

RIVER OAKS/THE COVE ADDENDUM TO RIVER OAKS PARK ENVIRONMENTAL IMPACT REPORT
(SCH #2004122052)

The City of Sacramento, California, a municipal corporation, does hereby prepare this River Oaks/The Cove Addendum to the River Oaks Park Environmental Impact Report (SCH # 2004122052) (EIR), certified on September 20, 2005 for the following described revisions to the Approved Project:

Approved Project (River Oaks Park, P01-132): The River Oaks Park EIR analyzed the development of a ±80.33-acre parcel in the South Natomas Community of the City of Sacramento with 642 single-family homes. The project included a rezone of the site from Agricultural (A) and Agricultural Planned Unit Development (A-PUD) zones to Single Family Alternate Planned Unit Development (R1-APUD). The project also included the construction of roads, a private community recreation center, supporting infrastructure, parkland, a trail, and a pedestrian bridge along the Natomas Main Drainage Canal. The development incorporated the City's Smart Growth goals of integrated walkable neighborhoods, providing residential/recreational opportunities in close proximity to Downtown and regional transportation.

Modified Project (P17-051): A modified Tentative Subdivision Map is proposed that would meet the project objectives in the 2005 certified EIR. The modified map has added more conventional lot configurations (that allow for rear and side yard usable space) and eliminated the 10-pack pull apart homes that were approved in 2005. The proposed map includes townhome lots and 30' x 75' lots that are similar in size to those on the 2005 map. The changes have reduced the number of lots from 642 to 590. In addition, the modified design consolidates the proposed parkland spaces into a smaller, centralized square with an HOA-maintained 0.8-acre clubhouse area and a city-maintained 2.3-acre Public Park.

The City of Sacramento, Community Development Department, has reviewed the revised project and, on the basis of the whole record before it including the EIR prepared for the original project, the environmental analysis and addendum, and has determined that there is no substantial evidence that the revised project design would have a significant effect on the environment beyond that which was evaluated in the original River Oaks Park EIR. The changes to the project are consistent with the goals of the 2005 approved project and the Modified Project would not include conditions identified in CEQA Guidelines Section 15262 that would require preparation of a subsequent EIR.

This Addendum to the certified EIR has been prepared pursuant to Title 14, Section 15164 of the California Code of Regulations; and the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento.

A copy of this document, the certified EIR and all supporting documentation may be reviewed and/or obtained at the City of Sacramento, Community Development Department, Planning Division, 300 Richards Boulevard, Sacramento, California 95811 and on the Community Development Department web site at:

<http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports>



Tom Buford, Environmental Planning Services Manager

Dated: August 3, 2018

Project Location: The project is located in the South Natomas Community on a ±80.33-acre site approximately one mile northeast of the Sacramento River in the City of Sacramento, California. The project is located on parcels of land bounded by Interstate 80 to the north, West El Camino Avenue to the south, the Natomas Main Drainage Canal (Canal) to the east, and Orchard Lane to the west. See Figure 1 (Vicinity Map) and Figure 2 (Site Map).

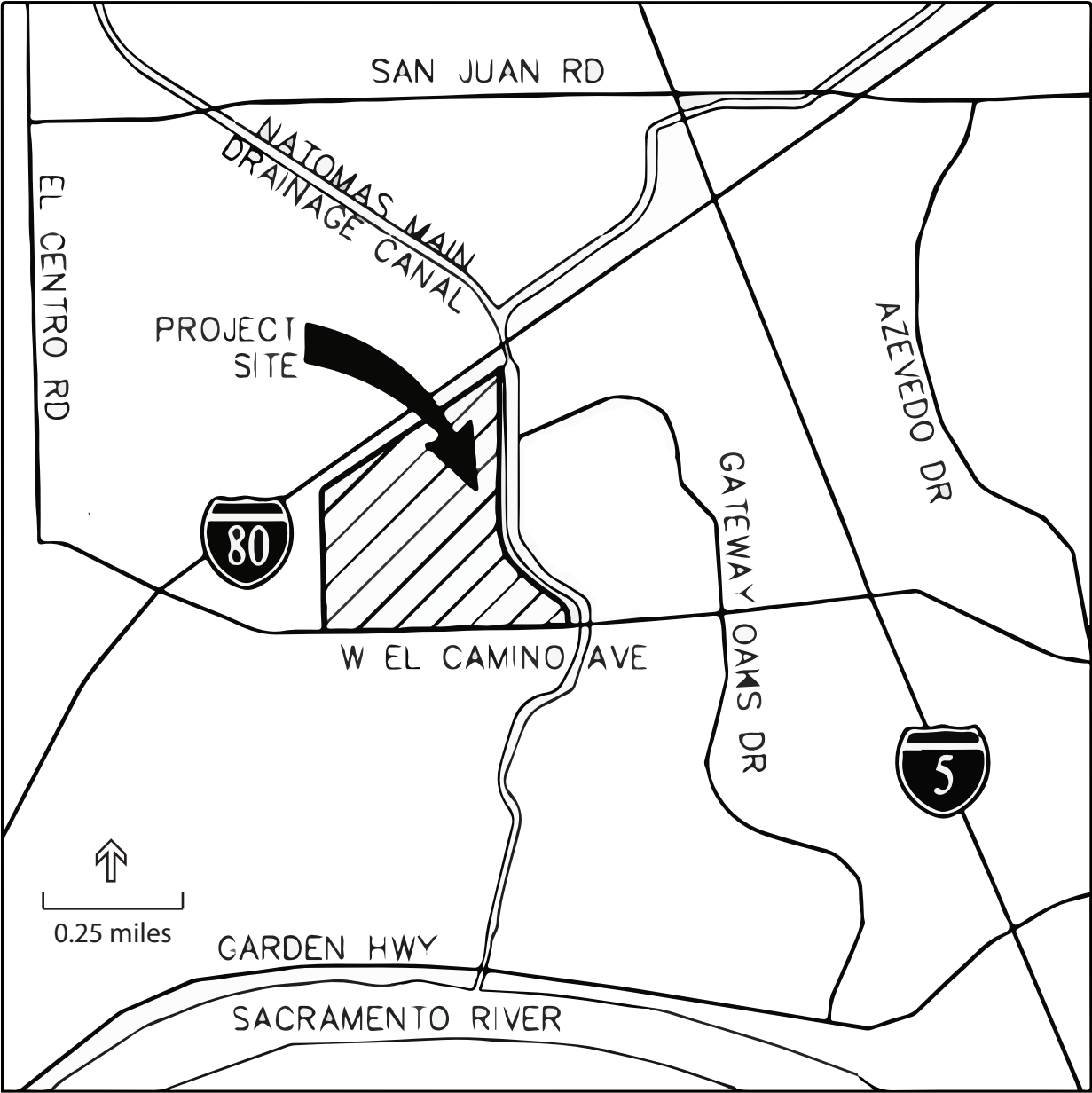
Modified Project and Objectives:

The objectives of the Modified Project are the same as the project objectives in the 2005 certified EIR:

1. Develop homes that will appeal to first-time homebuyers close to Downtown Sacramento;
2. Develop parkland at a ratio of 5.0 acres for every 1,000 residents of the project site;
3. Create a Planned Unit Development which integrates City of Sacramento Smart Growth goals of integrated walkable neighborhoods and provides recreation and residential opportunities in close proximity to Downtown Sacramento and to regional transportation;
4. Develop a road and multi-mode trail system that integrates City of Sacramento street standards and meets the objectives of the City of Sacramento Bikeways Master Plan;
5. Develop residential uses consistent with the goals of the South Natomas Community Plan.

The key points about the proposed new Tentative Map (June 22, 2018) are as follows.

- The number of homes proposed has been reduced from 642 to 590 homes.
- Orchard and River Oaks entry road locations remain in the same location.
- The trail along the canal and the pedestrian/bike bridge over the canal remain as amenities of the project.
- The type of home products has changed from those proposed in 2005. The modified map has added more conventional lot configurations (that allow for rear and side yard usable space) and eliminated the 10-pack pull apart homes that were approved in 2005. This map still includes townhome lots and 30' x 75' lots that are similar in size to those on the 2005 map.
- The parkland has been moved from the outer areas of the project site to a location near the center of the project site, where it is more accessible to all the homes. In the central square there will be an HOA maintained 0.8 acre clubhouse area and a city maintained 2.3 acre Public Park.
- The alignment of interior roads has changed due to the creation of a larger, more traditional, single family homes, and the desire to develop a centrally located neighborhood park.
- The trail between the freeway and back of the homes has been moved to the interior of the project. Whereas previously the trail was enclosed by a berm/sound barrier and a chain link fence on either side, the proposed trail was brought interior to the project and incorporated into an enhanced Riverdale Drive. The sidewalk on Riverdale was expanded to 8' to allow multiple uses and a safe pedestrian experience. In addition, bulb outs and additional parkway width was added to allow for larger canopy trees.



SOURCE: Carlson, Barbee & Gibson, Inc. 2018; RCH Group 2018

River Oaks Revised Tentative Subdivision Map EIR Addendum

Figure 1
Vicinity Map



SOURCE: Google Earth and RCH Group 2018

River Oaks Revised Tentative Subdivision Map EIR Addendum

Figure 2

Site Map

Addendum Findings:

Pursuant to CEQA Guidelines section 15164, subdivision (a), a lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions identified in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR has occurred. An addendum need not be circulated for public review. (CEQA Guidelines, section 15164, subd. (c).)

The following findings are made to support the City's conclusion that none of the conditions identified in CEQA Guidelines section 15162 requires preparation of a subsequent EIR:

1. **No substantial changes are proposed in the project which would require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.**

The Addendum supports the finding that there is no substantial evidence that the revised project would have a significant effect on the environment. The Transportation Analysis (DKS, 2018, Attachment 1) did not identify any significant traffic or transportation impacts. A Noise Analysis (Attachment 2) has reviewed and provided recommendations for sound barriers adjacent to West El Camino and I-80 (the geometry slightly was modified due to 2018 Tentative Map modifications).

2. **No substantial changes have occurred with respect to circumstances under which the project was undertaken that would require major revisions of the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.**

No substantial changes have been identified with respect to circumstances under which the project would be developed. Since the EIR certification and project approval in 2005, the City of Sacramento has adopted the 2009 South Natomas Community Plan as part of Sacramento 2030 General Plan. The project site is designated as Suburban Neighborhood Low in the current 2009 South Natomas Community Plan. At the time of the 2005 EIR and project approval, the prior City of Sacramento General Plan with Amendments (2002) designated the entire site as Low Density Residential and the prior South Natomas Community Plan (1988) designated the site for both Low and Medium Density Residential use.

3. **No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was certified as complete, shows any of the following:**

- a. **The project will have one or more significant effects not discussed in the EIR.**

The supplemental environmental analysis did not identify new significant environmental effects not discussed in the EIR.

- b. **Significant effects previously examined will be substantially more severe than shown in the EIR.**

The original project concluded that all impacts could be reduced to a less-than-significant level with mitigation with the exception of impacts to West El Camino Avenue. DKS has prepared an updated Transportation Analysis for the City of Sacramento (DKS, 2018), included here as Attachment 1. DKS did not identify any significant traffic or transportation impacts.

- c. **Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.**

No mitigation measures or alternatives previously found infeasible have been determined to be feasible.

- d. **Mitigation measures or alternatives which are considerably different from those analyzed in the EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measures or alternative.**

No new or considerably different mitigation measures or alternatives have been identified to reduce one or more significant effects on the environment.

Based on the above analysis and the supplemental environmental analysis attached hereto, this Addendum to the EIR has been prepared and adopted by the City of Sacramento.

ATTACHMENTS

Attachment 1: EIR Addendum Environmental Analysis

Attachment 2: Transportation Analysis - River Oaks West El Camino Avenue and Orchard Lane

Attachment 3: Environmental Noise Assessment (2018) - River Oaks Residential Development

Attachment 4: Mitigation Monitoring Plan (EIR MMP with Addendum Revisions)

INTRODUCTION

An Environmental Impact Report (EIR) was certified in 2005 for the River Oaks Park Project (P01-132) for the development of a ±80.33-acre parcel in the City of Sacramento with 642 single-family homes (approved project). The EIR found that for most environmental effects, the approved project would result in impacts that were less than significant or less than significant with mitigation. Traffic impacts to West El Camino Avenue were significant and unavoidable.

The current project (P17-051) (with the marketing name "The Cove") proposes a modified Tentative Subdivision Map that reduces the number of lots to 590 and consolidates the proposed parkland spaces into a centralized square (modified project). The following is a review of environmental effects for the modified project and comparison to the conclusions of the 2005 EIR. The resource areas reviewed are the same as those evaluated in the 2005 EIR (including the revised Initial Study). The Mitigation Monitoring Plan that was adopted for the original project would remain in effect. As shown on Figure 2, Phase I of River Oaks is currently under construction, consistent with the Approved Project.

SUMMARY

The environmental effects of the modified project would be similar to those of the approved project. None of the circumstances identified in Section 15262 of the California Environmental Quality Act (CEQA) Guidelines that would require a subsequent EIR are present.

The following evaluation discusses the potential environmental impacts of the modified project on each resource area.

AESTHETICS, LIGHT, AND GLARE

As discussed in the 2005 DEIR, page 1-12 to 1-13, the approved project would have less-than-significant impacts on aesthetics, light, and glare with incorporation of mitigation measures. The project site is not located in a local or state designated scenic area, or along a designated scenic route or highway. The architecture of the project incorporates decorative features such as cornices, gables, porticos, pilasters, balconies, and distinct window treatments such as shutters and decorative frames. The project incorporates parks and landscaping which utilize trees and shrubbery to improve onsite aesthetic effects.

Mitigation Measures 13.1 to 13.3 from the 2005 revised Initial Study require that lighting in project parks and residential areas be designed to avoid hazardous and annoying glare, that lighting be oriented away from adjacent properties and not produce a nuisance of any kind on adjoining streets or property, and that building materials and glass used in construction that is oriented towards I-80 and West El Camino shall have non-reflective or low-glare properties.

Mitigation Measure 13.4 requires that the project participate in a landscape district, or adopt landscape standards in the project Covenants, Conditions, and Restrictions (CC&Rs).

Implementation of **Mitigation Measures 13.1 to 13.4** would ensure that the impacts of the modified project on aesthetics would be less than significant and the same as the previously approved project.

AIR QUALITY

As discussed in the 2005 DEIR, pages 1-7 to 1-8, the approved project would have a less-than-significant impact on air quality with incorporation of mitigation measures.

The Sacramento Metropolitan Air Quality Management District (SMAQMD), which has jurisdiction over the project air basin, encourages applicants to incorporate as many feasible mitigation measures into the project as possible in order to substantially lessen or avoid significant air quality impacts. **Mitigation Measure 5.1** from the 2005 revised Initial Study lists twelve project features which will, by design, reduce the emission of air pollutants. **Mitigation Measures 5.2 to 5.5** are standard mitigations to reduce construction emission from the 2004 Guide to Air Quality Assessment developed by the SMAQMD. Current standard emissions are equivalent to Mitigation Measures 5.2 – 5.5. **Mitigation Measure 5.6** was revised in the 2005 Final EIR, and requires the applicant to pay fees to the SMAQMD to provide vehicle retrofit equipment to reduce emissions within the Air District. **Mitigation Measure 5.7** requires that any variation in the construction phasing must receive prior approval from the City and the SMAQMD.

In addition to these mitigation measures, the City's 2035 General Plan includes policies to mitigate for potential effects of development. For example, implementation of the 2035 General Plan policies reduces effects of exposure to toxic air contaminants, reduces construction-related emissions, and incorporates a strategy to achieve the City's adopted emission reduction target of 15% below 2005 levels by 2020.

As with the approved project, the modified project will be designed to provide easy access to bicycle paths, and project features such as sound walls will be designed to allow pedestrian and bicycle traffic to flow smoothly.

The modified project would not change grading acreage at the project site. The project site was graded after approval of the project in 2005. Future additional grading for the modified project would be subject to City Grading Permit requirements.

Residential activity and vehicle use will create long-term operational emissions at the site. The reduction in dwelling units for the modified project would result in a reduction of estimated vehicle trips and vehicle related air emissions.

In response to review of the modified project and recommendations by SMAQMD (J.J. Hurley, 2017), Beazer Homes would (1) construct a vegetation barrier between Interstate 80 & future residential units; and (2) provide enhanced indoor air filtration for all residential units within 500 feet of Interstate 80 to reduce exposure to particulate matter and toxic air contaminants. The filtration for the heating, ventilation and air conditioning system (HVAC) will be equivalent to or greater than that provided by MERV 13 filters (as defined by ASHRAE standard 52.2). A licensed mechanical engineer, or an individual authorized by California Business and Professions Code Sections 6700-6799 to design mechanical ventilation systems, will be consulted. Building permit documents will incorporate all designs and details necessary for the construction of the enhanced ventilation system. The ventilation systems installed should be properly maintained as specified by the manufacturer. A fixed notice shall be placed on the filter compartment door of each ventilation unit advising that MERV 13 (or greater) filters shall be used per local law.

With the implementation of **Mitigation Measures 5.1 to 5.7** and relevant policies in the City's 2035 General Plan, the impacts of the modified project on air quality would be less than significant and reduced as compared to the previously approved project.

BIOLOGICAL RESOURCES

As discussed in the 2005 DEIR, pages 1-8 to 1-10, the approved project would have a less-than-significant impact on biological resources with incorporation of mitigation measures. Implementation of **Mitigation Measures 7.1 to 7.12** from the 2005 revised Initial Study identified mitigation that required surveys, avoidance and minimization measures consistent with the Natomas Basin Habitat Conservation Plan (NBHCP) to comply with the requirements of the City's Incidental Take Permit (ITP) including pre-construction surveys.

In compliance with **Mitigation Measures 7.1 to 7.12**, the applicant graded the site and removed trees; Beazer Homes dedicated 37.385 acres of land to the Natomas Basin Conservancy and paid \$926,923.69 of HCP fees to the City for the River Oaks grading permit.

The modified project would have the same site boundary as the approved project, but the location of the pedestrian bridge would change from the northeastern portion of the site to the southeastern. The relocated pedestrian bridge alignment would be near to the locations of three pedestrian bridge alternatives (all also in the southeastern portion of the site) that were evaluated in a 2005 biological resource assessment by North Fork Associates. This assessment was cited in the 2005 DEIR Introduction Chapter.

The Main Drainage Canal is classified as other (non-wetland) waters of the United States. As with the approved project, **Mitigation Measure 7.11** would ensure that construction and implementation of the pedestrian bridge would not result in impacts to the Canal. (The bridge would be built outside of the ordinary high water mark and supported by two foundations located on top of the Canal levees). If the bridge affects waters of the United States the applicant/developer would have to acquire Section 404 Nationwide Permit(s) from the Army Corps of Engineers and a Section 401 Water Quality Certification from the Regional Water Quality Control Board (**Mitigation Measure 7.11**). As with the approved project, there is riparian vegetation within the area of the proposed pedestrian bridge alignment. **Mitigation Measure 7.12** requires that the applicant obtain a 1602 Streambed Alteration Agreement, ensuring less-than-significant impacts related to riparian habitat. Implementation of **Mitigation Measure 7.10** from the revised Initial Study (in the Draft EIR) would ensure that tree protection methods are implemented (as necessary) during grading and construction for the pedestrian bridge.

In addition to **Mitigation Measures 7.1 to 7.12**, the City's 2035 General Plan includes relevant policies to mitigate for potential effects of development. These include: preserving the ecological integrity of riparian resources; considering the potential impact on sensitive plants and requiring pre-construction surveys when appropriate; coordinating actions with the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and other agencies in the protection of resources; and replacing riparian habitat lost to development.

With implementation of **Mitigation Measures 7.1 to 7.12** and relevant policies in the City's 2035 General Plan, the impacts of the modified project on biological resources would be less than significant and no greater than the previously approved project.

CULTURAL RESOURCES

As discussed in the 2005 DEIR, pages 1-13, the approved project would have less-than-significant impacts on cultural resources with incorporation of mitigation measures.

Mitigation Measures 14.1 and 14.2 from the 2005 revised Initial Study require that in the event the project uncovers resources of paleontological, archaeological, historical significance, items of ethnic value, or human remains during construction, work in the area shall stop immediately and a qualified archaeologist and/or a representative of the Native American Heritage Commission be consulted.

Mitigation Measure 14.3 states that if any changes are proposed that would have the potential to alter the structure of the Main Drainage Canal, or would adversely affect the Canal's eligibility for inclusion on the National Register, additional evaluation of the project effect and consultation with the State Historic Preservation Officer would be required.

The modified project would have the same site boundary as the approved project. Implementation of **Mitigation Measures 14.1 to 14.3** would ensure that the impacts of the modified project on cultural resources would be less than significant and the same as the previously approved project.

ENERGY

As discussed in the 2005 DEIR, pages 1-10, the approved project would have a less-than-significant impact on energy with incorporation of mitigation measures. **Mitigation Measures 8.1 and 8.2** from the 2005 revised Initial Study require that the applicant will follow City Energy Conservation Review Checklist and Development Guidelines for project and site plan review, and consult with the Sacramento Municipal Utility District's (SMUD) New Construction Service Staff, incorporating SMUD energy conservation recommendations into the project.

The modified project would have the same site boundary as the approved project. Reducing the number of dwelling units would slightly reduce impacts to power and natural gas, use of non-renewable resources, and demand for energy sources. Implementation of **Mitigation Measures 8.1 and 8.2** would ensure that the impacts of the modified project on energy would be less than significant and no greater than those of the previously approved project.

HAZARDS

As discussed in the 2005 DEIR, pages 1-10, the approved project would have a less-than-significant impact on hazards with incorporation of mitigation measures. Implementation of **Mitigation Measures 9.1 to 9.10** from the 2005 MMRP (which includes the revision to Mitigation Measure 9.5 discussed in the FEIR) would: avoid contamination of groundwater, ensure proper reporting on and storage of hazardous materials and waste, avoid spills of hazardous substances, assess soils for contamination, ensure proper disposal of hazardous or contaminated materials, ensure safe roadways and emergency responder access, ensure safe removal of hazardous materials, fence off the water quality basin, and reduce the potential for fire hazard.

The modified project would have the same site boundary as the approved project. As compared to the approved project, the modified project would not introduce additional hazards or hazardous materials. With implementation of **Mitigation Measures 9.1 to 9.10**, the impacts of the modified project on hazards would be less than significant and the same as the previously approved project.

HYDROLOGY AND WATER QUALITY

As discussed in the 2005 DEIR, page 1-7, the approved project would have a less-than-significant impact on hydrology and water quality with incorporation of mitigation measures. **Mitigation Measures 4.1 to 4.3** from the 2005 revised Initial Study require that all bridges constructed over the Canal shall obtain an encroachment permit, construction of pedestrian bridges and bridge foundations at the project site shall not alter the Canal bed, and the project applicant shall properly abandon onsite wells and septic systems. **Mitigation Measure 7.12** (from the Biological Resources section) is listed in the Water section of the Initial Study, and requires that prior to construction of trails and bridge foundations on the Canal levee, the applicant shall obtain a Streambed Alteration Agreement from the California Department of Fish and Game, now the California Department of Fish and Wildlife.

The modified project would have the same site boundary as the approved project. As with the approved project, the modified project would be required to follow City guidelines for stormdrain system and stormwater detention basin construction, comply with the State National Pollution Discharge Elimination System (NPDES) general permit, and comply with measures to reduce effects on groundwater.

As compared to the approved project, in the modified project there would be no driving bridge, and the location of the pedestrian bridge would be different. With implementation of **Mitigation Measures 4.1 to 4.3** and **7.12**, the impacts of the modified project on hydrology and water quality would be less than significant and no greater than those of the previously approved project.

LAND USE AND AGRICULTURE

As discussed in the 2005 DEIR, pages 1-5 to 1-6, the approved project would have a less-than-significant impact on land use and agriculture.

The current zoning for the site is consistent with the 2005 EIR rezone. However, the City 2035 General Plan's land use designations for the site changed from "Low Density Residential" (4-15 units/acre) to "Suburban Neighborhood Low" (3-8 units/acre). This new designation sets a standard for the average density of lands in the designation within the entire City planning area, not individual project sites. Therefore, plans for the River Oaks project may exceed 8 units/acre.

The City has indicated it would rely on 2035 General Plan Policy LU 1.1.10, which provides that a new development project may exceed the maximum allowed density if it provides a significant community benefit. The community benefits of the modified project would include a pedestrian bridge providing access to a public park (Barandas Park), and a new public park in the central square.

The modified project would not require any changes in land use or tree removal as compared to the approved project. Thus, the impacts of the modified project on land use and agriculture would be less than significant and no greater than the previously approved project.

NOISE

As discussed in the 2005 DEIR, pages 1-10 to 1-11, the approved project would have a less-than-significant impact on noise with incorporation of mitigation measures. **Mitigation Measure 10.1** requires that construction activities adhere to City construction-hour guidelines and equip internal combustion engines with suitable exhaust and intake silencers. **Mitigation Measure 10.2** requires that noise barriers be constructed at the I-80 and West El Camino Avenue right-of-way to reduce future traffic noise to acceptable levels. **Mitigation Measure 10.3** requires additional measures (such as use of sound-reducing building materials) such that second floor facades of the residences constructed nearest to I-80 satisfy the City's 45 dB Ldn interior noise level standard.

An Environmental Noise Assessment technical study was prepared for the certified EIR (Bollard & Brennan, 2004). That analysis indicated that construction of a barrier 14 feet in height along I-80 would reduce future traffic noise levels to approximately 65 dB Ldn at the exterior spaces of the residences located closest to that roadway. **Mitigation Measure 10.2** indicated that the resulting noise level was within the conditionally acceptable range (60 to 70 dB Ldn) for new residential uses and was consistent with barrier design for other newly constructed residential developments adjacent to this highway.

The modified project has a different site plan layout than the approved project. As a result, the design of the noise barriers for **Mitigation Measure 10.2** was reviewed in an updated Environmental Noise Assessment (Bollard Acoustical Consultants, April 2018). The modified site plan would build residences in the northeast corner of the development. Previously there was parkland in this location and no wrap-around barrier was recommended. The updated noise assessment found that the noise barrier should wrap around the northeast corner of the project area and the project design will need to include this additional barrier.

According to Table 4 of the 2018 assessment, exterior noise levels at patios of multi-family residences nearest to Interstate 80 are predicted to be 65 dB given a 16-foot noise barrier, and exterior noise levels at backyards of single-family residences nearest to West El Camino Avenue are predicted to be 61 dB given an 8-foot barrier. These are conservative estimates. As indicated in the prior 2005 EIR, 65 dB would be consistent with other newly constructed residential developments adjacent to this highway. As such, these are the proposed heights of the noise barriers to be constructed for **Mitigation Measure 10.2** (with heights stepping down at wrap-around locations as described in the 2018 Environmental Noise Assessment).

The modified **Mitigation Measure 10.2** is revised as follows:

Noise barriers shall be constructed at the Interstate 80 and West El Camino Avenue Right of Way to reduce future traffic noise to more acceptable levels. An analysis of noise barrier performance was conducted for this project and the results are provided in Table 4 of the 2018 Environmental Noise Assessment. The Table 4 data indicate that the construction of a noise barrier 16 feet in height along I-80 would reduce future traffic noise levels to approximately 65 dB Ldn at the exterior spaces of the residences located closest to that roadway. This level is within the conditionally acceptable range of 60 to 70 dB Ldn for new residential uses, and is consistent with barrier design for other newly constructed residential developments adjacent to this highway.

Figure 2 of the 2018 Environmental Noise Assessment shows locations of the recommended sound barriers, including areas where the barrier would wrap around the project site perimeter. At the west side of the project site, the I-80 barrier would extend in the southerly direction. (Note: This barrier would not be needed if the adjacent property builds a similar sound barrier in a southwesterly direction along I-80.) At the east side, the I-80 barrier would extend in the southerly direction. Details for these locations regarding barrier height and which lots would be shielded are provided in the assessment.

With regard to compliance with interior noise level standards, the 2018 Environmental Noise Assessment identified additional upgrades to windows and doors that would be needed to reduce interior sound levels to the required 45 dB Ldn. The required Sound Transmission Class (STC) ratings are presented on page 10 and Figures 4 and 5 of the 2018 Environmental Noise Assessment. The project will need to implement these STC ratings in the construction of the homes.

The modified **Mitigation Measure 10.3** is revised as follows:

Based on the anticipated noise exposure of the residences nearest to I-80 and West El Camino Avenue, upgrades to windows and doors would be required to ensure compliance with the City's 45 dB Ldn interior noise level standard. The specific recommendations for window and door assembly Sound Transmission Class (STC) ratings are presented in Table 5 of the 2018 Environmental Noise Assessment.

For residences nearest to I-80:

- All first floors would require STC 32 ratings.
- Second floors would require STC 32 or 37 ratings (see Table 5).
- Third floors would require STC 35 ratings.

For residences nearest to West El Camino Avenue:

- All first floors would require STC 28 ratings.
- Second floors would require STC 32 ratings.

The following additional measures are recommended to ensure satisfaction of the City's interior noise level standards.

- The exterior building facades of all residences constructed within 250 feet of the I-80 Right of Way shall be constructed of stucco.
- Air conditioning shall be provided for all residences within this development to allow occupants to close doors and windows as desired to achieve additional acoustical isolation.
- For all residences constructed within 250 feet of the I-80 right-of-way, all exterior doors shall be fully weather-stripped and all exterior penetrations shall be fully sealed around their perimeters.

The additional measures (directly above) were recommended in the Bollard 2004 Environmental Noise Assessment and are still recommended.

The reduction in dwelling units for the modified project would result in a reduction in project-generated traffic and resultant noise. The removal of the driving bridge would potentially reduce traffic noise within the project area compared to the approved project. There would be no substantial changes in construction-related noise levels.

With implementation of **Mitigation Measures 10.1 to 10.3**, including the modification to the noise barrier recommendations (adding the wrap-around barrier to the northeast), the impacts of the modified project on noise would be less than significant and not substantially greater than those of the previously approved project.

POPULATION AND HOUSING

As discussed in the 2005 DEIR, page 1-6, the approved project would have a less-than-significant impact on population and housing. The approved project would not displace residents in affordable housing units or divide an established community and, therefore, will have a less-than-significant effect on affordable housing. The minor reduction in overall dwelling units with the modified project would not change this conclusion. Thus, the impacts of the modified project on population and housing would be less than significant and the same as the previously approved project.

PUBLIC SERVICES

As discussed in the 2005 DEIR, page 1-11 to 1-12, the approved project would have a less-than-significant impact on public services. As with the approved project, the modified project would be required to pay its fair share of improvements to vicinity roads and public facilities, contribute development fees to help fund area schools, and pay its share of public facility and road maintenance assessments. Reducing the number of dwelling units at the project site would slightly reduce the need for public services. Thus, the impacts of the modified project on public services would be less than significant and would be reduced compared to the previously approved project.

RECREATION

As discussed in the 2005 DEIR, page 1-13, the approved project would have a less-than-significant impact on recreation. According to the Master EIR for the City of Sacramento 2035 General Plan, new residential development is required to dedicate land, pay in-lieu fees, or otherwise contribute a fair share to the acquisition and development of parks and recreation facilities. In accordance with City regulations, the project would include parkland dedications and/or fees and formation of a parks district, increasing overall recreational opportunities in the City. The reduction in overall dwelling units with the modified project would slightly reduce the need for recreation. The modified project site plan has moved the clubhouse and a Public Park from the north and western areas corners of the site (adjacent to I-80) to the center of the development, which should increase the enjoyment and use of these amenities. The Pedestrian Bridge would be located to cross the Natomas Main Drainage Canal and connect to Manuel J. Barandas Park (a Sacramento City Park designed as an adult sports and family oriented park) east of the Canal. Mitigation measures requiring parkland dedications, and/or fees and formation of a parks district in accordance with City regulations ensures the project will have a less-than-significant effect on parks and will increase overall recreational opportunities in the City. Thus, the impacts of the modified project on recreation would be less than significant and the same as the previously approved project.

SEISMIC HAZARDS, GEOLOGY, AND SOILS

As discussed in the 2005 DEIR, pages 1-6 to 1-7, the approved project would have less-than-significant impacts on seismic hazards, geology, and soils.

The project site boundary would be unchanged with the modified project.

As with the approved project, development of the modified project is required to adhere to Uniform Building Code (UBC) and City standards for construction in areas subject to seismic hazards. Title 15 of the Sacramento City Code also requires implementation of UBC containing State and federal earthquake protection standards during building construction. Enforcement of these codes through the building permit process for new construction projects reduces potential impacts from seismic hazards to less-than-significant levels.

As with the approved project, a geotechnical report and grading plan would be required that meet UBC and Title 15 standards for soils preparation and grading of the project site prior to construction. This would reduce the potential for erosion and unstable soil conditions at the project site to less-than-significant levels.

As with the approved project, **Mitigation Measure 12.2** (in the Utilities section) would require a feasibility assessment of using onsite groundwater for irrigation at the project site, and an assessment of the potential for dewatering of the site. With the implementation of this mitigation measure, ground subsidence from project-related aquifer draw down will be reduced to less-than-significant levels.

Thus, the impacts of the modified project on seismic hazards, geology, and soils would be less than significant and the same as the previously approved project.

TRAFFIC AND CIRCULATION

As discussed in the 2005 DEIR, page 1-5, the approved project would have potentially significant impacts on traffic and circulation. In particular, the increase in vehicular traffic resulting from development of the approved project could affect some of the project area intersections and roadway segments.

The modified project would have the same site boundary as the approved project. As compared to the approved project, there would be fewer units, and the alignment of the interior roads would change such that Riverdale Drive would no longer be a collector road.

An updated Transportation Analysis for the modified project was prepared by the City and DKS Associates. Thresholds of significance were defined that are consistent with Appendix G of the CEQA Guidelines, thresholds adopted by the City/County in applicable general plans and previous environmental documents, and professional judgement. According to the February 2018 Transportation Analysis for the modified project, existing plus project traffic conditions would not result in any significant impacts and no mitigation measures would be required. The analysis does provide recommendations for driveway locations and street layout.

Thus, the impacts of the modified project on traffic and circulation would be less than significant and probably slightly reduced compared to the impacts of the previously approved project.

UTILITIES

As discussed in the 2005 DEIR, page 1-12, the approved project would have a less-than-significant impact on utilities with incorporation of mitigation measures. **Mitigation Measures 12.1 and 12.2** from the 2005 revised Initial Study require that the project applicant provide a project sewer study prepared by a qualified engineer, and prepare a construction material recycling program for the construction site.

According to the Master EIR for the City of Sacramento 2035 General Plan, the potential increase in demand for potable water would result in a significant and unavoidable effect. As discussed in the 2005 revised Initial Study, the approved project is consistent with the water demand planned for in the South Natomas Community Plan and would have a less-than-significant impact on treated water supply.

The modified project would have the same site boundary as the approved project. As with the approved project, the modified project would be required to pay applicable service fees and to implement water conservation measures in construction. Reducing the number of dwelling units at the project site would reduce the need for utilities and services systems. Thus, with implementation of **Mitigation Measures 12.1 and 12.2**, the impacts of the modified project on utilities would be less than significant and would be slightly reduced compared to the previously approved project.

CONCLUSION

Based upon the foregoing analysis, the changes to the approved project are consistent with the description of the environmental setting, environmental impacts and applicable mitigation measures as set forth in the 2005 EIR.

All mitigation measures included in the 2005 EIR that are applicable to the modified project shall be implemented for the modified project.



Transportation Analysis
River Oaks
West El Camino Avenue and Orchard Lane
Prepared for
City of Sacramento

February 17, 2018



8950 Cal Center Drive, Suite 340
Sacramento, California 95628
(916) 368-2000

TABLE OF CONTENTS

INTRODUCTION	1
PROJECT DESCRIPTION.....	1
ENVIRONMENTAL SETTING	1
Roadway System.....	1
Pedestrian System	4
Bicycle System.....	5
Transit System	5
Study Area	5
Existing Intersection Geometry	5
Existing Traffic Volumes.....	10
Regulatory Setting	10
City of Sacramento	10
Level of Service Analysis and Methodology.....	12
Intersection Analysis.....	12
Results of Existing Condition Analysis	13
PROJECT TRAVEL CHARACTERISTICS	13
Trip Generation.....	13
Project Description.....	13
Mode Choice.....	14
ITE Trip Generation.....	14
Trip Distribution	15
THRESHOLDS OF SIGNIFICANCE.....	15
Intersections 3 through 8 – City of Sacramento.....	15
Intersections 1 and 2 – County of Sacramento	18
Transit	18
Bicycle Facilities.....	18
Pedestrian Circulation.....	18
Construction-Related Traffic Impacts.....	18
EXISTING PLUS PROJECT TRAFFIC CONDITIONS.....	19
Impacts and Mitigation Measures	19
Vehicle Miles Traveled (VMT)	24
ON-SITE OPERATIONS AND QUEUING	24
Daily Traffic Volumes	24

Queueing 24
Street Layout 26
TRAFFIC SIGNAL WARRANTS 28
STOP SIGN PLAN 28

INTRODUCTION

This transportation analysis addresses transportation and circulation conditions associated with the proposed River Oaks residential development in the City of Sacramento. The analysis focuses on the project's relationship to the City street system, including nearby signalized and unsignalized intersections, the proposed access points, and on-site circulation. The analysis includes consideration of motorized vehicle traffic impacts on roadway capacity, vehicle-miles travelled (VMT), and potential impacts to transit service, bicyclists, and pedestrians. Quantitative transportation analyses have been conducted for the following scenarios:

- Existing (2017)
- Existing Plus Project

PROJECT DESCRIPTION

As illustrated in Figure 1, the project is located on an approximately 83.3-acre site bounded by West El Camino Avenue to the south, Orchard Lane to the west, I-80 to the north, and the Natomas Main Drainage Canal to the east. As shown in Figure 2, the site plan proposes 591 residential lots.

Access to the project is proposed via a roundabout to an extension of Orchard Lane, via River Oaks Way to West El Camino Avenue opposite West River Drive, and via "P" Street to West El Camino Avenue opposite Unity Park Street. Full access to West El Camino Avenue is proposed via Orchard Lane and River Oaks Way, with right-in / right-out only access via "P" Street.

ENVIRONMENTAL SETTING

The roadway, transit, bicycle, and pedestrian transportation systems within the study area are described below. Figure 1 illustrates the roadway system near the project site.

ROADWAY SYSTEM

The roadway component of the transportation system near the proposed project is described below.

- El Camino Avenue is an east-west arterial roadway, extending from El Centro Road to the west to Fair Oaks Boulevard to the east. It accommodates two to four through lanes. In the project vicinity, it has two through lanes in each direction. To the west, it provides access to I-80 via a full interchange about 0.2 miles west of the site. To the east, it provides access to I-5 via a partial interchange (northbound exit, southbound entrance) about 0.4 miles east of the site. West El Camino Avenue has signalized intersections with the I-80 ramps, Orchard Lane, and Gateway Oaks Drive.

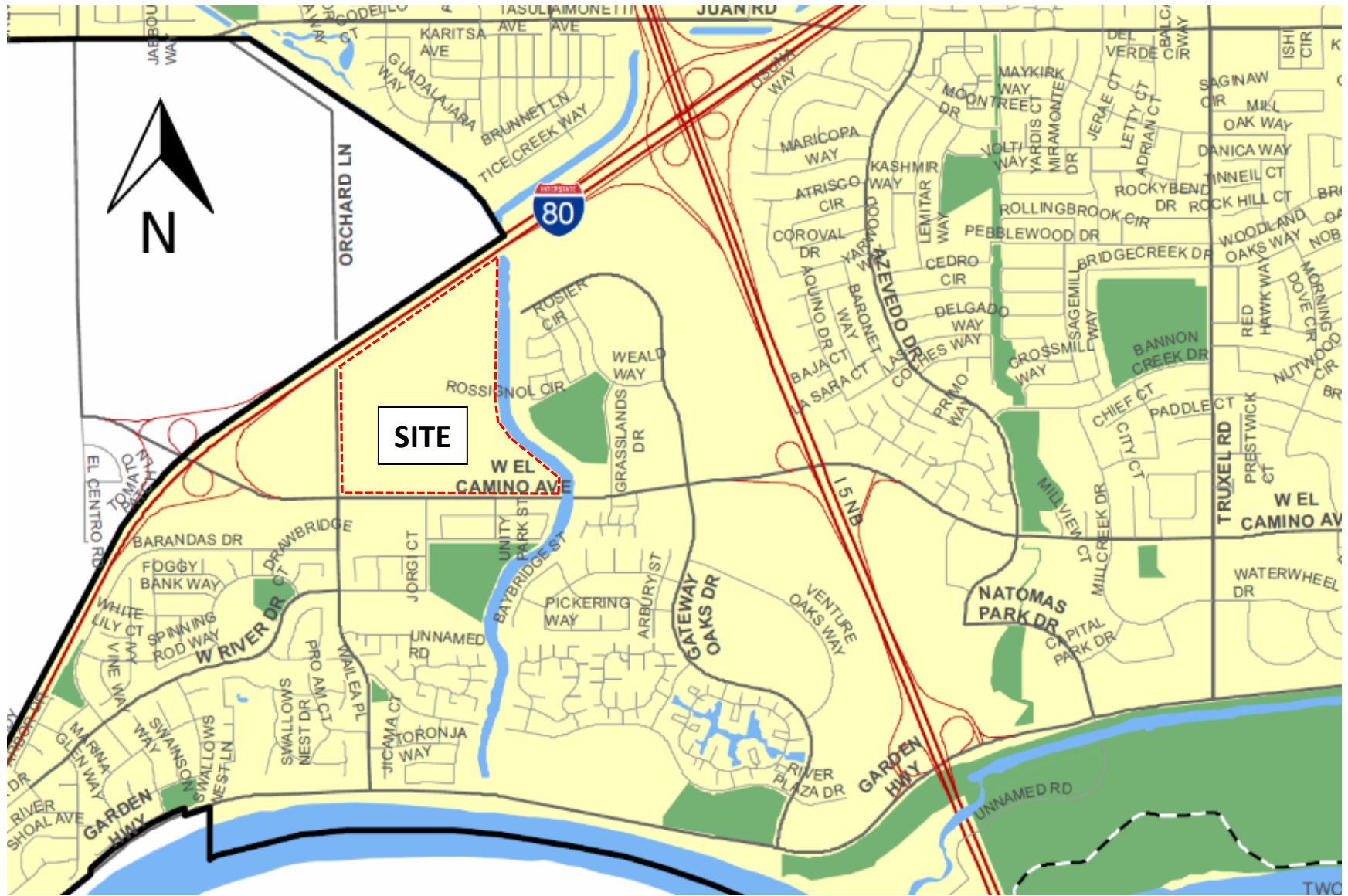


Figure 1
Project Location

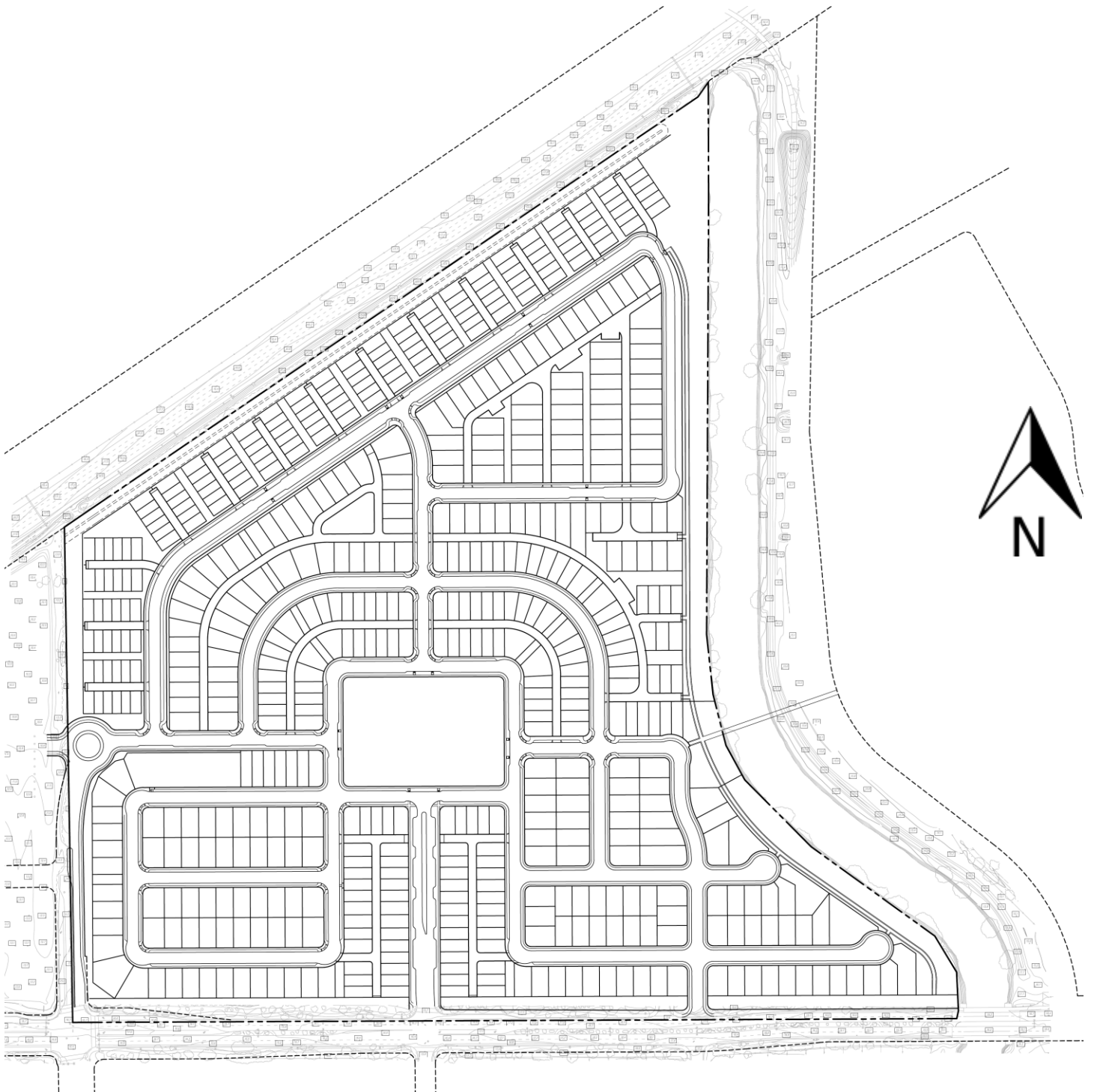


Figure 2
Site Plan

- El Centro Road is a two- to four-lane north-south arterial roadway at the western terminus of West El Camino Avenue. To the south, it terminates at a cul-de-sac at I-80. To the north, it extends north of Del Paso Road, and becomes Bayou Way as it curves to the west to parallel I-5. The intersection of El Centro Road and West El Camino Avenue is controlled by stop-signs on the westbound and northbound approaches.
- Orchard Lane is a two-lane north-south minor collector that begins at Garden Highway to the south. It currently terminates about 250 feet north of West El Camino Avenue.
- West River Drive is a two-lane local street that begins at West El Camino Avenue. It proceeds southerly for about 0.2 miles, and then turns westerly and crosses Orchard Lane. West River Drive continues westerly through a residential area to its terminus at Wheelhouse Avenue. At West El Camino Avenue, the northbound West River Drive approach is stop-sign controlled, and limited to right turns only. Both right and left turns to West River Drive are permitted from West El Camino Avenue.
- Unity Park Street is a two-lane local street that begins at West El Camino Avenue. It proceeds southerly for about 0.1 miles to its terminus at Unity Pointe Avenue. At West El Camino Avenue, turning movements are limited to right-in / right-out at a stop-sign controlled intersection.
- Gateway Oaks Drive is a north-south minor collector located about 0.25 miles east of the site. It generally has one travel lane in each direction north of its signalized intersection with West El Camino Avenue, and two travel lanes in each direction to the south. Gateway Oaks Drive serves residential development on its west side and office development on its east side. To the south, it extends to Garden Highway. To the north, it extends to the Natomas Main Drainage Canal.

PEDESTRIAN SYSTEM

The pedestrian system in the site vicinity consists of sidewalks on some, but not all, sides of the study area street system.

Sidewalks are provided along the entire site frontage along West El Camino Avenue. Sidewalks continue on both sides of West El Camino Avenue to the east. To the west, sidewalks are only provided along the north side of the street beginning about 250 feet west of Orchard Lane. Marked crosswalks are provided on the north, east, and south legs of the signalized West El Camino Avenue / Orchard Lane intersection.

Continuous sidewalks are provided on both sides of West River Drive, Gateway Oaks Drive and Unity Park Street. Continuous sidewalks are provided on Orchard Lane south of West El Camino Avenue. On El Centro Road in the site vicinity, sidewalks are provided on the east side of the roadway from the I-80 cul-de-sac to about 600 feet north of West El Camino Avenue.

BICYCLE SYSTEM

Figure 3 illustrates the existing bicycle system in the site vicinity. On-street bikeways currently exist on:

- West El Camino Avenue from El Centro Road to the I-5 interchange.
- Orchard Lane from West El Camino Avenue to Garden Highway
- Gateway Oaks Drive from the Natomas Main Drainage Canal to Garden Highway
- Garden Highway from Orchard Lane to Gateway Oaks Drive
- Barandas Drive from Orchard Lane to West River Drive
- West River Drive from Orchard Lane to west of Barandas Drive

Off-street bikeways currently include:

- An east-west path from Orchard Lane to West River Drive, extending approximately from Barandas Drive to West River Drive.
- A north-south path on the east side of the Natomas Main Drainage Canal. To the south, it continues to Garden Highway and Natomas Oaks Park. To the north, it crosses I-80 into North Natomas.

TRANSIT SYSTEM

RT service in the site vicinity is illustrated in Figure 4. The closest bus route is Route 88 (West El Camino), which operates along West El Camino Avenue, Gateway Oaks Drive, and Garden Highway. To the east Route 88 extends along West El Camino Avenue to the Arden / Del Paso light rail station. To the south Route 88 extends along Gateway Oaks Drive, Garden Highway, and I-5 to Downtown Sacramento. Route 88 provides weekday, Saturday, and Sunday service.

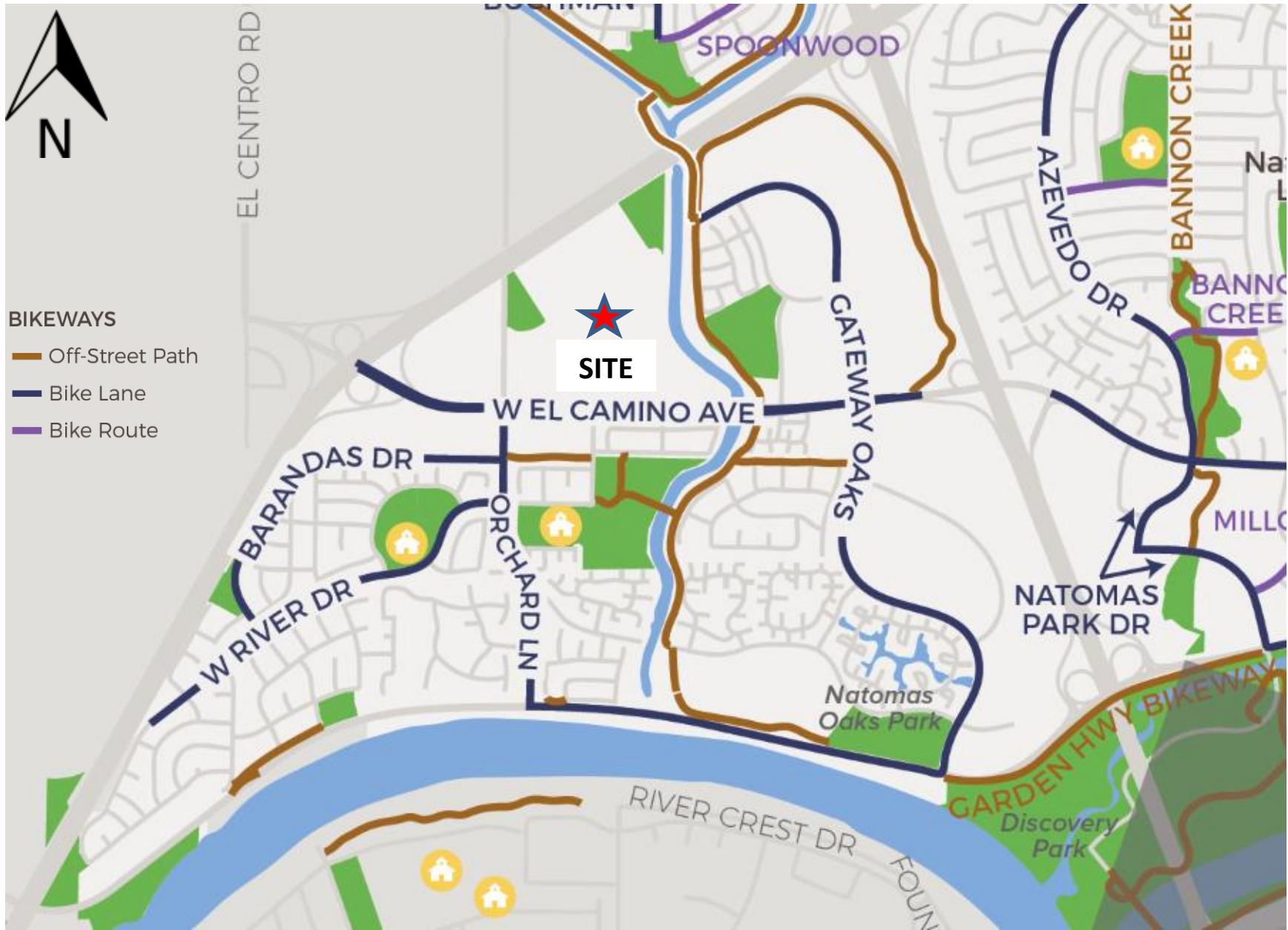
STUDY AREA

The following intersections are included in the study area (see Figure 5):

1. West El Camino Avenue & El Centro Road
2. West El Camino Avenue & I-80 Westbound Ramps
3. West El Camino Avenue & I-80 Eastbound Ramps
4. West El Camino Avenue & Orchard Lane
5. West El Camino Avenue & West River Drive
6. West El Camino Avenue & Unity Park Street
7. West El Camino Avenue & Gateway Oaks Drive
8. Orchard Lane & "D" Street (future)

EXISTING INTERSECTION GEOMETRY

Existing intersection geometry (number of approach lanes and traffic control) is illustrated in Figure 6.

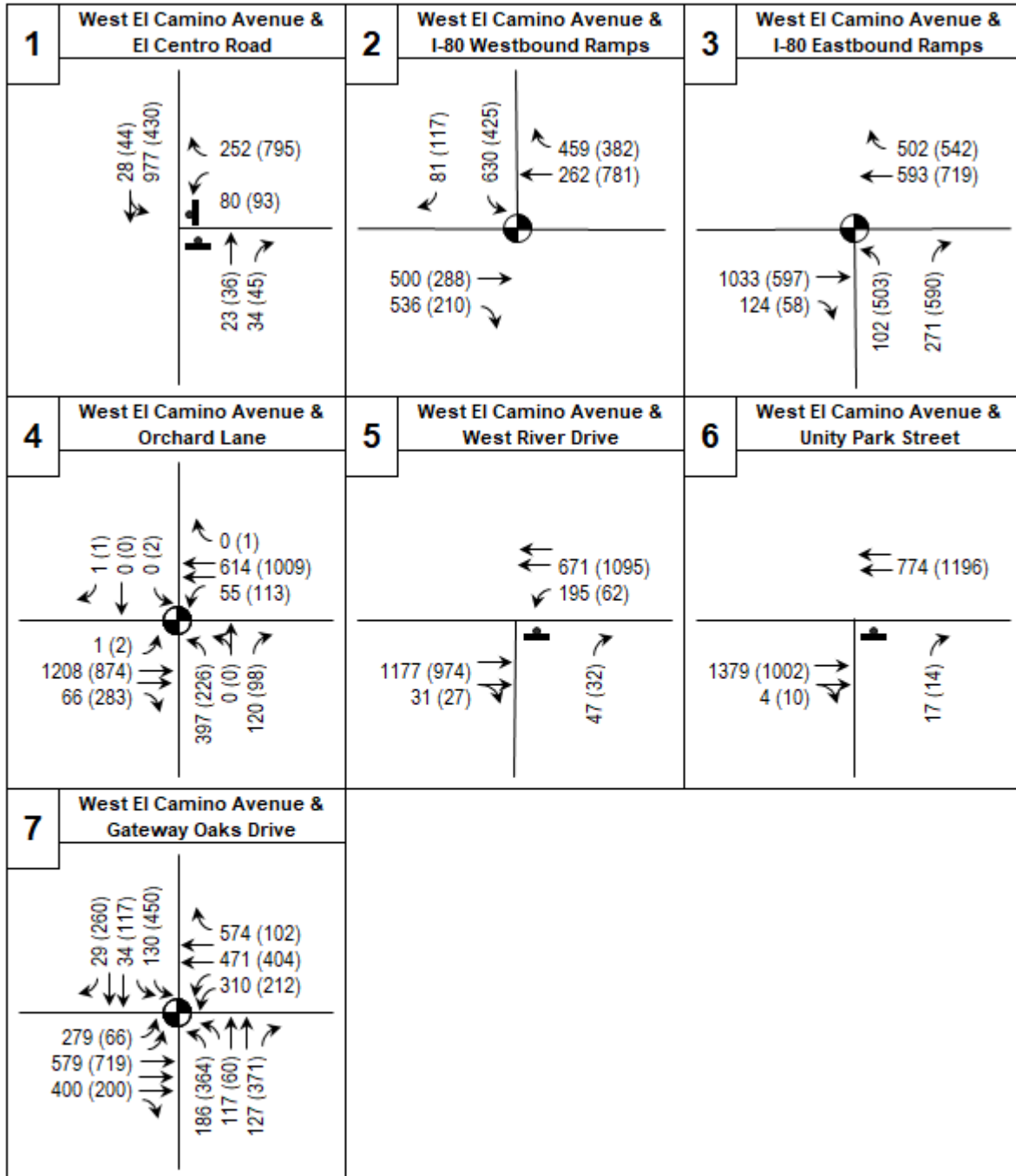


**Figure 3
Bikeways**



Figure 4
Regional Transit Services





KEY

31 (27) = AM (PM) peak hour traffic volume

⊙ = Signalized intersection

↙ = Intersection approach lane

⊙ = Stop sign control

○ = Roundabout

E St. & N St. = East West street / North South street



Figure 6
Existing Peak Hour Traffic Volumes and Geometry

EXISTING TRAFFIC VOLUMES

Peak period intersection turning movement counts were conducted for the a.m. weekday peak period (7:00 to 9:00 a.m.) and the p.m. weekday peak period (4:00 to 6:00 p.m.) on Thursday, November 16, 2017. Peak hour volumes are illustrated in Figure 6.

REGULATORY SETTING

City of Sacramento

The Mobility Element of the *Sacramento 2035 General Plan* outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following level of service policy has been used in this study:

Policy M 1.2.2 Level of Service (LOS) Standard. The City shall implement a flexible context sensitive Level of Service (LOS) standard, and will measure traffic operations against the vehicle LOS thresholds established in this policy. The City will measure Vehicle LOS based on the methodology contained in the latest version of the Highway Capacity Manual (HCM) published by the Transportation Research Board. The City's specific vehicle LOS thresholds have been defined based on community values with respect to modal priorities, land use context, economic development, and environmental resources and constraints. As such, the City has established variable LOS thresholds appropriate for the unique characteristics of the City's diverse neighborhoods and communities. The City will strive to operate the roadway network at LOS D or better for vehicles during typical weekday conditions, including AM and PM peak hour with the following exceptions described below and mapped on Figure M-1:

- A. Core Area (Central City Community Plan Area) - LOS F allowed
- B. Priority Investment Areas – LOS F allowed
- C. LOS E Roadways - LOS E is allowed for the following roadways because expansion of the roadways would cause undesirable impacts or conflict with other community values.
 - 65th Street: Elvas Avenue to 14th Avenue
 - Arden Way: Royal Oaks Drive to I-80 Business
 - Broadway: Stockton Boulevard to 65th Street
 - College Town Drive: Hornet Drive to La Rivera Drive
 - El Camino Avenue: I-80 Business to Howe Avenue
 - Elder Creek Road: Stockton Boulevard to Florin Perkins Road
 - Elder Creek Road: South Watt Avenue to Hedge Avenue
 - Fruitridge Road: Franklin Boulevard to SR 99

- Fruitridge Road: SR 99 to 44th Street
- Howe Avenue: El Camino Avenue to Auburn Boulevard
- Sutterville Road: Riverside Boulevard to Freeport Boulevard

LOS E is also allowed on all roadway segments and associated intersections located within ½ mile walking distance of light rail stations.

D. Other LOS F Roadways - LOS F is allowed for the following roadways because expansion of the roadways would cause undesirable impacts or conflict with other community values.

- 47th Avenue: State Route 99 to Stockton Boulevard
- Arcade Boulevard: Marysville Boulevard to Roseville Road
- Carlson Drive: Moddison Avenue to H Street
- El Camino Avenue: Grove Avenue to Del Paso Boulevard
- Elvas Avenue: J Street to Folsom Boulevard
- Elvas Avenue/56th Street: 52nd Street to H Street
- Florin Road: Havenside Drive to Interstate 5
- Florin Road: Freeport Boulevard to Franklin Boulevard
- Florin Road: Interstate 5 to Freeport Boulevard
- Folsom Boulevard: 47th Street to 65th Street
- Folsom Boulevard: Howe Avenue to Jackson Highway
- Folsom Boulevard: US 50 to Howe Avenue
- Freeport Boulevard: Sutterville Road (North) to Sutterville Road (South)
- Freeport Boulevard: 21st Street to Sutterville Road (North)
- Freeport Boulevard: Broadway to 21st Street
- Garden Highway: Truxel Road to Northgate Boulevard
- H Street: Alhambra Boulevard to 45th Street
- H Street 45th: Street to Carlson Drive

- Hornet Drive: US 50 Westbound On-ramp to Folsom Boulevard
 - Howe Avenue: US 50 to Fair Oaks Boulevard
 - Howe Avenue: US 50 to 14th Avenue
 - Raley Boulevard: Bell Avenue to Interstate 80
 - South Watt Avenue: US 50 to Kiefer Boulevard
 - West El Camino Avenue: Northgate Boulevard to Grove Avenue
- E. If maintaining the above LOS standards would, in the City’s judgment be infeasible and/or conflict with the achievement of other goals, LOS E or F conditions may be accepted provided that provisions are made to improve the overall system, promote non-vehicular transportation, and/or implement vehicle trip reduction measures as part of a development project or a city-initiated project. Additionally, the City shall not expand the physical capacity of the planned roadway network to accommodate a project beyond that identified in Figure M4 and M4a (2035 General Plan Roadway Classification and Lanes).

LEVEL OF SERVICE ANALYSIS AND METHODOLOGY

Field reconnaissance was undertaken to ascertain the traffic control characteristics of each of the study area intersections and roadway segments. Determination of roadway operating conditions is based upon comparison of known or projected traffic volumes during peak hours to roadway capacity. In an urban setting, roadway capacity is generally governed by intersection characteristics, and intersection delay is used to determine “levels of service.” Levels of service (LOS) describe roadway operating conditions. LOS is a qualitative measure of the effect of several factors, including speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, delay, and operating costs. LOS are designated A through F from best to worst, which cover the entire range of traffic operations that might occur. LOS A through E generally represent traffic volumes at less than roadway capacity, while LOS F represents over capacity and/or forced flow conditions.

Based upon the City’s level of service policy, LOS D was utilized as the appropriate criteria for intersections 3 through 8. Intersections 1 and 2 are in unincorporated Sacramento County. The criteria for these intersections is also LOS D, as they are located outside the urban policy area. Intersections 2 and 3 are freeway ramp intersections, and the LOS D criteria has been used.

Intersection Analysis

Intersection analyses were conducted using a methodology outlined in the Transportation Research Board’s Special Report 209, Highway Capacity Manual 2010 (HCM 2010) (TRB 2010). The methodology utilized is known as “operational analysis.” This procedure calculates an average control delay per vehicle at an intersection, and assigns a level of service designation based upon the delay. Table 1 presents the level of service criteria for intersections in accordance with the

HCM 2010 methodology. At some signalized intersections, traffic signal characteristics cannot be adequately analyzed by the HCM 2010 methodology, due to methodological or software constraints. In these cases, the prior methodology, HCM 2000, was utilized (TRB 2000).

TABLE 1 INTERSECTION LEVEL OF SERVICE CRITERIA		
Level of Service (LOS)	Total Delay Per Vehicle (seconds)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Source: Highway Capacity Manual 2010, Transportation Research Board.

RESULTS OF EXISTING CONDITION ANALYSIS

Table 2 summarizes the existing a.m. and p.m. peak hour operating conditions at the study area intersections. All study intersections currently meet the LOS goals.

PROJECT TRAVEL CHARACTERISTICS

TRIP GENERATION

Vehicular trip generation estimates of the project are based upon information published by the Institute of Transportation Engineers (ITE) in *Trip Generation, Tenth Edition*. Additional information regarding trip generation is included in the Technical Appendix.

Project Description

The project consists of 591 residential dwelling units, proposed to be constructed on:

- 123 large alley lots
- 167 small alley lots
- 156 townhouse lots
- 145 single family lots

The project assumes development of both Phase 1 and Phase 2 on the site. Phase 1 consists of 30 small alley lots and 63 single family lots, while Phase 2 consists of the remaining development.

**TABLE 2
EXISTING INTERSECTION OPERATING CONDITIONS**

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Delay (Seconds)	LOS	Delay (Seconds)	LOS
1. West El Camino Avenue & El Centro Road	7.3	A	23.7	C
- Northbound Through	>300	F	>300	F
- Northbound Right Turn	>300	F	27.2	D
- Southbound Left Turn	10.5	B	8.0	A
- Westbound Left Turn	>300	F	37.5	E
- Westbound Right Turn	9.3	A	16.9	C
2. West El Camino Avenue & I-80 Westbound Ramps	18.8	B	39.6	D
3. West El Camino Avenue & I-80 Eastbound Ramps	19.8	B	29.4	C
4. West El Camino Avenue & Orchard Lane	27.2	C	21.3	C
5. West El Camino Avenue & West River Drive	1.7	A	0.5	A
- Northbound	14.1	B	12.5	B
- Westbound Left Turn	14.5	B	10.8	B
6. West El Camino Avenue & Unity Park Street	0.1	A	0.1	A
- Northbound	14.8	B	12.2	B
7. West El Camino Avenue & Gateway Oaks Drive	41.7	D	33.7	C
<i>Note: For unsignalized intersections, the impact threshold is based upon intersection average.</i>				
<i>Source: DKS Associates, 2017.</i>				

Mode Choice

Table 3 summarizes the mode choice of the project, as predicted by SACOG’s SACSIM travel model. Based upon the predominantly auto-oriented mode choice characteristics, no adjusted were applied to the ITE estimates.

ITE Trip Generation

Table 4 summarizes the project vehicular trip generation estimates based upon the ITE data. The project is estimated to generate 5,160 daily trips, 394 trips during the a.m. peak hour, and 528 trips during the p.m. peak hour.

**TABLE 3
PERCENTAGE OF PERSON TRIPS BY MODE**

Mode	Daily	A.M. Peak Hour	P.M. Peak Hour
Automobile – Single Occupant	47.8%	49.8%	49.7%
Automobile – Two Occupants	24.4%	18.0%	25.8%
Automobile – Three or More Occupants	19.2%	18.5%	17.3%
Transit	1.1%	2.1%	1.0%
Bicycle	1.0%	1.9%	0.8%
Walk	4.0%	4.9%	3.6%
School Bus	2.5%	4.8%	1.8%

Source: DKS Associates, 2017, based upon SACSIM travel model.

TRIP DISTRIBUTION

The distribution of trips associated with the proposed project was derived from the regional SACSIM travel model, observations of travel patterns near the site, and knowledge of the proposed access locations associated with the site. Trip distribution varies by time of day and direction of travel. Figure 7 illustrates the estimated project trip distribution.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, thresholds of significance adopted by the governing jurisdictions in applicable general plans and previous environmental documents, and professional judgement, a significant impact would occur if the proposed project would:

INTERSECTIONS 3 THROUGH 8 – CITY OF SACRAMENTO

- The traffic generated by the project degrades LOS from an acceptable LOS (without the project) to an unacceptable LOS (with the project),
- The LOS (without project) is unacceptable and project generated traffic increases the average vehicle delay by 5 seconds or more.

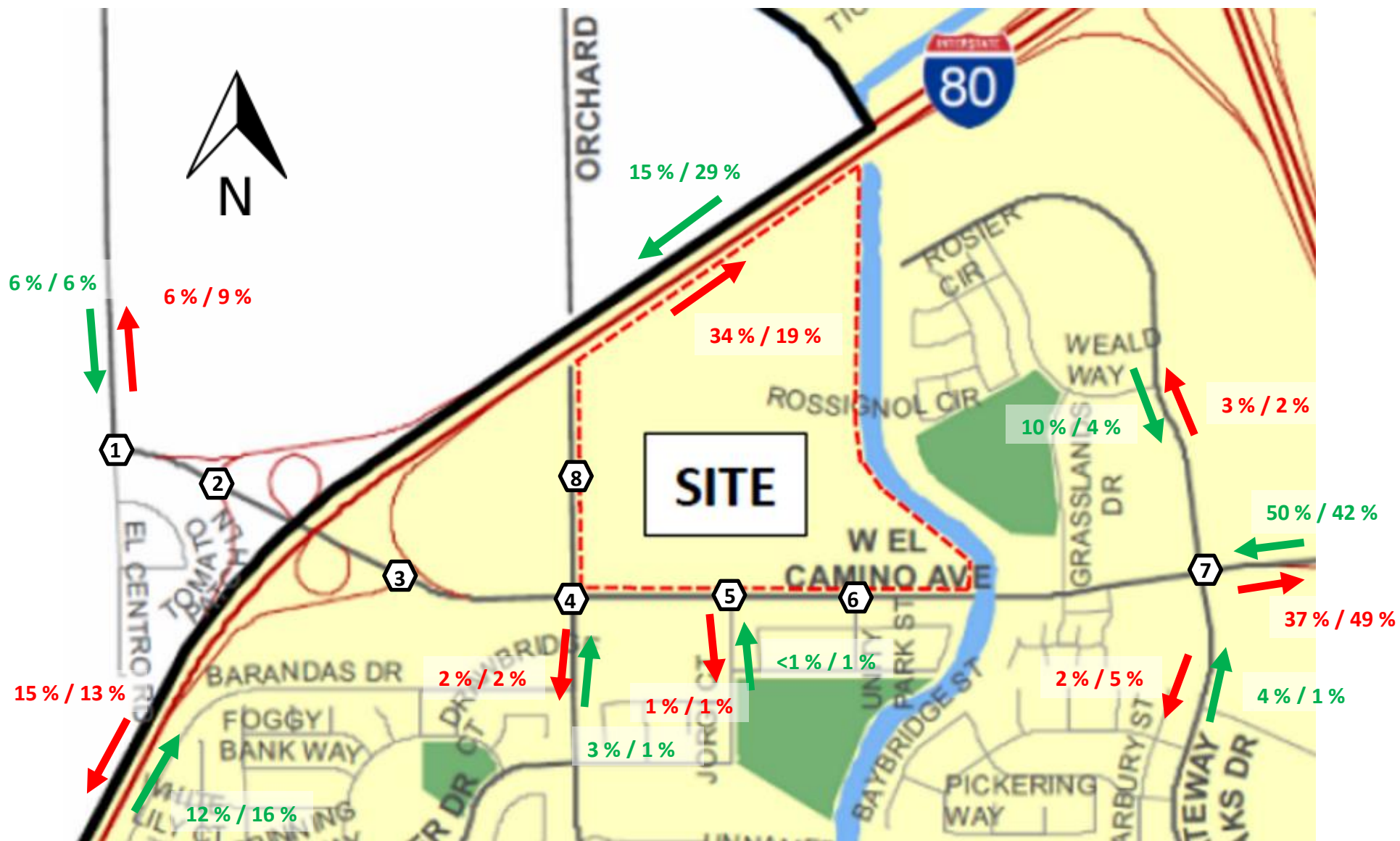
Note: General Plan Mobility Element Policy M 1.2.2 sets forth definitions for what is considered an acceptable LOS. As previously discussed, Policy M 1.2.2 applies to the study area roadway facilities as follows:

**TABLE 4
VEHICULAR TRIP GENERATION BASED ON ITE DATA**

Land Use	ITE Land Use Code	Independent Variable	Vehicle Trips Generated (Trip-Ends)						
			Weekday	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Single-Family Detached Housing	ITE 210	435 Dwelling Units	4,021	80	228	308	271	153	424
Multifamily Housing (Low-Rise)	ITE 220	156 Dwelling Units	1,139	24	62	86	62	42	104
Total			5,160	104	290	394	333	195	528

Source: DKS Associates, 2017, ITE Trip Generation, Tenth Edition, 2017.

"



Entering Traffic - AM % / PM %
 Exiting Traffic - AM % / PM %

Figure 7
Distribution

- LOS D is to be maintained at all times for intersections 3 through 8. LOS E or F may be acceptable if improvements are made to the overall transportation system and / or non-vehicular transportation and transit are promoted as part of the project or a City-initiated project.

Intersection 3 is a freeway ramp intersection.

INTERSECTIONS 1 AND 2 – COUNTY OF SACRAMENTO

- The traffic generated by the project degrades LOS from an acceptable LOS (without the project) to an unacceptable LOS (with the project),
- The LOS (without project) is unacceptable and project generated traffic increases the average vehicle delay by more than 5 seconds.

As noted previously, LOS D is the County's goal at these intersections.

Intersection 2 is a freeway ramp intersection.

TRANSIT

- Adversely affect public transit operations,
- Fail to adequately provide access to transit.

BICYCLE FACILITIES

- Adversely affect existing or planned bicycle facilities,
- Fail to adequately provide for access by bicycle.

PEDESTRIAN CIRCULATION

- Adversely affect existing or planned pedestrian facilities,
- Fail to adequately provide for access by pedestrians.

CONSTRUCTION-RELATED TRAFFIC IMPACTS

- Degrade an intersection or roadway to an unacceptable level,
- Cause inconveniences to motorists due to prolonged road closures, or
- Result in increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists.

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

Figure 8 illustrates AM peak hour and PM peak hour traffic volumes and intersection geometry associated with the existing plus project scenario. Compared to existing conditions, the following changes have been assumed:

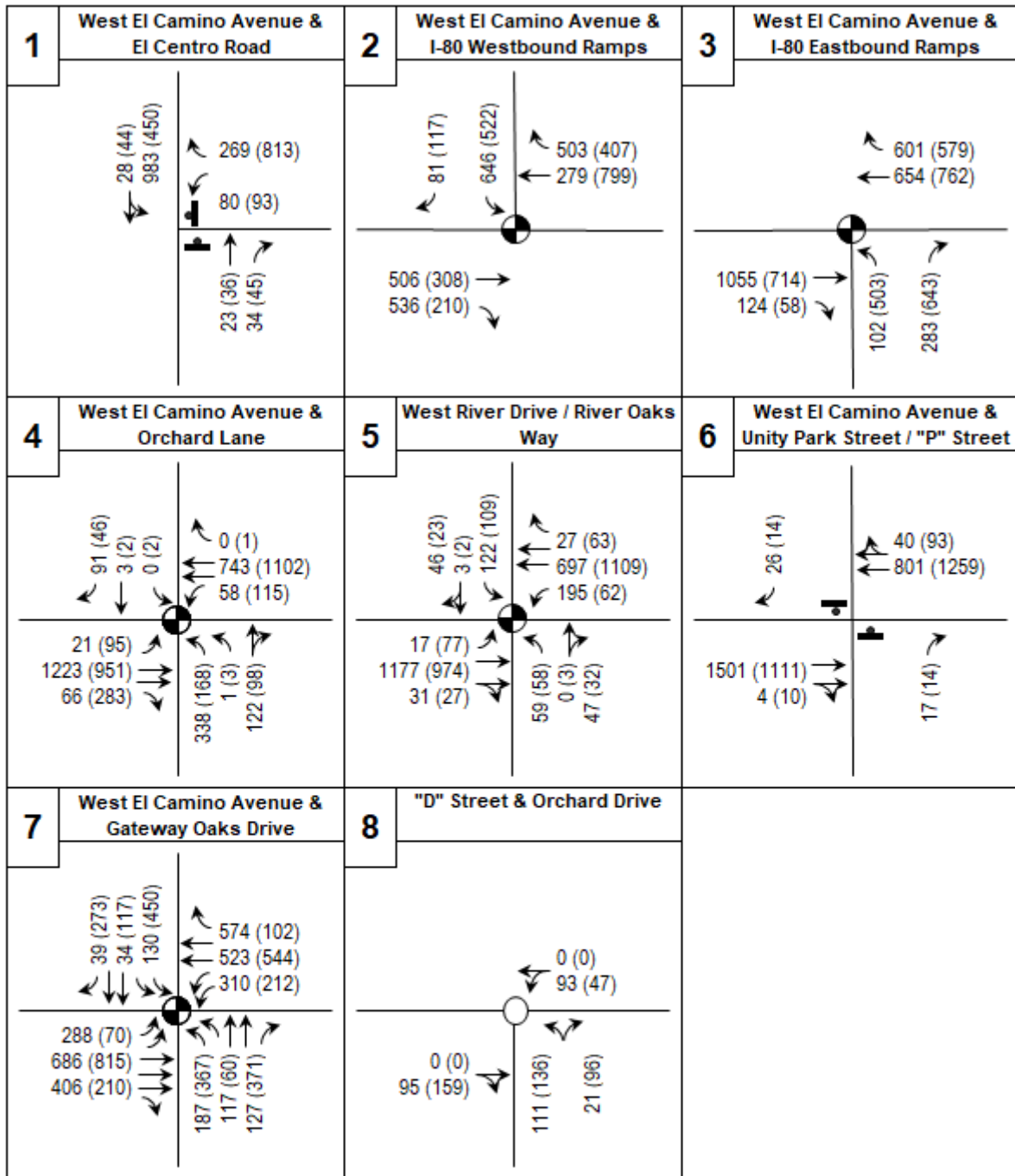
- Intersection 4 – West El Camino Avenue and Orchard Drive
 - The northbound approach is restriped to provide two exclusive left turn lanes and a shared through / right turn lane.
 - A crosswalk is added on the west leg of the intersection.
 - North-south split phasing is replaced with protected left turns and concurrent through phases.
- Intersection 5 – West El Camino Avenue and West River Drive / River Oaks Way
 - All movements are permitted.
 - Crosswalks are provided across all intersection legs.
 - The intersection is signalized with protected left turn phases.
- Intersection 6 – West El Camino Avenue and Unity Park Street / “P” Street
 - The new north leg is stop-sign controlled, and limited to right-in / right-out movements.
- Intersection 8 – Orchard Lane and D Street
 - Traffic volumes at this intersection (only) assume approved commercial development on the west leg of the roundabout.

Table 5 summarizes the results of the existing plus project peak hour intersection analysis.

IMPACTS AND MITIGATION MEASURES

Impact 1: The proposed project would increase traffic volumes and delay at study area intersections under the existing plus project scenario. Based on the analysis below, the impact is less than significant.

As summarized in Table 5, the project would increase average delay at several study area intersections. The project would increase traffic volumes at several study area intersections. The resultant operating conditions do not exceed the LOS D goals.



KEY

31 (27) = AM (PM) peak hour traffic volume

⊙ = Signalized intersection

↔ = Intersection approach lane

⊥ = Stop sign control

○ = Roundabout

E St. & N St. = East West street / North South street



Figure 8
Existing Plus Project Peak Hour Traffic Volumes and
Geometry

**TABLE 5
EXISTING PLUS PROJECT INTERSECTION OPERATING CONDITIONS**

Intersection	Existing				Existing Plus Project			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS
1. West El Camino Avenue & El Centro Road	7.3	A	23.7	C	7.3	A	27.2	D
- Northbound Through	>300	F	>300	F	>300	F	>300	F
- Northbound Right Turn	>300	F	27.2	D	>300	F	29.2	D
- Southbound Left Turn	10.5	B	8.0	A	10.6	B	8.1	A
- Westbound Left Turn	>300	F	37.5	E	>300	F	41.9	E
- Westbound Right Turn	9.3	A	16.9	C	9.4	A	17.5	C
2. West El Camino Avenue & I-80 Westbound Ramps	18.8	B	39.6	D	19.6	B	34.1	C
3. West El Camino Avenue & I-80 Eastbound Ramps	19.8	B	29.4	C	21.4	C	36.1	D
4. West El Camino Avenue & Orchard Lane	27.2	C	21.3	C	31.2	C	24.0	C
5. West El Camino Avenue & West River Drive / River Oaks Way	1.7	A	0.5	A	43.5	D	23.6	C
- Northbound	14.1	B	12.5	B	(signalized with project)			
- Westbound Left Turn	14.5	B	10.8	B	(signalized with project)			

**TABLE 5
EXISTING PLUS PROJECT INTERSECTION OPERATING CONDITIONS**

Intersection	Existing				Existing Plus Project			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS
6. West El Camino Avenue & Unity Park Street / "P" Street	0.1	A	0.1	A	0.2	A	0.2	A
- Northbound	14.8	B	12.2	B	15.7	C	12.9	B
- Southbound	-	-	-	-	11.5	B	14.4	B
7. West El Camino Avenue & Gateway Oaks Drive	41.7	D	33.7	C	39.0 ¹	D	43.3	D
8. Orchard Lane & "D" Street	-	-	-	-	4.4	A	4.9	A

1. Average delay decreases with project, as project traffic is generally added to movements with below average delay.

Note: For unsignalized intersections, the impact threshold is based upon intersection average.

Source: DKS Associates, 2017.

At intersection 1, intersection average delay is at LOS D or better during the peak hours. Side-street stop-sign controlled delay increases on approaches operating at worse than LOS D. However, a traffic signal is not warranted at this location (County of Sacramento significance criteria includes a traffic signal warrant analysis for unsignalized intersections).

Mitigation Measure 1

None required.

Impact 2: The proposed project could cause potentially significant impacts to transit. Based on the analysis below, the impact is less than significant.

The proposed project would not adversely affect public transit operations. The project would not modify or impede any existing or planned transit facilities / routes.

Mitigation Measure 2

None required.

Impact 3: The proposed project could cause potentially significant impacts to pedestrian facilities. Based on the analysis below, the impact is less than significant.

The proposed project would not adversely affect existing or planned pedestrian facilities. The project will provide frontage improvements to the satisfaction of the Department of Public Works. A pedestrian / bicycle bridge across the Natomas Main Drainage Canal is proposed as part of the project.

Mitigation Measure 3

None required.

Impact 4: The proposed project could cause potentially significant impacts to bicycle facilities. Based on the analysis below, the impact is less than significant.

The proposed project would not adversely affect existing or planned bicycle facilities. A pedestrian / bicycle bridge across the Natomas Main Drainage Canal is proposed as part of the project.

Mitigation Measure 4

None required.

Impact 5: The proposed project could cause potentially significant impacts due to construction-related activities. Based on the analysis below, the impact is less than significant.

The applicant will provide a construction traffic control plan per City Code 12.20.030 to the satisfaction of the City Traffic Engineer.

Mitigation Measure 5

None required.

VEHICLE MILES TRAVELED (VMT)

Travel forecasting for the project VMT analysis was conducted with the use of SACOG’s SACSIM travel model. The model was used to calculate regional VMT for the existing and existing with project scenarios.

As shown in Table 6, the project is estimated to increase daily regional VMT by 36,045.

TABLE 6 ESTIMATED PROJECT VMT			
Roadway Type	Regional Daily Vehicle Miles Travelled		
	Existing	Existing Plus Project	Difference
Freeways and Rural Roads	33,559,682	33,594,067	34,386
Urban Streets	24,630,633	24,632,292	1,659
Total	58,190,315	58,226,359	36,045

Source: DKS Associates, 2017.

ON-SITE OPERATIONS AND QUEUING

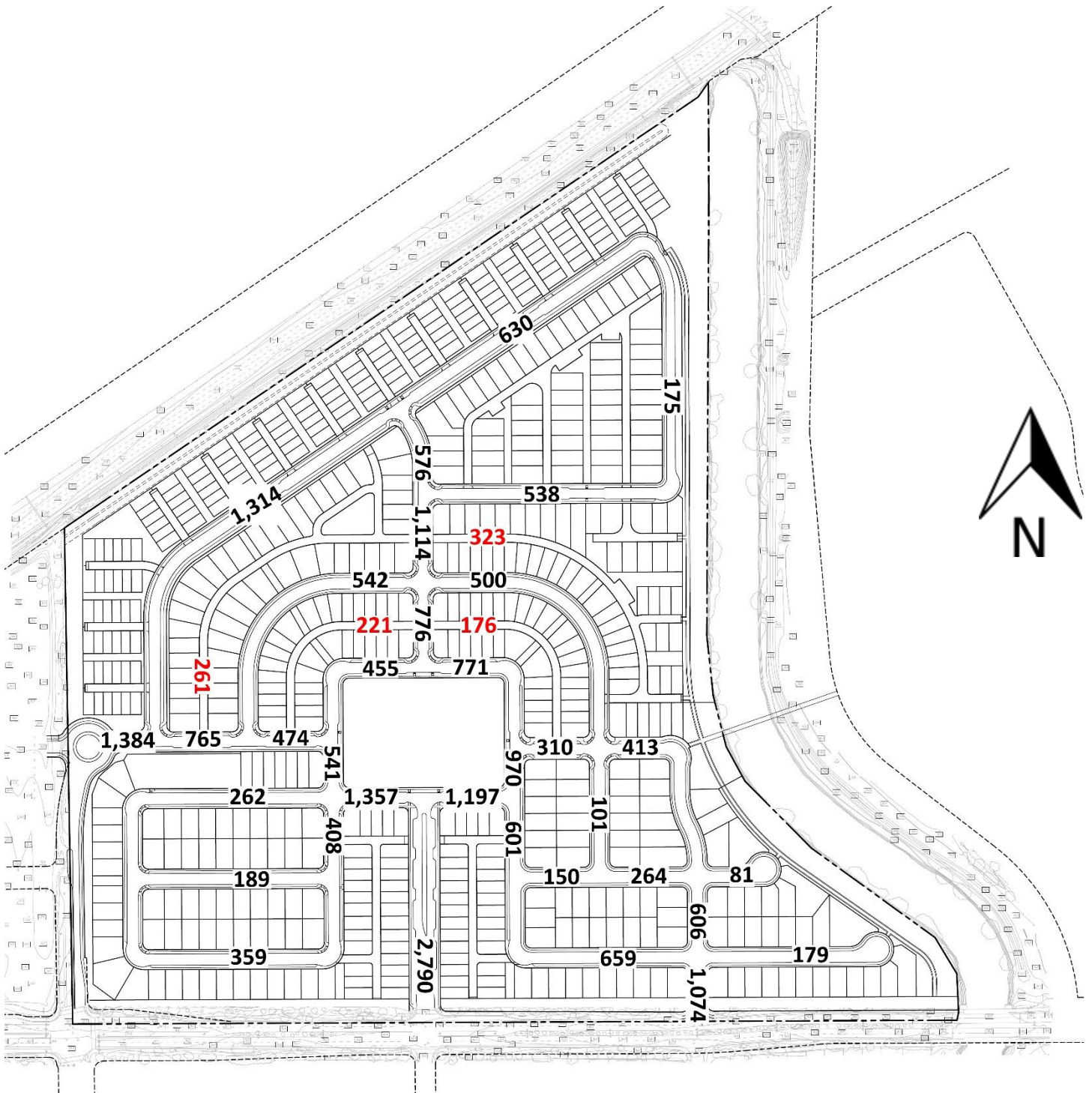
DAILY TRAFFIC VOLUMES

Figure 9 illustrates estimated daily traffic volumes on the internal streets of the project.

QUEUING

Intersection queuing was evaluated at the three points of egress from the project to the City street system. Anticipated a.m. and p.m. peak hour queues were compared to available storage space. As shown in Table 7, the proposed design adequately accommodates the queues. The following recommendations are made regarding driveway locations:

- Approaching intersection 5, no driveways should be permitted onto River Oaks Way. These lots are designed with alley access.
- Approaching intersection 6, no driveways should be permitted onto “P” Street south of “R” Street. The two affected lots have access onto R Street / R Court.



2,790 – Street Volume
 323 – Alley Volume

Figure 9
Daily Traffic Volumes

**TABLE 7
INTERSECTION QUEUEING EXITING THE PROJECT**

Intersection	Approach	Existing Plus Project		
		Available Storage Space (feet)	95th Percentile Queue (feet)	
			A.M. Peak Hour	P.M. Peak Hour
5. West El Camino Avenue & West River Drive / River Oaks Way	Southbound Left	500	200	150
	Southbound Through / Right Turn	500	50	25
6. West El Camino Avenue & Unity Park Street / "P" Street	Southbound	100	25	25
8. Orchard Lane & "D" Street	Westbound	100	25	25

Source: DKS Associates, 2017.

- Approaching intersection 8, there are no lots fronting "D" Street west of Riverdale Drive.

Based upon the anticipated daily traffic volumes, shown in Figure 9, no excessive queuing is anticipated at internal site intersections, assuming typical stop-sign control. Maximum peak hour queues of one or two vehicles are anticipated.

STREET LAYOUT

The site plan was reviewed for conformity with accepted traffic engineering principles, current practice in residential small lot design, and City policies. The following Mobility policy should guide subdivision design:

Policy M 1.3.1 Grid Network. To promote efficient travel for all modes, the City shall require all new residential, commercial, or mixed-use development that proposes or is required to construct or extend streets to develop a transportation network that is well-connected, both internally and to off-site networks preferably with a grid or modified grid-form.

Based upon the review, the following recommendations have been developed. Please refer to Figure 10 for example locations (all applicable locations may not be shown on the plan):

1. Maximum residential block length: Maximum 500 feet (measured across the residential parcels). This applies to streets and alleys to promote internal circulation by all modes. See, for example, Riverdale Drive and Alley 17.



1 – Recommendation Number

Figure 10
Typical Locations of Recommendations

2. Minimum intersection spacing for residential street: The city standard minimum intersection spacing for a residential street is 120 feet measured between the nearest curb returns on the thru street (DPM 15.7.3). See, for example, “G” Street between “C” Street and “D” Street, and “N” Street between “C” Street and “O” Street.
3. Sight distance: Streets and alleys shall be designed for the appropriate sight distance and in accordance with the DPM and Caltrans Highway Design Manual. Alleys should be configured so that activity in the alley can be easily observed from a single point. In most cases, this requires straight alleys. See, for example, Alleys 17 and 29.
4. Dead-end alleys: Dead-end alleys should be avoided. If dead-end alleys are provided, they may be up to 150-foot long without a cul-de-sac / “hammerhead” adequate for the design vehicle (fire department vehicle). See, for example, Alley 23 / 24 where the total distance to the east end of Alley 24 is greater than 150 feet from “L” Street.
5. Truck-turning movements: Streets and alleys shall be designed to accommodate the minimum truck turning movements for vehicles accessing the lots. This includes movements for fire trucks, delivery trucks, and trash collection trucks with consideration for bins on collection days.
6. Street-to-alley network: Alley lots shall be located so that access by visitors / deliveries is oriented to a street within sight distance of the lot. For example, for Lots 275 through 289, there is no easily identifiable place for a motor vehicle of a visitor to park. As parking is not permitted in the alleys or alley driveways, people arriving in motor vehicles must park remotely (typically “L” Street or “M” Street) and arrive as pedestrians through the alleys.
7. Intersection sight distance: In accordance with City standards and guidelines, clear sight distance triangles shall be provided at all intersections, including alley intersections. As necessary, parking shall be prohibited to maintain adequate sight distance. Also, consider building location and landscaping height.
8. Pedestrian/bike path connection at NEMDEC: At the intersection of the pedestrian / bike path along the west side of the Natomas Main Drainage Canal and West El Camino Avenue, pedestrians and bicyclists wishing to cross the street should be directed to the marked crossing at Grasslands Drive to the east.

TRAFFIC SIGNAL WARRANTS

Peak hour traffic signal warrants were investigated for intersections 1 and 5 under the existing plus project scenario. At intersection 1, the warrant is not met, due to low volumes (under 100 vehicles per hour) on the minor street approach (El Centro Road northbound). At intersection 5, the peak hour warrant is met during both the a.m. and p.m. peak hours.

STOP SIGN PLAN

Figure 11 illustrates a traffic control plan (stop-signs) for subdivision streets.

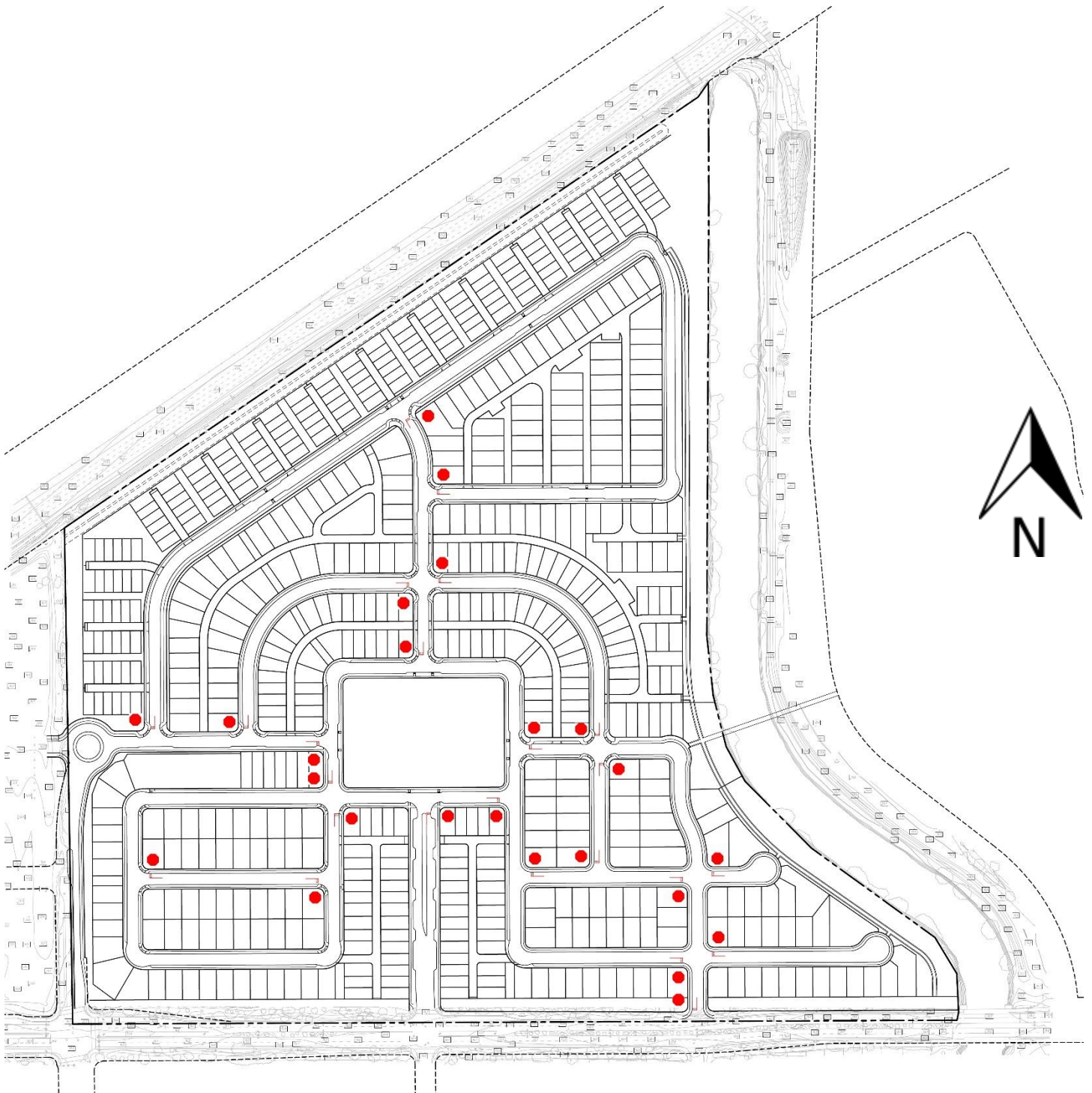


Figure 11
Stop Sign Locations

Environmental Noise Assessment

River Oaks Residential Development

Sacramento, California

BAC Job # 2018-045

Prepared For:

RCH Group, Inc.

Attn: Mr. Paul Miller
11060 White Rock Rd., Ste. 150-A
Rancho Cordova, CA 95670

Prepared By:

Bollard Acoustical Consultants, Inc.



Paul Bollard, President

April 10, 2018



Introduction

The River Oaks Residential Development (project) is a multi-family residential development located south of Interstate 80 and west of the I-5 junction in Sacramento, California. The project proposes to construct 590 residences on currently undeveloped land. Existing uses in the area include residential developments to the east and south, with agricultural uses to the north. The project area and site plan are shown on Figures 1 and 2, respectively.

Due to the proximity of the proposed residences to I-80 and West El Camino Avenue, Bollard Acoustical Consultants, Inc. (BAC) was retained to prepare this noise assessment. Specifically, the purposes of this assessment are to quantify noise generated by traffic on Interstate 80 and West El Camino Avenue, and to compare those noise levels against the applicable City of Sacramento noise standards.

Noise Fundamentals and Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard, and thus are called sound. Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness. Appendix A contains definitions of Acoustical Terminology. Figure 3 shows common noise levels associated with various sources.

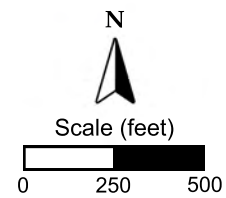
The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels in decibels.

Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}) over a given time period (usually one hour). The L_{eq} is the foundation of the Day-Night Average Level noise descriptor, L_{dn} , and shows very good correlation with community response to noise.



Legend

- Project Border (Approximate)
- Ⓝ Long-Term Noise Level Measurement Location

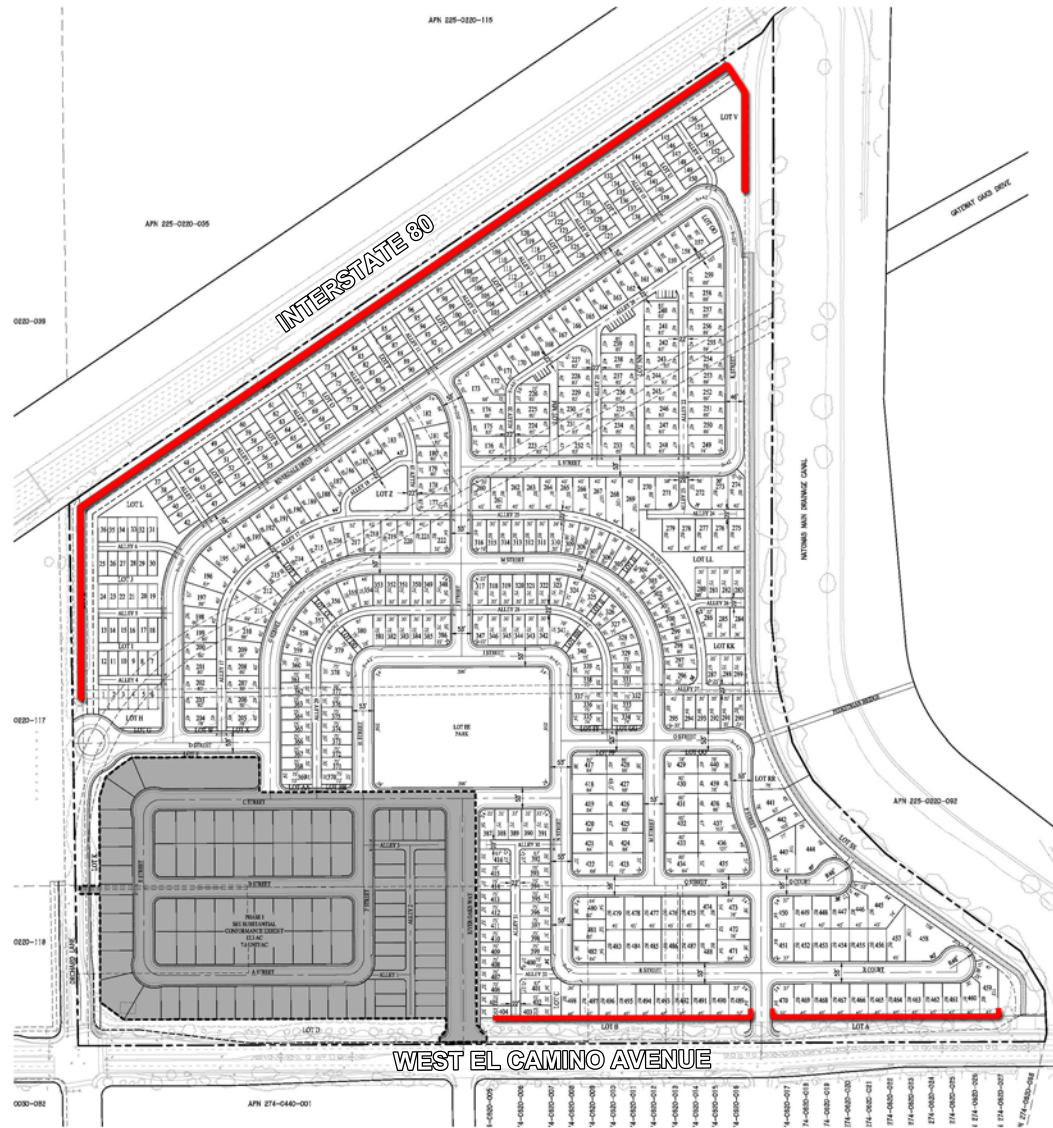


River Oaks Residential Development
Sacramento, California

Project Area and
Noise Measurement Locations

Figure 1





Legend

 Recommended Noise Barrier Locations



Scale (feet)



**River Oaks Residential Development
Sacramento, California**

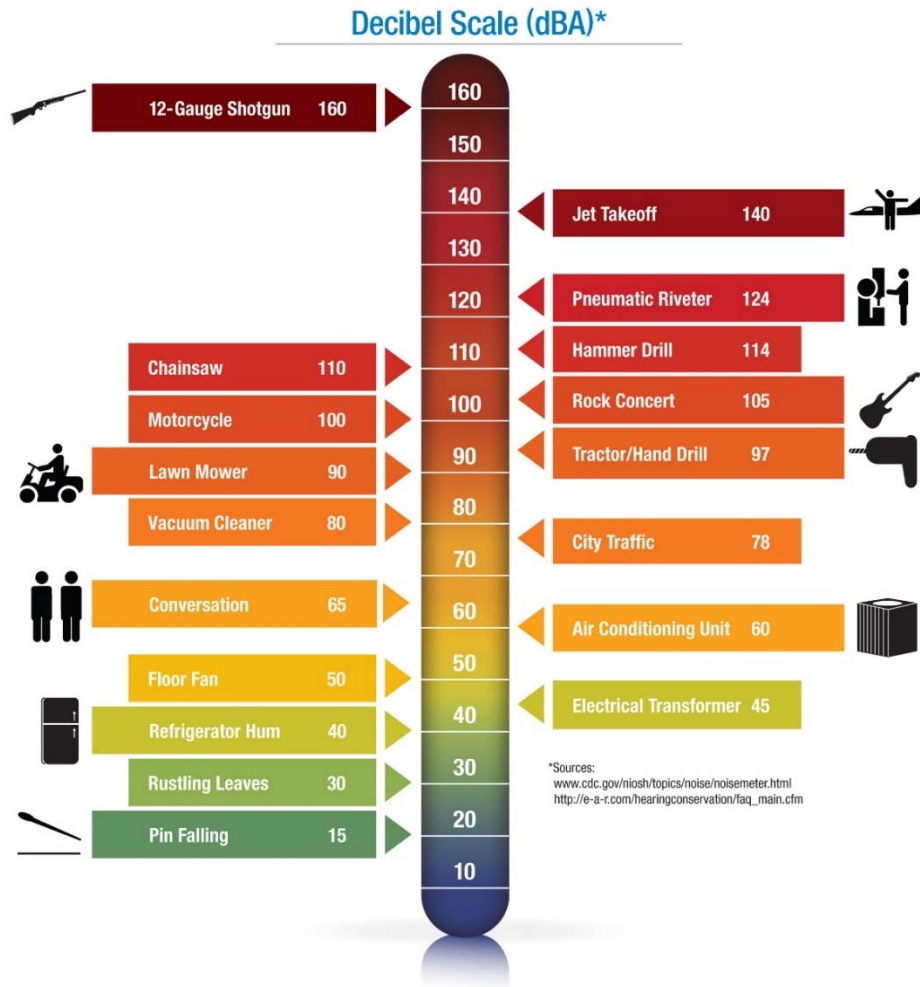
Site Plan and Noise Barrier
Recommendations

Figure 2



The Day-Night Average Level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10 p.m. to 7 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. L_{dn}-based noise standards are commonly used to assess noise impacts associated with traffic, railroad and aircraft noise sources.

**Figure 3
Noise Levels Associated with Common Noise Sources**



Criteria for Acceptable Noise Exposure

City of Sacramento 2035 General Plan

The Noise Section of the City of Sacramento 2035 General Plan (EC-3) establishes exterior and interior noise standards for noise-sensitive uses. The policies applicable to the project are included below.

EC 3.1.1 Exterior Noise Standards. The City shall require noise mitigation for all development where the projected exterior noise levels exceed those shown in Table 1 (Table EC 1 of the General Plan), to the extent feasible.

EC 3.1.3 Interior Noise Standards. The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dBA L_{dn} for residential, transient lodgings, hospitals, nursing homes and other uses where people normally sleep; and 45 dBA L_{eq} (peak hour) for office buildings and similar uses.

EC 3.1.11 Alternatives to Sound Walls. The City shall encourage the use of design strategies and other noise reduction methods along transportation corridors in lieu of sound walls to mitigate noise impacts and enhance aesthetics.

Table 1 Exterior Noise Compatibility Standards for Various Land Uses City of Sacramento 2035 General Plan	
Land Use Type	Highest Level of Noise Exposure that is Regarded as “Normally Acceptable” ^a (L _{dn} ^b or CNEL ^c)
Residential—Low Density Single Family, Duplex, Mobile Homes	60 dBA ^{d,e}
Residential—Multi-family	65 dBA
Urban Residential Infill ^f and Mixed-Use Projects ^g	70 dBA
Transient Lodging—Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site—specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site—specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings—Business, Commercial, and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA
Notes: a. As defined in the Guidelines, “Normally Acceptable” means that the “specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.” b. L _{dn} or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels. c. CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period. d. dBA or A-weighted decibel scale is a measurement of noise levels. e. The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA f. With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High) Urban Center (Low or High), and Urban Corridor (Low or High). g. All mixed-use projects located anywhere in the City of Sacramento. Source: City of Sacramento General Plan 2035, Table EC 1	

Existing Ambient Noise Environment at the Project Site

The existing ambient noise level environment at the project site is defined by traffic on Interstate 80 along the north side of the project, and by traffic on West El Camino Avenue along the south side of the project. To quantify the existing ambient noise environment at the project site, BAC conducted long-term (48-hour) noise level measurements on the project site on March 7 and 8, 2018. The measurement locations are shown on Figure 1, as sites 1 and 2. The purpose of the continuous noise level survey was to determine existing traffic noise exposure on the project site in terms of the day/night average level (L_{dn}), and to determine the typical changes in noise environment which occur at the project site over a 24-hour period.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the noise level survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

The results of the measurements are shown numerically and graphically in Appendices B and C, and are summarized below in Table 2. Photographs of the noise level measurement locations are provided in Appendix D.

Table 2									
Summary of Long-Term Ambient Noise Monitoring Results									
River Oaks Residential Development – Sacramento, California									
Date ¹	L_{dn} , dB	Average Measured Hourly Noise Levels (dB)							
		Daytime				Nighttime			
		L_{eq}	L_{50}	L_{90}	L_{max}	L_{eq}	L_{50}	L_{90}	L_{max}
Site 1 – Approximately 190 feet from centerline of Interstate 80									
Wednesday, March 7, 2018	80	76	76	73	85	73	71	65	85
Thursday, March 8, 2018	80	77	76	73	85	72	70	63	85
Site 2 – Approximately 110 feet from centerline of West El Camino Avenue									
Wednesday, March 7, 2018	69	65	63	58	77	62	58	54	73
Thursday, March 8, 2018	68	65	64	58	79	61	56	51	76
Notes:									
¹ Long-term ambient noise monitoring sites are identified on Figure 1.									
² A detailed summary of the noise monitoring results are provided in Appendices B and C.									
³ Photographs of the noise measurement locations are provided in Appendix D.									
Source: Bollard Acoustical Consultants, Inc. (2018)									

As shown in Table 2, measured ambient day-night average noise levels at both Sites 1 and 2 were above the City of Sacramento 60 and 65 dB L_{dn} exterior traffic noise level standard for single-family and multi-family residential land uses, respectively. A detailed analysis of future traffic noise levels was conducted and that analysis is presented in the following section.

Evaluation of Future Traffic Noise Levels at the Project Site

Traffic Noise Prediction Methodology

The Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict traffic noise levels at the project site. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free flowing traffic conditions, and is considered to be accurate within 1.5 dB in most situations.

Traffic Noise Prediction Model Calibration

Model Calibration for Interstate 80

According to traffic volume data obtained from the 2016 Caltrans traffic counts, the segment of Interstate 80 adjacent to the project site experiences an average daily traffic (ADT) volume of 89,600 vehicles. The Caltrans counts for that segment of highway also indicate 6 percent and 4 percent of the overall volume were attributable to heavy trucks and medium trucks, respectively. Assuming vehicle speeds of 70 MPH, medium- and heavy-truck mix of 6%/4%, a hard intervening ground type, and an existing volume of 89,600, the FHWA Model predicts a roadway noise level of 79 dB L_{dn} at a distance of 190 feet from the centerline of Interstate 80. As shown in Table 2, existing traffic noise level measurements at a distance of 190 feet from the centerline of Interstate 80 (Site 1) were 80 dB L_{dn} , indicating close agreement with the FHWA Model prediction. Because the FHWA Model was found to accurately predict traffic noise levels at measurement Site 1, no calibration adjustment was applied to the FHWA Model for the prediction of future Interstate 80 traffic noise levels at the project site.

Model Calibration for West El Camino Avenue

According to traffic volume data obtained from the Transportation Analysis Report conducted for the project by DKS (February 17, 2018), the segment of West El Camino Avenue adjacent to the project site experiences an AM peak hour traffic volume of 2,341 vehicles. Existing daily traffic volumes were conservatively estimated by multiplying AM peak hour conditions by a factor of 10. Assuming vehicle speeds of 45 MPH, medium- and heavy-truck mix of 2%/2%, a soft intervening ground type, and an existing volume of 23,410, the FHWA Model predicts a roadway noise level of 68 dB L_{dn} at a distance of 110 feet from the centerline of West El Camino Avenue. As shown in Table 2, existing traffic noise level measurements at a distance of 110 feet from the centerline of West El Camino Avenue (Site 2) were 68 and 69 dB L_{dn} , indicating close agreement with the FHWA Model prediction. Because the FHWA Model was found to accurately predict traffic noise

levels at measurement Site 2 (within 1 dB), no calibration adjustment was applied to the FHWA Model for the prediction of future West El Camino Avenue traffic noise levels at the project site.

Predicted Future Exterior Traffic Noise Levels

The FHWA Model was used with future traffic data to predict future traffic noise levels at the proposed outdoor activity areas of the development. Future traffic volumes for Interstate 80 and West El Camino Avenue were conservatively estimated by assuming an increase of 50% relative to existing conditions. The FHWA Model inputs and predicted future traffic noise levels at the project site are shown in Appendix E. The predicted future traffic noise levels at the project lots nearest to the project roadways are summarized below in Table 3. The predicted future traffic noise levels do not take into consideration any shielding provided by proposed intervening noise barriers.

Table 3				
Predicted Future Exterior Traffic Noise Levels				
River Oaks Residential Development – Sacramento, California				
Roadway	Location	Distance from Centerline (feet)	Offset (dB)	Future Exterior L _{dn} (dB)
Interstate 80	Outdoor activity areas	215	0	81
	First-floor facades	195	0	81
	Upper-floor facades	195	+2	83
West El Camino Avenue	Outdoor activity areas	110	0	69
	First-floor facades	120	0	69
	Upper-floor facades	120	+2	71
Notes:				
1 A complete listing of FHWA Model inputs and results are provided in Appendix E.				
2 Distances measured from indicated location to the centerline of Interstate 80 and West El Camino Avenue.				
3 A +2 dB offset was applied to the upper-floor facades due to reduced ground absorption of sound at elevated floor levels.				
Source: Bollard Acoustical Consultants, Inc. (2018)				

Traffic Noise Mitigation for Outdoor Activity Areas

As indicated in Table 3, future traffic noise levels at the proposed outdoor activity areas nearest to Interstate 80 and West El Camino Avenue are predicted to exceed the City of Sacramento 60 and 65 dB L_{dn} exterior traffic noise level standard for single-family and multi-family residential land uses, respectively. As a result, consideration of additional noise mitigation measures are warranted for the project.

BAC utilized the FHWA model to predict the effectiveness of traffic noise barriers in reducing future traffic noise levels. The results of that analysis are provided in Appendix F and are summarized in Table 4 for the residences nearest to Interstate 80 and West El Camino Avenue.

Table 4 Predicted Noise Barrier Effectiveness River Oaks Residential Development – Sacramento, California		
Barrier Height (feet)	Predicted Future Exterior Noise Level, L_{dn} (dB)	Exterior Noise Level Standard L_{dn} (dB)
Patios of Multi-Family Residences (Townhomes) Nearest to Interstate 80		
No barrier	81	65
10	69	65
11	68	65
12	68	65
13	67	65
14	66	65
15	66	65
16	65	65
Backyards of Single-Family Residences Nearest to West El Camino Avenue		
No barrier	69	60
6	64	60
7	62	60
8	61	60
9	60	60
10	59	60
Note: A complete listing of noise barrier effectiveness inputs and results are provided in Appendix F.		

The predicted future traffic noise levels at the townhomes nearest to Interstate 80 include a conservative offset due to the orientation of the outdoor activity areas (patios) relative to the roadway. An illustration of this relationship is provided in Appendix G. Elevations of the proposed townhomes are provided as Appendix H. As shown in Appendix G, the patios are inset on the first-floor of the building and would not be directly facing Interstate 80. The patios would have a sideline exposure of Interstate 80 traffic. The shielding provided by the intervening townhome building structures was conservatively estimated to provide approximately 4 dB of attenuation.

The Table 4 data indicate various noise barrier heights required to achieve satisfaction with the City of Sacramento 60 dB L_{dn} and 65 dB L_{dn} exterior noise standards for single-family and multi-family residential land uses, respectively. Figure 2 shows the location of the noise barriers.

Predicted Future Interior Traffic Noise Levels within Proposed Residences

The Table 4 data indicate that the future unmitigated traffic noise level at the first-floor of the residences proposed adjacent to I-80 would be 81 dB L_{dn} . At upper floor locations, reduced ground absorption typically results in noise exposure being approximately 2 dB higher than ground floor locations, or 83 dB L_{dn} . The proposed berm-wall combination along I-80 will result in reduced noise exposure at first-floor facades nearest to the highway, but upper floor facades of the nearest residences would not benefit from the same degree of shielding due to their elevated positions.

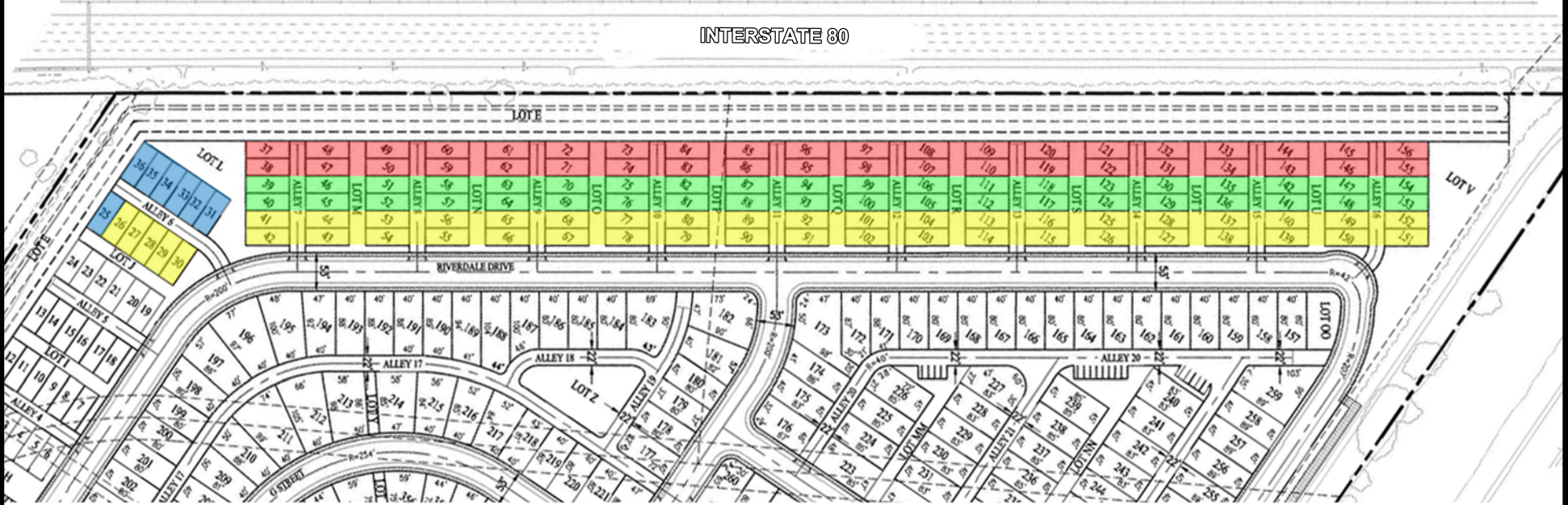
The Table 4 data also indicate that the future unmitigated traffic noise level at the first-floor of the residences proposed adjacent to West El Camino Avenue would be 69 dB L_{dn} . At upper floor locations, building façade noise exposure is predicted to be 71 dB L_{dn} . The proposed sound barrier along West El Camino Avenue will result in reduced noise exposure at first-floor facades nearest to that roadway, but upper floor facades of the nearest residences would not benefit from the same degree of shielding due to their elevated positions.

Based on the anticipated noise exposure of the residences nearest to I-80 and West El Camino Avenue, upgrades to windows and doors would be required to ensure compliance with the City of Sacramento's 45 dB L_{dn} interior noise level standard. The specific recommendations for window and door assembly Sound Transmission Class (STC) ratings are presented in Table 5. Figures 4 and 5 illustrate those locations and the required STC ratings.

Table 5 Required Window and Door STC Ratings River Oaks Residential Development – Sacramento, California	
Locations	Required STC Ratings
Residences Nearest to Interstate 80	
1 st floors of all residences on Lots 25 -156	32
2 nd floors of first two rows of residences next to I-80, and residences on Lots 25 and 31-36	37
3 rd floors of all residences on Lots 25-156	35
2 nd floors of 3 rd – 6 th rows of residences next to I-80	32
Residences Nearest to West El Camino Avenue	
1 st floors of all residences adjacent to West El Camino Avenue	28
2 nd floors of all residences located adjacent to West El Camino Avenue	32
Required STC Ratings are illustrated on Figures 4 and 5 for residences proposed nearest to I-80 and West El Camino Avenue respectively.	

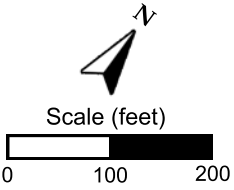
The recommendations provided above in Table 5 assume an Interstate 80 traffic noise barrier measuring 16 feet in height. In the event that a 14 foot tall barrier is constructed, the STC ratings of the windows and doors of the nearest residences to Interstate 80 would require an increase due to the change in barrier height. Specifically, the recommended STC 37 windows would increase to a STC 38 and the recommended STC 35 windows would increase to a STC 36. The STC 32 recommendation would remain unchanged for the 14- and 16-foot barrier height.

INTERSTATE 80



Legend

- STC 37 Second-Floor | STC 32 First-Floor
- STC 37 Third-Floor | STC 32 Second-Floor | STC 32 First-Floor
- STC 32 All Floors
- STC 37 Third-Floor | STC 37 Second-Floor | STC 32 First-Floor
- STC 28 All Floors - No upgrades required

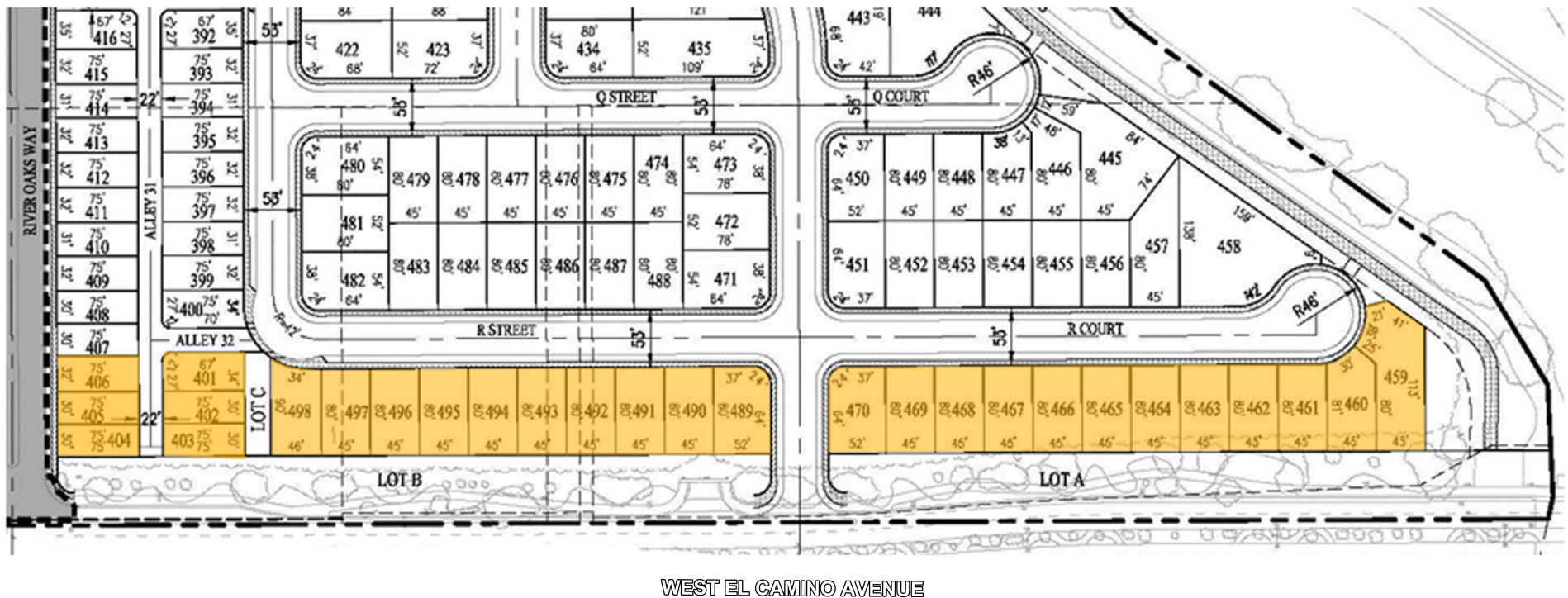


**River Oaks Residential Development
Sacramento, California**

Recommended Window and Door STC
Ratings for Homes Nearest to Interstate 80

Figure 4



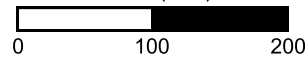


Legend

 STC 32 Second Floor | STC 28 First Floor



Scale (feet)



**River Oaks Residential Development
Sacramento, California**

Recommended Window and Door STC
Ratings for Homes Nearest
to West El Camino Avenue

Figure 5



Conclusions and Recommendations

Portions of the River Oaks Residential Development will be exposed to future traffic noise exposure in excess of City of Sacramento General Plan exterior and interior noise criteria for residential uses. As a result, the following specific noise mitigation measures are recommended for this project:

- 1) Solid masonry sound walls should be constructed along the property boundaries of the proposed lots adjacent to Interstate 80 and West El Camino Avenue to achieve compliance with the City's 60 dB L_{dn} and 65 dB L_{dn} exterior noise level standards. See Figure 2 for recommended sound wall locations. Table 4 provides predicted exterior noise levels as a function of noise barrier heights. This table should be used to determine the appropriate barrier heights for this project.

As shown on Figure, 2, the Interstate 80 traffic noise barrier wrap along the west side of the project site should extend in the southerly direction, providing shielding of traffic noise for Lots 1-36. The barrier height adjacent to Lots 25-36 should match the height of the barrier parallel to Interstate 80. The barrier height adjacent to Lots 19-24 should step down in a linear fashion, terminating at Lots 1-6 at a final height of 8 feet.

The Interstate 80 traffic noise barrier wrap along the east side of the project site should extend in the southerly direction, providing shielding of traffic noise for Lots 151-156. The barrier may step down in a linear fashion, terminating at a final height of 10 feet.

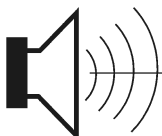
- 2) In order to achieve compliance with the City's 45 dB L_{dn} interior noise standard with a margin of safety, windows and door upgrades would be required at the residences constructed nearest to Interstate 80 and West El Camino Avenue. Table 5 lists the locations where such upgrades would be required and Figures 4 and 5 illustrate those locations and the required STC ratings.
- 3) A suitable form of forced-air mechanical ventilation shall be provided so that windows can be kept closed as desired for additional acoustical isolation.

These conclusions are based on the measured traffic noise levels and on noise reduction data for standard residential dwellings. Deviations from the project site plan shown in Figure 2 could cause future traffic noise levels to differ from those predicted in this analysis. In addition, Bollard Acoustical Consultants, Inc. is not responsible for degradation in acoustic performance of the residential construction due to poor construction practices, failure to comply with applicable building code requirements, or for failure to adhere to the minimum building practices cited in this report.

This concludes our environmental noise assessment for the proposed River Oaks Residential Development in Sacramento, California. Please contact BAC at (916) 663-0500 or paulb@bacnoise.com with comments or questions regarding this evaluation.

Appendix A Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Masking	The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level.
RT₆₀	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.



B O L L A R D

Acoustical Consultants

Appendix B-1
River Oaks Residential Development
Ambient Noise Monitoring Results - 190' from Centerline of Interstate 80 - Site 1
Wednesday, March 07, 2018

Hour	Leq	Lmax	L50	L90
0:00	71	82	70	64
1:00	70	80	68	59
2:00	71	84	69	63
3:00	71	86	69	63
4:00	73	82	72	68
5:00	75	84	74	70
6:00	77	87	77	73
7:00	78	86	78	75
8:00	78	84	78	75
9:00	77	83	77	74
10:00	76	84	76	72
11:00	77	86	76	73
12:00	76	84	75	71
13:00	76	84	75	71
14:00	76	86	76	72
15:00	76	83	75	71
16:00	77	83	77	74
17:00	77	92	77	75
18:00	77	85	77	74
19:00	75	82	75	71
20:00	75	84	74	70
21:00	73	83	73	68
22:00	73	94	71	65
23:00	72	81	70	62

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	78	73	76	77	70	73
Lmax (Maximum)	92	82	85	94	80	85
L50 (Median)	78	73	76	77	68	71
L90 (Background)	75	68	73	73	59	65

Computed Ldn, dB	80
% Daytime Energy	78%
% Nighttime Energy	22%

Appendix B-2
River Oaks Residential Development
Ambient Noise Monitoring Results - 190' from Centerline of Interstate 80 - Site 1
Thursday, March 08, 2018

Hour	Leq	Lmax	L50	L90
0:00	70	81	67	57
1:00	69	83	66	56
2:00	70	81	66	58
3:00	71	86	67	60
4:00	72	82	70	64
5:00	74	84	73	68
6:00	76	82	75	72
7:00	77	84	76	73
8:00	75	89	75	71
9:00	75	83	75	71
10:00	76	83	75	72
11:00	76	84	76	73
12:00	77	84	76	73
13:00	77	86	76	73
14:00	77	84	77	74
15:00	77	88	77	75
16:00	78	85	78	75
17:00	78	89	78	77
18:00	77	83	77	74
19:00	77	86	76	73
20:00	76	85	75	71
21:00	75	86	75	71
22:00	74	93	73	68
23:00	73	91	71	66

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	78	75	77	76	69	72
Lmax (Maximum)	89	83	85	93	81	85
L50 (Median)	78	75	76	75	66	70
L90 (Background)	77	71	73	72	56	63

Computed Ldn, dB	80
% Daytime Energy	81%
% Nighttime Energy	19%

Appendix B-3
River Oaks Residential Development
Ambient Noise Monitoring Results - 110' from Centerline of West El Camino Avenue - Site 2
Wednesday, March 07, 2018

Hour	Leq	Lmax	L50	L90
0:00	60	71	59	54
1:00	57	71	55	50
2:00	57	71	54	49
3:00	60	75	57	51
4:00	62	76	59	56
5:00	64	74	62	58
6:00	66	77	65	61
7:00	68	80	67	62
8:00	66	80	65	58
9:00	64	77	63	55
10:00	63	73	61	53
11:00	63	77	62	55
12:00	64	77	63	55
13:00	64	80	63	56
14:00	64	75	62	56
15:00	65	84	64	59
16:00	66	76	66	61
17:00	66	75	66	61
18:00	65	77	65	60
19:00	64	72	63	59
20:00	63	73	62	57
21:00	62	79	60	55
22:00	61	74	59	54
23:00	59	69	57	53

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	68	62	65	66	57	62
Lmax (Maximum)	84	72	77	77	69	73
L50 (Median)	67	60	63	65	54	58
L90 (Background)	62	53	58	61	49	54

Computed Ldn, dB	69
% Daytime Energy	77%
% Nighttime Energy	23%

Appendix B-4
River Oaks Residential Development
Ambient Noise Monitoring Results - 110' from Centerline of West El Camino Avenue - Site 2
Thursday, March 08, 2018

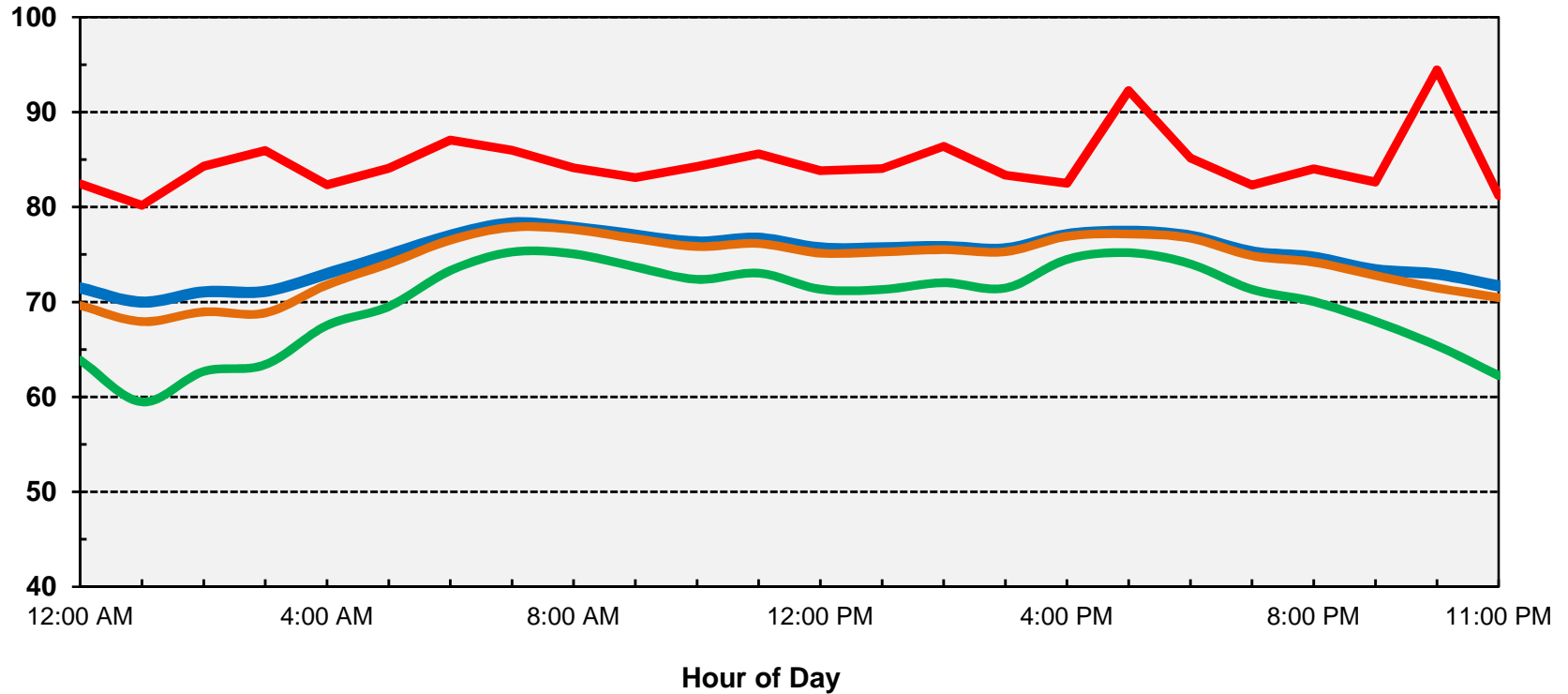
Hour	Leq	Lmax	L50	L90
0:00	57	72	53	49
1:00	56	71	50	47
2:00	59	87	51	48
3:00	59	74	53	49
4:00	61	75	56	51
5:00	62	76	58	52
6:00	65	76	64	58
7:00	68	79	67	62
8:00	67	75	66	60
9:00	65	73	63	55
10:00	64	89	61	52
11:00	64	76	63	57
12:00	65	79	64	59
13:00	64	73	63	56
14:00	64	73	63	57
15:00	66	86	64	58
16:00	66	83	66	61
17:00	67	82	66	62
18:00	65	81	64	59
19:00	64	81	63	58
20:00	64	73	63	59
21:00	63	77	62	57
22:00	61	71	59	54
23:00	60	78	58	52

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	68	63	65	65	56	61
Lmax (Maximum)	89	73	79	87	71	76
L50 (Median)	67	61	64	64	50	56
L90 (Background)	62	52	58	58	47	51

Computed Ldn, dB	68
% Daytime Energy	82%
% Nighttime Energy	18%

Appendix C-1
River Oaks Residential Development
Ambient Noise Monitoring Results - 190' from Centerline of Interstate 80 - Site 1
Wednesday, March 07, 2018

Sound Level, dBA

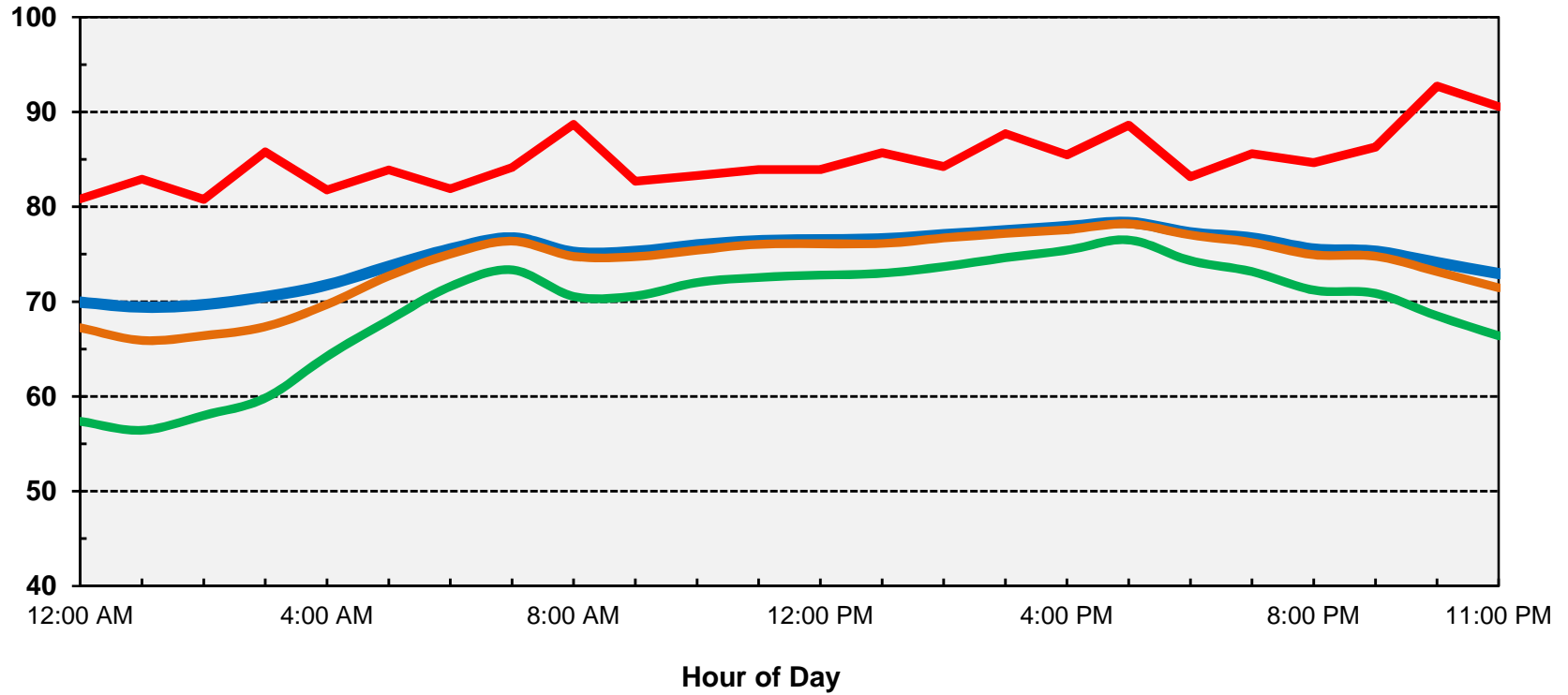


— Average (Leq)
 — Maximum (Lmax)
 — L50
 — L90

Ldn: 80 dB

Appendix C-2
River Oaks Residential Development
Ambient Noise Monitoring Results - 190' from Centerline of Interstate 80 - Site 1
Thursday, March 08, 2018

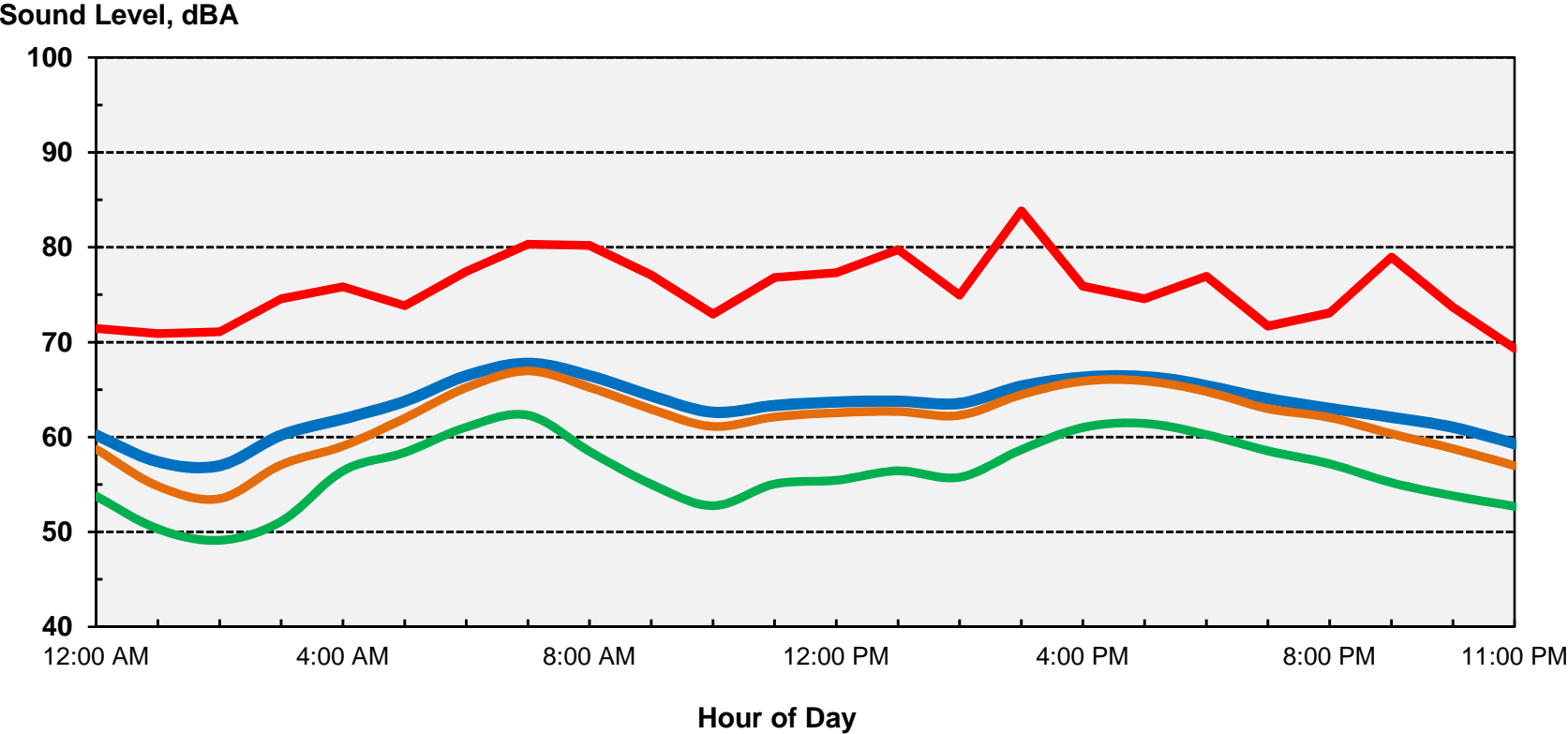
Sound Level, dBA



— Average (Leq)
 — Maximum (Lmax)
 — L50
 — L90

Ldn: 80 dB

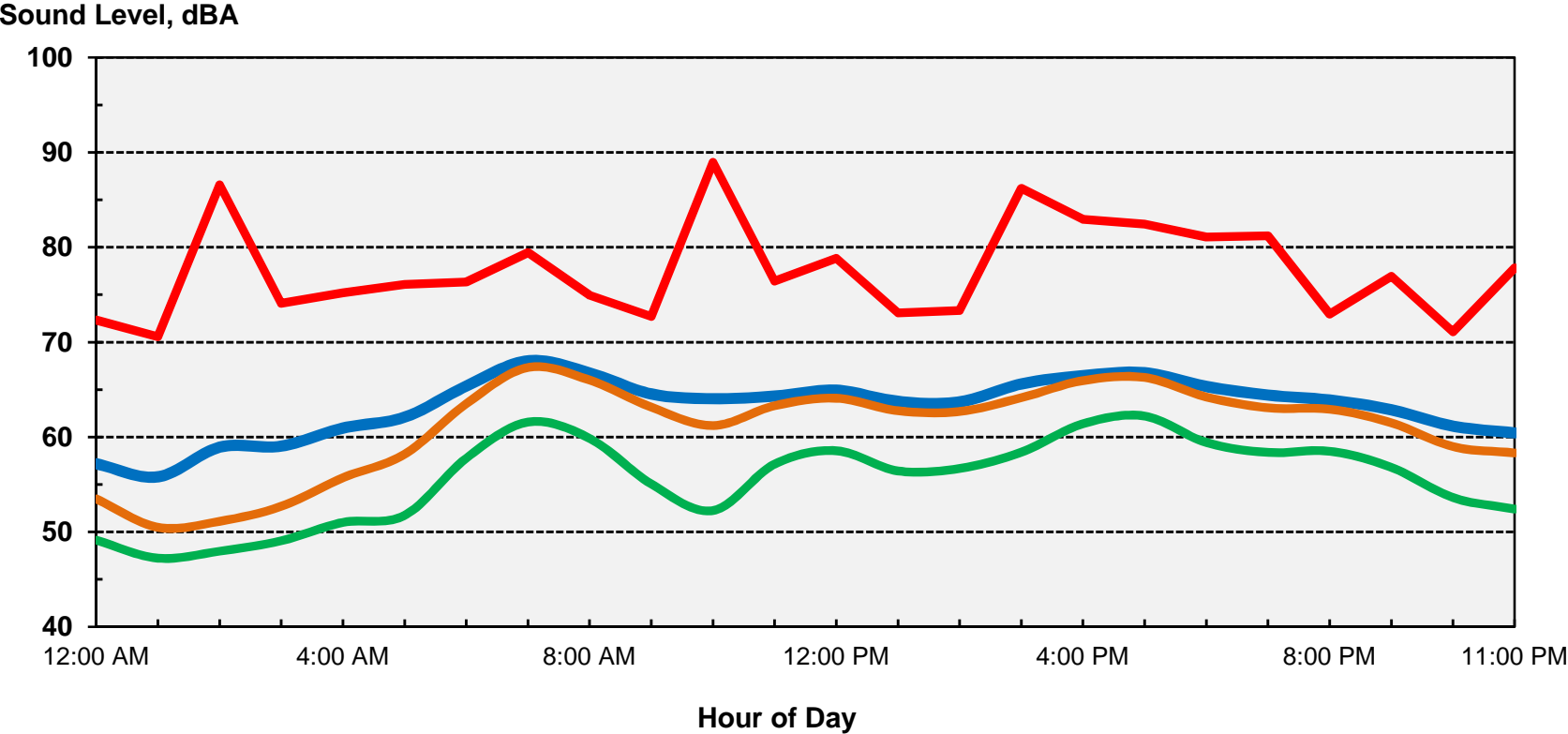
Appendix C-3
River Oaks Residential Development
Ambient Noise Monitoring Results - 110' from Centerline of West El Camino Avenue - Site 2
Wednesday, March 07, 2018



— Average (Leq)
 — Maximum (Lmax)
 — L50
 — L90

Ldn: 69 dB

Appendix C-4
River Oaks Residential Development
Ambient Noise Monitoring Results - 110' from Centerline of West El Camino Avenue - Site 2
Thursday, March 08, 2018



— Average (Leq)
 — Maximum (Lmax)
 — L50
 — L90

Ldn: 68 dB

Appendix D

Photographs of Long-Term (Continuous) Noise Level Measurement Locations River Oaks Residential Development - Sacramento, California



Photo Description: Long-Term Noise Measurement Location (LT-1)
Date of Monitoring: March 7-8, 2018



Photo Description: Long-Term Noise Measurement Location (LT-2)
Date of Monitoring: March 7-8, 2018

Appendix E-1

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Noise Prediction Worksheet

Project Information:

Job Number: 2018-045
Project Name: River Oaks Residential Development
Roadway Name: Interstate 80

Traffic Data:

Year: Future
Average Daily Traffic Volume: 134,400
Percent Daytime Traffic: 78
Percent Nighttime Traffic: 22
Percent Medium Trucks (2 axle): 3.6
Percent Heavy Trucks (3+ axle): 6.0
Assumed Vehicle Speed (mph): 70
Intervening Ground Type (hard/soft): **Hard**

Traffic Noise Levels:

Location	Description	Distance	Offset (dB)	-----L _{dn} , dB-----			Total
				Autos	Medium Trucks	Heavy Trucks	
1	Nearest outdoor activity areas	215	-4	74	66	71	76
2	Nearest 1st-floor facades	195	0	79	71	76	81
3	Nearest upper-floor facades	195	2	81	73	78	83

Notes:

1. Existing average daily traffic volume for Interstate 80 was obtained from published Caltrans traffic counts. Future average daily traffic volume was estimated by conservatively assuming a 50% increase relative to existing conditions.
2. Offset of -4 dB was applied at the outdoor activity areas of the townhomes nearest to Interstate 80 due to the orientation of the buildings relative to the highway.
3. Offset of +2 dB was applied at upper-floor facades due to reduced absorption of sound at elevated locations.

Appendix E-2

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

Noise Prediction Worksheet

Project Information:

Job Number: 2018-045
 Project Name: River Oaks Residential Development
 Roadway Name: West El Camino Avenue

Traffic Data:

Year: Future
 Average Daily Traffic Volume: 35,115
 Percent Daytime Traffic: 77
 Percent Nighttime Traffic: 23
 Percent Medium Trucks (2 axle): 2
 Percent Heavy Trucks (3+ axle): 2
 Assumed Vehicle Speed (mph): 45
 Intervening Ground Type (hard/soft): **Soft**

Traffic Noise Levels:

Location	Description	Distance	Offset (dB)	-----L _{dn} , dB-----			Total
				Autos	Medium Trucks	Heavy Trucks	
1	Nearest outdoor activity areas	110	0	67	59	63	69
2	Nearest 1st-floor facades	120	0	67	58	63	69
3	Nearest upper-floor facades	120	2	69	60	65	71

Notes:

- Existing AM peak hour conditions for West El Camino Road were obtained from Traffic Analysis Report conducted for the project by DKS (February 17, 2018). Existing average daily traffic volume was estimated by multiplying AM peak hour conditions by a factor of 10. Future average daily traffic volume was estimated by conservatively assuming a 50% increase relative to existing conditions.
- Offset of +2 dB was applied at upper-floor facades due to reduced absorption of sound at elevated locations.

Appendix F-1
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet

Project Information: Job Number: 2018-045
 Project Name: River Oaks Residential Development
 Roadway Name: Interstate 80
 Location(s): Nearest outdoor activity areas

Noise Level Data: Year: Future
 Auto L_{dn} , dB: 74
 Medium Truck L_{dn} , dB: 66
 Heavy Truck L_{dn} , dB: 71

Site Geometry: Receiver Description: Nearest outdoor activity areas
 Centerline to Barrier Distance (C_1): 145
 Barrier to Receiver Distance (C_2): 70
 Automobile Elevation: 0
 Medium Truck Elevation: 2
 Heavy Truck Elevation: 8
 Pad/Ground Elevation at Receiver: 0
 Receiver Elevation¹: 5
 Base of Barrier Elevation: 0
 Starting Barrier Height 10

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height ² (ft)	----- L_{dn} , dB -----				Barrier Breaks Line of Sight to...		
		Autos	Medium Trucks	Heavy Trucks	Total	Autos?	Medium Trucks?	Heavy Trucks?
10	10	66	58	65	69	Yes	Yes	Yes
11	11	65	57	64	68	Yes	Yes	Yes
12	12	65	57	64	68	Yes	Yes	Yes
13	13	64	56	63	67	Yes	Yes	Yes
14	14	64	56	62	66	Yes	Yes	Yes
15	15	63	55	62	66	Yes	Yes	Yes
16	16	63	55	61	65	Yes	Yes	Yes
17	17	62	54	61	65	Yes	Yes	Yes
18	18	62	54	60	64	Yes	Yes	Yes

Notes: 1. Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

Appendix F-2
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet

Project Information: Job Number: 2018-045
 Project Name: River Oaks Residential Development
 Roadway Name: West El Camino Avenue
 Location(s): Nearest outdoor activity areas

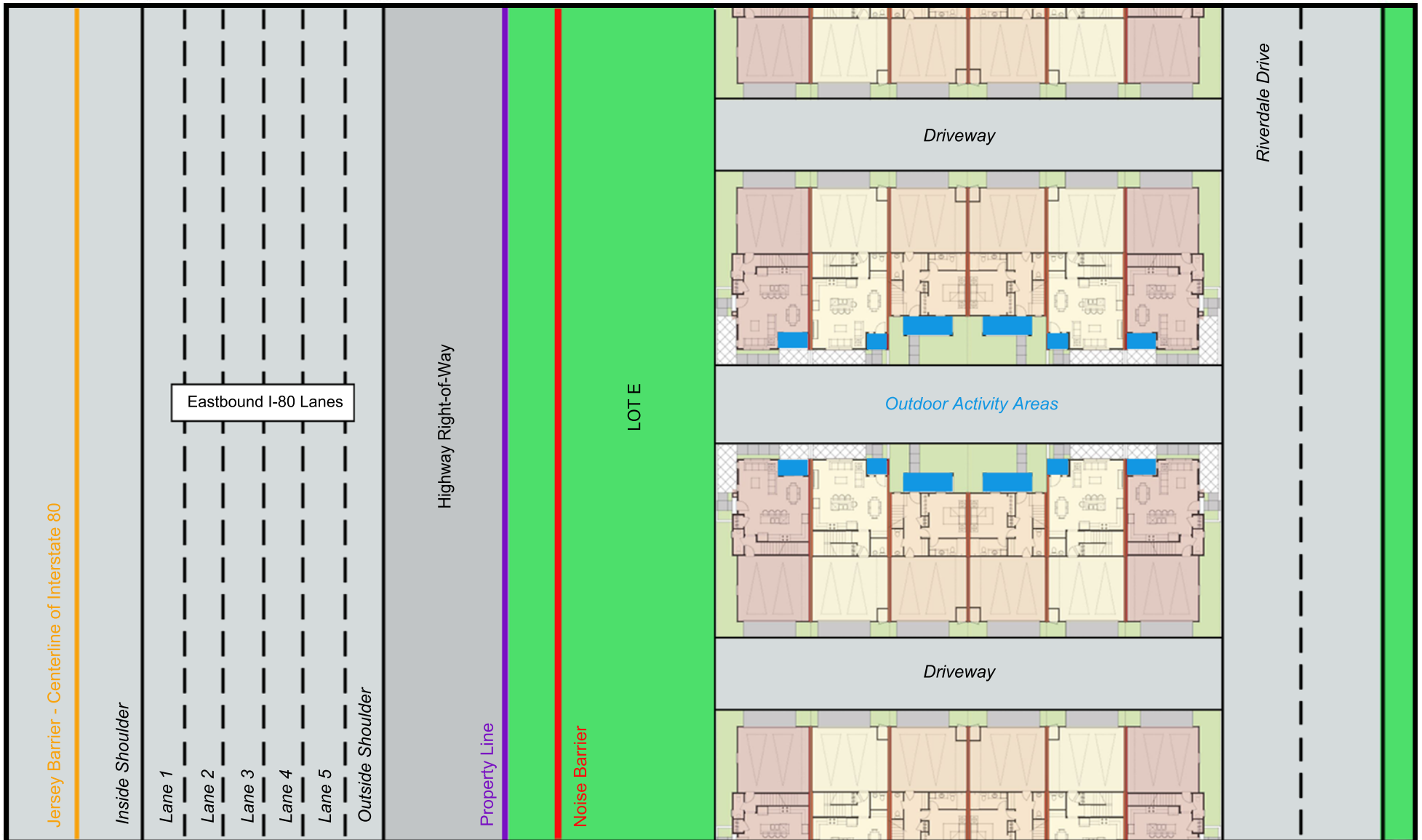
Noise Level Data: Year: Future
 Auto L_{dn} , dB: 67
 Medium Truck L_{dn} , dB: 59
 Heavy Truck L_{dn} , dB: 63

Site Geometry: Receiver Description: Nearest outdoor activity areas
 Centerline to Barrier Distance (C_1): 95
 Barrier to Receiver Distance (C_2): 15
 Automobile Elevation: 0
 Medium Truck Elevation: 2
 Heavy Truck Elevation: 8
 Pad/Ground Elevation at Receiver: 0
 Receiver Elevation¹: 5
 Base of Barrier Elevation: 0
 Starting Barrier Height 6

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height ² (ft)	----- L_{dn} , dB -----				Barrier Breaks Line of Sight to...		
		Autos	Medium Trucks	Heavy Trucks	Total	Autos?	Medium Trucks?	Heavy Trucks?
6	6	61	53	58	64	Yes	Yes	Yes
7	7	60	52	57	62	Yes	Yes	Yes
8	8	59	51	56	61	Yes	Yes	Yes
9	9	58	49	55	60	Yes	Yes	Yes
10	10	57	49	54	59	Yes	Yes	Yes
11	11	56	48	53	58	Yes	Yes	Yes
12	12	55	47	52	57	Yes	Yes	Yes
13	13	54	46	51	56	Yes	Yes	Yes
14	14	54	45	50	56	Yes	Yes	Yes

Notes: 1. Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

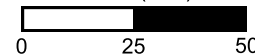


Legend

-  Outdoor Activity Areas - First-Floor Patios



Scale (feet)



**River Oaks Residential Development
Sacramento, California**

Proposed Townhome First-Floor Plans
Relative to Interstate 80

Appendix G





ALLEY (REAR) ELEVATION



STREET (SIDE) ELEVATION



STREET (SIDE) ELEVATION



PASEO (FRONT) ELEVATION

River Oaks Residential Development
Sacramento, California

Proposed Townhome
'Modern Prairie' Elevations

Appendix H-1





ALLEY (REAR) ELEVATION



STREET (SIDE) ELEVATION



STREET (SIDE) ELEVATION



PASEO (FRONT) ELEVATION

River Oaks Residential Development
Sacramento, California

Proposed Townhome
'Modern Farmhouse' Elevations

Appendix H-2





River Oaks Residential Development
Sacramento, California

Proposed Townhome 'Modern Prairie'
Perspective Views

Appendix H-3



ATTACHMENT 4

River Oaks Park MITIGATION MONITORING AND REPORTING PROGRAM (With Addendum Revisions)

This Mitigation Monitoring and Reporting Program (MMRP) has been required by and prepared for the City of Sacramento Development Services Department, Environmental Planning Services, 1231 I Street, Room 300, Sacramento, CA 95814, pursuant to CEQA Guidelines Section 21081.6.

SECTION 1: PROJECT IDENTIFICATION

Project Name / File Number: River Oaks Park (File # P01-132)
Owner/Developer- Name: Beazer Homes Inc., Northern California Division
Address: 3721 Douglas Boulevard, Suite 100
Roseville, CA 95661

Project Location

The project site is located in the City of Sacramento's South Natomas Community in Sacramento County, California. The project site is located on parcels of land bounded by Interstate Highway 80 to the north, West El Camino Avenue to the south, the Natomas Main Drainage Canal to the east, and Orchard Lane to the west.

Project Description:

The River Oaks Park project is located on an ±80.33-acre site approximately one mile northeast of the City's downtown. The project amends City land use plans to allow for the construction of 648 new homes, roads, two parks, trails, recreation facilities, a community pool, and a clubhouse. The project is located within the City's jurisdiction and the City is the Lead Agency pursuant to the California Environmental Quality Act (CEQA) responsible for conducting an environmental review of the proposal.

SECTION 2: GENERAL INFORMATION

This MMRP is designed to aid the City of Sacramento in its implementation and monitoring of mitigation measures adopted for the proposed project. The MMRP includes mitigation for the River Oaks Park project. The intent of the MMRP is to prescribe and enforce a means for properly and successfully implementing the mitigation measures as identified within the Initial Study and EIR for this project. Unless otherwise noted, the cost of implementing the mitigation measures as prescribed by this MMRP shall be funded by the owner/developer identified above.

The mitigation measures have been taken from the Initial Study and EIR and are assigned the same number they have in those documents. The MMRP describes the actions that must take place to implement each mitigation measure, the timing of those actions, and the entities responsible for implementing and monitoring the actions. The developer will be responsible for fully understanding and effectively implementing the mitigation measures contained with the MMRP. The City of Sacramento will be responsible for ensuring compliance. The City will provide Caltrans with a copy of a Mitigation Monitoring Certification upon approval of the MMRP by the City, and again subsequent to completion of the mitigations pursuant to Section 15206, Article 13 of the California Code of Regulations.

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Traffic Mitigation Measures		VERIFICATION OF COMPLIANCE				
	Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
Baseline Plus Project Conditions						
Intersection Impacts						
A) West El Camino Avenue/ I-80 Westbound Off-Ramps (#1)	The project Applicant/ Developer shall contribute a fair-share payment as determined by the City towards implementation of the following mitigation measure: Install a traffic signal at the intersection of West El Camino Avenue and I-80 Westbound Off-Ramps.	Applicant/ Developer	City of Sacramento Development Services Department	Payment of Fair-Share	Prior to issuance of certificates of occupancy for the first phase of development.	
B) West El Camino Avenue/ I-80 Eastbound Off-Ramps (#2)	The project Applicant/ Developer shall contribute a fair-share payment as determined by the City towards implementation of the following mitigation measure: Install a traffic signal at the intersection of West El Camino Avenue and I-80 Eastbound Off-Ramps. Widen the northbound approach for a length of 250 feet to provide a separate left turn lane and a separate right turn lane. Re-stripe the westbound approach from a shared through-right lane to a separate through lane and a right turn lane.	Applicant/ Developer	City of Sacramento Development Services Department	Payment of Fair-Share	Prior to issuance of certificates of occupancy for the first phase of development.	
C) West El Camino Avenue/ River Oaks Way (Proposed)/ West River Drive (#4)	Install a traffic signal.	Applicant/ Developer	City of Sacramento Development Services Department	Construct the required improvements	Prior to issuance of certificates of occupancy for the first phase of development.	
Intersections Impacts						
A) West El Camino Avenue/ Gateway Oaks Drive (#6)	Provide overlap traffic signal phasing to allow northbound Gateway Oaks Drive right turning traffic to proceed on a green arrow simultaneously with the westbound West El Camino Avenue left turning movement, and prohibit U-turns for the westbound left turning movement.	Applicant/ Developer	City of Sacramento Development Services Department	Signal Modification	Prior to issuance of certificates of occupancy for the first phase of development.	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Cumulative Plus Project with Gateway Oaks Drive Extension Conditions – 4 Lanes on West El Camino Avenue						
<i>Intersections Impacts</i>						
A) West El Camino Avenue/ Orchard Lane (#3)	Reconfigure the northbound and southbound approaches from one left turn lane, one thru lane, and one right turn lane to one left turn lane, one shared left-through lane, and one right turn lane. Change the signal phasing for the northbound/southbound approach from protected phasing to split phasing.	Applicant/ Developer	City of Sacramento Development Services Department	Construct the required improvements	Prior to issuance of certificates of occupancy for the first phase of development.	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
From the Initial Study:					
Mitigation Measure 4.1: All bridges constructed over the Canal shall be required to obtain an encroachment permit from the Reclamation District 1000 (RD-1000).	Applicant/ Developer	City of Sacramento Development Services Department and Reclamation District 1000	Obtain encroachment permit	Prior to construction on canal and levee	
Mitigation Measure 4.2: Construction of pedestrian bridges and bridge foundations at the project site shall be prohibited from altering the Canal bed. Note: The Natomas Main Drainage Canal is a structure eligible for listing in the National Register of Historic Places due to its location, materials, and design. Any construction in the Canal bed will require a permit from the United States Army Corps of Engineers (PAR, 2004).	Applicant/ Developer	City of Sacramento Development Services Department and Army Corps of Engineers (if construction occurs within canal bed)	Avoid alteration to canal bed and/or obtain permit from Army Corps of Engineers	Prior to construction on levee	
Mitigation Measure 4.3: The project applicant shall be required to acquire a permit(s), properly abandon and destroy all three onsite wells, and all three onsite septic systems in accordance with City and County standards for well and septic system abandonment.	Applicant/ Developer	City of Sacramento Development Services Department and Sacramento County Environmental Management Department	City Development Regulations and Universal Building Code	Prior to issuance of any grading permits.	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>Mitigation Measure 5.1: This mitigation measure contains twelve emission reduction factors identified by the project applicant from the Sacramento Metropolitan Air Quality Management District Guide to Air Quality Assessment: Appendix E- Operational Emissions Mitigation, July 2004. Each of the listed items provides a credit to the project as an emissions reduction factor.</p> <ul style="list-style-type: none"> ▪ The entire project is located within a ½ mile of an existing Class 1 or Class 2 bike land and provides a comparable bikeway connection to that existing facility. ▪ Setback distance is minimized between development and existing transit, bicycle, or pedestrian corridor. ▪ Average residential density is seven dwelling units per acre or greater. ▪ Multiple and direct street routing (grid style). ▪ Mixed use has at least three of the following on site and/or within ¼ mile: residential development, retail development, personal services, open space, or office. ▪ Neighborhood serving as focal point with parks, school, and civic uses within ¼ mile. ▪ Separate, safe, and convenient bicycle and pedestrian paths connecting residential, commercial, and office uses. ▪ The project provides a development pattern that eliminates physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or 	Applicant/ Developer	City of Sacramento Development Services Department and SMAQMD	Emission reduction factors must be demonstrated on the final map and all construction plans. Construction must meet SMAQMD standards and City Development Regulations	Project design elements shall be indicated on the final map prior to final map recordation. Project construction elements (use of ozone destruction catalyst and compliance with Energy Star Home standards) shall be demonstrated on construction plans prior to issuance of building permits.	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>pedestrian circulation.</p> <ul style="list-style-type: none"> ▪ Install lowest emitting commercially available fireplaces. NOTE: All homes in the project will have no fireplaces. ▪ Install ozone destruction catalyst on air conditioning systems, in consultation with SMAQMD. ▪ Comply with SMUD Advantage Plus (Tier III) or EPA/DOE Energy Star Home energy standards. ▪ Include permanent Transportation Management Association membership and funding requirement. Funding to be provided by Community Facilities District or County Service Area or other non-revocable funding mechanism. 					
<p>Mitigation Measure 5.2: The project shall provide a plan for approval by the City of Sacramento and SMAQMD, demonstrating that the heavy-duty (>fifty horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average twenty percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction.</p>	Applicant/ Developer	SMAQMD; City of Sacramento Development Services Department	Demonstration that required emission reductions are achieved	Contractor construction bid documents and contracts shall stipulate the plan requirement. Periodic field inspections shall be conducted prior to grading and/or construction.	
<p>Mitigation Measure 5.3: The project applicant shall submit to the City of Sacramento and SMAQMD, a comprehensive inventory of all off-road construction equipment, equal to or greater than fifty horsepower, that will be used an aggregate of forty or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and</p>	Applicant/ Developer	SMAQMD; City of Sacramento Development Services Department	Provide inventory and monthly updates	Contractor construction bid documents and contracts shall stipulate the plan requirement. Periodic field inspections shall be conducted prior to grading and/or construction.	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
submitted monthly throughout the duration of the project, except that an inventory shall not be required for any thirty-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.					
Mitigation Measure 5.4: The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed forty percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, the City of Sacramento and SMAQMD, shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any thirty-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other SMAQMD or state rules or regulations.	Applicant/ Developer	SMAQMD and the City of Sacramento Development Services Department	Submittal of monthly inspection summaries throughout all construction phases	Contractor construction bid documents and contracts shall stipulate the plan requirement. Periodic field inspections shall be conducted prior to grading and/or construction.	
Mitigation Measure 5.5: Architectural coatings used in construction can be significant contributors of ROG, and wherever possible low-ROG and low-VOC architectural coating products shall be specified for use.	Applicant/ Developer	SMAQMD and the City of Sacramento Development Services Department	SMAQMD standards for low-ROG and low-VOC products	Contractor construction bid documents and contracts shall stipulate the architectural coating requirements	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>Mitigation Measure 5.6: The applicant shall pay fees to the Sacramento Metropolitan Air Quality Management District in the amount of \$58,309, or \$13,600 per ton of mitigated NOx emissions beyond the district NOx construction significance threshold, to compensate for the cost of providing vehicle retrofit equipment to reduce vehicle emissions within the district. The project will be subject to the SMAQMD rules and regulations in effect at the time of construction. The project will require a permit from the SMAQMD prior to operating equipment capable of releasing emissions into the atmosphere, such as portable construction equipment with an internal combustion engine over 50 horsepower.</p>	Applicant/ Developer	SMAQMD and the City of Sacramento Development Services Department	Payment of required fees; compliance with SMAQMD rules and regulations; issuance of permit to operate construction equipment	Fees shall be paid prior to issuance of the first grading permit. Grading and construction plans shall demonstrate compliance with SMAQMD rules and regulations and necessary permits to operate construction equipment shall be obtained prior to issuance of grading and building permits.	
<p>Mitigation Measure 5.7: The project shall be constructed in five separate phases as indicated in the project description. Any variation in the construction phasing must receive prior approval from the City of Sacramento and the Sacramento Metropolitan Air Quality District.</p>	Applicant/ Developer	SMAQMD and the City of Sacramento Development Services Department	Phasing shall be demonstrated on the final map and all construction plans	Prior to final map recordation and issuance of grading and building permits	
<p>Mitigation Measure 7.1: The project applicant/developer shall pay the one-time, up-front NBHCP fee based upon a ratio of 0.5 acres of mitigation land for every 1.0 gross acre of development which funds mitigation land acquisition and associated habitat enhancement, management, endowment, administration, monitoring, etc. Currently the fee is \$10,027 per developed acre; however, the land use agencies may adjust this fee as provided for in the NBHCP. Optionally, the applicant/developer may donate land to TNBC in lieu of payment of some or all of the acquisition component of the fee. In such cases, TNBC, USFWS, and CDFW will determine which lands are acceptable. The applicant/developer shall comply with Sacramento City Code 15.88.091 subsections A through D relating to NBHCP fees.</p>	Applicant/ Developer	City of Sacramento Development Services Department	Payment of fees as required by the Natomas Basin Habitat Conservation Plan	Prior to issuance of first grading permit for the site	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>Mitigation Measure 7.2: As stated in Sacramento City Code 15.88.091 (D), the project applicant/developer shall execute an agreement, in a form acceptable to and approved by the City Attorney, that requires the applicant and its successors in interest to do the following:</p> <ul style="list-style-type: none"> a. Comply with all provisions of the NBHCP; b. Comply with the Incidental Take Permit and the State Incidental Take Authorization issued in conjunction with the NBHCP; c. Pay all applicable fee increases and additions, whether adopted by the City before or within six months after issuance of the grading permit (but an applicant who has been specifically and expressly asked by the City manager or designee to pay HCP fees earlier than the date of issuance of a grading permit, and who in fact makes the requested early payment, shall not be subject to the “catch up” provision of this clause); and d. Release, defend, and fully indemnify the City and its officers, employees, and agents from and against all costs and damages, including attorney’s fees, that may arise in connection with the City’s issuance of a grading permit to the applicant, including but not limited to claims (procedural or substantive) that relate to HCP fee increases adopted by the City and arise under California’s Mitigation Fee Act (Title 7, Division 1 of the Government Code at Chapters 6, 7, 8, and 9). 	Applicant/ Developer	City Attorney; and City of Sacramento Development Services Department	Natomas Basin Habitat Conservation Plan and City Development Regulations	Grading and construction plans shall demonstrate compliance with all provisions of the NBHCP and the Incidental Take Permit prior to issuance of any grading or building permits. Fees shall be paid prior to issuance of first grading permit for the site, and payment of any fee increases within six months after issuance of the grading permit.	
<p>Mitigation Measure 7.3: Not less than 30 days and not more than 6 months prior to commencement of construction activities on the project site, the applicant shall contract with a qualified biologist to conduct a pre-</p>	Applicant/ Developer	CDFW, USFWS, and City of Sacramento Development Services Department	Surveys shall be completed within the stipulated timeframe; survey reports shall be submitted prior to	Prior to issuance of grading permits	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
construction survey of the site to determine the status and presence of, and likely impacts to, all Covered Species and their habitat on the site. These species shall include giant garter snake, northwestern pond turtle, and Swainson's hawk. The results of the pre-construction surveys along with the recommended take minimization measures shall be documented in a report and submitted to the City of Sacramento, TNBC, USFWS and the CDFG. Note: Covered Species are defined as the Federally Protected Species, State Protected Species and the Other Species identified within Table I-1 in the NBHCP (22 species total).			issuance of any grading permits		
Mitigation Measure 7.4: The project applicant/developer shall contract with a qualified biologist to conduct pre-construction nesting raptor surveys if construction is planned within the raptor nesting season (February-August). Surveys shall be conducted no more than 30 days prior to the commencement of construction, according to Department of Fish and Wildlife guidelines. If an occupied raptor nesting is identified, the project applicant shall contact Department of Fish and Wildlife to determine appropriate mitigation, which is dependent on species.	Applicant/ Developer	CDFW; and City of Sacramento Development Services Department	CDFW, Natomas Basin Habitat Conservation Plan and City Development Regulations	Prior to issuance of grading permits	
Mitigation Measure 7.5: The project applicant/developer shall implement the following specific measures prior to ground disturbance and during construction to avoid, minimize and mitigate potential impacts to and reduce take of giant garter snake . These measures shall be included as notes on all project construction plans. (Note: The following represents measure V.A.5.a in the NBHCP.) a. Within the Natomas Basin, all construction activity involving disturbance of habitat, such as site preparation and initial grading, is restricted to the period between May 1 and September 30. This is the active period for the giant garter snake and direct	Applicant/ Developer	USFWS, CDFW, and the City of Sacramento Development Services Department	ESA, Natomas Basin Habitat Conservation Plan and City Development Regulations	Grading permits shall include the timing restrictions stipulated in this mitigation measure. Pre-construction survey reports required in sections b & d and USFWS staff training verification shall be provided to the City of Sacramento prior to issuance of any grading permits.	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>mortality is lessened, because snakes are expected to actively move and avoid danger.</p> <p>b. Pre-construction surveys for giant garter snake, as well as other NBHCP Covered Species, must be completed for all development projects by a qualified biologist approved by USFWS. If any giant garter snake habitat is found within a specific site, the following additional measures shall be implemented to minimize disturbance of habitat and harassment of giant garter snake, unless such project is specifically exempted by USFWS.</p> <p>c. Between April 15 and September 30, all irrigation ditches, Canals, or other aquatic habitat shall be completely dewatered, with no puddle water remaining, for at least 15 consecutive days prior to the excavation or filling in of the dewatered habitat. Make sure dewatered habitat does not continue to support giant garter snake prey, which could detain or attract snakes into the area. If a site cannot be completely dewatered, netting and salvage of prey items may be necessary. This measure removes aquatic habitat and allows giant garter snake to leave on their own.</p> <p>d. For sites that contain giant garter snake habitat, no more than 24-hours prior to start of construction activities (site preparation and/or grading), the project area shall be surveyed for the presence of giant garter snake. If construction activities stop on the project site for a period of two weeks, a new giant garter snake survey shall be completed no more than 24-hours prior to the re-start of construction activities.</p> <p>e. Confine clearing to the minimal area necessary to facilitate construction activities. Flag and designate avoided giant garter snake habitat within or adjacent</p>				<p>Periodic field inspections may be conducted during construction by City, USFWS, and CDFW.</p>	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>to the project as Environmentally Sensitive Areas. This area shall be avoided by all construction personnel.</p> <p>f. Construction personnel completing site preparation and grading operations shall receive USFWS approved environmental awareness training. This training instructs workers on how to identify giant garter snakes and their habitats, and what to do if a giant garter snake is encountered during construction activities. During this training an on-site biological monitor shall be designated.</p> <p>g. If a live giant garter snake is found during construction activities, immediately notify the USFWS and the project's biological monitor. The biological monitor, or his/her assignee, shall do the following:</p> <p style="padding-left: 20px;">(a) Stop construction in the vicinity of the snake. Monitor the snake and allow the snake to leave on its own. The monitor shall remain in the area for the remainder of the work day to make sure the snake is not harmed or if it leaves the site, does not return. Escape routes for giant garter snake shall be determined in advance of Construction and snakes shall always be allowed to leave on their own. If a giant garter snake does not leave on its own within 1 working day, farther consultation with USFWS is required.</p> <p>h. Upon locating dead, injured or sick threatened or endangered wildlife species, the Permittees or their designated agents must notify within 1 working day the Service's Division of Law Enforcement (2800 Cottage Way, Sacramento CA 95825) or the Sacramento Fish and Wildlife Office (2800 Cottage Way, Room W-2605, Sacramento, CA 95825, telephone P16 414-6600). Written notification to both</p>					

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>offices must be made within 3 calendar days and must include the date, time, and location of the finding of a specimen and any other pertinent information.</p> <p>i. Fill or construction debris may be used by giant garter snake as an over-wintering site. Therefore, upon completion of construction activities remove any temporary fill and/or construction debris from the site. If this material is situated near undisturbed giant garter snake habitat and it is to be removed between October 1 and April 30, it shall be inspected by a qualified biologist to assure that giant garter snake are not using it as hibernaculae.</p> <p>j. No plastic, monofilament, jute, or similar erosion control matting that could entangle snakes will be placed on a project site when working within 200 feet of snake aquatic or rice habitat. Possible substitutions include coconut coir matting, tactified hydroseeding compounds, or other material approved by the Wildlife Agencies.</p> <p>k. Fences will be constructed along the shared boundary of urban development and the North Drainage Canal and the East Drainage Canal within Sutter's Permit Area, subject to the following guidelines:</p> <p>(a) A minimum of 100 feet will be provided from fence-to-fence and access to the Canals shall be limited by gates.</p> <p>(b) A snake deterrent will be placed along the fences on the North Drainage Canal and the East Drainage Canal (i.e., fence construction that restricts snake movement or an appropriate vegetative barrier either inside or outside of the boundary fence). The design of the deterrent shall</p>					

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>be subject to approval by the Wildlife Agencies.</p> <p>(c) The specific fence/snake barrier design adjacent to a given development will be determined within Sutter County's review of the proposed development and the fence/barrier shall be installed immediately after site is completed.</p> <p>At the time of urban development along the North and East Drainage Canals, Sutter shall consult with the Wildlife Agencies to determine design strategies that would enhance conditions for giant garter snake movement through the North and East Drainage Canals. Possible strategies may include expanded buffer areas and modified Canal cross sections if such measures are, in the determination of Sutter and the Water Agencies, found to be feasible.</p>					
<p>Mitigation Measure 7.6: The project applicant/developer shall implement the following specific measures to avoid, minimize and mitigate potential impacts to and reduce take of northwestern pond turtle. These measures shall be included as notes on all project construction plans. (Note: The following represents measure V.A.5.j in the NBHCP.)</p> <p>Take of the northwestern pond turtle as a result of habitat destruction during construction activities, including the removal of irrigation ditches and drains, and ruing ditch and drain maintenance, will be minimized by the dewatering requirement described above (Mitigation Measure 7.5) for giant garter snake.</p>	Applicant/ Developer	USFWS, CDFW, and the City of Sacramento Development Services Department	Natomas Basin Habitat Conservation Plan and City Development Regulations	Contractor construction bid documents and contracts shall include construction practices stipulated by this measure. Periodic field inspections may be conducted during construction by City, USFWS, and CDFW.	
<p>Mitigation Measure 7.7: The project applicant/developer shall implement the following specific measures to avoid, minimize and mitigate potential impacts to and reduce take of Swainson's hawk. These measures shall be included as notes on all project construction plans. (Note: The</p>	Applicant/ Developer	USFWS, CDFW, and the City of Sacramento Development Services Department	Natomas Basin Habitat Conservation Plan	Prior to issuance of the use permit, the City shall certify that the project site is located within the Swainson's Hawk Zone Permit Area	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>following represents measure V.A.5.b in the NBHCP.)</p> <p>Measures to Reduce Cumulative Impacts to Foraging Habitat</p> <p>1) To maintain and promote Swainson’s hawk habitat values, Sutter County will not obtain coverage under the NBHCP and incidental take permits, nor will Sutter County grant Urban Development Permit approvals, for development on land within the one-mile wide Swainson’s Hawk Zone adjacent to the Sacramento River. The City of Sacramento has limited its Permit Area within the Swainson’s Hawk Zone to the approximately 252 acres located within the North Natomas Community Plan that was designated for urban development in 1994 and, likewise, will not grant development approvals within the Swainson’s Hawk Zone beyond this designated 252 acres. It should be noted that of these 252 acres of land in the Swainson’s Hawk Zone, about 80 acres will be a 250 foot wide agricultural buffer along the City’s side of Fisherman’s Lake. Should either the City or the County seek to expand NBHCP coverage for development within the Swainson’s Hawk Zone beyond that described above, granting of such coverage would require an amendment to the NBHCP and permits and would be subject to review and approval by the USFWS and the CDFW in accordance with all applicable statutory and regulatory requirements.</p> <p>Because the effectiveness of the NBHCP’s Operating Conservation Program (OCP) adequately minimizes and mitigates the effects of take of the Swainson’s hawk depends substantially on the exclusion of future urban development from the City’s and Sutter County’s portion of the Swainson’s Hawk Zone, approval by the City of</p>					

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>future urban development (i.e., uses not consistent with Agricultural Zoning) in the zone beyond the 170 (252 acres minus 80) acres identified above or approval by Sutter of any future urban development in the Swainson's Hawk Zone would constitute a significant departure from the Plan's OCP and would trigger are evaluation of the City's and/or Sutter's Permits and possible suspension or revocation of the City's and/or County's permits.</p>					
<p>Mitigation Measure 7.7 continued: Measures to Reduce Nest Disturbance</p>					
<p>1) Prior to the commencement of development activities at any development site within the NBHCP area, a pre-construction survey shall be completed by the respective developer to determine whether any Swainson's hawk nest trees will be removed on-site, or active Swainson's hawk nest sites occur on or within ½ mile of the development site. These surveys shall be conducted according to the Swainson's Hawk Technical Advisory Committee's (May 31, 2000) methodology or updated methodologies, as approved by the Service and CDFW, using experienced Swainson's hawk surveyors.</p> <p>2) If breeding Swainson's hawks (i.e. exhibiting nest building or nesting behavior) are identified, no new disturbances (e.g., heavy equipment operation associated with construction) will occur within ½ mile of an active nest between March 15 and September 15, or until a qualified biologist, with concurrence by CDFW, has determined that young have fledged or that the nest is no longer occupied. If the active nest site is located within ¼ mile of existing urban development, the no new disturbance zone can be limited to the ¼ mile versus ½ mile. Routine disturbances such as agricultural</p>	<p>Applicant/ Developer</p>	<p>CDFW and City of Sacramento Development Services Department</p>	<p>Surveys shall be completed within the stipulated timeframe; survey reports shall be submitted prior to issuance of any grading permits. Survey reports shall indicate how measures 2 through 5 will be met, if necessary.</p>	<p>Prior to issuance of grading permits</p>	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>activities, commuter traffic, and routine facility maintenance activities within ½ mile of an active nest are not restricted.</p> <p>3) Where disturbance of a Swainson's hawk nest cannot be avoided, such disturbance shall be temporarily avoided (i.e., defer construction activities until after the nesting season) and then, if unavoidable, the nest tree may be destroyed during the non-nesting season. For purposes of this provision the Swainson's hawk nesting season is defined as March 15 to September 15. If a nest tree (any tree that has an active nest in the year the impact is to occur) must be removed, tree removal shall only occur between September 15 and February 1.</p> <p>4) If a Swainson's hawk nest tree is to be removed and fledglings are present, the tree may not be removed until September 15 or until the California Department of Fish and Wildlife has determined that the young have fledged and are no longer dependent upon the nest tree.</p> <p>5) If construction or other project related activities which may cause nest abandonment or forced fledgling are proposed within the ¼ mile buffer zone, intensive monitoring (funded by the project sponsor) by a Department of Fish and Wildlife approved raptor biologist will be required. Exact implementation of this measure will be based on specific information at the project site.</p>					
Mitigation Measure 7.7 continued: Measures to Prevent the Loss of Nest Trees					
<p>1) Valley oaks, tree groves, riparian habitat and other large trees will be preserved wherever possible. The City and Sutter County shall preserve and restore stands of riparian trees used by Swainson's hawks and other animals, particularly near Fisherman's Lake and</p>	Applicant/ Developer	CDFW and City of Sacramento Development Services Department	Natomas Basin Habitat Conservation Plan	Prior to issuance of grading permits	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>elsewhere in the Plan Area where large oak groves, tree groves and riparian habitat have been identified in the Plan Area.</p> <p>2) The raptor nesting season shall be avoided when scheduling construction near nests in accordance with applicable guidelines published by the Wildlife Agencies or through consultation with the Wildlife Agencies.</p>					
<p>Mitigation Measure 7.8: The applicant/property owner shall be responsible for adhering to the protection and maintenance responsibility measures for Heritage Trees as outlined in Sacramento City Code 12.64.020 and 12.64.050.</p>	Applicant/ Developer	City of Sacramento Development Services Department and City Tree Services	Required permits for activities affecting Heritage Trees shall be obtained. Grading and construction plans shall indicate preservation of any Heritage Trees to be saved.	Prior to issuance of grading and/or building permits	
<p>Mitigation Measure 7.9: Prior to any construction or grading on the project site, the applicant/property owner shall consult with the Sacramento City Arborist and acquire a permit from the Director in order to conduct any activities affecting Heritage Trees (as defined by Sacramento City Code 12.64.020). Activities affecting Heritage Trees include removal, pruning of any segment greater than twelve (12) inches in circumference or the placement of any chemical or other deleterious substance by spray, and disturbing the soil or placing any chemical or other deleterious substance or material on the soil within the drip line area (City Code 12.64.050).</p>	Applicant/ Developer	City of Sacramento Development Services Department and City Tree Services	Required permits for activities affecting Heritage Trees shall be obtained	Prior to issuance of grading and/or building permits	
<p>Mitigation Measure 7.10: The tree protection methods listed below shall be implemented, including during grading and construction for the pedestrian bridge, by the applicant/developer and shall be identified on all site construction plans for the project.</p>	Applicant/ Developer	City of Sacramento Development Services Department and City Tree Services	Grading and construction plans shall demonstrate compliance with these provisions. Arborist report shall be submitted	Prior to issuance of demolition, grading and/or building permits, the City of Sacramento shall verify tree protection fencing is installed	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>1) Prior to the issuance of demolition/grading permits a 6 foot chain link fence shall be installed around the dripline of trees within the construction area. The dripline is an imaginary line on the ground directly below the outermost tips of the branches. Orange plastic fencing is acceptable but not recommended because it does not stand up to construction activity and is easily removed. The fencing shall remain in place for the duration of the project except for the temporary removal required to replace existing curb, gutter, and sidewalk.</p> <p>2) No excavation for utilities, trenching, grade changes, storage of materials or parking of vehicles shall be allowed within the fenced area. Boring or hand trenching for utilities shall be allowed within the fenced area under the supervision of the project arborist.</p> <p>3) The contractor shall hire an International Society of Arboriculture (ISA) certified arborist to do any required pruning for building or equipment clearances. The arborist will also perform any root inspections.</p> <p>4) If during excavation for the project or for any necessary sidewalk, curb, gutter repair or driveway construction, tree roots greater than two inches in diameter are encountered work shall stop immediately until project arborist can perform an on-site inspection. All roots shall be cut clean and the tree affected may require supplemental irrigation/fertilization and pruning as a result of root pruning.</p> <p>The contractor shall be held liable for any damage to existing trees. i.e. trunk wounds, broken limb, pouring of any deleterious materials, or washing out concrete under the drip line of the tree. Damages will be assessed using the "Guide to Plant Appraisal" ninth edition published by the</p>			to City at the end of each construction phase.	correctly. The City of Sacramento shall verify that all grading and construction plans are correct.	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
ISA. The project arborist will submit a report to the property owner for review.					
Mitigation Measure 7.11: The applicant/property owner shall design, construct, and implement the pedestrian bridges over the Main Drainage Canal so that all parts of each bridge (including footings and foundations) as well as construction activity during grading and installation shall stay outside of the ordinary high water mark of the Canal. The ordinary high water mark shall be delineated on all construction level drawings and plans. In addition, all construction level drawings and plans for the pedestrian bridges shall be approved by the City Development Services Department prior to construction of each bridge. Note: Non-conformance with this measure would require the applicant/developer to acquire Section 404 Nationwide Permit(s) from the Army Corps of Engineers and a Section 401 Water Quality Certification from the Regional Water Quality Control Board.	Applicant/ Developer	City of Sacramento Development Services Department	Improvement plans shall demonstrate compliance	Prior to approval of improvement plans	
Mitigation Measure 7.12: The applicant/property owner shall obtain a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife prior to construction of bridge footings, foundations, and trails on the Natomas Main Drainage Canal levees. Note: A Streambed Alteration Agreement would not allow construction to alter the Canal bed (refer to Mitigation Measures 4.5 and 14.3).	Applicant/ Developer	CDFW and City of Sacramento Development Services Department	CDFW Permit Requirements	Prior to construction of bridge footings, foundations, and trails.	
Mitigation Measure 8.1: The applicant shall follow City of Sacramento Energy Conservation Review Checklist and Development Guidelines for project and site plan review.	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations, City Energy Conservation Review Checklist, and City Development Guidelines	Prior to issuance of building permits, with additional verification prior to issuance of certificates of occupancy	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
Mitigation Measure 8.2: The developer shall consult with the Sacramento Municipal Utility District's (SMUD), New Construction Service Staff and incorporate SMUD energy conservation recommendations into the project.	Applicant/ Developer	SMUD and City of Sacramento Development Services Department	Conservation measures shall be provided by SMUD	Prior to issuance of building permits, with additional verification prior to issuance of certificates of occupancy	
Mitigation Measure 9.1: Excavations or any sampling activities that come within 10 feet of groundwater shall require a permit from the Sacramento County Environmental Management Department, Hazardous Materials Division (HMD). Any ground cuts associated with project development shall avoid contamination of groundwater.	Applicant/ Developer	City of Sacramento Development Services Department, Sacramento County Environmental Management Department, and City Fire Department	State, County and City Development Regulations	Prior to issuance of grading permits. Periodic field inspections may be conducted by the City during grading and construction.	
Mitigation Measure 9.2: Hazardous materials used during implementation of the project which exceed the established reportable quantity must be reported to the HMD. A Hazardous Materials Plan (HMP) must be filed with HMD. The reportable quantity of hazardous materials is as follows: <ul style="list-style-type: none"> f 55 gallons or more of a hazardous material in liquid state; f 200 cubic feet or more of a compressed gas; f 500 pounds or more of a hazardous material in a solid state. In addition, any hazardous waste generated by the construction and operation of this project would require a hazardous waste generator permit from HMD. A permit can be obtained by completing a HMP with HMD.	Applicant/ Developer	City of Sacramento Development Services Department, Sacramento County Environmental Management Department, and City Fire Department	State, County and City Development Regulations	Prior to issuance of grading and/or building permits. inspections may be conducted by the City during grading and construction.	
Mitigation Measure 9.3: All potentially hazardous materials and fuel supplies shall be stored on pallets in fenced and secured construction areas to protect them from exposure to weather, incidents of theft, and prevent accidental exposure to people. Incompatible materials	Applicant/ Developer	City of Sacramento Development Services Department, Sacramento County Environmental Management Department, and City Fire Department	Hazardous materials storage onsite shall comply with these provisions	Plans for storage shall be included on grading and construction plans prior to issuance of grading and/or building permits.	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
shall be stored in separate areas as appropriate.					
Mitigation Measure 9.4: Equipment refueling and maintenance shall take place only within designated staging areas prepared to minimize and contain potential spills of fuels, oils, and hazardous substances.	Applicant/ Developer	City of Sacramento Development Services Department, Sacramento County Environmental Management Department, and City Fire Department	City Development Regulations	Location of refueling and maintenance shall be indicated on grading and construction plans prior to issuance of grading and/or building permits.	
<p>Mitigation Measure 9.5: The applicant shall obtain a soils investigation of the area surrounding the site of the former UST for potential contamination from a soils scientist qualified in hazardous materials soils sampling. The soils investigation shall determine whether contamination of the site has occurred and make recommendations to mitigate and/or remediate any potential contamination and/or remove any contaminated soil (WKA, 2003).</p> <p>Hazardous or contaminated materials may only be removed and disposed from the project site in accordance with the following regulations and requirements:</p> <p>A. Chapter 6.5, Division 20, California Health and Safety Code. California Administration Code, Title 22 relation to Handling, storage, and transfers of hazardous Materials. City of Sacramento Building Code and the Uniform Building Code, 1994 edition.</p> <p>B. Coordination shall be made with the County of Sacramento Environmental Management Department, Hazardous Materials Division, and the necessary applications shall be filed.</p> <p>C. All hazardous materials shall be disposed of at an approved disposal site and shall only be hauled by a current California registered hazardous waste hauler using correct manifesting procedures and vehicles displaying a current Certificate of Compliance. The</p>	Applicant/ Developer	City of Sacramento Development Services Department, Sacramento County Environmental Management Department, and City Fire Department	State, County, and City Development Regulations	Contractor construction bid documents and contracts shall include disposal practices stipulated by this measure.	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>developer shall identify by name and address the site where toxic substances shall be disposed of. No payment for removal and disposal services shall be made without a valid certificate from the approved disposal site that the material was delivered.</p> <p>D. None of the aforementioned provisions shall be construed to relieve the developer from the developer's responsibility for the health and safety of all persons (including employees) and from the protection of property during the performance of the work. This requirement shall be applied continuously and not be limited to normal working hours.</p>					
<p>Mitigation Measure 9.6: The applicant shall prepare a traffic management plan, a construction schedule, and comply with the City's noticing procedures regarding timing and impacts of construction related activities on the affected roadways. The developer will use lane reductions instead of closures or detours. Construction will be scheduled to limit traffic interruptions. The police and fire departments shall be kept informed of construction activities for use in planning emergency response routing. The traffic management plan and construction schedule shall be approved by the City Fire Department.</p>	Applicant/ Developer	City of Sacramento Development Services Department; and City Fire Department	City Development Regulations	Prior to issuance of grading and/or building permits	
<p>Mitigation Measure 9.7: A hazardous materials inspector shall be present during demolition and removal of the existing buildings, storage, foundations, and debris field. If hazardous materials are encountered during demolition and removal, work shall be required to stop until an assessment of the hazard has been made and a plan of action determined.</p> <p>Removal of hazardous materials shall be conducted in</p>	Applicant/ Developer	City of Sacramento Development Services Department, Sacramento County Environmental Management Department, and City Fire Department	State, County and City Development Regulations	Provisions for an onsite inspector shall be included in contractor construction bid documents and contracts prior to issuance of demolition and/or grading permits	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
compliance with Chapter 6.5, Division 20, California Health and Safety Code; California Administration Code, Title 22 relation to Handling, storage, and transfers of hazardous Materials; City of Sacramento Building Code and the Uniform Building Code, 1994 edition.					
Mitigation Measure 9.8: The water quality basin shall be enclosed with fencing or post and cable. The fencing may be decorative in nature and shall comply with City standards.	Applicant/ Developer	City of Sacramento Development Services Department and Utilities Department	Basin shall be fenced	Prior to issuance of certificates of occupancy	
Mitigation Measure 9.9: Removal of vegetation shall be implemented in a timely manner to reduce the potential for fire hazard.	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	During grading and construction	
Mitigation Measure 9.10: The developer shall take necessary precautions to ensure that defensible space between vegetated areas and the construction site are maintained as required by the State Fire Code. The developer shall also ensure a clear space of at least ten feet shall be maintained between piles of cleared vegetation while in the interim of removing the vegetation.	Applicant/ Developer	City of Sacramento Development Services Department and City Fire Department	City Development Regulations	During grading and construction	
Mitigation Measure 10.1: Construction activities shall adhere to City of Sacramento policies with respect to hours of operation, internal combustion engines shall be equipped with suitable exhaust and intake silencers which are in good working order, and other factors which affect construction noise generation and its effects on noise-sensitive land uses.	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Prior to issuance of grading and/or building permits the City shall verify that construction contracts identify applicable policies and practices to be followed onsite.	
Mitigation Measures 10.2: Noise barriers shall be constructed at the Interstate 80 and West El Camino Avenue Right of Way to reduce future traffic noise to more acceptable levels. An analysis of noise barrier performance was conducted for this project and the results	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Noise barriers shall be included on improvement plans and shall be constructed prior to issuance of	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>are provided in Table 4 of the 2018 Environmental Noise Assessment. The Table 4 data indicate that the construction of a noise barrier 16 feet in height along I-80 would reduce future traffic noise levels to approximately 65 dB Ldn at the exterior spaces of the residences located closest to that roadway. This level is within the conditionally acceptable range of 60 to 70 dB Ldn for new residential uses, and is consistent with barrier design for other newly constructed residential developments adjacent to this highway.</p> <p><u>Figure 2 of the 2018 Environmental Noise Assessment shows locations of the recommended sound barriers, including areas where the barrier would wrap around the project site perimeter. At the west side of the project site, the I-80 barrier would extend in the southerly direction. (Note: This barrier would not be needed if the adjacent property builds a similar sound barrier in a southwesterly direction along I-80.) At the east side, the I-80 barrier would extend in the southerly direction. Details for these locations regarding barrier height and which lots would be shielded are provided in the assessment.</u></p>				certificates of occupancy for the affected residences.	

River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM

<p><u>Mitigation Measure 10.3: Based on the anticipated noise exposure of the residences nearest to I-80 and West El Camino Avenue, upgrades to windows and doors would be required to ensure compliance with the City's 45 dB Ldn interior noise level standard. The specific recommendations for window and door assembly Sound Transmission Class (STC) ratings are presented in Table 5 of the 2018 Environmental Noise Assessment.</u></p> <p><u>For residences nearest to I-80 (Lots 25-156):</u></p> <ul style="list-style-type: none"> ▪ <u>All first floors would require STC 32 ratings.</u> ▪ <u>Second floors would require STC 32 or 37 ratings (see Table 5).</u> ▪ <u>Third floors would require STC 35 ratings.</u> <p><u>For residences nearest to West El Camino Avenue (Lots 401-406, 459-470, and 489-498):</u></p> <ul style="list-style-type: none"> ▪ <u>All first floors would require STC 28 ratings.</u> ▪ <u>Second floors would require STC 32 ratings.</u> <p>The following additional measures are recommended to ensure satisfaction of the City's interior noise level standards.</p> <ul style="list-style-type: none"> ▪ The exterior building facades of all residences constructed within 250 feet of the I-80 Right of Way shall be constructed of stucco. ▪ Air conditioning shall be provided for all residences within this development to allow occupants to close doors and windows as desired to achieve additional acoustical isolation. ▪ For all residences constructed within 250 feet of the I-80 right-of-way, all exterior doors shall be fully weather- stripped and all exterior penetrations shall be fully sealed around their perimeters. 	<p>Applicant/ Developer</p>	<p>City of Sacramento Development Services Department</p>	<p>City Development Regulations</p>	<p>Prior to issuance of building permits, with additional verification prior to issuance of certificates of occupancy</p>	
--	-----------------------------	---	---	---	--

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>Mitigation Measure 12.1: The project applicant shall provide a project sewer study prepared by a qualified engineer. The sewer study shall contain detailed drawings and information regarding the onsite conveyance system and the existing sewer trunk lines in Orchard Lane. The study shall include provisions for access and maintenance easements as per County Sanitation District 1 (CSD-1) standards. The study shall also meet the approval of the City of Sacramento Department of Utilities and the CSD-1 prior to issuance of a building permit.</p>	Applicant/ Developer	CSD-1, City of Sacramento Department of Utilities, and Development Services Department	City Development Regulations	Prior to improvement plan approval.	
<p>Mitigation Measure 12.2 The project applicant shall prepare a construction material recycling program for the construction site including glass, wood, cardboard, paper, glass, and metals.</p>	Applicant/ Developer	City of Sacramento Development Services Department and General Services Department	Construction materials shall be recycled	Prior to issuance of grading and building permits, the City shall approve the recycling plan prepared by the developer's contractor.	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
Mitigation Measure 13.1: Lighting in project parks and residential areas shall be designed and oriented as not to produce hazardous and annoying glare to motorists on Interstate 80 and West El Camino Avenue, or to occupants of buildings and residents on adjacent properties.	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Prior to improvement plan approval.	
Mitigation Measure 13.2: Lighting shall be oriented away from adjacent properties and not produce a glare or reflection or any nuisance, inconvenience or hazardous interference of any kind on adjoining streets or property.	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Prior to improvement plan approval.	
Mitigation Measure 13.3: Building materials and glass used in construction oriented towards Interstate 80 and West El Camino shall have non-reflective, or low-glare properties.	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Prior to issuance of building permits for buildings oriented towards I-80 or West El Camino	
Mitigation Measure 13.4: The project will be required to participate in a landscape district, or adopt landscape standards in the project Covenants, Conditions, and Restrictions (CC&Rs).	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Prior to recordation of final map	
Mitigation Measure 14.1: If subsurface archaeological or historical remains are discovered during construction, work in the area shall stop immediately and a qualified archaeologist and a representative of the Native American Heritage Commission shall be consulted to develop, if necessary, further mitigation measures to reduce any archaeological impact to a less-than-significant level before construction continues.	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Prior to issuance of grading and building permits, the City shall verify that this requirement is included in construction contracts. Periodic field inspections may be conducted by the City during grading and construction.	

**River Oaks Park (File # P01-132)
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measures from the Initial Study	VERIFICATION OF COMPLIANCE				
Mitigation Measure	Implementing Responsibility	Monitoring Responsibility	Compliance Standards	Timing	Verification of Compliance (Initials/Date)
<p>Mitigation Measure 14.2: If human burials are encountered, all work in the area shall stop immediately and the Sacramento County Coroner's office shall be notified immediately. If the remains are determined to be Native American in origin, both the Native American Heritage Commission and any identified descendants must be notified and recommendations for treatment solicited (CEQA Section 15064.5); Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94 and 5097.98.</p>	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Prior to issuance of grading and building permits, the City shall verify that this requirement is included in construction contracts. Periodic field inspections may be conducted by the City during grading and construction.	
<p>Mitigation Measure 14.3: If the proposed design of either pedestrian bridge or any changes to the project are proposed that would have the potential to change or alter the structure of the Natomas Main Drainage Canal, including the lining of the Canal, or would adversely affect the Canal's eligibility for inclusion on the National Register as a component of the RD 1000 Rural Historic Landscape District, additional evaluation of the project effect and consultation with the California State Preservation Officer (SHPO) would be required. Additional mitigation measures may be required by SHPO to resolve adverse project effects.</p>	Applicant/ Developer	City of Sacramento Development Services Department	City Development Regulations	Prior to improvement plan approval.	