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COUNTY OF SANTA BARBARA  
CLERK OF THE  
BOARD OF SUPERVISORS

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November 6, 2008

Supervisor Salud Carbajal, Chair  
Board of Supervisors  
County of Santa Barbara  
105 E. Anapamu Street, Room 407  
Santa Barbara, California 93101

Dear Supervisor Carbajal:

DLA Piper represents Caruso Affiliated with respect to the Miramar Beach Resort and Bungalows Project ("Miramar" or the "Project"). This Letter responds to the appeal letter to the Board of Supervisors on behalf of the Citizens Planning Association ("CPA") ("CPA appeal letter or "appeal letter") dated October 20, 2008.

1. **Flood Impacts**

a. **Fatal Flaw**: The "fatal flaw" issue is something referred to within internal memos between County employees prepared in February 2008 and not revealed to Penfield & Smith until July 2008. The applicant had no direct knowledge of the exact concerns at the time the memo was written.

Our review of Mr. Frye's e-mail mentioning the "fatal flow" does not indicate that the use of HydroCAD or Santa Barbara Urban Hydrograph ("SBUH") was the source of his concern. Craig Steward of Penfield & Smith did have a conversation with Candace Constantine, Santa Barbara County Program Specialist also mentioned in the February 20, 2008 memo in July 2008. In the applicant's response to the Coast Law Group in a letter prepared by Craig Steward of Penfield & Smith, dated July 15, 2008, and based on that conversation, Steward stated the following:

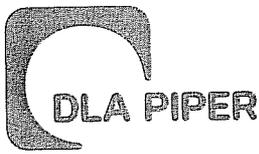
"The County indicated there were "fatal flaws" (addressing December 12, 2007 Drainage Report) in internal memos. Our understanding is:

- a. This issue was only mentioned in internal memos and not shared with the consultant or Caruso. We were only made aware of them Monday, July 13, 2008, when we read the newspapers.
- b. Based on conversations yesterday with Candice Constantine of Flood Control, she indicated that the supposed "fatal flaws" were:

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- i. The December 12, 2007 report did not include overflow from San Ysidro Creek. This concern was remedied in the March 7, 2008 flooding report.
- ii. After doing some very preliminary in-house review, Flood Control assumed that the modeling of the ponded area upstream of the UPRR did not adequately analyze the impact of the storage volume reduction due to fill. However, Flood Control staff only analyzed peak flows up to 1,800 cfs. The project analysis indicates that detectable impacts due to the project filling do not become apparent until much higher flow rates are experienced. This is due to the large flow capacity through the UPRR bridge.”

While the use of the Santa Barbara Urban Hydrograph method and the computer program Hydro-CAD may have been mentioned in Mr. Frye’s e-mail communication of January 31, 2008, they are both clearly specified as an accepted method of analysis by the Santa Barbara County Flood Control District. They are also recommended as acceptable methods that can be used for watershed analysis and hydrologic routing by a recent seminar by the American Society of Civil Engineers.<sup>1</sup> After including the overflow of San Ysidro Creek in the analysis done as part of the March 7, 2008 report, it appears that the fatal flaw was that Mr. Frye did not test his hypotheses with a high enough flow rate to show a change, and not that the methods or programs used were deficient. Therefore, the March 7, 2008 Flood Analysis does not contain a ‘fatal flaw’ and has been prepared using appropriate and acceptable methods.

With respect to the September 30, 2008 memo by Mr. Fayram, we believe that Mr. Fayram’s understanding of the December 2007 Flood report prepared by Penfield & Smith, or the manner in which he conveyed his understanding in the memo was incomplete -- in particular about the application and use of HEC-RAS in the Oak Creek model. From his memo, he appears to assume that the SBUH program was the only method used to determine water surface elevations upstream of the Union Pacific Railroad in the December report. However, that was not the case. The December 2007 report used a combination of SBUH (for reservoir routing) and HEC-RAS (for channel analysis) to determine water surface elevations upstream of the railroad. Because of this misunderstanding, Mr. Fayram’s determination of the inappropriate use of a computer model was incorrect. The method used in both the December and March Penfield & Smith reports is accepted and appropriate for assessing the impacts of the proposed Miramar fill within the

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<sup>1</sup> “Selecting Detention Routing Software, An Overview of Widely-Used Detention Routing Programs”; Presenter: Jennifer J. Walker, P.E., CFM, Dodson & Associates; Sponsor: American Society of Civil Engineers, Webinar September 26, 2008.



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floodplain on upstream water surface elevations as discussed above. The acceptability of this methodology has been confirmed in subsequent conversations with Tom Fayram (telephone conversation November 3, 2008).

Because of Mr. Fayram's misunderstanding it has caused CPA to make misstatements about the methodologies employed in the analysis and the CPA appeal states that "the determination that the Project will not result in significant flood impacts is based on an entirely inadequate and defective study." This statement is inaccurate. While Mr. Fayram's September 30th memorandum may not accurately describe the methodologies used, County-accepted methodologies were used in both the December and March flood reports prepared by Penfield & Smith, and both reports have been validated by County staff, and subsequent conversations with Mr. Fayram have validated that the methodology used was correct.

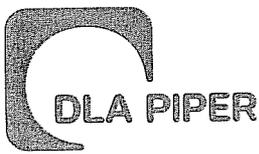
b. Disagreement Among Experts:

"The absence of information in an EIR, or the failure to reflect a disagreement amongst experts, does not per se constitute a prejudicial abuse of discretion. A prejudicial abuse of discretion occurs if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process."

See *Barthelemy v. Chino Basin Municipal Water District* (1995) 38 Cal.App.4th 1609, 1617.

The *Chino* court made this ruling in response to a challenge whereby plaintiffs alleged that the EIR "concealed, ignored, excluded" certain information regarding differing opinions. Although the disagreement was not specifically noted in the EIR, the court deemed the fact that the record as a whole reflected the disagreement to be adequate. See p. 1620. Further, the court stated "a project opponent cannot obtain a more favorable standard of review by arguing that the EIR failed to disclose the conflicting evidence ... the project opponent must also show that the failure to disclose the conflicting evidence precluded informed decision making." See Id.

In *Kings County Farm Bureau v. City of Hanford*, (1990) 221 Cal.App.3d 692, there was a disagreement amongst experts regarding the EIR's analysis regarding industrial and agricultural water use. On this point, a conflict arose between testimony of representatives of the water district and the EIR consultants in that the water district claimed the EIR underestimated project consumption. In rejecting the plaintiff's claims that the disagreement was not properly disclosed in the EIR, the court held:



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“both the public and the agency had the opportunity to consider the alleged deficiencies and comment upon whether the analysis of the City water use supported [the consultants’] opinion the project would not significantly impact groundwater resources. The alleged inaccuracies did not render it difficult for the public or city council to evaluate the discussion of groundwater impacts.”

See p. 727.

As such, the court held that even though the disagreement was not specifically noted “the agency and public were adequately apprised of conflicting estimations of total city water use.” See Id.

The County sufficiently disclosed a disagreement amongst experts here given that the disagreement amongst experts is obvious and was disclosed clearly in the administrative record. Where the CPA appeal letter notes that “the County abused its discretion by failing to disclose disagreements between B & E Engineers (“B&E”) and Penfield & Smith with respect to the Project’s flood impact,” the appellant is incorrect. *Kings County* and *Chino* tell us that 1) failing to disclose a disagreement is not per se prejudicial, 2) where the public and the agency have an opportunity to consider deficiencies, the parties and the public are adequately apprised of the conflicting evidence and the California Environmental Quality Act (“CEQA”) has no specific timetable for designating such disagreement. As the County has stated on the record that there is a disagreement amongst experts, and the public and the County had many opportunities to consider purported deficiencies as demonstrated by the numerous B&E letters, which were submitted to the record and available for consideration by the Planning Commission, as well as public statements at more than one public hearing by members of the community that highlighted the disagreement, the parties were adequately apprised of the conflicting evidence.

c. Cumulative Impacts:

The CPA appeal letter has completely misunderstood and taken statements out of context from the e-mail memo between Mr. Tom Fayram and Mr. Scott McGolpin dated March 11, 2008. When Mr. Fayram states that “any more filling in of the Floodplain is not allowed,” based upon a reading of the entire e-mail, he clearly means that filling is “not allowed” beyond what is proposed by the Miramar Project. The same e-mail begins by plainly stating “...the Miramar Project proposes to fill in the Floodplain...County ordinance allows this area to be filled in...”

Therefore, the claim by CPA that the Miramar Project exceeds the “No-Rise” as identified by FEMA and County regulations is inaccurate. The Miramar Project meets the County Floodplain Ordinance and FEMA regulations for not increasing the 100-year water surface elevation and is also allowed to fill in the section of the Floodplain as proposed.



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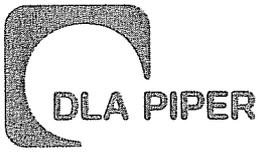
In addition, as indicated in the Water Supply Impacts Section of this Letter, any contribution to a cumulatively significant impact is not automatically considered to be significant pursuant to CEQA.

d. Alleged Flaws Identified by Pace and B&E:

The CPA appeal letter indicates that the concerns identified in the various B&E letters have not been addressed adequately. To the contrary, responses have been provided and addressed in detail again in a recent response to the Montecito Planning Commission from Penfield & Smith dated July 25, 2008.

The Pace report dated October 7, 2008 was delivered to the County the evening before the Montecito Planning Commission ("MPC") meeting of October 8, 2008 and was received by the applicant just minutes before the Planning Commission was to meet. It was one of the first items addressed in the meeting by Craig A. Steward, P.E., CFM, who discussed these issues extensively during his public testimony at the October 8<sup>th</sup> MPC hearing. Despite this late submission, the points identified in this report were shown to be incorrect or irrelevant for the following reasons:

- The Pace review was based on the assumption that the Project potentially receives flow from Oak Creek, San Ysidro Creek and Romero Creek watersheds. Since only Oak Creek and San Ysidro Creek are potentially tributary to the Miramar Project, the initial assumption in the review is without any support and many of the following findings in the Pace report are consequently incorrect.
- The Pace report indicates that an off-line detention/retention basin should be modeled as part of the Project analysis. An on-line basin was modeled in the March 7, 2008 report. The storage configuration is not appropriate for off-line storage because the ponding is of an on-line condition, not off-line.
- The Pace report repeatedly suggests that the Caltrans culverts should have been modeled. The capacity of the Caltrans culverts were not modeled because even at very high flows, changes in water surface elevation due to the Project do not extend to or affect the Caltrans culverts. Therefore, the analysis of any of the Caltrans culverts is irrelevant.
- The Pace report indicates that an ultimate condition with Caltrans culverts improved should be modeled. The worst case condition was modeled in the March 7, 2008 Flood Analysis, assuming that all Oak Creek Flow and all right overbank flow from



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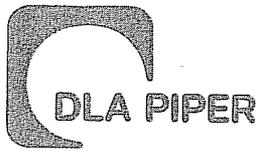
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San Ysidro Creek were received into Oak Creek. Improvements to Caltrans culverts will only decrease the amount of flow to Oak Creek, not increase it.

- The Pace report suggests that the hydraulic analysis should include a detailed calculation of the constriction of the concrete channel downstream of the Union Pacific Railroad and its impacts upstream of the railroad. The Penfield & Smith analysis of March 7, 2008 includes a very detailed hydraulic analysis of the downstream constriction, overflow and losses through the Union Pacific Railroad bridge. It also includes a detailed analysis of the impacts of those water surface elevations on the detention basin routed (ponding) water surface elevations upstream of the Union Pacific Railroad bridge.
- The Pace report suggests that more points should be included in the cross sections. The cross sections are based on the best available topographic mapping and detailed hand field topographic mapping. The cross sections are representative of the various cross sections, and are more than sufficient for purposes of this analysis.
- The Pace report suggests that a Manning's roughness value of 0.035 should be used. A Manning's roughness value ranging from 0.030 to 0.035, depending on surface features and vegetation, was used in the Penfield & Smith March 7, 2008 report.
- The Pace report suggests that a Manning's roughness value of 0.035 should be applied to the overbanks within the Miramar Project. A Manning's roughness value of 0.035 was used in the Penfield & Smith March 7, 2008 report to represent the overbanks within the Miramar Project.
- The Pace report suggests that a detailed model of the US 101 freeway be prepared in order to determine the contribution of each creek. The contribution of each creek is irrelevant because backwater impacts on Caltrans facilities are non-existent to negligible for even very high flow rates. Additionally, such a detailed analysis would be theoretical only, typically making gross assumptions as to storm intensity, duration and coverage. The major concern for this project and adjacent neighbors is how much water is in Oak Creek between the Pacific Ocean and South Jameson Lane, not how it gets there. The overflow of the US101 is a regional problem not impacted by the Miramar Project.

Based on this review of the Pace report, it appears the assumptions, suggestions, and recommendations from Pace are based on erroneous information or errors, or that the points that have been raised were already covered in the Penfield & Smith March 7, 2008 report.

e. Insignificance Determination: The comment states that EIRs must provide a brief explanation indicating the reasons for determining that a project's environmental effects are not



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significant. The Addendum complies with CEQA requirements with regard to effects not found to be significant. Pursuant to CEQA Guidelines Section 15128 “[a]n EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such statement may be contained in an attached copy of an initial study.” (Emphasis added.) As stated in the CEQA Topical Response by DLA Piper dated 5/21/08, an Initial Study has been held to be the functional equivalent of an Addendum. *See Santa Teresa Citizen Action Group v. City of San Jose* (2003) 114 Cal.App.4th 689, 699 and *Citizens for Responsible Equitable Environmental Development v. City of San Diego Redevelopment Agency* (2005) 134 Cal.App.4th 598, 616-7. The Addendum properly analyzes flooding impacts and discusses why impacts were determined to not be significant. As the Addendum is attached to the EIR, it contains a brief statement indicating the reasons that the flooding impacts were determined to be less than significant, and therefore, not discussed in detail in the EIR. In addition, The March 7, 2008 Flood Analysis of Oak Creek provides a detailed description of how the significance determination was made. This includes significance for water surface elevation, flow velocity, and downstream flow rate. The significance criteria are typical values using the accepted standard of care for floodplain management in Santa Barbara County and much of the United States.

## 2. Water Supply Impacts

The County’s analysis of water supply impacts is adequate and supported by substantial evidence in the record that shows that none of the conditions permitting preparation of a SEIR are present and that the Project’s impacts with respect to water supply will be about the same as the impacts of the previously approved Schrager Plan. The appeal’s assertion that the Project approval violated County regulations requiring adequate serviceability is unclear. However, to the extent the appeal is referring to Section 35-174.7(1)(d) of the County Development Code, the Certificate of Water Service Availability issued by the MWD for the Project supports the Commission’s finding that water service is available for the Project.

a. Changed Circumstances: As explained many places during the administrative process on the Project, CEQA permits preparation of a SEIR only in specified circumstances including where there are changed circumstances showing that the Project will have new significant effects or substantially more severe significant effects than the previously approved project. Pub. Res. Code § 21166; CEQA Guidelines § 15162. The assertions in the appeal letter of changed circumstances alleged to meet this triggering requirement for a SEIR are without merit.



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(i) MWD Ordinance 89 – Ordinance 89, approved by MWD on April 15, 2008, contains findings stating, among other things, that in 2007, the total demand for water exceeded MWD’s reliable supply and that MWD had not located sufficient additional sources of water to overcome anticipated shortages. Therefore, MWD adopted a program that would require issuance of a Certificate of Water Availability for any proposed new connections and expansions beyond a property’s historical base allotment for existing customers. The adoption of Ordinance 89 is not “a changed circumstance” demonstrating that the Project will have new or substantially more severe significant impacts with respect to water supply. Substantial evidence in the record shows that the Project is anticipated to use approximately the same amount of historical base water allotment as the previously approved project, as well as what was historically used at the Miramar Hotel. In May 2008, the District issued a Certificate of Water Service Availability to the Project, which was confirmed in another letter from MWD in July 2008, and which is consistent with testimony repeatedly provided by MWD General Manager Tom Mosby throughout the administrative process that MWD can and will serve the Project. Additionally, in August 2008, MWD approved Ordinance 90 and Resolution 2047, which included findings noting that supplemental water had been purchased and was being delivered, which would result in a supply/demand balance for 2008 and a carryover into 2009. These later approvals also instituted a new tiered rate structure to promote conservation and generate funds sufficient to support the expense of supplemental sources of supply as may be needed, thus addressing MWD’s supply/demand issues in the future. See July 28, 2008 letter from MWD to Matt Middlebrook (Caruso); July 29, 2008 letter from Caruso Affiliated to Dianne Black (County); July 30, 2008 letter from MWD to the County; May 10, 2008 Certificate of Water Service Availability from MWD; August 21, 2008 letter from MWD to Dave Ward (County) with attached Ordinance 90 and Resolution 2047; MWD Ordinance 89; Testimony of Tom Mosby, MWD Manager, Transcripts of MPC Hearings, July 16, 2008 at 106:21-110:10; August 6, 2008 at 103:25-104:14; and August 28, 2008 at 66:4-69:12. Therefore, there is no changed circumstance involving a new significant impact or substantially worse significant impact.

(ii) Use of the on-site well was removed from the Project at the request of neighboring residents whose wells draw from the same aquifer. Because MWD has the ability to serve the Project, the removal of this additional source of water is not a changed circumstance showing new impacts or substantially more severe impacts. Furthermore, MWD’s will serve letter assumed that it would provide all water on-site despite the use of the well even when it was part of the plan.



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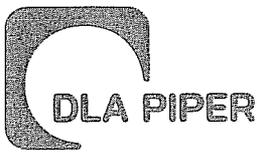
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(iii) The December 14, 2007, federal court order limiting State Water Project pumping to protect Delta Smelt may effect how much water MWD gets from the State Water Project but is not a changed circumstance showing that the Project will have new or substantially more severe impacts than the previously approved project. MWD would have been aware of this court decision and its implications for water deliveries in May 2008 when it issued a Certificate of Water Service Availability for the Project and at the time of later letters and testimony when it reaffirmed that it can and will serve the Project. Similarly, the effect of this decision, if any, on MWD's supply was taken into account by MWD in its planning for 2008 and beyond.

b. Facts: Substantial evidence showing MWD's ability and commitment to serve the Project was discussed throughout the administrative process and was fully considered by the MPC in its decision not to require preparation of a SEIR on the issue of water supply. The facts are not misrepresented in the Addendum, Findings or the Commission's decision. Among other things, the evidence shows that although MWD cannot guarantee water will always be available to serve the Project or any other existing or future customers of the District. If the ability of the MWD to issue a will serve letter was dependent on its ability to guarantee that water will always be available, then it would never be able to issue any will serve letter since it cannot predict the weather. MWD considers the Miramar Hotel to be an existing customer (and has for decades); has assumed and planned for a baseline delivery amount (45 AFY) that will cover all of the anticipated needs for the Project except landscaping; and approved Ordinance 90 and Resolution 2047, which clarify (among other things) that:

- the District is now receiving an additional 1,400 acre feet of supplemental water, which is sufficient to meet demand for 2008 and 2009;
- based on past experience and studies, the District expects its recently approved tiered rate structure to result in at least a 10% reduction in demand;
- it has access to up to 3,300 AFY of State Water entitlement and the ability to supplement its water supply when needed in certain years to maintain supply/demand balance;
- the new tiered rate structure will promote conservation and generate funds sufficient to support the expense of supplemental sources of supply as may be needed to meet demand; and
- the District intends to continue to develop additional sources of supplemental water supply on an as-needed basis.

MWD clearly and repeatedly communicated to the County and the applicant, that it "can and will serve" the Project with its existing water meters, that the first 45 AFY will be provided at the commercial classification block one rate, and that the District will serve the Project at least up to approximately 60-acre feet (which is more than needed by the Project) consistent with the

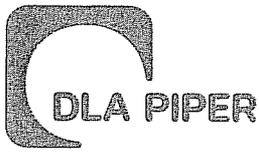


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policies and ordinances in place that apply to all District customers. That MWD cannot “guarantee” it will be able to meet the long-term future needs of all its customers, does not mean that the Project will have new or substantially more severe impacts than the previously approved project. See July 28, 2008 letter from MWD to Matt Middlebrook (Caruso); July 29, 2008 letter from Caruso Affiliated to Dianne Black (County); July 30, 2008 letter from MWD to the County; May 10, 2008 Certificate of Water Service Availability from MWD; August 21, 2008 letter from MWD to Dave Ward (County) with attached Ordinance 90 and Resolution 2047; Responses to Comments per the recorded Transcript of the MPC Hearing of August 6, 2008 submitted by Dudek on August 22, 2008 at 1 (Response to 100:2-14); Testimony of Tom Mosby, MWD Manager, Transcripts of MPC Hearings, July 16, 2008 at 106:21-110:10; August 6, 2008 at 103:25-104:14; and August 28, 2008 at 66:4-69:12; August 19, 2008, MWD Memorandum from General Manager to Board of Directors.

c. Water Supply Analysis: The appeal appears to argue that the standards applicable to analysis of water supply impacts for a large, multi-phase project, articulated by the Court in *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova*, 40 Cal.4th 412 (2007) should apply to the analysis for the Project. However, the Project is too small to require preparation of a water supply assessment under the Water Code as was the case in *Vineyard*. In addition, the analysis requirements articulated in *Vineyard* would not apply because they relate to the context of an EIR for a very large, multi-year phased project that would bring new development to an otherwise undeveloped area, thus generating new water consumption. The Miramar involves a long-existing use that is being modified, but which does not involve new or substantially more demand than the prior use because the new project is similar in size and scope to the prior use (and actually smaller in some respects). Thus, the question is not whether the County adequately assessed the impacts of supplying water to the Project, but rather whether the Addendum, Findings and other evidence in the record provide substantial evidence to support the County’s conclusion that the revised project will not have any new or substantially more severe impacts related to water supply than the prior project. Substantial evidence supports the County’s decision that the Project will not have any new or substantially more severe significant impacts compared to the previously approved Schragger Plan or the historical Miramar hotel as it relates to water consumption. Therefore, the decision not to require a SEIR on this issue was proper. Moreover, even *Vineyard* states that “CEQA should not be understood to require assurances of certainty regarding long-term future water supplies at an early phase of planning for large development projects.” 40 Cal.4th at 432. Here, information provided by the MWD included statements regarding the uncertainties associated with MWD’s ability to serve everyone in the District, and thus disclosed potential uncertainties. But, this does not mean that the Project will have new or substantially more severe impacts than the prior project. Just because the circumstances of the District’s ability to serve may change over time does not change the fact that the potential impacts of providing water service to the Schragger Plan and old Miramar and



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providing water service to the Project are basically the same because the size and scope of the hotel's operations are similar, the project will use water-efficient appliances, low-flow fixtures, drought-tolerant landscaping, will move its laundry off-site if MWD declares a water shortage emergency, etc., and servicing the Project's water needs have been assumed in the District's planning for base allotments for decades.

d. Usage Calculations: The water usage estimates for the Project are supported by substantial evidence including analysis by experts in the field and at the MWD. Substantial evidence explains that the change from the initial usage estimate of 117.6 AFY to 51.1 AFY was because the initial estimate was an unrealistic, highly conservative, worst-case estimate that assumed 100% occupancy at all times, while the revised estimate assumes more realistic operational parameters (70% occupancy), and actual plans for the Project which include water conservation features such as low-flow plumbing fixtures, water-efficient appliances, and drought-tolerant landscaping. The comparison to the Ritz Carlton Hotel simply validated the 51.1 AFY estimate since that hotel was shown to use 249 gpd/room, including all water uses (guestrooms, kitchens, laundry, landscaping, etc.) which is similar to the 240 gpd/room estimated for all water uses at the Project. In addition, since the time the 51.1 AFY estimate was provided, the Project has been modified to reduce the number of guestrooms, thus further reducing the anticipated water demand for the Project.

MWD included as a condition of its approval of its Certificate of Water Service Availability that the owner shall provide a water supply/peak demand study prepared by a District approved engineering consultant specializing in hotel/resort operations; however, this was not required by MWD prior to its issuance of the Certificate of Water Service Availability. MWD's inclusion of this condition does not mean that analysis of the Project's water supply needs has been deferred. As explained above, an estimate was prepared, has been refined throughout the project approval process and demonstrates that the Project's needs will be similar to those of the previously approved Schragger Plan and the previously operated hotel. All aspects of the Project that will use water, including those that are attendant to having a 5-star rating such as the spa, 24-hour food service, beach club, etc., are accounted for in the estimate. All aspects of the hotel that will use water were counted in the 51.1 AFY estimate. This estimate is also consistent with the water usage estimate prepared by MWD. Finally, the estimates of water usage for the Project were based on numerous studies, not just the 1989 Interface Environmental Services Water Demand and Conservation Study, which was utilized by MWD. Studies utilized in determining the usage estimate for the Project also included (among others): Water Conservation Survey, Hotel Customer Category, prepared for the Los Angeles Department of Water and Power (Brown & Caldwell Consultants 1990), Hidden Oasis: Water Conservation and Efficiency in Las Vegas, Appendix E, Calculation of Potential Water Savings at Resorts and Casinos (Pacific Institute 2007), and the California Green Building Standards Code (State of California, Building



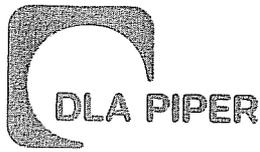
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Standards Commission 2008). See July 28, 2008 letter from MWD to Matt Middlebrook (Caruso); July 29, 2008 letter from Caruso Affiliated to Dianne Black (County); August 18, 2008 letter from Thompson Company to Michael McManus (Caruso); August 20, 2008 Memorandum from Caruso to Dave Ward (County); Caruso Memorandum, Response to Heal the Ocean letter dated October 2, 2008.

e. Potential Impacts: In considering the Project's potential impacts, the question is whether the proposed Project will have new or substantially more severe adverse impacts compared to the previously approved Schrage Plan. Because the Project is actually smaller in many respects than the previously approved project, its water needs are the same as or slightly less, hence, there will be no new or substantially more severe impacts with respect to water supply. The argued changed conditions, that there is a current drought situation and MWD has experienced a supply/demand imbalance in recent years, will not trigger the need for MWD to purchase additional water supplies for the project, though they may trigger the need for MWD to purchase additional supplies to service the whole District.

The historic water usage by the hotel is the appropriate baseline because the hotel has been an existing customer of the District since the 1920s, the District considers the hotel an existing customer (indeed, it cannot unilaterally revoke service to the hotel), and it has included the hotel's historic 45 AFY base allotment in its planning. The water allocated to the Miramar hotel has never been "allocated to, and used by, other end users" as claimed. The District has also stated it has the capacity to serve the Project at least up to approximately 60 AFY (more than what is actually needed) in accordance with its policies and pricing structure applicable to all District customers. Furthermore, the water needs of the Project can and will be served through use of already existing water meters; no additional meters are necessary. The MWD's supply/demand imbalance has been resolved in the short term for 2008/2009 with the purchase of supplemental water, and MWD has put into place a new pricing structure and policies (the adoption of which had nothing to do with the project and apply District-wide) that it believes will address its supply/demand balance moving forward, particularly given the current drought conditions. Substantial evidence in the record supports MWD's belief that its new pricing structure and policies will be successful in reducing demand. Numerous studies have shown that graduated pricing, without implementing any other conservation measures, results in average yearly water use reductions of 5 to 8 percent. The MWD's property audit found that proper use of irrigation controllers results in a 20-30% reduction in water used for outdoor residential landscaping, which is currently using 75-85% of all residential water consumption within the District. Neither the previously approved project or this Project will have significant adverse impacts with respect to water supply. See July 28, 2008 letter from MWD to Matt Middlebrook (Caruso); July 29, 2008 letter from Caruso Affiliated to Dianne Black (County); May 10, 2008 Certificate of Water Service Availability from MWD; July 30, 2008 letter from MWD to the



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County; August 21, 2008 letter from MWD to Dave Ward (County) with attached Ordinance 90 and Resolution 2047; Water: Our Water Situation – What We’re Doing About it (MWD Power Point August 19, 2008); Responses to Comments per the recorded Transcript of the MPC Hearing of August 6, 2008 submitted by Dudek on August 22, 2008 at 1 (Response to 100:2-14); August 19, 2008, MWD Memorandum from General Manager to Board of Directors; The Effectiveness of Pricing as a Stand-Alone Water Conservation Program (see attached), Water Resources Bulletin, American Water Resources Association (Jordan, J. L. 1994); Using Conservation Rate Structures, Journal of the American Water Works Association (Jordan, J. L. and R. Albani 1999) (see attached).

From a cumulative impact perspective, because the impacts of the proposed Project are the same as (or less than) the previously approved Schragger Plan, a SEIR is not permitted. Indeed, the Project actually will have a lesser water demand than the previously operated Miramar hotel which took 28 AFY from the on-site well, in addition to water from MWD, because of the Project’s use of water-efficient, low-flow fixtures, drought-tolerant landscaping, and other measures. Moreover, the 6.1 AFY of additional supply over the base allotment of 45 AFY (if the full anticipated need of 51.1 AFY for the Project is realized) is properly not considered cumulatively considerable in the context of a water District which has demonstrated that it is able to serve the Project, along with its other customers who collectively had a demand for over 7,000 AFY of water in 2007/2008. While it is correct that even a de minimis individual contribution may be cumulatively considerable, the "one [additional] molecule rule" (or one additional drop), is not the law. *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 120. Here, the Project will use the same amount of water as, or less than, previously approved and operated hotels on the property, the Water District has stated that it can and will serve the Project, and the water District has approved policies and a new pricing structure in place to ensure that it maintains a supply/demand balance into the future (even though it cannot “guarantee” for any customer that it will have sufficient water available in the long term). Under these circumstances, the Commission was correct in not requiring preparation of a SEIR to analyze water supply impacts. See Testimony of Tom Mosby, MWD Manager, Transcripts of MPC Hearings, July 16, 2008 at 106:21-110:10; August 6, 2008 at 103:25-104:14; and August 28, 2008 at 66:4-69:12; Response to New Comments presented to the County of Santa Barbara as of August 4, 2008 at 10-12.

f. Mitigation Measures: The Project includes several features to ensure that its demand for water is reduced to the greatest extent feasible including use of water-efficient appliances, low-flow fixtures, drought-tolerant landscaping, and will move its laundry off-site if MWD declares a water shortage emergency. In addition, the MWD provided substantial evidence to the County that it had resolved its short-term supply/demand imbalance through the purchase of supplemental water and that the measures it adopted as part of Ordinance 90 and



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Resolution 2047 would be effective in providing for supply/demand balance into the future, particularly given the current drought conditions. These actions by MWD are not “mitigation measures” but are part of the support for the Commission’s conclusion that the Project will not have new or substantially more severe adverse impacts with respect to water supply compared to the previously approved project. A tiered rate pricing structure, in combination with drought conditions, have in the past resulted in a substantial reduction in water demand within Montecito.

“Tiered rates were used during the drought as an effective way to reduce water consumption, and continue to be used by other water agencies. In Montecito, where it was not clear whether pricing structure would reduce use by affluent customers, water use per customer under tiered rates was actually reduced by 45% from an average of about 1.5 AF per meter in 1985-1988 to 0.82 AF per meter in 1992 (Figure 3). Some of this reduction can likely be attributed to public awareness of the drought, but water use began to steadily increase following the removal of tiered rates in the late 1990s.”

See <http://www.montecitowater.com/Water%20Demand-Supply%20Options%2003-07.pdf>, p. 7 accessed October 29, 2008. See also July 28, 2008 letter from MWD to Matt Middlebrook (Caruso); July 29, 2008 letter from Caruso Affiliated to Dianne Black (County); May 10, 2008 Certificate of Water Service Availability from MWD; July 30, 2008 letter from MWD to the County; August 21, 2008 letter from MWD to Dave Ward (County) with attached Ordinance 90 and Resolution 2047; Water: Our Water Situation – What We’re Doing About it (MWD Power Point August 19, 2008); The Effectiveness of Pricing as a Stand-Alone Water Conservation Program, Water Resources Bulletin, American Water Resources Association (Jordan, J. L. 1994); Using Conservation Rate Structures, Journal of the American Water Works Association (Jordan, J. L. and R. Albani. 1999).

### **3. Noise Impacts**

The issue of noise reflections off buildings and walls is extensively addressed in the Noise Topical - June 17, 2008, pages 3 and 4.

Analysis of train noise reflection can be found on page 4 of the Noise Topical, which was submitted to the County on June 17, 2008 and is part of the public record.

The statement in the appeal letter that County thresholds require construction noise levels to be mitigated below 65 dBA is incorrect. The County of Santa Barbara Environmental Thresholds and Guidelines Manual Section 3 - Noise Thresholds lists thresholds that are to be used “... for assisting in the



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determination of significant noise impacts. The thresholds are intended to be used with flexibility.” (Emphasis added.) See p. 132. Moreover, grading and construction activity, which may potentially impact sensitive receptors with noise levels above 65 dB(A), are allowed limited construction hours (i.e., during the daytime) to mitigate potentially significant noise impacts. *Id.* at p. 133. Additionally, “Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dB(A) may require additional mitigation.” (Emphasis added.) *Id.*

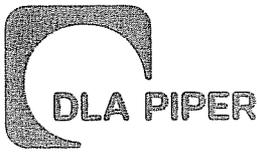
The Project is required to adhere to permissible construction hours and weekdays (Conditions of Approval 33 and 34) consistent with Policy N-M-1-1 of the Montecito Community Plan, as well as shielding of construction equipment generating noise exceeding 65 dBA (Condition of Approval 35), and prevention of motorized equipment idling (Condition of Approval 36).

DUDEK analyzed all construction equipment potentially exceeding 95 dBA at sensitive receptor locations, and provided recommendations in the Project’s noise study and referenced documents to minimize the potential noise impacts from this construction equipment through practically available and feasible mitigation measures. Construction techniques, recommendations and construction assumptions presented in the DUDEK’s November 2007 acoustical analyses are required to be incorporated into the Project to reduce exterior and interior noise (Condition of Approval 38).

Further, the mitigation measures identified for the Schragger MND that limited demolition and construction activity within 100 feet of the All Saints by the Sea Church preschool have been incorporated into the mitigation required for the Project. Specifically, this mitigation says: Demolition/construction activity within 100 feet of the All Saints by the Sea Church preschool building and/or play deck area shall not occur when school is in session, as follows:

- a. September-May: Mondays 8:30 a.m. to noon and Tuesday through Thursday 8:30 a.m. to 3:00 p.m.
- b. June-July: Tuesday through Thursday, 9:30 a.m. to 12:30 p.m.

In conclusion, the Noise Impact Analysis is not legally deficient as asserted by the commenter because all required noise analysis was carried out per the County’s Environmental Thresholds and Guidelines Manual, the County of Santa Barbara’s Noise Element and consistent with the Montecito Community Plan’s policy regarding construction hours. Appropriate mitigation has been identified for the Project and is required to be implemented. As identified above, these



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measures would reduce impacts to less than significant consistent with the County's thresholds of significance.

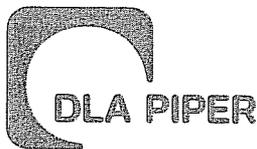
The County did not commit an abuse of discretion by failing to prepare an EIR.

- a. Oceanfront Pile Driving: Pile driving will be addressed in a separate letter.
- b. Off-Site Relocation: Pile driving and relocation will be addressed in a separate letter.
- c. Off-Site Relocation: Pile driving and relocation will be addressed in a separate letter.
- d. Mitigation Measures: Pile driving and relocation will be addressed in a separate letter.
- e. Impacts from Pile Driving at Main Building: Pile driving will be addressed in a separate letter.

The main building non-pile driving construction impacts and mitigation are analyzed and addressed in the Project's noise study of November 2007, summarized on page 34 in that report. The nearest noise sensitive receptors are at approximately 300 feet or more from the main building construction area. The equipment distance sound attenuation for 300 feet would be 15 dBA, resulting in maximum (short duration) noise levels for other than pile driving construction activities of between 76 to 88 dBA for "typical" equipment and between 71 to 83 dBA for "quiet" equipment at the nearest noise sensitive receptors.

These maximum, short duration noise levels from the main building construction activities would not exceed 95 dBA at noise sensitive receptor locations, and would be mitigated through limiting the construction activities pursuant to the above referenced Conditions of Approval. This approach is consistent with the discussion above and complies with the County and Montecito Community Plan construction noise mitigation requirements.

- f. Analysis of Mitigation Measures: Pile driving will be addressed in a separate letter.
- g. Beach Use & Recreation: The appeal letter asserts that there will be significant noise impacts to beach use and recreation and that the impacts are not considered or analyzed as a part of the review process. This comment has been previously responded to in Dudek's Responses to Comments in the Coast Law Group Letter dated August 26, 2008. Please refer to



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page 3 of these responses. In summary, according to the County of Santa Barbara's Environmental Thresholds and Guidelines Manual, noise-sensitive land uses are considered to include:

1. Residential, including single- and multi-family dwellings, mobile home parks, dormitories, and similar uses.
2. Transient lodging, including hotels, motels, and similar uses.
3. Hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care.
4. Public or private educational facilities, libraries, churches, and places of public assembly.

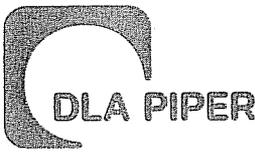
Beaches are not included in the above list, and therefore not considered sensitive receptors. Finally, the Montecito Community Plan (MCP) defers to the County Noise Element in stating, "The Noise Element is to protect the public from noise that could jeopardize health and welfare. The Noise Element identifies major noise sources, estimates the extent of their input and discusses potential methods of noise abatement. Specifically, the Element identifies a maximum of noise exposure to sensitive land uses (e.g. residences, schools, hospitals)." See p. 22 of the Montecito Community Plan. Policy N-M-1.1 in the Montecito Community Plan states that "Noise sensitive uses (i.e. residences and lodging facilities, public meeting spaces and others specified in the Noise Element) shall be protected from significant noise impacts." Thus, the noise studies prepared for the Miramar Beach Resort and Bungalows Project and the analysis contained in the Addendum prepared for the Project are appropriate and adequate for the impacts to noise in that they are consistent with the Noise Element and policies in the Montecito Community Plan,

In addition, Ms. Dianne Black addressed this issue in the August 6, 2008 MPC meeting by stating, "The beach users are not considered to be sensitive users. They're not residential; they're not schools or churches or nursing homes or hospitals." See page 309 of the August 6, 2008 Hearing Transcript.

h. Physical Vibrations: Pile driving will be addressed in a separate letter.

#### 4. Wastewater Impacts

a. Project Description: Please see attached Penfield & Smith letter to Matt Middlebrook dated October 29, 2008.



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b. Analysis of Mitigation Measures: Please see attached Penfield & Smith letter to Matt Middlebrook dated October 29, 2008.

c. Treatment Capacity and WWTP Expansion: Please see attached Penfield & Smith letter to Matt Middlebrook dated October 29, 2008.

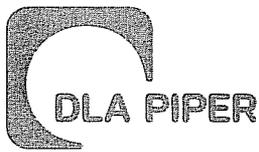
## 5. Floor Area Ratio

a. Inclusion of Parcels 6 & 11: In its letter in support of the Appeal, CLG alleges that the MPC inappropriately included Parcel 6 (the sandy beach, including the public's 20-foot lateral access easement) and Parcel 11 (the Union Pacific Railroad ("UPRR") easement) in the calculation of net floor area. Appellant is wrong in its contentions. County Coastal Zoning Ordinance ("CZO") (Article II) § 35-202 provides the formula for FAR where, as here, there is an approved Final Development Plan. It provides, in pertinent part, as follows:

"Where there is an approved Final Development Plan, the floor area ratio shall be the quotient of net floor area, excluding basements used exclusively for storage and residential units that meet the County's definition of affordable housing, divided by the sum of the net lot area of all parcels included in the Development Plan."

In the instant case, the UPRR property (Parcel 11) and the sandy beach (Parcel 6) are both included in the Project's approved Final Development Plan. Accordingly and consistent with Coastal Zoning Ordinance § 35-202, their net lot area must be included in the denominator for calculation of FAR. To accept the arguments of the appellant would ignore CZO (Article II) § 35-202 which clearly mandates that the denominator for purposes of calculating FAR is "the sum of the net lot area of all parcels included in the Development Plan"; emphasis added. Accordingly, and consistent with CZO (Article II) § 35-202, the net lot area of Parcels 6 and 11 are appropriately included in the denominator for the calculation of FAR. See Hollister & Brace letters of 8/5/08 & 8/21/08.

Appellant further argues that County Staff conceded that typically "easements held over another property are not included in a project's FAR calculations" and to do otherwise would constitute "a change in methodology of determining the project's FAR and should not be allowed." The language quoted by appellant is found in Staff's proposed alternate findings for denial of the Project presented to the MPC at its August 28, 2006 hearing. Staff prepared the alternate findings because at its August 6 hearing the MPC conceptually voted to exclude Parcel 11 from the lot area used to calculate FAR. It is the custom and practice of County Staff to uphold the administrative agency's decision once made, and its duty to fashion findings to support it even



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where that finding is opposed to the recommendations and findings of Staff made throughout the course of the administrative hearings on a project. At the August 6, 2008 MPC hearing, Staff advised the Commission as follows:

“We included Lot 11 because Lot 11 excludes the railroad proper because we found it to be an integral part of the development, and it’s subject to interpretation.

If you look at the definition of floor area ratio, it says that you divide the square footage you come up with under that definition by the sum of the net lot area of all parcels included in the development plan. Our interpretation was that [it]’s included in the development plan...”

Rptr.’s 8/6/08 Transcript, p. 257, lines 12-20.

And, at the August 28, 2008 MPC hearing, Staff similarly advised the Commission as follows:

“So, you know, we know how to deal with people who have landscaping easements or other types of easements on adjoining properties where they don’t have more certain rights to use the property, but this just isn’t comparable to that.

So I think the Commission has discretion here, and I think you have the discretion to decide whether or not to include Parcel 11. Our recommendation is that you include it and you address your FAR concerns in other ways.” Rptr.’s 8/28/2008 Transcript, p. 40, lines 12-21.

And, the MPC followed Staff’s advice and properly included the net lot area of Parcels 6 and 11 in the denominator for the calculation of FAR in its October 8, 2008 approval of the Project.

Appellant further argues that “areas that cannot be developed or improved due to easement restrictions are not to be included in net lot area.” With respect to the UPRR property, the subject easement granted by UPRR is an easement in perpetuity which expressly allows building encroachments and improvements to be constructed on the easement area over portions of Parcel 11. While it is true that FAR is a “measurement of development intensity” (CZO (Article II) § 35-202), it is not, as appellant argues, based solely “on developable land area.” In fact, the denominator for purposes of calculating FAR is “net lot area” which is defined by CZO (Article II) § 35-58 as being the “gross lot area minus any area lying within a public street, such public street being defined as a permanently reserved right-of-way which has been dedicated to the County of Santa Barbara.” Net lot area thus includes setbacks, public pedestrian access easements and other nondevelopable areas due to other constraints. Thus, the fact that the



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applicant cannot place anything within the public's access easement over a portion of Parcel 6 is wholly irrelevant.

b. Calculation of Mean High Water Mark: The appeal letter also alleges that the applicant's estimate of the mean high water mark at 116 feet is inaccurate and that the boundary line will remain unknown until an accurate survey is performed. CZO (Article II) § 35-128.2 is the controlling authority for the calculation of the area of the sandy beach in the context of the project. See Hollister & Brace letters of 8/18/08 and 8/21/08. It clearly and plainly provides as follows:

“For the purpose of computing the lot area or building site area of any lot, the boundaries of such lot shall be the boundaries established by the latest recorded deed, parcel map, subdivision map, etc., provided that such recorded document does not create or attempt to create a lot in violation of the provisions of any applicable California or County law or ordinance.”

CZO (Article II) § 35-128.2 allows for the use of the recorded grant deed to the applicant for purposes of computing lot area. In this case, the mean high tide line was established by the methodology explained in Penfield & Smith's letters of August 22 and 25, 2008. This methodology established the southernmost boundary of Parcel 6. And, the mean high tide line derived by this methodology is consistent with the metes and bounds legal description of Parcel 6 set forth in the recorded grant deed to the applicant. Thus, the recorded grant deed to the applicant is the proper instrument to be used for the purpose of computing the lot area of the sandy beach pursuant to the provisions of CZO (Article II) § 35-128.2.

At the August 6, 2008 MPC hearing, County Counsel confirmed that Penfield & Smith's methodology for calculating the area of Parcel 6 is correct. Rptr's Transcript, p. 228, line 18-p. 230, line 13. Following that hearing, the County Surveyor and County Counsel questioned whether a certain 1958 California State Lands Commission survey must be used for purposes of calculating the mean high tide line. The County Surveyor wrote the State Lands Commission inquiring whether the 1958 survey established the boundaries adjacent to Parcel 6. By letter of August 27, 2008, the acting Chief Counsel for the State Lands Commission stated as follows:

“To clarify this office's position regarding a survey by the staff of the Commission reflected by the map dated February 1958, that map does not establish the boundary between the uplands in private ownership and the tidelands in public ownership.”



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At the MPC's August 28, 2008 hearing, County Staff reported to the Commission as follows:

“Therefore, the county surveyor considers adequate, for planning purposes, the methodology used by the applicant to determine the size of Parcel 6.” Rptr.'s 8/28/08 Transcript, p. 15, lines 22-24.

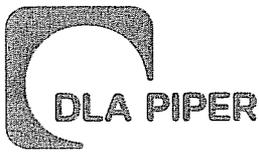
Thus, County Staff and the County Surveyor reconfirmed that the recorded grant deed to the applicant is the proper instrument to be used for the purpose of computing the lot area of the sandy beach.

c. Figures: In the Addendum and the Project Description, the documents listed the overall floor area as 164,849 square feet which was and remains an accurate figure. The staff Memorandum had incorrectly cited some square footage figures for the guest rooms and the main building which double counted some guest rooms, and had failed to include the square footage of one of the retail buildings. However, despite the inaccurate individual figures, the overall figure, which determines FAR, was accurate in all documents. All other errors were corrected in the final report for the hearing issued by the County in October.

## 6. CEQA Procedure

a. Informational Purpose: The comprehensive environmental review conducted for the Project satisfies the informational purpose obligation required by CEQA. In fact, it is clear through the abundance of correspondence and testimony from the CPA, that the appellant apparently had no problem ascertaining the informational purpose required by CEQA. CPA submitted an appeal well over one hundred pages; submitted four letters, the vast majority of them late; and testified with no less than three different attorneys before the Montecito Planning Commission multiple times on different days, the shortest hearing lasting over seven hours. To suggest on this record that it has been unreasonably difficult for the public to understand the project's environmental impacts, as suggested by CPA, which especially has had extensive involvement in the Project's public process, is unsupported by the copious amount of public involvement and numerous long hearings associated with this Project.

In any event, revisions, updates and corrections were released during the administrative process because of comments made by the public, County staff and Montecito Planning Commissioners. Moreover, these changes resulted in a project with lessened environmental impacts. For example, there has been a reduction of 12 hotel rooms; a reduction in FAR; a reduction in building square footage; a reduction in building heights; removal of buildings from setbacks; removal of tennis court lighting; and the addition of mitigation measures to address parking and circulation concerns. These changes came about through the public review process and lessened



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environmental impacts. If there were to be no revisions, updates or corrections, there would be no need for both a Draft EIR and a Final EIR; CEQA would just require a Final EIR, without also requiring a Draft EIR. CEQA encourages public participation, and public comments often generate a need for revisions and changes. In this instance, the comments from the public resulted in the approval of a smaller project, with lessened environmental impacts. As the process is designed to give the public a chance to raise concerns, the County has responded to those concerns with the revisions, updates, corrections and additional information. To suggest on this Record that the procedures followed by County deprived any member of the public of access to information or an opportunity to be heard is outlandish.

b. Environmental Review: The entirety of the Project, i.e., the “whole of the action” pursuant to CEQA Guidelines Sec. 15378(a), has been analyzed in the environmental review documents for the Project; there are no environmental impacts of the Project that have not been analyzed in the Project’s environmental documentation and thus no segmentation has taken place. Despite CPA’s assertion that there is a segmented environmental review, the environmental review has not been concealed through dividing a single project into smaller individual subprojects to avoid responsibility for considering the environmental impact of the project as a whole. See Orinda Assn v. Board of Supervisors (1986) 182 Cal.App.3d 1145, 1171. There has been no segmentation of the Project into separate environmental reviews; the SEIR with its attached Addendum examine the ‘whole of the action’ as required by CEQA.

There has been no unlawful segmentation, as all environmental impacts were analyzed and the methodological approach taken is fully proper under CEQA Guidelines § 15162 to analyze the significant impacts in an SEIR and the less than significant impacts in an Addendum. See the CEQA Topical prepared by DLA Piper, dated 5/21/08; the June 18, 2008 DLA Piper Responses to Comment Letter 8; and the July 30, 2008 Caruso Affiliated Responses to the July 15, 2008 Coast Law Group letter.

c. Baseline, New Project: This comment repeats the same comment made by CPA in its May 15, 2008 letter where CPA stated “... it is improper for the County to measure project impacts against the Schragger Plan because the Caruso Plan constitutes an entirely new and different project.” As stated in DLA Responses to Comment Letter 8 dated June 18, 2008:

“the Project is not a new project, but rather represents a change in the prior approved Schragger Plan, as evidenced by the lead agency’s processing of a Revised Development Plan application, and not a new Development Plan application, for the Project. The environmental analysis contained within the Project Addendum demonstrates that the impacts are the same or less than the previously approved project, as well as the previous project modifications. See



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Guidelines §§ 15162 and 15164. Please refer to the CEQA Topical prepared by DLA Piper regarding analyzing impacts in relation to the 2000 Schragger Plan and not against its subsequent amendments. As such, it is permissible to utilize the Schragger Plan as the baseline condition...”

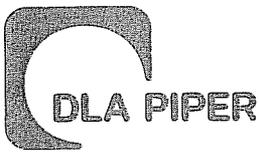
See also the July 3, 2007 Memorandum from Amy Nefouse of DLA Piper to Santa Barbara County Counsel Mary Ann Slutzky; see also Addendum, pages 5-7 of 69.

d. Original Schragger Plan: In its May 15, 2008 comment letter, the commenter again made the same claim that “the County artificially inflated the baseline condition and distorted the project’s incremental impacts.” This comment was responded to in the DLA Responses to Comment Letter 8 dated June 18, 2008; the CEQA Topical by DLA Piper dated May 18, 2008; and the County’s Response to Comment 8b.

e. Comparative Analysis: CPA claims that the County has “made no attempt to engage in a qualitative comparison” of the Caruso Plan and the Schragger Plan. The environmental documents provide the analysis required by CEQA. CEQA Guidelines Section 15164 allows the preparation of an addendum if none of the conditions described in CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred. The Project’s environmental documentation follows this methodology of having an SEIR for historic resources, and an Addendum for all other impacts. The SEIR and Addendum analyze the incremental impacts of the Caruso Plan by comparing the impacts with the Schragger Plan, and this analysis was done on a quantitative and qualitative basis.

f. Vesting Issue: CPA challenges the basis for a determination made by the County’s Director of Planning and Development (Director) in April 2005 that Final Development Plan 99-DP-001 for the Miramar Hotel would not expire under provisions of the County’s CZO (Article II) because substantial physical construction had occurred. The comment also asserts that the applicant cannot rely on the vested status of the Final Development Plan because certain substantial construction occurred under that plan and changes to that plan are now being proposed.

On April 27, 2005, the Director made a written determination that substantial physical construction had been completed for the Miramar Hotel Final Development Plan which prevented the expiration of that Plan under applicable provisions of the CZO (Article II). The Director’s determination was based on the cost and construction information provided by the hotel developer and on the March 10, 2005 Memorandum from the County Counsel to the Montecito Planning Commission that interpreted the applicable provisions of the CZO (Article II) regarding the meaning of the term “substantial physical construction,” for purposes related to



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the expiration of a permit. The Director determined that over \$5 million worth of actual physical construction for infrastructure, site preparation and cottage repair and restoration had been expended, which amounted to more than 10 percent of the project construction costs. In a written response from Dudek dated August 26, 2008 to a similar comment, Dudek explained that the physical construction included demolition of the hotel ballroom and pool, site preparation such as grading, preparation for utilities, and removal of asphalt and landscaping, in addition to work on the cottages. The comment's suggestion that repairing and renovating the cottages was "the only reason" that the Final Development Plan was vested misstates the record.

The appeal letter also asserts that because substantial work was performed on the structures now proposed for demolition, the Final Development Plan cannot be legally relied upon as a vested project. The Director's determination regarding substantial physical construction for the Final Development Plan has been final for several years and cannot now be challenged. This determination means that the Final Development Plan is still a valid approval. The fact that construction began under the Final Development Plan and a modification is now being sought which would change the design of the hotel and obviate some of the prior construction does not require a different environmental analysis from that which has been performed in this case. A similar situation was presented in *Benton v. Board of Supervisors* (1991) 226 Cal. App. 3d 1467 (Benton), where a County adopted a negative declaration in connection with issuance of a use permit for construction of a winery. In *Benton*, the property owner obtained building permits and commenced construction under the original use permit, but then applied for a new use permit to authorize construction of the planned winery in a different location a mile away. The County treated the new winery application as a request for modification of the already-permitted project and determined that the first phase of construction had begun and the property owner's rights had vested under the original use permit. Under these facts, the Court of Appeal determined that environmental review under CEQA was limited to only those aspects of the project that were proposed for change under the modified winery plan. The Court stated that ". . . the actual physical environment includes that which [the property owner] has a legal right to build under permits which have already been issued and on which construction has already begun." *Benton*, 226 Cal. App. 3d 1477, fn. 10. Similarly, in *Temecula Band of Luiseño Mission Indians v. Rancho California Water District* (1996) 43 Cal. App. 4th 425 (Temecula), a water district's modification in 1990 of a water project previously approved in 1984 was challenged on CEQA grounds. As in *Benton*, construction of the originally approved 1984 water project had begun and the Court determined that since the water district had a right to proceed with the 1984 water project, judicial review of the modified project's potential environmental effects was limited to the incremental effects of the modified project as compared to the 1984 project. As in *Benton* and *Temecula*, the vested status of the Final Development Plan, where construction had begun, is unaffected by a proposed modification to that Plan.



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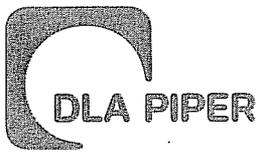
## 7. Modifications

The appeal letter asserts that the requisite justifications for approval of modifications have not been established. To the contrary, Article II, Section 35-174.8 Conditions, Restrictions, Modifications states,

“At the time the Preliminary or Final Development Plan is approved, or subsequent Amendments or Revisions are approved, the Director, Zoning Administrator, Planning Commission or Board of Supervisors may modify the building height limit, distance between buildings, setback, yard, parking, building coverage, or screening requirements specified in the applicable zone district when the Director, Zoning Administrator, Planning Commission or Board of Supervisors finds the project justifies such modifications. (Amended by Ord. 3977 2/21/92, Ord. 4067 8/18/92).”

Thus, the appellant’s statement is without support and inaccurate. As an example, under the Schrager Plan, the Garden Rooms, which are located along the Miramar’s property adjacent to the Church and are located well into the setback were determined to have no historical significance because of “extensive alterations” (Miramar Hotel Renovation, Mitigated Negative Declaration, May 3, 2000). These rooms were proposed to be removed and replaced with employee housing and allowed to remain in the setback area. Further, the County analyzed the requested setback and height modifications in the Addendum to the MND; in the Staff Report; and in the Findings for Approval that were prepared for the Project. Moreover, the justifications for the modifications requested by the Project were also the subject of much discussion at each of the MPC hearings, responded to in the County’s Responses to Comments and in the applicant’s Responses to Comments which were submitted to the County and part of the public record.

a. Justifications: The appeal letter further asserts that the Commission “abused its discretion in approving the modifications because the stated ‘justifications’ are merely predicated on conferring benefits to the applicant and the project (in terms of project layout, internal site design and hotel amenities) rather than the community.” The Commission in no way abused the discretion given to it as the decision maker on the Project granted to them through the above cited Article II, Coastal Zoning Ordinance. The Project, as originally proposed, had many requests for location of structures within the setbacks consistent with the setback encroachments of the Schrager Plan. Further, the setback encroachments under the Schrager Plan were not to accommodate the retention of historic structures since many of the cottages were to be moved throughout the site and numerous cottages on the site are still on trailers in various stages of relocation. Nonetheless, the County approved modifications for the Schrager Plan.



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At the MPC hearing of August 6, 2008, the MPC suggested that all two story buildings along S. Jameson be removed from the setback. The applicant presented a revised site plan at the next MPC meeting on August 28, 2008 which addressed many of the comments made by the Planning Commission. The revised plan moved Building 44 and Building 5 (Ballroom) out of the setback along S. Jameson. While portions of Building 1 (Main Building) remained in the setback, the portions within the setback area are one story elements and overall, the height of the Main Building was reduced by four feet so when it is measured from the curb of S. Jameson, it is 38', which is consistent with the height limitations in the Montecito Community Plan. Moreover, Building 43 was also reduced in height by removing an entire floor (as was the spa building previously) and the building was divided into two six-key "cottages." Also, buildings adjacent to All Saints by the Sea were relocated to 15 feet from the property line increased from the 10 feet as originally proposed. This increase along the boundary with the Church is significant in that there are buildings standing on the site today, which are part of the approved Schragger Plan that are less than 3 feet from this property line. Therefore, while the impacts of the original plan were not significant, the impacts, nevertheless, have been reduced even further. In addition, the views of the mountains from the beach will not change from those views visible as a result of the Schragger Plan. It is clear from the record that the MPC carefully reviewed the requested modifications, suggested changes in places and carefully considered the revisions before approving the Project. Contrary to the appellant's assertions, the MPC used its discretion judiciously and with careful consideration, as is demonstrated by the record.

b. No Precedent: The assertion that there is precedent being set by this Project is without support. The Project has been found by the County to be in conformance with polices contained in the Montecito Community Plan. Please refer to the Policy Consistency Analysis prepared by County in the Addendum to the MND and the Policy Consistency Analysis prepared by the applicant and submitted to the County in the Responses to Comments by Matt Middlebrook, May 14, 2008, as well as the Findings for Approval prepared by the County for the Project (October 8, 2008). In addition, the MBAR found the Project to be compatible with the surrounding neighborhood in its meeting of December 17, 2007.

Article II (the Coastal Zoning Ordinance), specifically confers the right upon decisions makers to "...modify the building height limit, distance between buildings, setback, yard, parking, building coverage, or screening requirements specified in the applicable zone district...", thus it is not precedent setting. As land is unique and as the Project's development plan has unique elements and characteristics utilizing accepted modification provisions allowed within Article II, approval does not constitute a precedent setting situation.



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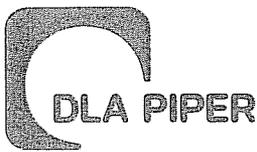
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## 8. Cottage Type Hotel

The Project is consistent with the cottage-style tradition set forth in the Montecito Community Plan and in the Montecito Architectural Guidelines and Development Standards. The proposed Project complies with the requirements of the Community Plan, Architectural Guidelines and Coastal Zoning Ordinance by utilizing an overall resort design that is consistent with the Cottage Type Hotel tradition by designing more than half of the guest room buildings as cottages with six keys or less, ensuring that two-thirds of all guest room buildings are one-story in height, and by having the other guest room buildings that are not “cottages” designed in a fashion that emulates a Cottage Type Hotel. Seventy-five percent of the proposed guest room buildings have six-keys or less, and over two-thirds of the guest room buildings are two-stories or less, consistent with the Montecito Architectural Guidelines and Development Standards in Section V.B.3. There is no mention in the Montecito Community Plan or the Montecito Architectural Guidelines and Development Standards as to building materials or architectural elements typical or characteristic of “cottage-style.” The elements that are clearly articulated are the requirements on the number of keys and heights of the cottages. However, a definition of cottage style has now been added to the Conditions of Approval, and the project exterior will be designed consistent with that definition.

Please refer to the Montecito Community Plan and in the Montecito Architectural Guidelines and Development Standards, in addition to Cottage-Style/Neighborhood Compatibility/Views/Size/Lighting/Grading Topical, June 17, 2008 and testimony from Anne Almy in her presentation to the MPC on July 16, 2008 that states, “Cottage type hotel is defined by cottages limited to six guestrooms each which are generally single story in height. That's the verbiage of that policy.” See page 32 of the July 16, 2008 MPC hearing. There is also extensive testimony in the July 16, 2008 MPC hearing (page 130 - 135) between County staff and various Planning Commissioners regarding the cottage-style policies.

a. No Deferral to MBAR: The assertion that the conclusion by the MPC that the Project is consistent with the cottage style tradition constitutes an abuse of discretion is unsupported. While the MPC is the decision making body, the MBAR is the appropriate review body to work on the specifics of design and architecture on projects. The MBAR, which reviewed the Project at conceptual review consistent with County policy, gave the Project very positive comments and found the Project consistent with the neighborhood and the cottage-style tradition articulated in the MCP. Also consistent with County policy, the Project will return to the MBAR for preliminary and final review. Thus, there is no deferral to the MBAR. The process and procedure of the approval and MBAR process requires the applicant to attend a conceptual MBAR review prior to any decision-making body acting on an application and also requires the applicant to return to MBAR for preliminary and final review after the decision-



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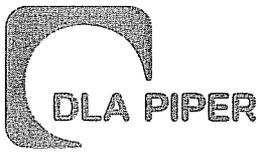
making body has acted for precisely these reasons. The Planning Commission can give direction to an applicant/project proponent on design issues and the MBAR will ensure that these directions are incorporated into the final approved plan. Additionally, per direction from the MPC, the project design will be previewed to the MPC for their comments before it returns to MBAR for preliminary review.

In the County's Findings (of Consistency) prepared for the Project (page 35 of Attachment A, 2.4.2.1 Improvement to resort visitor serving commercial hotels have been designed to be consistent with the existing historic "Cottage-Style" Hotel Tradition of the early days of Montecito), the MPC augmented the language for "Cottage Type" to include more refinements and nuances. With the incorporation of the definition and direction by the MPC, the Project is wholly consistent with the policy and the procedures of Santa Barbara County.

b. No Regulatory Violations: The Project, as the appeal letter asserts, does not violate the substantive cottage style requirements set forth in the MCP. Please see the discussions in answer to comments 8 and 8a above. Moreover, the issues associated with Building 44 have been addressed by the applicant and it is a single building. Building 44 was revised by enclosing the ground floor walkways and ground floor areas between the building segments, consistent with the Article II definition of an attached building which requires having at least five lineal feet of wall serving as a common wall with the building to which it is attached (Article II, page 9). As this is the codified definition of an attached building, there is no precedent setting situation present.

## 9. Historical Resources

a. Public Comments: Please refer to the two reports prepared by Holmes Culley dated March 19, 2007 and April 15, 2008, as well as the letter prepared by Matt Middlebrook on the infeasibility of preservation of structures dated April 30, 2008. All of these have previously been submitted to the County and are part of the record. Please also refer to the July 9, 2008 correspondence from Pam O'Connor of KCK Architects, and the Historical Topical prepared by Matt Middlebrook, dated June 19, 2008. Moreover, page 55 of the SEIR states that "Due to the fact that it is infeasible to repair the character-defining features that define the historical significance of the cottages and out buildings and due to the need to use mainly non original, historic materials Alternative 1 would mainly rely on rebuilding and documentation, not on preservation. Under CEQA, storage and display of some historical materials and documentation on their own are not considered sufficient to fully mitigate significant impacts." The suggested alternative of retaining one or some of the existing cottages is not a feasible mitigation measure; this is why the County made Finding 1.2.5, page 22, fifth paragraph that "Impacts on these historical structures could not be reduced to significant, but mitigable impacts, Class II. This is



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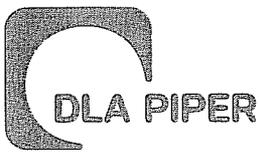
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due to the fact that it is infeasible to repair the character-defining features that define the historical significance of the cottages and out buildings and due to the need to use mainly non original, historic materials.” Furthermore, in response to the comment regarding making various buildings available for relocation, staff indicated that the cottages would be available for 90 days after permits are issued for the Project, or until demolition permits were issued. This is codified in Condition of Approval 85, which requires the owner to make the cottages available for anyone who wants to move them off the site. Consequently, there has been an adequate response to comments relating to historic resource issues.

b. Mitigation Measures: The County has adequately analyzed the feasibility of replacing or restoring historic structures on-site, such as preservation of a reduced number of cottages, as suggested by the commenter. As stated in answer to comment 9.a. above, numerous studies addressed the infeasibility of keeping various historic structures on site, including the two reports prepared by Holmes Culley dated March 19, 2007 and April 15, 2008 as well as the letter prepared by Matt Middlebrook on the infeasibility of preservation of structures dated April 30, 2008. In addition, the July 9, 2008 correspondence from Pam O'Connor of KCK Architects stated that renovating the historic resources would involve replacement of much of their original historic fabric. “The unique set of circumstances that led to the building’s [sic] deteriorated condition, having been left in an incomplete state of repair, unsecured or unprotected and open to the elements, without any intervention has resulted in a situation where it would be impossible to meet the Secretary of the Interior’s Standards for Rehabilitation and inappropriate to apply the Standards for Reconstruction.” Simply said, the mitigation referenced by the commenter would not avoid, minimize, rectify, reduce, eliminate or compensate for the significant environmental impact pursuant to CEQA Guidelines Section 15370, even for only one of the cottages given the absence of historic materials. Significant environmental impacts would still remain unabated.

In specific regard to infeasibility of restoring or replicating the cottages, it is not that the repair of the cottages would be economically infeasible as asserted by the commenter, but that it would be impossible to satisfy the Secretary of Interior’s Standards for Rehabilitation and it would be inappropriate to apply the Secretary’s Standards for Reconstruction; it is not the cost that makes it infeasible, but the impossibility of adhering to the applicable historic standards even for only one cottage. The Record contains numerous technical studies regarding the infeasibility of repairing or reconstructing the cottages, including the SEIR; the Holmes Culley reports dated March 19, 2007 and April 15, 2008; the letter prepared by Matt Middlebrook on the infeasibility of preservation of structures dated April 30, 2008; and the July 9, 2008 correspondence from Pam O'Connor of KCK Architects.

c. Alternatives Analysis: With respect to relocating the cottages off-site, the Montecito Planning Commission specifically discussed the relocation of cottages off-site and



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agreed to allow interested parties up to 90 days after the issuance of project approvals or upon issuance of demolition permits to remove these cottages. See Condition of Approval No. 85. While the Planning Commission did agree to condition the project approvals to allow the cottages to be removed to an off-site location, the removal of the cottages to an off-site location would not mitigate impacts on historic resources to a less than significant impact. As stated above in previous responses to comments, it would be impossible to satisfy the Secretary of Interior's Standards for Rehabilitation and it would be inappropriate to apply the Secretary's Standards for Reconstruction. Removal of cottages to an off-site location would not minimize, reduce or rectify the significant historic impacts to the cottages. With regard to the claim that there has been an insufficient discussion of alternatives, no additional alternatives were necessary as there were no significant and unavoidable impacts to any area other than historic resources. Consequently, the alternatives analysis satisfies CEQA's requirements. As there are no significant impacts of the project related to any environmental topic other than historic resources, the alternatives would not have to be designed to reduce already less than significant impacts for other impact areas. See DLA Piper Response to Susan Keller (Letter 17, Comment 17b) dated June 20, 2008.

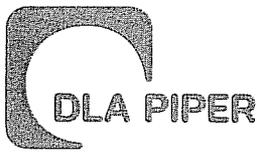
#### 10. Greenhouse Gasses

The County provided analysis for the Project with respect to Greenhouse Gases in the Addendum prepared for the MND and correctly states that the Santa Barbara County APCD is currently working with CAPCOA to develop CEQA Thresholds for Greenhouse Gas emissions. In the absence of any such threshold, an analysis was conducted and further augmented in the applicant's Responses to Comments submitted to the County on July 28, 2008. Please refer to page 8-14 of the July 28, 2008 Miramar: Responses to Comments.

In addition to the previously submitted information, Threshold 1.1 of the CAPCOA document uses the 2020 target developed by AB 32 and suggests that all discretionary projects achieve a 28%-33% reduction from the projected "business-as-usual" emissions to be considered less than significant. This CAPCOA approach is applied here to the Miramar Project.

Below is a table of project features with the associated projected emissions reductions derived from Appendix B of the January 28, 2008 CAPCOA White Paper (see attached).

Mitigation Measure included in the Project	Percentage Allocation
Range of bicycle related measures	2.5%
Pedestrian Network	10%
Traffic Calming	3%



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Mitigation Measure included in the Project	Percentage Allocation
Paid Parking	10%
Parking Reduction beyond code	10%
Pedestrian Pathway through parking	1%
Off-street parking	2%
Enhanced recycling/ waste reduction, reuse, composting	.5%
Total Percent of Reduction	39%

Based on the above list, which is inclusive of all measures that have an associated percentage, the Project will achieve an estimated 39% reduction in the “business as usual” emissions and will not impair the implementation of AB 32.

#### **11. Parking & Traffic**

For a response to the late Hansen Associates report dated October 6, 2008, please see the attached Associated Transportation Engineers (“ATE”) letter to Jane Gray dated October 16, 2008. With regard to the hotel employee count, the number of employees at the hotel at any one time has been consistent throughout the environmental documents and is 102. Please also see the August 6, 2008 Dudek transmittal to the MPC, as well as the ATE letter to Jane Gray dated August 27, 2008 regarding employee parking and traffic which analyzed a parking scenario with double the employee count that still resulted in no change to the LOS of intersections in the vicinity of the Project. Moreover, employee estimates and their traffic and parking demands were addressed by the MPC and through extensive testimony at the hearing on August 28, 2008. In response to questions raised by some Commissioners, particularly Commissioner Overall, regarding the adequacy of the employee count and its impact on parking, an alternative analysis (conducted by ATE) was provided to the MPC that analyzed the parking and traffic impacts of the project assuming double the number of employees. That analysis (cited above) found no significant traffic impacts and that the proposed parking supply would accommodate the additional demands. The parking model took the ULI employee factor and doubled it, and analyzed the hotel at peak demand, including a 600-person event. The model showed a peak parking demand 545 which could be accommodated by the 551 parking space supply.

Additionally, while Conditions of Approval do not limit the number of “normal” events at the site, the Conditions of Approval limit the number of event attendees that can be present on the site. There would be some time necessary to clear the event space at the end of one event and set up the space for the next event. Thus, new events would not be scheduled to begin immediately



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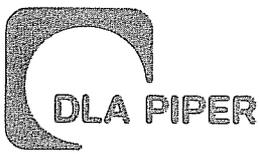
after the end of other events and the presence of event attendees would not overlap. It should also be noted that all the parking and traffic demands analyze peak demand using a 600 person event. Such events are limited to 12 per year, thus the number of times throughout the year that the Project will be at peak occupancy are limited. At all other times, the parking demand will be more than sufficient.

The comment that the proposed signage and “associated measures” will not be adequate to ensure that short term parking spaces will not be taken by hotel guests is unsupported. A number of steps have been taken to insure that the short term parking will be available for the public. First, the Schrage Plan did not have measures in place to prevent usage of the short term parking despite less on-site parking and a higher demand for those spaces (i.e., more hotel rooms). The proposed plan includes a number of steps including permits to be issued to beach club members on busy weekends, permits for employee cars to insure they do not use public spaces, free on-site employee parking, notification of guests upon check-in that public parking spaces are for the public, and a follow-up review of the property parking by the Planning staff and MPC to insure public parking is available to the public. Additionally, the Conditions of Approval have now limited the Beach Club membership at opening to 200, while the analysis assumes 300 members, and the allotted number of Beach Club members will not increase until it is demonstrated operationally that the hotel has sufficient parking. These restrictions are codified into the Conditions of Approval, including, Condition No. 50 requiring a protocol informing guests and staff that street parking is for the public only; Condition No. 52 requiring a Parking Decal Program; Condition No. 55 requiring a Final Parking Plan; Condition No. 66 requiring Beach and Tennis Club Membership Phasing; and Condition No. 84 requiring Review of Events. These Conditions will all ensure that public parking spaces will not be taken by hotel guests or employees.

Short-term construction impacts were also analyzed by ATE in the March 11, 2008 Site Access, Circulation and Parking Evaluation for the Project, as well as in the Traffic and Parking Topical submitted to the County on June 17, 2008. The assertion that the Project will result in significant long term parking impacts to the surrounding neighborhood is also without support. Please refer to the Traffic and Parking Topical previously cited and the March 11, 2008 Site Access, Circulation and Parking Evaluation prepared by ATE as well as the March 11, 2008 Trip Generation and Parking Demand Analysis prepared by ATE.

## 12. Miscellaneous

a. Union Pacific Railroad (“UPRR”): The comment states that the findings relating to zone district consistency cannot be made, as the UPRR has not yet authorized the construction of any improvements in its right-of-way. The County acknowledges that the Project cannot



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proceed without authorization from the UPRR and states so in its approvals. As stated on page E-40 of the Comprehensive Plan Consistency analysis provided by the County Planning and Development Department in its Staff Report for the July 16, 2008 hearing, the Project is consistent with Coastal Land Use Policy 2-6 in that “the proposed project would need to receive approval from the UPRR to modify their facilities in the railroad’s right of way (new shrubs, new pedestrian crossing). Considering the modest level of the changed use of the existing easement, UPRR signoff is reasonably foreseeable and Conditions of Approval require receipt of their concurrence prior to the approval of follow up land use permits.”

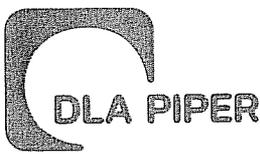
The County Planning Commission also requires Union Pacific Railroad authorization in its Conditions of Approval, stating in Condition of Approval No. 82 that “the project shall receive express authorization from the UPRR to construct improvements in its right of way prior to issuance of the first LUP granted for the proposed project.” Because the County requires authorization by the UPRR before the LUP is granted, it ensures that the Project may not proceed without such consent.

In letters dated December 13, 2007, May 13, 2008 and July 2, 2008 to the County, the UPRR acknowledges that the preliminary Project plans are acceptable the Project is “subject to the installation and maintenance of appropriate grade crossing warning devices and other protective measures as provided by the California Public Utilities Commission, and the railroad does not take exception to the public access easements that Caruso has proposed. The UPRR has final approval authority over placement of fill in their right of way and no building permits for the project can be issued until the Union Pacific Railroad Company consents. Until then, the Union Pacific Railroad Company will continue to work with the Applicant to ensure that their Miramar plans satisfy the railroad's requirements.”

b. Storm Water Management and Drainage Impacts: Storm water management and drainage impacts have previously been responded to within the County’s analysis in the Addendum to the MND and in subsequent responses to comments, specifically Response to Comment Letter 15 prepared for “Heal the Ocean” which was submitted to the County and appears in the Responses to Comments on the SEIR and Addendum to the MND.

c. Liquefaction: Liquefaction has been adequately addressed by the County.

Fugro prepared an “Addendum to Project Memorandum,” dated November 9, 2007, in response to comments from the County of Santa Barbara Planning & Development and Flood Control Departments. This November 2007 addendum specifically addresses foundation design for the oceanfront properties which are located in a Coastal High Hazard area and where liquefiable



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material is present, resulting in a recommended deep foundation supported flat slab or rigid mat which will stay structurally intact following lateral displacement.

The potential for liquefaction on the project site north of the railroad is addressed in Fugro's January 4, 2008 Preliminary Geotechnical Report, see Section 5.3 page 13-15, and Section 6 Summary and Preliminary Recommendations, part 6.2 Geologic Hazard Assessment – Liquefaction and Related Effects, page 18-19, where Fugro recommend “the liquefiable materials be removed to depths of approximately 12 feet below the existing grade and replaced with compacted fill ...”

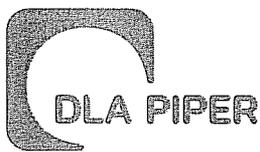
d. Potential Groundwater Impacts (including the aquifer): Potential groundwater impacts have been adequately addressed by the County.

The Well Topical, dated June 18, 2008, addresses potential groundwater issues related to construction activities and the use of an onsite well (the onsite well has, at the request of the community, been removed from the Project). Page 1 of the Well Topical, section entitled ‘Aquifer geology’ explains the formation and location of the aquifer. “The aquifer is 75 to 100 feet below grade and extends to a depth ranging from 100 to 150 feet,” therefore the potential to breach the aquifer is not possible during the construction and operation of the Miramar Hotel because the excavation depths will not come near the depth of the aquifer.

Page 6 and 7 of the Well Topical, section entitled ‘Construction concerns’ addresses the presence of shallow groundwater related to ground disturbance during construction activities and potential displacement of the groundwater. Current groundwater elevation is ~5’ above mean sea level (amsl). Recommended overexcavation for the main building is to a depth of ~14’ amsl, and the finished floor elevation of the subterranean parking is 16’ amsl. Therefore there is free board of ~9’ between the groundwater surface and the construction activities and finished foundations. Therefore, the Project would not impact groundwater.

e. Cumulative: With the exception of analysis of historic resources impacts, the Project was analyzed in an Addendum to the previously approved Mitigated Negative Declaration for the Schrage Plan. Thus, the proper question from the CEQA perspective is whether there would be new or substantially more severe impacts as a result of the Project when compared with the previously approved project. As such, there properly was not a typical list of past, present or probable future project considered with respect to cumulative impacts as is often used in EIRs for new projects.

f. Mitigation: The appeal letter makes the claim that the Findings are deficient, but does not give any evidence to support the claim that the Project's adverse impacts have not been



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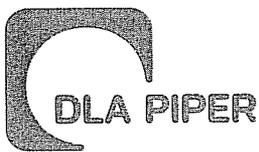
mitigated to the maximum extent feasible. The comment does not give a single example of any adverse impact with deficient mitigation. Pursuant to CEQA Guidelines Section 15204(c) "Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments." CPA's unsupported comment has none of the specificity recommended by this Section, and does not suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. The Findings satisfy CEQA requirements and are not deficient as asserted by the commenter.

g. Grading and Visual Impacts: The County adequately evaluated grading and visual impacts in pages 2-9 of the Addendum to the MND prepared for the Project. Ultimately, through the analysis, the County found that impacts would remain at a less than significant level. In addition to the County's analysis, a Topical which addresses the visual impacts of the Project was included in the applicant's Responses to Comments (see the Cottage-Style/Neighborhood Compatibility/Views/Size/Lighting/Grading Topical, June 17, 2008). The Addendum clearly outlines the mitigation measures incorporated into the Schragger Plan, which would also be required for the Caruso Plan and identifies additional mitigation.

As a result of suggestions made by members of the Montecito Planning Commission, additional changes were made to the site plan that included a four foot reduction in the main building, elimination of all two story elements in the setbacks along S. Jameson and a reduction of an entire floor in a cottage (and the second floor on the spa building was eliminated). While grading remains consistent with that analyzed in the Addendum, changes made to the heights and within setbacks will further diminish the less than significant impacts to visual resources.

h. Independent Review: Finding 1.1.1 states that "The Addendum reflects the independent judgment of the Montecito Planning Commission and has been completed in compliance with CEQA and, together with the 00-ND-003 and the SEIR discussed below, is adequate for this proposal." Finding 1.2.1 states that "The SEIR reflects the independent judgment of the Montecito Planning Commission and is adequate for this proposal." These findings satisfy the requirement of independent review required by Public Resources Code Section 21082.1. See *Greenebaum v. City of Los Angeles* (1984) 153 Cal.App.3d 391, 403.

Moreover, it could hardly be said that the County of Santa Barbara was clearly captive to the developer and did not independently review the EIR, including the Addendum. The County prepared the environmental documents; Responses to Comments; Conditions of Approval; and Findings. There were no less than four public hearings, each lasting a full day, where the Commissioners extensively and exhaustively independently reviewed all aspects of the Project.



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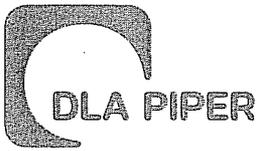
While the Caruso team has provided Responses to Comments and technical analysis, this was done to supplement the Record on which the County decision makers made their decision. CPA alleges that the Montecito Planning Commission, which found that the Addendum and SEIR reflect its independent judgment, did not independently review the Record. Such a claim contradicts the record of proceedings and insults the integrity of the process where the County of Santa Barbara was always in firm control of the review and decision making process.

i. Vacation of North-South Miramar: The assertion by the CPA that the vacation of Miramar is “improper” is vague and inaccurate. Miramar Avenue is owned by the applicant and the County has an easement. As such, the County is vacating this easement subject to a Determination of Conformity with Government Code Section 65402 (a). A Determination of Consistency with the Comprehensive Plan was made, approved by the Planning Commission on October 8, 2008 and recommended for approval to the Board of Supervisors.

ATE analyzed the vacation of Miramar Avenue in its Site Access, Circulation and Parking Evaluation and determined that the vacation would have no impact on circulation. Moreover, there is community support for this vacation as evidenced in the public testimony heard at various MPC hearings on the Project and the endorsement of the letter of the Montecito Seaside Association (see attached).

j. Seawall Improvements: The commenter asserts that the County failed to adequately evaluate the impacts resulting from repairs to the existing seawall, which is an unsupported statement. The existing concrete and timber seawall was evaluated in a structural conditions report prepared by Holmes Culley, who recommended that the supports be strengthened and that shotcrete be used for reinforcement against the waves. The seawall will remain in the exact location as currently and does not require extensive work, thus impacts will not be significant.

k. Compatibility: The commenter claims that “the Project is not compatibility [sic] with the surrounding area.” The property is surrounded by a freeway to the north, the beach to the south, Oak Creek to the east, All Saints to the west, some residences to the south and across Oak Creek to the east, and is bisected by a Transportation Corridor. A hotel has been on the site for well over the past 100 years, and has co-existed peacefully with its neighbors for decades. As efforts have been made to reduce the height and encroachment in various setbacks, the Project is clearly compatible with the surrounding area. See Finding 2.1.1.5. See also the Cottage-Style/Neighborhood Compatibility/Views/Size/Lighting/Grading Topical by Dudek dated June 17, 2008.



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1. Compliance with Applicable Public Access and Recreation Policies: The comment states that the Project does not comply with applicable public access and recreation policies. The Comprehensive Plan Consistency analysis provided by the County Planning and Development Department in its Staff Report for the July 16, 2008 hearing addresses a number of policies related to public access and recreation, including: Coastal Act Policy 30211, 30213 and 30252, Coastal Land Use Plan Policies 7-1, 7-2 and 7-28. The accompanying analysis for each of these policies lays out reasons how the Project is consistent with each policy.

As indicated above, none of the applicable laws or Plans has been violated. The Miramar is consistent and complies with the Coastal Act, Montecito Community Plan, and the Coastal Zoning Ordinance and has been analyzed pursuant to CEQA. Please let us know if you would like to discuss any of these issues.

Very truly yours,

DLA Piper LLP (US)

A handwritten signature in cursive script that reads 'Linda J. Bozung'.

Linda J. Bozung

cc: Ms. Dianne M. Black, Director, Development Services, Planning and Development  
Mr. Dave Ward, Deputy Director, Development Review South, Planning and Development  
Michael Ghizzoni, Chief Deputy, County Counsel  
Mr. Matt Middlebrook, Caruso Affiliated

Attachments

**ATTACHMENTS  
TO  
2(E). WATER SUPPLY IMPACTS**



# Using conservation rate structures

*A survey of water suppliers using conservation rate structures offers insight into the efficacy of pricing as a conservation incentive.*

**Jeffrey L. Jordan  
and Rick Albani**



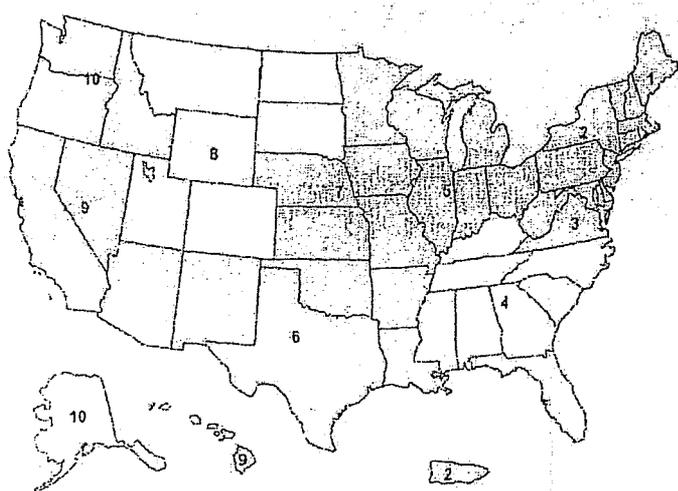
Water utilities are increasingly using price as a demand management tool. Increasing-block rates and uniform rates, in combination with seasonal or excess use charges, are being used throughout the water supply industry as part of conservation programs. Few water providers, however, have a solid empirical basis for determining the effectiveness of pricing as a conservation tool. Although economic theory on the subject is clear, practical information about the effectiveness of pricing is lacking.

The authors developed a survey to learn about water providers' experiences using conservation rate structures. The survey included questions about service characteristics, demand levels before and after implementation of conservation rates, rate structures and price levels, billing and revenue, other conservation measures, and the objectives and effectiveness of rates and conservation efforts. Drawing on a number of respondent pools, the authors distributed the survey to 567 utilities and received 89 responses. This article represents a first step in evaluating the effect of conservation rate structures and gives water professionals a closeup look at the use of pricing in utility conservation efforts.

This article represents a first step in evaluating the effect of conservation rate structures and prices on water demand, customers, and utility performance, and the planning and education process involved in instituting conservation rates.

*For executive summary,  
see page 172.*

**FIGURE 1** Map of US Environmental Protection Agency regions



The authors look at the experiences of a set of water utilities that use conservation rates. Rather than present an exhaustive quantitative analysis of the relationship between demand and prices, this article is intended to provide insight into the use of pricing as part of utility conservation efforts.

**Survey designed and disseminated**

A 59-question survey was designed to gather data about service characteristics, including type of service area, size, ownership, regulation, services provided, and customer profile. The survey asked about demand characteristics before and after instituting conservation rates, rate structures and price levels, billing and revenue data, other conservation programs, and the objectives and effectiveness of rates and conservation efforts.

**Respondent pool was drawn from many sources.** Utilities using some form of conservation rate structure were identified through a number of sources including the 1996 Water and Wastewater Rate Survey prepared by the Raftelis Environmental Consulting Group, members of the Planning and Evaluation Committee of AWWA's Water Conservation Division, and responses from a call for information published on AWWA's WaterWiser list server. Utilities in Florida, Georgia, and Oregon that used conservation rates were also included as part of the population sample. To reach a cross-section of investor-owned utilities and obtain their perceptions of conservation-oriented rates, the authors distributed the survey to the

membership of the National Association of Water Companies without regard to whether utilities used conservation rates.

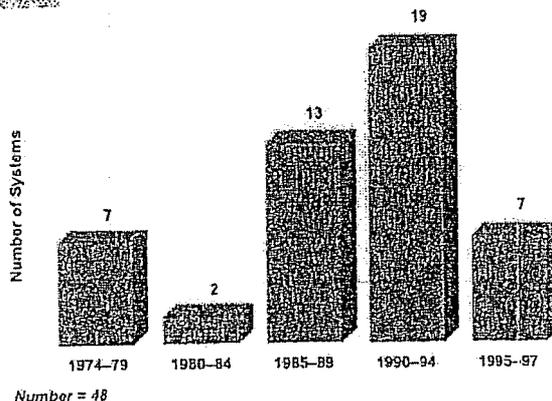
The survey was developed in the fall of 1997 and mailed to utility managers in November. Initial distribution of the survey was followed by a reminder mailed to utility managers on the distribution list who had not responded by the first week of December. The 89 surveys reported here were completed in December 1997 and returned by mail, fax, or e-mail. Table 1 shows the initial distribution and responses according to US Environmental Protection Agency (USEPA) region (Figure 1). The majority of respondents

were concentrated in the southeast and West Coast regions of the United States.

**Responses proved hard to get.** Lower-than-expected response levels may be attributed to several factors. The survey distribution list included some systems that were initially reported to have conservation rates but in fact did not. The length of the survey and the perceived time required to complete it may have deterred some system operators, whereas others may have lacked ready access to the level of data requested. In addition, the survey time period fell during a busy season of the year, between Thanksgiving and Christmas.

Because the dissemination process was not random, survey findings are not generalizable in a statistical sense. Nevertheless, they provide a descriptive overview of utility experiences using conservation

**FIGURE 2** Time periods when systems moved to conservation rates



**TABLE 1** Location of 1997 survey respondents\*

US Environmental Protection Agency Region	Number of Surveys Distributed	Number of Surveys Received
I	31	5
II	12	3
III	13	8
IV	321	24
V	10	4
VI	25	5
VII	9	4
VIII	8	0
IX	59	14
X	81	12
Total	567	89

\*Number = 69

**TABLE 2** Average 1996 water rates for all respondents\*

Block Water Use gal (L)	Cost \$/1,000 gal (\$/1,000 L)
<b>Residential</b>	
2,000-10,000 (7,570-37,850)	1.90 (0.50)
10,000-50,000 (37,850-190,000)	2.20 (0.58)
50,000-700,000 (190,000-26.5 x 10 <sup>6</sup> )	2.64 (0.70)
>700,000 (26.5 x 10 <sup>6</sup> )	3.26 (0.86)
<b>Nonresidential</b>	
2,000-20,000 (7,570-75,700)	1.94 (0.51)
20,000-125,000 (75,700-47 x 10 <sup>4</sup> )	3.01 (0.80)
125,000-1.5 x 10 <sup>6</sup> (47 x 10 <sup>4</sup> -5.7 x 10 <sup>6</sup> )	2.81 (0.74)
>1.5 x 10 <sup>6</sup> (5.7 x 10 <sup>6</sup> )	3.00 (0.79)

\*Number = 64

**TABLE 3** 1996 water bills of surveyed utilities\*

US Environmental Protection Agency Region	Mean \$	Median \$	Residential Rate \$/1,000 gal (\$/1,000 L)	Nonresidential Rate \$/1,000 gal (\$/1,000 L)
I	28.29	22.13	2.36 (0.62)	1.28 (0.34)
II	29.76	29.76	4.52 (1.19)	
III	27.22	27.93	5.45 (1.44)	2.72 (0.72)
IV	23.73	19.99	3.65 (0.96)	1.61 (0.43)
V	17.10	17.10	2.28 (0.60)	
VI	21.45	18.68	2.01 (0.53)	1.18 (0.31)
IX	23.16	22.00		
X	13.74	14.22	2.05 (0.54)	1.40 (0.37)

\*Number = 85

**TABLE 4** Average 1996 charges for survey subset\*

Water Use gal (L)	Cost \$/1,000 gal (\$/1,000 L)
<b>Residential</b>	
2,000-11,000 (7,570-41,700)	1.72 (0.45)
11,000-16,000 (41,700-60,500)	2.46 (0.65)
16,000-30,000 (60,500-114,000)	3.32 (0.88)
>30,000 (114,000)	3.77 (1.00)
<b>Nonresidential</b>	
2,000-26,000 (7,570-98,410)	1.61 (0.43)
26,000-45,000 (98,410-170,000)	2.77 (0.73)
>45,000 (170,000)	3.64 (0.96)

\*Number = 12

rates. Survey analysis does not control for explanatory variables or use a model to establish correlations between rates and water use.

**Survey uncovers a range of data**

**System characteristics determined.** Respondents reported an average daily water use of 45.3 mgd (17 X 10<sup>3</sup> m<sup>3</sup>/d), with an average total water use in 1996 of 15,198 mil gal (57.5 X 10<sup>6</sup> m<sup>3</sup>). For peak months (reported as June through September), the average monthly water use was 1,793 mil gal (6.8 X 10<sup>6</sup> m<sup>3</sup>). For off-peak months, water use averaged 1,129 mil gal (4.3 X 10<sup>6</sup> m<sup>3</sup>). Average water use was 63 percent of the peak use.

Of the systems reporting, nearly two thirds served fewer than 50,000 customers; 29 systems served 0-3,300 customers, six served 3,301-9,999, 14 had between 10,000 and 49,999 service connections, and 27 had more than 50,000 customers. In comparison, 94 percent of all US water systems serve fewer than 10,000 customers. Average size of the service area was 141 sq mi (226 km<sup>2</sup>). Of the systems serving fewer than 3,300 customers, 41 percent were located in rural areas. Additionally, 75 percent of the private systems had fewer than 3,300 connections.

Respondent systems averaged 67,313 residential customers and 5,268 nonresidential customers. Among the 10 USEPA regions, the percentage of residential customers served by respondent systems ranged from 88 percent in Region I to 96 percent in Region V, with a total survey average of 92 percent. The range of precipitation during the growing season was reported as 0-76 in. (0-1,930 mm), with an average of 26.8 in. (680 mm). A majority of the systems reported fewer than 30 in. (760 mm) of precipitation during their growing season. As expected, the driest regions were in the west (Regions IX and X), and the wettest were in the east (Regions III and IV).

**Rate structures defined.** For the purposes of this study, conservation rates were defined as increasing- or ratcheting-block rates, seasonal rates combined with any other structure, and uniform rates combined with either an excess or seasonal charge. Although uniform rates have an inherent conservation element—as water use increases, so does the total water bill—this study did not categorize uniform rates alone as conservation rates. When respondents were asked which rate structure they used before switching to a conservation rate, response categories were limited to flat, decreasing, uniform, and other.

In response to a question about when conservation rate structures were instituted, the earliest switch reported took place in Region IV in 1974. Conserva-

tion rates were first introduced in Regions III and VI in 1975, Region IX in 1976, Region X in 1984, and Region I in 1991. Responses indicated that the move to conservation rate structures increased in the early 1990s (Figure 2). Among respondents, conservation rates were last introduced in 1986 in Region III; in 1993 for Regions I, VII, and IX; in 1995 for Region VI; and in 1997 for Region IV.

**Respondents use different conservation rates.** The majority of respondents (42 percent) used increasing-block structures as a water conservation rate. Uniform residential rates combined with excess or seasonal use charges were used by 23 percent of respondents. Thirty-six percent of respondents used other residential conservation rates, e.g., rates based on the number of fixtures, customer classification, and meter size. Fifty-three percent used other nonresidential conservation rate measures, i.e., rates based on the number of fixtures, customer classification, meter size, "bell curves," and a percentage of a moving average.

Increasing-block rates for residential customers were used by 67 percent of the urban systems and 60 percent of suburban utilities, a pattern that held true for commercial customers as well. Of the smallest systems, 54 percent listed "other" or "no answer." In addition to residential and nonresidential customer categories, 47 percent of the respondents have separate rates for other customer classes, including multifamily residential, commercial, and large industry.

For those systems that use seasonal rates, the time frame most often cited was from April to October. Only one system reported using "drought pricing" as a rate structure, which was levied by service agreement rather than ordinance. Seven systems assessed fixed charges that were based on meter size, independent of use.

**Rate structures identified.** Before instituting a conservation rate, 16 percent of respondents used a flat rate, 28 percent used a decreasing-block rate structure, 41 percent used a uniform rate, and 16 percent reported "other" rate structures. When the switch to conservation rates took place, the largest movement was from a uniform rate with no other charges to an increasing-block rate. Of the 15 responding systems that switched from uniform to increasing-block, 8 were in Region IV, 4 were in Region IX, and 3 were in Region X.

**TABLE 5** Survey subset\*—water bills before rate change and for 1996

Water Bill Parameter	Residential		Nonresidential	
	Before Rate Change	1996	Before Rate Change	1996
Average monthly bill	\$18.59	\$21.46	\$58.31	\$61.59
Highest average monthly bill	\$22.23	\$29.19	\$60.95	\$76.96
Average monthly use	9,470 gal (35.8 m <sup>3</sup> )	10,417 gal (39.4 m <sup>3</sup> )	59,781 gal (226.3 m <sup>3</sup> )	39,461 gal (149.4 m <sup>3</sup> )
Average for highest-use month	16,275 gal (61.8 m <sup>3</sup> )	10,984 gal (41.6 m <sup>3</sup> )		

\*Number = 22

**TABLE 6** Survey subset\*—average water use and revenues before rate change and for 1996

Parameter	Before Rate Change	1996
Average daily residential retail water use	19.2 mgd (0.07 m <sup>3</sup> )	23.6 mgd (0.09 m <sup>3</sup> )
Average daily residential use in highest-use month	36.6 mgd (0.14 m <sup>3</sup> )	35.2 mgd (0.13 m <sup>3</sup> )
Average daily nonresidential use in highest-use month	23.2 mgd (0.09 m <sup>3</sup> )	18.7 mgd (0.07 m <sup>3</sup> )
Total usage	15,107 mil gal (57 m <sup>3</sup> )	13,824 mil gal (52 m <sup>3</sup> )
Peak-demand month's usage	1,843 mil gal (7.0 m <sup>3</sup> )	1,715 mil gal (6.5 m <sup>3</sup> )
Total revenues from retail residential water sales	\$12,712,401	\$15,116,286
Total revenues from retail nonresidential water sales	\$5,233,456	\$7,385,313

\*Number = 22

**Average rates vary.** Table 2 shows average 1996 water rates for residential and nonresidential customers. In 1996, the average residential minimum charge was \$8.67, covering water use between 0 and 2,000 gal (7.57 m<sup>3</sup>). The nonresidential minimum charge for the same amount of water averaged \$13.20. For residential rates, 17 systems provided for only one block beyond the minimum charge, 9 systems used two blocks, 22 used a three-block structure, and 16 used four or five blocks. For commercial rates, 29 systems used a one-block structure, 9 used two blocks, 12 used three blocks, and 8 used four-block or five-block structures. Additionally, nine systems reported

**TABLE 7** Forces cited by systems\* as driving water conservation programs

Factor	Surveyed Utilities percent
Regulatory (permit) requirements	53
Raw water supply limitations	53
State or local legislation or ordinances	47
Environmental factors	40
Production and distribution limitations	32
Customers' demand for conservation	23
Growth of customer base	19
Wastewater treatment capacity limits	14
Other	14

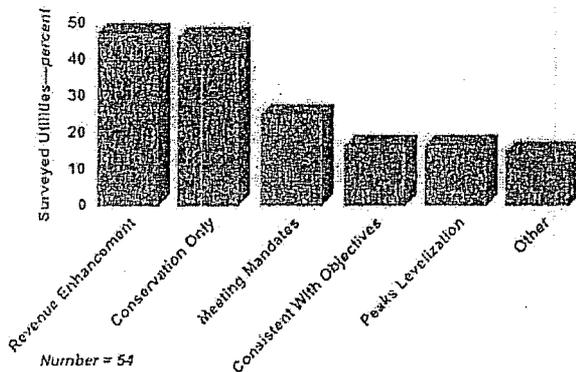
\*Number = 57

**TABLE 3** Water conservation programs used by surveyed utilities\*

Type of Program	Use by Surveyed Utilities—percent	
	Currently in Use	Planned for Next Five Years
Customer bill stuffers	66	7
Leak detection	63	7
Education program in community	59	8
Increasing rate structures	57	8
Newspapers, ads, radio, and TV	57	3
Plant tours	55	2
Education programs in schools	51	7
Irrigation and xeriscaping	46	8
Employee or at-work education programs	26	8
Residential water audits	27	8
Reuse and recycling	23	15
Interior plumbing retrofits	20	2
Seasonal rates	18	3
Landscape water audits	17	14
Commercial-industrial-institutional water audits	17	10
Citizen committees	17	3
Rebate programs on fixtures	15	10
Landscape retrofits	15	8
Commercial-industrial-institutional technical assistance	15	8
Other	14	2

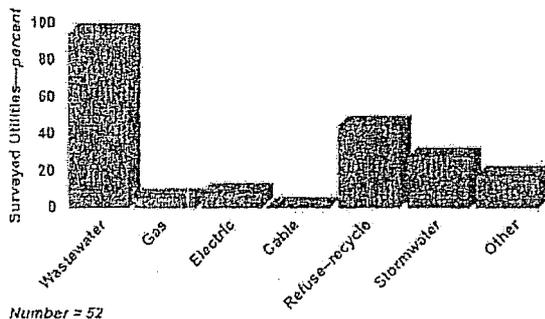
\*Number = 61

**FIGURE 3** Objectives of change to conservation rates



Number = 54

**FIGURE 4** Additional charges shown on water bill



Number = 52

that they charged customers outside their jurisdiction a higher rate, up to a 50 percent maximum differential. The systems noted that on average, 37 percent of revenue was covered by the fixed portion of the rate structure. In addition, 53 percent of the systems reported using some form of system development charge (SDC), with 18 systems in Region IV and 7 systems in Region X reporting an SDC.

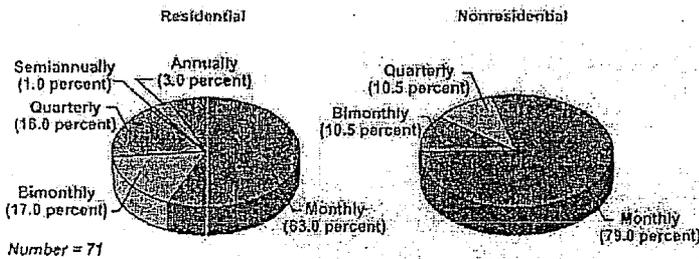
Table 3 shows water bill information by USEPA region for the entire survey population. Yearly residential water costs ranged from \$164.90 in Region X to \$357.12 in Region II. Regions I, II, and III had yearly costs under \$300. Only 33 percent of the average revenues in Region II

were from residential customers, whereas 84 percent of the average revenues in Regions IV and X were from residential customers. For Regions V and VI, revenues were almost evenly split between residential and nonresidential customers.

**Smaller sample highlights water use.** The authors took a closer look at 12 systems that switched to conservation rates between 1993 and 1995. Of these systems, seven were urban, two rural, and three suburban. Three of these systems served fewer than 3,300 connections, five served between 10,000 and 50,000 customers, and four were large systems, with customer bases ranging from 59,868 to 157,800 people. Five of the 12 systems were located in areas with low precipitation, three had growing season precipitation averages of 11–29 in. (280–740 mm), and two reported precipitation of 30–59 in. (762–1,500 mm).

Among the sample subset, systems switching from nonconservation rates predominantly moved to an increasing-block structure; seven systems went from a uniform to an increasing-block rate structure. Table 4 examines in detail average 1996 water charges for the 12 systems. The minimum charge was \$6.72 for use of 0–2,000 gal (0–7.6 m<sup>3</sup>), less than the average of \$8.67 for total survey respondents. In contrast, the nonresidential minimum charge was \$17.30—more than 30 percent higher than the nonresidential minimum charge reported

**FIGURE 5** Billing frequency



by the entire survey group. For both residential and nonresidential rates, the sample subset reported lower first blocks than did the survey group as a whole, but as rates were added, blocks escalated.

**Conservation rate structure affects billing, usage.** Table 5 shows billing and usage information for the 12 systems before the switch to a conservation rate structure and for the year 1996. For residential and nonresidential customers, both the average monthly bill and the average bill during the highest-use month increased. The average monthly bill for residential customers in the 12 systems increased 15 percent, whereas nonresidential customer bills rose 9 percent. The average bill for peak months increased 31 percent for residential customers and 26 percent for nonresidential customers. Average number of gallons used by residential customers in these systems increased by 10 percent, but average use in the peak period declined by 33 percent. In contrast, average number of gallons used by nonresidential customers declined 34 percent after the switch to conservation rates. Peak-month usage data for nonresidential customers in the 12 systems were not available.

Table 6 summarizes average water use and revenues for the 12 systems before the implementation of conservation rates and in 1996. Whereas average daily residential water use increased 23 percent between the two time periods, average daily water use in peak months declined by 4 percent for residential customers and 19 percent for nonresidential users. Total yearly average consumption dipped 8 percent, and peak-demand-month usage declined 7 percent. Revenues from residential and nonresidential users increased 19 and 18 percent, respectively.

For the 12 systems, fixed charges represented 29 percent of revenue, compared with an average of 37 percent for the entire sample. Eight of the 12 systems (66 percent) used system development charges, compared with just more than half of the entire survey. Also, 10 of the 12 increased water rates when they

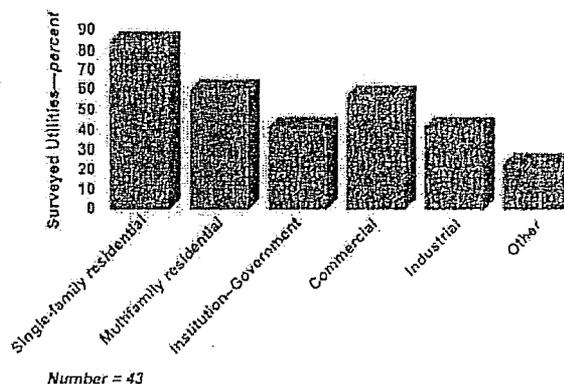
switched rate structures, whereas only about a third of the total survey increased rates when the new structure was implemented. Within the subsample, however, the average increase was 14 percent, compared with a 21 percent average increase for all survey respondents. Five of the 12 systems documented lower consumption after the change in rates, whereas eight found no resultant lowering of total utility costs.

**Subset employs other conservation measures.** In addition to conservation rates, the 12 systems examined in detail spent an average of \$173,902 per year on other conservation programs. Programs included bill stuffers (nine systems), community education programs (nine systems), media ads (eight systems), leak detection programs (seven systems), and plant tours (six systems). No other form of conservation effort was used by more than three of the systems.

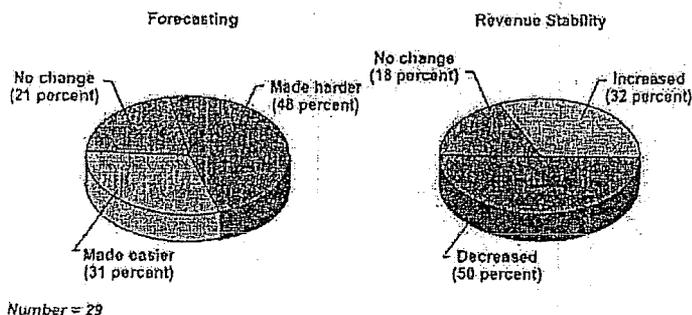
**Subset responses point to future study areas.** The limited data set obtained from the 12-system subset suggests that two areas related to use merit examination by a future study. First, responses indicate that conservation rates and other conservation programs have a greater effect on nonresidential customers than residential customers. Second, conservation rates appear to have the most significant effect on water use during peak periods. Survey results indicate more dramatic changes during high-use periods than the rest of the year both in terms of use and revenues.

**Several factors trigger conservation programs.** Table 7 shows that more than half the total systems surveyed were driven to implement conservation programs by either regulatory require-

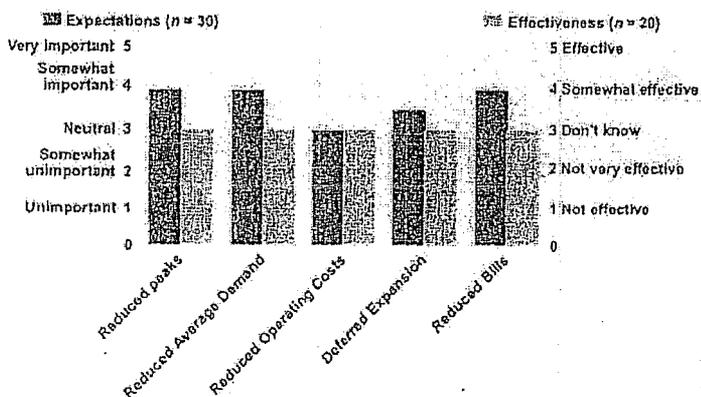
**FIGURE 6** Customer classes targeted for conservation efforts



**FIGURE 7** Effect of rate structure on revenue forecasting and stability



**FIGURE 8** Expected results and effectiveness ranked on a scale of 1 to 5



ments or limitations in water supply. Only 19 percent of respondents cited extraordinary customer growth as a factor. Water shortages and restrictions also played a role in the development of conservation programs. Since 1980, almost 90 percent of the systems in Region X experienced shortages and restrictions, 82 percent in Region IV, 67 percent in Region IX, and 60 percent in Region VI. In the remaining regions, fewer than half of the systems experienced shortages and restrictions.

Overall, 71 percent of the systems experienced some restrictions since 1980, with 56 percent instituting mandatory rather than voluntary restrictions. When restrictions were used, 69 percent of the systems applied them to all customers, and 28 percent focused on outdoor use. Systems in Regions III, IV, and VII experienced water shortages and restrictions less frequently than did utilities in other regions.

Compared with other parts of the country, Regions III, IV, and VII share two characteristics—plentiful rainfall and less dependence on groundwater. Region III had both the highest minimum amount of rainfall reported as well as the highest maximum. Regions III and VII used less than 40 percent groundwater, and

Region V was split evenly between surface water and groundwater use.

**Objectives differ.** Regulation and water supply limitations may be the driving force behind conservation programs, but the objective of conservation rates was revenue enhancement, according to 47 percent of the respondents (Figure 3). This contradicts the perception that conservation programs and conservation rates have a negative effect on revenues. Conservation alone was the objective of 46 percent, and meeting mandates was the objective of just 25 percent of respondents.

Regardless of their objectives, 47 percent of respondents said they could document an average of 15 percent reduction in consumption attributable to total conservation efforts. Only 8 percent said they could document a reduction in utility costs because of conservation, with the reduction averaging 7 percent. When rates were changed to meet conservation objectives, 32 percent of the systems also increased the price level an average of 21 percent.

When asked if their objectives in using conservation rates had changed since implementation, only 14 percent responded affirmatively. Although it appears that rates were most effective in “knocking down peaks,” only 17 percent of the respondents cited the leveling of peaks as an objective of conservation rates.

**Conservation programs publicized by conventional means.** Once a conservation program was implemented, most of the systems used rather conventional means of disseminating information about conservation, with 61 percent sending out legal notices (probably for rate changes), 57 percent publicizing the programs through newspapers, and 56 percent relying on bill-stuffers to customers. Billboards, TV, and radio were used by 11 percent of the respondents, and 26 percent cited some other method.

As with the smaller sample of 12 utilities, the larger respondent pool reported the most common conservation programs were bill stuffers, leak detection efforts, community education programs, and media ads (along with increasing rates), as shown in Table 8. The most popular programs planned for the future were water reuse and recycling, landscape

water audits, fixture rebate programs, and commercial, industrial, and institutional audits.

**Bill consolidation complicates conservation rate assessment.** The survey pointed up the difficulty of determining rate effectiveness when bills reflect more than water rates. Some 39 of the systems responding supply only water, yet other services are included on their utility bills (Figure 4). Almost all of the respondents charge for water and wastewater on the same bill, and nearly half include some type of garbage collection charge. With deregulation of gas delivery, more local governments will include that charge as well.

Bill consolidation presents customers with larger single bills in which water is only one line item. The perception is that customers respond more to the total amount of the bill rather than any one item. If this is true, it reduces the effect of water pricing as a conservation incentive. Bill consolidation may provide savings to local governments, but it hinders any one utility from using pricing to encourage conservation.

Variations in billing frequency also reduce the effectiveness of pricing as a conservation measure. Although nearly two thirds of all customers (and 79 percent of nonresidential customers) receive monthly bills, nonmonthly billing is nevertheless significant (Figure 5). Half of those systems billing on a bimonthly basis were located in Region X, one third of quarterly billings were found in Region I, and all of the annual and semiannual billing cycles were found in Region IX. The use of water bills to send conservation-incentive signals requires that the bills be sent on a timely basis to the consumer.

**Systems spent different amounts on conservation efforts.** Conservation expenditures among survey respondents averaged \$279,237 annually and ranged from an average of \$17,833 in Region I to nearly \$600,000 in Region IX. Eleven of the 89 systems reported spending less than \$20,000 per year, five spent between \$20,000 and \$100,000, nine spent between \$100,000 and \$1 million, and two systems reported spending more than \$1 million annually.

**Conservation rate structures bring various results.** Most systems noted that residential customers were the primary targets of conservation efforts, despite evidence showing that reductions in water use are particularly effective in the nonresidential sector (Figure 6).

A major concern among utility planners was the effect of conservation rate structures on revenue stability and the ability to forecast revenues. Half of the survey respondents found revenue stability decreased under conservation rate structures. In addition, the majority of respondents reported that revenue forecasting was made more difficult by conservation rate structures (Figure 7). For those systems that found forecasting easier, six were in Florida and Georgia, three were in California, and one was in Washington state.

Figure 8 compares expected results of conservation rate structures and their actual effects. Responding systems expected reductions in peak and average demands as well as customer bills. In addition, respondents were concerned that revenue stability would decline and customers would feel unfairly treated. With regard to the effectiveness of conservation rate structures, respondents predominantly voiced uncertainty about whether their expectations had been met. (Effectiveness ratings reflect respondents' perceptions of effectiveness, not empirical findings about the actual effectiveness of conservation rates.)

## Conclusions

This survey of 89 water systems provides insight into the use of conservation rates within the water supply community. Because of the size and makeup of the sample population, however, results should not be generalized. Furthermore, no empirical tests were used to examine the perceived effects of conservation rates on water use. Nonetheless, a review of survey responses leads to several conclusions regarding the use of conservation rates:

- Rates used as part of a conservation program were most effective at reducing peak demands. This suggests that the economic penalty of excess use or seasonal use may provide consumers with an incentive to reduce peak water use. Conservation rates appeared to be less effective in reducing base-level (indoor) water use.

- This first observation suggests that the use of permanent or complex increasing-block rate structures may be less effective than simple uniform rates with excess or seasonal charges. Such rates provide consumers with direct and apparent economic charges for peak water use. The effect of peak charges on revenues is unclear, however, and may be less predictable than other rates. Given that nearly half the survey respondents cited revenue enhancement as an objective of the change to conservation rates, the financial effect of rates merits further exploration.

- In addition to rate structures, most systems surveyed used other methods to encourage conservation. Although rates may affect peak usage, other programs (e.g., low-flow fixtures, education) may be more successful at reducing the base demand.

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\*To whom correspondence should be addressed



## THE EFFECTIVENESS OF PRICING AS A STAND-ALONE WATER CONSERVATION PROGRAM<sup>1</sup>

Jeffrey L. Jordan<sup>2</sup>

**ABSTRACT:** Economic theory clearly indicates that the use of increasing rate structures will reduce the demand for water and produce monetary incentives for consumers to conserve. One problem with estimating the effectiveness of using rate structures as a conservation program is that they are usually accompanied by other conservation efforts. Thus, it is difficult to determine the effectiveness of any one conservation component. This paper examines the effectiveness of increasing rate structures in a situation where no other conservation program was introduced. The paper uses customer data from the Spalding County (Georgia) Water Authority where an increasing rate structure replaced a descending rate structure in January 1991. Since the imposition of the increasing rate structure, the number of customers has increased 21 percent while total water demand has gone up only 15 percent and per customer water use has declined 5 percent. The daily water use per connection has declined from 243 gallons in 1990 to 231 in 1993, and monthly use has gone from 7,381 gallons to 7,028 per connection over the same period. Statistical tests indicate that water consumption during the two periods was significantly different while weather factors were not.

(KEY TERMS: water conservation; economics; pricing; increasing rate structure.)

### INTRODUCTION

Although surface water and ground water remain plentiful in the eastern United States, population pressures are beginning to affect the future outlook for water supplies. Since the droughts of 1988, 1990, and 1993, water suppliers in Georgia have begun to develop programs for the conservation of water. The Georgia Department of Environmental Protection (EPD) has added a water conservation element to their requirements for new permits for water source development. Act No. 1098, passed in the 1994 session of the Georgia General Assembly and signed by

the governor, turns this current regulatory practice into law. The Georgia Water Conservation Act became effective in 1992, requiring builders to install ultra-low flow fixtures in all new projects. Additionally, since 1991 the state has required that all agricultural water uses be registered with the EPD. Thus, it is clear that the conservation of water will become an increasingly important issue for Georgia, as well as most other states. Across the country, and particularly in the West, water conservation is becoming more prevalent and "slowly the idea is catching on that managing demand rather than continuously striving to meet it is a surer path to a secure water supply" (Postel, 1993).

One way to achieve water conservation is through the rates charged water users. The objective of this paper is to illustrate how water rates can be used to encourage water conservation. The paper will present an empirical analysis using customer data of a water utility's experience with moving from a decreasing to an increasing rate structure.

### *Rate Structure Trends*

Over the past few years, more and more water utilities throughout the United States have examined the use of water rates as part of their efforts to conserve water. Consequently, the use of increasing rate structures has expanded. Increasing rate structures, also referred to as "inverted-block rates," "inclining blocks," "increasing blocks," "inverted-pyramid" rates or "conservation pricing," involve a unit charge that increases with increasing consumption (AWWA

<sup>1</sup>Paper No. 93156 of the *Water Resources Bulletin*. Discussions are open until June 1, 1995.

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Manual M34). For each of the multiple blocks in the rate structure, the rate per unit of consumption increases. The purpose of an increasing rate structure is to provide customers with a monetary incentive to reduce water use. In Tampa, Florida, a 10 percent reduction in water use through increasing rates is being sought due to recurrent droughts. In Boston, increasing rates are being used to finance repairs and upgrades. According to the results of the 1990 National Water Rate Survey, communities using increasing rate structures doubled from just 8 percent in 1985 to 16 percent in 1989 (Giardina, 1992). In the South, 48 percent of the surveyed systems used a declining rate, 28 percent employed a uniform structure, and 25 percent used the increasing rate structure in 1990. This was the highest regional percentage using increasing block rates. Overall, 50 percent of the 116 systems in the nationwide survey still used a declining block in 1990. The 1992 Rate Survey showed a continuation of the movement toward increasing rate structures (Ernst and Young, 1992). Reporting on the 1992 survey, Duke and Montoya (1993) traced the trends in pricing between 1986 and 1992 for the 145 largest systems in the country. The report shows the use of declining blocks falling from 60 percent in 1986 to 46 percent in 1992. The fall in the use of declining blocks was more gradual in the South, going from 54 percent to 45 percent over the six year period, but as noted above, increasing rate use jumped dramatically to 25 percent. Results from the American Water Works Associations' Water Industry Data Base (1992) indicate that 40 percent of the surveyed utilities have declining block rates, 44 percent use a uniform structure, and 16 percent use increasing rates.

In Georgia, a 1989 estimate of rate structures by the Georgia Environmental Facilities Authority showed that 87.5 percent of the states' systems used a declining rate structure and that only 6.4 percent used an increasing rate structure (Ewing, 1991). However, a 1992 survey of Georgia (Jordan and Elnagheeb, 1993) estimated that 51 percent of the state's systems used a uniform rate, 33 percent a declining rate, 7 percent an increasing rate, and 9 percent still used a flat or unmetered rate. In the Atlanta area, the Atlanta Regional Commission is suggesting that water suppliers switch at least to a uniform rate structure and the use of seasonal surcharges. This is due to the observation that a large part of seasonal outdoor water use in Atlanta is from automatic irrigation systems (Thomas and Stevens, 1991). The use of increasing rates has gone from 11 percent to 14 percent between 1990 and 1992 in the Atlanta Standard Metropolitan Area (SMA) (Atlanta Regional Commission, 1992).

Economic theory clearly indicates that the use of increasing rate structures will reduce the demand for

water and produce monetary incentives for consumers to conserve. The effectiveness of using rates to reduce water consumption rests on the economic theory of price elasticity of demand. Price elasticity measures the responsiveness of consumption to changes in price of a commodity. Elasticity is generally measured by the percentage change in quantity demanded due to a percentage change in the price of the good. Most studies of the elasticity of water characterized it as inelastic. While quantity demand decreases with a price increase, the decrease is less than the percentage change in price.

In the case of water, there are few close substitutes, with the exception of using less. Thus, when prices rise, consumers can cut back, but with few substitutes, there is a limit to their ability to reduce consumption. Economic theory suggests that, water being an inelastic good, an increase in price will reduce demand while increasing revenue since the percentage reduction in demand is less than the percentage increase in price. The American Water Works Association has recognized the impact of rates on consumption with the publication of new rate manuals explaining the use and implementation of alternative rates (Manuals M1, M26, and M34). One problem with estimating the effectiveness of using rate structures as a conservation program is that they are usually accompanied by other conservation efforts. Thus, it is difficult to determine the effectiveness of any one conservation component. This paper will examine the effectiveness of increasing rates in a situation where no other conservation program was introduced.

#### *Recent Studies*

The use of pricing is being examined throughout the United States, even in the East. Unlike weather, population, or employment changes, rates are the one thing that water managers can directly influence. Further, increasing rates are being used as a way to delay the need for increasing the capacity of water and wastewater facilities. Attention is being paid to reforming water pricing to both recover full costs and practice conservation (Mann, 1987; Goldstein, 1986; Ernst and Young, 1992; Grisham and Fleming; Mercer and Morgan, 1986; Raftelis, 1993).

A U.S. Army Corps of Engineers study (Boland *et al.*, 1984) evaluated 29 studies that demonstrated how pricing affects water use. The authors found the price elasticity of demand in the eastern United States to be between -0.5 and -0.6, and in the winter between 0 and -0.1. Cuthbert examined the effect of increasing rates as part of the overall water conservation program in Tucson, Arizona. The author looked at nine-year single-family residential use patterns

after the implementation of a year-round increasing rate structure. The results showed rates to be an effective tool in combination with other measures to reduce demand. However, the author found it was difficult to separate the effects of rates from other conservation programs employed. Morris (1990), as well as Schultz and Gallagher (1988), examined Denver's rate switch in 1990 from a declining to increasing rate structure and Bhatt and Cole (1985) evaluated the hypothetical impact that water conservation would have on the economics of the Stewartstown (Pennsylvania) water company.

In agriculture, Wichelns and Cone (1992) analyzed the use of a two-tier pricing system in the Broadview Water District in the San Joaquin Valley. District water managers were looking for ways to reduce the loads of salt and other elements in agricultural drainage water entering the San Joaquin River. A higher price was applied to water used in excess of crop-specific levels. The authors showed a decline in average drain water volume from 3,521 acre feet to 2,665 acre feet from 1986 to 1990.

In each of these, and most other of the numerous studies conducted over the past few years, the emphasis has been on large water systems primarily in the West, using pricing as part of a larger conservation program. In this paper, a small water system in the East is the focus of a study of rates as a stand-alone water conservation program.

## CONSERVATION AND RATE DESIGN

The study area for this paper is Spalding County, Georgia, located approximately 40 miles from Atlanta. Spalding County is a transitional area, moving from a rural economy dominated by farming and textile mills to a suburban Atlanta county. Since 1980, Spalding County has been part of the Atlanta SMA.

In 1988, the Spalding County Water Authority (SCWA) began a \$13 million project to provide public water to the unincorporated areas of the county. The county purchases water from the City of Griffin (inside the county) but is limited to an average three million gallons per day (mgd). As shown in Figure 1, the number of customers has increased rapidly since 1989, as has water demand. The average number of customers has grown from 5,446 in 1989 to 7,987 in 1993. At the same time, average monthly water use has increased from 36.4 million gallons to 56.1 million gallons with average daily demand reaching 1.8 mgd in 1993. During the drought of 1993, average daily demand reached 2.36 mgd in July. Total water use increased 29 percent in 1989, 34 percent in 1990,

1 percent in 1991, 5 percent in 1992, and 9 percent in 1993. On a daily basis the Spalding County Water Authority pumped an average 1.2 mgd in 1989, 1.6 mgd in 1990 and 1991, 1.7 mgd in 1992, and 1.8 mgd in 1993.

As the number of customers and water consumption increased, the SCWA sought to use water rates to provide a financial incentive to practice water conservation. Table 1 shows the rate structures used by the SCWA. In 1989 and 1990, a decreasing rate structure was employed for both residential and commercial customers. The commercial rate descended from \$1.92 per thousand gallons to \$1.26. Residential customers rates went from \$1.70 to \$1.50 per thousand after 10,000 gallons. In 1991 an increasing rate structure was instituted by the SCWA and was modified in 1993.

No other conservation program was instituted in Spalding County: the only difference between the 1989/1990 period and the 1991/1993 period in terms of conservation efforts was the establishment of the increasing rate structure. Before examining the impact of rates, however, it is necessary to consider the other factor that could affect demand - weather. While a complete demand system must include other variables (price of compliments, price of substitutes, as well as factors such as income, population, household demographics) over the brief time frame of the study, those factors are assumed in real terms to be constant. In fact, for Spalding County per capita real income has increased less than 1 percent per year and taxable sales have increased nearly the same as the general inflation rate.

In order to control for weather factors, a simple t-test was conducted for the two time periods (before and after the rate change) on the following means: average temperature per month; the degrees difference between actual temperature and the average temperature over a 70-year recording period; inches of monthly rainfall; inches of rainfall different from the 70-year average; and the mean of rainfall in inches minus monthly evaporation. Each weather variable was recorded at the Georgia Experiment Station, located in Spalding County. The hypothesis tested was:

$$H_0: \mu_1 = \mu_2$$

where  $\mu_1$  and  $\mu_2$  are the means of the above weather variables for these time periods:  $\mu_1$  = January 1, 1989, to December 31, 1990; and  $\mu_2$  = January 1, 1991, to December 31, 1993. Table 2 shows the results of the results of the weather t-tests. The simple t-test failed to reject the hypothesis that there was no significant difference in the means of all the weather variables at the 5 percent level. We can therefore conclude that

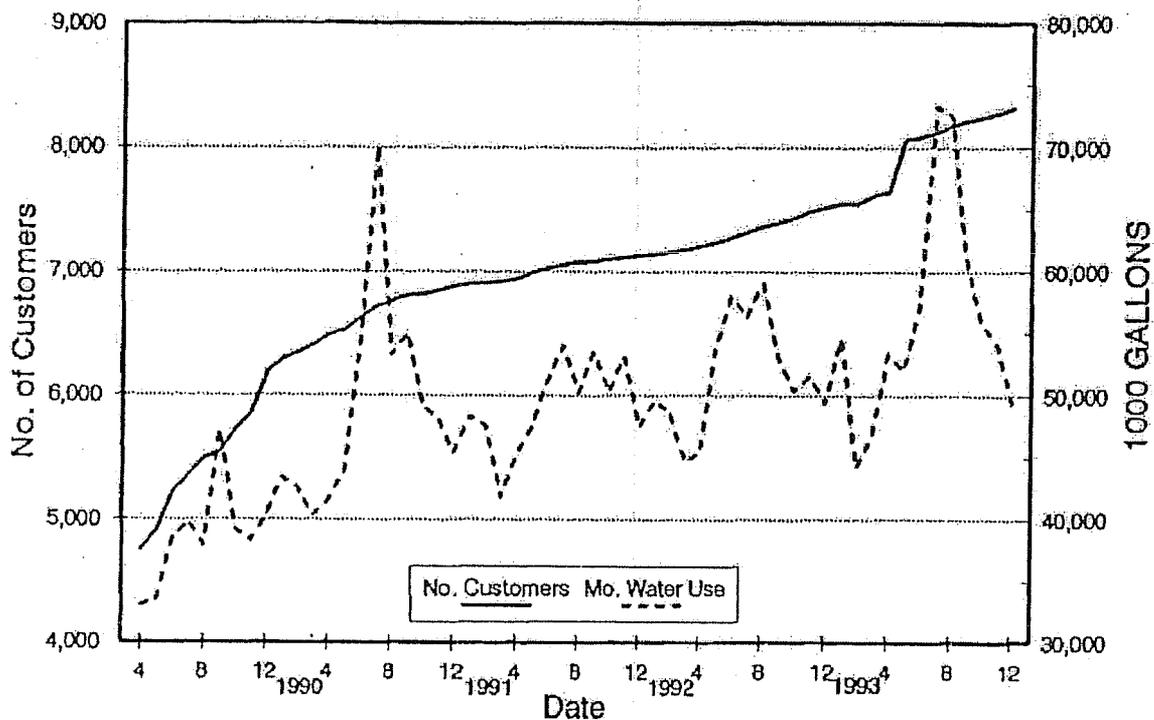


Figure 1. Number of Customers and Monthly Water Use -- Spalding County, Georgia.

TABLE 1. Spalding County Water Authority Rate Structure.

Gallons	1989-1990		1991-1992		1993	
	Residential \$6.00	Commercial \$10.00	Residential \$7.50	Commercial \$10.00	Residential \$7.50	Commercial \$10.00
	Minimum					
3,000 - 7,000*	1.70	1.92	1.70	1.93	2.20	2.50
7,000 - 10,000	1.70	1.92	1.70	1.93	2.50	2.60
10,000 - 20,000	1.50	1.75	1.80	1.93	2.60	2.60
20,000 - 30,000	1.50	1.74	1.90	1.93	2.70	2.70
30,000 - 40,000	1.50	1.74	2.00	2.00	2.80	2.80
40,000 - 100,000	1.50	1.74	2.10	2.10	2.90	2.90
100,000 - 1,000,000	1.50	1.43	2.20	2.20	3.00	3.00
1,000,000 - 5,000,000	1.50	1.35	2.20	2.20	3.00	3.00
Over 5,000,000	1.50	1.26	2.20	2.20	3.00	3.00

\*Rates shown here and below are on a per thousand gallon basis.

there was no significant difference in all the means of the weather variables at the 5 percent level.

Average yearly water use per customer (Table 3) increased 11 percent in 1990 over 1989 but fell 5 percent in 1991 after the rate change. In 1992, water use went up only 1 percent and fell 1 percent in 1993. The same can be seen when looking at monthly and daily

water use. After an increase in daily demand of 11 percent in 1990, per connection use fell to 230 gallons per day in 1991 and has remained nearly constant since the rate change (Table 4). While per customer water use has declined, the increasing rate structure has moved nominal monthly water bills from \$12.84 to \$17.78 in 1993 (Table 4). Also, nominal revenue per

The Effectiveness of Pricing as a Stand-Alone Water Conservation Program

TABLE 2: Simple t-Test on Mean of Weather Variables.

Weather Variable	Means		PR > t
	1989-1990	1991-1993	
Average Temperature/Month	59.50*	61.4*	0.5120
Degrees Difference from Average	-0.95*	0.09*	0.795
Monthly Rainfall (inches)	3.91	3.93	0.9583
Inches of Rainfall Different from Average	-0.31	0.17	0.4075
Rainfall Minus Evaporation	-0.91	-0.92	0.9961

connection rose 47 percent between 1989 and 1993 (Table 5). Adjusting for inflation, the 1993 monthly water bill was \$15.33 in 1989 dollars and the yearly revenue equaled \$184.39.

TABLE 3. Average Yearly Water Use Per Customer.

Year	Gallons	Increase from Previous Year	Percent Increase
1989	80,145.04		
1990	88,566.50	8,421.5	11
1991	84,013.96	-4,552.5	-5
1992	85,014.80	1,000.8	1
1993	84,340.41	-674.4	-1

TABLE 4. Average Water Bill Per Customer.

Year	Per Month Bill	Increase from Previous Year	Percent Increase
1989	\$12.84		
1990	\$13.51	\$0.67	5
1991	\$15.50	\$1.99	15
1992	\$15.65	\$0.15	1
1993	\$17.78	\$2.13	14

TABLE 5. Yearly Revenue Per Connection.

Year	Revenue (not adjusted for inflation)	Increase from Previous Year	Percent Increase
1989	\$145.61		
1990	\$162.43	\$16.82	12
1991	\$185.01	\$23.58	15
1992	\$187.88	\$1.87	1
1993	\$213.89	\$26.01	14

In addition to following average water use, data were also collected about those customers who could be characterized as large water users. A frequency

analysis over three periods between 1990 and 1993 showed that an average of 85 percent of all customers in the study area used 10,000 gallons of water per month or less. Thus, a large water consumer is defined here as one who uses more than 10,000 gallons per month. The average number of residential customers using more than 10,000 gallons declined from 884 in 1990 to 799 in 1991. During the drought year of 1993, 1003 residential customers used more than 10,000 gallons per month. The number of business customers using more than 10,000 gallons of water went from 65 in 1990 to 76 in 1991 and 75 both in 1992 and 1993. When water demand of those large water users is examined, a pattern similar to all customers emerges (Tables 6 and 7). For both large residential and business customers, water consumption decreased in 1991 and increased slightly in 1992 and again in 1993.

TABLE 6. Average Yearly Water Use Per Customer by Residential Customers Using Over 10,000 Gallons/Month.

Year	Gallons	Increase from Previous Year	Percent Increase
1989	131,720.6		
1990	206,218.7	74,498	57
1991	189,341.6	-16,877	-8
1992	189,684.3	342	0
1993	201,826.1	12,142	6

TABLE 7. Average Yearly Water Use Per Customer by Business Customers Using Over 10,000 Gallons/Month.

Year	Gallons	Increase from Previous Year	Percent Increase
1989	640,155		
1990	1,277,328	637,173	100
1991	1,155,652	-121,676	-10
1992	1,185,241	29,589	3
1993	1,240,595	55,354	5

In order to further explore the relationships between the change in rate structure and water demand, a simple t-test was conducted. This test is similar to the Fisher's least significant differences test but is used when comparing just two means. The hypothesis tested was:

$$H_0: \mu_1 = \mu_2$$

where  $\mu_1$  and  $\mu_2$  are various means of water consumption for these time periods;  $\mu_1$  = January 1, 1989, to December 31, 1990; and  $\mu_2$  = January 1, 1991, to December 31, 1993. The means tested were: monthly gallons used per connection, daily gallons used in the entire water system, and daily gallons used per connection. Also tested was whether water demand was different between these two periods for the largest commercial and residential users. The means tested for the two groups was monthly gallons per user.

Table 8 shows the results of the t-test. For all categories, mean consumption was less in the 1991 to 1993 period than the 1989 to 1990 period. The simple t-test rejected the hypothesis that there was no significant difference in means at the 5 percent level for all categories with the exception of daily use per customer. Further, the periods 1991 to 1992 and 1993 were tested separately to determine whether the increase in rates in 1993 had a significant difference. The test found no significant difference between those two periods ( $PR > t = 0.3629$ ). A simple elasticity was calculated for the years 1991 and 1993 when water rates were increased. In 1991 a price elasticity of demand of  $-0.33$  was estimated. This inelastic response to price increases falls in the range of most previous studies of residential water demand. In 1993, the elasticity was only  $-0.07$ . This indicates, as noted above, that the price increase in 1993 had no significantly different effect on demand than the previous increase. In 1993 only the price level increased, not the rate structure as was the case in 1991.

## CONCLUSION

Water conservation can be achieved through the use of water rate design. Since water has few substitutes other than conservation, most researchers have shown that water is an inelastic good. When the price of water increases, consumption decreases but at a lower rate than the increase in price. Consequently, increasing water prices produces two effects: water demand declines (conservation) while system revenues increase. Previous studies of water pricing have raised the presumed problem of the effects of conservation rates on revenue stability (Vickers and Markus, 1992; Duke and Montoya, 1993). These reports suggest the use of revenue derived from increasing rates in a stabilization fund to protect against revenue declines.

The case study examined in this paper indicates that increasing water rates, and using an increasing rate structure, did result in a decline in water consumption. Since the imposition of the increasing rate structure, the number of customers of the Spalding County Water Authority increased 21 percent while total water demand went up 15 percent and per customer water use declined 5 percent. The daily water use per connection declined from 243 gallons in 1990 to 231 in 1993, and monthly per connection use went from 7,381 gallons to 7,028 over the same period. At the same time, yearly revenue per connection went from \$162.43 in 1990 to an inflation adjusted \$184.39 in 1993. The reduction in water use conforms with the per connection daily water use by rate type shown in a 1992 Georgia study (Jordan and Elnagheeb, 1993). There, daily use was 503 gallons per connection for those systems using a declining rate structure, 428 gallons for uniform rate systems, and 352 gallons per day for those customers facing an increasing rate structure.

In using increasing rate structures, water system administrators must carefully examine the impact on all customers to insure that revenues continue to fully cover costs. In designing the rate structure, the lowest

TABLE 8. Simple t-Test on Means of Consumption Categories.

Consumption Category	Means (gallons)		PR > t
	1989-1990	1991-1993	
Monthly Use/Customer	7,253	6,940	0.0497
Daily System Demand	1,697,637	1,498,932	0.0269
Monthly Large Residential Users	16,598	16,017	0.0170
Monthly Large Business Users	101,121	90,932	0.0042
Daily Use/Customer	238	228	0.1571

rate block should be set above the water systems fixed costs. Also, each block size must be set to produce an economic incentive for customers to cut consumption. For example, a single block that goes from 20,000 gallons of water per month to 100,000 provides a business using 95,000 gallons little incentive to find water conserving production methods since it is unlikely it could reduce water use below 20,000 gallons.

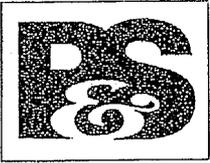
Increasing rate structures are particularly helpful to utilities that face limited supplies, regardless of the size of the system. This rate system is also effective for targeting high volume, discretionary uses or residential uses associated with activities like high lawn watering during peak demand periods. Finally, to improve the efficacy of conservation efforts, using rates and rate structures to achieve conservation should be accompanied by some type of public awareness program so that customers are aware of the rate increase and its purpose.

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**ATTACHMENT  
TO  
4(A)(B)(C). WATER SUPPLY IMPACTS**



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W.O. 13079.09

October 29, 2008

Matt Middlebrook  
Caruso Affiliated  
101 The Grove Drive  
Los Angeles, CA 90036

Subject: **Miramar Hotel Project**  
**Montecito, California**  
**Response to Appeal to the Board of Supervisors**

Dear Matt:

We have reviewed the Appeal to the Board of Supervisors document that was filed by the Citizens Planning Association dated October 20, 2008. We offer the following response to Section 4 of the supporting text, Wastewater Impacts:

4a. Adequate Project Description:

The argument is made that the SEIR's project description is deficient because it failed to identify the pump station.

A design concept change to a centralized sewer pump station located on the project site was made at the request of the Montecito Sanitary District (MSD). It is important to note that the pump station is a minor facility compared to the overall scope of the grading and building construction for the project. The pump station is an ancillary facility to the overall on-site sewer system modifications that are needed to support the hotel facilities. On-site sewer system improvements along with other proposed utility construction have always been part of the project. Such utility construction includes excavations, piping systems, various utility structures and other work that is typical for utility systems. Activities related to the construction of the onsite pump station will not create additional impacts of significance such as noise or aesthetics because the extent of the additional work is minimal, and is located in an area where construction is already proposed. Infrastructure and utility work were anticipated as part of the construction activities as analyzed in the SEIR. Please see the "Response to the sewer lift station" prepared by Dudek and submitted to the County on 06/05/08.

Operation of the onsite sewer lift station will not create any noise impacts because the station is a subterranean feature with submersible pumps. Access to the lift station for maintenance will be through the service road on the east of the property, a private road which will be used for deliveries and services only. Maintenance will be performed by MSD as the lift station will be dedicated to the District. The proposed system will comply with the latest engineering design standards, which with proper District maintenance results in no odor.

It is also important to recognize that the pump station component of the on-site sewer system is a design enhancement that Caruso agreed to construct at the request of the MSD. The proposed pump station will improve the District's capability to safely serve the community by removing the Miramar's historical wastewater flow from other District pump stations.

4b. Analysis of Mitigation Measures:

The argument is made that the conclusion of the adequacy of the mitigation measures "is not supported by substantial evidence or any relevant analysis."

The County has correctly made its conclusion based on the analysis of the proposed buried facility as shown on Sheet C-3 (dated September 17, 2008) of the Project Plans. The minor size of the pump station structure compared to the overall project construction supports the conclusion that impacts associated with the pump station would not be substantially more severe than the previously approved plan. As stated in Response to Comment 4a of this letter, the construction and operation of the sewer lift station will not create additional impacts of significance because the extent of the additional work is minimal, is located in an area where construction is already proposed and will be located underground. With compliance with applicable laws and regulations, as well as mitigation measures from 00-ND-003, there will be no new or substantially worse environmental impacts.

4c. Treatment Capacity and WWTP Expansion:

The argument is made that the analysis of wastewater flows is flawed as explained in the Heal the Ocean comment letter dated October 2, 2008.

The concerns related to wastewater issues and treatment plant capacity were addressed in the MSD's letter dated October 2, 2008 and the testimony of the District's General Manager, Ms. Diane Gabriel, at the Montecito Planning Commission Hearing on October 8, 2008. The conclusion is that the District is satisfied with the information provided and that there is adequate treatment plant capacity to serve the District (refer to October 8, 2008 Montecito Planning Commission hearing transcript Pages 39-42).

In addition, we addressed the specific claims of Heal the Ocean in our letter dated October 7, 2008 as follows:

1. The March 21, 2008 report indicated wastewater being directed to 2 offsite pre-existing lift stations. The report was revised in July 2008 to reflect a design concept change to a centralized sewer pump station located on the project site at the request of MSD.
2. An addendum letter was issued on August 5, 2008 to reflect an updated and comprehensive water use analysis for the project at the request of Ms. Gabriel in her July 29, 2008 letter. Water demand criteria are directly related to wastewater flow.
3. Draining a pool is an infrequent event and will be coordinated to minimize impacts on the sanitary sewer. Both timing and rate of drainage will be optimized.

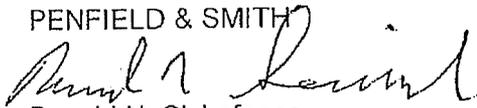


4. The reasonable worst case scenario affects the peak flow rate that would occur from time to time. The sewer lines and pump station will be designed for such peaks. This is not a consideration for calculating average daily flows or analysis of treatment plant capacity.

Again, Penfield & Smith and MSD agree that sufficient analysis of wastewater issues has been performed to conclude that the District can provide wastewater collection and treatment for this project.

Very truly yours,

PENFIELD & SMITH



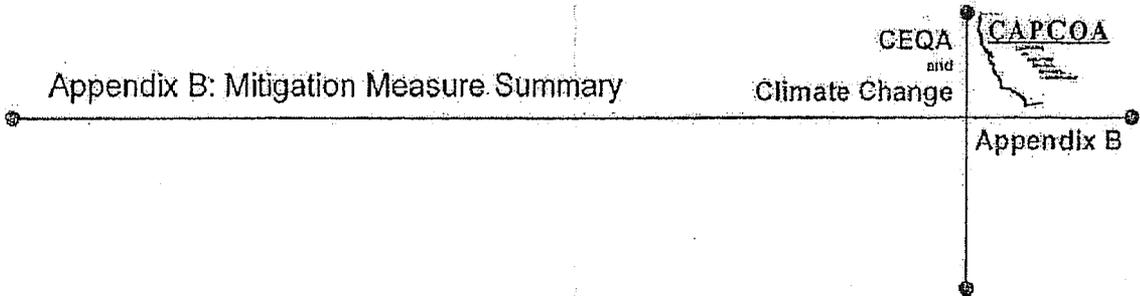
Ronald N. Sickafoose  
Principal Engineer RCE 32187



W:\13079\09 Phase\Utilities\Rns Response Ltr 10-28-08



**ATTACHMENT  
TO  
10. GREENHOUSE GASSES**



## Appendix B

### Mitigation Measure Summary

Table 16 Mitigation Measure Summary								
Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Cost (Yes/No) <sup>2</sup>	Technical <sup>3</sup>	Logistical <sup>4</sup>	Secondary Effects (Yes/No)	Agency/Organization/Other <sup>5</sup>	Description/Comments
		Emissions Reduction/Score <sup>6</sup>						
<b>Transportation</b>								
<b>Bicycle/Taxi/Plan/Transit Measures</b>								
MM T-1: Bike Parking	LD (C, M), I, SP, TP, AQP, RR, P/Mobile	1%-5%/High; CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates combined reductions among individual measures (e.g., 2.5% reduction for all bicycle-related measures and one-quarter of 2.5% for each individual measure) (TJAX 2005, ED/AV 2006, SMAQMD 2007). VTPI presents % reductions for showers and combined measures in the TDM encyclopedia (VTPI	Yes: Lockers (\$1,200-\$2,950, \$700/bike on average). SMAQMD allocates \$2,000, \$70/bike on average).	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Caltrans, Portland Bicycle Master Plan (City of Portland 1998), CCAP, Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	Nonresidential projects provide plentiful short- and long-term bicycle parking facilities to meet peak season maximum demand (e.g., one bike rack space per 20 vehicle/employee parking spaces).
MM T-2: End of Trip Facilities	LD (C, M), I, SP, TP, AQP, RR, P/Mobile		Yes	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs		Nonresidential projects provide "end-of-trip" facilities including showers, lockers, and changing space (e.g., four clothes lockers and one shower provided for every 80 employee parking spaces, separate facilities for each gender for projects with 160 or more employee parking spaces).
MM T-3: Bike-Parking at Multi-	LD (R, M), SP, AQP, RR,		Yes: Lockers (\$1,200-	Yes (Caltrans 2005,	Yes (Caltrans 2005,	Adverse: No Beneficial:		Long-term bicycle parking is provided at apartment

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Unit Residential	P/Mobile	2007). JSA bases estimates on CCAP information (JSA 2004).	Dierkers et al. 2005, 2007, VTPI 2007)	\$2,950, \$700/bike on average), Racks (\$70-\$2,000, \$70/bike on average).	2005, Dierkers et al. 2007, VTPI 2007)	complexes or condominiums without garages (e.g., one long-term bicycle parking space for each unit without a garage). Long-term facilities shall consist of one of the following: a bicycle locker, a locked room with standard racks and access limited to bicyclists only, or a standard rack in a location that is staffed and/or monitored by video surveillance 24 hours per day.
MIM T-4: Proximity to Bike Path/Bike Lanes	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile		Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Entire project is located within one-half mile of an existing/planned Class I or Class II bike lane and project design includes a comparable network that connects the project uses to the existing offsite facility. Project design includes a designated bicycle route connecting all units, on-site bicycle parking facilities, offsite bicycle facilities, site entrances, and primary building entrances to existing Class I or Class II bike lane(s) within one-half mile. Bicycle route connects to all streets contiguous with project site. Bicycle route has minimum conflicts with automobile parking and circulation.



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MIM T-5: Pedestrian Network	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-10%/High: CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMA QMD allocates 1% for each individual measure (TAX 2005, BDA W 2006, SMA QMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land-Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.
MIM T-6: Pedestrian	LD (R, C, M), I, SP, TP,		Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial:	The project provides a pedestrian access network that internally links all uses and connects to all existing/planned external streets and pedestrian facilities contiguous with the project site. Project design includes a designated pedestrian route interconnecting all internal uses, site entrances, primary building entrances, public facilities, and adjacent uses to existing external pedestrian facilities and streets. Route has minimal conflict with parking and automobile circulation facilities. Streets (with the exception of alleys) within the project have sidewalks on both sides. All sidewalks internal and adjacent to project site are minimum of five feet wide. All sidewalks feature vertical curbs. Pedestrian facilities and improvements such as grade separation, wider sidewalks, and traffic calming are implemented wherever feasible to minimize pedestrian barriers. All site entrances provide pedestrian access. Site design and building placement minimize barriers to

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		Emissions Reduction/Score <sup>2</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>		
		Cost (Yes/No) <sup>3</sup>	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)		
Barriers Minimized	AQP, RR, P/Mobile	1%-2%/High: CCAP presents these % reductions (Dierkers et al., 2007). SMAQMD assigns from 25%-1%, depending on roadway frequency (TIA-X 2005, ED&W 2006, SMAQMD 2007).	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	al. 2007, CAPs, TACs VTPI 2007	pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation are eliminated.
M/T-7: Bus Shelter for Existing/Planned Transit Service	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	Yes: \$15,000-\$70,000.	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, City of Calgary (City of Calgary 2004), CA air quality management and control districts, and cities/counties.	Bus or streetcar service provides headways of one hour or less for stops within one-quarter mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting).

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MM T-8: Traffic Calming	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	Emissions Reduction/Score <sup>2</sup> 1%-10%/High: CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates 25%-1.0% for each individual measure depending on percent of intersections and streets with improvements (TIA X 2005, EDA W 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	Project design includes pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements. Roadways are designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming features. All sidewalks internal and adjacent to project site are minimum of five feet wide. All sidewalks feature vertical curbs. Roadways that converge internally within the project are routed in such a way as to avoid "skewed intersections," which are intersections that meet at acute, rather than right, angles. Intersections internal and adjacent to the project feature one or more of the following pedestrian safety/traffic calming design techniques: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, and roundabouts or mini-circles. Streets internal and adjacent to the project feature pedestrian safety/traffic calming measures such as on-street parking, planter strips with street trees.	

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>		
<b>Parking Measures</b>							
MM T-9: Paid Parking (Parking Cash Out)	LD (C, M), I, SP, TP, ACP, RR, P/Mobile	1%-30%/High: CCAP presents a range of 15%-30% reduction for parking programs (Dierkers et al. 2007). SMAQMD presents a range of 1.0%-7.2%, depending on cost/day and distance to transit (TIA-X 2005, EDA W 2006, SMAQMD 2007). Shoupe presents a 21% reduction [\$5/day for commuters to downtown L.A. with elasticity of -0.18 (e.g., if price increases 10%, then solo driving goes down by 1.8% more)] (Shoupe 2005). Urban Transit Institute	Yes: Vary by location and project size.	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CA/Ps, TACs SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	Project provides employee and/or customer paid parking system. Project must have a permanent and enforceable method of maintaining user fees for all parking facilities. The facility may not provide customer or employee validations. Daily charge for parking must be equal to or greater than the cost of a transit day/monthly pass plus 20%.
						and chicanes/chokers (variations in road width to discourage high-speed travel).	

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		Emissions Reduction/Score <sup>3</sup>	Cost (Yes/No) <sup>4</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>		
MM T-10: Minimum Parking	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	<p>presents a range of 1%-10% reduction in trips to central city sites, and 2%-4% in suburban sites (VTPI 2007).</p> <p>1%-30%/High: CCAP presents a range of 15%-30% reduction for parking programs (Dierkers et al. 2007). SMA QMD presents a maximum of 6% (Nelson/Nygaard Consulting Associates, 2005; TIA X 2005; EDA W 2006).</p>	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007). Note that in certain areas of the state, the minimum parking required by code is greater than the peak period parking demand for most land uses. Simply meeting minimum code requirements in these areas would not result in an emissions reduction.	<p>Adverse: No</p> <p>Beneficial: CAPs, TACs</p> <p>CCAP, Transportation Emissions Guidebook (Dierkers et al. 2007), SMA QMD Recommended Guidance for Land Use Emission Reductions (SMA QMD 2007), VTPI, Governor's Office of Smart Growth (Annapolis, Maryland) (Zimble, CA air quality management and control districts, and cities/counties.</p>	<p>Provide minimum amount of parking required. Once land uses are determined, the trip reduction factor associated with this measure can be determined by utilizing the ITE parking generation publication. The reduction in trips can be computed as shown below by the ratio of the difference of minimum parking required by code and ITE peak parking demand to ITE peak parking demand for the land uses multiplied by 50%.</p> <p>Percent Trip Reduction = 50 * [(min parking required by code - ITE peak parking demand) / (ITE peak parking demand)]</p>

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>1</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
MIM T-11: Parking Reduction Beyond Code/Shared Parking	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-30%/High: CCAP presents a range of 15%-30% reduction for parking programs (Dierkers et al. 2007). SMAQMD presents a maximum of 12% (Nelson/Nygaard, 2005, TIA X 2005, EDA W 2006).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Provide parking reduction less than code. This measure can be readily implemented through a shared parking strategy, wherein parking is utilized jointly among different land uses, buildings, and facilities in an area that experience peak parking needs at different times of day and day of the week.	
MM T-12: Pedestrian Pathway Through Parking	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-4%/Moderate: CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates 0.5% reduction for this measure (TIA X 2005, EDA W 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.	

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MM T-13: Off-Street Parking	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	Emissions Reduction/Score <sup>2</sup> 1%-4%/Moderate; CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates a range of 0.1%-1.5% for this measure (TIA-X 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	AG, State of CA	Parking facilities are not adjacent to street frontage.
MM T-14: Parking Area Tree Cover	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	Annual net CO <sub>2</sub> reduction of 3.1 kg/m <sup>2</sup> canopy cover/Moderate (McPherson 2001).	Yes: \$19 per new tree for CA, cost varies for maintenance, removal and replacement (McPherson 2001).	Yes	Yes	Adverse: VOCs Beneficial: CAPs, TACs	AG, State of CA Department of Justice (Goldberg 2007) and cities/counties (e.g., parking lot ordinances in Sacramento, Davis, and Los Angeles, CA).	Provide parking lot areas with 50% tree cover within 10 years of construction, in particular low-emitting, low maintenance, native drought-resistant trees. Reduces urban heat island effect and requirement for air conditioning, effective when combined with other measures (e.g., electrical maintenance equipment and reflective paving material).
MM T-15: Valet Bicycle Parking	LD (C, M), SP, AQP, TP, RR, P/Mobile	NA/Low	Yes	Yes	Yes: Raley Field (Sacramento, CA)	Adverse: No Beneficial: CAPs, TACs	Raley Field (Sacramento, CA).	Provide spaces for the operation of valet bicycle parking at community event "centers" such as amphitheaters, theaters, and stadiums.
MM T-16: Garage Bicycle Storage	LD (R, M), SP, AQP, TP, RR, P/Mobile	NA/Low	Yes: Less than \$200/multiple bike rack.	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	City of Fairview, OR	Provide storage space in one-car garages for bicycles and bicycle trailers.

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MM T-17: Preferential Parking for EVs/CNG Vehicles	LD (C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Yes	USGBC, CA air quality management and control districts and cities/counties (e.g., BAAQMD).	Provide preferential parking space locations for EVs/CNG vehicles.
MM T-18: Reduced/No Parking Fee for EVs/CNG Vehicles	LD (C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Yes	Hotels (e.g., Argonaut in San Francisco, CA)	Provide a reduced/no parking fee for EVs/CNG vehicles.

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<i>Miscellaneous Measure</i>					
MM T-19: TMA Membership	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-28%/High: CCAP presents a range of 3%-25% for TDMs with complementary transit and land use measures (Dierkers et al. 2007). VTPI presents a range of 6%-7% in the TDM encyclopedia (VTPI 2007). URBEEMIS offers a 2%-10% range in reductions for a TDM that has 5 elements that are pedestrian and transit friendly and 1%-5% for 3 elements. SMAQMD presents a reduction of 5% (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)
				Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD). Include permanent TMA membership and funding requirement. Funding to be provided by Community Facilities District or County Service Area or other nonrevocable funding mechanism. TDMs have been shown to reduce employee vehicle trips up to 28% with the largest reductions achieved through parking/pricing and transit passes. The impact depends on the travel alternatives.
MM T-20: ULEV	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile		Yes: Higher than corresponding gasoline models.	Yes	Yes: Fueling stations might not be readily available depending on location. More than 900 E85 fueling
				Adverse: No Beneficial: CAPs, TACs	DGS, CA air quality management and control districts and cities/counties (e.g., SMAQMD). Use of and/or provide ULEV that are 50% cleaner than average new model cars (e.g., natural gas, ethanol, electric).

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Mitigation Measure	Applicable Project/Source Type	Effective	Feasible (Yes/No)	Secondary Effects (Yes/No)		
		Emissions Reduction/Score <sup>1</sup>	Cost (Yes/No) <sup>2</sup>	Agency/Organization/Other <sup>3</sup>		
			Technical <sup>4</sup>	Logistical <sup>5</sup>		
MM T-21: Flex Fuel Vehicles	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	5466.97 lb GHG/year/Low (DOE Fuel Economy)	Yes: E85 costs less than gasoline per gallon, but results in lower fuel economy.	Yes Adverse: Yes Issues with the energy intensive ethanol production process (e.g., wastewater treatment requirements). Beneficial: CAPs, TACs	DGS, CA air quality management and control districts and cities/counties (e.g., SJVAPCD). Use of and/or provide vehicles that utilize gasoline/ethanol blends (e.g., E85).	
<p><b>Design &amp; Residential Building Design Measures</b></p>						
MM D-1: Office/Mixed Use Density	LD (C, M), SP, TP, AQP, RR, P/Mobile	0.05%-2%/Moderate. This range is from SMAQMD, depending	Yes	Yes (VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties to transit. Project provides high density office or mixed-use proximate to transit. Project must provide

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>	
		on FAR and headway frequencies (Nelson/Nygaard Consulting Associates 2005, EDA W 2006, SMAQMD 2007).				safe and convenient pedestrian and bicycle access to all transit stops within one-quarter mile.
MM D-2: Orientation to Existing/Planned Transit, Bikeway, or Pedestrian Corridor	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	0.4%-1%/Moderate; CCAP attributes a 0.5% reduction per 1% improvement in transit frequency (Dierkers et al. 2007). SMAQMD presents a range of 0.25%-5% (JSA 2005, EDA W 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007)	Yes (Dierkers et al. 2007)	Project is oriented towards existing transit, bicycle, or pedestrian corridor. Setback distance between project and existing or planned adjacent uses is minimized or nonexistent. Setback distance between different buildings on project site is minimized. Setbacks between project buildings and planned or existing sidewalks are minimized. Buildings are oriented towards existing or planned street frontage. Primary entrances to buildings are located along planned or existing public street frontage. Project provides bicycle access to any planned bicycle corridor(s). Project provides pedestrian access to any planned pedestrian corridor(s).
MM D-3: Services Operational	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	0.5%-5%/Moderate	Yes	Yes	Yes	Project provides on-site shops and services for employees.

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Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Cost (Yes/No) <sup>2</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>	Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
		Emissions Reduction/Score <sup>2</sup>	Yes	Yes (VTPI 2007, Holtzclaw 2007)	Yes (VTPI 2007, Holtzclaw 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project provides high-density residential development. Transit facilities must be within one-quarter mile of project border. Project provides safe and convenient bicycle/pedestrian access to all transit stop(s) within one-quarter mile of project border.
MM D-4: Residential Density Sufficient	LD (R, M), SP, TP, AQP, RR, P/Mobile	1%-40%/High: #7. EPA presents a range of 32%-40% (EPA 2006). SMAQMD presents a range of 1%-12% depending on density and headway frequencies (Nelson/Nygaard Consulting Associates 2005, JSA 2005, EDAW 2006, SMAQMD 2007). Nelson/Nygaard presents a trip reduction formula: Trip Reduction = $0.6 * (1 - (19749 * ((4.814 + \text{households per acre}) / (4.814 + 7.14))^{0.639725914}))$	Yes	Yes (VTPI 2007, Holtzclaw 2007)	Yes (VTPI 2007, Holtzclaw 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project provides high-density residential development. Transit facilities must be within one-quarter mile of project border. Project provides safe and convenient bicycle/pedestrian access to all transit stop(s) within one-quarter mile of project border.
MM D-5: Street Grid	LD (R, C, M), I, SP, TP, AQP, RR,	1%/Moderate: SMAQMD presents this % reduction (JSA	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties	Multiple and direct street routing (grid style). This measure only applies to projects

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Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Feasible (Yes/No)	Technical <sup>4</sup>	Cost (Yes/No) <sup>3</sup>	Logistical <sup>5</sup>	Secondary Effects (Year/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
	P/Mobile	Emissions Reduction/Score <sup>2</sup> 2005, EDA W 2006, SMA-QMD 2007).				VTPI 2007)		(c.g., SMA-QMD).	with an internal CF > (= 0.80, and average of one-quarter mile or less between external connections along perimeter of project. [CF = # of intersections / (# of cul-de-sacs + intersections)]. Cul-de-sacs with bicycle/pedestrian through access may be considered "complete intersections" when calculating the project's internal connectivity factor. External connections are bike/pedestrian pathways and access points, or streets with safe and convenient bicycle and pedestrian access that connect the project to adjacent streets, sidewalks, and uses. If project site is adjacent to undeveloped land, streets, pathways, access points, and right-of-ways that provide for future access to adjacent uses may count for up to 50% of the external connections. Block perimeter (the sum of the measurement of the length of all block sides) is limited to no more than 1,350 feet. Streets internal to the project should connect to streets external to the project whenever possible.

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			Feasible (Yes/No)	Technical <sup>3</sup>	Cost (Yes/No) <sup>3</sup>			
		Emissions Reduction/Score <sup>2</sup>						
MM D-6: NEV Access	LD (R, C, M), SP, TP, AQP, RR, P/Mobile	0.5%-1.5%/Low: SMAQMD presents this % reduction (EDA W 2006, SMAQMD 2007).	Yes	Yes (Litman 1999, Sperling 1994)	Yes (Litman 1999, Sperling 1994)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Make physical development consistent with requirements for neighborhood electric vehicles. Current studies show that for most trips, NEVs do not replace gas-fueled vehicles as the primary vehicle.
MM D-7: Affordable Housing Component	LD (R, M), SP, TP, AQP, RR, P/Mobile	0.4%-6%/Moderate: SMAQMD presents this % reduction (Nelson/Nygaard Consulting Associates 2005, EDA W 2006, SMAQMD 2007).	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Residential development projects of five or more dwelling units provide a deed-restricted low-income housing component on-site (or as defined in the code). Developers who pay into In-Lieu Fee Programs are not considered eligible to receive credit for this measure. The award of emission reduction credit shall be based only on the proportion of affordable housing developed on-site because in-lieu programs simply induce a net increase in development. Percentage reduction shall be calculated according to the following formula:

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Mitigation Measure Summary

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Cost (Yes/No) <sup>2</sup>	Technical <sup>3</sup>	Logistical <sup>4</sup>	Secondary Effects (Yes/No)	Agency/Organization/Other	Description/Comments
		Emissions Reduction/Score <sup>5</sup>						
MM D-8: Recharging Area	LD (R, M), SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs		% reduction = % units deeded - restricted below market rate housing * 0.04 Provide residential buildings with a "utility" room or space for recharging batteries, whether for use in a car, electric lawnmower, other electric landscaping equipment, or even batteries for small items such as flashlights.
<b>Mixed-Use Development Measures</b>								
MM D-9: Urban Mixed-Use	LD (M), SP, TP, AQP, RR, P/Mobile	3%-9%/Moderate: SMAQMD presents this % reduction (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (BPA 2006)	Yes (EPA 2006)	Adverse: No Beneficial: CAPs, TACs	CA, air quality management and control districts and cities/counties (e.g., SMAQMD).	Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.
MM D-10: Suburban Mixed-Use	LD (R, C, M), SP, TP, AQP, RR, P/Mobile	3%/Moderate: SMAQMD presents this % reduction (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (EPA 2006)	Yes (EPA 2006)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Have at least three of the following on site and/or offsite within one-quarter mile: Residential Development, Retail Development, Park, Open Space, or Office.
MM D-11: Other Mixed-Use	LD (R, M), SP, TP, AQP, RR, P/Mobile	1%/Moderate: SMAQMD presents this % reduction (TIAX 2005, EDAW 2007).	Yes	Yes (EPA 2006)	Yes (EPA 2006)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	All residential units are within one-quarter mile of parks, schools or other civic uses.

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		Emissions Reduction/Score <sup>2</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>		
		2006, SMAQMD 2007).				
MM D-12: Infill Development	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	3%-30%/High: Infill development reduces vehicle trips and VMT by 3% and 20%, respectively (Fehr & Peers 2007). CCAP identifies a site level VMT reduction range of 20%-30% (Dierckers et al. 2007).	Yes (Dierckers et al. 2007)	Yes (Dierckers et al. 2007)	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project site is on a vacant infill site, redevelopment area, or brownfield or greyfield lot that is highly accessible to regional destinations, where the destinations rating of the development site (measured as the weighted average travel time to all other regional destinations) is improved by 100% when compared to an alternate greenfield site.
<i>Miscellaneous Measures</i>						
MM D-13: Electric Lawnmower	LD (R, M), SP, AQP, RR, P/Area	1%/Low: SMAQMD presents this % reduction (EDA W 2006, SMAQMD 2007).	Yes	Yes	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Provide a complimentary electric lawnmower to each residential buyer.

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Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>	Adverse: No	Beneficial: CAPs, TACs				
MIM D-14: Enhanced Recycling/Waste Reduction, Reuse, Composting	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	NA/Low	Yes	Yes	Yes: Association with social awareness.	Adverse: No	Beneficial: CAPs, TACs	CIWMB		Provide infrastructure/education that promotes the avoidance of products with excessive packaging, recycle, buying of refills, separating of food and yard waste for composting, and using rechargeable batteries.	
MIM D-15: LEED Certification	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	NA/Moderate	Yes: Receive tax rebates, incentives (e.g., EDA-W San Diego office interior remodel cost \$1,700,000 for 32,500 square feet) (USGBC 2007)	Yes	Yes: More than 700 buildings of different certifications in CA (USGBC 2007).	Adverse: No	Beneficial: CAPs, TACs	USGBC, CA air quality management and control districts and cities/counties (e.g., BAAQMD).		LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.	
MIM D-16: Retro-Commissioning	LD (C, M), I, SP, AQP, RR, P/Stationary & Area	8%-10% reduction in energy usage/Moderate: (Mills et al. 2004)	Yes: Average \$0.28/square feet, varies with building size (Haas and Sharp 1999).	Yes	Yes: 27 projects underway in CA, 21 more to be completed in 2007, mostly state buildings owned by DGS (DGS 2007).	Adverse: No	Beneficial: CAPs, TACs	DGS, CA air quality districts and cities/counties (e.g., BAAQMD).		The process ensures that all building systems perform interactively according to the contract documents, the design intent and the owner's operational needs to optimize energy performance.	
MIM D-17: Landscaping	LD (R, C, M), I, SP, AQP, RR	NA/Low	Yes	Yes	Yes	Adverse: No	Beneficial: CAPs, TACs	Alliance for the Chesapeake Bay, EPA Green Landscaping		Project shall use drought resistant native trees, trees with low emissions and high carbon	

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		Emissions Reduction/Score <sup>2</sup>	Technical <sup>1</sup>	Cost (Yes/No) <sup>3</sup>	Logistical <sup>4</sup>	
P/Stationary & Area					Resources	sequestration potential. Evergreen trees on the north and west sides afford the best protection from the setting summer sun and cold winter winds. Additional considerations include the use of deciduous trees on the south side of the house that will admit summer sun, evergreen plantings on the north side will slow cold winter winds, constructing a natural planted channel to funnel summer cooling breezes into the house. Neighborhood CCR's not requiring that front and side yards of single family homes be planted with turf grass. Vegetable gardens, bunch grass, and low-water landscaping shall also be permitted, or even encouraged.
MM D-18: Local Farmers' Market	LD (M), SP/Mobile, Stationary, &		Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Project shall dedicate space in a centralized, accessible location for a weekly farmers' market

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Emissions Reduction/Score <sup>2</sup>								
Area								
MM D-19: Community Gardens	LD (M), SP/Mobile, Stationary, & Area	NA/Low	Yes	Yes	Yes: Associated with social choice and public awareness.	Adverse: No Beneficial: CAPs, TACs	Cities/counties (e.g., Davis)	Project shall dedicate space for community gardens.
Energy Efficiency/Building Component								
MM E-1: High-Efficiency Pumps	LD (R, C, M), NA/Low SP, AQP, RR, P/Stationary & Area	NA/Low	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., BAAQMD).	Project shall use high-efficiency pumps.
MM E-2: Wood Burning Fireplaces/Stoves	LD (R, M), NA/Low: EDAW 2006 SP, AQP, RR, P/Stationary & Area	NA/Low: EDAW 2006	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project does not feature fireplaces or wood-burning stoves.
MM E-3: Natural Gas Stove	LD (R, M), NA/Low: EDAW 2006 SP, AQP, RR, P/Stationary & Area	NA/Low: EDAW 2006	Yes: Cost of stove—\$350 (gas) and \$360 (electric) same brand, total yearly cost of \$42.17 as apposed to \$56.65 for electric (Saving Electricity 2006).	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project features only natural gas or electric stoves in residences.

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MM E-4: Energy Star Roof	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	0.5%-1%/Low; SMAQMD presents this % reduction (EDA W 2006, SMAQMD 2007).	Yes	Yes	Yes: 866 Energy Star labeled buildings in California (Energy Star 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).		Project installs Energy Star labeled roof materials.
MM E-5: On-site Renewable Energy System	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	1%-3%/Moderate; SMAQMD presents this % reduction (USGBC 2002 and 2005, EDA W 2006, SMAQMD 2007).	Yes	Yes (USGBC 2002 and 2005)	Yes (USGBC 2002 and 2005)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).		Project provides onsite renewable energy system(s). Nonpolluting and renewable energy potential includes solar, wind, geothermal, low-impact hydro, biomass and bio-gas strategies. When applying these strategies, projects may take advantage of net metering with the local utility.

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Mitigation Measure Summary

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>	Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
		Emissions Reduction/Score <sup>2</sup>						
MM E-6: Exceed Title 24	LD (R, C, M), I, GSP, AQP, RR, P/Stationary & Area	1%/Moderate: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes (PG&E 2002, SMUD 2006)	Yes (PG&E 2002, SMUD 2006)	Adverse: No Beneficial: CAPs, TACs	PG&E, SMUD, CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project exceeds title 24 requirements by 20%.
MM E-7: Solar Orientation	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	0.5%/Low: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project orients 75% or more of homes and/or buildings to face either north or south (within 30° of N/S). Building design includes roof overhangs that are sufficient to block the high summer sun, but not the lower winter sun, from penetrating south facing windows. Trees, other landscaping features and other buildings are sited in such a way as to maximize shade in the summer and maximize solar access to walls and windows in the winter.
MM E-8: Nonroof Surfaces	LD (R, C, M), I, GSP, AQP, RR, P/Stationary & Area	1.0%/Low: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes (USGBC 2002 and 2005)	Yes (USGBC 2002 and 2005)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Provide shade (within 5 years) and/or use light-colored/high- albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30% of the site's nonroof impervious surfaces, including parking lots, walkways, plazas, etc.; OR place a minimum of 50% of parking spaces underground or covered by structured parking; OR use an open-grid pavement system (less than 50% impervious) for a minimum of

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		Emissions Reduction/Score <sup>3</sup>	Cost (Yes/No) <sup>4</sup>	Technical <sup>5</sup>	Logistical <sup>6</sup>	
						50% of the parking lot area. The mitigation measure reduces heat islands (thermal gradient differences between developed and undeveloped areas to minimize impact on microclimate and human and wildlife habitats. This measure requires the use of patented or copyright protected methodologies created by the ASTM. The SRI is a measure of the constructed surface's ability to reflect solar heat, as shown by a small rise in temperature. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is "0" and a standard white (reflectance 0.80, emittance 0.90) is 100. To calculate SRI for a given material, obtain the reflectance value and emittance value for the material. SRI is calculated according to ASTM E-1980-01. Reflectance is measured

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		Emissions Reduction/Score <sup>2</sup>						
MM E-9: Low-Energy Cooling	LD (C, M), I, SP, AQP, RR, P/Stationary & Area	1%-10%/Low: EDAW presents this percent reduction range. (EDAW 2006).	Yes	Yes (USGBC 2002 and 2005)	Yes (USGBC 2002 and 2005)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emission is measured according to ASTM E-408 or ASTM C 1371. Default values for some materials will be available in the LEED-NC v2.2 Reference Guide. Project optimizes building's thermal distribution by separating ventilation and thermal conditioning systems.
MM E-10: Green Roof	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	1.0%/Moderate: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes (USGBC 2002 and 2005)	Yes (USGBC 2002 and 2005)	Adverse: Increased Water Consumption Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Install a vegetated roof that covers at least 50% of roof area. The reduction assumes that a vegetated roof is installed on a least 50% of the roof area or that a combination high albedo and vegetated roof surface is installed that meets the following standard: (Area of vegetated roof/0.75) >= Total Roof Area. Water consumption reduction measures shall be considered in the design of the green roof.
MM E-11: EV Charging Facilities	LD (C, M), SP, AQP, RR, P/Stationary & Area	NA/Low	Yes: \$500-\$5000/ vehicle site (PG&E 1999)	Yes	Yes: 381 facilities in CA (Clean Air Maps 2007).	Adverse: No Beneficial: CAPs, TACs	DOE, EERE, CA air quality management and control districts and cities/counties (e.g., BAAQMD).	Project installs EV charging facilities.
MM E-12:	LD (R, C, M), NA/Low: Increasing		Yes: Light	Yes	Yes: Apply	Adverse: No		Project provides light-colored

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		Emissions Reduction/Score <sup>e</sup>	Technical <sup>f</sup>	Cost (Yes/No) <sup>g</sup>	Logistical <sup>h</sup>	
Light-Colored Paving	I, SP, AQP, RR, P/Stationary & Area	the albedo of 1,250 km of pavement by 0.25 would save cooling energy worth \$15M per year.	colored aggregates and white cement are more expensive than gray cement. Certain blended cements are very light in color and may reflect similarly to white cement at an equivalent cost to normal gray cement.	Yes	natural sand or gravel colored single surface treatments to asphalt (EOE 2007).	paving (e.g., increased albedo pavement).
MM E-13: Cool Roofs	LD (R, C, M), NA/Low I, SP, AQP, P/Stationary & Area	Yes: 0.75-1.5/square feet coating (EPA 2007a)	Yes	Adverse: No Beneficial: CAPs, TACs	CBC	Project provides cool roofs. Highly reflective, highly emissive roofing materials that stay 50-60°F cooler than a normal roof under a hot summer sun. CA's Cool Savings

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>		
MM E-14: Solar Water Heaters	LD (R, M), SP, AQP, RR, P/Stationary & Area	20%–70% reduction in cooling energy needs/Moderate	Yes: \$1675/20 square feet, requires a 50 gallon tank, annual operating cost of \$176 (DOE 2007).	Yes	Yes: Based on solar orientation, building codes, zoning ordinances.	Adverse: No Beneficial: CAPs, TACs	Project provides rebates to building owners for installing roofing materials with high solar reflectance and thermal emittance. The highest rebate went to roofs on air-conditioned buildings while buildings with rooftop ducts and other nonresidential buildings were eligible for slightly less. The program aimed to reduce peak summer electricity demand and was administered by the CEC.
MM E-15: Electric Yard Equipment Compatibility	LD (R, M), SP, AQP, RR, P/Stationary & Area	NA/Low	Yes: \$75–\$250/outlet from existing circuit (Cost Helper 2007).	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Project provides solar water heaters.
MM E-16: Energy Efficient Appliance Standards	LD (R, C, M), SP, AQP, RR, P/Stationary & Area	NA/Low	Yes: Varies for each appliance—higher capital costs, lower operating costs (Energy	Yes	Yes: Major retail stores.	Adverse: No Beneficial: CAPs, TACs	Project provides electrical outlets at building exterior areas.

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MM E-17: Green Building Materials	LD (R, C, M), NA/Low: 25-30% SP, AQP, RR, P/Stationary & Area	NA/Low: 25-30% more efficient on average.	Yes	Yes: BEES software allows users to balance the environmental and economic performance of building products; developed by NIST (NIST 2007).	Yes	Project uses materials which are resource efficient, recycled, with long life cycles and manufactured in an environmentally friendly way.
MM E-18: Shading Mechanisms	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low: Up to \$450 annual energy savings (Energy Star 2007).	Yes: Higher capital costs, lower operating and maintenance costs (Energy Star 2007).	Yes	Yes: Major retail stores.	Install energy-reducing shading mechanisms for windows, porch, patio and walkway overhangs.

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MM E-19: Ceiling/W/whole-House Fans	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low; 50% more efficient than conventional fans (Energy Star 2007).	Yes: \$45-\$200/fan, installation extra (Lowe's 2007).	Yes	Yes: Major retail stores.	Adverse: No Beneficial: CAPs, TACs		Install energy-reducing ceiling/whole-house fans.
MM E-20: Programmable Thermostats	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low; \$100 annual savings in energy costs (Energy Star 2007).	Yes: \$60/LCD display and 4 settings for typical residential use (Lowe's 2007).	Yes	Yes: Major retail stores.	Adverse: Yes, Mercury Beneficial: CAPs, TACs		Install energy-reducing programmable thermostats that automatically adjust temperature settings.
MM E-21: Passive Heating and Cooling Systems	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low	Yes: \$800 (wall heaters) to \$4,000+ (central systems)	Yes	Yes	Adverse: No Beneficial: CAPs, TACs		Install energy-reducing passive heating and cooling systems (e.g., insulation and ventilation).
MM E-22: Day Lighting Systems	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low	Yes: \$1,300 to \$1,300 depending upon the kind of roof (Barrier 1995), installation extra.	Yes	Yes: Work well only for space near the roof of the building, little benefit in multi-floor buildings.	Adverse: No Beneficial: CAPs, TACs		Install energy-reducing day lighting systems (e.g., skylights, light shelves and interior transom windows).
MM E-23: Low-Water Use Appliances	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low: Avoided water agency cost for using water-efficient kitchen pre-rinse spray valves of \$65.18 per acre-foot.	Yes: Can return their cost through reduction in water consumption,	Yes	Yes	Adverse: No Beneficial: CAPs, TACs		Require the installation of low-water use appliances.

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pumping, and treatment.						
MM E-24: Goods Transport by Rail	LD (C, M), I, SP, AQP, RR, P/Mobile	NA/Moderate	Yes	Yes	Yes	Provide a spur at nonresidential projects to use nearby rail for goods movement.
<b>Social Awareness and Education</b>						
MM S-1: GHG Emissions Reductions Education	LD (R, C, M), NA/Low I, SP, TP, AQP, RR, P/Mobile, Stationary, & Mobile	NA/Low	Yes	Yes	Yes: Similar programs currently exist in CA. Adverse: No Beneficial: CAPs, TACs	Provide local governments, businesses, and residents with guidance/protocols/information on how to reduce GHG emissions (e.g., energy saving, food miles).
MM S-2: School Curriculum	LD (R, C, M), NA/Low I, SP, TP, AQP, RR, P/Mobile, Stationary, & Mobile	NA/Low	Yes	Yes	Yes: Similar programs currently exist in CA. Adverse: No Beneficial: CAPs, TACs	Include how to reduce GHG emissions (e.g., energy saving, food miles) in the school curriculum.
<b>Construction</b>						
MM C-1: ARB-Certified Diesel Construction Equipment	LD (R, C, M), NA/Low I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Yes Adverse: Yes, A.G, EPA, ARB, and CA air quality management and pollution control districts. Beneficial: NOx CAPs, TACs	Use ARB-certified diesel construction equipment. Increases CO <sub>2</sub> emissions when trapped CO and carbon particles

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			\$2,000. DPF, \$5000- \$10,000; Installation extra (EPA 2007b).	Yes	Yes	are oxidized (Catalyst Products 2007, ETC 2007).
MM C-2: Alternative Fuel Construction Equipment	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Adverse: Yes; THC, NO <sub>x</sub> Beneficial: CO, PM, SO <sub>x</sub>	Use alternative fuel types for construction equipment. At the tailpipe biodiesel emits 10% more CO <sub>2</sub> than petroleum diesel. Overall lifecycle emissions of CO <sub>2</sub> from 100% biodiesel are 78% lower than those of petroleum-diesel (NREL 1998, EPA 2007b).
MM C-3: Local Building Materials	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Use locally made building materials for construction of the project and associated infrastructure.
MM C-4: Recycle Demolished Construction Material	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Recycle/Reuse demolished construction material. Use locally made building materials for construction of the project and associated infrastructure.

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Miscellaneous					
MM M-1: Off-Site Mitigation Fee Program	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile & Area	NA/Moderate-High: Though there is currently no program in place, the potential for real and quantifiable reductions of GHG emissions could be high if a defensible fee program were designed.	Yes	Yes	No: Program does not exist in CA, but similar programs currently exist (e.g., Carl Moyer Program, SJVAPCD Rule 9510, SMAQMD Off-Site Construction Mitigation Fee Program).
MM M-2: Offset Purchase	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile, Stationary, & Area	NA/Low	Yes	Yes	No: ARB has not adopted official program, but similar programs
					Provide/purchase offsets for additional emissions by acquiring carbon credits or engaging in other market "cap and trade" systems.

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currently exist								
<b>REGIONAL TRANSPORTATION PLAN MEASURES</b>								
MM RTP-1: Dedicate High Occupancy Vehicle (HOV) lanes prior to adding capacity to existing highways.	RTP		Yes	Yes	Yes	Yes	Caltrans, local government	Evaluate the trip reduction (and GHG reduction) potential of adding HOV lanes prior to adding standard lanes.
MM RTP-2: Implement toll/user fee programs prior to adding capacity to existing highways.	RTP		Yes	Yes	Yes	Yes	Caltrans	Evaluate price elasticity and associated trip reduction (and GHG reduction) potential with adding or increasing tolls prior to adding capacity to existing highways.

Note:

<sup>1</sup> Where LD (R, C, M) = Land Development (Residential, Commercial, Mixed-Use), I = Industrial, GP = General Plan, SP = Specific Plan, TP = Transportation Plans, AQP = Air Quality Plans, RR = Rules/Regulations, and P = Policy. It is important to note that listed project types may not be directly specific to the mitigation measure (e.g., TP, AQP, RR, and P) as such could apply to a variety of source types, especially RR and P.

<sup>2</sup> This score system entails ratings of high, moderate, and low that refer to the level of the measure to provide a substantive, reasonably certain (e.g., documented emission reductions with proven technologies), and long-term reduction of GHG emissions.

<sup>3</sup> Refers to whether the measure would provide a cost-effective reduction of GHG emissions based on available documentation.

<sup>4</sup> Refers to whether the measure is based on currently, readily available technology based on available documentation.

<sup>5</sup> Refers to whether the measure could be implemented without extraordinary effort based on available documentation.

<sup>6</sup> List is not meant to be all inclusive.

Source: Data compiled by EDAAW in 2007

Table 17

General Planning Level Mitigation Strategies Summary

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
MS G-1: Adopt a GHG reduction plan	GP/ Mobile, Stationary, & Area	City of San Bernardino	<ul style="list-style-type: none"> <li>- Adopt GHG reduction targets for the planning area, based on the current legislation providing direction for state-wide targets, and update the plan as necessary.</li> <li>- The local government agency should serve as a model by inventorying its GHG emissions from agency operations, and implementing those reduction goals.</li> </ul>
<b>Circulation</b>			
MS G-2: Provide for convenient and safe local travel	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Create a gridded street pattern with small block sizes. This promotes walkability through direct routing and ease of navigation.</li> <li>- Maintain a high level of connectivity of the roadway network. Minimize cul-de-sacs and incomplete roadway segments.</li> <li>- Plan and maintain an integrated, hierarchical and multi-modal system of roadways, pedestrian walks, and bicycle paths throughout the area.</li> <li>- Apply creative traffic management approaches to address congestion in areas with unique problems, particularly on roadways and intersections in the vicinity of schools in the morning and afternoon peak hours, and near churches, parks and community centers.</li> <li>- Work with adjacent jurisdictions to address the impacts of regional development patterns (e.g. residential development in surrounding communities, regional universities, employment centers, and commercial developments) on the circulation system.</li> <li>- Actively promote walking as a safe mode of local travel, particularly for children attending local schools. -Employ traffic calming methods such as median landscaping and provision of bike or transit lanes to slow traffic, improve roadway capacity, and address safety issues.</li> <li>- Encourage the transportation authority to reduce fees for short distance trips.</li> <li>- Ensure that improvements to the traffic corridors do not negatively impact the operation of local roadways and land uses.</li> </ul>
MS G-3: Enhance the regional transportation network and maintain effectiveness	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	

Table 17

General Planning Level Mitigation Strategies Summary

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
MS G-4: Promote and support an efficient public transportation network connecting activity centers in the area to each other and the region.	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Cooperate with adjacent jurisdictions to maintain adequate service levels at shared intersections and to provide adequate capacity on regional routes for through traffic.</li> <li>- Support initiatives to provide better public transportation. Work actively to ensure that public transportation is part of every regional transportation corridor.</li> <li>- Coordinate the different modes of travel to enable users to transfer easily from one mode to another.</li> <li>- Work to provide a strong paratransit system that promotes the mobility of all residents and educate residents about local mobility choices.</li> <li>- Promote transit-oriented development to facilitate the use of the community's transit services.</li> <li>- Promote increased use of public transportation and support efforts to increase bus service range and frequency within the area as appropriate.</li> </ul>
MS G-5: Establish and maintain a comprehensive system, which is safe and convenient, of pedestrian ways and bicycle routes that provide viable options to travel by automobile.	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Enhance and encourage provision of attractive and appropriate transit amenities, including shaded bus stops, to encourage use of public transportation.</li> <li>- Encourage the school districts, private schools and other operators to coordinate local bussing and to expand ride-sharing programs. All bussing options should be fully considered before substantial roadway improvements are made in the vicinity of schools to ease congestion.</li> <li>- Improve area sidewalks and rights-of-way to make them efficient and appealing for walking and bicycling safely. Coordinate with adjacent jurisdictions and regional agencies to improve pedestrian and bicycle trails, facilities, signage, and amenities.</li> <li>- Provide safe and convenient pedestrian and bicycle connections to and from town centers, other commercial districts, office complexes, neighborhoods, schools, other major activity centers, and surrounding communities.</li> <li>- Work with neighboring jurisdictions to provide well-designed pedestrian and bicycle crossings of major roadways.</li> <li>- Promote walking throughout the community. Install sidewalks where missing and make improvements</li> </ul>

Table 17  
General Planning Level Mitigation Strategies Summary

Strategy	Source Type	Agency/Organization <sup>2</sup>	Description/Comments
			<ul style="list-style-type: none"> <li>- Encourage businesses or residents to sponsor street furniture and landscaped areas.</li> <li>- Strive to provide pedestrian pathways that are well shaded and pleasantly landscaped to encourage use.</li> <li>- Attract bicyclists from neighboring communities to ride their bicycles or to bring their bicycles on the train to enjoy bicycling around the community and to support local businesses.</li> <li>- Meet guidelines to become nationally recognized as a Bicycle-Friendly community.</li> <li>- Provide for an education program and stepped up code enforcement to address and minimize vegetation that degrades access along public rights-of-way.</li> <li>- Engage in discussions with transit providers to increase the number of bicycles that can be accommodated on buses.</li> <li>- Support regional rail and work with rail authority to expand services.</li> </ul>
MS G-6: Achieve optimum use of regional rail transit.	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Achieve better integration of all transit options.</li> <li>- Work with regional transportation planning agencies to finance and provide incentives for multimodal transportation systems.</li> <li>- Promote activity centers and transit-oriented development projects around the transit station.</li> <li>- Encourage convenient public transit service between area and airports.</li> </ul>
MS G-7: Expand and optimize use of local and regional bus and transit systems.	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Support the establishment of a local shuttle to serve commercial centers.</li> <li>- Promote convenient, clean, efficient, and accessible public transit that serves transit-dependent riders and attracts discretionary riders as an alternative to reliance on single-occupant automobiles.</li> </ul>

**Table 17**  
**General Planning Level Mitigation Strategies Summary**

Strategy	Source Type	Agency/Organization?	Description/Comments
<p>MS G-8: Emphasize the importance of water conservation and maximizing the use of native, low-water landscaping.</p>	<p>GP/Stationary &amp; Area</p>	<p>Cities/Countries (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Empower seniors and those with physical disabilities who desire maximum personal freedom and independence of lifestyle with unimpeded access to public transportation.</li> <li>-Integrate transit service and amenities with surrounding land uses and buildings.</li> <li>-Reduce the amount of water used for landscaping and increase use of native and low water plants. Maximize use of native, low-water plants for landscaping of areas adjacent to sidewalks or other impermeable surfaces.</li> <li>-Encourage the production, distribution and use of recycled and reclaimed water for landscaping projects throughout the community, while maintaining urban runoff water quality objectives.</li> <li>-Promote water conservation measures, reduce urban runoff, and prevent groundwater pollution within development projects, property maintenance, area operations and all activities requiring approval.</li> <li>-Educate the public about the importance of water conservation and avoiding wasteful water habits.</li> <li>-Work with water provider in exploring water conservation programs, and encourage the water provider to offer incentives for water conservation.</li> </ul>
<p>MS G-9: Improve air quality within the region.</p>	<p>GP/ Mobile, Stationary, &amp; Area</p>	<p>Cities/Countries (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Integrate air quality planning with area land use, economic development and transportation planning efforts.</li> <li>-Support programs that reduce air quality emissions related to vehicular travel.</li> <li>-Support alternative transportation modes and technologies, and develop bike- and pedestrian-friendly neighborhoods to reduce emissions associated with automobile use.</li> <li>-Encourage the use of clean fuel vehicles.</li> <li>-Promote the use of fuel-efficient heating and cooling equipment and other appliances, such as water</li> </ul>

Table 17

General Planning Level Mitigation Strategies Summary

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
			<p>heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces, and boiler units.</p> <ul style="list-style-type: none"> <li>- Promote the use of clean air technologies such as fuel cell technologies, renewable energy sources, UV coatings, and alternative, non-fossil fuels.</li> <li>- Require the planting of street trees along streets and inclusion of trees and landscaping for all development projects to help improve airshed and minimize urban heat island effects.</li> <li>- Encourage small businesses to utilize clean, innovative technologies to reduce air pollution.</li> <li>- Implement principles of green building.</li> <li>- Support jobs/housing balance within the community so more people can both live and work within the community. To reduce vehicle trips, encourage people to telecommute or work out of home or in local satellite offices.</li> <li>- Encourage green building designs for new construction and renovation projects within the area.</li> </ul>
<p>MS G-10: Encourage and maximize energy conservation and identification of alternative energy sources.</p>	<p>GP/ Stationary &amp; Area</p>	<p>Cities/Countries (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>- Coordinate with regional and local energy suppliers to ensure adequate supplies of energy to meet community needs, implement energy conservation and public education programs, and identify alternative energy sources where appropriate.</li> <li>- Encourage building orientations and landscaping that enhance natural lighting and sun exposure.</li> <li>- Encourage expansion of neighborhood-level products and services and public transit opportunities throughout the area to reduce automobile use.</li> <li>- Incorporate the use of energy conservation strategies in area projects.</li> <li>- Promote energy-efficient design features, including appropriate site orientation, use of light color roofing and building materials, and use of evergreen trees and wind-break trees to reduce fuel consumption for heating and cooling.</li> </ul>

**Table 17**  
**General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization?	Description/Comments
			<ul style="list-style-type: none"> <li>-Explore and consider the cost/benefits of alternative fuel vehicles including hybrid, natural gas, and hydrogen powered vehicles when purchasing new vehicles.</li> <li>-Continue to promote the use of solar power and other energy conservation measures.</li> <li>-Encourage residents to consider the cost/benefits of alternative fuel vehicles.</li> <li>- Promote the use of different technologies that reduce use of non-renewable energy resources.</li> <li>-Facilitate the use of green building standards and LEED in both private and public projects.</li> <li>-Promote sustainable building practices that go beyond the requirements of Title 24 of the California Administrative Code, and encourage energy-efficient design elements, as appropriate.</li> <li>-Support sustainable building practices that integrate building materials and methods that promote environmental quality, economic vitality, and social benefit through the design, construction, and operation of the built environment.</li> <li>- Investigate the feasibility of using solar (photovoltaic) street lights instead of conventional street lights that are powered by electricity in an effort to conserve energy.</li> <li>- Encourage cooperation between neighboring development to facilitate on-site renewable energy supplies or combined heat and power co-generation facilities that can serve the energy demand of contiguous development.</li> </ul>

Table 17  
General Planning Level Mitigation Strategies Summary

Strategy	Source Type	Agency/Organization	Description/Comments
MS G-11: Preserve unique community forests, and provide for sustainable increase and maintenance of this valuable resource.	GP/Stationary & Area	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Develop a tree planting policy that strives to accomplish specific % shading of constructed paved and concrete surfaces within five years of construction.</li> <li>- Provide adequate funding to manage and maintain the existing forest, including sufficient funds for tree planting, pest control, scheduled pruning, and removal and replacement of dead trees.</li> <li>- Coordinate with local and regional plant experts in selecting tree species that respect the natural region in which Claremont is located, to help create a healthier, more sustainable urban forest.</li> <li>- Continue to plant new trees (in particular native tree species where appropriate), and work to preserve mature native trees.</li> <li>- Increase the awareness of the benefits of street trees and the community forest through a area wide education effort.</li> <li>- Encourage residents to properly care for and preserve large and beautiful trees on their own private property.</li> </ul>
<b>Housing</b>			
MS G-12: Provide affordability levels to meet the needs of community residents.	GP/Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Encourage development of affordable housing opportunities throughout the community, as well as development of housing for elderly and low and moderate income households near public transportation services.</li> <li>- Ensure a portion of future residential development is affordable to low and very low income households.</li> </ul>
MS G-13: Promote a visually-cohesive urban form and establish connections between the urban core and outlying portions of the	GP/Mobile, Stationary, & Area	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Preserve the current pattern of development that encourages more intense and higher density development at the core of the community and less intense uses radiating from the central core.</li> <li>- Create and enhance landscaped greenway, trail and sidewalk connections between neighborhoods and to commercial areas, town centers, and parks.</li> </ul>

Table 17

General Planning Level Mitigation Strategies Summary

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
community.			<ul style="list-style-type: none"> <li>-Identify ways to visually identify and physically connect all portions of the community, focusing on enhanced gateways and unifying isolated and/or outlying areas with the rest of the area.</li> <li>-Study and create a diverse plant identity with emphasis on drought-resistant native species.</li> <li>-Attract a broad range of additional retail, medical, and office uses providing employment at all income levels.</li> </ul>
MS G-14: Provide a diverse mix of land uses to meet the future needs of all residents and the business community.	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>-Support efforts to provide beneficial civic, religious, recreational, cultural and educational opportunities and public services to the entire community.</li> <li>-Coordinate with public and private organizations to maximize the availability and use of parks and recreational facilities in the community.</li> <li>-Support development of hotel and recreational commercial land uses to provide these amenities to local residents and businesses.</li> </ul>
MS G-15: Collaborate with providers of solid waste collection, disposal and recycling services to ensure a level of service that promotes a clean community and environment.	GP/ Stationary, & Area	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>-Require recycling, composting, source reduction and education efforts throughout the community, including residential, businesses, industries, and institutions, within the construction industry, and in all sponsored activities.</li> </ul>
MS G-16: Promote construction, maintenance and active use of publicly- and privately-operated parks, recreation programs, and a community center.	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>-Work to expand and improve community recreation amenities including parks, pedestrian trails and connections to regional trail facilities.</li> <li>-As a condition upon new development, require payment of park fees and/or dedication and provision of parkland, recreation facilities and/or multi-use trails that improve the public and private recreation system.</li> <li>-Research options or opportunities to provide necessary or desired community facilities.</li> </ul>

General Planning Level Mitigation Strategies Summary			Table 17	
Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments	
MS G-17: Promote the application of sustainable development practices.	GP/ Mobile, Stationary, & Area	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Encourage sustainable development that incorporates green building practices and involves the reuse of previously developed property and/or vacant sites within a built-up area.</li> <li>- Encourage the conservation, maintenance, and rehabilitation of the existing housing stock.</li> <li>- Encourage development that incorporates green building practices to conserve natural resources as part of sustainable development practices.</li> <li>- Avoid development of isolated residential areas in the hillsides or other areas where such development would require significant infrastructure investment, adversely impact biotic resources.</li> <li>- Provide land area zoned for commercial and industrial uses to support a mix of retail, office, professional, service, and manufacturing businesses.</li> </ul>	
MS G-18: Create activity nodes as important destination areas, with an emphasis on public life within the community.	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Provide pedestrian amenities, traffic-calming features, plazas and public areas, attractive streetscapes, shade trees, lighting, and retail stores at activity nodes.</li> <li>- Provide for a mixture of complementary retail uses to be located together to create activity nodes to serve adjacent neighborhoods and to draw visitors from other neighborhoods and from outside the area.</li> <li>- Provide crosswalks and sidewalks along streets that are accessible for people with disabilities and people who are physically challenged.</li> <li>- Provide lighting for walking and nighttime activities, where appropriate.</li> </ul>	
MS G-19: Make roads comfortable, safe, accessible, and attractive for use day and night.	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Provide transit shelters that are comfortable, attractive, and accommodate transit riders.</li> <li>- Provide sidewalks where they are missing, and provide wide sidewalks where appropriate with buffers and shade so that people can walk comfortably.</li> <li>- Make walking comfortable at intersections through traffic-calming, landscaping, and designated crosswalks.</li> </ul>	
MS G-20: Maintain and expand where possible the system of neighborhood connections that attach neighborhoods to larger roadways.	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Provide transit shelters that are comfortable, attractive, and accommodate transit riders.</li> <li>- Provide sidewalks where they are missing, and provide wide sidewalks where appropriate with buffers and shade so that people can walk comfortably.</li> <li>- Make walking comfortable at intersections through traffic-calming, landscaping, and designated crosswalks.</li> </ul>	

**Table 17**  
**General Planning Level Mitigation Strategies Summary**

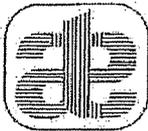
Strategy	Source Type/ Agency/Organization?	Description/Comments
MS G-21: Create distinctive places throughout the area.	GP/ Mobile  Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>-Look for opportunities for connections along easements &amp; other areas where vehicles not permitted.</li> <li>-Provide benches, streetlights, public art, and other amenities in public areas to attract pedestrian activities.</li> <li>-Encourage new developments to incorporate drought tolerant and native landscaping that is pedestrian friendly, attractive, and consistent with the landscaped character of area.</li> <li>-Encourage all new development to preserve existing mature trees.</li> <li>-Encourage streetscape design programs for commercial frontages that create vibrant places which support walking, bicycling, transit, and sustainable economic development.</li> <li>-Encourage the design and placement of buildings on lots to provide opportunities for natural systems such as solar heating and passive cooling.</li> <li>- Ensure that all new industrial development projects are positive additions to the community setting, provide amenities for the comfort of the employees such as outdoor seating area for breaks or lunch, and have adequate landscape buffers.</li> </ul>
MS G-22: Reinvest in existing neighborhoods and promote infill development as a preference over new, greenfield development	GP/ Mobile, Stationary, & Area  Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Identify all underused properties in the plan area and focus development in these opportunity sites prior to designating new growth areas for development.</li> <li>- Implement programs to retro-fit existing structures to make them more energy-efficient.</li> <li>-Encourage compact development, by placing the desired activity areas in smaller spaces.</li> </ul>

**Table 17**  
**General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
<b>Public Safety</b> MS G-23: Promote a safe community in which residents can live, work, shop, and play.	GP/ Mobile	Cities/Countries (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Foster an environment of trust by ensuring non-biased policing, and by adopting policies and encouraging collaboration that creates transparency.</li> <li>- Facilitate traffic safety for motorists and pedestrians through proper street design and traffic monitoring.</li> </ul>

Note:  
<sup>1</sup> Where GP=General Plan.  
<sup>2</sup> List is not meant to be all inclusive.  
 Source: Data compiled by EDAAW in 2007

**ATTACHMENT  
TO  
11. PARKING & TRAFFIC**



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### ***RESPONSE TO HANSEN ASSOCIATES COMMENTS ON THE MIRAMAR HOTEL AND BUNGALOWS REMODEL PROJECT***

This letter provides Associated Transportation Engineers' (ATE) responses to the comments submitted by Hansen Associates on the traffic and parking analyses completed for the Miramar Hotel and Bungalows Remodel Project. The following responses correlate to the numbered comments in the Hansen Associates letter, which is attached for reference.

**Comment 1.** This comment states that peer review completed by Hansen Associates focused on the updated traffic and parking study completed by ATE dated July 24, 2008.

**Response 1.** The most current traffic and parking analysis completed by ATE for the Miramar Hotel Project is dated August 27, 2008. The August 27, 2008 study reflects the current size and configuration of the Caruso Plan with 192 rooms. The studies reviewed by Hansen Associates are older and do not reflect the current project as they contained an analysis of the Caruso Plan with 209 rooms.

**Comment 2.** This comment provides a one page summary of the tasks that are typically completed when the lead agency determines that a traffic study is required for a project.

**Response 2.** This comment fails to recognize the CEQA approach that was taken by Santa Barbara County in reviewing the potential traffic impacts of the project. The County approved a plan ("Schrager Plan") that allows for redevelopment of the Miramar Hotel site. The current applicant purchased the project with the entitlement to construct the approved Schrager Plan, and the applicant's plan (the "Caruso Plan") is proposing modifications to the approved

Schrager Plan. Because the Schrager Plan is fully entitled and the Caruso Plan is a modification of the Schrager Plan, the Schrager Plan serves as the CEQA baseline for evaluating the traffic effects of the Caruso Plan.

The first step in any traffic study is to determine how much traffic a project generates compared to the baseline conditions. If the comparison shows that a project generates the same amount or less traffic when compared to baseline conditions, then a detailed traffic study as outlined in this comment is not required.

The traffic generation analysis prepared for the most current version of the project (ATE study dated August 27, 2008) found that the Caruso Project would generate less daily and peak hour traffic than the entitled Schrager Plan (-103 ADT, -9 A.M. peak hour trips and -6 P.M. peak hour trip). The reduction in traffic is related to the decrease in the number of hotel rooms from 213 rooms under the Schrager Plan to 192 rooms under the Caruso Plan.

A traffic analysis could be completed showing conditions with the approved Schrager Plan and then subtracting out the traffic reductions that would be generated by the Caruso Plan. This analysis would show beneficial project impacts to all of the intersections, roadways, freeway ramps and freeway segments in the study area, because the Caruso Plan would generate fewer trips than the Schrager Plan as demonstrated in the ATE study dated August 27, 2008.

**Comment 3.** The intersection of South Jameson Lane/U.S. 101 Southbound On-Ramp/Posilipo Lane was not included in the analysis.

**Response 3.** The South Jameson Lane/U.S. 101 Southbound On-Ramp/Posilipo Lane intersection was not included in the original analysis completed for the Schrager Plan or the subsequent analysis completed for the Caruso Plan because the intersection volumes are very low (less than 200 vehicles per hour) and the intersection operates at LOS A. Furthermore, as reviewed in the response to Comment 1 above, the Caruso Plan results in a reduction in both average daily traffic and peak hour traffic compared to the entitled Schrager Plan. Thus, the proposed project will result in traffic reductions and beneficial impacts during the peak commute periods at this intersection.

**Comment 4.** Traffic from other approved developments or growth rates were not included in the analysis.

**Response 4.** As reviewed above in response, the Caruso Plan results in a reduction in both average daily traffic and peak hour traffic compared to the entitled Schrager Plan. Thus, an analysis of future traffic conditions with project traffic is not required, as the Caruso Plan will result in traffic reductions and beneficial impacts.

**Comment 5.** The 2007 and 2008 analyses should have included Hotel generated traffic.

**Response 5.** The environmental documents prepared for the original Schragger Plan presented existing LOS data for the study-area roadways and intersections based on counts conducted after the Miramar Hotel was closed. The updated traffic study completed by ATE (August 27, 2008) included new LOS information based on data collected by Caltrans in April of 2008 when the hotel was closed, and did not rely on older information. The LOS information in the two documents therefore provide an apples to apples comparison of existing conditions in the study area. Again, no additional analysis of project impacts is required as the Caruso Plan results in a reduction of traffic compared to the entitled Schragger Plan.

**Comment 6.** A weave/merge analysis was not completed for the on and off ramps at the U.S. 101/San Ysidro Road interchange.

**Response 6.** As reviewed in the response to Comment 1 above, the Caruso Plan results in a reduction in both average daily traffic and peak hour traffic compared to the entitled Schragger Plan. Thus, the proposed project will result in traffic reductions and beneficial impacts during the peak commute periods at the U.S. 101/San Ysidro Road interchange on- and off-ramps.

**Comment 7a.** An additional analysis of weekend conditions should have been completed.

**Response 7a.** The Caruso Plan will generate less traffic on weekends than the entitled Schragger Plan due to reduction in the number of hotel rooms provided at the hotel (213 rooms reduced to 192 rooms). Because weekend traffic volumes will be reduced at the site, no additional weekend analysis is required.

**Comment 7b.** An analysis of special events should be provided.

**Response 7b.** Under the Caruso Plan, there will be no changes to the average of 4.7 events per day allowed at the hotel site compared to the entitled Schragger Plan. Both the Schragger Plan and the Caruso Plan include an average of 4.7 events per day, a restriction of 500 persons for events at any one time, and a restriction of 600-person special events 12 times per year. Furthermore, the Caruso Plan includes greater mitigation requirements for event monitoring and parking and than were applied to the Schragger Plan.

**Comment 8.** No analysis of construction traffic was completed.

**Response 8.** The peak hour traffic generated by construction activities at the site will be much less than the peak hour traffic that would be generated by normal hotel operations that would occur under the entitled Schragger Plan. As a result, construction impacts at study-area intersections would be less than the operational traffic impacts.

Construction traffic impacts were originally addressed in the environmental analysis completed for the Schragger Plan. The mitigation measures and conditions of approval developed for the Schragger Plan construction impacts have also been applied to the Caruso Plan.

Since the study-area is influenced by school traffic, the construction traffic restrictions focus on the hours of 7:00 A.M. to 8:30 A.M. and 2:30 P.M. to 3:30 P.M. Given these restrictions, construction scheduling will likely start between 6:00 and 6:30 A.M. and end between 2:00 and 2:30 P.M.. Thus there would be very little traffic generated during the typical P.M. peak hour period between 4:30 P.M. and 5:30 P.M.

**Comment 9.** Additional analyses of Caltrans facilities should have been completed.

**Response 9.** As indicated in the response to Comment 1 above, the Caruso Plan results in a reduction in both average daily and peak hour traffic when compared to the entitled Schragger Plan. Thus the proposed project will result in traffic reductions and beneficial impacts at all of the Caltrans facilities adjacent to the site.

**Comment 10.** The employee parking estimates in the ULI study for the hotel employees seem low.

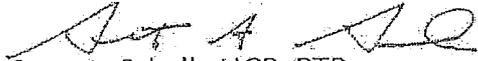
**Response 10.** This issue was also raised by the Montecito Planning Commission (MPC). In order to address this concern, an alternative analysis was provided at the second MPC hearing that doubled the employee parking provided in the ULI model (38 employee spaces doubled to 76 employee parking spaces). Even with the doubling of the hotel employee parking demands, the amount of parking provided was shown to be adequate during the peak 600-person event (545 parking space demand verses 551 parking spaces provided).

**Comment 11.** The current plan is all valet parking. The number of spaces that could be utilized with a self parking system should be provided.

**Response 11.** This issue was also raised by the MPC. In order to address this issue, a combined valet park/self park alternative was presented at the second MPC hearing. This alternative showed that the parking garage could accommodate a mix of self parking and valet parking without reducing the total number of parking spaces provided. The same total number of parking spaces would be provided with this alternative.

This concludes our responses to the Hansen Associates comments submitted on the traffic and parking demand analysis prepared for the Miramar Hotel and Bungalows Remodel Project.

Associated Transportation Engineers



Scott A. Schell, AICP, PTP  
Principal Transportation Planner

SAS/JJK

attachments

**Hansen Associates**  
**Traffic & Transportation Engineering**

October 6, 2008

Mr. Ron Pulice  
115 Miramar Avenue  
Montecito, CA 93108

Dear Mr. Pulice:

Hansen Associates is pleased to submit this letter report which summarizes our review of the accurateness and completeness of the various documents which have been prepared since 1999 related to the traffic impacts and parking demand of the proposed Miramar Resort and Bungalows project on South Jameson Lane in the Montecito area of Santa Barbara County.

We have looked over all of the material that you have provided, and we reviewed in detail the following documents:

1. *Updated Traffic & Parking Analysis*, ATE, 11/1/99
2. Final Negative Declaration 00-ND-003, Miramar Hotel Renovation, 5/3/2000
3. *Trip Generation & Parking Demand Analysis*, ATE, 3/11/08
4. *Site Access, Circulation & Parking Evaluation*, ATE, 3/11/08
5. Caltrans comment letter on DSEIR, 5/15/08
6. Responses to Caltrans comment letter, ATE, 5/21/08
7. *Traffic & Parking Topical*, ATE, 6/17/08
8. 15164 Addendum for the Miramar Beach Resort and Bungalows Project, 7/3/2008
9. *Updated Traffic & Parking Analysis*, ATE, 7/24/08

① Throughout the chronological course of development of these documents, some information changed, some was eliminated and some was superseded. This may have been the source of some misinformation and confusion with respect to the project's traffic impacts and parking demand. However, I believe the July 3, 2008 Addendum (no. 8 above) and the July 24, 2008 *Updated Traffic & Parking Analysis* (no. 9), best summarize the current state of the traffic impact and analysis and the estimate of parking demand. Therefore we focused most of our attention on those two documents.

Typical Traffic Engineering Impact Analysis

② In order to provide a reference for comparison of the traffic impact analyses that have been done for the proposed project between 1999 and 2008, we have listed the following tasks that would be typically performed in the course of preparing a comprehensive traffic impact analyses for this type of project:

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1. Document existing conditions at key intersections and on key roadway segments in the vicinity of the site. The engineer usually gets concurrence from the reviewing agency (s) before finalizing the locations to be studied.
  2. Conduct turning movement counts during the traditional peak periods on a weekday (i.e. 7-9 am and 4-6 pm). Note: if there are existing counts less than a year old, the reviewing agency may allow their use in lieu of new counts. The four sequential 15 minute periods with the highest volumes within these two hour windows are selected as the peak hour volume.
  3. Conduct turning movement counts on weekends during peak periods of project trip generation if the project is expected to produce a significant amount of traffic on Saturday and/or Sunday.
  4. Calculate existing levels of service (LOS) at the study intersections. LOS is primarily a function of peak hour volumes, approach lane configuration and the traffic control device. To a lesser degree it is influenced by the percent of heavy vehicles in the traffic flow and the Peak Hour Factor (PHF). PHF is the relationship of the volume during the peak 15 minutes in the peak hour to the total hourly volume and usually ranges from 0.80 to 0.95.
  5. The next step is to evaluate background conditions in the year the proposed project is expected to be complete. This is done by adding traffic from any other approved (but not constructed) projects in the vicinity to the study intersections. If there are no other projects, then an annual growth rate (e.g. 2 percent per year) is added to the existing volumes to reflect area wide growth. Any scheduled improvements to the study intersections are recognized. The peak hour LOS's are then recalculated and any deficiencies noted.
  6. The last step is to add the project traffic to the background traffic and recalculate the peak hour LOS at the study intersections. If new deficiencies result, the project may be obligated to mitigate the LOS to an acceptable level or pay its fair share of the cost of improvements.
  7. Many jurisdictions have thresholds of significance. That is, if a project generates a volume of traffic less than the threshold through the study intersections, it may be exempt from any mitigations or costs.

In addition, if project traffic is expected to utilize a freeway interchange, Caltrans can require a merge/weave analysis at the terminals of the off and on ramps (particularly if the freeway is currently at or above capacity during the peak hours). Also, if the project generates a significant amount of traffic during the construction phase, it is not unusual for the reviewing agency to require an analysis of traffic operations at the study intersections during construction (even if the majority of the construction related traffic arrives and departs at times other than during the peak periods).

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Miramar Hotel Traffic Impact Analyses History

ATE performed the initial traffic impact analysis in 1999 which was based on counts taken in 1998 (when the previous hotel was in operation). Subsequent analyses were performed in July 2007 and July 2008. The differences between the ATE analyses and the above listed tasks in the typical procedure are summarized below.

- ③ 1. The intersection of South Jameson Lane/US 101 Southbound On-Ramp/Posilipo Lane has never been included in any of the analyses. Given the proximity of this intersection to the project, it would have typically been identified as a study intersection.
- ④ 2. The inclusion of traffic from other approved developments or an annual growth rate of existing traffic volumes has not been a part of the operational analysis at any study intersection.
- ⑤ 3. The analyses done in 1999 identified LOS F operation at the intersection of San Ysidro Road/US 101 Southbound Off-Ramp and LOS D at the intersection of San Ysidro Road/North Jameson Lane during the AM peak hour. The analyses done in 2007 showed LOS C at San Ysidro Road/US 101 SB Off-Ramp during the AM peak hour and the analyses done in 2008 showed LOS D at both intersections during the AM peak hour. The 2007 and 2008 analyses were based on counts taken when the hotel site was closed and thus did not include any hotel generated traffic. Hotel traffic should have been added into the volumes counted to produce a more realistic LOS during the peak hours.
- ⑥ 4. No weave/merge analyses have ever been done at the on and off ramps at the US 101/San Ysidro Road interchange.
- ⑦a  
⑦b 5. A weekend analysis has never been done. Although the background traffic is usually lower on weekends than on weekdays, this analysis (which should include traffic from special events at the project) would give a good indication of study intersection operation on a Saturday and/or Sunday after the project is completed.
- ⑧ 6. No analyses of operations at the study intersections were done during the construction period. Mitigation measure 1 in the Final Negative Declaration (00-ND-003) restricts construction worker arrivals to before 700 am, after 830 am and worker departures to before 230 pm or after 330 pm. This mitigation allows for construction worker traffic to occur during the PM peak period (i.e. 4-6pm). A statement was made in the last paragraph on page 39 in the July 2008 Addendum that the implementation of this mitigation would be adequate to reduce the impacts of the construction traffic to a less than significant level. This statement should have been supported by adding in some of the construction traffic to the pm peak hour volumes and analyzing operations at the study intersections.

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Caltrans expressed several concerns about traffic impact analyses that had been done for the project in their letter dated May 15, 2008:

- ⑨
1. The evaluation should consider merging issues at the US 101 Southbound On-Ramp
  2. The evaluation should include an Existing + Project + Other Projects scenario
  3. The analysis should discuss the operation and LOS effects of special events

None of these concerns were addressed in subsequent analyses. ATE's response was that since the project was expected to generate less traffic than the County's thresholds of significance, additional analyses were not needed.

In summary, it does not appear that a comprehensive traffic impact study was prepared for the Miramar Resort and Bungalows project.

Estimate of Parking Demand

The parking demand created by a proposed project is usually estimated from data in the Urban Land Institute's (ULI) *Shared Parking* or Institute of Transportation Engineer's (ITE) *Parking Generation*. The peak parking demands shown on Tables 14-4 and 14-5 in the July 2008 Addendum are based on data in the ULI document.

However, after reviewing the parking discussion, we have several comments.

- ⑩
1. The statement was made that there will be 100 employees on-site at all time. Yet Table 14-4 in the July 2008 Addendum shows only 38 parking spaces for these 100 employees. Although based on ULI data, that total seems low given the somewhat rural location of the project and limited transportation alternatives (e.g. public transit service) in the vicinity of the site.
  - ⑪ 2. The project proposes to utilize valet parking for the on-site garage. All of the parking space quantities are based on the provision of valet parking. I believe the project proponent should provide the total number of parking spaces that could be provided in the garage if self parking was utilized.

If you have any questions or need additional information, please call me.

Respectfully Submitted,

Hansen Associates

Gary R. Hansen, PE

**ATTACHMENT  
TO  
12. MISCELLANEOUS**

## MONTECITO SEASIDE ASSOCIATION

Mr. Jeffrey Havlik  
Senior Right-of-Way Agent  
County of Santa Barbara  
Public Works Department  
123 East Anapamu St.  
Santa Barbara, CA 93101

cc: Salud Carbajal - 1<sup>st</sup> Dist. Supervisor  
Rick Caruso - Caruso Affiliated

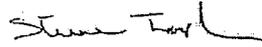
Dear Sir: As president of the Montecito Seaside Association, representing over 200 homeowners and residents in the neighborhood that includes Eucalyptus Lane, Humphrey Road, South Jameson Lane, Danielson Road and Virginia Road, I want to assure you and the County of our support for the Caruso Affiliated restoration and renovation of the Miramar Hotel. Many of us are the property's immediate neighbor's.

Our association has now met on numerous occasions with representatives of Caruso Affiliated. We've been asked for our input on the project and been shown the conceptual plans (which include many of our suggestions). Part of the proposal entails the vacating of Miramar Avenue between South Jameson Way and the corner where it turns sharply to the west. We strongly support this aspect of the plan.

Vacating this portion of Miramar Avenue will clearly benefit the development of the property and more importantly, will enhance the safety of our neighborhood by limiting 'cut-through' traffic. In answer to our questions regarding emergency vehicle access and the loss of public parking, Caruso Affiliated executives have assured us that an Emergency Access Lane will be installed (with the capability to handle any size Fire Department and EMT vehicles) and that any street parking lost to the project will be made available elsewhere on the site at no charge to the public. This is clearly a case of a developer responding to the needs of the community and acting in a more than responsible manner.

We will continue to work closely with the Caruso Affiliated team as their plan progresses and we strongly urge its swift review and approval by the County. Please feel free to contact our group with any questions or comments. This project has the neighbors wholehearted support.

Sincerely,



Steve Traxler  
805-969-0836

90 Humphrey Road Montecito, CA 93108

