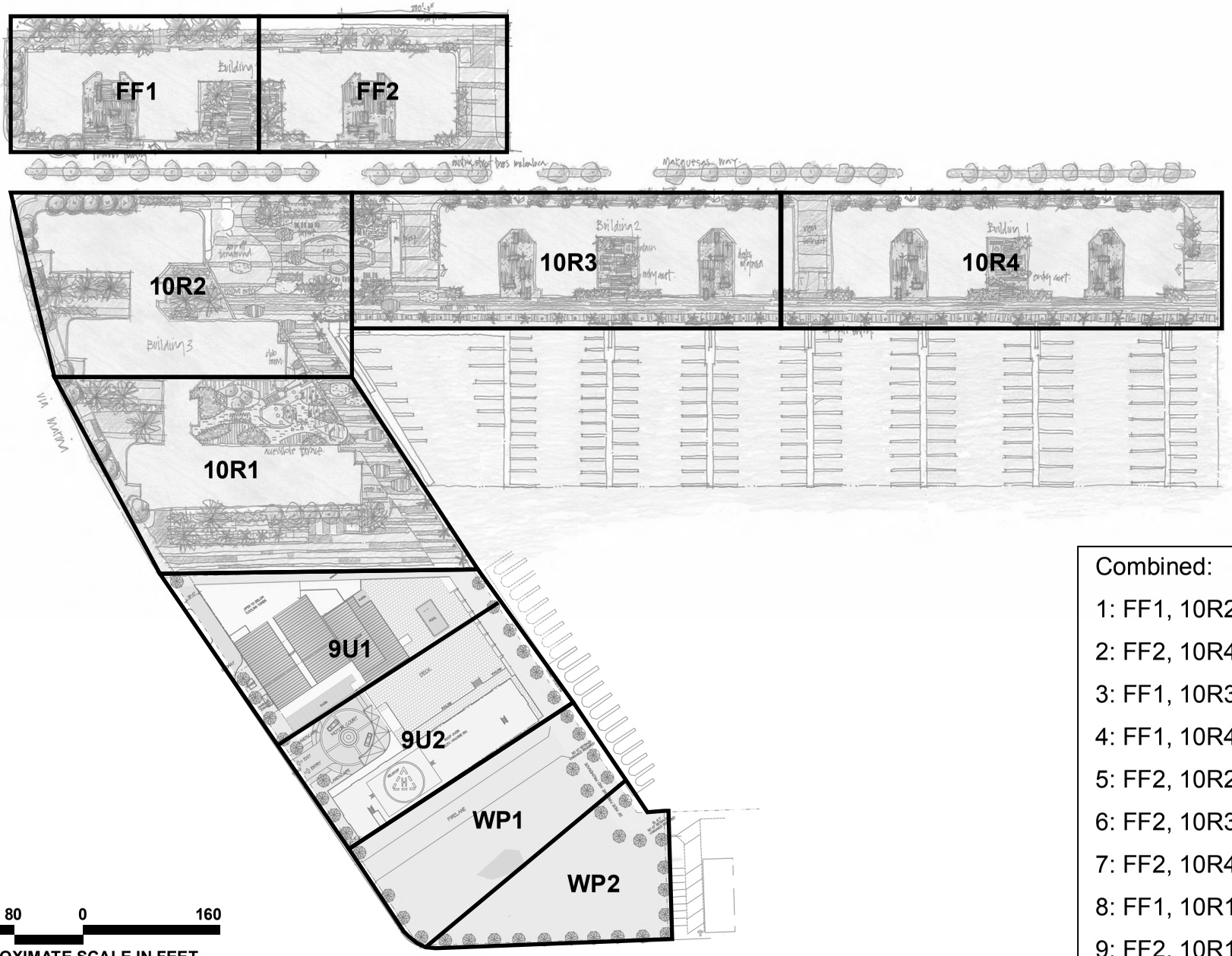



**SOURCE:** Impact Sciences, Inc. – May 2007

FIGURE **1**

Modeled Areas for Each Project Component

460-04•08/08




**SOURCE:** Impact Sciences, Inc. – May 2007

FIGURE **2**

Modeled Areas for Combined Project Components

460-04•08/08

- Model Options: SCAQMD model options were selected (NOCALM, URBAN). Dry deposition was selected for the $PM_{10}$ sources except for the Wetland Park project site during the separate modeling run. This was done because the estimated maximum $PM_{10}$ emissions from the Wetland Park originated from sources of diesel exhaust rather than fugitive dust. Because of limitations inherent in the modeling software, deposition parameters were implemented for all sources of $PM_{10}$ during the combined modeling run, as per the LST methodology.

## 3.2 Modeling Results

### 3.2.1 Adjustment of $NO_2$ Impacts

The SCAQMD's *LST Methodology* discusses an adjustment of the $NO_2$ impacts due to the fact that most of $NO_X$ in the combustion exhaust will occur in the form of nitric oxide (NO), rather than as $NO_2$. Nitric oxide is converted in the atmosphere through chemical reactions to $NO_2$. The LST methodology discusses this adjustment as follows:

> *$NO_X$ emissions are simulated in the air quality dispersion model and the $NO_2$ conversion rate is treated by an $NO_2$-to-$NO_X$ ratio, which is a function of downwind distance. Initially, it is assumed that only five percent of the emitted $NO_X$ is $NO_2$. At 5,000 meters downwind, 100 percent conversion of NO-to-$NO_2$ is assumed.*[9]

The following **Table 5, $NO_2$-to-$NO_X$ Ratio as a Function of Downwind Distance**, from the *LST Methodology* demonstrates how the $NO_2$-to-$NO_X$ ratio varies with distance from the source. For this analysis, the distance from the center of the modeling area (i.e., center of the volume sources constituting the areas in which construction activity is assumed to occur) to the receptor with the highest impact was determined. A $NO_X$-to-$NO_2$ ratio was determined from the values in **Table 5**. Ratios at distances between the values in **Table 5** were interpolated. Refer to **Appendix C** for detailed calculations regarding the $NO_X$-to-$NO_2$ conversion.

For the combined project, the conversion to $NO_2$ was determined by analyzing the $NO_X$ contributions from the individual project components at the maximally impacted sensitive receptor during the hour when the maximum impact occurs. According to the modeling results, 93.2 percent of the $NO_X$ concentration at the maximally impacted receptor during the specified hour was due to the emissions associated with the construction of the nearby Woodfin Suite Hotel and Timeshare Resort project. Therefore, a $NO_X$-to-$NO_2$ ratio using the distance from the relevant modeled area of the hotel project was applied to 93.2 percent of the total combined maximum $NO_X$ concentration at the receptor. The remaining

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9 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, June 2008, p. 2-8. The $NO_2$ conversion rates are adapted by the SCAQMD from Arellano, J.V., A.M. Talmon, and P.J.H. Builtjes, "A Chemically Reactive Plume Model for the NO-$NO_2$-$O_3$ System," Atmospheric Environment 24A, 2237-2246.

6.8 percent of the total maximum $NO_X$ concentration was due to emissions associated with the construction of Parcel 10R. Details of this analysis are presented in **Appendix C**.

**Table 5**
**$NO_2$-to-$NO_X$ Ratio as a Function of Downwind Distance**

| Downwind Distance (m) | $NO_2/NO_X$ Ratio |
|---|---|
| 20 | 0.053 |
| 50 | 0.059 |
| 70 | 0.064 |
| 100 | 0.074 |
| 200 | 0.114 |
| 500 | 0.258 |
| 1000 | 0.467 |
| 2000 | 0.75 |
| 3000 | 0.9 |
| 4000 | 0.978 |
| 5000 | 1.0 |

*Source: Impact Sciences, Inc.*

[1] *South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, June 2008, Table 2-4, p. 2-9.*

### 3.2.2 Project-Specific Impacts

**Table 6, Modeling Results – Neptune Marina Parcel 10R, Table 7, Modeling Results – Neptune Marina Parcel FF, Table 8, Modeling Results – Woodfin Suite Hotel and Timeshare Resort (Parcel 9U),** and **Table 9, Modeling Results – Wetland Park (Parcel 9U)**, show the maximum $PM_{10}$, $PM_{2.5}$, $NO_2$, and CO concentrations associated with each component of the proposed project at receptors within 500 meters of the combined project sites. As stated in **Section 3.1**, each project site was divided into two or four areas. The values shown in these tables are the maximum results associated with the area within each component producing the highest impacts because the activity could occur in any of the areas on any given day. **Table 10, Modeling Results – Combined Project Components**, shows the maximum $PM_{10}$, $PM_{2.5}$, $NO_2$, and CO concentrations associated with concurrent construction activities in each component of the proposed project at receptors within 500 meters of the combined project sites. For determining maximum cumulative impacts from $NO_X$ and CO emissions, different combinations of areas within each of the four project components were analyzed because it is not known where concurrent activities would occur during construction of each component. Based on the construction schedule provided by the applicant, maximum emissions were estimated for concurrent construction phases from the project

components. Various scenarios that resulted in the relatively high concurrent emissions were used to estimate the range of potential impacts from concurrent construction activities. The maximum combined impacts from these various combinations are shown in **Table 10**.

**Table 6**
**Modeling Results – Neptune Marina Parcel 10R**

| Pollutant | Averaging Period | Modeling Results µg/m³ | Modeling Results ppm | LST Criteria µg/m³ | LST Criteria ppm | Exceeds Threshold? |
|---|---|---|---|---|---|---|
| Respirable Particulate Matter ($PM_{10}$) | 24 hours | 23.33 | NA | 10.4 | NA | YES |
| Fine Particulate Matter ($PM_{2.5}$) | 24 hours | 11.94 | NA | 10.4 | NA | YES |
| Nitrogen Dioxide ($NO_2$) | 1 hour | 112.65 | 0.06 | 188 | 0.10 | NO |
| Carbon Monoxide (CO) | 1 hour | 814.07 | 0.71 | 19,454 | 17 | NO |
| Carbon Monoxide (CO) | 8 hours | 284.02 | 0.25 | 7,896 | 6.9 | NO |

*Source: Impact Sciences, Inc.*

**Table 7**
**Modeling Results – Neptune Marina Parcel FF**

| Pollutant | Averaging Period | Modeling Results µg/m³ | Modeling Results ppm | LST Criteria µg/m³ | LST Criteria ppm | Exceeds Threshold? |
|---|---|---|---|---|---|---|
| Respirable Particulate Matter ($PM_{10}$) | 24 hours | 29.33 | NA | 10.4 | NA | YES |
| Fine Particulate Matter ($PM_{2.5}$) | 24 hours | 13.27 | NA | 10.4 | NA | YES |
| Nitrogen Dioxide ($NO_2$) | 1 hour | 90.90 | 0.05 | 188 | 0.10 | NO |
| Carbon Monoxide (CO) | 1 hour | 765.55 | 0.67 | 19,454 | 17 | NO |
| Carbon Monoxide (CO) | 8 hours | 276.66 | 0.24 | 7,896 | 6.9 | NO |

*Source: Impact Sciences, Inc.*

**Table 8**
**Modeling Results – Woodfin Suite Hotel and Timeshare Resort (Parcel 9U North)**

| Pollutant | Averaging Period | Modeling Results µg/m³ | Modeling Results ppm | LST Criteria µg/m³ | LST Criteria ppm | Exceeds Threshold? |
|---|---|---|---|---|---|---|
| Respirable Particulate Matter ($PM_{10}$) | 24 hours | 24.55 | NA | 10.4 | NA | YES |
| Fine Particulate Matter ($PM_{2.5}$) | 24 hours | 14.35 | NA | 10.4 | NA | YES |
| Nitrogen Dioxide ($NO_2$) | 1 hour | 203.33 | 0.11 | 188 | 0.10 | YES |
| Carbon Monoxide (CO) | 1 hour | 1,669.18 | 1.46 | 19,454 | 17 | NO |
| Carbon Monoxide (CO) | 8 hours | 436.89 | 0.38 | 7,896 | 6.9 | NO |

*Source: Impact Sciences, Inc.*

**Table 9**
**Modeling Results – Wetland Park (Parcel 9U South)**

| Pollutant | Averaging Period | Modeling Results µg/m³ | Modeling Results ppm | LST Criteria µg/m³ | LST Criteria ppm | Exceeds Threshold? |
|---|---|---|---|---|---|---|
| Respirable Particulate Matter ($PM_{10}$) | 24 hours | 6.79 | NA | 10.4 | NA | NO |
| Fine Particulate Matter ($PM_{2.5}$) | 24 hours | 6.27 | NA | 10.4 | NA | NO |
| Nitrogen Dioxide ($NO_2$) | 1 hour | 44.38 | 0.02 | 188 | 0.10 | NO |
| Carbon Monoxide (CO) | 1 hour | 443.19 | 0.39 | 19,454 | 17 | NO |
| Carbon Monoxide (CO) | 8 hours | 158.66 | 0.14 | 7,896 | 6.9 | NO |

*Source: Impact Sciences, Inc.*

**Table 10**
**Modeling Results**
**Combined Project Components**

| Pollutant | Averaging Period | Modeling Results µg/m³ | Modeling Results ppm | LST Criteria µg/m³ | LST Criteria ppm | Exceeds Threshold? |
|---|---|---|---|---|---|---|
| Respirable Particulate Matter ($PM_{10}$) | 24 hours | 34.01 | NA | 10.4 | NA | YES |
| Fine Particulate Matter ($PM_{2.5}$) | 24 hours | 16.33 | NA | 10.4 | NA | YES |
| Nitrogen Dioxide ($NO_2$) | 1 hour | 228.24 | 0.12 | 188 | 0.10 | YES |
| Carbon Monoxide (CO) | 1 hour | 1,712.32 | 1.50 | 19,454 | 17 | NO |
| Carbon Monoxide (CO) | 8 hours | 451.48 | 0.39 | 7,896 | 6.9 | NO |

*Source: Impact Sciences, Inc.*

## 4.0 CONCLUSIONS

The LST analysis was conducted to estimate worst-case ambient air quality impacts during construction of the four individual project components and the impacts from the combined construction of all four project components. The analysis indicates that the 24-hour $PM_{10}$ and $PM_{2.5}$ thresholds would be exceeded during the individual construction of Parcel 10R, Parcel FF, and the Woodfin Suite Hotel and Timeshare Resort. In addition, the 1-hour $NO_2$ threshold would be exceeded during the construction of the Woodfin Suite Hotel and Timeshare Resort. Individual construction of the Wetland Park is not expected to exceed any of the established thresholds. The 24-hour $PM_{10}$ and $PM_{2.5}$ thresholds and the 1-hour $NO_2$ threshold would be exceeded as a result of the construction of the combined project components as well. The impacts suggest that $PM_{10}$ emissions could exceed the limitations in SCAQMD Rule 403. While the $NO_2$ concentrations for Component 3 and the combined project components exceed the LST thresholds, the CAAQS would be exceeded only if (1) the actual background concentrations were as high as those on which the LST thresholds are based during the worst-case construction day, (2) the amount of construction activity (e.g., number and types of equipment, hours of operation) assumed in this analysis actually occurred, and (3) the meteorological conditions in the data set used in the dispersion modeling analysis occurred in the vicinity of the project site on the worst-case construction day.

# APPENDIX A

## Summary of URBEMIS2007 Results
## Construction Emissions

**Neptune Marina and Woodfin Suite Hotel Combined Construction Emissions**
**On-site Emissions**

| Construction Year (Scenario)** | Parcel/Activity | $NO_X$ | CO | $PM_{10}$ (Dust) | $PM_{10}$ (Exhaust) | $PM_{10}$ (Total) | $PM_{2.5}$ (Dust) | $PM_{2.5}$ (Exhaust) | $PM_{2.5}$ (Total) |
|---|---|---|---|---|---|---|---|---|---|
| 2011 (1) | 10R Demolition* | 41.29 | 23.53 | **23.66** | **2.41** | **26.07** | 4.92 | 2.22 | 7.14 |
| | 9U-N Grading | 27.49 | 16.94 | 9.17 | 1.81 | 10.98 | 1.91 | 1.66 | 3.57 |
| | **Total** | **68.78** | **40.47** | **32.83** | **4.22** | **37.05** | **6.83** | **3.88** | **10.71** |
| 2011 (2) | 10R Grading | 68.43 | 40.11 | 19.42 | 3.94 | 23.36 | 4.05 | 3.63 | 7.68 |
| | 9U-N Grading | 27.49 | 16.94 | **9.17** | **1.81** | **10.98** | 1.91 | 1.66 | 3.57 |
| | **Total** | **95.92** | **57.05** | **28.59** | **5.75** | **34.34** | **5.96** | **5.29** | **11.25** |
| 2011 (3) | 10R Grading | 68.43 | **40.11** | 19.42 | 3.94 | 23.36 | **4.05** | **3.63** | **7.68** |
| | 9U-N Construction | **97.61** | **52.58** | - | 5.64 | 5.64 | **-** | **5.18** | **5.18** |
| | **Total** | **166.04** | **92.69** | **19.42** | **9.58** | **29.00** | **4.05** | **8.81** | **12.86** |
| 2011 (4) | 10R Construction | **78.33** | 37.57 | - | 4.87 | 4.87 | - | 4.48 | 4.48 |
| | FF Demolition* | 10.15 | 5.90 | 0.54 | 0.58 | 1.12 | 0.12 | 0.53 | 0.65 |
| | 9U-N Construction | 82.46 | 43.51 | - | 4.31 | 4.31 | - | 3.96 | 3.96 |
| | Wetland Park Grading | 18.44 | 9.05 | 0.18 | 0.88 | 1.06 | 0.04 | 0.81 | 0.85 |
| | **Total** | **189.38** | **96.03** | **0.72** | **10.64** | **11.36** | **0.16** | **9.78** | **9.94** |
| 2011 (5) | 10R Construction | 78.33 | 37.57 | - | 4.87 | 4.87 | - | 4.48 | 4.48 |
| | FF Grading | **45.93** | **26.00** | **8.93** | **2.69** | **11.62** | **1.86** | **2.47** | **4.33** |
| | 9U-N Construction | 82.46 | 43.51 | - | 4.31 | 4.31 | - | 3.96 | 3.96 |
| | Wetland Park Grading | 18.44 | 9.05 | 0.18 | 0.88 | 1.06 | 0.04 | 0.81 | 0.85 |
| | **Total** | **225.16** | **116.13** | **9.11** | **12.75** | **21.86** | **1.90** | **11.72** | **13.62** |
| 2012 (6) | 10R Construction | 58.98 | 28.70 | - | 3.36 | 3.36 | - | 3.09 | 3.09 |
| | FF Grading | 42.99 | 25.13 | 8.93 | 2.44 | 11.37 | 1.86 | 2.25 | 4.11 |
| | 9U-N Construction | 77.25 | 41.83 | - | 3.95 | 3.95 | - | 3.63 | 3.63 |
| | Wetland Park Construction | **19.27** | **10.97** | **-** | **1.41** | **1.41** | **-** | **1.30** | **1.30** |
| | **Total** | **198.49** | **106.63** | **8.93** | **11.16** | **20.09** | **1.86** | **10.27** | **12.13** |
| 2012 (7) | 10R Construction | 58.98 | 28.70 | - | 3.36 | 3.36 | - | 3.09 | 3.09 |
| | FF Construction | 45.05 | 21.07 | - | 2.48 | 2.48 | - | 2.28 | 2.28 |
| | 9U-N Construction | 77.25 | 41.83 | - | 3.95 | 3.95 | - | 3.63 | 3.63 |
| | Wetland Park Construction | 8.63 | 4.13 | - | 0.50 | 0.50 | - | 0.46 | 0.46 |
| | **Total** | **189.91** | **95.73** | **-** | **10.29** | **10.29** | **-** | **9.46** | **9.46** |
| 2012 (8) | 10R Construction | 58.98 | 28.70 | - | 3.36 | 3.36 | - | 3.09 | 3.09 |
| | FF Construction | 31.59 | 12.92 | - | 1.49 | 1.49 | - | 1.37 | 1.37 |
| | 9U-N Construction | 77.25 | 41.83 | - | 3.95 | 3.95 | - | 3.63 | 3.63 |
| | Wetland Park Construction | 8.63 | 4.13 | - | 0.50 | 0.50 | - | 0.46 | 0.46 |
| | **Total** | **176.45** | **87.58** | **-** | **9.30** | **9.30** | **-** | **8.55** | **8.55** |
| 2013 (9) | 10R Construction | 54.37 | 28.19 | - | 2.98 | 2.98 | - | 2.75 | 2.75 |
| | FF Construction | 29.17 | 12.66 | - | 1.33 | 1.33 | - | 1.22 | 1.22 |
| | **Total** | **83.54** | **40.85** | **-** | **4.31** | **4.31** | **-** | **3.97** | **3.97** |

Source: Emission estimates from URBEMIS2007, On-site emissions, (2009).

* SCAQMD Mitigation Measures, Table XI-A. Demolition watering reduces fugitive dust by 36%.

** Each scenario represents a different set of overlapping construction phases amongst the four parcels.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Emissions | 10R | 78.33 | 40.11 | 23.66 | 4.87 | 26.07 | 4.92 | 4.48 | 7.68 |
| | FF | 45.93 | 26.00 | 8.93 | 2.69 | 11.62 | 1.86 | 2.47 | 4.33 |
| | 9U | 97.61 | 52.58 | 9.17 | 5.64 | 10.98 | 1.91 | 5.18 | 5.18 |
| | WP | 19.27 | 10.97 | 0.18 | 1.41 | 1.41 | 0.04 | 1.30 | 1.30 |
| | Combined | 225.16 | 116.13 | 32.83 | 12.75 | 37.05 | 6.83 | 11.72 | 13.62 |

# APPENDIX B

**ISCST3 modeling files are available upon request**

# APPENDIX C

## ISCST3 Model Input Parameters and Summary of Results

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Emission Rate Inputs**
**Conversion of lbs/day to g/s**

**Table LST-1**
**Maximum Daily Emissions Model - Individual Parcels**

| Project Component | Model Source Group | Averaging Period (Hours) | Number of Volume Sources (Exhaust) | Number of Area Sources (Dust) | Modeled Emission Rate | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CO | | $NO_X$ | | PM10 | PM10 (DPM) | | PM10 (Dust) | | PM2.5 | PM2.5 (DPM) | | PM2.5 (Dust) | |
| | | | | | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s |
| **Parcel 10R** | 10R1 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| (All) | 10R2 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 10R3 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 10R4 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| **Parcel 9U** | 9U1 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 5.18 | 5.18 | 1.36E-02 | - | - |
| (All) | 9U2 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 5.18 | 5.18 | 1.36E-02 | - | - |
| **Parcel FF** | FF1 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| (All) | FF2 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| **Wetland Park** | WP1 | 8 | 5 | 1 | 10.97 | 3.46E-02 | 19.27 | 6.07E-02 | 1.41 | 1.41 | 4.44E-03 | - | - | 1.30 | 1.30 | 4.10E-03 | - | - |
| (All) | WP2 | 8 | 4 | 1 | 10.97 | 4.32E-02 | 19.27 | 7.59E-02 | 1.41 | 1.41 | 5.55E-03 | - | - | 1.30 | 1.30 | 5.12E-03 | - | - |

Source: Emission estimates from URBEMIS2007, On-site emissions, (2009).

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Emission Rate Inputs**
**Conversion of lbs/day to g/s**

**Table LST-2**
**Maximum Daily Emissions Model - Combined Parcels**

| Combined Project | Model Source Groups | Averaging Period (Hours) | Number of Volume Sources (Exhaust) | Number of Area Sources (Dust) | Modeled Emission Rate | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CO | | $NO_X$ | | PM10 | PM10 (DPM) | | PM10 (Dust) | | PM2.5 | PM2.5 (DPM) | | PM2.5 (Dust) | |
| | | | | | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s |
| **Combination** | | | | | | | | | | | | | | | | | | |
| (West) | 10R2 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U1 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF1 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP1 | 8 | 5 | 1 | 9.05 | 2.85E-02 | 18.44 | 5.81E-02 | - | - | - | - | - | 0.85 | 0.81 | 2.55E-03 | 0.04 | 6.30E-04 |
| (East) | 10R4 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U2 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF2 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP2 | 8 | 4 | 1 | 9.05 | 3.56E-02 | 18.44 | 7.26E-02 | - | - | - | - | - | 0.85 | 0.81 | 3.19E-03 | 0.04 | 6.30E-04 |
| (North 1) | 10R3 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U1 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF1 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP1 | 8 | 5 | 1 | 9.05 | 2.85E-02 | 18.44 | 5.81E-02 | - | - | - | - | - | 0.85 | 0.81 | 2.55E-03 | 0.04 | 6.30E-04 |
| (North 2) | 10R4 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U1 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF1 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP1 | 8 | 5 | 1 | 9.05 | 2.85E-02 | 18.44 | 5.81E-02 | - | - | - | - | - | 0.85 | 0.81 | 2.55E-03 | 0.04 | 6.30E-04 |
| (North 3) | 10R2 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U1 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF2 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP1 | 8 | 5 | 1 | 9.05 | 2.85E-02 | 18.44 | 5.81E-02 | - | - | - | - | - | 0.85 | 0.81 | 2.55E-03 | 0.04 | 6.30E-04 |
| (North 4) | 10R3 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U1 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF2 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP1 | 8 | 5 | 1 | 9.05 | 2.85E-02 | 18.44 | 5.81E-02 | - | - | - | - | - | 0.85 | 0.81 | 2.55E-03 | 0.04 | 6.30E-04 |
| (North 5) | 10R4 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U1 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF2 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP1 | 8 | 5 | 1 | 9.05 | 2.85E-02 | 18.44 | 5.81E-02 | - | - | - | - | - | 0.85 | 0.81 | 2.55E-03 | 0.04 | 6.30E-04 |
| (South 1) | 10R1 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U2 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF1 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP2 | 8 | 4 | 1 | 9.05 | 3.56E-02 | 18.44 | 7.26E-02 | - | - | - | - | - | 0.85 | 0.81 | 3.19E-03 | 0.04 | 6.30E-04 |
| (South 2) | 10R1 | 8 | 12 | 1 | 37.57 | 4.93E-02 | 78.33 | 1.03E-01 | 26.07 | 2.41 | 3.16E-03 | 23.66 | 3.73E-01 | 4.48 | 4.48 | 5.88E-03 | - | - |
| | 9U2 | 8 | 6 | 1 | 43.51 | 1.14E-01 | 82.46 | 2.16E-01 | 10.98 | 1.81 | 4.75E-03 | 9.17 | 1.44E-01 | 3.96 | 3.96 | 1.04E-02 | - | - |
| | FF2 | 8 | 10 | 1 | 26.00 | 4.10E-02 | 45.93 | 7.23E-02 | - | - | - | - | - | 4.33 | 2.47 | 3.89E-03 | 1.86 | 2.93E-02 |
| | WP2 | 8 | 4 | 1 | 9.05 | 3.56E-02 | 18.44 | 7.26E-02 | - | - | - | - | - | 0.85 | 0.81 | 3.19E-03 | 0.04 | 6.30E-04 |

Source: Emission estimates from URBEMIS2007, On-site emissions, (2009).

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Emission Rate Inputs**
**Conversion of lbs/day to g/s**

**Table LST-3**
**Additional PM10 and PM2.5 Daily Emissions Model - Combined Parcels**

| Combined Project | Model Source Groups | Averaging Period (Hours) | Number of Volume Sources (Exhaust) | Number of Area Sources (Dust) | Modeled Emission Rate | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CO | | $NO_X$ | | PM10 | PM10 (DPM) | | PM10 (Dust) | | PM2.5 | PM2.5 (DPM) | | PM2.5 (Dust) | |
| | | | | | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s |
| **Combination** | | | | | | | | | | | | | | | | | | |
| (West) | 10R2 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U1 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF1 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP1 | 8 | 5 | 1 | - | - | - | - | 1.06 | 0.88 | 2.77E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |
| (East) | 10R4 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U2 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF2 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP2 | 8 | 4 | 1 | - | - | - | - | 1.06 | 0.88 | 3.47E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |
| (North 1) | 10R3 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U1 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF1 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP1 | 8 | 5 | 1 | - | - | - | - | 1.06 | 0.88 | 2.77E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |
| (North 2) | 10R4 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U1 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF1 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP1 | 8 | 5 | 1 | - | - | - | - | 1.06 | 0.88 | 2.77E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |
| (North 3) | 10R2 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U1 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF2 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP1 | 8 | 5 | 1 | - | - | - | - | 1.06 | 0.88 | 2.77E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |
| (North 4) | 10R3 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U1 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF2 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP1 | 8 | 5 | 1 | - | - | - | - | 1.06 | 0.88 | 2.77E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |
| (North 5) | 10R4 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U1 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF2 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP1 | 8 | 5 | 1 | - | - | - | - | 1.06 | 0.88 | 2.77E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |
| (South 1) | 10R1 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U2 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF1 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP2 | 8 | 4 | 1 | - | - | - | - | 1.06 | 0.88 | 3.47E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |
| (South 2) | 10R1 | 8 | 12 | 1 | 40.11 | 5.26E-02 | 68.43 | 8.98E-02 | 4.87 | 4.87 | 6.39E-03 | - | - | 7.68 | 3.63 | 4.76E-03 | 4.05 | 6.38E-02 |
| | 9U2 | 8 | 6 | 1 | 52.58 | 1.38E-01 | 97.61 | 2.56E-01 | 4.31 | 4.31 | 1.13E-02 | - | - | 5.18 | 5.18 | 1.36E-02 | - | - |
| | FF2 | 8 | 10 | 1 | - | - | - | - | 11.62 | 2.69 | 4.24E-03 | 8.93 | 1.41E-01 | - | - | - | - | - |
| | WP2 | 8 | 4 | 1 | - | - | - | - | 1.06 | 0.88 | 3.47E-03 | 0.18 | 2.84E-03 | - | - | - | - | - |

Source: Emission estimates from URBEMIS2007, On-site emissions, (2009).

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Emission Rate Inputs**
**Conversion of lbs/day to g/s**

**Table LST-4**
**Annual Weighted Average Emissions for PM10 and PM2.5 in Year 2011 - Individual Parcels**

| Project Component | Construction Phase and Year | Model Source Group | Averaging Period (Hours) | Number of Volume Sources (Exhaust) | Number of Area Sources (Dust) | Days | Modeled Emission Rates | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | $NO_x$ | | PM10 | PM10 (DPM) | | PM10 (Dust) | | PM2.5 | PM2.5 (DPM) | | PM2.5 (Dust) | |
| | | | | | | | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s |
| **Parcel 10R** | Demolition | 10R1 | 8 | 48 | 1 | 44 | | | 26.07 | 2.41 | 7.91E-04 | 23.66 | 3.73E-01 | 7.14 | 2.22 | 7.28E-04 | 4.92 | 7.75E-02 |
| (Max PM10 | 2011 | 10R2 | 8 | 48 | 1 | 44 | | | 26.07 | 2.41 | 7.91E-04 | 23.66 | 3.73E-01 | 7.14 | 2.22 | 7.28E-04 | 4.92 | 7.75E-02 |
| and PM2.5) | | 10R3 | 8 | 48 | 1 | 44 | | | 26.07 | 2.41 | 7.91E-04 | 23.66 | 3.73E-01 | 7.14 | 2.22 | 7.28E-04 | 4.92 | 7.75E-02 |
| | | 10R4 | 8 | 48 | 1 | 44 | | | 26.07 | 2.41 | 7.91E-04 | 23.66 | 3.73E-01 | 7.14 | 2.22 | 7.28E-04 | 4.92 | 7.75E-02 |
| | Site Grading | 10R1 | 8 | 48 | 1 | 66 | | | 23.36 | 3.94 | 1.29E-03 | 19.42 | 3.06E-01 | 7.68 | 3.63 | 1.19E-03 | 4.05 | 6.38E-02 |
| | Sewer/Water Line | 10R2 | 8 | 48 | 1 | 66 | | | 23.36 | 3.94 | 1.29E-03 | 19.42 | 3.06E-01 | 7.68 | 3.63 | 1.19E-03 | 4.05 | 6.38E-02 |
| | 2011 | 10R3 | 8 | 48 | 1 | 66 | | | 23.36 | 3.94 | 1.29E-03 | 19.42 | 3.06E-01 | 7.68 | 3.63 | 1.19E-03 | 4.05 | 6.38E-02 |
| | | 10R4 | 8 | 48 | 1 | 66 | | | 23.36 | 3.94 | 1.29E-03 | 19.42 | 3.06E-01 | 7.68 | 3.63 | 1.19E-03 | 4.05 | 6.38E-02 |
| | Building Construction & | 10R1 | 8 | 48 | 1 | 43 | | | 4.87 | 4.87 | 1.60E-03 | - | - | 4.48 | 4.48 | 1.47E-03 | - | - |
| | Asphalt Paving | 10R2 | 8 | 48 | 1 | 43 | | | 4.87 | 4.87 | 1.60E-03 | - | - | 4.48 | 4.48 | 1.47E-03 | - | - |
| | 2011 | 10R3 | 8 | 48 | 1 | 43 | | | 4.87 | 4.87 | 1.60E-03 | - | - | 4.48 | 4.48 | 1.47E-03 | - | - |
| | | 10R4 | 8 | 48 | 1 | 43 | | | 4.87 | 4.87 | 1.60E-03 | - | - | 4.48 | 4.48 | 1.47E-03 | - | - |
| | Building Construction | 10R1 | 8 | 48 | 1 | 22 | | | 3.63 | 3.63 | 1.19E-03 | - | - | 3.34 | 3.34 | 1.10E-03 | - | - |
| | 2011 | 10R2 | 8 | 48 | 1 | 22 | | | 3.63 | 3.63 | 1.19E-03 | - | - | 3.34 | 3.34 | 1.10E-03 | - | - |
| | | 10R3 | 8 | 48 | 1 | 22 | | | 3.63 | 3.63 | 1.19E-03 | - | - | 3.34 | 3.34 | 1.10E-03 | - | - |
| | | 10R4 | 8 | 48 | 1 | 22 | | | 3.63 | 3.63 | 1.19E-03 | - | - | 3.34 | 3.34 | 1.10E-03 | - | - |
| Annual Weighted | All Above Phases | 10R1 | 8 | 48 | 1 | 260 | | | 11.45 | 2.52 | 8.27E-04 | 8.93 | 1.41E-01 | 4.18 | 2.32 | 7.61E-04 | 1.86 | 2.93E-02 |
| Average Rate | 2011 | 10R2 | 8 | 48 | 1 | 260 | | | 11.45 | 2.52 | 8.27E-04 | 8.93 | 1.41E-01 | 4.18 | 2.32 | 7.61E-04 | 1.86 | 2.93E-02 |
| | | 10R3 | 8 | 48 | 1 | 260 | | | 11.45 | 2.52 | 8.27E-04 | 8.93 | 1.41E-01 | 4.18 | 2.32 | 7.61E-04 | 1.86 | 2.93E-02 |
| | | 10R4 | 8 | 48 | 1 | 260 | | | 11.45 | 2.52 | 8.27E-04 | 8.93 | 1.41E-01 | 4.18 | 2.32 | 7.61E-04 | 1.86 | 2.93E-02 |
| **Parcel 9U** | Site Grading/Water Line | 9U1 | 8 | 12 | 1 | 65 | | | 10.98 | 1.81 | 2.38E-03 | 9.17 | 1.44E-01 | 3.57 | 1.66 | 2.18E-03 | 1.91 | 3.01E-02 |
| (Max PM10) | 2011 | 9U2 | 8 | 12 | 1 | 65 | | | 10.98 | 1.81 | 2.38E-03 | 9.17 | 1.44E-01 | 3.57 | 1.66 | 2.18E-03 | 1.91 | 3.01E-02 |
| | Bldg. Constr. & A.P. | 9U1 | 8 | 12 | 1 | 23 | | | 5.64 | 5.64 | 7.40E-03 | - | - | 5.18 | 5.18 | 6.80E-03 | - | - |
| | 2011 | 9U2 | 8 | 12 | 1 | 23 | | | 5.64 | 5.64 | 7.40E-03 | - | - | 5.18 | 5.18 | 6.80E-03 | - | - |
| | Building Construction | 9U1 | 8 | 12 | 1 | 87 | | | 4.31 | 4.31 | 5.66E-03 | - | - | 3.96 | 3.96 | 5.20E-03 | - | - |
| | 2011 | 9U2 | 8 | 12 | 1 | 87 | | | 4.31 | 4.31 | 5.66E-03 | - | - | 3.96 | 3.96 | 5.20E-03 | - | - |
| Annual Weighted | All Above Phases | 9U1 | 8 | 12 | 1 | 260 | | | 4.69 | 2.39 | 3.14E-03 | 2.29 | 3.61E-02 | 2.68 | 2.20 | 2.89E-03 | 0.48 | 7.52E-03 |
| Average Rate | 2011 | 9U2 | 8 | 12 | 1 | 260 | | | 4.69 | 2.39 | 3.14E-03 | 2.29 | 3.61E-02 | 2.68 | 2.20 | 2.89E-03 | 0.48 | 7.52E-03 |
| **Parcel FF** | Demolition | FF1 | 8 | 20 | 1 | 21 | | | 1.12 | 0.58 | 4.57E-04 | 0.54 | 8.57E-03 | 0.65 | 0.53 | 4.17E-04 | 0.12 | 1.81E-03 |
| | 2011 | FF2 | 8 | 20 | 1 | 21 | | | 1.12 | 0.58 | 4.57E-04 | 0.54 | 8.57E-03 | 0.65 | 0.53 | 4.17E-04 | 0.12 | 1.81E-03 |
| | Site Grading/Water Line | FF1 | 8 | 20 | 1 | 44 | | | 11.62 | 2.69 | 2.12E-03 | 8.93 | 1.41E-01 | 4.33 | 2.47 | 1.95E-03 | 1.86 | 2.93E-02 |
| | 2011 | FF2 | 8 | 20 | 1 | 44 | | | 11.62 | 2.69 | 2.12E-03 | 8.93 | 1.41E-01 | 4.33 | 2.47 | 1.95E-03 | 1.86 | 2.93E-02 |
| Annual Weighted | All Above Phases | FF1 | 8 | 20 | 1 | 260 | | | 2.06 | 0.50 | 3.95E-04 | 1.56 | 2.45E-02 | 0.78 | 0.46 | 3.63E-04 | 0.32 | 5.10E-03 |
| Average Rate | 2011 | FF2 | 8 | 20 | 1 | 260 | | | 2.06 | 0.50 | 3.95E-04 | 1.56 | 2.45E-02 | 0.78 | 0.46 | 3.63E-04 | 0.32 | 5.10E-03 |
| **Wetland Park** | Site Grading | WP1 | 8 | 9 | 1 | 65 | | | 1.06 | 0.88 | 1.54E-03 | 0.18 | 2.84E-03 | 0.85 | 0.81 | 1.42E-03 | 0.04 | 6.30E-04 |
| | 2011 | WP2 | 8 | 9 | 1 | 65 | | | 1.06 | 0.88 | 1.54E-03 | 0.18 | 2.84E-03 | 0.85 | 0.81 | 1.42E-03 | 0.04 | 6.30E-04 |
| Annual Weighted | All Above Phases | WP1 | 8 | 9 | 1 | 260 | | | 0.27 | 0.22 | 3.85E-04 | 0.05 | 7.09E-04 | 0.21 | 0.20 | 3.54E-04 | 0.01 | 1.58E-04 |
| Average Rate | 2011 | WP2 | 8 | 9 | 1 | 260 | | | 0.27 | 0.22 | 3.85E-04 | 0.05 | 7.09E-04 | 0.21 | 0.20 | 3.54E-04 | 0.01 | 1.58E-04 |

Maximum annual NOx emissions occurs in 2012 for all parcels.

Source: Emission estimates from URBEMIS2007, On-site emissions, (2009).

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Emission Rate Inputs**
**Conversion of lbs/day to g/s**

**Table LST-5**
**Annual Weighted Average Emissions for NOx, PM10, and PM2.5 in Year 2012 - Individual Parcels**

| Project Component | Construction Phase and Year | Model Source Group | Averaging Period (Hours) | Total Number of Volume Sources (Exhaust) | Number of Area Sources (Dust) | Days | Modeled Emission Rates | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | $NO_X$ | | PM10 | PM10 (DPM) | | PM10 (Dust) | | PM2.5 | PM2.5 (DPM) | | PM2.5 (Dust) | |
| | | | | | | | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s |
| **Parcel 10R** | Building Construction | 10R1 | 8 | 48 | 1 | 65 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | 2012 | 10R2 | 8 | 48 | 1 | 65 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | | 10R3 | 8 | 48 | 1 | 65 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | | 10R4 | 8 | 48 | 1 | 65 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | Building Construction | 10R1 | 8 | 48 | 1 | 196 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | 2012 | 10R2 | 8 | 48 | 1 | 196 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | | 10R3 | 8 | 48 | 1 | 196 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | | 10R4 | 8 | 48 | 1 | 196 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| Annual Weighted | All Above Phases | 10R1 | 8 | 48 | 1 | 261 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| Average Rate | 2012 | 10R2 | 8 | 48 | 1 | 261 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | | 10R3 | 8 | 48 | 1 | 261 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| | | 10R4 | 8 | 48 | 1 | 261 | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| **Parcel 9U** | Building Construction | 9U1 | 8 | 12 | 1 | 65 | 77.25 | 1.01E-01 | 3.95 | 3.95 | 5.18E-03 | - | - | 3.63 | 3.63 | 4.76E-03 | - | - |
| (Max PM2.5) | 2012 | 9U2 | 8 | 12 | 1 | 65 | 77.25 | 1.01E-01 | 3.95 | 3.95 | 5.18E-03 | - | - | 3.63 | 3.63 | 4.76E-03 | - | - |
| | Building Construction | 9U1 | 8 | 12 | 1 | 196 | 77.25 | 1.01E-01 | 3.95 | 3.95 | 5.18E-03 | - | - | 3.63 | 3.63 | 4.76E-03 | - | - |
| | 2012 | 9U2 | 8 | 12 | 1 | 196 | 77.25 | 1.01E-01 | 3.95 | 3.95 | 5.18E-03 | - | - | 3.63 | 3.63 | 4.76E-03 | - | - |
| Annual Weighted | All Above Phases | 9U1 | 8 | 12 | 1 | 261 | 77.25 | 1.01E-01 | 3.95 | 3.95 | 5.18E-03 | - | - | 3.63 | 3.63 | 4.76E-03 | - | - |
| Average Rate | 2012 | 9U2 | 8 | 12 | 1 | 261 | 77.25 | 1.01E-01 | 3.95 | 3.95 | 5.18E-03 | - | - | 3.63 | 3.63 | 4.76E-03 | - | - |
| **Parcel FF** | Site Grading/Water Line | FF1 | 8 | 20 | 1 | 22 | 42.99 | 3.39E-02 | 11.37 | 2.44 | 1.92E-03 | 8.93 | 1.41E-01 | 4.11 | 2.25 | 1.77E-03 | 1.86 | 2.93E-02 |
| (Max PM10 | 2012 | FF2 | 8 | 20 | 1 | 22 | 42.99 | 3.39E-02 | 11.37 | 2.44 | 1.92E-03 | 8.93 | 1.41E-01 | 4.11 | 2.25 | 1.77E-03 | 1.86 | 2.93E-02 |
| and PM2.5) | | | | | | | | | | | | | | | | | | |
| | Bldg. Constr. & A.P. | FF1 | 8 | 20 | 1 | 21 | 45.05 | 3.55E-02 | 2.48 | 2.48 | 1.95E-03 | - | - | 2.28 | 2.28 | 1.80E-03 | - | - |
| | 2012 | FF2 | 8 | 20 | 1 | 21 | 45.05 | 3.55E-02 | 2.48 | 2.48 | 1.95E-03 | - | - | 2.28 | 2.28 | 1.80E-03 | - | - |
| | Building Construction | FF1 | 8 | 20 | 1 | 109 | 31.59 | 2.49E-02 | 1.49 | 1.49 | 1.17E-03 | - | - | 1.37 | 1.37 | 1.08E-03 | - | - |
| | 2012 | FF2 | 8 | 20 | 1 | 109 | 31.59 | 2.49E-02 | 1.49 | 1.49 | 1.17E-03 | - | - | 1.37 | 1.37 | 1.08E-03 | - | - |
| | Building Construction | FF1 | 8 | 20 | 1 | 109 | 31.59 | 2.49E-02 | 1.49 | 1.49 | 1.17E-03 | - | - | 1.37 | 1.37 | 1.08E-03 | - | - |
| | 2012 | FF2 | 8 | 20 | 1 | 109 | 31.59 | 2.49E-02 | 1.49 | 1.49 | 1.17E-03 | - | - | 1.37 | 1.37 | 1.08E-03 | - | - |
| Annual Weighted | All Above Phases | FF1 | 8 | 20 | 1 | 261 | 33.63 | 2.65E-02 | 2.40 | 1.65 | 1.30E-03 | 0.75 | 1.19E-02 | 1.67 | 1.52 | 1.19E-03 | 0.16 | 2.47E-03 |
| Average Rate | 2012 | FF2 | 8 | 20 | 1 | 261 | 33.63 | 2.65E-02 | 2.40 | 1.65 | 1.30E-03 | 0.75 | 1.19E-02 | 1.67 | 1.52 | 1.19E-03 | 0.16 | 2.47E-03 |
| **Wetland Park** | Bldg. Constr. & A.P. | WP1 | 8 | 9 | 1 | 22 | 19.27 | 3.37E-02 | 1.41 | 1.41 | 2.47E-03 | - | - | 1.30 | 1.30 | 2.28E-03 | - | - |
| (Max PM10 | 2012 | WP2 | 8 | 9 | 1 | 22 | 19.27 | 3.37E-02 | 1.41 | 1.41 | 2.47E-03 | - | - | 1.30 | 1.30 | 2.28E-03 | - | - |
| and PM2.5) | | | | | | | | | | | | | | | | | | |
| | Building Construction | WP1 | 8 | 9 | 1 | 196 | 8.63 | 1.51E-02 | 0.50 | 0.50 | 8.75E-04 | - | - | 0.46 | 0.46 | 8.05E-04 | - | - |
| | 2012 | WP2 | 8 | 9 | 1 | 196 | 8.63 | 1.51E-02 | 0.50 | 0.50 | 8.75E-04 | - | - | 0.46 | 0.46 | 8.05E-04 | - | - |
| Annual Weighted | All Above Phases | WP1 | 8 | 9 | 1 | 261 | 8.11 | 1.42E-02 | 0.49 | 0.49 | 8.65E-04 | - | - | 0.46 | 0.46 | 7.96E-04 | - | - |
| Average Rate | 2012 | WP2 | 8 | 9 | 1 | 261 | 8.11 | 1.42E-02 | 0.49 | 0.49 | 8.65E-04 | - | - | 0.46 | 0.46 | 7.96E-04 | - | - |

Source: Emission estimates from URBEMIS2007, On-site emissions, (2009).

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Emission Rate Inputs**
**Conversion of lbs/day to g/s**

**Table LST-6**
**Annual Weighted Average Emissions - Combined Parcels**

| Combined Project | Model Source Groups | Averaging Period (Hours) | Total Number of Volume Sources (Exhaust) | Number of Area Sources (Dust) | | Modeled Emission Rates | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $NO_X$ | | PM10 | PM10 (DPM) | | PM10 (Dust) | | PM2.5 | PM2.5 (DPM) | | PM2.5 (Dust) | |
| | | | | | | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s | lbs/day | lbs/day | g/s | lbs/day | g/s |
| **2011** | 10R | 8 | 48 | 1 | | **Maximum annual NOx emissions occurs in 2012 for all parcels.** | | 11.45 | 2.52 | 8.27E-04 | 8.93 | 1.41E-01 | 4.18 | 2.32 | 7.61E-04 | 1.86 | 2.93E-02 |
| PM10 Maximum Model, | 9U | 8 | 12 | 1 | | | | 4.69 | 2.39 | 3.14E-03 | 2.29 | 3.01E-03 | 2.68 | 2.20 | 2.89E-03 | 0.48 | 7.52E-03 |
| PM2.5 Secondary Model | FF | 8 | 20 | 1 | | | | 2.06 | 0.50 | 3.95E-04 | 1.56 | 2.45E-02 | 0.78 | 0.46 | 3.63E-04 | 0.32 | 5.10E-03 |
| | WP | 8 | 9 | 1 | | | | 0.27 | 0.22 | 3.85E-04 | 0.05 | 7.09E-04 | 0.21 | 0.20 | 3.54E-04 | 0.01 | 1.58E-04 |
| **2012** | 10R | 8 | 48 | 1 | | 58.98 | 1.94E-02 | 3.36 | 3.36 | 1.10E-03 | - | - | 3.09 | 3.09 | 1.01E-03 | - | - |
| $NO_X$ Maximum Model, | 9U | 8 | 12 | 1 | | 77.25 | 1.01E-01 | 3.95 | 3.95 | 5.18E-03 | - | - | 3.63 | 3.63 | 4.76E-03 | - | - |
| PM10 Secondary Model, | FF | 8 | 20 | 1 | | 33.63 | 2.65E-02 | 2.40 | 1.65 | 1.30E-03 | 0.75 | 1.19E-02 | 1.67 | 1.52 | 1.19E-03 | 0.16 | 2.47E-03 |
| PM2.5 Maximum Model | WP | 8 | 9 | 1 | | 8.11 | 1.42E-02 | 0.49 | 0.49 | 8.65E-04 | - | - | 0.46 | 0.46 | 7.96E-04 | - | - |

Source: Emission estimates from URBEMIS2007, On-site emissions, (2009).

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Results**
**Maximum Modeled Impacts at Sensitive Receptors and $NO_2$ Conversion**

**Table LST-7**
**Modeled Impacts at Sensitive Receptors**

| Project Component | Model Source Group | Modeled Impacts | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | CO | | $NO_X$ | | PM10 | | PM2.5 | |
| | | 1-Hr $\mu g/m^3$ | 8-Hr $\mu g/m^3$ | 1-Hr $\mu g/m^3$ | Annual $\mu g/m^3$ | 24-Hr $\mu g/m^3$ | Annual $\mu g/m^3$ | 24-Hr $\mu g/m^3$ | Annual $\mu g/m^3$ |
| **10R** | 10R1 | 814.07 | 264.25 | 1594.09 | 12.02 | 22.53 | 2.49 | 11.04 | 0.93 |
| | 10R2 | 750.30 | 202.17 | 1469.23 | | 21.54 | | 8.99 | |
| | 10R3 | 382.16 | 195.22 | 748.34 | | 20.12 | | 8.69 | |
| | 10R4 | 452.85 | 284.02 | 1238.15 | | 23.33 | | 11.94 | |
| **FF** | FF1 | 765.55 | 276.66 | 1349.99 | 21.02 | 29.33 | 1.54 | 13.27 | 1.06 |
| | FF2 | 572.89 | 153.52 | 1010.24 | | 23.09 | | 8.06 | |
| **9U** | 9U1 | 1669.18 | 426.83 | 3096.45 | 15.55 | 24.55 | 0.97 | 14.02 | 0.73 |
| | 9U2 | 1586.86 | 436.89 | 2943.74 | | 23.60 | | 14.35 | |
| **WP** | WP1 | 396.32 | 94.83 | 695.27 | 6.71 | 5.25 | 0.41 | 4.85 | 0.38 |
| | WP2 | 443.19 | 158.66 | 778.65 | | 6.79 | | 6.27 | |
| **Combined (Maximum)** | East | 1428.47 | 381.57 | 2729.45 | 27.59 | 25.79 | 2.73 | 11.76 | 1.40 |
| | North1 | 1379.21 | 368.42 | 2613.30 | | 26.91 | | 13.28 | |
| | North2 | 1409.37 | 374.73 | 2701.02 | | 26.92 | | 13.28 | |
| | North3 | 1379.20 | 365.13 | 2613.26 | | 26.89 | | 13.28 | |
| | North4 | 1379.21 | 370.89 | 2613.30 | | 26.91 | | 11.48 | |
| | North5 | 1409.37 | 377.20 | 2701.02 | | 26.92 | | 11.73 | |
| | South1 | 1311.06 | 379.35 | 2484.15 | | 25.74 | | 13.55 | |
| | South2 | 1311.06 | 381.69 | 2484.15 | | 25.74 | | 11.76 | |
| | West | 1379.20 | 362.66 | 2613.26 | | 26.89 | | 16.33 | |
| **Combined (Additional Model)** | East | 1712.32 | 451.35 | 3157.92 | | 23.41 | 1.88 | 15.12 | 1.12 |
| | North1 | 1669.2 | 441.19 | 3096.48 | | 29.34 | | 15.41 | |
| | North2 | 1683.48 | 447.91 | 3102.54 | | 29.33 | | 15.61 | |
| | North3 | 1669.18 | 435.04 | 3096.45 | | 29.36 | | 15.23 | |
| | North4 | 1669.2 | 441.19 | 3096.48 | | 24.29 | | 15.41 | |
| | North5 | 1683.48 | 447.91 | 3102.54 | | 23.8 | | 15.61 | |
| | South1 | 1587.05 | 451.48 | 2944.06 | | 29.76 | | 15.12 | |
| | South2 | 1587.05 | 451.48 | 2944.06 | | 25.57 | | 15.12 | |
| | West | 1669.18 | 435.04 | 3096.45 | | 34.01 | | 15.23 | |

Source: Lakes-Environmental, ISC-AERMOD View, Version 5.9.0, (2009).

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Results**
**Maximum Modeled Impacts at Sensitive Receptors and $NO_2$ Conversion**

**Table LST-8**
**Maximum Modeled Impacts at Sensitive Receptors**

| Project Component | Maximum Modeled Impacts | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CO | | | | $NO_x$ | | PM10 | | PM2.5 | |
| | 1-Hr | | 8-Hr | | 1-Hr | Annual | 24-Hr | Annual | 24-Hr | Annual |
| | $\mu g/m^3$ | ppm | $\mu g/m^3$ | ppm | $\mu g/m^3$ | $\mu g/m^3$ | $\mu g/m^3$ | $\mu g/m^3$ | $\mu g/m^3$ | $\mu g/m^3$ |
| **10R** | 814.07 | 0.71 | 284.02 | 0.25 | 1594.09 | 12.02 | 23.33 | 2.49 | 11.94 | 0.93 |
| **FF** | 765.55 | 0.67 | 276.66 | 0.24 | 1349.99 | 21.02 | 29.33 | 1.54 | 13.27 | 1.06 |
| **9U** | 1669.18 | 1.46 | 436.89 | 0.38 | 3096.45 | 15.55 | 24.55 | 0.97 | 14.35 | 0.73 |
| **WP** | 443.19 | 0.39 | 158.66 | 0.14 | 778.65 | 6.71 | 6.79 | 0.41 | 6.27 | 0.38 |
| **Combined** | 1712.32 | 1.50 | 451.48 | 0.39 | 3157.92 | 27.59 | 34.01 | 2.73 | 16.33 | 1.40 |

Source: Lakes-Environmental, ISC-AERMOD View, Version 5.9.0, (2009).

**Neptune Marina Project and Woodfin Suites Hotel and Timeshare Resort**
**ISCST3 - Model Results**
**Maximum Modeled Impacts at Sensitive Receptors and $NO_2$ Conversion**

**Table LST-9**
**$NO_X$ to $NO_2$ Conversion**

| Project Component | $NO_2$ 1-Hour Averaging Period | | | | | | | $NO_2$ Annual Averaging Period | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Model Source Group | $NO_X$ 1-Hr µg/m³ | Percent Contribution to total $NO_X$ | $NO_2$-$NO_X$ Distance meters | $NO_2$-$NO_X$ Ratio | $NO_2$ 1-Hr µg/m³ | ppm | Model Source Group | $NO_X$ Annual µg/m³ | Percent Contribution to total $NO_X$ | $NO_2$-$NO_X$ Distance meters | $NO_2$-$NO_X$ Ratio | $NO_2$ Annual µg/m³ | ppm |
| **10R** | 10R1 | 1594.09 | 100% | 90 | 0.071 | 112.65 | 0.06 | 10R1-4 | 12.02 | 100% | -- | -- | 0.88 | 0.0005 |
| | | | | | | | | *10R1* | *0.48* | *4.0%* | *335* | *0.179* | *0.09* | *0.0000* |
| | | | | | | | | *10R2* | *0.23* | *1.9%* | *350* | *0.186* | *0.04* | *0.0000* |
| | | | | | | | | *10R3* | *0.93* | *7.7%* | *215* | *0.121* | *0.11* | *0.0001* |
| | | | | | | | | *10R4* | *10.38* | *86.4%* | *60* | *0.062* | *0.64* | *0.0003* |
| **FF** | FF1 | 1349.99 | 100% | 80 | 0.067 | 90.90 | 0.05 | FF1-2 | 21.02 | 100% | -- | -- | 1.30 | 0.0007 |
| | | | | | | | | *FF1* | *13.35* | *63.5%* | *75* | *0.066* | *0.88* | *0.0005* |
| | | | | | | | | *FF2* | *6.96* | *33.1%* | *60* | *0.062* | *0.43* | *0.0002* |
| **9U** | 9U1 | 3096.45 | 100% | 75 | 0.066 | 203.33 | 0.11 | 9U1-2 | 15.55 | 100% | -- | -- | 1.08 | 0.0006 |
| | | | | | | | | *9U1* | *10.21* | *65.7%* | *75* | *0.066* | *0.67* | *0.0004* |
| | | | | | | | | *9U2* | *5.34* | *34.3%* | *105* | *0.076* | *0.41* | *0.0002* |
| **WP** | WP2 | 778.65 | 100% | 40 | 0.057 | 44.38 | 0.02 | WP1-2 | 6.71 | 100% | -- | -- | 0.42 | 0.0002 |
| | | | | | | | | *WP1* | *3.19* | *47.5%* | *80* | *0.067* | *0.21* | *0.0001* |
| | | | | | | | | *WP2* | *3.52* | *52.5%* | *45* | *0.058* | *0.20* | *0.0001* |
| **Combined** | East | 3157.92 | 100% | -- | -- | 228.24 | 0.12 | All | 27.59 | 100% | -- | -- | 2.09 | 0.0011 |
| | *10R4* | *214.19* | *6.8%* | *350* | *0.186* | *39.84* | *0.02* | *10R1* | *0.78* | *2.8%* | *200* | *0.114* | *0.09* | *0.0000* |
| | *FF2* | *0.00* | *0.0%* | -- | -- | -- | -- | *10R2* | *2.53* | *9.2%* | *140* | *0.090* | *0.23* | *0.0001* |
| | *9U2* | *2943.74* | *93.2%* | *70* | *0.064* | *188.40* | *0.10* | *10R3* | *1.07* | *3.9%* | *140* | *0.090* | *0.10* | *0.0001* |
| | *WP2* | *0.00* | *0.0%* | -- | -- | -- | -- | *10R4* | *0.35* | *1.3%* | *280* | *0.152* | *0.05* | *0.0000* |
| | | | | | | | | *FF1* | 13.81 | *50.1%* | *75* | *0.066* | *0.91* | *0.0005* |
| | | | | | | | | *FF2* | 7.21 | *26.1%* | *60* | *0.062* | *0.44* | *0.0002* |
| | | | | | | | | *9U1* | 1.02 | *3.7%* | *250* | *0.138* | *0.14* | *0.0001* |
| | | | | | | | | *9U2* | 0.72 | *2.6%* | *290* | *0.157* | *0.11* | *0.0001* |
| | | | | | | | | *WP1* | 0.06 | *0.2%* | *335* | *0.179* | *0.01* | *0.0000* |
| | | | | | | | | *WP2* | 0.04 | *0.1%* | *350* | *0.186* | *0.01* | *0.0000* |

Source: Impact Sciences, Inc., (2009).



# WIND STUDY

# NEPTUNE MARINA

## MARINA DEL REY, CALIFORNIA

**RWDI Project Number:** 00-248

**DRP Project Number:** 99-205

**Date:** December 21, 1999

**Submitted by:** Rowan Williams Davies & Irwin Inc.

Principal - Colin Williams, Ph.D., P.Eng.

Project Manager - Bill Waechter, CET

Technical Co-ordinator - Mark J. Moran, B.Sc.

---

**Submitted to:** County of Los Angeles

Department of Regional Planning

Impact Analysis Section

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Website: http://www.rwdi.com

# 1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was requested by the County of Los Angeles to undertake a detailed wind study on the development of Neptune Marina (Neptune Marina Development (Project 99-205). The study addressed the wind study requirements of the Los Angeles County Zoning Code, including an assessment of the effects of the proposed developments on Neptune Marina and/or building placement on wind patterns within the marina, loss of surface winds used by birds and sailboats and general air circulation.

# 2. TEST METHODOLOGY

Wind tunnel tests were conducted on a scale model of a section of Marina del Rey to determine the impact on the wind conditions resulting from the proposed development. This report provides a summary of the results of these wind tunnel tests on Basins B, C, and on land-based locations, which includes selected building roof tops for off-site areas.

A 1 inch = 40 feet scale model of the study area and the proposed developments were assembled as shown in Figures 1 through 3. The model was instrumented with a total of 52 wind sensors and tested in RWDI's boundary layer wind tunnel for the predominant wind directions, which are west, west-southwest, southwest, and east. The sensors were developed by RWDI for use on scale models and are capable of measuring both mean wind speed and wind direction.

Tests were conducted to simulate and measure wind conditions: as they exist today (Figure 1), after the proposed development on Neptune Marina (Figure 2), and the expected future development with the proposed development on Neptune Marina and Parcels 12, 15, and 20 (Figure 3) constructed. Plan views of each of the tested configurations are given on Figure 4. The results presented in this report pertain to the model of the proposed development constructed on Neptune Marina using the architectural design drawings provided by the County of Los Angeles Department of Regional Planning and received by RWDI on November 15, 1999.

The wind tunnel results for all predominant wind directions in the Los Angeles area have been examined in detail and are presented in this report. The west, west-southwest, southwest and east wind directions together account for winds that occur a majority of the time, as shown on Figure 5. The wind roses on Figure 5 show the percentage of the time that wind blows from each of 16 directions during spring, summer, fall and winter for the hours of 7:00 am through 9:00 pm, when most sailing would occur. All of the tests were conducted for the above four wind directions.

Information on the mean wind speeds and direction recorded at each sensor location for all wind directions tested for the existing, proposed and expected development conditions can be obtained from Figures 6 through 9. Each figure presents local wind direction data at each location for one of the four approaching wind directions that were tested. The length of the arrows are proportional to the speed of the wind at each location. In each figure there are three color coded arrows at each sensor location, black to indicate the local wind direction for existing site conditions, red for the proposed Neptune Marina, and green for the configuration with developments on Neptune Marina and Parcels 12, 15 and 20 present.

The analysis of Basins B and C considered if the proposed developments will result in changes to the local wind direction or mean speed between adjacent sensors that are greater than the difference presently experienced between any two adjacent sensors. Until criterion are established by the County of Los Angeles, this is the best method of assessing the impact of the proposed developments on the sailing conditions in the marina.

It should be noted that the sensors at Locations 12, 22 and 24 became inoperative for all angles during the testing and Location 6 became inoperative for the Southwest direction, therefore, there are no data for these locations.

## 3. EFFECTS ON SAILING CONDITIONS

Figures 6 through 9 show that a majority of the red arrows (Proposed configuration) are aligned with the black arrows (existing condition) and have the same length. Therefore the wind direction and wind speed are unaffected at a majority of the areas around the development by addition of the buildings proposed to be built on Neptune Marina. The only exception to this occurs at the west end of Basins B and C during periods of westerly winds. For all of the westerly winds tested, particularly the southwest direction, a localized zone of altered wind direction and speeds occurs in Basin B and C at the west end on Basin B and C. An example of this is if a mariner is traveling through the area defined by Sensors 13, 14, 15 and 16 there will be difference in both wind speed and direction ( approximately a 60 degree wind shift between Sensors 13 and 14 as shown by the red arrows) noticed following construction of the Neptune Marina. At this location in the basin it is assumed that mariners are docking or leaving a slip and would therefore be under power.

The effect of constructing the expected development can be determined by comparing the black colored arrows to the green. Again a majority of the arrows have the same direction and length, with the exception of the extreme west end of Basins B and C. The affected area is localized around Sensors 1, 2, 12, 13, 14, 15, 23, and 31 for the westerly wind directions. Again it is assumed that boats in this area will be docking or leaving a slip and will therefore be under power.

## 4. LOSS OF SURFACE WINDS USED BY BIRDS

In order to assess the effects on birds of changes in the surface winds a report was prepared by an expert in the aerodynamics, kinematics and behavior of birds. This report has been attached as Appendix A. The author of the report considered the following issues:

- the types of birds likely to inhabit Marina del Rey
- the ability of birds to take off and land,
- soaring conditions upwind and downwind of the proposed building,
- effects on local thermal soaring conditions, and
- changes due to flight efficiency due to turbulence.

It was concluded that the proposed development will not result in major changes to birds' use of surface winds "due to the relatively minor nature of the changes expected, the wide variety of airspeeds birds are capable of flying at, the divers flight strategies employed by birds and the relatively small percentage of total area where measurable impacts will be observable".

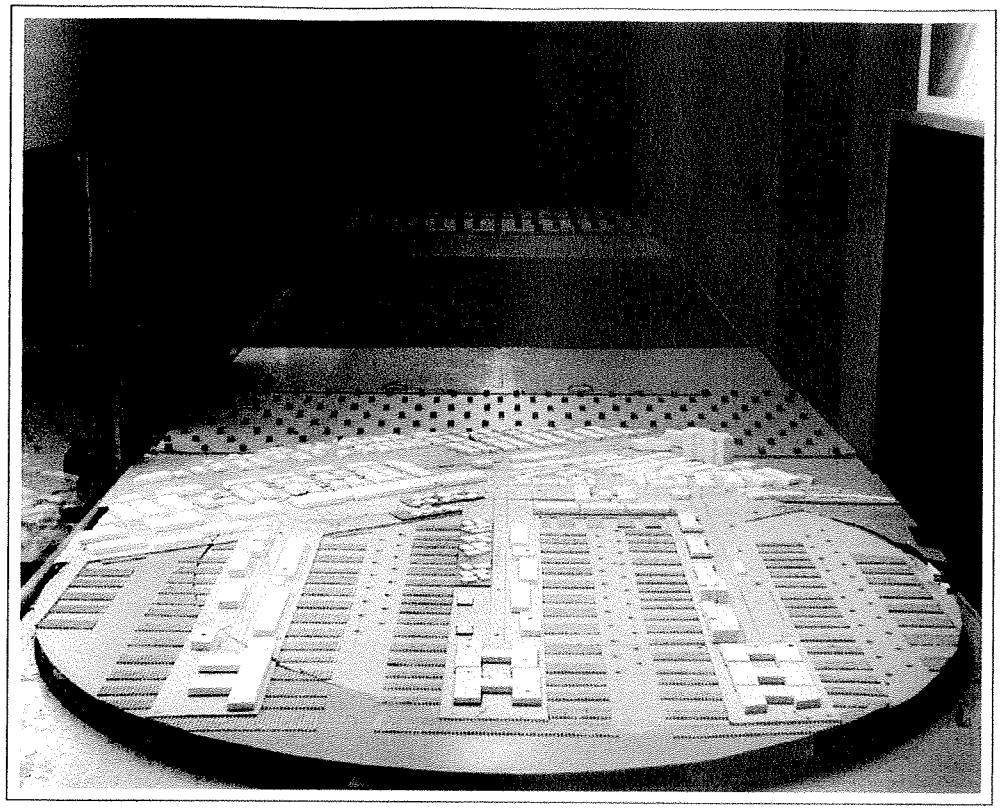
## 5. GENERAL AIR CIRCULATION PATTERNS

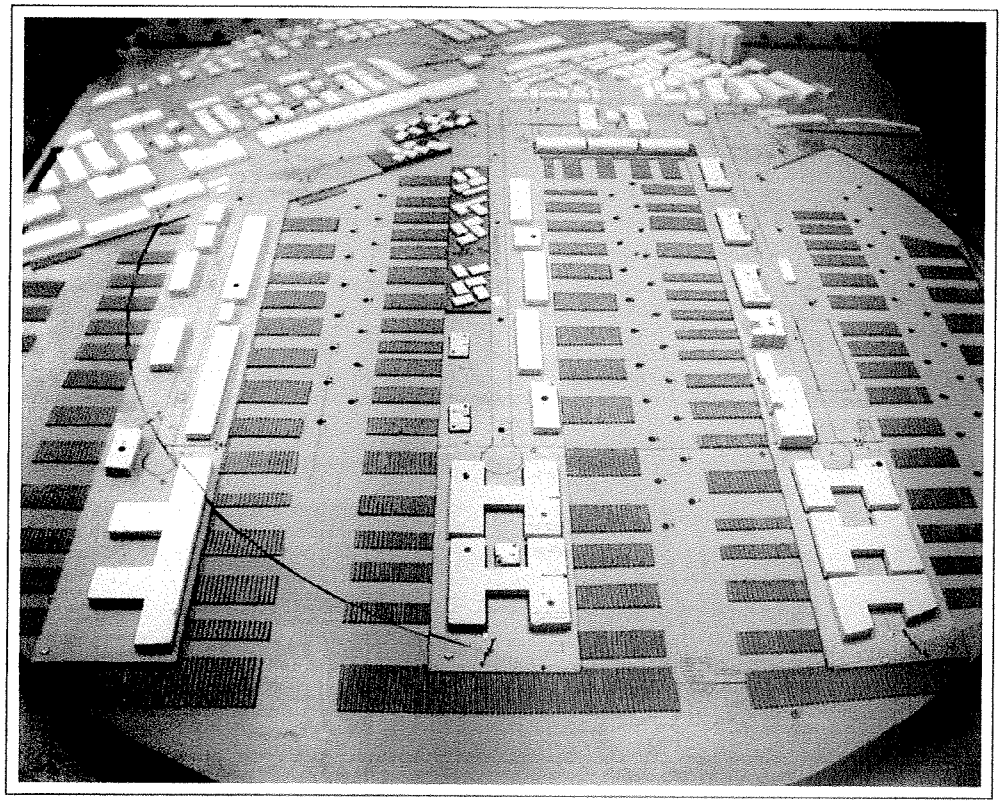
Changes in wind speed and direction were recorded only in the immediate vicinity of the proposed development. Due to the localized nature of these changes there will be no effect on the general air circulation patterns within Marina del Rey.

## 6. CONCLUSIONS

From the results of this wind study, it has been concluded that the proposed Neptune Marina will produce similar wind conditions over a majority of the areas of Marina del Rey. There will be localized areas of altered wind directions and speeds at the west end of Basins B and C. The change in wind conditions noted at the west end of Basins B and C is assumed not to be significant as boats would be under power at this location in the marina.

The overall wind conditions predicted with the proposed and expected future developments are similar to those presently experienced in and around the marina and therefore the general air circulation patterns and the use of surface winds by birds will not be affected.





**Wind Tunnel Study Model**
Existing Conditions

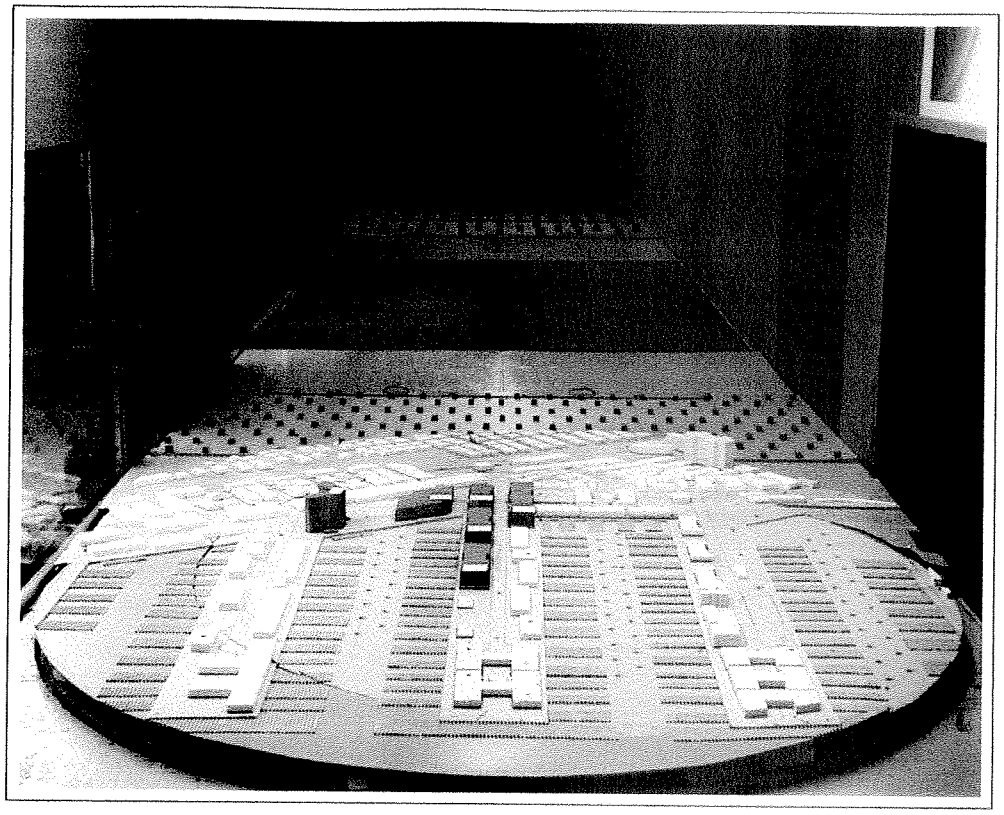
Neptune Marina - Marina del Rey, CA

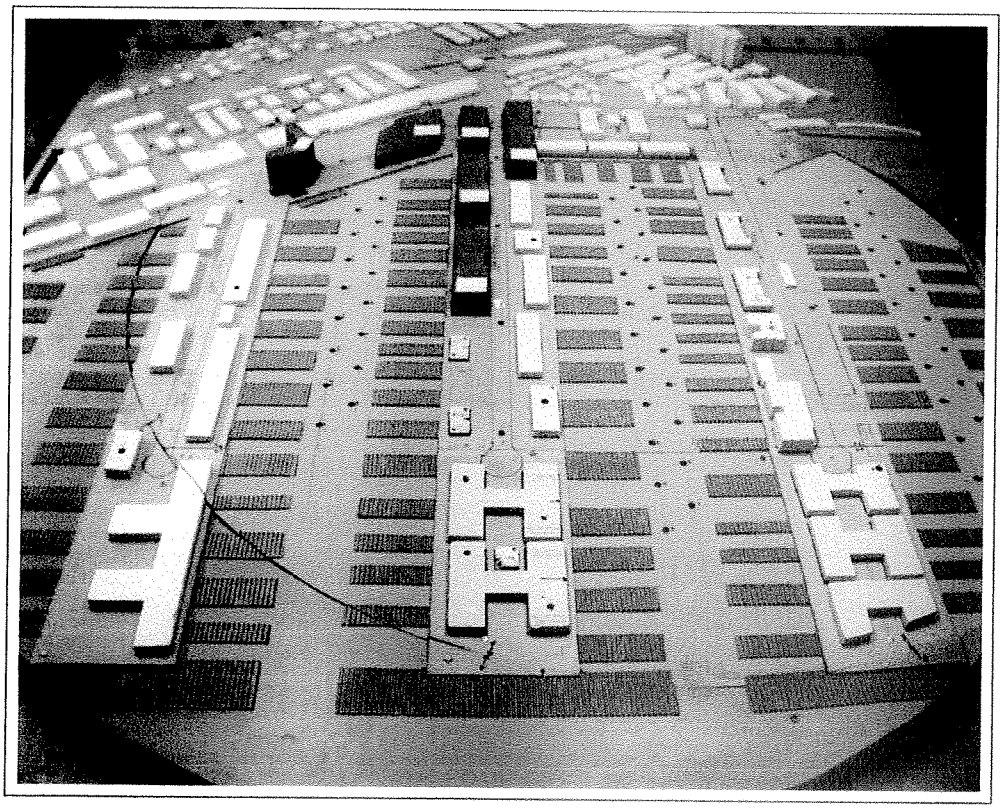
Project #00-248

Figure No. 1

Date: December 20, 1999

RWDI





**Wind Tunnel Study Model**
Proposed Developments

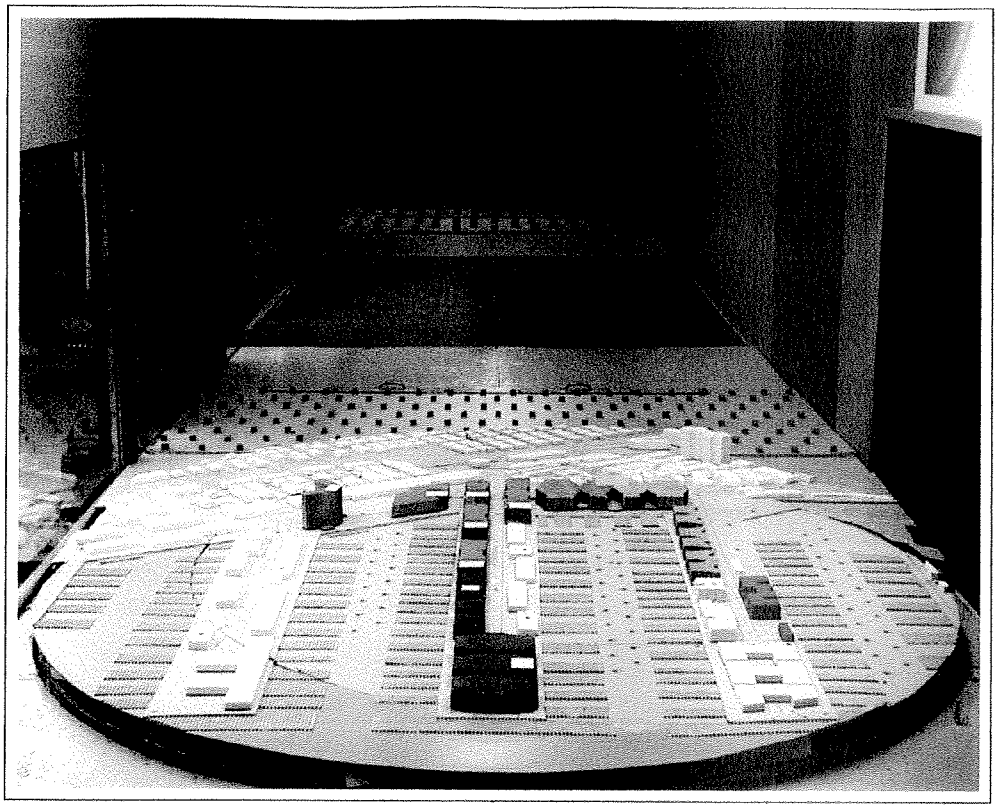
Neptune Marina - Marina del Rey, CA

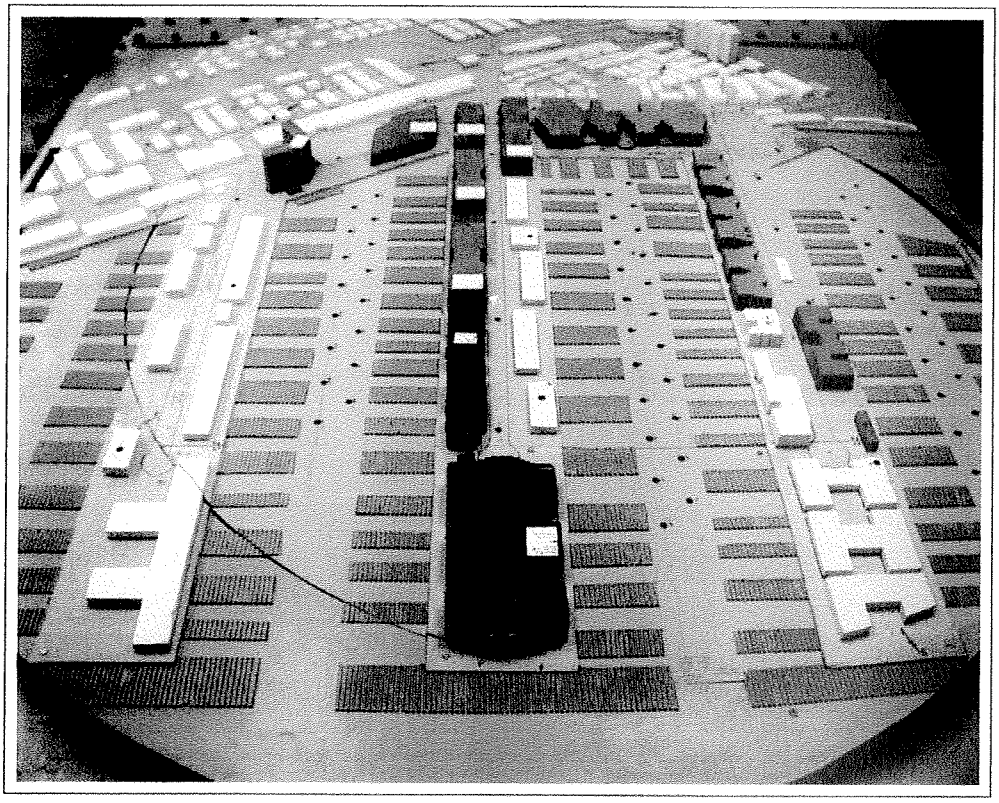
Project #00-248

Figure No. 2

Date: December 20, 1999

RWDI





**Wind Tunnel Study Model**
Proposed and Expected Developments

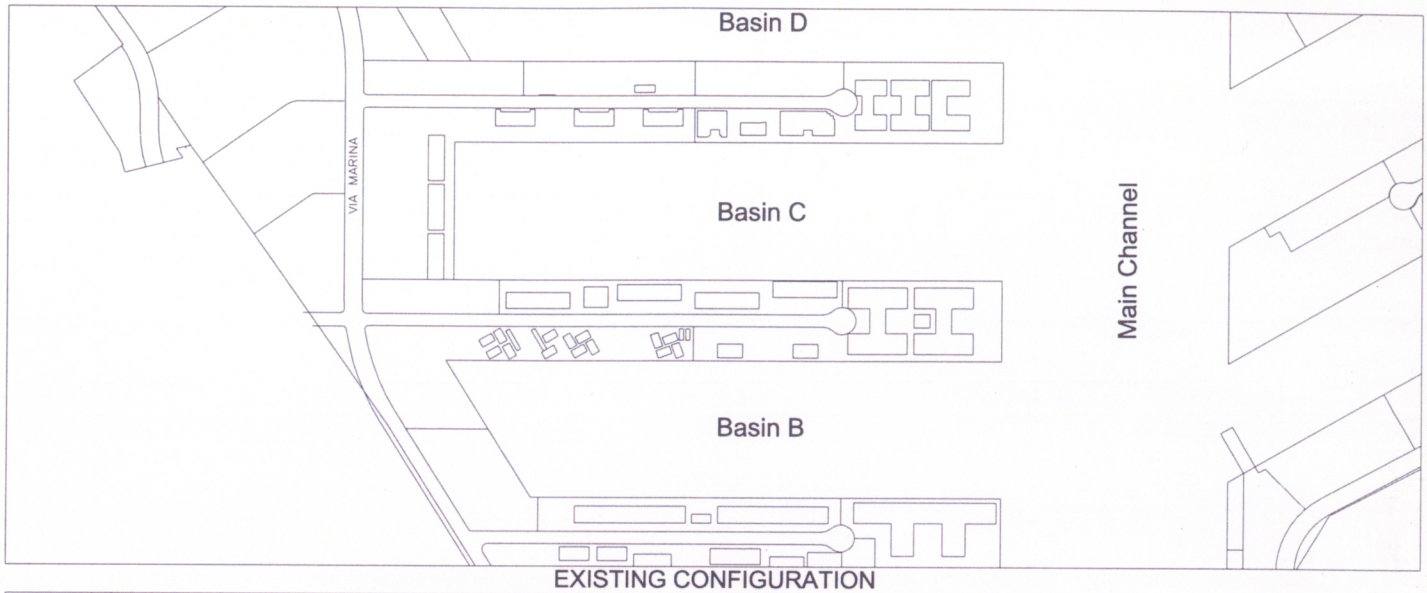
Neptune Marina - Marina del Rey, CA

Project #00-248

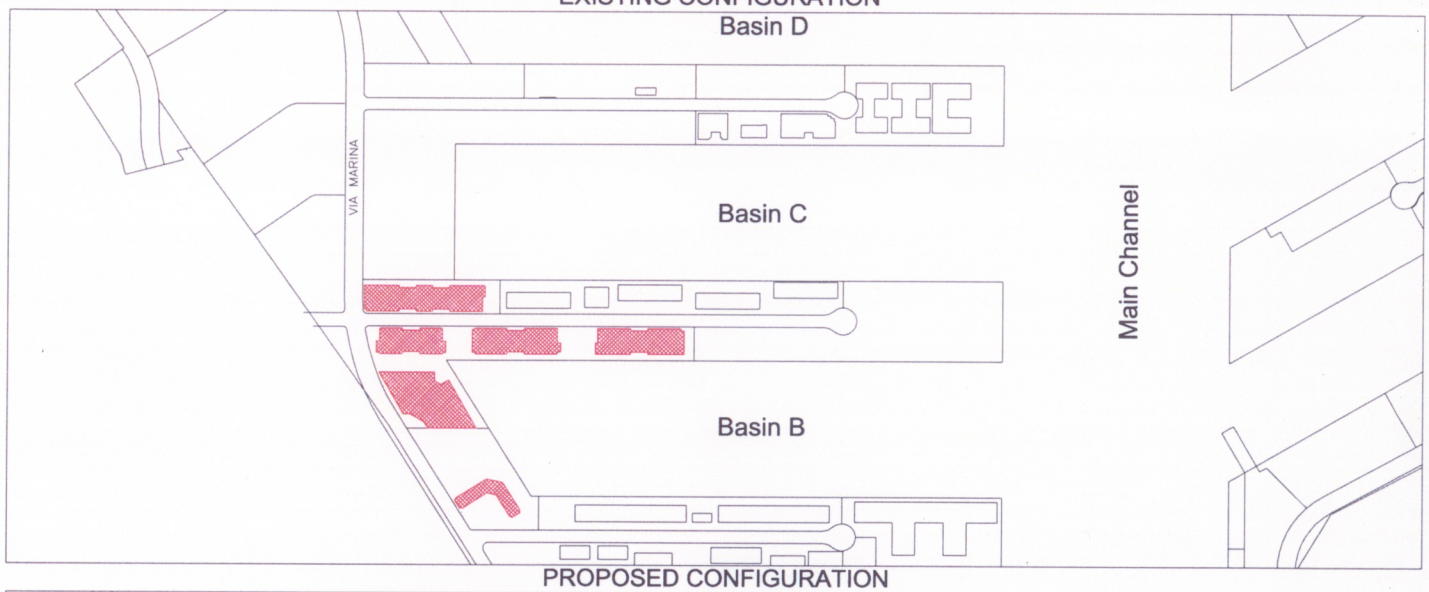
Figure No. 3

Date: December 20, 1999

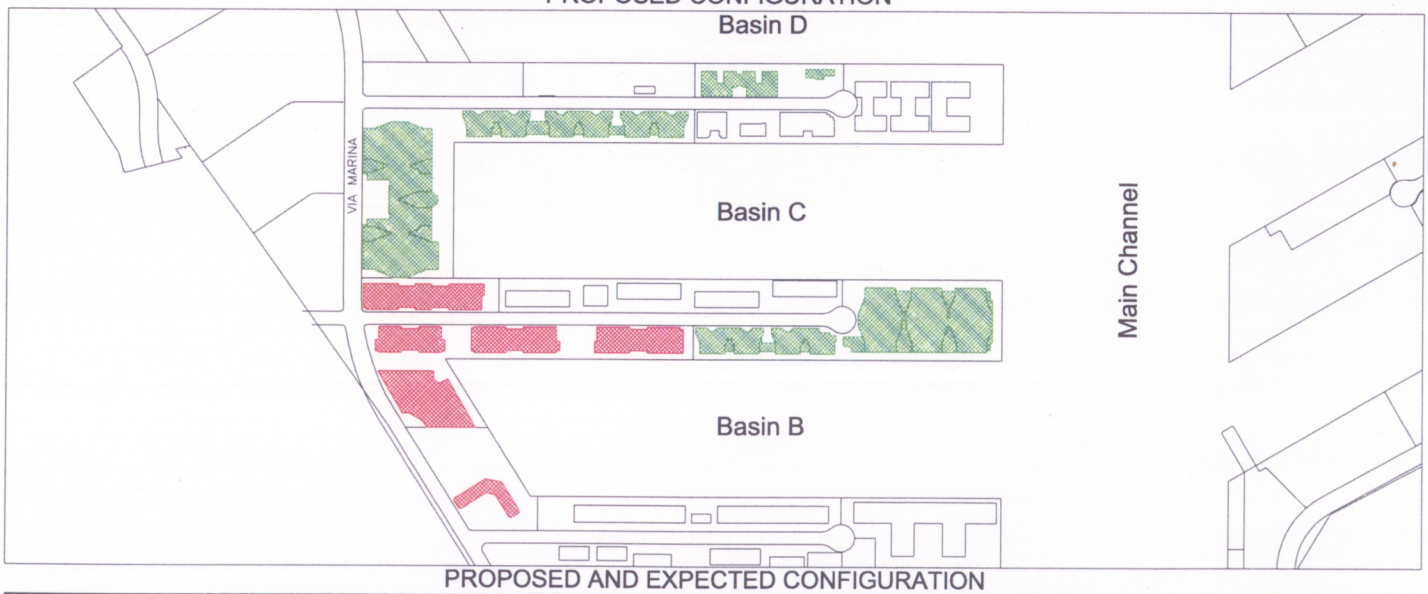
RWDI




EXISTING CONFIGURATION




PROPOSED CONFIGURATION




PROPOSED AND EXPECTED CONFIGURATION

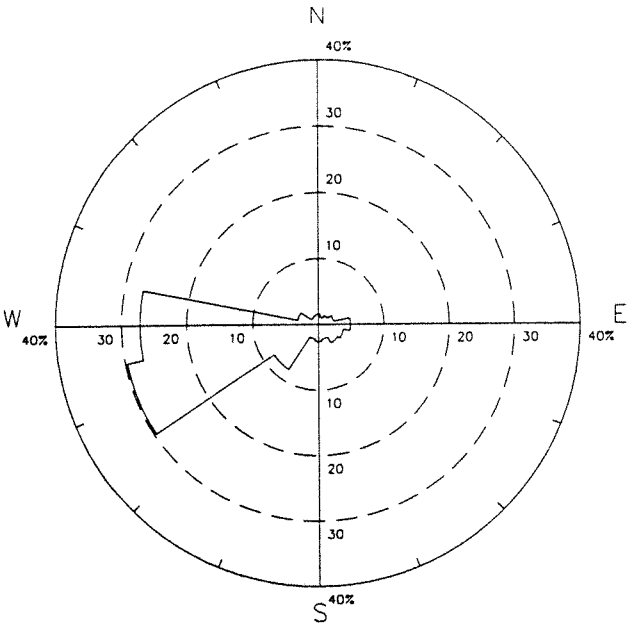
**Key Plan Showing Configurations Tested**

True North

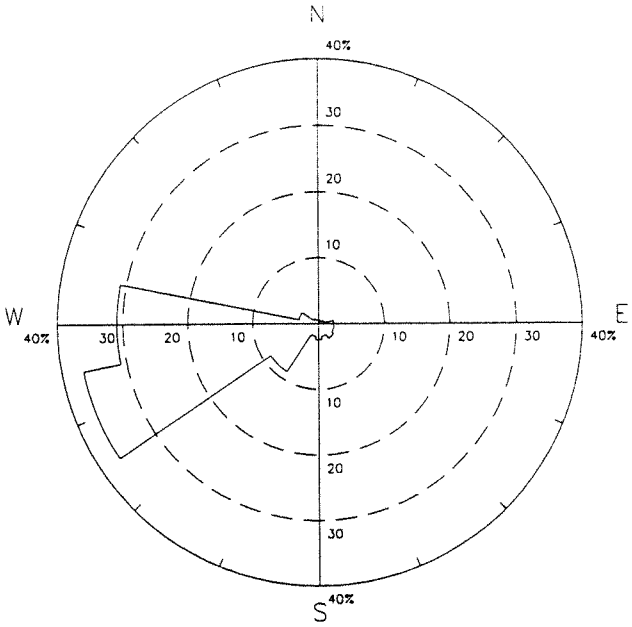
Neptune Marina - Marina del Rey, CA

Project #00-248

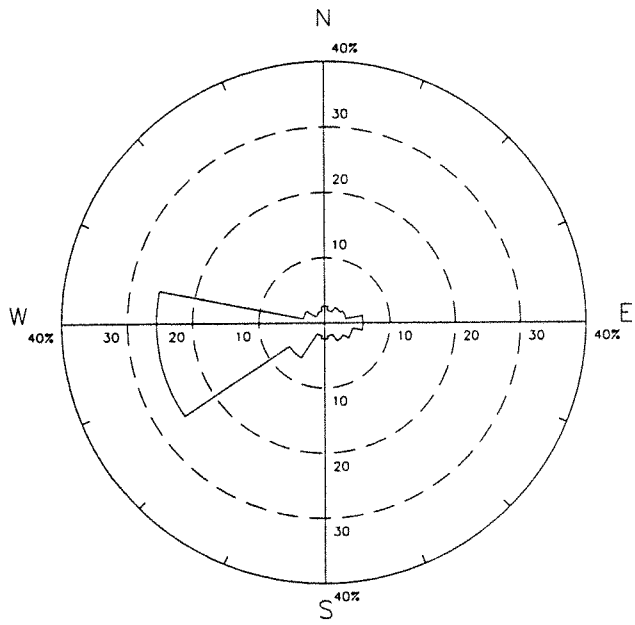
| | | |
|---|---|---|
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| Approx. Scale: N.T.S. | | |
| Date Revised: Dec. 23, 1999 | | |



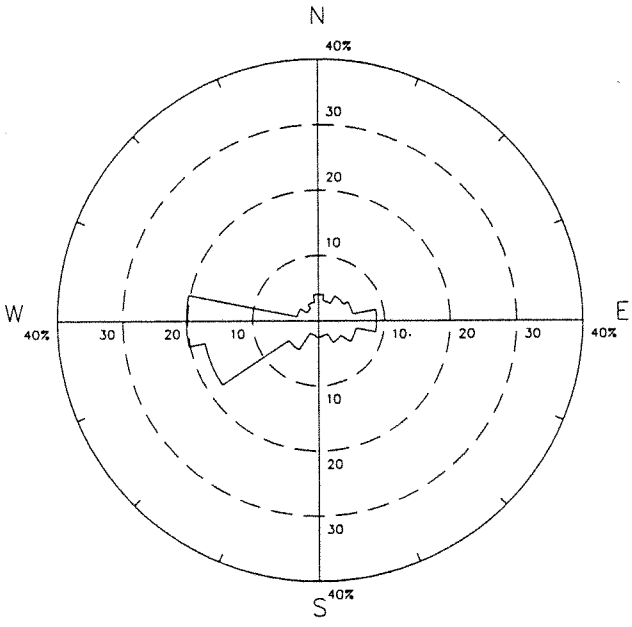

**SPRING**
(March, April, May)




**SUMMER**
(June, July, August)




**FALL**
(September, October, November)




**WINTER**
(December, January, February)

**Directional Distribution of Seasonal Winds**
**(7:00 am - 9:00 pm)**
**Los Angeles International Airport (1947 - 1990)**

Neptune Marina - Marina del Rey, CA

Project #00-248

Figure No. 5

Date: December 20, 1999

RWDI




Note:
Data not available for sensors without arrows

LEGEND:

Existing
Proposed
Expected

Arrow length proportional to mean wind speed

**Local Wind Direction - Wind from the West**

Neptune Marina - Marina del Rey, CA

True North

Project #00-248

| | | | |
|---|---|---|---|
| Drawn by: | DJM | Figure: | 6 |
| Approx. Scale: | | | 1"=350' |
| Date Revised: | | | Dec 23, 1999 |

RWDI

Basin D

Dolphin Marina

PANAY WAY

Basin C

Wind Direction Sensor Location

Main Channel

MARQUESAS WAY

Basin B

TAHITI WAY

Note:
Data not available for sensors without arrows

LEGEND:

Existing
Proposed
Expected

Arrow length proportional to mean wind speed

**Local Wind Direction - Wind from the West-southwest**

Neptune Marina - Marina del Rey, CA

True North

Project #00-248

| | | | |
|---|---|---|---|
| Drawn by: | DJM | Figure: | 7 |
| Approx. Scale: | | | 1"=350' |
| Date Revised: | | | Dec 23, 1999 |

RWDI




Note:
Data not available for sensors without arrows

LEGEND:

Existing
Proposed
Expected

Arrow length proportional to mean wind speed

**Local Wind Direction - Wind from the Southwest**

Neptune Marina - Marina del Rey, CA

True North

Project #00-248

| | | | |
|---|---|---|---|
| Drawn by: | DJM | Figure: | 8 |
| Approx. Scale: | | 1"=350' | |
| Date Revised: | | Dec 23, 1999 | |

RWDI

Basin D

Dolphin Marina

PANAY WAY

1 2 3 4 5 6 7 8 9 10 11

12 13 14 15 16 17 18 19 20 21 22

Wind Direction Sensor Location

Basin C

Main Channel

46 52 51

45 47 48 MARQUESAS WAY 49 50

44

Basin B

23 24 25 26 27 28 29 30

31 32 33 34 35 36 37 38

43

42 40

41 TAHITI WAY 39

Note:
Data not available for sensors without arrows

LEGEND:

Existing
Proposed
Expected

Arrow length proportional to mean wind speed

**Local Wind Direction - Wind from the East**

Neptune Marina - Marina del Rey, CA

True North

Project #00-248

| | | | |
|---|---|---|---|
| Drawn by: | DJM | Figure: | 9 |
| Approx. Scale: | | | 1"=350' |
| Date Revised: | | | Dec 23, 1999 |

RWDI



May 29, 2006

CONSULTING ENGINEERS
& SCIENTISTS

Rowan Williams
Davies & Irwin Inc.
650 Woodlawn Road West
Guelph, Ontario
Canada N1K 1B8

A member of the
RWDI Group of Companies

Mr. Aaron Clark
Land Use/Government Specialist
Armbruster & Goldsmith LLP
10940 Wilshire Boulevard, Suite 2100
Los Angeles, California
90024

**Re: Neptune Marina - Wind Study**
**Marina del Rey, California**
**RWDI Reference No. 04-1319B**

**Email:** aaron@ag-landuse.com

Dear Aaron:

As per your request, this letter summarizes our opinions as to the effects on the marina wind conditions that may be caused by recent design changes in Neptune Marina (Parcel 10R) in Marina del Rey.

RWDI conducted a wind tunnel study in December 1999 for the proposed Neptune Marina development, including buildings on Parcels 10R, 9U and FF. More recently in April 2004 and October 2005, the buildings on Parcels 10R and FF were tested in wind tunnel studies as future developments together with a proposed hotel tower on Parcel 9U. These tests provided results of the effects of the proposed development on Parcel 10R on wind patterns within the marina and general air circulation.

It was concluded in our December 21, 1999 report for the Neptune Marina development that the overall wind conditions are unaffected at a majority of the areas around the development by addition of the buildings proposed to be built on Neptune Marina. Changes in wind speed and direction were recorded only in the immediate vicinity of the proposed development during periods of westerly winds. Due to the localized nature of these changes there will be no effect on the general air circulation patterns within Marina del Rey.

Recently, the design of the Neptune Marina Development was changed slightly. As shown in the attached Site Plan, two buildings on the west portion of Parcel 10R were combined into one. The opening between Buildings 1 and 2 was reduced and the opening between Buildings 2 and 3 was increased. The building height was reduced from 60 ft to 55ft.

RWDI
CONSULTING ENGINEERS & SCIENTISTS

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A member of the RWDI Group of Companies

These changes are not considered to be significant. The building height is essentially unchanged. The openings between buildings are in a north-south direction and changes in opening size will not affect winds from the prevailing west, west-southwest and east directions. For the southwest winds, changes in wind conditions will unlikely be felt in Basin C, due to the distance and existing buildings between Basin C and the proposed development. According to previous studies, localized effects may be induced by the proposed Neptune Marina development at the west end of Basin B for westerly winds. These effects are expected to remain with the revised design.

Overall, similar wind conditions are expected with the revised design for all prevailing wind directions.

The above opinion is based on the wind tunnel data, revised design information of Neptune Marina, local wind climate and our experience and engineering judgement. If you have any questions in this regard, please do not hesitate to contact us.

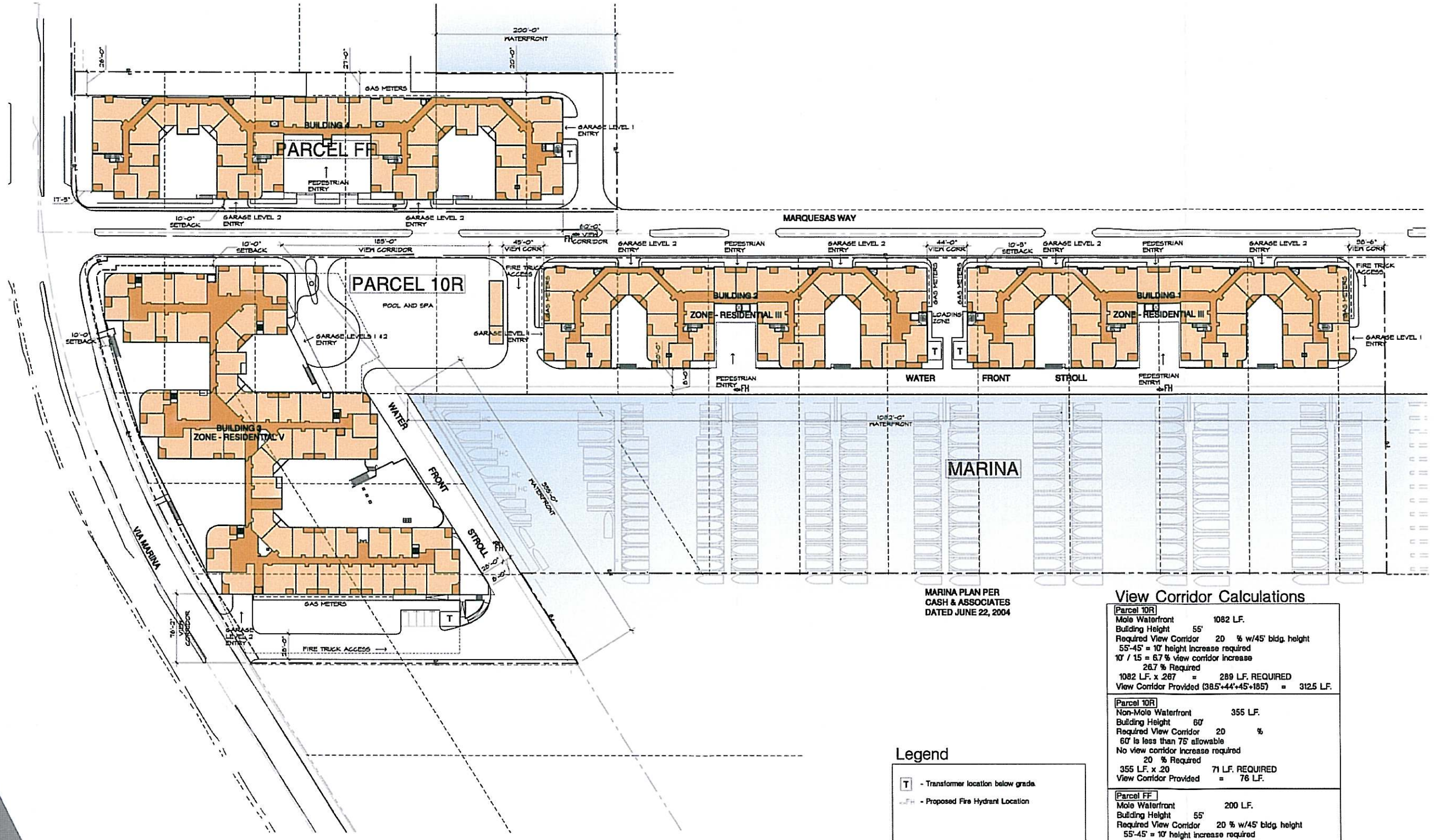
Your very truly,

**ROWAN WILLIAMS DAVIES & IRWIN Inc.**

Hanqing Wu, Ph.D., P.Eng.
Senior Specialist / Associate

Dan Bacon
Senior Project Manager / Associate

DEB/smd
Attach.




MARINA PLAN PER
CASH & ASSOCIATES
DATED JUNE 22, 2004

## View Corridor Calculations

**Parcel 10R**
Mole Waterfront 1082 LF.
Building Height 55'
Required View Corridor 20 % w/45' bldg. height
55'-45' = 10' height increase required
10' / 15 = 6.7 % view corridor increase
26.7 % Required
1082 LF. x .267 = 289 LF. REQUIRED
View Corridor Provided (38.5'+44'+45'+185') = 312.5 LF.

**Parcel 10R**
Non-Mole Waterfront 355 LF.
Building Height 60'
Required View Corridor 20 %
60' is less than 75' allowable
No view corridor increase required
20 % Required
355 LF. x .20 71 LF. REQUIRED
View Corridor Provided = 76 LF.

**Parcel FF**
Mole Waterfront 200 LF.
Building Height 55'
Required View Corridor 20 % w/45' bldg. height
55'-45' = 10' height increase required
10' / 15 = 6.7 % view corridor increase
26.7 % Required
200 LF. x .267 53 LF. REQUIRED
View Corridor Provided = 60 LF.

## Legend

T - Transformer location below grade
FH - Proposed Fire Hydrant Location

NEPTUNE MARINA, Marina Del Rey, California

**Site Plan**

FULL SIZE DRAWING SCALE: 1" = 40'-0"

March 6, 2006
2003-083

DCB Submittal

THOMAS P. COX: ARCHITECTS, INC.

LEGACY PARTNERS



RWDI

# WIND STUDY

# WOODFIN SUITE HOTEL AND VACATION OWNERSHIP RESORT

## MARINA DEL REY, CALIFORNIA

**Project Number:** 04-1319

**Date:** April 23, 2004

**Submitted by:** Rowan Williams Davies & Irwin Inc.

Technical Co-ordinator - Tony Ledwick, B.Sc.

Project Manager - Dan Bacon

Project Director - Colin Williams, Ph.D., P.Eng.

**Submitted to:** Woodfin Suite Hotels, LLC


**Rowan Williams Davies & Irwin Inc.**
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- Montreal (450) 776-6877
- Windsor (519) 728-2702
- Calgary (403) 232-6771
- Vancouver (604) 730-5688
- Ottawa (613) 225-5648

**U.S. Contacts:**
**RWDI LLC**
- California (909) 793-7080

## 1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was requested by the Woodfin Suite Hotels, LLC to undertake a detailed wind study on the proposed Woodfin Suite Hotel and Vacation Ownership Resort in Marina del Rey, California. The study addressed the wind study requirements of the Los Angeles County Zoning Code, including an assessment of the effects of the proposed developments and/or building placement on wind patterns within the marina, loss of surface winds used by sailboats and birds and general air circulation.

## 2. TEST METHODOLOGY

Wind tunnel tests were conducted on a scale model of a section of Marina del Rey to determine the impact on the wind conditions resulting from the proposed Woodfin Suite Hotel and Vacation Ownership Resort and future developments. This report provides a summary of the results of these wind tunnel tests on Basins A, B, C, and on land-based locations.

A 1:500 scale model of the study area and the proposed developments were assembled as shown in Figures 1a, 1b and 1c. Tests were conducted to simulate and measure wind conditions: as they exist today (Figure 1a); after the proposed Woodfin Suite Hotel and Vacation Ownership Resort (Figure 1b); and the expected future development with the proposed development (Figure 1c).

The results presented in this report pertain to the model of the proposed Woodfin Suite Hotel and Vacation Ownership Resort constructed using the architectural design drawings received by RWDI on January 16, 2004. The model was instrumented with a total of 47 wind sensors and tested in RWDI's boundary layer wind tunnel for the predominant wind directions, which are west, west-southwest, southwest, and east. The sensors were developed by RWDI for use on scale models and are capable of measuring both changes in wind speed and wind direction.

The wind tunnel results for all predominant wind directions in the Los Angeles area have been examined in detail and are presented in this report. The west, west-southwest, southwest and east wind directions together account for winds that occur a majority of the time, as shown in Figure

periods when the winds are from the west (Figure 3a). During west winds, test locations along Basin B show a wind direction shift to the south of approximately 15 degrees for most of the basin (Locations 23 through 37) when the proposed Woodfin Suite Hotel and Vacation Ownership Resort is added. This wind direction shift may be beneficial to mariners docking their yachts under sail power as they will no longer be sailing directly into the winds when they are blowing from the west. Also, changes in the local wind direction between adjacent sensors are similar for the proposed and existing conditions in this area of the basin. The magnitude of the winds along Basin B will remain similar between the existing and proposed scenarios. Basin B sensors in the area closest to the proposed development (Locations 19, 20, 21, 22 and 23) will see a small increase in wind speeds from winds flowing off the Woodfin Suite Hotel and Vacation Ownership Resort building. There are also some localized directional differences between the sensors at the west end of Basin B. As mariners are in the final stages of docking it is assumed that this is not an issue. These areas are generally close to the proposed development.

Due to the localized nature of these changes there will be no significant effect on the general air circulation patterns within Basins A, B and C in Marina del Rey.

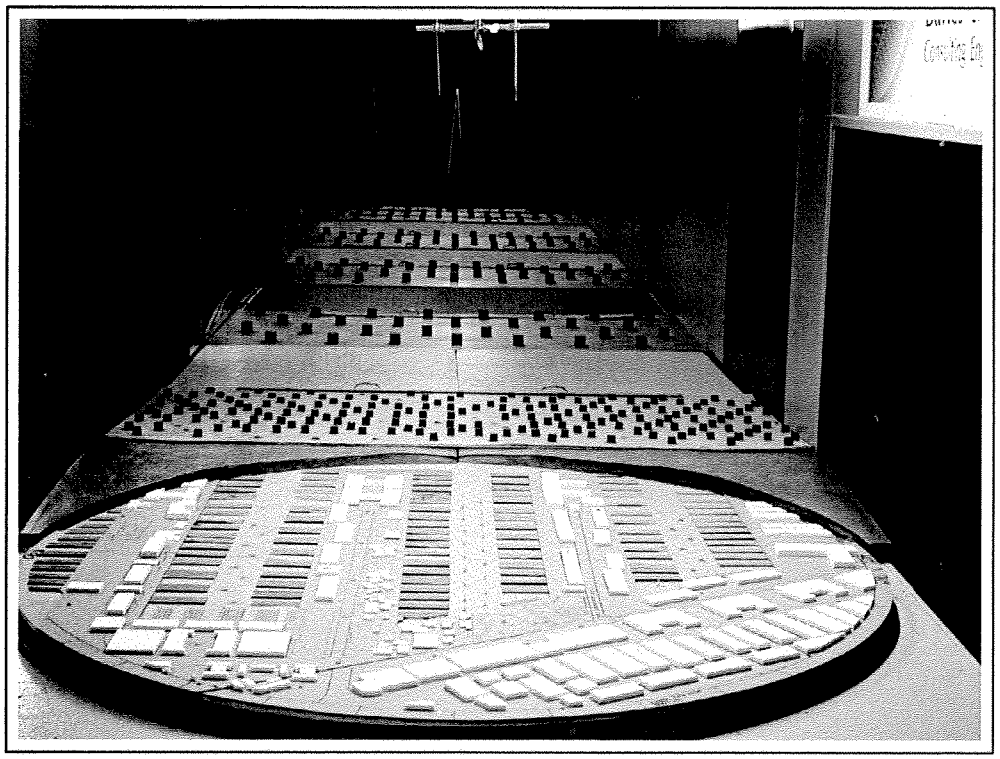
### 3.1.2 Future Conditions

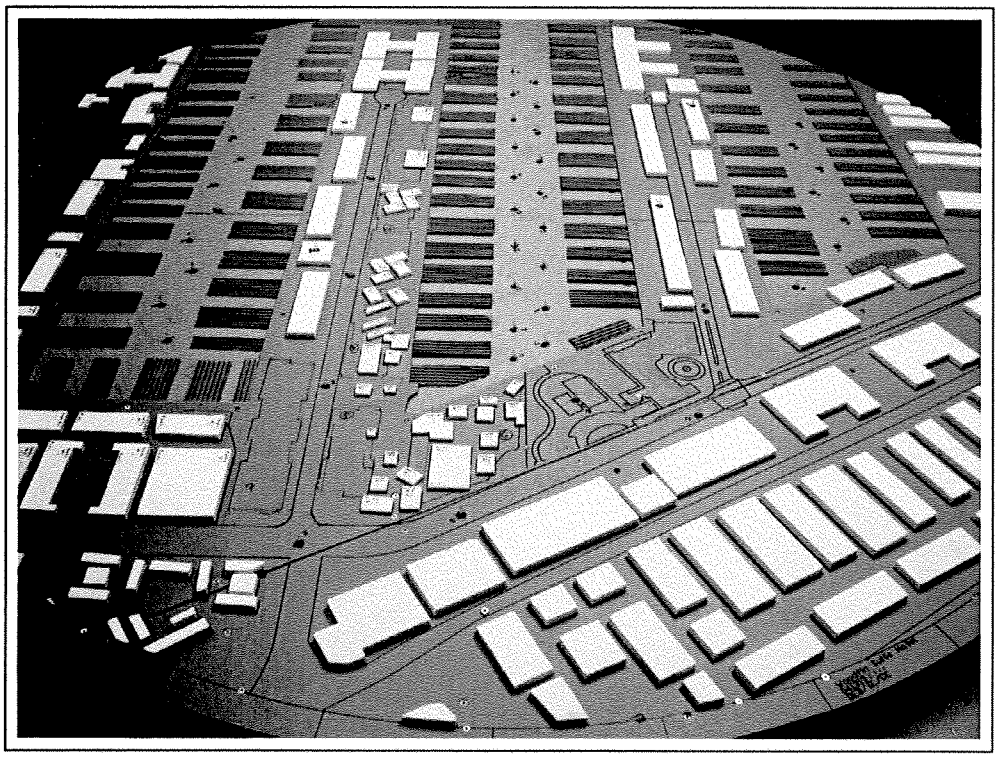
The effect of constructing the Woodfin Suite Hotel and Vacation Ownership Resort with future buildings can be determined by comparing the red arrows to the blue arrows. The majority of the arrows have the same direction and length for the four tested wind directions. Differences in wind direction and magnitude between the proposed and future test configurations occurred primarily on the north side of Basin B when the winds were from the west direction. The blue future arrows in this area generally showed similar levels of magnitude and were directionally situated between the existing (black) and proposed (red) arrows. Other differences occurred at several locations on Basin C for the westerly wind directions. These differences are caused by localized wind flow changes created by the addition of the future buildings west and south of Basin C.

## 6. CONCLUSIONS

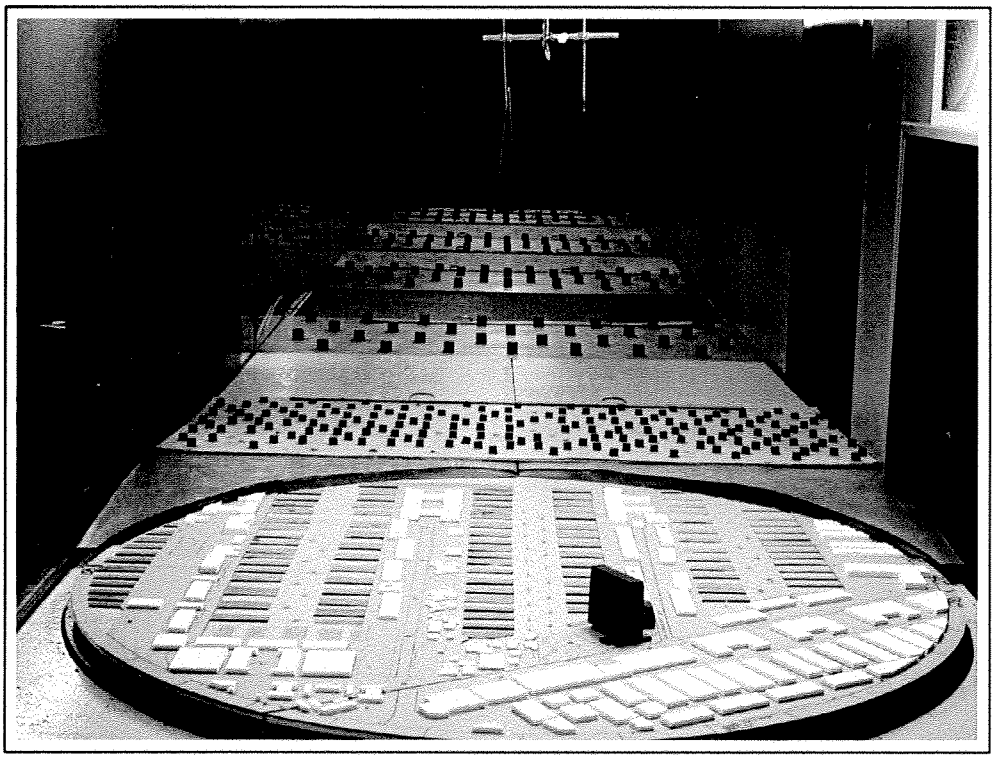
From the results of this wind study, it has been concluded that the proposed Woodfin Suite Hotel and Vacation Ownership Resort and future buildings will produce similar wind conditions over a majority of the areas of Marina del Rey. There will be areas of altered wind directions along Basin B when wind are from the west. This change in wind direction is expected to be beneficial as the winds, when they are moving from west to east, will tend to be redirected to flow to a more east-northeast and northeasterly direction, away from the approaching yachts entering Basin B. There will also be localized areas where changes in wind direction and magnitude occur such as the west end of Basin C. These areas are generally close to the proposed and future developments. Due to the localized nature of these changes there will be no effect on the general air circulation patterns within Basins A, B and C in Marina del Rey.

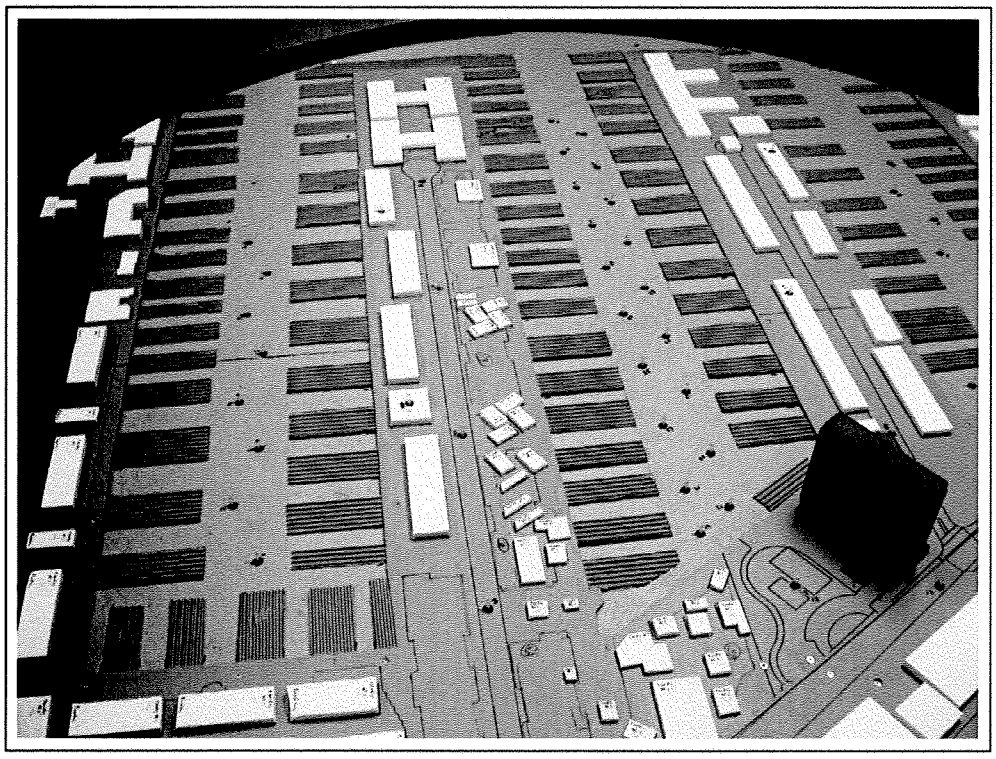
The overall wind conditions predicted with the proposed and expected future developments are similar to those presently experienced in and around the marina and therefore the general air circulation patterns and the use of surface winds by birds will not be affected.



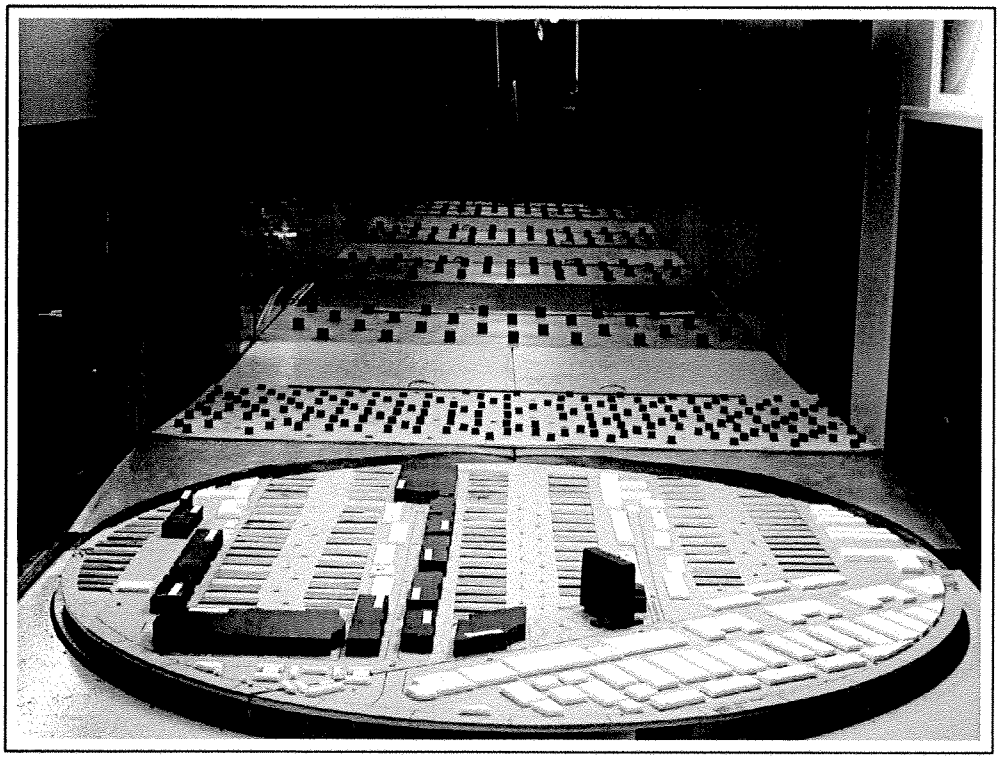


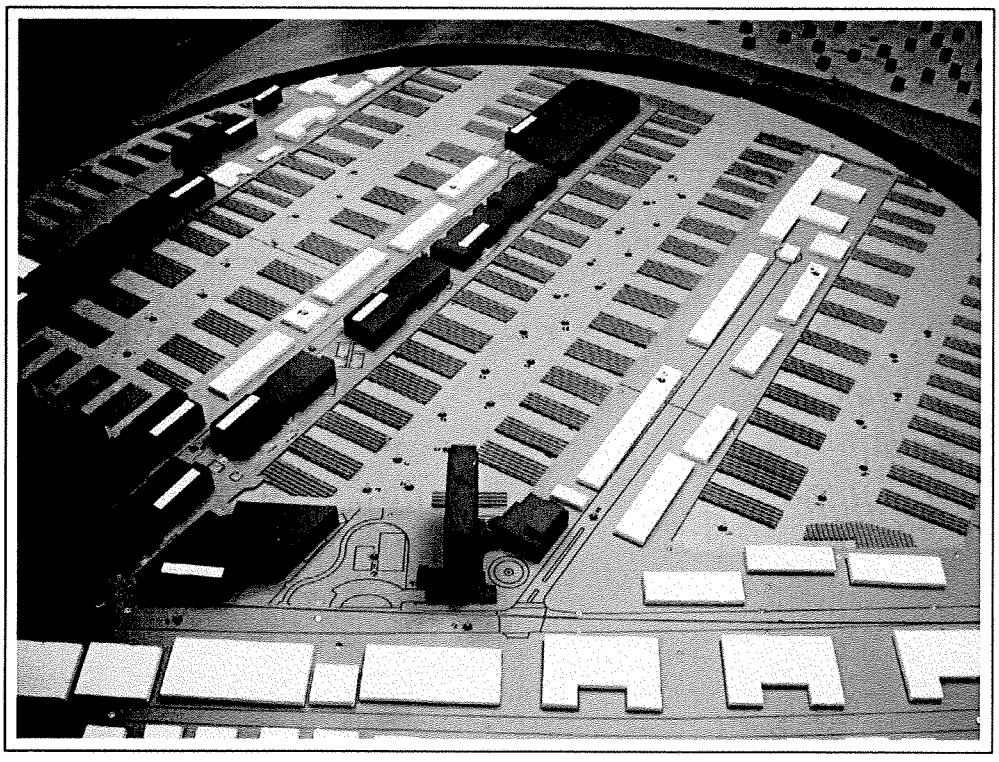
| | | | |
|---|---|---|---|
| **Wind Tunnel Study Model**<br>**Existing**<br>**Woodfin Suite Hotel and Vacation Ownership Resort - Marina del Rey, California** | Project #04-1319 | Figure No. 1a<br>Date: April 21, 2004 | RWDI |



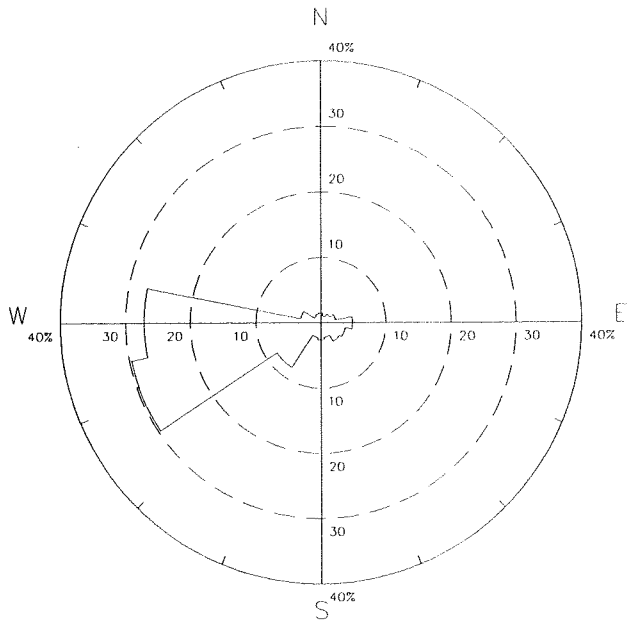


| | | | |
|---|---|---|---|
| **Wind Tunnel Study Model**<br>**Proposed**<br>Woodfin Suite Hotel and Vacation Ownership Resort - Marina del Rey, California | Project #04-1319 | Figure No. 1b<br>Date: April 21, 2004 | RWDI |

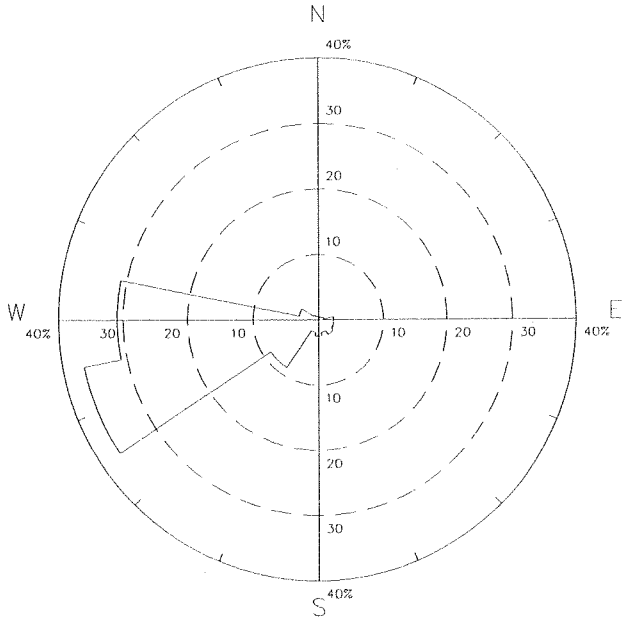




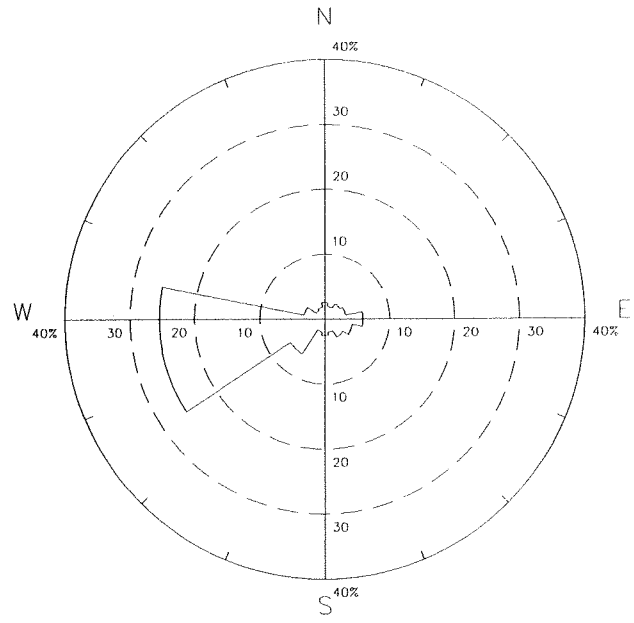
| | | | |
|---|---|---|---|
| **Wind Tunnel Study Model**<br>**Future**<br><br>**Woodfin Suite Hotel and Vacation Ownership Resort - Marina del Rey, California** | Project #04-1319 | Figure No. 1c<br>Date: April 23, 2004 | RWDI |



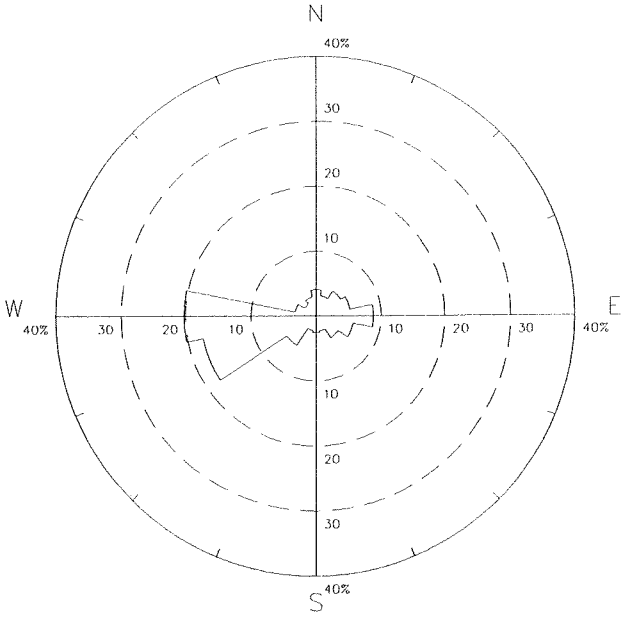

**SPRING**
(March, April, May)




**SUMMER**
(June, July, August)

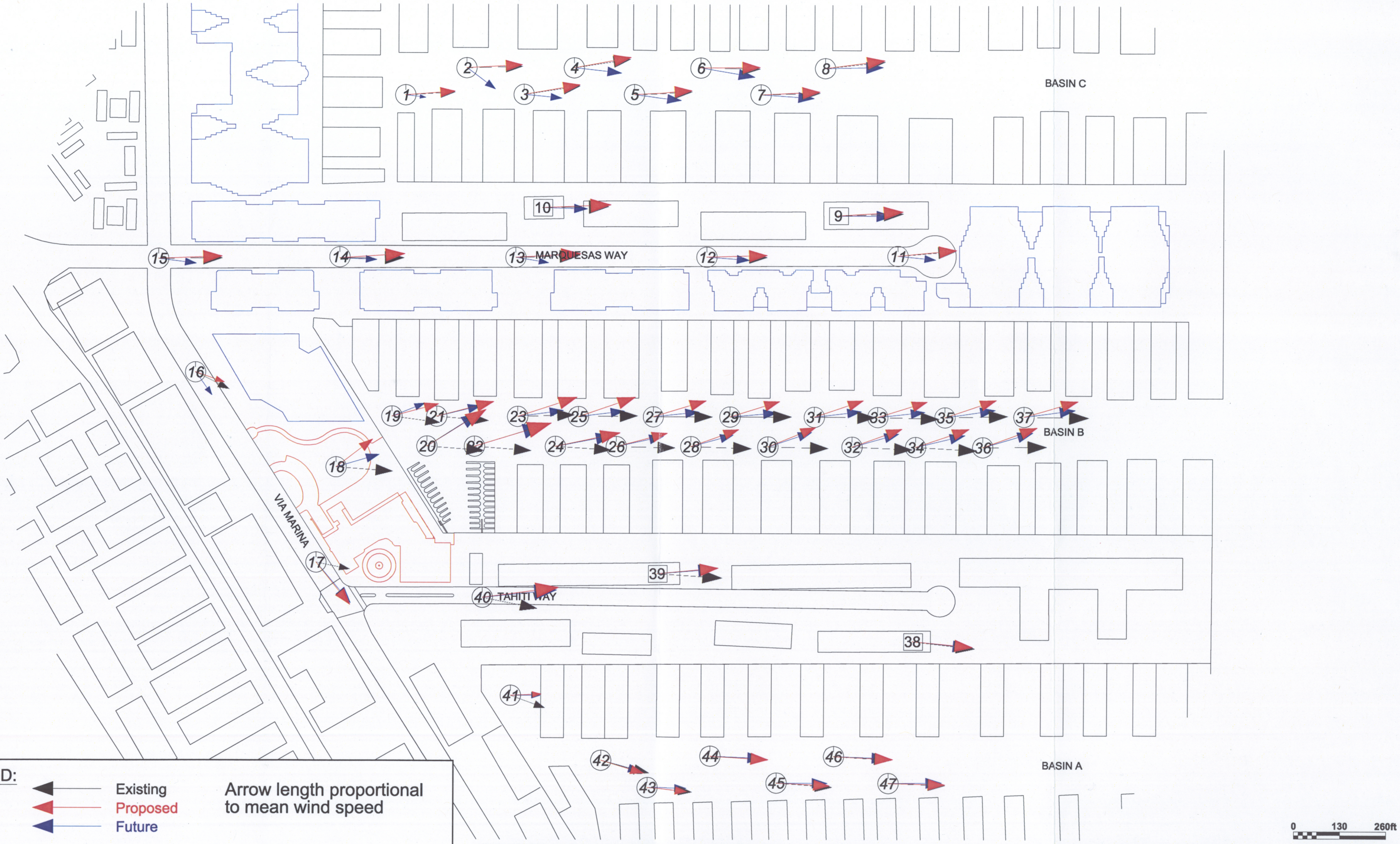



**FALL**
(September, October, November)




**WINTER**
(December, January, February)

| | | |
|---|---|---|
| **Directional Distribution of Seasonal Winds**<br>**(7:00 am - 9:00 pm)**<br>**Los Angeles International Airport (1947 - 1990)** | Figure No. 2 | RWDI |
| Woodfin Suite Hotel and Vacation Ownership Resort - Marina del Rey, California Project #04-1319 | Date: April 20, 2004 | |




LEGEND:

Existing
Proposed
Future

Arrow length proportional to mean wind speed

SENSOR LOCATION:
Grade Level
Above Grade

BUILDINGS OUTLINES IN:
BLACK - EXISTING
RED - PROPOSED
BLUE - FUTURE

0 130 260ft

**Local Wind Direction - Wind from the West**

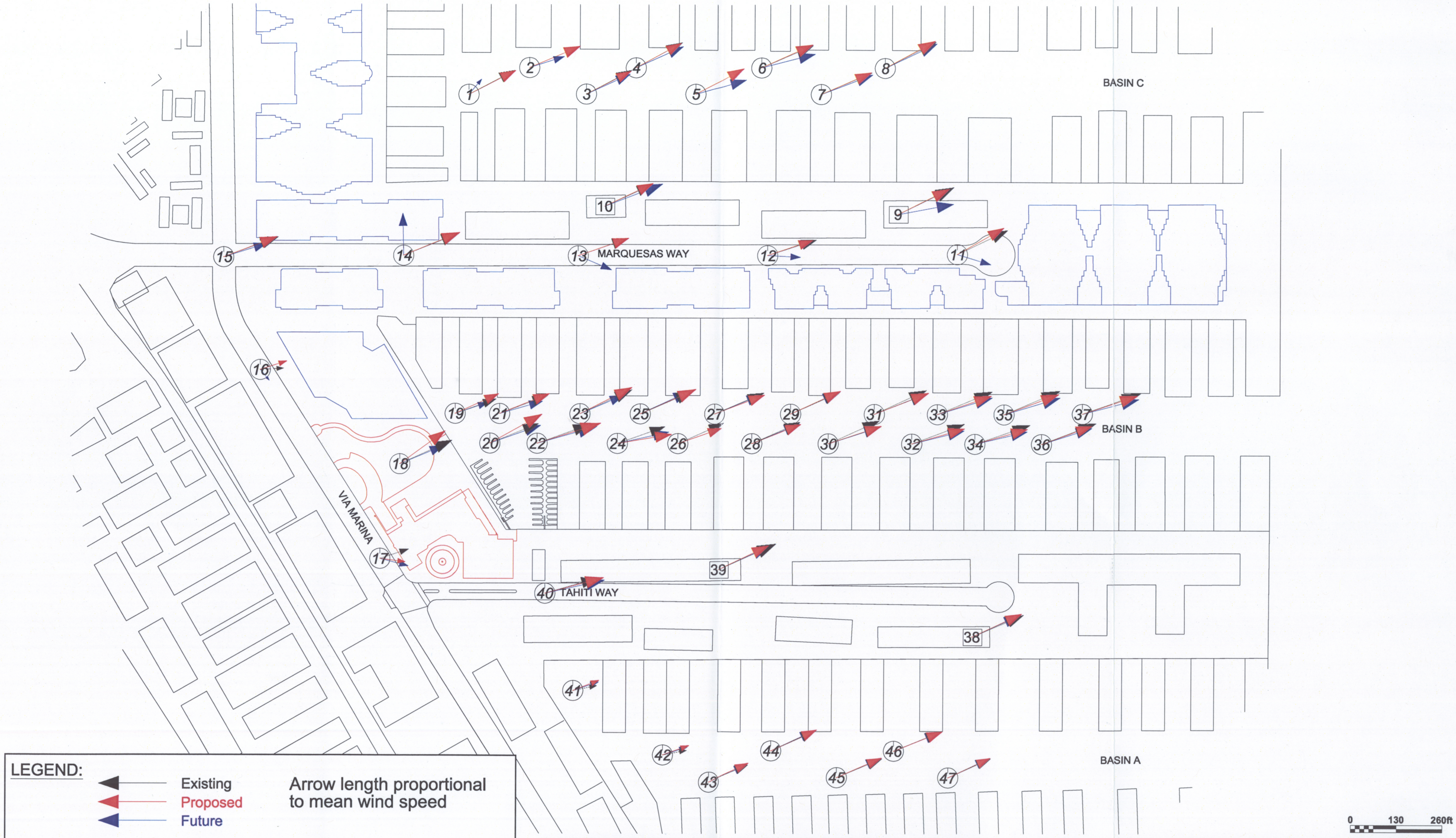
True North

Woodfin Suite Hotel and Vacation Ownership Resort - Marina del Rey, California

Project #04-1319

| | |
|---|---|
| Drawn by: KMT | Figure: 3A |
| Approx. Scale: | 1"=260' |
| Date Revised: | Apr. 23, 2004 |

RWDI




LEGEND:

Existing
Proposed
Future

Arrow length proportional to mean wind speed

SENSOR LOCATION:
Grade Level
Above Grade

BUILDINGS OUTLINES IN: BLACK - EXISTING
RED - PROPOSED
BLUE - FUTURE

0 130 260ft

**Local Wind Direction - Wind from the West-southwest**

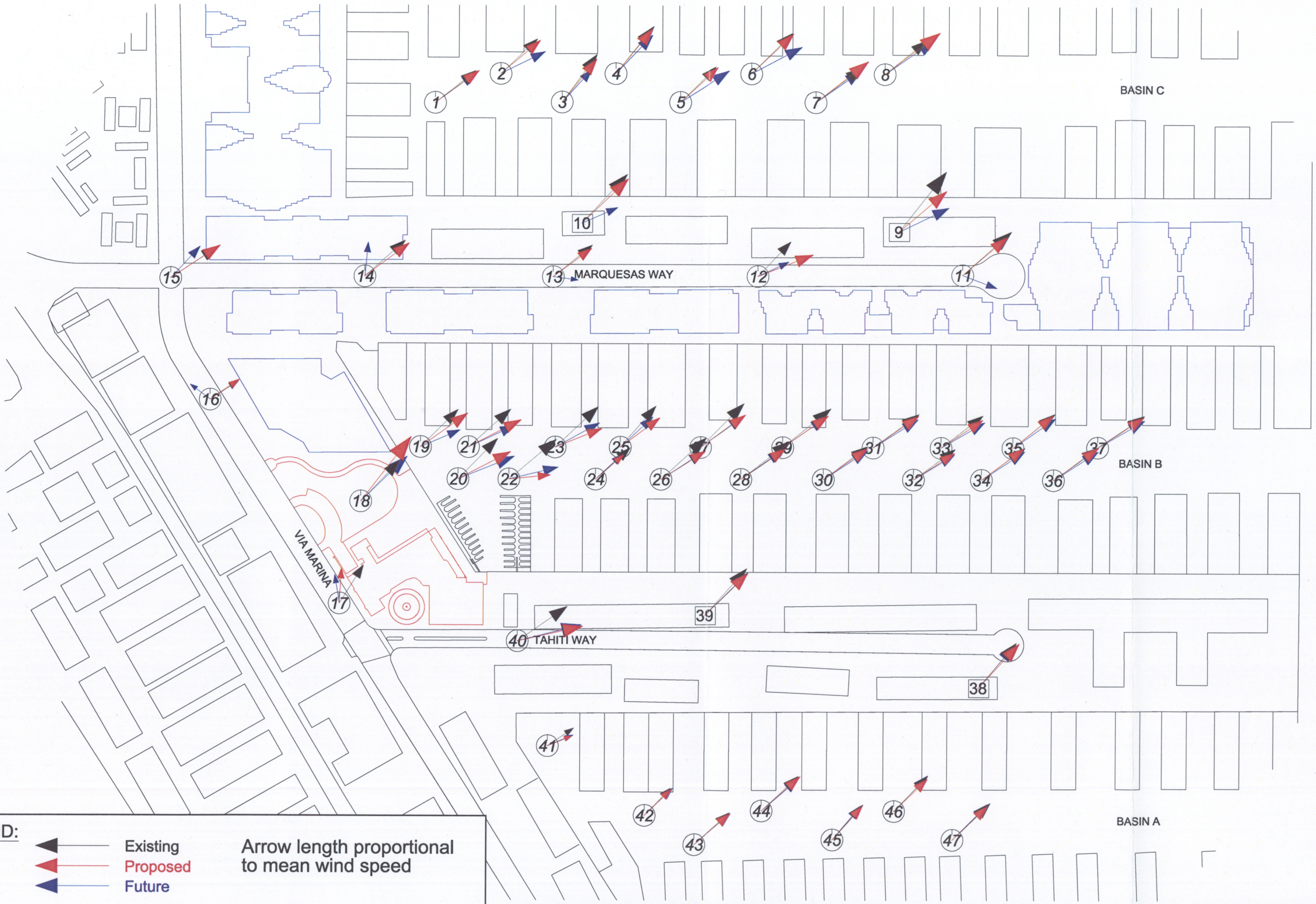
True North

Woodfin Suite Hotel and Vacation Ownership Resort - Marina del Rey, California

Project #04-1319

| | |
|---|---|
| Drawn by: KMT | Figure: 3B |
| Approx. Scale: | 1"=260' |
| Date Revised: | Apr. 23, 2004 |

RWDI




LEGEND:

Existing
Proposed
Future

Arrow length proportional to mean wind speed

SENSOR LOCATION:
Grade Level
Above Grade

BUILDINGS OUTLINES IN: BLACK - EXISTING
RED - PROPOSED
BLUE - FUTURE

0 130 260ft

**Local Wind Direction - Wind from the Southwest**

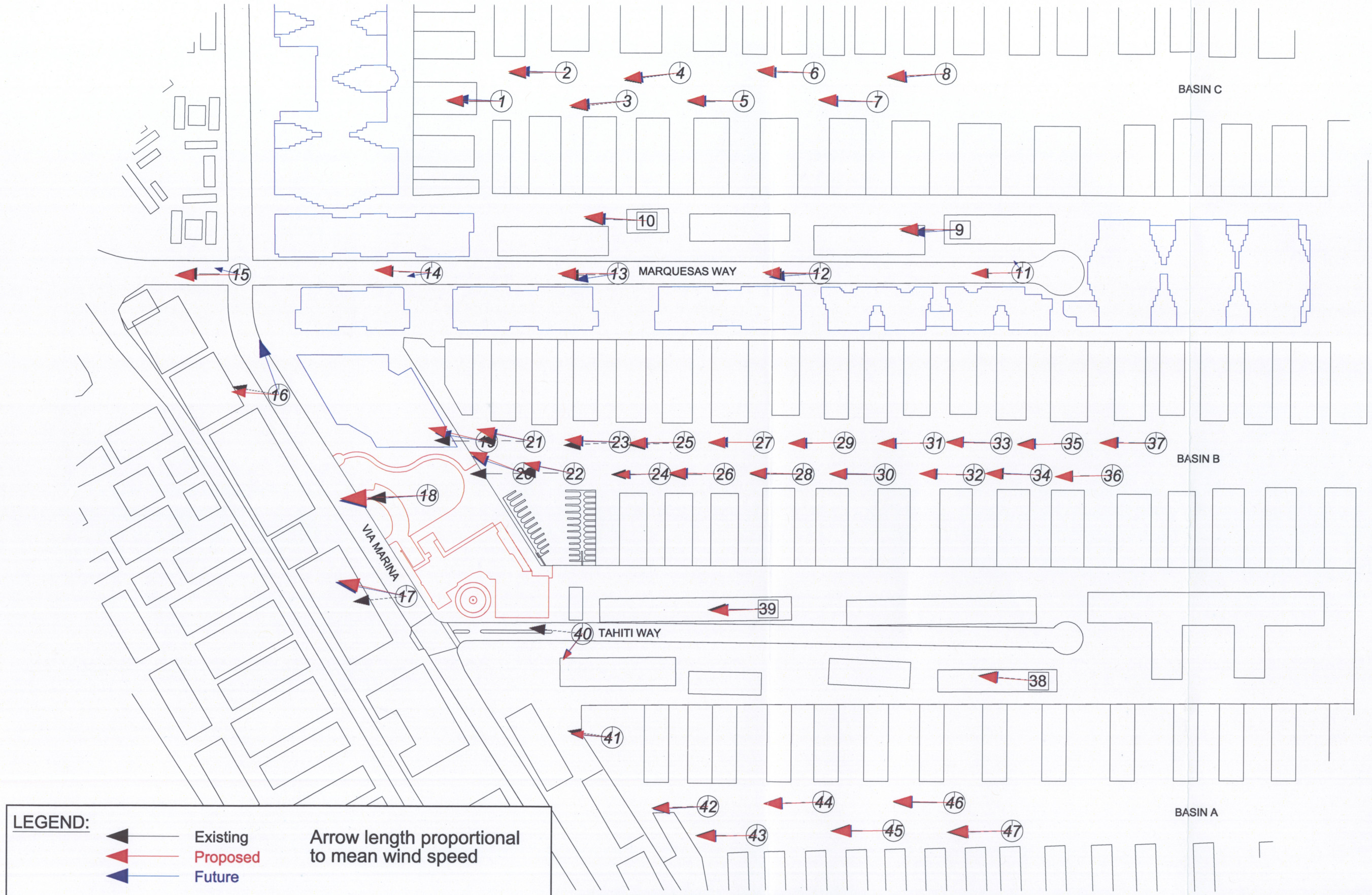
Woodfin Suite Hotel and Vacation Ownership Resort - Marina del Rey, California

True North

Project #04-1319

| | |
|---|---|
| Drawn by: KMT | Figure: 3C |
| Approx. Scale: | 1"=260' |
| Date Revised: Apr. 23, 2004 | |

RWDI




LEGEND:

Existing
Proposed
Future

Arrow length proportional to mean wind speed

SENSOR LOCATION:
Grade Level
Above Grade

BUILDINGS OUTLINES IN: BLACK - EXISTING
RED - PROPOSED
BLUE - FUTURE

0 130 260ft

**Local Wind Direction - Wind from the East**

Woodfin Suite Hotel and Vacation Ownership Resort - Marina del Rey, California

True North

Project #04-1319

| | |
|---|---|
| Drawn by: KMT | Figure: 3D |
| Approx. Scale: | 1"=260' |
| Date Revised: Apr. 23, 2004 | |

RWDI

# APPENDIX A

# Effect of a proposed structure at Marina Del Rey, California on surface winds used by local birds.

**A report prepared For Rowan Williams Davies & Irwin Inc.**

**Wayne Bezner Kerr**
**Migratory Bird Research Group**

Attn: Colin Williams
Principal,
Rowan, Williams, Davies and Irwin Inc.

From: Wayne Bezner Kerr
Migratory Bird Research Group

Re: **Effect of a proposed structure at Marina del Rey, California on surface winds used by local birds.**

---

The proposed structure at Marina del Rey appears to be fairly straight forward, insofar as use of surface winds by local and/or transient populations of birds are concerned. In response to your request I have undertaken a literature search on the aerodynamics, kinematics and behaviors of flying birds. Combined with my own observations from four seasons of experimental work with flying birds of different weights, wing loadings and Reynolds numbers (Re), I have formed some basic conclusions regarding the project under discussion. My conclusions are presented under five general subheadings.

**1. Changes to surface winds on open water:**

The concept of "surface winds" does not necessarily apply to birds in powered flight, at least as far as wind strength and direction are concerned. Unlike humans who experience wind relative to a fixed frame of reference on the ground, birds in flight always experience a direct headwind exactly equal to their airspeed and heading. Thus, a gull in steady state flight at 21 knots on a heading of 090 degrees will always experience a 21 knot east wind, regardless of actual wind strength and direction at the time of observation. The actual track described by a bird in flight will be the vector of the birds heading less the vector of the wind at that moment. Birds in translational, foraging and migratory flight may fly with wind speeds equal to or greater than their actual flying speed at angles greater than 90 degrees to their intended course (Kerlinger 1989). By altering airspeeds and headings, birds are able to complete flights along a desired ground track in a range of winds much greater than the expected changes to winds measured at the surface at Marina Del Rey.

In our experiments with migratory waterfowl and wading birds, we have seen that changes to

wind direction and strength can create problems for birds when taking off or landing in confined areas. For the few moments while a bird is accelerating during takeoff or decelerating during landing it is generally limited to headings that take it directly against the wind. On open water such as the channel found at Marina Del Rey, birds are able to takeoff and land in almost any direction, allowing unrestricted flight in winds from any direction. In my opinion, predicted changes to surface winds at Marina Del Rey are unlikely to have a measurable negative effect on local birds.

**2. Changes to ridge soaring conditions downwind of the structure:**

Some species commonly observed at Marina Del Rey exploit winds deflected upwards against vertical structures in a behavior known as "ridge soaring". Ridge soaring birds minimize the energy expended to remain aloft while in translational, foraging and migratory flight. The energy savings gained through the use of ridge lift are proportional to wind speed and the proportion of wind directed perpendicular to the obstruction (Kerlinger 1989). Ridge soaring birds may use lift provided by wind deflecting over and around towers, buildings, boats, hills and other structures. In my opinion, the predicted changes in wind speed and direction as a result of the proposed structure at Marina Del Rey are unlikely to significantly affect ridge soaring birds exploiting flows directed upwards along the downwind shore of the channel.

**3. Changes to ridge soaring conditions upwind of the structure.**

It is reasonable to expect that some ridge soaring behavior will occur on the upwind facing side of the structure under discussion. A new structure with a face oriented within 45 degrees to the prevailing wind direction will generate lift on days when winds are sufficiently strong. Soaring birds moving across the area can derive energetic benefits by diverting slightly to pass through the area of rising air. In my opinion, several species of birds observed at Marina Del Rey will likely utilize ridge lift created by the proposed structure at least occasionally.

**4. Changes to local thermal soaring conditions:**

Some species present at Marina Del Rey utilize small columns of rising warm air known as thermals to reduce the energy expended while climbing. Thermal conditions are relatively rare in coastal areas, especially at sites surrounded by water where stable marine air suppresses thermal

activity (Lindsay 1988). Thermal lift at Marina Del Rey is most likely found over larger built up or constructed areas such as docks, parking lots and buildings. In my opinion, a microscale change to the total built horizontal area at Marina Del Rey such as the addition or removal of a single building is unlikely to result in a measurable change to thermal frequency, size or distribution.

**5. Changes to flight efficiency due to turbulence.**

Birds, like miniature aircraft are subject to basic laws of aerodynamics. Generally speaking, birds of the weights and speeds observed at Marina Del Rey operate at Reynolds numbers (Re) between approximately 70,000 and 250,000 (Pennycuick 1989). Like artificially constructed airfoils, bird wings can be adversely affected by turbulence (Lissaman 1983), at least hypothetically reducing lift by a large degree. It is important to note that atmospheric turbulence occurs over a broad range of scales. Low speed airfoils operating at Re similar to birds observed at Marina Del Rey are most likely to suffer reduced aerodynamic performance where turbulence occurs at scales approximately 1/4 the average wingspan. Microscale turbulence in this range is short lived in the atmosphere, and is more typical of flows around small, complicated structures such as sailboat rigging or tree branches than larger solid structures. Larger scale wake vortices and eddies typical of flow downwind of large buildings is likely experienced by birds as long period changes to the free stream air, rather than aerodynamically disruptive turbulence *per se.* In my opinion, turbulence created by the proposed structure is unlikely to result in reduced aerodynamic efficiency of birds flying at Marina Del Rey.

**Conclusion:**

The addition or removal of a building at Marina Del Rey will undoubtably result in changes to local winds in the altitudes and areas utilized by birds. However, due to the relatively minor nature of the changes expected, the wide variety of airspeeds birds are capable of flying at, the diverse flight strategies employed by birds and the relatively small percentage of total area where measurable impacts will be observable, it is my opinion that the proposed structure will not result in major changes to birds' use of surface winds at Marina Del Rey.

**Related Readings:**


Burton, Robert
1990 **Bird Flight**. Facts on File. New York.160 pp.

Kerlinger, Paul
1989 **Flight Strategies of Migrating Hawks**. The University of Chicago Press. 375 pp.

Lindsay, Chas V.
1988 **A Handbook of Soaring Meteorology**. Chas Wilson. 211 pp.

Lissaman P.
1996 **The meaning of lift**. AIAA 96-0161

Lissaman P.
1983 **Low-Reynolds-number airfoils**. Ann. Rev. Fluid Mech. 15:223-239

Pennycuick, C. J., Klaassen, M., Kvist, A. and Lindstrom, A.
1996. **Wingbeat frequency and the body drag anomaly: wind-tunnel observations on a thrush nightingale (Luscinia luscinia) and a teal (Anas crecca)**.The Journal of Experimental Biology 199, 2757-2765

1989 **Bird Flight Performance. A Practical Calculation Manual**. Oxford University Press. 153 pp.

Simons, Martin
1994 **Model Aircraft Aerodynamics** (3rd edition). Argus 270 pp.

Spedding GR
1992 **The Aerodynamics of Flight** In Mechanics of Animal Locomotion ed. RN Alexander Adv. Comp. Physiol. 11:59-78

Tobalske, B. W. and Dial, K. P.
1996. **Flight kinematics of black-billed magpies and pigeons over a wide range of speeds**.The Journal of Experimental Biology 199, 263-280

U.S. Fish and Wildlife Service.
No date. **Checklist of Birds of Naval Weapons Station Seal Beach National Wildlife Refuge**. U.S. Fish and Wildlife Service. Unpaginated.

Van den Berg, C. and Rayner, J. M. V.
1995. **The moment of inertia of bird wings and the inertial power requirement for flapping flight**. The Journal of Experimental Biology 198, 1655-1664

**Wayne Bezner Kerr**
1 Forest Hill Drive #10
Guelph, Ontario
N1G 2E1

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**Recent Work and Research Experience:**

| | | |
|---|---|---|
| 1998 - Present | M.Sc. Candidate. | Dept of Zoology<br>University of Guelph<br>Guelph, Ontario |
| 1996 - 1999 | Coordinator | Trumpeter Swan Migration Project<br>Migratory Bird Research Group<br>Guelph, Ontario |
| 1995 | Researcher | Sandhill Crane Induced Migration<br>- Experiment<br>Operation Migration<br>Blackstock, Ontario |

**Publications:**

1999 W. Bezner Kerr. **Imprinting techniques and the development of in flight following behavior in migratory trumpeter swans**. North American Swans 28 (3) (in press).

1998 W. Bezner Kerr. **No Swan Songs Here**. FAI AirSports International. Vol 1. http://airsports.fai.org/

1997 W. Bezner Kerr. **Swan Songs.** Dofasco Illustrated News. Dec. Pp 12-13

1996 Lishman, W.A., T.L. Teets, J. Duff, W.J.L. Sladen, G.G. Shire, K. Goolsby, W.A. Bezner Kerr, and R.P. Urbanek. 1997. **A reintroduction technique for migratory birds: Leading canada geese and isolation-reared sandhill cranes with ultralight aircraft**. Proc. North Am. Crane Workshop 7:114-122

**Wayne Bezner Kerr,** *continued ...*

**Presentations:**

September 1999 **The Use of Induced Migration Techniques in the Restoration of Migratory Populations of Trumpeter Swans (Cygnus buccinator).** 17th Trumpeter Swan Society Conference. Idaho Falls (scheduled)

July 1999 **The Use of Ultralight Aircraft in Waterfowl Restoration and Research.** COPA Annual Convention. North Bay

March 1998 **Trumpeter Swan Migration Project Overview.** North Bay Naturalists Association.

**Awards, Scholarships and Research Support:**

1999 Ontario Graduate Scholarship in Science and Technology
1999 Trumpeter Swan Society Certificate of Special Appreciation.
1999 USUA Public Service Award.
1999 Elgin Card Scholarship in Terrestrial Ecology
1999 University of Guelph Graduate Scholarship.
1998 Canada Trust Friends of the Environment Grant
1998 - 99 EcoAction 2000 Grant
1998 University of Guelph Graduate Scholarship.
1998 University of Guelph Graduate Scholarship.
1998 OFAH Waterfowl Ecology Grant.
1998 Conrad N Hilton Foundation Research Grant

# Carbon Monoxide Hotspots Analysis

# Future Traffic Plus Neptune Marina Parcels 10R and FF and Woodfin Suites Hotel

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Admiralty Way and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

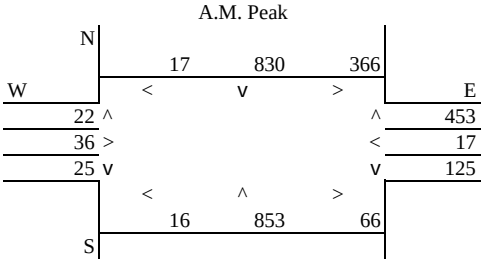
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

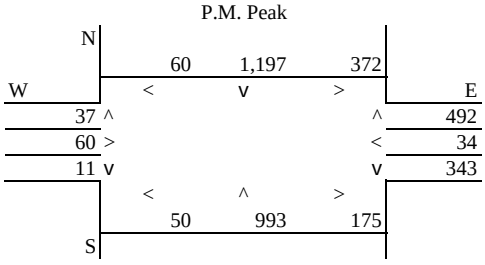
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,541 | N-S Road | 3,151 |
| E-W Road | 1,063 | E-W Road | 1,476 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 2,541 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,063 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 3,151 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,476 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.0 | 7.4 | 4.3 |
| 25 Feet from Roadway Edge | 6.2 | 6.5 | 3.7 |
| 50 Feet from Roadway Edge | 6.0 | 6.2 | 3.5 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Fiji Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Fiji Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 39 | 1,389 | 45 | |
| W | < | v | > | E |
| 75 | ^ | | ^ | 23 |
| 18 | > | | < | 23 |
| 663 | v | | v | 15 |
| | < | ^ | > | |
| | 805 | 2,248 | 33 | |
| | S | | | |

P.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 76 | 2,002 | 35 | |
| W | < | v | > | E |
| 125 | ^ | | ^ | 18 |
| 39 | > | | < | 38 |
| 902 | v | | v | 28 |
| | < | ^ | > | |
| | 668 | 2,100 | 32 | |
| | S | | | |

Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 5,153 | N-S Road | 5,732 |
| E-W Road | 1,623 | E-W Road | 1,848 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,153 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,623 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,732 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,848 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 8.1 | 8.4 | 5.0 |
| 25 Feet from Roadway Edge | 7.0 | 7.3 | 4.2 |
| 50 Feet from Roadway Edge | 6.7 | 6.8 | 3.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Marina Expwy (SR-90) |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Marina Expressway (SR-90) | AT GRADE | 0 | 5 | 5 |

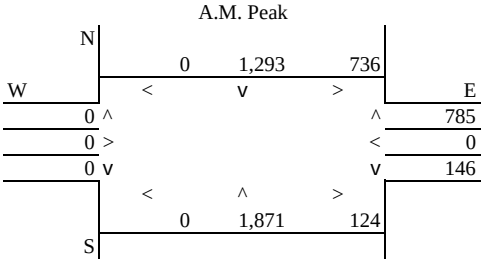
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

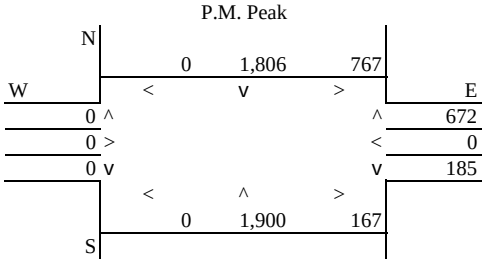
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,685 | N-S Road | 5,145 |
| E-W Road | 1,791 | E-W Road | 1,791 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,685 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,791 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,145 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,791 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.5 | 7.8 | 4.6 |
| 25 Feet from Roadway Edge | 6.7 | 6.8 | 3.9 |
| 50 Feet from Roadway Edge | 6.3 | 6.5 | 3.7 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

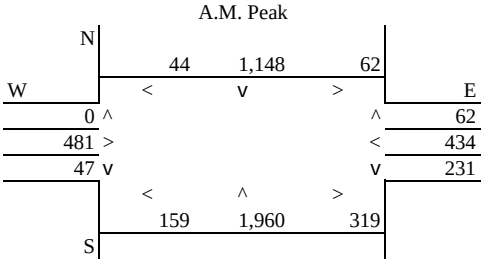
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

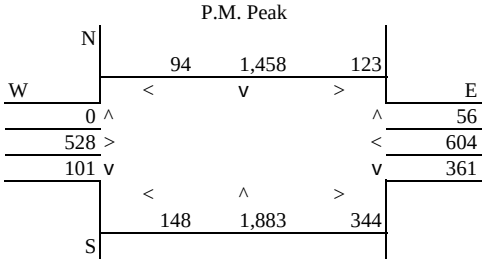
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 3,864 | N-S Road | 4,295 |
| E-W Road | 1,589 | E-W Road | 2,016 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 3,864 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,589 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,295 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 2,016 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.4 | 7.7 | 4.5 |
| 25 Feet from Roadway Edge | 6.6 | 6.8 | 3.9 |
| 50 Feet from Roadway Edge | 6.3 | 6.5 | 3.7 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

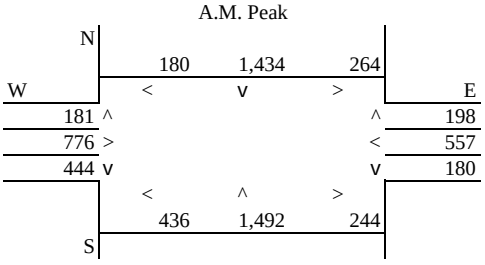
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

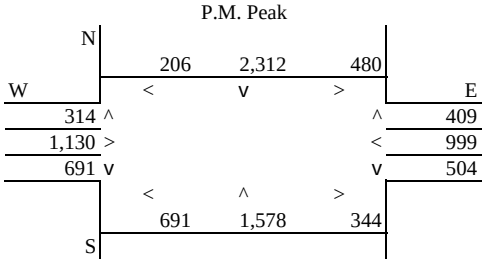
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,230 | N-S Road | 6,120 |
| E-W Road | 2,574 | E-W Road | 4,031 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,230 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 2,574 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 6,120 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 4,031 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.7 | 9.0 | 5.4 |
| 25 Feet from Roadway Edge | 6.9 | 7.7 | 4.5 |
| 50 Feet from Roadway Edge | 6.5 | 7.2 | 4.2 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Marina Expwy (SR-90) and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Marina Expressway (SR-90) East | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 4 | 5 | 5 |

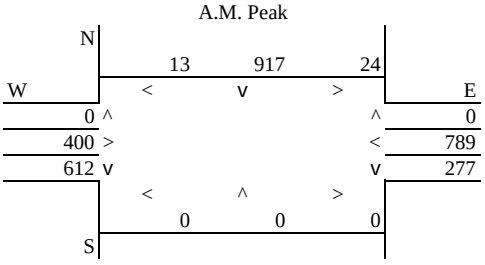
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

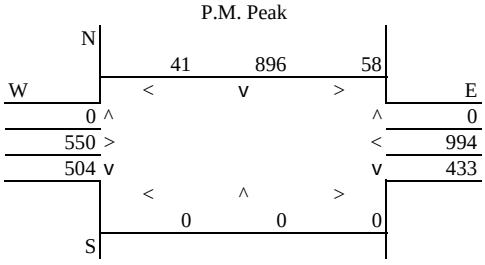
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 1,806 | N-S Road | 1,833 |
| E-W Road | 1,814 | E-W Road | 2,089 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 1,806 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 1,814 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 1,833 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,089 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.3 | 6.5 | 3.6 |
| 25 Feet from Roadway Edge | 5.8 | 5.9 | 3.3 |
| 50 Feet from Roadway Edge | 5.6 | 5.7 | 3.1 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Wy and Admiralty Wy |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |

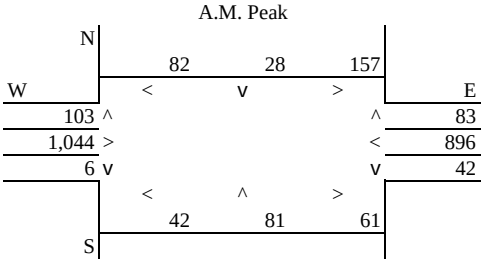
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

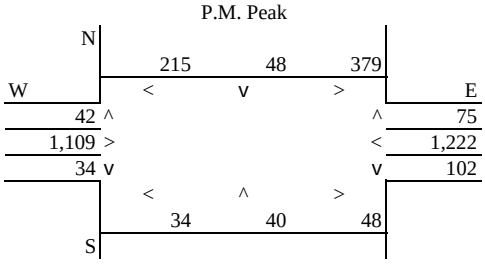
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 534 | N-S Road | 799 |
| E-W Road | 2,283 | E-W Road | 2,935 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 534 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,283 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 799 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,935 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.7 | 7.2 | 4.1 |
| 25 Feet from Roadway Edge | 6.0 | 6.3 | 3.6 |
| 50 Feet from Roadway Edge | 5.8 | 6.1 | 3.4 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Wy and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

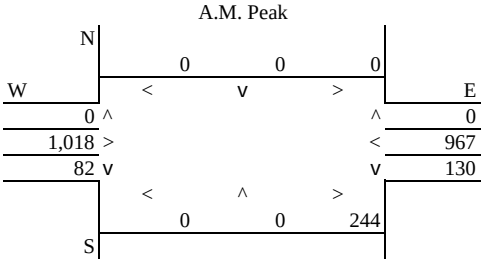
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

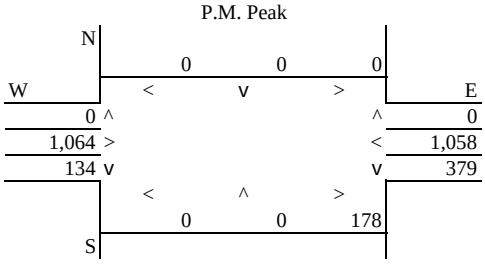
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 456 | N-S Road | 691 |
| E-W Road | 2,359 | E-W Road | 2,679 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 456 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,359 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 691 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,679 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.6 | 6.8 | 3.9 |
| 25 Feet from Roadway Edge | 6.0 | 6.1 | 3.4 |
| 50 Feet from Roadway Edge | 5.8 | 5.9 | 3.3 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina and Admiralty Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Via Marina | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 0 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

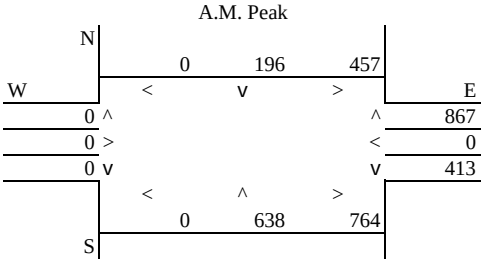
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

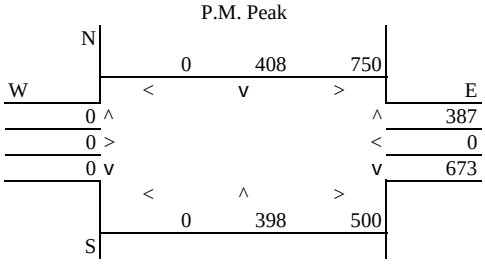
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,158 | N-S Road | 1,979 |
| E-W Road | 2,501 | E-W Road | 2,310 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 2,158 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,501 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 1,979 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,310 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 5.5 | 5.5 | 3.0 |
| 25 Feet from Roadway Edge | 5.4 | 5.4 | 2.9 |
| 50 Feet from Roadway Edge | 5.4 | 5.3 | 2.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina/Ocean Ave and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Project |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Via Marina/Ocean Avenue | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

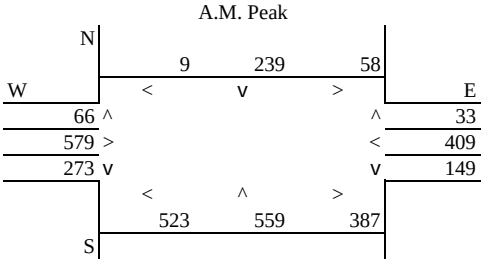
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

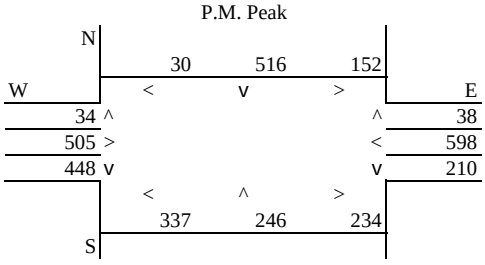
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,130 | N-S Road | 1,991 |
| E-W Road | 1,859 | E-W Road | 1,952 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 14.0 | 7.6 | 5.7 | * | 2,130 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,859 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 14.0 | 7.6 | 5.7 | * | 1,991 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,952 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.1 | 7.0 | 4.1 |
| 25 Feet from Roadway Edge | 6.2 | 6.2 | 3.5 |
| 50 Feet from Roadway Edge | 6.0 | 6.0 | 3.3 |

# Cumulative Traffic Plus Neptune Marina Parcels 10R and FF and Woodfin Suites Hotel

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Admiralty Way and Mindanao Way |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

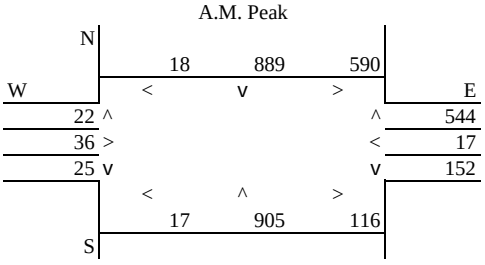
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

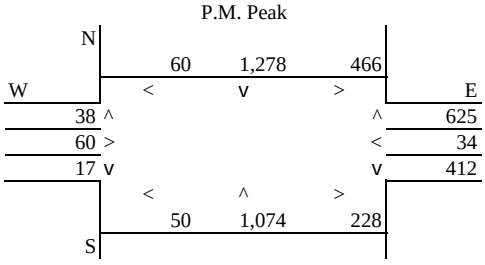
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,968 | N-S Road | 3,541 |
| E-W Road | 1,455 | E-W Road | 1,825 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 2,968 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,455 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 3,541 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,825 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.3 | 7.8 | 4.6 |
| 25 Feet from Roadway Edge | 6.4 | 6.7 | 3.8 |
| 50 Feet from Roadway Edge | 6.1 | 6.4 | 3.6 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Fiji Way |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Fiji Way | AT GRADE | 2 | 5 | 5 |

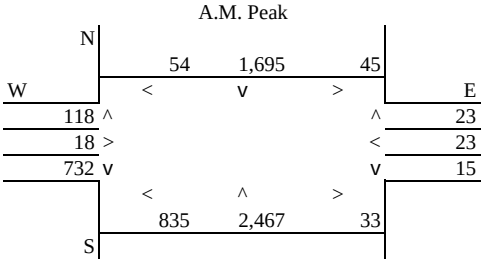
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

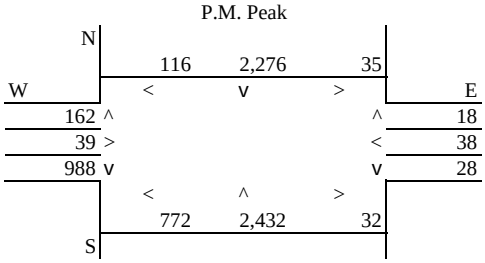
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 5,777 | N-S Road | 6,528 |
| E-W Road | 1,780 | E-W Road | 2,115 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,777 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,780 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 6,528 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 2,115 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 8.4 | 8.9 | 5.4 |
| 25 Feet from Roadway Edge | 7.3 | 7.6 | 4.4 |
| 50 Feet from Roadway Edge | 6.9 | 7.1 | 4.1 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Marina Expwy (SR-90) |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Marina Expressway (SR-90) | AT GRADE | 0 | 5 | 5 |

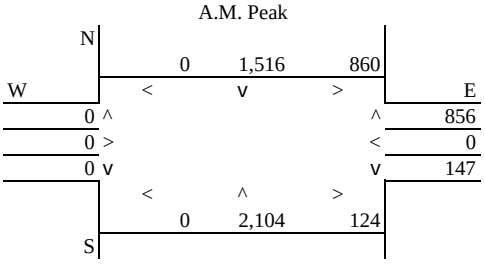
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

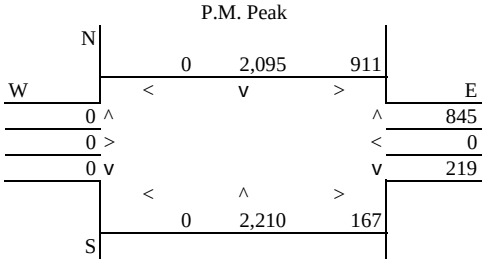
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 5,336 | N-S Road | 6,061 |
| E-W Road | 1,987 | E-W Road | 2,142 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,336 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,987 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 6,061 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,142 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.9 | 8.2 | 4.9 |
| 25 Feet from Roadway Edge | 6.9 | 7.1 | 4.1 |
| 50 Feet from Roadway Edge | 6.5 | 6.7 | 3.8 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Mindanao Way |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

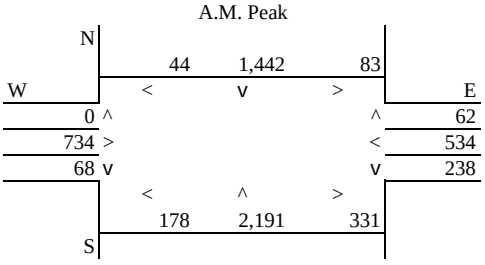
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

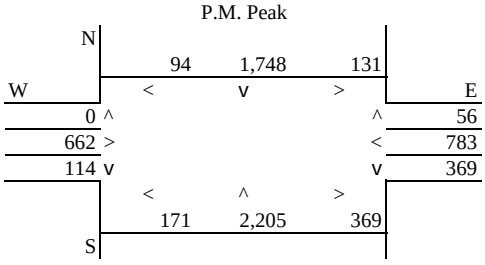
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,448 | N-S Road | 4,976 |
| E-W Road | 1,982 | E-W Road | 2,370 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,448 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,982 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,976 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 2,370 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.8 | 8.1 | 4.8 |
| 25 Feet from Roadway Edge | 6.9 | 7.1 | 4.1 |
| 50 Feet from Roadway Edge | 6.5 | 6.7 | 3.8 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Washington Blvd |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 169 | 1,566 | 273 | |
| W | < | v | > | E |
| 215 | ^ | | ^ | 216 |
| 938 | > | | < | 600 |
| 554 | v | | v | 196 |
| | < | ^ | > | |
| | 519 | 1,727 | 281 | |
| | S | | | |

P.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 209 | 2,587 | 509 | |
| W | < | v | > | E |
| 290 | ^ | | ^ | 434 |
| 1,155 | > | | < | 1,071 |
| 762 | v | | v | 569 |
| | < | ^ | > | |
| | 815 | 1,822 | 401 | |
| | S | | | |

Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,843 | N-S Road | 6,956 |
| E-W Road | 2,995 | E-W Road | 4,302 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,843 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 2,995 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 6,956 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 4,302 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 8.1 | 9.5 | 5.8 |
| 25 Feet from Roadway Edge | 7.1 | 8.0 | 4.7 |
| 50 Feet from Roadway Edge | 6.7 | 7.5 | 4.4 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Marina Expwy (SR-90) EB and Mindanao Way |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Marina Expressway (SR-90) East | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 4 | 5 | 5 |

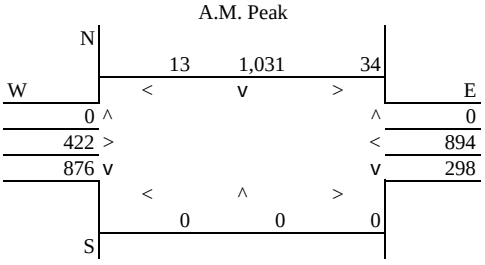
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

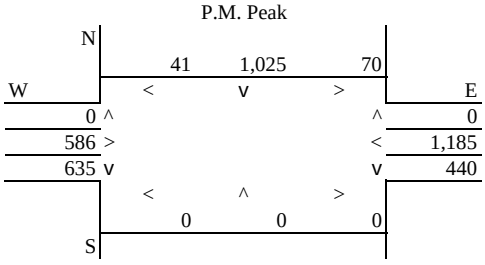
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,205 | N-S Road | 2,100 |
| E-W Road | 2,205 | E-W Road | 2,447 |
| Primary Road = | N-S Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 2,205 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 2,205 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 2,100 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,447 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 5.5 | 6.7 | 3.8 |
| 25 Feet from Roadway Edge | 5.4 | 6.0 | 3.4 |
| 50 Feet from Roadway Edge | 5.4 | 5.8 | 3.2 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Way and Admiralty Way |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |

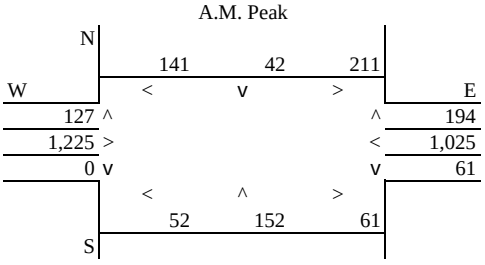
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

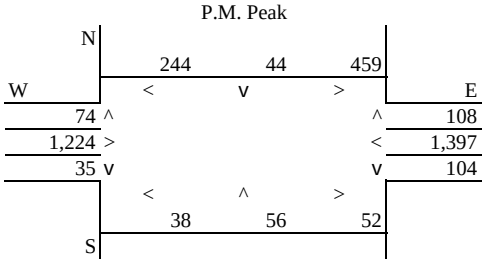
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 867 | N-S Road | 985 |
| E-W Road | 2,777 | E-W Road | 3,344 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 867 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,777 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 985 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 3,344 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.1 | 7.5 | 4.4 |
| 25 Feet from Roadway Edge | 6.3 | 6.5 | 3.7 |
| 50 Feet from Roadway Edge | 6.0 | 6.2 | 3.5 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Way and Washington Blvd |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

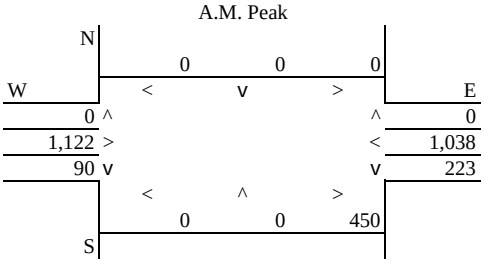
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

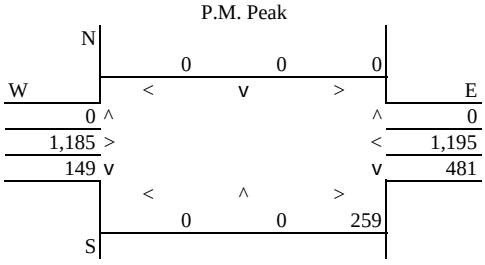
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 763 | N-S Road | 889 |
| E-W Road | 2,833 | E-W Road | 3,120 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 763 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,833 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 889 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 3,120 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.9 | 7.1 | 4.1 |
| 25 Feet from Roadway Edge | 6.2 | 6.3 | 3.5 |
| 50 Feet from Roadway Edge | 5.9 | 6.0 | 3.3 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina and Admiralty Way |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | No. of | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | Lanes | A.M. | P.M. |
| North-South Roadway: | Via Marina | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 0 | 5 | 5 |

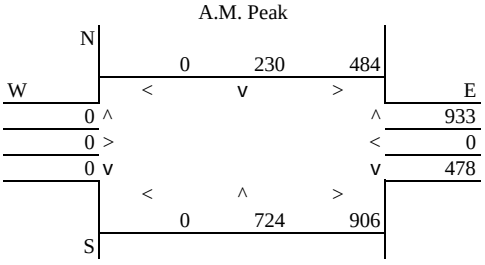
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

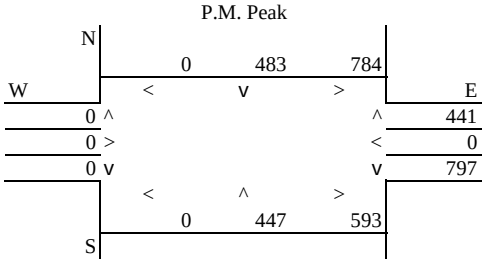
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,371 | N-S Road | 2,320 |
| E-W Road | 2,801 | E-W Road | 2,615 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 2,371 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,801 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 2,320 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,615 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 5.5 | 5.5 | 3.0 |
| 25 Feet from Roadway Edge | 5.4 | 5.4 | 2.9 |
| 50 Feet from Roadway Edge | 5.4 | 5.4 | 2.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina/Ocean Ave and Washington Blvd |
| Analysis Condition: | Future (2013) With Cumulative Development |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Via Marina/Ocean Avenue | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

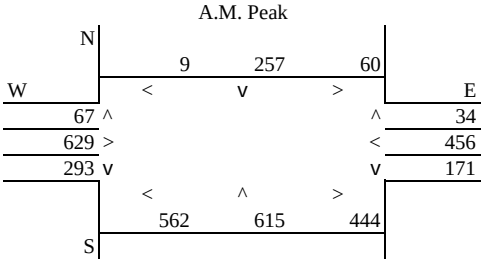
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

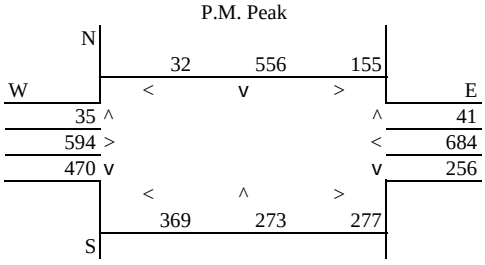
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,342 | N-S Road | 2,201 |
| E-W Road | 2,016 | E-W Road | 2,184 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 14.0 | 7.6 | 5.7 | * | 2,342 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 2,016 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 14.0 | 7.6 | 5.7 | * | 2,201 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 2,184 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.2 | 7.2 | 4.2 |
| 25 Feet from Roadway Edge | 6.4 | 6.3 | 3.6 |
| 50 Feet from Roadway Edge | 6.1 | 6.0 | 3.4 |

# Future Traffic Plus Neptune Marina Parcel 10R

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Admiralty Way and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | No. of | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | Lanes | A.M. | P.M. |
| North-South Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

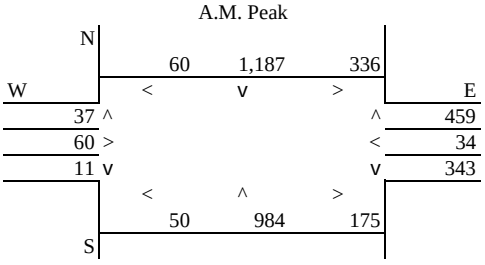
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

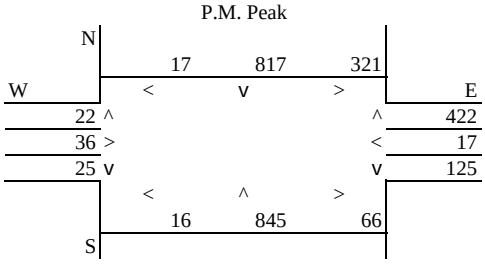
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 3,063 | N-S Road | 2,444 |
| E-W Road | 1,407 | E-W Road | 987 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 3,063 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,407 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 2,444 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 987 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.4 | 6.9 | 4.3 |
| 25 Feet from Roadway Edge | 6.5 | 6.2 | 3.7 |
| 50 Feet from Roadway Edge | 6.2 | 5.9 | 3.4 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Fiji Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Fiji Way | AT GRADE | 2 | 5 | 5 |

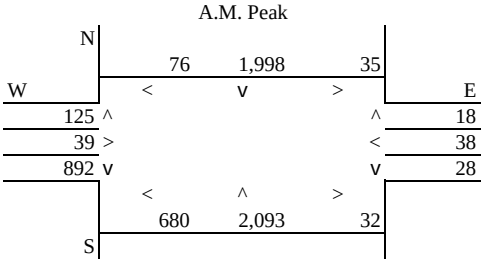
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

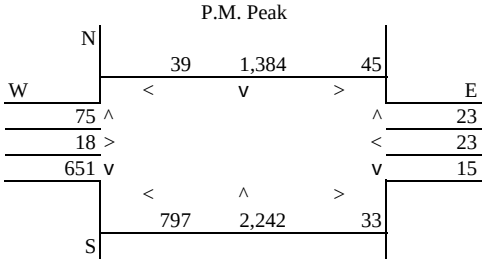
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 5,723 | N-S Road | 5,122 |
| E-W Road | 1,850 | E-W Road | 1,603 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,723 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,850 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,122 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,603 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 8.4 | 8.1 | 5.0 |
| 25 Feet from Roadway Edge | 7.3 | 7.0 | 4.2 |
| 50 Feet from Roadway Edge | 6.8 | 6.7 | 3.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Marina Expwy (SR-90) |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Marina Expressway (SR-90) | AT GRADE | 0 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

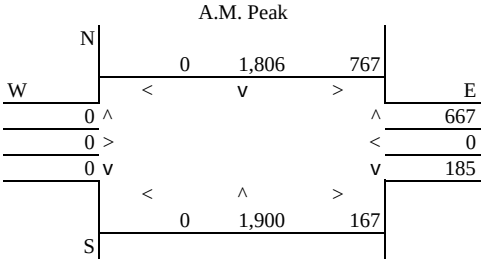
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

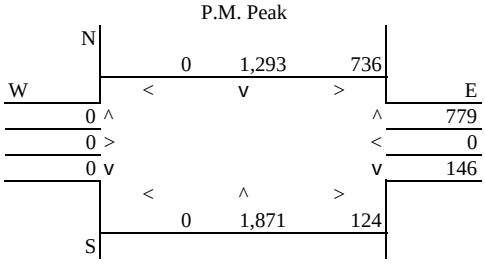
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 5,140 | N-S Road | 4,679 |
| E-W Road | 1,786 | E-W Road | 1,785 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,140 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,786 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,679 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,785 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.8 | 7.5 | 4.6 |
| 25 Feet from Roadway Edge | 6.8 | 6.7 | 3.9 |
| 50 Feet from Roadway Edge | 6.5 | 6.3 | 3.7 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

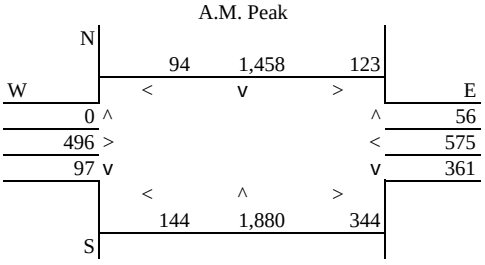
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

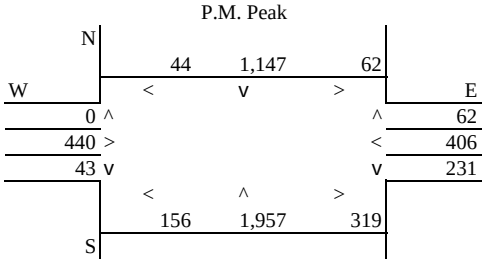
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,284 | N-S Road | 3,853 |
| E-W Road | 1,955 | E-W Road | 1,520 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,284 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,955 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 3,853 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,520 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.7 | 7.4 | 4.5 |
| 25 Feet from Roadway Edge | 6.8 | 6.6 | 3.9 |
| 50 Feet from Roadway Edge | 6.5 | 6.3 | 3.7 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 201 | 2,312 | 480 | |
| W | < | v | > | E |
| 307 | ^ | | ^ | 409 |
| 1,120 | > | | < | 988 |
| 691 | v | | v | 504 |
| | < | ^ | > | |
| | 686 | 1,578 | 344 | |
| | S | | | |

P.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 174 | 1,434 | 264 | |
| W | < | v | > | E |
| 174 | ^ | | ^ | 198 |
| 763 | > | | < | 546 |
| 444 | v | | v | 180 |
| | < | ^ | > | |
| | 430 | 1,492 | 244 | |
| | S | | | |

Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 6,115 | N-S Road | 4,224 |
| E-W Road | 3,993 | E-W Road | 2,531 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 6,115 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 3,993 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,224 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 2,531 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 9.0 | 7.7 | 5.4 |
| 25 Feet from Roadway Edge | 7.7 | 6.9 | 4.5 |
| 50 Feet from Roadway Edge | 7.2 | 6.5 | 4.2 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Marina Expwy (SR-90) EB and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Marina Expressway (SR-90) East | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 4 | 5 | 5 |

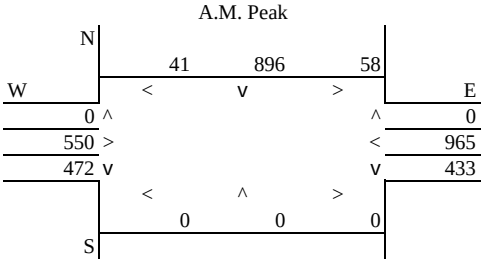
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

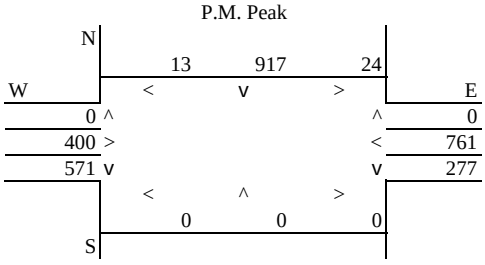
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 1,801 | N-S Road | 1,765 |
| E-W Road | 2,028 | E-W Road | 1,745 |
| Primary Road = | E-W Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 1,801 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,028 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 1,765 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,745 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.4 | 5.4 | 3.6 |
| 25 Feet from Roadway Edge | 5.9 | 5.3 | 3.2 |
| 50 Feet from Roadway Edge | 5.7 | 5.3 | 3.1 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Way and Admiralty Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

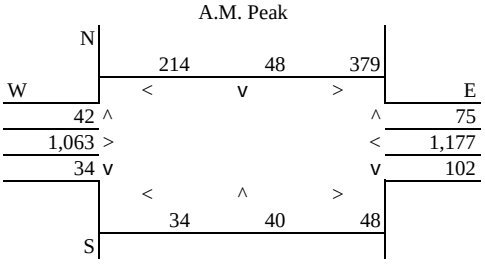
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

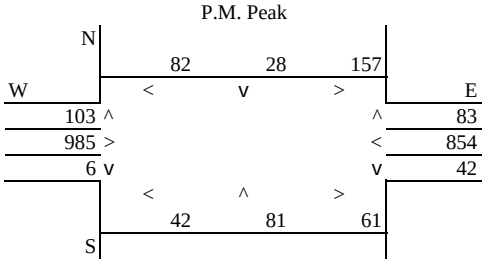
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 798 | N-S Road | 534 |
| E-W Road | 2,844 | E-W Road | 2,182 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 798 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,844 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 534 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,182 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.1 | 6.6 | 4.1 |
| 25 Feet from Roadway Edge | 6.3 | 6.0 | 3.5 |
| 50 Feet from Roadway Edge | 6.0 | 5.8 | 3.4 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Way and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

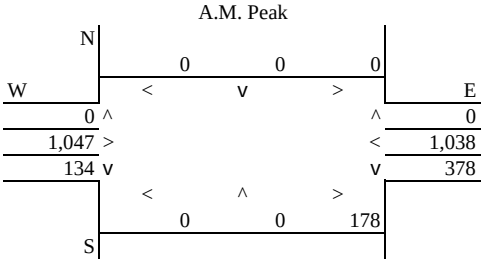
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

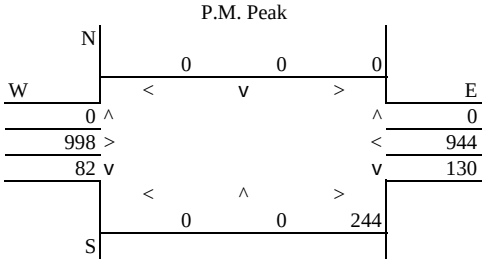
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 690 | N-S Road | 456 |
| E-W Road | 2,641 | E-W Road | 2,316 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 690 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,641 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 456 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,316 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.8 | 6.6 | 3.9 |
| 25 Feet from Roadway Edge | 6.1 | 6.0 | 3.4 |
| 50 Feet from Roadway Edge | 5.9 | 5.8 | 3.2 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina and Admiralty Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Via Marina | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 0 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

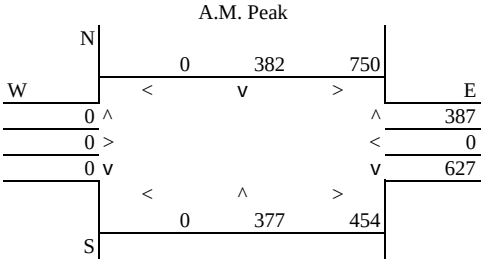
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

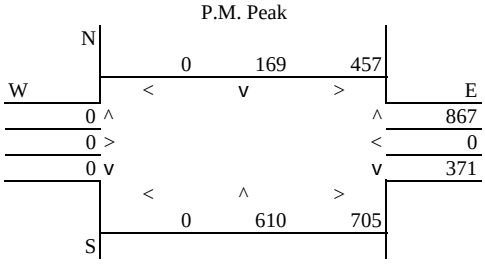
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 1,896 | N-S Road | 2,103 |
| E-W Road | 2,218 | E-W Road | 2,400 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 1,896 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,218 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 2,103 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,400 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 5.4 | 5.5 | 3.0 |
| 25 Feet from Roadway Edge | 5.4 | 5.4 | 2.9 |
| 50 Feet from Roadway Edge | 5.3 | 5.4 | 2.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina/Ocean Ave and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 10R |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Via Marina/Ocean Avenue | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

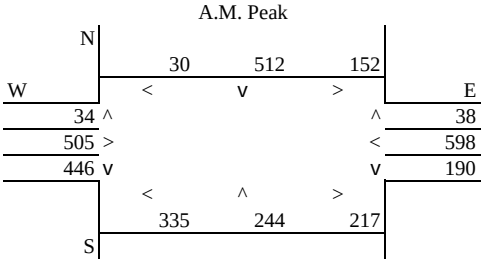
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

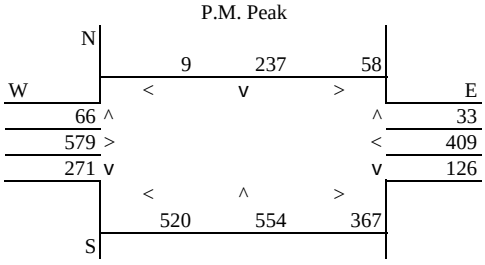
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 1,944 | N-S Road | 2,075 |
| E-W Road | 1,948 | E-W Road | 1,854 |
| Primary Road = | E-W Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 1,944 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 1,948 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 14.0 | 7.6 | 5.7 | * | 2,075 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,854 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.8 | 7.0 | 4.0 |
| 25 Feet from Roadway Edge | 6.1 | 6.2 | 3.5 |
| 50 Feet from Roadway Edge | 5.9 | 6.0 | 3.3 |

# Future Traffic Plus Neptune Marina Parcel FF

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Admiralty Way and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

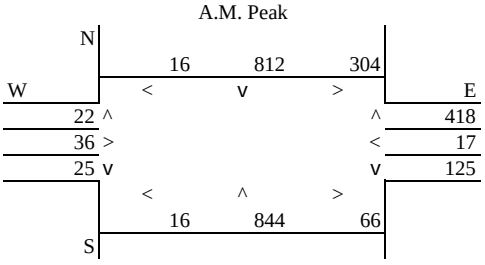
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

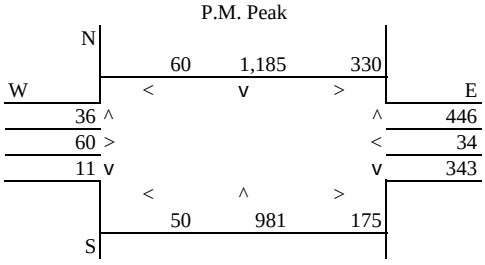
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,416 | N-S Road | 3,038 |
| E-W Road | 966 | E-W Road | 1,388 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 2,416 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 966 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 3,038 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,388 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.9 | 7.3 | 4.3 |
| 25 Feet from Roadway Edge | 6.2 | 6.5 | 3.7 |
| 50 Feet from Roadway Edge | 5.9 | 6.2 | 3.4 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Fiji Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Fiji Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak

| | | | | | | |
|---|---|---|---|---|---|---|
| | | N | | | | |
| | | 39 | 1,382 | 45 | | |
| W | < | | v | > | | E |
| 75 | ^ | | | ^ | | 23 |
| 18 | > | | | < | | 23 |
| 647 | v | | | v | | 15 |
| | < | | ^ | > | | |
| | | 797 | 2,241 | 33 | | |
| | | S | | | | |

P.M. Peak

| | | | | | | |
|---|---|---|---|---|---|---|
| | | N | | | | |
| | | 76 | 1,997 | 35 | | |
| W | < | | v | > | | E |
| 125 | ^ | | | ^ | | 18 |
| 39 | > | | | < | | 38 |
| 891 | v | | | v | | 28 |
| | < | | ^ | > | | |
| | | 677 | 2,092 | 32 | | |
| | | S | | | | |

Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 5,115 | N-S Road | 5,717 |
| E-W Road | 1,599 | E-W Road | 1,846 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,115 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,599 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,717 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,846 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 8.1 | 8.4 | 5.0 |
| 25 Feet from Roadway Edge | 7.0 | 7.3 | 4.2 |
| 50 Feet from Roadway Edge | 6.7 | 6.8 | 3.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Marina Expwy (SR-90) |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Marina Expressway (SR-90) | AT GRADE | 0 | 5 | 5 |

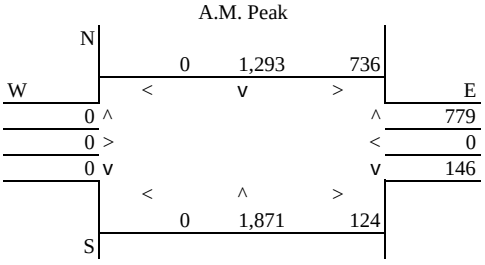
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

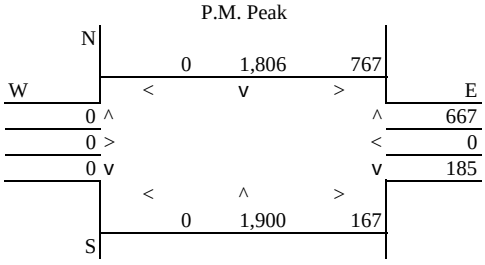
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,679 | N-S Road | 5,140 |
| E-W Road | 1,785 | E-W Road | 1,786 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,679 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,785 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,140 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,786 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.5 | 7.8 | 4.6 |
| 25 Feet from Roadway Edge | 6.7 | 6.8 | 3.9 |
| 50 Feet from Roadway Edge | 6.3 | 6.5 | 3.7 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

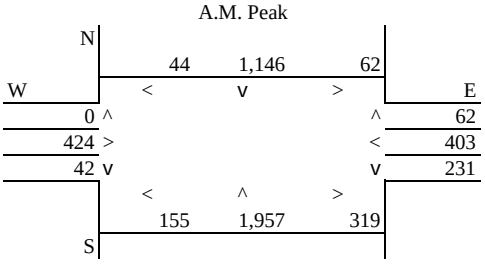
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

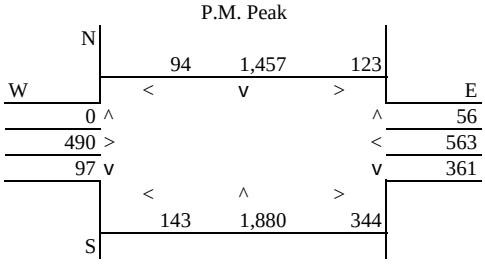
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 3,850 | N-S Road | 4,282 |
| E-W Road | 1,501 | E-W Road | 1,937 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 3,850 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,501 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,282 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,937 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.4 | 7.7 | 4.5 |
| 25 Feet from Roadway Edge | 6.6 | 6.8 | 3.9 |
| 50 Feet from Roadway Edge | 6.3 | 6.5 | 3.7 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 173 | 1,434 | 264 | |
| W | < | v | > | E |
| 172 | ^ | | ^ | 198 |
| 757 | > | | < | 544 |
| 444 | v | | v | 180 |
| | < | ^ | > | |
| | 430 | 1,492 | 244 | |
| | S | | | |

P.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 199 | 2,312 | 480 | |
| W | < | v | > | E |
| 307 | ^ | | ^ | 409 |
| 1,118 | > | | < | 983 |
| 691 | v | | v | 504 |
| | < | ^ | > | |
| | 686 | 1,578 | 344 | |
| | S | | | |

Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,224 | N-S Road | 6,115 |
| E-W Road | 2,520 | E-W Road | 3,984 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,224 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 2,520 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 6,115 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 3,984 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.7 | 9.0 | 5.4 |
| 25 Feet from Roadway Edge | 6.9 | 7.7 | 4.5 |
| 50 Feet from Roadway Edge | 6.5 | 7.2 | 4.2 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Marina Expwy (SR-90) EB and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Marina Expressway (SR-90) East | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 4 | 5 | 5 |

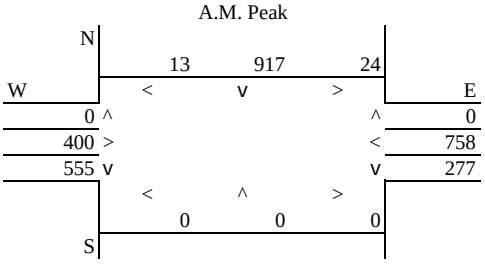
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

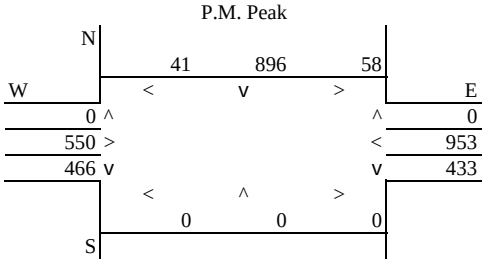
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 1,749 | N-S Road | 1,795 |
| E-W Road | 1,726 | E-W Road | 2,010 |
| Primary Road = | N-S Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 1,749 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,726 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 1,795 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,010 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 5.4 | 6.4 | 3.6 |
| 25 Feet from Roadway Edge | 5.3 | 5.9 | 3.2 |
| 50 Feet from Roadway Edge | 5.3 | 5.7 | 3.1 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Way and Admiralty Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

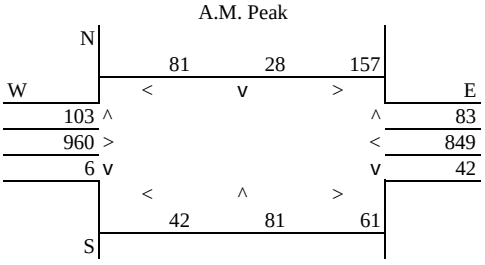
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

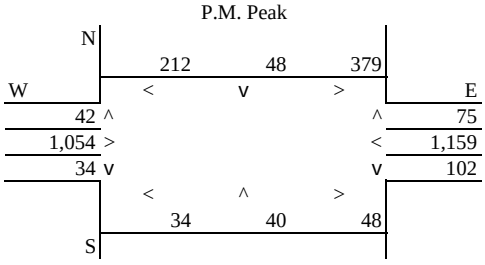
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 533 | N-S Road | 796 |
| E-W Road | 2,152 | E-W Road | 2,817 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 533 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,152 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 796 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,817 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.6 | 7.1 | 4.1 |
| 25 Feet from Roadway Edge | 6.0 | 6.3 | 3.5 |
| 50 Feet from Roadway Edge | 5.8 | 6.0 | 3.3 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Way and Washington Boulevard |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

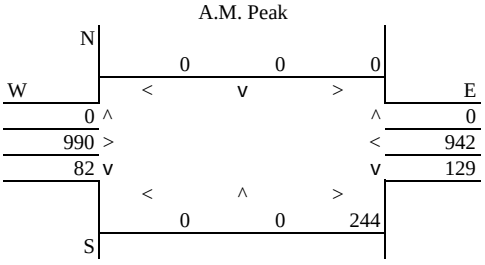
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

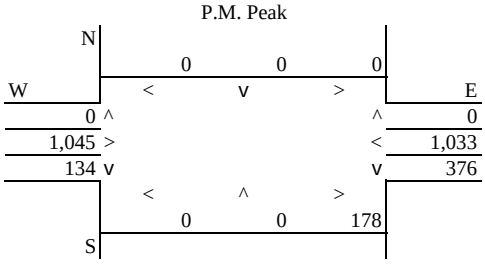
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 455 | N-S Road | 688 |
| E-W Road | 2,305 | E-W Road | 2,632 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 455 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,305 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 688 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,632 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.6 | 6.8 | 3.9 |
| 25 Feet from Roadway Edge | 6.0 | 6.1 | 3.4 |
| 50 Feet from Roadway Edge | 5.8 | 5.9 | 3.2 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina and Admiralty Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Via Marina | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 0 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

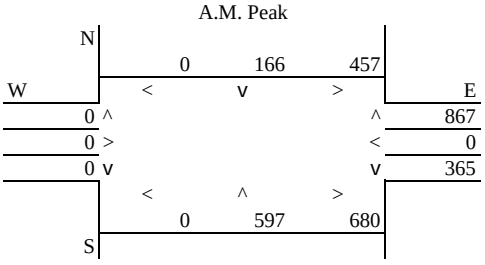
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

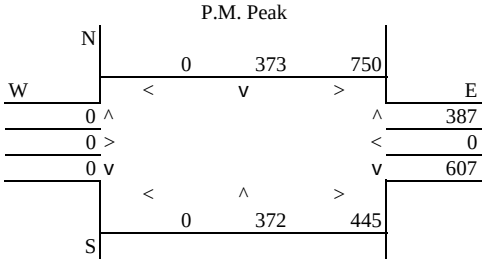
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,087 | N-S Road | 1,882 |
| E-W Road | 2,369 | E-W Road | 2,189 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 2,087 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,369 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 1,882 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,189 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 5.5 | 5.4 | 3.0 |
| 25 Feet from Roadway Edge | 5.4 | 5.4 | 2.9 |
| 50 Feet from Roadway Edge | 5.3 | 5.3 | 2.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina/Ocean Ave and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel FF |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Via Marina/Ocean Ave | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

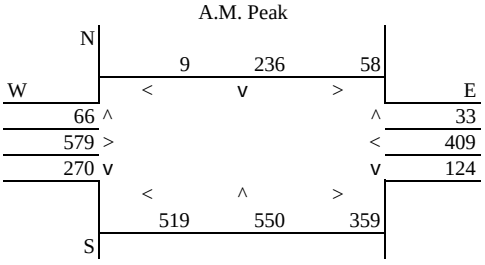
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

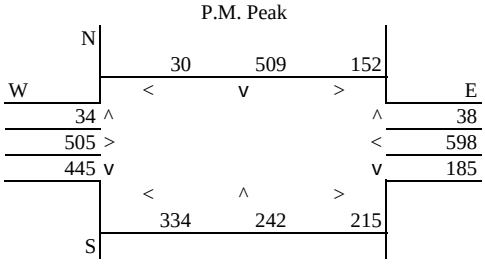
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,058 | N-S Road | 1,930 |
| E-W Road | 1,852 | E-W Road | 1,946 |
| Primary Road = | N-S Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 14.0 | 7.6 | 5.7 | * | 2,058 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,852 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 1,930 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 1,946 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.0 | 6.7 | 4.0 |
| 25 Feet from Roadway Edge | 6.2 | 6.1 | 3.5 |
| 50 Feet from Roadway Edge | 6.0 | 5.9 | 3.3 |

# Future Traffic Plus Woodfin Suite Hotel and Timeshare Resort

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Admiralty Way and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

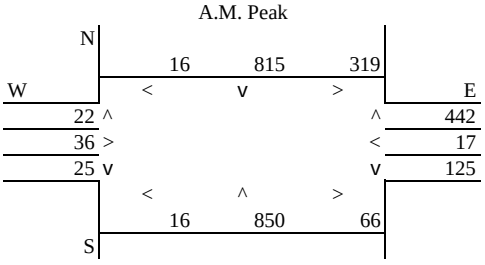
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

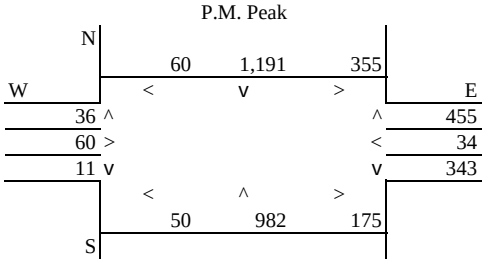
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,464 | N-S Road | 3,079 |
| E-W Road | 1,005 | E-W Road | 1,422 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 2,464 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,005 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 11.9 | 7.0 | 5.4 | * | 3,079 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,422 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.9 | 7.4 | 4.3 |
| 25 Feet from Roadway Edge | 6.2 | 6.5 | 3.7 |
| 50 Feet from Roadway Edge | 5.9 | 6.2 | 3.5 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Fiji Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Fiji Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

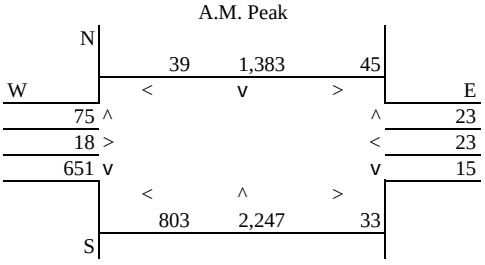
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

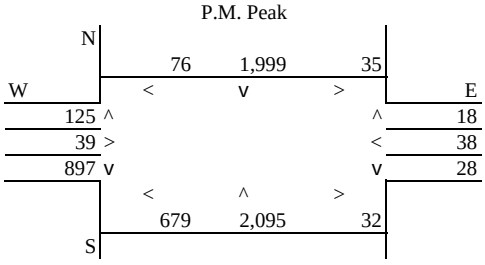
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 5,132 | N-S Road | 5,730 |
| E-W Road | 1,609 | E-W Road | 1,854 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,132 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,609 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,730 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,854 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 8.1 | 8.4 | 5.0 |
| 25 Feet from Roadway Edge | 7.0 | 7.3 | 4.2 |
| 50 Feet from Roadway Edge | 6.7 | 6.8 | 3.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Marina Expwy (SR-90) |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Marina Expressway (SR-90) | AT GRADE | 0 | 5 | 5 |

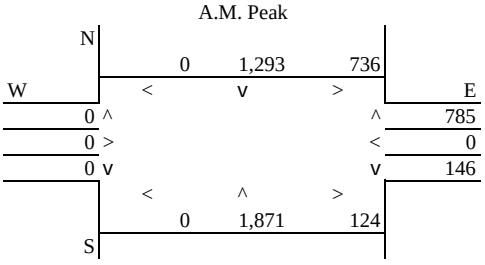
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

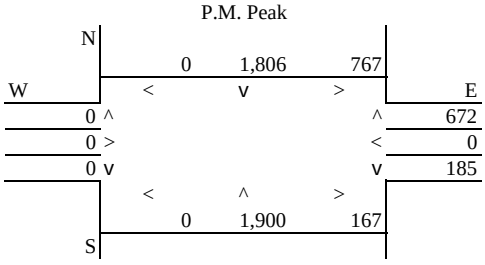
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,685 | N-S Road | 5,145 |
| E-W Road | 1,791 | E-W Road | 1,791 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,685 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,791 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 5,145 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 1,791 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.5 | 7.8 | 4.6 |
| 25 Feet from Roadway Edge | 6.7 | 6.8 | 3.9 |
| 50 Feet from Roadway Edge | 6.3 | 6.5 | 3.7 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 2 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

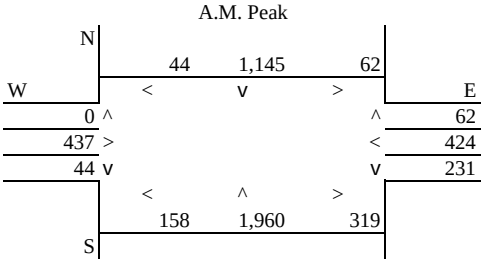
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

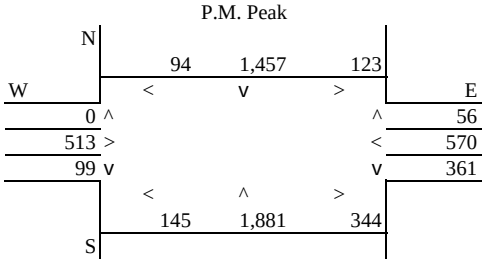
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 3,857 | N-S Road | 4,287 |
| E-W Road | 1,535 | E-W Road | 1,967 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 3,857 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,535 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,287 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.7 | 2.7 | 2.2 | * | 1,967 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.4 | 7.7 | 4.5 |
| 25 Feet from Roadway Edge | 6.6 | 6.8 | 3.9 |
| 50 Feet from Roadway Edge | 6.3 | 6.5 | 3.7 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Lincoln Blvd and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Lincoln Boulevard | AT GRADE | 6 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 179 | 1,434 | 264 | |
| W | < | v | > | E |
| 175 | ^ | | ^ | 198 |
| 760 | > | | < | 553 |
| 444 | v | | v | 180 |
| | < | ^ | > | |
| | 436 | 1,492 | 244 | |
| | S | | | |

P.M. Peak

| | | | | |
|---|---|---|---|---|
| | N | | | |
| | 202 | 2,312 | 480 | |
| W | < | v | > | E |
| 312 | ^ | | ^ | 409 |
| 1,124 | > | | < | 986 |
| 691 | v | | v | 504 |
| | < | ^ | > | |
| | 691 | 1,578 | 344 | |
| | S | | | |

Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 4,230 | N-S Road | 6,120 |
| E-W Road | 2,547 | E-W Road | 4,006 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 4,230 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 2,547 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 9.5 | 6.1 | 4.9 | * | 6,120 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 4,006 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.7 | 9.0 | 5.4 |
| 25 Feet from Roadway Edge | 6.9 | 7.7 | 4.5 |
| 50 Feet from Roadway Edge | 6.5 | 7.2 | 4.2 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Marina Expwy (SR-90) EB and Mindanao Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | | | Approach/Departure Speed | |
|---|---|---|---|---|---|
| | | Roadway Type | No. of Lanes | A.M. | P.M. |
| North-South Roadway: | Marina Expressway (SR-90) East | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Mindanao Way | AT GRADE | 4 | 5 | 5 |

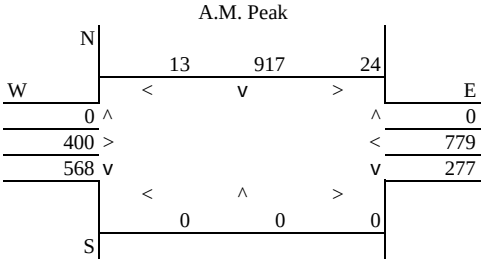
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

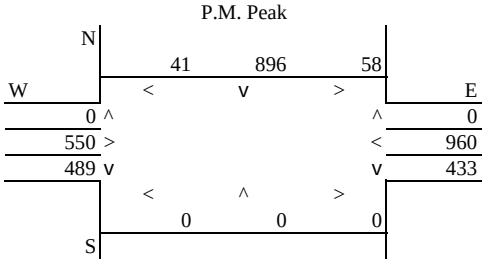
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 1,762 | N-S Road | 1,818 |
| E-W Road | 1,760 | E-W Road | 2,040 |
| Primary Road = | N-S Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| | Reference CO Concentrations | | | | Traffic | | Emission | | |
|---|---|---|---|---|---|---|---|---|---|
| Roadway | 0 Feet | 25 Feet | 50 Feet | | Volume | | Factor | | |
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 1,762 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,760 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 1,818 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,040 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 5.4 | 6.4 | 3.6 |
| 25 Feet from Roadway Edge | 5.3 | 5.9 | 3.2 |
| 50 Feet from Roadway Edge | 5.3 | 5.7 | 3.1 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Way and Admiralty Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 4 | 5 | 5 |

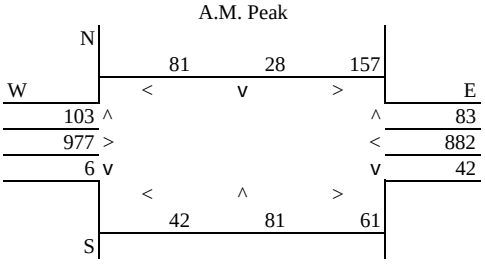
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

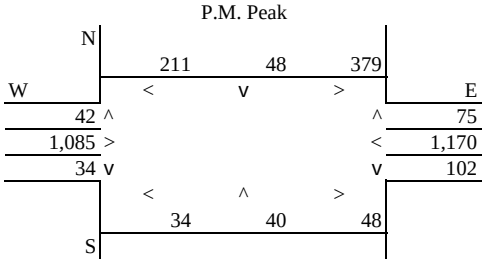
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 533 | N-S Road | 795 |
| E-W Road | 2,202 | E-W Road | 2,859 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 533 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,202 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.7 | 2.7 | 2.2 | * | 795 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,859 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.6 | 7.1 | 4.1 |
| 25 Feet from Roadway Edge | 6.0 | 6.3 | 3.5 |
| 50 Feet from Roadway Edge | 5.8 | 6.0 | 3.4 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Palawan Way and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Palawan Way | AT GRADE | 0 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

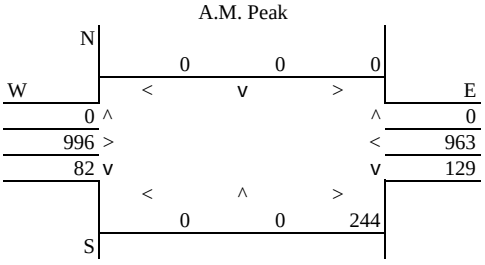
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

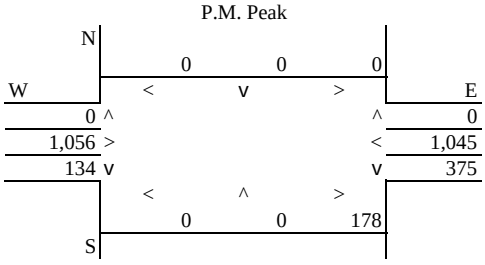
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 455 | N-S Road | 687 |
| E-W Road | 2,332 | E-W Road | 2,654 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 455 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,332 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 0.0 | 0.0 | 0.0 | * | 687 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 11.9 | 7.0 | 5.4 | * | 2,654 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 6.6 | 6.8 | 3.9 |
| 25 Feet from Roadway Edge | 6.0 | 6.1 | 3.4 |
| 50 Feet from Roadway Edge | 5.8 | 5.9 | 3.2 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina and Admiralty Way |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Via Marina | AT GRADE | 4 | 5 | 5 |
| East-West Roadway: | Admiralty Way | AT GRADE | 0 | 5 | 5 |

EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

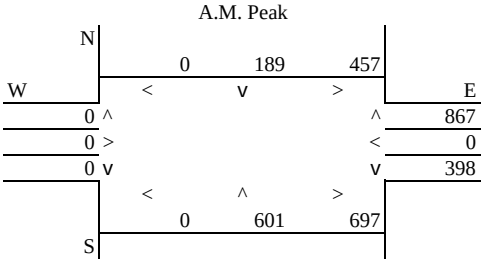
Air Basin: South Coast County: Los Angeles

Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

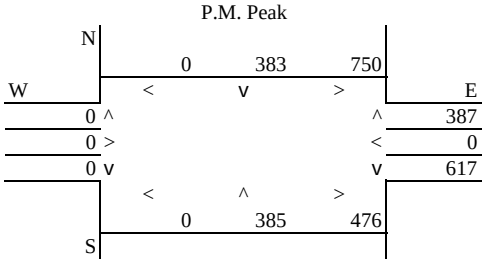
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,114 | N-S Road | 1,905 |
| E-W Road | 2,419 | E-W Road | 2,230 |
| Primary Road = | E-W Road | Primary Road = | E-W Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 2,114 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,419 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 3.3 | 2.6 | 2.2 | * | 1,905 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 0.0 | 0.0 | 0.0 | * | 2,230 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 5.5 | 5.4 | 3.0 |
| 25 Feet from Roadway Edge | 5.4 | 5.4 | 2.9 |
| 50 Feet from Roadway Edge | 5.4 | 5.3 | 2.9 |

## BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2007

| | |
|---|---|
| Project Title: | Neptune Marina/Woodfin Suites Hotel and Timeshare Resort Project |
| Intersection: | Via Marina/Ocean Ave and Washington Blvd |
| Analysis Condition: | Future (2013) With Ambient Growth Plus Parcel 9U |
| Nearest Air Monitoring Station measuring CO: | 11301 Wilshire Blvd. West Los Angeles, CA 90073 |
| Background 1-hour CO Concentration (ppm): | 5.1 |
| Background 8-hour CO Concentration (ppm): | 2.7 |
| Persistence Factor: | 0.7 |
| Analysis Year: | 2013 |

| | | Roadway Type | No. of Lanes | Approach/Departure Speed A.M. | Approach/Departure Speed P.M. |
|---|---|---|---|---|---|
| North-South Roadway: | Via Marina/Ocean Avenue | AT GRADE | 2 | 5 | 5 |
| East-West Roadway: | Washington Boulevard | AT GRADE | 4 | 5 | 5 |

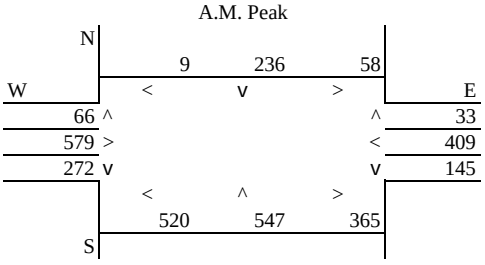
EMFAC2007 COMPOSITE EMISSION FACTORS FOR CO

Air Basin: South Coast County: Los Angeles
Assumes lowest mean wintertime temperature of 47 degrees F and 30% humidity.

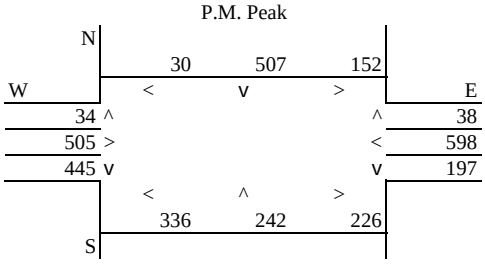
| | Average Speed (miles per hour) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 29 | 32 |
| 2009 | 8.018 | 6.995 | 6.187 | 5.54 | 5.017 | 4.597 | 4.259 | 3.979 | 3.746 | 3.554 |
| 2010 | 7.25 | 6.339 | 5.617 | 5.037 | 4.568 | 4.191 | 3.887 | 3.635 | 3.424 | 3.249 |
| 2011 | 6.578 | 5.765 | 5.118 | 4.598 | 4.176 | 3.836 | 3.563 | 3.334 | 3.142 | 2.983 |
| 2012 | 5.983 | 5.255 | 4.674 | 4.206 | 3.826 | 3.519 | 3.273 | 3.066 | 2.891 | 2.745 |
| 2013 | 5.437 | 4.787 | 4.267 | 3.846 | 3.504 | 3.228 | 3.006 | 2.818 | 2.66 | 2.526 |
| 2014 | 4.963 | 4.38 | 3.911 | 3.531 | 3.222 | 2.972 | 2.771 | 2.601 | 2.456 | 2.333 |

PEAK HOUR TURNING VOLUMES

A.M. Peak




P.M. Peak




Representative Traffic Volumes (Vehicles per Hour)

| | | | |
|---|---|---|---|
| N-S Road | 2,085 | N-S Road | 1,953 |
| E-W Road | 1,855 | E-W Road | 1,948 |
| Primary Road = | N-S Road | Primary Road = | N-S Road |

ROADWAY CO CONTRIBUTIONS

| Roadway | Reference CO Concentrations 0 Feet | 25 Feet | 50 Feet | | Traffic Volume | | Emission Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| A.M. Peak Hour | | | | | | | | | |
| N-S Road | 14.0 | 7.6 | 5.7 | * | 2,085 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,855 | * | 5.44 | ÷ | 100,000 |
| P.M. Peak Hour | | | | | | | | | |
| N-S Road | 14.0 | 7.6 | 5.7 | * | 1,953 | * | 5.44 | ÷ | 100,000 |
| E-W Road | 3.3 | 2.6 | 2.2 | * | 1,948 | * | 5.44 | ÷ | 100,000 |

TOTAL CO CONCENTRATIONS (ppm)

| | A.M. Peak Hour | P.M. Peak Hour | 8-Hour |
|---|---|---|---|
| 0 Feet from Roadway Edge | 7.0 | 6.9 | 4.0 |
| 25 Feet from Roadway Edge | 6.2 | 6.2 | 3.5 |
| 50 Feet from Roadway Edge | 6.0 | 5.9 | 3.3 |

**APPENDIX 5.6**

**California Coastal Commission's February 8, 1996, Revised Findings (Page 59–50)**

entrance channel, on Parcel 113, the maximum height would continue to be 225 feet but without the limitations of the current standards, that limit heights to 35 feet in a 100-300 foot-wide corridor adjacent to the water's edge. The 225 foot height would be extended over the entire area of parcel 112, formerly limited to 35 feet next to the water and 140 feet on the remainder, based on its previous zone designation limit of 140 feet. On parcel 64 maximum height would be lowered from 225 feet to 140 feet, (Exhibit 17).

The proposed LUP amendment states that each developer *may* be required to study the effect of their proposed building on winds:

The companion LIP requires future development proposals to analyze cumulative wind effects of the development to avoid creating gusts and dead spots that could make it unsafe to sail. Some members of the public believe that high buildings and the gaps created by view corridors would have impacts on winds and on sailing. They contend that a future study of a single parcel is not sufficient to protect sailing, and without a review of the cumulative adverse wind effects of all likely development, the effects of the new height patterns on sailing are so serious that increased heights should not be permitted.

While the Commission sees merit in the interest in more flexible design, the Commission finds that there is not enough evidence before it showing that there will not be a deleterious effect on wind patterns for sailing if greater heights are permitted in conjunction with view corridors. The proposed LUPA does not adequately analyze cumulative adverse impacts on wind patterns, does not require such studies to analyze the entire basin, including potential adjacent structures, and does not clearly indicate that development may only be approved if all significant adverse impacts are fully mitigated. Because sailing has a higher priority than residential development, the Commission must deny increased heights on the moles and along the sailing basins without an identification and full mitigation of such development's significant adverse cumulative impacts on wind.

The Commission finds that the proposed LUPA is inconsistent with Coastal Act Sections 30220 and 30221, absent standards requiring identification and mitigation of adverse cumulative impacts on significant wind patterns.

* The Commission finds that greater heights do not detract from the quality of the Marina as a recreation area as long as larger view corridors are provided. However, as discussed above, the proposed LUPA is inconsistent with Sections 30220 and 30221

of the Coastal Act which mandate the protection of water-oriented recreational activities because: 1) it does not adequately protect boating support uses, and 2) wind studies which adequately address cumulative impacts are not required.

**3. Findings for Approval of Proposed LUPA Recreational Boating Policies, as Modified.**

**a) Boating Support and Services.**

Modification of the proposed LUPA is necessary to ensure that the land use designations will be consistent with Coastal Act policies requiring the protection of recreational boating. Accordingly, the proposed LUPA is modified to retain the Boat Storage land use category established in the certified LCP, and by designating Parcels 91, 77, 49R and 49S and part of Parcel 44 for Boat Storage. Boat and marina access shall be preserved along with landside development of other uses. These land use designations which maintain the current boating use will protect vital public recreation and recreational boating uses, along with the public parking necessary to take advantage of and enjoy these uses. As modified to protect boating facilities by retaining the Boat Storage land use category, and then by designating Parcels 91, 77, 49R and 49S, and part of Parcel 44 for Boat Storage use, the proposed LUPA will protect publicly owned, though sometimes privately operated, water-oriented coastal recreation. Proposed Policies 3-1 and 3-5 (modified Policy 3-3) are modified to require all boating and other coastal-dependent facilities to be preserved in Phase II development, although some facilities may be relocated.

The protection of boating support and the preservation of existing lower-cost boating facilities, such as the boat launch, the sailboat rental and the dinghy launch, provide for all economic segments of the population.

Proposed Policies 3-1 and 3-6 (modified Policy 3-4) and the proposed LUPA land use categories in Chapter 8 are modified to retain the Boat Storage designation. The proposed LUPA, as modified, is consistent with the recreational boating standards of the Coastal Act.

**b) Wind Study Requirements.**

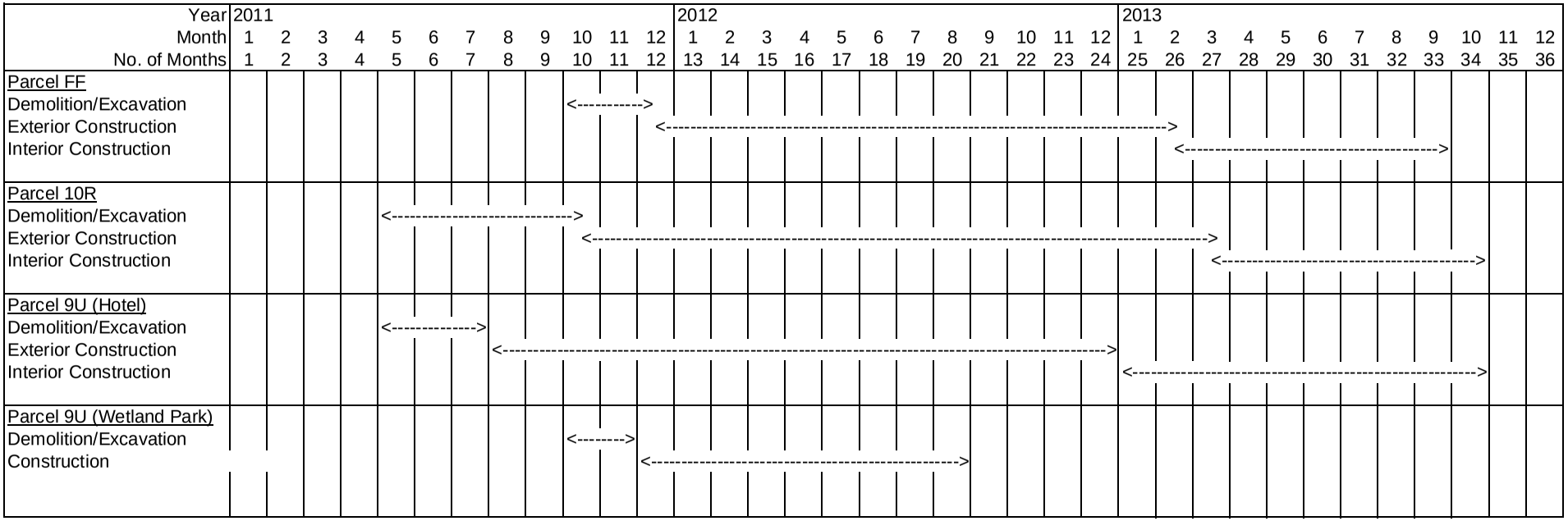
The Commission finds that there is currently a pattern of taller buildings on the inland side of Via Marina and on the north side of the Marina and along Admiralty Way. The

# APPENDIX 5.7

## Traffic and Access

Crain & Associates
Feb 6, 2009
Draft

**FIGURE 1**
**LEGACY/WOODFIN PROJECT ON PARCEL FF, 10R AND 9U, MARINA DEL REY**
**PRELIMINARY CONSTRUCTION SCHEDULE**



Crain & Associates
February 6, 2009
Draft

**TABLE 1**
**LEGACY/WOODFIN PROJECT ON PARCEL FF, 10R AND 9U, MARINA DEL REY**
**CONSTRUCTION IMPACT ANALYSIS**

| Phase | Average Number Of Workers | Total Removal[1] (Cubic Yards) | Duration (Work days)[2] | Duration (Work Months) | Daily Removal (Cubic Yards) | Truck Size (c.y./load) | Daily Removal/ Delivery Loads | Truck Trips Daily (In + Out) | Truck Trips PCE Factor[3] | Truck Trips Total Trips (PCE) Daily | Truck Trips Total Trips (PCE) AM PkHr | Truck Trips Total Trips (PCE) PM PkHr | Autos Trips (PCE)[4] Daily | Autos Trips (PCE)[4] AM PkHr | Autos Trips (PCE)[4] PM PkHr | Total Trips (PCE) Daily | Total Trips (PCE) AM PkHr | Total Trips (PCE) PM PkHr |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parcel FF | | | | | | | | | | | | | | | | | | |
| Demolition/Excavation | 22 | 32,950 | 64 | 2.5 | 515 | 14 | 37 | 74 | 3.0 | 222 | 25 | 25 | 66 | 10 | 9 | 288 | 35 | 34 |
| Exterior Construction | 110 | -- | 360 | 14.0 | -- | -- | 20 | 40 | 2.5 | 100 | 11 | 11 | 332 | 48 | 46 | 432 | 59 | 57 |
| Interior Construction | 80 | -- | 193 | 7.5 | -- | -- | 20 | 40 | 2.5 | 100 | 11 | 11 | 242 | 35 | 34 | 342 | 46 | 45 |
| | | | | 24.0 | | | | | | | | | | | | | | |
| Parcel 10R | | | | | | | | | | | | | | | | | | |
| Demolition/Excavation | 40 | 137,950 | 141 | 5.5 | 978 | 14 | 70 | 140 | 3.0 | 420 | 47 | 47 | 121 | 18 | 17 | 541 | 65 | 64 |
| Exterior Construction | 210 | -- | 437 | 17.0 | -- | -- | 35 | 70 | 2.5 | 175 | 19 | 19 | 634 | 92 | 88 | 809 | 111 | 107 |
| Interior Construction | 110 | -- | 193 | 7.5 | -- | -- | 35 | 70 | 2.5 | 175 | 19 | 19 | 332 | 48 | 46 | 507 | 67 | 65 |
| | | | | 30.0 | | | | | | | | | | | | | | |
| Parcel 9U (Hotel) | | | | | | | | | | | | | | | | | | |
| Demolition/Excavation | 10 | 42,200 | 77 | 3.0 | 548 | 14 | 39 | 78 | 3.0 | 234 | 26 | 26 | 30 | 4 | 4 | 264 | 30 | 30 |
| Exterior Construction | 100 | -- | 437 | 17.0 | -- | -- | 10 | 20 | 2.5 | 50 | 6 | 6 | 302 | 44 | 42 | 352 | 50 | 48 |
| Interior Construction | 100 | -- | 257 | 10.0 | -- | -- | 10 | 20 | 2.5 | 50 | 6 | 6 | 302 | 44 | 42 | 352 | 50 | 48 |
| | | | | 30.0 | | | | | | | | | | | | | | |
| Parcel 9U (Wetland Park) | | | | | | | | | | | | | | | | | | |
| Excavation/Grading[5] | 10 | 0 | 51 | 2.0 | 0 | 14 | 5 | 10 | 3.0 | 30 | 3 | 3 | 30 | 4 | 4 | 60 | 7 | 7 |
| Construction | 20 | -- | 231 | 9.0 | -- | -- | 5 | 10 | 2.5 | 25 | 3 | 3 | 60 | 9 | 8 | 85 | 12 | 11 |
| | | | | 11.0 | | | | | | | | | | | | | | |

1 Includes dirt, construction debris and asphalt/concrete.
2 Assumed construction is expected to occur six days a week.
3 Average range of 2.0 to 3.0 rates from Highway Capacity Manual.
4 The daily, AM and PM peak hour trip rates used for determining the project's construction trip generating potential are established to be approximately the same or less than that for general light industrial worker based on rates from ITE, Trip Generation, 7th Editio
5 A net fill of 1,800 cubic yards will be transported from the hotel site to the wetland park site within Parcel 9U.

**Crain & Associates**
**February 6, 2009**

**TABLE 2**
**LEGACY/WOODFIN PROJECT ON PARCEL FF, 10R AND 9U**
**PRELIMINARY CONSTRUCTION TRIP GENERATION PER DURATION**

| | | Parcel FF | | | Parcel 10R | | | Parcel 9U (Hotel) | | | Parcel 9U (Wetland Park) | | | Gross Total Trips (PCE) | | | Net Total Trips (PCE)* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase | Duration | Daily Trips | AM PkHr Trips | PM PkHr Trips | Daily Trips | AM PkHr Trips | PM PkHr Trips | Daily Trips | AM PkHr Trips | PM PkHr Trips | Daily Trips | AM PkHr Trips | PM PkHr Trips | Daily Trips | AM PkHr Trips | PM PkHr Trips | Daily Trips | AM PkHr Trips | PM PkHr Trips |
| 1 | May-Jul 2011 | | | | 541 | 65 | 64 | 264 | 30 | 30 | | | | 805 | 95 | 94 | -264 | 25 | 25 |
| 2 | Aug-Sep 2011 | | | | 541 | 65 | 64 | 352 | 50 | 48 | | | | 893 | 115 | 112 | -176 | 45 | 43 |
| 3 | Oct 2011 | 288 | 35 | 34 | 541 | 65 | 64 | 352 | 50 | 48 | 60 | 7 | 7 | 1241 | 157 | 153 | 172 | 87 | 84 |
| 4 | Oct-Nov 2011 | 288 | 35 | 34 | 809 | 111 | 107 | 352 | 50 | 48 | 60 | 7 | 7 | 1509 | 203 | 196 | 440 | 133 | 127 |
| 5 | Dec 2011 | 288 | 35 | 34 | 809 | 111 | 107 | 352 | 50 | 48 | 85 | 12 | 11 | 1534 | 208 | 200 | 465 | 138 | 131 |
| 6 | Dec 2011-Aug 2012 | 432 | 59 | 57 | 809 | 111 | 107 | 352 | 50 | 48 | 85 | 12 | 11 | 1678 | 232 | 223 | **609** | **162** | **154** |
| 7 | Sep-Dec 2012 | 432 | 59 | 57 | 809 | 111 | 107 | 352 | 50 | 48 | | | | 1593 | 220 | 212 | 524 | 150 | 143 |
| 8 | Jan-Feb 2013 | 432 | 59 | 57 | 809 | 111 | 107 | 352 | 50 | 48 | | | | 1593 | 220 | 212 | 524 | 150 | 143 |
| 9 | Feb-Mar 2013 | 342 | 46 | 45 | 809 | 111 | 107 | 352 | 50 | 48 | | | | 1503 | 207 | 200 | 434 | 137 | 131 |
| 10 | Mar-Sep 2013 | 342 | 46 | 45 | 507 | 67 | 65 | 352 | 50 | 48 | | | | 1201 | 163 | 158 | 132 | 93 | 89 |
| 11 | Oct 2013 | | | | 507 | 67 | 65 | 352 | 50 | 48 | | | | 859 | 117 | 113 | -210 | 47 | 44 |

Note: Net construction trips during the daily, AM peak hour and PM peak hour periods would be less than the net trip generation of the completed project (3,104 daily, 253 AM peak hour and 228 PM peak hour trips). In addition, some of the construction workers' commute trips would likely occur outside of the AM peak hour. Similarly, construction would likely end prior to the PM peak hour. Thus, the construction trips during the AM and PM peak hours are considered worst case.

* Takes into account trip credit for existing site uses to be removed.



**Crain & Associates**
**Of Southern California**

2007 Sawtelle Boulevard, Suite 4
Los Angeles, California 90025
Telephone (310) 473-6508
Facsimile (310) 444-9771

FEDERAL EXPRESS

August 20, 2004

Mr. John Santry
Development Manager
Legacy Partners
30 Executive Park, Suite 100
Irvine, California 92614

RE: Parking Utilization Study – Parcel FF (Lot 12) in Marina del Rey

Dear John,

We have completed our review and analysis of the typical (non-holiday) weekend parking utilizations for public parking Lot 12 on Parcel FF in Marina del Rey. A detailed description of the analysis methodologies and findings is provided below, but to summarize the results of our study, the parking lot is not heavily utilized during typical weekends, with an average of between 60 and 70 vehicles accessing the parking facilities during any of the 24-hour periods examined. These vehicles do not arrive all at once, but are spread out throughout the day, and as a result, only about 25 to 30 vehicles are actually parked at the lot during the maximum utilizations observed. This equates to a maximum of 15 percent of the approximately 206 spaces provided.

However, this data alone does not reflect the entire story. Observations of the activity at the lot indicated that, during the daytime hours (8:30 AM to 4:30 PM), a majority of the vehicles accessing the parking lot were associated with residential parking needs for the adjacent apartments. These vehicles, some of which were observed to stay in the lot for extended periods (such as throughout the weekend or longer), are used by residents or visitors to the apartment developments located adjacent to or near by this parking lot. Therefore, of the 30 or so vehicles using the lot during the peak utilization periods, our observations indicate that over one-half of the parking lot visitors use the lot as residential overflow parking for the nearby developments.

## Analysis Methodology and Data Collection

Public Parking Lot 12 is located on Parcel FF, at the northeast corner of Via Marina and Marquesas Way in Marina del Rey. The lot is accessed via a single driveway located near the eastern end of the lot, and provides a total of 206 parking spaces. Access to the parking lot is controlled by an automated gate arm, and there is a flat fee of $5.00 per entry at all times of the day. A schematic layout of Parking Lot 12 is attached for reference.

Data used to identify the activity and utilization of the lot was collected using two separate methods. First, automated pneumatic traffic count tubes were placed across the Lot 12 entry and exit driveway lanes, to record the number of vehicles entering and exiting the lot on a 24-hour basis. The data provided by these counters was used to produce a 24-hour profile of vehicular activity at the lot, including total vehicles accessing the lot; identification of peak activity periods throughout the weekend; and a calculation of the "accumulation" of vehicles parked in the lot at any time during the weekends surveyed.

Secondly, manual parking lot utilization counts ("sweeps") were conducted during the daytime hours when the lot is most active. These counts occurred on an hourly basis between 8:30 AM and 4:30 PM, and involved physically counting the number of vehicles parked in the lot during each hour. Additionally, as vehicles entered the lot during these times, the general destinations of the occupants was noted, in order to provide basic information regarding whether the vehicle was parking for Marina-related activities, or if it was in conjunction with the adjacent apartment uses. Drivers and other occupants of the vehicles were not interviewed as to their destinations or purpose for the visit; the data collected was observational in nature, and exact destinations could not be determined for all activities. In general, if persons were not observed directly accessing the nearby apartments, the destination was conservatively assumed to be "Marina related".

Data was collected over a period of three non-holiday weekends in late June and mid-July, 2004. Automated "tube" counts were conducted on both Saturday and Sunday on June 26th and 27th, on July 10th and 11th, and again on July 17th and 18th. Manual parking sweeps and vehicle occupant destination observations were performed on Saturday, July 10th and again on Saturday and Sunday, July 17th and 18th. These days represent typical non-holiday summer weekends. Weather conditions were also typical, with some early morning fog or cloudiness, clearing in the late morning. Temperatures were in the upper 70's and low 80's on all of the survey days.

## Analysis Results and Conclusions

A review of the preliminary data indicated that the 24-hour counts performed on June 26th and 27th were corrupted. The tubes became dislodged during late Saturday, and did not accurately tally the entry or exit volumes for the site. No daytime manual parking sweeps were scheduled for this weekend, and as such, no correlating data was available with which to correct the tube count inaccuracies. Therefore, the data from this weekend was not utilized in our analyses. However, periodic "spot" observations of the site during the day indicated that there were approximately nine vehicles parked in the lot at 11:30 AM, 13 vehicles on site at 3:15 PM, and 22 vehicles using the parking lot at 8:15 PM. While not included in our assessment of the Lot 12 utilizations, these observations are consistent with the data collected during the later weekends.

The 24-hour vehicle counts conducted on July 17th and 18th, and again of the 24th and 25th were, however, supplemented by manual parking sweeps and vehicle occupant destination observations, with the exception of Sunday July 11th. The data collected during these periods is summarized in the attachments to this letter. These attachments include the 24-hour automated count summary sheets; a summary of the calculated "vehicle accumulations" based on these counts, including the manual parking sweep correlation data; and a log of the vehicle occupant destination observations. Also provided are several graphics showing the parking lot utilizations for each of the four days, as well as graphs detailing the cumulative entry/exit and parking activity on the lot. The vehicle occupancy graph (single line graph) indicates the total number of vehicles parked on the lot during each hour of the surveyed weekends. The cumulative parking activity graph (two-line graph) show the entering versus exiting traffic at the lot throughout each weekend. The parking lot occupancy can be determined by the vertical distance between the upper and lower lines. These graphs present the same data as the parking accumulation graphs, but in a format that identifies the total traffic generated by the parking activity.

As shown in these attachments, the parking activity at Lot 12 was not heavy during either of the two weekends surveyed. On Saturday July 10th, a total of 66 vehicles entered the lot, and maximum parking occupancy was about 28 vehicles at 3:00 PM. On this day, of 16 vehicles observed between 8:30 AM and 4:30 PM, 13 vehicles (81 percent) had destinations related to the adjacent apartment developments. Activity on Sunday July 11th was slightly less, with a total of 59 vehicles entering the site. However, peak parking use was slightly higher, with a total of 31 vehicles parked in the lot at about 3:45 PM. No destination observations were taken on this day.

The following weekend, on Saturday July 17th, a total of 71 vehicles entered the lot, and maximum parking utilization occurred between about 4:30 and 5:30 PM, when 27 vehicles were present. Of the 31 vehicles observed during that day, occupants of 20 of those vehicles (65 percent) were destined for the nearby apartment uses. Finally, on Sunday July 18th, 56 vehicles accessed the parking lot. The peak parking use for this day was 27 vehicles, which occurred at 2:30 PM and again at 3:45 PM. The majority of the nominal parking activity observed on this day (20 of the 28 observed vehicles) appeared to be related to uses other than the adjacent apartment developments.

In total, the activity at Parking Lot 12 was nominal. Over the four weekend days observed, a total of only 252 vehicles entered the lot, or an average of 63 vehicles per day. Peak parking utilization of the 206-space lot was only 31 vehicles (15 percent), and typical midday parking lot occupancies were approximately 20 or so vehicles during all of the days surveyed. Additionally, the average data showed that over half of the vehicles parked in the lot at any time were in conjunction with the nearby apartments. The average of the three days observed showed that approximately 55 percent of the parking activity was due to resident or visitor parking for the adjacent or nearby apartment developments.

Based on our data, observations, and analyses, it is our conclusion that Parking Lot 12 does not well serve the public parking function for which it was initially intended. The lack of public parking use of Lot 12 is perhaps best explained by the LCP's reference to Lot 12 as "overflow" parking for the Pierview Café (see attached Figure 3, "County Owned Public Parking Lots" from the Marina del Rey Land Use Plan). Once a popular restaurant located across Marquesas Way from Lot 12 on parcel 10R, the Pierview Café went out of business some years ago and the restaurant structure was converted to storage use related to the existing Neptune Marina apartments on Parcel 10R. Thus, patron "overflow" parking for that establishment is no longer needed at Lot 12.

Our observations and analyses indicate that the Lot 12 location within the Marina is not conducive to its use as a public parking facility. The lot is not directly adjacent to any public beach within the Marina and it is located quite far from the Pacific Ocean beaches. Moreover, the western side of Marina del Rey, particularly south of Panay Way, is primarily a residential community, and there is little public-related or visitor-serving activity that occurs in this area. This lack of marine or visitor-related parking use on Lot 12 is contrasted by the primary use of the lot by residents and visitors of the nearby and adjacent apartment developments. Most of the vehicles currently using the Lot 12 facilities are overflow parking from these developments, either due to convenience or lack of adequate on site parking for the individual developments. However, this amount of parking is not significant, and overall, Lot 12 is inadequately utilized, with a maximum parking occupancy of 15 percent during the two weekends surveyed. (It should be noted that as the Lot 12-adjacent Parcels 10R, 12, and 15 are redeveloped with new apartment and anchorage facilities, the parking facilities for these projects will be significantly upgraded and the amount of on site parking increased to be consistent with current County Code parking requirements. The additional on site parking supplies for these developments will further reduce the parking usage of Lot 12, as persons who currently utilize this lot as overflow parking for the currently inadequate parking supplies at the adjacent residential developments will relocate to the free guest parking facilities provided in these new apartment and marina projects.)

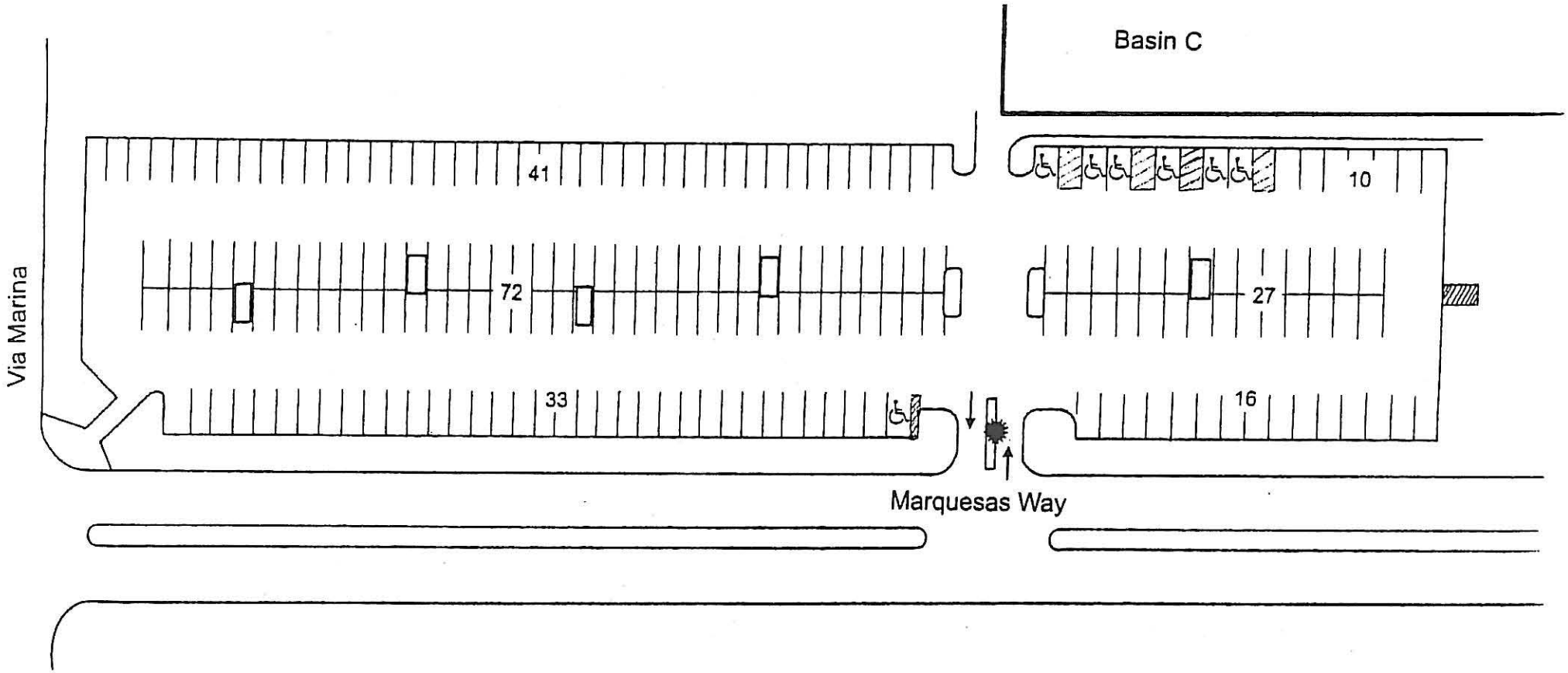
Please review the data and conclusions discussed above and summarized in the attachments, and feel free to call me if you have any questions.

Sincerely,

Ron Hirsch
Senior Transportation Planner

RH
C15032
attachments
cc: Aaron Clark ✓

# PARKING LOT #12 (Parcel FF)




Pay and Display Machine

| | |
|---|---|
| REGULAR SPACES | 199 |
| DISABLED | 7 |
| TOTAL | 206 |

L.A. COUNTY DEPARTMENT OF BEACHES AND HARBORS

Revised 8 / 2002 by CLS

# THE TRAFFIC SOLUTION - ADT WORKSHEET

CLIENT: CRAIN & ASSOCIATES
PROJECT: PARCEL FF - MARINA DEL REY
LOCATION: ACCESS DRIVEWAY
DATE: SATURDAY, JULY 10, 2004
FILE NO: A-1

| DIRECTION: | ENTRANCE | | | | |
|---|---|---|---|---|---|
| TIME | 00-15 | 15-30 | 30-45 | 45-60 | HOUR TOTALS |
| 00:00 | 0 | 0 | 1 | 0 | 1 |
| 01:00 | 0 | 0 | 0 | 0 | 0 |
| 02:00 | 0 | 0 | 0 | 0 | 0 |
| 03:00 | 0 | 0 | 0 | 0 | 0 |
| 04:00 | 0 | 0 | 0 | 0 | 0 |
| 05:00 | 0 | 0 | 0 | 0 | 0 |
| 06:00 | 0 | 2 | 0 | 0 | 2 |
| 07:00 | 0 | 2 | 0 | 0 | 2 |
| 08:00 | 8 | 0 | 1 | 0 | 9 |
| 09:00 | 0 | 4 | 0 | 0 | 4 |
| 10:00 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 1 | 0 | 0 | 1 |
| 12:00 | 0 | 0 | 0 | 7 | 7 |
| 13:00 | 0 | 6 | 0 | 0 | 6 |
| 14:00 | 0 | 0 | 3 | 4 | 7 |
| 15:00 | 2 | 2 | 0 | 3 | 7 |
| 16:00 | 3 | 2 | 1 | 0 | 6 |
| 17:00 | 0 | 0 | 0 | 0 | 0 |
| 18:00 | 2 | 3 | 2 | 0 | 7 |
| 19:00 | 0 | 0 | 2 | 0 | 2 |
| 20:00 | 2 | 0 | 0 | 0 | 2 |
| 21:00 | 0 | 0 | 0 | 2 | 2 |
| 22:00 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 1 | 0 | 0 | 0 | 1 |
| | | | | TOTAL | 66 |

| | |
|---|---|
| AM PEAK HOUR | 07:15-08:15 |
| VOLUME | 10 |
| PM PEAK HOUR | 12:30-13:30 |
| VOLUME | 13 |

| DIRECTION: | EXIT | | | | |
|---|---|---|---|---|---|
| TIME | 00-15 | 15-30 | 30-45 | 45-60 | HOUR TOTALS |
| 00:00 | 0 | 0 | 0 | 0 | 0 |
| 01:00 | 0 | 0 | 0 | 0 | 0 |
| 02:00 | 0 | 0 | 0 | 0 | 0 |
| 03:00 | 0 | 0 | 0 | 0 | 0 |
| 04:00 | 0 | 0 | 0 | 0 | 0 |
| 05:00 | 0 | 0 | 0 | 0 | 0 |
| 06:00 | 0 | 0 | 0 | 0 | 0 |
| 07:00 | 1 | 1 | 0 | 0 | 2 |
| 08:00 | 0 | 1 | 2 | 0 | 3 |
| 09:00 | 0 | 0 | 1 | 0 | 1 |
| 10:00 | 0 | 0 | 1 | 0 | 1 |
| 11:00 | 0 | 2 | 0 | 0 | 2 |
| 12:00 | 0 | 0 | 0 | 0 | 0 |
| 13:00 | 0 | 0 | 0 | 0 | 0 |
| 14:00 | 0 | 4 | 0 | 0 | 4 |
| 15:00 | 0 | 6 | 4 | 2 | 12 |
| 16:00 | 1 | 0 | 2 | 0 | 3 |
| 17:00 | 1 | 3 | 0 | 2 | 6 |
| 18:00 | 2 | 0 | 0 | 0 | 2 |
| 19:00 | 0 | 2 | 5 | 2 | 9 |
| 20:00 | 0 | 1 | 0 | 3 | 4 |
| 21:00 | 0 | 2 | 1 | 1 | 4 |
| 22:00 | 0 | 0 | 0 | 3 | 3 |
| 23:00 | 0 | 0 | 2 | 1 | 3 |
| | | | | TOTAL | 59 |

| | |
|---|---|
| AM PEAK HOUR | 07:45-08:45 |
| VOLUME | 3 |
| PM PEAK HOUR | 15:15-16:15 |
| VOLUME | 13 |

| | |
|---|---|
| TOTAL BI-DIRECTIONAL VOLUME | 125 |

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

# THE TRAFFIC SOLUTION - ADT WORKSHEET

CLIENT: CRAIN & ASSOCIATES
PROJECT: PARCEL FF - MARINA DEL REY
LOCATION: ACCESS DRIVEWAY
DATE: SUNDAY, JULY 11, 2004
FILE NO: A-2

| DIRECTION: | ENTRANCE | | | | |
|---|---|---|---|---|---|
| TIME | 00-15 | 15-30 | 30-45 | 45-60 | HOUR TOTALS |
| 00:00 | 0 | 0 | 0 | 0 | 0 |
| 01:00 | 0 | 0 | 0 | 0 | 0 |
| 02:00 | 0 | 0 | 0 | 0 | 0 |
| 03:00 | 0 | 0 | 0 | 0 | 0 |
| 04:00 | 0 | 0 | 0 | 0 | 0 |
| 05:00 | 0 | 0 | 0 | 0 | 0 |
| 06:00 | 0 | 0 | 0 | 0 | 0 |
| 07:00 | 0 | 4 | 2 | 0 | 6 |
| 08:00 | 0 | 0 | 1 | 0 | 1 |
| 09:00 | 0 | 0 | 2 | 0 | 2 |
| 10:00 | 1 | 2 | 0 | 0 | 3 |
| 11:00 | 1 | 2 | 2 | 5 | 10 |
| 12:00 | 0 | 1 | 0 | 3 | 4 |
| 13:00 | 0 | 1 | 1 | 0 | 2 |
| 14:00 | 3 | 0 | 0 | 0 | 3 |
| 15:00 | 2 | 5 | 5 | 1 | 13 |
| 16:00 | 0 | 4 | 0 | 0 | 4 |
| 17:00 | 0 | 0 | 2 | 0 | 2 |
| 18:00 | 0 | 0 | 2 | 0 | 2 |
| 19:00 | 0 | 0 | 0 | 0 | 0 |
| 20:00 | 2 | 0 | 0 | 0 | 2 |
| 21:00 | 0 | 5 | 0 | 0 | 5 |
| 22:00 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 0 | 0 | 0 | 0 | 0 |
| | | | | TOTAL | 59 |

| | |
|---|---|
| AM PEAK HOUR | 11:00-12:00 |
| VOLUME | 10 |
| PM PEAK HOUR | 15:00-16:00 |
| VOLUME | 8 |

| DIRECTION: | EXIT | | | | |
|---|---|---|---|---|---|
| TIME | 00-15 | 15-30 | 30-45 | 45-60 | HOUR TOTALS |
| 00:00 | 0 | 0 | 0 | 2 | 2 |
| 01:00 | 0 | 2 | 0 | 0 | 2 |
| 02:00 | 0 | 0 | 0 | 0 | 0 |
| 03:00 | 0 | 0 | 1 | 0 | 1 |
| 04:00 | 0 | 0 | 0 | 0 | 0 |
| 05:00 | 0 | 0 | 0 | 0 | 0 |
| 06:00 | 0 | 0 | 0 | 1 | 1 |
| 07:00 | 0 | 1 | 0 | 0 | 1 |
| 08:00 | 0 | 0 | 0 | 1 | 1 |
| 09:00 | 0 | 0 | 2 | 0 | 2 |
| 10:00 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 1 | 0 | 4 | 0 | 5 |
| 12:00 | 0 | 3 | 1 | 0 | 4 |
| 13:00 | 0 | 0 | 0 | 0 | 0 |
| 14:00 | 1 | 0 | 0 | 0 | 1 |
| 15:00 | 0 | 0 | 0 | 0 | 0 |
| 16:00 | 2 | 3 | 1 | 0 | 6 |
| 17:00 | 5 | 0 | 1 | 3 | 9 |
| 18:00 | 1 | 0 | 0 | 1 | 2 |
| 19:00 | 1 | 2 | 0 | 0 | 3 |
| 20:00 | 2 | 1 | 5 | 0 | 8 |
| 21:00 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 0 | 0 | 1 | 1 |
| 23:00 | 2 | 0 | 0 | 0 | 2 |
| | | | | TOTAL | 51 |

| | |
|---|---|
| AM PEAK HOUR | 10:45-11:45 |
| VOLUME | 5 |
| PM PEAK HOUR | 17:00-18:00 |
| VOLUME | 9 |

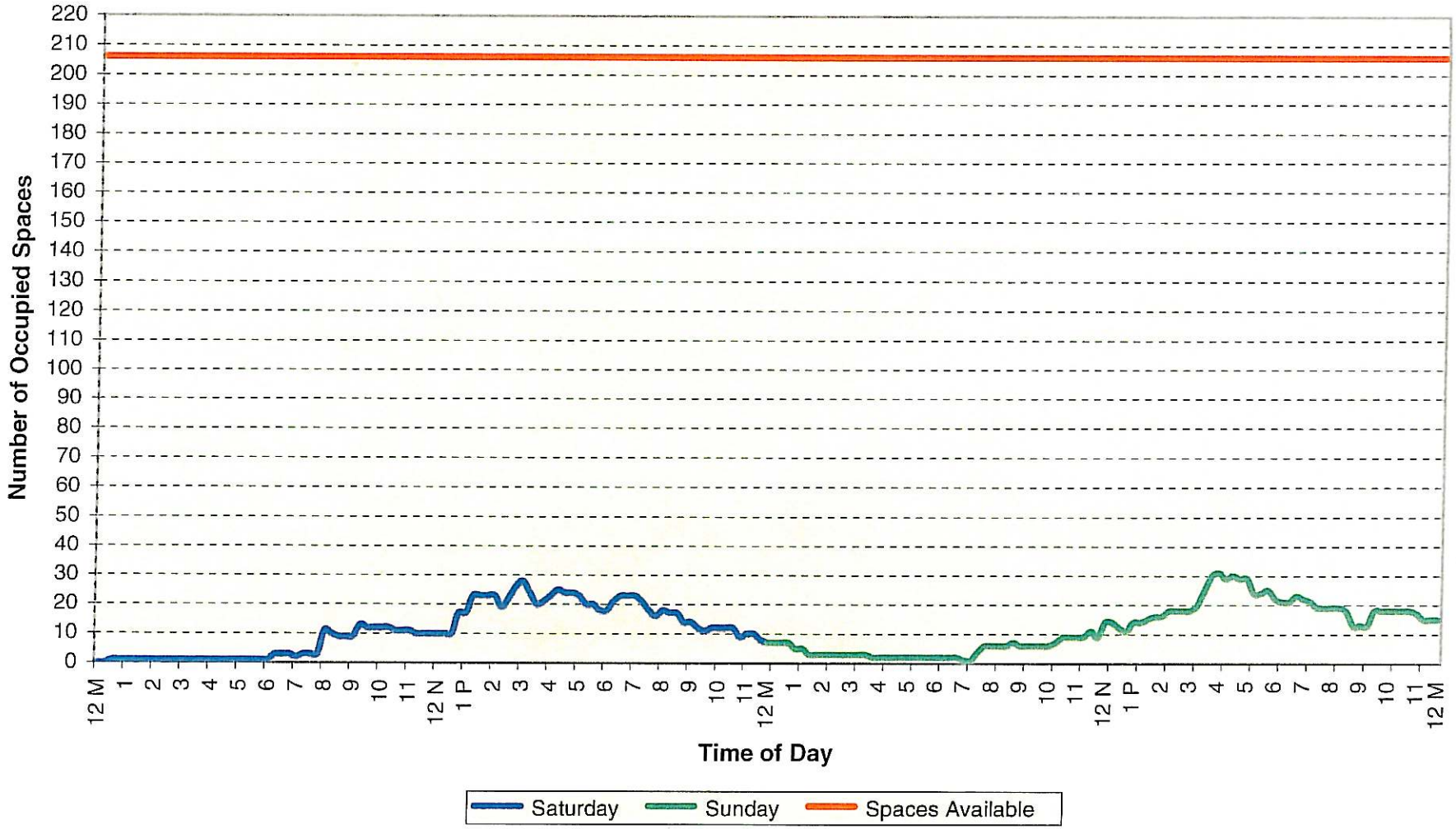
| | |
|---|---|
| TOTAL BI-DIRECTIONAL VOLUME | 110 |

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

# Parcel FF Parking Accumulations

## Saturday and Sunday

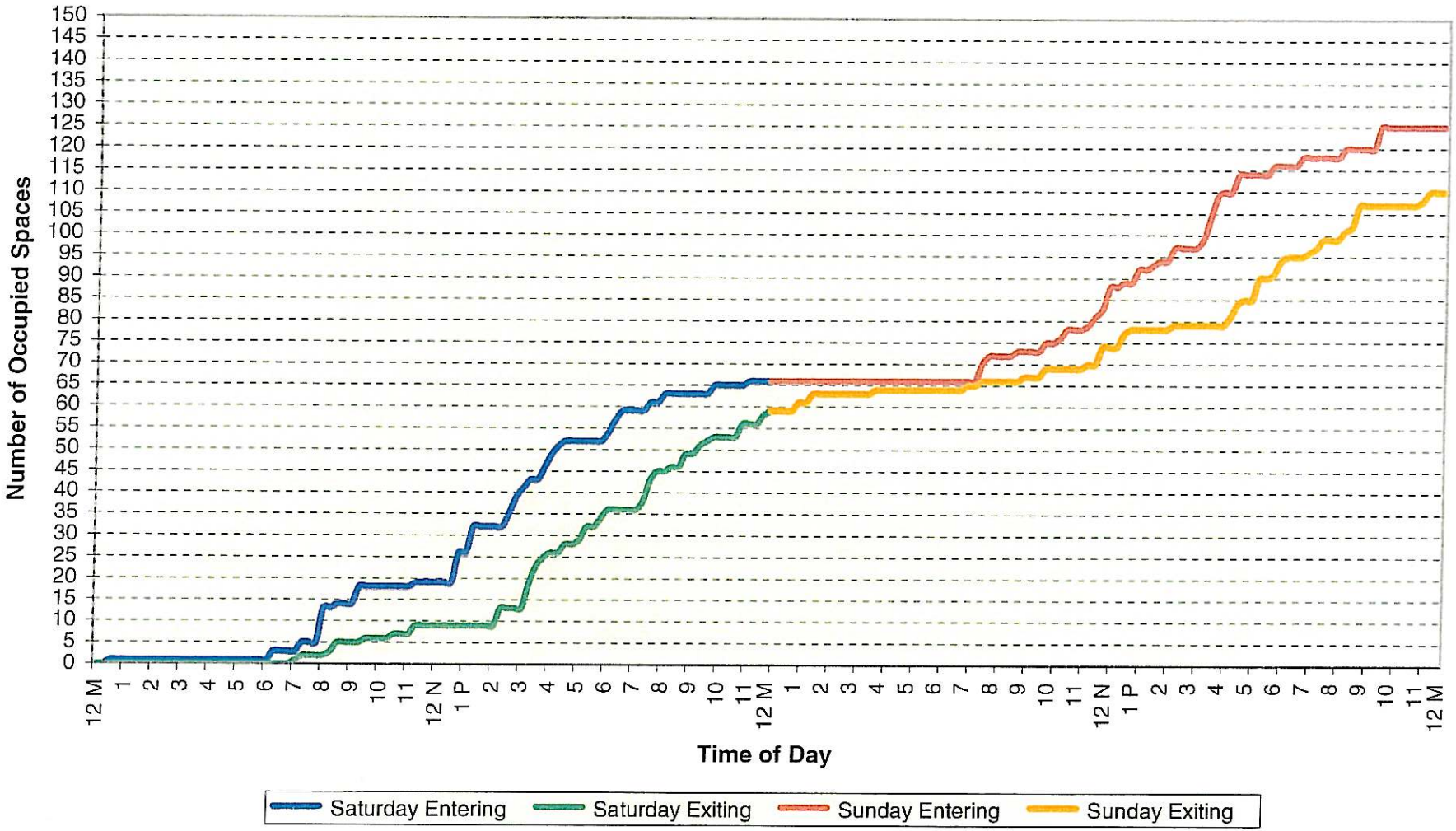
(July 10 and 11, 2004)



# Parcel FF Parking Accumulations

## Saturday and Sunday

(July 10 and 11, 2004)



Crain & Associates
August 20, 2004
Draft

# Parcel FF Parking Lot Driveway Counts and Calculated Parking Lot Occupancies

**Saturday July 10, 2004**

## Morning

| Time Beginning | In | Out | Calculated Accumulation | Observed Occupancy |
|---|---|---|---|---|
| | "Seed Value" | | 0 | |
| 12:00 AM | 0 | 0 | 0 | |
| 12:15 AM | 0 | 0 | 0 | |
| 12:30 AM | 1 | 0 | 1 | |
| 12:45 AM | 0 | 0 | 1 | |
| 1:00 AM | 0 | 0 | 1 | |
| 1:15 AM | 0 | 0 | 1 | |
| 1:30 AM | 0 | 0 | 1 | |
| 1:45 AM | 0 | 0 | 1 | |
| 2:00 AM | 0 | 0 | 1 | |
| 2:15 AM | 0 | 0 | 1 | |
| 2:30 AM | 0 | 0 | 1 | |
| 2:45 AM | 0 | 0 | 1 | |
| 3:00 AM | 0 | 0 | 1 | |
| 3:15 AM | 0 | 0 | 1 | |
| 3:30 AM | 0 | 0 | 1 | |
| 3:45 AM | 0 | 0 | 1 | |
| 4:00 AM | 0 | 0 | 1 | |
| 4:15 AM | 0 | 0 | 1 | |
| 4:30 AM | 0 | 0 | 1 | |
| 4:45 AM | 0 | 0 | 1 | |
| 5:00 AM | 0 | 0 | 1 | |
| 5:15 AM | 0 | 0 | 1 | |
| 5:30 AM | 0 | 0 | 1 | |
| 5:45 AM | 0 | 0 | 1 | |
| 6:00 AM | 0 | 0 | 1 | |
| 6:15 AM | 2 | 0 | 3 | |
| 6:30 AM | 0 | 0 | 3 | |
| 6:45 AM | 0 | 0 | 3 | |
| 7:00 AM | 0 | 1 | 2 | |
| 7:15 AM | 2 | 1 | 3 | |
| 7:30 AM | 0 | 0 | 3 | |
| 7:45 AM | 0 | 0 | 3 | |
| 8:00 AM | 8 | 0 | 11 | |
| 8:15 AM | 0 | 1 | 10 | |
| 8:30 AM | 1 | 2 | 9 | 9 |
| 8:45 AM | 0 | 0 | 9 | |
| 9:00 AM | 0 | 0 | 9 | |
| 9:15 AM | 4 | 0 | 13 | |
| 9:30 AM | 0 | 1 | 12 | 12 |
| 9:45 AM | 0 | 0 | 12 | |
| 10:00 AM | 0 | 0 | 12 | |
| 10:15 AM | 0 | 0 | 12 | |
| 10:30 AM | 0 | 1 | 11 | 12 |
| 10:45 AM | 0 | 0 | 11 | |
| 11:00 AM | 0 | 0 | 11 | |
| 11:15 AM | 1 | 2 | 10 | |
| 11:30 AM | 0 | 0 | 10 | 12 |
| 11:45 AM | 0 | 0 | 10 | |

## Afternoon

| Time Beginning | In | Out | Calculated Accumulation | Observed Occupancy |
|---|---|---|---|---|
| 12:00 PM | 0 | 0 | 10 | |
| 12:15 PM | 0 | 0 | 10 | |
| 12:30 PM | 0 | 0 | 10 | 12 |
| 12:45 PM | 7 | 0 | 17 | |
| 1:00 PM | 0 | 0 | 17 | |
| 1:15 PM | 6 | 0 | 23 | |
| 1:30 PM | 0 | 0 | 23 | 18 |
| 1:45 PM | 0 | 0 | 23 | |
| 2:00 PM | 0 | 0 | 23 | |
| 2:15 PM | 0 | 4 | 19 | |
| 2:30 PM | 3 | 0 | 22 | 17 |
| 2:45 PM | 4 | 0 | 26 | |
| 3:00 PM | 2 | 0 | 28 | |
| 3:15 PM | 2 | 6 | 24 | |
| 3:30 PM | 0 | 4 | 20 | 19 |
| 3:45 PM | 3 | 2 | 21 | |
| 4:00 PM | 3 | 1 | 23 | |
| 4:15 PM | 2 | 0 | 25 | |
| 4:30 PM | 1 | 2 | 24 | 20 |
| 4:45 PM | 0 | 0 | 24 | |
| 5:00 PM | 0 | 1 | 23 | |
| 5:15 PM | 0 | 3 | 20 | |
| 5:30 PM | 0 | 0 | 20 | |
| 5:45 PM | 0 | 2 | 18 | |
| 6:00 PM | 2 | 2 | 18 | |
| 6:15 PM | 3 | 0 | 21 | |
| 6:30 PM | 2 | 0 | 23 | |
| 6:45 PM | 0 | 0 | 23 | |
| 7:00 PM | 0 | 0 | 23 | |
| 7:15 PM | 0 | 2 | 21 | |
| 7:30 PM | 2 | 5 | 18 | |
| 7:45 PM | 0 | 2 | 16 | |
| 8:00 PM | 2 | 0 | 18 | |
| 8:15 PM | 0 | 1 | 17 | |
| 8:30 PM | 0 | 0 | 17 | |
| 8:45 PM | 0 | 3 | 14 | |
| 9:00 PM | 0 | 0 | 14 | |
| 9:15 PM | 0 | 2 | 12 | |
| 9:30 PM | 0 | 1 | 11 | |
| 9:45 PM | 2 | 1 | 12 | |
| 10:00 PM | 0 | 0 | 12 | |
| 10:15 PM | 0 | 0 | 12 | |
| 10:30 PM | 0 | 0 | 12 | |
| 10:45 PM | 0 | 3 | 9 | |
| 11:00 PM | 1 | 0 | 10 | |
| 11:15 PM | 0 | 0 | 10 | |
| 11:30 PM | 0 | 2 | 8 | |
| 11:45 PM | 0 | 1 | 7 | |

Crain & Associates
August 20, 2004
Draft

## Parcel FF Parking Lot Driveway Counts and Calculated Parking Lot Occupancies

Sunday July 11, 2004

| Morning | | | | |
|---|---|---|---|---|
| Time Beginning | In | Out | Calculated Accumulation | Observed Occupancy |
| 12:00 AM | 0 | 0 | 7 | |
| 12:15 AM | 0 | 0 | 7 | |
| 12:30 AM | 0 | 0 | 7 | |
| 12:45 AM | 0 | 2 | 5 | |
| 1:00 AM | 0 | 0 | 5 | |
| 1:15 AM | 0 | 2 | 3 | |
| 1:30 AM | 0 | 0 | 3 | |
| 1:45 AM | 0 | 0 | 3 | |
| 2:00 AM | 0 | 0 | 3 | |
| 2:15 AM | 0 | 0 | 3 | |
| 2:30 AM | 0 | 0 | 3 | |
| 2:45 AM | 0 | 0 | 3 | |
| 3:00 AM | 0 | 0 | 3 | |
| 3:15 AM | 0 | 0 | 3 | |
| 3:30 AM | 0 | 1 | 2 | |
| 3:45 AM | 0 | 0 | 2 | |
| 4:00 AM | 0 | 0 | 2 | |
| 4:15 AM | 0 | 0 | 2 | |
| 4:30 AM | 0 | 0 | 2 | |
| 4:45 AM | 0 | 0 | 2 | |
| 5:00 AM | 0 | 0 | 2 | |
| 5:15 AM | 0 | 0 | 2 | |
| 5:30 AM | 0 | 0 | 2 | |
| 5:45 AM | 0 | 0 | 2 | |
| 6:00 AM | 0 | 0 | 2 | |
| 6:15 AM | 0 | 0 | 2 | |
| 6:30 AM | 0 | 0 | 2 | |
| 6:45 AM | 0 | 1 | 1 | |
| 7:00 AM | 0 | 0 | 1 | |
| 7:15 AM | 4 | 1 | 4 | |
| 7:30 AM | 2 | 0 | 6 | |
| 7:45 AM | 0 | 0 | 6 | |
| 8:00 AM | 0 | 0 | 6 | |
| 8:15 AM | 0 | 0 | 6 | |
| 8:30 AM | 1 | 0 | 7 | |
| 8:45 AM | 0 | 1 | 6 | |
| 9:00 AM | 0 | 0 | 6 | |
| 9:15 AM | 0 | 0 | 6 | |
| 9:30 AM | 2 | 2 | 6 | |
| 9:45 AM | 0 | 0 | 6 | |
| 10:00 AM | 1 | 0 | 7 | |
| 10:15 AM | 2 | 0 | 9 | |
| 10:30 AM | 0 | 0 | 9 | |
| 10:45 AM | 0 | 0 | 9 | |
| 11:00 AM | 1 | 1 | 9 | |
| 11:15 AM | 2 | 0 | 11 | |
| 11:30 AM | 2 | 4 | 9 | |
| 11:45 AM | 5 | 0 | 14 | |

| Afternoon | | | | |
|---|---|---|---|---|
| Time Beginning | In | Out | Calculated Accumulation | Observed Occupancy |
| 12:00 PM | 0 | 0 | 14 | |
| 12:15 PM | 1 | 3 | 12 | |
| 12:30 PM | 0 | 1 | 11 | |
| 12:45 PM | 3 | 0 | 14 | |
| 1:00 PM | 0 | 0 | 14 | |
| 1:15 PM | 1 | 0 | 15 | |
| 1:30 PM | 1 | 0 | 16 | |
| 1:45 PM | 0 | 0 | 16 | |
| 2:00 PM | 3 | 1 | 18 | |
| 2:15 PM | 0 | 0 | 18 | |
| 2:30 PM | 0 | 0 | 18 | |
| 2:45 PM | 0 | 0 | 18 | |
| 3:00 PM | 2 | 0 | 20 | |
| 3:15 PM | 5 | 0 | 25 | |
| 3:30 PM | 5 | 0 | 30 | |
| 3:45 PM | 1 | 0 | 31 | |
| 4:00 PM | 0 | 2 | 29 | |
| 4:15 PM | 4 | 3 | 30 | |
| 4:30 PM | 0 | 1 | 29 | |
| 4:45 PM | 0 | 0 | 29 | |
| 5:00 PM | 0 | 5 | 24 | |
| 5:15 PM | 0 | 0 | 24 | |
| 5:30 PM | 2 | 1 | 25 | |
| 5:45 PM | 0 | 3 | 22 | |
| 6:00 PM | 0 | 1 | 21 | |
| 6:15 PM | 0 | 0 | 21 | |
| 6:30 PM | 2 | 0 | 23 | |
| 6:45 PM | 0 | 1 | 22 | |
| 7:00 PM | 0 | 1 | 21 | |
| 7:15 PM | 0 | 2 | 19 | |
| 7:30 PM | 0 | 0 | 19 | |
| 7:45 PM | 0 | 0 | 19 | |
| 8:00 PM | 2 | 2 | 19 | |
| 8:15 PM | 0 | 1 | 18 | |
| 8:30 PM | 0 | 5 | 13 | |
| 8:45 PM | 0 | 0 | 13 | |
| 9:00 PM | 0 | 0 | 13 | |
| 9:15 PM | 5 | 0 | 18 | |
| 9:30 PM | 0 | 0 | 18 | |
| 9:45 PM | 0 | 0 | 18 | |
| 10:00 PM | 0 | 0 | 18 | |
| 10:15 PM | 0 | 0 | 18 | |
| 10:30 PM | 0 | 0 | 18 | |
| 10:45 PM | 0 | 1 | 17 | |
| 11:00 PM | 0 | 2 | 15 | |
| 11:15 PM | 0 | 0 | 15 | |
| 11:30 PM | 0 | 0 | 15 | |
| 11:45 PM | 0 | 0 | 15 | |

# THE TRAFFIC SOLUTION - ADT WORKSHEET

CLIENT: CRAIN & ASSOCIATES
PROJECT: PARCEL FF - MARINA DEL REY
LOCATION: ACCESS DRIVEWAY
DATE: SATURDAY, JULY 17, 2004
FILE NO: A-1

| DIRECTION: | ENTRANCE | | | | |
|---|---|---|---|---|---|
| TIME | 00-15 | 15-30 | 30-45 | 45-60 | HOUR TOTALS |
| 00:00 | 0 | 0 | 0 | 0 | 0 |
| 01:00 | 0 | 0 | 0 | 0 | 0 |
| 02:00 | 0 | 0 | 0 | 0 | 0 |
| 03:00 | 0 | 0 | 0 | 0 | 0 |
| 04:00 | 0 | 0 | 0 | 0 | 0 |
| 05:00 | 0 | 0 | 0 | 0 | 0 |
| 06:00 | 0 | 2 | 0 | 0 | 2 |
| 07:00 | 0 | 0 | 1 | 0 | 1 |
| 08:00 | 0 | 2 | 0 | 0 | 2 |
| 09:00 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 2 | 0 | 3 | 5 |
| 11:00 | 3 | 2 | 5 | 2 | 12 |
| 12:00 | 0 | 1 | 0 | 2 | 3 |
| 13:00 | 2 | 1 | 0 | 0 | 3 |
| 14:00 | 3 | 0 | 2 | 1 | 6 |
| 15:00 | 0 | 3 | 1 | 2 | 6 |
| 16:00 | 3 | 1 | 4 | 2 | 10 |
| 17:00 | 1 | 2 | 0 | 1 | 4 |
| 18:00 | 3 | 0 | 1 | 0 | 4 |
| 19:00 | 1 | 0 | 0 | 0 | 1 |
| 20:00 | 1 | 2 | 0 | 0 | 3 |
| 21:00 | 2 | 0 | 0 | 0 | 2 |
| 22:00 | 1 | 0 | 1 | 1 | 3 |
| 23:00 | 1 | 3 | 0 | 0 | 4 |
| | | | | TOTAL | 71 |

| | |
|---|---|
| AM PEAK HOUR | 10:45-11:45 |
| VOLUME | 13 |
| PM PEAK HOUR | 15:45-14:45 |
| VOLUME | 10 |

| DIRECTION: | EXIT | | | | |
|---|---|---|---|---|---|
| TIME | 00-15 | 15-30 | 30-45 | 45-60 | HOUR TOTALS |
| 00:00 | 0 | 0 | 0 | 0 | 0 |
| 01:00 | 0 | 2 | 0 | 0 | 2 |
| 02:00 | 0 | 0 | 0 | 0 | 0 |
| 03:00 | 0 | 0 | 0 | 0 | 0 |
| 04:00 | 0 | 0 | 0 | 0 | 0 |
| 05:00 | 0 | 0 | 0 | 0 | 0 |
| 06:00 | 0 | 0 | 0 | 0 | 0 |
| 07:00 | 0 | 0 | 1 | 1 | 2 |
| 08:00 | 0 | 0 | 0 | 1 | 1 |
| 09:00 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 2 | 0 | 0 | 2 |
| 11:00 | 0 | 2 | 2 | 0 | 4 |
| 12:00 | 0 | 0 | 0 | 0 | 0 |
| 13:00 | 0 | 0 | 0 | 1 | 1 |
| 14:00 | 1 | 0 | 1 | 2 | 4 |
| 15:00 | 0 | 0 | 0 | 4 | 4 |
| 16:00 | 1 | 1 | 2 | 2 | 6 |
| 17:00 | 2 | 1 | 1 | 5 | 9 |
| 18:00 | 0 | 1 | 0 | 6 | 7 |
| 19:00 | 2 | 0 | 0 | 2 | 4 |
| 20:00 | 1 | 2 | 0 | 5 | 8 |
| 21:00 | 4 | 3 | 0 | 0 | 7 |
| 22:00 | 0 | 1 | 1 | 0 | 2 |
| 23:00 | 0 | 0 | 1 | 0 | 1 |
| | | | | TOTAL | 64 |

| | |
|---|---|
| AM PEAK HOUR | 10:45-11:45 |
| VOLUME | 4 |
| PM PEAK HOUR | 20:30-21:30 |
| VOLUME | 12 |

| | |
|---|---|
| TOTAL BI-DIRECTIONAL VOLUME | 135 |

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

# THE TRAFFIC SOLUTION - ADT WORKSHEET

CLIENT: CRAIN & ASSOCIATES
PROJECT: PARCEL FF - MARINA DEL REY
LOCATION: ACCESS DRIVEWAY
DATE: SUNDAY, JULY 18, 2004
FILE NO: A-2

| DIRECTION: | ENTRANCE | | | | |
|---|---|---|---|---|---|
| TIME | 00-15 | 15-30 | 30-45 | 45-60 | HOUR TOTALS |
| 00:00 | 0 | 1 | 2 | 0 | 3 |
| 01:00 | 0 | 0 | 0 | 0 | 0 |
| 02:00 | 0 | 0 | 0 | 0 | 0 |
| 03:00 | 2 | 0 | 0 | 0 | 2 |
| 04:00 | 0 | 0 | 0 | 0 | 0 |
| 05:00 | 0 | 0 | 0 | 0 | 0 |
| 06:00 | 0 | 0 | 0 | 0 | 0 |
| 07:00 | 1 | 0 | 1 | 0 | 2 |
| 08:00 | 2 | 0 | 0 | 0 | 2 |
| 09:00 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 1 | 0 | 2 | 1 | 4 |
| 11:00 | 2 | 0 | 0 | 0 | 2 |
| 12:00 | 5 | 3 | 0 | 2 | 10 |
| 13:00 | 0 | 0 | 4 | 2 | 6 |
| 14:00 | 2 | 2 | 1 | 0 | 5 |
| 15:00 | 1 | 3 | 1 | 2 | 7 |
| 16:00 | 1 | 2 | 0 | 0 | 3 |
| 17:00 | 2 | 0 | 3 | 0 | 5 |
| 18:00 | 0 | 0 | 1 | 0 | 1 |
| 19:00 | 0 | 0 | 0 | 0 | 0 |
| 20:00 | 0 | 2 | 0 | 0 | 2 |
| 21:00 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 2 | 0 | 0 | 2 |
| 23:00 | 0 | 0 | 0 | 0 | 0 |
| | | | | TOTAL | 56 |

| | |
|---|---|
| AM PEAK HOUR | 10:15-11:15 |
| VOLUME | 5 |
| PM PEAK HOUR | 12:00-13:00 |
| VOLUME | 10 |

| DIRECTION: | EXIT | | | | |
|---|---|---|---|---|---|
| TIME | 00-15 | 15-30 | 30-45 | 45-60 | HOUR TOTALS |
| 00:00 | 0 | 0 | 0 | 0 | 0 |
| 01:00 | 0 | 1 | 1 | 0 | 2 |
| 02:00 | 0 | 0 | 0 | 0 | 0 |
| 03:00 | 0 | 1 | 0 | 0 | 1 |
| 04:00 | 0 | 0 | 0 | 0 | 0 |
| 05:00 | 0 | 0 | 0 | 0 | 0 |
| 06:00 | 0 | 0 | 0 | 0 | 0 |
| 07:00 | 0 | 1 | 0 | 0 | 1 |
| 08:00 | 0 | 0 | 0 | 0 | 0 |
| 09:00 | 1 | 0 | 1 | 0 | 2 |
| 10:00 | 2 | 0 | 0 | 0 | 2 |
| 11:00 | 0 | 1 | 1 | 2 | 4 |
| 12:00 | 3 | 0 | 0 | 0 | 3 |
| 13:00 | 0 | 1 | 3 | 0 | 4 |
| 14:00 | 0 | 0 | 0 | 4 | 4 |
| 15:00 | 2 | 0 | 1 | 0 | 3 |
| 16:00 | 2 | 2 | 1 | 2 | 7 |
| 17:00 | 1 | 4 | 0 | 2 | 7 |
| 18:00 | 1 | 1 | 0 | 2 | 4 |
| 19:00 | 0 | 1 | 1 | 0 | 2 |
| 20:00 | 2 | 0 | 1 | 0 | 3 |
| 21:00 | 1 | 1 | 0 | 0 | 2 |
| 22:00 | 0 | 1 | 0 | 0 | 1 |
| 23:00 | 0 | 0 | 0 | 0 | 0 |
| | | | | TOTAL | 52 |

| | |
|---|---|
| AM PEAK HOUR | 11:00-12:00 |
| VOLUME | 4 |
| PM PEAK HOUR | 16:30-17:30 |
| VOLUME | 8 |

| | |
|---|---|
| TOTAL BI-DIRECTIONAL VOLUME | 108 |

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

# Parcel FF Parking Lot Driveway Counts and Calculated Parking Lot Occupancies

**Saturday July 17, 2004**

## Morning

| Time Beginning | In | Out | Calculated Accumulation | Observed Occupancy |
|---|---|---|---|---|
| | "Seed Value" | | 3 | |
| 12:00 AM | 0 | 0 | 3 | |
| 12:15 AM | 0 | 0 | 3 | |
| 12:30 AM | 0 | 0 | 3 | |
| 12:45 AM | 0 | 0 | 3 | |
| 1:00 AM | 0 | 0 | 3 | |
| 1:15 AM | 0 | 2 | 1 | |
| 1:30 AM | 0 | 0 | 1 | |
| 1:45 AM | 0 | 0 | 1 | |
| 2:00 AM | 0 | 0 | 1 | |
| 2:15 AM | 0 | 0 | 1 | |
| 2:30 AM | 0 | 0 | 1 | |
| 2:45 AM | 0 | 0 | 1 | |
| 3:00 AM | 0 | 0 | 1 | |
| 3:15 AM | 0 | 0 | 1 | |
| 3:30 AM | 0 | 0 | 1 | |
| 3:45 AM | 0 | 0 | 1 | |
| 4:00 AM | 0 | 0 | 1 | |
| 4:15 AM | 0 | 0 | 1 | |
| 4:30 AM | 0 | 0 | 1 | |
| 4:45 AM | 0 | 0 | 1 | |
| 5:00 AM | 0 | 0 | 1 | |
| 5:15 AM | 0 | 0 | 1 | |
| 5:30 AM | 0 | 0 | 1 | |
| 5:45 AM | 0 | 0 | 1 | |
| 6:00 AM | 0 | 0 | 1 | |
| 6:15 AM | 2 | 0 | 3 | |
| 6:30 AM | 0 | 0 | 3 | |
| 6:45 AM | 0 | 0 | 3 | |
| 7:00 AM | 0 | 0 | 3 | |
| 7:15 AM | 0 | 0 | 3 | |
| 7:30 AM | 1 | 1 | 3 | |
| 7:45 AM | 0 | 1 | 2 | |
| 8:00 AM | 0 | 0 | 2 | |
| 8:15 AM | 2 | 0 | 4 | |
| 8:30 AM | 0 | 0 | 4 | 5 |
| 8:45 AM | 0 | 1 | 3 | |
| 9:00 AM | 0 | 0 | 3 | |
| 9:15 AM | 0 | 0 | 3 | |
| 9:30 AM | 0 | 0 | 3 | 5 |
| 9:45 AM | 0 | 0 | 3 | |
| 10:00 AM | 0 | 0 | 3 | |
| 10:15 AM | 2 | 2 | 3 | |
| 10:30 AM | 0 | 0 | 3 | 7 |
| 10:45 AM | 3 | 0 | 6 | |
| 11:00 AM | 3 | 0 | 9 | |
| 11:15 AM | 2 | 2 | 9 | |
| 11:30 AM | 5 | 2 | 12 | 11 |
| 11:45 AM | 2 | 0 | 14 | |

## Afternoon

| Time Beginning | In | Out | Calculated Accumulation | Observed Occupancy |
|---|---|---|---|---|
| 12:00 PM | 0 | 0 | 14 | |
| 12:15 PM | 1 | 0 | 15 | |
| 12:30 PM | 0 | 0 | 15 | 14 |
| 12:45 PM | 2 | 0 | 17 | |
| 1:00 PM | 2 | 0 | 19 | |
| 1:15 PM | 1 | 0 | 20 | |
| 1:30 PM | 0 | 0 | 20 | 16 |
| 1:45 PM | 0 | 1 | 19 | |
| 2:00 PM | 3 | 1 | 21 | |
| 2:15 PM | 0 | 0 | 21 | |
| 2:30 PM | 2 | 1 | 22 | 19 |
| 2:45 PM | 1 | 2 | 21 | |
| 3:00 PM | 0 | 0 | 21 | |
| 3:15 PM | 3 | 0 | 24 | |
| 3:30 PM | 1 | 0 | 25 | 25 |
| 3:45 PM | 2 | 4 | 23 | |
| 4:00 PM | 3 | 1 | 25 | |
| 4:15 PM | 1 | 1 | 25 | |
| 4:30 PM | 4 | 2 | 27 | 27 |
| 4:45 PM | 2 | 2 | 27 | |
| 5:00 PM | 1 | 2 | 26 | |
| 5:15 PM | 2 | 1 | 27 | |
| 5:30 PM | 0 | 1 | 26 | |
| 5:45 PM | 1 | 5 | 22 | |
| 6:00 PM | 3 | 0 | 25 | |
| 6:15 PM | 0 | 1 | 24 | |
| 6:30 PM | 1 | 0 | 25 | |
| 6:45 PM | 0 | 6 | 19 | |
| 7:00 PM | 1 | 2 | 18 | |
| 7:15 PM | 0 | 0 | 18 | |
| 7:30 PM | 0 | 0 | 18 | |
| 7:45 PM | 0 | 2 | 16 | |
| 8:00 PM | 1 | 1 | 16 | |
| 8:15 PM | 2 | 2 | 16 | |
| 8:30 PM | 0 | 0 | 16 | |
| 8:45 PM | 0 | 5 | 11 | |
| 9:00 PM | 2 | 4 | 9 | |
| 9:15 PM | 0 | 3 | 6 | |
| 9:30 PM | 0 | 0 | 6 | |
| 9:45 PM | 0 | 0 | 6 | |
| 10:00 PM | 1 | 0 | 7 | |
| 10:15 PM | 0 | 1 | 6 | |
| 10:30 PM | 1 | 1 | 6 | |
| 10:45 PM | 1 | 0 | 7 | |
| 11:00 PM | 1 | 0 | 8 | |
| 11:15 PM | 3 | 0 | 11 | |
| 11:30 PM | 0 | 1 | 10 | |
| 11:45 PM | 0 | 0 | 10 | |

Crain & Associates
August 20, 2004
Draft

# Parcel FF Parking Lot Driveway Counts and Calculated Parking Lot Occupancies

**Sunday July 18, 2004**

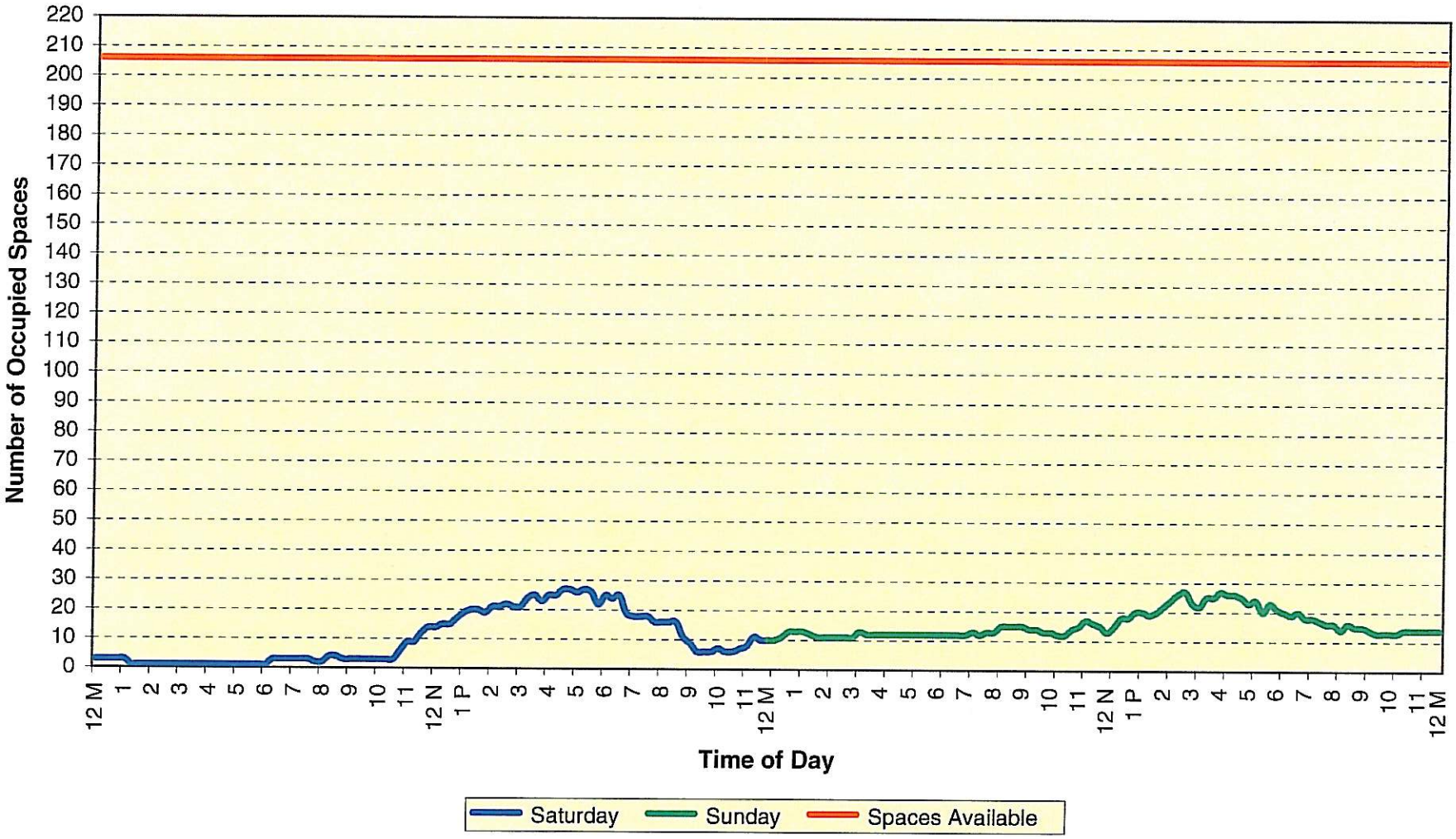
| Morning | | | | |
|---|---|---|---|---|
| Time Beginning | In | Out | Calculated Accumulation | Observed Occupancy |
| 12:00 AM | 0 | 0 | 10 | |
| 12:15 AM | 1 | 0 | 11 | |
| 12:30 AM | 2 | 0 | 13 | |
| 12:45 AM | 0 | 0 | 13 | |
| 1:00 AM | 0 | 0 | 13 | |
| 1:15 AM | 0 | 1 | 12 | |
| 1:30 AM | 0 | 1 | 11 | |
| 1:45 AM | 0 | 0 | 11 | |
| 2:00 AM | 0 | 0 | 11 | |
| 2:15 AM | 0 | 0 | 11 | |
| 2:30 AM | 0 | 0 | 11 | |
| 2:45 AM | 0 | 0 | 11 | |
| 3:00 AM | 2 | 0 | 13 | |
| 3:15 AM | 0 | 1 | 12 | |
| 3:30 AM | 0 | 0 | 12 | |
| 3:45 AM | 0 | 0 | 12 | |
| 4:00 AM | 0 | 0 | 12 | |
| 4:15 AM | 0 | 0 | 12 | |
| 4:30 AM | 0 | 0 | 12 | |
| 4:45 AM | 0 | 0 | 12 | |
| 5:00 AM | 0 | 0 | 12 | |
| 5:15 AM | 0 | 0 | 12 | |
| 5:30 AM | 0 | 0 | 12 | |
| 5:45 AM | 0 | 0 | 12 | |
| 6:00 AM | 0 | 0 | 12 | |
| 6:15 AM | 0 | 0 | 12 | |
| 6:30 AM | 0 | 0 | 12 | |
| 6:45 AM | 0 | 0 | 12 | |
| 7:00 AM | 1 | 0 | 13 | |
| 7:15 AM | 0 | 1 | 12 | |
| 7:30 AM | 1 | 0 | 13 | |
| 7:45 AM | 0 | 0 | 13 | |
| 8:00 AM | 2 | 0 | 15 | |
| 8:15 AM | 0 | 0 | 15 | |
| 8:30 AM | 0 | 0 | 15 | 11 |
| 8:45 AM | 0 | 0 | 15 | |
| 9:00 AM | 0 | 1 | 14 | |
| 9:15 AM | 0 | 0 | 14 | |
| 9:30 AM | 0 | 1 | 13 | 11 |
| 9:45 AM | 0 | 0 | 13 | |
| 10:00 AM | 1 | 2 | 12 | |
| 10:15 AM | 0 | 0 | 12 | |
| 10:30 AM | 2 | 0 | 14 | 10 |
| 10:45 AM | 1 | 0 | 15 | |
| 11:00 AM | 2 | 0 | 17 | |
| 11:15 AM | 0 | 1 | 16 | |
| 11:30 AM | 0 | 1 | 15 | 11 |
| 11:45 AM | 0 | 2 | 13 | |

| Afternoon | | | | |
|---|---|---|---|---|
| Time Beginning | In | Out | Calculated Accumulation | Observed Occupancy |
| 12:00 PM | 5 | 3 | 15 | |
| 12:15 PM | 3 | 0 | 18 | |
| 12:30 PM | 0 | 0 | 18 | 13 |
| 12:45 PM | 2 | 0 | 20 | |
| 1:00 PM | 0 | 0 | 20 | |
| 1:15 PM | 0 | 1 | 19 | |
| 1:30 PM | 4 | 3 | 20 | 17 |
| 1:45 PM | 2 | 0 | 22 | |
| 2:00 PM | 2 | 0 | 24 | |
| 2:15 PM | 2 | 0 | 26 | |
| 2:30 PM | 1 | 0 | 27 | 22 |
| 2:45 PM | 0 | 4 | 23 | |
| 3:00 PM | 1 | 2 | 22 | |
| 3:15 PM | 3 | 0 | 25 | |
| 3:30 PM | 1 | 1 | 25 | 22 |
| 3:45 PM | 2 | 0 | 27 | |
| 4:00 PM | 1 | 2 | 26 | |
| 4:15 PM | 2 | 2 | 26 | |
| 4:30 PM | 0 | 1 | 25 | 24 |
| 4:45 PM | 0 | 2 | 23 | |
| 5:00 PM | 2 | 1 | 24 | |
| 5:15 PM | 0 | 4 | 20 | |
| 5:30 PM | 3 | 0 | 23 | |
| 5:45 PM | 0 | 2 | 21 | |
| 6:00 PM | 0 | 1 | 20 | |
| 6:15 PM | 0 | 1 | 19 | |
| 6:30 PM | 1 | 0 | 20 | |
| 6:45 PM | 0 | 2 | 18 | |
| 7:00 PM | 0 | 0 | 18 | |
| 7:15 PM | 0 | 1 | 17 | |
| 7:30 PM | 0 | 1 | 16 | |
| 7:45 PM | 0 | 0 | 16 | |
| 8:00 PM | 0 | 2 | 14 | |
| 8:15 PM | 2 | 0 | 16 | |
| 8:30 PM | 0 | 1 | 15 | |
| 8:45 PM | 0 | 0 | 15 | |
| 9:00 PM | 0 | 1 | 14 | |
| 9:15 PM | 0 | 1 | 13 | |
| 9:30 PM | 0 | 0 | 13 | |
| 9:45 PM | 0 | 0 | 13 | |
| 10:00 PM | 0 | 0 | 13 | |
| 10:15 PM | 2 | 1 | 14 | |
| 10:30 PM | 0 | 0 | 14 | |
| 10:45 PM | 0 | 0 | 14 | |
| 11:00 PM | 0 | 0 | 14 | |
| 11:15 PM | 0 | 0 | 14 | |
| 11:30 PM | 0 | 0 | 14 | |
| 11:45 PM | 0 | 0 | 14 | |

# Parcel FF Parking Accumulations

## Saturday and Sunday

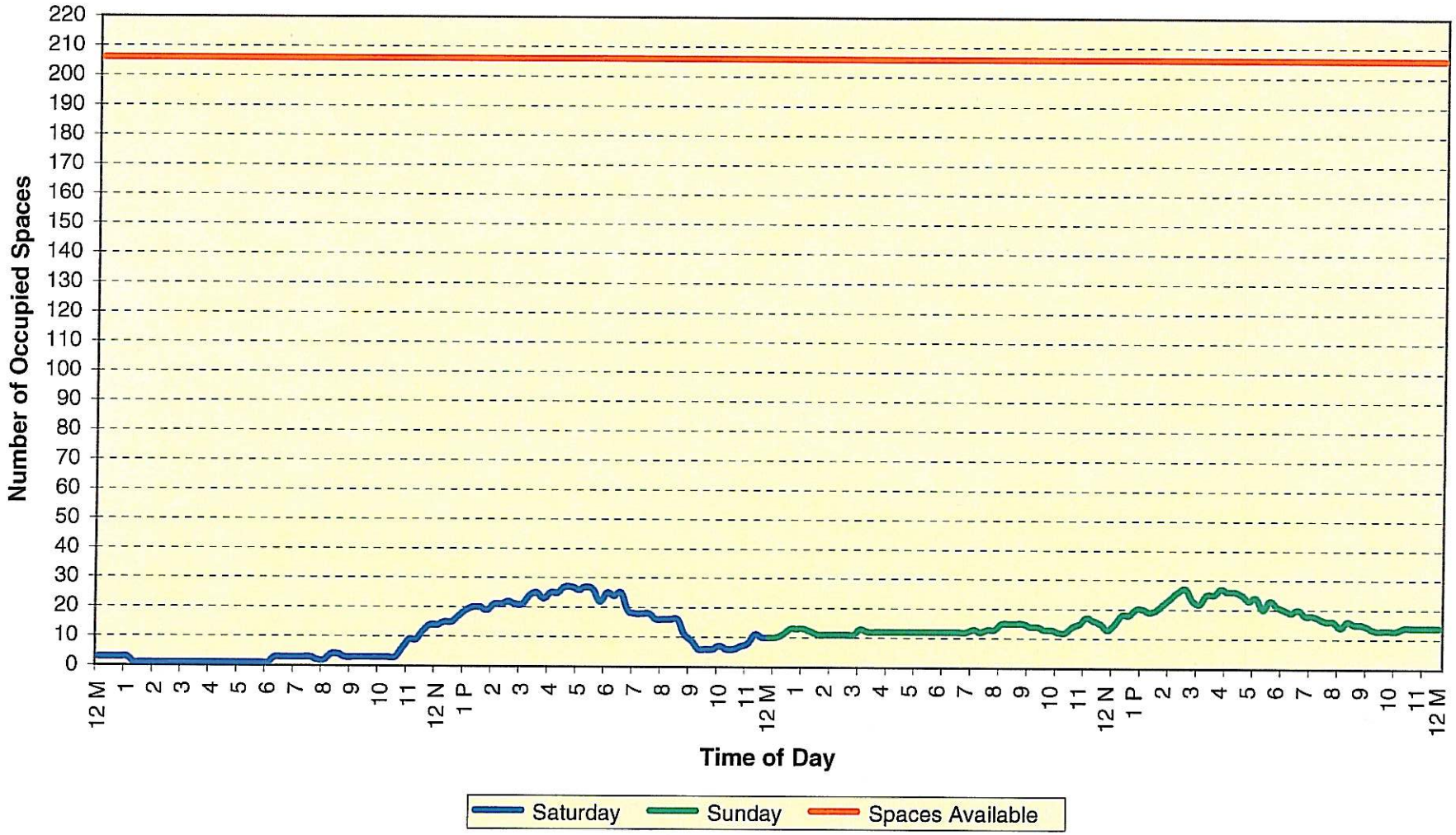
(July 17 and 18, 2004)



# Parcel FF Parking Accumulations

## Saturday and Sunday

(July 17 and 18, 2004)



Crain & Associates
August 20, 2004
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## Parcel FF Parking Lot 12 Driveway Counts
## Observed Residential vs. Marina-Related Parking Activity

**Saturday July 10, 2004**

| Arrival Time | Observed Vehicle Occupant Destination |
|---|---|
| 9:15 AM | Apartments, south side Marquesas Way |
| 9:17 AM | Apartments, south side Marquesas Way |
| 9:30 AM | Apartments, south side Marquesas Way |
| 9:30 AM | Marina boat slips |
| 1:00 PM | Bicycles from car west toward beach |
| 1:24 PM | Apartments, south side Marquesas Way |
| 1:26 PM | Apartments, south side Marquesas Way |
| 2:43 PM | Apartments, west of Via Marina |
| 2:49 PM | Marina boat slips |
| 2:51 PM | Apartments, south side Marquesas Way |
| 3:26 PM | Apartments, west of Via Marina |
| 3:49 PM | Apartments, south side Marquesas Way |
| 3:51 PM | Apartments, south side Marquesas Way |
| 4:03 PM | Apartments, south side Marquesas Way |
| 4:26 PM | Apartments, south side Marquesas Way |
| 4:30 PM | Apartments, south side Marquesas Way |

Totals:

| | |
|---|---|
| Apartment/Resident Activity: | 13 |
| Marina/Beach Activity: | 3 |

81% Apartment/Residential Use

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Draft

## Parcel FF Parking Lot 12 Driveway Counts
## Observed Residential vs. Marina-Related Parking Activity

**Saturday July 17, 2004**

| Arrival Time | Observed Vehicle Occupant Destination |
|---|---|
| 9:53 AM | Apartments, south side Marquesas Way |
| 10:27 AM | Apartments, south side Marquesas Way |
| 10:52 AM | Marina boat slips |
| 10:58 AM | Apartments, south side Marquesas Way |
| 11:02 AM | Marina (destination unknown) |
| 11:15 AM | Marina (destination unknown) |
| 11:17 AM | Apartments, south side Marquesas Way |
| 11:32 AM | Apartments, south side Marquesas Way |
| 11:34 AM | Marina (destination unknown) |
| 11:40 AM | Marina (destination unknown) |
| 11:55 AM | Apartments, south side Marquesas Way |
| 12:20 PM | Apartments, south side Marquesas Way |
| 1:02 PM | Marina (destination unknown) |
| 1:09 PM | Marina boat slips |
| 1:31 PM | Apartments, south side Marquesas Way |
| 1:40 PM | Apartments, west of Via Marina |
| 2:05 PM | Apartments, west of Via Marina |
| 2:12 PM | Apartments, south side Marquesas Way |
| 2:32 PM | Marina (destination unknown) |
| 2:48 PM | Apartments, west of Via Marina |
| 3:18 PM | Apartments, south side Marquesas Way |
| 3:18 PM | Apartments, south side Marquesas Way |
| 3:22 PM | Apartments, south side Marquesas Way |
| 3:23 PM | Apartments, south side Marquesas Way |
| 3:27 PM | Apartments, south side Marquesas Way |
| 3:36 PM | Marina (destination unknown) |
| 3:50 PM | Apartments, south side Marquesas Way |
| 4:00 PM | Marina boat slips |
| 4:05 PM | Apartments, south side Marquesas Way |
| 4:06 PM | Apartments, south side Marquesas Way |
| 4:24 PM | Marina (destination unknown) |

Totals:

| | |
|---|---|
| Apartment/Resident Activity: | 20 |
| Marina/Beach Activity: | 11 |

65% Apartment/Residential Use

Crain & Associates
August 20, 2004
Draft

# Parcel FF Parking Lot 12 Driveway Counts
# Observed Residential vs. Marina-Related Parking Activity

**Sunday July 18, 2004**

| Arrival Time | Observed Vehicle Occupant Destination |
|---|---|
| 10:41 AM | Marina/Beach |
| 11:57 AM | Marina boat slips |
| 12:08 PM | Marina boat slips |
| 12:11 PM | Marina boat slips |
| 12:15 PM | Marina (destination unknown) |
| 12:16 PM | Marina (destination unknown) |
| 12:23 PM | Marina (destination unknown) |
| 12:32 PM | Marina (destination unknown) |
| 12:49 PM | Marina (destination unknown) |
| 12:58 PM | Marina (destination unknown) |
| 1:14 PM | Marina boat slips |
| 1:40 PM | Marina boat slips |
| 1:41 PM | Apartments, south side Marquesas Way |
| 1:41 PM | Apartments, south side Marquesas Way |
| 1:58 PM | Marina (destination unknown) |
| 2:14 PM | Apartments, south side Marquesas Way |
| 2:22 PM | Marina (destination unknown) |
| 2:44 PM | Marina (destination unknown) |
| 3:07 PM | Apartments, south side Marquesas Way |
| 3:24 PM | Apartments, south side Marquesas Way |
| 3:31 PM | Marina (destination unknown) |
| 3:38 PM | Apartments, south side Marquesas Way |
| 3:47 PM | Marina boat slips |
| 3:48 PM | Marina boat slips |
| 3:49 PM | Marina (destination unknown) |
| 4:00 PM | Marina boat slips |
| 4:07 PM | Apartments, south side Marquesas Way |
| 4:18 PM | Apartments, west of Via Marina |

Totals:

| | |
|---|---|
| Apartment/Resident Activity: | 8 |
| Marina/Beach Activity: | 20 |

29% Apartment/Residential Use

***Grand Totals:***

| | |
|---|---|
| *Apartment/Resident Activity:* | *41* |
| *Marina/Beach Activity:* | *34* |

*55% Apartment/Residential Use*

## FIGURE 3

## COUNTY OWNED PUBLIC PARKING LOTS[1]

| Lot | Parcel | Address | Capacity | Remarks |
|---|---|---|---|---|
| 1 | W | 13737 Fiji Way | 483[2] | Fisherman's Village |
| 2 | 49R | 13477 Fiji Way | 466[3] | Public Parking/Launch Ramp |
| 4 | 49M | 13500 Mindanao Way | 124 | Overflow -- Chace Park |
| 5 | UR | 4545 Admiralty Way | 240 | Marina Shopping Center |
| 6 | SS | 4500 Admiralty Way | 115 | Overflow MdR Hotel, Other |
| 7 | Q | 4350 Admiralty Way | 118 | Admiralty Park -- Turf |
| 8 | OT | 4220 Admiralty Way | 186 | Admiralty Park -- Paved |
| 9 | N | 14101 Palawan Way | 191 | Overflow -- Beach, Int'l. Hotel, Other |
| 10 | IR | 4101 Admiralty | 216 | Beach, Overflow |
| 11 | GR | 14101 Panay Way | 264 | Beach |
| 12 | FF | 14151 Marquesas Way | 207 | Beach, Overflow |
| 13 | 3 | 4601 Via Marina | 140 | Overflow - Pierview Cafe |
| 14 | A | 4601 Via Marina | 60[4] | Channel Vista, Overflow |
| 15 | LLS | 4001 Via Marina | 10 | Channel Vista |
| 16 | EE | 13650 Mindanao | 60[5] | Chace Park |
| 17 | 83 | 13399 Fiji Way | 13[6] | |
| | 52 | 13051 Fiji Way | 245 | Temporary Parking |
| | | TOTAL | 3,138 | |

Source: Los Angeles County Department of Beaches and Harbors, *County Owned Public Parking Lots*, April 3, 1990.

User Fees

[1] Parking fees range from $1.00 to $5.00 per 24 hour period except Lot 7 which is $.50.

[2] Special AMPCO validation system.

[3] Fee of $4.00 charge for car and trailer, includes parking. Capacity is 233 with combination boat and trailer.

[4] Metered, 25 cents each hour.

[5] Metered, 25 cents per hour.

[6] No charge. Permittee pays in lieu fee.



# APPENDIX H

# SHARED PARKING ANALYSIS FOR HOTEL/ TIMESHARE RESORT COMPONENT ON PARCEL 9U

# APPENDIX H

## SHARED PARKING ANALYSIS FOR HOTEL/ TIMESHARE RESORT COMPONENT ON PARCEL 9U

Appendix H analyzes the shared parking for the hotel/timeshare resort component of the project on Parcel 9U in Marina del Rey. The proposed hotel/timeshare resort consists of 152 hotel suites and 136 timeshare ownership units. The hotel suites include 135 one-bedroom units and 17 two-bedroom units. The timeshare ownership component includes 70 one-bedroom units and 66 two-bedroom units. In addition, the hotel/timeshare resort will have support facilities including a sundry shop, a ballroom, meeting rooms, and spa, restaurant and bar/lounge uses. Since the support facilities are inside the hotel/timeshare resort, many of the patrons of the support facilities are also guests of the hotel/timeshare resort. Thus, the parking for the hotel/timeshare resort component was analyzed as a mixed-use development. All hotel/timeshare resort uses will share the same parking supply and was taken into account.

As summarized in the table below, approximately 556 on-site parking spaces would be required by the proposed project if the land-uses were analyzed under the current County of Los Angeles Planning and Zoning Code as stand-alone facilities. The hotel/timeshare resort proposes a parking supply of approximately 316 marked spaces including 295 valet spaces and 21 self-park spaces. The self-park spaces would be located on the second parking level and the valet spaces would be located on all other levels. The parking facility can also accommodate an additional 44 valet aisle spaces on the valet parking levels. The combined marked and aisle spaces would result in a maximum total parking supply of 360 spaces. The parking spaces for the hotel/timeshare resort, including marked and aisle spaces, are shown in Attachment H-1, Hotel/Timeshare Resort Parking Layout.

**Project Parking Requirement Assuming Stand-Alone Facilities**
**(Using County of Los Angeles Parking Code)**

| Proposed Project | Size | Parking Rate | Spaces Required |
|---|---|---|---|
| Hotel/Timeshare Resort | 83 2-Bedrooms | 1 / 1 Unit | 83 |
| | 205 1-Bedroom | 0.5 / 1 Unit | 103 |
| Sundry Shop | 1,176 sf | 4 / 1,000 sf | 5 |
| Spa (5,555 sf) | 111 sf | 1 / 3 Occupant | 37 |
| Ballroom (5,200 sf) | 347 Occupants | 1 / 3 Occupant | 116 |
| Meeting Room (3,400 sf) | 227 Occupants | 1 / 3 Occupant | 76 |
| Restaurant | | | |
| Customer Seating Area (3,140 sf) | | | |
| Outdoor Dining (1,840 sf) | | | |
| Bar Lounge (1,125 sf) | | | |
| Subtotal (6,105 sf) | 407 Occupants | 1 / 3 Occupant | 136 |
| **Total Spaces Required Using Stand-alone Rates:** | | | **556** [1] |

[1] As noted above, when shared-use considerations are included as shown in Attachments H-2 and H-3, the site peak parking demand is 345 spaces, resulting in 15 surplus spaces.

However, the County code recognizes that stand-alone parking often does not reflect the true parking demand of a full-scale hotel development. Therefore, it allows for an analysis to be made of the hotel/timeshare resort uses on a shared parking basis. Shared parking is defined as parking spaces that can be used to serve two or more individual land uses without conflict or encroachment. The shared parking calculations were performed using methodologies and data provided in the 2005 Urban Land Institute (ULI) publication on the subject, Shared Parking, adjusted to reflect the unique characteristics of the project vicinity and the needs and requirements of the County.

The maximum parking demand is typically calculated by applying the appropriate code parking ratio to the subject land use. For this analysis, the current County code parking rates were applied to establish the baseline maximum parking demand for the project.

In addition, Shared Parking also provides parking rates for hotel employees. The County code, which includes both customers and employees, was split into these two groups based on ULI data.

The shared parking methodology recognizes that parking demand for various uses fluctuates throughout the day, and that not all of the required maximum parking spaces are occupied at any particular time. This technique also notes that the peak (or maximum) parking demands for different uses may occur at different times of the day. As indicated in Table 2-5 and 2-6 of Shared Parking and in Attachments H-2 and H-3, hotel visitors show their peak parking demand at approximately 11:00 PM. The restaurant, sundry shop, and hotel employees have a typical peak parking demand during the late morning and/or early afternoon period (between 10:00 AM to 4:00 PM). Ballroom and meeting room facilities and spa uses usually have peak parking demands between 5:00 PM and 10:00 PM. Therefore, the peak parking demands of the uses proposed for the project occurs during different times of the day, indicating the potential for effective “shared parking” demand reductions.

Other factors also affect the amount of parking utilized by a given project. Guests staying at the hotel/timeshare resort are also likely to use the support facilities. This “internal interaction” results in a reduction in the number of vehicles required to supply the necessary number of customers to a site. Additionally, some patrons or employees may utilize public transportation or other transit options, or may walk to the site from nearby residential or adjacent commercial developments. Each of these factors reduces the number of vehicles parked at the project site. For purposes of this analysis, an “internal use” factor of 50 percent was assumed for parking associated with the sundry shop, spa and the restaurant uses, and 25 percent was assumed for the ballroom and meeting room uses. A modest 10 percent “transit/carpool” factor was

assumed for the hotel/timeshare resort employees, and a 10 percent “walk-in” factor was assumed for the restaurant uses.

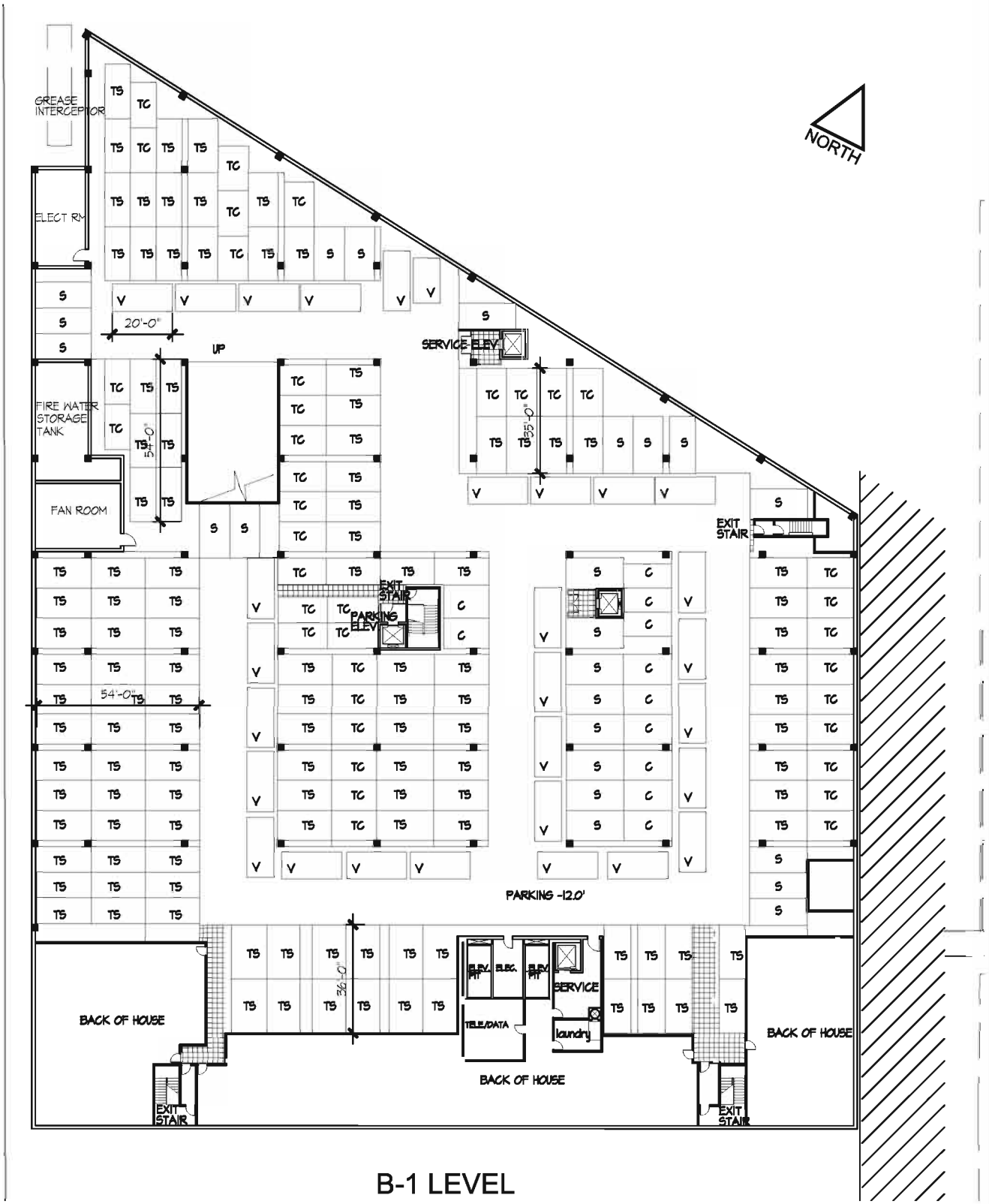
Finally, ULI recognizes that different land uses have different seasonal variations for utilization and associated parking demand. For example, hotels experience their maximum patronage during the summer months, with the winter periods experiencing a reduction in patronage relative to this peak activity. Land uses such as the sundry shop tend to experience their maximum patronage during the winter holiday months, with a reduction during the summer months. Restaurant uses also have maximum patronage during the peak holiday month, with a slight reduction during the summer months. Spa uses have patronage near maximum during the peak holiday month, with a reduction during the summer months. Some uses such as ballrooms and meeting rooms, and hotel employees do not show any significant seasonal variations.

The shared parking demands for the proposed project were then calculated in the following manner. First, the “internal-use”, “transit/carpool” and “walk-in” reduction factors were applied to the baseline maximum parking demands for each of the project uses. Next, the seasonal variation factor was applied. Two calculations were performed: one for summer months (August – hotel guests at maximum), and one for winter months (December – sundry shop and restaurant uses at maximum, and spa use near maximum). As noted previously, ballroom and meeting room uses, and hotel employees do not show any significant seasonal variations. The ULI seasonal variation factors for the individual components of the project are found in Table 2-3 and 2-4 of the Shared Parking document, and summarized in Attachment H-2 for the peak summer month and Attachment H-3 for the peak winter month. These calculations resulted in the “adjusted” project parking demands. Note that these values reflect only adjustments for non-vehicular patronage, and for seasonal variation, and do not include application of the shared parking hourly accumulation percentage methodology.

These adjusted seasonal parking demands were then used to calculate the seasonal shared parking demands for the proposed hotel/timeshare resort. The hotel/timeshare resort visitor hourly parking accumulations (the number of vehicles parked at the site by guests of the hotel/timeshare resort by each hour of the day) were calculated by multiplying the adjusted seasonal parking demand for the hotel visitors by the ULI hourly accumulation percentages shown in Tables 2-5 and Table 2-6 of the Shared Parking document, and in Attachments H-2 and H-3. Shared parking demands for the other project uses were calculated in a similar manner.

In addition, ULI also recognizes that there are variations in parking demand on the weekdays versus the weekends. For example, the parking demand for the sundry shop is slightly lower on the weekdays as compared to the weekend demand. In contrast, the parking demand for the spa use is slightly lower on the weekends as compared to the weekday demand. The hotel/timeshare resort visitor and employee components and land uses such as ballrooms/meeting rooms and restaurants do not show any significant variations. These weekday/weekend factors were also applied to calculate the peak period parking demand.

As shown in the tables and parking accumulation curves in Attachments H-2 and H-3, the results of the shared parking calculations indicate that the maximum seasonal parking needs for the hotel/timeshare resort site would be approximately 345 spaces and is expected to occur between 9:00 PM and 10:00 PM on a typical summer weekend, with the summer weekday parking peak being slightly lower at 344 spaces. As noted previously and in Attachments H-2 and H-3, the hotel/timeshare resort will accommodate approximately 360 spaces, or a surplus of at least 15 spaces. Thus, no parking spillover onto area streets or into the nearby neighborhoods is anticipated, and no parking-related impacts are expected as a result of the proposed hotel/timeshare resort development on Parcel 9U.




# B-1 LEVEL

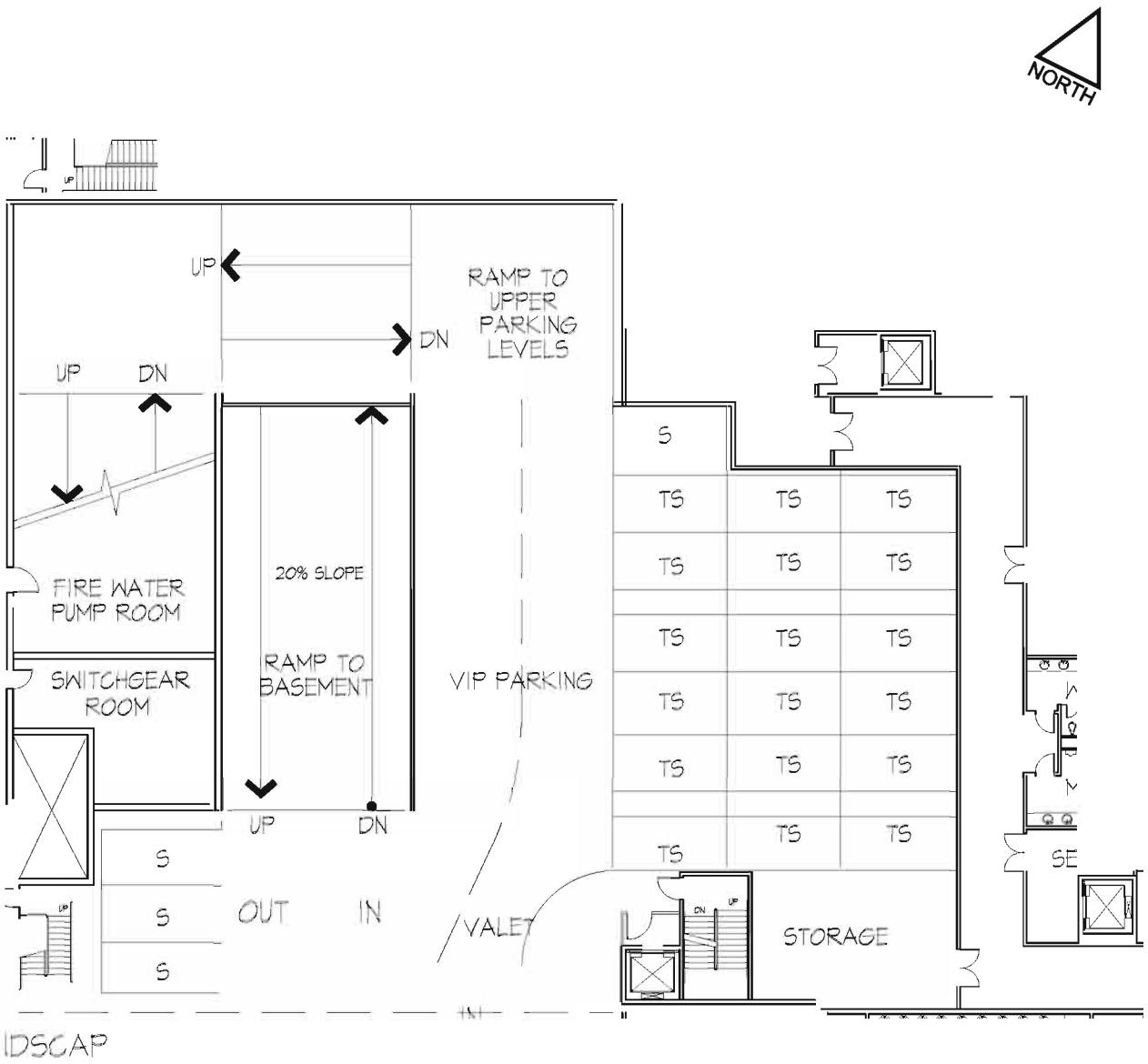
## ATTACHMENT H-1

05/02/2007

FN: MARINA DEL REY LEGACY\REPORT(5-2007)\VALET PARKING LEVELS(B-1 LEVEL)

HOTEL PARKING LAYOUT

CRAIN & ASSOCIATES
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Traffic Engineering
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# GROUND LEVEL

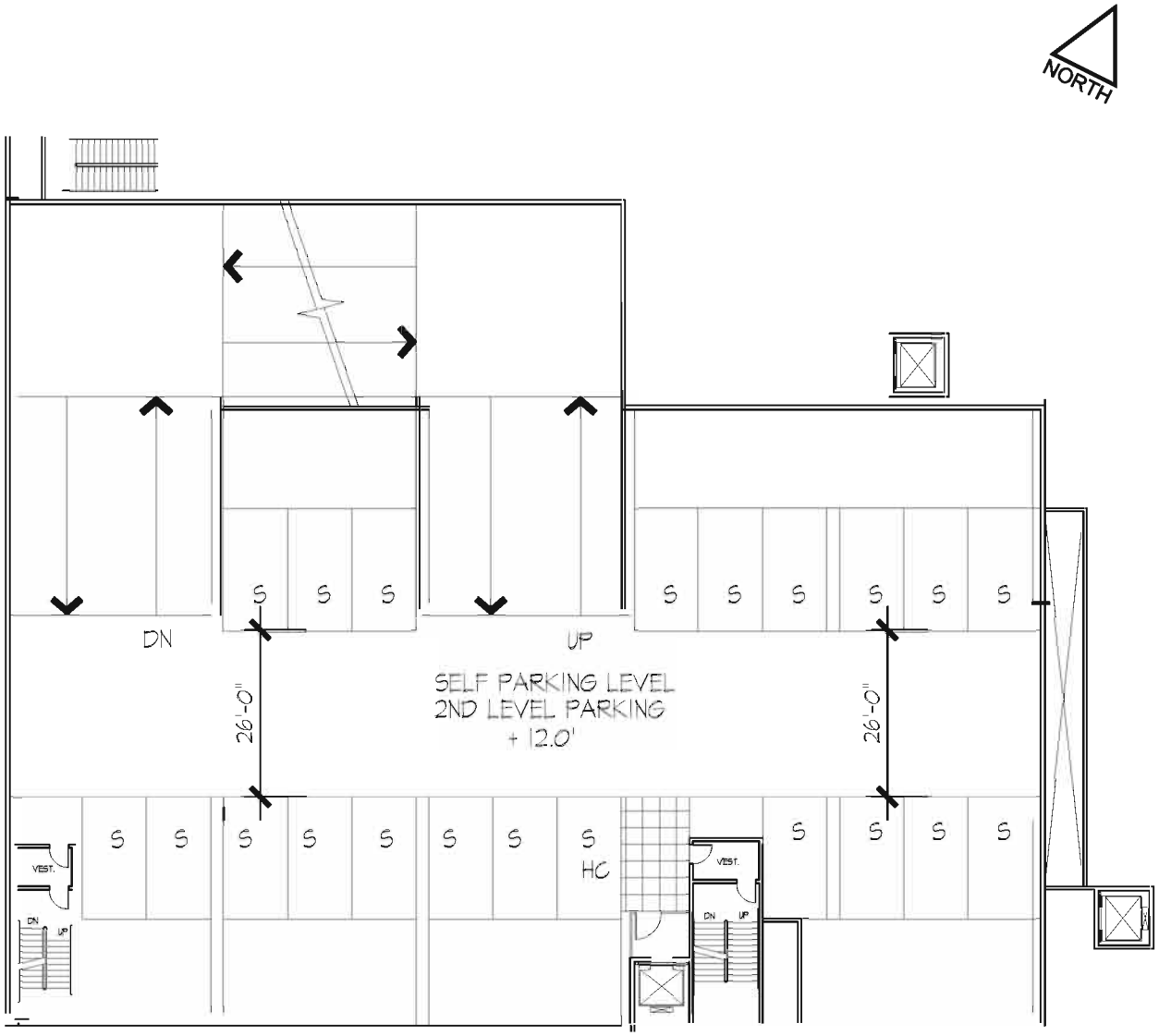
## ATTACHMENT H-1

05/02/2007

FN: MARINA DEL REY LEGACY\REPORT(5-2007)\GROUND PARKING

HOTEL PARKING LAYOUT

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# SECOND LEVEL

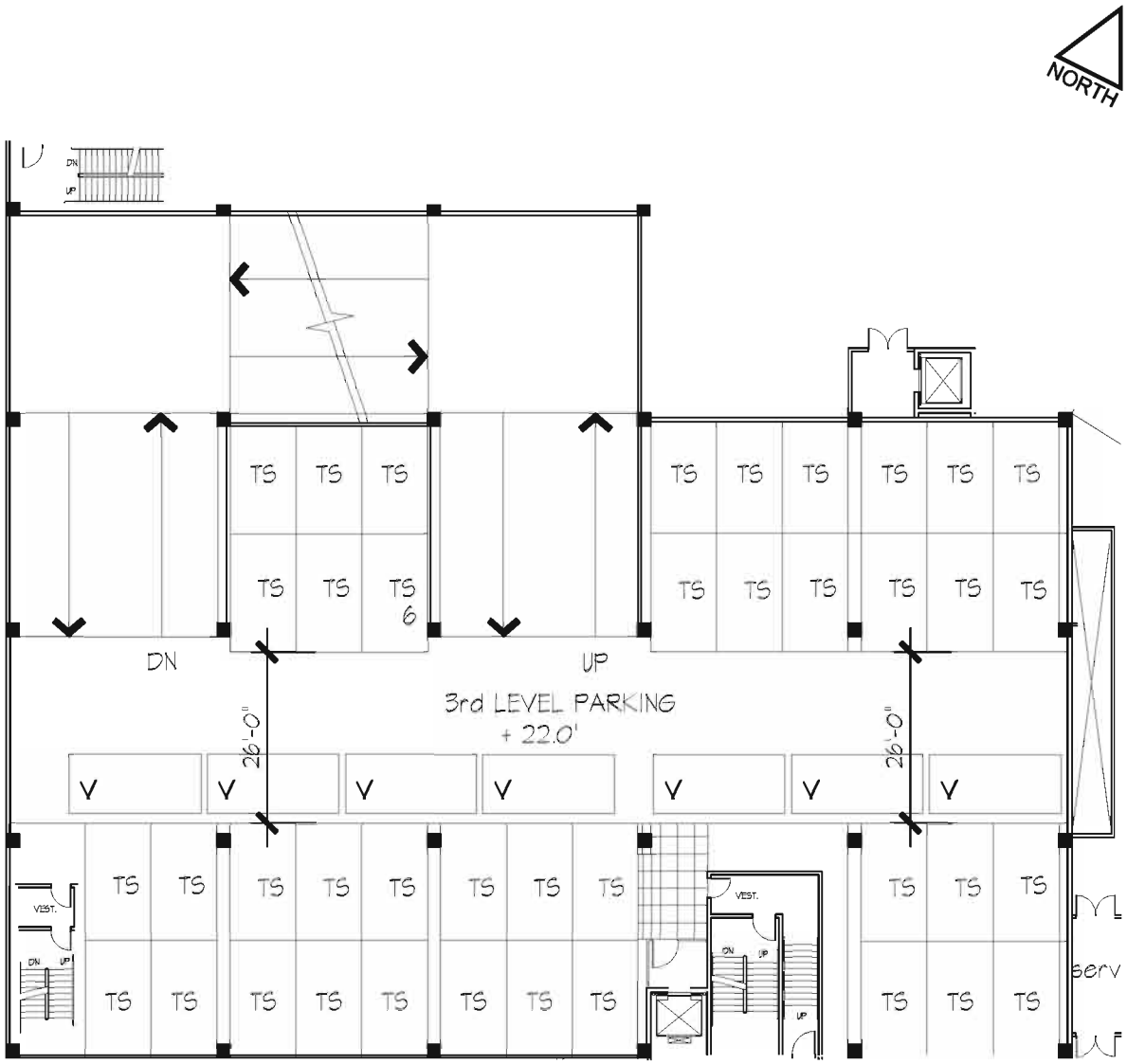
## ATTACHMENT H-1

05/02/2007

FN: MARINA DEL REY LEGACY\REPORT(5-2007)\VALET PARKING LEVELS(2ND)

HOTEL PARKING LAYOUT

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# THIRD LEVEL

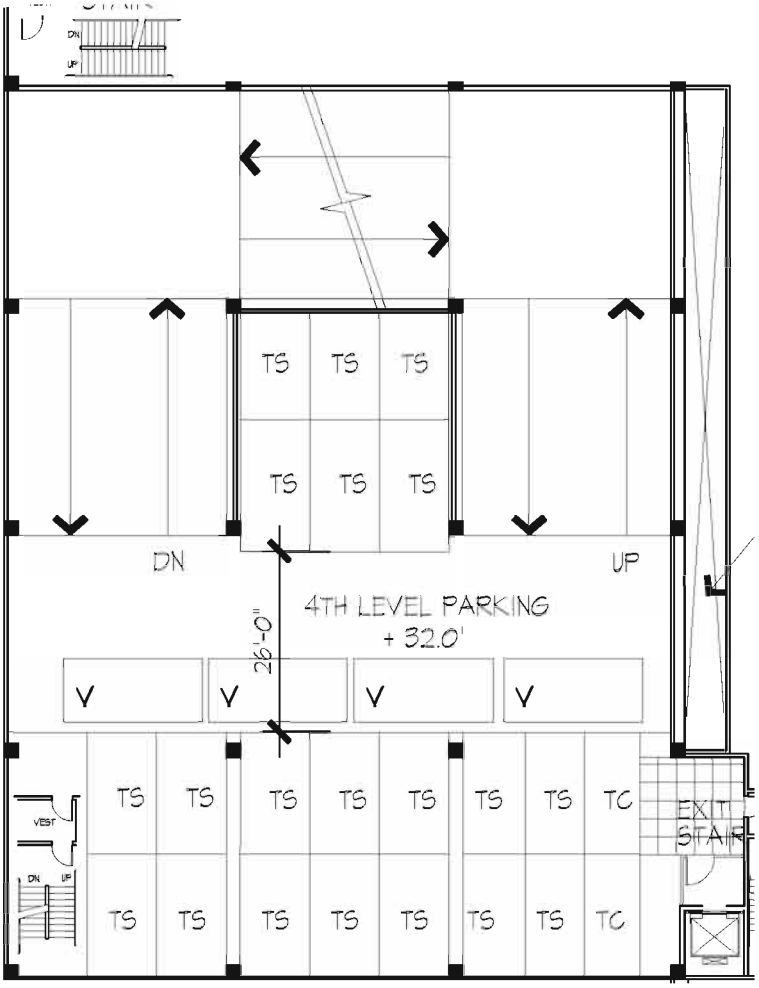
## ATTACHMENT H-1

05/02/2007

FN: MARINA DEL REY LEGACY\REPORT(5-2007)\VALET PARKING LEVELS(3RD)

HOTEL PARKING LAYOUT

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# FOURTH LEVEL

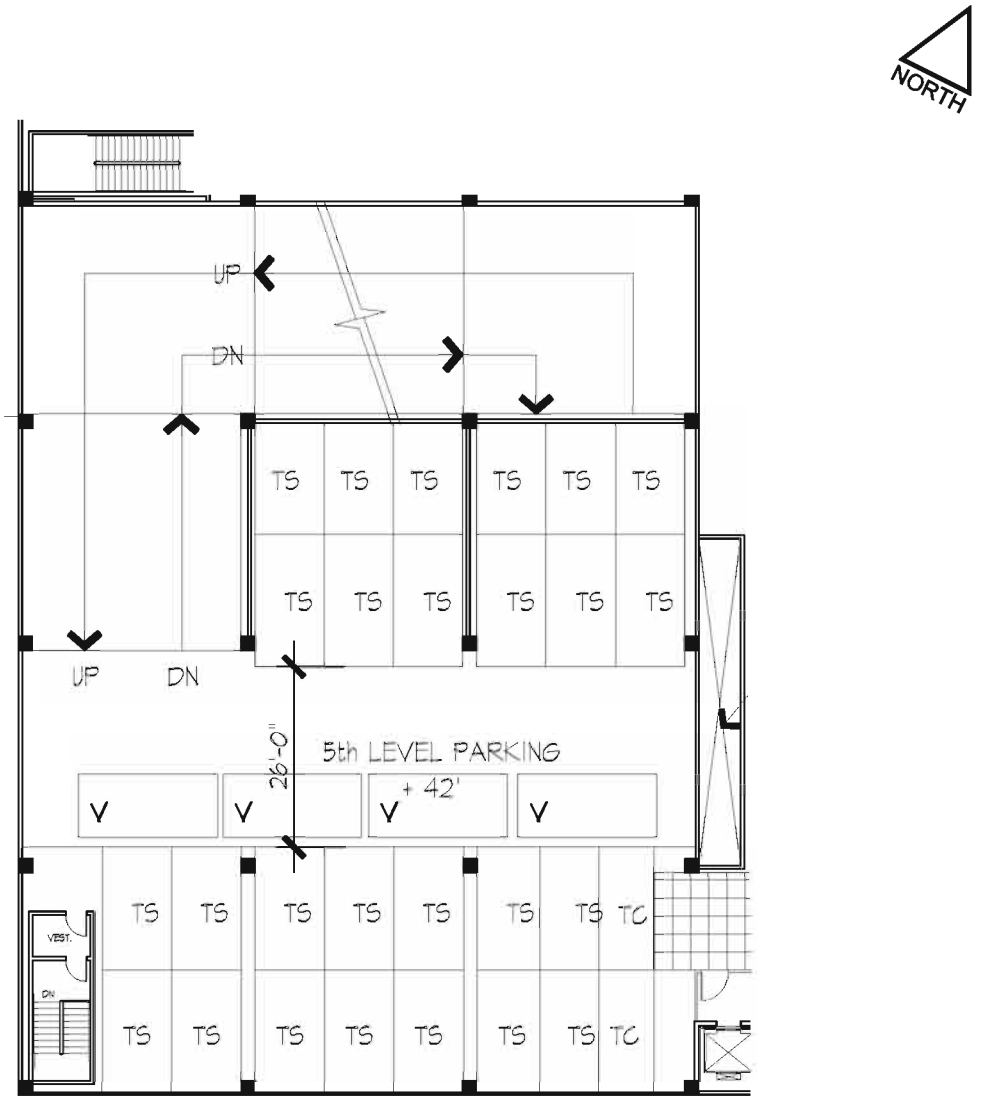
## ATTACHMENT H-1

05/02/2007

FN: MARINA DEL REY LEGACY\REPORT(5-2007)\VALET PARKING LEVELS(4TH)

## HOTEL PARKING LAYOUT

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# FIFTH LEVEL

## ATTACHMENT H-1

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FN: MARINA DEL REY LEGACY\REPORT(5-2007)\VALET PARKING LEVELS(5TH)

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**ATTACHMENT H-2**
**PROPOSED HOTEL PROJECT ON PARCEL 9U**
**SHARED PARKING DEMAND CALCULATIONS**
**AUGUST MAXIMUM PROJECT COMPONENT DEMANDS**

| DESCRIPTION | SIZE | PARKING RATE | STAND-ALONE SPACES REQ'D | INTERNAL USE FACTOR | TRANSIT/ CARPOOL FACTOR | "WALK-IN" FACTOR | AUGUST MONTHLY USE FACTOR | ADJUSTED MAXIMUM PARKING DEMANDS |
|---|---|---|---|---|---|---|---|---|
| PROPOSED PROJECT | | | | | | | | |
| HOTEL | | | | | | | | |
| Visitor | 83 2-Bedroom | 0.843 / 1 Unit | 70 | 0% | 0% | 0% | 100% | 70 |
| | 205 1-Bedroom | 0.424 / 1 Unit | 87 | 0% | 0% | 0% | 100% | 87 |
| Employee | | 0.097 / 1 Unit | 28 | 0% | 10% | 0% | 100% | 25 |
| SUNDRY SHOP | 1,176 SF | 4 / 1 KSF | 5 | 50% | 0% | 0% | 69% | 2 |
| SPA | 5,555 SF | 1 / 3 Occupant | 37 | 50% | 0% | 0% | 70% | 13 |
| BALLROOM | 5,200 SF | 1 / 3 Occupant | 116 | 25% | 0% | 0% | 100% | 87 |
| MEETING ROOM | 3,400 SF | 1 / 3 Occupant | 76 | 25% | 0% | 0% | 100% | 57 |
| RESTAURANT | | | | | | | | |
| Customer Seating Area | 3,140 SF | | | | | | | |
| Outdoor Dining | 1,840 SF | | | | | | | |
| Bar Lounge | 1,125 SF | | | | | | | |
| Subtotal | 6,105 SF | 1 / 3 Occupant | 136 | 50% | 0% | 10% | 99% | 54 |
| PROJECT TOTAL: | | | 555 | | | | | 395 |

* Based on one occupant per 50 sf for spa use, and one occupant per 15 sf for ballroom, meeting room & restaurant uses.
Note: The sum of the Adjusted Parking Demand numbers assumes that the parking demands of all uses peak at the same time, and does not account for variations in demand for the different uses during the course of a day. These variations are reflected in the attached tables and parking accumulation curves.

**ATTACHMENT H-2**
**PROPOSED HOTEL PROJECT ON PARCEL 9U**
**SHARED PARKING DEMAND CALCULATIONS**
**AUGUST MAXIMUM PROJECT COMPONENT DEMANDS**

WEEKDAY
PARKING ACCUMULATION PERCENTAGES

| TIME OF DAY | Hotel Visitor | Hotel Employee | Sundry Shop | Spa | Ballroom/ Meeting Room | Restaurant |
|---|---|---|---|---|---|---|
| 6:00AM | 95% | 5% | 1% | 70% | 0% | 0% |
| 7:00 | 95% | 30% | 5% | 40% | 0% | 10% |
| 8:00 | 90% | 90% | 15% | 40% | 30% | 30% |
| 9:00 | 80% | 90% | 35% | 70% | 60% | 10% |
| 10:00 | 70% | 100% | 65% | 70% | 60% | 10% |
| 11:00 | 70% | 100% | 85% | 80% | 60% | 5% |
| 12:00N | 65% | 100% | 95% | 60% | 65% | 100% |
| 1:00PM | 65% | 100% | 100% | 70% | 65% | 100% |
| 2:00 | 70% | 100% | 95% | 70% | 65% | 33% |
| 3:00 | 70% | 100% | 90% | 70% | 65% | 10% |
| 4:00 | 75% | 90% | 90% | 80% | 65% | 10% |
| 5:00 | 80% | 70% | 95% | 90% | 100% | 30% |
| 6:00 | 85% | 40% | 95% | 100% | 100% | 55% |
| 7:00 | 85% | 20% | 95% | 90% | 100% | 60% |
| 8:00 | 90% | 20% | 80% | 80% | 100% | 70% |
| 9:00 | 95% | 20% | 50% | 70% | 100% | 67% |
| 10:00 | 95% | 20% | 30% | 35% | 50% | 60% |
| 11:00 | 100% | 10% | 10% | 10% | 0% | 40% |
| 12:00M | 100% | 5% | 0% | 0% | 0% | 30% |
| Weekday Peak Demand/Rate | 100% | 100% | 91% | 100% | 100% | 100% |

WEEKEND
PARKING ACCUMULATION PERCENTAGES

| TIME OF DAY | Hotel Visitor | Hotel Employee | Sundry Shop | Spa | Ballroom/ Meeting Room | Restaurant |
|---|---|---|---|---|---|---|
| 6:00AM | 95% | 5% | 1% | 80% | 0% | 0% |
| 7:00 | 95% | 30% | 5% | 45% | 0% | 10% |
| 8:00 | 90% | 90% | 10% | 35% | 30% | 30% |
| 9:00 | 80% | 90% | 30% | 50% | 60% | 10% |
| 10:00 | 70% | 100% | 50% | 35% | 60% | 10% |
| 11:00 | 70% | 100% | 65% | 50% | 60% | 5% |
| 12:00N | 65% | 100% | 80% | 50% | 65% | 100% |
| 1:00PM | 65% | 100% | 90% | 30% | 65% | 100% |
| 2:00 | 70% | 100% | 100% | 25% | 65% | 33% |
| 3:00 | 70% | 100% | 100% | 30% | 65% | 10% |
| 4:00 | 75% | 90% | 95% | 55% | 65% | 10% |
| 5:00 | 80% | 75% | 90% | 100% | 100% | 30% |
| 6:00 | 85% | 60% | 80% | 95% | 100% | 55% |
| 7:00 | 85% | 55% | 75% | 60% | 100% | 60% |
| 8:00 | 90% | 55% | 65% | 30% | 100% | 70% |
| 9:00 | 95% | 55% | 50% | 10% | 100% | 67% |
| 10:00 | 95% | 45% | 35% | 1% | 50% | 60% |
| 11:00 | 100% | 45% | 15% | 1% | 0% | 40% |
| 12:00M | 100% | 30% | 0% | 0% | 0% | 30% |
| Weekend Peak Demand/Rate | 100% | 100% | 100% | 83% | 100% | 100% |

Source: Tables 2-5 and 2-6 from Urban Land Institute Shared Parking, 2nd Edition, 2005.

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**ATTACHMENT H-2**
**PROPOSED HOTEL PROJECT ON PARCEL 9U**
**SHARED PARKING DEMAND CALCULATIONS**
**AUGUST MAXIMUM PROJECT COMPONENT DEMANDS**

WEEKDAY "TOTAL SITE" PARKING ACCUMULATIONS

| TIME OF DAY | HOTEL VISITOR | HOTEL EMPLOYEE | SUNDRY SHOP | SPA | BALLROOM | MEETING ROOM | RESTAURANT | **TOTAL SHARED PARKING DEMAND** | | PARKING CAPACITY | PARKING SURPLUS/ (DEFICIT) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:00 AM | 149 | 1 | 0 | 9 | 0 | 0 | 0 | **159** | | 360 | |
| 7:00 | 149 | 8 | 0 | 5 | 0 | 0 | 5 | **167** | | 360 | |
| 8:00 | 141 | 23 | 0 | 5 | 26 | 17 | 16 | **228** | | 360 | |
| 9:00 | 126 | 23 | 1 | 9 | 52 | 34 | 5 | **250** | | 360 | |
| 10:00 | 110 | 25 | 1 | 9 | 52 | 34 | 5 | **236** | | 360 | |
| 11:00 | 110 | 25 | 2 | 10 | 52 | 34 | 3 | **236** | | 360 | |
| 12:00 Noon | 102 | 25 | 2 | 8 | 57 | 37 | 54 | **285** | | 360 | |
| 1:00 PM | 102 | 25 | 2 | 9 | 57 | 37 | 54 | **286** | | 360 | |
| 2:00 | 110 | 25 | 2 | 9 | 57 | 37 | 18 | **258** | | 360 | |
| 3:00 | 110 | 25 | 2 | 9 | 57 | 37 | 5 | **245** | | 360 | |
| 4:00 | 118 | 23 | 2 | 10 | 57 | 37 | 5 | **252** | | 360 | |
| 5:00 | 126 | 18 | 2 | 12 | 87 | 57 | 16 | **318** | | 360 | |
| 6:00 | 133 | 10 | 2 | 13 | 87 | 57 | 30 | **332** | | 360 | |
| 7:00 | 133 | 5 | 2 | 12 | 87 | 57 | 32 | **328** | | 360 | |
| 8:00 | 141 | 5 | 1 | 10 | 87 | 57 | 38 | **339** | | 360 | |
| 9:00 | 149 | 5 | 1 | 9 | 87 | 57 | 36 | **344** | * | 360 | 16 |
| 10:00 | 149 | 5 | 1 | 5 | 44 | 29 | 32 | **265** | | 360 | |
| 11:00 | 157 | 3 | 0 | 1 | 0 | 0 | 22 | **183** | | 360 | |
| 12:00 Mid | 157 | 1 | 0 | 0 | 0 | 0 | 16 | **174** | | 360 | |

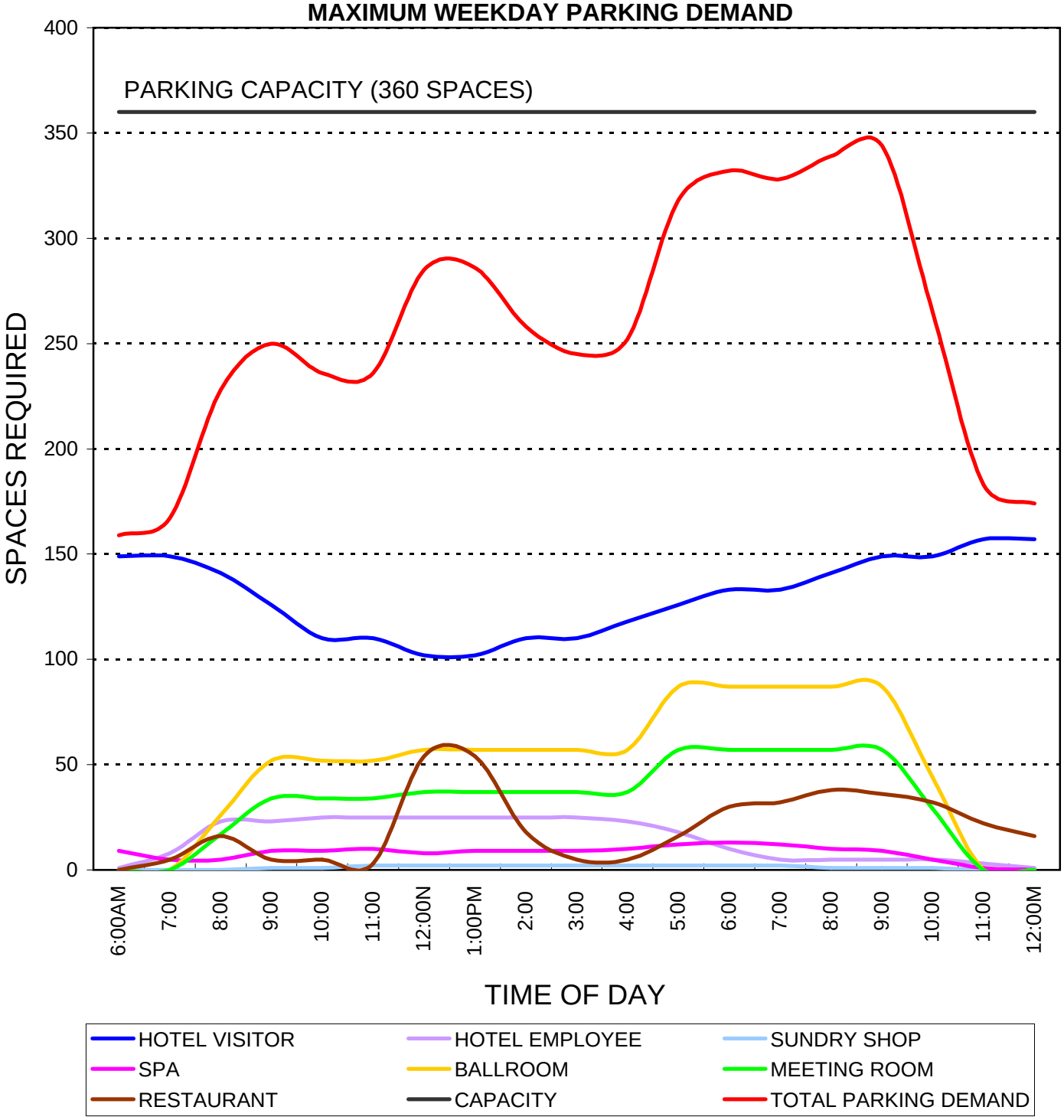
WEEKEND "TOTAL SITE" PARKING ACCUMULATIONS

| TIME OF DAY | HOTEL VISITOR | HOTEL EMPLOYEE | SUNDRY SHOP | SPA | BALLROOM | MEETING ROOM | RESTAURANT | **TOTAL SHARED PARKING DEMAND** | | PARKING CAPACITY | PARKING SURPLUS/ (DEFICIT) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:00 AM | 149 | 1 | 0 | 9 | 0 | 0 | 0 | **159** | | 360 | |
| 7:00 | 149 | 8 | 0 | 5 | 0 | 0 | 5 | **167** | | 360 | |
| 8:00 | 141 | 23 | 0 | 4 | 26 | 17 | 16 | **227** | | 360 | |
| 9:00 | 126 | 23 | 1 | 5 | 52 | 34 | 5 | **246** | | 360 | |
| 10:00 | 110 | 25 | 1 | 4 | 52 | 34 | 5 | **231** | | 360 | |
| 11:00 | 110 | 25 | 1 | 5 | 52 | 34 | 3 | **230** | | 360 | |
| 12:00 Noon | 102 | 25 | 2 | 5 | 57 | 37 | 54 | **282** | | 360 | |
| 1:00 PM | 102 | 25 | 2 | 3 | 57 | 37 | 54 | **280** | | 360 | |
| 2:00 | 110 | 25 | 2 | 3 | 57 | 37 | 18 | **252** | | 360 | |
| 3:00 | 110 | 25 | 2 | 3 | 57 | 37 | 5 | **239** | | 360 | |
| 4:00 | 118 | 23 | 2 | 6 | 57 | 37 | 5 | **248** | | 360 | |
| 5:00 | 126 | 19 | 2 | 11 | 87 | 57 | 16 | **318** | | 360 | |
| 6:00 | 133 | 15 | 2 | 10 | 87 | 57 | 30 | **334** | | 360 | |
| 7:00 | 133 | 14 | 2 | 7 | 87 | 57 | 32 | **332** | | 360 | |
| 8:00 | 141 | 14 | 1 | 3 | 87 | 57 | 38 | **341** | | 360 | |
| 9:00 | 149 | 14 | 1 | 1 | 87 | 57 | 36 | **345** | * | 360 | 15 |
| 10:00 | 149 | 11 | 1 | 0 | 44 | 29 | 32 | **266** | | 360 | |
| 11:00 | 157 | 11 | 0 | 0 | 0 | 0 | 22 | **190** | | 360 | |
| 12:00 Mid | 157 | 8 | 0 | 0 | 0 | 0 | 16 | **181** | | 360 | |

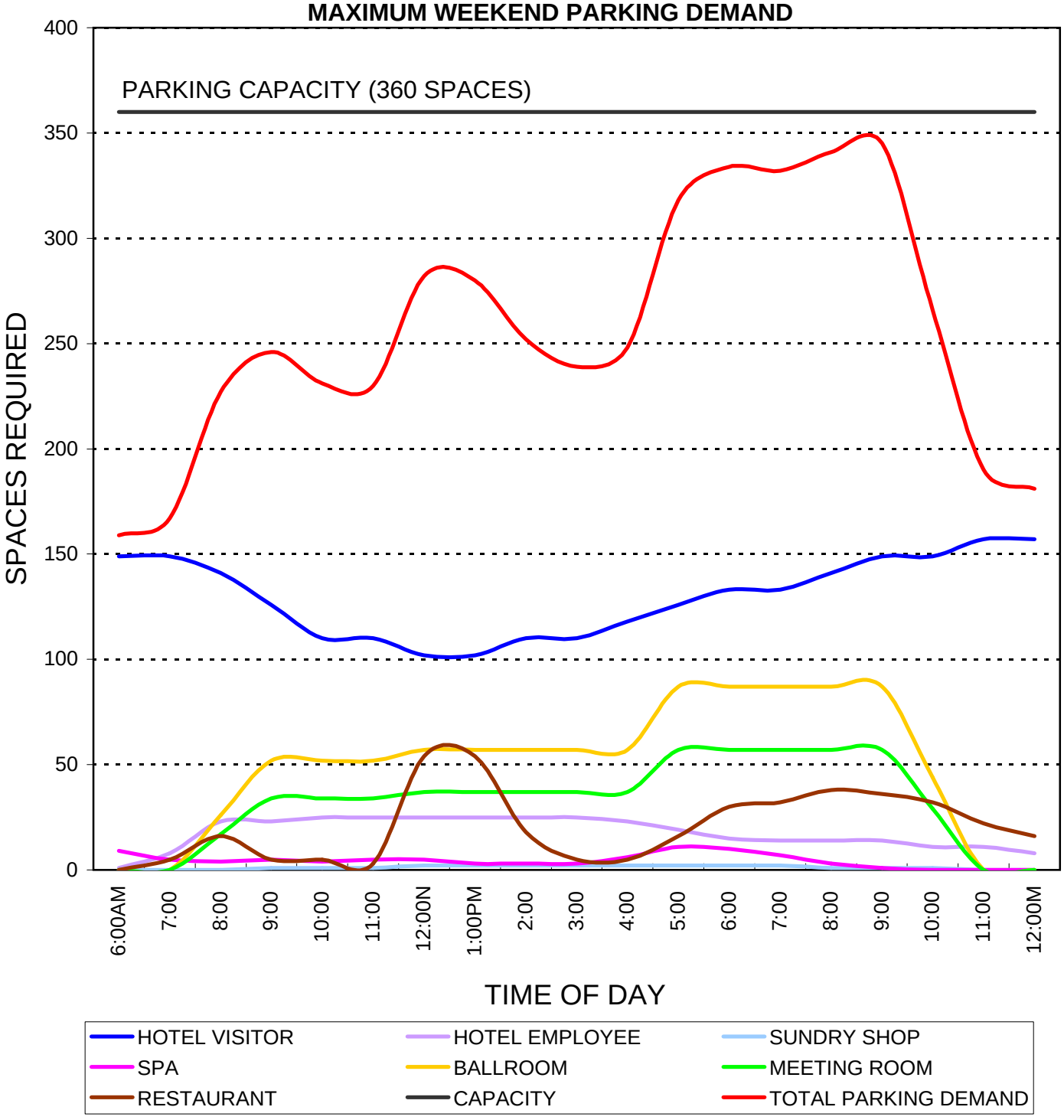
* Peak parking demand.

Note: Urban Land Institute parking accumulation percentages applied to determine hourly demand for each use.
The proposed hotel will accommodate a total of 360 spaces (21 self-park spaces on the second parking level and 339 valet spaces located on all other parking levels).

**ATTACHMENT H-2**
**PEAK SUMMER MONTH - AUGUST**
**MAXIMUM WEEKDAY PARKING DEMAND**



**ATTACHMENT H-2**
**PEAK SUMMER MONTH - AUGUST**
**MAXIMUM WEEKEND PARKING DEMAND**



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**ATTACHMENT H-3**
**PROPOSED HOTEL PROJECT ON PARCEL 9L**
**SHARED PARKING DEMAND CALCULATIONS**
**DECEMBER MAXIMUM PROJECT COMPONENT DEMANDS**

| DESCRIPTION | SIZE | PARKING RATE | STAND-ALONE SPACES REQ'D | INTERNAL USE FACTOR | TRANSIT/ CARPOOL FACTOR | "WALK-IN" FACTOR | DECEMBER MONTHLY USE FACTOR | ADJUSTED MAXIMUM PARKING DEMANDS |
|---|---|---|---|---|---|---|---|---|
| PROPOSED PROJECT | | | | | | | | |
| HOTEL | | | | | | | | |
| Visitor | 83 2-Bedroom | 0.843 / 1 Unit | 70 | 0% | 0% | 0% | 50% | 35 |
| | 205 1-Bedroom | 0.424 / 1 Unit | 87 | 0% | 0% | 0% | 50% | 44 |
| Employee | | 0.097 / 1 Unit | 28 | 0% | 10% | 0% | 100% | 25 |
| SUNDRY SHOP | 1,176 SF | 4 / 1 KSF | 5 | 50% | 0% | 0% | 100% | 3 |
| SPA | 5,555 SF | 1 / 3 Occupant | 37 | 50% | 0% | 0% | 90% | 17 |
| BALLROOM | 5,200 SF | 1 / 3 Occupant | 116 | 25% | 0% | 0% | 100% | 87 |
| MEETING ROOM | 3,400 SF | 1 / 3 Occupant | 76 | 25% | 0% | 0% | 100% | 57 |
| RESTAURANT | | | | | | | | |
| Customer Seating Area | 3,140 SF | | | | | | | |
| Outdoor Dining | 1,840 SF | | | | | | | |
| Bar Lounge | 1,125 SF | | | | | | | |
| Subtotal | 6,105 SF | 1 / 3 Occupant | 136 | 50% | 0% | 10% | 100% | 54 |
| PROJECT TOTAL: | | | 555 | | | | | 322 |

* Based on one occupant per 50 sf for spa use, and one occupant per 15 sf for ballroom, meeting room & restaurant uses.

Note: The sum of the Adjusted Parking Demand numbers assumes that the parking demands of all uses peak at the same time, and does not account for variations in demand for the different uses during the course of a day. These variations are reflected in the attached tables and parking accumulation curves.

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**ATTACHMENT H-3**
**PROPOSED HOTEL PROJECT ON PARCEL 9U**
**SHARED PARKING DEMAND CALCULATIONS**
**DECEMBER MAXIMUM PROJECT COMPONENT DEMANDS**

WEEKDAY
PARKING ACCUMULATION PERCENTAGES

| TIME OF DAY | Hotel Visitor | Hotel Employee | Sundry Shop | Spa | Ballroom/ Meeting Room | Restaurant |
|---|---|---|---|---|---|---|
| 6:00AM | 95% | 5% | 1% | 70% | 0% | 0% |
| 7:00 | 95% | 30% | 5% | 40% | 0% | 10% |
| 8:00 | 90% | 90% | 15% | 40% | 30% | 30% |
| 9:00 | 80% | 90% | 30% | 70% | 60% | 10% |
| 10:00 | 70% | 100% | 55% | 70% | 60% | 10% |
| 11:00 | 70% | 100% | 75% | 80% | 60% | 5% |
| 12:00N | 65% | 100% | 90% | 60% | 65% | 100% |
| 1:00PM | 65% | 100% | 100% | 70% | 65% | 100% |
| 2:00 | 70% | 100% | 100% | 70% | 65% | 33% |
| 3:00 | 70% | 100% | 100% | 70% | 65% | 10% |
| 4:00 | 75% | 90% | 95% | 80% | 65% | 10% |
| 5:00 | 80% | 70% | 85% | 90% | 100% | 30% |
| 6:00 | 85% | 40% | 80% | 100% | 100% | 55% |
| 7:00 | 85% | 20% | 75% | 90% | 100% | 60% |
| 8:00 | 90% | 20% | 65% | 80% | 100% | 70% |
| 9:00 | 95% | 20% | 50% | 70% | 100% | 67% |
| 10:00 | 95% | 20% | 30% | 35% | 50% | 60% |
| 11:00 | 100% | 10% | 10% | 10% | 0% | 40% |
| 12:00M | 100% | 5% | 0% | 0% | 0% | 30% |
| Weekday Peak Demand/Rate | 100% | 100% | 91% | 100% | 100% | 100% |

WEEKEND
PARKING ACCUMULATION PERCENTAGES

| TIME OF DAY | Hotel Visitor | Hotel Employee | Sundry Shop | Spa | Ballroom/ Meeting Room | Restaurant |
|---|---|---|---|---|---|---|
| 6:00AM | 95% | 5% | 1% | 80% | 0% | 0% |
| 7:00 | 95% | 30% | 5% | 45% | 0% | 10% |
| 8:00 | 90% | 90% | 10% | 35% | 30% | 30% |
| 9:00 | 80% | 90% | 35% | 50% | 60% | 10% |
| 10:00 | 70% | 100% | 60% | 35% | 60% | 10% |
| 11:00 | 70% | 100% | 70% | 50% | 60% | 5% |
| 12:00N | 65% | 100% | 85% | 50% | 65% | 100% |
| 1:00PM | 65% | 100% | 95% | 30% | 65% | 100% |
| 2:00 | 70% | 100% | 100% | 25% | 65% | 33% |
| 3:00 | 70% | 100% | 100% | 30% | 65% | 10% |
| 4:00 | 75% | 90% | 95% | 55% | 65% | 10% |
| 5:00 | 80% | 75% | 90% | 100% | 100% | 30% |
| 6:00 | 85% | 60% | 80% | 95% | 100% | 55% |
| 7:00 | 85% | 55% | 75% | 60% | 100% | 60% |
| 8:00 | 90% | 55% | 65% | 30% | 100% | 70% |
| 9:00 | 95% | 55% | 50% | 10% | 100% | 67% |
| 10:00 | 95% | 45% | 35% | 1% | 50% | 60% |
| 11:00 | 100% | 45% | 15% | 1% | 0% | 40% |
| 12:00M | 100% | 30% | 0% | 0% | 0% | 30% |
| Weekend Peak Demand/Rate | 100% | 100% | 100% | 83% | 100% | 100% |

Source: Tables 2-5 and 2-6 from Urban Land Institute Shared Parking, 2nd Edition, 2005.

**CRAIN & ASSOCIATES**
**DRAFT**

**ATTACHMENT H-3**
**PROPOSED HOTEL PROJECT ON PARCEL 9U**
**SHARED PARKING DEMAND CALCULATIONS**
**DECEMBER MAXIMUM PROJECT COMPONENT DEMANDS**

WEEKDAY "TOTAL SITE" PARKING ACCUMULATIONS

| TIME OF DAY | HOTEL VISITOR | HOTEL EMPLOYEE | SUNDRY SHOP | SPA | BALLROOM | MEETING ROOM | RESTAURANT | **TOTAL SHARED PARKING DEMAND** | | PARKING CAPACITY | PARKING SURPLUS/ (DEFICIT) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:00 AM | 75 | 1 | 0 | 12 | 0 | 0 | 0 | **88** | | 360 | |
| 7:00 | 75 | 8 | 0 | 7 | 0 | 0 | 5 | **95** | | 360 | |
| 8:00 | 71 | 23 | 0 | 7 | 26 | 17 | 16 | **160** | | 360 | |
| 9:00 | 63 | 23 | 1 | 12 | 52 | 34 | 5 | **190** | | 360 | |
| 10:00 | 55 | 25 | 1 | 12 | 52 | 34 | 5 | **184** | | 360 | |
| 11:00 | 55 | 25 | 2 | 14 | 52 | 34 | 3 | **185** | | 360 | |
| 12:00 Noon | 51 | 25 | 2 | 10 | 57 | 37 | 54 | **236** | | 360 | |
| 1:00 PM | 51 | 25 | 3 | 12 | 57 | 37 | 54 | **239** | | 360 | |
| 2:00 | 55 | 25 | 3 | 12 | 57 | 37 | 18 | **207** | | 360 | |
| 3:00 | 55 | 25 | 3 | 12 | 57 | 37 | 5 | **194** | | 360 | |
| 4:00 | 59 | 23 | 3 | 14 | 57 | 37 | 5 | **198** | | 360 | |
| 5:00 | 63 | 18 | 2 | 15 | 87 | 57 | 16 | **258** | | 360 | |
| 6:00 | 67 | 10 | 2 | 17 | 87 | 57 | 30 | **270** | | 360 | |
| 7:00 | 67 | 5 | 2 | 15 | 87 | 57 | 32 | **265** | | 360 | |
| 8:00 | 71 | 5 | 2 | 14 | 87 | 57 | 38 | **274** | * | 360 | 86 |
| 9:00 | 75 | 5 | 1 | 12 | 87 | 57 | 36 | **273** | | 360 | |
| 10:00 | 75 | 5 | 1 | 6 | 44 | 29 | 32 | **192** | | 360 | |
| 11:00 | 79 | 3 | 0 | 2 | 0 | 0 | 22 | **106** | | 360 | |
| 12:00 Mid | 79 | 1 | 0 | 0 | 0 | 0 | 16 | **96** | | 360 | |

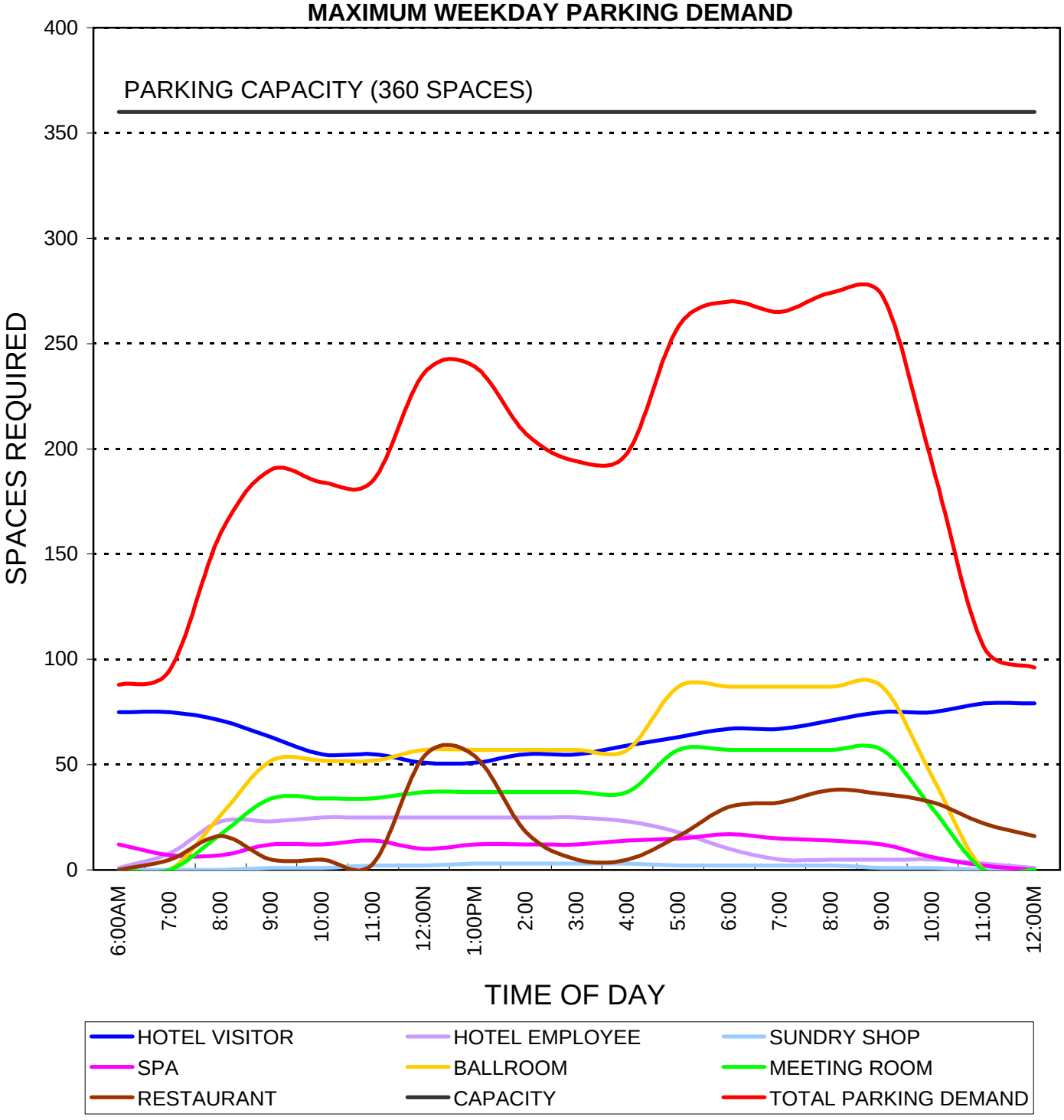
WEEKEND "TOTAL SITE" PARKING ACCUMULATIONS

| TIME OF DAY | HOTEL VISITOR | HOTEL EMPLOYEE | SUNDRY SHOP | SPA | BALLROOM | MEETING ROOM | RESTAURANT | **TOTAL SHARED PARKING DEMAND** | | PARKING CAPACITY | PARKING SURPLUS/ (DEFICIT) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6:00 AM | 75 | 1 | 0 | 11 | 0 | 0 | 0 | **87** | | 360 | |
| 7:00 | 75 | 8 | 0 | 6 | 0 | 0 | 5 | **94** | | 360 | |
| 8:00 | 71 | 23 | 0 | 5 | 26 | 17 | 16 | **158** | | 360 | |
| 9:00 | 63 | 23 | 1 | 7 | 52 | 34 | 5 | **185** | | 360 | |
| 10:00 | 55 | 25 | 2 | 5 | 52 | 34 | 5 | **178** | | 360 | |
| 11:00 | 55 | 25 | 2 | 7 | 52 | 34 | 3 | **178** | | 360 | |
| 12:00 Noon | 51 | 25 | 3 | 7 | 57 | 37 | 54 | **234** | | 360 | |
| 1:00 PM | 51 | 25 | 3 | 4 | 57 | 37 | 54 | **231** | | 360 | |
| 2:00 | 55 | 25 | 3 | 4 | 57 | 37 | 18 | **199** | | 360 | |
| 3:00 | 55 | 25 | 3 | 4 | 57 | 37 | 5 | **186** | | 360 | |
| 4:00 | 59 | 23 | 3 | 8 | 57 | 37 | 5 | **192** | | 360 | |
| 5:00 | 63 | 19 | 3 | 14 | 87 | 57 | 16 | **259** | | 360 | |
| 6:00 | 67 | 15 | 2 | 13 | 87 | 57 | 30 | **271** | | 360 | |
| 7:00 | 67 | 14 | 2 | 9 | 87 | 57 | 32 | **268** | | 360 | |
| 8:00 | 71 | 14 | 2 | 4 | 87 | 57 | 38 | **273** | * | 360 | 87 |
| 9:00 | 75 | 14 | 2 | 1 | 87 | 57 | 36 | **272** | | 360 | |
| 10:00 | 75 | 11 | 1 | 0 | 44 | 29 | 32 | **192** | | 360 | |
| 11:00 | 79 | 11 | 0 | 0 | 0 | 0 | 22 | **112** | | 360 | |
| 12:00 Mid | 79 | 8 | 0 | 0 | 0 | 0 | 16 | **103** | | 360 | |

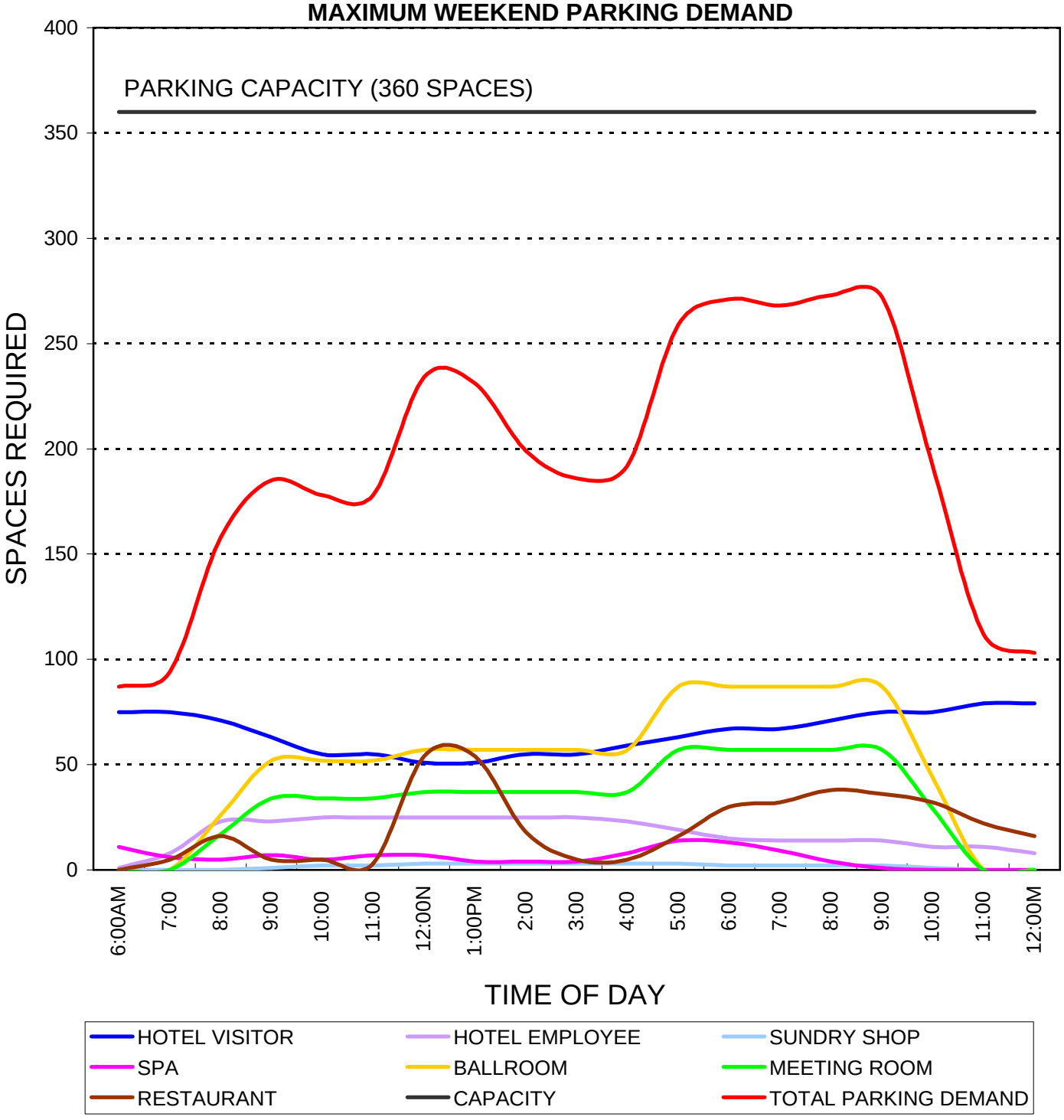
* Peak parking demanc

Note: Urban Land Institute parking accumulation percentages applied to determine hourly demand for each use.
The proposed hotel will accommodate a total of 360 spaces (21 self-park spaces on the second parking level and 339 valet spaces located on all other parking levels).

**ATTACHMENT H-3**
**PEAK WINTER MONTH - DECEMBER**
**MAXIMUM WEEKDAY PARKING DEMAND**



**ATTACHMENT H-3**
**PEAK WINTER MONTH - DECEMBER**
**MAXIMUM WEEKEND PARKING DEMAND**



**Draft Right-Sizing Parking Study for the Public Parking Lots in Marina del Rey, California (March 2009)**

# DRAFT
# RIGHT-SIZING PARKING STUDY
# FOR THE
# PUBLIC PARKING LOTS IN MARINA DEL REY, CALIFORNIA

March, 2009

Prepared for:

**LOS ANGELES COUNTY DEPARTMENT OF BEACHES & HARBORS**

Prepared by:

**RAJU ASSOCIATES, INC.**
524 S. Rosemead Boulevard
Pasadena, California 91107
(626) 792-2700

Ref: RA 247

## EXECUTIVE SUMMARY

A comprehensive and detailed parking study has been performed by Raju Associates, Inc. to assess the public parking needs within the Marina del Rey area of the County of Los Angeles, California. Both current and future needs are assessed through the year 2030 and right-sizing of parking within various areas in Marina del Rey have been assessed as part of this study.

There are numerous public parking lots within the Marina del Rey area. They serve nearby residents as well as visitors to the Marina facilities. The public parking lots are all surface lots adjacent to specific attractions and serving a specific activity area. Past surveys and observations of utilization of these public parking lots have revealed that these lots are all greatly under-utilized to varying degrees almost throughout the year except for a few holidays and pre-holiday weekend days, even when the gate arms are up and no fee is charged.

A list of the public parking lots within the Marina that are evaluated in this study is provided below.

| Lot Number | Parcel | Number of Parking Spaces | Remarks |
|---|---|---|---|
| 1 | W | 502 | Fisherman's Village and others use this lot |
| 2 | 49R | 239 | |
| 4 | 49M | 140 | |
| 5 | UR | 220 | Public Library uses 20 spaces |
| 7 | Q | 120 | |
| 8 | OT | 183 | FantaSea Yachts uses 94 spaces after 6 P.M. |
| 9 | NR | 186 | |
| 10 | IR | 212 | |
| 11 | GR | 262 | Cheesecake Factory uses this lot |
| 12 | FF | 201 | Not used much by anyone |
| 13 | 3S | 140 | |
| 16 | EE | 58 | Metered parking spaces |
| Dock 52 | 52 | 236 | LACBH office and others use this lot |

This study is directed at identifying the appropriate parking supply to satisfy the current and anticipated future parking demands within various activity areas and right-sizing the parking lots (listed in the previous page) serving these activity areas. The estimation of parking demands for the future year 2030 was done using current observed parking demands and factoring in the growth anticipated from planned adjacent uses as well as from ambient growth due to population increases over the next 20+ years. In addition, several new improvements contemplated for visitors at Mother's Beach and Chace Park were factored into demand figures.

Current and future parking demand and supply utilization analyses at each of the public parking lots within the Marina del Rey area were conducted in this study. Five major activity areas were identified and peak parking within these activity areas were determined. The supply needed to accommodate the current and future needs within each of the activity areas were also determined in this study and suggestions / recommendations for the same were made. The following executive summary highlighting the key findings of this study is presented.

- A total of 13 public parking lots and five activity areas were assessed within the study area for this project. The five activity areas are the Mother's Beach Activity area, Admiralty Park Activity area, Chace Park Activity area, Fiji Way Activity area and the North Channel Activity area.

- Parking supply surveys were conducted at each of the public parking lots within the study area by Los Angeles County Department of Beaches and Harbors staff and verified by Raju Associates in 2008 and 2009. Based on the field inventory surveys, it was determined that the total public parking available within the studied Marina del Rey area was 2,699 spaces. This is different from the number of spaces noted in the Marina del Rey Land Use Plan (LUP) due to restriping of various lots after publication of the LUP to accommodate handicapped spaces and to improve efficiencies.

- Parking demand surveys at each of the public parking lots were conducted during the busiest weekends (Friday through Monday) of the years 2005 and 2007. Memorial Day, 4$^{th}$ of July and Labor Day weekends including the holidays were chosen to conduct the parking demand surveys. Parking demand surveys on boat parade days were also conducted. Additionally, a typical weekday and weekend day were chosen to conduct parking demand surveys to reflect typical conditions prevailing in the Marina for most of the year as it relates to parking.

- In addition to the demand surveys noted above, specialized surveys were conducted on a weekday and weekend day at all the parking lots where sharing of public parking spaces for private commercial uses are currently occurring. These were later utilized in determining the public parking demand component of the overall parking demand at these lots (as noted in the table above).

- The current peak public parking demand occupancies on typical weekdays and weekend days varies between 5% at Fiji Way activity area to 18% at Chace Park activity area during weekdays and 11% at Fiji Way activity area to 31% at Chace Park activity area during weekends. All other activity areas have parking occupancies of less than 18% and 31% on typical weekdays and weekend days, respectively. These occupancies are typical for most of the year (i.e., more than 300 days in a year).

- The current peak parking demand occupancies on peak holiday weekdays and weekend days varies between 10% at Fiji Way activity area to 43% at Chace Park activity area during weekdays and 21% at Fiji Way activity area to 68% at Chace Park activity area during weekends. The Fiji Way activity area parking lots also accommodate parking demands associated with commercial and other uses adjacent to them. The public parking demand component only has been reflected in the numbers above. If the overall parking demand at the lots that serve the Fiji Way activity area including the commercial and other uses demand is examined then a 67% occupancy during peak weekdays and 92% during peak holiday weekends are observed. All other activity areas other than the Fiji Way activity area have parking occupancies of less than 43% and 68% on peak holiday weekdays and weekend days, respectively.

- The future anticipated peak parking demands on typical and peak holiday weekdays and weekend days were developed using anticipated ambient growth in the region as well as growth in public parking demand anticipated due to provision of additional public facilities within the Marina.

- Peak public parking demand estimates were developed by isolating the public parking demand component from various lots (Lot W, Dock 52 lot on Parcel 52, and Lot GR) and then applying the growth factors due to ambient growth and the additional demand associated with additional public facilities planned in the future. The public parking demand estimates from these lots were combined together to obtain the activity area public parking demands.

- These future anticipated demands varied greatly between activity areas as well as during typical and peak holiday weekdays and weekend days. Due to this wide variation in anticipated demands for each of the activity areas on weekdays and weekend days throughout the year, developing a measure of central tendency (such as mean or mode or median) was not meaningful. Instead, the 85$^{th}$ percentile and 90$^{th}$ percentile of the peak parking demands which are meaningful, in this context, were determined.

- The 90$^{th}$ percentile peak public parking demand at each of the activity areas represents that value of demand that 90% of all the peak public parking demands are less than or equal to. In technical terms, 90$^{th}$ – percentile is that position in a dataset that has 90% of the data equal to or less than it and 10% of the data greater than it. The 90$^{th}$ percentile value states that at least 90% of the values in the set are less than or equal to this value.

- The 90$^{th}$ percentile of peak public parking demand at each of the activity areas was

determined to be the following - Mother's Beach: 360 spaces; Admiralty Park: 114 spaces; Chace Park: 355 spaces; Fiji Way: 165 spaces; and North Channel: 100 spaces.

- The minimum public parking supply at each of the activity areas was determined using the 90$^{th}$ percentile peak parking demand and increasing the same by 10% to facilitate satisfactory operations within each of the parking lots serving the individual activity areas. The increased 10% supply over the peak demand by activity area would allow patrons to find parking spaces in the various parking lots serving the activity lot without having to move around or circle around between and within parking lots. The recommended number of required public parking spaces by activity area is shown below.

| | **Activity Area** | **90$^{th}$-Percentile Parking Demand (number of spaces)** | **Recommended Minimum Number of Required Public Parking Spaces** | **Existing Parking Supply** | **Excess Number of Parking Spaces** |
|---|---|---|---|---|---|
| A | Mother's Beach | 360 | 400 | 843 (1) | 443 |
| B | Admiralty Park | 114 | 125 | 340 | 215 |
| C | Chace Park | 355 | 390 | 437 | 47 |
| D | Fiji Way | 165 (2) | 180 (2) | 738 (1) | 558 |
| E | North Channel | 100 | 110 | 140 | 30 |

Note: (1) – Also used by private commercial uses
(2) – Number represents public parking component only

- Although these parking supply requirements have been recommended by activity area, it should be emphasized that one could park in any activity area within the Marina and use the Water Taxi or the Shuttle to reach the final destination.

- An evaluation of currently proposed public parking supply within each of the activity areas in comparison to the recommended range of minimum parking requirements was made. It was determined that more than adequate public parking supply would continue to be available within each of the activity areas. Included in the evaluation was also the overall future demand of both public and private parking demand versus proposed supply within each of the activity areas. It was determined that adequate overall parking supply would be available within each of the activity areas even those that include commercial and other users sharing parking within the public parking lots.

- During peak holidays namely Independence Day, Labor Day, and Memorial Day and special event days such as Halibut Derby Day and Boat Parade Day, the parking within the Marina would need to be managed. A specific parking management plan should be developed to accommodate the peak holiday demands and shuttle people to their various specific destinations, where needed.

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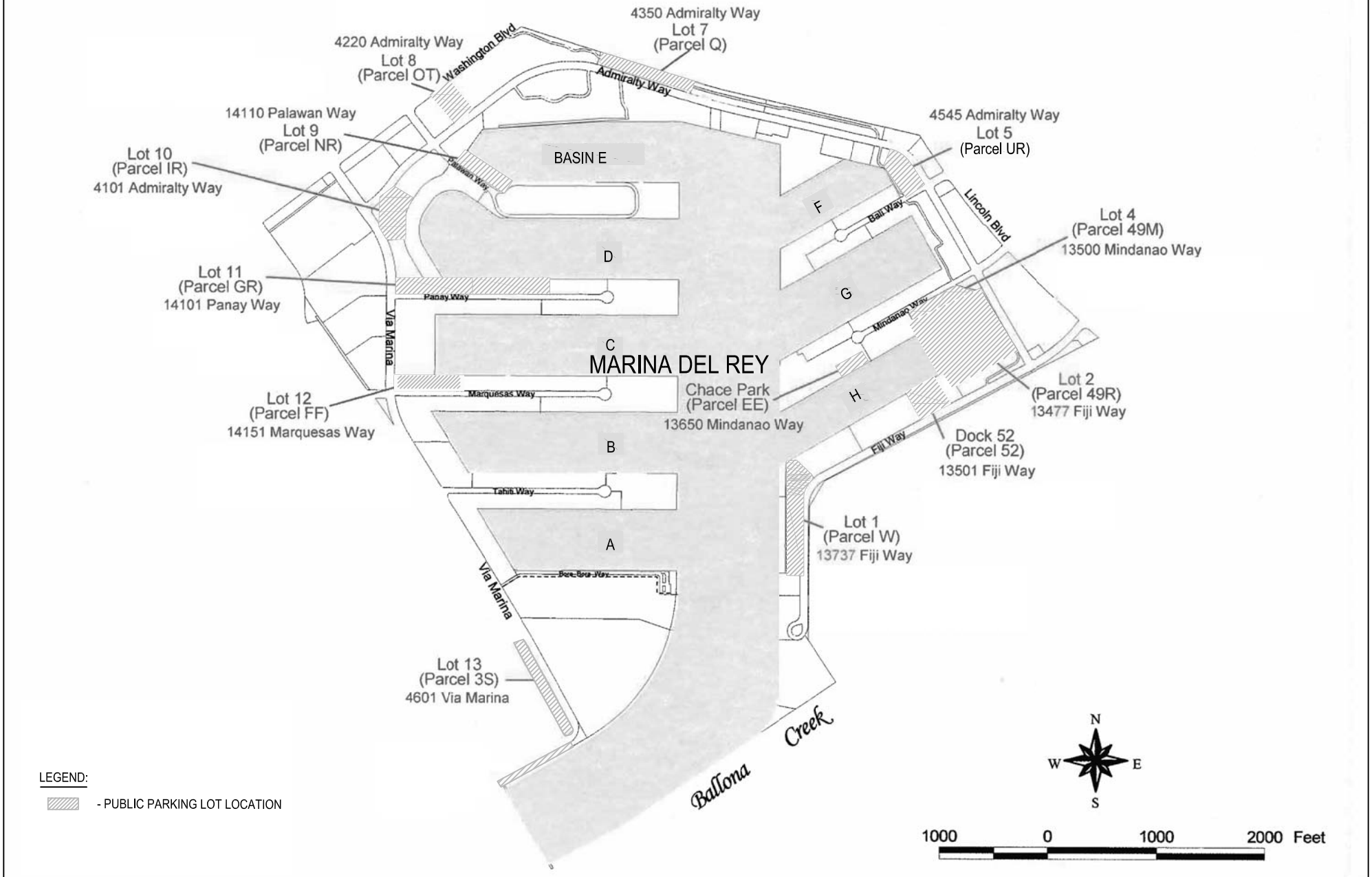
# I. INTRODUCTION

Raju Associates Inc was retained by the Los Angeles County Department of Beaches & Harbors to conduct a parking study to identify and assess the parking needs at all the public parking lots within the Marina del Rey area. This report documents the assumptions, methodologies and findings of this study conducted to evaluate and assess right-sizing the public parking lots. The study area for this evaluation is located entirely within Marina del Rey in the County of Los Angeles, California.

## BACKGROUND

Past parking surveys at the various public parking lots within the Marina del Rey area indicate that these lots are under-utilized. The purpose of this comprehensive parking study is to right-size all the public parking lots in Marina del Rey, so that the number of parking spaces in these lots meets the long-term build out public parking demands for the year 2030. Based on the results of this study, a recommendation relative to public parking will be advanced to the California Coastal Commission. This study addresses the parking needs of each of the activity areas in the Marina taking into account current utilization, future ambient growth in demand as well as the growth projected to occur within these activity areas that would have an effect on public parking demand.

Figure 1 illustrates the location of the various public parking lots within the Marina del Rey area in relation to the surrounding street system.




SOURCE: LOS ANGELES COUNTY DEPT OF BEACHES AND HARBORS. PLANNING DIVISION.

FIGURE 1
LOCATION OF PUBLIC PARKING LOTS IN MARINA DEL REY

RAJU Associates, Inc.

The public parking within the Marina del Rey area has been evaluated within each of the activity areas as a whole, in this study due to the following reasons:

- The current dynamics associated with public parking in Marina del Rey indicate a very close relationship between the current uses within each of the specific activity areas and the public parking supply serving those areas
- The anticipated nature of interaction between the various existing and proposed uses within each of the activity areas in Marina del Rey dictate the need to evaluate public parking as a whole for each of the activity areas

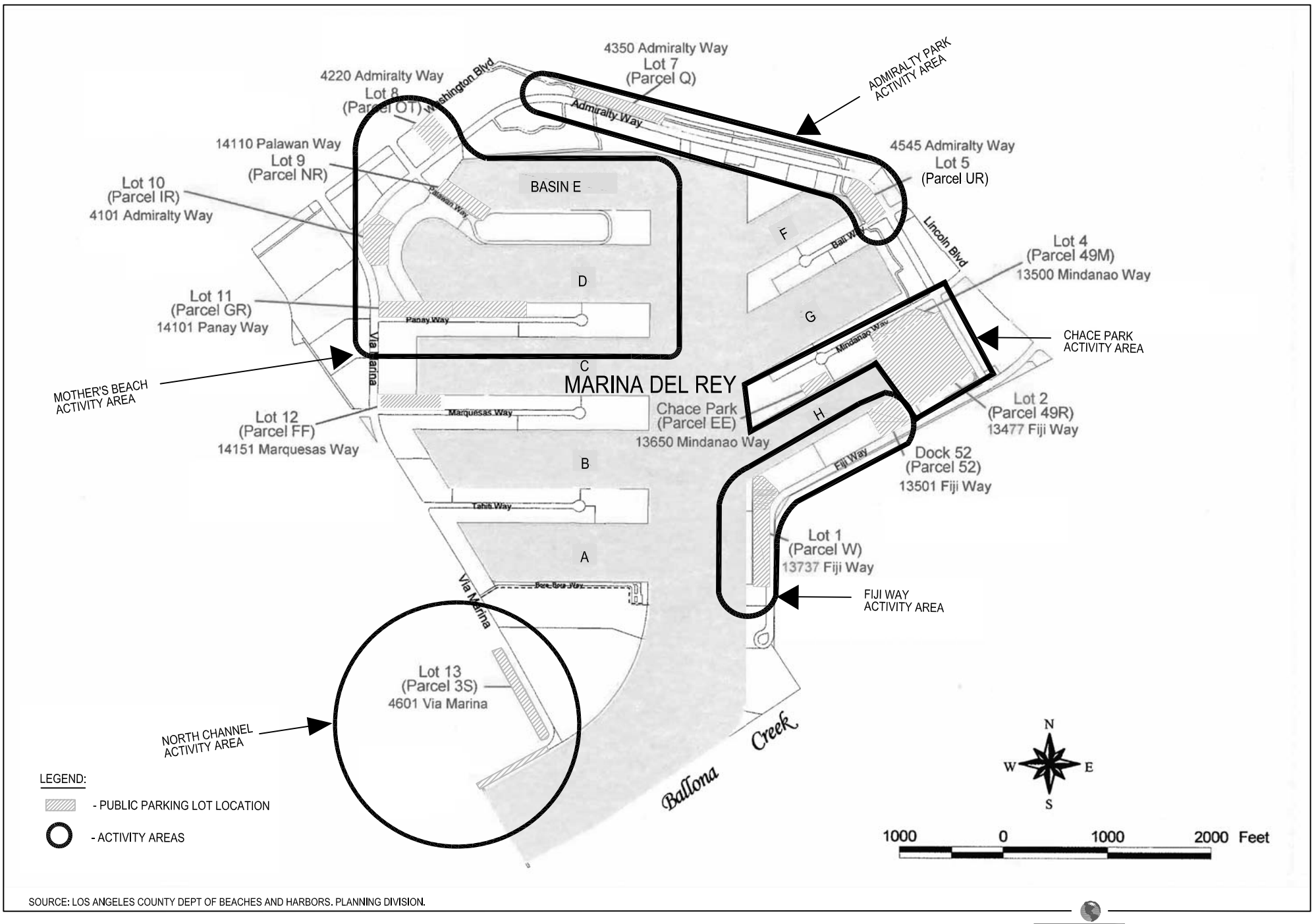
Currently, five activity areas have been defined within the Marina del Rey area. They include the following:

A. Mother's Beach Activity Area
B. Admiralty Park Activity Area
C. Chace Park Activity Area
D. Fiji Way Activity Area
E. North Channel Activity Area

Figure 2 shows the various activity areas and the parking lots serving each of them. The parking analyses and evaluation to identify the public parking needs and right-size parking have been conducted at the five activity areas noted above.

**ORGANIZATION OF REPORT**

An executive summary presenting key details of the study is provided at the beginning of this report. The rest of the report is divided into five chapters. Chapter I presents an introduction and provides details of the various elements of the study. Chapter II documents the existing parking supply and inventory at each of the surface public parking lots within each of the activity areas in the Marina. Parking characteristics by time of day during peak holiday weekdays and weekend days, holidays, as well as typical weekdays and weekend days, including their current occupancy rates and maximum observed demands by activity area are described in Chapter II. Chapter III




SOURCE: LOS ANGELES COUNTY DEPT OF BEACHES AND HARBORS. PLANNING DIVISION.

FIGURE 2
DEFINITION OF ACTIVITY AREAS WITHIN MARINA DEL REY

RAJU Associates, Inc.

provides a description of the anticipated parking demand by activity area taking into account the growth expected to occur due to additional attractions or uses as well as ambient growth in population. A detailed evaluation of parking needs in the future is presented in this chapter.

Chapter IV addresses the identification of parking supply requirements by activity area to accommodate the public parking demands anticipated in the future within the Marina del Rey area. An assessment of proposed parking supply currently contemplated within the Marina del Rey area as it relates to its adequacy and convenience is also presented in this chapter.

A summary of conclusions from the study is provided in Chapter V of the Report. Technical appendices including details of the parking analysis as well as the references and people contacted during the study are also attached to this report.

# II. EXISTING PARKING CONDITIONS

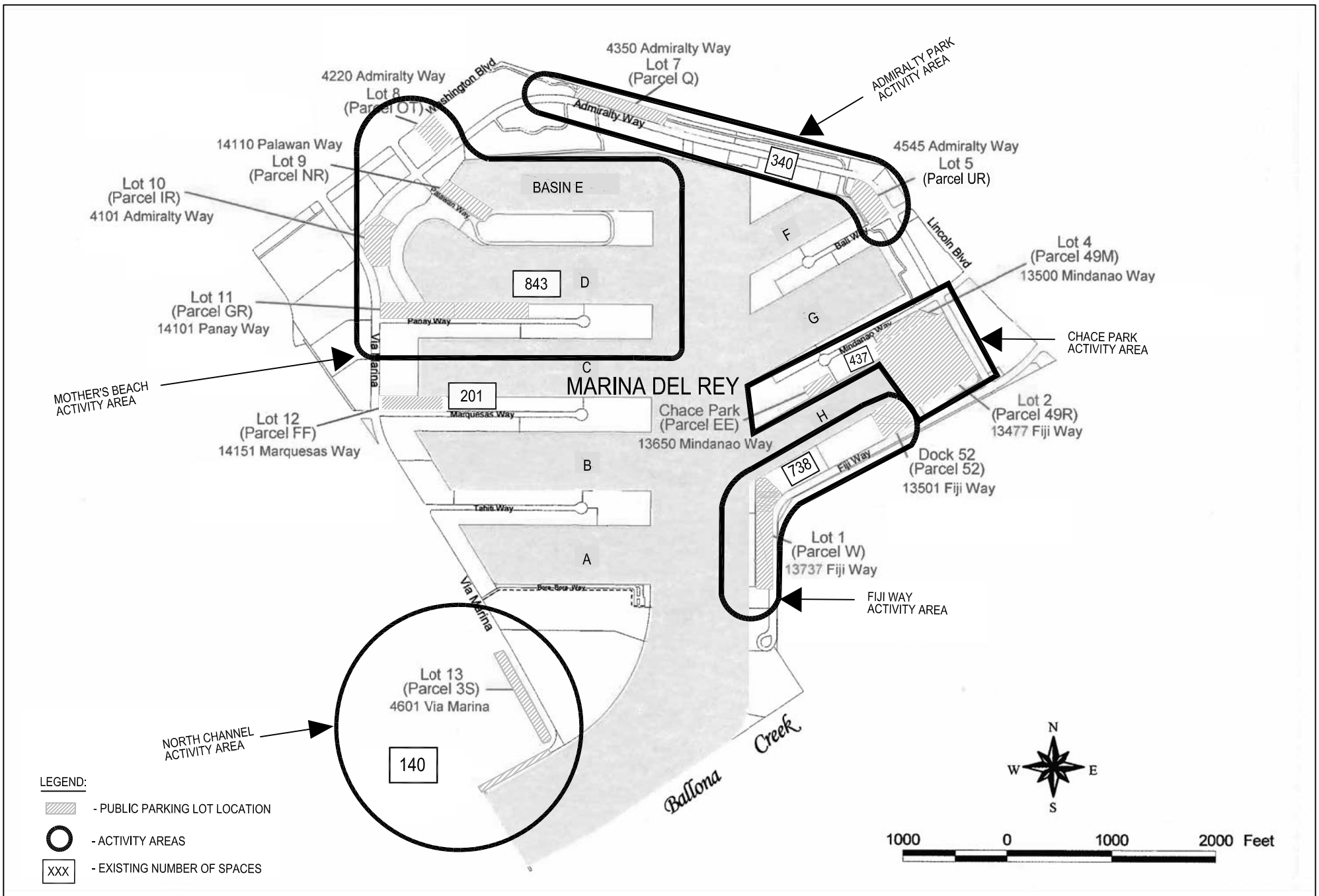
This chapter describes the existing parking supply and demand, both at the individual lots as well as within each activity area. A description of the existing utilization patterns in terms of occupancy of the parking supply for both typical and peak holiday weekday and weekend days is provided in this chapter. The performance of the parking lots within each of the activity areas is summarized in this chapter.

## EXISTING PARKING SUPPLY

The project study area obtains its public parking supply from various surface parking lots located within the Marina del Rey area of the unincorporated area of Los Angeles County. An inventory of the available parking spaces within each of the thirteen surface lots in each of the activity areas was compiled from data provided by the Los Angeles County Department of Beaches and Harbors (LACDBH) and collected and verified using field surveys conducted by Raju Associates, Inc. A comparative table showing the parking supply by lot from LACDBH data, Raju Associates field surveys and Marina del Rey LUP and the potential reason for differences between the various sources is included in Appendix A1.

Figure 3 presents details of the available parking supply within each of the public parking lots serving the study area. From Figure 3, it can be observed that the following lots provide the parking supply within each of the activity areas:

**Mother's Beach Activity Area:** Parking lot 8 on Parcel OT, lot 9 on Parcel NR, lot 10 on Parcel IR and lot 11 on Parcel GR serve this activity area. The total available parking supply in this activity area from the parking lots listed above is currently 843 spaces. This activity area includes the Mother's Beach (also known as Marina Beach), adjacent restaurants and boat storage slips




SOURCE: LOS ANGELES COUNTY DEPT OF BEACHES AND HARBORS. PLANNING DIVISION.

FIGURE 3
EXISTING PARKING SUPPLY BY ACTIVITY AREA

RAJU Associates, Inc.

accessible from this area. There is a new plan for Marina Beach that anticipates additional boat storage in the future. This issue is addressed in the assessment of parking conditions in the future at the Mother's Beach Activity Area. Parking lot GR is also utilized by the restaurant The Cheesecake Factory.

Additionally, some of the kayaking and other public patrons at the marina currently utilize the free parking at the Organic Panificio (Parcel 33) parking lot, and occasionally the Casa Escobar (Parcel 27) parking lot as well when the restaurants are closed, presumably to avoid the County parking fee. These parking demands have also been addressed in this study.

Parking Lot 8 on Parcel OT is located at 4220 Admiralty Way, north of Admiralty and east of Palawan Way. Currently, there are 183 parking spaces on this overflow lot. Access to this lot is obtained from a driveway between Admiralty Way and Washington Boulevard. FantaSea Yachts uses up to 94 spaces after 6 PM.

Parking Lot 9 on Parcel NR is located at 14110 Palawan Way, south of Admiralty and east of Palawan Way. There are 186 parking spaces on this overflow lot. Access to this lot is obtained from Palawan Way. Some public patrons also park in the free parking lot available at the Parcel 33 lot adjacent to lot NR along Palawan Way. On weekdays, it was also observed that some of the public patrons parked at the Parcel 27 parking lot early in the morning, as well. The overall public parking demand including these elements were determined based on surveys conducted in this study.

Parking Lot 10 on Parcel IR is located at 4101 Admiralty Way, south of Admiralty Way and east of Via Marina. There are currently 212 parking spaces on this lot. This lot obtains access primarily off of Admiralty Way.

Parking Lot 11 on Parcel GR is located at 14101 Panay Way, located east of Via Marina and north of Panay Way. This overflow lot serves the Cheesecake Factory patrons as well as other visitors. The Cheesecake Factory restaurant is adjacent to this lot and although it has its own parking spaces within its lot, additional parking is allowed by valet within Lot 11. An internal driveway and gate provides connection between the Cheesecake Factory lot and Lot 11 and the valet services for the restaurant utilize this gate to access the parking in Lot 11. There are currently 262 spaces

on this Lot 11. This lot obtains access from Via Marina as well as from Panay Way. Surveys were conducted at Lot 11 to determine the various components of the overall parking demand. Both Cheesecake Factory patrons and employees and the general public parking demands accessing the Mother's Beach area were determined as part of the surveys.

**Admiralty Park Activity Area:** Parking lot 7 on Parcel Q and parking lot 5 on Parcel UR serve this activity area. The total available parking supply from these two lots within this activity area is 340 spaces. This activity area parking primarily serves local patrons, library and other visitors and bike path users. A brief description of the lots 7 and 5 follows.

Parking Lot 7 on Parcel Q is located at 4350 Admiralty Way, north of Admiralty Way and approximately mid-way between Bali Way and Palawan Way. There are currently 120 spaces on this lot. The Lloyd Tabor – Marina del Rey Library uses 20 spaces on Lot 7 by permit. This lot obtains access primarily from Admiralty Way.

Parking Lot 5 on Parcel UR is located at 4545 Admiralty Way, north of Bali Way and east of Admiralty Way. There are currently 220 spaces on this lot. This overflow lot obtains access from Bali Way.

**Chace Park Activity Area:** Parking lot 4 on Parcel 49M, lot 2 on Parcel 49R and lot 16 on Parcel EE provide public parking within this activity area. This activity area includes the Chace Park Recreation Area, boat slips, a Yacht Club (a public facility), the Aquatic Center and other uses. The total available parking supply within this activity area currently is 437 spaces. A brief description of each of the lots serving this activity area follows.

Parking Lot 4 on Parcel 49M is located at 13500 Mindanao Way, south of Mindanao Way and west of Admiralty Way. There are currently 140 spaces on this overflow lot. This lot obtains access from Mindanao Way.

Parking Lot 2 on Parcel 49R is located at 13477 Fiji Way, south of the parking lot 4 on Parcel 49M. There are currently 458/239 parking / boat trailer spaces on this lot. This lot obtains access from Fiji Way and provides a public boat launch ramp facility.

Parking lot 16 on Parcel EE is located at 13650 Mindanao Way, south of Mindanao Way and west of Admiralty Way. There are 58 metered parking spaces on this lot. This lot obtains access from Mindanao Way.

**Fiji Way Activity Area:** Parking lot 1 on Parcel W and Dock 52 on Parcel 52 provide public parking currently for this activity area. Overflow lots along Fiji Way (located on the south side of Fiji Way) provide parking for the employees of various government offices. During peak holiday weekdays and weekend days, these lots may be used by County permit for employees of Fisherman's Village. This activity area includes the Fisherman's Village, Restaurants, Offices, Docks and other uses. Lot 1 on Parcel W is the principal parking lot for the Fisherman's Village Commercial Development as well as Shanghai Reds Restaurant and the Charter Boat Companies. The total available parking supply within this activity area is currently 738 spaces. The Overflow lots provide an additional 252 spaces. A brief description of each of the lots serving this activity area follows.

Parking Lot 1 on Parcel W is located at 13737 Fiji Way, west of Fiji Way, in the Fisherman's Village area. There are currently 502 parking spaces on this lot including the spaces available in the surface parking lot on Parcel 55. This lot obtains access from Fiji Way. As stated earlier, this lot is used by Fisherman's Village commercial and restaurant uses predominantly and to a certain extent, by the general public for recreational uses. Detailed surveys were conducted at this lot by Raju Associates Inc to determine the magnitude of public parking within this lot.

Parking lot at Dock 52 on Parcel 52 is located at 13501 Fiji Way, north of Fiji Way, adjacent to the Dock 52 area and is characterized as a temporary parking lot in the LCP. There are currently 236 parking spaces on this lot. This lot obtains access from Fiji Way and provides parking to County offices, charter and fishing boat activities and the general public for recreational purposes. Public parking demand information from a parking study prepared for the Fisherman's Village Development was obtained and verified as part of this study.

The Overflow Lots along Fiji Way are owned by the State Department of Fish and Game. There are currently 252 spaces in these lots. These lots obtain access from Fiji Way. Parking demands at these lots have been included for informational purposes only and are not included in the determination of public parking supply requirements for the Fiji Way Activity Area since no public

parking for recreational purposes are allowed in these lots.

**North Shore Activity Area:** The parking lot 13 on Parcel 3S provides most of the public parking spaces within this activity area. This activity area mostly serves local residents, fishermen, beachgoers and nearby house guests. The total available parking supply provided by the overflow lot 13 within this activity area is 140 spaces. Access to lot 13, located at 4601 Via Marina is obtained from Via Marina.

Parking lot 12 on Parcel FF, adjacent to Mother's Beach activity area, is also a public parking lot, per the Local Coastal Plan (LCP). There are 201 spaces in this lot. However, in the past few years, this overflow lot has not been used much by the general public for recreational purposes but has been used mostly for construction staging and by construction vehicles during construction. No public demand has been noticed in this lot. Therefore, no further analysis of this parking lot 12 is conducted in this study. This lot is planned to be removed from the list of public parking lots in the future pending a Plan Amendment is approved by the California Coastal Commission.

Summarizing, the overall parking supply within the five activity areas available to the general public is as follows:

| | Activity Area | Number of Existing Parking Spaces |
|---|---|---|
| A | Mother's Beach | 843 |
| B | Admiralty Park | 340 |
| C | Chace Park | 437 |
| D | Fiji Way (*) | 738 |
| E | North Shore | 140 |

(*) – Fiji Way activity area includes lots 1 and Dock 52. The parking lot 1 is the primary lot for the Fisherman's Village, Shanghai Reds Restaurant and Charter Boat companies. Similarly, Dock 52 lot is used by County office employees, charter boat users and the general public. Therefore, both these lots are used mostly by private uses and although, public parking is allowed on lot 1, not all of the supply is utilized for public recreational purposes.

## PARKING DEMAND OR UTILIZATION SURVEYS

Parking demand survey data was obtained from the Los Angeles County Department of Beaches and Harbors, Parking Section for peak holiday weekdays and weekend days including holidays. The following three holiday weekends were surveyed and information compiled for the years 2005 and 2007:

- Three days prior to and on the July 4th Holiday
- Friday through Monday prior to and on the Memorial Day Holiday
- Friday through Monday prior to and on the Labor Day Holiday

It has been observed that these weekends and weekdays prior to the holidays happen to exhibit the maximum utilization of public parking spaces in the Marina every year. Therefore, these peak weekends and weekdays were included in the study.

Additionally, parking demand or occupancy surveys at all public parking lots in Marina del Rey on a typical weekday and weekend day between the hours of 10 AM and 8 PM was conducted by Raju Associates' staff and information was compiled for analysis. The survey information included parking demand or occupancy numbers at each of the public lots in operation within each of the activity areas between the hours of 10 AM and 8 PM on each of the survey days.

Special surveys at parking lots W, GR and NR and adjoining lots were conducted by Raju Associates to ascertain the composition of all the users of each of these lots. The number of parking spaces occupied by public recreational users was measured on a typical weekday and weekend day and the peak public demand data was obtained using normalization techniques. Surveys and observations at the Casa Escobar (Parcel 27) parking lot, Organic Panificio (Parcel 33) parking lot, NR lot and the Cheesecake Factory and GR parking lots were conducted on a typical weekday and weekend day and the associated public parking demands were noted. These demands were utilized in the determination of public parking requirements analysis in the study and included in the estimation of current and future public parking demands within the Mother's Beach activity area.

Therefore, in summary, parking demands throughout the day on weekdays and weekend days were compiled for analysis of the following conditions.

- Typical conditions
- Peak holiday conditions for the July 4th celebrations
- Peak Memorial Day holidays
- Peak Labor Day holidays

All of this parking demand data from surveys and the compiled information is attached in Appendix A2 of this report. Additionally, the data from special surveys noted earlier are also included in Appendix A3.

**Typical Weekday & Weekend Day Parking Conditions**

The public parking demands and occupancies for each of the activity areas for typical weekdays and weekend days are shown in Figures 4-1, 4-2, 5-1, and 5-2, respectively. Tables 1 and 2 summarize the peak overall and public parking demands and utilizations and the time of day that they occurred for typical weekdays and weekend days, respectively for each of the activity areas in the Marina. These typical parking demands are observed in the Marina for more than 300 days every year.

From Tables 1 and 2, the following observations can be made:

- In the Mother's Beach Activity Area, the maximum observed public parking occupancy was 13% and 12% during typical weekdays and weekend days, respectively. This demand did not include Cheesecake Factory restaurant parking in Lot GR in addition to the public recreational use parking demand. However, with the commercial use parking demands and the overall public parking demands, the maximum observed parking occupancy within this activity area was 16% and 21% during typical weekdays and weekend days, respectively.

- In the Admiralty Park Activity Area, the maximum observed parking occupancy was 9% and 29% during typical weekdays and weekend days, respectively.
- In the Chace Park Activity Area, the maximum observed parking occupancy was 18% and 31% during typical weekdays and weekend days, respectively.
- In the Fiji Way Activity Area, the maximum observed parking occupancy was 28% and 53% during typical weekdays and weekend days, respectively. This demand included Fisherman's Village and other uses parking in Lots W and Dock 52. However, the maximum observed typical weekday and weekend public parking occupancies were 5% and 11%, respectively.
- In the North Channel Activity Area, the maximum observed parking occupancy was 11% and 23% during typical weekdays and weekend days, respectively.

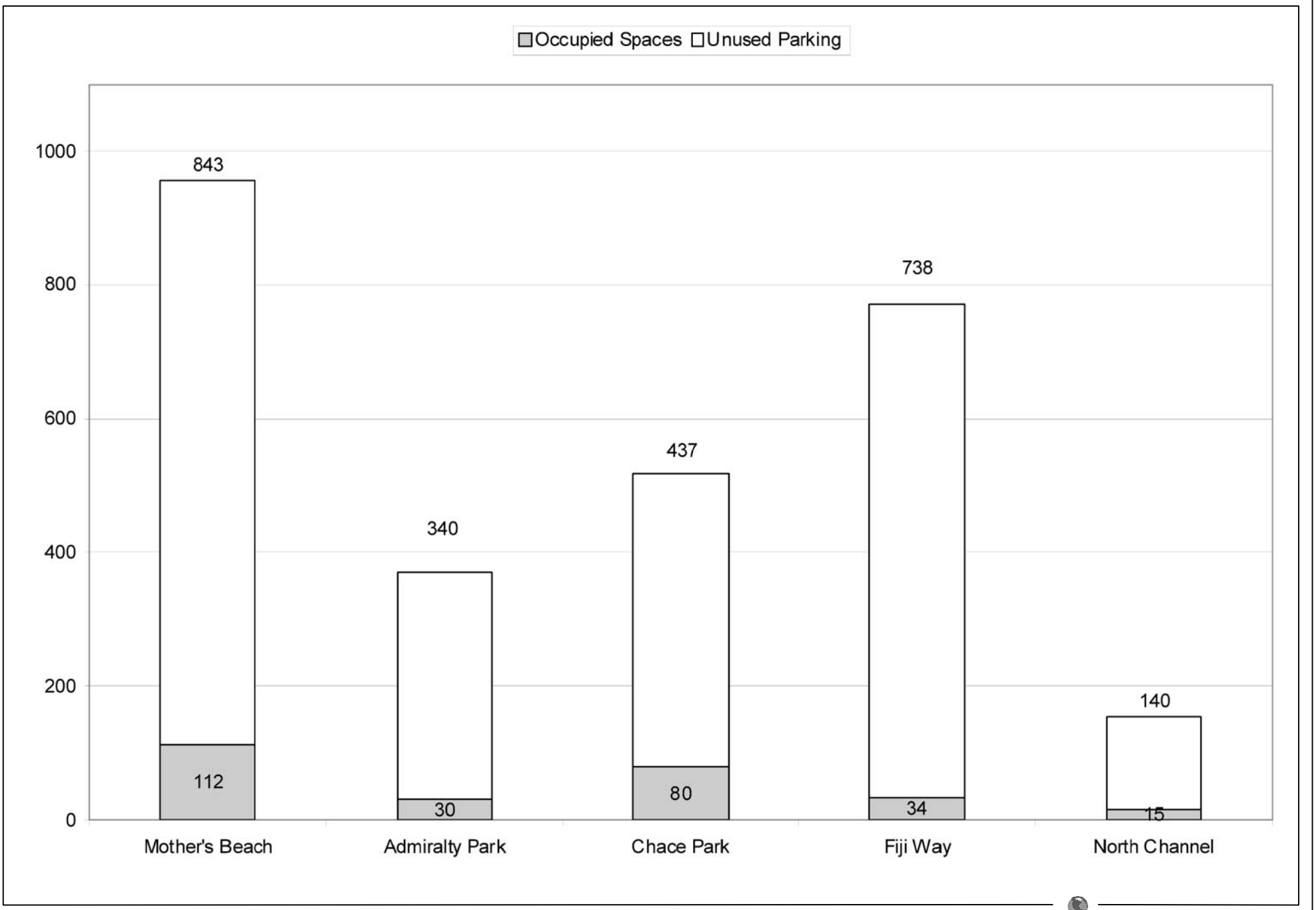



FIGURE 4-1
TYPICAL WEEKDAY EXISTING PARKING DEMAND BY ACTIVITY AREA

RAJU Associates, Inc.

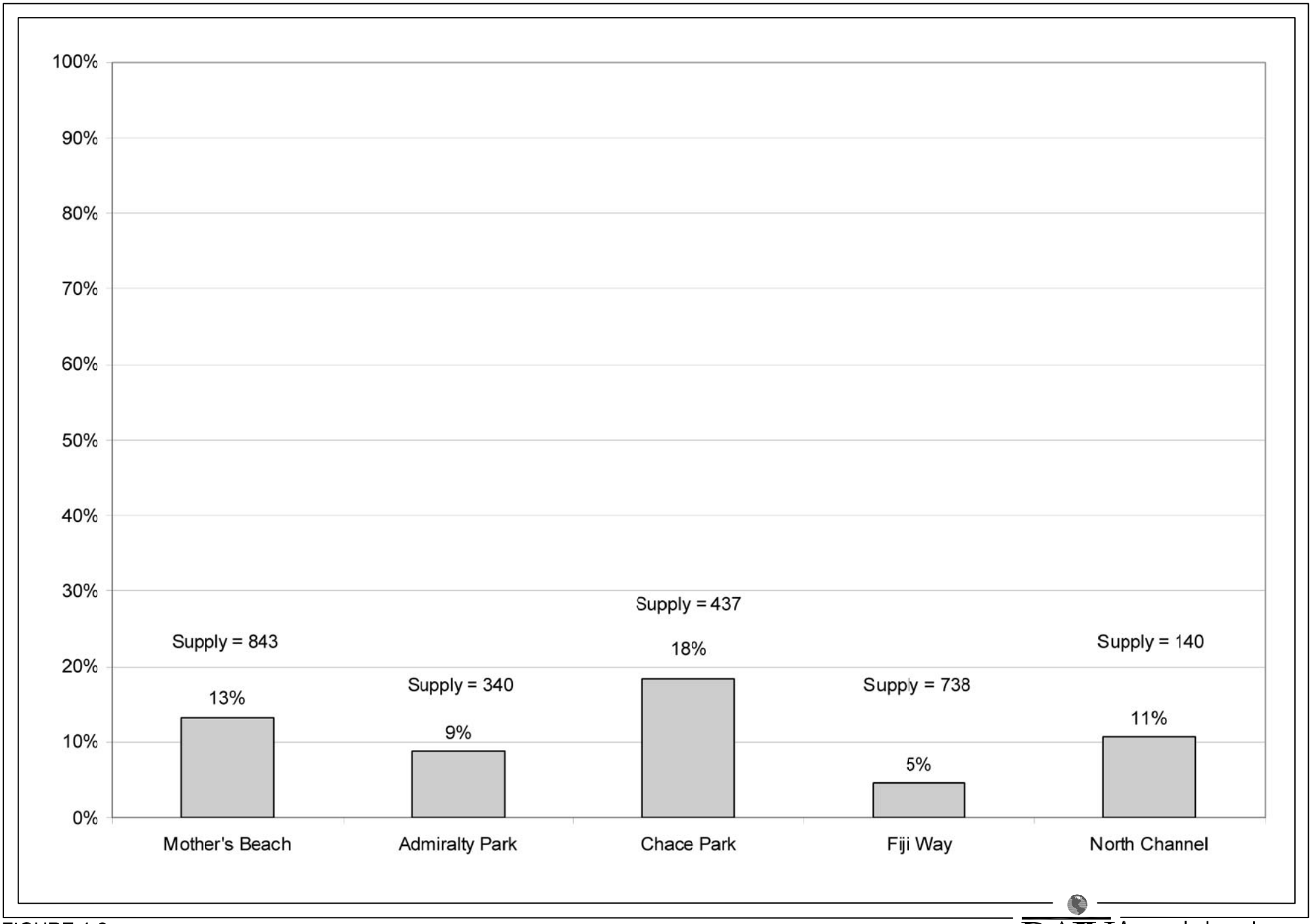



FIGURE 4-2
TYPICAL WEEKDAY EXISTING PARKING OCCUPANCY BY ACTIVITY AREA

RAJU Associates, Inc.

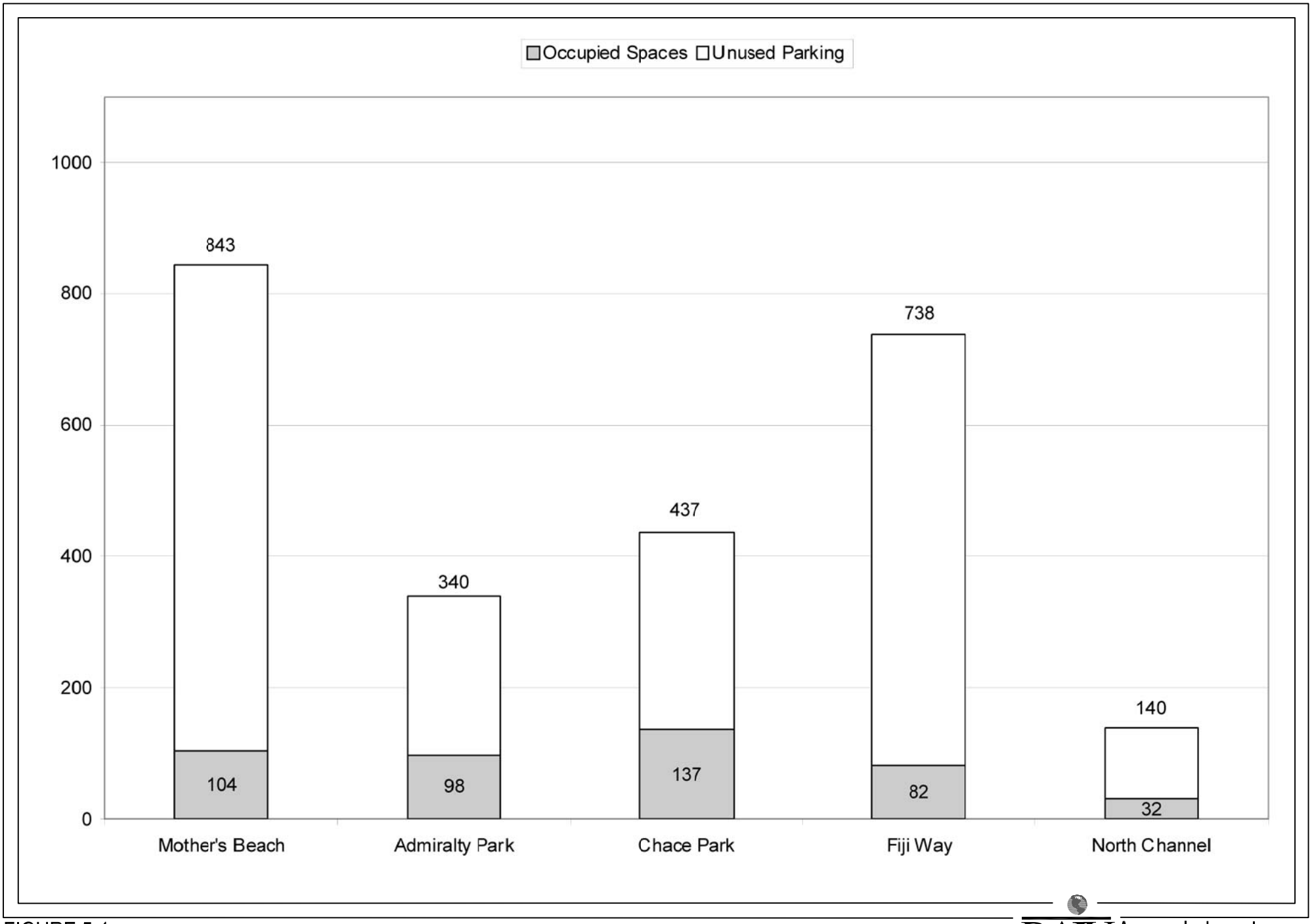



FIGURE 5-1
TYPICAL WEEKEND DAY EXISTING PARKING DEMAND BY ACTIVITY AREA

RAJU Associates, Inc.

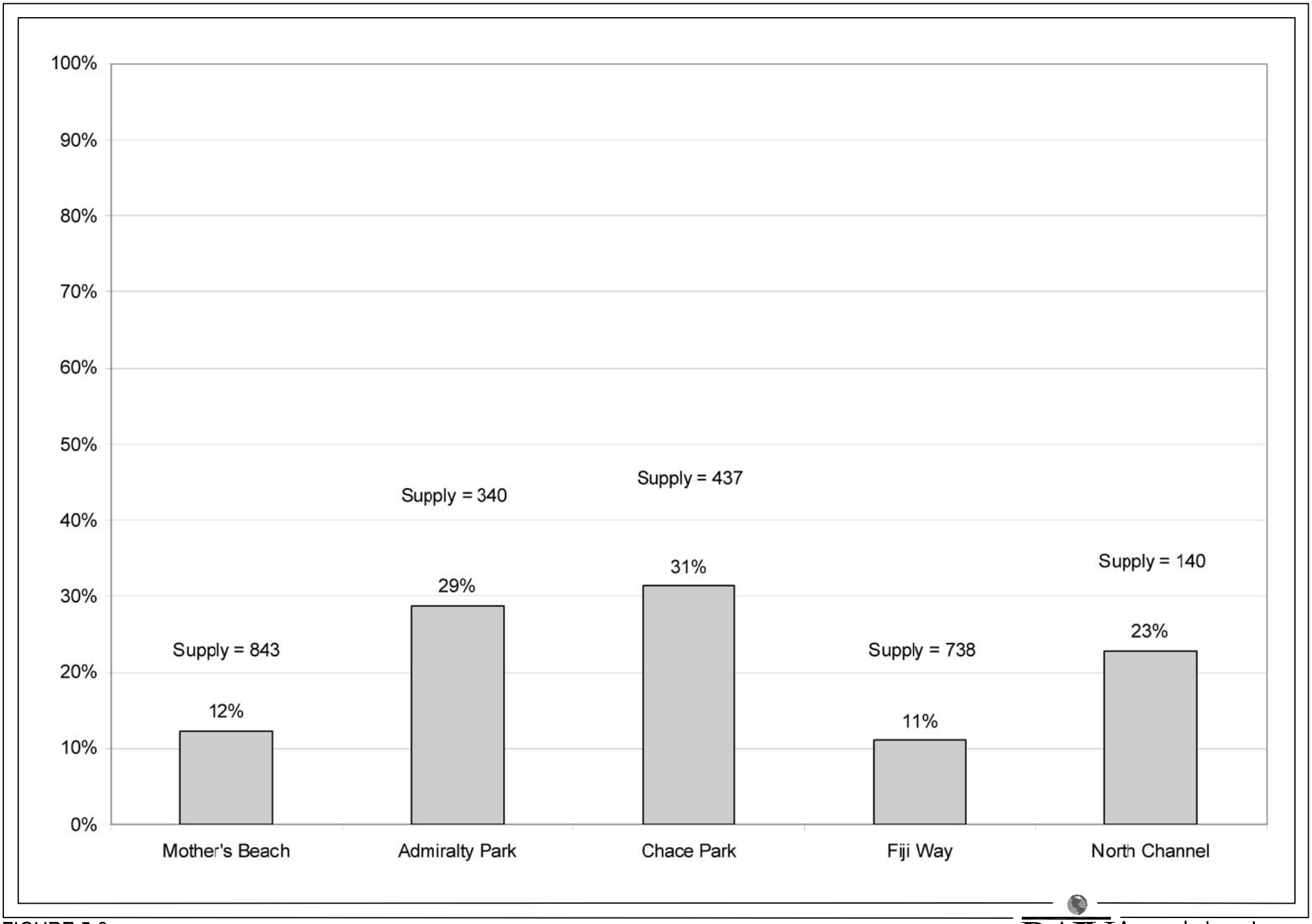



FIGURE 5-2
TYPICAL WEEKEND DAY EXISTING PARKING OCCUPANCY BY ACTIVITY AREA

RAJU Associates, Inc.

**TABLE 1**
**TYPICAL WEEKDAY EXISTING PARKING DEMAND & OCCUPANCIES**

| # | Activity Area | Parking Supply | Typical Weekday Peak Demand | Typical Weekday Peak Occupancy | Time |
|---|---|---|---|---|---|
| 1 | Mother's Beach (8-OT, 9-NR, 10-IR, 11-GR) | 843 | Public: 112<br>All: 133 | Public: 13%<br>All: 16% | 1PM |
| 2 | Admiralty Park (5-U, 7-Q) | 340 | 30 | 9% | 4PM |
| 3 | Chace Park (2-49R, 4-49M, EE) | 437 | 80 | 18% | 1PM |
| 4 | Fiji Way (1-Fisherman's Village, Dock 52) | 738 | Public: 34<br>All: 206 | Public: 5%<br>All: 28% | 4PM<br>8PM |
| 5 | North Channel (13-3S) | 140 | 15 | 11% | 8PM |

**TABLE 2**
**TYPICAL WEEKEND DAY EXISTING PARKING DEMAND & OCCUPANCIES**

| # | Activity Area | Parking Supply | Typical Weekend Day Peak Demand | Typical Weekend Day Peak Occupancy | Time |
|---|---|---|---|---|---|
| 1 | Mother's Beach (8-OT, 9-NR, 10-IR, 11-GR) | 843 | Public: 104<br>All: 180 | Public: 12%<br>All: 21% | 1PM<br>8PM |
| 2 | Admiralty Park (5-U, 7-Q) | 340 | 98 | 29% | 4PM |
| 3 | Chace Park (2-49R, 4-49M, EE) | 437 | 137 | 31% | 4PM |
| 4 | Fiji Way (1-Fisherman's Village, Dock 52) | 738 | Public: 82<br>All: 391 | Public: 11%<br>All: 53% | 1PM |
| 5 | North Channel (13-3S) | 140 | 32 | 23% | 8PM |

In summary, for most of the year (i.e., more than 300 days in any year), all the parking lots within each of the Activity Areas in Marina del Rey are very underutilized. The maximum public parking occupancy that was noted in the Chace Park activity area on a typical weekend day was 31% at peak times of the day. All other activity areas are currently showing maximum public parking occupancies of 5 to 18% during typical weekdays and 12 to 31% during weekend days indicating a large amount of unused excess parking for most of the time throughout the year.

Detailed demand analyses by day and lot, and by activity area are attached in Appendices B-1 and B-2 of the report.

**Peak Holiday Weekday & Weekend Day Parking Conditions**

The maximum parking demands and occupancies for each of the activity areas for peak holiday weekdays and weekend days (July 4th, Memorial Day and Labor Day Holidays were analyzed as noted earlier) are shown in Figures 6-1, 6-2, 7-1, and 7-2, respectively. Tables 3 and 4 summarize the peak overall and public parking demands and utilizations for key holiday weekdays and weekend days, respectively for each of the activity areas in the Marina. These key holidays parking demands are observed in the Marina mainly during the non-working weekdays and weekend days prior to the three major holidays, namely the 4th of July, Memorial Day and Labor Day every year. The actual holiday parking demands are not included in this assessment since it is recommended that a comprehensive parking management plan be implemented to meet the demands on these holidays, especially the 4th of July holiday. During the Boat Parade Day and Halibut Derby event days, only specific parking lots within the various activity areas are utilized by the participants and viewers, and as such, these are special event days when a parking management plan to manage and control parking in the Marina Del Rey area should be implemented.

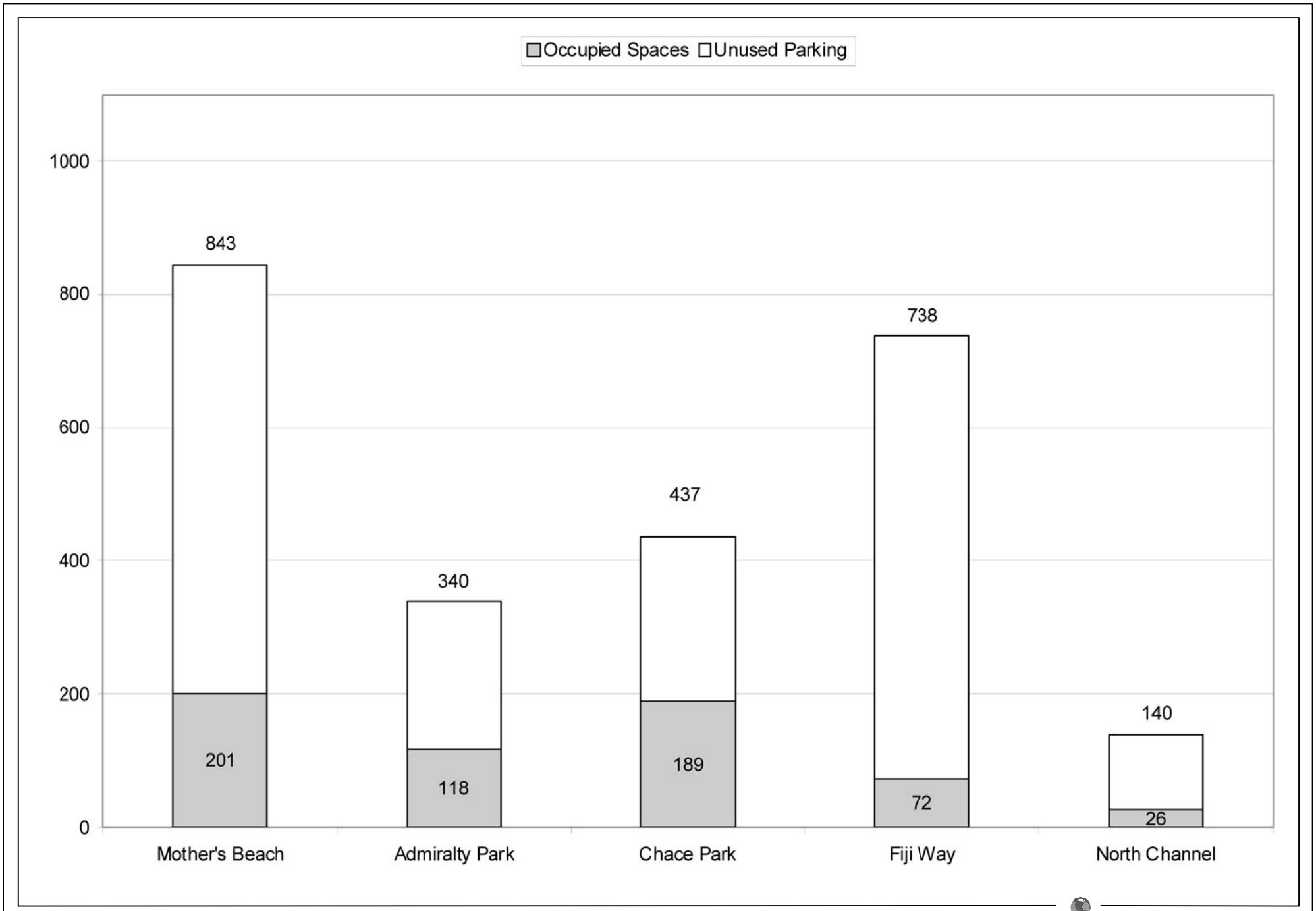



FIGURE 6-1
PEAK WEEKDAY EXISTING PARKING DEMAND BY ACTIVITY AREA

RAJU Associates, Inc.

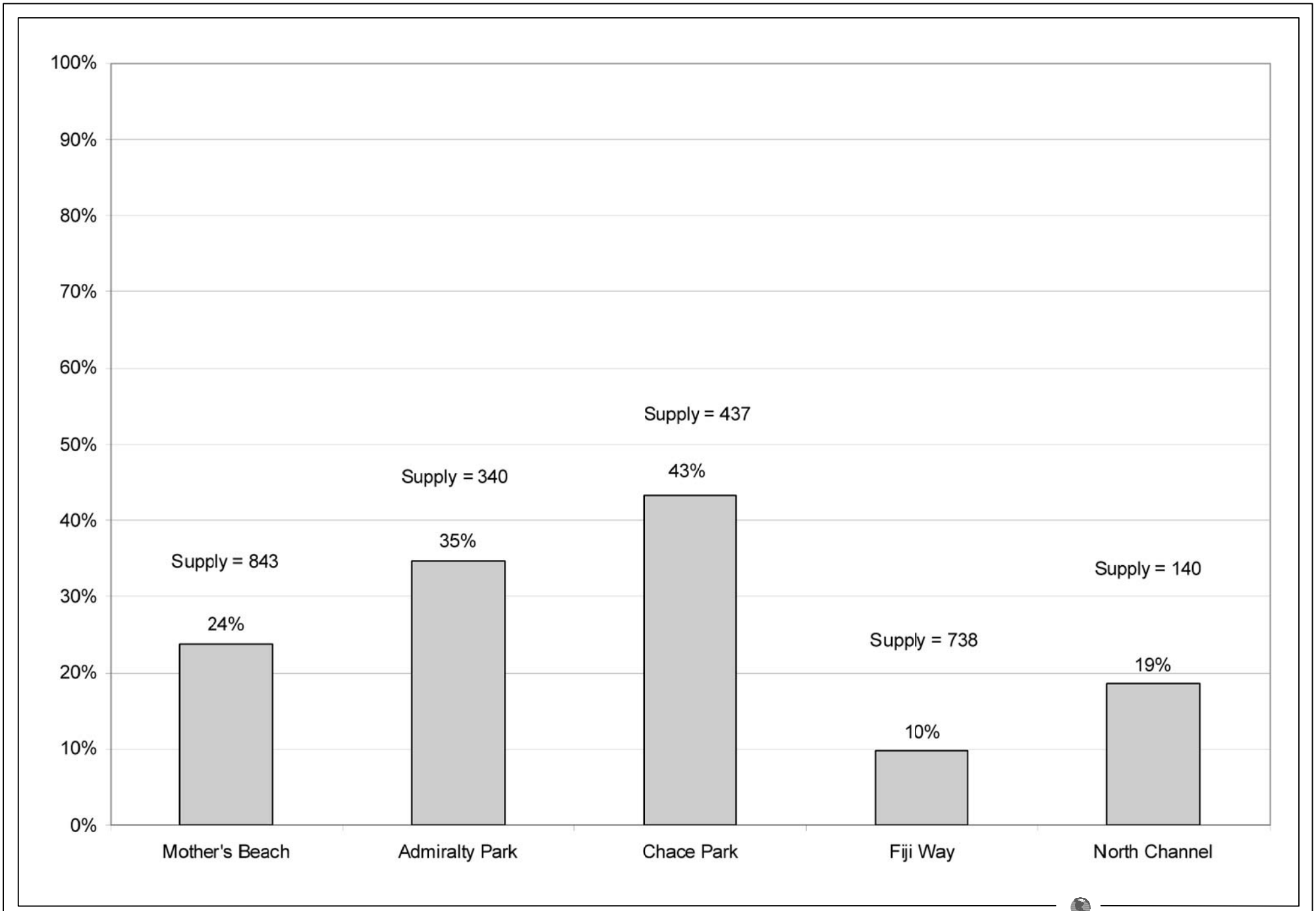



FIGURE 6-2
PEAK WEEKDAY EXISTING PARKING OCCUPANCY BY ACTIVITY AREA

RAJU Associates, Inc.

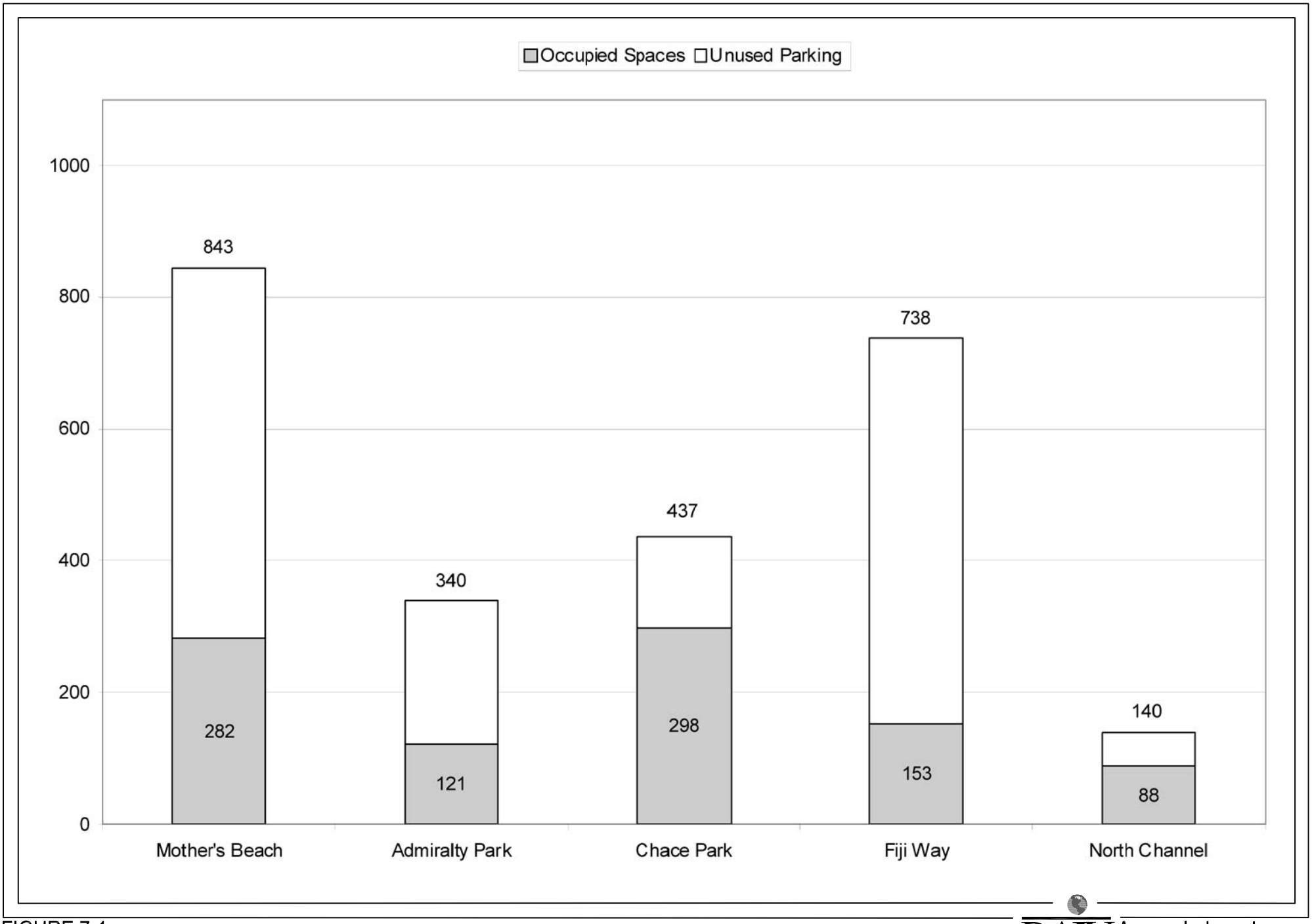



FIGURE 7-1
PEAK WEEKEND DAY EXISTING PARKING DEMAND BY ACTIVITY AREA

RAJU Associates, Inc.

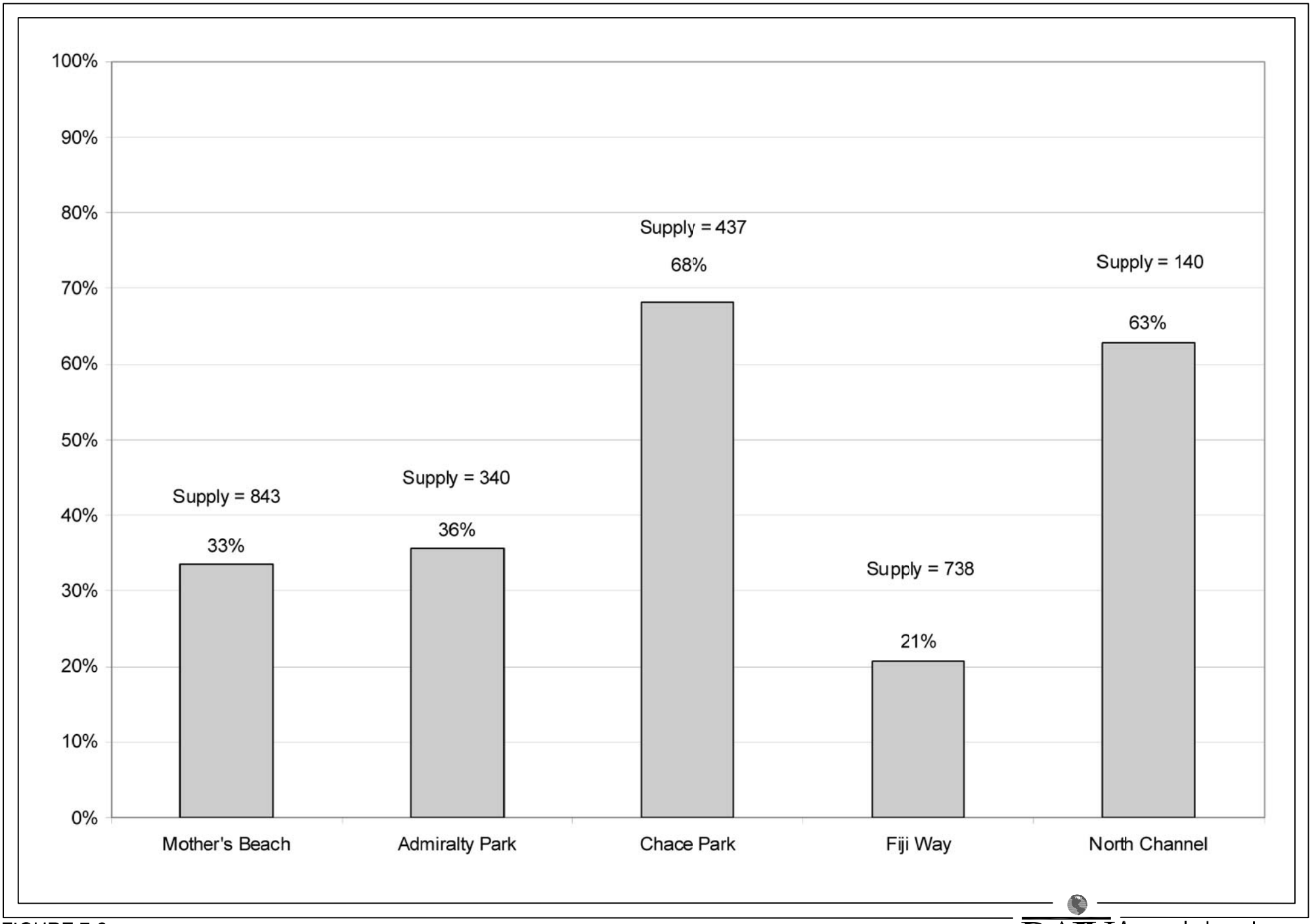



FIGURE 7-2
PEAK WEEKEND DAY EXISTING PARKING OCCUPANCY BY ACTIVITY AREA

RAJU Associates, Inc.

**TABLE 3**
**PEAK WEEKDAY EXISTING PARKING DEMAND & OCCUPANCIES**

| # | Activity Area | Parking Supply | Peak Weekday Demand | Peak Weekday Occupancy | Time |
|---|---|---|---|---|---|
| 1 | Mother's Beach (8-OT, 9-NR, 10-IR, 11-GR) | 843 | Public: 201<br>All: 300 | Public: 24%<br>All: 36% | 8PM |
| 2 | Admiralty Park (5-U, 7-Q) | 340 | 118 | 35% | 10AM |
| 3 | Chace Park (2-49R, 4-49M, EE) | 437 | 189 | 43% | 1PM |
| 4 | Fiji Way (1-Fisherman's Village, Dock 52) | 738 | Public: 72<br>All: 491 | Public: 10%<br>All: 67% | 8PM |
| 5 | North Channel (13-3S) | 140 | 26 | 19% | 8PM |

**TABLE 4**
**PEAK WEEKEND DAY EXISTING PARKING DEMAND & OCCUPANCIES**

| # | Activity Area | Parking Supply | Peak Weekend Day Demand | Peak Weekend Day Occupancy | Time |
|---|---|---|---|---|---|
| 1 | Mother's Beach (8-OT, 9-NR, 10-IR, 11-GR) | 843 | Public: 282<br>All: 436 | Public: 33%<br>All: 52% | 4PM |
| 2 | Admiralty Park (5-U, 7-Q) | 340 | 121 | 36% | 4PM |
| 3 | Chace Park (2-49R, 4-49M, EE) | 437 | 298 | 68% | 4PM |
| 4 | Fiji Way (1-Fisherman's Village, Dock 52) | 738 | Public: 153<br>All: 678 | Public: 21%<br>All: 92% | 4PM |
| 5 | North Channel (13-3S) | 140 | 88 | 63% | 4PM |

From Tables 3 and 4, the following observations can be made:

- In the Mother's Beach Activity Area, the maximum observed overall parking occupancy including the Cheesecake Factory demand was 36% and 52% during peak weekdays and weekend days, respectively. The maximum observed peak public parking occupancy was 24% and 33% during holiday peak weekdays and weekend days, respectively.
- In the Admiralty Park Activity Area, the maximum observed parking occupancy was 35% and 36% during peak weekdays and weekend days, respectively.
- In the Chace Park Activity Area, the maximum observed parking occupancy was 43% and 68% during peak weekdays and weekend days, respectively.
- In the Fiji Way Activity Area, the maximum observed overall parking occupancy was 67% and 92% during peak holiday weekdays and weekend days, respectively. These demands included those associated with Fisherman' Village commercial and other uses as well as those associated with other uses served by Dock 52 parking. The maximum observed peak public parking occupancy (based on specialized surveys of all users to identify public parking patronage conducted by Raju Associates Inc) was 10% and 21% during holiday peak weekdays and weekend days, respectively.
- In the North Channel Activity Area, the maximum observed parking occupancy was 19% and 63% during peak weekdays and weekend days, when no other events are serviced, respectively.

In summary, for approximately 10 days in any year, the parking lots within each of the Activity Areas in Marina del Rey are somewhat better utilized. The maximum occupancy that was noted other than in the Fiji Way Activity Area was 68% in the Chace Park activity area. The maximum occupancy in the Fiji Way activity area that was noted on the peak weekend day was 92% in lots W and Dock 52. The Overflow Lots adjacent to this activity area provided additional public parking supply to bring the overall occupancy to approximately 80% indicating that there was still more than adequate available public parking within the Fiji Way Activity Area and the overflow parking lots during peak holiday weekend days. All other activity areas are currently showing maximum occupancies of 19 to 43% during peak weekdays and 33 to 68% during peak weekend days indicating a number of unused excess parking even during the peak times every year.

The purpose of this parking study is to right-size public parking supply serving each of the activity areas in the long-term (year 2030) future conditions taking into account the ambient growth and potential other public amenities development such as additional boat slips or storage and expansion of Chace Park within the Marina and their anticipated additional demands on public parking. The ambient growth includes all other growth in the region that would potentially add parking demand and was assumed to be equal to the ambient observed traffic growth in this area. A detailed assessment of these conditions is presented in the following chapter.

# III. LONG-TERM FUTURE PUBLIC PARKING ASSESSMENT

This chapter provides a description of the various components that affect public parking dynamics throughout the Marina. Detailed estimations and assessments of public parking demands in the future within each of the activity areas in the Marina are performed in this chapter. A discussion of the methodology used in the preparation of these forecasts including key assumptions, parameters and other relevant information is also provided in this chapter.

The future year 2030 long-term parking evaluations included in this chapter address typical weekday and weekend day conditions as well as peak holiday weekday and weekend day conditions. Detailed assessments of all these scenarios within each of the activity areas are provided in the following sections.

## FUTURE LONG-TERM (YEAR 2030) PUBLIC PARKING DEMAND ESTIMATION

The future parking demands at the various public parking lots are dependent upon the following key elements – current or existing parking demands, anticipated ambient growth due to general growth in population and anticipated growth in public parking demand due to potential expansion of public facilities and amenities (such as additional boat storage or slips and expansion of Chace Park). Further, where private commercial and public parking demands affect the occupancies of the public parking lots, only the public parking component would need to be isolated and used in the development of future public parking demand forecasts. Conversely, where public parking demand is occurring at private free parking lots adjacent to public parking lots, this demand has been captured and utilized in the development of overall future public parking demands within each of the activity areas, in this study.

The methodology used in the estimation of both peak public parking demands on typical weekdays and weekend days as well as peak holiday weekdays and weekend days is as follows:

1. Identify / determine the peak public parking demands on typical and peak weekdays and weekend days
2. Apply the anticipated ambient growth rate of 0.6% per year for 22 years based on the projected ambient traffic growth in this area. The 0.6% per year growth rate is the annual growth rate used by the Department of Public Works for projecting traffic growth in the Marina del Rey area
3. Apply the anticipated additional parking demand for specific activity areas based on anticipated additional facilities. Both Mother's Beach and Chace Park Activity Areas are anticipated to have additional facilities

**Future Long-Term Typical Weekday and Weekend Day Parking Demands**

Utilizing the methodology described in the previous section, the future long-term typical weekday and weekend day public parking demands were estimated. Table 5 summarizes the peak parking demands and the time of day that these public parking demands are anticipated for typical weekdays and weekend days, within each of the activity areas in the Marina. Again, it is worth noting that these typical parking demands are anticipated in the Marina for more than 300 days every year.

From Table 5, the following observations can be made:

- In the Mother's Beach Activity Area, the maximum estimated overall parking demand was 167 spaces and 231 spaces during typical weekdays and weekend days, respectively. These estimates include the parking demands associated with the Cheesecake Factory restaurant use. The maximum estimated public parking demand was 143 spaces and 145 spaces during typical weekdays and weekend days, respectively.
- In the Admiralty Park Activity Area, the maximum estimated parking demand was 34 and 111 spaces during typical weekdays and weekend days, respectively.
- In the Chace Park Activity Area, the maximum estimated parking demand was 92 and 159

**TABLE 5**

**TYPICAL WEEKDAY & WEEKEND DAY FUTURE ANTICIPATED PARKING DEMAND**

| # | Activity Area | Typical Weekday Peak Parking Demand | Time | Typical Weekend Day Peak Parking Demand | Time |
|---|---|---|---|---|---|
| 1 | Mother's Beach (8-OT, 9-NR, 10-IR, 11-GR) | Public: 143<br>All: 167 | 1PM | Public: 145<br>All: 231 | 1PM<br>8PM |
| 2 | Admiralty Park (5-U, 7-Q) | 34 | 4PM | 111 | 4PM |
| 3 | Chace Park (2-49R, 4-49M, EE) | 92 | 1PM | 159 | 4PM |
| 4 | Fiji Way (1-Fisherman's Village, Dock 52) | Public: 38<br>All: 233 | 4PM<br>8PM | Public: 93<br>All: 443 | 1PM |
| 5 | North Channel (13-3S) | 17 | 8PM | 36 | 8PM |

spaces during typical weekdays and weekend days, respectively.

- In the Fiji Way Activity Area, the maximum estimated parking demand was 233 and 443 spaces during typical weekdays and weekend days, respectively. These estimates include the parking associated with the Fisherman's Village commercial use as well as other uses including the Charter Boat companies. The maximum estimated public parking demand was 38 spaces and 93 spaces during typical weekdays and weekend days, respectively.
- In the North Channel Activity Area, the maximum estimated parking demand was 17 and 36 spaces during typical weekdays and weekend days, respectively.

In summary, for most of the year (i.e., more than 300 days in any year), the maximum future overall parking demand on typical weekdays and weekend days that was estimated was in the Fiji Way Activity Area. The maximum estimated future public parking demand on typical weekdays and weekend days that was estimated was in the Mother's Beach and Chace Park activity areas, respectively.

Detailed demand analyses by day and lot and by activity area are attached in Appendices C-1 and C-2 of the report.

**Peak Holiday Weekday & Weekend Day Parking Conditions**

The maximum parking demands for each of the activity areas for peak holiday weekdays and weekend days (July 4$^{th}$, Memorial Day and Labor Day Holidays were analyzed as noted earlier) were estimated using the methodology described earlier in this chapter. Table 6 summarizes the peak parking demands and the times of day when they occur for key holiday weekdays and weekend days, for each of the activity areas in the Marina. These key holidays parking demands are estimated mainly during the non-working weekdays and weekend days prior to the three major holidays (namely the 4$^{th}$ of July, Memorial Day in May and Labor Day in September every year).

From Table 6, the following observations can be made:

- In the Mother's Beach Activity Area, the maximum estimated peak overall parking demand was 364 spaces and 535 spaces including Cheesecake Factory restaurant parking

**TABLE 6**
**PEAK WEEKDAY & WEEKEND DAY FUTURE ANTICIPATED PARKING DEMAND**

| # | Activity Area | Peak Weekday Parking Demand | Time | Peak Weekend Day Parking Demand | Time |
|---|---|---|---|---|---|
| 1 | Mother's Beach (8-OT, 9-NR, 10-IR, 11-GR) | Public: 252<br>All: 364 | 8PM | Public: 360<br>All: 535 | 4PM |
| 2 | Admiralty Park (5-U, 7-Q) | 134 | 10AM | 137 | 4PM |
| 3 | Chace Park (2-49R, 4-49M, EE) | 222 | 1PM | 360 | 4PM |
| 4 | Fiji Way (1-Fisherman's Village, Dock 52) | Public: 82<br>All: 556 | 8PM | Public: 173<br>All: 768 | 4PM |
| 5 | North Channel (13-3S) | 29 | 8PM | 100 | 4PM |

demand in GR as well as the other public parking demands during peak holiday weekdays and weekend days, respectively. The maximum estimated future peak public parking demand was 252 spaces and 360 during holiday peak weekdays and weekend days, respectively.

- In the Admiralty Park Activity Area, the maximum estimated parking demand was 134 spaces and 137 spaces during peak holiday weekdays and weekend days, respectively.
- In the Chace Park Activity Area, the maximum estimated parking demand was 222 spaces and 360 spaces during peak holiday weekdays and weekend days, respectively.
- In the Fiji Way Activity Area, the maximum estimated overall parking demand was 556 spaces and 768 spaces during peak holiday weekdays and weekend days, respectively. Again, this estimate includes the demands associated with the Fisherman's Village commercial uses as well as other uses served by lots W and Dock 52. However, the maximum estimated peak public demand was 82 spaces and 173 spaces during peak holiday weekdays and weekend days, respectively.
- In the North Channel Activity Area, the maximum estimated parking demand was 29 spaces and 100 spaces during peak holiday weekdays and weekend days, respectively.

In summary, during the peak holiday weekdays and weekend days of the year (i.e., for approximately two weeks or 10 days during the 4$^{th}$ of July, Memorial Day and Labor Day holiday weeks), the maximum future peak public parking demand that was estimated was in the Mother's Beach and Chace Park Activity Areas. The maximum overall peak holiday weekday and weekend day parking demand that was estimated was in the Fiji Way activitiy area. As stated earlier, this overall demand included the parking demand associated with Fisherman's Village commercial and other uses served by lots W and Dock 52.

The actual holiday day's parking demands are not included in this assessment since it is anticipated that a comprehensive parking management plan will be implemented to accommodate those demands.

A parking management plan is a powerful tool consisting of a set of actions that can be employed to manage and control parking within an area such as Marina del Rey. The parking management

plan includes numerous key elements or components that work together to achieve the primary goal of managing and controlling parking operations in a specific area. The key elements may include identification of remote parking lots (parking supply); identification of all days when the use of these remote parking lots are needed; agreements with property owners that own and/or would allow operation of the remote parking lots during these days; shuttle vans or buses that would operate between these lots and various activity area destinations within Marina del Rey; appropriate signage plan to inform and direct/guide patrons to and from remote parking lots using the associated shuttle transport; and a detailed traffic management plan to guide patrons between various parking lots as well as the remote lots. One of the remote parking lots where event parking on holidays and weekend days is available is the parking structure on Parcel 76. The Los Angeles County through a parking covenant has obtained permission to use up to 860 legally striped parking spaces on holidays and weekend days. This lot could be used as a component of the parking management plan discussed above.

During the Boat Parade Day and Halibut Derby event days, only specific parking lots within the various activity areas are estimated to continue to be utilized by the event participants and viewers, and as such, these are special event days when a parking management plan to manage and control parking are recommended for implementation.

Detailed demand analyses by day and lot and by activity area are included in Appendices C-1 and C-2 of the report.

# IV. PUBLIC PARKING REQUIREMENTS IN MARINA DEL REY

The Long-Term Future Year 2030 typical and peak holiday public parking demands estimated in the previous chapter are evaluated in this chapter. Based on the demand estimates for both typical and peak holiday weekend days, an appropriate measure of parking supply requirements is identified and minimum public parking supply requirements are suggested by activity area within the Marina Del Rey area.

## PEAK PARKING DEMAND ESTIMATES BY ACTIVITY AREA

From the previous chapter, it was observed that the peak public parking demands within each of the activity areas varied widely between the activity areas themselves as well as between typical (300 plus) days of the year and peak holiday weekend days of a certain year.

The Fiji Way and Mother's Beach activity areas demand estimates that were developed in the previous chapter also included the overall demand at the various parking lots serving these areas. Special detailed surveys were conducted to isolate only the public parking demand component from these lots. Using the data from these days, public parking demands associated with the various parking lots and consequently, the activity areas were developed.

An examination of the current peak parking demands indicates the following:

*On typical (300 plus days) weekdays and weekend days in a year, the current peak public parking demand varies between 5% on a weekday within Fiji Way activity area to 31% occupancies on a weekend day at the Chace Park activity area. However, on peak holiday weekdays and weekend days, the peak public parking demand varies between 10% on a weekday at the Fiji Way activity area to 68% occupancy on a weekend day at the Chace Park*

*activity area. These data indicate that not only are the demands highly variable, for most of the year, they are also much lower than the currently available parking supply indicating that most of the parking supply is greatly under-utilized throughout the year. On certain peak weekday and weekend days of holiday weeks, and special event days, some of these parking lots within the activity areas get better utilization.*

The demand data indicates that determination of an average value would not be very useful in ascertaining the required parking supply by activity area due to the tremendous variation in the data. Statistical evaluation in cases such as these would involve determination of the 85$^{th}$ percentile or 90$^{th}$ percentile of the data (parking demand) and then assessing the supply requirements based on that.

The 85$^{th}$ percentile (or 90$^{th}$ percentile) value is defined as that value that 85% (or 90%) of the data in the value set are equal to or less than. The 90$^{th}$ percentile peak public parking demand at each of the activity areas represents that value of demand that 90% of all the peak public parking demands are less than or equal to. In technical terms, 90$^{th}$ percentile is that position in a dataset that has 90% of the data equal to or less than it and 10% of the data greater than it.

**PUBLIC PARKING SUPPLY REQUIREMENTS IN MARINA DEL REY**

Both the 85$^{th}$ percentile and 90$^{th}$ percentile of peak parking demand data were determined for both the current as well as future anticipated peak conditions. Table 7 summarizes the 90$^{th}$ percentile future anticipated peak public parking demand by activity area within the Marina. As stated earlier, the public parking demand estimates were developed from the overall demands at the various lots based on specialized surveys conducted at lots W, Dock 52, NR and adjacent lots and GR where both public parking demand and adjacent commercial / other uses parking demands were involved.

From Table 7 it can be observed that the 90$^{th}$ percentile of the peak parking demand would vary between 100 spaces at the North Channel activity area to 360 spaces in the Mother's Beach activity area.

**TABLE 7**
**90TH PERCENTILE FUTURE PEAK PUBLIC PARKING DEMAND BY ACTIVITY AREA**

| Activity Area | 90th Percentile Future Peak Parking Demand |
|---|---|
| Mother's Beach | 360 |
| Admiralty Park | 114 |
| Chace Park | 355 |
| Fiji Way | 165 |
| North Channel | 100 |

The minimum public parking supply requirement, from a conservative perspective, is typically approximately 10% more than the 90$^{th}$ percentile of the anticipated future peak parking demand for each of the activity areas. This would allow for patrons to find parking within the activity areas with relative ease rather than circling around and within the various parking lots within each of the activity areas. Table 8 and Figure 8 summarize the minimum parking supply requirements within each of the activity areas in the Marina.

The detailed analyses worksheets by activity area for current conditions and future anticipated 2030 peak conditions are included in Appendices D-1 and D-2.

Summarizing, based on the data, the following are recommended for public parking supply - Mother's Beach activity area: 400 spaces; Admiralty Park activity area: 125 spaces; Chace Park activity area: 390 spaces; Fiji Way activity area: 180 spaces; North Channel activity area: 110 spaces. Parking supply for shared commercial and other non-public recreational uses would need to be over and above the minimum public parking requirements noted above.

It is also worth noting that although recommended ranges of parking supply by activity area are provided in this study, one could park in any activity area within the Marina and use the Water Taxi and / or Shuttle to reach the final destination. Further, given the proximity of parking within one activity area to uses in another activity area, it is possible for patrons to use alternate activity area parking lots and walk to their final destination.

**PARKING SUPPLY EVALUATION**

The Fiji Way and Mother's Beach Activity Areas, as noted earlier, involve sharing of public parking lots by commercial (Fisherman's Village in Fiji Way), charter boat companies (in Fiji Way) and restaurant (Shanghai Reds in Fiji Way and Cheesecake Factory in Mother's Beach) uses with public recreational parking. The following sections provide an examination and analysis of the currently proposed parking within the activity areas in comparison to the minimum public parking requirements along with the private use parking demands, if any within the same activity areas.

**TABLE 8**
**RECOMMENDED PARKING REQUIREMENTS BY ACTIVITY AREA**

| Activity Area | 90th Percentile Future Peak Parking Demand | Recommended Minimum Public Parking Supply |
|---|---|---|
| Mother's Beach | 360 | 400 |
| Admiralty Park | 114 | 125 |
| Chace Park | 355 | 390 |
| Fiji Way | 165 | 180 |
| North Channel | 100 | 110 |

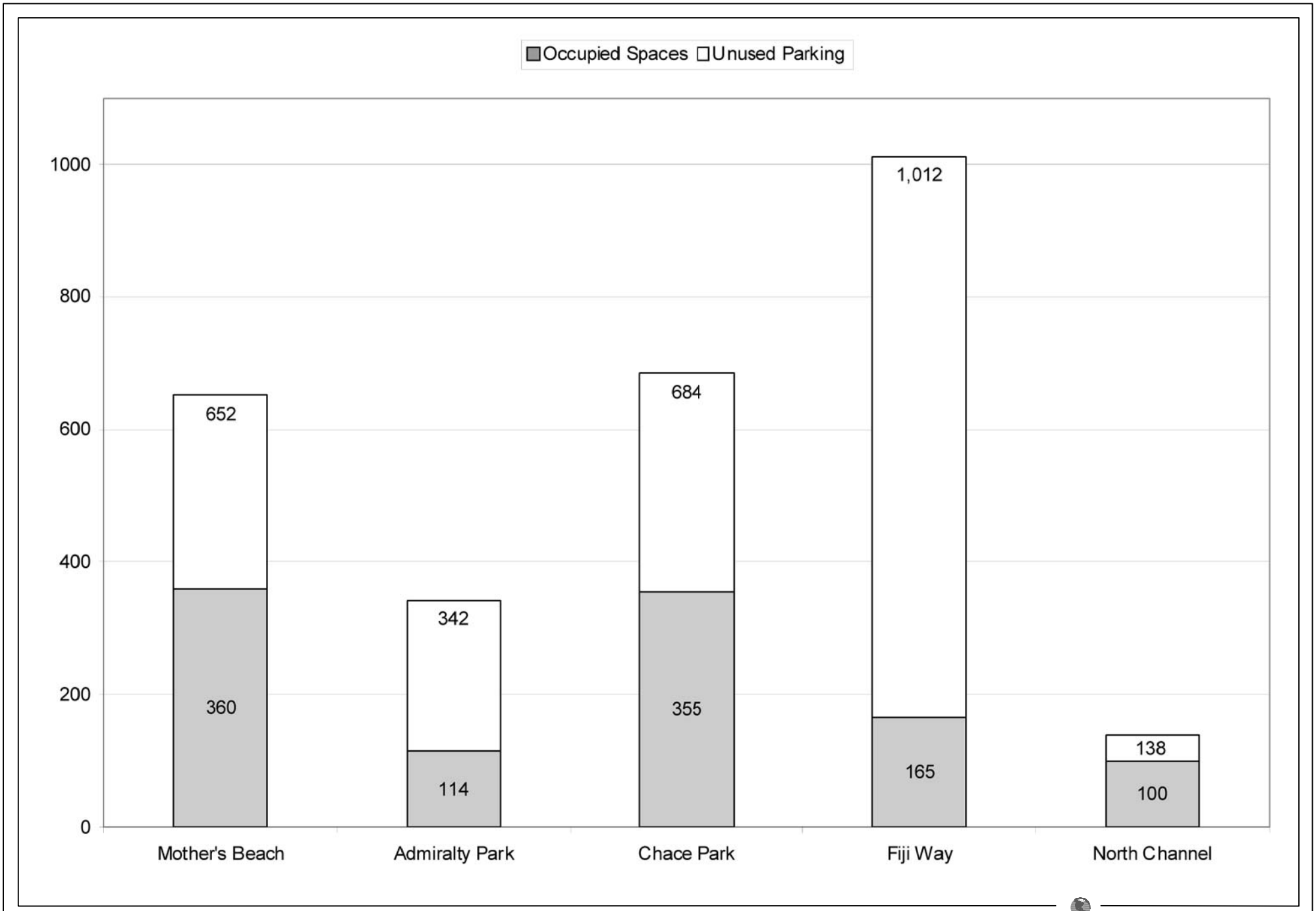



FIGURE 8
90TH PERCENTILE FUTURE PEAK PARKING DEMAND BY ACTIVITY AREA

RAJU Associates, Inc.

Adequacy of the parking operations within each of the activity areas is also discussed in the following section.

**Fiji Way Activity Area Overall Parking Analysis**

The Fisherman's Village development as well as the Charter Boat Companies and others within the Fiji Way activity area share the parking lots 1 on Parcel W and Dock 52 on Parcel 52. These developments with their peak parking demand profiles per the studies conducted by the Proposed Fisherman's Village Expansion / Enhancement Proejct and the public parking demand profiles per the specialized surveys and analyses conducted by Raju Associates, Inc. are summarized in Appendix E. It can be summarized from Appendix E that the peak weekday maximum overall parking demand would be 788 spaces while the maximum overall peak parking demand on weekend days would be 930 spaces. The Fisherman's Village Enhancement / Expansion Project currently calls for an overall parking supply of 1,012 spaces to be shared by all uses including the public parking demand anticipated to be generated in the Future year 2030 conditions. The proposed parking supply would be adequate in terms of satisfying the shared need identified above. It is recommended that the public parking component be integrated into the Fisherman's Village Project throughout the day on all weekdays and weekend days, except on holidays when a parking management plan is recommended.

**Mother's Beach Activity Area Overall Parking Analysis**

The Cheesecake Factory Restaurant currently utilizes lot 11 on Parcel GR. A comparison of the minimum public parking requirement plus the Cheesecake Factory parking demand on lot 11 within the Mother's Beach activity area was made to the currently proposed public parking supply, within the same activity area. This overall demand was estimated to be 364 spaces on a peak weekday and 535 spaces on a peak weekend day including the Cheesecake Factory and all other potential additional boat slip development within the Mother's Beach activity area. The proposed supply within this activity area is currently planned to be approximately 650 spaces. Therefore, there would be adequate parking within this activity area with the currently proposed plan.

**All other Activity Areas Parking Analyses**

In addition to the above activity areas, a comparison of currently proposed parking supply to the minimum public parking requirements within each of the other activity areas (Admiralty Park, Chace Park and North Shore) was conducted. It was observed that the currently proposed parking plan provides more than adequate public parking supply within each of the other activity areas also.

Summarizing, the currently proposed parking plan provides more than the required minimum public parking supply requirements within all of the activity areas in Marina del Rey as shown below:

| Activity Area Name | Recommended Minimum Public Parking Supply (Number of Spaces) | Excess Number of Parking Spaces based on Proposed Parking Plan |
|---|---|---|
| Mother's Beach (1) | 400 | 117 |
| Admiralty Park | 125 | 217 |
| Chace Park | 390 | 294 |
| Fiji Way (2) | 180 | 92 |
| North Shore | 110 | 30 |

Note :

(1) – Parking lots in this activity area are shared by public and private uses. The Cheesecake Factory restaurant uses parking lot 11 on Parcel GR.

(2) – Parking lots in this activity area are also shared by public and private uses. Fisherman's Village, charter boats, the LACDBH office and others use parking lots 1 and Dock 52 within this activity area.

# V. SUMMARY OF RECOMMENDATIONS & CONCLUSIONS

A comprehensive and detailed parking study has been performed by Raju Associates, Inc. to assess the public parking needs within the Marina del Rey area of the County of Los Angeles, California. Both current and future needs are assessed through the year 2030 and right-sizing of parking within various areas in Marina del Rey have been assessed as part of this study.

There are numerous public parking lots within the Marina del Rey area. They serve nearby residents as well as visitors to the Marina facilities. The public parking lots are all surface lots adjacent to specific attractions and serving a specific activity area. Past surveys and observations of utilization of these public parking lots have revealed that these lots are all greatly under-utilized to varying degrees almost throughout the year except for a few holidays and pre-holiday weekend days, even when the gate arms are up and no fee is charged.

A list of the public parking lots within the Marina that are evaluated in this study is provided below.

| Lot Number | Parcel | Number of Parking Spaces | Remarks |
|---|---|---|---|
| 1 | W | 502 | Fisherman's Village and others use this lot |
| 2 | 49R | 239 | |
| 4 | 49M | 140 | |
| 5 | UR | 220 | Public Library uses 20 spaces |
| 7 | Q | 120 | |
| 8 | OT | 183 | FantaSea Yachts can use 94 spaces after 6 pm |
| 9 | NR | 186 | |
| 10 | IR | 212 | |
| 11 | GR | 262 | Cheesecake Factory uses this lot |
| 12 | FF | 201 | Not used much by anyone |
| 13 | 3S | 140 | |
| 16 | EE | 58 | Metered parking spaces |
| Dock 52 | 52 | 236 | LACDBH Office and others use this lot |

This study is directed at identifying the appropriate parking supply to satisfy the current and anticipated future parking demands within various activity areas and right-sizing the parking lots (listed in the previous page) serving these activity areas. The estimation of parking demands for the future year 2030 was done using current observed parking demands and factoring in the growth anticipated from planned adjacent uses as well as from ambient growth due to growth in population over the next 20+ years. In addition, several new improvements for visitors at Mother's Beach and Chace Park were factored into demand figures.

Current and future parking demand and supply utilization analyses at each of the public parking lots within the Marina del Rey area were conducted in this study. Five major activity areas were identified and peak parking within these activity areas were determined. The supply needed to accommodate the current and future needs within each of the activity areas were also determined in this study and suggestions / recommendations for the same were made. The following executive summary highlighting the key findings of this study is presented.

- A total of 13 public parking lots and five activity areas were assessed within the study area for this project. The five activity areas are the Mother's Beach Activity area, Admiralty Park Activity area, Chace Park Activity area, Fiji Way Activity area and the North Channel Activity area.

- Parking supply surveys were conducted at each of the public parking lots within the study area by Los Angeles County Department of Beaches and Harbors staff and verified by Raju Associates. Based on the field inventory surveys, it was determined that the total public parking available within the studied Marina del Rey area was 2,699 spaces. This is different from the number of spaces noted in the Marina del Rey Land Use Plan (LUP) due to restriping of various lots after publication of the LUP to accommodate handicapped spaces and to improve efficiencies.

- Parking demand surveys at each of the public parking lots were conducted during the busiest weekends (Friday through Monday) of the years 2005 and 2007. Memorial Day, 4$^{th}$ of July and Labor Day weekends including the holidays were chosen to conduct the parking demand surveys. Additionally, a typical weekday and weekend day were chosen to conduct parking demand surveys to reflect typical conditions prevailing in the Marina for most of the year as it relates to parking.

- In addition to the demand surveys noted above, specialized surveys were conducted on a weekday and weekend day at all the parking lots where sharing of public parking spaces for private commercial uses are currently occurring. These were later utilized in determining the public parking demand component of the overall parking demand at these lots (as noted in the table above).

- The current peak public parking demand occupancies on typical weekdays and weekend days varies between 5% at Fiji Way activity area to 18% at Chace Park activity area during weekdays and 11% at Fiji Way activity area to 31% at Chace Park activity area during weekends. All other activity areas have parking occupancies of less than 18% and 31% on typical weekdays and weekend days, respectively. These occupancies are typical for most of the year (i.e., more than 300 days in a year).

- The current peak parking demand occupancies on peak holiday weekdays and weekend days varies between 10% at Fiji Way activity area to 43% at Chace Park activity area during weekdays and 21% at Fiji Way activity area to 68% at Chace Park activity area during weekend days. The Fiji Way activity area parking lots also accommodate parking demands associated with commercial and other uses adjacent to them. The public parking demand component only has been reflected in the numbers above. If the overall parking demand at the lots that serve the Fiji Way activity area including the commercial and other uses demand is examined then a 67% occupancy during peak weekdays and 92% during peak holiday weekends are observed. All other activity areas other than the Fiji Way activity area have parking occupancies of less than 43% and 68% on peak holiday weekdays and weekend days, respectively.

- The future anticipated peak parking demands on typical and peak holiday weekdays and weekend days were developed using anticipated ambient growth in the region as well as growth in public parking demand anticipated due to provision of additional public facilities within the Marina.

- Peak public parking demand estimates were developed by isolating the public parking demand component from various lots (Lot W, Dock 52 lot in Parcel 52, and Lot GR) and then applying the growth factors due to ambient growth and the additional demand associated with additional public facilities planned in the future. The public parking demand estimates from these lots were combined together to obtain the activity area public parking demands.

- These future anticipated demands varied greatly between activity areas as well as during typical and peak holiday weekdays and weekend days. Due to this wide variation in anticipated demands for each of the activity areas on weekdays and weekend days throughout the year, developing a measure of central tendency (such as mean or mode or median) was not meaningful. Instead, the 85$^{th}$ percentile and 90$^{th}$ percentile of the peak parking demands which are meaningful, in this context, were determined.

- The 90$^{th}$ percentile peak public parking demand at each of the activity areas represents that value of demand that 90% of all the peak public parking demands are less than or equal to. In technical terms, 90$^{th}$ – percentile is that position in a dataset that has 90% of the data equal to or less than it and 10% of the data greater than it. The 90$^{th}$ percentile value states that at least 90% of the values in the set are less than or equal to this value.

- The 90$^{th}$ percentile of peak public parking demand at each of the activity areas was determined to be the following - Mother's Beach: 360 spaces; Admiralty Park: 114 spaces;

Chace Park: 355 spaces; Fiji Way: 165 spaces; and North Channel: 100 spaces.

- The minimum public parking supply at each of the activity areas was determined using the 90th percentile peak parking demand and increasing the same by 10% to facilitate satisfactory operations within each of the parking lots serving the individual activity areas. The increased 10% supply over the peak demand by activity area would allow patrons to find parking spaces in the various parking lots serving the activity lot without having to move around or circle around between and within parking lots. The recommended minimum number of required public parking spaces by activity area is shown below.

| | **Activity Area** | **90th-Percentile Parking Demand (number of spaces)** | **Recommended Minimum Number of Required Public Parking Spaces** |
|---|---|---|---|
| A | Mother's Beach Activity Area | 360 | 400 |
| B | Admiralty Park Activity Area | 114 | 125 |
| C | Chace Park Activity Area | 355 | 390 |
| D | Fiji Way Activity Area | 165 | 180 |
| E | North Channel Activity Area | 100 | 110 |

- Although these parking supply requirements have been recommended by activity area, it should be emphasized that one could park in any activity area within the Marina and use the Water Taxi or the Shuttle to reach the final destination.

- An evaluation of currently proposed public parking supply within each of the activity areas in comparison to the recommended range of minimum parking requirements was made. It was determined that more than adequate public parking supply would continue to be available within each of the activity areas. Included in the evaluation was also the overall future demand of both public and private parking demand versus proposed supply within each of the activity areas. It was determined that adequate overall parking supply would be available within each of the activity areas even those that include commercial and other users sharing parking within the public parking lots as shown in the table on the following page.

| Activity Area Name | Recommended Minimum Public Parking Supply (Number of Spaces) | Excess Parking Supply based on Proposed Parking Plan (Number of Spaces) |
|---|---|---|
| Mother's Beach (1) | 400 | 117 |
| Admiralty Park | 125 | 217 |
| Chace Park | 390 | 294 |
| Fiji Way (2) | 180 | 92 |
| North Shore | 110 | 30 |

Note :
(1) – Parking lots in this activity area are shared by public and private uses. The Cheesecake Factory restaurant uses parking lot 11 on Parcel GR.
(2) – Parking lots in this activity area are also shared by public and private uses. Fisherman's Village, charter boats, the LACDBH office and others use parking lots 1 and Dock 52 within this activity area.

During peak holidays namely Independence Day, Labor Day, and Memorial Day, and special event days such as Halibut Derby Day and Boat Parade Day, the parking within the Marina would need to be managed. A specific parking management plan should be developed to accommodate the peak holiday demands and shuttle people to their various specific destinations, where needed.
During weekends and holidays, the county has permission to use 860 legally-marked parking spaces in parcel 76 per the current parking covenant and this parking supply could be used during event days.

# APPENDIX A1-A3

## A-1 Parking Supply Inventory Table

## A-2 Parking Demand Survey Data

## A-3 Parking Demand Special Survey Data

## APPENDIX A1

### Marina Del Rey Right Sizing Parking Study

### Comparison of Public Parking Spaces Available (Parking Supply Inventory)

| Parking Lot | General Parking Spaces | Handicap | Other | Total Available Spaces (3) | LADBH Count | LCP Count | Potential Reason for Differences |
|---|---|---|---|---|---|---|---|
| **Dock 52** | **226** | **10** | **0** | **236** | **239** | **245** | Restriping for Handicapped Spaces |
| **Fisherman's** | **485** | **17** | **0** | **502** | **439** | **483** | Overall restriping of the parking lot for better efficiency<br>Also includes Parcel 55 spaces that LADBH count doesn't. |
| **Overflow** | **245** | **7** | **0** | **252** | **n/a** | **n/a** | |
| **Lot 2** | **438 / 219 Boat Trailer Spaces** | **12** | **8 [1]** | **458 / 239** | **234** | **466 / 233** | Restriping for Handicapped Spaces |
| **Lot 4** | **133** | **7** | **0** | **140** | **152** | **124** | Overall restriping of the parking lot<br>for better efficiency |
| **Lot 16** | **54** | **4** | **0** | **58** | **n/a** | **60** | Restriping for Handicapped Spaces |
| **Lot 5** | **198** | **3** | **19 [2]** | **220** | **222** | **240** | Restriping for Handicapped Spaces<br>and to improve circulation |
| **Lot 7** | **115** | **5** | **0** | **120** | **120** | **118** | Overall restriping of the parking lot<br>for better efficiency |
| **Lot 8** | **177** | **6** | **0** | **183** | **183** | **186** | Restriping for Handicapped Spaces |
| **Lot 9** | **180** | **6** | **0** | **186** | **187** | **191** | Restriping for Handicapped Spaces |
| **Lot 10** | **209** | **3** | **0** | **212** | **209** | **216** | Restriping for Handicapped Spaces |
| **Lot 11** | **254** | **8** | **0** | **262** | **263** | **264** | Restriping for Handicapped Spaces |
| **Lot 12** | **194** | **7** | **0** | **201** | **206** | **207** | Restriping for Handicapped Spaces |
| **Lot 13** | **136** | **4** | **0** | **140** | **138** | **140** | No difference |

Note : [1] These spaces are reserved for boat washing purposes.

[2] These spaces are reserved for the Library by permit only.

[3] These spaces are based on Field inventory surveys conducted by Raju Associates, Inc. February 2009.

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**5/27/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**FOR MEMORIAL DAY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | N/A | N/A | N/A | N/A | **236** |
| **(Public Component)** | N/A | N/A | N/A | N/A | |
| **Fishermans** | N/A | N/A | N/A | N/A | **502** |
| **(Public Component)** | N/A | N/A | N/A | N/A | |
| **Overflow** | N/A | N/A | N/A | N/A | **252** |
| **Lot 2** | 33 | 35 | 32 | 28 | **239** |
| **Lot 4** | 32 | 37 | 22 | 13 | **140** |
| **Lot 5** | 115 | 97 | 58 | 45 | **220** |
| **Lot 7** | 3 | 0 | 3 | 6 | **120** |
| **Lot 8** | 1 | 0 | 0 | 7 | **183** |
| **Lot 9** | 8 | 11 | 9 | 13 | **186** |
| **Lot 10** | 2 | 1 | 1 | 0 | **212** |
| **Lot 11** | 15 | 79 | 53 | 109 | **262** |
| **(Public Component)** | 5 | 29 | 19 | 40 | |
| **Lot 12** | 0 | 2 | 3 | 2 | **201** |
| **Lot 13** | 5 | 3 | 3 | 16 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 47 | 112 | 84 | 150 | 843 |
| Public Component [1] | 37 | 62 | 50 | 81 | |
| Admiralty Park (5,7) | 118 | 97 | 61 | 51 | 340 |
| Chace Park (2,4,EE) | 123 | 130 | 112 | 99 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 0 | 0 | 0 | 0 | 738 |
| Public Component | 0 | 0 | 0 | 0 | |
| North Channel (13) | 5 | 3 | 3 | 16 | 140 |
| Lot 12 | 0 | 2 | 3 | 2 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**5/28/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**FOR MEMORIAL DAY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | N/A | N/A | N/A | N/A | **236** |
| **(Public Component)** | N/A | N/A | N/A | N/A | |
| **Fishermans** | N/A | N/A | N/A | N/A | **502** |
| **(Public Component)** | N/A | N/A | N/A | N/A | |
| **Overflow** | N/A | N/A | N/A | N/A | **252** |
| **Lot 2** | 113 | 147 | 117 | 59 | **239** |
| **Lot 4** | 20 | 22 | 16 | 10 | **140** |
| **Lot 5** | 48 | 49 | 53 | 43 | **220** |
| **Lot 7** | 3 | 9 | 9 | 9 | **120** |
| **Lot 8** | 1 | 0 | 0 | 3 | **183** |
| **Lot 9** | 21 | 34 | 33 | 17 | **186** |
| **Lot 10** | 26 | 46 | 71 | 23 | **212** |
| **Lot 11** | 62 | 99 | 103 | 132 | **262** |
| **(Public Component)** | 7 | 11 | 11 | 15 | |
| **Lot 12** | 2 | 12 | 16 | 10 | **201** |
| **Lot 13** | 14 | 17 | 19 | 23 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 153 | 222 | 250 | 218 | 843 |
| Public Component [1] | 98 | 134 | 158 | 101 | |
| Admiralty Park (5,7) | 51 | 58 | 62 | 52 | 340 |
| Chace Park (2,4,EE) | 191 | 227 | 191 | 127 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 0 | 0 | 0 | 0 | 738 |
| Public Component | 0 | 0 | 0 | 0 | |
| North Channel (13) | 14 | 17 | 19 | 23 | 140 |
| Lot 12 | 2 | 12 | 16 | 10 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**5/29/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**FOR MEMORIAL DAY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | N/A | N/A | N/A | N/A | **236** |
| **(Public Component)** | N/A | N/A | N/A | N/A | |
| **Fishermans** | N/A | N/A | N/A | N/A | **502** |
| **(Public Component)** | N/A | N/A | N/A | N/A | |
| **Overflow** | N/A | N/A | N/A | N/A | **252** |
| **Lot 2** | 130 | 144 | 104 | 48 | **239** |
| **Lot 4** | 23 | 40 | 34 | 12 | **140** |
| **Lot 5** | 22 | 22 | 24 | 23 | **220** |
| **Lot 7** | 7 | 11 | 8 | 13 | **120** |
| **Lot 8** | 0 | 0 | 3 | 31 | **183** |
| **Lot 9** | 18 | 20 | 26 | 17 | **186** |
| **Lot 10** | 23 | 69 | 86 | 16 | **212** |
| **Lot 11** | 36 | 94 | 134 | 112 | **262** |
| **(Public Component)** | 4 | 10 | 15 | 12 | |
| **Lot 12** | 5 | 3 | 19 | 11 | **201** |
| **Lot 13** | 11 | 25 | 58 | 49 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 120 | 226 | 292 | 219 | 843 |
| Public Component [1] | 88 | 142 | 173 | 119 | |
| Admiralty Park (5,7) | 29 | 33 | 32 | 36 | 340 |
| Chace Park (2,4,EE) | 211 | 242 | 196 | 118 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 0 | 0 | 0 | 0 | 738 |
| Public Component | 0 | 0 | 0 | 0 | |
| North Channel (13) | 11 | 25 | 58 | 49 | 140 |
| Lot 12 | 5 | 3 | 19 | 11 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**5/30/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**FOR MEMORIAL DAY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | N/A | N/A | N/A | N/A | **236** |
| **Fishermans** | N/A | N/A | N/A | N/A | **502** |
| **Overflow** | N/A | N/A | N/A | N/A | **252** |
| **Lot 2** | 112 | 123 | 85 | 19 | **239** |
| **Lot 4** | 21 | 37 | 38 | 18 | **140** |
| **Lot 5** | 23 | 26 | 22 | 16 | **220** |
| **Lot 7** | 6 | 7 | 7 | 4 | **120** |
| **Lot 8** | 1 | 0 | 2 | 17 | **183** |
| **Lot 9** | 24 | 26 | 27 | 13 | **186** |
| **Lot 10** | 19 | 68 | 121 | 13 | **212** |
| **Lot 11** | 19 | 118 | 127 | 84 | **262** |
| **Lot 12** | 7 | 18 | 33 | 12 | **201** |
| **Lot 13** | 17 | 48 | 82 | 28 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 63 | 212 | 277 | 127 | 843 |
| Admiralty Park (5,7) | 29 | 33 | 29 | 20 | 340 |
| Chace Park (2,4,EE) | 191 | 218 | 181 | 95 | 437 |
| North Channel (13) | 17 | 48 | 82 | 28 | 140 |
| Lot 12 | 7 | 18 | 33 | 12 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**7/1/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**FOR 4TH OF JULY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 102 | 123 | 86 | 204 | **236** |
| **(Public Component)** | 27 | 32 | 23 | 54 | |
| **Fishermans** | 60 | 168 | 124 | 246 | **502** |
| **(Public Component)** | 4 | 12 | 9 | 18 | |
| **Overflow** | 64 | 93 | 87 | 107 | **252** |
| **Lot 2** | 49 | 48 | 48 | 46 | **239** |
| **Lot 4** | 8 | 11 | 7 | 2 | **140** |
| **Lot 5** | 87 | 28 | 10 | 1 | **220** |
| **Lot 7** | 1 | 3 | 5 | 6 | **120** |
| **Lot 8** | 2 | 1 | 3 | 97 | **183** |
| **Lot 9** | 15 | 16 | 13 | 27 | **186** |
| **Lot 10** | 12 | 22 | 5 | 0 | **212** |
| **Lot 11** | 23 | 80 | 67 | 155 | **262** |
| **(Public Component)** | 8 | 29 | 24 | 56 | |
| **Lot 12** | 38 | 30 | 6 | 4 | **201** |
| **Lot 13** | 9 | 8 | 6 | 20 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 73 | 140 | 109 | 300 | 843 |
| Public Component [1] | 58 | 89 | 66 | 201 | |
| Admiralty Park (5,7) | 88 | 31 | 15 | 7 | 340 |
| Chace Park (2,4,EE) | 115 | 117 | 113 | 106 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 162 | 291 | 210 | 450 | 738 |
| Public Component | 31 | 44 | 32 | 72 | |
| North Channel (13) | 9 | 8 | 6 | 20 | 140 |
| Lot 12 | 38 | 30 | 6 | 4 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**7/2/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**FOR 4TH OF JULY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 174 | 153 | 134 | 132 | **236** |
| **(Public Component)** | 70 | 62 | 54 | 53 | |
| **Fishermans** | 109 | 223 | 196 | 212 | **502** |
| **(Public Component)** | 14 | 28 | 25 | 27 | |
| **Overflow** | 85 | 126 | 121 | 96 | **252** |
| **Lot 2** | 142 | 169 | 124 | 66 | **239** |
| **Lot 4** | 15 | 28 | 18 | 5 | **140** |
| **Lot 5** | 7 | 11 | 9 | 0 | **220** |
| **Lot 7** | 9 | 7 | 6 | 8 | **120** |
| **Lot 8** | 8 | 3 | 4 | 2 | **183** |
| **Lot 9** | 25 | 36 | 34 | 22 | **186** |
| **Lot 10** | 9 | 34 | 66 | 49 | **212** |
| **Lot 11** | 18 | 112 | 113 | 104 | **262** |
| **(Public Component)** | 2 | 12 | 13 | 12 | |
| **Lot 12** | 5 | 15 | 16 | 7 | **201** |
| **Lot 13** | 24 | 34 | 48 | 35 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 103 | 228 | 260 | 220 | 843 |
| Public Component [1] | 87 | 128 | 160 | 128 | |
| Admiralty Park (5,7) | 16 | 18 | 15 | 8 | 340 |
| Chace Park (2,4,EE) | 215 | 255 | 200 | 129 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 283 | 376 | 330 | 344 | 738 |
| Public Component | 84 | 90 | 79 | 80 | |
| North Channel (13) | 24 | 34 | 48 | 35 | 140 |
| Lot 12 | 5 | 15 | 16 | 7 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**7/3/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**FOR 4TH OF JULY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 171 | 186 | 217 | 94 | **236** |
| **(Public Component)** | 69 | 75 | 88 | 38 | |
| **Fishermans** | 83 | 304 | 331 | 264 | **502** |
| **(Public Component)** | 11 | 38 | 42 | 33 | |
| **Overflow** | 88 | 130 | 142 | 83 | **252** |
| **Lot 2** | 139 | 156 | 132 | 71 | **239** |
| **Lot 4** | 15 | 26 | 34 | 4 | **140** |
| **Lot 5** | 2 | 5 | 3 | 0 | **220** |
| **Lot 7** | 51 | 84 | 118 | 76 | **120** |
| **Lot 8** | 6 | 6 | 26 | 51 | **183** |
| **Lot 9** | 22 | 39 | 38 | 22 | **186** |
| **Lot 10** | 44 | 114 | 156 | 21 | **212** |
| **Lot 11** | 36 | 127 | 173 | 136 | **262** |
| **(Public Component)** | 4 | 14 | 19 | 15 | |
| **Lot 12** | 6 | 19 | 34 | 20 | **201** |
| **Lot 13** | 23 | 41 | 88 | 67 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 151 | 329 | 436 | 273 | 843 |
| Public Component [1] | 119 | 216 | 282 | 152 | |
| Admiralty Park (5,7) | 53 | 89 | 121 | 76 | 340 |
| Chace Park (2,4,EE) | 212 | 240 | 224 | 133 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 254 | 490 | 548 | 358 | 738 |
| Public Component | 80 | 113 | 130 | 71 | |
| North Channel (13) | 23 | 41 | 88 | 67 | 140 |
| Lot 12 | 6 | 19 | 34 | 20 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**7/4/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**FOR 4TH OF JULY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 146 | 151 | 164 | 239 | **236** |
| **Fishermans** | 67 | 198 | 254 | 439 | **502** |
| **Overflow** | 64 | 116 | 168 | 265 | **252** |
| **Lot 2** | 103 | 125 | 158 | 161 | **239** |
| **Lot 4** | 17 | 151 | 152 | 152 | **140** |
| **Lot 5** | 2 | 9 | 29 | 174 | **220** |
| **Lot 7** | 66 | 113 | 120 | 120 | **120** |
| **Lot 8** | 8 | 24 | 77 | 156 | **183** |
| **Lot 9** | 25 | 78 | 187 | 187 | **186** |
| **Lot 10** | 44 | 182 | 209 | 209 | **212** |
| **Lot 11** | 32 | 213 | 263 | 263 | **262** |
| **Lot 12** | 17 | 62 | 66 | 66 | **201** |
| **Lot 13** | 88 | 138 | 138 | 138 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 109 | 497 | 736 | 815 | 843 |
| Admiralty Park (5,7) | 68 | 122 | 149 | 294 | 340 |
| Chace Park (2,4,EE) | 178 | 334 | 368 | 371 | 437 |
| North Channel (13) | 88 | 138 | 138 | 138 | 140 |
| Lot 12 | 17 | 62 | 66 | 66 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**9/2/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE LABOR DAY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 127 | 131 | 115 | 66 | **236** |
| **(Public Component)** | 33 | 34 | 30 | 17 | |
| **Fishermans** | 116 | 140 | 195 | 301 | **502** |
| **(Public Component)** | 8 | 10 | 14 | 22 | |
| **Overflow** | 84 | 102 | 127 | 98 | **252** |
| **Lot 2** | 37 | 44 | 45 | 39 | **239** |
| **Lot 4** | 78 | 73 | 69 | 50 | **140** |
| **Lot 5** | 90 | 58 | 10 | 0 | **220** |
| **Lot 7** | 1 | 1 | 0 | 3 | **120** |
| **Lot 8** | 1 | 1 | 1 | 59 | **183** |
| **Lot 9** | 11 | 9 | 14 | 13 | **186** |
| **Lot 10** | 3 | 5 | 5 | 1 | **212** |
| **Lot 11** | 26 | 59 | 55 | 166 | **262** |
| **(Public Component)** | 9 | 21 | 20 | 60 | |
| **Lot 12** | 2 | 2 | 3 | 4 | **201** |
| **Lot 13** | 12 | 9 | 11 | 26 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 62 | 95 | 96 | 260 | 843 |
| Public Component [1] | 45 | 57 | 61 | 154 | |
| Admiralty Park (5,7) | 91 | 59 | 10 | 3 | 340 |
| Chace Park (2,4,EE) | 173 | 175 | 172 | 147 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 243 | 271 | 310 | 367 | 738 |
| Public Component | 41 | 44 | 44 | 39 | |
| North Channel (13) | 12 | 9 | 11 | 26 | 140 |
| Lot 12 | 2 | 2 | 3 | 4 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**9/3/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE LABOR DAY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 168 | 152 | 121 | 81 | **236** |
| **(Public Component)** | 68 | 61 | 49 | 33 | |
| **Fishermans** | 136 | 294 | 323 | 284 | **502** |
| **(Public Component)** | 17 | 37 | 41 | 36 | |
| **Overflow** | 79 | 114 | 118 | 84 | **252** |
| **Lot 2** | 118 | 122 | 79 | 63 | **239** |
| **Lot 4** | 62 | 76 | 64 | 58 | **140** |
| **Lot 5** | 23 | 24 | 6 | 4 | **220** |
| **Lot 7** | 3 | 2 | 14 | 16 | **120** |
| **Lot 8** | 2 | 1 | 2 | 15 | **183** |
| **Lot 9** | 27 | 38 | 33 | 44 | **186** |
| **Lot 10** | 14 | 54 | 109 | 7 | **212** |
| **Lot 11** | 24 | 106 | 111 | 170 | **262** |
| **(Public Component)** | 3 | 12 | 12 | 19 | |
| **Lot 12** | 2 | 10 | 21 | 7 | **201** |
| **Lot 13** | 19 | 21 | 41 | 32 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 110 | 242 | 298 | 279 | 843 |
| Public Component [1] | 89 | 148 | 199 | 128 | |
| Admiralty Park (5,7) | 26 | 26 | 20 | 20 | 340 |
| Chace Park (2,4,EE) | 238 | 256 | 201 | 179 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 304 | 446 | 444 | 365 | 738 |
| Public Component | 85 | 98 | 90 | 69 | |
| North Channel (13) | 19 | 21 | 41 | 32 | 140 |
| Lot 12 | 2 | 10 | 21 | 7 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**9/4/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE LABOR DAY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 217 | 236 | 199 | 103 | **236** |
| **(Public Component)** | 88 | 95 | 80 | 42 | |
| **Fishermans** | 192 | 406 | 374 | 277 | **502** |
| **(Public Component)** | 24 | 51 | 47 | 35 | |
| **Overflow** | 97 | 126 | 141 | 86 | **252** |
| **Lot 2** | 141 | 159 | 106 | 56 | **239** |
| **Lot 4** | 67 | 77 | 75 | 46 | **140** |
| **Lot 5** | 0 | 3 | 1 | 1 | **220** |
| **Lot 7** | 7 | 4 | 10 | 8 | **120** |
| **Lot 8** | 1 | 1 | 5 | 2 | **183** |
| **Lot 9** | 37 | 38 | 30 | 24 | **186** |
| **Lot 10** | 29 | 81 | 161 | 19 | **212** |
| **Lot 11** | 36 | 109 | 147 | 136 | **262** |
| **(Public Component)** | 4 | 12 | 16 | 15 | |
| **Lot 12** | 6 | 24 | 32 | 14 | **201** |
| **Lot 13** | 23 | 68 | 63 | 36 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 146 | 272 | 386 | 224 | 843 |
| Public Component [1] | 114 | 175 | 255 | 103 | |
| Admiralty Park (5,7) | 7 | 7 | 11 | 9 | 340 |
| Chace Park (2,4,EE) | 266 | 294 | 239 | 160 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 409 | 642 | 573 | 380 | 738 |
| Public Component | 112 | 146 | 127 | 77 | |
| North Channel (13) | 23 | 68 | 63 | 36 | 140 |
| Lot 12 | 6 | 24 | 32 | 14 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**9/5/2005**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE LABOR DAY WEEKEND 2005**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 134 | 159 | 221 | 91 | **236** |
| **Fishermans** | 113 | 253 | 284 | 186 | **502** |
| **Overflow** | 64 | 92 | 110 | 73 | **252** |
| **Lot 2** | 109 | 116 | 71 | 26 | **239** |
| **Lot 4** | 58 | 71 | 63 | 53 | **140** |
| **Lot 5** | 1 | 1 | 0 | 0 | **220** |
| **Lot 7** | 6 | 9 | 7 | 4 | **120** |
| **Lot 8** | 1 | 2 | 10 | 46 | **183** |
| **Lot 9** | 37 | 48 | 38 | 16 | **186** |
| **Lot 10** | 24 | 66 | 78 | 6 | **212** |
| **Lot 11** | 31 | 139 | 146 | 100 | **262** |
| **Lot 12** | 6 | 17 | 30 | 15 | **201** |
| **Lot 13** | 17 | 46 | 60 | 20 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 93 | 255 | 272 | 168 | 843 |
| Admiralty Park (5,7) | 7 | 10 | 7 | 4 | 340 |
| Chace Park (2,4,EE) | 225 | 245 | 192 | 137 | 437 |
| North Channel (13) | 17 | 46 | 60 | 20 | 140 |
| Lot 12 | 6 | 17 | 30 | 15 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**5/25/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE MEMORIAL DAY WEEKEND 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 84 | 67 | 77 | 106 | **236** |
| **(Public Component)** | 22 | 18 | 20 | 28 | |
| **Fishermans** | 87 | 180 | 178 | 385 | **502** |
| **(Public Component)** | 6 | 13 | 13 | 28 | |
| **Overflow** | 49 | 54 | 65 | 85 | **252** |
| **Lot 2** | 53 | 41 | 34 | 20 | **239** |
| **Lot 4** | 54 | 82 | 75 | 14 | **140** |
| **Lot 5** | 23 | 20 | 14 | 4 | **220** |
| **Lot 7** | 15 | 14 | 5 | 4 | **120** |
| **Lot 8** | 0 | 0 | 0 | 53 | **183** |
| **Lot 9** | 20 | 17 | 18 | 20 | **186** |
| **Lot 10** | 1 | 5 | 7 | 9 | **212** |
| **Lot 11** | 51 | 64 | 40 | 88 | **262** |
| **(Public Component)** | 19 | 23 | 15 | 32 | |
| **Lot 12** | 6 | 3 | 4 | 4 | **201** |
| **Lot 13** | 13 | 10 | 8 | 16 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 93 | 107 | 86 | 191 | 843 |
| Public Component [1] | 61 | 66 | 61 | 135 | |
| Admiralty Park (5,7) | 38 | 34 | 19 | 8 | 340 |
| Chace Park (2,4,EE) | 165 | 181 | 167 | 92 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 171 | 247 | 255 | 491 | 738 |
| Public Component | 28 | 31 | 33 | 56 | |
| North Channel (13) | 13 | 10 | 8 | 16 | 140 |
| Lot 12 | 6 | 3 | 4 | 4 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**5/26/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE MEMORIAL DAY WEEKEND 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 177 | 162 | 155 | 110 | **236** |
| **(Public Component)** | 71 | 65 | 63 | 44 | |
| **Fishermans** | 122 | 346 | 397 | 402 | **502** |
| **(Public Component)** | 15 | 44 | 50 | 51 | |
| **Overflow** | 46 | 86 | 75 | 55 | **252** |
| **Lot 2** | 101 | 122 | 69 | 43 | **239** |
| **Lot 4** | 26 | 38 | 23 | 4 | **140** |
| **Lot 5** | 4 | 8 | 7 | 7 | **220** |
| **Lot 7** | 12 | 15 | 13 | 8 | **120** |
| **Lot 8** | 0 | 0 | 1 | 39 | **183** |
| **Lot 9** | 32 | 34 | 28 | 33 | **186** |
| **Lot 10** | 16 | 44 | 55 | 28 | **212** |
| **Lot 11** | 13 | 78 | 89 | 175 | **262** |
| **(Public Component)** | 1 | 9 | 10 | 19 | |
| **Lot 12** | 7 | 20 | 14 | 23 | **201** |
| **Lot 13** | 28 | 26 | 34 | 52 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 104 | 199 | 216 | 318 | 843 |
| Public Component [1] | 92 | 130 | 137 | 162 | |
| Admiralty Park (5,7) | 16 | 23 | 20 | 15 | 340 |
| Chace Park (2,4,EE) | 185 | 218 | 150 | 105 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 299 | 508 | 552 | 512 | 738 |
| Public Component | 86 | 109 | 113 | 95 | |
| North Channel (13) | 28 | 26 | 34 | 52 | 140 |
| Lot 12 | 7 | 20 | 14 | 23 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**5/27/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE MEMORIAL DAY WEEKEND 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 180 | 201 | 212 | 89 | **236** |
| **(Public Component)** | 73 | 81 | 86 | 36 | |
| **Fishermans** | 197 | 399 | 410 | 371 | **502** |
| **(Public Component)** | 25 | 51 | 52 | 47 | |
| **Overflow** | 57 | 89 | 92 | 59 | **252** |
| **Lot 2** | 104 | 177 | 189 | 51 | **239** |
| **Lot 4** | 17 | 29 | 32 | 16 | **140** |
| **Lot 5** | 4 | 4 | 3 | 0 | **220** |
| **Lot 7** | 30 | 34 | 93 | 107 | **120** |
| **Lot 8** | 1 | 36 | 39 | 45 | **183** |
| **Lot 9** | 28 | 31 | 36 | 30 | **186** |
| **Lot 10** | 23 | 60 | 76 | 20 | **212** |
| **Lot 11** | 17 | 63 | 131 | 112 | **262** |
| **(Public Component)** | 2 | 7 | 15 | 12 | |
| **Lot 12** | 15 | 19 | 27 | 20 | **201** |
| **Lot 13** | 34 | 37 | 69 | 55 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 112 | 233 | 325 | 250 | 843 |
| Public Component [1] | 97 | 177 | 209 | 150 | |
| Admiralty Park (5,7) | 34 | 38 | 96 | 107 | 340 |
| Chace Park (2,4,EE) | 179 | 264 | 279 | 125 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 377 | 600 | 622 | 460 | 738 |
| Public Component | 98 | 132 | 138 | 83 | |
| North Channel (13) | 34 | 37 | 69 | 55 | 140 |
| Lot 12 | 15 | 19 | 27 | 20 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**5/28/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE MEMORIAL DAY WEEKEND 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 167 | 173 | 179 | 62 | **236** |
| **Fishermans** | 152 | 270 | 340 | 103 | **502** |
| **Overflow** | 37 | 51 | 67 | 28 | **252** |
| **Lot 2** | 84 | 107 | 92 | 15 | **239** |
| **Lot 4** | 43 | 69 | 71 | 9 | **140** |
| **Lot 5** | 2 | 4 | 9 | 0 | **220** |
| **Lot 7** | 9 | 7 | 5 | 3 | **120** |
| **Lot 8** | 3 | 1 | 2 | 2 | **183** |
| **Lot 9** | 44 | 31 | 27 | 15 | **186** |
| **Lot 10** | 28 | 47 | 41 | 5 | **212** |
| **Lot 11** | 15 | 74 | 111 | 82 | **262** |
| **Lot 12** | 9 | 24 | 31 | 11 | **201** |
| **Lot 13** | 33 | 27 | 26 | 39 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 90 | 153 | 181 | 104 | 843 |
| Admiralty Park (5,7) | 11 | 11 | 14 | 3 | 340 |
| Chace Park (2,4,EE) | 185 | 234 | 221 | 82 | 437 |
| North Channel (13) | 33 | 27 | 26 | 39 | 140 |
| Lot 12 | 9 | 24 | 31 | 11 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**7/4/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED FOR 4TH OF JULY 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 101 | 182 | 237 | 238 | **236** |
| **Fishermans** | 193 | 225 | 431 | 439 | **502** |
| **Overflow** | 52 | 69 | 79 | 250 | **252** |
| **Lot 2** | 103 | 126 | 171 | 181 | **239** |
| **Lot 4** | 98 | 133 | 136 | 150 | **140** |
| **Lot 5** | 10 | 13 | 169 | 200 | **220** |
| **Lot 7** | 13 | 23 | 98 | 120 | **120** |
| **Lot 8** | 4 | 8 | 72 | 89 | **183** |
| **Lot 9** | 26 | 186 | 186 | 185 | **186** |
| **Lot 10** | 71 | 209 | 209 | 209 | **212** |
| **Lot 11** | 24 | 261 | 263 | 263 | **262** |
| **Lot 12** | 64 | 68 | 68 | 52 | **201** |
| **Lot 13** | 134 | 134 | 134 | 134 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 125 | 664 | 730 | 746 | 843 |
| Admiralty Park (5,7) | 23 | 36 | 267 | 320 | 340 |
| Chace Park (2,4,EE) | 259 | 317 | 365 | 389 | 437 |
| North Channel (13) | 134 | 134 | 134 | 134 | 140 |
| Lot 12 | 64 | 68 | 68 | 52 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**8/31/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE LABOR DAY WEEKEND 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 86 | 69 | 80 | 100 | **236** |
| **(Public Component)** | 23 | 18 | 21 | 26 | |
| **Fishermans** | 105 | 190 | 185 | 365 | **502** |
| **(Public Component)** | 8 | 14 | 13 | 26 | |
| **Overflow** | 53 | 54 | 68 | 81 | **252** |
| **Lot 2** | 62 | 45 | 38 | 24 | **239** |
| **Lot 4** | 62 | 86 | 71 | 10 | **140** |
| **Lot 5** | 30 | 25 | 17 | 7 | **220** |
| **Lot 7** | 21 | 13 | 8 | 6 | **120** |
| **Lot 8** | 2 | 3 | 4 | 5 | **183** |
| **Lot 9** | 35 | 21 | 21 | 25 | **186** |
| **Lot 10** | 4 | 7 | 10 | 11 | **212** |
| **Lot 11** | 60 | 68 | 35 | 82 | **262** |
| **(Public Component)** | 22 | 25 | 13 | 30 | |
| **Lot 12** | 9 | 5 | 6 | 8 | **201** |
| **Lot 13** | 15 | 13 | 10 | 19 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 122 | 120 | 91 | 144 | 843 |
| Public Component [1] | 84 | 77 | 69 | 92 | |
| Admiralty Park (5,7) | 51 | 38 | 25 | 13 | 340 |
| Chace Park (2,4,EE) | 182 | 189 | 167 | 92 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 191 | 259 | 265 | 465 | 738 |
| Public Component | 31 | 32 | 34 | 52 | |
| North Channel (13) | 15 | 13 | 10 | 19 | 140 |
| Lot 12 | 9 | 5 | 6 | 8 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**9/1/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE LABOR DAY WEEKEND 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 181 | 169 | 159 | 115 | **236** |
| **(Public Component)** | 73 | 68 | 64 | 46 | |
| **Fishermans** | 129 | 362 | 412 | 385 | **502** |
| **(Public Component)** | 16 | 46 | 52 | 49 | |
| **Overflow** | 52 | 90 | 79 | 62 | **252** |
| **Lot 2** | 103 | 125 | 71 | 51 | **239** |
| **Lot 4** | 31 | 43 | 28 | 9 | **140** |
| **Lot 5** | 8 | 12 | 11 | 11 | **220** |
| **Lot 7** | 16 | 18 | 18 | 12 | **120** |
| **Lot 8** | 2 | 2 | 3 | 43 | **183** |
| **Lot 9** | 37 | 39 | 38 | 41 | **186** |
| **Lot 10** | 21 | 39 | 41 | 36 | **212** |
| **Lot 11** | 18 | 85 | 96 | 185 | **262** |
| **(Public Component)** | 2 | 9 | 11 | 21 | |
| **Lot 12** | 10 | 24 | 18 | 29 | **201** |
| **Lot 13** | 35 | 39 | 45 | 59 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 121 | 208 | 221 | 348 | 843 |
| Public Component [1] | 105 | 132 | 136 | 184 | |
| Admiralty Park (5,7) | 24 | 30 | 29 | 23 | 340 |
| Chace Park (2,4,EE) | 192 | 226 | 157 | 118 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 310 | 531 | 571 | 500 | 738 |
| Public Component | 89 | 114 | 116 | 95 | |
| North Channel (13) | 35 | 39 | 45 | 59 | 140 |
| Lot 12 | 10 | 24 | 18 | 29 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**9/2/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE LABOR DAY WEEKEND 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 202 | 212 | 239 | 189 | **236** |
| **(Public Component)** | 82 | 86 | 97 | 76 | |
| **Fishermans** | 221 | 412 | 439 | 376 | **502** |
| **(Public Component)** | 28 | 52 | 56 | 48 | |
| **Overflow** | 65 | 92 | 116 | 61 | **252** |
| **Lot 2** | 112 | 189 | 195 | 65 | **239** |
| **Lot 4** | 21 | 36 | 45 | 28 | **140** |
| **Lot 5** | 7 | 7 | 6 | 2 | **220** |
| **Lot 7** | 35 | 41 | 102 | 101 | **120** |
| **Lot 8** | 3 | 41 | 48 | 52 | **183** |
| **Lot 9** | 36 | 45 | 65 | 29 | **186** |
| **Lot 10** | 35 | 86 | 102 | 71 | **212** |
| **Lot 11** | 19 | 69 | 135 | 101 | **262** |
| **(Public Component)** | 2 | 8 | 15 | 11 | |
| **Lot 12** | 19 | 28 | 35 | 20 | **201** |
| **Lot 13** | 23 | 41 | 88 | 67 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 136 | 284 | 393 | 296 | 843 |
| Public Component [1] | 119 | 223 | 273 | 206 | |
| Admiralty Park (5,7) | 42 | 48 | 108 | 103 | 340 |
| Chace Park (2,4,EE) | 191 | 283 | 298 | 151 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 423 | 624 | 678 | 565 | 738 |
| Public Component | 110 | 138 | 153 | 124 | |
| North Channel (13) | 23 | 41 | 88 | 67 | 140 |
| Lot 12 | 19 | 28 | 35 | 20 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**9/3/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**OVER THE LABOR DAY WEEKEND 2007**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 120 | 200 | 216 | 89 | **236** |
| **Fishermans** | 158 | 200 | 238 | 165 | **502** |
| **Overflow** | 34 | 49 | 69 | 49 | **252** |
| **Lot 2** | 120 | 135 | 113 | 67 | **239** |
| **Lot 4** | 67 | 50 | 43 | 10 | **140** |
| **Lot 5** | 5 | 3 | 3 | 1 | **220** |
| **Lot 7** | 5 | 9 | 15 | 1 | **120** |
| **Lot 8** | 2 | 1 | 1 | 0 | **183** |
| **Lot 9** | 37 | 45 | 41 | 13 | **186** |
| **Lot 10** | 53 | 205 | 142 | 22 | **212** |
| **Lot 11** | 37 | 90 | 112 | 104 | **262** |
| **Lot 12** | 7 | 30 | 35 | 13 | **201** |
| **Lot 13** | 56 | 88 | 113 | 44 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 129 | 341 | 296 | 139 | 843 |
| Admiralty Park (5,7) | 10 | 12 | 18 | 2 | 340 |
| Chace Park (2,4,EE) | 245 | 243 | 214 | 135 | 437 |
| North Channel (13) | 56 | 88 | 113 | 44 | 140 |
| Lot 12 | 7 | 30 | 35 | 13 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**10/25/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**TYPICAL WEEKDAY**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 87 | 96 | 110 | 51 | **236** |
| **(Public Component)** | 23 | 25 | 29 | 13 | |
| **Fishermans** | 26 | 90 | 72 | 155 | **502** |
| **(Public Component)** | 2 | 6 | 5 | 11 | |
| **Overflow** | 78 | 90 | 81 | 63 | **252** |
| **Lot 2** | 16 | 17 | 17 | 24 | **239** |
| **Lot 4** | 18 | 31 | 19 | 6 | **140** |
| **Chace Park (EE)** | 9 | 32 | 24 | 15 | **58** |
| **Lot 5** | 15 | 19 | 19 | 7 | **220** |
| **Lot 7** | 5 | 7 | 11 | 10 | **120** |
| **Lot 8** | 3 | 4 | 1 | 1 | **183** |
| **Lot 9** | 9 | 10 | 15 | 9 | **186** |
| **Lot 10** | 24 | 65 | 22 | 16 | **212** |
| **Lot 11** | 14 | 33 | 20 | 82 | **262** |
| **(Public Component)** | 5 | 12 | 7 | 30 | |
| **Lot 12** | 17 | 16 | 6 | 4 | **201** |
| **Lot 13** | 10 | 7 | 4 | 15 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 71 | 133 | 79 | 129 | 843 |
| Public Component [1] | 62 | 112 | 66 | 77 | |
| Admiralty Park (5,7) | 20 | 26 | 30 | 17 | 340 |
| Chace Park (2,4,EE) | 43 | 80 | 60 | 45 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 113 | 186 | 182 | 206 | 738 |
| Public Component | 25 | 31 | 34 | 24 | |
| North Channel (13) | 10 | 7 | 4 | 15 | 140 |
| Lot 12 | 17 | 16 | 6 | 4 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**11/3/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED**
**TYPICAL WEEKEND DAY**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 108 | 119 | 91 | 114 | **236** |
| **(Public Component)** | 44 | 48 | 37 | 46 | |
| **Fishermans** | 146 | 272 | 283 | 255 | **502** |
| **(Public Component)** | 18 | 34 | 36 | 32 | |
| **Overflow** | 73 | 90 | 94 | 73 | **252** |
| **Lot 2** | 52 | 70 | 62 | 40 | **239** |
| **Lot 4** | 25 | 27 | 24 | 14 | **140** |
| **Chace Park (EE)** | 23 | 29 | 51 | 32 | **58** |
| **Lot 5** | 14 | 12 | 7 | 3 | **220** |
| **Lot 7** | 11 | 37 | 91 | - | **120** |
| **Lot 8** | 17 | 18 | 2 | 11 | **183** |
| **Lot 9** | 15 | 11 | 12 | 10 | **186** |
| **Lot 10** | 13 | 24 | 20 | 11 | **212** |
| **Lot 11** | 44 | 70 | 78 | 105 | **262** |
| **(Public Component)** | 5 | 8 | 9 | 12 | |
| **Lot 12** | 6 | 7 | 5 | 6 | **201** |
| **Lot 13** | 30 | 27 | 12 | 32 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 132 | 166 | 155 | 180 | 843 |
| Public Component [1] | 93 | 104 | 86 | 87 | |
| Admiralty Park (5,7) | 25 | 49 | 98 | 3 | 340 |
| Chace Park (2,4,EE) | 100 | 126 | 137 | 86 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 254 | 391 | 374 | 369 | 738 |
| Public Component | 62 | 82 | 73 | 78 | |
| North Channel (13) | 30 | 27 | 12 | 32 | 140 |
| Lot 12 | 6 | 7 | 5 | 6 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A2**
**PARKING DEMAND UTILIZATION SURVEY SHEETS**

**12/8/2007**

**MAXIMUM NUMBER OF SPACES OCCUPIED FOR THE HOLIDAY BOAT PARADE**

| Parking Lot | 10 A.M. | 1 P.M. | 4 P.M. | 8 P.M. | Total Available Spaces [2] |
|---|---|---|---|---|---|
| **Dock 52** | 44 | 60 | 89 | 207 | **236** |
| **Fishermans** | 210 | 304 | 380 | 422 | **502** |
| **Overflow** | 46 | 64 | 69 | 233 | **252** |
| **Lot 2** | 6 | 10 | 28 | 93 | **239** |
| **Lot 4** | 16 | 24 | 27 | 29 | **140** |
| **Lot 5** | 10 | 12 | 15 | 51 | **220** |
| **Lot 7** | 90 | 120 | 120 | 117 | **120** |
| **Lot 8** | 14 | 23 | 27 | 45 | **183** |
| **Lot 9** | 16 | 20 | 21 | 22 | **186** |
| **Lot 10** | 46 | 54 | 34 | 44 | **212** |
| **Lot 11** | 38 | 53 | 59 | 173 | **262** |
| **Lot 12** | 8 | 12 | 12 | 47 | **201** |
| **Lot 13** | 32 | 44 | 73 | 137 | **140** |

| | | | | | |
|---|---|---|---|---|---|
| Mother's Beach Demand (8,9,10,11) | 114 | 150 | 141 | 284 | 843 |
| Admiralty Park (5,7) | 100 | 132 | 135 | 168 | 340 |
| Chace Park (2,4,EE) | 80 | 92 | 113 | 180 | 437 |
| Fiji Way Demand (Fisherman's Village, Dock 52) | 254 | 364 | 469 | 629 | 738 |
| North Channel (13) | 32 | 44 | 73 | 137 | 140 |
| Lot 12 | 8 | 12 | 12 | 47 | 201 |

NOTE: [1] Mother's Beach Activity area public parking demand also includes parking demand associated with Kayakers & other recreational users parking in Organic Panificio and Casa Escobar Parking Lots

[2] Total available supply based on Field inventory survey conducted by Raju Associates, Inc., February 2009

**APPENDIX A3**
**LOT W / FISHERMAN VILLAGE PARKING LOT**
**PARKING UTILIZATION - PUBLIC USERS**
**THURSDAY, SEPTEMBER 18, 2008**

| Time | Number of Cars Inbound | Number of Cars Outbound | Number of Cars in Parking Lot | Number of Cars Parked | Percent Occupied |
|---|---|---|---|---|---|
| 7:00 AM | 1 | 0 | 1 | 38 | 7% |
| 7:15 AM | 0 | 0 | 1 | | |
| 7:30 AM | 1 | 0 | 2 | 30 | 6% |
| 7:45 AM | 0 | 0 | 2 | | |
| 8:00 AM | 0 | 0 | 2 | 29 | 6% |
| 8:15 AM | 0 | 0 | 2 | | |
| 8:30 AM | 1 | 0 | 3 | 21 | 4% |
| 8:45 AM | 1 | 0 | 4 | | |
| 9:00 AM | 0 | 0 | 4 | 47 | 9% |
| 9:15 AM | 0 | 1 | 3 | | |
| 9:30 AM | 0 | 0 | 3 | 47 | 9% |
| 9:45 AM | 0 | 1 | 2 | | |
| 10:00 AM | 0 | 0 | 2 | 45 | 9% |
| 10:15 AM | 2 | 0 | 4 | | |
| 10:30 AM | 0 | 0 | 4 | 49 | 10% |
| 10:45 AM | 2 | 0 | 6 | | |
| 11:00 AM | 0 | 1 | 5 | 63 | 12% |
| 11:15 AM | 1 | 0 | 6 | | |
| 11:30 AM | 0 | 0 | 6 | 68 | 13% |
| 11:45 AM | 1 | 0 | 7 | | |
| 12:00 PM | 0 | 2 | 5 | 98 | 19% |
| 12:15 PM | 1 | 0 | 6 | | |
| 12:30 PM | 1 | 0 | 7 | 100 | 20% |
| 12:45 PM | 0 | 0 | 7 | | |
| 1:00 PM | 0 | 1 | 6 | 113 | 22% |
| 1:15 PM | 0 | 1 | 5 | | |
| 1:30 PM | 1 | 1 | 5 | 109 | 21% |
| 1:45 PM | 2 | 0 | 7 | | |
| 2:00 PM | 1 | 1 | 7 | 115 | 23% |
| 2:15 PM | 1 | 1 | 7 | | |
| 2:30 PM | 0 | 0 | 7 | 99 | 20% |
| 2:45 PM | 0 | 0 | 7 | | |
| 3:00 PM | 0 | 3 | 4 | 105 | 21% |
| 3:15 PM | 0 | 0 | 4 | | |
| 3:30 PM | 1 | 0 | 5 | 88 | 17% |
| 3:45 PM | 1 | 1 | 5 | 81 | 16% |
| Total | 19 | 14 | | | |

**APPENDIX A3**
**LOT W / FISHERMAN VILLAGE PARKING LOT**
**PARKING UTILIZATION - PUBLIC USERS**
**SATURDAY, SEPTEMBER 20, 2008**

| Time | Number of Cars | | Parking Accumulation | Number of Cars Parked | Percent Occupied |
|---|---|---|---|---|---|
| | Inbound | Outbound | | | |
| 7:00 AM | 0 | 0 | 0 | 121 | 24% |
| 7:15 AM | 3 | 1 | 2 | | |
| 7:30 AM | 0 | 1 | 1 | | |
| 7:45 AM | 1 | 2 | 0 | | |
| 8:00 AM | 0 | 0 | 0 | 138 | 27% |
| 8:15 AM | 0 | 0 | 0 | | |
| 8:30 AM | 2 | 0 | 2 | | |
| 8:45 AM | 0 | 1 | 1 | | |
| 9:00 AM | 0 | 0 | 1 | 142 | 28% |
| 9:15 AM | 0 | 1 | 0 | | |
| 9:30 AM | 0 | 0 | 0 | | |
| 9:45 AM | 2 | 2 | 0 | | |
| 10:00 AM | 3 | 0 | 3 | 165 | 33% |
| 10:15 AM | 10 | 1 | 12 | | |
| 10:30 AM | 3 | 0 | 15 | 210 | 41% |
| 10:45 AM | 2 | 2 | 15 | | |
| 11:00 AM | 3 | 2 | 16 | 238 | 47% |
| 11:15 AM | 6 | 0 | 22 | | |
| 11:30 AM | 5 | 6 | 21 | 269 | 53% |
| 11:45 AM | 10 | 1 | 30 | | |
| 12:00 PM | 6 | 7 | 29 | 286 | 56% |
| 12:15 PM | 3 | 5 | 27 | | |
| 12:30 PM | 5 | 2 | 30 | 310 | 61% |
| 12:45 PM | 3 | 4 | 29 | | |
| 1:00 PM | 10 | 3 | 36 | 335 | 66% |
| 1:15 PM | 6 | 3 | 39 | | |
| 1:30 PM | 8 | 3 | 44 | 369 | 73% |
| 1:45 PM | 8 | 3 | 49 | | |
| 2:00 PM | 2 | 3 | 48 | 404 | 80% |
| 2:15 PM | 2 | 3 | 47 | | |
| 2:30 PM | 5 | 8 | 44 | 368 | 73% |
| 2:45 PM | 4 | 7 | 41 | | |
| 3:00 PM | 7 | 5 | 43 | 377 | 74% |
| 3:15 PM | 4 | 4 | 43 | | |
| 3:30 PM | 2 | 8 | 37 | 335 | 66% |
| 3:45 PM | 3 | 8 | 32 | 310 | 61% |
| Total | 128 | 96 | | | |

**APPENDIX A3**
**Parking Survey for Casa Escobar (Parcel 27)**
**Thursday, September 25, 2008**

| Time | Arriving | | | Departing | | | Parking |
|---|---|---|---|---|---|---|---|
| | Kayak | Jogger | Walking | Kayak | Jogger | Walking | Demand |
| 5:30 AM | 3 | 0 | 0 | 0 | 0 | 0 | 14 |
| 5:45 AM | 0 | 1 | 0 | 0 | 0 | 0 | **15** |
| 6:00 AM | 0 | 0 | 0 | 0 | 1 | 0 | 14 |
| 6:15 AM | 0 | 0 | 0 | 0 | 10 | 0 | 4 |
| 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 7:15 AM | 0 | 0 | 0 | 3 | 0 | 0 | 1 |
| 7:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Parking Survey for The Organic Panificio (Parcel 33)**
**Thursday, September 25, 2008**

| Time | Arriving | | | Departing | | | Parking |
|---|---|---|---|---|---|---|---|
| | Kayak | Jogger | Walking | Kayak | Jogger | Walking | Demand |
| 5:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 6 |
| 5:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | **6** |
| 6:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 6:15 AM | 0 | 0 | 0 | 0 | 2 | 0 | 4 |
| 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6:45 AM | 1 | 0 | 0 | 0 | 0 | 0 | 5 |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 7:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 8:15 AM | 0 | 0 | 0 | 0 | 1 | 0 | 3 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 |

**Parking Survey for L.A. County Parking Lot NR**
**Thursday, September 25, 2008**

| Time | Arriving | | | Departing | | | Parking |
|---|---|---|---|---|---|---|---|
| | Kayak | Jogger | Walking | Kayak | Jogger | Walking | Demand |
| 5:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 5:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | **4** |
| 6:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 5 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 7:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 6 |
| 7:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 8:15 AM | 1 | 0 | 0 | 0 | 0 | 0 | 5 |
| 8:30 AM | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 4 |

Max Public Parking Demand = 15+6+4 = 25

**APPENDIX A3**
**Parking Survey for The Organic Panificio (Parcel 33)**
**Thursday, September 25, 2008**

| Time | Arriving | | | Departing | | | Parking Demand | Public Parking Demand |
|---|---|---|---|---|---|---|---|---|
| | Kayak | Jogger | Walking | Kayak | Jogger | Walking | | |
| 5:00 PM | 5 | 0 | 0 | 0 | 0 | 0 | 20 | 5 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 5 |
| 5:30 PM | 5 | 0 | 0 | 0 | 0 | 0 | 25 | 10 |
| 5:45 PM | 1 | 0 | 0 | 0 | 1 | 0 | 25 | 10 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 10 |
| 6:15 PM | 7 | 0 | 0 | 1 | 0 | 0 | 31 | 16 |
| 6:30 PM | 1 | 0 | 0 | 0 | 0 | 0 | 32 | **17** |
| 6:45 PM | 1 | 0 | 0 | 1 | 0 | 0 | 32 | 17 |

Max Public Parking Demand = 17

**APPENDIX A3**
**Parking Survey for The Organic Panificio (Parcel 33)**
**Saturday, September 27, 2008**

| Time | Arriving | | | Departing | | | Parking |
|---|---|---|---|---|---|---|---|
| | Kayak | Jogger | Walking | Kayak | Jogger | Walking | Demand |
| 5:30 AM | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 5:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 6:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 6:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 6:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 7:00 AM | 1 | 0 | 0 | 2 | 1 | 0 | 6 |
| 7:15 AM | 4 | 0 | 0 | 0 | 0 | 0 | 10 |
| 7:30 AM | 7 | 0 | 0 | 1 | 0 | 0 | 16 |
| 7:45 AM | 20 | 0 | 0 | 0 | 0 | 0 | 36 |
| 8:00 AM | 3 | 1 | 0 | 0 | 0 | 0 | 40 |
| 8:15 AM | 1 | 1 | 0 | 0 | 0 | 0 | 42 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 42 |
| 8:45 AM | 1 | 0 | 0 | 0 | 0 | 0 | **43** |

**Parking Survey for L.A. County Parking Lot NR**
**Saturday, September 27, 2008**

| Time | Arriving | | | Departing | | | Parking |
|---|---|---|---|---|---|---|---|
| | Kayak | Jogger | Walking | Kayak | Jogger | Walking | Demand |
| 5:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 5:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 6:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 6:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 12 |
| 6:30 AM | 0 | 0 | 0 | 0 | 0 | 1 | 11 |
| 6:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 7:00 AM | 2 | 0 | 0 | 0 | 1 | 0 | 12 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 7:30 AM | 2 | 0 | 0 | 0 | 0 | 0 | 14 |
| 7:45 AM | 2 | 0 | 0 | 0 | 0 | 0 | 16 |
| 8:00 AM | 1 | 0 | 0 | 0 | 0 | 0 | 17 |
| 8:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 18 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | **18** |

Total Public Parking Demand = 43+18 = 61

**APPENDIX A3**
**Parking Survey for The Organic Panificio (Parcel 33)**
**Saturday, September 27, 2008**

| Time | Arriving | | | Departing | | | Parking |
|---|---|---|---|---|---|---|---|
| | Kayak | Jogger | Walking | Kayak | Jogger | Walking | Demand |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | **24** |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| 6:00 PM | 0 | 0 | 0 | 10 | 0 | 0 | 14 |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 14 |

**Parking Survey for L.A. County Parking Lot NR**
**Saturday, September 27, 2008**

| Time | Arriving | | | Departing | | | Parking |
|---|---|---|---|---|---|---|---|
| | Kayak | Jogger | Walking | Kayak | Jogger | Walking | Demand |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | **25** |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| 6:15 PM | 0 | 0 | 0 | 4 | 0 | 0 | 21 |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 21 |

Total Public Parking Demand = 24+25 = 49

**APPENDIX A3**
**Cheesecake Factory Parking Lot (Parcel 22)**
**Thursday, October 09, 2008**

| Time | Dry Cleaner | | Employees | | Delivery/Contractors | | Customers | | Cheesecake Factory Lot Parking Demand | Lot GR Cheesecake Factory Parking Demand | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | In | Out | In | Out | In | Out | In | Out | | | |
| 9:00 AM | 3 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 12 | 0 | 12 |
| 9:15 AM | 3 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 14 | 0 | 14 |
| 9:30 AM | 1 | 1 | 1 | 0 | 3 | 1 | 0 | 0 | 17 | 0 | 17 |
| 9:45 AM | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 17 | 0 | 17 |
| 10:00 AM | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 18 | 0 | 18 |
| 10:15 AM | 2 | 3 | 2 | 0 | 1 | 2 | 0 | 0 | 18 | 0 | 18 |
| 10:30 AM | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 19 | 1 | 20 |
| 10:45 AM | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 21 | 1 | 22 |
| 11:00 AM | 5 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 21 | 4 | 25 |
| 11:15 AM | 1 | 2 | 0 | 0 | 0 | 0 | 10 | 0 | 30 | 7 | 37 |
| 11:30 AM | 2 | 1 | 0 | 0 | 0 | 0 | 6 | 1 | 36 | 11 | 47 |
| 11:45 AM | 1 | 1 | 0 | 0 | 0 | 0 | 6 | 1 | 41 | 18 | 59 |
| 12:00 PM | 1 | 0 | 0 | 0 | 0 | 0 | 8 | 3 | 47 | 19 | 66 |
| 12:15 PM | 1 | 2 | 0 | 0 | 0 | 0 | 7 | 3 | 50 | 19 | 69 |
| 12:30 PM | 1 | 1 | 0 | 0 | 0 | 0 | 8 | 5 | 53 | 19 | 72 |
| 12:45 PM | 2 | 1 | 0 | 0 | 0 | 0 | 8 | 6 | 56 | 20 | 76 |
| 1:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 56 | 23 | 79 |
| 1:15 PM | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 7 | 53 | 31 | 84 |
| 1:30 PM | 2 | 2 | 0 | 0 | 0 | 0 | 5 | 5 | 53 | 28 | 81 |
| 1:45 PM | 1 | 1 | 0 | 0 | 0 | 0 | 7 | 11 | 49 | 30 | 79 |
| 2:00 PM | 2 | 2 | 0 | 0 | 0 | 0 | 9 | 9 | 49 | 31 | 80 |
| 2:15 PM | 3 | 3 | 0 | 0 | 0 | 0 | 7 | 3 | 53 | 29 | 82 |
| 2:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 12 | 47 | 28 | 75 |
| 2:45 PM | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 8 | 43 | 21 | 64 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 8 | 40 | 21 | 61 |
| 3:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 7 | 44 | 19 | 63 |
| 3:30 PM | 1 | 1 | 1 | 0 | 0 | 0 | 6 | 10 | 41 | 17 | 58 |
| 3:45 PM | 1 | 1 | 0 | 0 | 0 | 0 | 6 | 5 | 42 | 14 | 56 |
| 4:00 PM | 1 | 1 | 0 | 0 | 0 | 0 | 5 | 0 | 47 | 11 | 58 |
| 4:15 PM | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 6 | 45 | 14 | 59 |
| 4:30 PM | 1 | 1 | 0 | 0 | 0 | 0 | 5 | 5 | 45 | 16 | 61 |
| 4:45 PM | 4 | 4 | 0 | 1 | 0 | 0 | 9 | 7 | 46 | 21 | 67 |
| 5:00 PM | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 9 | 39 | 22 | 61 |
| 5:15 PM | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 40 | 23 | 63 |
| 5:30 PM | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 3 | 45 | 25 | 70 |
| 5:45 PM | 1 | 2 | 0 | 0 | 0 | 0 | 8 | 3 | 49 | 30 | 79 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 5 | 53 | 30 | 83 |
| 6:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 19 | 10 | 60 | 32 | 92 |
| 6:30 PM | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 8 | 59 | 33 | 92 |
| 6:45 PM | 1 | 2 | 0 | 0 | 0 | 0 | 5 | 4 | 59 | 43 | 102 |
| Total | 50 | 48 | 5 | 3 | 12 | 10 | 215 | 175 | | | |

**APPENDIX A3**
**Los Angeles County Lot GR**
**Thursday, October 09, 2008**

| Time | Recreational | | Employees | | Customers | | Cheesecake Factory Parking Demand | Lot GR Public Parking Demand | Total |
|---|---|---|---|---|---|---|---|---|---|
| | In | Out | In | Out | In | Out | | | |
| 9:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 11 |
| 9:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 11 |
| 9:30 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 12 |
| 9:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 12 |
| 10:00 AM | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 14 | 14 |
| 10:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 14 |
| 10:30 AM | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 14 | 15 |
| 10:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 14 | 15 |
| 11:00 AM | 1 | 2 | 3 | 0 | 0 | 0 | 4 | 13 | 17 |
| 11:15 AM | 1 | 1 | 3 | 0 | 0 | 0 | 7 | 13 | 20 |
| 11:30 AM | 0 | 0 | 1 | 0 | 3 | 0 | 11 | 13 | 24 |
| 11:45 AM | 0 | 0 | 7 | 0 | 0 | 0 | 18 | 13 | 31 |
| 12:00 PM | 1 | 1 | 0 | 0 | 1 | 0 | 19 | 13 | 32 |
| 12:15 PM | 1 | 1 | 0 | 0 | 0 | 0 | 19 | 13 | 32 |
| 12:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 13 | 32 |
| 12:45 PM | 0 | 0 | 0 | 0 | 1 | 0 | 20 | 13 | 33 |
| 1:00 PM | 2 | 0 | 0 | 0 | 3 | 0 | 23 | 15 | 38 |
| 1:15 PM | 0 | 0 | 0 | 0 | 8 | 0 | 31 | 15 | 46 |
| 1:30 PM | 1 | 0 | 0 | 1 | 0 | 2 | 28 | 16 | 44 |
| 1:45 PM | 0 | 2 | 1 | 0 | 1 | 0 | 30 | 14 | 44 |
| 2:00 PM | 0 | 1 | 0 | 0 | 1 | 0 | 31 | 13 | 44 |
| 2:15 PM | 0 | 1 | 0 | 1 | 1 | 2 | 29 | 12 | 41 |
| 2:30 PM | 0 | 0 | 1 | 1 | 2 | 3 | 28 | 12 | 40 |
| 2:45 PM | 1 | 1 | 0 | 0 | 0 | 7 | 21 | 12 | 33 |
| 3:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 21 | 11 | 32 |
| 3:15 PM | 0 | 0 | 0 | 1 | 0 | 1 | 19 | 11 | 30 |
| 3:30 PM | 0 | 0 | 0 | 3 | 1 | 0 | 17 | 11 | 28 |
| 3:45 PM | 0 | 0 | 0 | 2 | 0 | 1 | 14 | 11 | 25 |
| 4:00 PM | 0 | 1 | 0 | 3 | 0 | 0 | 11 | 10 | 21 |
| 4:15 PM | 0 | 1 | 3 | 0 | 0 | 0 | 14 | 9 | 23 |
| 4:30 PM | 0 | 0 | 5 | 3 | 0 | 0 | 16 | 9 | 25 |
| 4:45 PM | 0 | 0 | 6 | 1 | 0 | 0 | 21 | 9 | 30 |
| 5:00 PM | 0 | 0 | 1 | 0 | 0 | 0 | 22 | 9 | 31 |
| 5:15 PM | 0 | 0 | 3 | 1 | 0 | 1 | 23 | 9 | 32 |
| 5:30 PM | 0 | 0 | 10 | 7 | 0 | 1 | 25 | 9 | 34 |
| 5:45 PM | 0 | 0 | 4 | 2 | 3 | 0 | 30 | 9 | 39 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 9 | 39 |
| 6:15 PM | 0 | 0 | 2 | 0 | 1 | 1 | 32 | 9 | 41 |
| 6:30 PM | 0 | 0 | 0 | 1 | 2 | 0 | 33 | 9 | 42 |
| 6:45 PM | 0 | 0 | 2 | 0 | 8 | 0 | 43 | 9 | 52 |
| Total | 13 | 15 | 53 | 27 | 36 | 19 | | | |

**APPENDIX A3**
**Cheesecake Factory Parking Lot (Parcel 22)**
**Saturday, October 11, 2008**

| Time | Dry Cleaner | | Employees | | Delivery/Contractors | | Customers | | Cheesecake Factory Lot Parking Demand | Lot GR Cheesecake Factory Parking Demand | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | In | Out | In | Out | In | Out | In | Out | | | |
| 7:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |
| 7:15 AM | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 12 | 0 | 12 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 12 |
| 7:45 AM | 0 | 0 | 3 | 2 | 0 | 1 | 0 | 0 | 12 | 0 | 12 |
| 8:00 AM | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 14 |
| 8:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 16 | 1 | 17 |
| 8:30 AM | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 18 | 3 | 21 |
| 8:45 AM | 3 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 19 | 6 | 25 |
| 9:00 AM | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 6 | 23 |
| 9:15 AM | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 6 | 24 |
| 9:30 AM | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 6 | 24 |
| 9:45 AM | 2 | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 18 | 6 | 24 |
| 10:00 AM | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 19 | 6 | 25 |
| 10:15 AM | 4 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 20 | 8 | 28 |
| 10:30 AM | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 23 | 9 | 32 |
| 10:45 AM | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 24 | 10 | 34 |
| 11:00 AM | 0 | 1 | 0 | 0 | 0 | 1 | 6 | 0 | 28 | 13 | 41 |
| 11:15 AM | 4 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 45 | 16 | 61 |
| 11:30 AM | 1 | 4 | 0 | 0 | 0 | 0 | 14 | 0 | 56 | 21 | 77 |
| 11:45 AM | 1 | 1 | 0 | 0 | 0 | 0 | 10 | 1 | 65 | 23 | 88 |
| 12:00 PM | 3 | 4 | 0 | 0 | 0 | 0 | 4 | 2 | 66 | 33 | 99 |
| 12:15 PM | 3 | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 65 | 37 | 102 |
| 12:30 PM | 4 | 4 | 0 | 0 | 0 | 0 | 2 | 1 | 66 | 41 | 107 |
| 12:45 PM | 2 | 2 | 0 | 0 | 0 | 0 | 6 | 9 | 63 | 44 | 107 |
| 1:00 PM | 3 | 3 | 0 | 0 | 0 | 0 | 10 | 12 | 61 | 47 | 108 |
| 1:15 PM | 3 | 3 | 0 | 0 | 0 | 0 | 10 | 7 | 64 | 52 | 116 |
| 1:30 PM | 3 | 3 | 0 | 0 | 0 | 0 | 10 | 14 | 60 | 54 | 114 |
| 1:45 PM | 4 | 3 | 0 | 0 | 0 | 0 | 10 | 5 | 66 | 57 | 123 |
| 2:00 PM | 1 | 1 | 0 | 0 | 0 | 0 | 6 | 6 | 66 | 66 | 132 |
| 2:15 PM | 1 | 1 | 0 | 0 | 0 | 0 | 7 | 10 | 63 | 62 | 125 |
| 2:30 PM | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 6 | 58 | 58 | 116 |
| 2:45 PM | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 10 | 52 | 63 | 115 |
| 3:00 PM | 2 | 2 | 0 | 0 | 0 | 0 | 11 | 5 | 58 | 66 | 124 |
| 3:15 PM | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 8 | 53 | 66 | 119 |
| 3:30 PM | 4 | 4 | 0 | 0 | 0 | 0 | 3 | 4 | 52 | 71 | 123 |
| 3:45 PM | 1 | 1 | 0 | 0 | 0 | 0 | 6 | 11 | 47 | 70 | 117 |
| 4:00 PM | 3 | 2 | 0 | 0 | 0 | 0 | 7 | 10 | 45 | 74 | 119 |
| 4:15 PM | 3 | 5 | 0 | 0 | 0 | 0 | 5 | 5 | 43 | 74 | 117 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 10 | 40 | 72 | 112 |
| 4:45 PM | 4 | 4 | 0 | 0 | 0 | 0 | 10 | 2 | 48 | 77 | 125 |
| 5:00 PM | 1 | 1 | 0 | 0 | 0 | 0 | 11 | 9 | 50 | 86 | 136 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 12 | 51 | 83 | 134 |
| 5:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 5 | 53 | 89 | 142 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 3 | 59 | 96 | 155 |
| 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 7 | 66 | 89 | 155 |
| 6:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 66 | 89 | 155 |
| 6:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 6 | 65 | 97 | 162 |
| 6:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 65 | 101 | 166 |
| Total | 81 | 79 | 18 | 7 | 6 | 6 | 234 | 189 | | | |

**APPENDIX A3**
**Los Angeles County Lot GR**
**Saturday, October 11, 2008**

| Time | Recreational | | Employees | | Customers | | Cheesecake Factory Parking Demand | Lot GR Public Parking Demand | Total Parking Demand |
|---|---|---|---|---|---|---|---|---|---|
| | In | Out | In | Out | In | Out | | | |
| 7:00 AM | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 7 |
| 7:15 AM | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 |
| 8:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 9 | 10 |
| 8:30 AM | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 9 | 12 |
| 8:45 AM | 0 | 0 | 3 | 0 | 0 | 0 | 6 | 9 | 15 |
| 9:00 AM | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 10 | 16 |
| 9:15 AM | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 9 | 15 |
| 9:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 15 |
| 9:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 15 |
| 10:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 15 |
| 10:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 9 | 17 |
| 10:30 AM | 2 | 0 | 1 | 0 | 0 | 0 | 9 | 11 | 20 |
| 10:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 10 | 11 | 21 |
| 11:00 AM | 0 | 0 | 3 | 0 | 0 | 0 | 13 | 11 | 24 |
| 11:15 AM | 0 | 0 | 3 | 0 | 0 | 0 | 16 | 11 | 27 |
| 11:30 AM | 2 | 0 | 5 | 0 | 0 | 0 | 21 | 13 | 34 |
| 11:45 AM | 0 | 2 | 3 | 1 | 0 | 0 | 23 | 11 | 34 |
| 12:00 PM | 0 | 1 | 5 | 0 | 5 | 0 | 33 | 10 | 43 |
| 12:15 PM | 0 | 1 | 0 | 0 | 4 | 0 | 37 | 9 | 46 |
| 12:30 PM | 0 | 0 | 2 | 0 | 2 | 0 | 41 | 9 | 50 |
| 12:45 PM | 0 | 1 | 1 | 0 | 2 | 0 | 44 | 8 | 52 |
| 1:00 PM | 1 | 0 | 1 | 0 | 2 | 0 | 47 | 9 | 56 |
| 1:15 PM | 0 | 0 | 0 | 0 | 5 | 0 | 52 | 9 | 61 |
| 1:30 PM | 1 | 1 | 1 | 0 | 1 | 0 | 54 | 9 | 63 |
| 1:45 PM | 0 | 1 | 0 | 0 | 3 | 0 | 57 | 8 | 65 |
| 2:00 PM | 0 | 0 | 0 | 0 | 11 | 2 | 66 | 8 | 74 |
| 2:15 PM | 0 | 0 | 0 | 0 | 0 | 4 | 62 | 8 | 70 |
| 2:30 PM | 0 | 0 | 0 | 0 | 0 | 4 | 58 | 8 | 66 |
| 2:45 PM | 0 | 2 | 0 | 0 | 7 | 2 | 63 | 6 | 69 |
| 3:00 PM | 0 | 0 | 1 | 0 | 4 | 2 | 66 | 6 | 72 |
| 3:15 PM | 1 | 0 | 0 | 0 | 3 | 3 | 66 | 7 | 73 |
| 3:30 PM | 0 | 0 | 4 | 0 | 4 | 3 | 71 | 7 | 78 |
| 3:45 PM | 2 | 0 | 0 | 0 | 4 | 5 | 70 | 9 | 79 |
| 4:00 PM | 0 | 1 | 3 | 0 | 3 | 2 | 74 | 8 | 82 |
| 4:15 PM | 1 | 0 | 1 | 0 | 1 | 2 | 74 | 9 | 83 |
| 4:30 PM | 0 | 0 | 2 | 2 | 1 | 3 | 72 | 9 | 81 |
| 4:45 PM | 0 | 0 | 3 | 0 | 4 | 2 | 77 | 9 | 86 |
| 5:00 PM | 0 | 0 | 7 | 1 | 6 | 3 | 86 | 9 | 95 |
| 5:15 PM | 1 | 1 | 0 | 1 | 0 | 4 | 83 | 9 | 92 |
| 5:30 PM | 0 | 0 | 3 | 0 | 7 | 4 | 89 | 9 | 98 |
| 5:45 PM | 0 | 0 | 3 | 2 | 8 | 2 | 96 | 9 | 105 |
| 6:00 PM | 0 | 0 | 0 | 8 | 4 | 3 | 89 | 9 | 98 |
| 6:15 PM | 1 | 0 | 0 | 0 | 2 | 2 | 89 | 10 | 99 |
| 6:30 PM | 0 | 0 | 0 | 0 | 11 | 3 | 97 | 10 | 107 |
| 6:45 PM | 0 | 0 | 0 | 0 | 9 | 5 | 101 | 10 | 111 |
| Total | 17 | 12 | 61 | 15 | 113 | 60 | | | |

# APPENDIX B-1/B-2

## Existing Conditions Parking Demand Analysis – Typical & Peak

**APPENDIX B-1**
**EXISTING CONDITIONS PUBLIC PARKING DEMAND ANALYSIS BY TIME OF DAY AND ACTIVITY AREA**

| # | Activity Area | Supply Existing Number of Spaces | Time | Public Demand & Utilization Profiles | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Occupied Spaces on Weekdays | | | | | | Occupied Spaces on Weekend Days | | | | | | | | | | | | | Occupied Spaces on Holidays ** | | | | | | |
| | | | | Fri 5/27/05 | Fri 7/1/05 | Fri 9/2/05 | Fri 5/25/07 | Fri 8/31/07 | Thur 10/25/07 | Sat 5/28/05 | Sun 5/29/05 | Sat 7/2/05 | Sun 7/3/05 | Sat 9/3/05 | Sun 9/4/05 | Sat 5/26/07 | Sun 5/27/07 | Sat 9/1/07 | Sun 9/2/07 | Sat 11/3/07 | Sat 12/8/07 | Mon 5/30/05 | Mon 7/4/05 | Mon 9/5/05 | Mon 5/28/07 | Wed 7/4/07 | Mon 9/3/07 |
| 1 | Mother's Beach (8-OT, 9-NR, 10-IR, 11-GR) | | 10AM | 37 | 58 | 45 | 61 | 84 | 62 | 98 | 88 | 87 | 119 | 89 | 114 | 92 | 97 | 105 | 119 | 93 | 114 | 63 | 109 | 93 | 90 | 125 | 129 |
| | | | 1PM | 62 | 89 | 57 | 66 | 77 | 112 | 134 | 142 | 128 | 216 | 148 | 175 | 130 | 177 | 132 | 223 | 104 | 150 | 212 | 497 | 255 | 153 | 664 | 341 |
| | | | 4PM | 50 | 66 | 61 | 61 | 69 | 66 | 158 | 173 | 160 | 282 | 199 | 255 | 137 | 209 | 136 | 273 | 86 | 141 | 277 | 736 | 272 | 181 | 730 | 296 |
| | | | 8PM | 81 | 201 | 154 | 135 | 92 | 77 | 101 | 119 | 128 | 152 | 128 | 103 | 162 | 150 | 184 | 206 | 87 | 284 | 127 | 815 | 168 | 104 | 746 | 139 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | 81 | 201 | 154 | 135 | 92 | 112 | 158 | 173 | 160 | 282 | 199 | 255 | 162 | 209 | 184 | 273 | 104 | 284 | 277 | 815 | 272 | 181 | 746 | 341 |
| | | 843 | Peak % | 10% | 24% | 18% | 16% | 11% | 13% | 19% | 21% | 19% | 33% | 24% | 30% | 19% | 25% | 22% | 32% | 12% | 34% | 33% | 97% | 32% | 21% | 88% | 40% |
| 2 | Admiralty Park (5-U, 7-Q) | | 10AM | 118 | 88 | 91 | 38 | 51 | 20 | 51 | 29 | 16 | 53 | 26 | 7 | 16 | 34 | 24 | 42 | 25 | 100 | 29 | 68 | 7 | 11 | 23 | 10 |
| | | | 1PM | 97 | 31 | 59 | 34 | 38 | 26 | 58 | 33 | 18 | 89 | 26 | 7 | 23 | 38 | 30 | 48 | 49 | 132 | 33 | 122 | 10 | 11 | 36 | 12 |
| | | | 4PM | 61 | 15 | 10 | 19 | 25 | 30 | 62 | 32 | 15 | 121 | 20 | 11 | 20 | 96 | 29 | 108 | 98 | 135 | 29 | 149 | 7 | 14 | 267 | 18 |
| | | | 8PM | 51 | 7 | 3 | 8 | 13 | 17 | 52 | 36 | 8 | 76 | 20 | 9 | 15 | 107 | 23 | 103 | 3 | 168 | 20 | 294 | 4 | 3 | 320 | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | 118 | 88 | 91 | 38 | 51 | 30 | 62 | 36 | 18 | 121 | 26 | 11 | 23 | 107 | 30 | 108 | 98 | 168 | 33 | 294 | 10 | 14 | 320 | 18 |
| | | 340 | Peak % | 35% | 26% | 27% | 11% | 15% | 9% | 18% | 11% | 5% | 36% | 8% | 3% | 7% | 31% | 9% | 32% | 29% | 49% | 10% | 86% | 3% | 4% | 94% | 5% |
| 3 | Chace Park (2-49R, 4-49M, EE) | | 10AM | 123 | 115 | 173 | 165 | 182 | 43 | 191 | 211 | 215 | 212 | 238 | 266 | 185 | 179 | 192 | 191 | 100 | 80 | 191 | 178 | 225 | 185 | 259 | 245 |
| | | | 1PM | 130 | 117 | 175 | 181 | 189 | 80 | 227 | 242 | 255 | 240 | 256 | 294 | 218 | 264 | 226 | 283 | 126 | 92 | 218 | 334 | 245 | 234 | 317 | 243 |
| | | | 4PM | 112 | 113 | 172 | 167 | 167 | 60 | 191 | 196 | 200 | 224 | 201 | 239 | 150 | 279 | 157 | 298 | 137 | 113 | 181 | 368 | 192 | 221 | 365 | 214 |
| | | | 8PM | 99 | 106 | 147 | 92 | 92 | 45 | 127 | 118 | 129 | 133 | 179 | 160 | 105 | 125 | 118 | 151 | 86 | 180 | 95 | 371 | 137 | 82 | 389 | 135 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | 130 | 117 | 175 | 181 | 189 | 80 | 227 | 242 | 255 | 240 | 256 | 294 | 218 | 279 | 226 | 298 | 137 | 180 | 218 | 371 | 245 | 234 | 389 | 245 |
| | | 437 | Peak % | 30% | 27% | 40% | 41% | 43% | 18% | 52% | 55% | 58% | 55% | 59% | 67% | 50% | 64% | 52% | 68% | 31% | 41% | 50% | 85% | 56% | 54% | 89% | 56% |
| 4 | Fiji Way * (Overflow Lots, 1-Fisherman's Village, Dock 52) | | 10AM | - | 31 | 41 | 28 | 31 | 25 | - | - | 84 | 80 | 85 | 112 | 86 | 98 | 89 | 110 | 62 | 254 | - | 213 | 247 | 319 | 294 | 278 |
| | | | 1PM | - | 44 | 44 | 31 | 32 | 31 | - | - | 90 | 113 | 98 | 146 | 109 | 132 | 114 | 138 | 82 | 364 | - | 349 | 412 | 443 | 407 | 400 |
| | | | 4PM | - | 32 | 44 | 33 | 34 | 34 | - | - | 79 | 130 | 90 | 127 | 113 | 138 | 116 | 153 | 73 | 469 | - | 418 | 505 | 519 | 668 | 454 |
| | | | 8PM | - | 72 | 39 | 56 | 52 | 24 | - | - | 80 | 71 | 69 | 77 | 95 | 83 | 95 | 124 | 78 | 629 | - | 678 | 277 | 165 | 677 | 254 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | | 72 | 44 | 56 | 52 | 34 | | | 90 | 130 | 98 | 146 | 113 | 138 | 116 | 153 | 82 | 629 | | 678 | 505 | 519 | 677 | 454 |
| | | 738 | Peak % | | 10% | 6% | 8% | 7% | 5% | | | 12% | 18% | 13% | 20% | 15% | 19% | 16% | 21% | 11% | 85% | | 92% | 68% | 70% | 92% | 62% |
| 5 | North Channel (13-3S) | | 10AM | 5 | 9 | 12 | 13 | 15 | 10 | 14 | 11 | 24 | 23 | 19 | 23 | 28 | 34 | 35 | 23 | 30 | 32 | 17 | 88 | 17 | 33 | 134 | 56 |
| | | | 1PM | 3 | 8 | 9 | 10 | 13 | 7 | 17 | 25 | 34 | 41 | 21 | 68 | 26 | 37 | 39 | 41 | 27 | 44 | 48 | 138 | 46 | 27 | 134 | 88 |
| | | | 4PM | 3 | 6 | 11 | 8 | 10 | 4 | 19 | 58 | 48 | 88 | 41 | 63 | 34 | 69 | 45 | 88 | 12 | 73 | 82 | 138 | 60 | 26 | 134 | 113 |
| | | | 8PM | 16 | 20 | 26 | 16 | 19 | 15 | 23 | 49 | 35 | 67 | 32 | 36 | 52 | 55 | 59 | 67 | 32 | 137 | 28 | 138 | 20 | 39 | 134 | 44 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | 16 | 20 | 26 | 16 | 19 | 15 | 23 | 58 | 48 | 88 | 41 | 68 | 52 | 69 | 59 | 88 | 32 | 137 | 82 | 138 | 60 | 39 | 134 | 113 |
| | | 140 | Peak % | 11% | 14% | 19% | 11% | 14% | 11% | 16% | 41% | 34% | 63% | 29% | 49% | 37% | 49% | 42% | 63% | 23% | 98% | 59% | 99% | 43% | 28% | 96% | 81% |
| | Total | 2,498 | Overall Peak | 292 | 406 | 369 | 322 | 363 | 256 | 436 | 459 | 525 | 845 | 551 | 695 | 506 | 791 | 541 | 920 | 388 | 1,398 | 569 | 1,809 | 1,036 | 961 | 2,266 | 1,095 |
| | | | Utilization | 12% | 16% | 15% | 13% | 15% | 10% | 17% | 18% | 21% | 34% | 22% | 28% | 20% | 32% | 22% | 37% | 16% | 56% | 23% | 72% | 41% | 38% | 91% | 44% |
| | | | Time | 1PM | 8PM | 8PM | 1PM | 10AM | 1PM | 1PM | 4PM | 1PM | 4PM | 4PM | 4PM | 1PM | 4PM | 1PM | 4PM | 1PM | 8PM | 4PM | 8PM | 4PM | 4PM | 8PM | 4PM |

NOTES:
* Overflow Lots owned by US Dept. of Fish & Game, not by county; as such, they are not included in the computation of demand and availability of supply in the report.
** Holiday parking demands include non-public use parking demands.

**APPENDIX B-2**
**EXISTING CONDITIONS PUBLIC PARKING DEMAND ANALYSIS BY DAY AND LOT**

| # | Activity Area | Lot Number - Parcel | Supply | Public Demand & Utilization Profiles | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Existing | Max (Peak) Occupied Spaces on Weekdays | | | | | | Max (Peak) Occupied Spaces on Weekend Days | | | | | | | | | | | | Max Occupied Spaces on Holidays (Peak) ** | | | | | | |
| | | | Number of Spaces | Fri 5/27/05 | Fri 7/1/05 | Fri 9/2/05 | Fri 5/25/07 | Fri 8/31/07 | Thur 10/25/07 | Sat 5/28/05 | Sun 5/29/05 | Sat 7/2/05 | Sun 7/3/05 | Sat 9/3/05 | Sun 9/4/05 | Sat 5/26/07 | Sun 5/27/07 | Sat 9/1/07 | Sun 9/2/07 | Sat 11/3/07 | Sat 12/8/07 | Mon 5/30/0 | Mon 7/4/05 | Mon 9/5/05 | Mon 5/28/07 | Wed 7/4/07 | Mon 9/3/07 |
| 1 | Mother's Beach | 8 - OT | 183 | 7 | 97 | 59 | 53 | 5 | 4 | 3 | 31 | 8 | 51 | 15 | 5 | 39 | 45 | 43 | 52 | 18 | 45 | 17 | 156 | 46 | 3 | 89 | 2 |
| | | 9 - NR | 186 | 34 | 48 | 35 | 41 | 56 | 36 | 77 | 69 | 79 | 82 | 87 | 81 | 77 | 79 | 84 | 108 | 58 | 22 | 27 | 187 | 48 | 44 | 186 | 45 |
| | | 10 - IR | 212 | 2 | 22 | 5 | 9 | 11 | 65 | 71 | 86 | 66 | 156 | 109 | 161 | 55 | 76 | 41 | 102 | 24 | 54 | 121 | 209 | 78 | 47 | 209 | 205 |
| | | 11 - GR | 262 | 40 | 56 | 60 | 32 | 30 | 30 | 15 | 15 | 13 | 19 | 19 | 16 | 19 | 15 | 21 | 15 | 12 | 173 | 127 | 263 | 146 | 111 | 263 | 112 |
| 2 | Admiralty Park | 5 - U | 220 | 115 | 87 | 90 | 23 | 30 | 19 | 53 | 24 | 11 | 5 | 24 | 3 | 8 | 4 | 12 | 7 | 14 | 51 | 26 | 174 | 1 | 9 | 200 | 5 |
| | | 7 - Q | 120 | 6 | 6 | 3 | 15 | 21 | 11 | 9 | 13 | 9 | 118 | 16 | 10 | 15 | 107 | 18 | 102 | 91 | 120 | 7 | 120 | 9 | 9 | 120 | 15 |
| 3 | Chace Park | 2 - 49R | 239 | 35 | 49 | 45 | 53 | 62 | 24 | 147 | 144 | 169 | 156 | 122 | 159 | 122 | 189 | 125 | 195 | 70 | 93 | 123 | 161 | 116 | 107 | 181 | 135 |
| | | 4 - 49M | 140 | 37 | 11 | 78 | 82 | 86 | 31 | 22 | 40 | 28 | 34 | 76 | 77 | 38 | 32 | 43 | 45 | 27 | 29 | 38 | 152 | 71 | 71 | 150 | 67 |
| | | EE | 58 | 58 | 58 | 58 | 58 | 58 | 32 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 51 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| 4 | Fiji Way | Overflow Lots * | 252 | n/a | 107 | 127 | 85 | 81 | 90 | n/a | n/a | 126 | 142 | 118 | 141 | 86 | 92 | 90 | 116 | 94 | 233 | n/a | 265 | 110 | 67 | 250 | 69 |
| | | Fisherman's Village (1) - W | 502 | n/a | 18 | 22 | 28 | 26 | 11 | n/a | n/a | 28 | 42 | 41 | 51 | 51 | 52 | 52 | 56 | 36 | 422 | n/a | 439 | 284 | 340 | 439 | 238 |
| | | Dock 52 - 52 | 236 | n/a | 54 | 34 | 28 | 26 | 29 | n/a | n/a | 70 | 88 | 68 | 95 | 71 | 86 | 73 | 97 | 48 | 207 | n/a | 239 | 221 | 179 | 238 | 216 |
| 5 | North Channel | 13 - 3S | 140 | 16 | 20 | 26 | 16 | 19 | 15 | 23 | 58 | 48 | 88 | 41 | 68 | 52 | 69 | 59 | 88 | 32 | 137 | 82 | 138 | 60 | 39 | 134 | 113 |

NOTES:

* Overflow Lots owned by US Dept. of Fish & Game, not by county; as such, they are not included in the computation of demand and availability of supply in the report.

** Holiday parking demands include non-public use parking demands.

# APPENDIX C-1/C-2

## Future Anticipated Parking Demand Analysis – Typical & Peak

**APPENDIX C-1**
**FUTURE ANTICIPATED CONDITIONS PUBLIC PARKING DEMAND ANALYSIS BY TIME OF DAY AND ACTIVITY AREA**

| # | Activity Area | Supply: Proposed Number of Spaces | Time | Anticipated Future Public Parking Demand & Utilization Profiles: Occupied Spaces on Weekdays | | | | | | Occupied Spaces on Weekend Days | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 (Typical) | Day 7 | Day 8 | Day 9 | Day 10 | Day 11 | Day 12 | Day 13 | Day 14 | Day 15 | Day 16 | Day 17 (Typical) |
| 1 | Mother's Beach | | 10AM | 57 | 84 | 67 | 90 | 123 | 85 | 143 | 131 | 132 | 168 | 136 | 169 | 142 | 146 | 159 | 175 | 134 |
| | | | 1PM | 86 | 120 | 80 | 94 | 108 | 143 | 191 | 193 | 185 | 286 | 209 | 239 | 186 | 237 | 190 | 296 | 145 |
| | (8-OT, 9-NR, 10-IR, 11-GR) | | 4PM | 72 | 92 | 87 | 89 | 99 | 93 | 217 | 231 | 220 | 360 | 263 | 326 | 191 | 277 | 195 | 363 | 125 |
| | | | 8PM | 109 | 252 | 191 | 174 | 127 | 102 | 144 | 165 | 178 | 205 | 189 | 151 | 221 | 207 | 250 | 269 | 125 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | 109 | 252 | 191 | 174 | 127 | 143 | 217 | 231 | 220 | 360 | 263 | 326 | 221 | 277 | 250 | 363 | 145 |
| | | 652 | Peak % | 17% | 39% | 29% | 27% | 19% | 22% | 33% | 35% | 34% | 55% | 40% | 50% | 34% | 42% | 38% | 56% | 22% |
| 2 | Admiralty Park | | 10AM | 134 | 100 | 103 | 43 | 58 | 23 | 58 | 33 | 18 | 60 | 29 | 8 | 18 | 38 | 27 | 48 | 28 |
| | (5-U, 7-Q) | | 1PM | 110 | 35 | 67 | 38 | 43 | 29 | 66 | 37 | 20 | 101 | 29 | 8 | 26 | 43 | 34 | 54 | 55 |
| | | | 4PM | 69 | 17 | 11 | 22 | 28 | 34 | 70 | 36 | 17 | 137 | 23 | 12 | 23 | 109 | 33 | 122 | 111 |
| | | | 8PM | 58 | 8 | 3 | 9 | 15 | 19 | 59 | 41 | 9 | 86 | 23 | 10 | 17 | 121 | 26 | 117 | 3 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | 134 | 100 | 103 | 43 | 58 | 34 | 70 | 41 | 20 | 137 | 29 | 12 | 26 | 121 | 34 | 122 | 111 |
| | | 342 | Peak % | 39% | 29% | 30% | 13% | 17% | 10% | 20% | 12% | 6% | 40% | 8% | 4% | 8% | 35% | 10% | 36% | 32% |
| 3 | Chace Park | | 10AM | 140 | 130 | 202 | 192 | 214 | 51 | 226 | 250 | 256 | 251 | 285 | 319 | 218 | 210 | 227 | 226 | 120 |
| | (2-49R, 4-49M, EE) | | 1PM | 149 | 132 | 205 | 212 | 222 | 92 | 270 | 289 | 306 | 287 | 307 | 355 | 259 | 317 | 269 | 341 | 151 |
| | | | 4PM | 126 | 127 | 201 | 195 | 195 | 70 | 226 | 231 | 237 | 267 | 238 | 286 | 174 | 336 | 182 | 360 | 159 |
| | | | 8PM | 109 | 118 | 170 | 100 | 100 | 53 | 145 | 134 | 147 | 152 | 210 | 186 | 117 | 142 | 134 | 175 | 100 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | 149 | 132 | 205 | 212 | 222 | 92 | 270 | 289 | 306 | 287 | 307 | 355 | 259 | 336 | 269 | 360 | 159 |
| | | 684 | Peak % | 22% | 19% | 30% | 31% | 33% | 13% | 39% | 42% | 45% | 42% | 45% | 52% | 38% | 49% | 39% | 53% | 23% |
| 4 | Fiji Way | | 10AM | - | 35 | 46 | 32 | 35 | 28 | - | - | 95 | 91 | 96 | 127 | 97 | 111 | 101 | 125 | 70 |
| | (Overflow Lots**, 1-Fisherman's Village, Dock 52) | | 1PM | - | 50 | 50 | 35 | 36 | 35 | - | - | 102 | 128 | 111 | 165 | 123 | 149 | 129 | 156 | 93 |
| | | | 4PM | - | 36 | 50 | 37 | 38 | 38 | - | - | 89 | 147 | 102 | 144 | 128 | 156 | 131 | 173 | 83 |
| | | | 8PM | - | 82 | 44 | 63 | 59 | 27 | - | - | 91 | 80 | 78 | 87 | 108 | 94 | 108 | 140 | 88 |
| | | | | | | | | | | | | | | | | | | | | |
| | | * | Peak | | 82 | 50 | 63 | 59 | 38 | | | 102 | 147 | 111 | 165 | 128 | 156 | 131 | 173 | 93 |
| | | 1,012 | Peak % | | 8% | 5% | 6% | 6% | 4% | | | 10% | 15% | 11% | 16% | 13% | 15% | 13% | 17% | 9% |
| 5 | North Channel | | 10AM | 6 | 10 | 14 | 15 | 17 | 11 | 16 | 12 | 27 | 26 | 22 | 26 | 32 | 38 | 40 | 26 | 34 |
| | (13-3S) | | 1PM | 3 | 9 | 10 | 11 | 15 | 8 | 19 | 28 | 38 | 46 | 24 | 77 | 29 | 42 | 44 | 46 | 31 |
| | | | 4PM | 3 | 7 | 12 | 9 | 11 | 5 | 22 | 66 | 54 | 100 | 46 | 71 | 38 | 78 | 51 | 100 | 14 |
| | | | 8PM | 18 | 23 | 29 | 18 | 22 | 17 | 26 | 55 | 40 | 76 | 36 | 41 | 59 | 62 | 67 | 76 | 36 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | Peak | 18 | 23 | 29 | 18 | 22 | 17 | 26 | 66 | 54 | 100 | 46 | 77 | 59 | 78 | 67 | 100 | 36 |
| | | 138 | Peak % | 13% | 17% | 21% | 13% | 16% | 12% | 19% | 48% | 39% | 72% | 33% | 56% | 43% | 57% | 49% | 72% | 26% |
| | Total | | Overall Peak | 348 | 483 | 437 | 390 | 447 | 307 | 546 | 564 | 650 | 1,010 | 672 | 838 | 623 | 955 | 666 | 1,118 | 475 |
| | | 2,828 | Utilization | 12% | 17% | 15% | 14% | 16% | 11% | 19% | 20% | 23% | 36% | 24% | 30% | 22% | 34% | 24% | 40% | 17% |
| | | | Time | 1PM | 8PM | 8PM | 1PM | 10AM | 1PM | 1PM | 4PM | 1PM | 4PM | 4PM | 4PM | 1PM | 4PM | 1PM | 4PM | 1PM |

| Yearly Growth | 0.6 |
|---|---|

NOTES:

* Includes parking supply for Fisherman's Village Development. Shared Parking is contemplated at this location.

** Overflow Lots owned by US Dept. of Fish & Game, not by county; as such, they are not included in the computation of demand and availability of supply in the report.

**APPENDIX C-2**
**FUTURE ANTICIPATED CONDITIONS PUBLIC PARKING DEMAND ANALYSIS BY DAY AND LOT**

| # | Activity Area | Lot Number - Parcel | Supply | Anticipated Future Public Parking Demand & Utilization Profiles | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Proposed Number of Spaces | Occupied Spaces on Weekdays | | | | | | Occupied Spaces on Weekend Days | | | | | | | | | | |
| | | | | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 (Typical) | Day 7 | Day 8 | Day 9 | Day 10 | Day 11 | Day 12 | Day 13 | Day 14 | Day 15 | Day 16 | Day 17 (Typical) |
| 1 | Mother's Beach | 8 - OT | 92 | 8 | 110 | 67 | 60 | 6 | 5 | 3 | 35 | 9 | 58 | 17 | 6 | 44 | 51 | 49 | 59 | 20 |
| | | 9 - NR | 69 | 55 | 78 | 57 | 67 | 91 | 59 | 126 | 113 | 129 | 134 | 142 | 132 | 126 | 129 | 137 | 176 | 95 |
| | | 10 - IR | 109 | 2 | 25 | 6 | 10 | 12 | 74 | 80 | 97 | 75 | 177 | 123 | 182 | 62 | 86 | 46 | 115 | 27 |
| | | 11 - GR | 382 | 45 | 63 | 68 | 36 | 34 | 34 | 17 | 17 | 15 | 22 | 22 | 18 | 22 | 17 | 24 | 17 | 14 |
| 2 | Admiralty Park | 5 - U | 222 | 130 | 98 | 102 | 26 | 34 | 22 | 60 | 27 | 12 | 6 | 27 | 3 | 9 | 5 | 14 | 8 | 16 |
| | | 7 - Q | 120 | 7 | 7 | 3 | 17 | 24 | 12 | 10 | 15 | 10 | 134 | 18 | 11 | 17 | 121 | 20 | 115 | 103 |
| 3 | Chace Park | 2 - 49R | 234 | 44 | 62 | 57 | 67 | 78 | 30 | 185 | 181 | 212 | 196 | 153 | 200 | 153 | 238 | 157 | 245 | 88 |
| | | 4 - 49M | 450 | 47 | 14 | 98 | 103 | 108 | 39 | 28 | 50 | 35 | 43 | 96 | 97 | 48 | 40 | 54 | 57 | 34 |
| | | EE | | 58 | 58 | 58 | 58 | 58 | 32 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 51 |
| 4 | Fiji Way | Overflow Lots* | 314 | n/a | 121 | 144 | 96 | 92 | 102 | n/a | n/a | 143 | 161 | 134 | 160 | 97 | 104 | 102 | 131 | 106 |
| | | Fisherman's Village (1) - W | 1,012** | n/a | 20 | 25 | 32 | 29 | 12 | n/a | n/a | 32 | 48 | 46 | 58 | 58 | 59 | 59 | 63 | 41 |
| | | Dock 52 - 52 | 0 | n/a | 61 | 38 | 32 | 29 | 33 | n/a | n/a | 79 | 100 | 77 | 108 | 80 | 97 | 83 | 110 | 54 |
| 5 | North Channel | 13 - 3S | 138 | 18 | 23 | 29 | 18 | 22 | 17 | 26 | 66 | 54 | 100 | 46 | 77 | 59 | 78 | 67 | 100 | 36 |

| YEARLY GROWTH | 0.6 |
|---|---|

NOTES:

* Overflow Lots owned by US Dept. of Fish & Game, not by county; as such, they are not included in the computation of demand and availability of supply in the report.

** Includes parking supply for Fisherman's Village Development. Shared Parking is contemplated at this location.

# APPENDIX D-1/D-2

## 85th & 90th Percentile Parking Demand Analysis by Activity Area – Existing & Future Long-Term Conditions

**APPENDIX D-1**

**85TH & 90TH PERCENTILE DEMAND ANALYSIS BY ACTIVITY AREA - CURRENT CONDITIONS**

| Mother's Beach | |
|---|---|
| Date | Demand |
| 5/27/2005 | 81 |
| 8/31/2007 | 92 |
| 11/3/2007 | 104 |
| 10/25/2007 | 112 |
| 5/25/2007 | 135 |
| 9/2/2005 | 154 |
| 5/28/2005 | 158 |
| 7/2/2005 | 160 |
| 5/26/2007 | 162 |
| 5/29/2005 | 173 |
| 9/1/2007 | 184 |
| 9/3/2005 | 199 |
| 7/1/2005 | 201 |
| 5/27/2007 | 209 |
| 9/4/2005 | 255 |
| 9/2/2007 | 273 |
| 7/3/2005 | 282 |

| 90th Percentile Peak Public Parking Demand | 273 |
|---|---|

| Admiralty Park | |
|---|---|
| Date | Demand |
| 9/4/2005 | 11 |
| 7/2/2005 | 18 |
| 5/26/2007 | 23 |
| 9/3/2005 | 26 |
| 10/25/2007 | 30 |
| 9/1/2007 | 30 |
| 5/29/2005 | 36 |
| 5/25/2007 | 38 |
| 8/31/2007 | 51 |
| 5/28/2005 | 62 |
| 7/1/2005 | 88 |
| 9/2/2005 | 91 |
| 11/3/2007 | 98 |
| 5/27/2007 | 107 |
| 9/2/2007 | 108 |
| 5/27/2005 | 118 |
| 7/3/2005 | 121 |

| 90th Percentile Peak Public Parking | 118 |
|---|---|

| Chace Park | |
|---|---|
| Date | Demand |
| 10/25/2007 | 80 |
| 7/1/2005 | 117 |
| 5/27/2005 | 130 |
| 11/3/2007 | 137 |
| 9/2/2005 | 175 |
| 5/25/2007 | 181 |
| 8/31/2007 | 189 |
| 5/26/2007 | 218 |
| 9/1/2007 | 226 |
| 5/28/2005 | 227 |
| 7/3/2005 | 240 |
| 5/29/2005 | 242 |
| 7/2/2005 | 255 |
| 9/3/2005 | 256 |
| 5/27/2007 | 279 |
| 9/4/2005 | 294 |
| 9/2/2007 | 298 |

| 90th Percentile Peak Public Parking | 294 |
|---|---|

| Fiji Way | |
|---|---|
| Date | Demand |
| 10/25/2007 | 34 |
| 9/2/2005 | 44 |
| 8/31/2007 | 52 |
| 5/25/2007 | 56 |
| 7/1/2005 | 72 |
| 11/3/2007 | 82 |
| 7/2/2005 | 90 |
| 9/3/2005 | 98 |
| 5/26/2007 | 113 |
| 9/1/2007 | 116 |
| 7/3/2005 | 130 |
| 5/27/2007 | 138 |
| 9/4/2005 | 146 |
| 9/2/2007 | 153 |

| 90th Percentile Peak Public Parking | 146 |
|---|---|

| North Channel | |
|---|---|
| Date | Demand |
| 10/25/2007 | 15 |
| 5/27/2005 | 16 |
| 5/25/2007 | 16 |
| 8/31/2007 | 19 |
| 7/1/2005 | 20 |
| 5/28/2005 | 23 |
| 9/2/2005 | 26 |
| 11/3/2007 | 32 |
| 9/3/2005 | 41 |
| 7/2/2005 | 48 |
| 5/26/2007 | 52 |
| 5/29/2005 | 58 |
| 9/1/2007 | 59 |
| 9/4/2005 | 68 |
| 5/27/2007 | 69 |
| 7/3/2005 | 88 |
| 9/2/2007 | 88 |

| 90th Percentile Peak Public Parking | 88 |
|---|---|

| LEGEND | |
|---|---|
| | 85th Percentile |
| | 90th Percentile |

**APPENDIX D-2**
**85TH & 90TH PERCENTILE DEMAND ANALYSIS BY ACTIVITY AREA - FUTURE CONDITIONS**

| Mother's Beach | |
|---|---|
| Date | Demand |
| Day 1 | 109 |
| Day 5 | 127 |
| Day 6 | 143 |
| Day 17 | 145 |
| Day 4 | 174 |
| Day 3 | 191 |
| Day 7 | 217 |
| Day 9 | 220 |
| Day 13 | 221 |
| Day 8 | 231 |
| Day 15 | 250 |
| Day 2 | 252 |
| Day 11 | 263 |
| Day 14 | 277 |
| Day 12 | 326 |
| Day 10 | 360 |
| Day 16 | 363 |

| 90th Percentile Peak Public Parking | 360 |
|---|---|

| Admiralty Park | |
|---|---|
| Date | Demand |
| Day 12 | 12 |
| Day 9 | 20 |
| Day 13 | 26 |
| Day 11 | 29 |
| Day 6 | 34 |
| Day 15 | 34 |
| Day 8 | 41 |
| Day 4 | 43 |
| Day 5 | 58 |
| Day 7 | 70 |
| Day 2 | 100 |
| Day 3 | 103 |
| Day 17 | 111 |
| Day 14 | 121 |
| Day 16 | 122 |
| Day 1 | 134 |
| Day 10 | 137 |

| 90th Percentile Peak Public Parking * | 114 |
|---|---|

| Chace Park | |
|---|---|
| Date | Demand |
| Day 6 | 92 |
| Day 2 | 132 |
| Day 1 | 149 |
| Day 17 | 159 |
| Day 3 | 205 |
| Day 4 | 212 |
| Day 5 | 222 |
| Day 13 | 259 |
| Day 15 | 269 |
| Day 7 | 270 |
| Day 10 | 287 |
| Day 8 | 289 |
| Day 9 | 306 |
| Day 11 | 307 |
| Day 14 | 336 |
| Day 12 | 355 |
| Day 16 | 360 |

| 90th Percentile Peak Public Parking | 355 |
|---|---|

| Fiji Way | |
|---|---|
| Date | Demand |
| Day 5 | 38 |
| Day 2 | 50 |
| Day 4 | 59 |
| Day 3 | 63 |
| Day 1 | 82 |
| Day 14 | 93 |
| Day 6 | 102 |
| Day 8 | 111 |
| Day 10 | 128 |
| Day 12 | 131 |
| Day 7 | 147 |
| Day 11 | 156 |
| Day 9 | 165 |
| Day 13 | 173 |

| 90th Percentile Peak Public Parking | 165 |
|---|---|

| North Channel | |
|---|---|
| Date | Demand |
| Day 6 | 17 |
| Day 1 | 18 |
| Day 4 | 18 |
| Day 5 | 22 |
| Day 2 | 23 |
| Day 7 | 26 |
| Day 3 | 29 |
| Day 17 | 36 |
| Day 11 | 46 |
| Day 9 | 54 |
| Day 13 | 59 |
| Day 8 | 66 |
| Day 15 | 67 |
| Day 12 | 77 |
| Day 14 | 78 |
| Day 10 | 100 |
| Day 16 | 100 |

| 90th Percentile Peak Public Parking | 100 |
|---|---|

| LEGEND | |
|---|---|
| | 85th Percentile |
| | 90th Percentile |

| Yearly Growth | 0.6 |
|---|---|

Notes:
* 20 spaces in Admiralty Park Activity Area (specifically lot 5) have been leased to the Public Library.

# APPENDIX E

## FIJI WAY ACTIVITY AREA DETAILED PARKING DEMAND ANALYSIS

**Appendix E**
**Fiji Way Activity Area Parking Analyses**

| Estimated Parking Demand | | | | | |
|---|---|---|---|---|---|
| **Weekday** | | | | | |
| **Time** | **Fisherman Village / Commercial Demand [1]** | **Charter Boat Slip Demand [1]** | **Total Development Demand** | **Peak Public Parking Demand [2]** | **Total Demand** |
| 2:00 PM | 464 | 65 | 529 | 15 | 544 |
| 3:00 PM | 354 | 65 | 419 | 20 | 439 |
| 4:00 PM | 390 | 100 | 490 | 24 | 514 |
| 5:00 PM | 499 | 135 | 634 | 29 | 663 |
| 6:00 PM | 577 | 150 | 727 | 26 | 753 |
| 7:00 PM | 591 | 180 | 771 | 17 | 788 |
| **Weekend Day** | | | | | |
| **Time** | **Fisherman Village / Commercial Demand [1]** | **Charter Boat Slip Demand [1]** | **Total Development Demand** | **Peak Public Parking Demand [2]** | **Total Demand** |
| 2:00 PM | 399 | 240 | 639 | 49 | 695 |
| 3:00 PM | 392 | 240 | 632 | 43 | 681 |
| 4:00 PM | 389 | 275 | 664 | 32 | 700 |
| 5:00 PM | 461 | 310 | 771 | 23 | 794 |
| 6:00 PM | 571 | 310 | 881 | 20 | 901 |
| 7:00 PM | 584 | 310 | 894 | 20 | 914 |
| 8:00 PM | 599 | 310 | 909 | 21 | 930 |
| **Proposed Total Supply = 1,012 spaces** | | | | | |

Note : [1] Demand data obtained from "Traffic Impact Analysis Report for the Proposed Fisherman's Village Enhancement / Expansion Project," September 2000, prepared by Hirsch / Green Transportation Consulting, Inc.

[2] Public Parking Demand for Fiji Way Activity Area obtained from Parking Surveys conducted by Raju Associates, Inc.



**APPENDIX 5.8**

***Sewer Capacity Report*, prepared by Fuscoe Engineering, Inc., May 2009**

# SEWER CAPACITY REPORT



## NEPTUNE MARINA
## PARCELS FF & 10R - APARTMENTS/REDEVELOPMENT DOCKS
## PARCEL 9U - HOTEL/PARK/PUBLIC DOCKS

Marina del Rey, CA

*Prepared for:*

**LEGACY PARTNERS**
30 Executive Park, Suite 100
Irvine, CA 92614

*Project Manager:*

**JOHN OLIVIER, P.E.**

*Date Prepared: May 13, 2009*
*JN: 424.14.01*

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Appendix B – Existing Sewer Exhibit

Appendix C – Proposed Sewer Exhibit

Appendix D – Pump Specification

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Appendix F – Proposes Sewer Flows – Parcel FF, 10R, 9U an 12

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Appendix H – Maximum Sewer Capacity

Appendix I – Flow Depth Calculation

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Appendix K – Emails and Meeting Note

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# I. Introduction

## 1.1 Objective of the Report

The objective of this report is to investigate the cumulative impact of the proposed development to the existing sewer system including the LA County's projected sewer flow for the Marina Del Rey area. The proposed development project consists of three parcels; parcel FF, parcel 10R and parcel 9U located in Marina Del Rey, California.

## 1.2 Existing Site Description

PARCEL FF

Parcel FF is a 2.05 acre rectangular-shaped parcel. This parcel, designated in the Local Coastal Plan (LCP) as a park site, is currently serving as a parking lot. The parcel is located at the northeast corner of Marquesas Way and Via Marina

PARCEL 10R

Parcel 10R, the existing Neptune Marina site, is in the 47th year of a 60 year lease from Los Angeles County, which is due to expire in 2022. The property consists of 7.33 acres of land area and 4.68 acres of water area for a total of 12.01 acres. This site was developed in 1966 and currently consists of 136 low-rise two story residential apartments, a vacant restaurant space, and 198 boat slips. The parcel is located at the southeast corner of Marquesas Way and Via Marina.

PARCEL 9U

Parcel 9U, a 3.66 acre parcel, is an undeveloped vacant lot. The parcel is located at the northeast corner of Tahiti Way and Via Marina.

For the location of parcel FF, 10R & 9U, refer to Figure 1, Vicinity Map.

## 1.3 Proposed Development

The proposed development is comprised into three parts: parcel FF which is Neptune Marina Apartments, parcel 10R is Neptune Marina Apartments and the Marina redevelopment, parcel 9U which is the Woodfin Suite Hotel and Timeshare Resort with a 1.46-acre public and 7-11 transient boat slips.

PARCEL FF – Neptune Marina Apartments

The Neptune Marina Apartments – parcel FF consists of one building – 4 stories high over a subterranean parking structure. The proposed project is a total of 126 luxury rental apartment units. The proposed units will include 1 bedroom/1 bath units, 2 bedroom/2 bath units, and 2 bedroom/2 ½ bath units with private balconies or decks.

PARCEL 10R – Neptune Marina Apartments & Marina

*RESIDENTIAL COMPONENT:* The residential component for Neptune Marina Apartments - parcel 10R consists of 3 buildings, 4 stories each, over subterranean parking structure. The proposed project is a total of 400 luxury rental apartment units. The proposed units will include 1 bedroom/1 bath, 2 bedroom/2 bath units; and2bedroom/2 ½ baths with private balconies or decks.

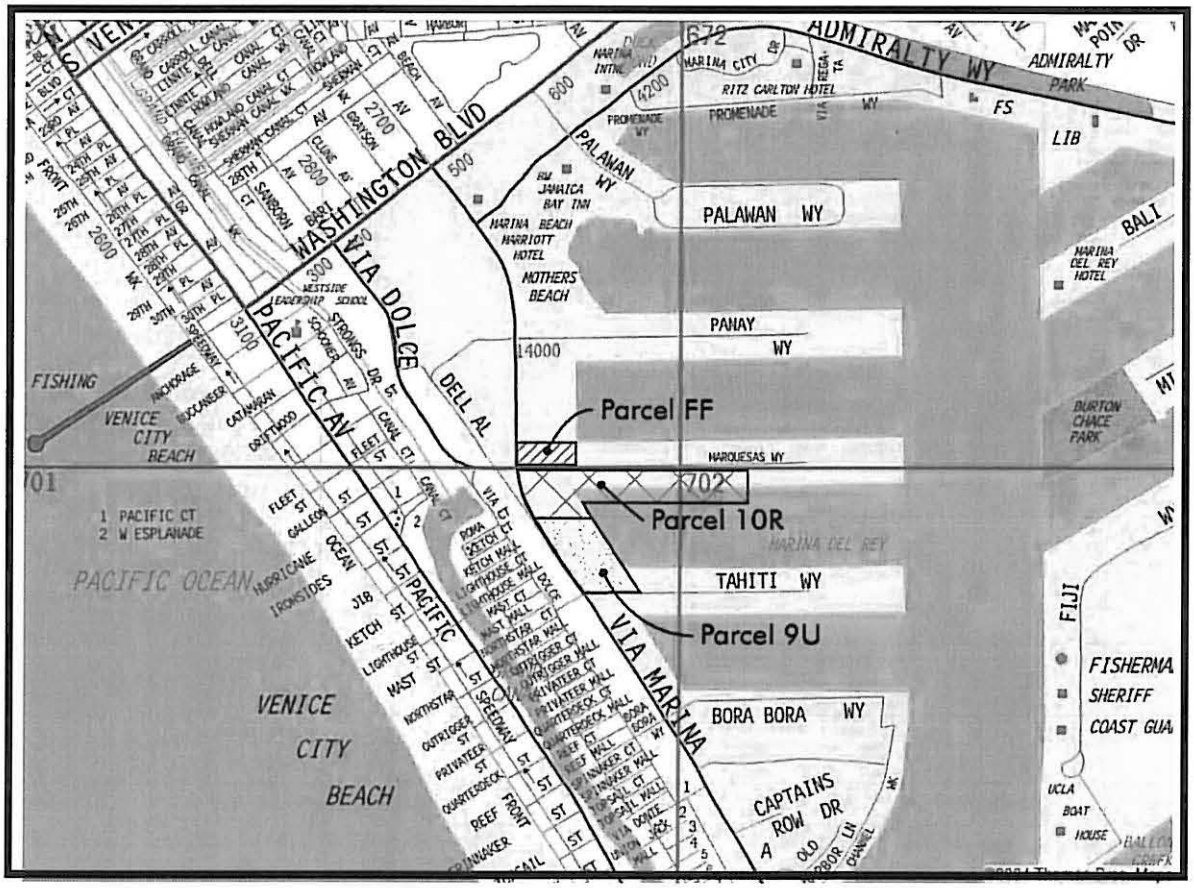
*MARINA COMPONENT:* The marina component for Parcel 10R involves the rebuilding of the existing marina system. The marina slips are planned to adapt to commercially available or custom designed concrete docks. Slip widths are based on power boat beams, allowing for the flexibility of berthing either sail or power boats in any given slip length. The dock improvement will result in a reduction of boat slips from 198 to a 174 with 5,558 feet of linear rental footage. To allow for a sewage pumpout station, the project proposes to install one sewage pump in the new marina system which will drain to the existing sewer system.

PARCEL 9U - Woodfin Suite Hotel and Timeshare Resort & Park

*HOTEL/TIMESHARE COMPONENT*: The Woodfin Suite Hotel and Timeshare Resort occupies approximately 2.20 acres of the total project area of 3.66 acre. The parcel 9U-hotel/timeshare component consists of a 19-story hotel with 288 rooms, restaurant, banquet room, spa, deli and bar developed. The 288 rooms are divided into timeshare apartment dwellings and hotel guest rooms. There will be 68 – one bedroom units and 68 – two bedroom units, totaling 136 apartment dwelling units. The remaining 152 units will serve only as hotel guest rooms. The remaining 1.46 acres of the proposed project will be a public park consisting of a 0.46-acre restored wetland and 1.0-acre upland buffer.

*MARINA COMPONENT:* The marina component for Parcel 9U consists of 7 to 11 transient public-serving boat spaces. To allow for four sewage pumpout stations, the project proposes to install one sewage pump in the new marina system which will drain to the existing sewer system.

*See Appendix A -For Proposed Development site plans*




VICINITY MAP

Figure 1

# II. Methodology

The methodology used for the Sewer Capacity Report was based on the following:

1. Proposed Average Sewer flows for 1 and 2 Bedrooms were computed based on the 150gal/Du and 200gal/Du per Tony Khalkhali's email – *See Appendix K*

2. Proposed Average Sewer Flows for Bar/ Deli, Hotel and Restaurant were computed using the LA County's "Estimated Average Daily Sewage Flows for Various Occupancies" – *See Appendix G*

3. Proposed Average Sewer Flow for the Banquet/meeting rooms and Spa were computed using the City of Los Angeles "Sewerage Generation Factors" – *See Appendix G*

4. All Average daily sewer flows were multiply by 2.5 to obtain the peak flow

5. Proposed Peak sewer flow for the 15" SS (Manhole 60 to 62) and 18" SS (Manhole 69 to Metering Structure or Pump Station) were given from LA County's Design Division. They are 3.851cfs and 7.272cfs respectfully. *See email in Appendix K*

6. Existing Average Sewer Flow for Parcel 12 was based on 305 units to Manhole 52 and 132 units to Manhole 53 per Tony Khalhali's email – *See Appendix K*

7. Existing Peak sewer flow for the 15" SS was based on the LA County's Sewer Flow test dated June 4, 08 to June 11, 08. The peak flow is 0.9623cfs. – *See Appendix E*

8. Maximum sewer peak flow for the proposed pumps was based on the EMP Industries- Pump Manufacture's specifications and description. The maximum sewer peak flow is 15gpm or 0.0334 cfs. *See Appendix D*

9. Maximum Capacity for both existing and proposed sewer lines were based on 50% full for pipe sizes 12" diameter or less and 75% full for pipe sizes 15"diameter or greater.

10. Maximum capacity and flow Depth in the existing or proposed sewer line were calculated using the Hydraulics Elements – I by Advanced Engineering Software. The mannings friction factor for all sewer pipes was n=0.013, except for the existing 18" sewer line (node 69 to Metering Structure) used an n=0.0099 and 15" sewer line (Manhole 62 to 60) which used an n=0.0100 per the LA County' approval. *See Email in Appendix K*

# III. Existing Sewer System

## 3.1 Parcel FF, 10R and 9U

Parcels FF, 10R and 9U are served by an existing County of Los Angeles Sewer System which serves the marina area. The sewer main is within a utility easement dedicated to the County of Los Angeles. The Department of Public Works (DPW) Waterworks and Sewer Maintenance Division handles the maintenance of the sewer system, which is regulated in the Marina Sewer Maintenance District (MSMD).

Parcel 9U is served by an existing 15" VCP sewer line located in Via Marina. The sewage in the existing 15"pipe flows in a northerly direction to manhole 69, just north of Marquesas Way. Parcel 10R is served by an existing 8" VCP sewer line located adjacent to the Marina bulkhead (Basin B). The 8" sewer line also serves a portion of Parcel 12. The collective existing sewage from parcel 12 & 10R in the 8" sewer line flows in a westerly direction to manhole 45. The sewer flow then turns north in an existing 10" VCP sewer line to manhole no. 60. Parcel FF is served by an existing 8" VCP sewer line located adjacent to the Marina's bulkhead (Basin C). The 8" sewer also serves Parcel 13 and portion of Parcel 12. The collective sewage from parcel 12, 13 & FF flows in a westerly direction toward manhole no. 60, where sewage from parcel 12 & 10R and from the northern parcels of Marina Del Rey is collected. The sewage from manhole no. 60 flows in a 15" VCP line westerly towards manhole no. 69 where sewage from the southern parcels of Marina Del Rey including Parcel 9U are collected. The sewage from manhole 69 continues to flow westerly in an existing 18" RCP that crosses from County to City of Los Angeles. (Appendix 1 –Existing Sewer System)

The system discharges to the City of Los Angeles system through a metering station at Hurricane Street and Strongs Drive. Sewage is pumped via a pump station at Hurricane Street and Esplanade. Once through the pump station, sewage flows within the City of Los Angeles via the Coastal Interceptor Sewer to the Hyperion Treatment Plan. The marina area holds contractual flow rights, purchased from the city, for use in pipe and pumping systems, as well as treatment at Hyperion.

*See Appendix B - For Existing Sewer Exhibit*

# IV. Proposed Sewer Improvements

The proposed sewer improvements for Parcel FF, 10R and 9U requires the abandonment of approximately 655 lf of existing 10" sewer main from manhole 44 to manhole 60 and 224 lf of existing 8" sewer main from manhole 45 to the proposed manhole No. A3. *For Proposed Sewer Exhibit See Appendix C*

## 4.1 Proposed Improvements Parcel FF

Parcel FF requires two sewer lateral connections, one connection will be to the existing 8" sewer main between manhole no. 60 to 59 and the other to the existing 15" sewer main between manhole no. 60 to proposed manhole A6. The sewage flow from Building 4 of Parcel FF, Parcel 13, portion of Parcel 12 and the northern parcels of Marina Del Rey will join the sewage from Parcel 10R, portion of Parcel 12 at manhole A6.

## 4.2 Proposed Improvements Parcel 10R

Parcel 10R requires a proposed 8" sewer main adjacent to the Marina bulkhead and the existing 8" sewer main between manhole 46 and 48. The proposed 8" sewer main will serve the proposed building 1 & 2 of parcel 10R and connect at the proposed manhole A3 in the boardwalk. The manhole A3 will also collect sewage from a portion of parcel 12 thru the existing 8" sewer main from manhole 46 to 52 and sewage pumped from the renovated marina. The collective sewage flow from manhole A3 will flow northerly in a proposed 10" sewer main to a proposed manhole A4 in Marquesas Way. The proposed 10" sewer main turns west and collects sewage from building 3 of Parcel 10R to proposed manhole A5 in Marquesas Way. The sewage from manhole A5 turns north thru a proposed 10' sewer main and connects to the existing 15" sewer main between manhole 60 and manhole 62 with a proposed manhole A6 in Via Marina.

## 4.3 Proposed Improvements Parcel 9U

Parcel 9U requires a proposed 8" sewer main from the proposed manhole A8 to the existing manhole no. 67 in Via Marina. The sewage from the proposed transient docks will be pumped to the proposed manhole no. A8. The sewage will flow in a westerly direction toward the proposed manhole no. A7. At manhole A7, the sewage from the Hotel will be collected and continue to flow in westerly direction toward the existing 15" sewer main at manhole 67. The collective sewage flow from the Parcel 9U, docks and the southern parcels of Marina Del Rey will flow in a northerly direction to Manhole no. 69.

## 4.4 Proposed Pump

The improvements for Parcel 9U include a Transient Public boat dock with 7 – 11 slips located between Parcel 10R's docks and Parcel 8U docks in Basin B, Marina Del Rey. The proposed dock will include a sewage pump-out system which is one pump with four hydrants and internal piping system. The pump will be a SaniSailor CV8600 equipped with 5HP Baldor CE3615T electric motor – three phase 460 volt and a Baldor VS1Sp Inverter Drive. The Inverter Drive provides control of the pumpout flow rate which would be easily controlled from zero to a maximum of 15 gpm or 0.0334cfs. The improvements for Parcel 10R include the redevelopment of the existing docks and a one proposed pump with only one hydrant and internal piping system. The pump will be same as in the sewage pump-out system described for Parcel 9U.

*See Appendix D – For Pump Specifications*

# V. Conclusion

## 5.1 Conclusion

Manhole 67 to 69

The maximum capacity for the existing 15" sewer main from manhole 67 to 69 is 3.64cfs based on d/D equal to 0.75 (d=depth of flow, D=diameter of pipe). The LA County's flow test dated June 4, 08 to June 11, 08 indicates that the existing sewer peak flow is 0.9623cfs. The proposed peak sewer flow from the Hotel and pump is 0.3116cfs. The resulting total proposed peak sewer flow is 1.2739cfs which is less than 3.64cfs. The percent of maximum capacity used for the 15" sewer main is 35.0% with an available capacity of 65.0% or 2.3662cfs.

Manhole 60 to A6

The maximum capacity for the existing 15" sewer main from manhole 60 to A6 is 4.05cfs based on d/D equal to 0.75 (d=depth of flow, D=diameter of pipe). The proposed peak sewer flow given by LA County's Design Division including Parcel FF is 3.8510cfs which is less than 4.05cfs. The percent of maximum capacity used for the 15" sewer main is 95.1% with available capacity of 4.9% or 0.199cfs.

Manhole A6 to 62/69

The maximum capacity for the existing 15" sewer main from manhole 60 to A6 is 4.05cfs based on d/D equal to 0.75 (d=depth of flow, D=diameter of pipe). The proposed peak sewer flow given by LA County's Design Division including Parcel FF is 3.8510cfs. The additional peak sewer flow from the proposed pump (Parcel 10R) is 0.0334cfs. The resulting total peak sewer flow is 3.8844cfs which is less than 4.05cfs. The percent of maximum capacity used for the 15" sewer main is 95.9% with available capacity of 4.1% or 0.1656cfs

Manhole 69 to Metering Structure

The maximum capacity for the existing 18" sewer main from manhole 69 to metering structure is 7.96cfs based on d/D equal to 0.75 (d=depth of flow, D=diameter of pipe). The LA County's Design Division including Hotel/Parcel FF & 10R is 7.2720cfs. The proposed peak sewer flow from the Hotel's restaurant, ball/meeting rooms, Bar/Deli and Spa plus one pump is 0.0.1313cfs. The resulting total proposed peak sewer flow is 7.4033cfs which is less than 7.96cfs. The percent of maximum capacity used for the 18" sewer main is 93.0% with an available capacity of 7.0% or 0.5567cfs.

*For Sewer Calculations- See Appendix H, F & I*

Based on the results shown in Table 1 and as described above, there is sufficient capacity in the down stream sewer system to accommodate the additional sewer flow generated by the proposed development and the proposed Marina sewer pump systems. See Table1 below:

Table 1 - Proposed Sewer Flow Summary

| MH to MH | (E)o r (P) | Size of Pipe | Slope | Max Capacity | Ex. Sewer Flow | Additional Sewer Flow | Total Prop. Flow | Flow Depth | % Used |
|---|---|---|---|---|---|---|---|---|---|
| A8 to 67 | P | 8" SS | 1.40% | 0.71 cfs | 0 | 0.3116 cfs (1) | 0.3116 cfs | 0.21' | 43.9% |
| 67 to 69 | E | 15" SS | 0.28% | 3.64 cfs | 0.9623 cfs | 0.3116 cfs (1) | 1.2739 cfs | 0.53' | 35.0% |
| A1 to A3 | P | 8" SS | 0.50% | 0.42 cfs | 0 | 0.1215 cfs (2) | 0.1215 cfs | 0.17' | 28.9% |
| A3 to A4 | P | 10" SS | 0.50% | 0.75 cfs | 0.2066 cfs (3) | 0.1549 cfs (4) | 0.3615 cfs | 0.27' | 48.2% |
| A4 to A6 | P | 10" SS | 0.50% | 0.75 cfs | 0.2066 cfs (3) | 0.2955 cfs (5) | 0.5021 cfs | 0.33' | 66.9% |
| 60 to A6 | E | 15" SS | 0.28% | 4.05 cfs | 3.8510 cfs (6) | 0 | 3.8510 cfs | 0.90' | 95.1% |
| A6 to 62/69 | E | 15" SS | 0.28% | 4.05 cfs | 3.8510 cfs (6) | 0.0334 cfs (7) | 3.8844 cfs | 0.91' | 95.9% |
| 69 to MS | E | 18" SS | 0.40% | 7.96 cfs | 7.2720 cfs (8) | 0.1313 cfs (9) | 7.4033 cfs | 1.06' | 93.0% |

(E) Existing
(P) Proposed
MS Metering Structure

(1) Hotel + Pump = 0.2782cfs + 0.0334cfs = 0.3116cfs
(2) Bldgs. 1&2 of Parcel 10R = 0.1215cfs
(3) Peak Flow for Ex. Parcel 12
(4) Bldgs 1&2 of Parcel 10R + Pump = 0.1215cfs + 0.0334cfs = 0.1549cfs
(5) Parcel 10R + Pump = 0.2421cfs + 0.0334 cfs = 0.2955cfs
(6) Given by LA County, includes Parcel FF - *See Appendix K*
(7) Proposed Pump for Parcel 10R
(8) Given by LA County, includes Hotel/Parcel FF & 10R - *See Appendix K*
(9) Hotel's Restaurant, bathrooms, Bar/Deli and Spa + Pump = 0.0979cfs + 0.0334cfs = 0.1313cfs

# VI. Appendices

Appendix A – Proposed Development – Parcel FF, 10R and 9U

Appendix B – Existing Sewer Exhibit

Appendix C – Proposed Sewer Exhibit

Appendix D – Pump Specification

Appendix E – Existing Sewer Flow – Flow Test & LA County's given flow

Appendix F – Proposes Sewer Flows – Parcel FF, 10R, 9U an 12

Appendix G – Sewer Generation & Factors – LA County & City of Los Angeles

Appendix H – Maximum Sewer Capacity

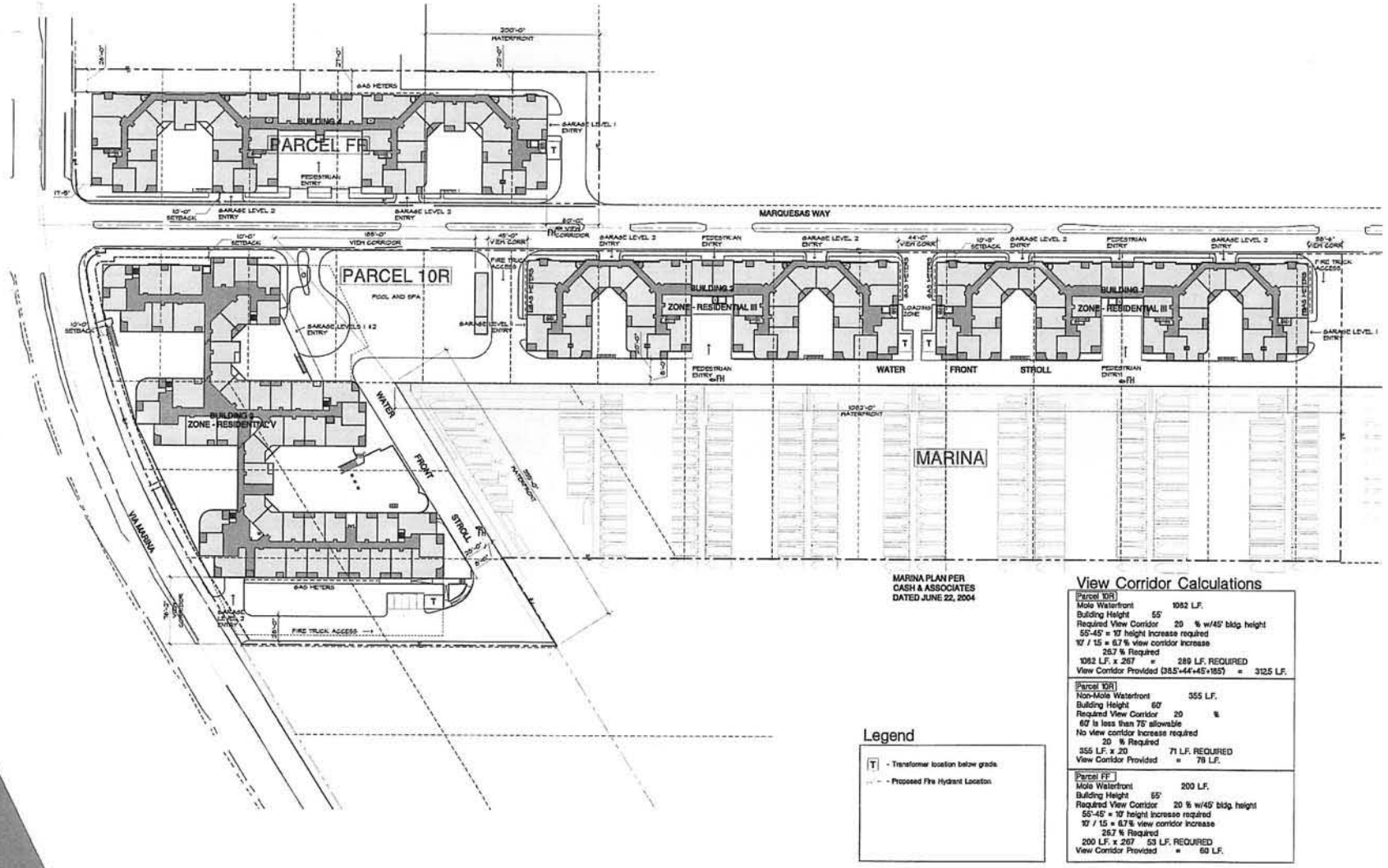
Appendix I – Flow Depth Calculation

Appendix J – Conceptual Sewer Plan

Appendix K – Emails and Meeting Note

Appendix L – Reference Drawings

# Appendix A




MARINA PLAN PER
CASH & ASSOCIATES
DATED JUNE 22, 2004

## View Corridor Calculations

**Parcel 10R**
Mole Waterfront 1062 L.F.
Building Height 55'
Required View Corridor 20 % w/45' bldg. height
55'-45' = 10' height increase required
10' / 15 = 6.7 % view corridor increase
26.7 % Required
1062 L.F. x .267 = 289 L.F. REQUIRED
View Corridor Provided (38.5'+44'+45'+185') = 312.5 L.F.

**Parcel 10R**
Non-Mole Waterfront 355 L.F.
Building Height 60'
Required View Corridor 20 %
60' is less than 75' allowable
No view corridor increase required
20 % Required
355 L.F. x .20 71 L.F. REQUIRED
View Corridor Provided = 79 L.F.

**Parcel FF**
Mole Waterfront 200 L.F.
Building Height 55'
Required View Corridor 20 % w/45' bldg. height
55'-45' = 10' height increase required
10' / 15 = 6.7 % view corridor increase
26.7 % Required
200 L.F. x .267 53 L.F. REQUIRED
View Corridor Provided = 60 L.F.

## Legend

T - Transformer location below grade.
- - - Proposed Fire Hydrant Location

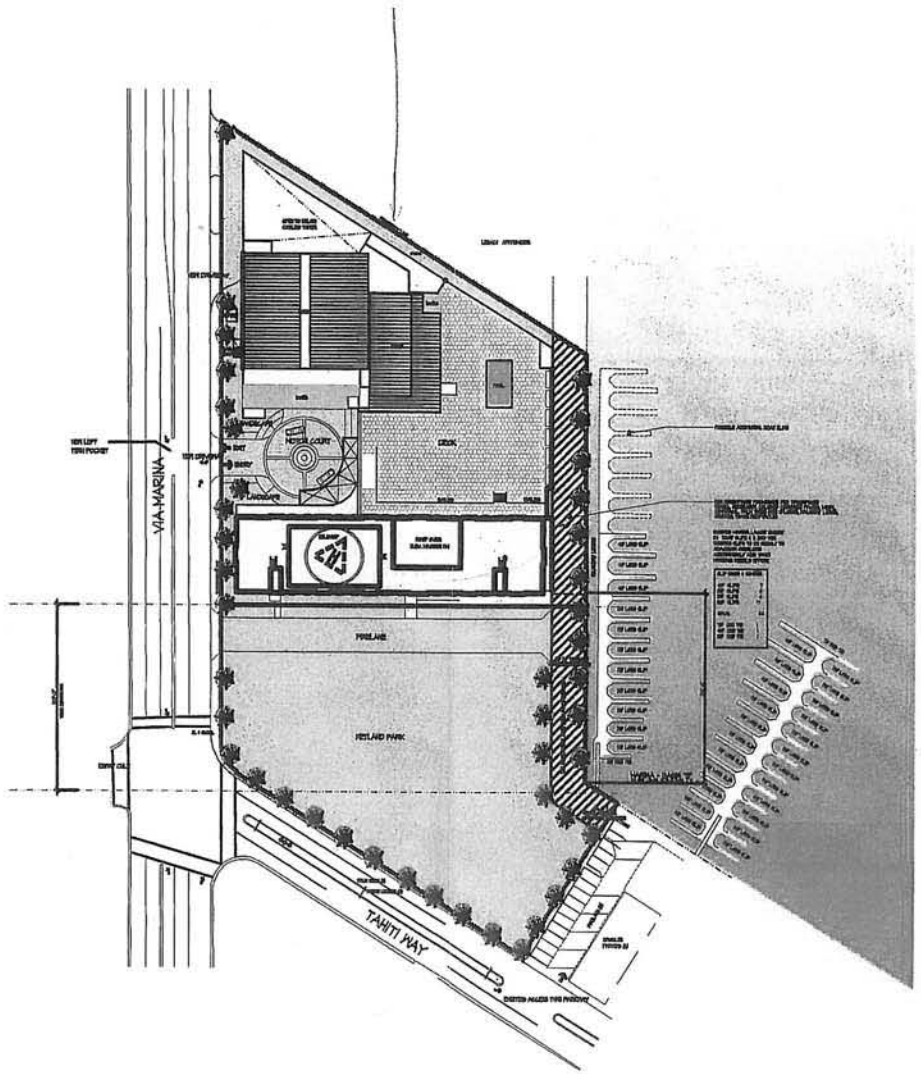
NEPTUNE MARINA, Marina Del Rey, California

**Site Plan**

FULL SIZE DRAWING SCALE: 1" = 40'-0"

May 4, 2006
2003-083
DCB Submittal

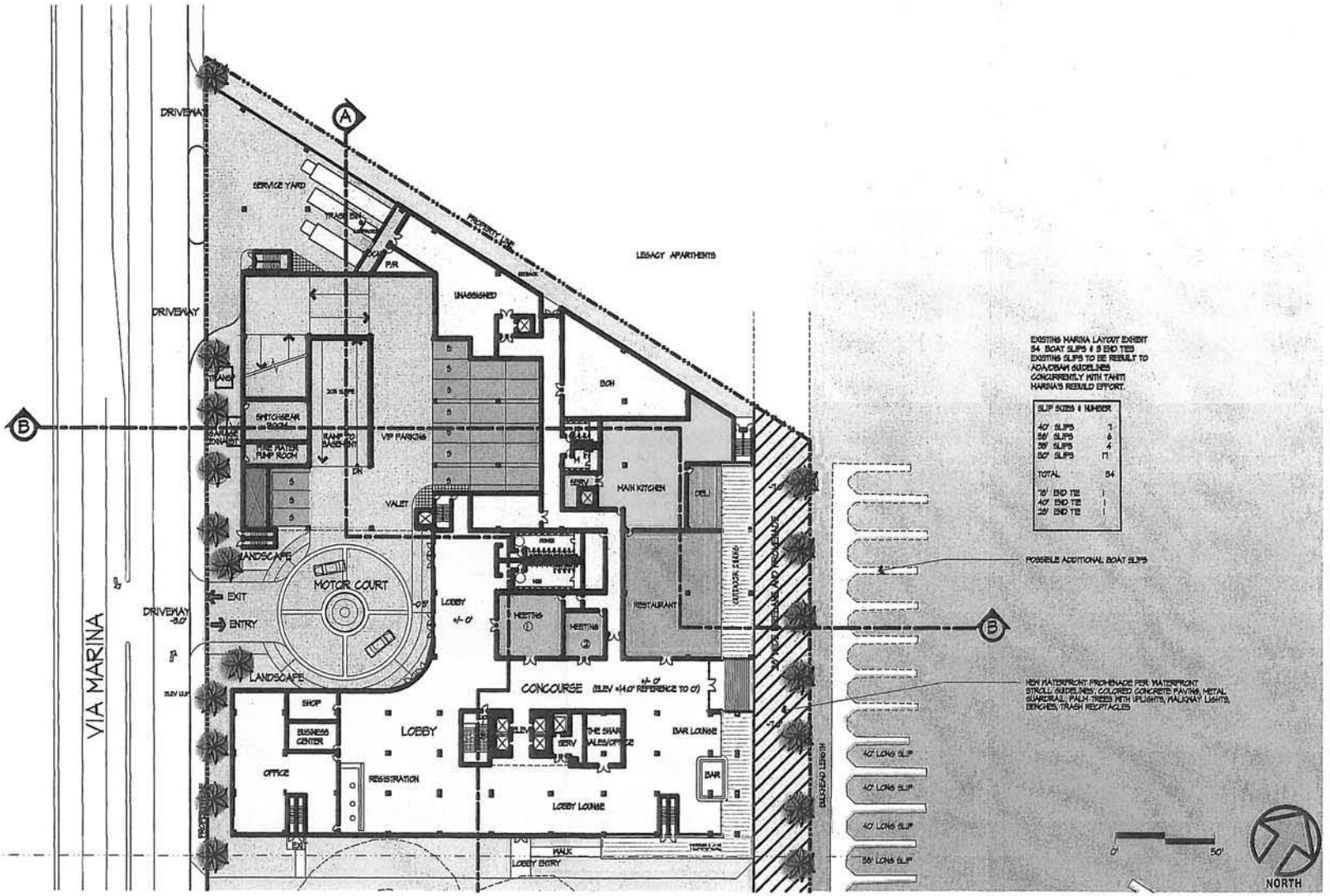
THOMAS P. COX ARCHITECTS, INC.
LEGACY PARTNERS




WOODFIN SUITE HOTEL and
VACATION OWNERSHIP
MARINA DEL REY, CALIFORNIA

SITE PLAN
SCHEME "Y"
SCALE 1 : 100'

REVISED MAY 08, 2006

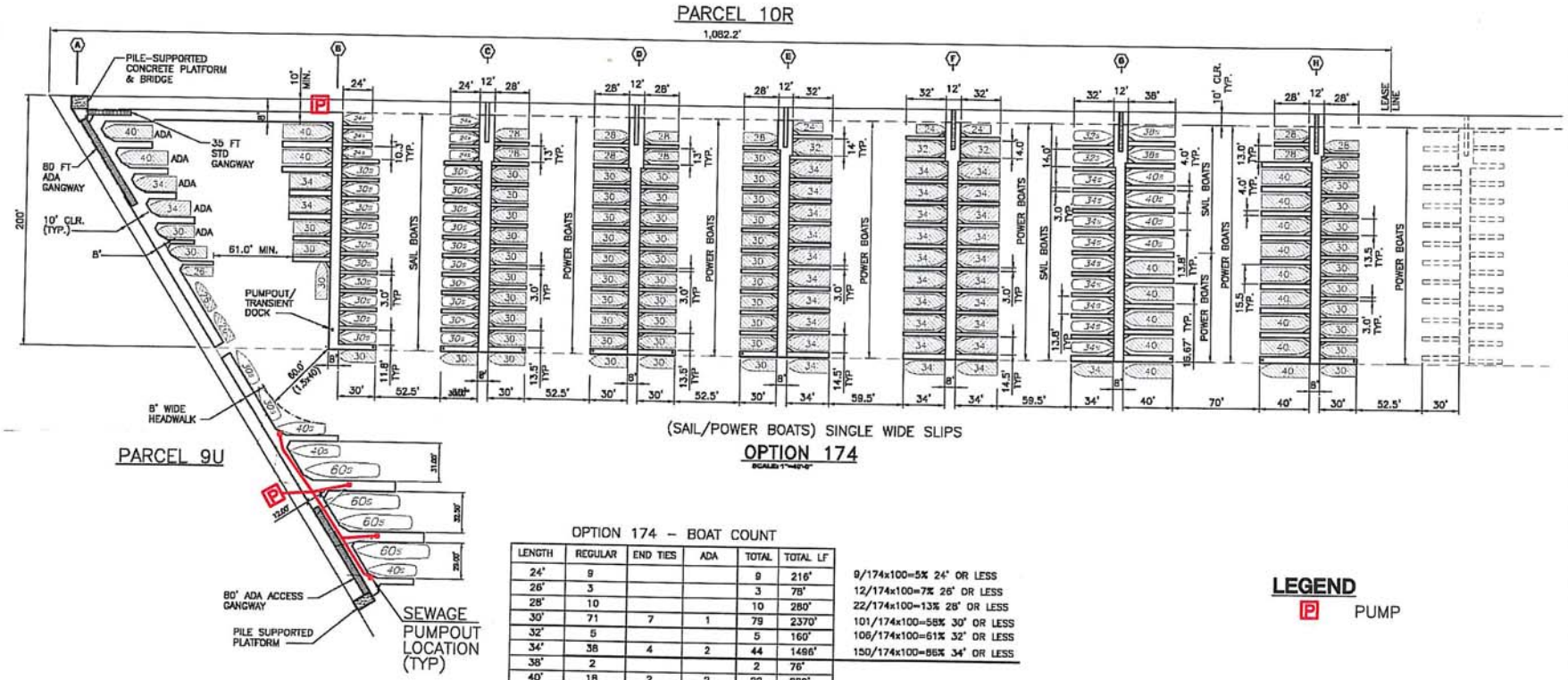



WOODFIN SUITE HOTEL and VACATION OWNERSHIP
MARINA DEL REY, CALIFORNIA

GROUND FLOOR PLAN
SCHEME "Y"
SCALE 1 : 50'

PROJECT NO. 2004200

REVISED MAY 08, 2006




(SAIL/POWER BOATS) SINGLE WIDE SLIPS

## OPTION 174

OPTION 174 – BOAT COUNT

| LENGTH | REGULAR | END TIES | ADA | TOTAL | TOTAL LF |
|---|---|---|---|---|---|
| 24' | 9 | | | 9 | 216' |
| 26' | 3 | | | 3 | 78' |
| 28' | 10 | | | 10 | 280' |
| 30' | 71 | 7 | 1 | 79 | 2370' |
| 32' | 5 | | | 5 | 160' |
| 34' | 38 | 4 | 2 | 44 | 1496' |
| 38' | 2 | | | 2 | 76' |
| 40' | 18 | 2 | 2 | 22 | 880' |
| TOTAL | 156 | 13 | 5 | | |
| GRAND TOTAL | | | | 174 | 5558' |

AVERAGE BOAT SIZE = 31.94'

9/174x100=5% 24' OR LESS
12/174x100=7% 26' OR LESS
22/174x100=13% 28' OR LESS
101/174x100=58% 30' OR LESS
106/174x100=61% 32' OR LESS
150/174x100=86% 34' OR LESS

**LEGEND**

P PUMP

GRAPHIC SCALE: 1"=40'-0"

CASH & ASSOCIATES • ENGINEERS
(714) 865-2072

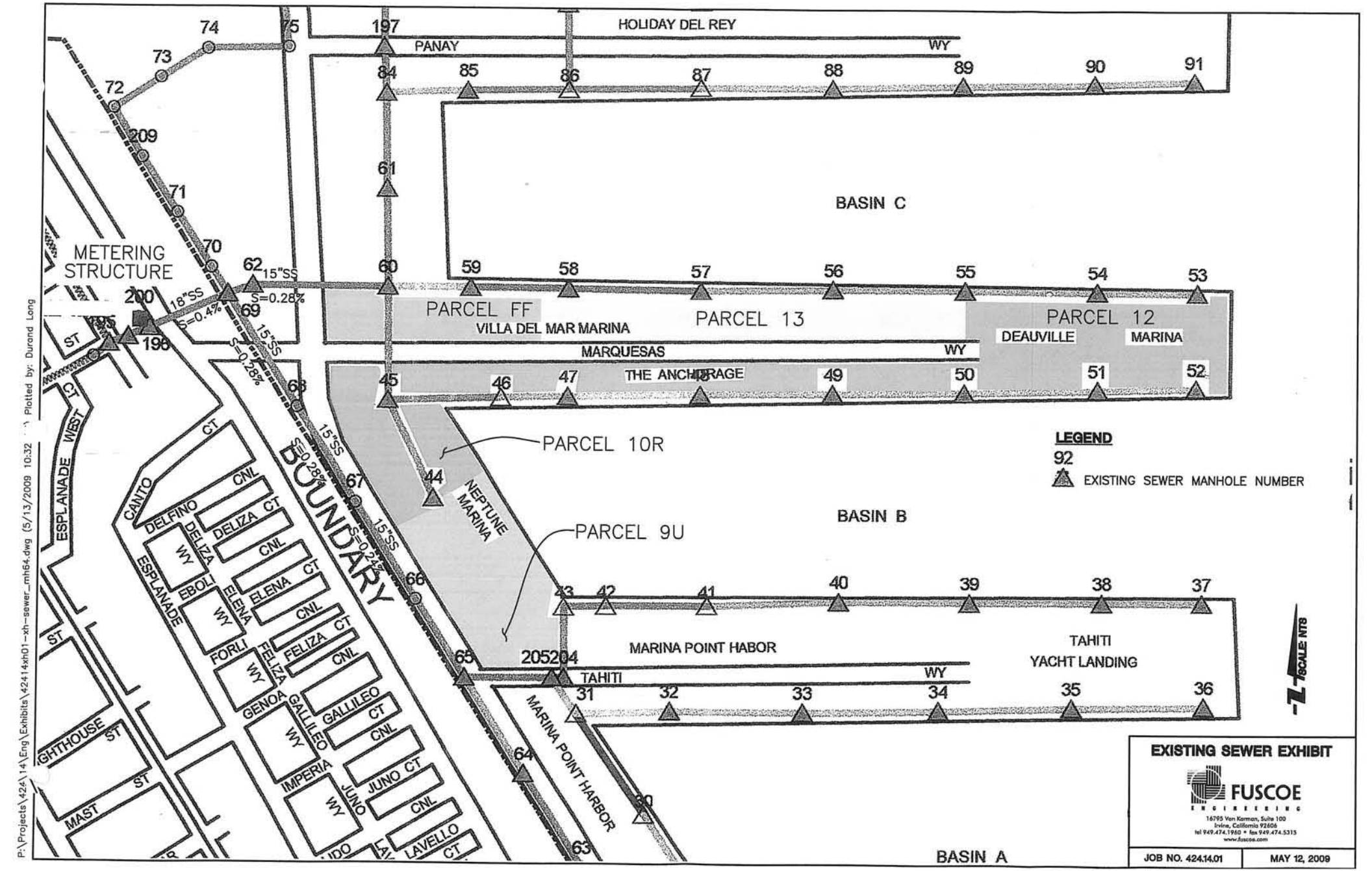
CONCEPT PLAN – OPTION 174
NEPTUNE MARINA
LEGACY PARTNERS
MARINA DEL REY, CALIFORNIA

5428.00
SHEET NUMBER
OPTION 174

P:\Projects\424\14\Eng\Exhibits\4241xh01-BOAT SLIPS.dwg (5/13/2009 11:29 AM) Plotted by: Durand Long

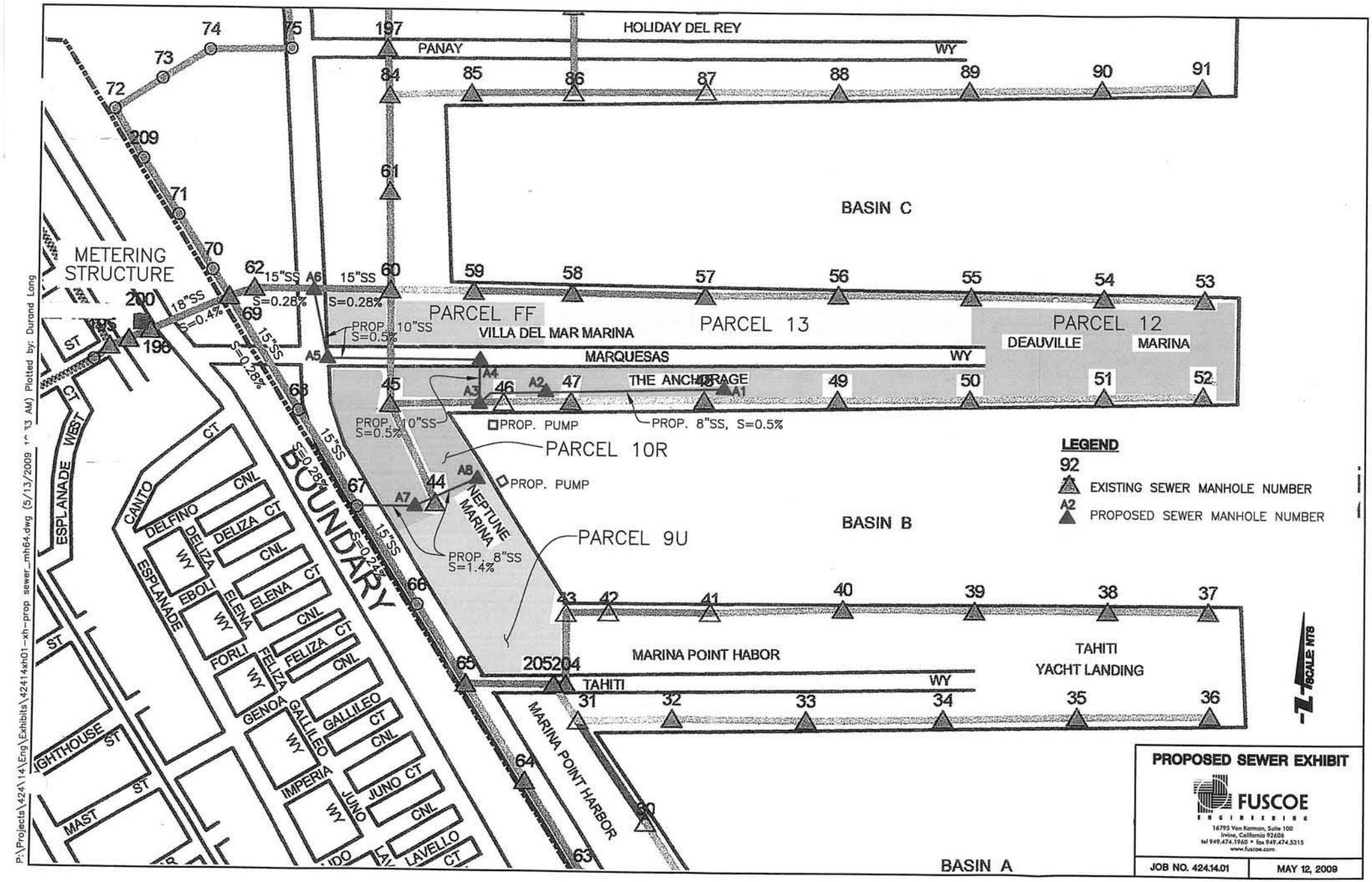
G:\Projects\Rhm\542800 Neptune Marina\Drawings\OPT 174.dwg – PLOT SCALE: 1:1 PS Plot Date: 04/27/09 – 3:59 pm

# Appendix B




P:\Projects\424\14\Eng\Exhibits\42414xh01-xh-sewer_mh64.dwg (5/13/2009 10:32 - ) Plotted by: Durand Long

# Appendix C




P:\Projects\424\14\Eng\Exhibits\42414xh01-xh-prop sewer_mh64.dwg (5/13/2009 10:13 AM) Plotted by: Durand Long

# Appendix D

EMP INDUSTRIES
ENVIRONMENTAL & MARINE PRODUCTS
2985 44TH AVE NORTH
ST. PETERSBURG, FL. 33714
PHONE: (727) 821-7867
FAX: (727) 821-7869
FROM THE OFFICE OF MARTIN MCDONALD
MMCDONALD@EMPIND.NET

FACSIMILE TRANSMITTAL SHEET CRAIG McQUIRE

| | |
|---|---|
| TO: Chris Mansour, PE | FROM: Marty (727) 641-1936 |
| COMPANY: URS | DATE: 5/8/2009 |
| FAX NUMBER: 714.895.1291 | TOTAL NO. OF PAGES INCLUDING COVER: 9 |
| PHONE NUMBER: | SENDER'S REFERENCE NUMBER: |
| RE: | YOUR REFERENCE NUMBER: |

URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

NOTES/COMMENTS:

Max Pump Flow = 15 gpm = 0.0334 cfs per Pump

RECEIVED TIME MAY. 8. 8:25AM

EMP Industries
*Clean Marinas. Clear Value.*

Mr. Chris Mansour, PE
URS
5772 Bolsa Avenue, Suite 100
Huntington Beach, CA 92649

Mr. Mansour:

Regards: Pumpout - Variable speed controls

The SaniSailor CV8600 pumpout units shall be equipped with:

- 5 HP Baldor CE3615T electric motors – three phase 460 Volt
- Baldor VS1SP Inverter Drive: provides speed and current control for high-performance control of the pumpout GPM. The flow rate may be easily and safely adjusted from zero to a maximum of 15 GPM
- Specification Sheets are attached

It is a pleasure to work with you. Please advise if you require additional information.

Best regards,

Marty McDonald
EMP Industries

EMP Industries
*Clean Marinas. Clear Value.*

Mr. Chris Mansour, PE
URS
5772 Bolsa Avenue, Suite 100
Huntington Beach, CA 92649

Mr. Mansour:

Regards: Pumpout - Variable speed controls

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- Baldor VS1SP Inverter Drive: provides speed and current control for high-performance control of the pumpout GPM. The flow rate may be easily and safely adjusted from zero TO 15 GPM * SEE Below
- Specification Sheets are attached

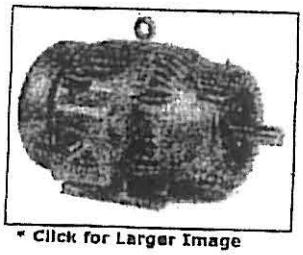
It is a pleasure to work with you. Please advise if you require additional information.

Best regards,

Marty McDonald
EMP Industries

* NOTE: PER TELEPHONE CONVERSATION ON 5/13/09 W/ Marty McDonald - He INDICATED that the pump described above can be designed to have a MAXIMUM peak FLOW OF 15GPM.

# Product Overview: CEM3615T



* Click for Larger Image

**Catalog Number:** CEM3615T
**Description:** 5HP,1750RPM,3PH,60HZ,184TC,3643M,TEFC,F1
**Ship Weight:** 92 lbs.

**Multiplier Symbol:** LS

View Specifications | View Operation Manual

## FEATURES

- Pressure cast aluminum end plates with ribbed design for rigidity
- Ball bearings
- Locked drive end bearing
- Heavy gauge steel frame

## APPLICATIONS

Pumps, fans, conveyors, machine tools, gear reducers.

* The image shown is representative only. Actual product may differ in appearance from image shown.


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BALDOR

Product Quick Search
CEM3615T
Go



General Information
- Overview
- Specifications
- Performance Data
- Parts List
- Drawings
- Product Literature

More Information
- Where To Buy
- Baldor Sales Offices

Return to List

AC Motors | General Purpose |

# Specifications: CEM3615T

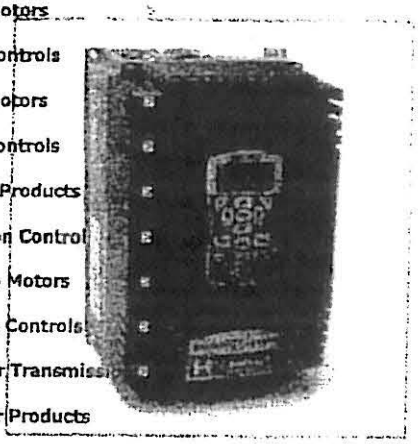
| | |
|---|---|
| Catalog Number: | CEM3615T |
| Specification Number: | 36A002T031E7 |
| Horsepower: | 5 |
| Voltage: | 230/460 |
| Hertz: | 60 |
| Phase: | 3 |
| Full Load Amps: | 13/6.5 |
| Usable at 208 Volts: | 13.6 |
| RPM: | 1750 |
| Frame Size: | 184TC |
| Service Factor: | 1.15 |
| Rating: | 40C AMB-CONT |
| Locked Rotor Code: | K |
| NEMA Design Code: | B |
| Insulation Class: | F |
| Full Load Efficiency: | 90.2 |
| Power Factor: | 80 |
| Enclosure: | TEFC |
| Baldor Type: | 3643M |
| DE Bearing: | 6206 |
| ODE Bearing: | 6205 |
| Electrical Specification Number: | 36WGT031 |
| Mechanical Specification Number: | 36A002 |
| Base: | RG |
| Mounting: | F1 |

* For certified information, contact your local Baldor office.


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# VS1SP Inverter Drive



VS1SP Inverter Drive

The VS1SP AC Drive uses a traditional inverter V/Hz control method. Its easy setup, quick startup, and right-out-of-the-box operation make it among the most popular variable speed motor controls. It is ideal for applications where multiple motors are operated simultaneously from one motor control, including pumps, fans, and general machinery applications.

For single motor operation, the VS1SP drive is also encoderless, which allows better speed and current control for high-performance, open-loop applications. Available in horsepowers from 3/4 to 250 HP and voltage ranges from 180-660 volts, these drives incorporate a variety of features and design innovations that ensure dependable performance.

Commonality is maintained within your facility for both closed loop and open loop applications by providing the same interface for all Baldor V*S Drives sensorless vector products.

Click here for an overview of Baldor's full line of V*S Industrial drive solutions.

## Features:

- Control Modes - V/Hz (Pump/Fan, Linear, Custom), Sensorless Vector
- NEMA 1 / NEMA 4X
- PID Control Loop with 2 or 3 Inputs
- Built-in RS485 ModBus Communication Option
- Pluggable Terminal Block
- Profile Run for Repetitive Processes
- PLC Functionality for Intelligent Operation
- User-friendly Keypad with Full-graphics Backlit LCD Display and Adjustable Font Size

## Enhanced Software Performance:

- Enhanced motor tuning featuring improved motor model. Accuracy improvement results in more torque per amp and the ability to control a wider range of variable speed motors
- New power dip ride through uses the motor inertia to maintain bus voltage and power to the drive
- Communication speed through put is increased by sending one data packet instead of multiple smaller pieces of information
- Braking performance uses an improved regenerative torque limit calculation and results in more torque during deceleration
- Motor current at zero speed is now selectable and can be set to output torque immediately after an enable input or to wait for a directional run command



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# VS1SP Inverter Drive

## VS1SP45-1B

Back to Ordering Information

Tech Specs | Dimension Drawing | VS Accessories | Application Notes

## Current Ratings

| Catalog Number | Input Volt | Size |
|---|---|---|
| VS1SP45-1B | 340-525 | AA |

Standard 2.5 kHz PWM

| Constant Torque (Heavy Duty) | Variable Torque (Normal Duty) |
|---|---|
| Input Amp: 7.60 | Input Amp: 11 |
| HP: 5 | HP: 7 1/2 |
| KW: 3.70 | KW: 5.60 |
| IC: 7.60 | IC: 11 |
| IP: 13.30 | IP: 12.70 |

Quiet 8.0 kHz PWM

| Constant Torque (Heavy Duty) | Variable Torque (Normal Duty) |
|---|---|
| Input Amp: 4.8 | Input Amp: 7.6 |
| HP: 3 | HP: 5 |
| KW: 2.2 | KW: 3.7 |
| IC: 4.8 | IC: 7.6 |
| IP: 8.4 | IP: 8.8 |

## Specifications

| | | |
|---|---|---|
| Approvals | CE c UL us | |
| Input Ratings | Frequency | 50/60 HZ ± 5% |
| | Phase | Three phase (or single phase power with derating) |
| | Impedance | 1% minimum from mains connection |
| Output | Overload Capacity | Constant Torque = 150% for 60 seconds, 175% for 3 seconds<br>Variable Torque = 115% for 60 seconds |



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| | | |
|---|---|---|
| **Ratings** | Frequency | 0-500Hz |
| | Voltage | 0 to Maximum Input voltage (RMS) |
| **Protective Features** | Trip | Missing control power, over current, over voltage, under voltage, Over temperature (motor or control), output shorted or grounded, motor overload |
| | Stall Prevention | Over voltage suppression, overcurrent suppression |
| | External Output | LED trip condition indicators, 4 assignable logic outputs, 2 assignable analog outputs 0-10 VDC, ± 10 VDC |
| | Short Circuit | Phase to phase, phase to ground |
| **Environmental Conditions** | Temperature | -10 to 45° C Derate 3% per degree C to maximum ambient temperature of 55° C |
| | Cooling | Forced air |
| | Altitude | Sea level to 3300 feet (1000 Meters) derate 2% per 1000 feet (303 Meters) above 3300 feet |
| | Humidity | 10 to 90% RH non-condensing |
| | Shock | 1G |
| | Vibration | 0.5G at 10Hz to 60Hz |
| | Storage Temperature | -10° to +65° C |
| | Duty Cycle | 1.0 |
| **Keypad Display** | Display | LCD Graphical 128x64 Pixel |
| | Keys | 14 key membrane with tactile response |
| | Functions | Output status monitoring<br>Digital speed control<br>Parameter setting and display<br>Diagnostic and Fault log display<br>Motor run and jog<br>Local/Remote modes |
| | LED Indicators | Forward run command<br>Reverse run command<br>Stop command<br>Jog active |
| | Remote Mount (optional) | 200 feet (60.6m) maximum from control |
| | Trip | Separate message and trace log for each trip, last 10 trips retained in memory |
| | Control Method | Microprocessor controlled PWM output, selectable encoderless vector or V/Hz inverter |
| | PWM Frequency | Adjustable 1-5kHz STD, 5-16 kHz quiet |
| | Frequency Setting | ± 5 VDC, 0-5 VDC ± 10 VDC, 4-20 mA, 0-20 mA; digital (keypad), Serial Comms/USB 2.0, and Modbus RTU standard |
| | Accel/Decel | 0-3600 seconds |
| | V/Hz Ratio | Linear to squared reduced, base frequency, output voltage, minimum frequency limit, maximum frequency limit |
| | Torque Boost | 0-30% of input voltage; automatic with manual override |
| | Brake Torque | 20% standard on Sizes AA and B, 1% standard on Size C |


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| | | |
|---|---|---|
| Control Specs | Skip Frequency | Three zones 0-Max frequency |
| | Velocity Loop Bandwidth | Adjustable to 180 Hz (Control only) |
| | Current Loop Bandwidth | Adjustable to 1200 Hz (Control only) |
| | Quiet PWM Frequency Version | Full rating 5-8 kHz PWM frequency, Adjustable to 16 kHz with linear derating (between 8-16kHz) of 50% at 16 kHz. 600VAC controls do not allow operation above 2.5kHz |
| | Standard PWM Frequency Version | Full rating 1-2.5 khz PWM frequency, Adjustable to 5 kHz with linear derating (between 2.5 - 5kHz) of 20% (240VAC) at 5 kHz Adjustable to 5 kHz with linear derating (between 2.5 - 5kHz) of 25% (480/600VAC) at 5 kHz |
| | PC Setup Software | Workbench Software available using the USB2.0 port for commissioning wizard, firmware download, parameter viewer, scope capture and cloning |
| | Operating modes include: | Keypad<br>Standard Run, 2 Wire<br>Standard Run, 3 Wire<br>15 Preset Speeds<br>Fan Pump 2 Wire<br>Fan Pump 3 Wire<br>Process Mode<br>3 SPD ANA 2 Wire<br>3 SPD ANA 3 Wire<br>Electronic Pot 2 Wire<br>Electronic Pot 3 Wire<br>Network<br>Profile Run<br>15 Preset Positions *<br>Bipolar<br>Pulse Follower *<br>PLC<br><br>* The modes not available for VS1SP Inverter |

| | | |
|---|---|---|
| Differential Analog Input | Full Scale Range | ± 5VDC, ± 10VDC, 4-20 mA and 0-20 mA |
| | Resolution | 11 bits + sign |

| | | |
|---|---|---|
| Single Ended Analog Input | Full Scale Range | 0-10 VDC (0 to + 10VDC are valid inputs), 4-20 mA and 0-20 mA |
| | Resolution | 11 bits + sign |

| | | |
|---|---|---|
| Analog Outputs | Analog Outputs | 2 Assignable |
| | Full Scale Range | ± 10VDC or 0 to 20mA |
| | Source Current | 1 mA maximum |
| | Resolution | 9 bits + sign |

| | | |
|---|---|---|
| Digital Inputs | Opto-isolated Inputs | 9 Assignable |
| | Rated Voltage | 10-30 VDC (closed contacts std) |
| | Input Impedance | 4.71 k Ohms |
| | Update Rate | 16 msec |

| | | |
|---|---|---|
| | Rated Voltage | 5 to 30 VDC |
| | Maximum Current | 60 mA Maximum |


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| | | |
|---|---|---|
| **Digital Outputs** (2 Opto Outputs) | ON Voltage Drop | 2 VDC Maximum |
| | Output Conditions | 25 Conditions |

| | | |
|---|---|---|
| **Digital Outputs** (2 Relay Outputs) | Rated Voltage | 5 to 30 VDC or 240 VAC |
| | Maximum Current | 5A Maximum non-inductive |
| | Output Conditionns | 25 Conditions |

**Diagnostic Indications:**

- Current Sense Fault
- Ground Fault
- Instantaneous Over Current
- Overload
- Line Power Loss
- Microprocessor Failure
- Over temperature (Motor or Control)
- Over Speed
- Regeneration (db) Overload
- Soft Start Fault
- Under Voltage
- Ready
- Parameter Loss
- Overload
- Overvoltage
- Torque Proving
- Following Error
- Encoder Loss
- Logic Power Fault
- PWR Base Fault

Note: All specifications are subject to change without notice.


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# SaniSailor Masterline

*Patented Technology Inside Every Pump*

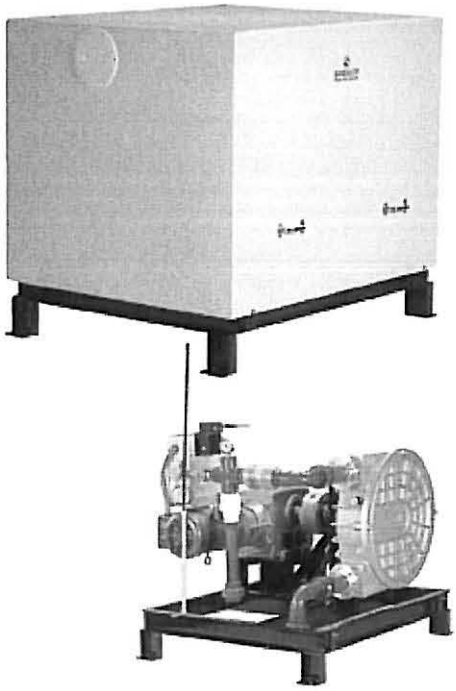
## CV8600

The SaniSailor Masterline Central Vacuum systems are rugged systems designed to be the vacuum source for multiple pumpout locations. These systems generate very high vacuum and are designed to be used frequently. The SaniSailor Masterline systems are used with SaniSailor Stanchions and hydrants. The innovative "brain" of this remarkable system is its master control module which automatically regulates the pumpout locations and turns the pump on and off, as needed, in response to a hydrant or stanchion being accessed.

The Masterline CV8600 is used where a single vacuum source is required for multiple hydrants and stanchions on several piers. This system generates a high vacuum level and can process at higher flow rates.

Use the CV8600 to service complex configurations.

The SaniSailor CV8600 includes our ***exclusive*** vacuum assisted ***peristaltic pump.***



### CV8600 Specifications

| | |
|---|---|
| **Capacity:** | 15GPM |
| **Vacccum:** | 29 inch Hg |
| **Discharge Head:** | 190 PSI |
| **Suction Lift:** | 29 feet vertical |
| **Power Required:** | 5 HP |
| **Dimensions:** | 48"L x 49"W x 43.25"H |
| **Weight:** | 800 lbs |

***Patented Technology Inside Every Pump***

- *12%-120% longer hose life than compared to other brands*
- *Best value - lowest life cost average*
- *Best warranty in the industry, 3 years*
- *Advanced patented technology in every pump*
- *Convenient, sizes and styles to fit every marina's needs*
- *EMP's most reliable and responsive customer service and support*
- *Pioneers of the first original peristaltic pump-out systems*
- *EMP Gold Seal of Quality Pump-out*
- *#1 selling marine pump-out system in America*

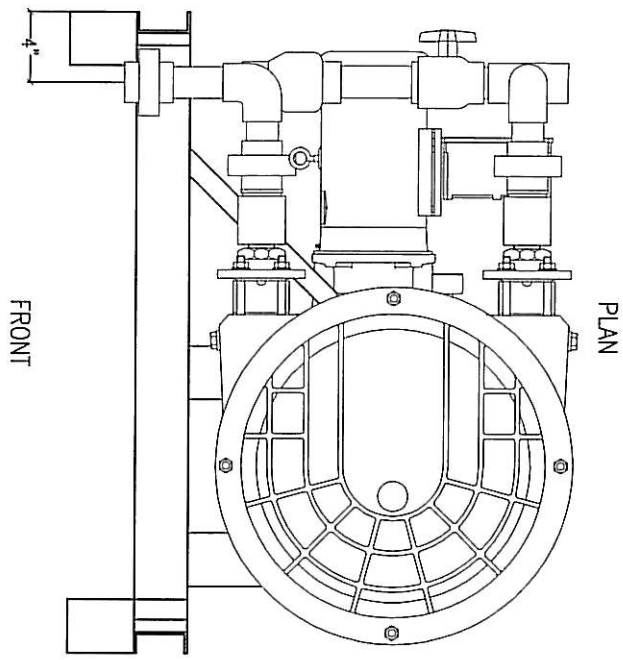
***#1 Selling Marine Pumpout System in America***

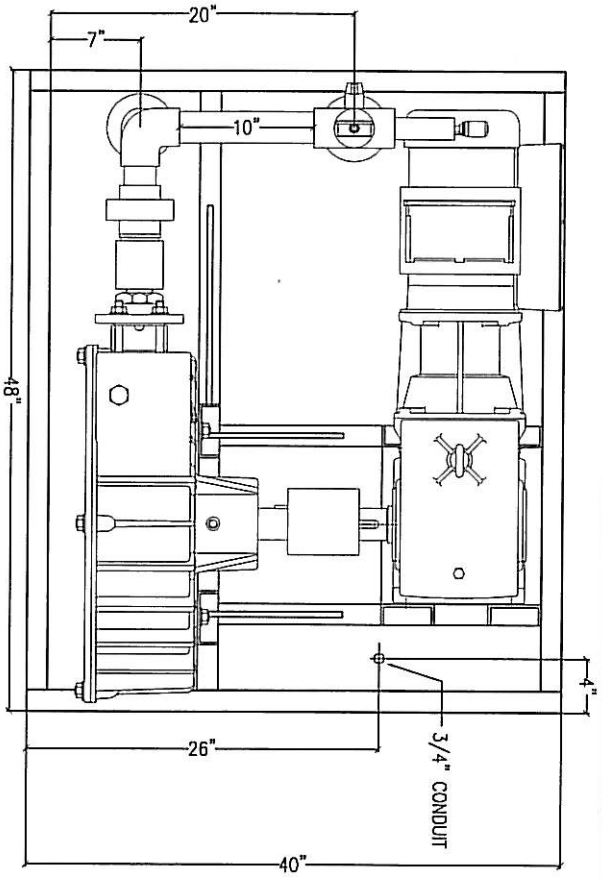
## 800.355.7867

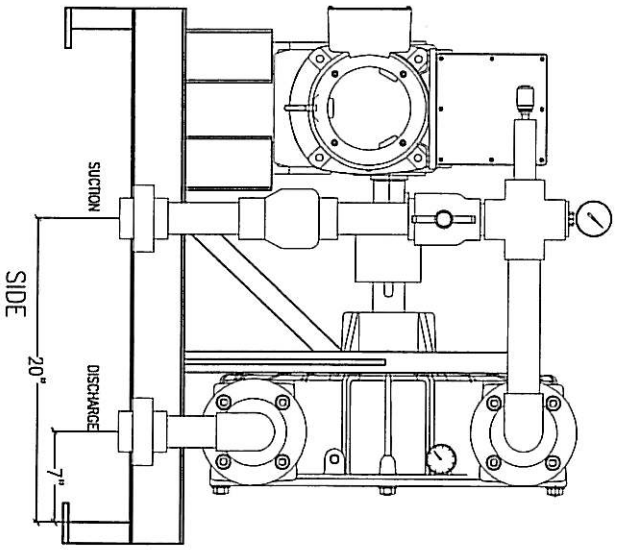
**EMP Industries, Incorporated**

2985 44th Avenue North • St. Petersburg, FL 33714

www.pumpout.com

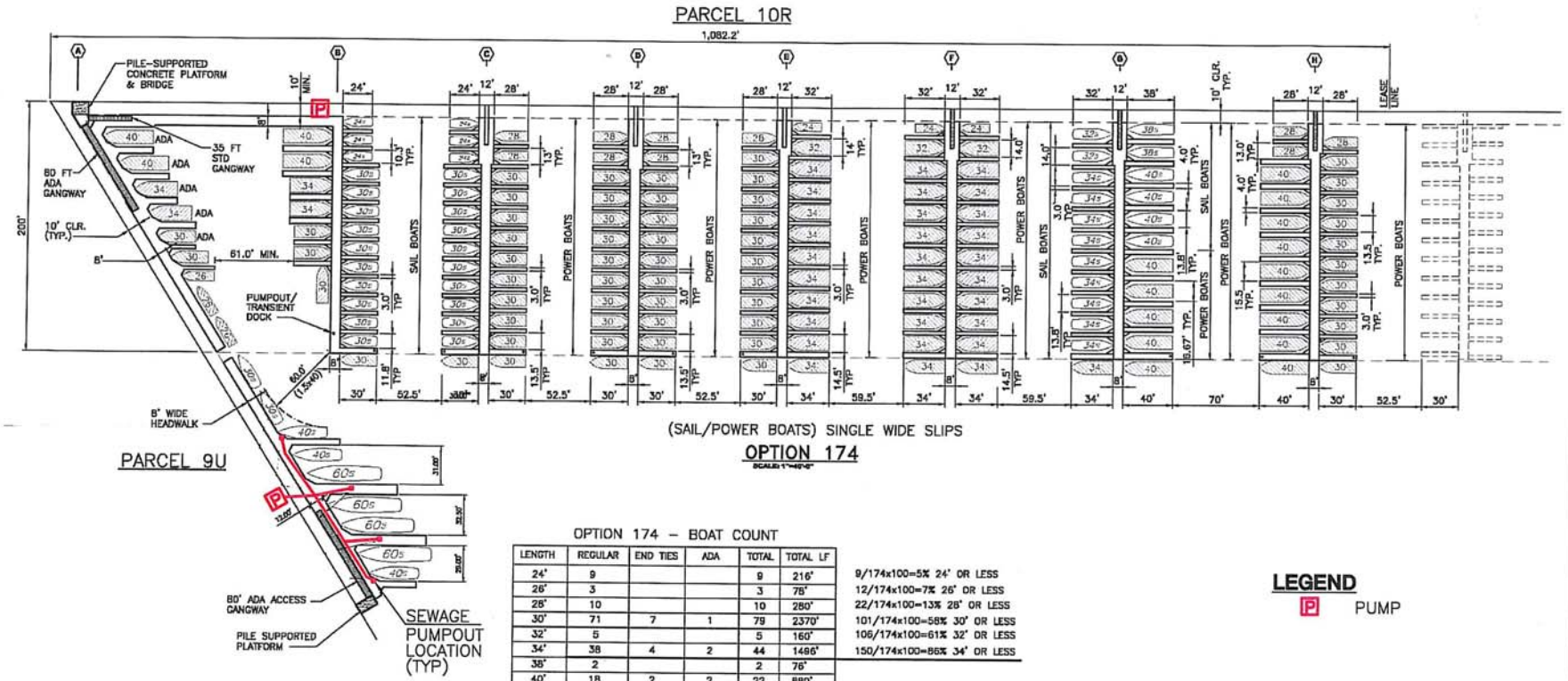



| PROJECT | | | | |
|---|---|---|---|---|
| PUMP DETAIL | EMP INDUSTRIES, INC. | 2985 44th Ave North<br>St. Petersburg, FL 33714<br>Tel: 727-821-7867<br>Fax: 727-821-7869<br>TC / ARH / TC | CV8600 | N/A — 7/19/2007<br>CV8600P |

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(SAIL/POWER BOATS) SINGLE WIDE SLIPS

## OPTION 174

SCALE: 1"=40'-0"

OPTION 174 – BOAT COUNT

| LENGTH | REGULAR | END TIES | ADA | TOTAL | TOTAL LF | |
|---|---|---|---|---|---|---|
| 24' | 9 | | | 9 | 216' | 9/174x100=5% 24' OR LESS |
| 26' | 3 | | | 3 | 78' | 12/174x100=7% 26' OR LESS |
| 28' | 10 | | | 10 | 280' | 22/174x100=13% 28' OR LESS |
| 30' | 71 | 7 | 1 | 79 | 2370' | 101/174x100=58% 30' OR LESS |
| 32' | 5 | | | 5 | 160' | 106/174x100=61% 32' OR LESS |
| 34' | 38 | 4 | 2 | 44 | 1496' | 150/174x100=86% 34' OR LESS |
| 38' | 2 | | | 2 | 76' | |
| 40' | 18 | 2 | 2 | 22 | 880' | |
| TOTAL | 156 | 13 | 5 | | | |
| GRAND TOTAL | | | | 174 | 5558' | |

AVERAGE BOAT SIZE = 31.94'

**LEGEND**

P PUMP

GRAPHIC SCALE: 1"=40'-0"

CASH & ASSOCIATES · ENGINEERS
(714) 895-2072

CONCEPT PLAN – OPTION 174

NEPTUNE MARINA
LEGACY PARTNERS
MARINA DEL REY, CALIFORNIA

5428.00
SHEET NUMBER

OPTION 174

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G:\Projects\Dhm\542800 Neptune Marina\Drawings\OPT 174.dwg – PLOT SCALE: 1=1 PS Plot Date: 04/27/09 – 3:59 pm

# Appendix E

Insight For Windows: Version: 5.10.2

==========

Program settings

Site Id: 00000000
Description: c-1438 m/h 67

---

Program settings

PGM:
910 F.M. VERSION: 7.63

S/N: WXJ
SITE ID: 00000000
LOCATION:
c-1438 m/h 67
LEVEL SENSOR:
SUBMERGED LEVEL A
TYPE: 0-10 FT
CAL OFFSET: 418 cts
CAL GAIN: 6.99 cts/cm
USER OFFSET: 0.00 cm
VELOCITY SENSOR:
VELOCITY A
AREA VELOCITY
SHAPE: CIRCULAR PIPE
DIAMETER: 15.00 in.
SAMPLER PACING: OFF
FLOW UNITS: gph
TOTAL FLOW UNITS: gal
RS232 BAUD RATE: 19200
DAYS TO LOG: 54.0
INSTALLED MEMORY: 128

Max Sewer Flow (MH 67 to 69) Q = 0.9623 cfs

| --INPUT-- | --UNITS-- | --LOGGING-- | --INTV- |
|---|---|---|---|
| FLOW | gph | ON | 12min |
| LEVEL 1 | in. | ON | 12min |
| VELOCITY 1 | fps | ON | 12min |
| CHANNEL 5 | volts | ON | 12min |

MEMORY MODE: WRAP
DONE

==========

Primary Device

Site Id: 00000000
Description: c-1438 m/h 67

---

Primary Device 1: Area-Velocity (circular pipe)
Diameter: 15.00 in.

==========

Day Report - 04/JUN/08
Wednesday

Site Id: 00000000
Description: c-1438 m/h 67

---

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 3.192 | 7957.015 |
| | 11:24 | 11:24 |
| Maximum: | 6.277 | 25913.676 |

| | | |
|---|---|---|
| | 21:48 | 21:48 |
| Average: | 5.282 | 16122.789 |

Total Flow1: 206.369 (gal) x1000

Day Report - 05/JUN/08
Thursday

Site Id: 00000000
Description: c-1438 m/h 67

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 2.962 | 3839.805 |
| | 04:36 | 04:36 |
| Maximum: | 6.035 | 22989.689 |
| | 22:36 | 21:12 |
| Average: | 4.924 | 14192.120 |

Total Flow1: 340.606 (gal) x1000

Day Report - 06/JUN/08
Friday

Site Id: 00000000
Description: c-1438 m/h 67

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 3.043 | 3541.240 |
| | 05:36 | 04:24 |
| Maximum: | 6.027 | 23879.742 |
| | 08:00 | 08:00 |
| Average: | 4.873 | 13552.713 |

Total Flow1: 325.261 (gal) x1000

Day Report - 07/JUN/08
Saturday

Site Id: 00000000
Description: c-1438 m/h 67

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 3.194 | 4526.027 |
| | 06:00 | 05:48 |
| Maximum: | 5.813 | 21923.268 |
| | 10:48 | 10:48 |
| Average: | 4.924 | 14061.775 |

Total Flow1: 337.478 (gal) x1000

Day Report - 08/JUN/08
Sunday

Site Id: 00000000

Description: c-1438 m/h 67

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 3.316<br>06:24 | 5656.275<br>06:24 |
| Maximum: | 5.747<br>12:00 | 20505.742<br>12:00 |
| Average: | 4.969 | 14441.718 |

Total Flow1: 346.597 (gal) x1000

Day Report - 09/JUN/08
Monday

Site Id: 00000000
Description: c-1438 m/h 67

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 3.997<br>05:24 | 8288.445<br>05:00 |
| Maximum: | 5.855<br>09:00 | 21567.141<br>07:36 |
| Average: | 4.901 | 13670.913 |

Total Flow1: 328.098 (gal) x1000

Day Report - 10/JUN/08
Tuesday

Site Id: 00000000
Description: c-1438 m/h 67

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 4.053<br>02:48 | 7296.888<br>03:12 |
| Maximum: | 6.033<br>09:00 | 22471.363<br>09:00 |
| Average: | 4.885 | 13286.622 |

Total Flow1: 318.875 (gal) x1000

Day Report - 11/JUN/08
Wednesday

Site Id: 00000000
Description: c-1438 m/h 67

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 0.000<br>11:48 | 0.000<br>11:48 |
| Maximum: | 6.164 | 25258.023 |

| | | |
|---|---|---|
| | 08:00 | 08:00 |
| Average: | 3.930 | 10843.489 |

Total Flow1: 151.807 (gal) x1000

==========

04/JUN/08 - 11/JUN/08

Site Id: 00000000

Description: c-1438 m/h 67

---

| | Level (in.) | Flow 1 (gph) |
|---|---|---|
| Minimum: | 0.000 | 0.000 |
| | 11:48 | 11:48 |
| | JUN 11 | JUN 11 |
| Maximum: | 6.277 | 25913.676 |
| | 21:48 | 21:48 |
| | JUN 4 | JUN 4 |
| Average: | 4.860 | 13788.761 |

Total Flow1: 2355.090 (gal) x1000

☐

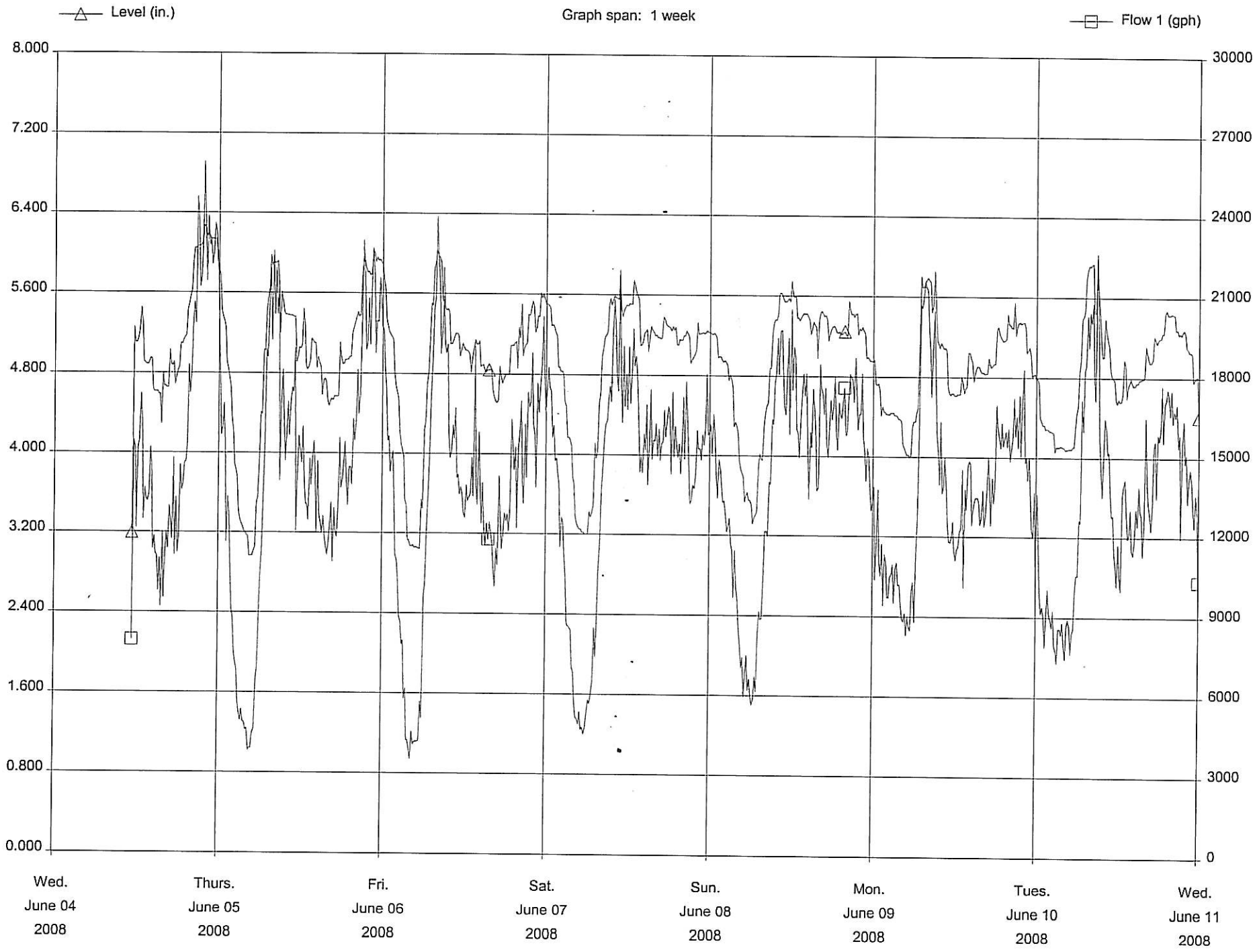
* MAX FLOW FROM NODE 67 to 69

$Q = 25913.676\ gph\left(\frac{1\ hour}{3600\ sec}\right)\left(\frac{1\ cuft}{7.48\ gal}\right)$

$= 0.9623\ cfs$

c-1438 r ' 67

Site Id: 00000000 File name: 06111403.WXJ



*Engineering Company: FUSCOE Engineering*

*16795 Von Karman Avenue, Suite 100*

*Irvine, CA. 92606*

*(949)474-1960*

*Developer: Thomas Safran & Associates*

*11812 San Vicente Boulevard*

*Los Angeles, California 90049*

*Hello Ms. Schales,*

*Per our Wednesday 4-29-09 meeting, please see the below calculated values provided by our Design Division. Per our discussion you will submit the area study comparing the calculated and empirical method by obtaining the actual flow amount from the flow measurements.*

The following are the calculated flow rate.

MH 60 to MH 62 (3.851cfs) existing pipe 15" at .0028

MH 69 to Pump Station (7.272cfs) existing pipe 18" at .004

*Please call or email me if you have any questions.*

*Tony Khalkhali, P.E.*
*LA County Department of Public Works*
*Land Development Division (Sewer& Water/Landscaping)*
*(626)458-4921 ext.3881*

*Please take a moment to let us know how we are doing by following this link:*

http://dpw.lacounty.gov/go/lddsurvey

*Please consider the environment before printing this email.*

# Appendix F

# NEPTUNE MARINA
# SEWER FLOW ANALYSIS
## Parcel FF

| APARTMENTS | | | |
|---|---|---|---|
| BUILDING | 1 BDRM | 2 BDRM | TOTAL |
| 1-2 | 84 | 42 | 126 |

EQUATION:

1 BEDROOM

AVE. FLOW (gpd) = Units x Sewer flow rate
AVE. FLOW (gpd) = 84 x 150gpd
AVE. FLOW (gpd) = 12,600 gpd
AVE. FLOW (cfs) = 12,600 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0195cfs
PEAK FLOW (cfs) = 2.5 x 0.0195 = 0.0487cfs
**PEAK FLOW (cfs) =0.0487 cfs**

2 BEDROOM

AVE. FLOW (gpd) = Units x Sewer flow rate
AVE. FLOW (gpd) = 42 x 200gpd
AVE. FLOW (gpd) = 8,400 gpd
AVE. FLOW (cfs) = 8,400 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0130cfs
PEAK FLOW (cfs) = 2.5 x 0.0130 = 0.0325cfs
**PEAK FLOW (cfs) =0.0325cfs**

**TOTAL = 0.0487cfs + 0.0325 cfs = 0.0812 cfs**

**Use: 0.08 cfs**

**Sewer Generation Factor:**

Average daily flow

1 BDRM = 150 gpd per dwelling unit**
2 BDRM = 200 gpd per dwelling unit**

Peaking Factor = 2.5

gpd = gallons per day
1 gpd = 1.547 E-6 cfs

** *Per Tony Khalkhali's email – See Appendix K*

# NEPTUNE MARINA
# SEWER FLOW ANALYSIS
## Parcel 10R

| APARTMENTS | | | |
|---|---|---|---|
| BUILDING | 1 BDRM | 2 BDRM | TOTAL |
| 1-3 | 246 | 154 | 400 |

EQUATION:

1 BEDROOM

AVE. FLOW (gpd) = Units x Sewer flow rate
AVE. FLOW (gpd) = 246 x 150gpd
AVE. FLOW (gpd) = 36,900 gpd
AVE. FLOW (cfs) = 36,900 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0571cfs
PEAK FLOW (cfs) = 2.5 x 0.0571 = 0.1428 cfs
**PEAK FLOW (cfs) =0.1428cfs**

2 BEDROOM

AVE. FLOW (gpd) = Units x Sewer flow rate
AVE. FLOW (gpd) = 154 x 200gpd
AVE. FLOW (gpd) = 30,800 gpd
AVE. FLOW (cfs) = 30,800 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0477cfs
PEAK FLOW (cfs) = 2.5 x 0.0477
**PEAK FLOW (cfs) =0.1193cfs**

**TOTAL = 0.1193cfs + 0.1428 cfs = 0.2621cfs**

**Use: 0.26cfs**

**Average Flow for Bldg 1 & 2** = 140 Du (150gpd) + 52 Du (200gpd) = 31,400gpd
Ave. Flow (cfs) = 31,400gpd (1day/24hr) x (1hr/3600sec.) x (1cuft/7.48gal) = 0.0486cfs
Peak Flow = 2.5 x 0.486 = 0.1215 Cfs =

**Sewer Generation Factor:**

Average daily flow

1 BDRM = 150 gpd per dwelling unit**
2 BDRM = 200 gpd per dwelling unit**

Peaking Factor = 2.5

gpd = gallons per day
1 gpd = 1.547 E-6 cfs

***Per Tony Khalkhali's email – See Appendix K*

# NEPTUNE MARINA
# SEWER FLOW ANALYSIS
## Parcel 9U

| Timeshare units | | | |
|---|---|---|---|
| | 1 BDRM | 2 BDRM | TOTAL |
| Hotel | 68 | 68 | 136 |

| Hotel | | | | |
|---|---|---|---|---|
| Hotel Rooms | Restaurant | Banquet/Mtg rooms | Bar/Deli | Spa |
| 152 | 209 seats | 7908 sq ft | 201 seats | 5625 Sq ft |

EQUATION for TIMESHARE UNITS:

1 Bedroom

AVE. FLOW (gpd) = Units x Sewer flow rate
AVE. FLOW (gpd) = 68 x 150gpd
AVE. FLOW (gpd) = 10,200 gpd
AVE. FLOW (cfs) = 10,200 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0158cfs
PEAK FLOW (cfs) = 2.5 x 0.0158 = 0.0395cfs
**PEAK FLOW (cfs) =0.0395 cfs**

2 Bedroom

AVE. FLOW (gpd) = Units x Sewer flow rate
AVE. FLOW (gpd) = 68 x 200gpd
AVE. FLOW (gpd) = 13,600 gpd
AVE. FLOW (cfs) = 13,600 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0210cfs
PEAK FLOW (cfs) = 2.5 x 0.0210= 0.0526cfs
**PEAK FLOW (cfs) =0.0526cfs**

EQUATION for HOTEL:

AVE. FLOW (gpd) = rooms x Sewer flow rate
AVE. FLOW (gpd) = 152 x 150gpd
AVE. FLOW (gpd) = 22,800 gpd
AVE. FLOW (cfs) = 22,800 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0353cfs
PEAK FLOW (cfs) = 2.5 x 0.0353 = 0.0882cfs
**PEAK FLOW (cfs) =0.0882 cfs**

EQUATION for RESTAURANT:

AVE. FLOW (gpd) = seats x Sewer flow rate
AVE. FLOW (gpd) = 209 x 50gpd
AVE. FLOW (gpd) = 10,450 gpd
AVE. FLOW (cfs) = 10,450 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0162cfs
PEAK FLOW (cfs) = 2.5 x 0.0162= 0.0424cfs
**PEAK FLOW (cfs) =0.0424 cfs**

EQUATION for BANQUET/MTG ROOMS:

AVE. FLOW (gpd) = SQ FT x Sewer flow rate
AVE. FLOW (gpd) = 7908 sq ftx 800gpd/1000sqft
AVE. FLOW (gpd) = 6326 gpd
AVE. FLOW (cfs) = 6326 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0098cfs
PEAK FLOW (cfs) = 2.5 x 0.0098 = 0.0245cfs
**PEAK FLOW (cfs) =0.0245 cfs**

EQUATION for BAR/DELI:

AVE. FLOW (gpd) = seats x Sewer flow rate
AVE. FLOW (gpd) = 201 x 20 gpd
AVE. FLOW (gpd) = 4,020 gpd
AVE. FLOW (cfs) = 4,020 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0062cfs
PEAK FLOW (cfs) = 2.5 x 0.0062= 0.0155cfs
**PEAK FLOW (cfs) =0.0155 cfs**

EQUATION for SPA:

AVE. FLOW (gpd) = SQ FT x Sewer flow rate
AVE. FLOW (gpd) = 5000 sq ftx 800gpd/1000sqft
AVE. FLOW (gpd) = 4,000 gpd
AVE. FLOW (cfs) = 4,000 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0062cfs
PEAK FLOW (cfs) = 2.5 x 0.0062 = 0.0155cfs
**PEAK FLOW (cfs) =0.0155 cfs**

**TOTAL PEAK FLOW =** 0.0395cfs + 0.0526 cfs + 0.0882 cfs + 0.0424cfs + 0.0245cfs + 0.0155 cfs + 0.0155 cfs **= 0.2782cfs**

**Use: 0.28 cfs**

**Sewer Generation Factor:**

Average daily flow

1 BDRM = 150 gpd per dwelling unit **
2 BDRM = 200 gpd per dwelling unit**
Hotel rooms = 150 gpd per room
Restaurant = 50 gpd per seat
Banquet/Meeting Room = 800/1000 sq ft*
Deli/Bar = 20 gpd per seat
Health club/Spa = 800 gpd per 1000 sq ft*

Peaking Factor = 2.5

gpd = gallons per day
1 gpd = 1.547 E-6 cfs

** Sewer Generation Factors per City of Los Angeles – See Appendix G*
*** Per Tony Khalkhali's email – See Appendix K*

# DEAUVILLE MARINA
# SEWER FLOW ANALYSIS
## Parcel 12

| APARTMENTS | | | |
|---|---|---|---|
| BUILDING | 1 BDRM | 2 BDRM | TOTAL |
| 1-6 | 152 | 153 | 305 |

*Number of units are based on an Email from Tony Khalkhali, dated 5/12/09 – See next page

EQUATION:

1 BEDROOM

AVE. FLOW (gpd) = Units x Sewer flow rate
AVE. FLOW (gpd) = 152 x 150gpd
AVE. FLOW (gpd) = 22,800 gpd
AVE. FLOW (cfs) = 22,800 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0353cfs
PEAK FLOW (cfs) = 2.5 x 0.0353 = 0.0882 cfs
**PEAK FLOW (cfs) =0.0882cfs**

2 BEDROOM

AVE. FLOW (gpd) = Units x Sewer flow rate
AVE. FLOW (gpd) = 153 x 200gpd
AVE. FLOW (gpd) = 30,600 gpd
AVE. FLOW (cfs) = 30,600 gpd X (1day/24hr) x (1hr/3600sec.) x (1cu. ft./7.48gal) = 0.0473cfs
PEAK FLOW (cfs) = 2.5 x 0.0473
**PEAK FLOW (cfs) =0.1184cfs**

**TOTAL = 0.1184cfs + 0.0882 cfs = 0.2066cfs**

**Use: 0.21cfs**

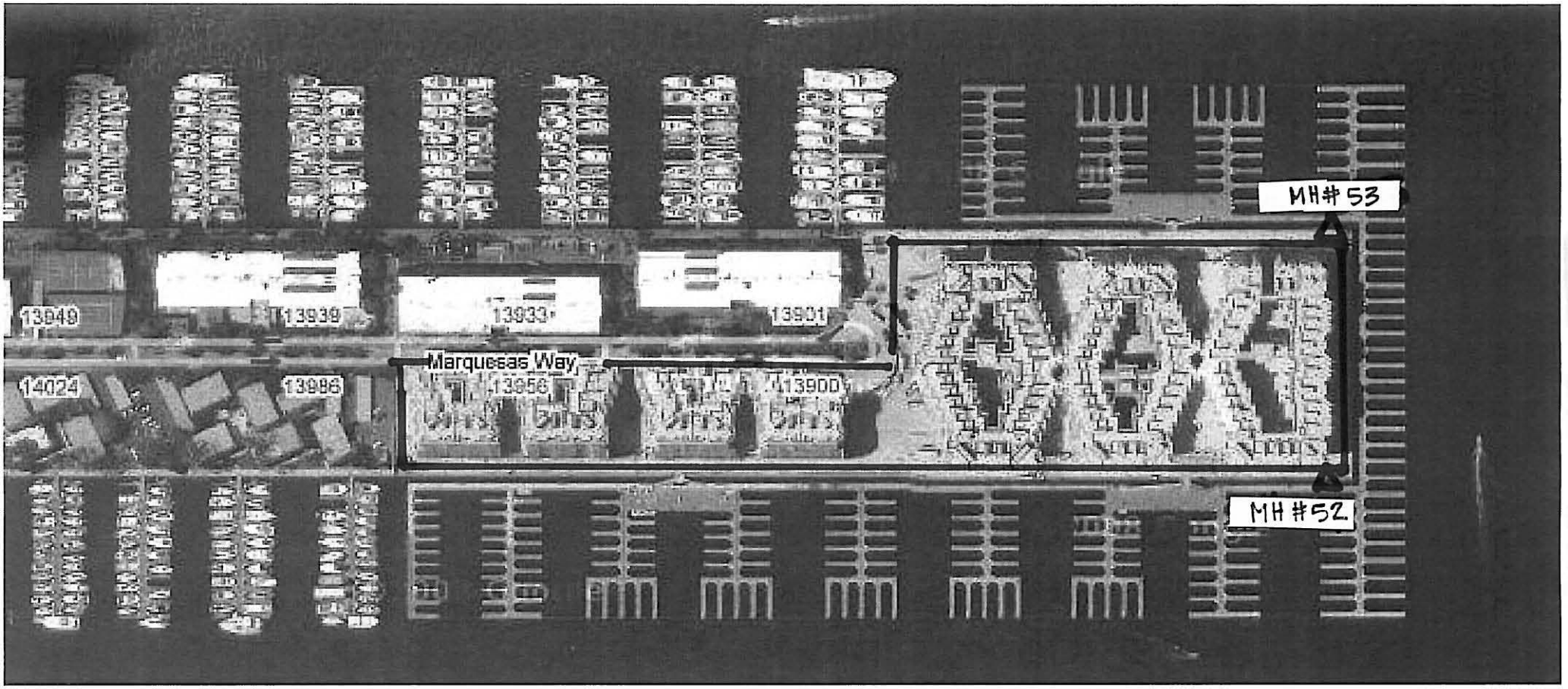
**Sewer Generation Factor:**

Average daily flow

1 BDRM = 150 gpd per dwelling unit
2 BDRM = 200 gpd per dwelling unit

Peaking Factor = 2.5

gpd = gallons per day
1 gpd = 1.547 E-6 cfs




# DEAUVILLE MARINA
# PARCEL 12

# 30 UNITS TO MH 52
# 132 UNITS TO MH 53

## Debra Schales

**From:** Khalkhali, Tony [TKHALKH@dpw.lacounty.gov]
**Sent:** Tuesday, May 12, 2009 8:42 AM
**To:** Debra Schales
**Cc:** Mohsen, Abed; John Olivier; Esfahani, Massoud
**Subject:** RE: Neptune Marina

Ms. Schales,

According to our records the flow from these units doesn't split equally between these manholes. It is 305 units to the South and 132 units to the North.

*Tony Khalkhali, P.E.*
*LA County Department of Public Works*
*Land Development Division (Sewer& Water/Landscaping)*
*(626)458-4921 ext.3881*

---

**From:** Debra Schales [mailto:dschales@fuscoe.com]
**Sent:** Monday, May 11, 2009 5:21 PM
**To:** Khalkhali, Tony
**Cc:** Mohsen, Abed; John Olivier
**Subject:** Neptune Marina

Tony,

Per our meeting on April 29, 2009, the County indicated to use 437 units for parcel 12 to obtain the sewer peak flow. When reviewing the configuration of the units (see attached) and the existing Sewer Area Study Map, it appears that the units would be spilt to manhole number 53 and 52. Would 50% of the units (218 units) to manhole 53 and the remaining units (219 units) to manhole 52 be an assumption that the County would accept for the Sewer Area Study? Please let us know.

Thanks again

**Debra Schales, P.E.**
*Project Engineer*
dschales@fuscoe.com

**FUSCOE ENGINEERING, INC**
*fullcirclethinking*
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www.fuscoe.com
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# Appendix G

## Estimated Average Daily Sewage Flows for Various Occupancies

| Occupancy | Abbreviation | *Average daily flow | |
|---|---|---|---|
| Apartment Buildings: | | | |
| Bachelor or Single dwelling units | Apt | 100 | gal/D.U. → 150 |
| 1 bedroom dwelling units | Apt | 150 | gal/D.U. → 200 |
| 2 bedroom dwelling units | Apt | 200 | gal/D.U. → 250 |
| 3 bedroom or more dwelling units | Apt | 250 | gal/D.U. → use 300 GPD per SHD |
| Auditoriums, churches, etc. | Aud | 5 | gal/seat |
| Automobile parking | P | 25 | gal/1000 sq ft gross floor area |
| Bars, cocktails lounges, etc. | Bar | 20 | gal/seat |
| Commercial Shops & Stores | CS | 100 | gal/1000 sq ft gross floor area |
| Hospitals (surgical) | HS | 500 | gal/bed |
| Hospitals (convalescent) | HC | 85 | gal/bed |
| Hotels | H | 150 | gal/room |
| Medical Buildings | MB | 300 | gal/1000 sq ft gross floor area |
| Motels | M | 150 | gal/unit |
| Office Buildings | Off | 200 | gal/1000 sq ft gross floor area |
| Restaurants, cafeterias, etc. | R | 50 | gal/seat |
| Schools: | | | |
| Elementary or Jr. High | S | 10 | gal/student |
| High Schools | HS | 15 | gal/student |
| Universities or Colleges | U | 20 | gal/student |
| College Dormitories | CD | 85 | gal/student |

*Multiply the average daily flow by 2.5 to obtain the peak flow

**Zoning Coefficients**

| Zone | Coefficient (cfs/Acre) |
|---|---|
| **Agriculture** | **0.001** |
| **Residential+:** | |
| **R-1** | **0.004** |
| **R-2** | **0.008** |
| **R-3** | **0.012** |
| **R-4** | **0.016*** |
| **Commercial:** | |
| **C-1 through C-4** | **0.015*** |
| **Heavy Industrial:** | |
| **M1 through M-4** | **0.021*** |

***Individual building, commercial or industrial plant capacities shall be the determining factor when they exceed the coefficients shown**

**+ Use 0.001 (cfs/unit) for condominiums only**

City of Los Angeles

# SEWERAGE FACILITIES CHARGE
# SEWAGE GENERATION FACTORS FOR
# RESIDENTIAL AND COMMERCIAL CATEGORIES

EFFECTIVE DATE: June 5, 1996

| FACILITY DESCRIPTION | PROPOSED SGF IN GPD | BOD (mg/l) | SS (mg/l) |
|---|---|---|---|
| ACUPUNCTURE OFFICE/CLINIC | 150/1000 GR.SQ.FT. | 130 | 80 |
| ARCADE - VIDEO GAMES | 80/1000 GR.SQ.FT. | 150 | 150 |
| AUDITORIUM | 4/SEAT | 150 | 150 |
| AUTO PARKING | 20/1000 GR.SQ.FT. | 150 | 150 |
| AUTO BODY/MECH. REPAIR SHOP [7] | 80/1000 GR.SQ.FT. (DOMESTIC) Avg. Process Flow (INDUSTRIAL) | 180 | 280 |
| BAKERY | 280/1000 GR.SQ.FT. | 1000 | 600 |
| BANK: HEADQUARTERS | 150/1000 GR.SQ.FT. | 150 | 150 |
| BANK: BRANCH | 80/1000 GR.SQ.FT. | 130 | 80 |
| BANQUET ROOM/BALLROOM | 800/1000 GR.SQ.FT. | 1000 | 600 |
| BAR: COCKTAIL, FIXED SEAT [4] | 18/SEAT | 200 | 200 |
| BAR: JUICE, NO BAKING FACILITIES [15] | 120/1000 GR.SQ.FT. | 200 | 200 |
| BAR: JUICE, WITH BAKING FACILITIES [15] | 280/1000 GR.SQ.FT. | 1000 | 600 |
| BAR: COCKTAIL, PUBLIC TABLE AREA [4] | 500/1000 GR.SQ.FT. | 1000 | 600 |
| BARBER SHOP | 100/1000 GR.SQ.FT. | 150 | 150 |
| BEAUTY PARLOR | 280/1000 GR.SQ.FT. | 150 | 150 |
| BLDG. CONST/FIELD OFFICE [3] | 150/OFFICE | 150 | 150 |
| BOWLING ALLEY: ALLEY, LANES & LOBBY AREA | 80/1000 GR.SQ.FT. | 150 | 150 |
| BOWLING FACILITY: ARCADE/BAR/RESTAURANT/DANCING | SFC = Sum of SFC's for all areas, based on individual SGF's | 1000 | 600 |
| CAFETERIA: FIXED SEAT | 30/SEAT | 1000 | 600 |
| CAR WASH: AUTOMATIC [7] | Avg. Process Flow | 20 | 150 |
| CAR WASH: COIN OPERATED BAYS [7] | Avg. Process Flow | 20 | 150 |
| CAR WASH: HAND WASH [7] | Avg. Process Flow | 20 | 150 |



Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 3

| To Mr. Frank Bonoff | From Shahram K. |
|---|---|
| Co. MR. T. Pueblos | Co. |
| Dept. | Phone # |

| | | | |
|---|---|---|---|
| FILM PROCESSING - INDUSTRIAL | 80/1000 GR.SQ.FT. (DOMESTIC) Avg. Process Flow (INDUSTRIAL) | 150 | 150 |
| FOOD PROCESSING PLANT [7] | 80/1000 GR.SQ.FT. (DOMESTIC) Avg. Process Flow (INDUSTRIAL) | 150 | 150 |
| GAS STATION: SELF SERVICE | 100/W.C. | 180 | 280 |
| GAS STATION: FOUR BAYS MAX | 430/STATION | 180 | 280 |
| GOLF COURSE: 18-HOLE/9-HOLE GREEN AREA | 0 | 150 | 150 |
| GOLF COURSE: DRIVING RANGE | 0 | 150 | 150 |
| GOLF COURSE FACILITY: LOBBY/OFFICE/RESTAURANT/BAR | SFC = Sum of SFC's for all areas, based on individual SGF's | 1000 | 600 |
| GYMNASIUM - BASKETBALL, VOLLEYBALL [10] | 250/1000 GR.SQ.FT. | 150 | 150 |
| HANGER (AIRCRAFT) | 80/1000 GR.SQ.FT. | 150 | 150 |
| HEALTH CLUB/SPA [10] | 800/1000 GR.SQ.FT. | 150 | 150 |
| HOMELESS SHELTER | 75/BED | 215 | 205 |
| HOSPITAL | 75/BED | 250 | 100 |
| HOSPITAL: CONVALESCENT | 75/BED | 250 | 100 |
| HOSPITAL: ANIMAL | 280/1000 GR.SQ.FT. | 150 | 150 |
| HOSPITAL: PSYCHIATRIC | 75/BED | 215 | 205 |
| HOSPITAL: SURGICAL | 450/BED | 250 | 100 |
| HOTEL: USE GUEST ROOMS ONLY | 130/ROOM | 310 | 120 |
| JAIL | 85/INMATE | 310 | 120 |
| KENNEL: DOG KENNEL/OPEN | 100/1000 GR.SQ.FT. | 150 | 150 |
| LABORATORY: COMMERCIAL | 250/1000 GR.SQ.FT. | 150 | 150 |
| LABORATORY: INDUSTRIAL [7] | Avg. Process Flow | Avg. BOD | Avg. SS |
| LAUNDROMAT | 170/MACHINE | 150 | 110 |
| LIBRARY: PUBLIC AREA | 80/1000 GR.SQ.FT. | 150 | 150 |
| LIBRARY: STACKS, STORAGE | 25/1000 GR.SQ.FT. | 150 | 150 |
| LOBBY OF RETAIL AREA [1] | 80/1000 GR.SQ.FT. | 150 | 150 |
| LODGE HALL | 4/SEAT | 150 | 150 |
| LOUNGE [1] | 80/1000 GR.SQ.FT. | 200 | 200 |

# Appendix H

```
**************************************************************************
                HYDRAULIC ELEMENTS - I  PROGRAM PACKAGE
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            Ver. 14.0  Release Date: 06/01/2007  License ID 1355

                          Analysis prepared by:

                              Fuscoe Engineering
                    16795 Von Karman Suite 100 Irvine, Ca 92606


--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 11:43 05/12/2009
==========================================================================
 Problem Descriptions:
  Maximum Capacity for Proposed 8" SS
  From Manhole No. 67 to Proposed Manhole No. A8

**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   0.670
    FLOWDEPTH(FEET) =   0.330
    PIPE SLOPE(FEET/FEET) =  0.0140
    MANNINGS FRICTION FACTOR = 0.013000
    >>>>> NORMAL DEPTH FLOW(CFS) =      0.71
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.33
    FLOW AREA(SQUARE FEET) =      0.17
    FLOW TOP-WIDTH(FEET) =     0.670
    FLOW PRESSURE + MOMENTUM(POUNDS) =             7.10
    FLOW VELOCITY(FEET/SEC.) =           4.083
    FLOW VELOCITY HEAD(FEET) =           0.259
    HYDRAULIC DEPTH(FEET) =      0.26
    FROUDE NUMBER =     1.416
    SPECIFIC ENERGY(FEET) =            0.59
==========================================================================
```

```
**************************************************************************
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                          Analysis prepared by:

                              Fuscoe Engineering
                    16795 Von Karman Suite 100 Irvine, Ca 92606


--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 15:54 05/11/2009
==========================================================================
 Problem Descriptions:
  Maximum Capacity for Existing 15" Sewer
  From Manhole no. 67 to 69

**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   1.250
    FLOWDEPTH(FEET) =   1.125
    PIPE SLOPE(FEET/FEET) =  0.0028
    MANNINGS FRICTION FACTOR = 0.013000
    >>>>> NORMAL DEPTH FLOW(CFS) =      3.64
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      1.12
    FLOW AREA(SQUARE FEET) =      1.16
    FLOW TOP-WIDTH(FEET) =     0.750
    FLOW PRESSURE + MOMENTUM(POUNDS) =           60.67
    FLOW VELOCITY(FEET/SEC.) =           3.132
    FLOW VELOCITY HEAD(FEET) =           0.152
    HYDRAULIC DEPTH(FEET) =      1.55
    FROUDE NUMBER =     0.443
    SPECIFIC ENERGY(FEET) =            1.28
==========================================================================
```

```
******************************************************************************
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                          Analysis prepared by:

                              Fuscoe Engineering
                    16795 Von Karman Suite 100 Irvine, Ca 92606


------------------------------------------------------------------------------
  TIME/DATE OF STUDY: 16:46 05/11/2009
==============================================================================
 Problem Descriptions:
  Maximum Capacity for Prop. 8 " sewer line
  Manhole A1 to A3
  Building 1 & 2   Q = 0.1212cfs
******************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
------------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   0.670
    FLOWDEPTH(FEET) =   0.330
    PIPE SLOPE(FEET/FEET) =  0.0050
    MANNINGS FRICTION FACTOR = 0.013000
    >>>>> NORMAL DEPTH FLOW(CFS) =      0.42
==============================================================================
    NORMAL-DEPTH FLOW INFORMATION:
------------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.33
    FLOW AREA(SQUARE FEET) =      0.17
    FLOW TOP-WIDTH(FEET) =     0.670
    FLOW PRESSURE + MOMENTUM(POUNDS) =            3.50
    FLOW VELOCITY(FEET/SEC.) =           2.440
    FLOW VELOCITY HEAD(FEET) =           0.092
    HYDRAULIC DEPTH(FEET) =      0.26
    FROUDE NUMBER =     0.846
    SPECIFIC ENERGY(FEET) =            0.42
==============================================================================
```

```
*******************************************************************************
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-------------------------------------------------------------------------------
  TIME/DATE OF STUDY: 17:02 05/11/2009
===============================================================================
 Problem Descriptions:
  Maximum capacity for Prop. 10" sewer line
  Manhole A3 to A6

*******************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
-------------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   0.830
    FLOWDEPTH(FEET) =   0.410
    PIPE SLOPE(FEET/FEET) =  0.0050
    MANNINGS FRICTION FACTOR = 0.013000
    >>>>> NORMAL DEPTH FLOW(CFS) =      0.75
===============================================================================
    NORMAL-DEPTH FLOW INFORMATION:
-------------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.41
    FLOW AREA(SQUARE FEET) =      0.27
    FLOW TOP-WIDTH(FEET) =     0.830
    FLOW PRESSURE + MOMENTUM(POUNDS) =            6.99
    FLOW VELOCITY(FEET/SEC.) =           2.818
    FLOW VELOCITY HEAD(FEET) =           0.123
    HYDRAULIC DEPTH(FEET) =      0.32
    FROUDE NUMBER =     0.877
    SPECIFIC ENERGY(FEET) =            0.53
===============================================================================
```

```
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 09:28 05/12/2009
==========================================================================
 Problem Descriptions:
  Maximum Capacity for Existing 15" Sewer
  From Manhole No 60 to A6  & A6 to 62
  A6 is a Proposed Manhole
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   1.250
    FLOWDEPTH(FEET) =   0.938
    PIPE SLOPE(FEET/FEET) =  0.0028
    MANNINGS FRICTION FACTOR = 0.010000
    >>>>> NORMAL DEPTH FLOW(CFS) =      4.05
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.94
    FLOW AREA(SQUARE FEET) =      0.99
    FLOW TOP-WIDTH(FEET) =     1.083
    FLOW PRESSURE + MOMENTUM(POUNDS) =           58.13
    FLOW VELOCITY(FEET/SEC.) =           4.104
    FLOW VELOCITY HEAD(FEET) =           0.262
    HYDRAULIC DEPTH(FEET) =      0.91
    FROUDE NUMBER =     0.757
    SPECIFIC ENERGY(FEET) =           1.20
==========================================================================
```

```
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 15:48 05/11/2009
==========================================================================
 Problem Descriptions:
  Maximum Capacity for Existing 18" Sewer
  From Manhole no. 62 to Meter Structure
  Ex. 18" has been lined
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   1.500
    FLOWDEPTH(FEET) =   1.125
    PIPE SLOPE(FEET/FEET) =  0.0040
    MANNINGS FRICTION FACTOR = 0.009900
    >>>>> NORMAL DEPTH FLOW(CFS) =      7.96
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      1.12
    FLOW AREA(SQUARE FEET) =      1.42
    FLOW TOP-WIDTH(FEET) =     1.299
    FLOW PRESSURE + MOMENTUM(POUNDS) =          131.01
    FLOW VELOCITY(FEET/SEC.) =           5.596
    FLOW VELOCITY HEAD(FEET) =           0.486
    HYDRAULIC DEPTH(FEET) =      1.09
    FROUDE NUMBER =     0.943
    SPECIFIC ENERGY(FEET) =           1.61
==========================================================================
```

# Appendix I

```
**************************************************************************
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 15:17 05/13/2009
==========================================================================
 Problem Descriptions:
  Flow Depth for Proposed Hotel & Pump
  Proposed 8" SS
  From Node A8 to 67
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   0.670
    PIPE SLOPE(FEET/FEET) =  0.0140
    PIPEFLOW(CFS) =          0.31
    MANNINGS FRICTION FACTOR = 0.013000
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL DEPTH(FEET) =       0.26
    CRITICAL FLOW AREA(SQUARE FEET) =      0.125
    CRITICAL FLOW TOP-WIDTH(FEET) =    0.652
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =             2.34
    CRITICAL FLOW VELOCITY(FEET/SEC.) =      2.487
    CRITICAL FLOW VELOCITY HEAD(FEET) =             0.10
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =       0.19
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =              0.35
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =       0.21
    FLOW AREA(SQUARE FEET) =       0.10
    FLOW TOP-WIDTH(FEET) =      0.622
    FLOW PRESSURE + MOMENTUM(POUNDS) =             2.50
    FLOW VELOCITY(FEET/SEC.) =            3.275
    FLOW VELOCITY HEAD(FEET) =            0.167
    HYDRAULIC DEPTH(FEET) =       0.15
    FROUDE NUMBER =      1.476
    SPECIFIC ENERGY(FEET) =              0.38
==========================================================================
```

```
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 15:33 05/13/2009
==========================================================================
 Problem Descriptions:
  Flow Depth
  Existing 15" SS
  From Mh 67 to 69
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   1.250
    PIPE SLOPE(FEET/FEET) =  0.0028
    PIPEFLOW(CFS) =         1.27
    MANNINGS FRICTION FACTOR = 0.013000
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL DEPTH(FEET) =      0.45
    CRITICAL FLOW AREA(SQUARE FEET) =     0.392
    CRITICAL FLOW TOP-WIDTH(FEET) =   1.197
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =           12.56
    CRITICAL FLOW VELOCITY(FEET/SEC.) =     3.248
    CRITICAL FLOW VELOCITY HEAD(FEET) =            0.16
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =      0.33
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =             0.61
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.53
    FLOW AREA(SQUARE FEET) =      0.49
    FLOW TOP-WIDTH(FEET) =     1.235
    FLOW PRESSURE + MOMENTUM(POUNDS) =           13.20
    FLOW VELOCITY(FEET/SEC.) =           2.582
    FLOW VELOCITY HEAD(FEET) =           0.103
    HYDRAULIC DEPTH(FEET) =      0.40
    FROUDE NUMBER =     0.720
    SPECIFIC ENERGY(FEET) =             0.63
==========================================================================
```

```
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                          Analysis prepared by:

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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 15:28 05/13/2009
==========================================================================
 Problem Descriptions:
  Flow Depth for Bldg 1 & 2 - Parcel 10R
  Proposed 8" SS
  From Proposed MH A1 to A3
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   0.670
    PIPE SLOPE(FEET/FEET) =  0.0050
    PIPEFLOW(CFS) =         0.12
    MANNINGS FRICTION FACTOR = 0.013000
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL DEPTH(FEET) =      0.16
    CRITICAL FLOW AREA(SQUARE FEET) =     0.064
    CRITICAL FLOW TOP-WIDTH(FEET) =   0.570
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =            0.71
    CRITICAL FLOW VELOCITY(FEET/SEC.) =     1.901
    CRITICAL FLOW VELOCITY HEAD(FEET) =            0.06
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =      0.11
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =             0.21
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.17
    FLOW AREA(SQUARE FEET) =      0.07
    FLOW TOP-WIDTH(FEET) =     0.583
    FLOW PRESSURE + MOMENTUM(POUNDS) =            0.72
    FLOW VELOCITY(FEET/SEC.) =           1.733
    FLOW VELOCITY HEAD(FEET) =           0.047
    HYDRAULIC DEPTH(FEET) =      0.12
    FROUDE NUMBER =     0.880
    SPECIFIC ENERGY(FEET) =             0.22
==========================================================================
```

```
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 15:39 05/13/2009
==========================================================================
 Problem Descriptions:
  Flow Depth
  Proposed 10" SS
  From Proposed Mh A3 to A4
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   0.830
    PIPE SLOPE(FEET/FEET) =  0.0050
    PIPEFLOW(CFS) =         0.36
    MANNINGS FRICTION FACTOR = 0.013000
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL DEPTH(FEET) =      0.26
    CRITICAL FLOW AREA(SQUARE FEET) =     0.146
    CRITICAL FLOW TOP-WIDTH(FEET) =   0.771
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =            2.73
    CRITICAL FLOW VELOCITY(FEET/SEC.) =     2.471
    CRITICAL FLOW VELOCITY HEAD(FEET) =            0.09
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =      0.19
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =            0.36
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.27
    FLOW AREA(SQUARE FEET) =      0.16
    FLOW TOP-WIDTH(FEET) =     0.781
    FLOW PRESSURE + MOMENTUM(POUNDS) =            2.74
    FLOW VELOCITY(FEET/SEC.) =           2.317
    FLOW VELOCITY HEAD(FEET) =           0.083
    HYDRAULIC DEPTH(FEET) =      0.20
    FROUDE NUMBER =     0.913
    SPECIFIC ENERGY(FEET) =            0.36
==========================================================================
```

```
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 15:44 05/13/2009
==========================================================================
 Problem Descriptions:
  Flow Depth
  Proposed 10" SS
  From Proposed Mh A4 to A6
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   0.830
    PIPE SLOPE(FEET/FEET) =  0.0050
    PIPEFLOW(CFS) =         0.50
    MANNINGS FRICTION FACTOR = 0.013000
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL DEPTH(FEET) =      0.31
    CRITICAL FLOW AREA(SQUARE FEET) =     0.185
    CRITICAL FLOW TOP-WIDTH(FEET) =   0.803
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =            4.14
    CRITICAL FLOW VELOCITY(FEET/SEC.) =     2.721
    CRITICAL FLOW VELOCITY HEAD(FEET) =            0.11
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =      0.23
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =             0.43
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.33
    FLOW AREA(SQUARE FEET) =      0.20
    FLOW TOP-WIDTH(FEET) =     0.811
    FLOW PRESSURE + MOMENTUM(POUNDS) =            4.16
    FLOW VELOCITY(FEET/SEC.) =           2.537
    FLOW VELOCITY HEAD(FEET) =           0.100
    HYDRAULIC DEPTH(FEET) =      0.24
    FROUDE NUMBER =     0.905
    SPECIFIC ENERGY(FEET) =             0.43
==========================================================================
```

```
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 11:11 05/12/2009
==========================================================================
 Problem Descriptions:
  Flow Depth for Proposed flow
  Existing 15" SS
  From Node 60 to A6 (proposed Sewer Manhole)
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   1.250
    PIPE SLOPE(FEET/FEET) =  0.0028
    PIPEFLOW(CFS) =         3.85
    MANNINGS FRICTION FACTOR = 0.010000
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL DEPTH(FEET) =      0.79
    CRITICAL FLOW AREA(SQUARE FEET) =     0.822
    CRITICAL FLOW TOP-WIDTH(FEET) =   1.204
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =           52.69
    CRITICAL FLOW VELOCITY(FEET/SEC.) =     4.688
    CRITICAL FLOW VELOCITY HEAD(FEET) =             0.34
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =      0.68
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =             1.13
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.90
    FLOW AREA(SQUARE FEET) =      0.94
    FLOW TOP-WIDTH(FEET) =     1.124
    FLOW PRESSURE + MOMENTUM(POUNDS) =           53.89
    FLOW VELOCITY(FEET/SEC.) =           4.077
    FLOW VELOCITY HEAD(FEET) =           0.258
    HYDRAULIC DEPTH(FEET) =      0.84
    FROUDE NUMBER =     0.784
    SPECIFIC ENERGY(FEET) =            1.16
==========================================================================
```

```
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 15:52 05/13/2009
==========================================================================
 Problem Descriptions:
  Flow Depth
  Existing 15" SS
  From Proposed Mh A6 to 62/69
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   1.250
    PIPE SLOPE(FEET/FEET) =  0.0028
    PIPEFLOW(CFS) =         3.88
    MANNINGS FRICTION FACTOR = 0.010000
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL DEPTH(FEET) =      0.80
    CRITICAL FLOW AREA(SQUARE FEET) =     0.826
    CRITICAL FLOW TOP-WIDTH(FEET) =   1.202
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =           53.30
    CRITICAL FLOW VELOCITY(FEET/SEC.) =     4.704
    CRITICAL FLOW VELOCITY HEAD(FEET) =            0.34
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =      0.69
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =            1.14
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =      0.91
    FLOW AREA(SQUARE FEET) =      0.95
    FLOW TOP-WIDTH(FEET) =     1.117
    FLOW PRESSURE + MOMENTUM(POUNDS) =           54.64
    FLOW VELOCITY(FEET/SEC.) =           4.082
    FLOW VELOCITY HEAD(FEET) =           0.259
    HYDRAULIC DEPTH(FEET) =      0.85
    FROUDE NUMBER =     0.779
    SPECIFIC ENERGY(FEET) =            1.16
==========================================================================
```

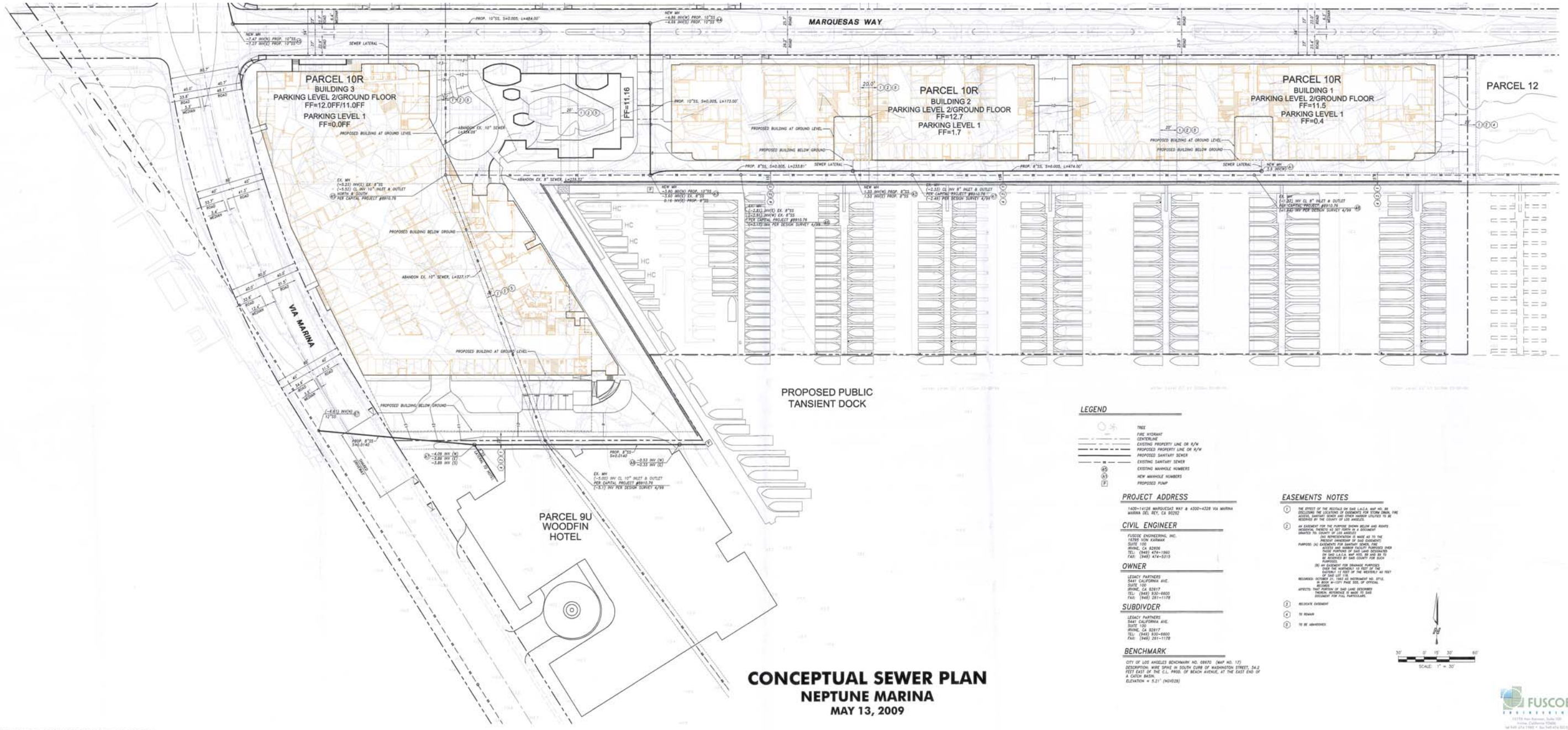
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--------------------------------------------------------------------------
  TIME/DATE OF STUDY: 16:08 05/13/2009
==========================================================================
 Problem Descriptions:
  Flow Depth
  Existing 18" SS - lined
  From Existing Mh 69 to Metering Structure
**************************************************************************
>>>>PIPEFLOW HYDRAULIC INPUT INFORMATION<<<<
--------------------------------------------------------------------------
    PIPE DIAMETER(FEET) =   1.500
    PIPE SLOPE(FEET/FEET) =  0.0040
    PIPEFLOW(CFS) =          7.40
    MANNINGS FRICTION FACTOR = 0.009900
==========================================================================
    CRITICAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    CRITICAL DEPTH(FEET) =       1.05
    CRITICAL FLOW AREA(SQUARE FEET) =     1.327
    CRITICAL FLOW TOP-WIDTH(FEET) =   1.371
    CRITICAL FLOW PRESSURE + MOMENTUM(POUNDS) =           118.59
    CRITICAL FLOW VELOCITY(FEET/SEC.) =     5.581
    CRITICAL FLOW VELOCITY HEAD(FEET) =             0.48
    CRITICAL FLOW HYDRAULIC DEPTH(FEET) =       0.97
    CRITICAL FLOW SPECIFIC ENERGY(FEET) =             1.54
==========================================================================
    NORMAL-DEPTH FLOW INFORMATION:
--------------------------------------------------------------------------
    NORMAL DEPTH(FEET) =       1.06
    FLOW AREA(SQUARE FEET) =       1.34
    FLOW TOP-WIDTH(FEET) =     1.365
    FLOW PRESSURE + MOMENTUM(POUNDS) =           118.59
    FLOW VELOCITY(FEET/SEC.) =            5.540
    FLOW VELOCITY HEAD(FEET) =            0.477
    HYDRAULIC DEPTH(FEET) =       0.98
    FROUDE NUMBER =      0.987
    SPECIFIC ENERGY(FEET) =             1.54
==========================================================================
```

# Appendix J




# CONCEPTUAL SEWER PLAN
## NEPTUNE MARINA
**MAY 13, 2009**

*LEGEND*

- TREE
- FIRE HYDRANT
- CENTERLINE
- EXISTING PROPERTY LINE OR R/W
- PROPOSED PROPERTY LINE OR R/W
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- EXISTING MANHOLE NUMBERS
- NEW MANHOLE NUMBERS
- PROPOSED PUMP

*PROJECT ADDRESS*

1420~1412E MARQUESAS WAY & 4300~4328 Via MARINA
MARINA DEL REY, CA 90292

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LEGACY PARTNERS
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*BENCHMARK*

CITY OF LOS ANGELES BENCHMARK NO. 08870 (MAP NO. 17)
DESCRIPTION: WIRE SPIKE IN SOUTH CURB OF WASHINGTON STREET, 34.0 FEET EAST OF THE C.L. PROG. OF BEACH AVENUE, AT THE EAST END OF A CATCH BASIN.
ELEVATION = 5.21' (NGVD29)

*EASEMENTS NOTES*

1. THE EFFECT OF THE RECITALS ON SAID L.A.C.A. MAP NO. 88 RELATING TO THE RIGHT TO CONSTRUCT AND MAINTAIN SEWER, FIRE ACCESS, SANITARY SEWER AND OTHER HARBOR UTILITIES TO BE RESERVED BY THE COUNTY OF LOS ANGELES.
2. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT GRANTED TO: COUNTY OF LOS ANGELES
   AFFECTS: THE REPRESENTATION IS MADE AS TO THE PRESENT OWNERSHIP OF SAID EASEMENT.
   PURPOSE: (A) EASEMENTS FOR SANITARY SEWER, FIRE ACCESS AND HARBOR FACILITY PURPOSES OVER PARCELS 1 AND 2 OF PARCEL MAP NO. 20135 AND OVER ON SAID L.A.C.A. MAP NOS. 88 AND 89 TO BE RESERVED BY SAID COUNTY FOR SUCH PURPOSES.
   (B) AN EASEMENT FOR DRAINAGE PURPOSES, OVER THE NORTHERLY 10 FEET OF THE EASTERLY 10 FEET OF THE WESTERLY 40 FEET OF SAID LOT 110.
   RECORDED: OCTOBER 21, 1963 AS INSTRUMENT NO. 5712, IN BOOK M~1371 PAGE 305, OF OFFICIAL RECORDS.
   AFFECTS: THAT PORTION OF SAID LAND DESCRIBED THEREIN. REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
3. RELOCATE EASEMENT
4. TO REMAIN
5. TO BE ABANDONED

SCALE: 1" = 30'

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CONCEPTUAL SEWER PLAN

# Appendix K

FUSCOE
ENGINEERING

# MEETING AGENDA

Meeting Topic: Prop. Pumps at Transient & Parcel 10R docks

Attendees: Aaron Clark (Landuse), John Olivier & Debra Schales (Fuscoe), Massoud Esfahani, Abed Mohsen, Tony Khalkhali with LA County Public Works

Held at: 9th floor of LACPW

Date: 4/29/09

---

Items to Discuss: The project Neptune Marina may have new pumps at the Transient and Parcel 10R docks. The existing DEIR does not reflect the proposed pumps and LA County, Massoud Esfahani says that the client, Legacy Partners needs to submit a revise Sewer Area Study showing the impact to the existing sewer lines from the proposed hotel to the pump station/metering structure at node 196 and from Parcel 10R to the metering structure.

Meeting Notes: After reviewing the existing plans and reports, the following decisions were made by LA County:

1. Submit a revise Sewer Area Study, Study to include parcel 10R, FF & 9U. One report.
2. Include a sewer flow test at either Node 67 or 68. May use an existing sewer flow if the test was taken within a year. Contact May Hong at (626) 300-3388. *Fuscoe contacted May Hong and obtain a sewer flow for node 67 that was taken on June 4, 09.*
3. Abed Mohsen to give Tony Khalkhali the LA County proposed sewer flows for node 60 to 62 and node 69 to pump station to analyze the existing sewer line. *The sewer flows were emailed to Debra Schales on 4/30/09.*
4. Pump specifications, pump curve, total dynamic head and the pump's maximum sewer flow need to be clearly defined in the Sewer Area Study.
5. To obtain the sewer peak flow for Parcel 12 (adjacent to Parcel 10R) use 437 units and omit the minor existing boat/pump sewage flow.
6. LA County will expedite the review of the Sewer Area Study.

16795 Von Karman, Suite 100, Irvine, California 92606 o tel 949.474.1960 o fax 949.225.6090 o www.fuscoe.com

## Debra Schales

**From:** Debra Schales
**Sent:** Tuesday, May 05, 2009 10:24 AM
**To:** 'Khalkhali, Tony'; 'Mohsen, Abed'
**Cc:** John Olivier
**Subject:** Neptune Marina

Abed and Tony,

Per our telephone conversation on May 5, 2009, Mr. Abed Mohsen inform us that LA County Public Works has recently lined the existing 18" sewer main from manhole 69 to the Metering Structure and to use an mannings value of n=0.009 or n=0.0100 in our Sewer Area Study for Neptune Marina ( parcel 10R, FF & 9U).

18" sewer line (MH 69 to Metering STRUCTURE)

Thank you for this information.

**Debra Schales, P.E.**
*Project Engineer*
dschales@fuscoe.com

**FUSCOE ENGINEERING, INC**
*fullcirclethinking*
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## Debra Schales

**From:** Khalkhali, Tony [TKHALKH@dpw.lacounty.gov]
**Sent:** Thursday, May 07, 2009 5:59 PM
**To:** Debra Schales
**Cc:** John Olivier; Chong, Suk; Esfahani, Massoud; Mohsen, Abed
**Subject:** RE: Neptune Marina, Parcel 9U, FF and 10R

Hello Ms. Schales,

The sewer flows provided on my April 30th email, are the calculated flows by our Design Division for maximum build-out development which should be used for your project for existing sewer lines per Sewer Maintenance Division (SMD) maps. The plan that I gave you on our meeting is for various proposed projects and shouldn't be used as a reference. As always the SMD maps should be referenced for sewer area studies. As you indicated on our phone conversation, since the previous study by your firm was based on the below factors, you may use them for your calculations. If you have any questions, please contact me.

1 Bedroom = 150gal/DU
2 Bedroom = 200gal/DU

*Tony Khalkhali, P.E.*
*LA County Department of Public Works*
*Land Development Division (Sewer& Water/Landscaping)*
*(626)458-4921 ext.3881*

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**From:** Debra Schales [mailto:dschales@fuscoe.com]
**Sent:** Wednesday, May 06, 2009 9:52 AM
**To:** Khalkhali, Tony
**Cc:** John Olivier
**Subject:** Neptune Marina, Parcel 9U, FF and 10R

Tony,

Thank you for the information. I wanted to confirm that the given sewer flows below (MH 60 to 69, MH 69 to pump) are based on the lasted build-out development map that we obtain from you at our last meeting. The plan is called Marina Del Rey Sewer Odor & Sewer upgrade – maximum build-out development parcels, dated 3/03/08. Also, Are the given sewer flows below (MH 60 to 69, MH 69 to pump) based on the following: 1 bedroom = 150gal/du, 2 bedroom = 200 gal/du, 3 bedroom = 250 gal/du or the updated generation factors? We believe the proposed sewer calculation flows should be based on the same generation factors used in the given sewer flows below. Please let us know.

Thanks again,

**Debra Schales, P.E.**
*Project Engineer*
dschales@fuscoe.com

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---

**From:** Khalkhali, Tony [mailto:TKHALKH@dpw.lacounty.gov]
**Sent:** Thursday, April 30, 2009 5:28 PM
**To:** Debra Schales
**Cc:** Burger, Steve; Chong, Suk; Esfahani, Massoud; Mohsen, Abed; Sheridan, Steve
**Subject:** PC 12104AS, Parcel 8; Decron Marina Bay club project

*Engineering Company: FUSCOE Engineering*

*16795 Von Karman Avenue, Suite 100*

*Irvine, CA. 92606*

*(949)474-1960*

*Developer: Thomas Safran & Associates*

*11812 San Vicente Boulevard*

*Los Angeles, California 90049*

*Hello Ms. Schales,*

*Per our Wednesday 4-29-09 meeting, please see the below calculated values provided by our Design Division. Per our discussion you will submit the area study comparing the calculated and empirical method by obtaining the actual flow amount from the flow measurements.*

The following are the calculated flow rate.

MH 60 to MH 62 (3.851cfs) existing pipe 15" at .0028

MH 69 to Pump Station (7.272cfs) existing pipe 18" at .004

*Please call or email me if you have any questions.*

*Tony Khalkhali, P.E.*
*LA County Department of Public Works*
*Land Development Division (Sewer& Water/Landscaping)*
*(626)458-4921 ext.3881*

*Please take a moment to let us know how we are doing by following this link:*

http://dpw.lacounty.gov/go/lddsurvey

*Please consider the environment before printing this email.*

## Debra Schales

**From:** Khalkhali, Tony [TKHALKH@dpw.lacounty.gov]
**Sent:** Tuesday, May 12, 2009 8:42 AM
**To:** Debra Schales
**Cc:** Mohsen, Abed; John Olivier; Esfahani, Massoud
**Subject:** RE: Neptune Marina

Ms. Schales,

According to our records the flow from these units doesn't split equally between these manholes. It is 305 units to the South and 132 units to the North.

*Tony Khalkhali, P.E.*
*LA County Department of Public Works*
*Land Development Division (Sewer& Water/Landscaping)*
*(626)458-4921 ext.3881*

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**From:** Debra Schales [mailto:dschales@fuscoe.com]
**Sent:** Monday, May 11, 2009 5:21 PM
**To:** Khalkhali, Tony
**Cc:** Mohsen, Abed; John Olivier
**Subject:** Neptune Marina

Tony,

Per our meeting on April 29, 2009, the County indicated to use 437 units for parcel 12 to obtain the sewer peak flow. When reviewing the configuration of the units (see attached) and the existing Sewer Area Study Map, it appears that the units would be spilt to manhole number 53 and 52. Would 50% of the units (218 units) to manhole 53 and the remaining units (219 units) to manhole 52 be an assumption that the County would accept for the Sewer Area Study? Please let us know.

Thanks again

**Debra Schales, P.E.**
*Project Engineer*
dschales@fuscoe.com

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## Debra Schales

**From:** Khalkhali, Tony [TKHALKH@dpw.lacounty.gov]
**Sent:** Tuesday, May 12, 2009 8:34 AM
**To:** Debra Schales; Mohsen, Abed
**Cc:** John Olivier; Esfahani, Massoud
**Subject:** RE: Neptune Marina Parcel FF, 10R & 9U

Ms. Schales,

After reviewing your request with Abed, you may use n=0.01 for below mentioned reach.

15" Sewer Line (MH. 60 to 62)

*Tony Khalkhali, P.E.*
*LA County Department of Public Works*
*Land Development Division (Sewer& Water/Landscaping)*
*(626)458-4921 ext.3881*

---

**From:** Debra Schales [mailto:dschales@fuscoe.com]
**Sent:** Monday, May 11, 2009 4:23 PM
**To:** Khalkhali, Tony; Mohsen, Abed
**Cc:** John Olivier
**Subject:** Neptune Marina Parcel FF, 10R & 9U

Tony and Abed,

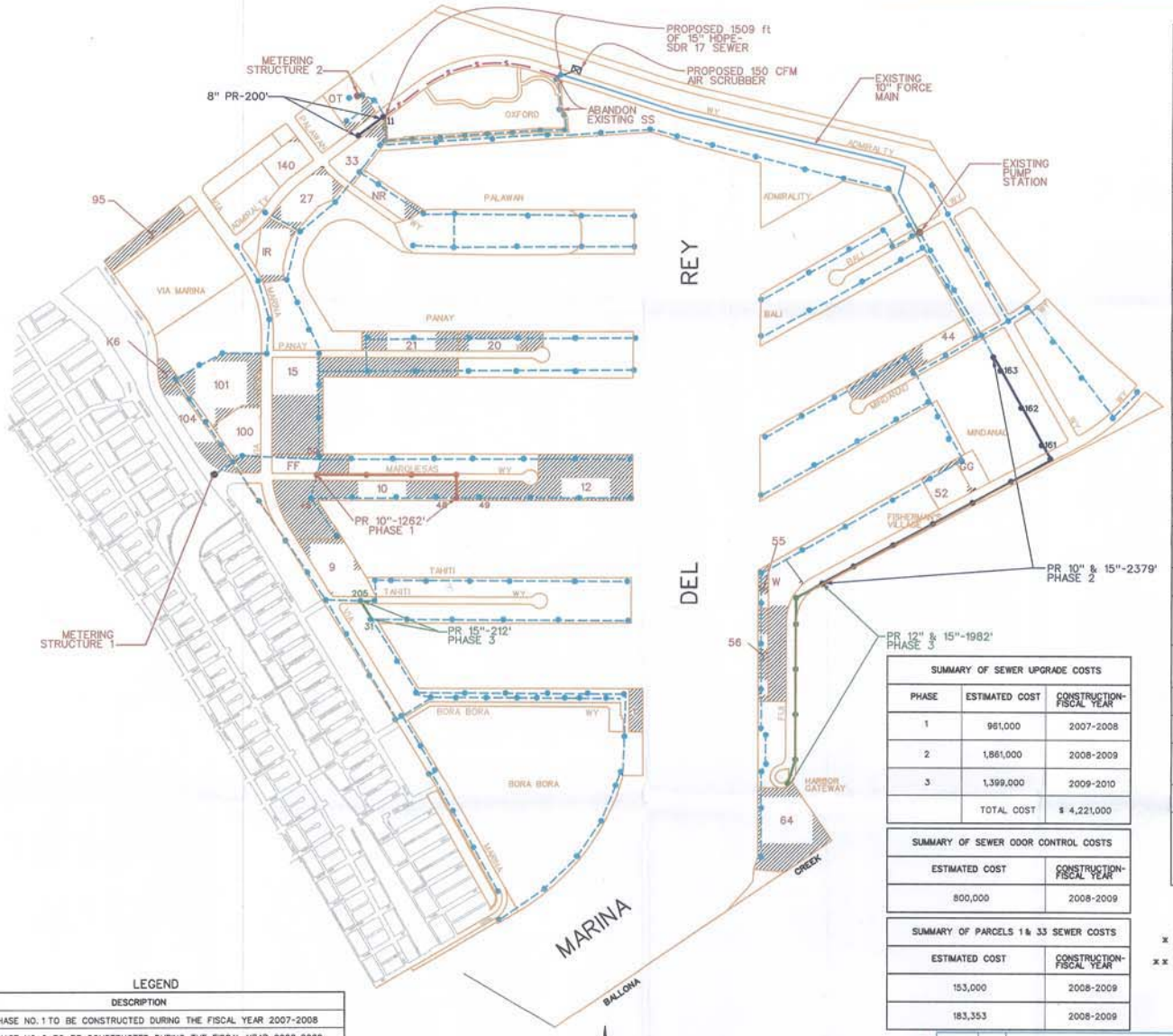
The maximum capacity for the existing 15" sewer (manhole 60 to 62) with a slope of 0.0028, n= 0.013 and ¾ full is 3.12 cfs. The max. flow of 3.12cfs is lower than the proposed given flow of 3.851cfs per your email below. Did the County happen to line this existing pipe also? Could we possibly use an value n=0.0099 or n=0.0100?

Thank you,

**Debra Schales, P.E.**
*Project Engineer*
dschales@fuscoe.com

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# Appendix L




| PARCEL* | DZ* NAME OF DZ | EXISTING DEVELOPMENT PER B&H | MAXIMUM BUILD-OUT DEVELMNT. PER B&H FOR PURPOSE OF SEWER STUDY ONLY | * OF ADDTL. SEWAGE USAGE UNITS | ANTICIPATED COMPLETION DATE |
|---|---|---|---|---|---|
| 12 ** | 3 MARQUESAS | 120 APARTMENTS<br>430 SLIPS<br>280 RESTAURANT SEATS | 437 APARTMENTS<br>227 SLIPS-THESE HAVE SEWER CONNECTIONS | 109 | JANUARY-07 |
| 14.0 ** | 5 PALAWAN | 64 APARTMENTS | 172 APARTMENTS | 108 | OCTOBER-07 |
| 27 | 5 PALAWAN | 42 HOTEL ROOMS<br>8,983 SF RESTAURANT | 111 HOTEL ROOMS | 38 | JANUARY-08 |
| OT | 6 OXFORD | PARKING LOT | 114 SENIOR LIVING UNITS<br>3,000 SF COMMERCIAL | 115 | OCTOBER-08 |
| 95 | 12 VIA MARINA | 5,000 SF RESTAURANT<br>16,700 SF COMMERCIAL | 10,000 SF RESTAURANT<br>22,400 SF RETAIL<br>72 APARTMENTS | 77 | OCTOBER-08 |
| 100<br>101 | 12 VIA MARINA | 202 APARTMENTS | 544 APARTMENTS | 342 | OCTOBER-08 |
| IR | 5 PALAWAN | PARKING LOT | 147 HOTEL ROOMS | 111 | JANUARY-09 |
| 1 | 1 BORA BORA | FUEL DOCK | MARINE FUEL DOCK<br>3,300 SF COMMERCIAL | 1 | APRIL-09 |
| 15 | 4 PANAY | 538 APARTMENTS<br>225 SLIPS | 538 APARTMENTS<br>227 SLIPS<br>2000 SF VISITOR SERVING COMM | 2 | APRIL-09 |
| 20 | 4 PANAY | 99 APARTMENTS<br>1,556 SF OFFICE<br>143 SLIPS<br>3,175 SF YACHT CLUB | 99 APARTMENTS<br>28,000 SF OFFICE<br>149 SLIPS<br>1385 SF YACHT CLUB | 5 | APRIL-09 |
| 21 | 4 PANAY | 183 SLIPS<br>18,918 SF RETAIL<br>3,096 SF OFFICE | 87 SLIPS<br>29,000 SF MIXED OFF. & COMM. | 0 | APRIL-09 |
| 104 | 12 VIA MARINA | 136 SF STORAGE | ALLEY PARCEL WILL BE INCLUDED TO PARCEL 101 | 0 | OCTOBER-09 |
| K6 | 12 VIA MARINA | COUNTY MAINTENANCE YD | 27,500 SF STORAGE | 5 | OCTOBER-09 |
| 9 | 2 TAHITI | VACANT LOT | 288 HOTEL ROOMS/TIMESHARE | 216 | JANUARY-10 |
| 52 | 9 MINDANAO | PARKING LOT | 367 DRY STACH BOAT SPACES<br>1,300 SF MARINE COMMERCIAL<br>500 SF COMMERCIAL | 2 | JANUARY-10 |
| GG | 9 MINDANAO | 5 TRAILERS (CO OFFICE)<br>SHERIFF MAINTENANCE YD | 30 BOAT SPACES | 0 | JANUARY-10 |
| 55<br>56<br>W | 10 FISHERMAN'S VILLAGE | FISHERMAN'S VILLAGE<br>38,824 SF COML/REST | 65,000 SF COMMERCIAL & RESTAURANT<br>132 HOTEL ROOMS<br>32 SLIPS | 100 | JANUARY-10 |
| 64 | 11 HARBOR GATEWAY | 224 APARTMENTS | 263 APARTMENTS<br>216 CONDOS<br>5,000 SF COMMERCIAL<br>18 SLIPS | 256 | JANUARY-10 |
| 10 | 3 MARQUESAS | 136 APARTMENTS<br>184 SLIPS | 400 APARTMENTS<br>161 SLIPS | 264 | OCTOBER-11 |
| FF | 3 MARQUESAS | PARKING LOT | 126 APARTMENTS | 126 | OCTOBER-11 |
| 33 | 5 PALAWAN | 17,851 SF RESTAURANT | 32,400 SF RESTAURANT & COMMERCIAL<br>292 APARTMENTS | 297 | OCTOBER-11 |
| NR | 5 PALAWAN | PARKING LOT | 136 APARTMENTS | 136 | OCTOBER-11 |
| 44 | 8 BALI | YACHT CLUB<br>14,283 SF OFFICE<br>397 SLIPS | 40,000 SF MARINE RETAIL<br>24,320 SF BOAT SHOWROOM<br>9,075 SF RESTAURANT<br>1,102 SF YACHT CLUB<br>21,680 SF DRY STACK STORAGE<br>3,840 SF RETAIL/FOOD<br>4,700 SF BOATERS FACILITIES<br>1,000 SF BOAT REPAIR | 14 | OCTOBER-11 |

TOTAL NUMBER OF ADDITIONAL SEWAGE UNITS - 2,324

| SUMMARY OF SEWER UPGRADE COSTS | | |
|---|---|---|
| PHASE | ESTIMATED COST | CONSTRUCTION-FISCAL YEAR |
| 1 | 961,000 | 2007-2008 |
| 2 | 1,861,000 | 2008-2009 |
| 3 | 1,399,000 | 2009-2010 |
| | TOTAL COST | $ 4,221,000 |

| SUMMARY OF SEWER ODOR CONTROL COSTS | |
|---|---|
| ESTIMATED COST | CONSTRUCTION-FISCAL YEAR |
| 800,000 | 2008-2009 |

| SUMMARY OF PARCELS 1 & 33 SEWER COSTS | |
|---|---|
| ESTIMATED COST | CONSTRUCTION-FISCAL YEAR |
| 153,000 | 2008-2009 |
| 183,353 | 2008-2009 |

* THE SEWER CAPACITY STUDY IS BASED ONLY ON MAXIMUM BUILD OUT AS SHOWN ON THIS TABLE AND AS PROVIDED BY B & H AS OF JANUARY 2006

** UNDER CONSTRUCTION

| DATE | MK | DESCRIPTION |
|---|---|---|
| | | REVISIONS |

REGISTERED PROFESSIONAL ENGINEER
ABED MOHSEN
No. C59117
Exp. 06/30/09
CIVIL
STATE OF CALIFORNIA

PROJECT ENGINEER DATE

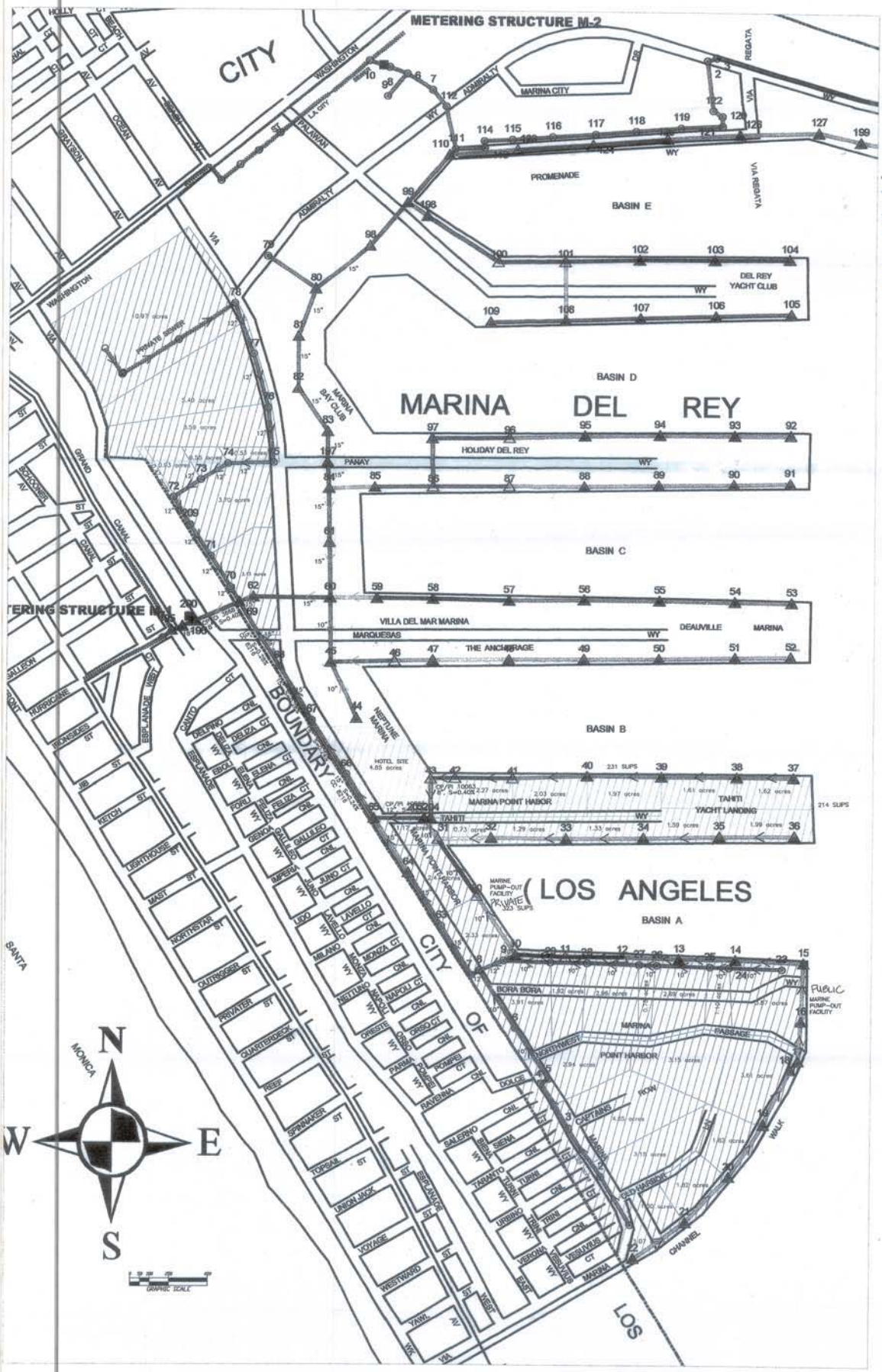
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

# MARINA DEL REY SEWER ODOR & SEWER UPGRADE

## MAXIMUM BUILD-OUT DEVELOPMENT PARCELS

JOB | DWG | SHEET 1 OF 1

DESIGNED P. ROMERO
DRAFTED P. ROMERO
CHECKED A. MOHSEN
CADD PROJECT FILE NAME
REVIEWED BY
DATE




# SEWER AREA STUDY FOR MARINA DEL REY
# SOUTHERN STUDY AREA TRIBUTARY TO MH#69

FUSCOE ENGINEERING