FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

NORTH VINEYARD STATION

SPECIFIC PLAN AMENDMENT, FINANCING PLAN, WATER TREATMENT FACILITIES

VINEYARD POINT
REZONE, VESTING TENTATIVE SUBDIVISION MAP, LARGE LOT TENTATIVE SUBDIVISION MAP, AND SPECIAL DEVELOPMENT PERMIT

VINEYARD CREEK
REZONE, VESTING TENTATIVE SUBDIVISION MAP, AND LARGE LOT TENTATIVE SUBDIVISION MAP

Control Numbers: 03-CPB-0082, 02-PWE-0532, 04-PWE-0144, 02-RZB-SDB-SVB-0293, 03-RZB-SVB-0385
State Clearinghouse Number:2004032104

October 2004

COUNTY OF SACRAMENTO
DEPARTMENT OF ENVIRONMENTAL
REVIEW AND ASSESMENT
827 7TH STREET, ROOM 220
SACRAMENTO, CALIFORNIA 95814

Board Of Supervisors

1st District: Roger Dickinson,
2nd District: Illa Collin
3rd District: Muriel Johnson
4th District: Roger Neillo
5th District: Don Nottoli, Chairperson

County Executive

Terry Schutten

Prepared By

Department Of Environmental Review And Assessment

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This Environmental Impact Report has been prepared pursuant to the California Environmental Quality Act of 1970 (Public Resources Code Division 13). An Environmental Impact Report is an informational document which, when this Department requires its preparation shall be considered by every public agency prior to its approval or disapproval of a project. The purpose of an Environmental Impact Report is to provide public agencies with detailed information about the effect that a proposed project is likely to have on the environment; to list ways in which any adverse effects of such a project might be minimized; and to suggest alternatives to such a project.

Prepared by

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October 1, 2004

TO: ALL INTERESTED PARTIES

SUBJECT: FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR NORTH VINEYARD STATION SPECIFIC PLAN AMENDMENT, FINANCING PLAN, WATER TREATMENT FACILITIES, AND ASSOCIATED VINEYARD POINT REZONE, VESTING TENTATIVE SUBDIVISION MAP, LARGE LOT TENTATIVE SUBDIVISION MAP, AND SPECIAL DEVELOPMENT PERMIT; AND VINEYARD CREEK REZONE, VESTING TENTATIVE SUBDIVISION MAP, AND LARGE LOT TENTATIVE SUBDIVISION MAP
(Control Numbers: 03-CPB-0082, 02-PWE-0532, 04-PWE-0144, 02-RZB-SDB-SVB-0293, 03-RZB-SVB-0385)

The subject Final Supplemental Environmental Impact Report (DSEIR) is attached for your review and comment. The Final EIR and proposed project will be heard before the Sacramento County Board of Supervisors on October 13, 2004 at 6:00 P.M. in the County Administration Building, 700 “H” Street, Sacramento, California.

Please contact Tim Hawkins of this office at 874-7914 if you have questions concerning this Final Environmental Impact Report.

Sincerely,

Joyce Horizumi
Environmental Coordinator

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1 PREFACE

This Final EIR is a Supplement to the Final Environmental Impact Report (EIR) for the North Vineyard Station Specific Plan (County Control Number: 93-SFB-0238). The Sacramento County Board of Supervisors certified the prior Final EIR on August 12, 1998 and approved the General Plan Amendment, and subsequently approved the North Vineyard Station Specific Plan (NVSSP) on November 4,1998. This Final EIR includes all comments received on the Draft EIR and responses to those comments. Comments and Responses are in Chapter 18. Changes to the EIR are shown in Strikeout and *Italics.* Changes are editorial in nature or are provided to update information received since the release of the Draft EIR.

The original EIR was prepared as a Master EIR under the provision of CEQA (Section 15175). The information contained in this Supplemental EIR in conjunction with the prior Final EIR for the North Vineyard Station Specific Plan will be used as the environmental documentation for the current project application.

The Draft EIR was completed and distributed on July 7, 2004. The Draft was mailed to over 90 agencies and residents.

A public hearing was held before the Policy Planning Commission on August 24, 2004. The Commission voted to close the public comment period and instructed DERA to prepare a Final EIR for presentation to the Board of Supervisors. The Commission recommended approval of the Amendments to the Specific Plan, subject to findings recommended by staff; recommended approval of the Zoning Code Amendment, subject to findings as recommended by staff; and recommended approval of the Infrastructure Finance Plan, subject to findings as recommended by staff. For the two maps (Vineyard Creek and Vineyard Point) the Commission recommended approval of the Rezones, subject to findings and conditions recommended by staff; and amended; recommended approval of the Vesting Tentative Subdivision Maps, subject to findings and conditions as recommended by staff; recommended approval of the Tentative Subdivision Maps, subject to findings and conditions recommended by staff, and amended; and recommended approval of the Special Development Permits, subject to findings and conditions recommended by staff.

The Board of Supervisors will use the EIR in making a decision as to whether to approve or deny the project.

2 EXECUTIVE SUMMARY AND MITIGATION MEASURES

The subject of this Supplement to a Final Environmental Impact Report (EIR) is a project known as North Vineyard Station Specific Plan Amendment, Financing Plan, Water Treatment Facilities, and associated Vineyard Point Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map, and Special Development Permit; and Vineyard Creek Rezone, Vesting Tentative Subdivision Map, and Large Lot Tentative Subdivision Map. The Sacramento County Board of Supervisors certified the original Final EIR on August 12, 1998 and approved the General Plan Amendment, and subsequently approved the North Vineyard Station Specific Plan (NVSSP) on November 4,1998.

The NVSSP planning area is located in the south-central unincorporated area of Sacramento County, at the western edge of the Vineyard community. The City of Sacramento's Central Business District is located approximately eleven miles to the northwest. The Plan Area lies entirely within Sections 4 and 5 of Township 7 North, Range 6 East and within the USGS Elk Grove quadrangle map.

The Plan Area encompasses 1,590± acres of the Vineyard Community Planning Area. The Plan Area is bounded by Florin Road to the north, Gerber Road to the South, the northerly extension of the Vineyard Road on the east, and generally by Elder Creek's north and south forks. Bradshaw Road transects the Plan Area in a north/south alignment. The right-of-way of the Central California Traction Railroad transects the western portion of the planning area.

The following environmental impact and mitigation summary table (*Table 2-1 Executive Summary of Impacts and Mitigation on page 2-2*) briefly describes the project impacts and the mitigation measures recommended to eliminate or reduce the impacts. The residual impact after mitigation is also identified. Immediately following the summary table is a list of recommendations/requirements of various agencies pertaining to the project *(see Requests and Requirements of Various Agencies on page 2-26)*, and a description of mandated mitigation monitoring requirements *(see Mitigation Monitoring and Reporting Program on page 2-25)*. Detailed discussions of each of the identified impacts and mitigation measures, including pertinent support data, can be found in the specific topic sections in the remainder of this report.

This report has identified project-related impacts associated with Air Quality as significant and unavoidable. Traffic and Circulation, Noise, Biological Resources, and Cultural Resources were found to be potentially significant, but could be reduced to a less than significant level through inclusion of recommended mitigation measures.

Impacts associated with Land Use, Public Services, Public Facilities Financing, Water Supply, Drainage and Hydrology, and Sewer Service are considered less than significant.

Table 2-1
Executive Summary of Impacts and Mitigation

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
LAND USE			
The proposed developments are generally consistent with the General Plan, North Vineyard Station Specific Plan, and the Sacramento County Zoning Code. The proposed amendments to the Specific Plan are in response to a need throughout the unincorporated County for affordable housing. The number of potential additional units that may be developed in the Plan area as a result of these changes represents only a small overall increase in the total number of units within the NVSSP.	LS	None	LS
PUBLIC FACILITIES AND SERVICES			
Schools			
Although the project would result in increases to student population, established case law indicates that school overcrowding, standing alone, is not a change in the physical conditions, and cannot be treated as an impact on the environment[2].	LS	None	LS
Crime Prevention			
Although law enforcement service is available to serve the Plan area, staffing will not meet service standard levels. To assist in reducing crime levels and the strain on law enforcement resources, the Plan area should be designed with safety as a prime consideration. Coordination with the	LS	None	LS

[1] PS = Potentially Significant S = Significant SU = Significant and Unavoidable LS = Less Than Significant

[2] Goleta Union School District v. The Regents of the University of California (36 Cal-App. 4th 1121, 1995)

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure		Level of Significance After Mitigation
Sheriff's Department, planners and developers for future development with the Plan area will lessen impacts to police protection services to less-than-significant.				
Parks and Recreation				
Future development may have the potential to impact existing and planned park site facilities in the area, as well as creating the need for additional facilities, due to increased resident population. However, until specific development proposals are made, it is difficult to accurately assess impacts to specific sites and/or facilities. However, no environmentally significant impacts to recreational opportunities for existing and future residents are expected.	LS	None		LS
Public Transit				
Implementation of the proposed project will not disrupt or interfere with expected transit operations in the area and no cumulative impacts were identified. The plan provides for the implementation of future facilities by RT such as bus operations, light rail, bus turnouts, and transit centers. Impacts due to the proposed project are considered less than significant.	LS	None		LS
TRAFFIC AND CIRCULATION				
Phase 1A				
Based on the roadway and intersection analysis, the addition of Phase 1A trips will cause or contribute to deficiencies at the following study locations under Year 2002 conditions: *STUDY ROADWAYS* • S. Watt Avenue – (North of SR 16); • S. Watt Avenue – (SR 16 to Elder Creek Road); • Elk Grove-Florin Road – (Florin Road to Gerber Road);	S	TC-1. TC-2. TC-3.	S. Watt Avenue (North of SR 16) – Widening this segment from two to four lanes will improve operations to LOS D. S. Watt Avenue (SR 16 to Elder Creek Road) – Widening this segment from two to four lanes will improve operations to LOS A. Elk Grove-Florin Road (Florin Road to Gerber Road) – Widening this segment from two to four lanes will improve operations to LOS B.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
• Gerber Road – (Elk Grove-Florin Road to Bradshaw Road); *STUDY INTERSECTIONS* • SR 16/S. Watt Avenue; • SR 16/Bradshaw Road; and • Elder Creek Road/S. Watt Avenue.		*TC-4.* Gerber Road (Elk Grove-Florin Road to Bradshaw Road) – Improving the roadway cross-section to include minimum 12-foot travel lanes and 6-foot shoulders will improve operations to LOS C. TC-5. SR 16/S. Watt Avenue – Widening the northbound and southbound approaches to include an additional through lane will improve operations to LOS D during the a.m. and p.m. peak hours. This improvement is consistent with the recommended widening of S. Watt Avenue to four lanes between Elder Creek Road and SR 16. TC-6. SR 16/Bradshaw Road – Widening the eastbound approach to include dual left-turn lanes will improve operations to LOS E during the a.m. peak hour. Evaluation of other Public Facility Financing Plans revealed that the Sunridge Public Facility Financing Plan includes improvements at the State Route 16 and Bradshaw Road intersection. The proposed improvements are expansion of the intersection to accommodate two left turn lanes, two through lanes and one right turn lane on all approaches. It is likely that right-of-way will need to be acquired to provide the proposed improvements. The improvement is included in Phase 1 on the Sunridge Public Facility Financing Plan, which would mean that the improvement would be constructed in the next 5 years. With those improvements, the intersection level of service would improve to LOS D in the a.m. peak hour and LOS C in the p.m. peak hour, with build out of Phase 1A of the North Vineyard Station Specific Plan. TC-7. Elder Creek Road/S. Watt Avenue – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-turn lane will improve operations to LOS D during the p.m.	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure		Level of Significance After Mitigation
			peak hour.	
Phase 1B Based on the roadway and intersection analysis, the addition of Phase 1B trips will cause or contribute to deficiencies at the following study locations under Year 2005 conditions. *STUDY ROADWAYS* • None. *STUDY INTERSECTIONS* • SR 16/S. Watt Avenue; • Florin Road/Excelsior Road; and • Gerber Road/Excelsior Road.	S	TC-8.	SR 16/S. Watt Avenue – Widening the eastbound and westbound approaches to include an exclusive left-turn lane, a through lane, and a shared through/right-turn lane will improve operations to LOS E and D during the a.m. and p.m. peak hours, respectively. Subsequent to the publishing of the traffic analysis, the County of Sacramento moved forward a project to widen South Watt Avenue from State Route 16 to Kiefer Boulevard to five lanes. The project includes the State Route 16 and South Watt Avenue intersection. The intersection improvement includes an additional left turn lane and through lane on the southbound approach and one new left turn lane and two new through lanes on the northbound approach. The improvement is planned to be completed by 2006. With those improvements and Mitigation Measure TC-8, an additional through lane on the eastbound and westbound approaches, the intersection level of service3 would improve to LOS C in both the a.m. and p.m. peak hours, with build out of Phase 1A and 1B of the North Vineyard Station Specific Plan.	LS
		TC-9.	Florin Road/Excelsior Road – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-turn lane will improve operations to LOS C and B during the a.m. and p.m. peak hours, respectively.	
		TC-10.	Gerber Road/Excelsior Road – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-turn lane will improve operations to LOS B and A during the a.m. and p.m. peak hours, respectively.	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
Year 2010 Conditions The daily volumes were compared to the roadway capacity thresholds. The addition of project trips will result in a deficiency at the following study roadway segments. • S. Watt Avenue (North of SR 16); and • Elk Grove-Florin Road (Gerber Road to Calvine Road).	S	TC-11. S. Watt Avenue (North of SR 16) – Widening this segment from four to six lanes will improve operations to LOS D. TC-12. Elk Grove-Florin Road (Gerber Road to Calvine Road) – Widening this segment from four to six lanes will improve operations to LOS B.	LS
Year 2015 Conditions Based on the roadway and intersection analysis, buildout of the NVSSP will cause or contribute to deficiencies at the following study locations under Year 2015 conditions. *STUDY ROADWAYS* • Florin Road (West of S. Watt Avenue); • Florin Road (S. Watt Avenue to Bradshaw Road); • S. Watt Avenue (North of SR 16); • S. Watt Avenue (SR 16 to Elder Creek Road); • Elk Grove-Florin Road (Gerber Road to Calvine Road); and • Bradshaw Road (Elder Creek Road to Florin Road). *STUDY INTERSECTIONS* • SR 16/S. Watt Avenue; • SR 16/Bradshaw Road; • Elder Creek Road/Bradshaw Road; • Florin Road/Elk Grove-Florin Road; and • Florin Road/Bradshaw Road.	S	TC-13. Florin Road (West of S. Watt Avenue) – Widening this segment from two to four lanes will improve operations to LOS A. TC-14. Florin Road (S. Watt Avenue to Bradshaw) – Widening this segment from two to four lanes will improve operations to LOS A. TC-15. S. Watt Avenue (North of SR 16) – Widening this segment from four to six lanes will improve operations to LOS D. TC-16. S. Watt Avenue (SR 16 to Elder Creek Road) – Widening this segment from four to six lanes will improve operations to LOS C. TC-17. Elk Grove-Florin Road (Gerber Road to Calvine Road) – Widening this segment from four to six lanes will improve operations to LOS C. TC-18. Bradshaw Road (Elder Creek Road to Florin Road) – Widening this segment from four to six lanes will improve operations to LOS B. TC-19. SR 16/S. Watt Avenue – Widening the southbound approach to include dual left-turn lanes will result in less than a 0.05 increase in the V/C ratio during the p.m. peak	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		hour. TC-20. SR 16/Bradshaw Road – Widening the northbound and southbound approaches to include two exclusive left turn lanes, two through lanes and a shared through/right-turn lane will result in less than a 0.05 increase in the V/C ratio during the a.m. and p.m. peak hours. TC-21. Elder Creek Road/Bradshaw Road – Widening the northbound and southbound approaches to include a third through lane will improve operations to LOS D during the a.m. peak hour and LOS C during the p.m. peak hour. This improvement is consistent with the recommended widening of Bradshaw Road to six lanes between Elder Creek Road and Florin Road. TC-22. Florin Road/Elk Grove-Florin Road – Widening the northbound and southbound approaches to include a third through lane will improve operations to LOS E during the p.m. peak hour. TC-23. Florin Road/Bradshaw Road – Widening the northbound and southbound approaches to include a third through lane and widening the eastbound approach to include a second exclusive left-turn lane will improve operations to LOS E during the a.m. peak hour. This improvement is consistent with the recommended widening of Florin Road to four lanes between Watt Avenue and Bradshaw Road and with the recommended widening of Bradshaw Road to six lanes between Elder Creek Road and Florin Road.	
AIR QUALITY			
Specific Plan Buildout The previous EIR found that the Specific Plan long-term			

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
emissions (ROG, NOX, PM10) from vehicle traffic and stationary sources would result in significant unavoidable impacts to regional air quality.			
Vineyard Creek and Vineyard Point Subdivisions The Sacramento Metropolitan Air Quality District (SMAQMD) commented that, due to their size, the Vineyard Creek and Vineyard Point projects exceed the District's Thresholds of significance. Therefore, construction related air quality impacts are considered significant. Short-term construction activity involving the disturbance of 10 to 25 acres per day can be accomplished without violating PM_{10} emissions standards though strict adherence to recommended mitigation measures. However, it is unrealistic to assume strict application of dust mitigation measures for the widespread development that is slated to occur. Therefore dust generation during construction activities is expected to exceed the PM_{10} threshold and constitutes a ***significant impact***.	S	AQ-1. The project shall provide a plan for approval by the County of Sacramento and SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average; and AQ-2. The project representative shall submit to the County of Sacramento and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-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. AQ-3. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent	SU

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		opacity shall be repaired immediately, and the County 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 30-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 supercede other SMAQMD or state rules or regulations. AQ-4. The following construction-related measures apply to construction activities within the Specific Plan area: a. Water exposed, graded surfaces at least two times per day and if possible, keep soil moist at all times. b. Properly maintain diesel and/or gas fueled construction equipment. c. Water haul roads at least two times per day d. Use low VOC architectural coatings AQ-5. Comply with the adopted AQ-15 Plan, which is included in Section .7.6 (Travel Demand Reduction Measures) of the NVSSP text. ~~AQ-6.Individual development projects within the Specific Plan Area shall achieve an additional 2 percent reduction in combined operational and area source air quality emissions to ensure overall AQ-15 compliance.~~	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		~~AQ-7.~~AQ-6. No wood burning appliances shall be permitted in new construction within the Specific Plan area. Fireplaces and similar "wood stoves" shall be fueled by natural gas or propane.	
NOISE			
Vineyard Creek Subdivision Residences proposed nearest to Florin Road and Waterman Road would be exposed to future traffic noise levels that exceed the 60 dB L_{dn} Sacramento County Noise Element Standard. This impact is considered significant.	S	NO-1. A 7-foot tall property line barrier along Florin Road and a 6-foot tall property line barrier along Waterman Road shall be constructed. Sufficient barrier wrap should be provided as shown in Plate NS-1 of the EIR.	LS
Vineyard Point Subdivision Residences proposed nearest to Bradshaw Road and Gerber Road would be exposed to future traffic noise levels that exceed the 60 dB L_{dn} Sacramento County Noise Element Standard. This impact is considered significant.	S	NO-2. A 9-foot tall property line barrier along Bradshaw Road and an 8-foot tall property line barrier along Gerber Road, shall be constructed. Sufficient barrier wrap should be provided as shown in Plate NS-2 of the EIR. NO-3. STC-30 windows shall be installed in the second floor of the first row of houses that are adjacent to Bradshaw Road. In these houses, only second floor windows with a direct view of Bradshaw Road need to be upgraded.	LS
Water Treatment Facility and Well Sites Based upon the noise level measurement data, the predicted noise level at the backyard of the nearest residence to the water treatment facility is 53 dB $L_{50.}$ This level exceeds the Sacramento County hourly noise criteria of 50 dB L_{50} for daytime noise and the 45 dB L_{50} criteria for nighttime noise. Since the booster pumps are expected to operate during the nighttime hours, it is recommended that noise control measures, which will reduce overall pump noise levels by a minimum of 8 dBA, be included in the	S	NO-4. The water treatment facility should have 7-foot tall property line barriers at the adjacent residential property lines. In addition to the solid barriers, the pumps should be housed in concrete buildings with acoustical louvers/silencers and weather stripping around the doors. The louvers/silencers must provide a minimum insertion loss of 10-15 dB at the 125 Hz through 1000 Hz frequency ranges.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
project design. The predicted un-muffled exhaust noise level with the emergency generator in operation is predicted to be 85 dBA at the backyard of the nearest residence. Assuming that the generator operates continually for one half of an hour while being exercised, the hourly L_{50} (sound level not to be exceeded 30 minutes of the hour) is 82 dBA. This level would exceed the daytime and nighttime noise level criteria of 50 dBA L_{50} and 45 dBA L_{50}, respectively.		NO-5. A muffler such as a Vibron brand residential muffler should be fitted on the exhaust stack at the water treatment facility in order to provide adequate noise reduction to meet the Sacramento County noise standards. NO-6. ~~Pump~~ Remote well (Pump) sites should have 7-foot tall property line barriers at the adjacent residential property lines. In addition to the solid barriers, the pumps should be housed in concrete buildings with acoustical louvers/silencers and weather stripping around the doors. The louvers/silencers must provide a minimum insertion loss of 10-15 dB at the 125 Hz through 1000 Hz frequency ranges.	
BIOLOGICAL RESOURCES			
Vineyard Point Subdivision The proposed project will impact 9.02 acres of waters of the United States. The proposed mitigation will ensure that this impact is less-than-significant.	S	BR-1. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented: 1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provides reasonable assurances that the wetlands will be protected and their long-term ecological health maintained. 2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved. ~~and, provided, further, that such mitigation~~	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		~~and management plan shall be subject to the independent, discretionary approval of the Board of Supervisors.~~ 3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.	
Construction of the proposed project will remove 8.41 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.	S	BR-2. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation.	LS
Project construction has the potential to disturb nesting activities of listed birds of prey. In addition, the proposed project will remove ~~179~~ 181.8 acres of Swainson's Hawk foraging habitat upon completion. Impacts to Swainson's Hawk and other raptor are considered significant.	PS	BR-3. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required. BR-4. To mitigate for the loss of ~~179~~ 181.8 acres of Swainson's hawk foraging habitat, prior to the approval of Improvement	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
	S	Plans or building permits, or recordation of Final Subdivision Map, whichever occurs first, the applicant shall perform one of the following: ~~BR-5.~~1. The project proponent shall preserve ~~89.5~~90.9 acres (0.50 acre for each acre lost) of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game). ~~1.~~2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat. ~~2.~~3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect. ~~3.~~4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
The portion of Gerber Creek located within the project area represents potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements and construction near ~~the~~ Gerber Creek could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant.	PS	~~BR-6.~~5. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of ~~Elder~~ Gerber Creek. Survey of the area shall be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914.	LS
Vineyard Creek Subdivision The proposed project will impact 2.69 acres of waters of the United States. The proposed mitigation will ensure that this impact is less-than-significant.	S	~~BR-7.~~BR-6. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented: 1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provides reasonable assurances that the wetlands will be	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		protected and their long-term ecological health maintained. 2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved. ~~and, provided, further, that such mitigation and management plan shall be subject to the independent, discretionary approval of the Board of Supervisors.~~ 3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.	
Construction of the proposed project will remove 1.49 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.	S	~~BR-8.~~BR-7. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
Project construction has the potential to disturb nesting activities of listed birds of prey. In addition, the proposed project will remove ~~108~~ 104.8 acres of Swainson's Hawk foraging habitat upon completion. Impacts to Swainson's Hawk and other raptor are considered significant.	PS	~~BR-9.~~BR-8. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required. ~~BR-10.~~BR-9. To mitigate for the loss of ~~108~~ 104.8 acres of Swainson's hawk foraging habitat, prior to the approval of Improvement Plans or building permits, or recordation of Final Subdivision Map, whichever occurs first, the applicant shall perform one of the following: 1. The project proponent shall preserve ~~56~~ 52.4 acres (0.50 acre for each acre lost) of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game). 2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat. 3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		as such may be amended from time to time and to the extent that said Chapter remains in effect. 4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.	
During the April 2002 field assessment, a large tricolor blackbird colony of up to 500 pairs was nesting within the blackberry thicket along Elder Creek. Construction activities have the potential to disturb nesting activities and remove habitat. Impacts to Tricolor Blackbird are, therefore, potentially significant.	PS	~~BR-11.~~BR-10. Prior to the ~~issuance of a work authorization permit~~approval of grading plans, submit a Tricolored Blackbird Mitigation Plan to the California Department of Fish and Game (CDFG) for review and approval. The plan shall include the following: 1. Preliminary surveys to determine the presence of nesting tricolored blackbirds; 2. Avoidance of active nesting colonies present on the site to the extent possible through establishment of temporary setbacks around the colonies until a qualified biologist verifies that young birds have successfully fledged.	LS
The portion of Elder Creek located within the project area represents potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements and construction near the Elder Creek could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant.	PS	~~BR-12.~~BR-11. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of Elder or Gerber Creek. Survey of the area shall be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914.	
Drainage Master Plan			
The modified drainage corridors will result in 4.85 acres of creek (low-flow channel), 17.55 acres of channel bottom/wetlands and 3.23 acres of wetland/riparian benches. Post-project wetland/riparian habitat acreages will total 25.63 acres, a net gain of nearly 11.80 acres of habitat.	LS	None	LS
Construction of the proposed project will remove 1.08 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.	S	~~BR-13.~~BR-12. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation.	LS
Project construction has the potential to disturb nesting activities of listed birds of prey. Impacts to Swainson's Hawk and other raptors are considered potentially significant.	PS	~~BR-14.~~BR-13. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September –	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		January). If no active nests are found during the focused survey, no further mitigation will be required.	
The portions of Elder Creek and Gerber Creek located within the project area represent potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant.	PS	~~BR-15.~~BR-14. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of Elder and Gerber Creek. Survey of the area shall be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914.	LS
Water Treatment Facility			
The proposed project has the potential to impact Waters of the United States including vernal pools. The proposed mitigation will ensure that this impact is less-than-significant.	PS	~~BR-16.~~BR-15. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented: 1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		project design, configuration, and wetland management plan, provides reasonable assurances that the wetlands will be protected and their long-term ecological health maintained. 2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved. ~~and, provided, further, that such mitigation and management plan shall be subject to the independent, discretionary approval of the Board of Supervisors.~~ 3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.	
Construction of the proposed project has the potential to impact vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.	PS	~~BR-17.~~BR-16. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
Project construction has the potential to disturb nesting activities of listed birds of prey, and remove Swainson's hawk foraging habitat. Impacts to Swainson's Hawk and other raptor are considered potentially significant.	PS	~~BR-18.~~BR-17. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required. ~~BR-19.~~BR-18. To mitigate for the loss of Swainson's hawk foraging habitat, prior to the approval of Improvement Plans, the applicant shall perform one of the following: 1. The project proponent shall preserve acreage at a rate of 0.50 acre for each acre lost of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game). 2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat. 3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		the extent that said Chapter remains in effect. 4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.	
CULTURAL RESOURCES			
Vineyard Point Subdivision			
No sites or building were found to be eligible for inclusion in the National Register. No prehistoric, archaeological sites were encountered during the field investigation of the Survey Area. However, the lack of surface evidence does not preclude the existence of important, subsurface cultural materials. There is a potential to unearth buried cultural remains during future project construction activities. Caution should, therefore, be exercised during future development activities. Any accidental encountered of previously unidentified cultural materials will require notification of the Department of Environmental Review and Assessment. If skeletal remains are encountered, both the Department of Environmental Review and Assessment and the County Coroner must be immediately notified. With the implementation of the mitigation proposed in the prior EIR, however, these potential impacts to cultural resources in the Vineyard Creek subdivision are considered less than significant.	PS	Mitigation included in the prior EIR is sufficient to ensure this potential impact is less-than-significant.	LS
Vineyard Creek Subdivision			
The Vineyard Point subdivision was a part of the original Survey Area which was included in the prior EIR. No potentially significant archeological or architectural resources were discovered during the surveys. However, this does not preclude the existence of important,	PS	Mitigation included in the prior EIR is sufficient to ensure this potential impact is less-than-significant.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
subsurface cultural materials. With the implementation of the mitigation proposed in the prior EIR, however, these potential impacts to cultural resources in the Vineyard Point subdivision are considered less than significant.			
WATER SUPPLY			
The prior EIR concluded that implementation of the North Vineyard Station Specific Plan Water Master Plan would result in less than significant water supply impacts. However, the implementation of the NVSSP Water Master Plan was contingent on the implementation of the Water Master Plan for Areas Adjacent to the Zone 40 Water Supply Master Plan Update's Study Area, as well as fulfillment of the City of Sacramento American River Place of Use. Until all agreement are in place to wheel "firm" surface water supplies to the Specific Plan area, the project will contribute to the incremental decline in ground water levels. This incremental decline and the dewatering of private wells is a regional issue, beyond the scope of the proposed project. However, the project would add to the significant adverse cumulative impacts that regional development has on ground water supplies. Compliance with the requirements of the Sacramento County Water Agency will ensure that impacts are less-than-significant.	LS	None	LS
SEWER SERVICE			
The revised sewer study does not include the proposed water treatment facility, which has the potential to contribute a significant amount of effluent into the sewer system. In addition, the proposed increased development densities anticipated from the density bonus program will also result in incremental increases in effluent generation from the Plan area. The County Sanitation District-1 (CSD-1) staff has indicated the increased flows will necessitate revised sewer studies and the planned sizing of the Gerber Road Trunk would have to be increased. Since	LS	None	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
the Gerber Road Trunk sewer line has yet to be constructed, these necessary adjustments can be made and the impact of the increased flows is expected to be less than significant. The Gerber Trunk will tie into the Bradshaw 6A and 6B Interceptors, and the Central Interceptor further downstream, where there will be adequate capacity in to handle the increased flows from the water treatment facility and expected small to moderate increases in dwelling units through the density bonus program. CSD-1 indicated that the revised sewer study need not be included in this Draft EIR, but would be required prior to installation of the Gerber Road Trunk (pers. comm., Matt Morgan, CSD-1, June 15, 2004). Because potential impacts from the water treatment facility on the Gerber Road Trunk will be evaluated prior to installation of the trunk line and sized appropriately, lack of sewer capacity should not be an impediment to future development. Therefore impacts associated with sewer service are considered less-than-significant.			
DRAINAGE AND HYDROLOGY			
The revised DMP concluded that Basin E20 was not needed to mitigate downstream impacts from development of the NVSSP area. From a technical standpoint, the entire NVSSP area could be developed implementing the concept of interim storm drainage pumping. Development can be phased with interim pumping, and meet the drainage and flood control objectives, policies and standards of Sacramento County. Impacts associated with drainage are less-than-significant.	LS	None	LS

MITIGATION MONITORING AND REPORTING PROGRAM

Comply with the Mitigation Monitoring and Reporting Program (MMRP) for this project as follows:

1. The applicant shall comply with the MMRP for this project, including the payment of 100% of the Department of Environmental Review and Assessment staff costs, and the costs of any technical consultant services incurred during implementation of the MMRP. The initial estimate of these costs is $. If the initial estimate exceeds the actual monitoring costs, the balance shall be refunded to the applicant, and if the actual monitoring costs exceed the initial estimate, the applicant shall be responsible to pay the additional amount.

2. Until the MMRP has been recorded and the estimated MMRP fee has been paid, no final parcel map or final subdivision map for the subject property shall be approved; and no encroachment, grading, building, sewer connection, water connection or occupancy permit from Sacramento County shall be approved.

REQUESTS AND REQUIREMENTS OF VARIOUS AGENCIES

A. Sacramento Municipal Utility District

1. Vineyard Creek – Large Lot Tentative Map

    a. Dedicate a 12.5-foot public utility easement for overhead and underground facilities and appurtenances adjacent to Florin Road.

    b. Dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public street rights of ways.

    c. Dedicate any Irrevocable Offer of Dedication and 12.5-feet adjacent hereto as a public utility easement for underground facilities and appurtenances.

    d. The owner/developer of the above noted property MUST disclose to future/potential buyer the following existing and potential 69 & 230 kV facilities.

        There is an existing overhead electrical 69 & 230 kV line located adjacent to the East property line.

2. Vineyard Creek – Small Lot Vesting Tentative Subdivision Map

    a. Dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public street rights of ways.

    b. Dedicate the Landscape Corridors adjacent to Florin Road as a public utility easement for overhead and underground facilities and appurtenance.

    c. Dedicate the Landscape Corridors as a public utility easement for underground facilities and appurtenances.

    d. The owner/developer of the above noted property MUST disclose to future/potential buyer the following existing and potential 69 & 230 kV facilities.

        There is an existing overhead electrical 69 & 230 kV line located adjacent to the East property line.

3. Vineyard Point – Large Lot Tentative Parcel Map

    a. Dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public ways.

b. Dedicate a 12.5-foot public utility easement for underground and overhead appurtenances adjacent to Bradshaw Road.

c. Dedicate the Irrevocable Offer of Dedication and 12.5 feet adjacent thereto as a public utility easement for underground facilities and appurtenances.

d. Designate a parcel of land for an electric substation to be acquired by the Sacramento Municipal Utility District having an approximate size of 150 feet by 150 feet of net useable area. The tentative location will be within the Vineyard Point development. The exact size and location of the substation site shall be by mutual agreement of SMUD and the property owners prior to the recordation of the final map.

e. Any revisions or deletions relative to the above conditions must be submitted in writing by the Real Estate section of SMUD. The County of Sacramento should accept no verbal or other written agreements.

f. The owner/developer must disclose to future/potential owners the existing or proposed 69kV electrical facilities.

~~g.~~4. Vineyard Point – Small Lot Vesting Tentative Subdivision Map

~~h.~~a. Dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public ways.

~~i.~~b. Dedicate a 12.5-foot public utility easement for underground and overhead appurtenances adjacent to Bradshaw Road.

~~j.~~c. Designate a parcel of land for an electric substation to be acquired by the Sacramento Municipal Utility District having an approximate size of 150 feet by 150 feet of net useable area. The tentative location will be within the Vineyard Point development. The exact size and location of the substation site shall be by mutual agreement of SMUD and the property owners prior to the recordation of the final map.

~~k.~~d. Any revisions or deletions relative to the above conditions must be submitted in writing by the Real Estate section of SMUD. The County of Sacramento should accept no verbal or other written agreements.

~~l.~~e. The owner/developer must disclose to future/potential owners the existing or proposed 69kV electrical facilities.

B. Land Division & Site Improvement Review

1. Vineyard Creek – Large Lot Tentative Map

a. Offsite portion of 50-foot IOD adjacent to Parcels 6 and 7 must be secured prior to recordation.

b. Dedicate a standard 12.5-foot Public Utility Easement for underground facilities and appurtenances adjacent to all public ways, private drives and/or Irrevocable Offer of Dedication (IOD).

c. Prior to recordation of a final map or certificate of compliance, dedicate land or pay in lieu fees, or both, for park purposes, as required by and in accordance with the procedures and standards set forth in Chapter 22.40, Title 22 of the Sacramento County Code.

2. Vineyard Creek – Small Lot Vesting Tentative Subdivision Map

a. Secure offsite right of way for "L" Way and "7" Court; "G" circle and "B" Way, and install public street improvements pursuant to the Sacramento County Improvement Standards.

b. Dedicate a standard 12.5-foot Public Utility Easement for underground facilities and appurtenances adjacent to all public ways, private drives and/or Irrevocable Offer of Dedication (IOD).

c. Comply with all requirements of Chapter 1, Article 5, Title III, of the Sacramento County Zoning Code, relating to walls and landscape corridors adjacent to streets, including required maintenance provisions.

d. Prior to recordation of a final map or certificate of compliance, dedicate land or pay in lieu fees, or both, for park purposes, as required by and in accordance with the procedures and standards set forth in Chapter 22.40, Title 22 of the Sacramento County Code.

3. Vineyard Creek – Rezone

a. Grant the County right-of-way for Florin Road, based on a 108-foot standard, and Waterman Road, based on an 84-foot standard, and install public street improvements pursuant to the Sacramento County Improvement Standards.

C. Southgate Recreation and Park District

1. Comments and recommendations for Vineyard Creek Subdivision

a. Landscape Corridors shall be a minimum of 25 feet wide with a soundwall, along Florin Road and Waterman Road, and will be accepted by the District (proposed Lots F, G, H, I, J, & K). The Developer shall dedicate the landscape corridors to Southgate as a gift deed and be fully developed by the Developer with plans and specifications to be approved by the District. Corridors shall have a square curb and meandering six foot wide pathway separated from traffic. The District shall accept the completed landscape corridors after they have passed inspections and shall maintain the landscape corridors through assessment district proceeds. It is understood that the District does not maintain subdivision signage. The District does not require

subdivision entrance lighting, however, more residents are requesting landscape lighting to illuminate subdivision entryways and street names. In lieu of lighting the District does ~~requrest~~request the installation of wiring and connection to the electric box, on each side of Lots F and H at A Drive and Waterman Road, on each side of Lots H and J of F Way at Waterman Road, and on the east side of Lot K on Florin Road at L Way (for future installation of lighting, should it become necessary).

b. The Developer shall install a 6' high masonry wall for lots that back up or side-on to the landscape corridors along Florin Road, Waterman Road and A Drive. The design for all masonry walls shall be treated with graffiti-resistant coating and the design approved by the District. A Rain Bird maxicom controller, with telephone line and electricity shall be provided to tie into the District's computerized irrigation system as well as a certifiec reduced pressure backflow device.

c. The Developer shall consent to the inclusion of this subdivision within the North ~~Vioneyard~~Vineyard Station Financing District, which will be a Landscaping and Lighting Assessment District or a Mello Roos Community Facilities District, and the Southgate District-wide Landscaping and Lighting Assessment District. The Developer shall be responsible for notification to all subsequent purchasers of parcels of land of the inclusion within said financing districts. These financing districts will be established by the District for additional improvements and ongoing maintenance and operations.

d. As determined by the County Board of Supervisors, this subdivision will be included in the Southgate Recreation and Park District component of the North Vineyard Station Public Facilities Financing Plan. The District reserves the right to revise park land dedication requirements and financing mechanisms to adapt to changes resulting from modifications to the policy or the creation of a new Plan by the County of Sacramento.

e. The District will accept Park Lot C as identified on the revised Tentative Subdivision Map dated February 2004, with lot C being approximately 2.9± gross acres in size. The additional unmet Quimby requirements for the subdivision shall include the 11.4± gross acres adjacent to Park Lot C. The District will not give Quimby credit for property encumbered or otherwise with restrictions. Additional park site property shall be immediately adjacent to Park Lot C, as shown on the map, and conveyed to District at the ~~Same~~same time the 2.9 acres are conveyed. Since there will be an estimated over-dedication of 5.1 acres of parkland for this project, the District agrees to enter into a Developer Requirement Agreement, with the Developer, which shall address the Quimby credits for this project.

f. The District requests review of all Army Corp of Engineer, Fish and Game, Fish and Wildlife or any other State or Federal Agency comments and requirements as well as the final permit and conditions as they pertain to the

open space property, and will then determine acceptance of the conditions and respective property.

g. Open space areas shall front on a public road per County of Sacramento General Plan requirements. On areas of Open Space that front on a public street, a "setback" area of approximately 10 feet (from back of sidewalk into Open Space area) shall be minimally landscaped by Developer (to District's specifications) to provide for an aesthetic transition into the Open Space area. Similar to the landscape corridors; Developer shall bear all costs associated with the installation of related infrastructure, post and cable fencing and minimal landscaping (including drip irrigation). Any lots, including the multifamily Lot 378, backing or siding on to the open space area shall have a 6' high open, tubular steel fence constructed by Developer, and approved by the District. Fencing belongs to and is the responsibility of the residential property owner. Open space will have post and cable fencing along the back edge of the open space landscaped area, a vertical curb and connected 6-foot wide ~~cocrete~~concrete sidewalk along all Streets fronting open space area. Irrigation system to be connected to the District's maxicom computerized irrigation system inclusive of: controller, phone line and electricity. The District requests an ADA accessible drinking fountain with backflow prevention device along with an appropriate drainage inlet, be provided by the Developer on Lot B, adjacent to parcel 170. Open Space Lots A, B & E (approximately 9.5 acres) and as shown on the Tentative Map dated February 2004, shall be dedicated to the District as a gift with a clear title report, and be fully developed and improved by the developer with plans and specifications to be approved by the District. No Quimby credit or Developer Fee credit will be given for this open space or the improvements. Developer shall pay for these improvements. Location of improvements to be determined by District and Developer. The Developer shall install street lighting along streets fronting on all open space areas, on the open space side of the street. The District shall accept the completed open space area after they have passed inspections, accepted conditions required by the Army Corp of Engineers, and received a clear title report. The Developer shall agree to the inclusion in an additional assessment zone, to go towards the maintenance of the trail and open space area. The District shall maintain the trails and open space areas through assessment district zone proceeds. The District shall not own or otherwise take responsibility for creek channel maintenance or drainage functions.

h. The developer shall assure that the park land to be dedicated is appropriately graded to the District's specifications and pursuant to County standard; shall provide adjoining streets, sidewalks with vertical curbs; electrical, phone, storm drainage, sewer, and water stubs; connect to and provide water meter, reduced pressure backflow preventer; and pay all permit fees including building, sewer, water meter, water development and drainage fees for the park sites and landscape corridors in order to allow for improvements to the park lots, open space lots (limited) and landscape corridors within this

subdivision. Rain Bird maxicom controllers, with telephone line and electricity shall be connected to the District's computerized irrigation system.

i. It is understood that it is the responsibility of the property owner to care for and keep maintained the ten foot pedestrian easements and is not a part of the Landscape Corridors to be conveyed to the District, as shown on the Tentative subdivision map dated February 2004.

j. The District would appreciate the opportunity to further comment on this map after the Public Facilities Financing Plan has been approved in order to make any necessary adjustments.

k. In the event that the Central California Traction Railroad Corridor is abandoned and the County of Sacramento determines that these tracks shall become part of a Rails-to-Trails system, the District desires that the developer provide a landscaped access to this trail system from the proposed subdivision. This access should be a minimum of 30 feet in width, and be dedicated to the District, with no land dedication credits given to the developer for this acreage. The location can be determined at a future point in time, however, access points to consider could include but are not limited to access from the proposed Elder Creek Trail as it intersects the CCTRR. In lieu of the CCTRR becoming a trail, the District requests a low flow crossing across Lot B, adjacent to parcel 170 and on the west side of the CCTRR and a 50' wide easement along the southwest side of the CCTRR, to facilitate the bicycle/pedestrian trail planned for the North Vineyard Station community. This crossing is key to providing continuity to this trail system.

l. The District desires to work with the Developer and County Water Resources in identifying potential recreational uses of the 7.4 acre detention basin site. Due to the basin's relationship to the Park Lot C, active and overlapping joint use is realistic. In order to accommodate recreational uses advance planning needs to occur to address design issues including and not limited to access points and parking. A public access point and parki~~8~~ng area needs to be identified since the access point identified next to parcel 169 is for maintenance purposes only.

m. The developer shall construct a bicycle/pedestrian trail and landscaping along Gerber and Elder Creeks as required under the North Vineyard Station PFFP and as per District requirements for standards and location. The District has identified on the Drainage Corridor/Open space map the specific location of the trail, provided to MacKay and Somps in February 2004. For purposes of the Vineyard Creek subdivision, the trail shall be on the eastern/southern side of Elder Creek along the sewer interceptor path, continuing northerly to Florin Road. As mentioned above, in lieu of the CCTRR becoming a trail, the District requests a low flow crossing across Lot B, adjacent to parcel 170 and on the west side of the CCTRR and the construction of a northwesterly trail within a 50' wide easement to follow the western side of the CCTRR to Florin

Road, to facilitate the bicycle/pedestrian trail planned for the North Vineyard Station community. This crossing is key to providing continuity to this trail system. There will be 2 trails ~~convergingon~~converging on to Florin Road in order to negotiate around the CCTRR, for this subdivision. ~~Connecdtions~~Connections from the subdivision to the trail shall be provided a the locations indicated on the attached map or as determined by the District and Developer at a future date, due to changed conditions. Points of trail connections from the sidewalk to the trail shall be near the northwest corner of Lot D, at the end of H Circle by Parcel 170, between Parcels 63 and 41 on K Circle, between Parcels 20 and 21 on 11 Court, and between Parcels 5 and 6 on 12 Court. Additional trail connections shall be made from the Detention Basin and Park Lot. The trails are part of the overall Gerber Creek and Elder Creek Open Space area as identified in the Sacramento County land use plan. Improvements along bike trail and open space corridors shall compliment the design planned in the North Vineyard Station Plan. Trail and Open space area shall be gift deeded to the Southgate Recreation and Park District with no Quimby credits given for this area. Developer shall enter into a Developer Requirement Agreement for these improvements and may be credited developer ~~feess~~fees for all agreed to bike trail improvements. Due to the proximity of the creek to the subdivision the District requests a southern public access point and connection from the subdivision to the Gerber Creek trails. Location of creek access to be mutually determined by the Developer and the District. ~~Tril~~Trail alignment shall meander throughout the corridor. Trail design shall be provided to Developer by District. Typically, the trail shall not be closer than 20' from the top of bank along the creek and outside of any environmental constraints. Trail setback from the rear or side of residential property lines and streets shall be as far as possible, with a minimum distance of 50'. It is important that adequate space be provided in order to provide separation for bicycle, pedestrian and equestrian uses.

n. The District has previously had discussions with the County Sanitation District regarding the joint use, improvement and maintenance of land reserved for sewer interceptor and planned for trails. The Southgate District goes on record as supporting this joint use concept and wherever possible and feasible project planning should include and incorporate complimentary design and use of said land. A similar joint use agreement for this area is highly recommended.

2. Comments and recommendations for Vineyard Point Subdivision

a. Landscape Corridors, a minimum of 25 feet wide with soundwall, along Gerber and Bradshaw Road will be accepted by the District (proposed Lots J, K, L & M). In this revised map Landscape corridor lot K was eliminated when Lot G was added to the map. There should be a continuous corridor and sidewalk on Gerber Road. Lot K needs to be re-inserted on the map. The Developer shall dedicate the landscape corridors to Southgate as a gift deed and be fully developed by the Developer with plans and specifications to be

approved by the District. Corridors shall have a square curb and meandering pathway separated from traffic. The District shall accept the completed landscape corridors after they have passed inspections and shall maintain the landscape corridors through assessment district proceeds. It is understood that the District does not maintain subdivision signage. The District does not require subdivision entrance lighting, however, as a note we have been receiving more comments from residents requesting landscape lighting to illuminate subdivision entryways and street names. This amenity is only a suggestion and not a requirement. In lieu of lighting the District does request the installation of wiring and connection to the electric box, and the running of the wire through conduit under the following streets, on each side of 'A' Drive at Bradshaw Road and on each side of 5 Street at Gerber Road (for future installation of lighting, should it become necessary).

b. The Developer shall install a 6' high masonry wall for lots that back up or side-on to the landscape corridor along Gerber Road and Bradshaw Road. The design for all masonry walls shall be treated with graffiti-resistant coating and the design approved by the District. A Rain Bird maxicom controller, with telephone line and electricity shall be provided to tie into the District's computerized irrigation system as well as a certified reduced pressure backflow device.

c. The Developer shall consent to the inclusion of this subdivision within the North Vineyard Station Financing District, which will be a Landscaping and Lighting Assessment District or a Mello Roos Community Facilities District, and the Southgate District-wide Landscaping and Lighting Assessment District including the annexation to a new Zone in a landscaping and lighting assessment district, to ensure that adequate funding is available to pay for all costs associated with the repair, maintenance and monitoring in perpetuity for the capital development and operation and maintenance of the park facilities, open space property, trails and related improvements. The Developer shall be responsible for notification to all subsequent purchasers of parcels of land of the inclusion within said financing districts. These financing districts will be established by the District for additional improvements and ongoing maintenance and operations.

d. As determined by the County Board of Supervisors, this subdivision will be included in the Southgate Recreation and Park District component of the North Vineyard Station Public Facilities Financing Plan. The District reserves the right to revise park land dedication requirements and financing mechanisms to adapt to changes resulting from modifications to the policy or the creation of a new Plan by the County of Sacramento.

e. The District will accept Park Lot A as identified on the revised Tentative Subdivision Map dated December 15, 2003, with lot A being approximately 10.0 gross acres in size. The 1.8 gross acres previously shown as park lot D shall be removed and the acreage added to park lot A. An amendment to the

North Vineyard Station Specific Plan will still allow for a future 5.0 acre park site immediately east of the former park lot D. Any additional unmet Quimby requirements for the subdivision shall be paid to the District in in lieu fees.

f. The Developer shall install a 6' high masonry wall for lots that back up or side-on to the future park site on 11 Street (former Park Lot D). The design for all masonry walls shall be treated with graffiti-resistant coating and the design approved by the District.

g. The District will accept the removal of the formerly designated Parkway Lot E (as previously shown on the Tentative Subdivision Map dated October 10, 2002) from this map.

h. The developer shall assure that the land to be dedicated is appropriately graded to the District's specifications and pursuant to County standard; shall provide adjoining streets, sidewalks with vertical curbs; electrical, phone, storm drainage, sewer, and water stubs; connect to and provide water meter, reduced pressure backflow preventer; street lights fronting on park and open space property; and pay all permit fees including building, sewer, water meter, water development and drainage fees for the park site(s) and landscape corridors in order to allow for improvements to the park lot(s) and landscape corridors within the subdivision. Rain Bird maxicom controllers, with telephone line and electricity shall be connected to the District's computerized irrigation system. Additionally, traffic calming measures shall be initiated on 11 Street, at the points where it intersects 4 Street, in order to provide for a safe pedestrian crossing to and from the future park.

i. It is understood that it is the responsibility of the property owner to care for and keep maintained the ten-~~-~~foo~~d~~t landscaped pedestrian easements.

j. Lot N Landscape Corridor, as shown on the Tentative subdivision map dated December 15, 2003 shall also extend around the northern side of Lot C to shield the tank site lot and to provide an aesthetic view from the park site. It is understood that it is the responsibility of the property owner to care for and keep maintained this corridor. It is also understood that there will be continuous sidewalk along this corridor.

k. The District would appreciate the opportunity to further comment on this map after the Public Facilities Financing Plan has been approved in order to make any necessary adjustments.

l. In the event that the Central California Traction Railroad Corridor is abandoned and the County of Sacramento Determines that these tracks shall become part of a Rails-to-Trails system, the District desires that the developer provide a landscaped access to this trail system from the proposed subdivision. This access should be a minimum of 30 feet in width, and be dedicated to the District, with no land dedication credits given to the

developer for this acreage. The location can be determined at a future point in time. Design around the corridor and access should provide for the visibility to address security concerns, as requested by the Sheriff's Department and approved by the District.

m. The District desires to work with the Developer and County Water Resources in identifying potential recreational uses of the 9.7 acre detention basin site. In order to accommodate recreational uses an access point and parking area would need to be provided from the subdivision. This access point and parking area can be determined at a future point in time.

n. The District has master planned a trail along Gerber Creek, which is included as part of the North Vineyard Station Specific Plan. Due to the proximity of the creek to the subdivision the District requests a public access point from the subdivision to the Gerber Creek corridor and a connection to the future trail. Location of creek access to be mutually determined by the Developer and the District.

D. Recommendations/Requirements of the County Department of Transportation:

1. Vineyard Creek Subdivision

   a. The spacing between A Drive and F Way must be a minimum of 420 feet apart in order to accommodate two left turn pockets on Waterman Road.

   b. Construct a minimum 48-foot street section including 36 feet of pavement and a 12-foot median for the offsite right-of-way on Waterman Road per the North Vineyard Station P.F.F.P.

   c. Grant the County right-of-way on Waterman Road based on either a 72-foot modified arterial without a median or a 76-foot modified arterial with a landscape median pursuant to the North Vineyard Station Specific Plan, the Sacramento County Improvements Standards, and to the satisfaction of the Department of Transportation.

   d. Install public street improvements along Waterman Road pursuant to the North Vineyard Station Specific Plan, the Sacramento County Improvement Standards, and to the satisfaction of the Department of Transportation.

   e. Show the required raised median on the Waterman Road street section.

   f. Dedicate additional right-of-way on Waterman Road and A Drive for intersection widening per the Sacramento County Improvement Standard Drawing 4-6B and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Waterman Road.

   g. Grant the County right-of-way on Florin Road based on a 96-foot modified thoroughfare pursuant to the North Vineyard Station Specific Plan, the

Sacramento County Improvement Standards, and to the satisfaction of the Department of Transportation.

h. Install public street improvements along Florin Road pursuant to the North Vineyard Station Specific Plan, the Sacramento County Improvement Standards, and to the satisfaction of the Department of Transportation.

i. Dedicate additional right-of-way on Florin road and L Way for intersection widening per the Sacramento County Improvement Standard Drawing 4-5 and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Florin Road.

j. No more than 100 units with access to L Way shall be constructed until there is a second point of access.

k. Lot 380 shall not be allowed to develop unless access can be provided to the west in order to avoid crossing the CCTC.

l. Reconfigure area comprising G Circle in order to bring street elbow into compliance with County standards.

m. Dedicate the landscaped lots to the County of Sacramento and provide a maintenance entity with an ongoing funding source. The maintenance entity shall be approved and found acceptable by County representatives. Annexation to a current Lighting and Landscape District or a Mello Roos Community Finance District may be possible and is the preferred course of action.

n. Traffic control devices shall be installed where needed to the satisfaction of the Department of Transportation. Traffic control locations will be determined at time of improvement plan submittal.

2. Vineyard Point Subdivision

a. Grant the County right-of-way on Gerber Road based on a 72-foot modified standard and install public street improvements pursuant to Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

b. Grant the County right-of-way on Bradshaw Road based on a 96-foot modified standard and install public street improvements pursuant to Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

c. Dedicate additional right-of-way on Bradshaw Road and ‘11’ Street for intersection widening per Standard Drawing 4-8 of the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Bradshaw Road.

d. Dedicate additional right-of-way on Bradshaw Road and '9' Street for intersection widening per Standard Drawing 4-8 of the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Bradshaw Road.

e. Dedicate additional right-of-way on Gerber Road and '5' Street for intersection widening per Standard Drawing 4-8 of the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Gerber Road. In addition, the median at the intersection of 'P' Drive/'O' Circle and '5' Street will need to be redesigned to allow full turning movements at that intersection.

f. Provide a 30-foot half width along park frontages for on-street parking. Note: If the park will be providing recreational areas such as soccer fields and/or baseball fields, then on site parking will be required.

g. Stop signs should be installed where needed to the satisfaction of the Department of Transportation. Stop sign locations will be determined at time of improvement plan submittal.

h. The proposed public street entrance from Gerber Road should be a minimum of 50 feet in width, excluding median width, for a distance of 100 feet per the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

i. The proposed public street entrance from Bradshaw Road should be a minimum of 50 feet in width, excluding median width, for a distance of 100 feet per the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

j. Visibility easements should be included where needed per the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

k. All pedestrian access ramps affected by this project must be installed/upgraded pursuant to the State of California Title 24 Code of Regulations and to the satisfaction of the Department of Transportation.

E. Sacramento Metropolitan Air Quality Management District

1. The use of an aqueous base alternative fuel as a fuel for heavy-duty, off-road, diesel-powered equipment is also recommended. These alternative fuels will reduce NOx emissions by approximately 14% and PM10 emissions by approximately 63%.

2. Limit diesel engine idling to not more than 5 minutes, before turning off the engine.

3. During the construction phase(s) of the project, District Rule 403 – Fugitive Dust, will apply. The developer/contractor is required to control dust emissions from earth moving activities, or any other construction activity, to prevent airborne dust from leaving the project site. District Rules are available at www.airquality.org.

4. Any architectural coatings used must comply with District Rule 442 – Architectural Coatings. The developer/contractor is required to use coatings that comply with the volatile organic compound content limits specified in Rule 442. Questions regarding Rule 442 should be directed to the District's Compliance Assistance Hotline at (916) 874-4884.

5. We recommend that all required street trees be a minimum 24-inch box size. Larger trees provide shade that not only reduce heat, but also are more attractive to pedestrians for short trips to parks and neighborhood facilities.

6. If gas appliances are to be used in the dwelling units, District staff recommends the use of low NOx (Nitrogen Oxides) furnaces, water heaters, and cooking facilities.

7. We recommend that the developer install "Energy-Star" labeled roofing materials.

8. We recommend that the project comply with SMUD Advantage (Tier II or III) energy standards.

9. We recommend that an AQ-15 Air Quality Plan be developed to mitigate the air quality impacts of the project. Submission and approval of the plan should be completed as a condition of approval for the project. The AQ Plan should include, but not be limited to, the mitigation measures listed above.

F. Sacramento County Water Agency

The SCWA requires the following conditions of approval be placed on all tentative maps and vesting tentative maps within the North Vineyard Station Specific Plan Area:

1. That Simple Title ownership or sale agreements for the WTP lands are completed prior to any Tentative Map approvals within the North Vineyard Station Specific Plan area. WTP lands shall be reserved per the guidelines contained in Chapter 22.50 of the Sacramento County Code and Government Title 7, Division 2, Article 4.(1/03).

2. That well sites be identified prior to Tentative map approvals for subdivisions within the North Vineyard Station Specific Plan area and reserved per the guidelines contained in Chapter 22.50 of the Sacramento County Code and Government Title 7, Division 2, Article 4.(1/03).

3. That well sites be reserved on the Final Subdivision Maps of subdivisions within the North Vineyard Station Specific Plan area.

4. That no more than a cumulative total of 2,530 equivalent dwelling units (EDUs) in Tentative Subdivision Map lots may be approved within the North Vineyard Station Specific Plan area until either surface water supply consistent with the approved NVS Water Supply Master Plan has been secured, or the SCWA Board of Directors finds that an acceptable alternative supply consistent with the Zone 40 Water Supply Master Plan has been secured.

Comments were also provided in regards to the Vineyard Creek Tentative Subdivision Map:

1. Destroy all abandoned wells on the proposed project site in accordance with the requirements of the Sacramento County Environmental Health Division. Clearly show all abandoned/destroyed wells on the improvement plans for the project. Prior to abandoning any existing agricultural wells, applicant shall use water from agricultural wells for grading and construction.

2. Prior to tentative subdivision map approval, prepare a Water Supply Master Plan, to the satisfaction of the Sacramento County Water Agency.

3. Prior to tentative subdivision map approval, the Sacramento County Water Agency requires either fee simple title or sale agreements or reservation agreements for a water treatment plant site as identified in the most current approved North Vineyard Station Specific Plan Water Supply Master Plan. In addition, prior to final map recordation, the affected property owner, future successors or interests shall enter into an agreement with SCWA consistent with Chapter 22.50 of the Sacramento County Code and Government Code Title 7, Division 2, Article 4.

4. The Sacramento County Water Agency (SCWA) will not issue water connection permits or sign improvement plans until adequate water supplies have been secured. In addition, the final map shall not be recorded until the SCWA has secured fee simple title to the North Vineyard Station WTP.

5. Prior to the issuance of any building permits for the project, the project developer/owner shall pay Zone 40 development fees applicable at the time of building permit issuance in accordance with Sacramento County Water Agency Ordinance No. 18.

6. Prior to the issuance of any building permits for the project, the project shall conform to the specific provisions of the Sacramento County Landscape Water Conservation Ordinance (Chapter 14.10 of the Sacramento County Code) to the satisfaction of the County Landscape/Oak Tree Coordinator.

G. County Sanitation District – 1

1. Provide a revised sewer study, to the satisfaction of the County Sanitation District-1 staff, to address the increased sizing needs for the Gerber Road Trunk Sewer in order to adequately accommodate anticipated effluent flows from the

proposed water treatment facility and potential increases in dwelling units through the density bonus program.

2. Vineyard Creek

    a. Connection to the public sewer system shall be required to the satisfaction of CSD-1. Sacramento County Improvement Standards apply to any on and off-site sewer construction.

    b. CSD-1 shall require an approved sewer study prior to the submittal of improvement plans for plan check to CSD-1. Portions of the subject project shall flow into the BR Florin Road Trunk Shed and other portions shall flow into the BR Gerber Road Trunk Shed in accordance with the Sanitary Sewer Study for the North Vineyard Station Specific Plan and the Sewage Facilities Expansion Master Plan.

    c. Each lot shall have a separate connection to the public sewer system.

    d. In order to obtain sewer service, construction of on and off-site public sewer will be required to the satisfaction of CSD-1.

    e. Construction of off-site public trunk sewer will be required in conformance with approved sewer studies and to the satisfaction of CSD-1. In accordance with the Connection Fee Ordinance, it will be necessary to schedule a meeting to discuss reimbursement requirements with appropriate CSD-1 staff prior to any trunk design.

    f. Design of all public sewers shall be coordinated with and approved by CSD-1. Sewer easements may be required. All sewer easements shall be dedicated to CSD-1, in a form approved by the District Engineer. All sewer easements shall be 20 feet in width and ensure continuous access for maintenance.

    g. The trunk and collector sewer system for the project will not be accepted for maintenance and building occupancy will not be granted until the downstream sewer system serving the project is also accepted for maintenance.

    h. Prior to the recordation of the Final Map the applicant will enter into and record an agreement, in a form approved by the District Engineer and District Counsel of Sacramento Regional County Sanitation District (SRCSD), to require the property owner(s) to reserve lands for acquisition by the District to install District pipelines and facilities for public health purposes and in conformance with the District Master plan. The District shall exercise the agreement and acquire the reserved lands within two years of the completion and acceptance of required public improvements. The area of land will be 75 feet wide, or as determined by SRCSD. The applicant shall coordinate the area required with SRCSD and clearly show the area by meets and bounds on the Final Maps.

i. A Temporary Construction Easement (TCE) will be required along both sides of the future interceptor. The required TCE shall be 42.5 feet wide on each side of the permanent 75-foot wide interceptor easement. The Final Maps shall clearly show the TCE.

j. Construction of any and all improvements, including but not limited to grading, streets, utilities, houses and other structures, within the TCE shall be prohibited until such time the TCE is released by SRCSD unless approved by the District Engineer

H. Sacramento Metropolitan Fire District

1. In every new building where the total floor area exceeds 3,599 square feet an automatic fire sprinkler system shall be installed and equipped with an electronic monitoring system. The system shall be designed and installed as per the guidelines of National Fire Protection Association standard 13, latest edition, and the Fire Prevention Standards of this fire district number 442.501.

2. The minimum required fire flow for commercial developments is outlined in the Uniform Fire Code, Table A-III-A-1, but shall not be less than 1500 gallons per minute at 20 pounds per square inch residual for a duration of two (2) hours.

3. The required fire flow for the proposed project will vary depending on the type of construction, total square footage of the structure(s) and weather or not a fire sprinkler system is provided or required. This determination will be made when the appropriate information is provided to our office.

4. Every building shall be accessible to fire district fire apparatus by means of an all-weather driving surface designed to meet Traffic Index 5.5. The access shall be a minimum of 20 feet wide and have a minimum turning radius of 40 feet inside and 60 feet outside. The minimum vertical clearance 13 feet 6 inches. The access roadways are to be extended within 150 feet of all portions of the exterior walls of the first story. Dead-end fire Department access roads in excess of 150 feet shall be provided with an approved means for turning around the fire apparatus. This fire apparatus access lane and turnaround shall be identified in accordance with the California Vehicle Code. The access roadways are to be provided prior to any construction or storage of combustible materials on site.

5. All fire department connections for the automatic fire extinguishing system shall be located within forty feet of a fire hydrant and a minimum of forty feet from any openings within the protected building.

6. Commercial buildings exceeding 5,000 square feet must be tested to verify adequate transmission and reception of public safety radio signals. These signals operate on the 800 MHz frequency. If reception or transmission is not adequate, 800 MHz radio amplification systems shall be installed in the building.

7. If the crossing of a creek is going to be included, the installation of a private bridge shall be required and shall be designed for a minimum of HS20-44 loading as prescribed by the American Association of State Highways and Transportation Officials. The width shall be minimum of twenty (20) feet. The maximum allowable grade change of the approach to and the departure from the bridge will not exceed eight (8) percent for a distance of ten (10) feet.

8. Fire hydrants are to spaced every three hundred (300) feet and located as approved by the Fire District. Water main inter-ties may be required. The type and kind of fire hydrants shall be approved by the Fire District. The hydrant shall be within (8) feet of fire department access. (reference UFC 903.4 and SCC 1240).

9. All fire hydrants are to be installed and made serviceable prior to any construction or storage of combustible materials on the site. The fire hydrants are to be accessible via an all weather-driving surface approved by the Fire District, during all phases of construction.

10. The approved civil plans shall be submitted in the approved electronic format (DXF or DWG Auto CAD version 2000 or later.

11. Any traffic signal modifications planned at Elk Grove Florin Rd, Gerber Rd, Bradshaw Rd, and Florin Rd and any new signals devices compatible with those employed by the fire department in changing those signals “green” for our direction of travel during an emergency response. Any new signal lights is required to install “Opticom.””

The Fire District also provided the following comments for the proposed subdivisions:

1. “Provide approved steamer type fire hydrants for residential areas located as follows:

    A. Maximum 500 feet between hydrants: Provide steamer type fire hydrants as follows:

        1. One fire hydrant shall be located between 150 and 250 feet from the end of the access roadway or cul-de-sac.

        2. A hydrant installed at the end of an access roadway, as a “blow off” for the water district does not meet the fire department requirements.

        3. Existing “wharf” fire hydrants are not acceptable to meet the requirements for new construction.

        4. Each steamer hydrant shall have a minimum flow of 1000 gpm at 20 pounds of residual pressure for residential areas where the total square feet of the building and garage is no more than 3600 square feet. UFC App. III A, Sect. 5.1

NOTE: Specifications for fire hydrants are available at the Fire Prevention office.

2. Fire department notes and details shall be shown on the Civil Drawings. Copies of the standards are included with the Engineers copy of this letter. See c.c.'s UFC 903.2.

3. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction. When any portion of the facility or building protected is in excess of 150 feet from a water supply facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the Chief. UFC 903.2

   For residential subdivisions, the required fire flow is 1000 gallons per minute for dwellings with attached garages having no more than 3,600 square feet. For dwellings with garages over 3,600 square feet, additional flow is required starting at 1750 gallons per minute.

   EXCEPTION:

   A. Group R, Difvision 3 Occupancies provided with an approved automatic fire sprinkler system, per NFPA 13D, in areas not provided with a public water supply.

   B. Group U, Division 1 Occupancies.

4. In Group R Occupancies, the roof covering shall not be less than Class "C" when there is no public water supply source with a distribution system conforming to County Standards. Sacramento County Code 16.04.060.

5. Provide access roadways with all-weather driving surface of not less than 20 feet of unobstructed width, with a minimum turning radius of 22 feet inside/40 feet outside dimension. It shall be capable of supporting the imposed loads of fire apparatus and having a minimum of 13 feet, 6 inches of vertical clearance. The access roadway shall be extended to within 150 feet of all portions of the exterior walls of the first story of any building. Dead-end fire department access roads in excess of 150 feet long shall be provided with approved provisions for the turning around of fire apparatus. Submit a detailed drawing to this office showing the "turnaround," when required, for review and approval prior to construction. UFC 902.

6. If there are no immediate plans for new construction or storage of combustible materials on this site, the above mentioned requirements may be held in abeyance until such time that development occurs. It is important to note that if the property is sold, the seller of the property is encumbered to disclose the above requirements to the buyer.

7. There shall be no parking on any street narrower than 28 feet. Parking shall be allowed only on one (1) side on streets from 28 feet to 36 feet wide. Streets that are wider than 36 feet, parking shall be allowed on both sides. Measurements shall be from edge of pavement to edge of pavement. UFC 901.4. On private streets, marking of the fire lanes per the County Fire Marshals' standard may be required.

8. Provide approved address numbers on the building in such a position as to be plainly visible and legible from the street or road fronting the property. Said numbers shall contrast with their background and on all new buildings, shall be illuminated at night. UFC 901.4.4.

   NOTE: In order to meet this requirement the following methods are acceptable:

   A. Name the access road and ensure that the new addresses be listed for the newly named "street, and meet the requirement above or …

   B. Provide approved address numbers on the homes and for each of the homes on the access drive, provide approved address numbers posted next to the entrance to the access drive, facing the public street in an approved manner to meet the above requirement.

9. Should security gates be considered for this project, the developer shall contact this office for approval of specific clearances, locking mechanisms, or systems, which will accommodate emergency fire department use and then follow established permit procedures pursuant to Sacramento County Code, Chapter 16.70. Further information can be obtained by calling the Crime Prevention Unit of the Sacramento county sheriff's Office at (916) 440-5151. UFC 1208.

10. Remove from any roof, court, yard, vacant lot or open space all accumulations of wastepaper, hay, grass straw, weeds, litter or combustible or flammable waste material, waste petroleum products or rubbish of any kind. All weeds, grass, vines or other growth, when same endangers property or is liable to be fired shall be cut down and removed by the owner or occupant of the property. When total removal of growth from a piece of property if impractical due to size or to environmental factors, approved fuel breaks may be established between the land and the endangered property. The width of the fuel break shall be determined by height, type and amount of growth, wind conditions, geographical conditions and type of exposures threatened, UFC 1103.2.4 (Minimum width of clearance shall be 30 feet or to the property line, whichever is less. Specific conditions may require additional clearance width. UFC APPENDIX II-A, 16).

11. All fire protection equipment to be maintained in operative condition. UFC 1001.5.1

3 PROJECT CHARACTERISTICS

PROJECT DESCRIPTION

The subject ~~to~~ of this Supplement Draft EIR consists of amendments to the specific plan water treatment and storage facilities, and two separate rezones and subdivision maps. Each is described in detail below.

SPECIFIC PLAN AMENDMENT (03-CPB-0082)

Proposed amendments to the land use designations of the North Vineyard Station Specific Plan accommodate stormwater detention and drainage facilities, internal street and park site modifications, and addition of a water treatment facility. Minor internal residential density adjustments result in a slight change in overall holding capacity, which increases from 5,732 dwelling units to 6,063 dwelling units (Plate A and Table 3-1).

The following policies will be added to the Specific Plan:

> "In order to increase opportunities to provide affordable housing projects within the Plan Area which address the needs of low or very low income individuals or families, affordable Multifamily Residential ("MFR") housing projects otherwise allowed as set forth in Section 4.4 of this Plan shall be an allowed use in any residential land use designation of the Plan provided that 1) at such time as a landowner applies for a small lot tentative subdivision map, such application clearly designates any property for which such affordable multifamily housing project is intended, and 2) such application clearly states that such site is proposed for dedication to the Sacramento Housing and Redevelopment Authority (SHRA) for such purpose. If a small lot tentative subdivision map is approved which does not meet either of the requirements in the foregoing sentence, no multifamily project shall be permitted thereon unless it is located on land designated "MFR" on the Land Use Diagram of this Plan."
>
> "In the event a landowner agrees to dedicate a site to SHRA for development of an affordable housing project, the landowner shall be entitled to receive a density bonus on its remaining property comprising the subject tentative subdivision map for the housing units otherwise lost due to the dedication."

The following would be inserted towards the end of Section 604.13(A) of the Zoning Ordinance for North Vineyard Station:

3. Uses permitted in the RD-25 residential land use zone shall also be permitted in the RD-1, RD-2, RD-3, RD-4, RD-5, RD-7, RD-10, RD-15, and RD-20 residential land use zones provided that (1) such use shall only be permitted if the site on which the RD-25 use is proposed is designated within and in

conjunction with the approval of a small lot tentative subdivision map, and (2) the application for such tentative map clearly states that such site or the applicable portion of such site, is proposed for dedication and the approved tentative subdivision map shall include a condition requiring that such site or portion thereof be dedicated to the Sacramento Housing and Redevelopment Authority ("SHRA") for development of an affordable housing project.

In the event that a landowner agrees to dedicate a site to SHRA for development of an affordable housing project, the landowner shall be entitled to receive a density bonus on its remaining property comprising the subject tentative subdivision map for the housing units otherwise lost due to the dedication.

WATER TREATMENT AND STORAGE FACILITIES (04-PWE-0144)

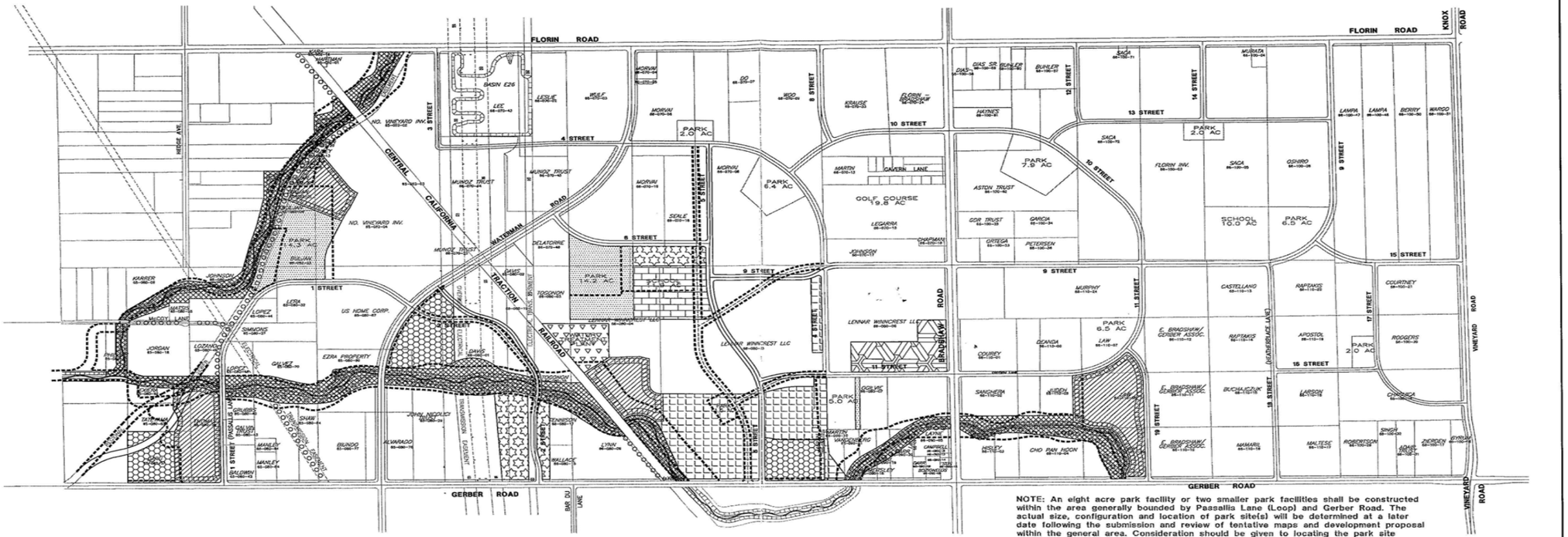
The requested work for the North Vineyard Water System has been divided into two projects:

PROJECT 1 – GROUND WATER TREATMENT AND STORAGE PLANT, AND ONE ON-SITE WELL PUMP STATION

Project 1 would be located in an area of new development bounded roughly by Elk Grove-Florin Road, Gerber Road, Vineyard Road, and Florin Road. The treatment, storage, and booster facility and on-site well would be constructed on a 6-acre parcel. A preliminary site plan is shown in Plate B. Project 1 will consist of the following components:

1. Two 1,500 gallon per minute (gpm) filter units with provisions for a third filter
2. One 2,000,000 gallon (2 MG) welded steel tank with provisions for a second tank
3. One 150,000 gallon welded steel backwash tank with provisions for a second backwash tank
4. Booster pumps
5. Chemical treatment facilities
6. Operations, chemical storage, and control building
7. On-site well pump station

Plate A
Specific Plan Amendment



NOTE: An eight acre park facility or two smaller park facilities shall be constructed within the area generally bounded by Paseallia Lane (Loop) and Gerber Road. The actual size, configuration and location of park site(s) will be determined at a later date following the submission and review of tentative maps and development proposal within the general area. Consideration should be given to locating the park site adjacent to Gerber Creek in conjunction with the open space area associated with Gerber Creek. Developing property owners shall contact the Southgate Park and Recreation District to determine the size, configuration and location of the park site(s).

LAND USE LEGEND

- BUSINESS / PROFESSIONAL
- COMMERCIAL
- SINGLE FAMILY RESIDENTIAL (1-3)
- SINGLE FAMILY RESIDENTIAL (3-5)
- SINGLE FAMILY RESIDENTIAL (4-7)
- MEDIUM DENSITY RESIDENTIAL (7-12)
- MULTI-FAMILY RESIDENTIAL (12-22)
- ADOPTED LAND USE DIAGRAM
- REVISED LAND USE DIAGRAM
- LANDSCAPE CORRIDOR
- DRAINAGE PARKWAY
- PARKWAY
- STORM WATER DETENTION BASIN
- OPEN SPACE
- PUBLIC SERVICES
- SCHOOLS
- PARKS

• NOTE: AREAS SHOWN IN WHITE HAVE NOT BEEN REVISED.

LAND USE SUMMARY - COMPARISON

RESIDENTIAL SUMMARY

LAND USE	DENSITY RANGE	DENSITY FIXED COUNT	EXISTING AREA NET/GROSS	EXISTING UNITS	PROPOSED AREA NET/GROSS	PROPOSED UNITS	DIFFERENCE AREA NET/GROSS	DIFFERENCE UNITS
MULTI-FAMILY RES.	12 to 22	16 (net)	37.8 / 30.7	680	52.2 / 45.0	1,119	14.4 / 25.3	439
MEDIUM DENSITY RES.	7 to 12	10 (net)	18.7 / 16.4	187	30.9 / 32.7	309	12.2 / 13.3	122
SINGLE FAMILY RES.	4 to 7	6 (gross)	204.8	1,227	193.1	1,158	(11.5)	(69)
SINGLE FAMILY RES.	3 to 5	5 (gross)	611.7	3,058	585.0	2,925	(26.7)	(133)
SINGLE FAMILY RES.	1 to 3	2 (gross)	283.4	567	269.8	539	(13.6)	(28)
EXISTING RESIDENTIAL			5.8	13	5.8	13	0	0
SUB-TOTAL:			1,164.6	5,732	1,151.4	6,063	(13.2)	331

NON-RESIDENTIAL SUMMARY

LAND USE	EXISTING AREA NET/GROSS	PROPOSED AREA NET/GROSS	DIFFERENCE AREA NET/GROSS
GOLF COURSE	19.8 / 20.1	19.8 / 20.1	0 / 0
COMMERCIAL	29.9 / 30.5	30.1 / 30.7	0.2 / 0.2
BUSINESS / PROFESSIONAL	7.1 / 7.9	7.1 / 7.9	0 / 0
SCHOOLS	20.0 / 21.5	20.9 / 22.4	0.9 / 0.8
PARKS	63.5 / 66.2	66.9 / 71.5	3.4 / 3.3
PARKWAYS	--- / 2.5	--- / 0.8	--- / (1.7)
DRAINAGE PARKWAY	--- / 75.5	--- / 73.7	--- / (1.8)
OPEN SPACE / STORM WATER DETENTION	--- / 104.7	--- / 112.5	--- / 7.8
LANDSCAPE CORRIDORS	--- / 23.2	--- / 21.8	--- / (1.4)
PUBLIC SERVICES	5.3 / 5.5	11.3 / 11.5	6.0 / 6.0
MAJOR STREETS	--- / 57.6	--- / 57.6	--- / 0
RAILROAD	--- / 14.6	--- / 14.6	--- / 0
SUB-TOTAL:	431.9	445.1	13.2
TOTAL:	1596.5	1596.5	0

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County of Sacramento

REVISED
03 0082

SPECIFIC PLAN AMENDMENT

MacKay & Somps
CIVIL ENGINEERS, INC.
SACRAMENTO, CALIFORNIA (916) 929-6092
Job Number: 7536-10 Date: 02/06/04

NORTH VINEYARD STATION LAND USE COMPARISON
ADOPTED NOVEMBER 4, 1998 REVISED 12/24/02, 5/5/03, 12/12/03, 2/3/04, REVISED FEBRUARY 6, 2004
COUNTY OF SACRAMENTO

DONN C REINERS INC
SPECIALISTS IN SITE PLANNING

Table 3-1
Land Use Summary - Comparison

LAND USE SUMMARY - COMPARISON

RESIDENTIAL SUMMARY			EXISTING			PROPOSED			DIFFERENCE		
LAND USE	DENSITY RANGE	DENSITY FIXED COUNT	AREA NET/GROSS		UNITS	AREA NET/GROSS		UNITS	AREA NET/GROSS		UNITS
MULTI-FAMILY RES.	12 to 22	18 (net)	37.8	39.7	680	62.2	65.0	1,119	24.4	25.3	439
MEDIUM DENSITY RES.	7 to 12	10 (net)	18.7	19.4	187	30.9	32.7	309	12.2	13.3	122
SINGLE FAMILY RES.	4 to 7	6 (gross)		204.6	1,227		193.1	1,158		(11.5)	(69)
SINGLE FAMILY RES.	3 to 5	5 (gross)		611.7	3,058		585.0	2,925		(26.7)	(133)
SINGLE FAMILY RES.	1 to 3	2 (gross)		283.4	567		269.8	539		(13.6)	(28)
EXISTING RESIDENTIAL				5.8	13		5.8	13		0	0
SUB-TOTAL:				1,164.6	5,732		1,151.4	6,063		(13.2)	331

NON-RESIDENTIAL SUMMARY	EXISTING		PROPOSED		DIFFERENCE	
LAND USE	AREA NET/GROSS		AREA NET/GROSS		AREA NET/GROSS	
GOLF COURSE	19.8	20.1	19.8	20.1	0	0
COMMERCIAL	29.9	30.5	30.1	30.7	0.2	0.2
BUSINESS / PROFESSIONAL	7.1	7.9	7.1	7.9	0	0
SCHOOLS	20.0	21.6	20.9	22.4	0.9	0.8
PARKS	63.5	68.2	66.9	71.5	3.4	3.3
PARKWAYS	---	2.5	---	0.8	---	(1.7)
DRAINAGE PARKWAY	---	75.5	---	73.7	---	(1.8)
OPEN SPACE / STORM WATER DETENTION	---	104.7	---	112.5	---	7.8
LANDSCAPE CORRIDORS	---	23.2	---	21.8	---	(1.4)
PUBLIC SERVICES	5.3	5.5	11.3	11.5	6.0	6.0
MAJOR STREETS	---	57.6	---	57.6	---	0
RAILROAD	---	14.6	---	14.6	---	0
SUB-TOTAL:	431.9		445.1		13.2	
TOTAL:	1596.5		1596.5		0	

ITEM 1: WATER TREATMENT PLANT

A water treatment plant, consisting of filter units, backwash pumps, and recycle pumps will be provided to remove manganese (and possibly iron and arsenic) from groundwater wells using a greensand and anthracite base media. Two 1,500-gpm filter units are to be provided initially, with provisions for an additional 1,500-gpm filter vessel. The filter vessels would be automated, backwashed in series and would incorporate recycled backwash water as a portion of the influent flow. The initial phase of the filter system installation will include two filters, each matching the capacity of a single production well. Separate backwash pumps will be used to backwash and clean the filters and to send the backwash water to the backwash tank. Separate recycle pumps will pump the water from the backwash tank, minus the filtered iron and manganese solids, back through the filter.

ITEMS 2 AND 3: WATER STORAGE AND BACKWASH TANKS

The proposed storage and treatment facility would include two welded steel storage tanks; one for storage of treated water, the other for backwash water settling, recycling, and disposal. The treated water storage reservoir would hold approximately 2.0 million gallons of water, and have a diameter of about 140 feet, and an overall height of about 22 to 24 feet at the center of the roof. The backwash tank, would have a diameter of approximately 40 to 45 feet in diameter and a height of about 16 to 18 feet, and would include a gravity drain for removal of accumulated solids removed by the filtration process. Both the treated water and backwash water storage tanks would be furnished with manways, vents, safety ladders, control valves, and corrosion control equipment. Space will be provided and provisions will be made during the design and construction phase to add an identical future storage tank and future backwash tank.

ITEM 4: BOOSTER PUMPS

The proposed facility will utilize vertical turbine booster pumps to deliver water from the storge reservoir into the water distribution system for public consumption. Initially, the facility would incorporate 3 boosters at 2,000 gpm each. Accommodations would be made for future inclusion of three additional booster pumps, for a total capacity of 12,000 gpm.

ITEM 5: CHEMICAL TREATMENT FACILITIES

Chlorine (sodium hypochlorite) will be added into the raw water pipeline used to convey water from the production wells, prior to the iron and manganese filter vessels in order to oxidize and enhance the removal of iron and manganese present in the pumped groundwater. Provisions would also be made to introduce ferric chloride into the same pipeline to reduce arsenic concentrations, if present in groundwater at concentrations that would require treatment. Finally, provisions may also be made to add fluoride. Should fluoride treatment occur, the fluoride would be added into the treated water stream from the water storage tank, just before being introduced into the water distribution system. All chemicals used in the treatment process will be stored inside a

sheltered structure or building, with containment provisions to limit the potential for a chemical release to the surrounding environment.

ITEM 6: BUILDING

A building will be designed to house the booster pumps, motor control center, chemical treatment facilities, and an emergency generator. The building will limit noise impacts, improve aesthetics, and increase security.

ITEM 7: ON-SITE WELL PUMP STATION

The production well, equipped with a vertical turbine pump, will be housed in the same building discussed previously, or in a separate station building on the site. The pump station will contain the well, lineshaft turbine pump, discharge head and station piping and controls. This on-site pump station will have a design capacity of 1,500 gpm.

PROJECT 2 – ~~REMOVE~~ REMOTE WELL PUMP STATIONS NO. 1 AND NO. 2

Additional sources of groundwater will be provided by two additional production wells to be installed at remote locations. The proposed remote well sites are each located approximately one-quarter mile from the treatment facility. A location map is shown in Plates C through E. These two remote wells (well sites No. 1 and No. 2) will pump water to the North Vineyard Station treatment, storage, and booster facility through a "raw-water" connection pipeline to be constructed as part of the Subdivision Project. The supply wells will each be equipped with vertical turbine pumps designed for a 1,500 gpm capacity each. Water quality from nearby existing wells indicates a likelihood of iron and manganese (and possibly arsenic) at levels above the MCL in the raw water. Therefore, the raw water from the wells will be routed through the treatment plant to produce water that meets drinking water standards. The remote well pump stations will be housed in a building to reduce noise impacts, improve aesthetics, and increase security. The pump stations would have concrete masonry buildings with removable roof sections containing the well pump, motor, and associated controls. The two remote pump stations would be equipped with a telemetry system for remote operation and they would be graded, paved, and surrounded with a concrete masonry wall for additional sound attenuation as well as for neighborhood esthetics and security of the sites.

Plate B
Conceptual Layout – Water Treatment Plant Site

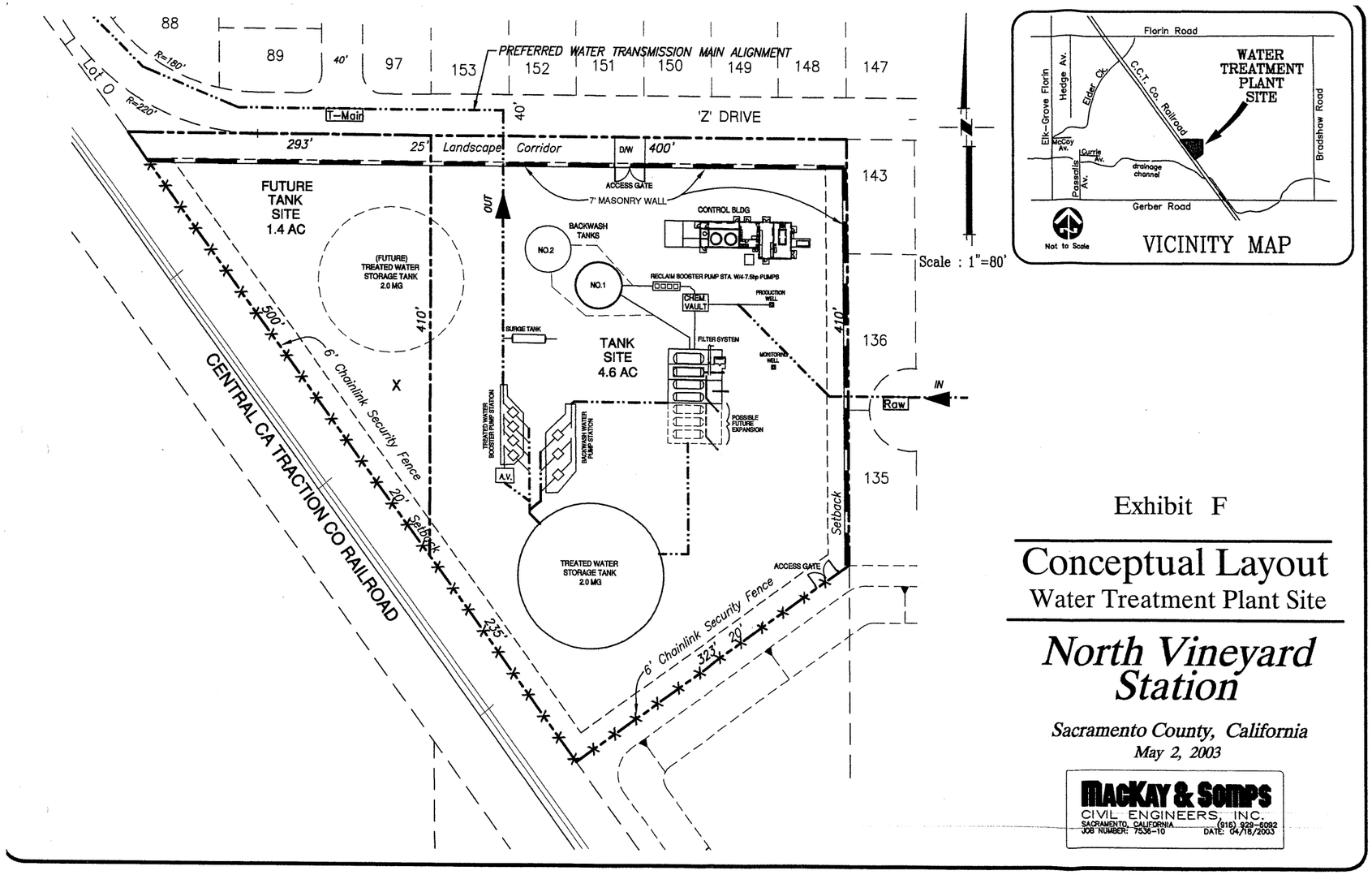
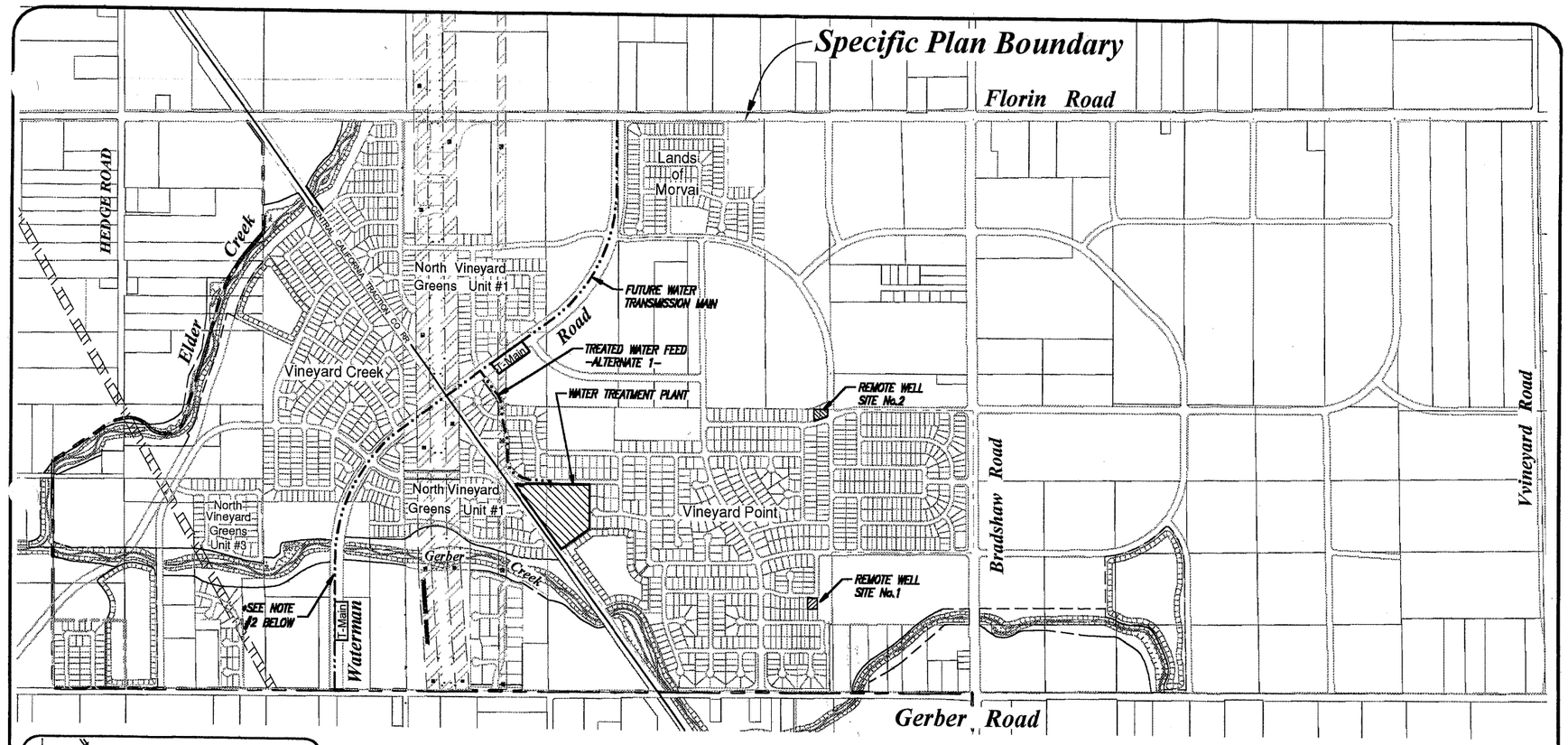


Plate C
Water Treatment Facilities – Alternate 1



NOTES:

1. *Lotting alignments shown hereon are based on Preliminary Tentative Map layouts submitted to Sacramento County.*

* 2. *Utilities (future T-Main) South of the Treated Water Feed from Treatment Plant shall be constructed by the Developer of "Vineyard Greens Unit 1" at the time that construction of the Treatment Plant begins.*

Exhibit C-1

Regional Water Facilities Location Exhibit

NORTH VINEYARD STATION

County of Sacramento, California May 2, 2003 Scale: 1"=900'

MacKay & Somps
CIVIL ENGINEERS, INC.
SACRAMENTO, CALIFORNIA (916) 929-6092
JOB NUMBER: 7536-10 DATE: 04/18/2003

Plate D
Water Treatment Facilities – Alternate 2

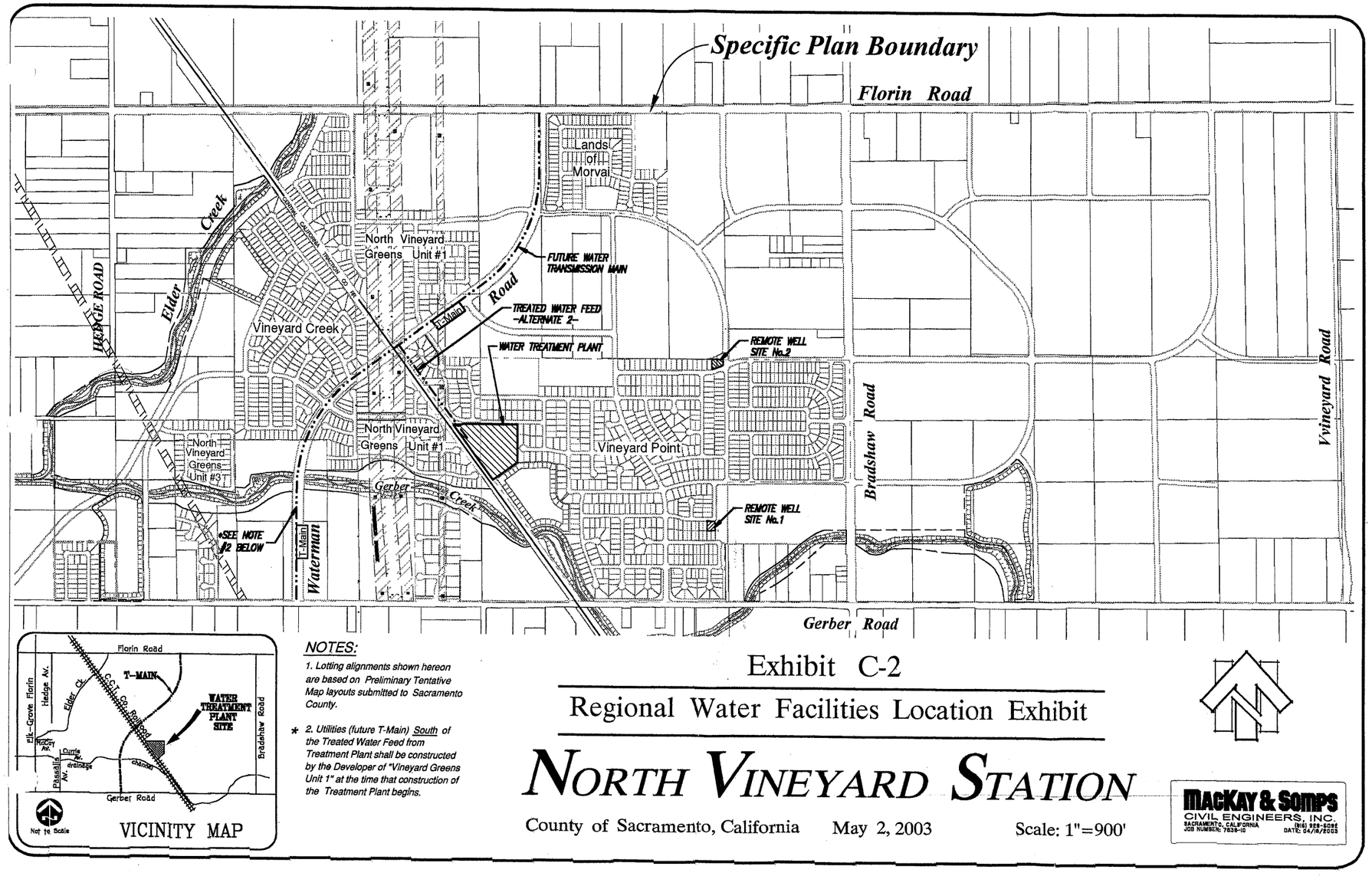
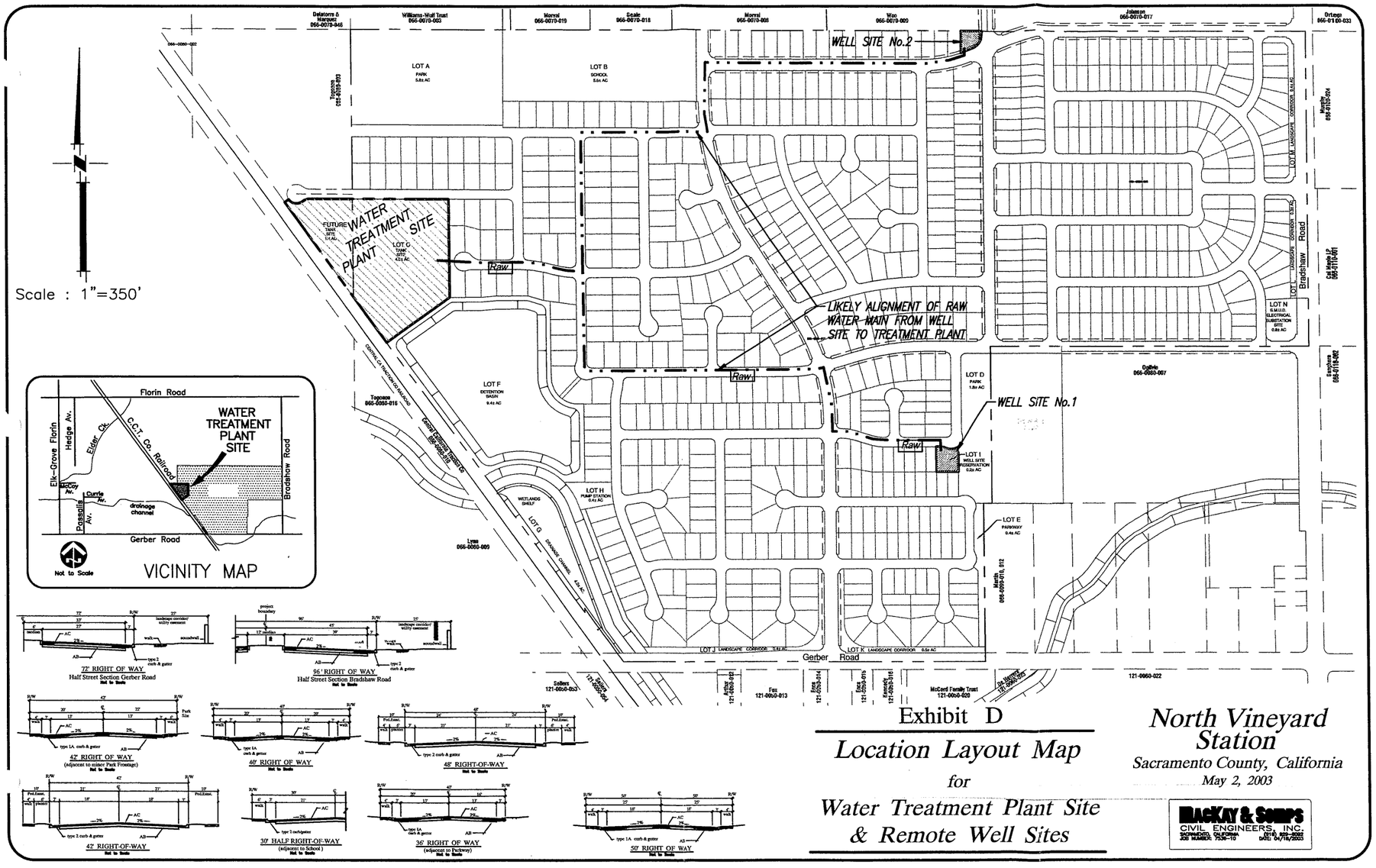


Plate E
Location Layout Map



VINEYARD CREEK SUBDIVISION (03-RZB-SVB-0385)

1. A **Rezone** of 104.8 gross acres from AG-20 to RD-5 residential-maximum 5 dwellings per acre (approximately 60.4 acres), RD-7 residential-maximum 7 dwellings per acre (approximately 18.2 acres), RD-10 residential-maximum 10 dwellings per acre (approximately 5 acres), RD-20 multi-family residential-maximum 20 dwellings per acre (approximately 7.5 acres), and O recreation (approximately 13.7 acres) (Plate F).

2. A **Vesting Tentative Subdivision Map** to create 390 total lots including: 377 residential lots, 1 park site lot, 3 open space lots, 1 detention facility lot, 2 future residential lots (5.0 acres of RD-10 and 2.1 acres of RD-5), 1 multi-family lot (7.0 acres), and 6 landscape corridor lots (Plate G).

3. A **Tentative Subdivision Map** to create 14 large lots from the same 104.8 acres for financing and marketing purposes (Plate H).

VINEYARD POINT SUBDIVISION (03-RZB-SDB-SVB-0293)

1. A **Rezone** of approximately gross181.8 acres from AG-20 to RD-5 residential-maximum 5 dwellings per acre (approximately 73.3 acres), RD-7 residential-maximum 7 dwellings per acre (approximately 80.1 acres), RD-10 residential-maximum 10 dwellings per acre (approximately 11.5 acres), RD-20 multi-family residential-maximum 20 dwellings per acre (approximately 6.9 acres), and O recreation (approximately 10.0 acres) (Plate I).

2. A **Vesting Tentative Subdivision Map** to a total of 769 lots – 754 residential lots, 1 multi-family lot, 1 park site lot, 1 pedestrian access lot, 1 school site lot, 1 water tank site lot, 2 well site lots, 1 detention basin lot, 1 drainage channel lot, 1 pump station lot, 1 SMUD site lot, and 4 landscape corridor lots (Plate J).

3. A **Tentative Subdivision Map** to create 14 large lots for the purposes of financing and/or phasing of the project (Plate K).

4. A **Special Development Permit** to allow deviations from various development standards of the North Vineyard Station Specific Plan and/or Zoning Code. Standards include public street frontage, lot area, lot width, lot depth, and setback (Plate L).

Plate F
Vineyard Creek – Rezone

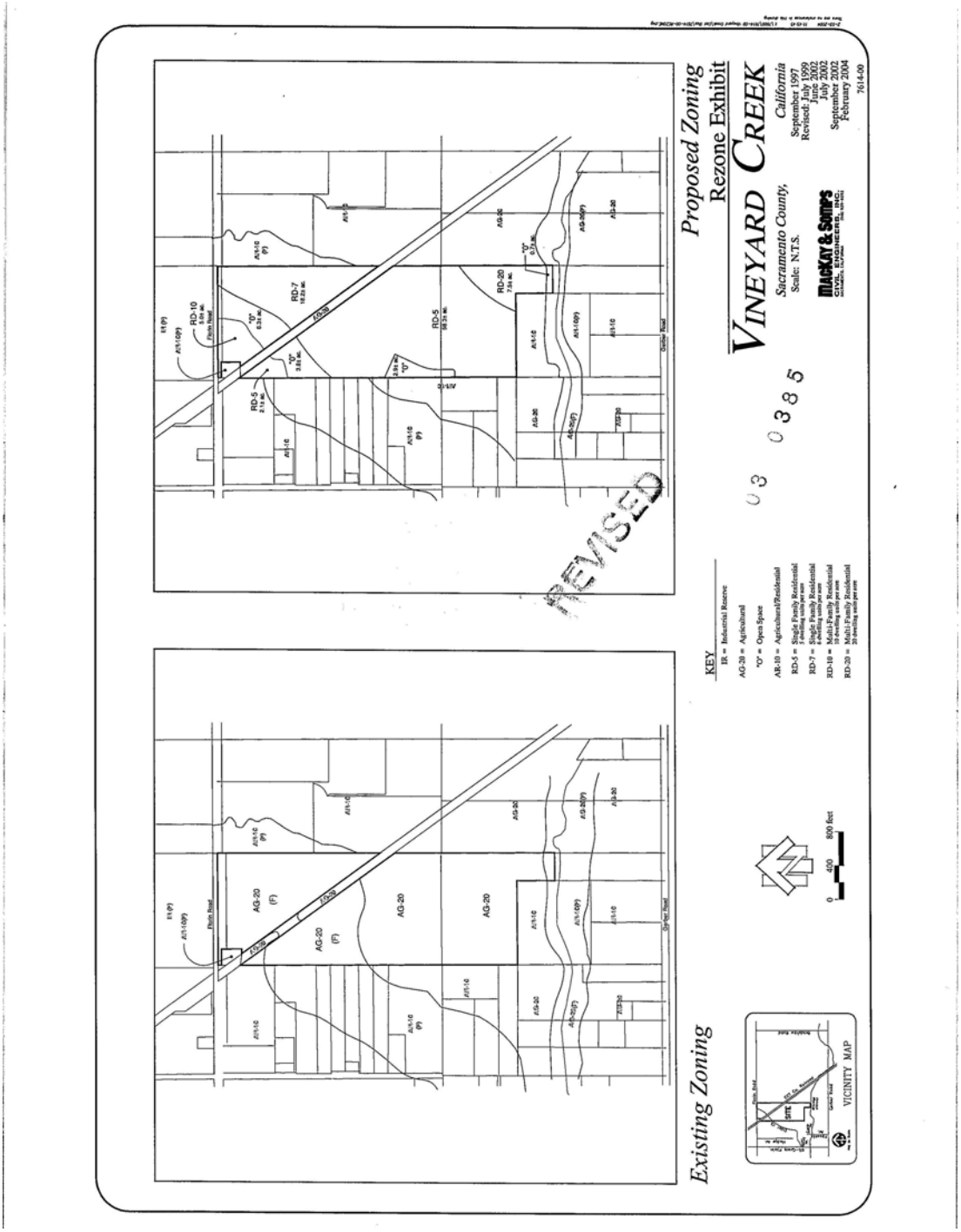


Plate G
Vineyard Creek – Tentative Subdivision Map

Plate H
Vineyard Creek – Large Lot Map

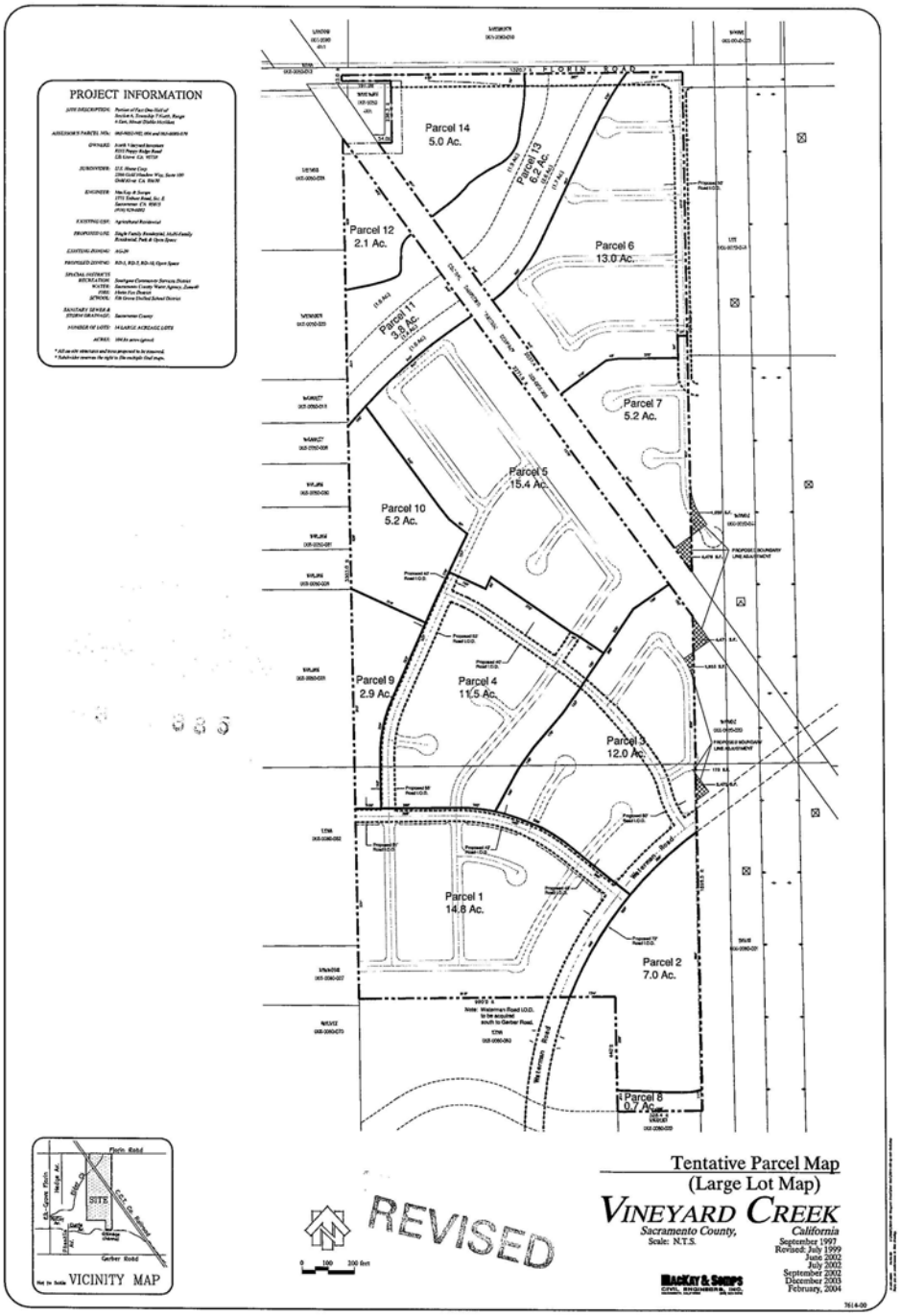


Plate I
Vineyard Point – Rezone

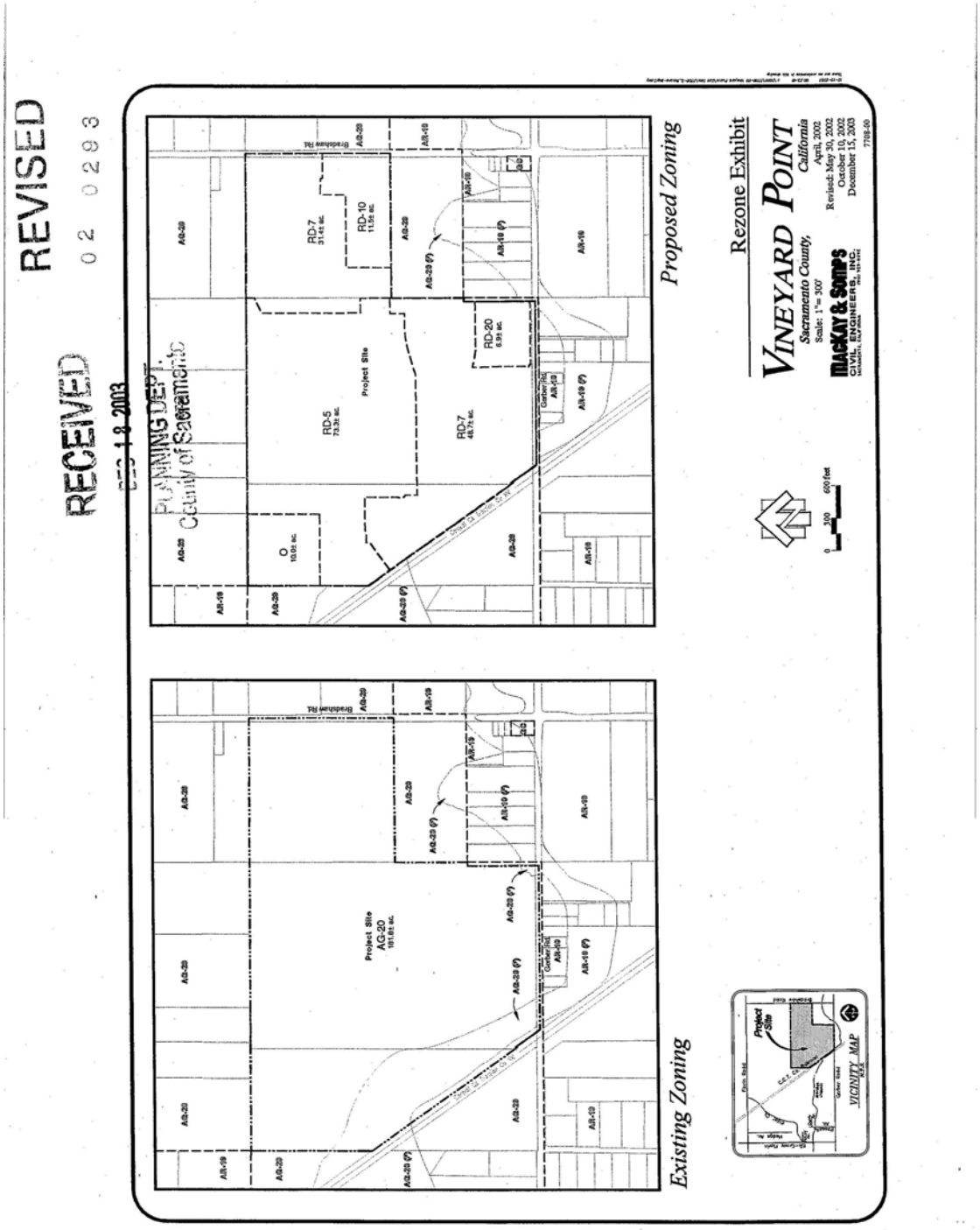


Plate J
Vineyard Point – Vesting Tentative Map

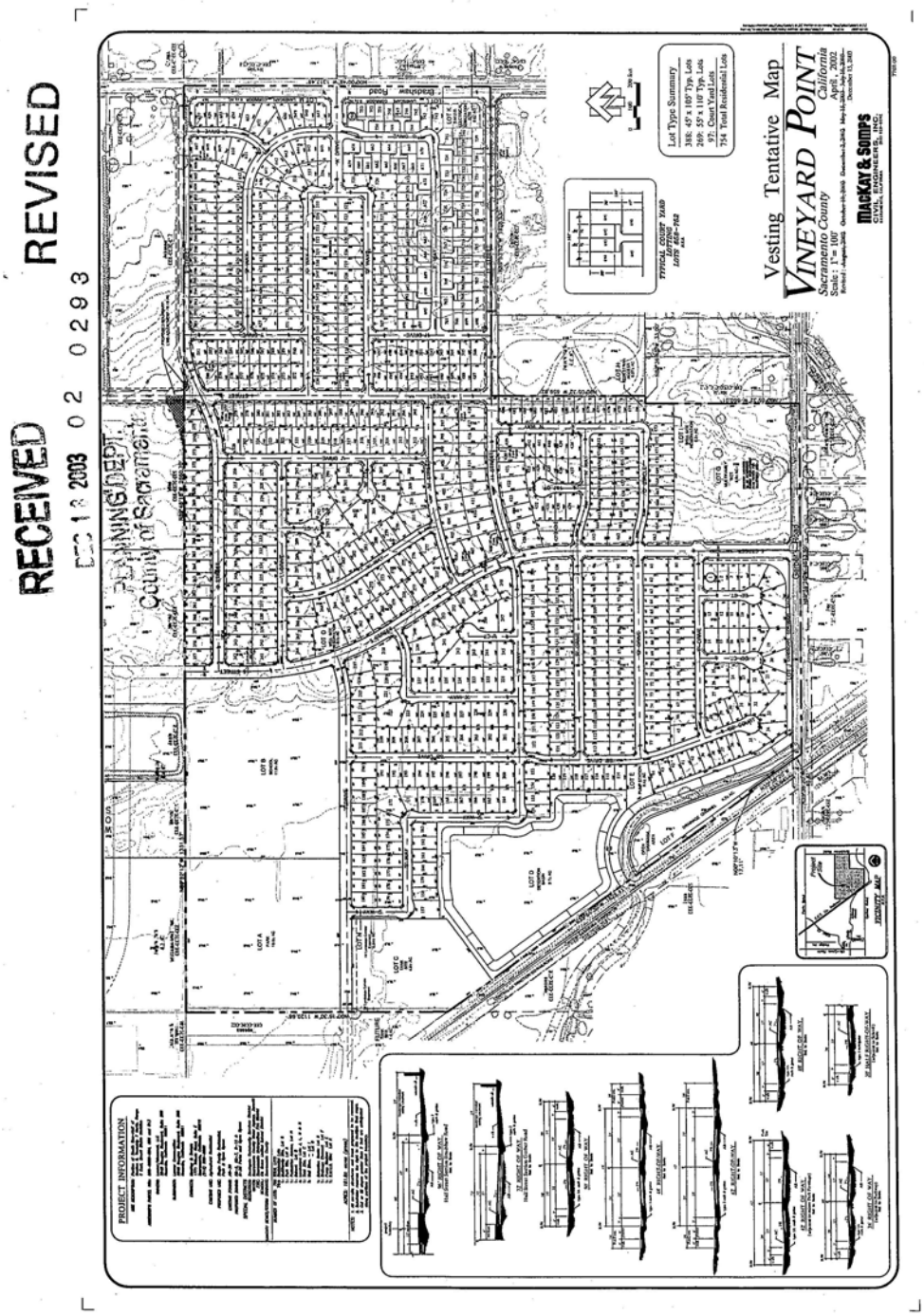


Plate K
Vineyard Point – Large Lot Map

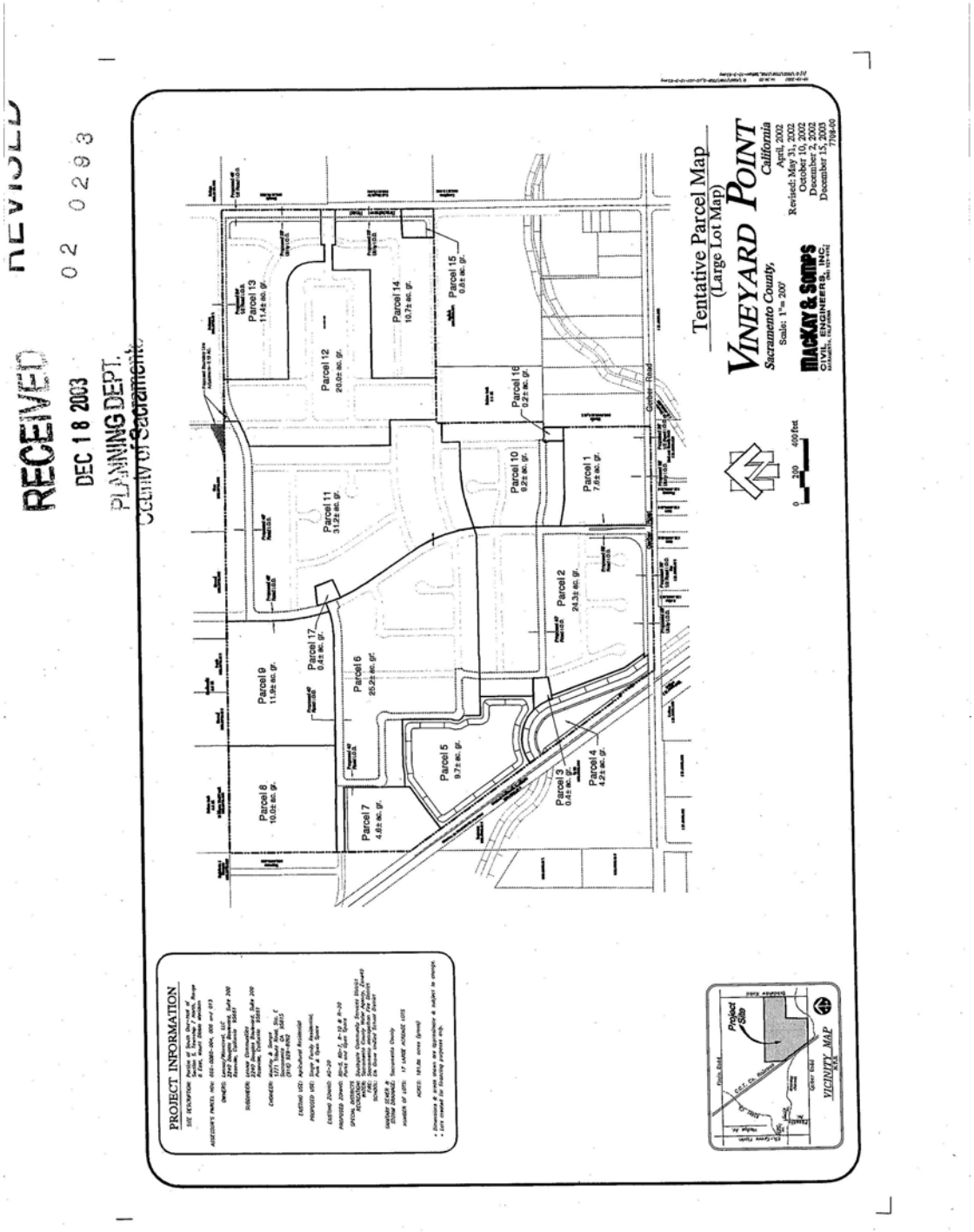
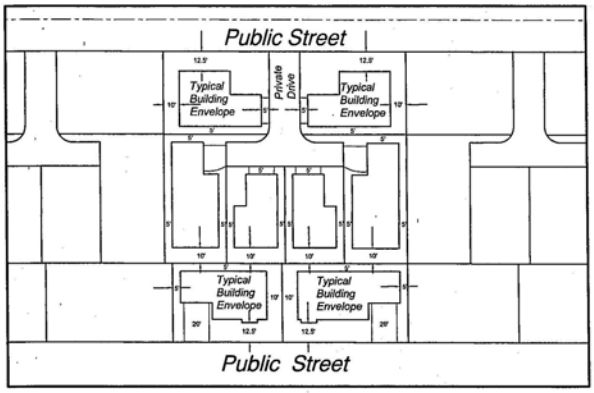


Plate L
Vineyard Point – Special Development Permit



02 0293

COURT YARD LOTS

RD-10

Scale: 1"= 40'

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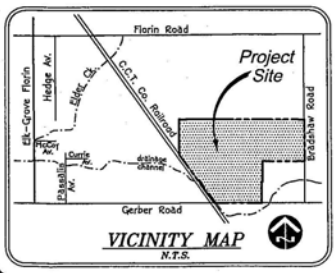
County of Sacramento

RESIDENTIAL DEVELOPMENT STANDARDS
(from North Vineyard Station Specific Plan)

	EXISTING	PROPOSED
	SFR/7-12	SFR/7-12
	RD-10	RD-10
LOT DIMENSIONS (min.)		
Area (sq. ft.)(1)	3,200	2,000
Area, Corner (sq. ft.)(1)	4,000	3,000
Width	35'	35'
Public Street Frontage(2)	30'	0'
Width, Corner(2)	45'	40'
Depth(3)	60'	55'
SETBACKS (min.)		
Front, Living Area(4) (5)	15'(6)	12.5'(6)
Front, Porch(5)	10'	10'
Front Garage(7)	20'(8)	5'
Side, Interior(4)	5'(9)	5'(9)
Side, Total Bldg Separation(9)	10'	10'
Rear, Living Area(4)	15'	15'
Rear, Ancillary Unit(10)	5'	5'
Detached Garage(11)	0'	0'

FOOTNOTES

(1) The minimum half-plex lot area is 3,000 sq. ft. for interior lots and 4,000 sq. ft. for corner lots. Half-plex lots have no minimum lot dimension requirements.
(2) The public street frontage for lots fronting on a curved street or the curved portion of a cul-de-sac or elbow may be measured along an arc located within the from 50 feet of the lot.
(3) The minimum lot depths listed herein supersede the minimum lot depth provisions in the Zoning Code.
(4) Architectural projections are allowed to extend two (2) feet into the required interior side yard and rear yard setbacks. Architectural projections are also allowed to extend two (2) feet into required 20-foot front yard setbacks. Architectural projections include eaves, bay windows (cantilevered and extending from the foundation), fireplaces, media bays, and architectural box-outs. Rear yard projections are allowed pre Zoning Code, Section 305-02 (b).
(5) Vehicular visibility requirements must be met.
(6) May be reduced to 10 feet where adjacent to detached sidewalk.
(7) Where swing driveways are used, the front yard garage setback may be reduced to 15 feet.
(8) Driveway length may be reduced to 19 feet where automatic roll-up doors are used.
(9) Zero-lot line units are permitted where the total building separation requirement is met.
(10) Ancillary units have the same front, side, and street sideyard setback requirement as the primary unit. If attached, the required rear yard is the same as for the primary unit. If detached, the separation from the primary unit is governed by the Uniform Building Code and the Uniform Fire Code. Ancillary units may be placed above attached or detached garages. One (1) on-site parking space is required per unit in addition to the two (2) garage and two (2) driveway spaces required for the primary unit.
(11) Side and rear setback dimension.
(12) Refer to Sacramento County Zoning code for applicable lot dimensions and building setbacks.



Special Development Permit Exhibit

VINEYARD POINT

Sacramento County, California

Scale: 1"= 40'

April, 2002
Revised: December 15, 2003

MACKAY & SOMPS
CIVIL ENGINEERS, INC.
SACRAMENTO, CALIFORNIA (916) 929-6092

7708-00

PUBLIC FACILITIES FINANCING PLAN (02-PWE-0532)

The Public Facilities Financing Plan sets forth a strategy to finance the backbone infrastructure and other public facilities required to serve the proposed land uses in the North Vineyard Station Specific Plan (NVSSP). The strategy proposed is designed to be flexible enough to accommodate the development plans of a diverse set of multiple NVSSP property owners, while assuring the County of Sacramento that the required facilities are constructed when necessary. The Financing Plan includes a combination of existing fee programs, the development of the North Vineyard Station Fee Program (NVSFP), the possible use of Mello-Roos bond financing, and other funding mechanisms.

ENVIRONMENTAL SETTING

The North Vineyard Station Specific Plan (NVSSP) area includes several existing land uses including 13 residences, the 20-acre Bradshaw Golf Center, a convenience store/gas station/bar at the northwest corner of Bradshaw and Gerber Roads, a feed store, an equestrian center on Bradshaw, and a small nursery on Gerber Road. Other existing land uses include five separate easements that contain high voltage power lines, and the out of service 100-foot-side Central California Traction Railroad (CCTR) right-of-way traversing the NVSSP.

The NVSSP project area is predominantly utilized for agricultural-residential uses, with some urban development within the surrounding Vineyard area. Grassy fields and pastures characterize the project site. There are a number of single-family dwellings located within the planning area, along with barns and other outbuildings. The small amount of agricultural activity that occurs is generally limited to dry farming. Over the years, the majority of the site has been subdivided into parcels of one-half to thirty acres in size.

There are several existing commercial sites with the Plan Area, including the Bradshaw Golf Center occupying a 20-acre parcel on the west side of Bradshaw Road. There is also a convenience store/gas station/bar at the northwest corner of Bradshaw and Gerber Roads, a feed store and an equestrian center on Bradshaw, and a small nursery on Gerber Road.

Other existing land uses include five separate easements that contain high voltage power lines, with four truss tower transmission lines, a wood pole line and a steel pole line. The easements traverse the western side of the Plan area, oriented in a north-south direction. The Central California Traction Railroad owns a 100-foot wide right-of-way traversing the Plan area diagonally in a northwest-southeast direction. The tracks have been taken out of service.

Elder Creek and Gerber Creek flow through the Plan area. Elder Creek forms the northwestern boundary of the Plan area and has a watershed of approximately 5,000

acres at its confluence with Gerber Creek at the western boundary of the Plan area. Approximately 500 acres of that shed are within the boundary of the Plan area. Gerber Creek has a drainage area of approximately 3,100 acres, approximately 960 acres of which are within the plan area. The creek crosses Gerber Road several times, flowing in and out of the Plan area before draining into Elder Creek at the western boundary of the Plan area.

There are five categories of wetlands and waters of the United States within the Plan area, including vernal pool, seasonal wetland, freshwater marsh, drainage swale, and perennial creek, totaling approximately 51 acres. Stock ponds also occur in several locations within the Plan area.

The Plan area vegetation is characterized primarily by annual grasses and forbs. Very few native woody plant species occur, except for where water is at or near the surface. Following are descriptions of the principal terrestrial habitats within the Plan area:

The dominant habitat type in the Plan area is non-native annual grassland. These areas are typically not irrigated and occur in several forms including historically disturbed fallow ground, dry pasture (primarily used for cattle and horses), and "buffer" areas along r~~9~~oads and near houses. Flood irrigation of pastures occurs during the dry months in many parts of the Plan area. Plant species (forage) consists of a mixture of typical dryland species, as well as many species that occupy the margins of wetlands.

Numerous trees are scattered throughout the Plan area, typically associated with homesites or situated along fence lines. Predominant species are eucalyptus, black walnut, and fruitless mulberry. Other species include Italian stone pine, catalpa, Modesto ash, box elder, Japanese black pine, silver maple, London plane, weeping willow, and Monterey pine. Most of the vegetation around the residences consists of ornamental species.

PROJECT LOCATION

NORTH VINEYARD SPECIFIC PLAN AREA

The NVSSP planning area is located in the south-central unincorporated area of Sacramento County, at the western edge of the Vineyard community. The City of Sacramento's Central Business District is located approximately eleven miles to the northwest. The Plan Area lies entirely within Sections 4 and 5 of Township 7 North, Range 6 East and within the USGS Elk Grove quadrangle map.

The Plan Area encompasses 1,590± acres of the Vineyard Community Planning Area. The Plan Area is bounded by Florin Road to the north, Gerber Road to the South, the northerly extension of the Vineyard Road on the east, and generally by Elder Creek's north and south forks. Bradshaw Road transects the Plan Area in a north/south

alignment. The right-of-way of the Central California Traction Railroad transects the western portion of the planning area.

WATER TREATMENT FACILITY

The 6-acre site is located on the east side of the Central California Traction Railroad tracks, approximately 100 feet north of Gerber Road.

VINEYARD CREEK

The property is located on the south side of Florin Road, 1,300 feet east of Hedge Avenue, in the Vineyard community.

VINEYARD POINT

The property is generally located on the north side of Gerber Road and the east side of the Central California Traction Railroad, in the Vineyard community.

PROJECT OBJECTIVES

The overall goal of the North Vineyard Station Specific Plan is to provide for the orderly and systematic development of the planning area through the establishment of a comprehensive planning program that is consistent with the Sacramento County General Plan and to respond to opportunities and constraints in the local community area. The North Vineyard Station Land Use Plan has been developed in accordance to this objective and compliance with adopted goals, policies and diagrams of the Sacramento County General Plan, as adopted December 15, 1993. Staff from the Planning Department assisted the North Vineyard Station Citizens Advisory Committee (CAC) in the formation of a development strategy to characterize the type and form of development within the study area. This development strategy was articulated in the form of guiding principles. These principles were developed to ensure that a high quality land use plan would be developed to provide for the orderly and systematic development of the planning area that meets the objectives of the General Plan. These principles are as follows:

1. Plan, develop and maintain a comprehensive, balanced, integrated, safe and efficient transportation system to ensure mobility for all residents.

2. Promote efficient traffic patterns and effective levels of transit service, which connects the project area to surrounding neighborhoods and provide access to larger market areas throughout the County while minimizing congestion on residential streets.

3. Prepare a Comprehensive Drainage Master Plan to mitigate the threat of flooding within the project area.

4. Provide and maintain an adequate level of public services to the project area including water, sewer, parks, schools, police, fire and library services.

5. Promote the location of desirable~~s~~ land uses to minimize land use compatible conflicts.

6. Locate desirable future land uses to maximize the opportunity to create an overall pattern of planned orderly development containing a system of land use adequately and sufficiently served by a balanced system of transportation and community services and facilities.

7. The project area should have a center focus that combines commercial, civic, cultural and recreational uses.

8. As many activities as possible should be located within easy walking distance of transit stops or within core area.

9. All Planning Should be in the form of complete and integrated communities containing housing, shops, work places, parks and civic facilities essential to the daily life of the residents.

10. Provide a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within the area.

11. Encourage a housing production mix the sizes, types and price range of units and allow for innovative housing construction technologies to provide amenities requested by area residents, including large garages and larger homes.

12. Provide a well defined edge, such as agricultural green belts or wetland corridors, and avoid urban encroachment to such areas.

13. Allow for agricultural residential use as a buffer between urban areas and agricultural or constrained areas such as floodplain and wetland resource areas.

14. The area should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent in encouraged through placement and design.

15. Provide opportunities for open space, recreation and visual relief by planning for parks, trails and parkways. Establish a loop trail that encircles the area and promote open space and recreation use of the areas creeks and sloughs.

16. Whenever possible, the natural terrain, drainage & vegetation of the area should be utilized in conjunction with parks, greenbelt & open space.

17. Counter increasing crime/perception of crime through design improvements and crime prevention activities to increase the safety of residents, business,

employees and customers and to maintain and promote neighborhood patronage.

18. Incorporate crime prevention techniques in the urban design of all new developing area within the community. Development plans shall address crime prevention measures including increased visibility and interaction between uses

19. Encourage the concentration ~~i~~of employment and activity centers, particularly in relation and proximity with higher density residential areas, in order to facilitate shorter distances and the use of non-auto modes of travels.

20. Streets, pedestrian paths and bike paths should contribute to a system of fully connected routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees and lighting.

21. Establish development standards that foster compatible design solutions and are aimed at improving how new development projects will fit into the area with the overall intent of defining the area's character.

22. Ensure that a Public Infrastructure Plan and Infrastructure Financing Plan is adopted, as a component of the Specific Planning program, Prior to the occurrence of any new urban development within that area.

23. Public facilities constructed and completed timely with the constru~~i~~ction of new residential projects.

24. Improve the quality of life for current and future residents of the project area by ensuring that adequate level of public services are provided.~~;~~

INTENDED USE OF THE EIR

The SEIR will be used as an informational document to the public and by the Sacramento County Subdivision Review Committee, Policy Planning Commission and Board of Supervisors in evaluating the proposed project and rendering a recommendation or decision to approve, or deny the proposed project.

In addition, the EIR will be used as an informational document to the public and by other responsible agencies including, but not limited to: the California Department of Fish and Game, Regional Water Quality Control Board, U.S. Corps of Engineers, U.S. Fish and Wildlife Service, and the Board of Directors for: the Sacramento County Water Agency; the Sacramento Regional County Sanitation District; and the County Sanitation District No. 1.

4 LAND USE

BACKGROUND

The NVSSP area consists of approximately 1,595± acres. The Specific Plan provides a comprehensive plan for development of an area that was designated for Urban Growth by the Sacramento County General Plan. It refines the policy direction provided by the General Plan and replaces or supplements the Zoning Map and regulations. The Plan includes development standards and zoning to address the unique situations within the Plan area, sets forth a Land Use Diagram for future development, and contains programs for the provision of public facilities. As such, the Plan serves as a policy and regulatory document, with policy direction and project development concepts consistent with the County's General Plan. The current project is an amendment to the previously approved 1998 plan.

The prior Final EIR for the North Vineyard Station Specific Plan (certified on August 12, 1998; County Control Number: 93-SFB-0238) summarized impacts to land use in the following manner:

> "The County General Plan Land Use Element recognizes that the demand for land has created a number of problems in Sacramento County. These problems include an increased consumption of open space, deteriorating air quality, decrease in housing affordability, degradation of public facilities, and increase in traffic congestion. The General Plan also notes that efficient land and resource use in Sacramento County can best be achieved by being committed to a mitigating pattern of land use that concentrates development in configurations designed to protect valuable agricultural lands, conserve natural resource areas, reduce automobile travel distances and related air pollution, as well as conserve energy, and enhance the efficient provision of infrastructure and services.
>
> The Preferred Plan and Alternatives may not meet several General Plan goals, objectives and policies which are intended to maximize efficiency in land use and improve community identity as the projected growth needs of the County are accommodated during the 20-year planning horizon. The densities and land use patterns proposed are similar to the low density development typical of other suburban communities. The Preferred Plan and Alternatives are land consumptive and auto-oriented, which tends to exacerbate traffic and air quality impacts; however, these impacts were acknowledged during the update of the County General Plan when the subject Specific Plan area was designated for growth. In order to minimize further environmental degradation, it is essential that the projected growth needs of the General Plan are met within approved urban growth areas. If the designated growth areas are not developed to their full potential, direct, adverse physical impacts to the environment could occur

through the further loss of agricultural lands and open space/natural habitat areas.

In conclusion, potential land use compatibility impacts associated with holdover agricultural-residential or general agricultural uses located both within and just outside the Urban Development Area ***can be mitigated to less than significant levels*** through implementation of General Plan policies, proposed Specific Plan policies and established Zoning Code development standards.

Land use impacts resulting from non-compliance with General Plan goals, objectives and policies are considered ***potentially significant and adverse.*** Mitigation of potential land use impacts to a less than significant level would require redesign of the Plan are to be consistent with the intent of the General Plan for new growth areas. "

This Supplemental EIR focuses on land use impacts associated with the proposed amendments to the Specific Plan, the adoption of new land use policy, and the development of land within the Specific Plan Area.

SPECIFIC PLAN AMENDMENTS

The proposed amendments to the NVSSP consist of a slight increase in residential density, as well as designating the drainage parkway corridor. The residential density adjustments result in an overall holding capacity increase from 5,732 dwelling units to 6,063 dwelling units, or about a 6% increase.

The increase in density is in response to the need for more affordable housing sites within the County, as outlined in the current General Plan Housing Element Update process. Legal Services of Northern California challenged the May 2002 vacant land inventory, suggesting that there is a lack of vacant multi-family land of suitable size and location to accommodate very low and low-income housing within the unincorporated area of the County. The vacant land inventory acknowledges that there is an inadequate supply of multi-family zoned land to met the demand for very low and low-income housing needs identified in the Regional Housing Needs Assessment.

The Sacramento County Planning and Community Development Department (Planning Department) has identified the need to create more multi-family land (multi-family development is generally seen as the most feasible way for meeting the affordability index) to ensure a viable affordable housing program through the new community and specific plans now being processed. New development areas are seen as offering the best opportunity to accommodate affordable housing needs. The Planning Department is working with communities and development interests to identify more multi-family land within the Florin-Vineyard Gap Comprehensive Plan, the Elverta Specific Plan, and the North Vineyard Station Specific Plan.

The proposed Affordable Housing Program, the implementation tool for the Housing Element policies, is currently in the draft stage. The Affordable Housing Program is being developed by the Planning Department and the Sacramento Housing and Redevelopment Agency (SHRA) with significant input from affordable housing stakeholders which includes market rate residential developers and builders, affordable housing builders, and affordable housing advocates.

The primary scope of the Affordable Housing Program is that all new residential development in the unincorporated county will be required to provide affordable housing and the goal is to have 15% of all new housing units constructed to be affordable to targeted low-income groups. As originally proposed, the Housing Element update Policy HE-45 had called for a 10% affordability factor; however the Policy Planning Commission has recommended a 15% affordability factor and the current Draft Affordable Housing Program has followed through with a 15% requirement.

The June 2004 Draft Affordable Housing Program currently states:

> ***Scope:*** ***All new residential construction in the unincorporated county will contribute to affordable housing.***
>
> - *The affordable units will be within the same growth area (e.g., specific plan. Community plan) as the market rate housing.*
> - *New construction seeking tentative subdivision maps,parcel maps, zoning of rezoning, and multifamily development plan review are subject to the program's requirements.*
> - *The market rate developer may choose between land dedication and construction to meet the affordable housing obligation. If the County determines there are no viable sites for land dedication, the market rate developer may also choose to pay an in-lieu fee.* (June 23, 2004)

In anticipation of this requirement, the applicants for the NVSSP are attempting to meet affordable housing component by increasing multi-family residential sites in three areas of the Plan effectively adding 439 more multi-family units for a total of 1,119 units on 65 acres. In addition, another site has been redesignated as medium-density residential (7 to 12 units per acre), adding another 122 units for a total of 309 medium density units on 32.7 acres for development as possible affordable units. These increases in higher density units are offset by slightly fewer single-family units, resulting in a net increase of 331 units for the NVSSP area for a gross holding capacity of 6,063 units on 1,595 acres. This represents just under a 6% increase in units in the Plan area from the previously approved 5,732 units.

Realizing that some of the multi-family and medium density sites will be developed for market rate housing, the applicants have proposed the following amendment to the NVSSP policies in order to encourage additional affordable housing opportunities:

"In order to increase opportunities to provide affordable housing projects within the Plan Area which address the needs of low or very low income individuals or families, affordable Multifamily Residential ("MFR") housing projects otherwise allowed as set forth in Section 4.4 of this Plan shall be an allowed use in any residential land use designation of the Plan provided that 1) at such time as a landowner applies for a small lot tentative subdivision map, such application clearly designates any property for which such affordable multifamily housing project is intended, and 2) such application clearly states that such site is proposed for dedication to the Sacramento Housing and Redevelopment Authority (SHRA) for such purpose. If a small lot tentative subdivision map is approved which does not meet either of the requirements in the foregoing sentence, no multifamily project shall be permitted thereon unless it is located on land designated "MFR" on the Land Use Diagram of this Plan.

In the event a landowner agrees to dedicate a site to SHRA for development of an affordable housing project, the landowner shall be entitled to receive a density bonus on its remaining property comprising the subject tentative subdivision map for the housing units otherwise lost due to the dedication."

The following language would be inserted towards the end of Section 604.13(A) of the Zoning Ordinance for the North Vineyard Station Specific Plan:

3. Uses permitted in the RD-25 residential land use zone shall also be permitted in the RD-1, RD-2, RD-3, RD-4, RD-5, RD-7, RD-10, RD-15, and RD-20 residential land use zones provided that (1) such use shall only be permitted if the site on which the RD-25 use is proposed is designated within and in conjunction with the approval of a small lot tentative subdivision map, and (2) the application for such tentative map clearly states that such site or the applicable portion of such site, is proposed for dedication and the approved tentative subdivision map shall include a condition requiring that such site or portion thereof be dedicated to the Sacramento Housing and Redevelopment Authority ("SHRA") for development of an affordable housing project.

   In the event that a landowner agrees to dedicate a site to SHRA for development of an affordable housing project, the landowner shall be entitled to receive a density bonus on its remaining property comprising the subject tentative subdivision map for the housing units otherwise lost due to the dedication.

VINEYARD CREEK AND VINEYARD POINT SUBDIVISIONS

Two separate subdivision maps and rezone projects are proposed along with the Specific Plan modifications. The Vineyard Creek project is a request for a Rezone from AG-20 to RD-5, RD-7, RD-10, RD-20, and O; and a tentative Vesting Subdivision Map to create 390 total lots including: 377 residential lots, one park site, three open space

lots, one detention facility lot, two future residential lots, one multi-family lot, and six landscape corridor lots. The project site is currently designated as an Urban Development Area by the Sacramento County General Plan, and for single-family residential (3-5 units per acre), single family residential (4-7 units per acre), medium-density residential (7-12 units per acre), multi-family residential (12-22 units per acre), and open space (O) uses by the amended North Vineyard Station Specific Plan.

The Vineyard Point project is a request for a Rezone from AG-20 to RD-5, RD-7, RD-10, RD-20, and O; and a tentative Vesting Subdivision Map to create 769 total lots including: 754 residential lots, one park site, one pedestrian access lot, one school site lot, one water tank site lot, two well site lots, one detention facility lot, one drainage channel lot, one pump station lot, one SMUD site lot, and four landscape corridor lots. The project site is currently designated as an Urban Development Area by the Sacramento County General Plan, and for single-family residential (3-5), single family residential (4-7), medium-density residential (7-12), multi-family residential (12-22), public services, and open space (O) uses by the amended North Vineyard Station Specific Plan.

IMPACTS AND ANALYSIS

INCREASED DENSITY OF PLAN

The increase in the number of units in the Plan area does not affect the planned infrastructure for the NVSSP as is discussed in subsequent sections of this SEIR. In fact, the increased holding capacity bring the Plan in line with the original Preferred Specific Plan for 6,339 units as analyzed in certified Final EIR in 1998.

The addition of units from the density bonus program should not have a significant effect on the Plan Area. Historically, in Sacramento County, most development does not occur at the zoned maximum densities. Typically developments tend to net 75% to 90% of their holding capacity. Those applicants that choose to participate in the density bonus program would more than likely exceed their unit allocation. However, this would be offset by those properties that develop conventionally with results under their allocated units. Furthermore, efficient use of land, which has urban services, that steers development pressures from the urban fringe areas is considered environmentally superior.

PROPOSED SUBDIVISION MAPS

SPECIFIC PLAN CONSISTENCY

The proposed land use designations for the Vineyard Creek Subdivision are consistent with the amended North Vineyard Station Specific Plan Land Use Diagram. In addition to land use designations, the NVSSP contains a dwelling unit cap of 6,063 units. This

cap is enforced via the Specific Plan Allocation Table 4.1.2, which contains a cap on the number of dwelling units that can be developed on specific parcels within the NVSSP area. The dwelling unit allocation for the single-family residential area is 400. The NVSSP requires development at density of no less than 75% of the unit allocation, in this case 300 units. The applicant is proposing the creation of 377 single-family lots (94% of the maximum). Vineyard Creek is, therefore, consistent with the density requirements of the NVSSP.

The proposed land use designations for the Vineyard Point Subdivision are consistent with the amended North Vineyard Station Specific Plan Land Use Diagram. The dwelling unit allocation for the single-family and medium-density residential area is 855. The NVSSP requires development at density of no less than 75% of the unit allocation, in this case 640 units. The applicant is proposing the creation of 754 residential units (88% of the maximum). Vineyard Point is, therefore, consistent with the density requirements of the NVSSP.

The NVSSP contains the following policies regarding residentially designated areas:

1. Preserve the integrity of existing neighborhoods by preventing the encroachment of incompatible land uses and associated activities (e.g., excessive through traffic).

2. Rear and side yards shall face streets designated as Arterial and Thoroughfare streets on the Circulation Plan. Subdivisions shall be separated from Arterial and Thoroughfare streets by landscaped areas, sound walls, fences, and/or berms that conform to the Design Guidelines included in this Plan.

3. Subdivisions shall be designed in order to reduce through traffic; however, multiple linkages for pedestrians and bicyclists are encouraged.

4. Residential subdivisions shall be designed to facilitate pedestrian and bicycle travel.

5. Design and architecture of proposed residential projects should consider the Design Guidelines included in the Specific Plan.

6. Private open space and recreation amenities that will meet the needs of the resident population shall be provided in multi-family residential projects.

7. Residential lotting patterns should promote opportunities for public access into public open spaces. Parks and other community open spaces should be accessible at points along the street systems.

8. Residential subdivisions shall be designed to facilitate surveillance of parks and open space areas by residents and Sheriff patrols.

9. Single Family and Medium Density Residential dwellings shall have frontage on, and driveway access to, Collector Streets only in accordance with average daily traffic counts described in Section 7.5.1.

10. Provide a range of land use densities within newly developing areas to enhance community vitality and create a mix of lot and housing types.

11. Variation of housing within neighborhoods is encouraged, provided the mix is architecturally compatible.

12. Long stretches of backup lots along parkways and drainage/creek corridors should be discouraged. The use of front on streets, side yard lotting patterns and open-ended cul-de-sacs are appropriate.

13. Provide adequate buffering within the urban-residential areas where adjacent land uses differ significantly. Appropriate buffering techniques include larger lots, additional setbacks, landscape corridors or any appropriate combination.

The NVSSP also contains residential development and design standards. The proposed project would be expected to comply with the standards set forth in the NVSSP. The proposed project appears to be generally consistent with the policies listed above.

The other land use proposed on the project sites is Open Space. The NVSSP contains the following policies regarding Open Space:

1. Storm drainage in open space areas shall be by means of natural or natural-appearing stream courses, rather than closed culverts, except where in conflict with other planned facilities.

2. Except where wetlands mitigation, drainage channel, or stormwater detention construction is proposed and where necessary to prevent erosion, grading and construction shall be prohibited in designated open space areas. In instances where grading is permitted, the minimum necessary shall be allowed.

3. Pedestrian and bicycle trails and pathways are encouraged within open space areas to the extent possible. Such facilities shall be located and designed to minimize disturbance of natural features.

4. To the maximum extent feasible, uses abutting Open Space shall be oriented and designed to permit surveillance of these areas in order to discourage unlawful activities.

5. Where residential development abuts Parkways and Drainage Parkways, fences shall adhere to the following design: six (6) feet in height, consisting of three (3) feet of wrought iron on top of three (3) feet of masonry wall.

Again, the NVSSP contains further guidelines regarding the development of open space. The guidelines vary depending on the specific type of open space proposed. Several types of open space are proposed on the subject site, including a park, drainage parkway, and storm water detention. Project development would be expected to comply with specific requirements contained in the NVSSP associate with each of the proposed open space areas. The projects appear generally consistent with the Open Space Policies contained in the NVSSP.

ZONING CONSISTENCY

Both the Vineyard Creek and Vineyard Point sites are currently zoned AR-20 for agricultural uses on minimum 20-acre lots. Approval of the proposed zoning change from AG-20 to various residential and open space zones would allow substantially more intensive uses than could otherwise be developed pursuant to the existing zoning. Potential impacts due to the intensification of land uses, including land use conflicts and growth inducement, were analyzed in the Final EIR for the North Vineyard Station Specific Plan. The FEIR pointed out that although the Plan Area and much of the surrounding properties are currently zoned for agricultural-residential and general agricultural uses, the conversion of this land for urban development was committed during the General Plan approval process and the related land use impacts were also acknowledged at that time.

The evolution of the project area from rural setting to an urban one will result in some inherent land use conflicts that, albeit temporary in some situations, could last for several years. Those residents choosing to maintain a rural lifestyle will feel the pressures of encroaching urbanization, while some urban dwellers may find adjacent agricultural practices to be annoying. Some small scale farming operations may find some of their activities will have to be curtailed or substantially modified in order to mitigate impacts to adjacent urban uses. Conversely, urban uses can bring undesirable influences to agricultural uses such as trespass, vandalism, domestic pets, and traffic congestion.

The previous EIR concluded that potential land use compatibility impacts associated with holdover agricultural-residential or general agricultural uses located both within and just outside the Urban Development Area can be mitigated to less than significant levels through implementation of General Plan policies, proposed Specific Plan policies, and established Zoning Code development standards.

CONCLUSION ON LAND USE IMPACTS

The proposed developments are generally consistent with the General Plan, North Vineyard Station Specific Plan, and the Sacramento County Zoning Code. The proposed amendments to the Specific Plan are in response to a need throughout the unincorporated County for affordable housing. The number of potential additional units that may be developed in the Plan area as a result of these changes represents only a small overall increase in the total number of units within the NVSSP.

Impacts to Land Use are considered less-than-significant.

MITIGATION MEASURES:

None required.

5 PUBLIC FACILITIES FINANCING PLAN

INTRODUCTION

The NVSSP area is designated as an urban growth area in the County of Sacramento General Plan. A land use plan has been prepared to accommodate future development while corresponding public facility master plans have been prepared to identify the major facilities required for NVSSP to develop. This chapter discusses the NVSSP Financing Strategy which identifies the major infrastructure improvements necessary to support the proposed level of development, analyzes phasing constraints, provides the costs per acre for infrastructure categories, and identifies existing and potential funding sources.

State Planning and Zoning Laws (California Government Code) require specific plans to identify in detail the essential infrastructure and services needed to support the land uses described in the plan, as well as a program of implementation and financing measures necessary to carry out those improvements (Section 65451).

The project site is not included in any existing Public Facilities Financing Plan area and will therefore require a financing strategy to fund public facilities needed to serve new development in the Plan Area. The requirement for a financing strategy is established by Policy LU-8 of the County General Plan, which states:

> Policy LU-8. Infrastructure financing plans which specify the extent, timing, and estimated cost of all necessary infrastructure shall be approved by the Board of Supervisors, together with the approval of zoning for any urban uses in urban growth areas. The resulting financing mechanisms shall be implemented prior to the approval of all entitlements in urban growth areas.

Because the proposed project includes requests for rezoning and tentative subdivision map entitlements, preparation and approval of a financing plan for the NVSSP area is required at this time.

DESCRIPTION OF PROPOSED FINANCING PLAN

The NVSSP Public Facilities Financing Plan provides the following summary of the Financing Plan:

INTRODUCTION

This Public Facilities Financing Plan sets forth a strategy to finance the backbone infrastructure and other public facilities required to serve the proposed land uses in the

North Vineyard Station Specific Plan (NVSSP). The strategy proposed is designed to be flexible enough to accommodate the development plans of a diverse set of multiple NVSSP property owners, while assuring the County of Sacramento that the required facilities are constructed when necessary. The Financing Plan includes a combination of existing fee programs, the development of the North Vineyard Station Fee Program (NVSFP), the possible use of Mello-Roos bond financing, and other funding mechanisms.

PROJECT SUMMARY

The NVSSP is located in Sacramento County approximately 13 miles southeast of Downtown Sacramento and two miles north of Elk Grove. The NVSSP is approximately 1,597 acres in size and is bounded by Florin Road on the north, Gerber Road on the south, the extension of Vineyard Road on the east, and Elder Creek (west side, top of channel) which roughly constitutes the western border.

The NVSSP is characterized as a primarily underdeveloped, semi-rural area containing a scattering of 13 older residences and a few non-residential uses. Buildout within the NVSSP is planned for 5,732 housing units (includes the 13 older residences for a net new buildout of 5,719 units), including 4,852 single family units, 187 medium density units, and 680 multi-family units. The NVSSP also includes 64 acres of parks, 21 acres of schools, 39 acres of commercial and business professional, a 20-acre (existing) golf course, a 10-acre transit center and 264 acres designated as streets, parkway, railroad right of way (ROW), and drainage.

The NVSSP is anticipated to buildout over a ten to twenty-year period. During this period, it is anticipated that development within the NVSSP will likely occur in six phases: Phase A-1, Phase A-2, Phase B, Phase C, Phase D, and Phase E. The actual phases of development may be different from that outlined in the Financing Plan. Plate PF -1 shows the phasing plan.

BACKBONE INFRASTRUCTURE AND PUBLIC FACILITIES SUMMARY

Buildout of the NVSSP will require construction of $106.4 million in roadway, frontage lane improvements, water, sewer and drainage backbone infrastructure costs, including ROW acquisition and $95.8 million in other public facility improvements.

Total improvements are estimated to be $202.2 million at buildout, $26.7 million in Phase A-1, $52.4 million in Phase A-2, $32.5 million in Phase B, $37.0 million in Phase C, $29.2 million in Phase D, and $24.3 million for Phase E of development as summarized in Table 5-1. A brief summary of the key components of each phase is shown in the Phase Summary in Table 5-2.

Plate PF -1
North Vineyard Station Specific Plan
Development Phasing

North Vineyard Station Specific Plan

Development Phasing Exhibit for Entire Plan Area

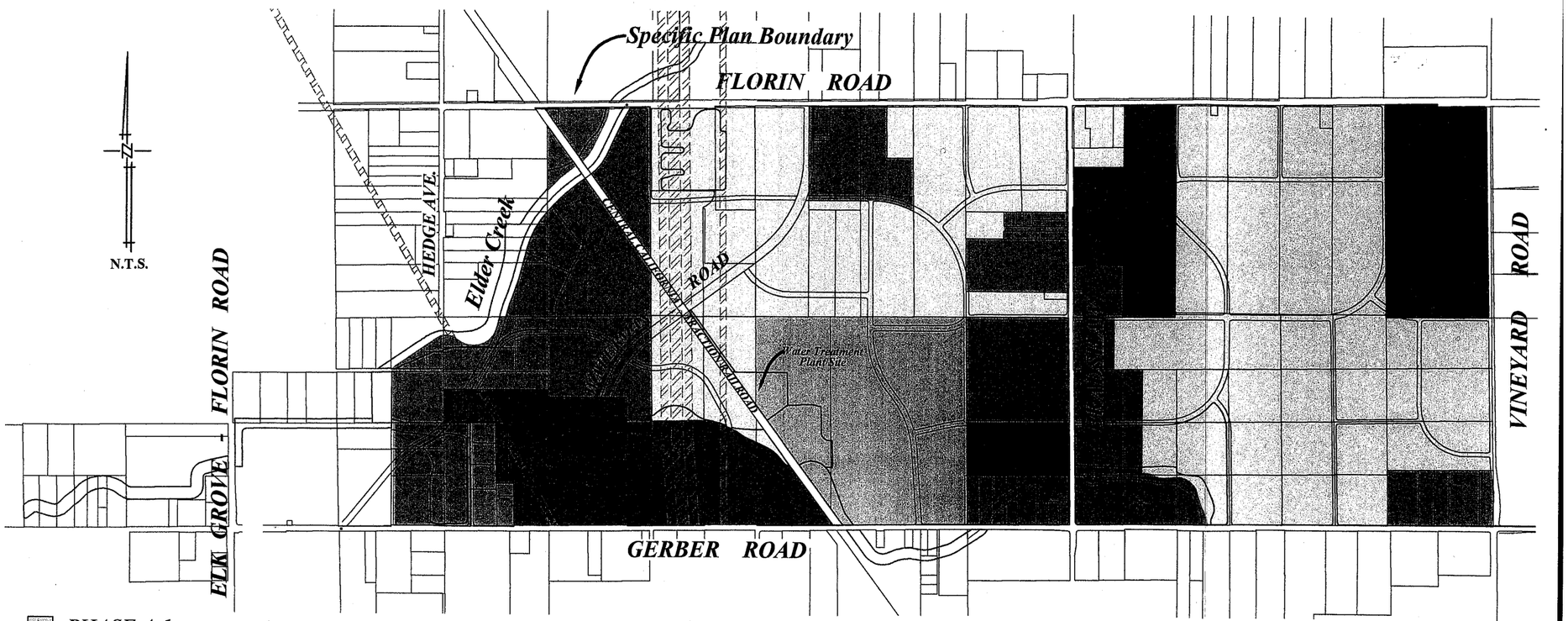


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Table 5-1
North Vineyard Station Financing Plan
Preliminary Cost Estimates by Phase (2003 $)

DRAFT

Figure 1
North Vineyard Station Financing Plan
Preliminary Cost Estimates By Phase (2003 $)

Facility	Reference: Appendix A	Reference: Financing Plan Chapter	Phase A-1	Phase A-2	Phase B	Phase C	Phase D	Phase E	Buildout
Major Infrastructure									
Roadway	A - 1	V	$7,091,200	$10,194,100	$11,431,000	$3,443,700	$4,998,200	$7,712,600	$44,870,800
Frontage Lane Improvements	A - 2	V	$280,800	$2,767,100	$1,212,900	$1,142,700	$1,819,400	$947,700	$8,170,600
Water	A - 3	VI	$2,756,800	$10,131,500	$347,200	$1,640,500	$490,500	$0	$15,366,500
Sewer	A - 4	VII	$3,823,000	$1,937,000	$1,206,000	$3,654,000	$1,197,000	$0	$11,817,000
Drainage - Zone 11A	A - 5	VIII	$1,780,900	$5,163,300	$0	$3,377,200	$2,636,800	$707,900	$13,666,100
Drainage - NVSSP Supp.	A - 5	VIII	$979,900	$6,269,800	$0	$2,619,700	$1,894,800	$712,800	$12,477,000
Subtotal Major Infrastructure			**$16,712,600**	**$36,462,800**	**$14,197,100**	**$15,877,800**	**$13,036,700**	**$10,081,000**	**$106,368,000**
Public Facilities									
Parks and Recreation	A - 6	IX	$1,029,800	$2,044,200	$1,264,400	$2,330,900	$1,799,900	$3,725,800	$12,195,000
Schools	A - 7	X	$7,654,000	$12,047,000	$13,275,000	$16,027,000	$11,726,000	$8,633,000	$69,362,000
Library	A - 8	XI	$171,000	$272,000	$320,400	$371,400	$267,200	$192,000	$1,594,000
Fire Protection	A - 9	XII	$650,900	$901,300	$1,033,900	$1,453,200	$1,010,700	$655,200	$5,705,200
Transit	A - 10	XIII	$452,500	$715,600	$2,418,800	$1,007,900	$1,351,100	$1,031,900	$6,977,800
Subtotal Public Facilities			**$9,958,200**	**$15,980,100**	**$18,312,500**	**$21,190,400**	**$16,154,900**	**$14,237,900**	**$95,834,000**
TOTAL COSTS			**$26,670,800**	**$52,442,900**	**$32,509,600**	**$37,068,200**	**$29,191,600**	**$24,318,900**	**$202,202,000**

"Total_cost"

Source: MacKay & Somps and EPS.

Table 5-2
North Vineyard Station
Phasing Summary

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Figure 1a
North Vineyard Station
Phasing Summary

	Phase A-1	Phase A-2	Subsequent Phases (B, C, D & E)
Roadway	**Construction:** Reconstruct Gerber Rd. from Elk Grove-Florin to west of Bradshaw at Gerber Creek Crossing #3. Consisting of two travel lanes, shoulders and a center turn lane. **Notes:** Two points of access will be required. **Estimated Cost** **$7,091,200** **Estimated Fee Revenue** **$4,238,600**	**Construction:** 2-lane roadway with center turn lane for Waterman Rd. between Gerber Rd. and southwest of CTRR crossing for development of the portion of the Phase A-2 property that is immediately southwest of the CTRR crossing. For property northeast of the CTRR crossing, Waterman Rd. will be constructed from Florin Rd. south for the length which abuts the developing property. Construction of full intersection improvements at Waterman Rd. & Gerber Rd. and 450' in length from each side of the intersection will also be required. **Notes:** The full length of Waterman Rd. is required to be constructed prior to recordation of maps for 2,200 cumulative equivalent dwelling units. Adequate secondary access will be required. Subsection A-1.2 identifies offsite roadway improvements required in this phase with cumulative dwelling unit thresholds to identify timing during the buildout of this phase. **Estimated Cost** **$10,194,100** **Estimated Fee Revenue** **$6,718,500**	**Construction:** On-site and offsite roadway improvements have been identified and cumulative unit thresholds established to provide necessary roadway access and capacity. **Notes:** Refer to Figure A-1.2 for details of the unit threshold indicating the timing of construction of roadway capacity improvements **Estimated Cost** **$27,585,500** **Estimated Fee Revenue** **$33,913,700**
Frontage Lane	**Construction:** The north side of Gerber Rd. between the CCTC RR crossing and Gerber Creek Crossing #3 will be fully improved. **Estimated Cost** **$280,800** **Estimated Fee Revenue** **$771,800**	**Construction:** Full improvement to the south side of Florin, Waterman and west side of Bradshaw frontage will be required. **Estimated Cost** **$2,767,100** **Estimated Fee Revenue** **$1,223,500**	**Construction:** Full improvement of major road frontages associated with each phase. **Estimated Cost** **$5,122,700** **Estimated Fee Revenue** **$6,175,300**
Sewer	**Construction:** A trunk sewer will be required in Gerber Rd. from Elk Grove-Florin Rd to the area needing sewer service **Estimated Cost** **$3,823,000** **Estimated Fee Revenue** **$1,317,000**	**Construction:** The Regional Sanitation District is programmed to construct the Bradshaw Interceptor Sewer along Gerber Creek that serves this phase. To serve the northern portion of this phase a trunk sewer must be constructed in Florin Rd. east of and connecting to the Bradshaw Interceptor. **Estimated Cost** **$1,937,000** **Estimated Fee Revenue** **$1,920,000**	**Construction:** Subsequent phases will need to construct trunk sewers to serve each development phase extending from previous trunk sewers or the Bradshaw Interceptor. **Estimated Cost** **$6,057,000** **Estimated Fee Revenue** **$10,020,300**

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Figure 1a
North Vineyard Station
Phasing Summary

	Phase A-1	Phase A-2	Subsequent Phases (B, C, D & E)
Water	**Construction:** Initial water supplyprovided by SCWA from existing sources outside the NVSSP on a first come first serve basis. Availability of water from existing system subject to change, reflecting ongoing development & increasing water demands outside the NVSSP area. SCWA will re-evaluate available capacity prior to approval of infrastructure improvement plans. Water transmission main will be extended past the so-western boundary of the NVSSP along Gerber Road and connect to the Zone 40 transmission facilities in Elk Grove Florin Road. A fire well facility will be constructed on-site to supplement emergency water supplies. **Notes:** Tentative Map approvals will be required to comply with General Plan Policy CO-20. Staff of Zone 40 will review, at the time of approval of any development improvement plans, the need for additional water supply facilities. **Estimated Cost** **$2,756,800** **Estimated Fee Revenue** **$2,510,300**	**Construction**: Upon exhaustion of available water from the existing Zone 40 system, the water supply system will require expansion to include two additional groundwater wells, conversion of the previously constructed fire well to a domestic supply well, a water treatment facility and storage tank within the Plan Area. Phase A-2 includes water transmission lines extending north from the Phase A-1 construction to the new treatment/storage facility and into the NVSSP. It includes construction along Bradshaw Road. **Notes:** Groundwater production will be limited to a maximum pumping rate of 2,220 gpm. Tentative Map approvals will be required to comply with General Plan Policy CO-20. **Estimated Cost** **$10,131,500** **Estimated Fee Revenue** **$3,955,500**	**Construction:** Prior to cumulative development of approximately 2,600 units (resulting in a maximum day demand of 2,220 gpm) increased surface water deliveries from SCWA supplies must occur. **Estimated Cost** **$2,478,200** **Estimated Fee Revenue** **$16,853,100**
Drainage	**Construction:** Due the geographical location of this phase, the necessary improvements consist of construction of Detention Basin G41 with pumping facilities and improvement of Gerber Creek between the CTRR crossing and Gerber Rd. **Estimated Cost** **$2,760,800** **Estimated Fee Revenue** **$2,361,000**	**Construction:** Consistent with the NVSSP Master Drainage Plan (January, 2003), the following is required: construction of Detention Basin E24B for development areas which drain to this basin. Elder Creek channel must be improved from upstream of Florin Rd. to Detention Basin E24B. Detention Basin E26 to be constructed for development areas draining to this basin, together with an adequate outfall to Elder Creek. A portion of Detention Basin E24A for the most southwestern portion of the planned development within Phase A-2 which drains into this basin. Full Channel Improvements for Gerber Creek from the easterly end of the existing channel near the eastern boundary of the Champions Golf Course to approximately 600 ft. east of the new Waterman Rd. bridge. **Estimated Cost** **$11,433,100** **Estimated Fee Revenue** **$3,655,200**	**Construction:** As subsequent phases proceed, each phase must comply with the Master Drainage Plan (January 2003) or demonstrate through a detailed hydraulic analysis to the satisfaction of the Department of Water Resources that any proposed modification of the phasing contained in the Master Drainage Plan can achieve the original objectives. **Estimated Cost** **$11,949,200** **Estimated Fee Revenue** **$16,140,800**
Other Facilities and Services	**Construction:** Park facilities will be improved within this phase as Southgate P&R programs the onsite park land. School fees will be provided in the phase for the Elk Grove Unified School District to utilize in the implementation of its Master Plan. Fees will be contributed for new capital facilities for library, fire protection, and transit. The respective service providers will determine the timing of actual construction of needed facilities. **Estimated Cost** **$9,958,200** **Estimated Fee Revenue** **$7,906,400**	**Construction:** Park facilities will be improved within this phase as Southgate P&R programs the onsite park land within this phase. School fees will be provided in the phase for the Elk Grove Unified School District to utilize in its Master Plan. Respective service providers will determine the timing of construction of their respective facilities. **Estimated Cost** **$15,980,100** **Estimated Fee Revenue** **$11,337,200**	**Construction:** Park facilities and school facilities will be dedicated, acquired and improved or constructed as subsequent phases develop. Fee contributions to a regional library facility, regional fire facilities and a transit park and ride will occur phase by phase. Timing of providing these facilities will be determined by the respective agencies. **Estimated Cost** **$69,895,700** **Estimated Fee Revenue** **$52,318,900**

Source: MacKay & Somps
The NVSSP Financing Plan contains a possible phasing plan based upon logical infrastructure phasing and at least in the initial phases, expected development timing. This represents only one possible phasing scenario. The NVSSP Financing Plan is proposed to permit other phasing approaches but is structured to ensure timely construction of necessary infrastructure. The following description is the approach for Phases A-1 & A-2 together with key thresholds identified for infrastructure to serve subsequent phases (B, C, D, & E).
Prepared by EPS

Phases

FINANCING SUMMARY

PURPOSE

The purpose of the NVSSP Financing Plan is to recommend the appropriate financing mechanisms to fund the necessary backbone infrastructure and other public facility costs required to serve the NVSSP. The goal is to identify financing mechanisms that are flexible enough to ensure the required improvements are constructed when necessary. The financing mechanisms utilized will be dependent upon the types of facilities and when the facilities are needed. Construction will be phased so that facilities are available when needed.

This Financing Plan recommends a combination of existing fee programs, the proposed NVSFP, bond funding mechanisms, and other financing mechanisms to fund the backbone infrastructure and public facilities costs required to serve the NVSSP at buildout as shown in Table 5-3. Existing fee programs will be used extensively; however, it is not anticipated that these mechanisms will fully fund all of the needed improvements. Therefore, in order to provide for funding for the total cost of improvements, the Financing Plan recommends the establishment of a new NVSFP.

The Financing Plan also anticipates the use of other funding mechanisms such as developer advances, the Elk Grove Unified School District's (EGUSD's) existing Mello Roos Community Facilities District (CFD) No. 1, and matching State school funding. Developer advances or bond financing through a NVSSP Mello-Roos CFD formed by the County will be used to fund infrastructure improvements needed during the development of the NVSSP before the collection of fees or other revenue reimbursement sources.

EXISTING FEE PROGRAMS

Existing fee programs include Sacramento County development impact fee programs and the EGUSD's mitigation fees as outlined below.

Sacramento County District IV Road and Transit Fees
Sacramento County Water Agency (SCWA) Zone 40 Water Fees
County Sanitation District No. 1 (CSD-1) Sewer Fees
Sacramento County Regional Sanitation District (SCRSD) Sewer Fees
Sacramento County Zone 11A Drainage Fees
Sacramento Metro Fire District Capital Facilities Fee
EGUSD School Fee Program

Existing fees are shown in Table 5-4. The Financing Plan assumes that these existing mechanisms will be used as primary funding sources. It is estimated that the NVSSP will generate $125.2 million in existing fee program revenue at buildout as shown in Table 5-5. A mapping factor of 90 percent was used to estimate the total amount of fee revenue anticipated from the plan area. Fee revenue was calculated by multiplying the existing fee per unit by the reduced, mapping factor number of units.

Table 5-3
North Vineyard Station Financing Plan
Sources and Uses – Buildout

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Figure 2
North Vineyard Station Financing Plan
Sources and Uses - Buildout

Facility	Estimated Costs At Buildout	Existing Fee Programs		Proposed Fee Program	Difference
		Program	Amount		
Major Infrastructure					
Roadway	$44,870,800		$0	$44,870,800	$0
Frontage Lane Improvements	$8,170,600		$0	$8,170,600	$0
Water [1]	$15,366,500	Zone 40	$23,318,900	$0	$7,952,400
Sewer [1]	$11,817,000	CSD-1	$13,257,300	$0	$1,440,300
Drainage - Zone 11A [2]	$13,666,100	Zone 11A	$9,680,000	$0	($3,986,100)
Drainage - NVSSP Supplemental	$12,477,000		$0	$12,477,000	$0
Subtotal Major Infrastructure	**$106,368,000**		**$46,256,200**	**$65,518,400**	**$5,406,600**
Public Facilities					
Parks and Recreation	$12,195,000		$0	$12,195,000	$0
Schools [3]	$69,362,000	Elk Grove USD/State Funding	$69,362,000	$0	$0
Library	$1,594,000		$0	$1,594,000	$0
Fire Protection	$5,705,200	Sac Metro Fire	$5,705,200	$0	$0
Transit	$6,977,800		$0	$6,977,800	$0
Subtotal Public Facilities	**$95,834,000**		**$75,067,200**	**$20,766,800**	**$0**
TOTAL	**$202,202,000**		**$121,323,400**	**$86,285,200**	**$5,406,600**

"sources_buildout"

[1] Any surplus at buildout in actual fees collected over actual cost of facilities needed to serve the NVSFP will be applicable to other benefitting areas in the Zone 40 or CSD-1 system.
[2] Any negative difference at buildout will be funded by Zone 11A fees collected from other benefitting areas outside the plan area.
[3] Includes funding from Elk Grove Unified School District Level 2 fees, EGUSD CFD 1 and the State. See Chapter X for details.

Table 5-4
North Vineyard Station Financing Plan
Fee Summary – Buildout
Existing Conditions

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Figure 3a
North Vineyard Station Financing Plan
Fee Summary - Buildout
Existing Fee Programs

Buildout	Total	SFR 1-3	SFR 3-5	SFR 4-7	MDR 7-12	MFR 12-22	Commercial	Business Professional
LAND USE INFORMATION								
Estimated Units	5,147	510	2,752	1,104	168	612		
Acres	1,156	283	612	205	19	38	30	7
Typical Units Per Acre		1.8	4.5	5.4	9.0	16.2		
Assumed Average Sqft of Structures		3,500	3,000	2,200	1,500	1,000	325,502	105,598
EXISTING FEE PROGRAMS				*Per Unit [1]*			*Per Acre*	
County of Sacramento Applicable to Region								
Roadway - District IV		$749	$749	$749	$749	$567	$23,740	$25,918
Sewer - SRCSD		$4,500	$4,500	$4,500	$4,500	$3,375	$4,901	$13,329
Transit - District IV		$117	$117	$117	$117	$117	$5,554	$6,961
Sacramento Metro Fire Fee		$1,435	$1,230	$902	$615	$410	$5,990	$8,146
County of Sacramento Applicable to NVSFP								
Water - Zone 40		$4,641	$4,641	$4,641	$4,641	$3,481	$3,816	$3,816
Sewer - CSD-1 [1]		$6,172	$2,470	$2,058	$1,235	$685	$11,112	$11,112
Drainage - Zone 11A		$2,010	$2,010	$1,788	$1,131	$657	$15,010	$15,010
Subtotal County of Sacramento		**$19,624**	**$15,717**	**$14,755**	**$12,988**	**$9,292**	**$70,123**	**$84,292**
Elk Grove School District		$11,795	$10,110	$7,414	$5,055	$3,370	$3,703	$5,036
Total Existing Fees Per Unit		**$31,419**	**$25,827**	**$22,169**	**$18,043**	**$12,662**		
Total Existing Fees Per Acre							**$73,825**	**$89,327**

"Fees/unit"

[1] The CSD-1 is a per acre fee that was adjusted to a per unit equivalent based on actual units per acre for purposes of this summary.

Table 5-5
North Vineyard Station Financing Plan
Fee Revenue Summary – Buildout

Figure 4a
North Vineyard Station Financing Plan
Fee Revenue Summary - Buildout

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Buildout

Buildout	Total	SFR 1-3	SFR 3-5	SFR 4-7	MDR 7-12	MFR 12-22	Commercial	Business Professional
				Units			*Acres*	
LAND USE INFORMATION								
Units	5,147	510	2,752	1,104	168	612		
Acres		283	612	205	19	40	29.89	7.13
Assumed Average Sqft of Structures		3,500	3,000	2,200	1,500	1,000	325,502	105,598
EXISTING FEE PROGRAMS								
County of Sacramento								
Applicable to Region								
Roadway - District IV	$4,638,000	$382,000	$2,061,000	$827,000	$126,000	$347,000	$710,000	$185,000
Sewer - SRCSD	$22,714,000	$2,296,000	$12,385,000	$4,969,000	$757,000	$2,066,000	$146,000	$95,000
Transit - District IV	$819,000	$60,000	$322,000	$129,000	$20,000	$72,000	$166,000	$50,000
Sacramento Metro Fire Fee	$5,705,000	$732,000	$3,385,000	$996,000	$104,000	$251,000	$179,000	$58,000
County of Sacramento								
Applicable to NVSSP								
Water - Zone 40 [1]	$23,318,000	$2,368,000	$12,773,000	$5,125,000	$781,000	$2,130,000	$114,000	$27,000
Sewer - CSD-1	$13,257,000	$3,149,000	$6,797,000	$2,273,000	$208,000	$419,000	$332,000	$79,000
Drainage - Zone 11A	$9,680,000	$1,026,000	$5,532,000	$1,974,000	$190,000	$402,000	$449,000	$107,000
Subtotal County of Sacramento	**$80,131,000**	**$10,013,000**	**$43,255,000**	**$16,293,000**	**$2,186,000**	**$5,687,000**	**$2,096,000**	**$601,000**
Elk Grove School District	**$45,091,000**	$6,019,000	$27,825,000	$8,187,000	$851,000	$2,062,000	$111,000	$36,000
Total Existing Fee Programs	**$125,222,000**	**$16,032,000**	**$71,080,000**	**$24,480,000**	**$3,037,000**	**$7,749,000**	**$2,207,000**	**$637,000**
PROPOSED NVSFP								
North Vineyard Station Fee Program								
Roadway	$44,870,800	$4,975,000	$21,555,500	$8,759,100	$995,300	$3,412,800	$4,319,700	$853,400
Frontage Lane Improvements	$8,170,600	$906,000	$3,925,100	$1,595,100	$181,200	$621,400	$786,400	$155,400
Supplemental Drainage	$12,477,000	$1,386,100	$6,524,200	$2,670,900	$300,300	$692,500	$729,100	$173,900
Parks and Recreation	$12,195,000	$1,384,700	$6,517,900	$2,669,200	$299,500	$1,084,100	$183,600	$56,000
Library	$1,594,000	$184,800	$869,000	$355,900	$40,000	$144,300	$0	$0
Transit	$6,977,800	$531,900	$2,301,700	$930,700	$120,700	$1,356,100	$1,488,600	$248,100
Total Proposed NVSFP	**$86,285,200**	**$9,368,500**	**$41,693,400**	**$16,980,900**	**$1,937,000**	**$7,311,200**	**$7,507,400**	**$1,486,800**
TOTAL FEE REVENUE	**$211,507,200**	**$25,400,500**	**$112,773,400**	**$41,460,900**	**$4,974,000**	**$15,060,200**	**$9,714,400**	**$2,123,800**

"Feerevsum"

[1] Commercial and Business Professional are estimated using an average per acre fee. The actual is fee based on a calculation of the fee per acre plus the fee per building.

[2] NVSFP fees are based on fees per acre as established by DUE factors as shown in the individual infrastructure chapters and Appendix E.

PROPOSED NVSFP

A new NVSFP is recommended to fund roadway, frontage lane improvements, drainage, parks and recreation, the fair share of a library, and transit facilities. Proposed fees are shown in Table 5-4and are estimated on a per acre basis based on DUE factors provided by Sacramento County. The total funding by the new NVSFP is estimated at approximately $86.3 million at buildout as shown in Table 5-5.

OTHER FUNDING MECHANISMS

DEVELOPER ADVANCES

This Financing Plan anticipates that developer advances will be used to advance fund any infrastructure improvements needed in the initial phases of the NVSSP and before the collection of fees or other revenue sources.

EGUSD'S CFD NO. 1 AND STATE FUNDING

The school fee revenue differences will be funded by expected revenue from the EGUSD's existing districtwide CFD No. 1 and State funding.

BOND FUNDING MECHANISMS

Although the NVSSP infrastructure and public facilities are primarily included in fee programs to ensure that each development pays its fair share of these costs, many major improvements will be required at the onset of each phase of development. One or more CFDs will likely be formed to provide public debt financing for improvements needed early in the development of each phase. Fee credits will be provided for appropriate facilities that are also funded by the existing and new fee programs.

The amount of available CFD bond proceeds for construction is estimated to be $55.9 million assuming that all NVSSP development participates in the CFDs.

FINANCING PLAN IMPLEMENTATION

The last requirement of General Plan Policy LU-8 is that the resulting financing mechanisms be implemented before the approval of Final Maps in the NVSSP. Implementation of the Financing Plan ensures that new development will be committed to pay its fair share of the cost of backbone infrastructure and other public facilities required to serve the project area. Facilities will be constructed as they are needed to serve new development. The Sacramento County Public Works Infrastructure Finance Section (IFS) will administer implementation of the Financing Plan, which will require:

- Preparation of a Nexus Study and Ordinances to implement the NVSFP;
- Formation of the Mello-Roos CFD(s) and administration of subsequent bond sales and tax collection;

- Reviewing the CIPs;
- Monitoring identified revenue sources;
- Estimating fee program cash flows;
- Accounting for fee payments, fee credits and/or reimbursements;
- Close coordination with all appropriate County departments to implement the Financing Plan;
- Updating and adjusting the fee program as new infrastructure cost, land use, and revenue information become available.

NVSSP FINANCING STRATEGY

The financing strategy and funding sources for NVSSP at buildout are summarized in Table 5-5. Approximately $125.2 million will be funded through the existing fee programs, including Elk Grove School District Fees. Approximately $86.3 million will be paid through the new NVSFP for roadways, frontage lan~~ed~~ improvements, parks, libraries, and transit. In addition, a portion of school costs will be funded through the EGUSD CFD No. 1 and State funding. The NVSFP also includes a supplemental Drainage fee that is proposed as a sub zone of Zone 11.

Table 5-3 compares projected NVSSP buildout funding revenues from all sources to buildout cost estimates. This comparison shows that projected NVSSP buildout fee revenue will cover buildout costs with a $7.9 million surplus from Zone 40 water fees, a $1.4 million surplus from CSD-1 sewer fees and a $4.0 million difference in Zone 11A fees. Any difference in actual fees collected over the actual cost of facilities needed to serve the NVSSP will be applicable to other regional facilities benefiting areas as described in each individual infrastructure section. It is anticipated that actual fees collected for drainage improvements will be less than the estimated cost of improvements. However, the difference will be funded by fees collected from other areas benefiting from regional facilities within the Zone 11 program.

Developers will privately finance the construction of many of the facilities needed during the first three development phases. After constructing such facilities, developers may be reimbursed for their advances from NVSFP revenues as well as from existing fee program revenues should Phase 1 CFD bonding capacity be insufficient.

Because of the diverse ownership patterns in the NVSSP and the uncertain development phasing, the financing strategy includes a provision for the formation of one or more Mello-Roos CFDs for bond financing of some facilities needed in each development phase of the NVSSP. The proposed initial CFD would fund all or a portion of the infrastructure improvement costs for roadways, water, sewer, and drainage for the areas described in Phases A-1 and A-2. Property owners in other phases may join the initial CFD or set up additional sub-area Mello-Roos CFDs which would be formed for an individual project or group of projects to fund facilities. To the extent that bond financing is utilized, the developer may receive credits and reimbursements against the

appropriate fees. Some development projects or phases may not require bond funding and would handle their infrastructure cost responsibilities through either payment of fees and/or developer advances.

The proposed cost estimates and funding sources are only estimates. The actual costs funded under each category may be adjusted as information regarding project phasing and the facility construction schedule becomes available. Fee credits will be determined by each responsible agency before the sale of CFD bonds.

PHASE A-1 AND A-2 FINANCING STRATEGY

Phase A-1 and A-2 are assumed to be the first development areas of the NVSSP. The funding sources and infrastructure and public facilities costs are outlined in Table 5-6 and Table 5-7. Facilities will be constructed as they are needed to serve new development. As in all development fee programs, however, there is a lag between when the fees are generated and construction of the facilities. Development projects will be conditioned to construct facilities as needed. Developers will receive either fee credits or construct facilities as needed. Developers will receive either fee credits or reimbursements for eligible projects based on the County's reimbursement policies. Properties participating in the Mello-Roos CFD will receive fee credits for eligible facilities funded by the CFD, as determined by each responsible agency.

In Phase A-1, there are approximately $26.7 million in major infrastructure and public facilities costs. It is estimated that $13.2 million will be funded through existing fee programs. The proposed NVSFP will fund $8.2 million. The difference in the amount of fee revenue compared to the cost of infrastructure improvements for this phase will be made up from other funding sources such as Mello-Roos CFD bond funding or developer funding.

In Phase A-2, there are approximately $52.4 million in major infrastructure and public facilities costs. It is estimated that $30.4 million will be funded through existing fee programs. The proposed NVSFP will fund $13.0 million. The difference in the amount of fee revenue compared to the cost of infrastructure improvements for this phase will be made up from other funding sources such as Mello-Roos CFD bond funding or developer funding.

Because of large up-front costs, a Mello-Roos CFD is planned to finance these facilities with land secured bonds. Table 5-8 shows the total bond proceeds available by phase. Table 5-9 shows Phase A-1 and A-2 infrastructure and facility costs proposed to be eligible for CFD bond funding. The total of amount of facilities costs identified exceeds the amount of bond proceeds at this time. It is expected that the facilities list and bond amounts will be fine tuned during the process of forming the Mello-Roos CFD.

The Financing Plan also anticipates that developer advances may be used to fund any infrastructure improvements needed in the initial phases of the NVSSP and before the collection of fees or other revenue reimbursement sources. This Financing Plan assumes that fee credits and/or reimbursements for facilities otherwise funded by the

County fee programs may be available if developers fund and construct fee-funded facilities. Fee credits for completed improvements may be offset against fees until the fee credits are expended. If the cost of the facility exceeds the potential credits for a developer, the County may enter into reimbursement agreement with the developer. Fee credits and reimbursements are available within different time frames depending upon the type of facilities constructed.

INFRASTRUCTURE FACILITY IMPROVEMENTS

ROADWAY

Development within the NVSSP area will have impacts on the entire local circulation network. Portions of roadway improvements benefiting the NVSSP will also benefit other plan areas. For example, the NVSSP is located immediately north of the Elk Grove/West Vineyard Public Facilities Financing Plan Area (EGWV) and some improvements will benefit both areas.

The roadway Capital Improvement Program (CIP) is based on traffic mitigation measures identified in the previously approved NVSSP Environmental Impact Report (EIR) and additional traffic analysis based on the proposed phasing of project development conducted since the approval of the EIR. The additional analysis identified roadway segments and intersections that would be adversely impacted by buildout of the NVSSP under existing plus proposed project conditions. It has been estimated that the NVSSSP will be responsible for $44.9 million of the total local and regional roadway improvements.

In conjunction with the County of Sacramento Transportation Division, the roadway CIP projects will be prioritized based on traffic study results, availability of other funding sources, and the County's overall transportation priorities. The CIP lists a prioritized estimate of roadway improvements for each phase of development.

WATER

The NVSSP will ultimately be served by wells, surface water, distribution mains, treatment and storage facilities located within the NVSSP and in conjunction with other sources provided by Zone 40.

The NVSSP is located within the boundaries of SCWA Zone 40, which usually constructs the necessary water facilities. Development within the NVSSP will be required to pay the Zone 40 fee. Fee revenue generated from this fee is meant to fund water supply, treatment, and transmission facilities within Zone 40.

The NVSSP is expected to generate approximately $23.3 million Zone 40 fee revenue for buildout, or a surplus of $7.9 million. Any surplus in actual fees collected over the actual cost of facilities needed to serve the NVSSP will be applicable to other areas benefiting from regional facilities within the Zone 40 system.

Table 5-6
North Vineyard Station Financing Plan
Sources and Uses – Phase A-1 (2002 $)

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Figure 9
North Vineyard Station Financing Plan
Sources and Uses - Phase A-1 (2002 $)

Facility	Estimated Costs At Buildout	Existing Fee Programs		Proposed Fee Program	Difference
		Program	Amount		
Major Infrastructure					
Roadway	$7,091,200		$0	$4,238,600	**($2,852,600)**
Frontage Lane Improvements	$280,800		$0	$771,800	**$491,000**
Water [1]	$2,756,800	Zone 40	$2,510,300	$0	**($246,500)**
Sewer [1]	$3,823,000	CSD-1	$1,317,000	$0	**($2,506,000)**
Drainage - Zone 11A [2]	$1,780,900	Zone 11A	$1,077,300	$0	**($703,600)**
Drainage - NVSSP Supplemental	$979,900		$0	$1,283,700	**$303,800**
Subtotal Major Infrastructure	**$16,712,600**		**$4,904,600**	**$6,294,100**	**($5,513,900)**
Public Facilities					
Parks and Recreation	$1,029,800		$0	$1,282,500	**$252,700**
Schools [3]	$7,654,000	Elk Grove USD/State Funding	$7,654,000	$0	**$0**
Library	$171,000		$0	$171,000	**$0**
Fire Protection	$650,900	Sac Metro Fire	$650,900	$0	**$0**
Transit	$452,500		$0	$452,500	**$0**
Subtotal Public Facilities	**$9,958,200**		**$8,304,900**	**$1,906,000**	**$252,700**
TOTAL	**$26,670,800**		**$13,209,500**	**$8,200,100**	**($5,261,200)**

"sources_a1"

[1] Any surplus at buildout in actual fees collected over actual cost of facilities needed to serve the NVSFP will be applicable to other benefitting areas in the Zone 40 or CSD-1 system.
[2] Any negative difference at buildout will be funded by Zone 11A fees collected from other benefitting areas outside the plan area.
[3] Includes $5.9 million in funding from Elk Grove Unified School District Level 2 Fees and $2.6 million funded by EGUSD CFD 1 and the State. See Chapter X for details.

Table 5-7
North Vineyard Station Specific Plan
Sources and Uses – Phase A-2 (2002 $)

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Figure 10
North Vineyard Station Financing Plan
Sources and Uses - Phase A-2 (2002 $)

Facility	Estimated Costs At Buildout	Existing Fee Programs		Proposed Fee Program	Difference
		Program	Amount		
Major Infrastructure					
Roadway	$10,194,100		$0	$6,718,500	**($3,475,600)**
Frontage Lane Improvements	$2,767,100		$0	$1,223,500	**($1,543,600)**
Water [1]	$10,131,500	Zone 40	$3,955,500	$0	**($6,176,000)**
Sewer [1]	$1,937,000	CSD-1	$1,920,000	$0	**($17,000)**
Drainage - Zone 11A [2]	$5,163,300	Zone 11A	$1,613,700	$0	**($3,549,600)**
Drainage - NVSSP Supplemental	$6,269,800			$2,041,500	**($4,228,300)**
Subtotal Major Infrastructure	**$36,462,800**		**$7,489,200**	**$9,983,500**	**($18,990,100)**
Public Facilities					
Parks and Recreation	$2,044,200		$0	$2,040,100	**($4,100)**
Schools [3]	$12,047,000	Elk Grove USD/State Funding	$12,047,000	$0	**$0**
Library	$272,000		$0	$272,000	**$0**
Fire Protection	$901,300	Sac Metro Fire	$901,300	$0	**$0**
Transit	$715,600		$0	$715,600	**$0**
Subtotal Public Facilities	**$15,980,100**		**$12,948,300**	**$3,027,700**	**($4,100)**
TOTAL	**$52,442,900**		**$20,437,500**	**$13,011,200**	**($18,994,200)**

"sources_a2"

[1] Any surplus at buildout in actual fees collected over actual cost of facilities needed to serve the NVSFP will be applicable to other benefitting areas in the Zone 40 or CSD-1 system.
[2] Any negative difference at buildout will be funded by Zone 11A fees collected from other benefitting areas outside the plan area.
[3] Includes $8.2million in funding from Elk Grove Unified School District Level 2 fees and $5.2 million funded by EGUSD CFD 1 and the State. See Chapter X for details.

Table 5-8
North Vineyard Station Financing Plan
Summary of Bonding Capacity by Phase

Figure 8
North Vineyard Station Financing Plan
Summary of Bonding Capacity By Phase

Bonding Capacity	Assumption	Phase A-1	Phase A-2	Phase B	Phase C	Phase D	Phase E	Buildout
UNIT INFORMATION								
Plan Area Units		541	852	1,136	1,133	828	657	5,147
Plan Area Acres		118.5	172.8	165.3	348.6	227.9	123.0	1,156.1
Annual Special Tax Revenue		**$616,000**	**$972,000**	**$1,058,000**	**$1,291,000**	**$931,000**	**$674,000**	**$5,545,000**
Less Delinquency	10.0%	$62,000	$97,000	$106,000	$129,000	$93,000	$68,000	$554,000
Less Administrative	2.5%	$15,000	$25,000	$27,000	$32,000	$23,000	$17,000	$138,000
Remaining Left for Debt Service		**$539,000**	**$850,000**	**$925,000**	**$1,130,000**	**$815,000**	**$589,000**	**$4,853,000**
BOND SIZING [1]								
Total Bond Size		**$6,575,000**	**$10,368,000**	**$11,283,000**	**$13,783,000**	**$9,941,000**	**$7,184,000**	**$59,196,000**
Term (Years)	25							
Less Estimated Issuance Costs	5.0%	$329,000	$519,000	$564,000	$689,000	$498,000	$360,000	
Less Bond Reserve Fund	10.0%	$658,000	$1,037,000	$1,128,000	$1,379,000	$993,000	$718,000	
Less Capitalized Interest for 12 Months	6.5%	$427,000	$674,000	$733,000	$896,000	$646,000	$466,000	
Construction Proceeds		**$5,161,000**	**$8,138,000**	**$8,858,000**	**$10,819,000**	**$7,804,000**	**$5,640,000**	**$46,467,000**
Construction Proceeds per Unit								
Assuming 2% Annual Escalator								
Total Bond Size (rounded)		**$7,908,000**	**$12,470,000**	**$13,569,000**	**$16,578,000**	**$11,956,000**	**$8,641,000**	**$71,193,000**
Cumulative Bond Size (rounded)		**$7,908,000**	**$20,378,000**	**$33,947,000**	**$50,525,000**	**$62,481,000**	**$71,122,000**	**$71,193,000**
Construction Proceeds (rounded)		**$6,207,000**	**$9,789,000**	**$10,652,000**	**$13,014,000**	**$9,385,000**	**$6,784,000**	**$55,887,000**
Cumulative Construction Proceeds (rounded)		**$6,207,000**	**$15,996,000**	**$26,648,000**	**$39,662,000**	**$49,047,000**	**$55,831,000**	**$55,887,000**

[1] Assuming levels of debt service listed above.

"bond_cap_sum"

Table 5-9
North Vineyard Station Financing Plan
Proposed Authorized Facilities for Phase A-1 and Phase A-2

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Figure 11
North Vineyard Station Financing Plan
Proposed Authorized Facilities For Phase A-1 and Phase A-2

Facility	Source	Phase A-1	Phase A-2	Total	Estimated Fee Revenue	Difference
Facility Cost						
Roadways	Appendix A-1 Table A-1.1	$7,091,200	$10,194,100	$17,285,300	$10,957,100	$6,328,200
Frontage Lane Improvements	Appendix A-1 Table A-1.1	$280,800	$2,767,100	$3,047,900	$1,995,300	$1,052,600
Water	Appendix A-3 Table A-3.1	$2,756,800	$10,131,500	$12,888,300	$6,465,800	$6,422,500
Sewer	Appendix A-4 Table A-4.1	$3,823,000	$1,937,000	$5,760,000	$3,237,000	$2,523,000
Drainage - Zone 11A	Appendix A-5 Table A-5.1	$1,780,900	$5,163,300	$6,944,200	$2,691,000	$4,253,200
Drainage - Supplemental	Appendix A-5 Table A-5.1	$979,900	$6,269,800	$7,249,700	$3,325,200	$3,924,500
Improvement Costs Proposed To Be Eligible for CFD Funding				**$53,175,400**		**$24,504,000**
Bond Construction Proceeds Available	Figures B-2 and B-3			**$15,996,000**		
Shortfall in Estimated Bond Proceeds To Be Developer Advanced For CFD Eligible Facilities [1] [2]				**($37,179,400)**	**$28,671,400**	**($8,508,000)**

"auth_facilities"

[1] At this stage of planning for the CFD, the eligible facilites list is larger than the amount of estimated bond proceeds. The list of eligible facilities will be updated based on the conditions at the time of CFD formation.

[2] Developer advances in excess of available CFD funds will be eligible for standard fee credits or reimbursements through the NVSFP.

In cases where developers advance fund the initial phases of Zone 40 infrastructure construction required to serve the NVSSP, they are subject to reimbursement within a five-year time period. Two hundred dollars (per residential unit) of the Zone 40 water fees is paid before improvement plan approval. The remainder of the fee is paid before building permit issuance.

This Financing Plan anticipates that developer advances or bond financing will be used to advance fund any infrastructure improvements needed in the initial phases of the NVSSP and before the collection of fees or other revenue sources. This Financing Plan assumes that fee credits and/or reimbursements for facilities otherwise funded by fee programs may be available if developers fund and construct fee-funded facilities. It is anticipated that the Zone 40 fee program will cover the Phase A-1 costs. However, there is a $6.4 million cumulative difference estimated in Phase A-2. This difference will have to be funded by Mello-Roos CFD bond funding or by developer funding.

SEWER

The County of Sacramento has established a countywide policy to provide public sewer service to all new residential developments of densities greater than one dwelling unit per acre. The NVSSP area is currently within the sphere of influence of the Sacramento CSD-1 and SRCSD. The NVSSP must be annexed to both CSD-1 and SRCSD. The NVSSP has been divided into two major sheds which are the BR Gerber Road Shed and the BR Florin Road Shed. The sewer sheds do not necessarily coincide with the drainage sheds.

The total estimated cost of NVSSP sewer infrastructure is approximately $11.8 million at buildout. This estimate includes trunk sewer lines, removal and replacement of existing pavement, and erosion control.

Installation of sewer improvements will be determined by the phasing of development projects to be served by sewer facilities. Individual projects will be required to complete sewer facility improvements as conditions of project approval. CSD-1 will ensure adequate sewer facility improvements are constructed in order to meet the demands of new development.

DRAINAGE

The Sacramento County Water Resources Department requires new development to follow specific guidelines to protect new and existing structures from the possibility of a 100-year flood event. The NVSSP must provide storm drainage facilities to modify peak flows such that they do not exceed pre-development flows.

The NVSSP lies in the drainage sheds of Elder and Gerber Creeks. Elder Creek enters the NVSSP from the north crossing under Florin Road approximately 1,000 feet east of the CCTR tracks. Gerber Creek enters the NVSSP from the south approximately 1,700 feet west of Bradshaw Road. The two creeks converge and leave at the western edge

of the NVSSP. The entire Elder and Gerber Creek watershed lies within the County Urban Services boundary.

SCWA Zone 11A will assume responsibility for providing storm drainage service to the NVSSP.

The NVSSP will ultimately be served by a drainage system that includes channel improvements, flood control detention ponds, storm water quality basins, new bridges, and trunk pipes and appurtenances. The total estimated cost of the NVSSP drainage improvements is $26.1 million at buildout, which includes the estimated cost of right-of-way acquisition for drainage improvements. Of this, $13.6 million is Zone 11A construction.

The phasing of drainage improvements is highly dependent upon the geographic location and timing of development. If development does not proceed in the sequence anticipated to make the following phasing estimates, a detailed hydraulic analysis will need to be prepared to demonstrate to the satisfaction of Sacramento County Department of Water Resources that the current 100-year elevations have been maintained.

PARKS AND RECREATION

The Southgate Recreation and Park District requires land dedication of 5 acres per 1,000 population. According to the NVSSP and as revised based on comments from the Parks District, a total of one regional park, six neighborhood parks, three mini-parks and a conceptual park designation in the Pasallis Lane area are planned. The parks-and-recreation CIP also includes drainage parkway facilities, linear parkway facilities, and a community center in the NVSSP.

The total cost of parks is estimated to be $12.2 million. This amount includes $7.8 million for park development, $2.8 million for a community center, $686,000 for drainage parkway facilities, and $138,000 for linear parkway improvements, open space acquisition, pedestrian signals and crosswalks, and Park Recreation and Open Space Master Plan preparation, and $670,000 for contingency. Basic improvements include finished grading, drainage, turf, irrigation, walkways, trees, signage, lighting, tot lots, and other items including engineering, inspection, contract administration, and water fees.

Park development phasing will be the responsibility of Southgate Recreation and Park District. The level of park improvements will correspond to the intensity of development. Historically, development has not fronted the cost of park improvements within the District. Agreements for developer-funded park improvements will be determined on a case-by-case basis with the district.

Historically properties along creeks and drainage channels have been obtained for open space uses through project dedication and condition of approval. The NVSFP proposes a supplemental fee for acquisition of the drainage corridor, including open space buffers

located immediately adjacent to the drainage channel. Acquisition of the open space buffer will be a part of the overall drainage corridor acquisition as detailed in the ROW acquisition program.

Ultimately, the open space areas will include the joint use trail system that will serve as a drainage maintenance path and a pedestrian bicycle path. The gravel maintenance road improvements that are in the Drainage CIP and are funded by the Water Agency channel improvements. The District will construct the joint use trail from park fee proceeds after sufficient development has occurred so that large stretches of the trail can be constructed at one time. Here again, the District may choose to enter into Developer agreements for developer-funded improvements to be determined on a case-by-case basis with the District. The extent of frontage improvements adjacent to parks, open space, and parkways required for each project will be determined as each project is processed for tentative map approval.

SCHOOLS

The Elk Grove Unified School District (EGUSD) has determined the need for two elementary school sites within the NVSSP. EGUSD has also determined the need for a new high school and/or middle school, however construction and timing is dependent on State funding. The EGUSD has determined the need for $69.4 million in school facilities. The elementary school portion is $34.1 million.

The EGUSD will manage the construction of school facilities. At this time, phasing information is not available. Phasing for the two elementary schools and the proposed high school or middle school will depend on State funding.

LIBRARY

Typical Library Authority standards require one 12,000 square foot library to serve 50,000 residents. Based on the estimated build-out population of the NVSSP and this standard, the NVSSP would not justify its own new library, but rather would likely be required to contribute toward library facilities created to serve a larger community area. According to a letter dated November 14, 2001 from Rich Hiseley, Fiscal Officer Sacramento Public Library, to Susan Goetz, County of Sacramento Public Infrastructure Finance, the NVSSP will be served by a 13,500 square foot library facility that will also serve the Vineyard Springs Plan Area.

The total estimated cost for the joint use library is $6.4 million and the NVSSP share allocation is $1.6 million. The total estimated cost includes construction, site work, books, furniture, and site acquisition.

The Library Authority will manage the phasing of library facilities. As the NVSSP will likely be contributing fee revenue for library facilities, the phasing of development within the NVSSP will not likely have an impact upon the phasing of library facility construction.

FIRE PROTECTION

The Sacramento Metropolitan Fire District will provide initial fire protection services from Station 55. As the build-out progresses, an additional station may be necessary. The District estimated that new fire protection facilities anticipated to serve the NVSSP would cost an estimated $5.5 million. This cost estimate was provided before the adoption of the new Sacramento Metro Fire Fee as discussed below and has been included in this financing plan for reference purposes only. It is anticipated that the 5.5-acre Public Services site in the NVSSP could accommodate a fire station.

Sacramento Metropolitan Fire District will be responsible for phasing. The District has determined that fire-station construction would begin when the area is occupied by 2,500 single family residences, valued at an average sale price of $200,000 per unit. Based on this requirement, construction for the station is estimated to start in Phase C.

TRANSIT

Regional Transit's 20-year *Transit Master Plan* and *Vision Document* specify that enhanced bus service is planned on Elk Grove Florin Road and Bradshaw Road, and bus trunk line service is planned on Bradshaw and Calvine Roads. In addition to bus service, RT plans to utilize the existing CCTR alignment for possible extension of light rail service or high occupancy vehicle (HOV) thoroughfare for buses. RT has indicated that these services are planned but not guaranteed. The provision of future transit services will be dependent upon community-wide land use patterns, densities/intensities, street configurations, and the availability of capital and operating funds.

The NVSSP conceptually designates a ten-acre Transit Center to ultimately provide parking for carpools and buses. The site may also be used as a possible light rail station.

RT will manage the installation of transit facilities. Phasing of the bus stop facilities will be dependent upon the construction of adjacent projects with frontage on these major arterial or thoroughfare roadways. RT will determine the construction timing of the transit center/park-and-ride facility based on RT's implementation of bus routes and possible extension of light rail to serve the area. RT does not see the need for the park-and-ride in the early stages of development. In addition, this facility could be constructed in stages consistent with fee collections. The park-and-ride could also be split into several smaller park-and-rides. If it is ultimately determined that all, or a portion, of the transit center/park-and-ride facility will not be required, then the fee proceeds may be used for other public transit related improvements that serve the NVSSP area including, but not limited to, light rail facilities.

COUNTY INFRASTRUCTURE FINANCING SECTION COMMENTS

The County Infrastructure Financing Section provided the following comments to the Notice of Preparation:

> "The General Plan Land Use Policy, LU-8 states: "Infrastructure financing plans which specify the extent, timing and estimated cost of all necessary infrastructure shall be approved by the Board of Supervisors together with the approval of zoning for any urban uses in urban growth areas. The resulting financing mechanisms shall be implemented prior to the approval of all entitlements in urban growth areas."
>
> In order to ensure that development within the specific plan area comply with this policy, and fully participate in the North Vineyard Station Specific Plan Public Facilities Financing Plan, the following mitigation measures are recommended:
>
> No rezone shall be approved prior to the approval of the North Vineyard Station Specific Plan Public Facilities Financing Plan and any rezone agreement and/or tentative map within the specific plan area should include the following condition:
>
> > "No final map shall be recorded until the financing mechanisms recommended in the North Vineyard Station Specific Plan Public Facilities Financing Plan (Financing Plan) have been implemented. The property owners shall comply with the implementation financing mechanisms recommended in the Financing Plan."
>
> In addition, to ensure the timely delivery of the required facilities, more specific zoning conditions that set the thresholds based upon individual facilities' requirements will be developed by the Departments of Transportation, Water Resources, and Water Quality in cooperation with the Infrastructure Finance Section prior to approval of any rezone."

IMPACTS AND ANALYSIS

Impact:

A Public Facilities Financing Plan is tangible to environmental impacts in that it provides the mechanism to ensure that needed improvements to mitigate a project's traffic, drainage, water supply, sewer and other infrastructure/service impacts can be implemented in a timely manner. Implementation of the following mitigation measures will reduce the Specific Plan's potential impacts associated with infrastructure financing to a less than significant level.

MITIGATION MEASURES:

No final map shall be recorded until the financing mechanisms recommended in the North Vineyard Station Specific Plan Public Facilities Financing Plan (Financing Plan) have been implemented. The property owners shall comply with the implementation financing mechanisms recommended in the Financing Plan.

6 PUBLIC SERVICES

INTRODUCTION

The following is a discussion of public facilities and service supply/demand issues related to the project. Some of the service providers have submitted comments pertaining to their ability to provide service to the project, including recommended conditions of approval that must be satisfied by the developer before service can be adequately provided. It should be noted that the Public Facilities Financing Plan, Drainage, Water Supply, and Sewer Service are discussed in separate sections of this EIR.

FIRE PROTECTION

The Sacramento Metropolitan Fire District provided the following comments and conditions of approval in response to the NOP and subdivision maps:

> *"The Sacramento Metropolitan Fire District (District) has recently completed a review of the proposed development within the North Vineyard Community Plan and surrounding areas and concludes that upon a build out of the area an additional fire station will be required to provide emergency response services within the community. The current plan depicts a Public Services parcel on the Delatorre property (APN 066-0070-046) that was proposed as a potential future fire station location. The District concludes upon a review of the proposed development contained within the Plan and the surrounding areas that the new fire station location should be located near Bradshaw Road, south of Florin Road, on the proposed road labeled "10 Street", preferably just east of Bradshaw Road. The exact location of the future fire station will need to be determined by the District following a review of the final land use diagram and roadway circulation. The final site selection will also be subject to real property negotiations to acquire property for a fire station. The District will require a minimum of 2.5 net acres of level property with a minimum of 330' of frontage and 330' of depth complete with utilities adequate to support the fire stations."*

The District has also provided the following recommended conditions for the proposed project:

1. *"In every new building where the total floor area exceeds 3,599 square feet an automatic fire sprinkler system shall be installed and equipped with an electronic monitoring system. The system shall be designed and installed as per the guidelines of National Fire Protection Association standard 13, latest edition, and the Fire Prevention Standards of this fire district number 442.501.*

2. *The minimum required fire flow for commercial developments is outlined in the Uniform Fire Code, Table A-III-A-1, but shall not be less than 1500 gallons per minute at 20 pounds per square inch residual for a duration of two (2) hours.*

3. *The required fire flow for the proposed project will vary depending on the type of construction, total square footage of the structure(s) and weather or not a fire sprinkler system is provided or required. This determination will be made when the appropriate information is provided to our office.*

4. *Every building shall be accessible to fire district fire apparatus by means of an all-weather driving surface designed to meet Traffic Index 5.5. The access shall be a minimum of 20 feet wide and have a minimum turning radius of 40 feet inside and 60 feet outside. The minimum vertical clearance 13 feet 6 inches. The access roadways are to be extended within 150 feet of all portions of the exterior walls of the first story. Dead-end fire Department access roads in excess of 150 feet shall be provided with an approved means for turning around the fire apparatus. This fire apparatus access lane and turnaround shall be identified in accordance with the California Vehicle Code. The access roadways are to be provided prior to any construction or storage of combustible materials on site.*

5. *All fire department connections for the automatic fire extinguishing system shall be located within forty feet of a fire hydrant and a minimum of forty feet from any openings within the protected building.*

6. *Commercial buildings exceeding 5,000 square feet must be tested to verify adequate transmission and reception of public safety radio signals. These signals operate on the 800 MHz frequency. If reception or transmission is not adequate, 800 MHz radio amplification systems shall be installed in the building.*

7. *If the crossing of a creek is going to be included, the installation of a private bridge shall be required and shall be designed for a minimum of HS20-44 loading as prescribed by the American Association of State Highways and Transportation Officials. The width shall be minimum of twenty (20) feet. The maximum allowable grade change of the approach to and the departure from the bridge will not exceed eight (8) percent for a distance of ten (10) feet.*

8. *Fire hydrants are to spaced every three hundred (300) feet and located as approved by the Fire District. Water main inter-ties may be required. The type and kind of fire hydrants shall be approved by the Fire District. The hydrant shall be within (8) feet of fire department access. (reference UFC 903.4 and SCC 1240).*

9. *All fire hydrants are to be installed and made serviceable prior to any construction or storage of combustible materials on the site. The fire hydrants*

are to be accessible via an all weather-driving surface approved by the Fire District, during all phases of construction.

10. *The approved civil plans shall be submitted in the approved electronic format (DXF or DWG Auto CAD version 2000 or later.*

11. *Any traffic signal modifications planned at Elk Grove Florin Rd, Gerber Rd, Bradshaw Rd, and Florin Rd and any new signals devices compatible with those employed by the fire department in changing those signals "green" for our direction of travel during an emergency response. Any new signal lights is required to install "Opticom.""*

The Fire District also provided the following comments for the proposed subdivisions:

1. *"Provide approved steamer type fire hydrants for residential areas located as follows:*

   A. *Maximum 500 feet between hydrants: Provide steamer type fire hydrants as follows:*

      1. *One fire hydrant shall be located between 150 and 250 feet from the end of the access roadway or cul-de-sac.*

      2. *A hydrant installed at the end of an access roadway, as a "blow off" for the water district does not meet the fire department requirements.*

      3. *Existing "wharf" fire hydrants are not acceptable to meet the requirements for new construction.*

      4. *Each steamer hydrant shall have a minimum flow of 1000 gpm at 20 pounds of residual pressure for residential areas where the total square feet of the building and garage is no more than 3600 square feet. UFC App. III A, Sect. 5.1*

      NOTE: Specifications for fire hydrants are available at the Fire Prevention office.

2. *Fire department notes and details shall be shown on the Civil Drawings. Copies of the standards are included with the Engineers copy of this letter. See c.c.'s UFC 903.2.*

3. *An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction. When any portion of the facility or building protected is in excess of 150 feet from a water supply facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the Chief. UFC 903.2*

For residential subdivisions, the required fire flow is 1000 gallons per minute for dwellings with attached garages having no more than 3,600 square feet. For dwellings with garages over 3,600 square feet, additional flow is required starting at 1750 gallons per minute.

EXCEPTION:

A. Group R, Difvision 3 Occupancies provided with an approved automatic fire sprinkler system, per NFPA 13D, in areas not provided with a public water supply.

B. Group U, Division 1 Occupancies.

4. *In Group R Occupancies, the roof covering shall not be less than Class "C" when there is no public water supply source with a distribution system conforming to County Standards. Sacramento County Code 16.04.060.*

5. *Provide access roadways with all-weather driving surface of not less than 20 feet of unobstructed width, with a minimum turning radius of 22 feet inside/40 feet outside dimension. It shall be capable of supporting the imposed loads of fire apparatus and having a minimum of 13 feet, 6 inches of vertical clearance. The access roadway shall be extended to within 150 feet of all portions of the exterior walls of the first story of any building. Dead-end fire department access roads in excess of 150 feet long shall be provided with approved provisions for the turning around of fire apparatus. Submit a detailed drawing to this office showing the "turnaround," when required, for review and approval prior to construction. UFC 902.*

6. *If there are no immediate plans for new construction or storage of combustible materials on this site, the above mentioned requirements may be held in abeyance until such time that development occurs. It is important to note that if the property is sold, the seller of the property is encumbered to disclose the above requirements to the buyer.*

7. *There shall be no parking on any street narrower than 28 feet. Parking shall be allowed only on one (1) side on streets from 28 feet to 36 feet wide. Streets that are wider than 36 feet, parking shall be allowed on both sides. Measurements shall be from edge of pavement to edge of pavement. UFC 901.4. On private streets, marking of the fire lanes per the County Fire Marshals' standard may be required.*

8. *Provide approved address numbers on the building in such a position as to be plainly visible and legible from the street or road fronting the property. Said numbers shall contrast with their background and on all new buildings, shall be illuminated at night. UFC 901.4.4.*

   NOTE: In order to meet this requirement the following methods are acceptable:

A. Name the access road and ensure that the new addresses be listed for the newly named "street, and meet the requirement above or …

B. Provide approved address numbers on the homes and for each of the homes on the access drive, provide approved address numbers posted next to the entrance to the access drive, facing the public street in an approved manner to meet the above requirement.

9. Should security gates be considered for this project, the developer shall contact this office for approval of specific clearances, locking mechanisms, or systems, which will accommodate emergency fire department use and then follow established permit procedures pursuant to Sacramento County Code, Chapter 16.70. Further information can be obtained by calling the Crime Prevention Unit of the Sacramento county sheriff's Office at (916) 440-5151. UFC 1208.

10. Remove from any roof, court, yard, vacant lot or open space all accumulations of wastepaper, hay, grass straw, weeds, litter or combustible or flammable waste material, waste petroleum products or rubbish of any kind. All weeds, grass, vines or other growth, when same endangers property or is liable to be fired shall be cut down and removed by the owner or occupant of the property. When total removal of growth from a piece of property if impractical due to size or to environmental factors, approved fuel breaks may be established between the land and the endangered property. The width of the fuel break shall be determined by height, type and amount of growth, wind conditions, geographical conditions and type of exposures threatened, UFC 1103.2.4 (Minimum width of clearance shall be 30 feet or to the property line, whichever is less. Specific conditions may require additional clearance width. UFC APPENDIX II-A, 16).

11. All fire protection equipment to be maintained in operative condition. UFC 1001.5.1" (April 21, 2004)

Compliance with District requirements should ensure that impacts associated with fire protection services are less than significant.

LAW ENFORCEMENT

The County Executive provided the following comments regarding funding for law enforcement services within the Plan Area:

"The North Vineyard Station Specific Plan adopted November 4, 1998, examined law enforcement services and included the following discussion:

'The Department's adopted service standard is 1.0 patrol officer per 1,000 residents. In 1994, there were insufficient patrol officers to meet the

> *Departments service standard on a Countywide basis, including District No. 7.'*

The service standard ratio discussed above is 1.00/1000. Currently, the Sacramento County Unincorporated Area is below this standard and has a ratio of .74/1000. During Budget Hearings in May 2004, it is anticipated that the County Board of Supervisors may reduce Sheriff's Patrol/Investigative Services as much as $25.0 million in annual spending. This is irrespective of any future cuts that may be necessary as a result of potential 2004-05 State Budget reductions.

This $25.0 million potential annual spending decrease may be a permanent reduction to the base level of Patrol/Investigative Services in the Unincorporated Area. According to County staff, there is no plausible scenario for alternative funding to backfill these reductions without additional revenue sources for the foreseeable future. A cut of this magnitude would reduce the funding base for Patrol/Investigative Services from its current base level of 375.0 deputies to 187.0 deputies (a reduction of 188.0 deputies) to serve the Unincorporated Area. This reduction of service will result in an even further worsening of the County's service level (Ratio of .36/1000).

Given the current fiscal situation, it will not be possible to provide development within the North Vineyard Station Specific Plan area with adequate law enforcement as measured by the service standard of 1.0 patrol officer per 1000 residents. Also, new development results in a negative impact on General Fund services including law enforcement services. New development will not generate sufficient revenues to offset the impact of increased demand for law enforcement services. Approval of new development without any additional revenue sources will only worsen the current situation and will further reduce the County's average service level.

Therefore, it is recommended that any rezone in the North Vineyard Station Specific Plan area be conditioned as follows:

> *"No final map shall be recorded until an analysis is prepared that addresses the negative impact on the County General Fund of providing law enforcement services to the North Vineyard Station Specific Plan area and a Mello-Roos Community Facilities District, or other financing mechanism, is in place to fund law enforcement services."*

It is anticipated that following this year's Budget Hearings, the Board of Supervisors will engage in discussions regarding possible tax/fee options for services that have been or will be cut. As part of this discussion, my office will seek direction from the Board for conceptual approve of a Mello-Roos Community Facilities District (or other mechanism) to fund police services in newly developing areas." (May 3, 2004)

Although law enforcement service is available to serve the Plan area, staffing ~~will~~ does not meet service standard levels. Although not considered a significant environmental effect, the project will place increased demands on law enforcement services that are currently limited. To assist in reducing crime levels and the strain on law enforcement resources, the Plan area should be designed with safety as a prime consideration. Coordination with the Sheriff's Department, planners and developers for future development with the Plan area will lessen impacts to police protection services. ~~to less-than-significant.~~

SCHOOLS

The project sites for the Vineyard Creek and Vineyard Point projects are located within the Elk Grove Unified School District, which has been heavily impacted by the high rate of growth occurring within its boundaries during recent years. The project proponent will be required to provide developer fees as mandated by current state law. In March 2003, the Board of Education adopted a new residential development fee in accordance with Senate Bill 50. The new fee ($3.43/square foot) became effective on March 18, 2003, and is subject to change annually. This fee becomes due at the building permit stage of development.

The Elk Grove Unified School District reviewed the subject application and provided comments and estimates of student generation and financial impacts. The comments indicate that the Vineyard Creek project would impact enrollment on the Elk Grove Unified School District by adding 236 students in K-6th; 64 students in 7th and 8th; and 111 students in 9th-12th. The comments also indicate that the Vineyard Point project would impact enrollment on the Elk Grove Unified School District by 374 students in K-6th; 103 students in 7th and 8th; and 173 students in 9th-12th.

The comments also refer to General Plan policies that describe alternatives for addressing overcrowded schools, as follows:

> *County Planning policies PF-39, 40, 43, 45 and 46 are stated in the Public Facilities Element of the Sacramento County General Plan adopted by the Board of Supervisors on December 15, 1993. These policies describe several alternatives for addressing overcrowded schools. We request the Planning Commission and/or the Board of Supervisors comply with these provisions on this project.* (February 19, 2004 comment letter to Planning Department)

Although the project would result in increases to student population, established case law indicates that school overcrowding, standing alone, is not a change in the physical conditions, and cannot be treated as an impact on the environment[1].

[1] Goleta Union School District v. The Regents of the University of California (36 Cal-App. 4th 1121, 1995)

PARKS AND RECREATION

The Southgate Park and Recreation District (SPRD) is the local governing body for management of public park land in the Plan Area. SPRD provided the following comments in response to the Notice of Preparation:

- ***"Reasonable Foreseeable Construction of Recreational Facilities.***
  A project is defined as the whole of an action that results in a reasonably foreseeable physical change in the environment. Pursuant to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, projects that include recreational facilities or require the construction or expansion of recreational facilities, which may have an adverse physical effect on the environment, are considered to have a significant impact on recreation and require a discussion of the impacts and an evaluation of potential mitigation measures. The Supplemental EIR should identify reasonably foreseeable development of dedicated park space and recreational trails and analyze the potential of such development to result in significant environmental impacts. Potential impacts areas include biological resources, hydrology and water quality, noise and transportation/traffic. The trail placement and alignments were further defined and provided to the County of Sacramento Planning Department with their Vineyard Creek Map Comments contained in Resolution 03-120. Descriptions of the other recreation, park and trail facilities/improvements have also previously been provided to the County and are attached for your reference.

- ***Land Use Policy Conflicts***
  The District's required standard for land dedication is 5 acres per 1,000 individuals. Further, the District is responsible for maintaining landscape corridors throughout the project area. Pursuant to Appendix G of the State CEQA Guidelines, projects that conflict with an applicable land use policy are considered to have a significant impact on land use and require the evaluation of mitigation measures. The County of Sacramento should evaluate and present this impact, require dedication of sufficient parkland, identify the easements for landscape corridors, and include a requirement to restore the landscape corridors to preproject conditions at the completion of construction. All construction within 200 feet of an open space preserve or a recreational area should be coordinated with the preserve or recreational area manager.

- ***Recreation Facility User Hazards***
  The District Master Plan Map dated July 1, 2003, includes park areas and trail alignments in the proposed project area. In accordance with Appendix G of the State CEQA Guidelines, the proposed project may substantially increase hazards to pedestrians and cyclists using these recreational facilities, thus requiring the consideration of mitigation measures. Of particular concern are the bicycle/pedestrian trail crossings at roadways, especially at Bradshaw Road. The District recommends that the County of Sacramento analyze these impacts

and include mitigation measures to reduce the potential safety hazard to below the threshold for significance.

- ***Water Treatment Plant Impacts***
  The proposed project has the potential to result in significant impacts related to aesthetics, noise, and recreation due to the water treatment plant. The District recommends that the County of Sacramento analyze these impacts and include mitigation measures to reduce the potential safety hazard to below the threshold for significance. Potential mitigation measures include directing all outdoor lighting away from the perimeter of the property with cutoff shields and prismatic glass coverings to prevent illumination from spilling onto adjacent residential areas, landscaping on all sides of the water treatment plant, pedestrian/bicycle access across the water treatment plant area from the park to the detention basin, "decorating" the detention basin with native plantings and improving the basin with recreational amenities such as a walking trail and benches. The financing plan needs to be updated to provide for such improvements. The District would be willing to accept responsibility for maintenance of the trail and landscaped/improved areas with the appropriate funding mechanism in place and with final design approval." (April 20, 2004)

  (NOTE: The comment writer references Appendix "G" of the CEQA Guidelines. Appendix G is now a suggested checklist and no longer defines mandatory findings of significance as implied by the comments.)

Improvements, such as trail alignment and landscaping, associated with the Drainage Parkway are considered to be an element of the overall Drainage Master Plan. Impacts associated with these recreational improvements are considered in the context of evaluating the DMP.

Future development may have the potential to impact existing and planned park site facilities in the area, as well as creating the need for additional facilities, due to increased resident population. However, until specific development proposals are made, it is difficult to accurately assess impacts to specific sites and/or facilities. However, no environmentally significant impacts to recreational opportunities for existing and future residents are expected.

The Draft NVSSP Financing Plan includes a line item to construct a signalized crossing where the bike/pedestrian trail crosses Bradshaw Road. The need for crossings at Waterman Road, Gerber Road, and at interior collectors will be evaluated at the time detailed specifications for those roadway segments are submitted. Appropriate parkland acreage will be dedicated within the Plan area and no significant impacts with regard to recreational facilities are anticipated.

PUBLIC TRANSIT

Regional Transit provided the following comments in response to the NOP and subdivision maps:

> *"Currently RT does not provide transit in the vicinity of the project. RT's 20-year Vision identifies Bradshaw Road as a future transit corridor. It also identifies the California Traction Railroad alignment as a light rail corridor. The property north of Gerber Road adjacent to the railroad alignment has the potential of being a good location for a station and transit-oriented development.*
>
> *An effective transit system is dependent upon land use patterns within ½ mile of a station. Transit supportive development densities need to be in the medium density range, street configurations and lot patterns need to support the major investment. It is important for this development proposal to either be designed to support transit, or not preclude future opportunities in its design. Property near the potential station site may be identified as open space for a time, physical barriers such as walls, cul-de-sacs etc. should not impede access to the potential station area."* (April 7, 2004)

VINEYARD CREEK COMMENTS

> *"RT does not currently provide service to this area, however the RT 20-Year Vision (enclosed) has proposed the provision of the following transit services:*
>
> - *Enhanced bus service on Elk Grove-Florin Road.*
> - *Bus trunk service on Calvine and Bradshaw Roads.*
> - *Extending light rail along the Central California Traction Company railroad alignment.*
>
> *These transit services are not guaranteed, they represent services RT would like to be able to provide. The provision of these future transit services will be dependent upon community-wide land use patterns, densities/intensities, street configurations, and the availability of transit capital and operating funds. This project as well as other development projects within the North Vineyard Station Specific Plan reviewed by RT staff indicate that the area will be developed primarily with low-density single family residences, which do not provide sufficient densities to support the provision of transit services."*

VINEYARD POINT COMMENTS

> *"Currently RT does not provide transit in the vicinity of this project. However, RT's 20-year Vision identifies Bradshaw Road as a future transit corridor. The provision of future transit services will be dependent upon community-wide land use patterns, densities/intensities, street configurations, and the availability of*

transit capital and operating funds. Thus, it is important to consider transit during the initial design of the project. This helps to maximize the availability of resources. It is premature to designate bus stop locations at this time.

Prior to the preliminary design stages, RT urges the project proponents to consider certain forms of subdivision design. Many common forms of subdivision design impede access to transit and the provision of transit service such as walls or other physical barriers, cul-de-sacs, circuitous street patterns, and speed bumps. For example, if this is a gated development, the provision of pedestrian cut throughs and paths to both Gerber and Bradshaw Roads would be essential to the vitality of any future transit service along this potential transit corridor. RT has found that pedestrians will walk ¼ mile to a bus stop, but that the number significantly decreases as the walking distance increases."

PUBLIC FACILITIES FINANCING PLAN COMMENTS

"RT's 20-year Transit Master Plan and 20-year Vision document identify the Central California Traction Company (CCTC) railroad right-of-way as a potential future transit corridor. The development of transit service in the CCTC corridor will be contingent upon many factors, including, but not limited to:

1. *Land use development within the corridor at residential densities and commercial intensities to sustain transit service,*

2. *Site designs and street configurations that enhance access to transit facilities, and,*

3. *Adequate capital and operating resources to construct and operate the transit mode and level of service desired.*

Typically, the presence of isolated pockets of residential developments will <u>not</u> generate sufficient ridership to warrant higher levels of bus service. The proposed development should be phased to minimize "leapfrog" patterns which results in large expanses of vacant land between developed areas. Extending transit services throughout "leapfrog" communities lowers transit productivity and increases costs of the transit operator. The County's General Plan Policy (LU-7) states that "the County shall not approve land use projects which are for non-contiguous development, that is, leapfrog."

Given the long-range time frame of RT's Plans, a bus service using existing streets should also be considered. However, the lack of sufficient population or employment density to justify bus service in the Vineyard community is likely to result in the absence of any transit service in the near future, unless a specific funding source is available to RT for the capital and operating costs of service in the CCTC corridor or to the North Vineyard Station planning area.

Section IV (page 27) – Land Use

A total of 5,517 housing units are planned for the site, including 4,850 single-family units, 187 medium density units and 679 multi-family units. In addition, the plan includes 37 acres of commercial and business professional development as well as a 6-acre transit center.

Currently, RT does not provide any transit service to the Plan Area. As mentioned above, RT's 20-year vision document identifies Bus Trunk Line service corridors along Bradshaw and Florin Roads and Bus Rapid Transit (BRT) corridor along Elk Grove-Florin Road, west of the site. In addition, a future light rail corridor is proposed to utilize the existing Central California Traction Company (CCTC) railroad alignment connecting this area of the Sacramento County with the Downtown Sacramento/Amtrak/Folsom light rail corridor. The CCTR alignment travels through the Plan Area to the west.

Considering RT's future plan for this area, staff recommends that:

a. *Transit supportive or transit-oriented uses should be located along the identified major arterials such as Bradshaw Road and Florin Road. In addition, uses that enhance transit usage should be located around the proposed transit center. The design of the Land Use Plan should encourage public transit. Land uses are generally more intense adjacent to arterial streets in order to encourage ridership.*

b. *Multi-family developments are more transit supportive than single-family units. A total of 4,850 single-family units are proposed compared to 679 multi-family units. If North Vineyard Station is substantially developed in a low-density residential manner without transit supportive design features and less number of Multi-family units, it is highly unlikely that it will receive high levels of transit service.*

Section XIV – Public Transit (page 78)

The document identifies a 6-acre transit center on page 27 ("Buidout" Section) while on page 78 it identifies the transit center as a 10-acre site ("Proposed Facilities" Section). RT's previous response to the proposal (January 28, 1997) refers to a 10-acre transit center to be utilized for park and ride purposes. Please clarify the size of the proposed transit center. While RT acknowledges the identification of this transit center/plaza facility, the location of the facility is crucial to its successful utilization. Preferably, the transit center should be located at an intersection with major roadways (such as Florin or Bradshaw Roads) surrounded by pedestrian-oriented uses that would also be transit-supportive.

a. *Public Transit Standards*

   Given the uncertainty in determining the location of future bus stops and shelters in the along the arterials, RT recommends that consideration be given to including provisions for the placement of bus shelters within the Public Utility Easements (PUE's) that are adjacent to public street right of

ways. If bus shelters cannot be accommodated within PUE's, RT requests that bus shelter easements, approximately 10;W x 20'L be made available to RT at such time when bus service may commence.

b. Light Rail

The South Line Phase 1 project is currently under construction with revenue service to commence in September of 2003. RT is in the process of preparing the final environmental document to construct the second phase of the south area LRT line. In addition, RT's 10 year system expansion plan includes extension of the south line to Grant Line Road.

c. Transit Facilities

Figure 33 on page 79 indicate that the estimated fee for transit facility improvements is $2.1 million. The fee is proposed to be utilized for land acquisition, engineering/contingency and construction associated with the proposed park and ride facility. RT recommends that the plan area fee program revenues collected from the Specific Plan area include the purchase of buses and the operation of transit services in the area."

Implementation of the proposed project will not disrupt or interfere with expected transit operations in the area and no cumulative impacts were identified. The plan provides for the implementation of future facilities by RT such as bus operations, light rail, bus turnouts, and transit centers. Impacts due to the proposed project are considered less than significant.

REQUIREMENTS/RECOMMENDATIONS OF VARIOUS AGENCIES

A. Sacramento Municipal Utility District

1. Vineyard Creek – Large Lot Tentative Map

   a. Dedicate a 12.5-foot public utility easement for overhead and underground facilities and appurtenances adjacent to Florin Road.

   b. Dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public street rights of ways.

   c. Dedicate any Irrevocable Offer of Dedication and 12.5-feet adjacent hereto as a public utility easement for underground facilities and appurtenances.

   d. The owner/developer of the above noted property MUST disclose to future/potential buyer the following existing and potential 69 & 230 kV facilities.

There is an existing overhead electrical 69 & 230 kV line located adjacent to the East property line.

2. Vineyard Creek – Small Lot Vesting Tentative Subdivision Map

    a. Dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public street rights of ways.

    b. Dedicate the Landscape Corridors adjacent to Florin Road as a public utility easement for overhead and underground facilities and appurtenance.

    c. Dedicate the Landscape Corridors as a public utility easement for underground facilities and appurtenances.

    d. The owner/developer of the above noted property MUST disclose to future/potential buyer the following existing and potential 69 & 230 kV facilities.

        There is an existing overhead electrical 69 & 230 kV line located adjacent to the East property line.

3. Vineyard Point – Large Lot Tentative Parcel Map

    a. Dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public ways.

    b. Dedicate a 12.5-foot public utility easement for underground and overhead appurtenances adjacent to Bradshaw Road.

    c. Dedicate the Irrevocable Offer of Dedication and 12.5 feet adjacent thereto as a public utility easement for underground facilities and appurtenances.

    d. Designate a parcel of land for an electric substation to be acquired by the Sacramento Municipal Utility District having an approximate size of 150 feet by 150 feet of net useable area. The tentative location will be within the Vineyard Point development. The exact size and location of the substation site shall be by mutual agreement of SMUD and the property owners prior to the recordation of the final map.

    e. Any revisions or deletions relative to the above conditions must be submitted in writing by the Real Estate section of SMUD. The County of Sacramento should accept no verbal or other written agreements.

    f. The owner/developer must disclose to future/potential owners the existing or proposed 69kV electrical facilities.

4. Vineyard Point – Small Lot Vesting Tentative Subdivision Map

a. Dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public ways.

b. Dedicate a 12.5-foot public utility easement for underground and overhead appurtenances adjacent to Bradshaw Road.

c. Designate a parcel of land for an electric substation to be acquired by the Sacramento Municipal Utility District having an approximate size of 150 feet by 150 feet of net useable area. The tentative location will be within the Vineyard Point development. The exact size and location of the substation site shall be by mutual agreement of SMUD and the property owners prior to the recordation of the final map.

d. Any revisions or deletions relative to the above conditions must be submitted in writing by the Real Estate section of SMUD. The County of Sacramento should accept no verbal or other written agreements.

e. The owner/developer must disclose to future/potential owners the existing or proposed 69kV electrical facilities.

B. Land Division & Site Improvement Review

1. Vineyard Creek – Large Lot Tentative Map

   a. Offsite portion of 50-foot IOD adjacent to Parcels 6 and 7 must be secured prior to recordation.

   b. Dedicate a standard 12.5-foot Public Utility Easement for underground facilities and appurtenances adjacent to all public ways, private drives and/or Irrevocable Offer of Dedication (IOD).

   c. Prior to recordation of a final map or certificate of compliance, dedicate land or pay in lieu fees, or both, for park purposes, as required by and in accordance with the procedures and standards set forth in Chapter 22.40, Title 22 of the Sacramento County Code.

2. Vineyard Creek – Small Lot Vesting Tentative Subdivision Map

   a. Secure offsite right of way for “L” Way and “7” Court; “G” circle and “B” Way, and install public street improvements pursuant to the Sacramento County Improvement Standards.

   b. Dedicate a standard 12.5-foot Public Utility Easement for underground facilities and appurtenances adjacent to all public ways, private drives and/or Irrevocable Offer of Dedication (IOD).

c. Comply with all requirements of Chapter 1, Article 5, Title III, of the Sacramento County Zoning Code, relating to walls and landscape corridors adjacent to streets, including required maintenance provisions.

d. Prior to recordation of a final map or certificate of compliance, dedicate land or pay in lieu fees, or both, for park purposes, as required by and in accordance with the procedures and standards set forth in Chapter 22.40, Title 22 of the Sacramento County Code.

3. Vineyard Creek – Rezone

a. Grant the County right-of-way for Florin Road, based on a 108-foot standard, and Waterman Road, based on an 84-foot standard, and install public street improvements pursuant to the Sacramento County Improvement Standards.

C. Southgate Recreation and Park District

1. Comments and recommendations for Vineyard Creek Subdivision

a. Landscape Corridors shall be a minimum of 25 feet wide with a sound wall, along Florin Road and Waterman Road, and will be accepted by the District (proposed Lots F, G, H, I, J, & K). The Developer shall dedicate the landscape corridors to Southgate as a gift deed and be fully developed by the Developer with plans and specifications to be approved by the District. Corridors shall have a square curb and meandering six foot wide pathway separated from traffic. The District shall accept the completed landscape corridors after they have passed inspections and shall maintain the landscape corridors through assessment district proceeds. It is understood that the District does not maintain subdivision signage. The District does not require subdivision entrance lighting, however, more residents are requesting landscape lighting to illuminate subdivision entryways and street names. In lieu of lighting the District does request the installation of wiring and connection to the electric box, on each side of Lots F and H at A Drive and Waterman Road, on each side of Lots H and J of F Way at Waterman Road, and on the east side of Lot K on Florin Road at L Way (for future installation of lighting, should it become necessary).

b. The Developer shall install a 6’ high masonry wall for lots that back up or side-on to the landscape corridors along Florin Road, Waterman Road and A Drive. The design for all masonry walls shall be treated with graffiti-resistant coating and the design approved by the District. A Rain Bird maxicom controller, with telephone line and electricity shall be provided to tie into the District’s computerized irrigation system as well as a certified reduced pressure backflow device.

c. The Developer shall consent to the inclusion of this subdivision within the North Vineyard Station Financing District, which will be a Landscaping and

Lighting Assessment District or a Mello Roos Community Facilities District, and the Southgate District-wide Landscaping and Lighting Assessment District. The Developer shall be responsible for notification to all subsequent purchasers of parcels of land of the inclusion within said financing districts. These financing districts will be established by the District for additional improvements and ongoing maintenance and operations.

d. As determined by the County Board of Supervisors, this subdivision will be included in the Southgate Recreation and Park District component of the North Vineyard Station Public Facilities Financing Plan. The District reserves the right to revise park land dedication requirements and financing mechanisms to adapt to changes resulting from modifications to the policy or the creation of a new Plan by the County of Sacramento.

e. The District will accept Park Lot C as identified on the revised Tentative Subdivision Map dated February 2004, with lot C being approximately 2.9± gross acres in size. The additional unmet Quimby requirements for the subdivision shall include the 11.4± gross acres adjacent to Park Lot C. The District will not give Quimby credit for property encumbered or otherwise with restrictions. Additional park site property shall be immediately adjacent to Park Lot C, as shown on the map, and conveyed to District at the ~~Same~~same time the 2.9 acres are conveyed. Since there will be an estimated over-dedication of 5.1 acres of parkland for this project, the District agrees to enter into a Developer Requirement Agreement, with the Developer, which shall address the Quimby credits for this project.

f. The District requests review of all Army Corp of Engineer, Fish and Game, Fish and Wildlife or any other State or Federal Agency comments and requirements as well as the final permit and conditions as they pertain to the open space property, and will then determine acceptance of the conditions and respective property.

g. Open space areas shall front on a public road per County of Sacramento General Plan requirements. On areas of Open Space that front on a public street, a “setback” area of approximately 10 feet (from back of sidewalk into Open Space area) shall be minimally landscaped by Developer (to District’s specifications) to provide for an aesthetic transition into the Open Space area. Similar to the landscape corridors; Developer shall bear all costs associated with the installation of related infrastructure, post and cable fencing and minimal landscaping (including drip irrigation). Any lots, including the multifamily Lot 378, backing or siding on to the open space area shall have a 6’ high open, tubular steel fence constructed by Developer, and approved by the District. Fencing belongs to and is the responsibility of the residential property owner. Open space will have post and cable fencing along the back edge of the open space landscaped area, a vertical curb and connected 6-foot wide concrete sidewalk along all Streets fronting open space area. Irrigation system to be connected to the District’s maxicom computerized

irrigation system inclusive of: controller, phone line and electricity. The District requests an ADA accessible drinking fountain with backflow prevention device along with an appropriate drainage inlet, be provided by the Developer on Lot B, adjacent to parcel 170. Open Space Lots A, B & E (approximately 9.5 acres) and as shown on the Tentative Map dated February 2004, shall be dedicated to the District as a gift with a clear title report, and be fully developed and improved by the developer with plans and specifications to be approved by the District. No Quimby credit or Developer Fee credit will be given for this open space or the improvements. Developer shall pay for these improvements. Location of improvements to be determined by District and Developer. The Developer shall install street lighting along streets fronting on all open space areas, on the open space side of the street. The District shall accept the completed open space area after they have passed inspections, accepted conditions required by the Army Corp of Engineers, and received a clear title report. The Developer shall agree to the inclusion in an additional assessment zone, to go towards the maintenance of the trail and open space area. The District shall maintain the trails and open space areas through assessment district zone proceeds. The District shall not own or otherwise take responsibility for creek channel maintenance or drainage functions.

h. The developer shall assure that the park land to be dedicated is appropriately graded to the District's specifications and pursuant to County standard; shall provide adjoining streets, sidewalks with vertical curbs; electrical, phone, storm drainage, sewer, and water stubs; connect to and provide water meter, reduced pressure backflow preventer; and pay all permit fees including building, sewer, water meter, water development and drainage fees for the park sites and landscape corridors in order to allow for improvements to the park lots, open space lots (limited) and landscape corridors within this subdivision. Rain Bird maxicom controllers with telephone line and electricity shall be connected to the District's computerized irrigation system.

i. It is understood that it is the responsibility of the property owner to care for and keep maintained the ten foot pedestrian easements and is not a part of the Landscape Corridors to be conveyed to the District, as shown on the Tentative subdivision map dated February 2004.

j. The District would appreciate the opportunity to further comment on this map after the Public Facilities Financing Plan has been approved in order to make any necessary adjustments.

k. In the event that the Central California Traction Railroad Corridor is abandoned and the County of Sacramento determines that these tracks shall become part of a Rails-to-Trails system, the District desires that the developer provide a landscaped access to this trail system from the proposed subdivision. This access should be a minimum of 30 feet in width, and be dedicated to the District, with no land dedication credits given to the

developer for this acreage. The location can be determined at a future point in time; however, access points to consider could include but are not limited to access from the proposed Elder Creek Trail as it intersects the CCTRR. In lieu of the CCTRR becoming a trail, the District requests a low flow crossing across Lot B, adjacent to parcel 170 and on the west side of the CCTRR and a 50' wide easement along the southwest side of the CCTRR, to facilitate the bicycle/pedestrian trail planned for the North Vineyard Station community. This crossing is key to providing continuity to this trail system.

l. The District desires to work with the Developer and County Water Resources in identifying potential recreational uses of the 7.4-acre detention basin site. Due to the basin's relationship to the Park Lot C, active and overlapping joint use is realistic. In order to accommodate recreational uses advance planning needs to occur to address design issues including and not limited to access points and parking. A public access point and parking area needs to be identified since the access point identified next to parcel 169 is for maintenance purposes only.

m. The developer shall construct a bicycle/pedestrian trail and landscaping along Gerber and Elder Creeks as required under the North Vineyard Station PFFP and as per District requirements for standards and location. The District has identified on the Drainage Corridor/Open space map the specific location of the trail, provided to MacKay and Somps in February 2004. For purposes of the Vineyard Creek subdivision, the trail shall be on the eastern/southern side of Elder Creek along the sewer interceptor path, continuing northerly to Florin Road. As mentioned above, in lieu of the CCTRR becoming a trail, the District requests a low flow crossing across Lot B, adjacent to parcel 170 and on the west side of the CCTRR and the construction of a northwesterly trail within a 50' wide easement to follow the western side of the CCTRR to Florin Road, to facilitate the bicycle/pedestrian trail planned for the North Vineyard Station community. This crossing is key to providing continuity to this trail system. There will be 2 trails converging on to Florin Road in order to negotiate around the CCTRR, for this subdivision. Connections from the subdivision to the trail shall be provided at the locations indicated on the attached map or as determined by the District and Developer at a future date, due to changed conditions. Points of trail connections from the sidewalk to the trail shall be near the northwest corner of Lot D, at the end of H Circle by Parcel 170, between Parcels 63 and 41 on K Circle, between Parcels 20 and 21 on 11 Court, and between Parcels 5 and 6 on 12 Court. Additional trail connections shall be made from the Detention Basin and Park Lot. The trails are part of the overall Gerber Creek and Elder Creek Open Space area as identified in the Sacramento County land use plan. Improvements along bike trail and open space corridors shall compliment the design planned in the North Vineyard Station Plan. Trail and Open space area shall be gift deeded to the Southgate Recreation and Park District with no Quimby credits given for this area. Developer shall enter into a Developer Requirement Agreement for these improvements and may be credited developer fees for all agreed to

bike trail improvements. Due to the proximity of the creek to the subdivision the District requests a southern public access point and connection from the subdivision to the Gerber Creek trails. Location of creek access to be mutually determined by the Developer and the District. Trail alignment shall meander throughout the corridor. Trail design shall be provided to Developer by District. Typically, the trail shall not be closer than 20' from the top of bank along the creek and outside of any environmental constraints. Trail setback from the rear or side of residential property lines and streets shall be as far as possible, with a minimum distance of 50'. It is important that adequate space be provided in order to provide separation for bicycle, pedestrian and equestrian uses.

n. The District has previously had discussions with the County Sanitation District regarding the joint use, improvement and maintenance of land reserved for sewer interceptor and planned for trails. The Southgate District goes on record as supporting this joint use concept and wherever possible and feasible project planning should include and incorporate complimentary design and use of said land. A similar joint use agreement for this area is highly recommended.

2. Comments and recommendations for Vineyard Point Subdivision

   a. Landscape Corridors, a minimum of 25 feet wide with soundwall, along Gerber and Bradshaw Road will be accepted by the District (proposed Lots J, K, L & M). In this revised map Landscape corridor lot K was eliminated when Lot G was added to the map. There should be a continuous corridor and sidewalk on Gerber Road. Lot K needs to be re-inserted on the map. The Developer shall dedicate the landscape corridors to Southgate as a gift deed and be fully developed by the Developer with plans and specifications to be approved by the District. Corridors shall have a square curb and meandering pathway separated from traffic. The District shall accept the completed landscape corridors after they have passed inspections and shall maintain the landscape corridors through assessment district proceeds. It is understood that the District does not maintain subdivision signage. The District does not require subdivision entrance lighting, however, as a note we have been receiving more comments from residents requesting landscape lighting to illuminate subdivision entryways and street names. This amenity is only a suggestion and not a requirement. In lieu of lighting the District does request the installation of wiring and connection to the electric box, and the running of the wire through conduit under the following streets, on each side of 'A' Drive at Bradshaw Road and on each side of 5 Street at Gerber Road (for future installation of lighting, should it become necessary).

   b. The Developer shall install a 6' high masonry wall for lots that back up or side-on to the landscape corridor along Gerber Road and Bradshaw Road. The design for all masonry walls shall be treated with graffiti-resistant coating and the design approved by the District. A Rain Bird maxicom controller, with

telephone line and electricity shall be provided to tie into the District's computerized irrigation system as well as a certified reduced pressure backflow device.

c. The Developer shall consent to the inclusion of this subdivision within the North Vineyard Station Financing District, which will be a Landscaping and Lighting Assessment District or a Mello Roos Community Facilities District, and the Southgate District-wide Landscaping and Lighting Assessment District including the annexation to a new Zone in a landscaping and lighting assessment district, to ensure that adequate funding is available to pay for all costs associated with the repair, maintenance and monitoring in perpetuity for the capital development and operation and maintenance of the park facilities, open space property, trails and related improvements. The Developer shall be responsible for notification to all subsequent purchasers of parcels of land of the inclusion within said financing districts. These financing districts will be established by the District for additional improvements and ongoing maintenance and operations.

d. As determined by the County Board of Supervisors, this subdivision will be included in the Southgate Recreation and Park District component of the North Vineyard Station Public Facilities Financing Plan. The District reserves the right to revise park land dedication requirements and financing mechanisms to adapt to changes resulting from modifications to the policy or the creation of a new Plan by the County of Sacramento.

e. The District will accept Park Lot A as identified on the revised Tentative Subdivision Map dated December 15, 2003, with lot A being approximately 10.0 gross acres in size. The 1.8 gross acres previously shown as park lot D shall be removed and the acreage added to park lot A. An amendment to the North Vineyard Station Specific Plan will still allow for a future 5.0 acre park site immediately east of the former park lot D. Any additional unmet Quimby requirements for the subdivision shall be paid to the District in in lieu fees.

f. The Developer shall install a 6' high masonry wall for lots that back up or side-on to the future park site on 11 Street (former Park Lot D). The design for all masonry walls shall be treated with graffiti-resistant coating and the design approved by the District.

g. The District will accept the removal of the formerly designated Parkway Lot E (as previously shown on the Tentative Subdivision Map dated October 10, 2002) from this map.

h. The developer shall assure that the land to be dedicated is appropriately graded to the District's specifications and pursuant to County standard; shall provide adjoining streets, sidewalks with vertical curbs; electrical, phone, storm drainage, sewer, and water stubs; connect to and provide water meter, reduced pressure backflow preventer; street lights fronting on park and open

space property; and pay all permit fees including building, sewer, water meter, water development and drainage fees for the park site(s) and landscape corridors in order to allow for improvements to the park lot(s) and landscape corridors within the subdivision. Rain Bird maxicom controllers, with telephone line and electricity shall be connected to the District's computerized irrigation system. Additionally, traffic calming measures shall be initiated on 11 Street, at the points where it intersects 4 Street, in order to provide for a safe pedestrian crossing to and from the future park.

i. It is understood that it is the responsibility of the property owner to care for and keep maintained the ten food landscaped pedestrian easements.

j. Lot N Landscape Corridor, as shown on the Tentative subdivision map dated December 15, 2003 shall also extend around the northern side of Lot C to shield the tank site lot and to provide an aesthetic view from the park site. It is understood that it is the responsibility of the property owner to care for and keep maintained this corridor. It is also understood that there will be continuous sidewalk along this corridor.

k. The District would appreciate the opportunity to further comment on this map after the Public Facilities Financing Plan has been approved in order to make any necessary adjustments.

l. In the event that the Central California Traction Railroad Corridor is abandoned and the County of Sacramento Determines that these tracks shall become part of a Rails-to-Trails system, the District desires that the developer provide a landscaped access to this trail system from the proposed subdivision. This access should be a minimum of 30 feet in width, and be dedicated to the District, with no land dedication credits given to the developer for this acreage. The location can be determined at a future point in time. Design around the corridor and access should provide for the visibility to address security concerns, as requested by the Sheriff's Department and approved by the District.

m. The District desires to work with the Developer and County Water Resources in identifying potential recreational uses of the 9.7 acre detention basin site. In order to accommodate recreational uses an access point and parking area would need to be provided from the subdivision. This access point and parking area can be determined at a future point in time.

n. The District has master planned a trail along Gerber Creek, which is included as part of the North Vineyard Station Specific Plan. Due to the proximity of the creek to the subdivision the District requests a public access point from the subdivision to the Gerber Creek corridor and a connection to the future trail. Location of creek access to be mutually determined by the Developer and the District.

D. Sacramento County Executive

1. The County Executive recommends that any rezone in the NVSSP area be conditioned as follows:

   "No final map shall be recorded until an analysis is prepared that addresses the negative impact on the County General Fund of providing law enforcement services to the North Vineyard Station Specific Plan area and a Mello-Roos Community Facilities District, or other financing mechanism, is in place to fund law enforcement services."

MITIGATION MEASURES:

None required.

7 TRAFFIC AND CIRCULATION

BACKGROUND

The prior EIR for the NVSSP analyzed the impact of development of the NVSSP on traffic volumes and levels of service within and around the Specific Plan Area. Recommendations for improvements to intersections and roadway segments were made in order to mitigate for potentially significant and significant impacts. This revised traffic study, prepared by Fehr and Peers Transportation Consultants, looks at the impact of development on traffic volumes and levels of service in the context of NVSSP Phasing.

The number of dwelling units has fluctuated since the preparation of the revised traffic study. However, according to the Sacramento County Department of Transportation (Clark):

> "The Department of Transportation has reviewed the trip generation analysis prepared for the proposed changes in the land use plan for the North Vineyard Specific Plan by Fehr & Peers Transportation Consultant, April 3, 2002, and concurs with the conclusions that the changes in overall project trip generation are minor. The increase in project trip generation with the change in number of units is around 2%. Department of Transportation staff believes that this increase in the project trip generation will not result in any changes in the conclusions presented in the FEIR."

INTRODUCTION

PURPOSE

The purpose of this analysis was to determine off-site roadway improvements needed to accommodate traffic generated by the North Vineyard Station Specific Plan (NVSSP). Because the cost associated with the ultimate set of improvements is substantial, Sacramento County Transportation Division staff requested a phased traffic analysis to identify off-site roadway improvements needed to accommodate the development phases. Therefore, this analysis includes the evaluation of off-site traffic operations, including daily roadway capacity analysis and peak hour intersection operations, with the addition of Phase 1A in Year 2002 (existing conditions), Phase 1B in Year 2005, Year 2010 levels of development in Year 2010, and buildout of the NVSSP in Year 2015.

STUDY AREA

Plate TC -1 shows the location of the NVSSP with respect to the study area, including roadways and intersections bounded by State Route 16 (SR 16) to the north, Calvine Road to the south, Excelsior Road to the east, and Elk Grove-Florin Road to the west. Forty roadway segments and eighteen intersections were analyzed to determine the impacts of the proposed project on the roadway network within the project vicinity.

EVALUATION CRITERIA

The criteria for identifying roadway and intersection deficiencies are based on the County of Sacramento Transportation Division, *Traffic Impact Analysis Guidelines*, July 24, 1997. The following describes these criteria.

ROADWAY SEGMENTS

Study roadway segments were analyzed by comparing average daily traffic volumes to the capacity thresholds summarized in Table 7-1. The project results in an operational deficiency if the addition of project-generated traffic causes the demand on a facility to exceed its capacity, which is defined as LOS E.

According to standards set forth in *A Policy on Geometric Design of Highways and Streets* (1994) published by the American Association of State Highway and Transportation Officials (AASHTO), the minimum cross-section for rural arterials serving more than 400 vehicles per day includes 12-foot travel lanes and shoulders 6 feet or more in width. The following study roadway segments have roadway cross-sections less than this minimum cross-section:

- Gerber Road – East of Elk Grove-Florin Road;
- Vineyard Road – Calvine Road to Gerber Road; and
- Excelsior Road – Sheldon Road to north of SR 16.

The capacity of these roadways is 11,000 vehicles per day based on the 1994 *Highway Capacity Manual* methodologies, accounting for the roadways' substandard features, including the narrow travel lanes and shoulder widths. The two-lane rural roadway capacity is 7,000 vehicles per day less than the capacity of 18,000 vehicles per day for a two-lane roadway that has minimum 12-foot travel lanes and usable shoulders six feet or more in width.

Plate TC -1
Project Location Map

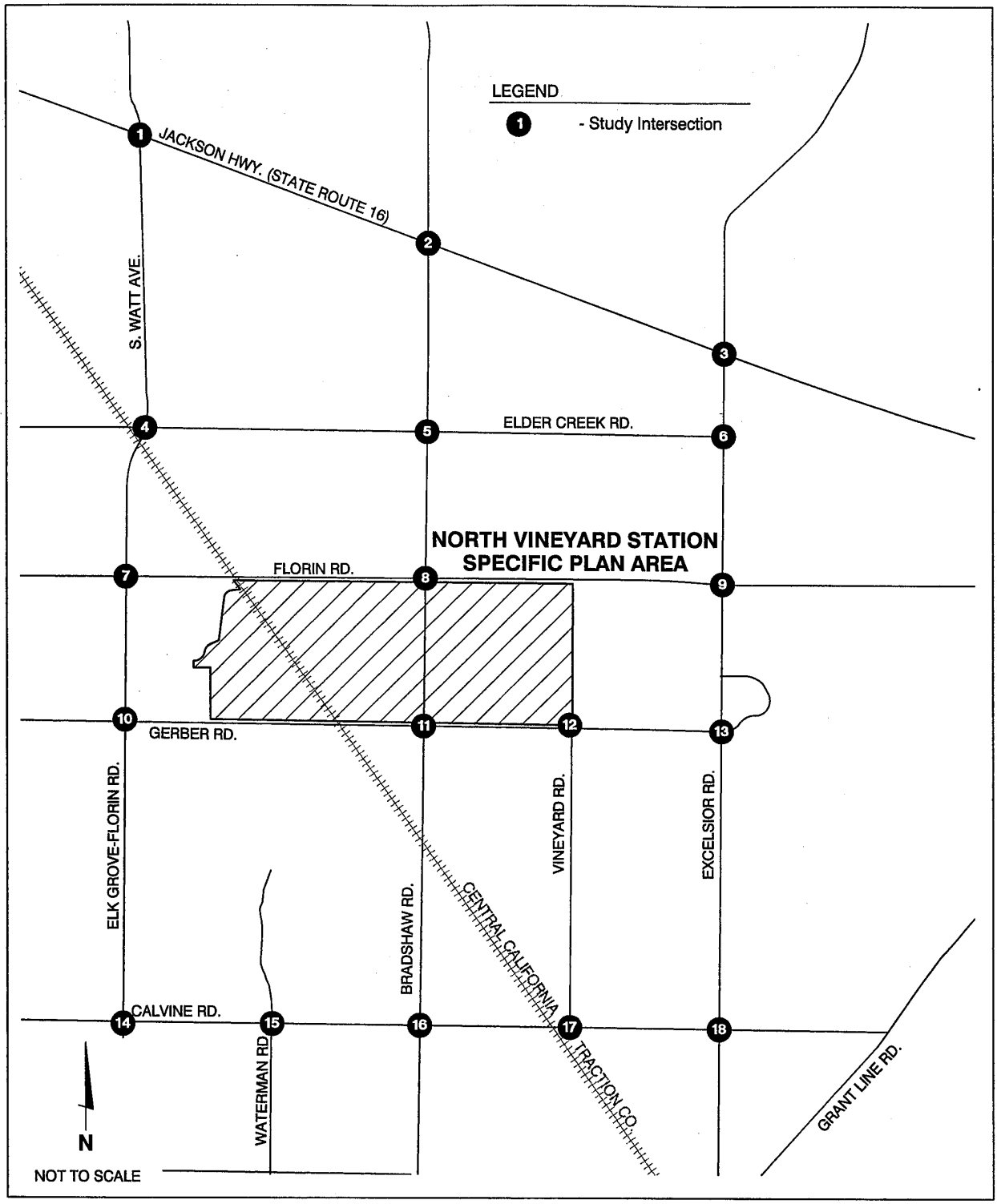


Table 7-1
Roadway Capacity Thresholds and Level of Service

Number of Lanes on Roadway	Maximum Daily Volume for Given Level of Service				
	A	B	C	D	E
Rural Two-lane Highway[1]					
2[1]	2,400	4,800	7,900	13,500	22,900
Rural Two-lane Roadways With Substandard Cross-sections					
2	1,300	2,600	4,300	6,800	11,000
Moderate Access Control Arterial[2]					
2	10,800	12,600	14,400	16,200	18,000
4	21,600	25,200	28,800	32,400	36,000
6	32,400	37,800	43,200	48,600	54,000

Notes:
[1] Capacities for rural 2-lane highway used to evaluate State Route 16.
[2] Capacities summarized above are for an arterial roadway with moderate access control (i.e., 2-4 stops per mile, limited driveways, and speeds between 35-45 mph.)
Source: *County of Sacramento Traffic Impact Guidelines,* July 24, 1997.

SIGNALIZED INTERSECTIONS

Analysis of signalized intersections was conducted using the methods described in *Interim Materials on Highway Capacity* (Circular No. 212, Transportation Research Board, January 1980) with adjustments for higher capacities as specified in the Sacramento County *Traffic Impact Analysis Guidelines,* July 24, 1997. The following capacities were used in this analysis:

- Two-phase signal – 1,650 critical movements per hour;
- Three-phase signal – 1,550 critical movements per hour; and
- Four or more phase signal – 1,500 critical movements per hour.

Table 7-2 summarizes signalized intersection level of service characteristics and corresponding volume-to-capacity (V/C) ratios. The V/C ratio is the projected volume divided by the theoretical capacity of the intersection. An intersection is defined to be at capacity when the V/C ratio is equal to 1.00.

Table 7-2
Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Volume-to-Capacity Ratio
A	Uncongested operations; all queues clear in a single cycle.	≤ 0.60
B	Very light congestion; an occasional phase is fully utilized.	> 0.60 and ≤ 0.70
C	Light congestion; occasional queues on approaches.	> 0.70 and ≤ 0.80
D	Significant congestion on critical approaches, but intersection is functional. Cars required to wait through more than one cycle during short peaks. No longstanding queues formed.	> 0.80 and ≤ 0.90
E	Severe congestion with some longstanding queues on critical approaches. Traffic queue may block nearby intersection(s) upstream of critical approach(es).	> 0.90 and ≤ 1.00
F	Total breakdown, stop-and-go operation.	> 1.00

Source: *Interim Materials on Highway Capacity* (Circular No. 212, Transportation Research Board, January 1980).

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections were analyzed using the method described in the *Highway Capacity Manual* (Special Report 209, Transportation Research Board, 1994). This methodology computes intersection level of service based on the weighted average total delay for all approaches. Table 7-3 summarizes the level of service criteria for stop sign-controlled intersections.

Table 7-3
Level of Service Characteristics for Unsignalized Intersections

Level of Service	Interpretation	Average Total Delay (seconds/vehicle)
A	Little or no delay.	≤ 5.0
B	Short traffic delays.	> 5.0 and ≤ 10.0
C	Average traffic delays.	> 10.0 and ≤ 20.0
D	Long traffic delays.	> 20.0 and ≤ 30.0
E	Very long traffic delays.	> 30.0 and ≤ 45.0
F	Stop-and-go conditions.	> 45.0
Source: *Highway Capacity Manual* (Special Report 209, Transportation Research Board, 1994).		

LEVEL OF SERVICE THRESHOLD

The County of Sacramento has defined the level of service standard for urban roadways and intersections to be LOS E (i.e., LOS F is considered unacceptable). As outlined in the Sacramento County *Traffic Impact Analysis Guidelines*, a project related deficiency occurs if the addition of project-generated traffic causes a facility to change from LOS E (or better) to LOS F or, for facilities that will be operating unacceptably under "no project" conditions, adds more than five seconds of delay at unsignalized intersections or increases the V/C ratio on study roadways or at signalized intersections by 0.05 or more.

YEAR 2002 CONDITIONS

Construction and occupancy of residential dwelling units within Phase 1A of the NVSSP was anticipated by 2002. Therefore, study intersections and roadways were analyzed under Year 2002 conditions, which essentially represent existing conditions.

YEAR 2002 WITHOUT PROJECT CONDITIONS

The following discusses the roadway network and traffic operations under Year 2002 conditions without the implementation of Phase 1A.

ROADWAY SYSTEM

Plate TC -2 displays Year 2002 roadway lane assumptions within the study area. The off-site roadway network consists of two-lane collector and arterial facilities except for Elk Grove-Florin Road between Gerber Road and Calvine Road, which is four-lanes

wide. The widening of Bradshaw Road is anticipated in 2003 and the widening of Calvine Road between Elk Grove-Florin and Bradshaw Road is anticipated by 2002. These improvements were assumed for Year 2002 conditions based on County staff direction.

TRAFFIC VOLUMES

Fehr & Peers Associates conducted a.m. and p.m. peak period intersection turning movement counts at 18 intersections within the study area and gathered current daily roadway segment volumes (for 40 segments) from the Sacramento County Transportation Division. In addition, field surveys were performed to identify intersection lane geometries, intersection control, and roadway cross-sections.

Construction and occupancy of residential dwelling units within Phase 1A of the NVSSP is anticipated by 2002. Therefore, construction-year (Year 2002) forecasts were developed by adding background growth (i.e., traffic growth that will occur between 2000 and 2002) to existing peak hour intersection counts and daily roadway volumes. Background growth was estimated by identifying annual growth in traffic volumes within the study area. Peak hour volumes used in the October 1996 traffic analysis were compared to existing peak hour volumes collected in December 1999, which equated to an annual growth rate of four percent. Consequently, the existing traffic volumes were increased by eight percent to represent Year 2002 conditions. Plate TC -3 and Plate TC -4 display Year 2002 daily and peak hour traffic volumes, respectively.

ROADWAY ANALYSIS

The daily volumes shown on Plate TC -3 were compared to the roadway capacity thresholds presented in Table 7-1. Table 7-4 summarizes the results of the arterial roadway analysis. All of the study roadways will operate acceptably in 2002 (without Phase 1A) except for the following[1]:

- S. Watt Avenue (North of SR 16); and
- Elk Grove-Florin Road (Florin Road to Gerber Road).

[1] Assumes widening of Bradshaw Road (Calvine Road to SR 16) from 2 to 4 lanes.

Plate TC -2
Year 2002 Roadway System

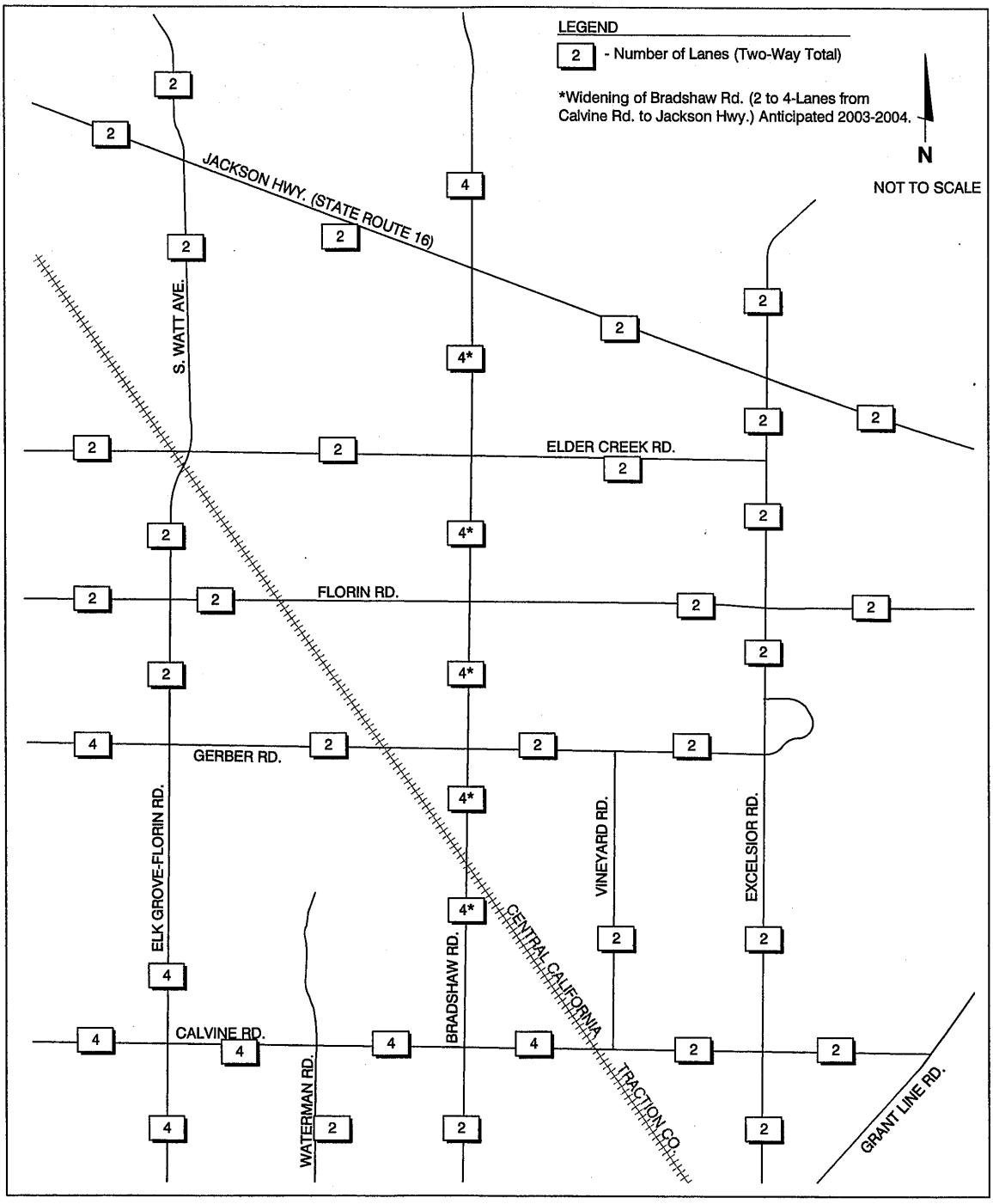


Plate TC -3
Average Daily Traffic Volumes
Year 2002 Without Phase 1A

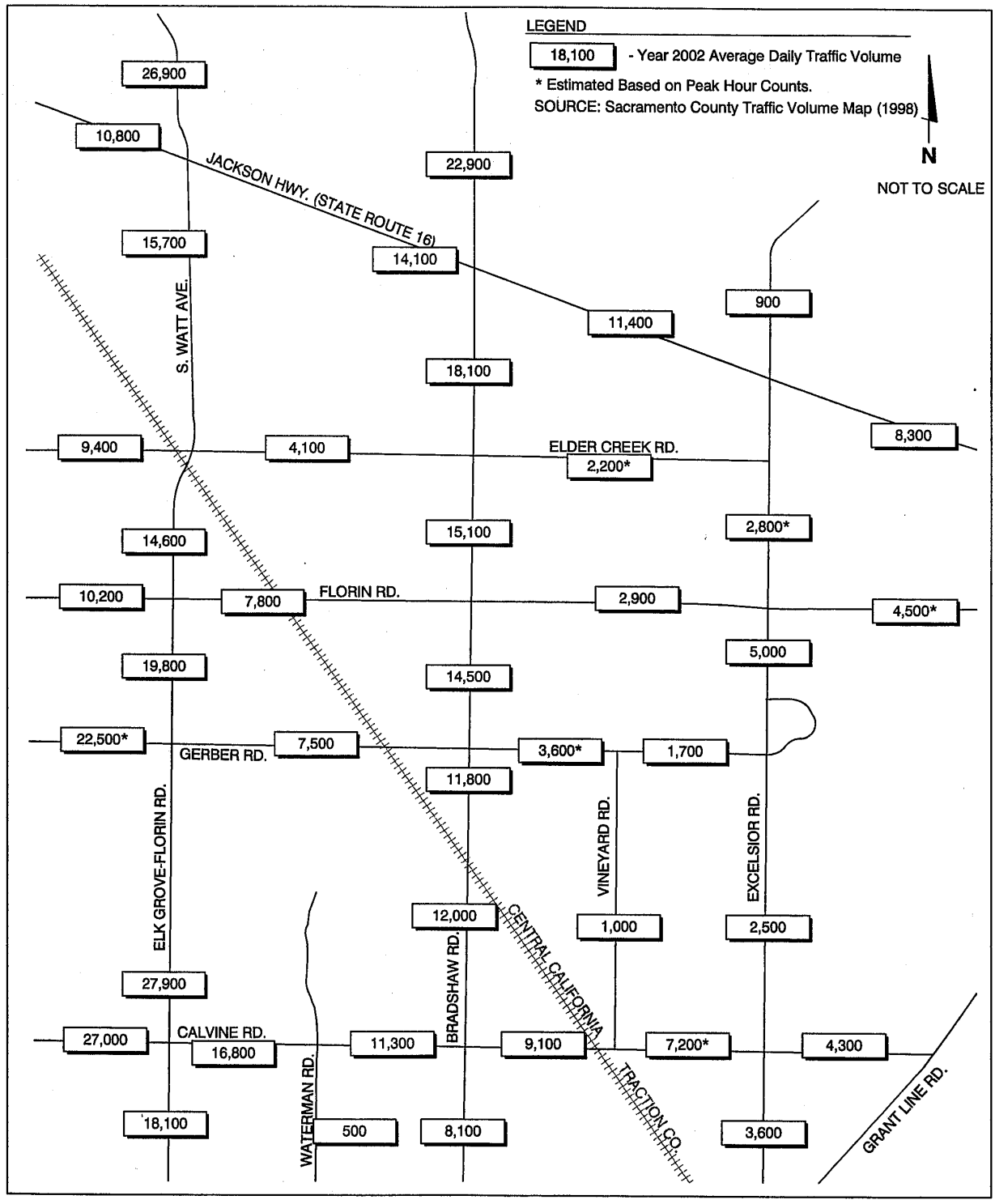
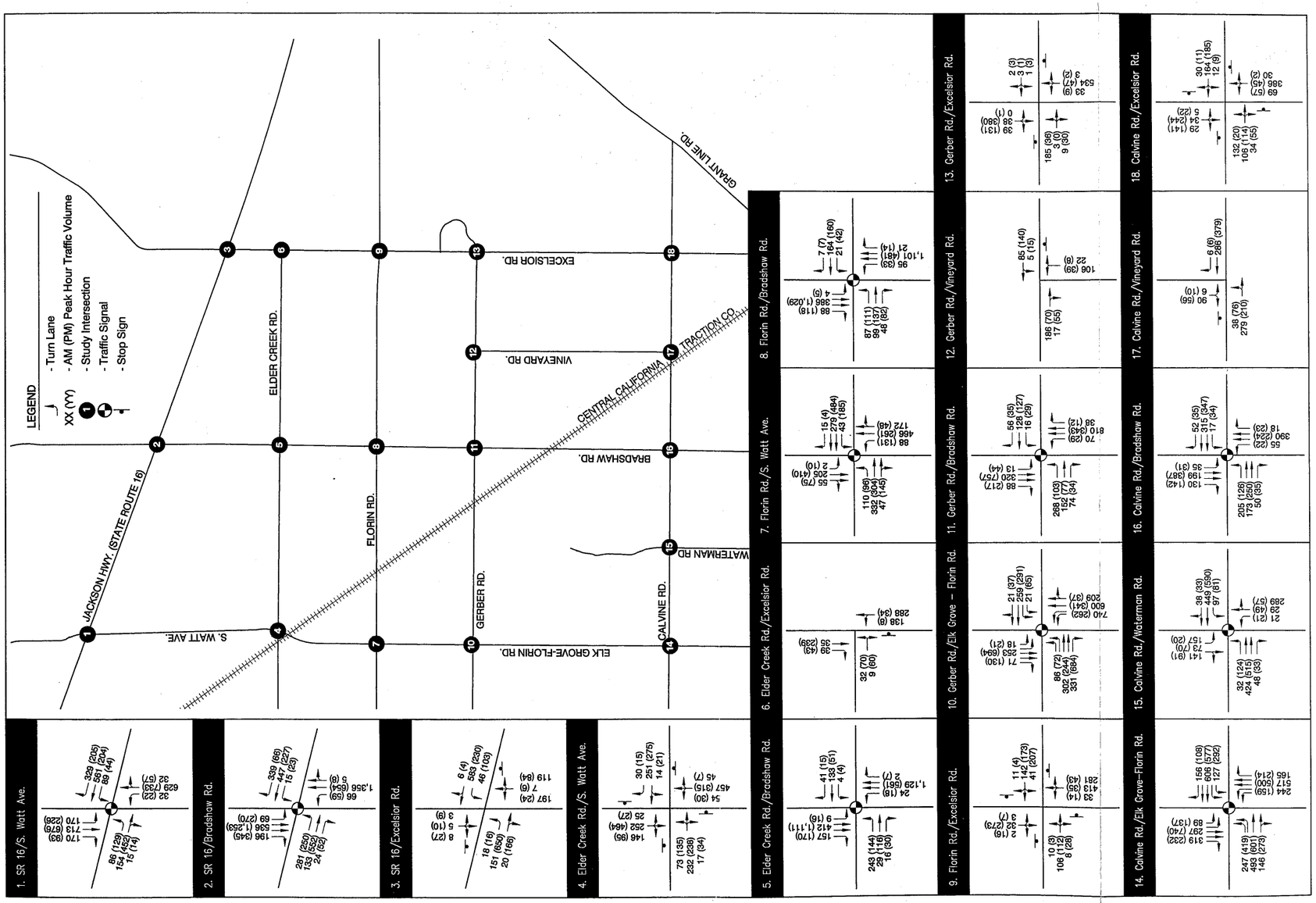


Plate TC -4
Peak Hour Traffic Volumes and Lane Configurations
Year 2002 Without Phase 1A



INTERSECTION ANALYSIS

The Year 2002 a.m. and p.m. peak hour intersection turning movements and lane configurations shown on Plate TC -4 were used to calculate the levels of service at each study intersection. Table 7-5 summarizes the results of this analysis. Improvements were assumed at the following intersections, consistent with the widening of Bradshaw Road from two to four lanes (Calvine Road to just south of SR 16):

- Gerber Road/Bradshaw Road;
- Florin Road/Bradshaw Road; and
- Elder Creek Road/Bradshaw Road.

Without the NVSSP, all of the study intersections will operate acceptably (LOS E or better) in both the a.m. and p.m. peak hours except for the SR 16/S. Watt Avenue intersection.

YEAR 2002 CONDITIONS WITH PHASE 1A

The following discusses Phase 1A of the NVSSP and its impacts on the surrounding roadway system under Year 2002 conditions.

PROJECT DESCRIPTION

Plate TC -5 shows the location of Phase 1A of the NVSSP, property owners, and potential access locations. Phase 1A is owned by the North Vineyard Investors, Pointe Vineyard and Morvai groups. The North Vineyard Investors property has frontage on Florin Road and is bisected by the Central California Traction Railroad easement. The Pointe Vineyard property has frontage on Bradshaw Road and Gerber Road. The Morvai property has frontage on Florin Road.

The following describes a potential access scenario that will satisfy the County's requirement to provide two points of access for emergency vehicles:

North Vineyard Investors (South of Railroad Easement) – Primary access to Gerber Road from Waterman Road and secondary access to Florin Road from Waterman Road (north) across the Central California Traction Railroad easement. An alternative secondary access could be provided to Gerber Road from 1 Street;

North Vineyard Investors (North of Railroad Easement) **–** Primary access to Florin Road from 3 Street and an emergency only access on Florin Road (due to the limited frontage);

Table 7-4
Roadway Analysis – Year 2002 Conditions

Roadway Segment	Year 2002 Conditions		
	Lanes	Volume	LOS
SR 16 – West of S. Watt Ave.	2	10,800	D
SR 16 – S. Watt Ave. to Bradshaw Rd.	2	14,100	E
SR 16 – Bradshaw Rd. to Excelsior Rd.	2	11,400	D
SR 16 – East of Excelsior Rd.	2	8,300	D
Elder Creek Rd. – West of S. Watt Ave.	2	9,400	A
Elder Creek Rd. – S. Watt Ave. to Bradshaw Rd.	2	4,100	A
Elder Creek Rd. – Bradshaw Rd. to Excelsior Rd.	2	2,200	A
Florin Rd. – West of S. Watt Ave.	2	10,200	A
Florin Rd. – S. Watt Ave. to Bradshaw Rd.	2	7,800	A
Florin Rd. – Bradshaw Rd. to Excelsior Rd.	2	2,900	A
Florin Rd. – East of Excelsior Rd.	2	4,500	A
Gerber Rd. – West of Elk Grove-Florin Rd.	4	22,500	B
Gerber Rd. – Elk Grove-Florin Rd. to Bradshaw Rd.	2	7,500	E
Gerber Rd. – Bradshaw Rd. to Vineyard Rd.	2	3,600	C
Gerber Rd. – Vineyard Rd. to Excelsior Rd.	2	1,700	B
Calvine Rd. – West of Elk Grove-Florin Rd.	4	27,000	C
Calvine Rd. – Elk Grove-Florin Rd. to Waterman Rd.	4	16,800	A
Calvine Rd. – Waterman Rd. to Bradshaw Rd. [1]	4	11,300	A
Calvine Rd. – Bradshaw Rd. to Vineyard Rd. [1]	4	9,100	A
Calvine Rd. – Vineyard Rd. to Excelsior Rd.	2	7,200	A
Calvine Rd. – Excelsior Rd. to Grant Line Rd.	2	4,300	A
S. Watt Avenue – North of SR 16	2	26,900	F
S. Watt Avenue – SR 16 to Elder Creek Rd.	2	15,700	D
S. Watt Avenue – Elder Creek Rd. to Florin Rd.	2	14,600	D
Elk Grove-Florin Rd. – Florin Rd. to Gerber Rd.	2	19,800	F
Elk Grove-Florin Rd. – Gerber Rd. to Calvine Rd.	4	27,900	C
Elk Grove-Florin Rd. – South of Calvine Rd.	4	18,100	A
Waterman Rd. – South of Calvine Rd.	2	500	A
Bradshaw Rd. – North of SR 16	4	22,900	B
Bradshaw Rd. – SR 16 to Elder Creek Rd. [2]	4	18,100	A
Bradshaw Rd. – Elder Creek Rd. to Florin Rd. [2]	4	15,100	A
Bradshaw Rd. – Florin Rd. to Gerber Rd. [2]	4	14,500	A
Bradshaw Rd. – Gerber Rd. to Calvine Rd. [2]	4	12,000	A
Bradshaw Rd. – South of Calvine Rd.	2	8,100	A
Vineyard Rd. – Gerber Rd. to Calvine Rd.	2	1,000	A
Excelsior Rd. – North of SR 16	2	900	A
Excelsior Rd. – Elder Creek Rd. to Florin Rd.	2	2,800	C
Excelsior Rd. – Florin Rd. to Gerber Rd.	2	5,000	D
Excelsior Rd. – Gerber Rd. to Calvine Rd.	2	2,500	B
Excelsior Rd. – South of Calvine Rd.	2	3,600	C

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
[1]Assumes widening of Calvine Road to 4 lanes (Kingsbridge Drive to Bradshaw).
[2]Assumes widening of Bradshaw Road to 4 lanes (Calvine Road to SR 16).
Source: Sacramento County Traffic Impact Guidelines (July 24, 1997) and Fehr & Peers Associates, 2002.

Table 7-5
Peak Hour Intersection Operations – Year 2002 Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay / V/C	LOS	Delay / V/C	LOS
1. SR 16/S. Watt Ave.	Signal[1]	0.99	E	**1.02**	F
2. SR 16/Bradshaw Rd.	Signal	0.99	E	0.84	D
3. SR 16/Excelsior Rd.	2-Way Stop[2]	5.5	B	1.9	A
4. Elder Creek Rd./S. Watt Ave.	4-Way Stop[3]	19.2	C	40.8	E
5. Elder Creek Rd./Bradshaw Rd.	Signal	0.63	B	0.51	A
6. Elder Creek Rd./Excelsior Rd.	2-Way Stop	1.3	A	1.6	A
7. Florin Rd./Elk Grove-Florin Rd.	Signal	0.38	A	0.52	A
8. Florin Rd./Bradshaw Rd.	Signal	0.54	A	0.55	A
9. Florin Rd./Excelsior Rd.	4-Way Stop	27.8	D	8.5	B
10. Gerber Rd./Elk Grove-Florin Rd.	Signal	0.48	A	0.71	C
11. Gerber Rd./Bradshaw Rd.	Signal	0.54	A	0.43	A
12. Gerber Rd./Vineyard Rd.	2-Way Stop	1.7	A	0.9	A
13. Gerber Rd./Excelsior Rd.	2-Way Stop	11.2	C	4.7	A
14. Calvine Rd./Elk Grove-Florin Rd.	Signal	0.50	A	0.70	B
15. Calvine Rd./Waterman Rd.	Signal	0.52	A	0.41	A
16. Calvine Rd./Bradshaw Rd.[4]	Signal	0.40	A	0.34	A
17. Calvine Rd./Vineyard Rd.	2-Way Stop	0.8	A	0.9	A
18. Calvine Rd./Excelsior Rd.	4-Way Stop	12.7	C	12.1	C

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.

[1] Signal Control- Circular 212 Planning Methodology- Results present volume/capacity ratio and LOS.

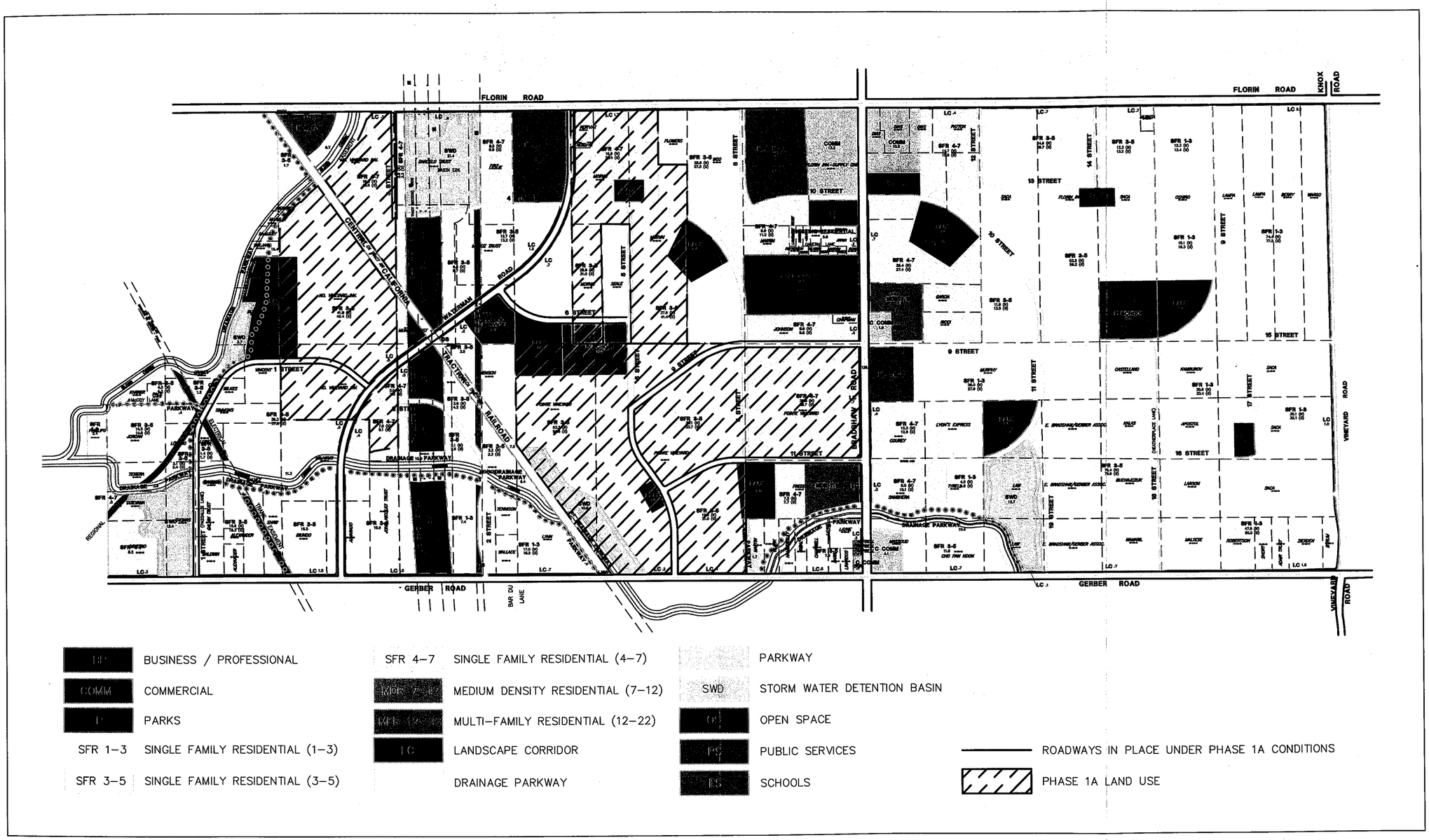
[2] 2-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

[3] 4-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

[4] Assumed signal control, consistent with widening of Bradshaw Road (two to four lanes - Calvine Road to SR 16).

Source: Fehr & Peers Associates, 2002.

Plate TC -5
North Vineyard Station Land Use Diagram – Phase 1A



Pointe Vineyard **–** Primary access to Gerber Road from 5 Street and secondary access to Bradshaw Road from 9 Street. An alternative secondary access could be provided to Bradshaw Road from 11 Street; and

Morvai Property – Primary access to Florin Road and secondary access to Gerber Road from Waterman Road and 6 Street across the Central California Traction Railroad easement.

Please note that extending Waterman Road across the Central California Traction Railroad will require approval from the California Public Utilities Commission.

TRIP GENERATION AND DISTRIBUTION

Trip generation estimates for Phase 1A were developed based on trip rates from *Trip Generation,* Institute of Transportation Engineers, 6th Edition, 1997. Phase 1A includes residential, school, and park/recreational uses, including 1,543 single-family dwelling units and a 1.5-acre neighborhood park. Table 7-6 summarizes the estimated daily, a.m. peak hour, and p.m. peak hour trip generation for Phase 1A.

Table 7-6
Trip Generation Estimates for Phase 1A

Land Use	Amount	Trip Rate [1]			Phase 1A Trips		
		Daily	AM Peak Hour	PM Peak Hour	Daily	AM Peak Hour	PM Peak Hour
Single-Family Residential	1,543 units	9.57	0.75	1.01	14,767	1,157	1,558
				Total	**14,767**	**1,157**	**1,558**

Notes: [1]Based on *Trip Generation,* Institute of Transportation Engineers, 6th Edition, 1997.

Since Phase 1A lacks complementary land uses (i.e., employment and retail land uses), trips generated by the single-family residential units were assumed to be external to the development (i.e., have destinations outside of the specific plan area). The parks and school site located in the Pointe Vineyard and Morvai properties were not assumed as part of Phase 1A because they straddle multiple parcels. Trips generated by these uses are accounted for in the Year 2015 with buildout of the NVSSP analysis.

Phase 1A trips were added to the Year 2002 daily, a.m. peak hour, and p.m. peak hour traffic volumes based on the directional distribution of project trips shown in Plate TC -6, which is consistent with the distribution used in the 1996 traffic analysis. The resulting daily and peak hour volumes were used to identify project related deficiencies.

ROADWAY ANALYSIS

Plate TC -7 displays daily traffic volumes for Year 2002 conditions with Phase 1A. These forecasts were compared to the roadway capacity thresholds presented in Table

7-1 to determine if the addition of Phase 1A trips will cause roadway deficiencies. Table 7-7 summarizes the results of the arterial roadway analysis.

The addition of Phase 1A trips will cause the segment of S. Watt Avenue between SR 16 and Elder Creek Road to decline from LOS D to LOS F and will cause the segment of Gerber Road between Elk Grove-Florin Road and Bradshaw Road to decline from LOS E to LOS F. Gerber Road east of Elk Grove-Florin Road has a substandard roadway cross-section characterized by narrow travel lanes and shoulder width and was analyzed using the rural two-lane roadway capacities identified in Table 7-1.

In addition, Phase 1A trips will increase the V/C ratio by 0.05 or more on the following facilities that operate at LOS F under 2002 conditions without Phase 1A:

- S. Watt Avenue – (North of SR 16); and
- Elk Grove-Florin Road – (Florin Road to Gerber Road).

INTERSECTION ANALYSIS

The a.m. and p.m. peak hour intersection turning movements and lane configurations shown on Plate TC -8 were used to calculate the levels of service at each study intersection for Year 2002 conditions with Phase 1A. The level of service at each study intersection is presented in Table 8-8. As shown, the addition of Phase 1A trips will cause deficiencies at the following intersections:

SR 16/S. Watt Avenue – The addition of project trips will cause LOS F operations during the a.m. peak hour and will increase the V/C ratio by more than 0.05 during the p.m. peak hour;

SR 16/Bradshaw Road – The addition of project trips will cause LOS F operations during the a.m. peak hour; and

Elder Creek Road/S. Watt Avenue – The addition of project trips will cause LOS F operations during the p.m. peak hour.

Plate TC -6
Project Trip Distribution

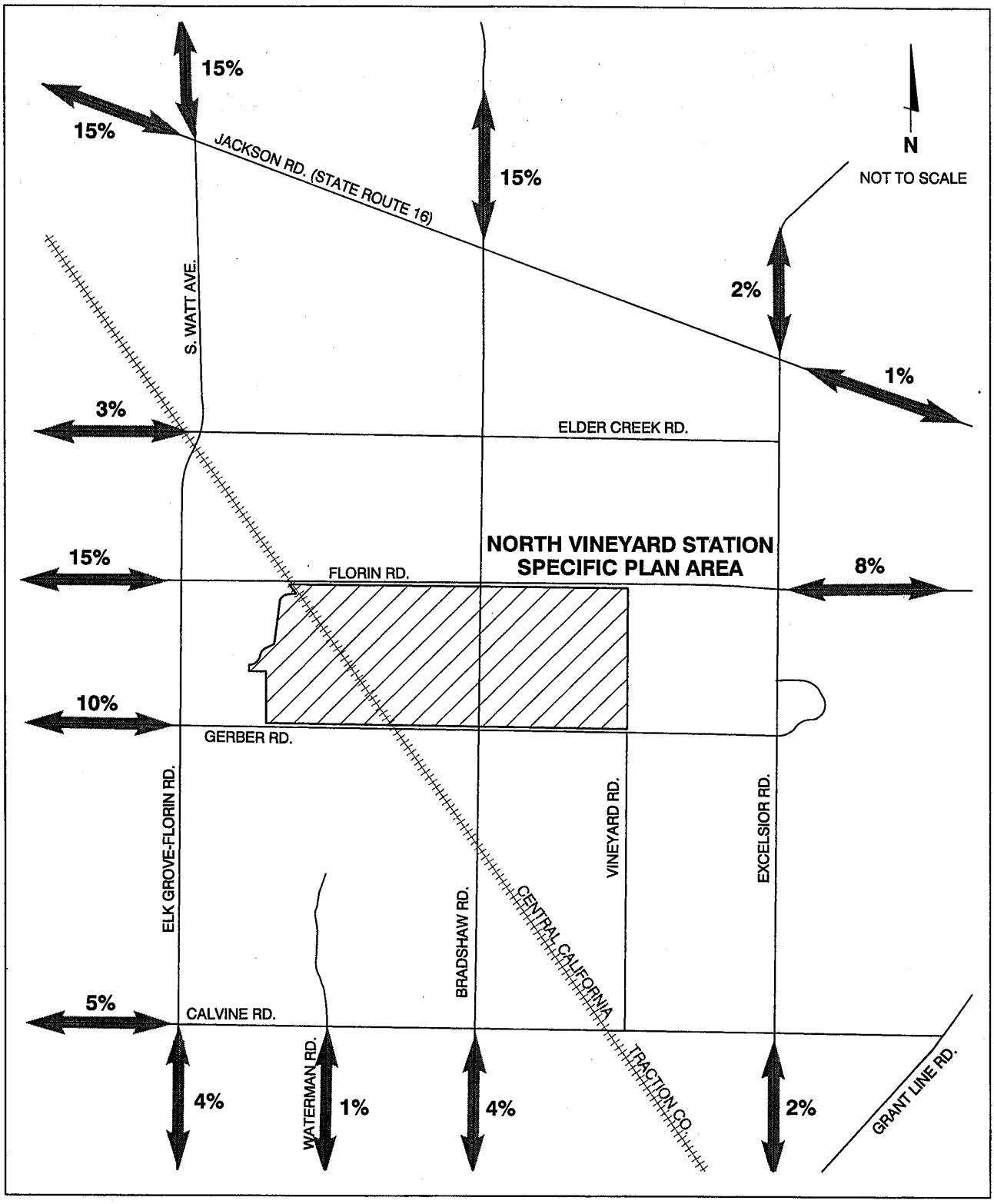


Plate TC -7
Average Daily Traffic Volumes – Phase 1A

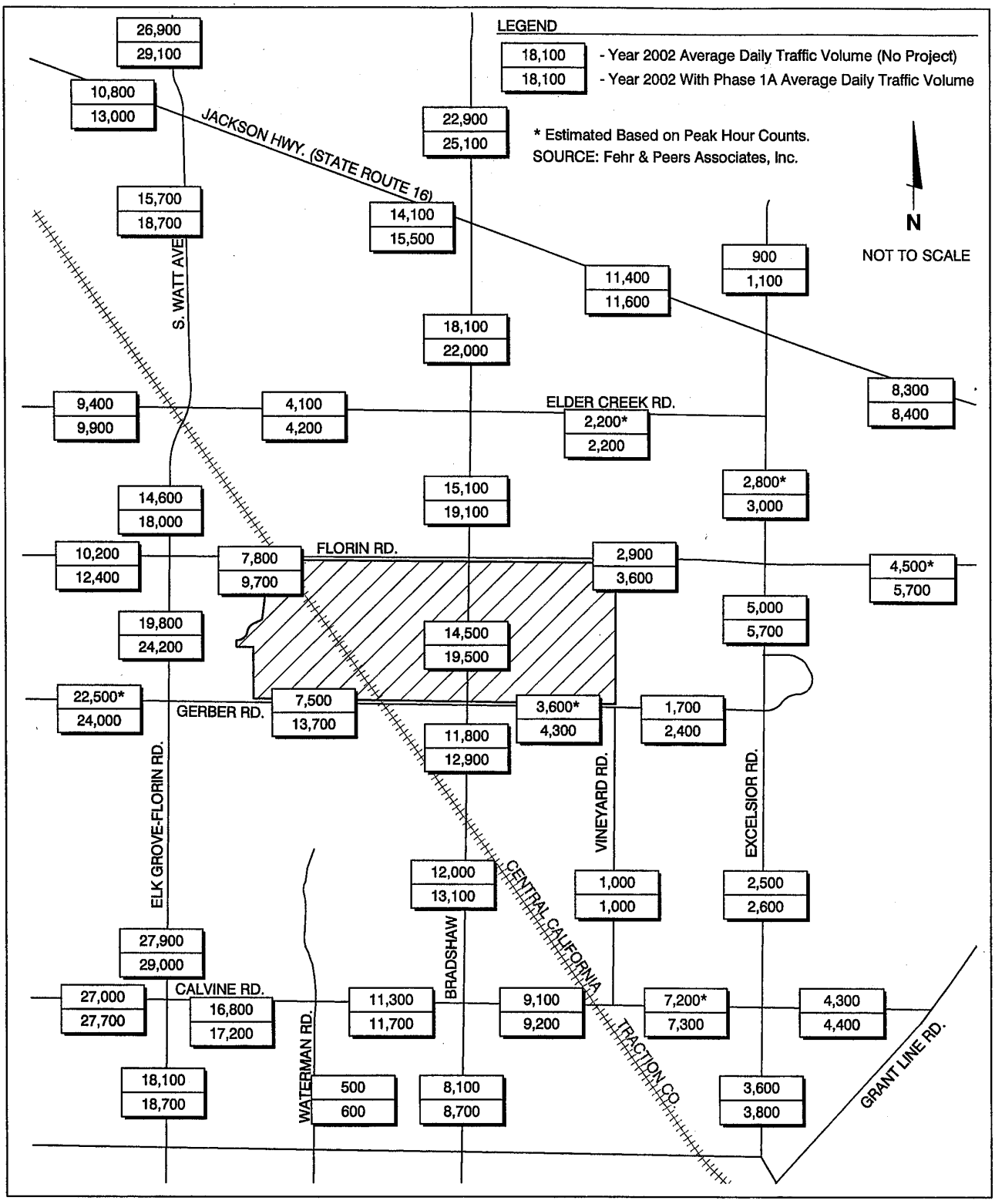


Table 7-7
Roadway Analysis – Year 2002 Conditions with Phase 1A

Roadway Segment	Year 2002 Conditions Without Phase 1A			Year 2002 Conditions With Phase 1A		
	Lanes	Volume	LOS	Lanes	Volume	LOS
SR 16 – West of S. Watt Ave.	2	10,800	D	2	13,000	D
SR 16 – S. Watt Ave. to Bradshaw Rd.	2	14,100	E	2	15,500	E
SR 16 – Bradshaw Rd. to Excelsior Rd.	2	11,400	D	2	11,600	D
SR 16 – East of Excelsior Rd.	2	8,300	D	2	8,400	D
Elder Creek Rd. – West of S. Watt Ave.	2	9,400	A	2	9,900	A
Elder Creek Rd. – S. Watt Ave. to Bradshaw Rd.	2	4,100	A	2	4,200	A
Elder Creek Rd. – Bradshaw Rd. to Excelsior Rd.	2	2,200	A	2	2,200	A
Florin Rd. – West of S. Watt Ave.	2	10,200	A	2	12,400	B
Florin Rd. – S. Watt Ave. to Bradshaw Rd.	2	7,800	A	2	9,700	A
Florin Rd. – Bradshaw Rd. to Excelsior Rd.	2	2,900	A	2	3,600	A
Florin Rd. – East of Excelsior Rd.	2	4,500	A	2	5,700	A
Gerber Rd. – West of Elk Grove-Florin Rd.	4	22,500	B	4	24,000	B
Gerber Rd. – Elk Grove-Florin Rd. to Bradshaw Rd.	2	7,500	E	2	13,700	F
Gerber Rd. – Bradshaw Rd. to Vineyard Rd.	2	3,600	C	2	4,300	C
Gerber Rd. – Vineyard Rd. to Excelsior Rd.	2	1,700	B	2	2,400	B
Calvine Rd. – West of Elk Grove-Florin Rd.	4	27,000	C	4	27,700	C
Calvine Rd. – Elk Grove-Florin Rd. to Waterman Rd.	4	16,800	A	4	17,200	A
Calvine Rd. – Waterman Rd. to Bradshaw Rd. [1]	4	11,300	A	4	11,700	A
Calvine Rd. – Bradshaw Rd. to Vineyard Rd. [1]	4	9,100	A	4	9,200	A
Calvine Rd. – Vineyard Rd. to Excelsior Rd.	2	7,200	A	2	7,300	A
Calvine Rd. – Excelsior Rd. to Grant Line Rd.	2	4,300	A	2	4,400	A
S. Watt Avenue – North of SR 16	2	26,900	F	2	29,100	F
S. Watt Avenue – SR 16 to Elder Creek Rd.	2	15,700	D	2	18,700	F
S. Watt Avenue – Elder Creek Rd. to Florin Rd.	2	14,600	D	2	18,000	E
Elk Grove-Florin Rd. – Florin Rd. to Gerber Rd.	2	19,800	F	2	24,200	F
Elk Grove-Florin Rd. – Gerber Rd. to Calvine Rd.	4	27,900	C	4	29,000	D
Elk Grove-Florin Rd. – South of Calvine Rd.	4	18,100	A	4	18,700	A
Waterman Rd. – South of Calvine Rd.	2	500	A	2	600	A
Bradshaw Rd. – North of SR 16	4	22,900	B	4	25,100	B
Bradshaw Rd. – SR 16 to Elder Creek Rd. [2]	4	18,100	A	4	22,000	B
Bradshaw Rd. – Elder Creek Rd. to Florin Rd. [2]	4	15,100	A	4	19,100	A
Bradshaw Rd. – Florin Rd. to Gerber Rd. [2]	4	14,500	A	4	19,500	A
Bradshaw Rd. – Gerber Rd. to Calvine Rd. [2]	4	12,000	A	4	13,100	A
Bradshaw Rd. – South of Calvine Rd.	2	8,100	A	2	8,700	A
Vineyard Rd. – Gerber Rd. to Calvine Rd.	2	1,000	A	2	1,000	A
Excelsior Rd. – North of SR 16	2	900	A	2	1,100	A
Excelsior Rd. – Elder Creek Rd. to Florin Rd.	2	2,800	C	2	3,000	C
Excelsior Rd. – Florin Rd. to Gerber Rd.	2	5,000	D	2	5,700	D
Excelsior Rd. – Gerber Rd. to Calvine Rd.	2	2,500	B	2	2,600	B
Excelsior Rd. – South of Calvine Rd.	2	3,600	C	2	3,800	C

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
[1]Assumes widening of Calvine Road to 4 lanes (Kingsbridge Drive to Bradshaw).
[2]Assumes widening of Bradshaw Road to 4 lanes (Calvine Road to SR 16).
Source: Sacramento County Traffic Impact Guidelines (July 24, 1997) and Fehr & Peers Associates, 2002.

Table 7-8
Peak Hour Intersection Operations – Year 2002 Conditions with Phase 1A

Intersection	Control	Year 2002 Without Phase 1A				Year 2002 With Phase 1A			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay / V/C	LOS	Delay / V/C	LOS	Delay / V/C	LOS	Delay / V/C	LOS
1. SR 16/S. Watt Ave.	Signal[1]	0.99	E	**1.02**	F	**1.08**	F	**1.19**	F
2. SR 16/Bradshaw Rd.	Signal	0.99	E	0.84	D	**1.04**	F	0.93	E
3. SR 16/Excelsior Rd.	2-Way Stop[2]	5.5	B	1.9	A	6.0	B	2.2	A
4. Elder Creek Rd./S. Watt Ave.	4-Way Stop[3]	19.2	C	40.8	E	40.1	E	**>45.0**	F
5. Elder Creek Rd./Bradshaw Rd.	Signal	0.63	B	0.51	A	0.70	B	0.59	A
6. Elder Creek Rd./Excelsior Rd.	2-Way Stop	1.3	A	1.6	A	1.2	A	1.6	A
7. Florin Rd./Elk Grove-Florin Rd.	Signal	0.38	A	0.52	A	0.47	A	0.66	B
8. Florin Rd./Bradshaw Rd.	Signal	0.54	A	0.55	A	0.63	B	0.67	B
9. Florin Rd./Excelsior Rd.	4-Way Stop	27.8	D	8.5	B	35.7	E	11.1	C
10. Gerber Rd./Elk Grove-Florin Rd.	Signal	0.48	A	0.71	C	0.57	A	0.73	C
11. Gerber Rd./Bradshaw Rd.	Signal	0.54	A	0.43	A	0.62	B	0.52	A
12. Gerber Rd./Vineyard Rd.	2-Way Stop	1.7	A	0.9	A	1.7	A	0.8	A
13. Gerber Rd./Excelsior Rd.	2-Way Stop	11.2	C	4.7	A	13.4	C	4.9	A
14. Calvine Rd./Elk Grove-Florin Rd.	Signal	0.50	A	0.70	B	0.53	A	0.72	C
15. Calvine Rd./Waterman Rd.	Signal	0.52	A	0.41	A	0.53	A	0.42	A
16. Calvine Rd./Bradshaw Rd.[4]	Signal	0.40	A	0.34	A	0.41	A	0.37	A
17. Calvine Rd./Vineyard Rd.	2-Way Stop	0.8	A	0.9	A	0.8	A	0.9	A
18. Calvine Rd./Excelsior Rd.	4-Way Stop	12.7	C	12.1	C	13.2	C	11.6	C

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.

[1] Signal Control- Circular 212 Planning Methodology- Results present volume/capacity ratio and LOS.

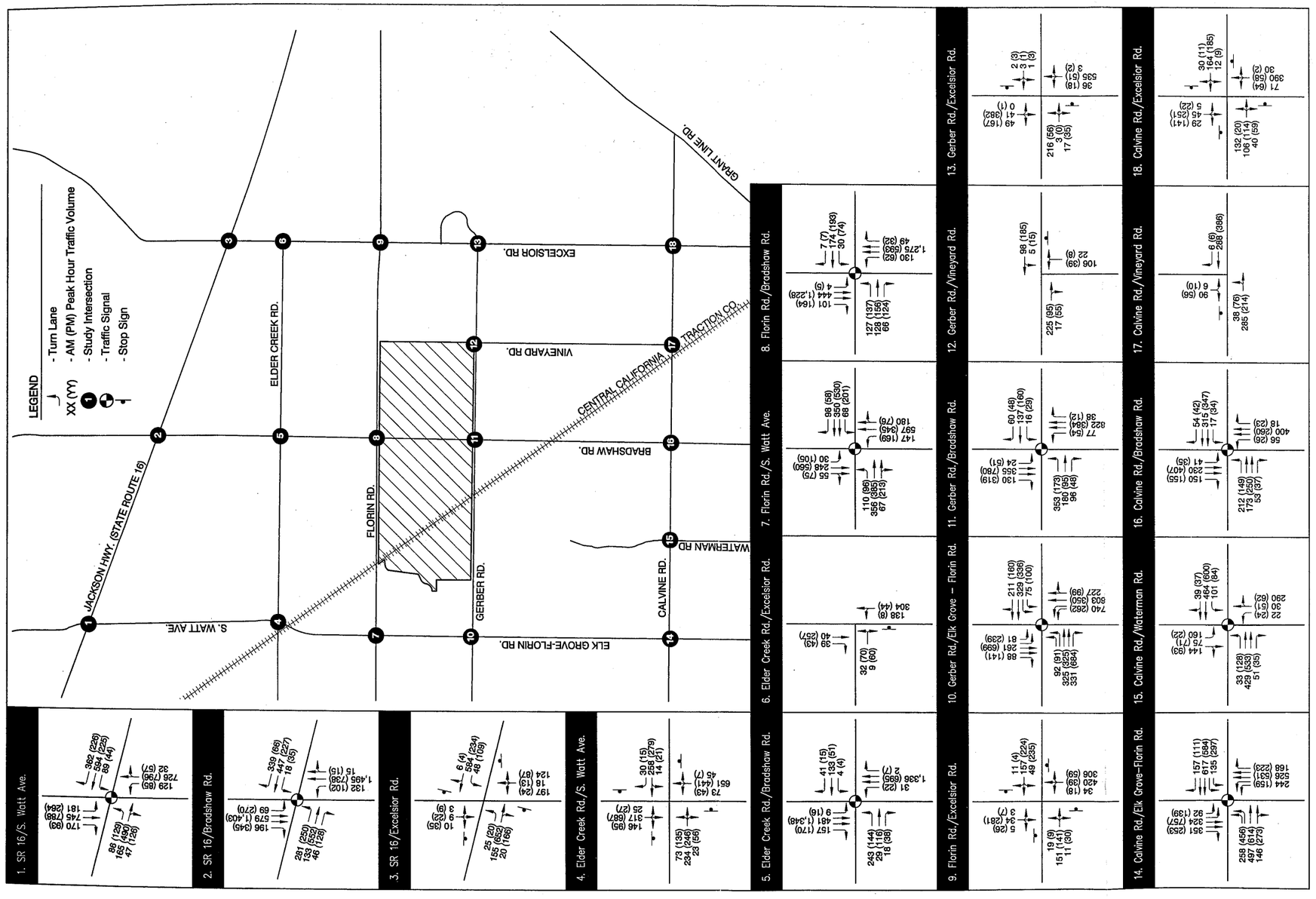
[2] 2-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

[3] 4-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

[4] Assumed signal control, consistent with widening of Bradshaw Road (two to four lanes - Calvine Road to SR 16).

Source: Fehr & Peers Associates, 2002.

Plate TC -8
Peak Hour Traffic Volumes and Lane Configurations
Year 2002 With Phase 1A



PROJECT IMPACTS

Based on the roadway and intersection analysis, the addition of Phase 1A trips will cause or contribute to deficiencies at the following study locations under Year 2002 conditions: These impacts are considered significant.

STUDY ROADWAYS

- S. Watt Avenue – (North of SR 16);
- S. Watt Avenue – (SR 16 to Elder Creek Road);
- Elk Grove-Florin Road – (Florin Road to Gerber Road);
- Gerber Road – (Elk Grove-Florin Road to Bradshaw Road);

STUDY INTERSECTIONS

- SR 16/S. Watt Avenue;
- SR 16/Bradshaw Road; and
- Elder Creek Road/S. Watt Avenue.

MITIGATION MEASURES FOR PHASE 1A

The following improvements will eliminate deficiencies caused by the addition of Phase 1A trips, and reduce impacts to less-than-significant. The study roadway and intersection improvements recommended in the NVSSP DEIR (July 1997) for existing plus project conditions are also summarized below.

STUDY ROADWAYS MITIGATION MEASURES

TC-1. S. Watt Avenue (North of SR 16) – Widening this segment from two to four lanes will improve operations to LOS D.

This study roadway segment was not impacted under existing plus project conditions in the NVSSP DEIR.

TC-2. S. Watt Avenue (SR 16 to Elder Creek Road) – Widening this segment from two to four lanes will improve operations to LOS A.

This improvement was also recommended in the NVSSP DEIR for existing plus project conditions.

TC-3. Elk Grove-Florin Road (Florin Road to Gerber Road) – Widening this segment from two to four lanes will improve operations to LOS B.

This improvement was also recommended in the NVSSP DEIR for existing plus project conditions.

TC-4. Gerber Road (Elk Grove-Florin Road to Bradshaw Road) – Improving the roadway cross-section to include minimum 12-foot travel lanes and 6-foot shoulders will improve operations to LOS C.

The NVSSP DEIR recommended widening this segment from two to four lanes under existing plus project conditions.

STUDY INTERSECTIONS MITIGATION MEASURES

TC-5. SR 16/S. Watt Avenue – Widening the northbound and southbound approaches to include an additional through lane will improve operations to LOS D during the a.m. and p.m. peak hours. This improvement is consistent with the recommended widening of S. Watt Avenue to four lanes between Elder Creek Road and SR 16.

The NVSSP DEIR recommended modifying this intersection to include a separate left-turn lane, two through lanes, and a separate right-turn lane on all approaches under existing plus project conditions.

TC-6. SR 16/Bradshaw Road – Widening the eastbound approach to include dual left-turn lanes will improve operations to LOS E during the a.m. peak hour.

Evaluation of other Public Facility Financing Plans revealed that the Sunridge Public Facility Financing Plan includes improvements at the State Route 16 and Bradshaw Road intersection. The proposed improvements are expansion of the intersection to accommodate two left turn lanes, two through lanes and one right turn lane on all approaches. It is likely that right-of-way will need to be acquired to provide the proposed improvements. The improvement is included in Phase 1 on the Sunridge Public Facility Financing Plan, which would mean that the improvement would be constructed in the next 5 years. With those improvements, the intersection level of service would improve to LOS D in the a.m. peak hour and LOS C in the p.m. peak hour, with build out of Phase 1A of the North Vineyard Station Specific Plan.

The NVSSP DEIR recommended modifying this intersection to include dual left-turn lanes, two through lanes, and a separate right-turn lane on the northbound and southbound approaches and a separate left-turn lane, a through lane, and a separate right-turn lane on the eastbound and westbound approaches under existing plus project conditions.

TC-7. Elder Creek Road/S. Watt Avenue – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-turn lane will improve operations to LOS D during the p.m. peak hour.

The NVSSP DEIR recommended modifying this intersection to include a traffic signal and a left-turn lane, two through lanes, and a separate right-turn

lane on the northbound and southbound approaches and a left-turn lane and a shared through/right-turn lane on the eastbound and westbound approaches under existing plus project conditions.

RECOMMENDED IMPROVEMENTS

Based on discussions with Sacramento County Department of Public Works, the following improvements shall be implemented prior to the construction of Phase 1A:

Improve the existing two lane cross section of Gerber Road between Elk Grove-Florin Road and Bradshaw Road to include a minimum of 12-foot travel lanes and 6-foot shoulders; and

Install a traffic signal at the Elder Creek Road/S. Watt Avenue intersection and widen each approach to include an exclusive left-turn lane and a shared through/right-turn lane.

STAGE 1 OF PHASE 1A

Initial development (Stage 1) within Phase 1A of the NVSSP will include approximately 600 dwelling units. Additional analysis was conducted at the Elder Creek Road/S. Watt intersection, which operates at LOS E during the p.m. peak hour under Year 2002 no project conditions, to determine the number of dwelling units that could be constructed in Stage 1 of Phase 1A before the improvements at the intersection (outlined above) were necessary. About 150 units could be constructed in Stage 1 of Phase 1A before the LOS at the Elder Creek Road/S. Watt intersection operates worse than County standards.

YEAR 2005 CONDITIONS

Phase 1B of the NVSSP was analyzed under Year 2005 conditions to determine if development of the project, in addition to background growth, will adversely affect the planned roadway system in the Year 2005.

YEAR 2005 WITHOUT PHASE 1B CONDITIONS

The following discusses the roadway network and traffic operations under Year 2005 conditions without the implementation of the proposed project.

ROADWAY NETWORK

The following roadway improvement is planned to occur by the Year 2005:

- S. Watt Avenue will be widened to four lanes from Elder Creek Road to north of SR 16.

Plate TC -9 displays the planned number of lanes on each roadway segment under Year 2005 conditions. In addition, the recommended improvements under Year 2002 with Phase 1A conditions (i.e., improving Gerber Road from Elk Grove-Florin Road to Bradshaw Road and installing a traffic signal at the Elder Creek Road/S. Watt Avenue intersection) were assumed to be in place by Year 2005.

TRAFFIC VOLUMES

The 1999 version of the SACMET Regional Travel Demand Forecasting (TDF) model was used to develop Year 2005 daily and peak hour traffic volumes. The Year 2005 model was updated to include the planned roadway improvements listed above. Land uses within the project site remained at Year 2002 levels of development. Plate TC -10 and Plate TC -11 display the Year 2005 daily and a.m. and p.m. peak hour traffic volumes, respectively.

ROADWAY ANALYSIS

The daily volumes shown on Plate TC -10 were compared to the roadway capacity thresholds presented in Table 7-1. Table 7-9 summarizes the results of the arterial roadway analysis. The study roadways will operate acceptably in Year 2005 (without Phase 1B) except for the following:

- S. Watt Avenue (North of SR 16);
- S. Watt Avenue (Elder Creek Road to Florin Road); and
- Elk Grove-Florin Road (Florin Road to Gerber Road).

INTERSECTION ANALYSIS

The Year 2005 a.m. and p.m. peak hour intersection turning movements and lane configurations displayed in Plate TC -11 were used to calculate the levels of service at each study intersection. Table 7-10 summarizes the results of this analysis. Improvements were assumed at the following intersections, consistent with the widening of S. Watt Avenue from two to four lanes from Elder Creek Road to SR 16:

- SR 16/S. Watt Avenue; and
- Elder Creek Road/S. Watt Avenue.

As shown in Table 7-10, the following intersections will operate acceptably in 2005 (without Phase 1B) except for the following:

SR 16/Bradshaw Road operates at LOS F during the a.m. peak hour;

- Florin Road/Excelsior Road operates at LOS F during the a.m. peak hour; and
- Gerber Road/Excelsior Road operates at LOS F during the a.m. peak hour.

Year 2005 With Phase 1B Conditions

Traffic operations of the study roadways and intersections were analyzed under Year 2005 conditions with the addition of trips generated by Phase 1B of the NVSSP.

ROADWAY NETWORK

The Year 2005 roadway network with Phase 1B includes the additional north-south roadways that provide alternative routes within the project vicinity. Plate TC -12 displays Phase 1B, which assumes the development of Phase 1A, of the NVSSP and shows the location of the proposed roadways serving the project site.

Plate TC -9
Year 2005 Roadway System

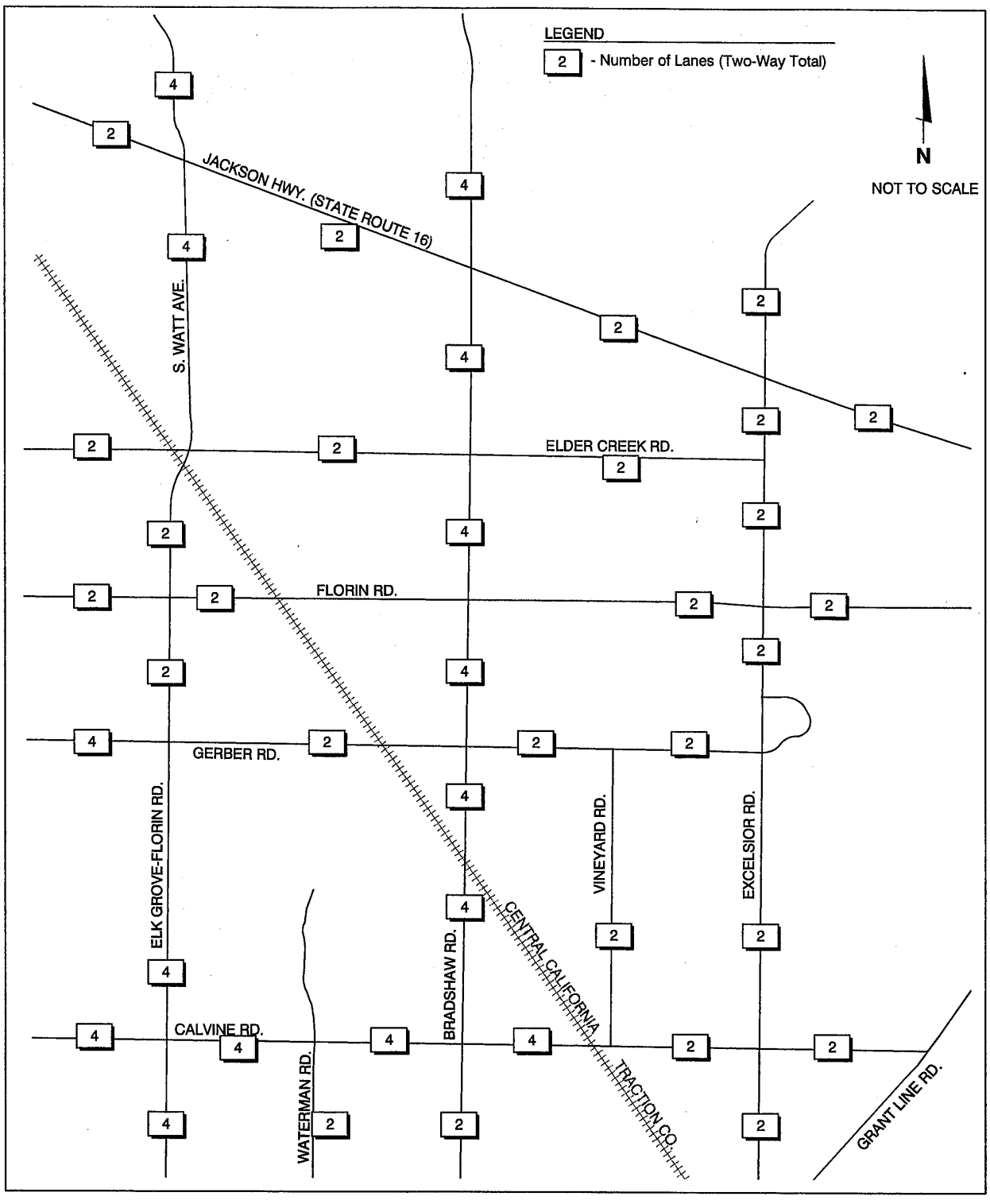


Plate TC -10
Average Daily Traffic Volumes
Year 2005 Without Phase 1B

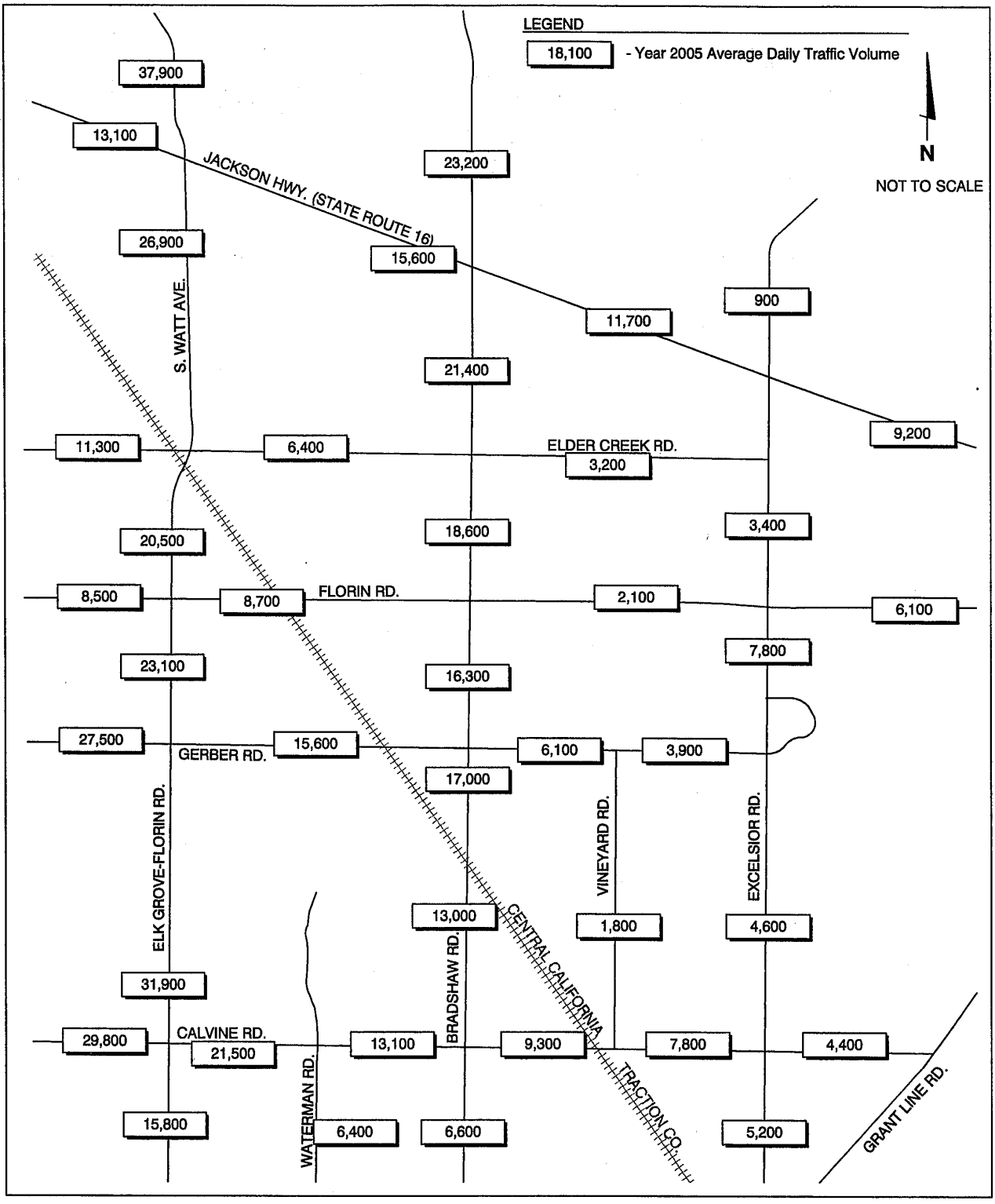


Plate TC -11
Peak Hour Traffic Volumes and Lane Configurations
Year 2005 Without Phase 1B

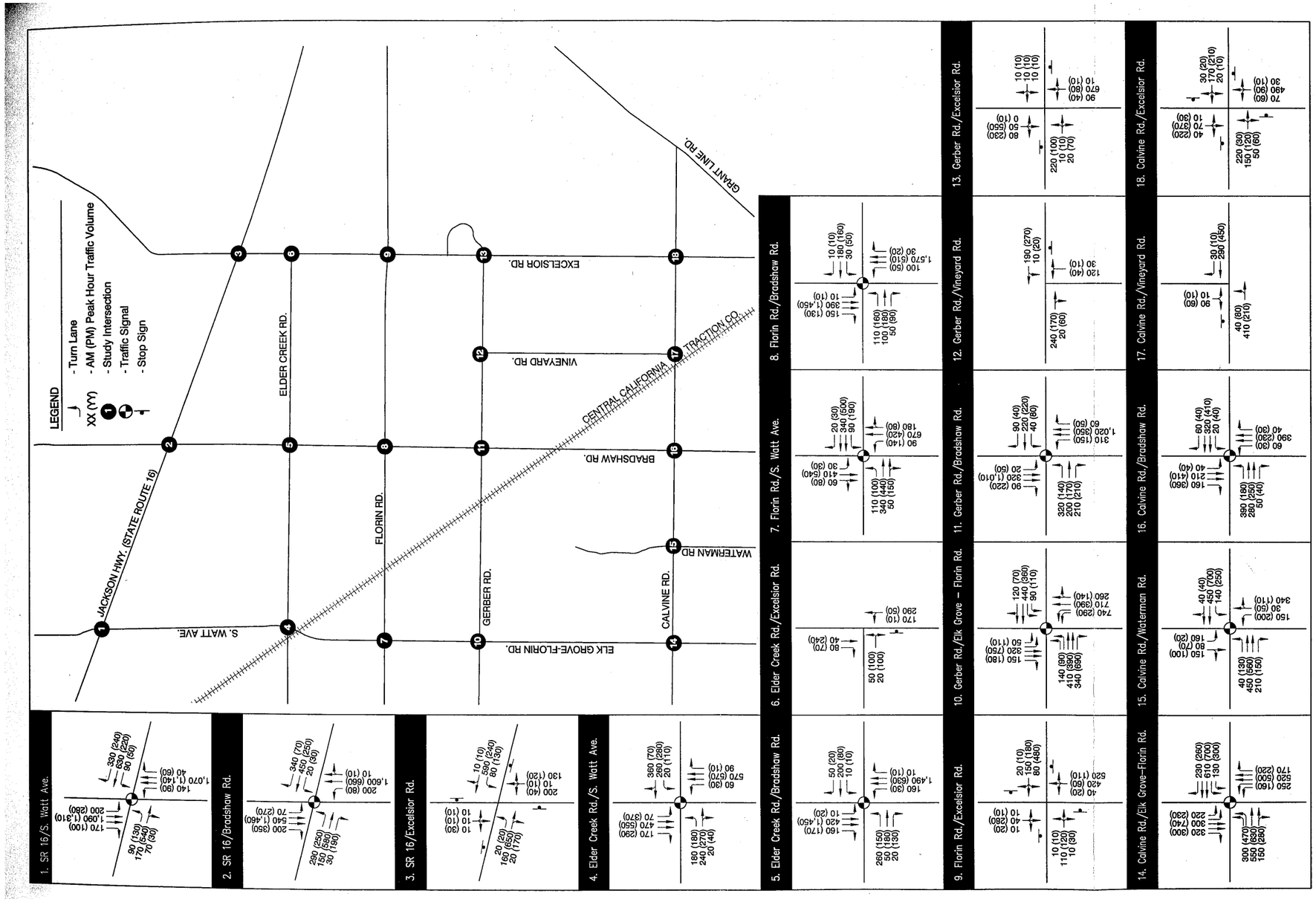


Table 7-9
Roadway Analysis – Year 2005 Conditions Without Phase 1B

Roadway Segment	Year 2005 Conditions		
	Lanes	Volume	LOS
SR 16 – West of S. Watt Ave.	2	13,100	D
SR 16 – S. Watt Ave. to Bradshaw Rd.	2	15,600	E
SR 16 – Bradshaw Rd. to Excelsior Rd.	2	11,700	D
SR 16 – East of Excelsior Rd.	2	9,200	D
Elder Creek Rd. – West of S. Watt Ave.	2	11,300	B
Elder Creek Rd. – S. Watt Ave. to Bradshaw Rd.	2	6,400	A
Elder Creek Rd. – Bradshaw Rd. to Excelsior Rd.	2	3,200	A
Florin Rd. – West of S. Watt Ave.	2	8,500	A
Florin Rd. – S. Watt Ave. to Bradshaw Rd.	2	8,700	A
Florin Rd. – Bradshaw Rd. to Excelsior Rd.	2	2,100	A
Florin Rd. – East of Excelsior Rd.	2	6,100	A
Gerber Rd. – West of Elk Grove-Florin Rd.	4	27,500	C
Gerber Rd. – Elk Grove-Florin Rd. to Bradshaw Rd.	2	15,600	D
Gerber Rd. – Bradshaw Rd. to Vineyard Road	2	6,100	D
Gerber Rd. – Vineyard Rd. to Excelsior Rd.	2	3,900	C
Calvine Rd. – West of Elk Grove-Florin Rd.	4	29,800	D
Calvine Rd. – Elk Grove-Florin Rd. to Waterman Rd.	4	21,500	A
Calvine Rd. – Waterman Rd. to Bradshaw Rd.	4	13,100	A
Calvine Rd. – Bradshaw Rd. to Vineyard Rd.	4	9,300	A
Calvine Rd. – Vineyard Rd. to Excelsior Rd.	2	7,800	A
Calvine Rd. – Excelsior Rd. to Grant Line Rd.	2	4,400	A
S. Watt Avenue – North of SR 16	4	37,900	F
S. Watt Avenue – SR 16 to Elder Creek Rd.	4	26,900	C
S. Watt Avenue – Elder Creek Rd. to Florin Rd.	2	20,500	F
Elk Grove-Florin Rd. – Florin Rd. to Gerber Rd.	2	23,100	F
Elk Grove-Florin Rd. – Gerber Rd. to Calvine Rd.	4	31,900	D
Elk Grove-Florin Rd. – South of Calvine Rd.	4	15,800	A
Waterman Rd. – South of Calvine Rd.	2	6,400	A
Bradshaw Rd. – North of SR 16	4	23,200	B
Bradshaw Rd. – SR 16 to Elder Creek Rd.	4	21,400	B
Bradshaw Rd. – Elder Creek Rd. to Florin Rd.	4	18,600	A
Bradshaw Rd. – Florin Rd. to Gerber Rd.	4	16,300	A
Bradshaw Rd. – Gerber Rd. to Calvine Rd.	4	17,000	A
Bradshaw Rd. – South of Calvine Rd.	2	6,600	A
Vineyard Rd. – Gerber Rd. to Calvine Rd.	2	1,800	A
Excelsior Rd. – North of SR 16	2	900	A
Excelsior Rd. – Elder Creek Rd. to Florin Rd.	2	3,400	C
Excelsior Rd. – Florin Rd. to Gerber Rd.	2	7,800	E
Excelsior Rd. – Gerber Rd. to Calvine Rd.	2	4,600	D
Excelsior Rd. – South of Calvine Rd.	2	5,200	D

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
Source: Sacramento County Traffic Impact Guidelines (July 24, 1997) and Fehr & Peers Associates, 2002.

Table 7-10
Peak Hour Intersection Operations – Year 2005 Conditions Without Phase 1B

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay / V/C	LOS	Delay / V/C	LOS
1. SR 16/S. Watt Ave.	Signal[1]	1.0	E	0.98	E
2. SR 16/Bradshaw Rd.	Signal	**1.08**	F	0.95	E
3. SR 16/Excelsior Rd.	4-Way Stop[2]	28.2	D	15.9	C
4. Elder Creek Rd./S. Watt Ave.	Signal	0.77	C	0.79	C
5. Elder Creek Rd./Bradshaw Rd.	Signal	0.81	D	0.66	B
6. Elder Creek Rd./Excelsior Rd.	2-Way Stop[3]	1.7	A	2.1	A
7. Florin Rd./Elk Grove-Florin Rd.	Signal	0.49	A	0.62	B
8. Florin Rd./Bradshaw Rd.	Signal	0.72	C	0.73	C
9. Florin Rd./Excelsior Rd.	4-Way Stop	**> 45.0**	F	23.5	D
10. Gerber Rd./Elk Grove-Florin Rd.	Signal	0.62	B	0.75	C
11. Gerber Rd./Bradshaw Rd.	Signal	0.71	C	0.68	B
12. Gerber Rd./Vineyard Rd.	2-Way Stop	1.8	A	0.7	A
13. Gerber Rd./Excelsior Rd.	2-Way Stop	**> 45.0**	F	9.9	B
14. Calvine Rd./Elk Grove-Florin Rd.	Signal	0.57	A	0.72	C
15. Calvine Rd./Waterman Rd.	Signal	0.60	A	0.60	A
16. Calvine Rd./Bradshaw Rd.	Signal	0.52	A	0.41	A
17. Calvine Rd./Vineyard Rd.	2-Way Stop	0.7	A	0.9	A
18. Calvine Rd./Excelsior Rd.	4-Way Stop	31.8	E	24.8	D

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.

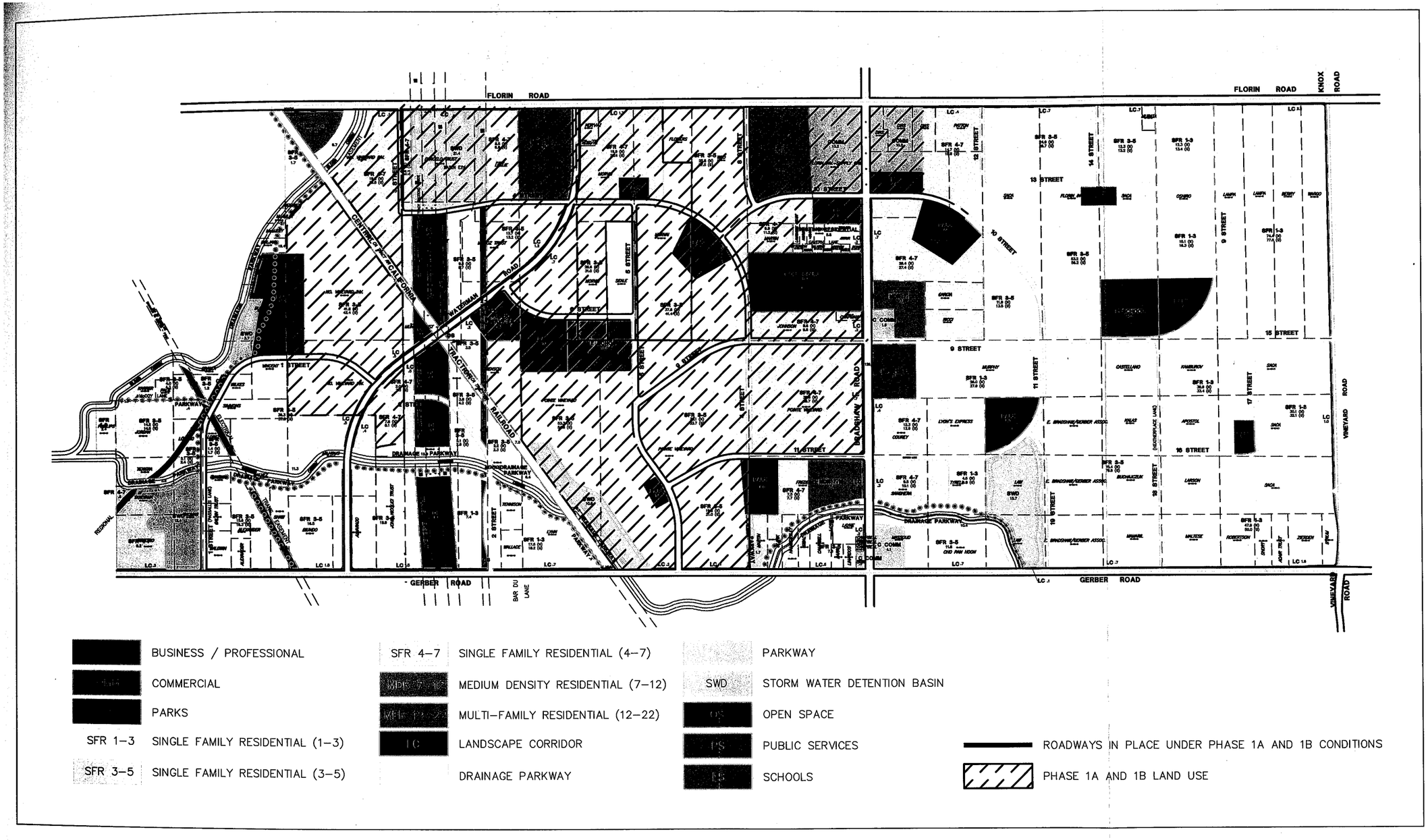
[1] Signal Control- Circular 212 Planning Methodology- Results present volume/capacity ratio and LOS.

[2] 4-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

[3] 2-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

Source: Fehr & Peers Associates, 2002.

Plate TC -12
North Station Land Use Diagram – Phase 1B



LAND USE

As shown in Plate TC -12, Phase 1B (which includes the development of Phase 1A) consists of the following land uses:

- 2,500 residential dwelling units;
- 23.3 acres of commercial;
- 7.1 acres of business/professional;
- 10 acres of schools; and
- 38.3 acres of parks.

The above land uses were added to the 2005 SACMET Regional TDF model based on the number of households and total retail and non-retail employment. The Sacramento Area Council of Governments' (SACOG) employment yield matrix was used to estimate the employment projections for development of Phase 1B.

TRAFFIC VOLUMES

Year 2005 traffic forecasts with Phase 1B were developed by adding the proposed project land uses and circulation system to the 2005 SACMET Regional TDF model. The TDF model was used to generate daily and peak hour traffic volumes for development of Phase 1B. This methodology accounts for 2005 development levels of local and regional land uses outside of the project site. In addition, this methodology accounts for changes in travel patterns with the additional roadways included in the NVSSP. Plate TC -13 and Plate TC -14 display the daily and peak hour traffic volumes, respectively, for Year 2005 conditions with Phase 1B.
Roadway Analysis

The daily traffic volumes displayed in Plate TC -13 were compared to the roadway capacity thresholds presented in Table 7-1 to determine if the addition of Phase 1B trips will cause roadway deficiencies. Table 7-11 summarizes the results of the arterial roadway analysis. As shown, S. Watt Avenue north of SR 16 and between Elder Creek Road and Florin Road and Elk Grove-Florin Road between Florin Road and Gerber Road will continue to operate at LOS F with the addition of project trips. However, the V/C ratio will not increase by 0.05 or more on these roadway segments. Therefore, the addition of Phase 1B trips will not cause a project deficiency.

Plate TC -13
Average Daily Traffic Traffic Volumes
Year 2005 With Phase 1B

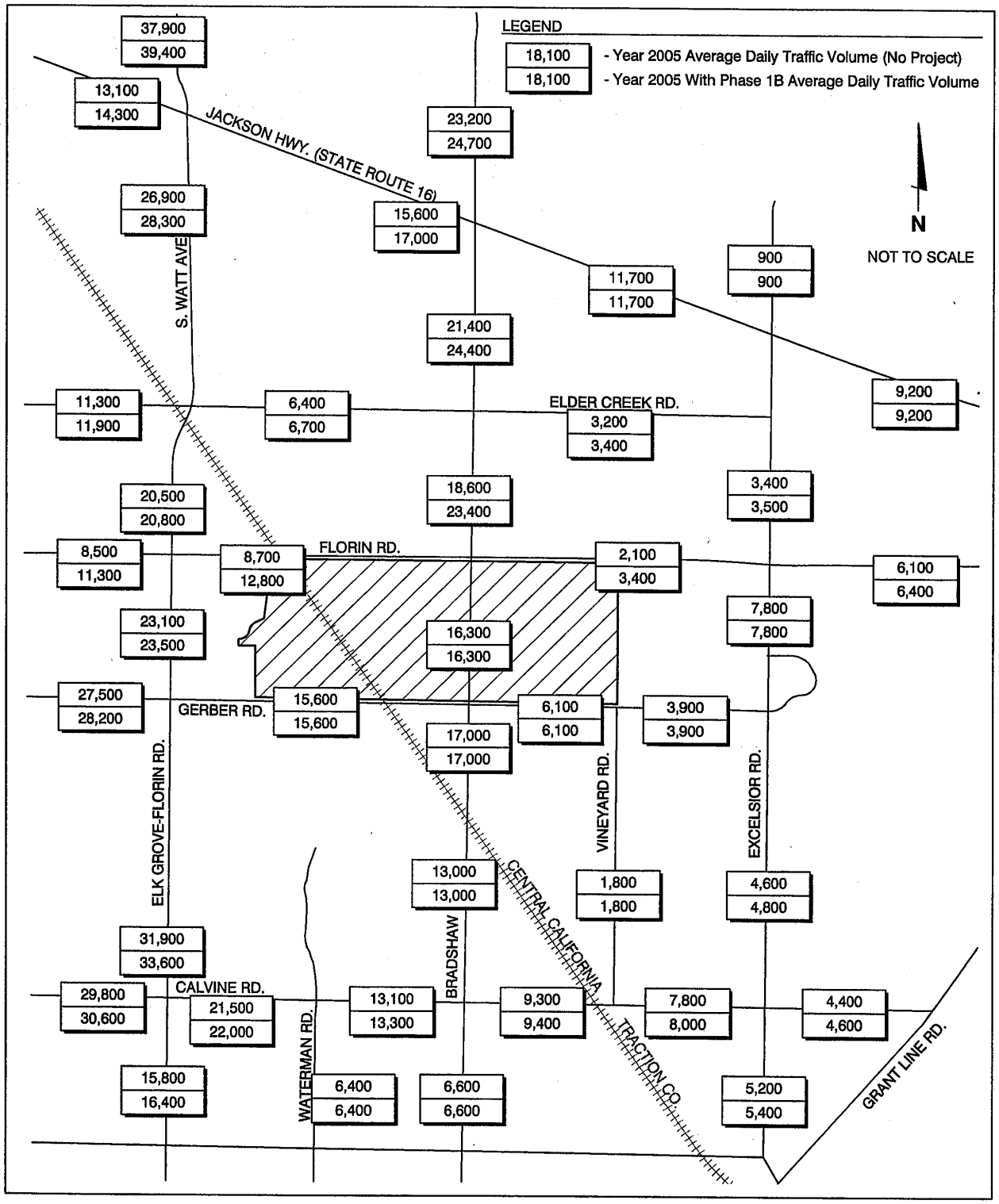


Plate TC -14
Peak Hour Traffic Volumes and Land Configurations
Year 2005 With Phase 1B

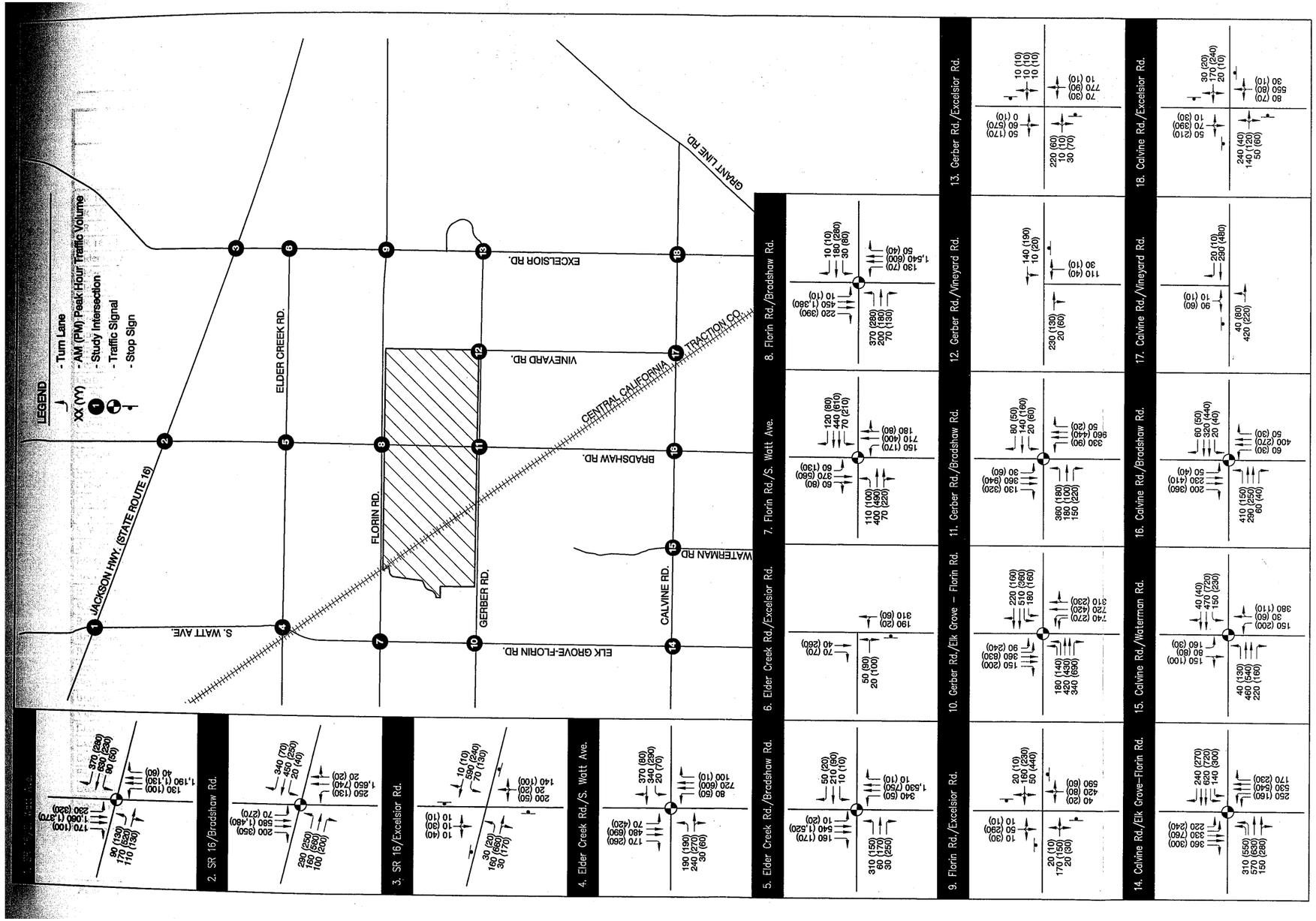


Table 7-11
Roadway Analysis – Year 2005 with Phase 1B

Roadway Segment	Year 2005 Conditions Without Phase 1B			Year 2005 Conditions With Phase 1B		
	Lanes	Volume	LOS	Lanes	Volume	LOS
SR 16 – West of S. Watt Ave.	2	13,100	D	2	14,300	E
SR 16 – S. Watt Ave. to Bradshaw Rd.	2	15,600	E	2	17,000	E
SR 16 – Bradshaw Rd. to Excelsior Rd.	2	11,700	D	2	11,700	D
SR 16 – East of Excelsior Rd.	2	9,200	D	2	9,200	D
Elder Creek Rd. – West of S. Watt Ave.	2	11,300	B	2	11,900	B
Elder Creek Rd. – S. Watt Ave. to Bradshaw Rd.	2	6,400	A	2	6,700	A
Elder Creek Rd. – Bradshaw Rd. to Excelsior Rd.	2	3,200	A	2	3,400	A
Florin Rd. – West of S. Watt Ave.	2	8,500	A	2	11,300	B
Florin Rd. – S. Watt Ave. to Bradshaw Rd.	2	8,700	A	2	12,800	C
Florin Rd. – Bradshaw Rd. to Excelsior Rd.	2	2,100	A	2	3,400	A
Florin Rd. – East of Excelsior Rd.	2	6,100	A	2	6,400	A
Gerber Rd. – West of Elk Grove-Florin Rd.	4	27,500	C	4	28,200	C
Gerber Rd. – Elk Grove-Florin Rd. to Bradshaw Rd.	2	15,600	D	2	15,600	D
Gerber Rd. – Bradshaw Rd. to Vineyard Rd.	2	6,100	D	2	6,100	D
Gerber Rd. – Vineyard Rd. to Excelsior Rd.	2	3,900	C	2	3,900	C
Calvine Rd. – West of Elk Grove-Florin Rd.	4	29,800	D	4	30,600	D
Calvine Rd. – Elk Grove-Florin Rd. to Waterman Rd.	4	21,500	A	4	22,000	B
Calvine Rd. – Waterman Rd. to Bradshaw Rd.	4	13,100	A	4	13,300	A
Calvine Rd. – Bradshaw Rd. to Vineyard Rd.	4	9,300	A	4	9,400	A
Calvine Rd. – Vineyard Rd. to Excelsior Rd.	2	7,800	A	2	8,000	A
Calvine Rd. – Excelsior Rd. to Grant Line Rd.	2	4,400	A	2	4,600	A
S. Watt Avenue – North of SR 16	4	37,900	F	4	39,400	F
S. Watt Avenue – SR 16 to Elder Creek Rd.	4	26,900	C	4	28,300	C
S. Watt Avenue – Elder Creek Rd. to Florin Rd.	2	20,500	F	2	20,800	F
Elk Grove-Florin Rd. – Florin Rd. to Gerber Rd.	2	23,100	F	2	23,500	F
Elk Grove-Florin Rd. – Gerber Rd. to Calvine Rd.	4	31,900	D	4	33,600	E
Elk Grove-Florin Rd. – South of Calvine Rd.	4	15,800	A	4	16,400	A
Waterman Rd. – South of Calvine Rd.	2	6,400	A	2	6,400	A
Bradshaw Rd. – North of SR 16	4	23,200	B	4	24,700	B
Bradshaw Rd. – SR 16 to Elder Creek Rd.	4	21,400	B	4	24,400	C
Bradshaw Rd. – Elder Creek Rd. to Florin Rd.	4	18,600	A	4	23,400	B
Bradshaw Rd. – Florin Rd. to Gerber Rd.	4	16,300	A	4	16,300	A
Bradshaw Rd. – Gerber Rd. to Calvine Rd.	4	17,000	A	4	17,000	A
Bradshaw Rd. – South of Calvine Rd.	2	6,600	A	2	6,600	A
Vineyard Rd. – Gerber Rd. to Calvine Rd.	2	1,800	A	2	1,800	A
Excelsior Rd. – North of SR 16	2	900	A	2	900	A
Excelsior Rd. – Elder Creek Rd. to Florin Rd.	2	3,400	C	2	3,500	C
Excelsior Rd. – Florin Rd. to Gerber Rd.	2	7,800	E	2	7,800	E
Excelsior Rd. – Gerber Rd. to Calvine Rd.	2	4,600	D	2	4,800	D
Excelsior Rd. – South of Calvine Rd.	2	5,200	D	2	5,400	D

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
Source: Sacramento County Traffic Impact Guidelines (July 24, 1997) and Fehr & Peers Associates, 2002.

INTERSECTION ANALYSIS

The a.m. and p.m. peak hour intersection turning movements and lane configurations shown on Plate TC -14 were used to calculate the levels of service at each study intersection for Year 2005 conditions with Phase 1B. The level of service at each study intersection is presented in Table 7-12.

Table 7-12
Peak Hour Intersection Operations – Year 2005 with Phase 1B

Intersection	Control	Year 2005 Without Phase 1B				Year 2005 With Phase 1B			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay / V/C	LOS	Delay / V/C	LOS	Delay / V/C	LOS	Delay / V/C	LOS
1. SR 16/S. Watt Ave.	Signal[1]	1.00	E	0.98	E	**1.03**	F	**1.06**	F
2. SR 16/Bradshaw Rd.	Signal	**1.08**	F	0.95	E	**1.10**	F	0.98	E
3. SR 16/Excelsior Rd.	4-Way Stop[2]	28.2	D	15.9	C	29.1	D	19.2	C
4. Elder Creek Rd./S. Watt Ave.	Signal	0.77	C	0.79	C	0.89	D	0.85	D
5. Elder Creek Rd./Bradshaw Rd.	Signal	0.81	D	0.66	B	0.86	D	0.70	B
6. Elder Creek Rd./Excelsior Rd.	2-Way Stop[3]	1.7	A	2.1	A	1.7	A	2.0	A
7. Florin Rd./Elk Grove-Florin Rd.	Signal	0.49	A	0.62	B	0.56	A	0.70	B
8. Florin Rd./Bradshaw Rd.	Signal	0.72	C	0.73	C	0.89	D	0.88	D
9. Florin Rd./Excelsior Rd.	4-Way Stop	**> 45.0**	F	23.5	D	**> 45.0**	F	29.8	D
10. Gerber Rd./Elk Grove-Florin Rd.	Signal	0.62	B	0.75	C	0.70	B	0.80	C
11. Gerber Rd./Bradshaw Rd.	Signal	0.71	C	0.68	B	0.67	B	0.60	B
12. Gerber Rd./Vineyard Rd.	2-Way Stop	1.8	A	0.7	A	1.7	A	0.8	A
13. Gerber Rd./Excelsior Rd.	2-Way Stop	**> 45.0**	F	9.9	B	**> 45.0**	F	8.8	B
14. Calvine Rd./Elk Grove-Florin Rd.	Signal	0.57	A	0.72	C	0.64	B	0.78	C
15. Calvine Rd./Waterman Rd.	Signal	0.60	A	0.60	A	0.63	B	0.59	A
16. Calvine Rd./Bradshaw Rd.[4]	Signal	0.52	A	0.41	A	0.55	A	0.40	A
17. Calvine Rd./Vineyard Rd.	2-Way Stop	0.7	A	0.9	A	0.7	A	0.9	A
18. Calvine Rd./Excelsior Rd.	4-Way Stop	31.8	E	24.8	D	41.9	E	33.9	E

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
[1] Signal Control- Circular 212 Planning Methodology- Results present volume/capacity ratio and LOS.
[2] 4-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

[3] 2-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

[4] Assumed signal control, consistent with widening of Bradshaw Road (two to four lanes - Calvine Road to SR 16).

Source: Fehr & Peers Associates, 2002.

The addition of Phase 1B trips will cause deficiencies at the following intersections:

- SR 16/S. Watt Avenue – The addition of project trips will degrade intersection operations from LOS E to LOS F during the p.m. peak hour;
- Florin Road/Excelsior Road – The addition of project trips will increase the delay by five seconds during the a.m. peak hour; and

- Gerber Road/Excelsior Road – The addition of project trips will increase the delay by more than five seconds during the a.m. peak hour.

PROJECT IMPACTS

Based on the roadway and intersection analysis, the addition of Phase 1B trips will cause or contribute to deficiencies at the following study locations under Year 2005 conditions. These impacts are considered significant.

STUDY ROADWAYS

- None.

STUDY INTERSECTIONS

- SR 16/S. Watt Avenue;
- Florin Road/Excelsior Road; and
- Gerber Road/Excelsior Road.

MITIGATION MEASURES FOR PHASE 1B IN 2005

The following improvements will eliminate deficiencies caused by Phase 1B in Year 2005, and reduce impacts to less-than-significant.

STUDY INTERSECTIONS MITIGATION MEASURES

TC-8. SR 16/S. Watt Avenue – Widening the eastbound and westbound approaches to include an exclusive left-turn lane, a through lane, and a shared through/right-turn lane will improve operations to LOS E and D during the a.m. and p.m. peak hours, respectively.

Subsequent to the publishing of the traffic analysis, the County of Sacramento moved forward a project to widen South Watt Avenue from State Route 16 to Kiefer Boulevard to five lanes. The project includes the State Route 16 and South Watt Avenue intersection. The intersection improvement includes an additional left turn lane and through lane on the southbound approach and one new left turn lane and two new through lanes on the northbound approach. The improvement is planned to be completed by 2006. With those improvements and Mitigation Measure TC-8, an additional through lane on the eastbound and westbound approaches, the intersection level of service3 would improve to LOS C in both the a.m. and p.m. peak hours, with build out of Phase 1A and 1B of the North Vineyard Station Specific Plan.

TC-9. Florin Road/Excelsior Road – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-

turn lane will improve operations to LOS C and B during the a.m. and p.m. peak hours, respectively.

TC-10. Gerber Road/Excelsior Road – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-turn lane will improve operations to LOS B and A during the a.m. and p.m. peak hours, respectively.

YEAR 2010 CONDITIONS

Year 2010 levels of development within the NVVSP were analyzed under Year 2010 conditions to determine if development of the project, in addition to background growth, will adversely affect the planned roadway system in the Year 2010.

YEAR 2010 WITHOUT PROJECT CONDITIONS

The following discusses the roadway network and traffic operations under Year 2010 conditions without the implementation of the proposed project.

ROADWAY NETWORK

The following roadway improvements are planned to occur by the Year 2010:

- S. Watt Avenue/Elk Grove-Florin Road will be widened to four lanes from Gerber Road to Elder Creek Road;
- SR 16 will be widened to four lanes from S. Watt Avenue to Excelsior Road; and
- Excelsior Road will be extended through the Independence at Mather development to Douglas Road.

In addition, the roadway improvements recommended under Year 2002 with Phase 1A and Year 2005 with Phase 1B conditions were assumed in place in Year 2010. Plate TC -15 displays the planned number of lanes on each roadway segment in Year 2010.

TRAFFIC VOLUMES

The 1999 version of the SACMET Regional TDF model was used to develop Year 2010 daily traffic volumes. Since the SACMET model does not have a Year 2010 scenario, the Year 2005 and 2015 traffic models were used to develop Year 2010 traffic forecasts. The Year 2005 and 2015 TDF models were updated to include the planned roadway improvements and land uses within the project site remained at Year 2002 levels of development. Plate TC -16 displays the Year 2010 average daily traffic volumes within the study area.

Plate TC -15
Year 2010 Roadway System

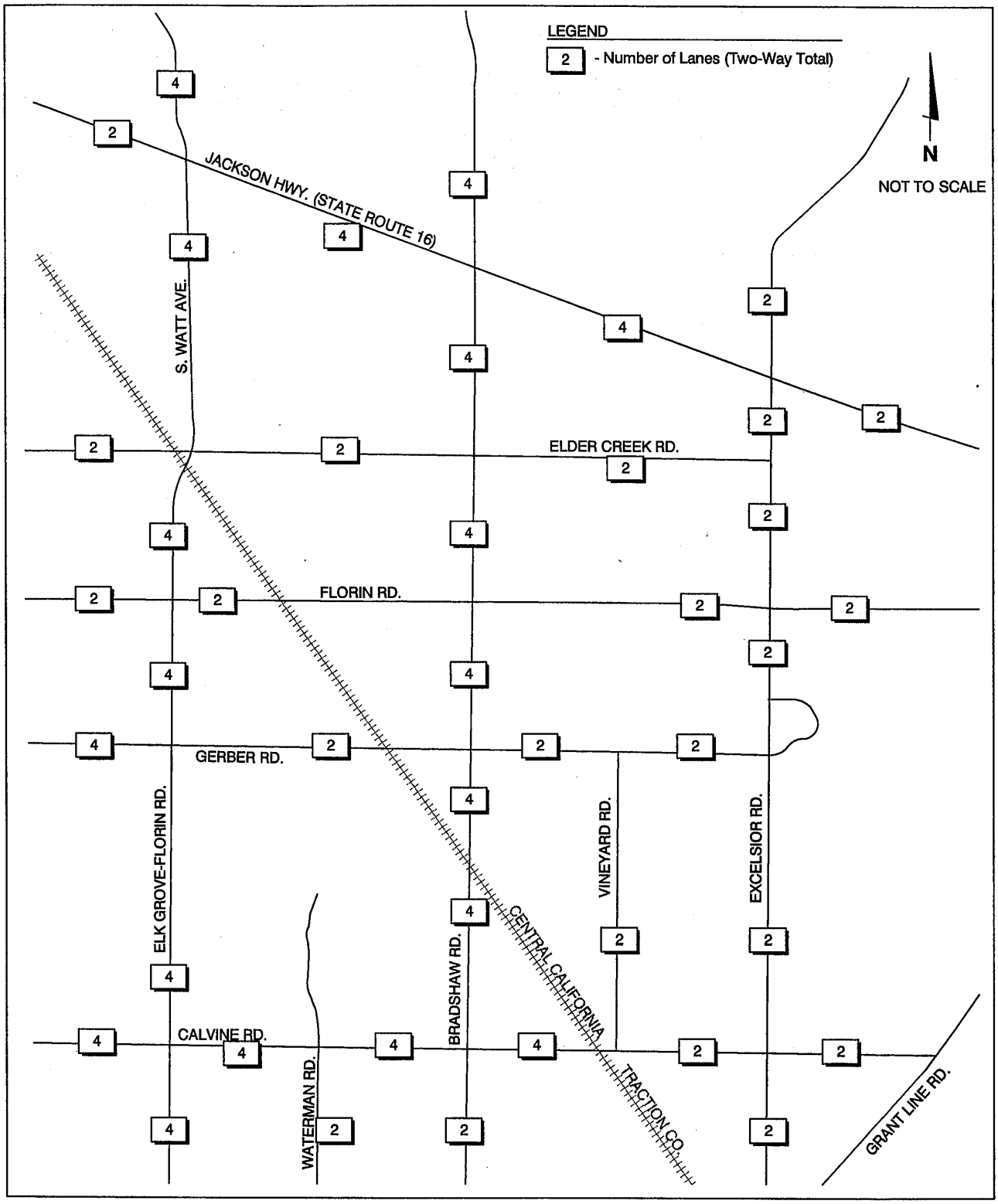
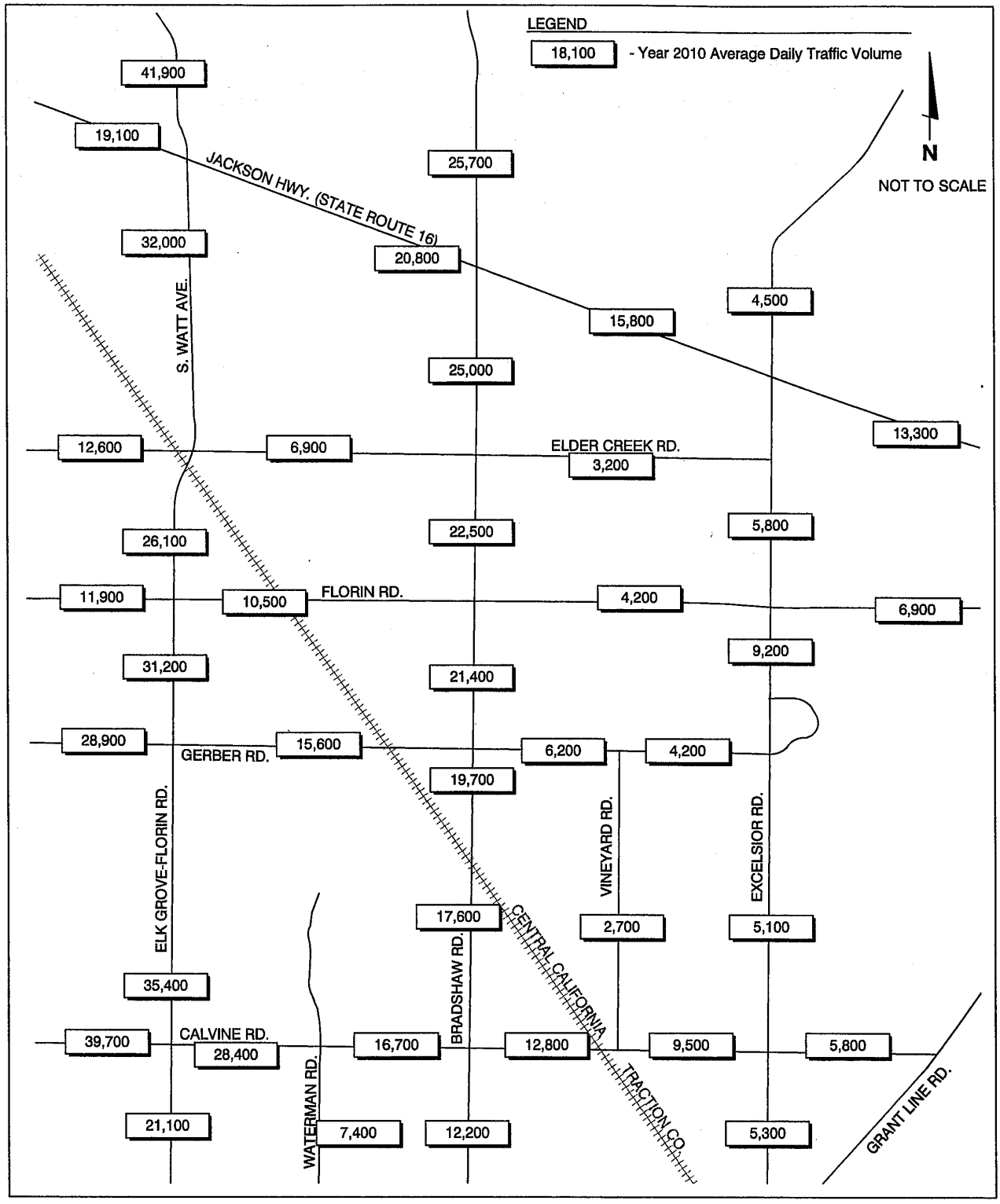


Plate TC -16
Average Daily Traffic Volumes
Year 2010 Without NVSSP Development



ROADWAY ANALYSIS

The daily volumes shown on Plate TC -16 were compared to the roadway capacity thresholds presented in Table 7-1. Table 7-13 summarizes the results of the arterial roadway analysis. The study roadways will operate acceptably in Year 2010 (without NVSSP development) except for the following:

- Calvine Road (West of Elk Grove-Florin Road); and
- S. Watt Avenue (North of SR 16).

Year 2010 With NVSSP Development Conditions

Traffic operations of the study roadways were analyzed under Year 2010 conditions with the addition of trips generated by Year 2010 levels of development within the NVSSP.

LAND USE

Year 2010 levels of development within the NVSSP assume 50 percent development between Phase 1B (Year 2005) and buildout of the NVSSP (Year 2015) conditions. Consequently, Year 2010 levels of development within the NVSSP consists of the following land uses:

- 4,116 residential dwelling units;
- 26.6 acres of commercial;
- 7.1 acres of business/professional;
- 9.9 acre golf course;
- 15 acres of schools; and
- 50.9 acres of parks.

The above land uses were added to the 2005 and 2015 SACMET Regional TDF models based on the number of households and total retail and non-retail employment. The SACOG employment yield matrix was used to estimate the employment projections for Year 2010 levels of development within the NVSSP.

Table 7-13
Roadway Analysis – Year 2010 Conditions Without NVSSP Development

Roadway Segment	Year 2010 Conditions		
	Lanes	Volume	LOS
SR 16 – West of S. Watt Ave.	2	19,100	E
SR 16 – S. Watt Ave. to Bradshaw Rd.	4	20,800	A
SR 16 – Bradshaw Rd. to Excelsior Rd.	4	15,800	A
SR 16 – East of Excelsior Rd.	2	13,300	D
Elder Creek Rd. – West of S. Watt Ave.	2	12,600	B
Elder Creek Rd. – S. Watt Ave. to Bradshaw Rd.	2	6,900	A
Elder Creek Rd. – Bradshaw Rd. to Excelsior Rd.	2	3,200	A
Florin Rd. – West of S. Watt Ave.	2	11,900	B
Florin Rd. – S. Watt Ave. to Bradshaw Rd.	2	10,500	A
Florin Rd. – Bradshaw Rd. to Excelsior Rd.	2	4,200	A
Florin Rd. – East of Excelsior Rd.	2	6,900	A
Gerber Rd. – West of Elk Grove-Florin Rd.	4	28,900	D
Gerber Rd. – Elk Grove-Florin Rd. to Bradshaw Rd.	2	15,600	D
Gerber Rd. – Bradshaw Rd. to Vineyard Road	2	6,200	D
Gerber Rd. – Vineyard Rd. to Excelsior Rd.	2	4,200	C
Calvine Rd. – West of Elk Grove-Florin Rd.	4	39,700	F
Calvine Rd. – Elk Grove-Florin Rd. to Waterman Rd.	4	28,400	C
Calvine Rd. – Waterman Rd. to Bradshaw Rd.	4	16,700	A
Calvine Rd. – Bradshaw Rd. to Vineyard Rd.	4	12,800	A
Calvine Rd. – Vineyard Rd. to Excelsior Rd.	2	9,500	A
Calvine Rd. – Excelsior Rd. to Grant Line Rd.	2	5,800	A
S. Watt Avenue – North of SR 16	4	41,900	F
S. Watt Avenue – SR 16 to Elder Creek Rd.	4	32,000	D
S. Watt Avenue – Elder Creek Rd. to Florin Rd.	4	26,100	C
Elk Grove-Florin Rd. – Florin Rd. to Gerber Rd.	4	31,200	D
Elk Grove-Florin Rd. – Gerber Rd. to Calvine Rd.	4	35,400	E
Elk Grove-Florin Rd. – South of Calvine Rd.	4	21,100	A
Waterman Rd. – South of Calvine Rd.	2	7,400	A
Bradshaw Rd. – North of SR 16	4	25,700	C
Bradshaw Rd. – SR 16 to Elder Creek Rd.	4	25,000	B
Bradshaw Rd. – Elder Creek Rd. to Florin Rd.	4	22,500	B
Bradshaw Rd. – Florin Rd. to Gerber Rd.	4	21,400	A
Bradshaw Rd. – Gerber Rd. to Calvine Rd.	4	19,700	A
Bradshaw Rd. – South of Calvine Rd.	2	12,200	B
Vineyard Rd. – Gerber Rd. to Calvine Rd.	2	2,700	C
Excelsior Rd. – North of SR 16	2	4,500	D
Excelsior Rd. – Elder Creek Rd. to Florin Rd.	2	5,800	D
Excelsior Rd. – Florin Rd. to Gerber Rd.	2	9,200	E
Excelsior Rd. – Gerber Rd. to Calvine Rd.	2	5,100	D
Excelsior Rd. – South of Calvine Rd.	2	5,300	D

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
Source: Sacramento County Traffic Impact Guidelines (July 24, 1997) and Fehr & Peers Associates, 2002.

TRAFFIC VOLUMES

Year 2010 traffic forecasts with 2010 levels of development within the NVSSP were developed by adding the proposed project land uses and circulation system to the 2005 and 2015 SACMET Regional TDF models. The models were used to generate daily traffic volumes for Year 2005 and 2015 conditions with 2010 levels of development

within the NVSSP. Year 2010 traffic forecasts were derived from the incremental growth between Year 2005 and 2015. This methodology takes into account the buildout of local and regional land uses outside of the project site under Year 2010 conditions. In addition, this methodology accounts for changes in travel patterns with the planned 2005 and 2015 roadway systems and with the additional roadways included in the NVSSP. Plate TC -17 displays the daily traffic volumes for Year 2010 conditions with Year 2010 levels of development within the NVSSP.
~~Roadway Analysis~~

PROJECT IMPACTS

The daily volumes shown on Plate TC -17 were compared to the roadway capacity thresholds presented in Table 7-1. Table 7-14 summarizes the results of the arterial roadway analysis. The addition of project trips will result in a deficiency at the following study roadway segments. These impacts are considered significant.

- S. Watt Avenue (North of SR 16); and
- Elk Grove-Florin Road (Gerber Road to Calvine Road).

MITIGATION MEASURES FOR 2010 CONDITIONS (50% BUILDOUT)

The improvements discussed below will improve operations to an acceptable level in Year 2010~~"~~, and reduce impacts to less-than-significant.

TC-11. S. Watt Avenue (North of SR 16) – Widening this segment from four to six lanes will improve operations to LOS D.

This improvement is also recommended under Year 2015 conditions with buildout of the NVSSP.

TC-12. Elk Grove-Florin Road (Gerber Road to Calvine Road) – Widening this segment from four to six lanes will improve operations to LOS B.

Plate TC -17
Average Daily Traffic Volumes
Year 2010 With 2010 NVSSP Development

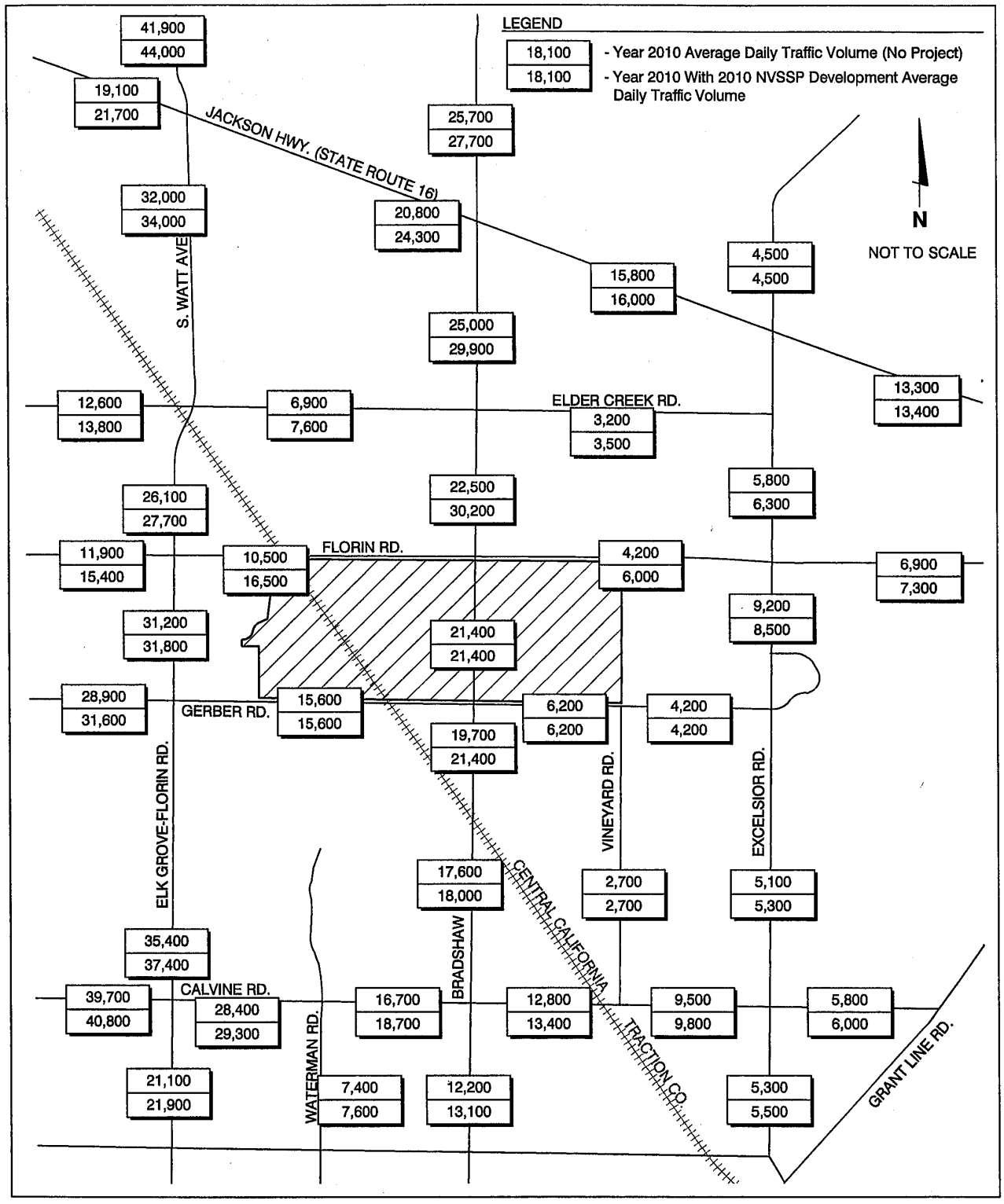


Table 7-14
Roadway Analysis – Year 2010 with 2010 Levels of NVSSP Development

Roadway Segment	Year 2010 Conditions Without Project			Year 2010 Conditions With Project		
	Lanes	Volume	LOS	Lanes	Volume	LOS
SR 16 – West of S. Watt Ave.	2	19,100	E	2	21,700	E
SR 16 – S. Watt Ave. to Bradshaw Rd.	4	20,800	A	4	24,300	B
SR 16 – Bradshaw Rd. to Excelsior Rd.	4	15,800	A	4	16,000	A
SR 16 – East of Excelsior Rd.	2	13,300	D	2	13,400	D
Elder Creek Rd. – West of S. Watt Ave.	2	12,600	B	2	13,800	C
Elder Creek Rd. – S. Watt Ave. to Bradshaw Rd.	2	6,900	A	2	7,600	A
Elder Creek Rd. – Bradshaw Rd. to Excelsior Rd.	2	3,200	A	2	3,500	A
Florin Rd. – West of S. Watt Ave.	2	11,900	B	2	15,400	D
Florin Rd. – S. Watt Ave. to Bradshaw Rd.	2	10,500	A	2	16,500	E
Florin Rd. – Bradshaw Rd. to Excelsior Rd.	2	4,200	A	2	6,000	A
Florin Rd. – East of Excelsior Rd.	2	6,900	A	2	7,300	A
Gerber Rd. – West of Elk Grove-Florin Rd.	4	28,900	D	4	31,600	D
Gerber Rd. – Elk Grove-Florin Rd. to Bradshaw Rd.	2	15,600	D	2	15,600	D
Gerber Rd. – Bradshaw Rd. to Vineyard Road	2	6,200	D	2	6,200	D
Gerber Rd. – Vineyard Rd. to Excelsior Rd.	2	4,200	C	2	4,200	C
Calvine Rd. – West of Elk Grove-Florin Rd.	4	39,700	F	4	40,800	F
Calvine Rd. – Elk Grove-Florin Rd. to Waterman Rd.	4	28,400	C	4	29,300	D
Calvine Rd. – Waterman Rd. to Bradshaw Rd.	4	16,700	A	4	18,700	A
Calvine Rd. – Bradshaw Rd. to Vineyard Rd.	4	12,800	A	4	13,400	A
Calvine Rd. – Vineyard Rd. to Excelsior Rd.	2	9,500	A	2	9,800	A
Calvine Rd. – Excelsior Rd. to Grant Line Rd.	2	5,800	A	2	6,000	A
S. Watt Avenue – North of SR 16	4	41,900	F	4	44,000	F
S. Watt Avenue – SR 16 to Elder Creek Rd.	4	32,000	D	4	34,000	E
S. Watt Avenue – Elder Creek Rd. to Florin Rd.	4	26,100	C	4	27,700	C
Elk Grove-Florin Rd. – Florin Rd. to Gerber Rd.	4	31,200	D	4	31,800	D
Elk Grove-Florin Rd. – Gerber Rd. to Calvine Rd.	4	35,400	E	4	37,400	F
Elk Grove-Florin Rd. – South of Calvine Rd.	4	21,100	A	4	21,900	B
Waterman Rd. – South of Calvine Rd.	2	7,400	A	2	7,600	A
Bradshaw Rd. – North of SR 16	4	25,700	C	4	27,700	C
Bradshaw Rd. – SR 16 to Elder Creek Rd.	4	25,000	B	4	29,900	D
Bradshaw Rd. – Elder Creek Rd. to Florin Rd.	4	22,500	B	4	30,200	D
Bradshaw Rd. – Florin Rd. to Gerber Rd.	4	21,400	A	4	21,400	A
Bradshaw Rd. – Gerber Rd. to Calvine Rd.	4	19,700	A	4	21,400	A
Bradshaw Rd. – South of Calvine Rd.	2	12,200	B	2	13,100	C
Vineyard Rd. – Gerber Rd. to Calvine Rd.	2	2,700	C	2	2,700	C
Excelsior Rd. – North of SR 16	2	4,500	D	2	4,500	D
Excelsior Rd. – Elder Creek Rd. to Florin Rd.	2	5,800	D	2	6,300	D
Excelsior Rd. – Florin Rd. to Gerber Rd.	2	9,200	E	2	8,500	E
Excelsior Rd. – Gerber Rd. to Calvine Rd.	2	5,100	D	2	5,300	D
Excelsior Rd. – South of Calvine Rd.	2	5,300	D	2	5,500	D

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
Source: Sacramento County Traffic Impact Guidelines (July 24, 1997) and Fehr & Peers Associates, 2002.

CUMULATIVE (YEAR 2015) CONDITIONS

Buildout of the NVSSP was analyzed under cumulative (Year 2015) conditions to determine if full implementation of the project, in addition to cumulative background growth, will adversely affect the planned roadway system in the Year 2015.

YEAR 2015 WITHOUT PROJECT CONDITIONS

The following discusses the roadway network and traffic operations under cumulative (Year 2015) conditions without the implementation of the proposed project.

ROADWAY NETWORK

The following roadway improvements are planned to occur by the Year 2015:

- SR 16 will be widened to four lanes west of S. Watt Avenue; and
- Calvine Road will be widened to six lanes from SR 99 to Bradshaw Road and to four lanes from Bradshaw Road to Vineyard Road.

In addition, the roadway improvements recommended under Year 2002 with Phase 1A and Year 2005 with Phase 1B conditions were assumed in place in Year 2015 (note that improvements recommended in Year 2010 were not assumed in place by 2015). Plate TC -18 displays the planned number of lanes on each roadway segment under cumulative conditions. In addition, the intersections at SR 16/Excelsior Road, Elder Creek Road/S. Watt Avenue, and Calvine Road/Vineyard Road are assumed to be signalized under cumulative conditions.

TRAFFIC VOLUMES

The 1999 version of the SACMET Regional Travel Demand Forecasting (TDF) model was used to develop cumulative daily and peak hour traffic volumes. The Year 2015 model was updated to include the planned roadway improvements listed above. Land uses within the project site remained at Year 2001 levels of development. Plate TC -19 and Plate TC -20 display the cumulative daily and a.m. and p.m. peak hour traffic volumes, respectively. Sacramento County Transportation Division staff approved the roadway network and land use assumptions prior to the development of Year 2015 “No Project” forecasts.

Plate TC -18
Year 2015 Roadway System

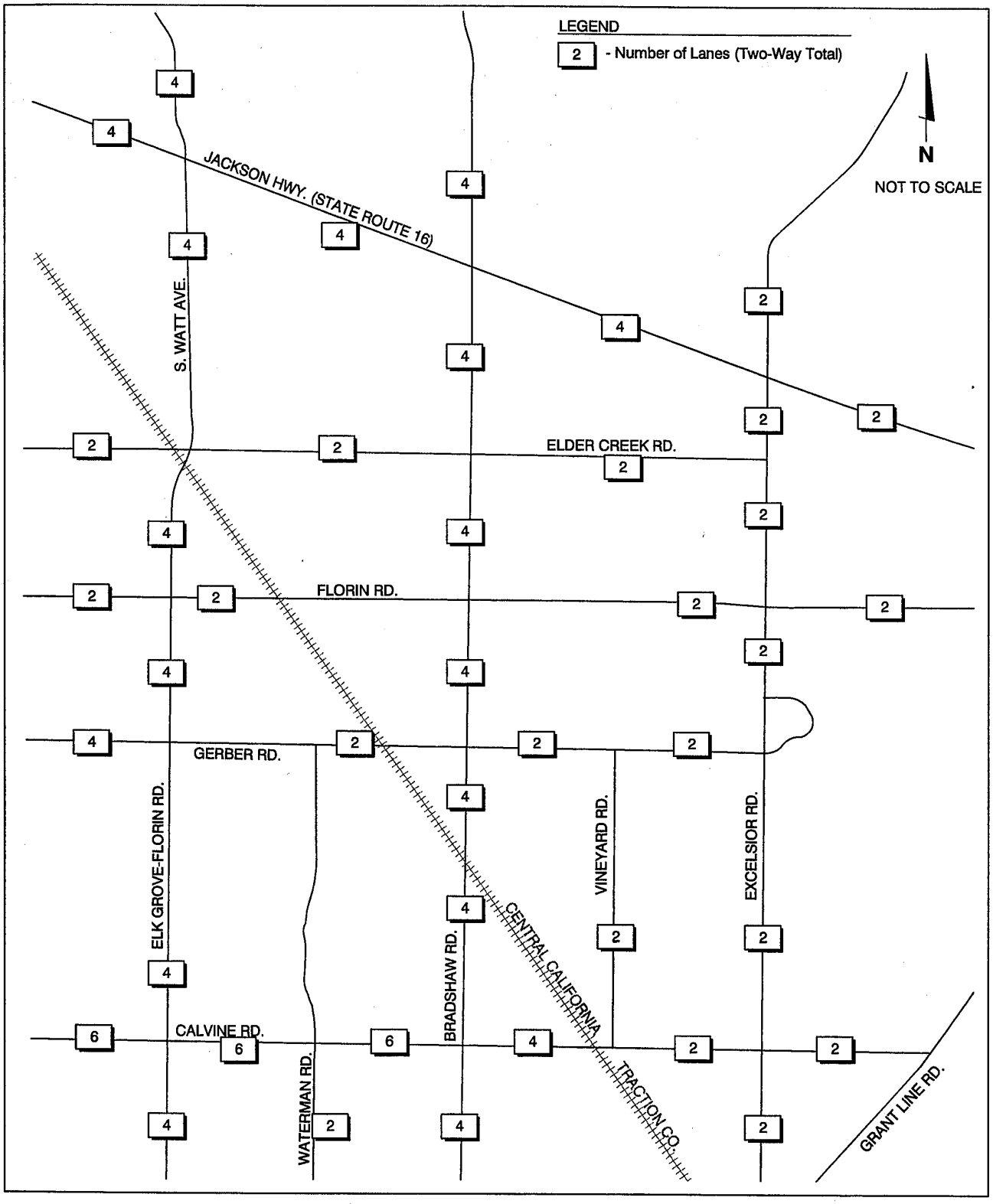


Plate TC -19
Average Daily Traffic Volumes
Year 2015 Without NVSSP

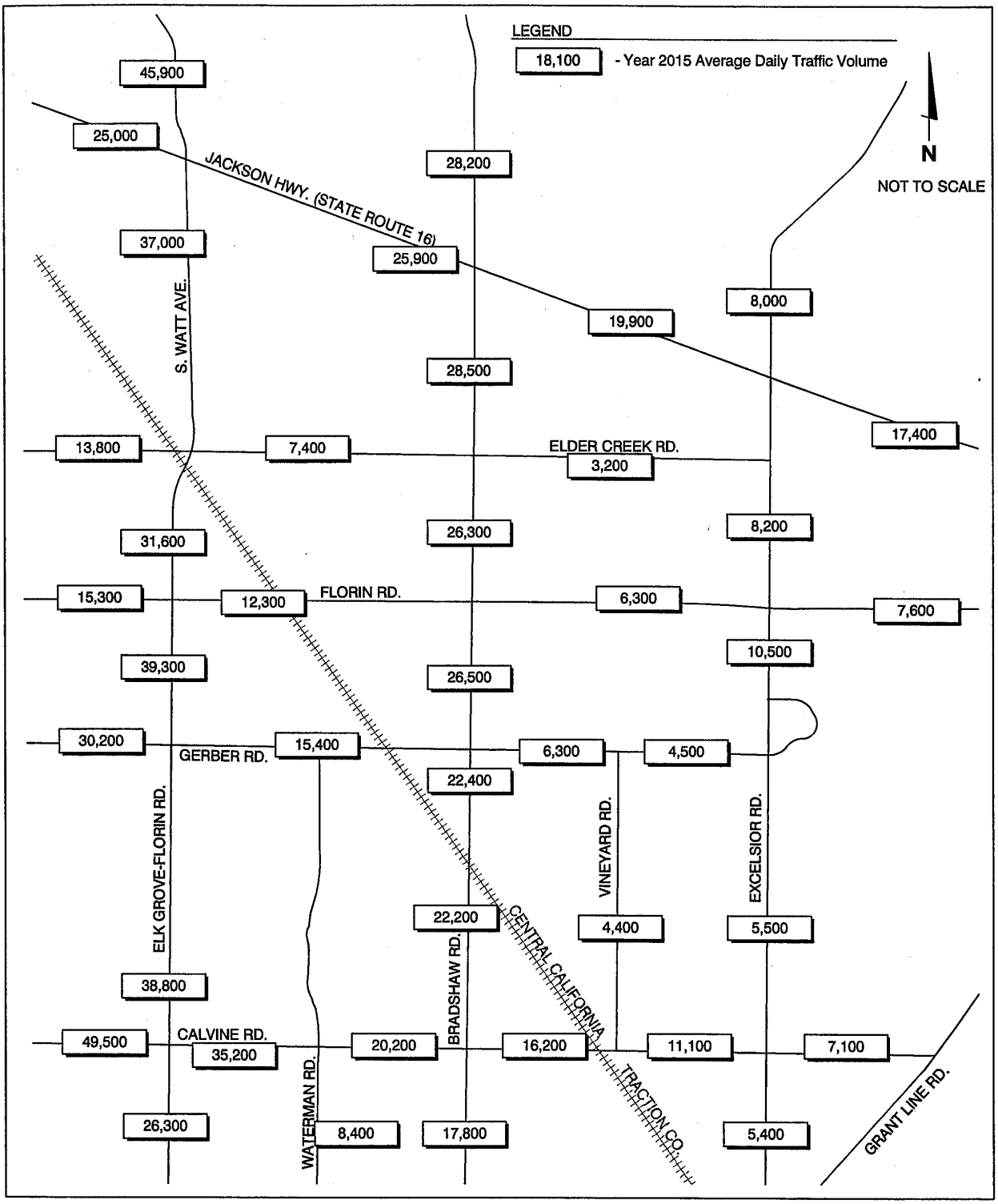
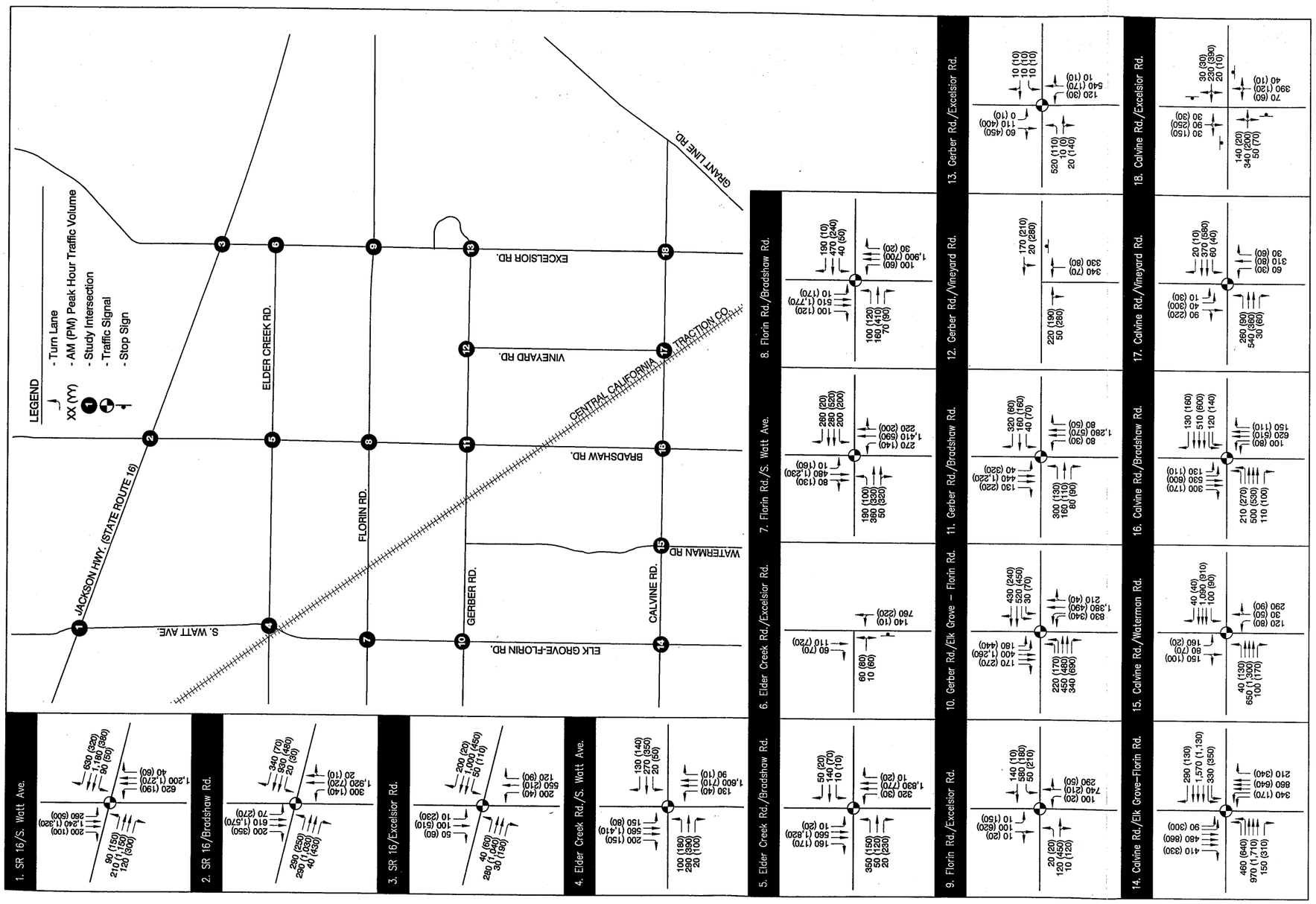


Plate TC -20
Peak Hour Traffic Volumes and Lane Configurations
Year 2015 Without NVSSP



ROADWAY ANALYSIS

The daily volumes shown on Plate TC -19 were compared to the roadway capacity thresholds presented in Table 7-1. Table 7-15 summarizes the results of the arterial roadway analysis. The study roadways will operate acceptably in Year 2015 (without NVSSP) except for the following:

- S. Watt Avenue (North of SR 16);
- S. Watt Avenue (SR 16 to Elder Creek Road);
- Elk Grove-Florin Road (Florin Road to Gerber Road); and
- Elk Grove-Florin Road (Gerber Road to Calvine Road).

INTERSECTION ANALYSIS

The Year 2015 a.m. and p.m. peak hour intersection turning movements and lane configurations displayed in Plate TC -20 were used to calculate the levels of service at each study intersection. Table 7-16 summarizes the results of this analysis. The study intersections will operate acceptably in 2015 (without NVSSP) except for the following:

- SR 16/S. Watt Avenue operates at LOS F during the a.m. and p.m. peak hours;
- SR 16/Bradshaw Road operates at LOS F during the a.m. peak hour;
- Florin Road/Bradshaw Road operates at LOS F during the a.m. peak hour; and
- Florin Road/Excelsior Road operates at LOS F during the a.m. peak hour.

Year 2015 With NVSSP Conditions

Traffic operations of the study roadways and intersections were analyzed under cumulative conditions with the addition of trips generated by buildout of the NVSSP.

ROADWAY NETWORK

The Year 2015 roadway network with buildout of the NVSSP includes the extension of Waterman Road and Vineyard Road from Gerber Road to Florin Road and additional north-south roadways that provide alternative routes within the project vicinity. Plate TC -21 displays buildout of the NVSSP and shows the location of the proposed roadways serving the project site.

Table 7-15
Roadway Analysis – Year 2015 Conditions Without Project

Roadway Segment	Year 2015 Conditions		
	Lanes	Volume	LOS
SR 16 – West of S. Watt Ave.	4	25,000	B
SR 16 – S. Watt Ave. to Bradshaw Rd.	4	25,900	C
SR 16 – Bradshaw Rd. to Excelsior Rd.	4	19,900	A
SR 16 – East of Excelsior Rd.	2	17,400	E
Elder Creek Rd. – West of S. Watt Ave.	2	13,800	C
Elder Creek Rd. – S. Watt Ave. to Bradshaw Rd.	2	7,400	A
Elder Creek Rd. – Bradshaw Rd. to Excelsior Rd.	2	3,200	A
Florin Rd. – West of S. Watt Ave.	2	15,300	D
Florin Rd. – S. Watt Ave. to Bradshaw Rd.	2	12,300	B
Florin Rd. – Bradshaw Rd. to Excelsior Rd.	2	6,300	A
Florin Rd. – East of Excelsior Rd.	2	7,600	A
Gerber Rd. – West of Elk Grove-Florin Rd.	4	30,200	D
Gerber Rd. – Elk Grove-Florin Rd. to Bradshaw Rd.	2	15,400	D
Gerber Rd. – Bradshaw Rd. to Vineyard Rd.	2	6,300	D
Gerber Rd. – Vineyard Rd. to Excelsior Rd.	2	4,500	D
Calvine Rd. – West of Elk Grove-Florin Rd.	6	49,500	E
Calvine Rd. – Elk Grove-Florin Rd. to Waterman Rd.	6	35,200	B
Calvine Rd. – Waterman Rd. to Bradshaw Rd.	6	20,200	A
Calvine Rd. – Bradshaw Rd. to Vineyard Rd.	4	16,200	A
Calvine Rd. – Vineyard Rd. to Excelsior Rd.	2	11,100	B
Calvine Rd. – Excelsior Rd. to Grant Line Rd.	2	7,100	A
S. Watt Avenue – North of SR 16	4	45,900	F
S. Watt Avenue – SR 16 to Elder Creek Rd.	4	37,000	F
S. Watt Avenue – Elder Creek Rd. to Florin Rd.	4	31,600	D
Elk Grove-Florin Rd. – Florin Rd. to Gerber Rd.	4	39,300	F
Elk Grove-Florin Rd. – Gerber Rd. to Calvine Rd.	4	38,800	F
Elk Grove-Florin Rd. – South of Calvine Rd.	4	26,300	C
Waterman Rd. – South of Calvine Rd.	2	8,400	A
Bradshaw Rd. – North of SR 16	4	28,200	C
Bradshaw Rd. – SR 16 to Elder Creek Rd.	4	28,500	C
Bradshaw Rd. – Elder Creek Rd. to Florin Rd.	4	26,300	C
Bradshaw Rd. – Florin Rd. to Gerber Rd.	4	26,500	C
Bradshaw Rd. – Gerber Rd. to Calvine Rd.	4	22,400	B
Bradshaw Rd. – South of Calvine Rd.	4	17,800	A
Vineyard Rd. – Gerber Rd. to Calvine Rd.	2	4,400	D
Excelsior Rd. – North of SR 16	2	8,000	E
Excelsior Rd. – Elder Creek Rd. to Florin Rd.	2	8,200	E
Excelsior Rd. – Florin Rd. to Gerber Rd.	2	10,500	E
Excelsior Rd. – Gerber Rd. to Calvine Rd.	2	5,500	D
Excelsior Rd. – South of Calvine Rd.	2	5,400	D

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
Source: Sacramento County Traffic Impact Guidelines (July 24, 1997) and Fehr & Peers Associates, 2002.

Table 7-16
Peak Hour Intersection Operations – Year 2015 Conditions Without Project

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay / V/C	LOS	Delay / V/C	LOS
1. SR 16/S. Watt Ave.	Signal[1]	**1.28**	F	**1.17**	F
2. SR 16/Bradshaw Rd.	Signal	**1.20**	F	0.98	E
3. SR 16/Excelsior Rd.	Signal	0.73	C	0.79	C
4. Elder Creek Rd./S. Watt Ave.	Signal	0.88	D	0.85	D
5. Elder Creek Rd./Bradshaw Rd.	Signal	0.94	E	0.77	C
6. Elder Creek Rd./Excelsior Rd.	2-Way Stop[2]	1.7	A	1.7	A
7. Florin Rd./Elk Grove-Florin Rd.	Signal	0.84	D	0.90	D
8. Florin Rd./Bradshaw Rd.	Signal	**1.02**	F	0.94	E
9. Florin Rd./Excelsior Rd.	Signal	**1.19**	F	0.96	E
10. Gerber Rd./Elk Grove-Florin Rd.	Signal	0.99	E	0.91	E
11. Gerber Rd./Bradshaw Rd.	Signal	0.84	D	0.62	B
12. Gerber Rd./Vineyard Rd.	2-Way Stop	6.2	B	3.1	A
13. Gerber Rd./Excelsior Rd.	Signal	0.73	C	0.69	B
14. Calvine Rd./Elk Grove-Florin Rd.	Signal	0.75	C	0.76	C
15. Calvine Rd./Waterman Rd.	Signal	0.59	A	0.52	A
16. Calvine Rd./Bradshaw Rd.	Signal	0.45	A	0.46	A
17. Calvine Rd./Vineyard Rd.	Signal	0.51	A	0.62	B
18. Calvine Rd./Excelsior Rd.	4-Way Stop[3]	34.1	E	17.0	C

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.

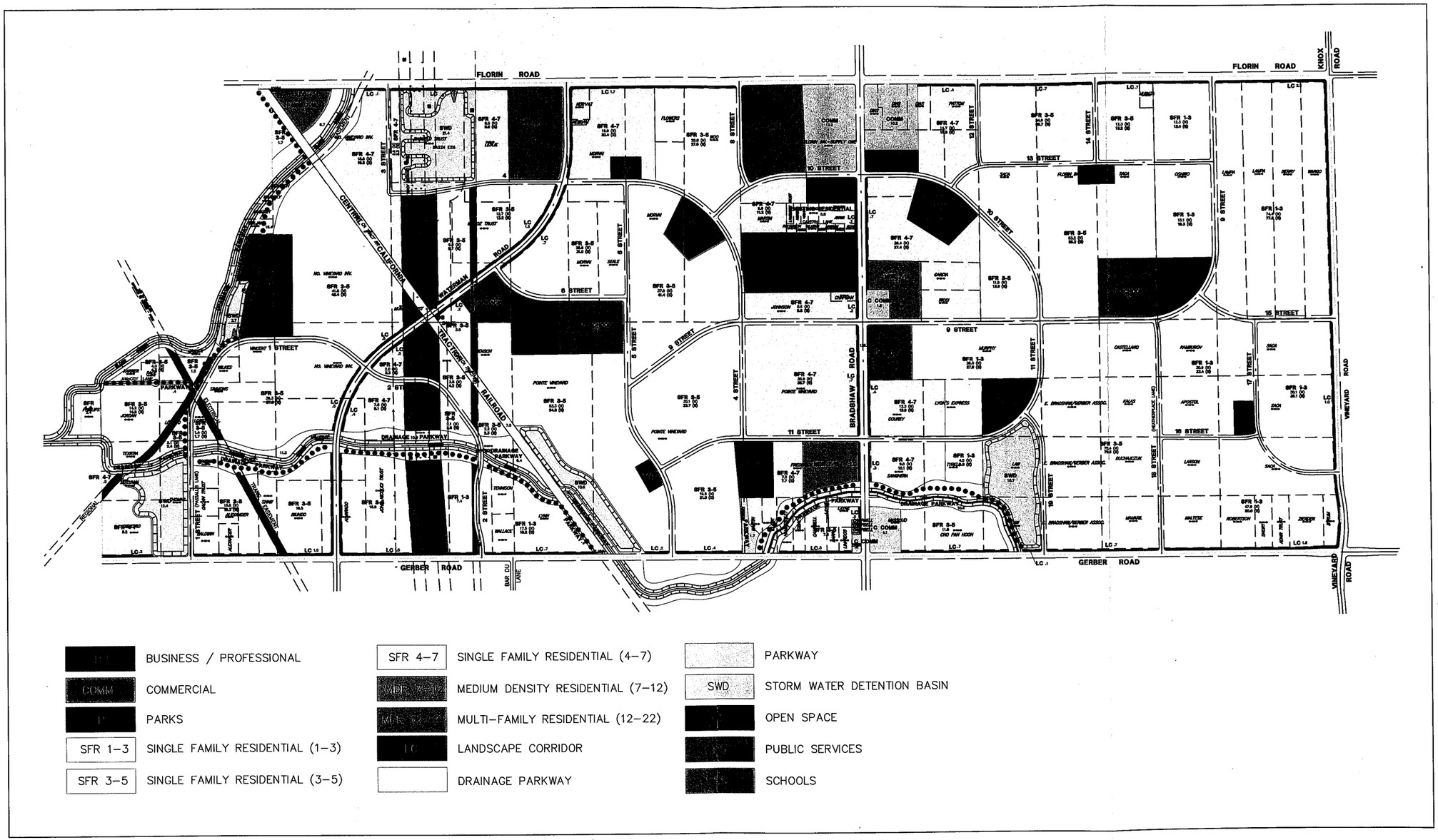
[1] Signal Control- Circular 212 Planning Methodology- Results present volume/capacity ratio and LOS

[2] 2-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS

[3] 4-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS

Source: Fehr & Peers Associates, 2002.

Plate TC -21
North Vineyard Station Land Use Diagram
Buildout Conditions



LAND USE

As shown in Plate TC -21, buildout of the NVSSP consists of the following land uses:

- 5,732 residential dwelling units;
- 29.9 acres of commercial;
- 7.1 acres of business/professional;
- 19.8 acre golf course;
- 20 acres of schools; and
- 63.5 acres of parks.

The above land uses were added to the 2015 SACMET Regional TDF model based on the number of households and total retail and non-retail employment. The Sacramento Area Council of Governments' (SACOG) employment yield matrix was used to estimate the employment projections for buildout of the NVSSP. Appendix B includes the traffic analysis zones and land use assumptions included in the 2015 TDF model with buildout of the NVSSP.

TRAFFIC VOLUMES

Cumulative (Year 2015) traffic forecasts with buildout of the NVSSP were developed by adding the proposed project land uses and circulation system to the 2015 SACMET Regional TDF model. The TDF model was used to generate daily and peak hour traffic volumes for buildout of the NVSSP. This methodology is appropriate for a cumulative conditions analysis because the model takes into account the buildout of local and regional land uses outside of the project site. In addition, this methodology accounts for changes in travel patterns with the additional roadways included in the NVSSP. Plate TC -22 and Plate TC -23 display the daily and peak hour traffic volumes, respectively, for cumulative conditions with buildout of the NVSSP.

ROADWAY ANALYSIS

The daily traffic volumes displayed in Plate TC -22 were compared to the roadway capacity thresholds presented in Table 7-1 to determine if the addition of buildout trips will cause roadway deficiencies. Table 7-17 summarizes the results of the arterial roadway analysis.

The addition of project trips will cause the segments of Florin Road west of S. Watt Avenue and between S. Watt Avenue and Bradshaw Road to decline from LOS D to LOS F and from LOS B to LOS F, respectively. These additional trips will also cause the segment of Bradshaw Road between Elder Creek Road and Florin Road to decline from LOS C to LOS F.

Plate TC -22
Average Daily Traffic Volumes
Year 2015 With NVSSP

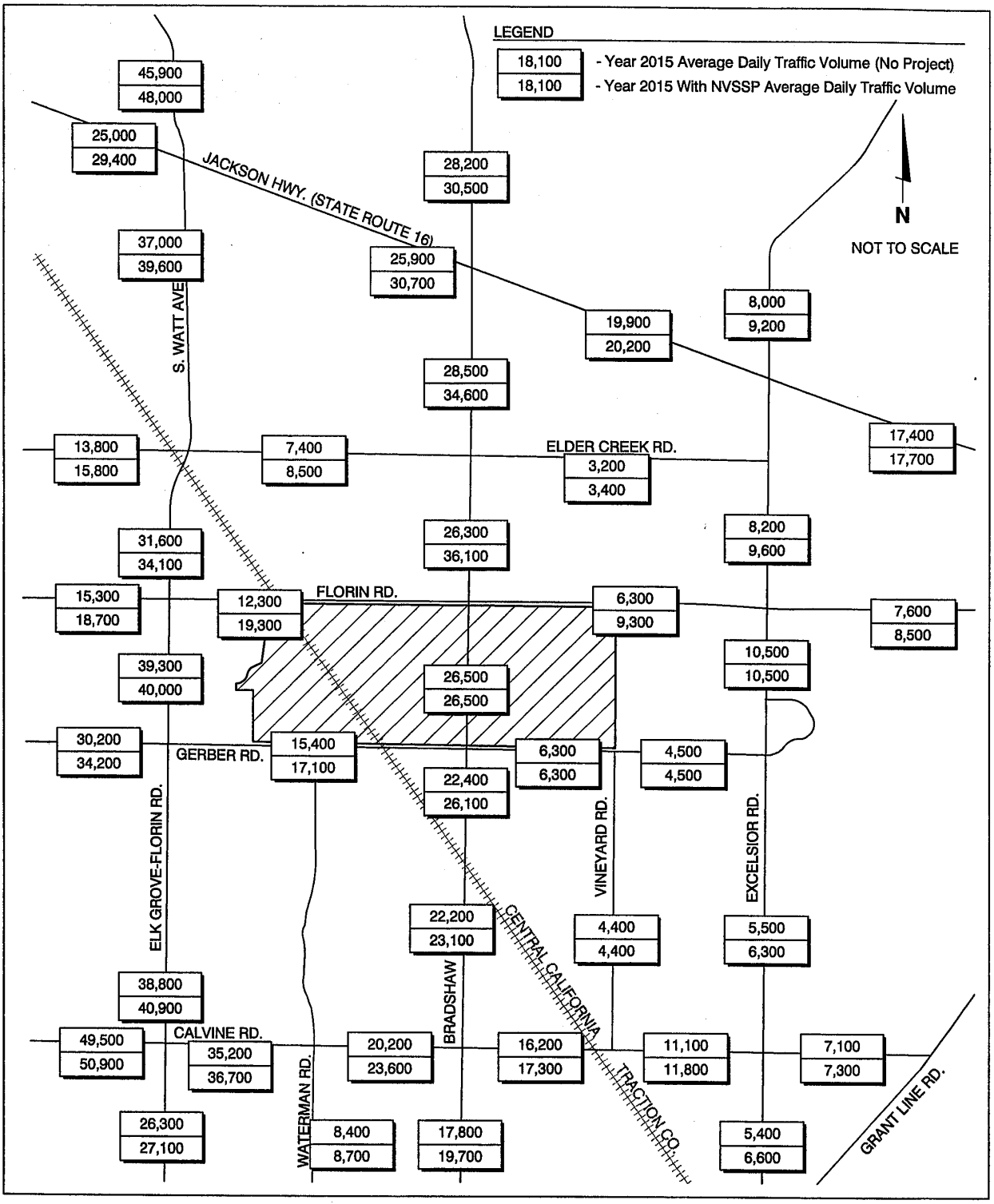


Plate TC -23
Peak Hour Traffic Volumes and Lane Configurations
Year 2015 With NVSSP

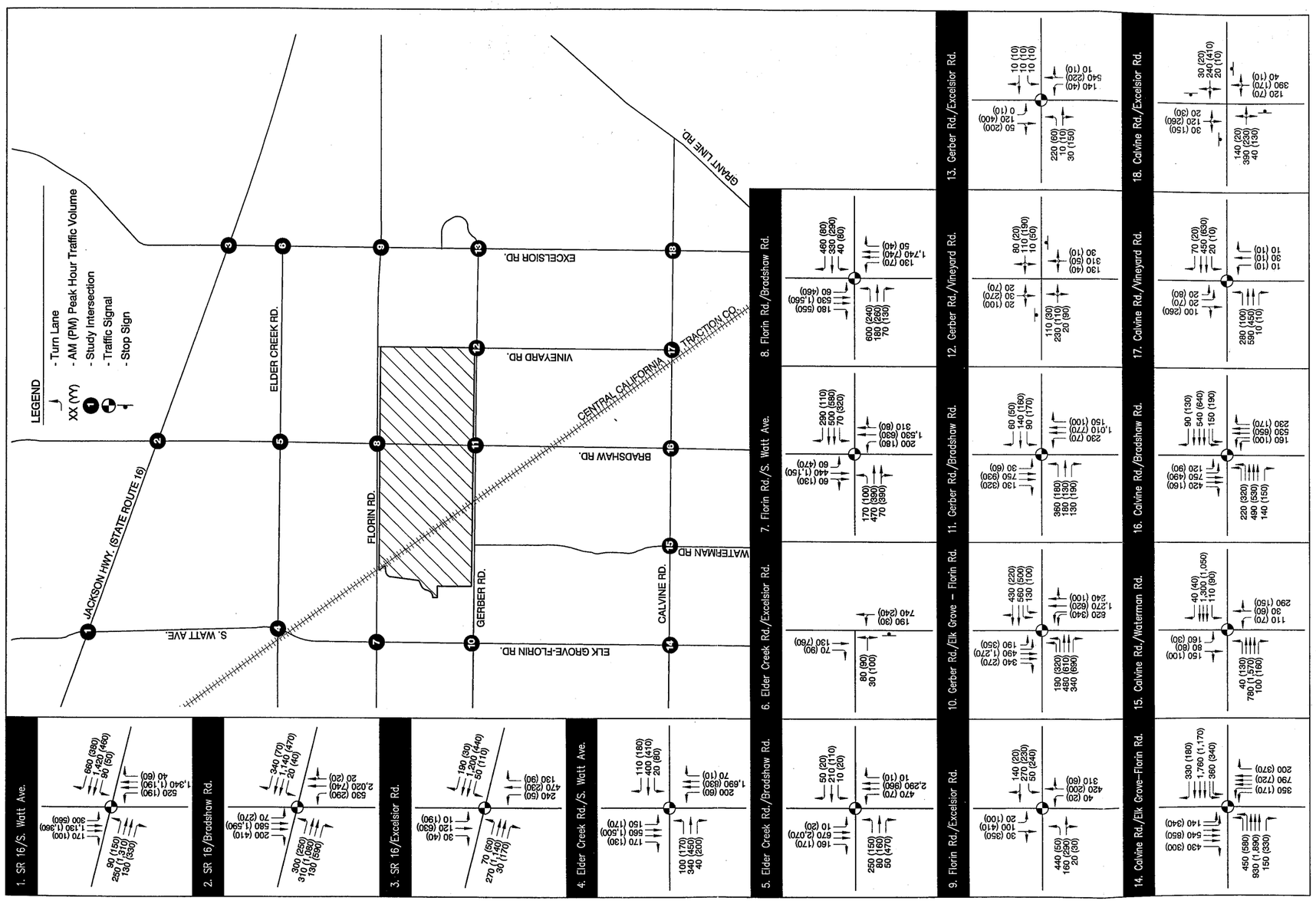


Table 7-17
Roadway Analysis – Year 2015 With Buildout of NVSSP

Roadway Segment	Year 2015 Conditions Without NVSSP			Year 2015 Conditions With NVSSP		
	Lanes	Volume	LOS	Lanes	Volume	LOS
SR 16 – West of S. Watt Ave.	4	25,000	B	4	29,400	D
SR 16 – S. Watt Ave. to Bradshaw Rd.	4	25,900	C	4	30,700	D
SR 16 – Bradshaw Rd. to Excelsior Rd.	4	19,900	A	4	20,200	A
SR 16 – East of Excelsior Rd.	2	17,400	E	2	17,700	E
Elder Creek Rd. – West of S. Watt Ave.	2	13,800	C	2	15,800	D
Elder Creek Rd. – S. Watt Ave. to Bradshaw Rd.	2	7,400	A	2	8,500	A
Elder Creek Rd. – Bradshaw Rd. to Excelsior Rd.	2	3,200	A	2	3,400	A
Florin Rd. – West of S. Watt Ave.	2	15,300	D	2	18,700	F
Florin Rd. – S. Watt Ave. to Bradshaw Rd.	2	12,300	B	2	19,300	F
Florin Rd. – Bradshaw Rd. to Excelsior Rd.	2	6,300	A	2	9,300	A
Florin Rd. – East of Excelsior Rd.	2	7,600	A	2	8,500	A
Gerber Rd. – West of Elk Grove-Florin Rd.	4	30,200	D	4	34,200	E
Gerber Rd. – Elk Grove-Florin Rd. to Bradshaw Rd.	2	15,400	D	2	17,100	E
Gerber Rd. – Bradshaw Rd. to Vineyard Road	2	6,300	D	2	6,300	D
Gerber Rd. – Vineyard Rd. to Excelsior Rd.	2	4,500	D	2	4,500	D
Calvine Rd. – West of Elk Grove-Florin Rd.	6	49,500	E	6	50,900	E
Calvine Rd. – Elk Grove-Florin Rd. to Waterman Rd.	6	35,200	B	6	36,700	B
Calvine Rd. – Waterman Rd. to Bradshaw Rd.	6	20,200	A	6	23,600	A
Calvine Rd. – Bradshaw Rd. to Vineyard Rd.	4	16,200	A	4	17,300	A
Calvine Rd. – Vineyard Rd. to Excelsior Rd.	2	11,100	B	2	11,800	B
Calvine Rd. – Excelsior Rd. to Grant Line Rd.	2	7,100	A	2	7,300	A
S. Watt Avenue – North of SR 16	4	45,900	F	4	48,000	F
S. Watt Avenue – SR 16 to Elder Creek Rd.	4	37,000	F	4	39,600	F
S. Watt Avenue – Elder Creek Rd. to Florin Rd.	4	31,600	D	4	34,100	E
Elk Grove-Florin Rd. – Florin Rd. to Gerber Rd.	4	39,300	F	4	40,000	F
Elk Grove-Florin Rd. – Gerber Rd. to Calvine Rd.	4	38,800	F	4	41,900	**F**
Elk Grove-Florin Rd. – South of Calvine Rd.	4	26,300	C	4	27,100	C
Waterman Rd. – South of Calvine Rd.	2	8,400	A	2	8,700	A
Bradshaw Rd. – North of SR 16	4	28,200	C	4	30,500	D
Bradshaw Rd. – SR 16 to Elder Creek Rd.	4	28,500	C	4	34,600	E
Bradshaw Rd. – Elder Creek Rd. to Florin Rd.	4	26,300	C	4	36,100	F
Bradshaw Rd. – Florin Rd. to Gerber Rd.	4	26,500	C	4	26,500	C
Bradshaw Rd. – Gerber Rd. to Calvine Rd.	4	22,400	B	4	26,100	C
Bradshaw Rd. – South of Calvine Rd.	4	17,800	A	4	19,700	A
Vineyard Rd. – Gerber Rd. to Calvine Rd.	2	4,400	D	2	4,400	D
Excelsior Rd. – North of SR 16	2	8,000	E	2	9,200	E
Excelsior Rd. – Elder Creek Rd. to Florin Rd.	2	8,200	E	2	9,600	E
Excelsior Rd. – Florin Rd. to Gerber Rd.	2	10,500	E	2	10,500	E
Excelsior Rd. – Gerber Rd. to Calvine Rd.	2	5,500	D	2	6,300	D
Excelsior Rd. – South of Calvine Rd.	2	5,400	D	2	6,600	D

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
Source: Sacramento County Traffic Impact Guidelines (July 24, 1997) and Fehr & Peers Associates, 2002.

In addition, trips generated by buildout of the NVSSP will increase the V/C ratio by 0.05 or more on the following facilities that operate at LOS F under 2015 conditions without the proposed project:

- S. Watt Avenue (North of SR 16);
- S. Watt Avenue (SR 16 to Elder Creek Road); and
- Elk Grove-Florin Road (Gerber Road to Calvine Road).

INTERSECTION ANALYSIS

The a.m. and p.m. peak hour intersection turning movements and lane configurations shown on Plate TC -23 were used to calculate the levels of service at each study intersection for cumulative conditions with buildout of the NVSSP. The level of service at each study intersection is presented in Table 7-18.

The addition of NVSSP trips will cause deficiencies at the following intersections:

- SR 16/S. Watt Avenue – The addition of project trips will increase the V/C ratio by more than 0.05 during the p.m. peak hour;

- SR 16/Bradshaw Road – The addition of project trips will increase the V/C ratio by more than 0.05 during the a.m. peak and p.m. peak hours;

- Elder Creek Road/Bradshaw Road – The addition of project trips will degrade operations from LOS E to LOS F during the a.m. peak hour and from LOS C to LOS F during the p.m. peak hour;

- Florin Road/Elk Grove-Florin Road – The addition of project trips will degrade operations from LOS D to LOS F during the p.m. peak hour; and

- Florin Road/Bradshaw Road – The addition of project trips will increase the V/C ratio by more than 0.05 during the a.m. peak hour.

As shown in Table 7-18, the intersection delay and volume-to-capacity ratios improve at four of the study intersections with buildout of the NVSSP. The Year 2015 roadway network with buildout of the NVSSP includes the extension of Waterman Road and Vineyard Road from Gerber Road to Florin Road and additional north-south roadways that provide alternative routes within the project vicinity. Consequently, travel patterns shift with buildout of the NVSSP. This decreases demand at certain study intersection (e.g., Gerber Road/Excelsior Road) because vehicles traveling north-south within the project vicinity can use the alternative routes provided with buildout of the NVSSP.

Table 7-18
Peak Hour Intersection Operations – Year 2015 With Buildout of NVSSP

Intersection	Control	Year 2015 Without NVSSP				Year 2015 With NVSSP			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay / V/C	LOS	Delay / V/C	LOS	Delay / V/C	LOS	Delay / V/C	LOS
1. SR 16/S. Watt Ave.	Signal[1]	**1.28**	**F**	**1.17**	**F**	**1.26**	**F**	**1.24**	**F**
2. SR 16/Bradshaw Rd.	Signal	**1.20**	**F**	0.98	E	**1.31**	**F**	**1.11**	**F**
3. SR 16/Excelsior Rd.	Signal	0.73	C	0.79	C	0.77	C	0.91	E
4. Elder Creek Rd./S. Watt Ave.	Signal	0.88	D	0.85	D	1.00	E	0.93	E
5. Elder Creek Rd./Bradshaw Rd.	Signal	0.94	E	0.77	C	**1.08**	**F**	**1.02**	**F**
6. Elder Creek Rd./Excelsior Rd.	2-Way Stop[2]	1.7	A	1.7	A	2.9	A	2.4	A
7. Florin Rd./Elk Grove-Florin Rd.	Signal	0.84	D	0.90	D	0.93	E	**1.02**	**F**
8. Florin Rd./Bradshaw Rd.	Signal	**1.02**	**F**	0.94	E	**1.29**	**F**	0.92	E
9. Florin Rd./Excelsior Rd.	Signal	**1.19**	**F**	0.96	E	**1.07**	**F**	0.89	D
10. Gerber Rd./Elk Grove-Florin Rd.	Signal	0.99	E	0.91	E	0.97	E	0.92	E
11. Gerber Rd./Bradshaw Rd.	Signal	0.84	D	0.62	B	0.74	C	0.58	A
12. Gerber Rd./Vineyard Rd.	2-Way Stop	6.2	B	3.1	A	8.0	B	5.6	B
13. Gerber Rd./Excelsior Rd.	Signal	0.73	C	0.69	B	0.53	A	0.54	A
14. Calvine Rd./Elk Grove-Florin Rd.	Signal	0.75	C	0.76	C	0.80	C	0.83	D
15. Calvine Rd./Waterman Rd.	Signal	0.59	A	0.52	A	0.64	B	0.58	A
16. Calvine Rd./Bradshaw Rd.[4]	Signal	0.45	A	0.46	A	0.51	A	0.51	A
17. Calvine Rd./Vineyard Rd.	Signal	0.51	A	0.62	B	0.42	A	0.50	A
18. Calvine Rd./Excelsior Rd.	4-Way Stop[3]	34.1	E	17.0	C	44.4	E	17.6	C

Notes: **Bold** – Unacceptable LOS according to County (LOS E) standards.
[1] Signal Control- Circular 212 Planning Methodology- Results present volume/capacity ratio and LOS.
[2] 2-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.
[3] 4-Way Stop Control- 1994 HCM Unsignalized Methodology- Results present delay (seconds/vehicle) and LOS.

[4] Assumed signal control, consistent with widening of Bradshaw Road (two to four lanes - Calvine Road to SR 16).

Source: Fehr & Peers Associates, 2002.

PROJECT IMPACTS

Based on the roadway and intersection analysis, buildout of the NVSSP will cause or contribute to deficiencies at the following study locations under Year 2015 conditions. These impacts are considered significant:

STUDY ROADWAYS

- Florin Road (West of S. Watt Avenue);
- Florin Road (S. Watt Avenue to Bradshaw Road);
- S. Watt Avenue (North of SR 16);
- S. Watt Avenue (SR 16 to Elder Creek Road) ;
- Elk Grove-Florin Road (Gerber Road to Calvine Road); and

- Bradshaw Road (Elder Creek Road to Florin Road).

STUDY INTERSECTIONS

- SR 16/S. Watt Avenue;
- SR 16/Bradshaw Road;
- Elder Creek Road/Bradshaw Road;
- Florin Road/Elk Grove-Florin Road; and
- Florin Road/Bradshaw Road.

MITIGATION MEASURES FOR 2015 BUILDOUT CONDITIONS

The following improvements will eliminate deficiencies caused by buildout of the NVSSP in Year 2015, and reduce impacts to less-than-significant. The study roadway and intersection improvements recommended in the NVSSP DEIR (July 1997) for cumulative plus project conditions are also summarized. Mitigation measures discussed below may vary from those included in the DEIR due to changes in the planned roadway network within the project area.

STUDY ROADWAYS MITIGATION MEASURES

TC-13. Florin Road (West of S. Watt Avenue) – Widening this segment from two to four lanes will improve operations to LOS A.

This study roadway segment was not impacted under cumulative plus project conditions in the NVSSP DEIR.

TC-14. Florin Road (S. Watt Avenue to Bradshaw) – Widening this segment from two to four lanes will improve operations to LOS A.

This study roadway segment was not impacted under cumulative plus project conditions in the NVSSP DEIR.

TC-15. S. Watt Avenue (North of SR 16) – Widening this segment from four to six lanes will improve operations to LOS D.

This study roadway segment was not impacted under cumulative plus project conditions in the NVSSP DEIR.

TC-16. S. Watt Avenue (SR 16 to Elder Creek Road) – Widening this segment from four to six lanes will improve operations to LOS C.

This study roadway segment was not impacted under cumulative plus project conditions in the NVSSP DEIR.

TC-17. Elk Grove-Florin Road (Gerber Road to Calvine Road) – Widening this segment from four to six lanes will improve operations to LOS C.

This study roadway segment was not impacted under cumulative plus project conditions in the NVSSP DEIR.

TC-18. Bradshaw Road (Elder Creek Road to Florin Road) – Widening this segment from four to six lanes will improve operations to LOS B.

The NVSSP DEIR recommended limiting access on this roadway segment. The traffic forecasts in the NVSSP DEIR indicated that traffic volumes will exceed County guidelines for roadway capacity under cumulative plus project conditions. This impact was considered significant and unavoidable in the NVSSP DEIR.

STUDY INTERSECTIONS MITIGATION MEASURES

TC-19. SR 16/S. Watt Avenue – Widening the southbound approach to include dual left-turn lanes will result in less than a 0.05 increase in the V/C ratio during the p.m. peak hour.

The NVSSP DEIR recommended modifying this intersection to include a fourth through lane on the northbound and southbound approaches under cumulative plus project conditions. However, Sacramento County does not typically construct eight-lane roadway segments. This intersection operated at LOS F with and without the NVSSP under cumulative conditions in the DEIR. Therefore, this impact was not considered significant in the DEIR.

TC-20. SR 16/Bradshaw Road – Widening the northbound and southbound approaches to include two exclusive left turn lanes, two through lanes and a shared through/right-turn lane will result in less than a 0.05 increase in the V/C ratio during the a.m. and p.m. peak hours.

The NVSSP DEIR recommended modifying this intersection to include dual right-turn lanes on the eastbound approach and triple left-turn lanes on the northbound approach under cumulative plus project conditions.

TC-21. Elder Creek Road/Bradshaw Road – Widening the northbound and southbound approaches to include a third through lane will improve operations to LOS D during the a.m. peak hour and LOS C during the p.m. peak hour. This improvement is consistent with the recommended widening of Bradshaw Road to six lanes between Elder Creek Road and Florin Road.

The NVSSP DEIR recommended modifying this intersection to include dual right-turn lanes on the eastbound approach under cumulative plus project conditions. However, intersection operations remained at LOS F during the p.m. peak hour with these improvements and the impact was considered significant and unavoidable in the NVSSP DEIR.

TC-22. Florin Road/Elk Grove-Florin Road – Widening the northbound and southbound approaches to include a third through lane will improve operations to LOS E during the p.m. peak hour.

The NVSSP DEIR recommended modifying this intersection to include a fourth through lane on the northbound and southbound approaches under cumulative plus project conditions. However, Sacramento County does not typically construct eight-lane roadway segments. Therefore, this impact was considered significant and unavoidable in the NVSSP DEIR.

TC-23. Florin Road/Bradshaw Road – Widening the northbound and southbound approaches to include a third through lane and widening the eastbound approach to include a second exclusive left-turn lane will improve operations to LOS E during the a.m. peak hour. This improvement is consistent with the recommended widening of Florin Road to four lanes between Watt Avenue and Bradshaw Road and with the recommended widening of Bradshaw Road to six lanes between Elder Creek Road and Florin Road.

The NVSSP DEIR recommended modifying this intersection to include a fourth through lane on the northbound and southbound approaches under cumulative plus project conditions. However, Sacramento County does not typically construct eight-lane roadway segments. Therefore, this impact was considered significant and unavoidable in the NVSSP DEIR.

PHASING OF IMPROVEMENTS

Subsequent to the preparation of this Traffic Study, Fehr & Peers completed its evaluation to identify the timing of roadway infrastructure improvements based on the number of dwelling units constructed in the North Vineyard Station Specific Plan (NVSSP). This evaluation expands on the traffic analysis documented in the *Final Report – Transportation Analysis for the North Vineyard Station Specific Plan Phasing Analysis*, April 3, 2002, which identified roadway and intersection improvements with phased development of the specific plan. These improvements are shown on Figure 1. However, the phasing analysis did not tie the timing of improvements to a specific number of constructed dwelling units. At the request of the Sacramento County Public Infrastructure Finance Section, we expanded the phasing analysis to identify the number of dwelling units that would trigger the need for each improvement. The following documents their analysis methodology and evaluation results.

METHODOLOGY

Fehr and Peer's analysis is based on the daily roadway volumes and peak hour intersection turning movement forecasts for each development phase contained in the April 3, 2002 phasing analysis (i.e., Phase 1A, Phase 1B, Year 2010 development, and

Year 2015 development). F & P identified the improvement triggers (i.e., the number of dwelling units constructed in the specific plan) using the following steps.

• Identified the increase in traffic on a study roadway or through a study intersection that caused an impact based on the thresholds contained in the *County of Sacramento Traffic Impact Guidelines* (July, 1997).

• Identified the specific plan's traffic contribution to the impacted facility.

• Identified the number of dwelling units that would generate the specific plan's traffic contribution.

Although F & P's analysis is based on the proposed phasing of the NVSSP contained in the April 3, 2002 *Final Report*, the results reported below reference the new phase numbers (i.e., Phases A-1, A-2, B, C, D, and E) for the NVSSP. The following table summarizes the number of dwelling units that trigger each improvement. For reference, F & P has identified the total number of dwelling units by phase, the dwelling unit trigger by phase, and the cumulative number of dwelling units constructed at the time an improvement is triggered. For example, Florin Road/Excelsior Road intersection improvements would be triggered with the 300th unit constructed in Phase B, which corresponds to 1,848 total units constructed in the specific plan.

Table TC-19
Dwelling Unit Triggers for Construction of Improvements

Phase	Improvement Location	Dwelling Unit Trigger by Phase	Cumulative Number of Units Constructed
A-1 (601 Units)	None	-	601
A-2 (947 Units)	Gerber Road – Elk Grove Flroin Road to Bradshaw Road	300	901
	South Watt Avenue/Elder Creek Road Intersection	600	1,201
B (1,261 Units)	Florin Road/Excelsior Road Intersection	300	1,848
	South Watt Avenue/State Route 16 Intersection	700	2,248
	Gerber Road/Excelsior Road Intersection	1,000	2,548
	Elk Grove Florin Road – Gerber Road to Calvine Road		
	South Watt Avenue – North of SR 16		
C (1,260 Units)	Bradshaw Road/SR 16 Intersection	300	3,109
D (920 Units)	South Watt Avenue – Elker Creek Road to SR 16	400	4,469
	Florin Road – Bradshaw Road to Elk Grove Florin Road		
	Florin Road – East of Elk Grove Florin Road		
E (729 Units)	Bradshaw Road – Elder Creek Road to Florin Road	700	5,689
		Specific Plan Build-Out	5,718

RECOMMENDATIONS/REQUIREMENTS OF THE COUNTY DEPARTMENT OF TRANSPORTATION:

VINEYARD CREEK SUBDIVISION

1. The spacing between A Drive and F Way must be a minimum of 420 feet apart in order to accommodate two left turn pockets on Waterman Road.

2. Construct a minimum 48-foot street section including 36 feet of pavement and a 12-foot median for the offsite right-of-way on Waterman Road per the North Vineyard Station P.F.F.P.

3. Grant the County right-of-way on Waterman Road based on either a 72-foot modified arterial without a median or a 76-foot modified arterial with a landscape median pursuant to the North Vineyard Station Specific Plan, the Sacramento County Improvements Standards, and to the satisfaction of the Department of Transportation.

4. Install public street improvements along Waterman Road pursuant to the North Vineyard Station Specific Plan, the Sacramento County Improvement Standards, and to the satisfaction of the Department of Transportation.

5. Show the required raised median on the Waterman Road street section.

6. Dedicate additional right-of-way on Waterman Road and A Drive for intersection widening per the Sacramento County Improvement Standard Drawing 4-6B and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Waterman Road.

7. Grant the County right-of-way on Florin Road based on a 96-foot modified thoroughfare pursuant to the North Vineyard Station Specific Plan, the Sacramento County Improvement Standards, and to the satisfaction of the Department of Transportation.

8. Install public street improvements along Florin Road pursuant to the North Vineyard Station Specific Plan, the Sacramento County Improvement Standards, and to the satisfaction of the Department of Transportation.

9. Dedicate additional right-of-way on Florin ~~r~~Road and L Way for intersection widening per the Sacramento County Improvement Standard Drawing 4-5 and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Florin Road.

10. No more than 100 units with access to L Way shall be constructed until there is a second point of access.

11. Lot 380 shall not be allowed to develop unless access can be provided to the west in order to avoid crossing the CCTC.

12. Reconfigure area comprising G Circle in order to bring street elbow into compliance with County standards.

13. Dedicate the landscaped lots to the County of Sacramento and provide a maintenance entity with an ongoing funding source. The maintenance entity shall be approved and found acceptable by County representatives. Annexation to a current Lighting and Landscape District or a Mello Roos Community Finance District may be possible and is the preferred course of action.

14. Traffic control devices shall be installed where needed to the satisfaction of the Department of Transportation. Traffic control locations will be determined at time of improvement plan submittal.

VINEYARD POINT SUBDIVISION

1. Grant the County right-of-way on Gerber Road based on a 72-foot modified standard and install public street improvements pursuant to Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

2. Grant the County right-of-way on Bradshaw Road based on a 96-foot modified standard and install public street improvements pursuant to Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

3. Dedicate additional right-of-way on Bradshaw Road and '11' Street for intersection widening per Standard Drawing 4-8 of the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Bradshaw Road.

4. Dedicate additional right-of-way on Bradshaw Road and '9' Street for intersection widening per Standard Drawing 4-8 of the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Bradshaw Road.

5. Dedicate additional right-of-way on Gerber Road and '5' Street for intersection widening per Standard Drawing 4-8 of the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation. Note: A bus turnout will be required on Gerber Road. In addition, the median at the intersection of 'P' Drive/'O' Circle and '5' Street will need to be redesigned to allow full turning movements at that intersection.

6. Provide a 30-foot half width along park frontages for on-street parking. Note: If the park will be providing recreational areas such as soccer fields and/or baseball fields, then on site parking will be required.

7. Stop signs should be installed where needed to the satisfaction of the Department of Transportation. Stop sign locations will be determined at time of improvement plan submittal.

8. The proposed public street entrance from Gerber Road should be a minimum of 50 feet in width, excluding median width, for a distance of 100 feet per the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

9. The proposed public street entrance from Bradshaw Road should be a minimum of 50 feet in width, excluding median width, for a distance of 100 feet per the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

10. Visibility easements should be included where needed per the Sacramento County Improvement Standards and to the satisfaction of the Department of Transportation.

11. All pedestrian access ramps affected by this project must be installed/upgraded pursuant to the State of California Title 24 Code of Regulations and to the satisfaction of the Department of Transportation.

8 AIR QUALITY

INTRODUCTION

An air quality analysis was prepared for the previous EIR for the North Vineyard Station Specific Plan. The EIR concluded that the project will increase regional concentrations of ozone and could further delay the eventual attainment of state and federal standards. Also, the projects carbon monoxide emissions would contribute to adverse localized air quality conditions at congested intersections. Any reduction in project vehicle trips and emissions would help reduce impacts on air quality; however, basin-wide emissions would increase with the project. Because these emissions would contribute to conditions that already violate air quality standards, effects upon air quality were considered significant and unavoidable.

IMPACTS AND ANALYSIS

According to the Sacramento County Department of Transportation (Clark):

> "The Department of Transportation has reviewed the trip generation analysis prepared for the proposed changes in the land use plan for the North Vineyard Specific Plan by Fehr & Peers Transportation Consultant, March 4, 2003, and concurs with the conclusions that the changes in overall project trip generation are minor. The increase in project trip generation with the change in number of units is around 2%. Department of Transportation staff believes that this increase in the project trip generation will not result in any changes in the conclusions presented in the FEIR."

Because the changes in the land use plan are considered minor, it is not expected that these changes will contribute to additional regional air quality impacts beyond those already analyzed in the prior FEIR.

As for short-term construction-related impacts, the standard for particulate matter (dust) measuring ten microns or less (PM_{10}) has been revised since the previous EIR was published. The SMAQMD's threshold of significance for dust/PM_{10} is now 50 micrograms per cubic meter; it was 275 pounds per day for projects undergoing CEQA review prior to May 2002. The previous EIR concluded that construction dust impacts were less than significant. However, with the revised standard, particulate emissions must be more carefully managed and the ability to mitigate to less than significant levels for large projects is difficult if not impossible to achieve. Therefore construction impacts for the project are now considered a significant impact. This issue is discussed further in this section.

REGIONAL EMISSIONS

The following travel demand reduction measures were included in the adopted NVSSP. These measures were intended to lessen air quality impacts by reducing trip generation and attendant traffic congestion. Travel demand reduction measures were included to lessen the impact to air quality by eliminating vehicle trips, reducing their length, or changing the time of day when they occur.

The NVSSP addressed General Plan policies intended to mitigate land use development impact on air quality in the following manner:

Policy AQ-23. Promote mixed-use development to reduce the length and frequency of vehicle trips.

> The Plan includes a mixture of land uses and over 38 acres designed for retail commercial and business/professional uses. While these uses are not intended to meet all employment and commercial needs of Plan area residents, it is anticipated that the length and frequency of trips will be reduced to some degree.

Policy AQ-24. Provide for increased intensity of development along existing and proposed transit corridors.

> The Plan is consistent with Policy AQ-24 because the highest intensity land uses (Neighborhood Commercial and Business/Professional) and the majority of the highest density residential uses (Multi-Family Residential) are located near the Transit Center, a proposed future light rail station. All Commercial and Medium and Multi-Family Residential land uses are located on major arterials easily served by transit.

BUS AND LIGHT RAIL TRANSIT FACILITIES

Provision of Public transit within the county is guided by the following General Plan Policy:

> *Policy CI-4. Require full and accurate analysis of all alternatives for public transit, including expanded bus service, private carrier operations, road capacity improvements, and rail transit, prior to committing funds for construction. Evaluation shall specifically include full social and economic costs and benefits, as well as net system effects and per-new-rider costs.*

Regional Transit's Transit Master Plan identified costs and benefits of transit service, including specific recommendations for the study area. These recommendations include bus service along major streets and future light rail service through the Plan area within the California Central Traction Railroad right-of-way.

TRANSIT CORRIDORS

The transit facilities included as part of the Plan are designed to coordinate with and maximize the potential of those transit corridors identified by RT and Sacramento County. As noted in the Plan, RT guidelines recommend bus stops at one-quarter mile intervals in suburban settings, and they recommend turnouts when traffic volumes, speeds, and service frequency warrant safe stopping areas for buses. Consistent with this standard, the Circulation Plan shows bus stops at one-quarter mile intervals.

Roadways with the Specific Plan area will be designed to accommodate transit facilities such as turnouts, bus stops, and shelters should individual routes be designated on major collector streets. Thus, implementation of the proposed project will not disrupt or interfere with existing or planned transit operations in the area, and no operational deficiencies have been identified.

The Plan area has been designed to capitalize upon the designated bus routes. Specifically, higher density residential development, as well as commercial uses, are located at major intersections along transit routes, and the highest intensity land uses are located near the Transit Center.

TRANSIT CENTER

A 10-acre Transit Center has been designated in the Plan to ultimately provide parking for car pools and buses and to facilitate the possible future extension of light rail transit into the Plan area. Included are a 1.1-acre transit station site and nine acres for park and ride lots. The Transit Center adjoins the Plaza Park, a specialized park intended to compliment the transit facilities and attract transit users.

The Transit Center, as described in the Plan is designed in accordance with Sacramento RT design standards for suburban light rail stations with the following amenities:

- Security features
- Shelters (platforms and ramps)
- Station furniture (benches, trash receptacles, telephones, drinking fountains)
- Information display (kiosks, schedule displays)
- Fare vending equipment
- Lighting
- Landscaping/planters
- Bicycle lockers/secure bicycle racks
- Artwork
- Concessionaires

On the basis of RT standards of 100 parking spaces per acre, the nine-acre parking area can be expected to accommodate approximately 900 vehicles. Also, park and ride areas are permitted uses in the Commercial sites. These provisions for park and ride facilities are consistent with the following General Plan policy:

Policy AQ-28. Require that large new developments dedicate land for use as park-and-ride lots if suitably located.

TRAVEL DEMAND REDUCTION MEASURES

Travel demand reduction measures are incorporated into various aspects of the Plan in order to reduce vehicle emissions, thereby reducing traffic congestion and improving air quality. The General Plan addresses air quality in the following policy:

Policy AQ-15. All new major indirect sources of emissions shall be reviewed and modified or conditioned to achieve a reduction in emissions. This indirect source review program will be developed in coordination with SACOG and SMAQMD, and include the following features:

A. *A 15 percent reduction in emissions from the level that would be produced by a base-case project assuming full trip generation per the current ITE Trip Generation Handbook.*

B. *A focus on cost-effectiveness measured in terms of cost per ton of pollutant avoided.*

C. *A list of cost-effective measures to be developed, maintained, and annually reviewed by SMAQMD.*

D. *A maximum expenditure cap that will be computed for each indirect source on the basis of factors including, but not limited to, total emissions and project value.*

E. *A process for obtaining a waiver from the 15 percent requirement if it is found that a lower level of reduction is all that can be achieved with const-effective measures and offsets, or that achieving the full 15 percent reduction would cost more that expenditure cap.*

F. *An exception for projects that have already undergone the indirect source review at some point in the development approval process.*

G. *A procedure to give full credit for other measures required in a project that may also achieve a reduction in emissions.*

Sacramento County has developed a preliminary list of measures and corresponding credits that can be applied to the required 15 percent reduction in emissions. This list is based on data originally prepared by the SMAQMD in a February, 1995 report entitled *Indirect Source Review Program: Implementation Guidelines*. Sacramento County is currently developing specific requirements that will be incorporated into the Zoning Code.

The following measures, which are incorporated into the North Vineyard Station Specific Plan, are all contained in the preliminary list of acceptable measures. According to the

County's preliminary guidelines, the above measures result in a 15.5 percent reduction in emissions and meet the requirements of General Plan Policy AQ-15.

1. The Plan contains a mixture of complementary land uses (residential, commercial, parks, schools) located within the project or within one-half mile of the project boundaries. Approximately half of the Plan meets the County's criteria, which allows for up to a 6% credit. SPECIFIC PLAN CREDIT = 3%.

2. The Plan is designed to provide a transit stop within a reasonable distance of all land uses. The proposed roadway network of Arterial, Thoroughfare, and Collector streets would accommodate bus stops within one-quarter mile of most land uses. SPECIFIC PLAN CREDIT = 2%.

3. The Plan will include easements to accommodate bus stop improvements (route signs, benches, shelters and lighting) at all major transit stops. Current RT policy only requires easements for stops since a private firm provides the shelter and related improvements in exchange for advertising space. SPECIFIC PLAN CREDIT = 2%.

4. The Plan is designed to accommodate and provide access to the planned on-street (Class II) bicycle lanes as identified in the 2010 Sacramento City/County Bikeway Master Plan. On-street facilities within one-half mile of the project site are planned on Florin, Bradshaw, and Gerber Roads, and the entire Plan area meets the criteria. SPECIFIC PLAN CREDIT = 2%

5. In addition to the bikeways included in the Bikeway Master Plan, both on-street and off-street facilities are included throughout the Plan area and will be located within one-half mile of all major land uses. SPECIFIC PLAN CREDIT = 1.5%.

6. Through policy language, the Plan provides for direct (i.e., minimum distance) pedestrian connections between adjacent and complementary land uses. All parks, schools, and commercial areas will be connected to residential areas by interconnected roads and pathways. SPECIFIC PLAN CREDIT = 2%.

7. The Plan circulation system provides direct automobile access between complementary land uses to minimize the distance traveled, within the limits of physical constraints (i.e., drainage parkways). SPECIFIC PLAN CREDIT = 1%

8. The Plan area will participate in a Transportation Management Association to create, administer, and finance on-going programs to reduce vehicle trips. The Financing Plan for the Plan will include means to fund the TMA. SPECIFIC PLAN CREDIT = 3%.

TOTAL SPECIFIC PLAN CREDIT: 15.5%

CONSTRUCTION EMISSIONS

Since the previous EIR was published, the standard for particulate matter measuring ten microns or less (PM_{10}) has been revised. The SMAQMD's threshold of significance for dust/PM_{10} is now 50 micrograms per cubic meter; it was 275 pounds per day for projects undergoing CEQA review prior to May 2002.

Short-term air quality impacts are mostly due to dust (PM_{10}) generated by construction and development activities and the equipment and vehicles used during these activities. Dust generation is dependent on soil type and soil moisture, as well as the amount of total acreage actually involved in clearing, grubbing and grading activities. Clearing and earthmoving activities comprise the major source of construction dust generation, but traffic and general disturbance of the soil also contribute to the problem. Also sand, lime or other fine particulate materials may be used during construction, and stored on-site. If not stored properly, such materials could become airborne during periods of high winds. The effects of construction activities include increased dust fall and locally elevated levels of suspended particulates. As noted previously, PM_{10} is considered unhealthy because the particles are small enough to inhale and damage lung tissue, which can lead to respiratory problems. In the vicinity of the project the most sensitive local dust receptor would be residential uses and schools.

Some PM_{10} emissions during project construction will be reduced through compliance with institutional requirements for dust abatement and erosion control. These institutional measures include the SMAQMD "District Rule 403-Fugitive Dust", in the Sacramento County Code relating to land grading and erosion control [Title 16, Chapter 16.44, Section 16.44.070(K)], and the County's *'Standard Construction Specification'* requirements (BOS Resolution No. 92-0846) Section GS-6-16.

Calculation of PM_{10} emissions under the new standard of 50 micrograms per cubic meter requires use of a computer model. For an example, when SMAQMD ran a new air quality model for a shopping center project based on the new PM_{10} threshold of 50 micrograms per cubic meter, the analysis concluded that exposed surface site grading of 10 acres to a maximum of 25 acres at a time can be mitigated to a less than significant level if on site mobile source vehicles are limited to a maximum of seven vehicles, exposed soil is kept moist, soil piles are kept moist at all times or covered at all times, and least two feet of freeboard is maintained around the piles. The most critical assumption in this model run to ensure PM_{10} is kept to a less than significant level was keeping exposed soil moist at all times. In contrast, when a standard mitigation measure of watering exposed soil twice daily was substituted for the mitigation measure calling for keeping the soil moist at all times, the 50 micrograms per cubic meter was exceeded by 11 micrograms.

According to SMAQMD, greater dust mitigation could be achieved if development were required to "water exposed soil with adequate frequency to keep soil moist at all times" versus the standard requirement of watering exposed surfaces twice daily. However,

strict compliance with the requirement to "keep soil moist at all times" does not appear to be a practical measure to be imposed throughout the Plan area over the entire build-out period. Dust generation during construction activities is expected to exceed the PM_{10} threshold for significant impact given the level of construction activity expected within the Specific Plan area.

Construction activities are also a source of organic gas emissions; therefore, the project would elevate existing levels in the vicinity. Solvents in adhesives, non-waterbase paints, thinners, and some insulating and caulking materials would evaporate and participate in the photochemical reaction that creates urban ozone. Asphalt use in paving is also an organic gas for a short time after its application. Construction activities would result in the release of small amounts of solvents and other materials that are considered toxic air contaminants. In general, the highest exposure would occur for construction workers. Exposure to neighboring properties is not likely to be problematic because of the small amounts used and the short duration of release.

In an effort to further reduce emissions of pollutants to the atmosphere during the construction phase of the project, SMAQMD staff has identified mitigation that ensures the use of reduced-emission engines and reduced-emission alternative fuels (such as PuriNox and Ultra-Low Sulfur Diesel [ULSD]) to power heavy-duty on-road and off-road equipment during project construction. SMAQMD specific requirements and recommendations are included at the end of this chapter. Two of the SMAQMD requirements for diesel powered equipment NOx and visible emissions are also included as air quality mitigation measures to ensure emission reduction compliance is monitored pursuant to CEQA and SMAQMD.

VINEYARD CREEK AND VINEYARD POINT SUBDIVISIONS

The Sacramento Metropolitan Air Quality District (SMAQMD) commented that, due to their size, the Vineyard Creek and Vineyard Point projects exceed the District's thresholds of significance. Therefore, construction related air quality impacts are considered significant. The following mitigation measures may reduce this impact but not likely to less-than-significant levels given the size of the developments.

RECOMMENDATIONS OF THE SMAQMD

The following are recommendations of the SMAQMD and are not mitigation measures:

1. The use of an aqueous base alternative fuel as a fuel for heavy-duty, off-road, diesel-powered equipment is also recommended. These alternative fuels will reduce NOx emissions by approximately 14% and PM10 emissions by approximately 63%.

2. Limit diesel engine idling to not more than 5 minutes, before turning off the engine.

3. During the construction phase(s) of the project, District Rule 403 – Fugitive Dust, will apply. The developer/contractor is required to control dust emissions from earth moving activities, or any other construction activity, to prevent airborne dust from leaving the project site. District Rules are available at www.airquality.org.

4. Any architectural coatings used must comply with District Rule 442 – Architectural Coatings. The developer/contractor is required to use coatings that comply with the volatile organic compound content limits specified in Rule 442. Questions regarding Rule 442 should be directed to the District's Compliance Assistance Hotline at (916) 874-4884.

5. We recommend that all required street trees be a minimum 24-inch box size. Larger trees provide shade that not only reduce heat, but also are more attractive to pedestrians for short trips to parks and neighborhood facilities.

6. If gas appliances are to be used in the dwelling units, District staff recommends the use of low NOx (Nitrogen Oxides) furnaces, water heaters, and cooking facilities.

7. We recommend that the developer install "Energy-Star" labeled roofing materials.

8. We recommend that the project comply with SMUD Advantage (Tier II or III) energy standards.

9. We recommend that an AQ-15 Air Quality Plan be developed to mitigate the air quality impacts of the project. Submission and approval of the plan should be completed as a condition of approval for the project. The AQ Plan should include, but not be limited to, the mitigation measures listed above.

MITIGATION MEASURES

AQ-1. The project shall provide a plan for approval by the County of Sacramento and SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average; and

AQ-2. The project representative shall submit to the County of Sacramento and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an

inventory shall not be required for any 30-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.

AQ-3. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity shall be repaired immediately, and the County 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 30-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 supercede other SMAQMD or state rules or regulations.

AQ-4. The following construction-related measures apply to construction activities within the Specific Plan area:

- Water exposed, graded surfaces at least two times per day and if possible, keep soil moist at all times.
- Properly maintain diesel and/or gas fueled construction equipment.
- Water haul roads at least two times per day
- Use low VOC architectural coatings

AQ-5. Comply with the adopted AQ-15 Plan, which is included in section 7.6 (Travel demand reduction measures of the NVSSP text).~~.~~

~~AQ-6.Individual development projects within the Specific Plan Area shall achieve an additional 2 percent reduction in combined operational and area source air quality emissions to ensure overall AQ-15 compliance.~~

~~AQ-7.~~AQ-6. No wood burning appliances shall be permitted in new construction within the Specific Plan area. Fireplaces and similar “wood stoves” shall be fueled by natural gas or propane.

9 NOISE

BACKGROUND

Project related noise impacts on existing and future sensitive receptors were evaluated in the prior EIR. The analysis concluded that residential uses within the Plan Area could be adversely affected by noise generated by traffic, railroad operations and new commercial, business/professional, and school uses. The extent to which existing or future residential developments would be affected by these noise sources would depend on the proximity of the developments to the various noise sources. Residential developments close to major roadways were expected to be significantly impacted by traffic noise. Some residential uses located near the railroad track could also be adversely impacted by train operation noise. Future siting of commercial, business/professional, and school uses in proximity to residential uses could also cause noise-related land use compatibility impacts.

As a general precautionary measure, where noise sensitive land uses are proposed within the 60 dB L_{dn} noise contour for future traffic or railroad operations, an acoustical analysis should be required so that noise mitigation measures specific to a particular situation may be incorporated into the project design. The objectives of these mitigation measures are to ensure compliance with the Sacramento County noise standards and to protect noise sensitive developments from excessive noise levels.

The two maps submitted, as well as the water treatment facility, are located within the 60 dB Ldn noise contour, and require an acoustical analysis. Noise analyses for each were prepared by Bollard & Brennan, Inc. (December 2003) and are presented in the following discussion.

SETTING

Motor vehicle traffic is the major contributor to the existing noise environment in the Plan Area. Major vehicular noise in the Plan Area occurs along Florin Road, Gerber Road, and Bradshaw Road. Another major noise source in the Plan Area occurs along the Central California Traction Railroad Tracks as a result of train movement and operations along the railroad tracks. A third potentially significant noise source impacting the Plan Area is Mather Field, about 3 miles northeast of the Plan Area. There are no significant stationary noise sources, such as factories, stadiums, or industrial, or commercial uses, located in the Plan Area.

Residential uses are the primary 'noise sensitive receptors' located throughout the Plan Area. There are numerous existing residences located within the Plan Area and vicinity. Residences are principally located along Florin, Gerber, and Bradshaw Rroads. The

exception are the agricultural-residential homes located along minor roads such as McCoy Lane, Passalis Lane, and Hedge Avenue in the west Plan Area and vicinity, Heather Place Lane in the east Plan Area, Gavern Lane on the west side of Bradshaw Road, and Bar Du Lane on the south side of the Plan Area.

REGULATORY SETTING

In order to limit population exposure to physically and/or psychologically damaging noise levels, the State of California and Sacramento County have established standards and ordinances to control noise.

STATE OF CALIFORNIA

The California Department of Health Services' (DHS) Oeffice of Noise Control has studied the correlation of noise levels and their effects on different land uses. As a result, the DHS has established four categories for judging the severity of noise intrusion on specified land use. Noise in the "normally acceptable" category places no undue burden on affected receptors and would need no mitigation. As noise rises into the "conditionally acceptable" range, some mitigation of exposure, as established by an acoustic study, would be warranted. At the next level, noise intrusion is so severe that it is classified "normally unacceptable" and would require extraordinary noise reduction measures to avoid disruption. Finally, noise in the "clearly unacceptable" category is so severe that it cannot be mitigated.

Title 24 of the California Administrative Code establishes standards governing interior noise levels that apply to all new multifamily residential units in California. The standards require that acoustical studies be performed prior to construction at building locations where the existing L_{dn} exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that will limit maximum L_{dn} noise levels to 45 dBA in any inhabitable room. The U.S. Department of Housing and Urban Development (HUD) has set an L_{dn} of 45 as its goal for interior noise in residential units built with HUD financing.

COUNTY GENERAL PLAN NOISE ELEMENT

In accordance with State noise regulations, the Sacramento County General Plan Noise Element sets forth land use compatibility criteria for various community noise levels, as shown on Table 9-1. For noise generated by transportation noise sources (roads and railroads), the Noise Element specifies that residential land uses are unconditionally compatible with exterior noise levels of up to 60 dB L_{dn}[1]. The 60 dB L_{dn} noise level is

[1] Ldn is the average day/night level where nighttime noise (10pm-7am) is mathematically increased by 10 decibels before averaging to account for increased sensitivity to nighttime noise. CNEL is the community

considered an acceptable noise environment for residential outdoor activities. Where the exterior noise level from transportation sources is between 60 and 75 dB L_{dn}, the Noise Element specifies that residential uses should be permitted only after careful study and inclusion of noise reduction, or attenuation measures as needed. In these instances, an exterior noise level of 65 dB L_{dn} may be allowed in outdoor activity areas provided that "all practical" exterior noise reduction measures are applied.

An interior noise level criteria of 45 dB L_{dn} is specified in the Noise Element for residential land uses exposed to transportation noise sources. The intent of this interior noise standard is to provide a suitable environment for indoor communication and sleep. For noise generated by non-transportation noise sources (industrial and commercial machinery and uses, etc.), the Noise Element specifies that residential land uses are compatible with exterior daytime levels up to 80 dB L_{max}.

The Noise Element policies associated with transportation and non-transportation noise sources applicable to the current project are as follows:

Policy NO-1. Noise created by new transportation* noise sources should be mitigated so as not to exceed 60 dB L_{dn}/CNEL** at the outdoor activity areas of any affected residential lands or land use situated in the unincorporated areas. When a practical application of the best available noise-reduction technology cannot achieve the 60dB L_{dn} CNEL standard, then an exterior noise level of 65dB L_{dn} CNEL may be allowed in outdoor activity areas.

Policy NO-2. Noise created by new non-transportation noise sources shall be mitigated so as not to exceed any of the noise level standards of Table II-1 (*Table 9-2 of this EIR*), as measured immediately within the property line of any affected residentially designated lands or residential land use situated in the unincorporated areas.

Policy NO-3. Where proposed non-transportation noise sources are likely to produce noise levels exceeding the performance standards of Table II-1 (*Table 9-2 of this EIR*) at existing or planned residential uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design. (Requirements for the content of an acoustical analysis are given by Table II-2.)

Policy NO-4. Where residential land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding either 60 dB

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noise equivalent level. Generally equal to the Ldn, CNEL calculations also penalize evening noises (7pm-10pm) by 5 decibels before calculating the average.

L_{dn}/CNEL or the performance standards of Table II-1 (*Table 9-2 of this EIR*), an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Table 9-1
County Land Use Compatibility for Community Noise Environments

LAND USE CATEGORY	**COMMUNITY NOISE ENVIRONMENTS** L_{dn} or CNEL dB					
	55	60	65	70	75	80
RESIDENTIAL Including AR-1 and AR-2						
AGRICULTURAL RESIDENTIAL 5 and 10 acres						
TRANSIENT LODGING-MOTELS, HOTELS						
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES						
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES, SPORTS ARENAS						
PLAYGROUNDS, NEIGHBORHOOD PARKS						
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES						
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL						
INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE						
OPEN SPACE, AGRICULTURE						

	ACCEPTABLE: Specified land use is satisfactory..

	CONDITIONALLY ACCEPTABLE Use should be permitted only after careful study and inclusion of protective measures as needed for intended use and to satisfy policies of the Noise Element
	UNACCEPTABLE: Development not feasible in accordance with Noise Element. Use prohibited

Policy NO-5 New residential development shall not be allowed where the noise level due to non-transportation noise sources will exceed the noise level standards of Table II-1 (*Table 9-2 of this EIR*), as measured immediately within the property line of the new development.

Policy NO-6. The compatibility of proposed nonresidential projects with existing and future noise levels due to transportation noise sources shall be evaluated through a comparison to Figure II-1, "Land Use Compatibility for Community Noise Environments" and Table II-3, "Acceptable Noise Levels in Unoccupied Rooms" (*Table 9-3 of this EIR*), and to Figure II-4 for projects affected by aircraft noise.

Policy NO-7. Proposed development of residential land uses should not be permitted: 1) In areas exposed to existing or projected levels of noise from transportation noise sources which exceed 60 dB to 65 dB L_{dn}/CNEL unless the project design includes effective mitigation measures to reduce noise to 60 dB to 65 dB L_{dn}/CNEL or less in outdoor activity areas, and 45 dB L_{dn}/CNEL or less in indoor areas; and 2) For 5 and 10 acre Agricultural-Residential land use the standard for exterior noise is also 60 dB to 65 dB L_{dn}/CNEL. The standard remains at 45 dB L_{dn}/CNEL for interior noise levels.

Table 9-2
Sacramento County Noise Level Performance Standards
For Residential Areas Affected by Non-transportation Noise

Statistical Noise Level Descriptor	**Exterior Noise Level Standard**	
	Daytime (7am-10pm)	**Nighttime (10pm-7am)**
L_{50}	50 dB	45 dB
L_{max}	70 dB	65 dB

Source: Sacramento County Noise Element, Table II-1 (p.7).

Table 9-3
Acceptable Noise Levels in Unoccupied Rooms Affected by Transportation Noise

Location	Average Sound Level, dB [1]
Radio studios, recording studios	25-30
Concert halls, large auditoriums	30-35
Motion picture theaters	40-45
Conference rooms, small offices	40-45
Public offices (large), banks, stores	45-50
Restaurants, cafeterias	45-55
Libraries	40-45
Music rooms	30-35
Theaters (speech)	30-35
Churches	35-40
Classrooms	35-45
Hospitals	40-45
Court rooms	40-45

[1] L_{eq} during worst case hour when in use.

Source: Brown Buntin & Associates. *Environmental Noise Analysis, North Vineyard Station Specific Plan*, December 4, 1996.

COUNTY NOISE CONTROL ORDINANCE

Noise generated by non-transportation noise sources are regulated by the County Noise Ordinance as summarized in Table 9-4.

RAILROADS

The Sacramento County General Plan Noise Element includes operational information from the three railroad companies within the County (Southern Pacific, Union Pacific, and Central California Traction). This information was used as inputs to the "Simplified Procedure for Assessment of Noise Emitted by On-Line Railroad Operations", prepared by Wyle Laboratories in 1974. The Wyle laboratories methodology for prediction of railroad noise exposure is recommended by the State Office of Noise Control, and is considered to be reasonably accurate for generalized noise contour development. The operational information collected included average number of and nighttime trains, train speeds and warning horn usage locations. To ensure that railroad noise modeling methods would accurately portray noise levels in Sacramento County, noise measurements were performed at several locations in the County. Single event noise level information collected at each measurement site included the maximum noise level, duration and Sound Exposure Level (SEL) of each train passage. The reported and observed number of operations, and the noise measurement and prediction results are contained in Table 9-5.

Table 9-4
Sacramento County Noise Ordinance Standards

Cumulative Duration of the Intrusive Sound	Descriptor	Exterior Noise Standard, dB	
		Daytime (7am-10pm)	Nighttime (10pm-7am)
30-60 minutes per hour	L_{50}	55	50
15-30 minutes per hour	L_{25}	60	55
5-15 minutes per hour	L_{08}	65	60
1-5 minutes per hour	L_{02}	70	65
Level not to be exceeded at any time	L_{max}	75	70

Table 9-5
Operational Information and Noise Measurement Results
Sacramento County Railroads

	Total Daily Trains		Nighttime Trains		L_{dn}, dB at 100 feet		Distance to 60 dB L_{dn} Noise Contour
Railroad	Reported	Observed	Reported	Observed	Wyle	Computed *	
SPRR							
North	40	37	16 – 20	23	77	67	1360
South	20	19	8 – 10	8	74	70	860
Placerville	2	-	0	-	57	-	60
Ione	N/A**	-	-	-	-	-	-
UPRR							
North	15	17	5	7	72	70	630
South	15	7	5	3	72	69	630
CCTC	2	-	0	-	57	-	60

*L_{dn} values computed from noise measurement results and reported operational data.

**The Ione branch line is used infrequently by “local” freights, and no specific operational data are available

NON-REGULATORY SETTING

SUBJECTIVE REACTIONS TO CHANGES IN NOISE LEVELS

Another means of assessing noise impact is to estimate public reaction to the change in noise level which result from a given project. Expected human reaction to changes in ambient noise levels have been quantified by metrics that define short-term exposure (e.g. hourly L_{eq}, L_{max}, and L_n). These metrics are usually used to describe noise impacts due to industrial operations, machinery and other sources that are not associated with transportation. An increase of at least 3 dB is usually required before most people will perceive a change in noise levels, and an increase of 5 dB is required before the change will be clearly noticeable.

Table 9-6 is used to show expected public reaction to changes in environmental noise levels. This table was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source.

Table 9-7 is based upon 1992 recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. FICON recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been assumed for this analysis that they are applicable to all sources of noise that are described in terms of cumulative noise exposure metrics such as the L_{dn} or CNEL.

Table 9-6
Subjective Reaction to Changes in Noise Levels of Similar Sources

Change in Level, dB	Subjective Reaction	Factor Change in Acoustical Energy
1	Imperceptible (Except for tones)	1.3
3	Just Barely Perceptible	2.0
5	Clearly Noticeable	3.2
10	About Twice (or Half) as loud	10.0

Source: *Architectural Acoustics, M. David Egan, 1988.*

Table 9-7
Significance of Changes in Cumulative Noise Exposure

Ambient Noise Level Without Project (L_{dn} or CNEL)	Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON), as applied by Brown-Buntin Associates, Inc.

NOISE ANALYSIS

PRIOR NOISE STUDY FOR NVSSP

In accordance with Policies NO-3 and NO-4, an environmental noise analysis was prepared for the Specific Plan by Acoustical Consultants, Brown Buntin and Associates (BBA). The analysis concluded that the following measure would be implemented for any new development within the Specific Plan Area:

> Future noise sensitive residential land uses proposed for development within the future 60 dB L_{dn} traffic or railroad operation noise contours shall be required to prepare an acoustical analysis and to implement identified noise attenuation measures necessary to ensure compliance with the noise standards of the County General Plan Noise Element.

In accordance with this measure, acoustical analyses have been prepared for the Vineyard Creek subdivision, Vineyard Point subdivision, and the proposed water treatment facility. The acoustical consulting firm of Bollard and Brennan, Inc. was retained by the project applicant to prepare these analyses.

VINEYARD CREEK SUBDIVISION

TRAFFIC NOISE PREDICTION METHODOLOGY

Bollard and Brennan, Inc. employs the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic

noise levels. The FHWA model is the analytical method currently favored for traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans). 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.

On June 9, 2003, Bollard and Brennan, Inc. conducted noise level measurements and concurrent counts of Florin Road traffic at the project site. The purpose of the short-term traffic noise level measurement was to determine the accuracy of the FHWA model in describing the existing noise environment on the project site, actual travel speeds, and roadway grade. Noise measurement results were compared to the FHWA model results by entering the observed traffic volume, speed, and distance as inputs to the FHWA model. See Plate NS -1 for noise measurement locations.

Instrumentation used for the measurement was a Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter which was calibrated in the field before use with and LDL CA-200 acoustical calibrator. Table 9-8 shows the results of the traffic noise calibration. Based upon the calibration results, the FHWA Model was found to accurately predict Florin Road traffic noise levels within 0.6 dB of the measured noise levels on the project site.

EXISTING TRAFFIC NOISE LEVELS

Average daily traffic volumes for existing conditions were obtained from the traffic study performed for the NVSSP Phasing Analysis (Fehr & Peers Associates April 3, 2003). The day/night distribution was derived from Bollard and Brennan, Inc. file data for similar roadways. The percentages of medium and heavy trucks were estimated from Bollard and Brennan traffic counts. Estimated future traffic speed assumptions were based on posted speed limits and field observations. The FHWA Model inputs are contained in Table 9-9.

The FHWA model was used with the Table 9-9 data to predict future traffic noise levels at the project site. The results of that analysis at the identified locations of future outdoor activity areas (back yards) within the development are shown in Table 9-10.

Table 9-8
Comparison of FHWA Model to Measured Florin Road Traffic

Vehicles/Hr.				Speed (mph)	Dist. (Feet)[1]	Measured Leq , dB	Modeled Leq, dB[2]	Difference
Site	Autos	Med. Trk	Hvy. Trk					
1	328	16	4	50	50	63.8	64.4	+0.6 dB

[1] The noise measurement location is from the roadway centerline.
[2] Acoustically "soft" site assumed

Table 9-9
FHWA Traffic Noise Prediction Model Inputs, Existing Conditions
(Vineyard Creek Subdivision)

Roadway	Future ADT	Day/Night	Medium Trucks	Heavy Trucks	Speed
Florin Road	7,800	83%/17%	3.5%	2%	45 mph
Waterman Road	N/A	83%/17%	3.5%	2%	45%

Source: Traffic Study for the NVSSP Phasing Analysis, and Bollard and Brennan, Inc. file data.

Table 9-10
Existing Traffic Noise Levels
(Vineyard Creek Subdivision)

Location	Distance from Backyard to Roadway Centerline	Computed L_{dn}, dB (unmitigated)	Distance to 60 dB Contour	Distance to 65 dB Contour
Florin Road	100'	63	153'	71'
Waterman Road	NA[1]	NA	NA	NA

[1]Waterman Road does not yet exist on the site.

PREDICTED FUTURE TRAFFIC NOISE LEVELS

The FHWA model was used with the Table 9-11 data to predict future traffic noise levels at the project site. The results of that analysis, at the identified locations of future outdoor activity areas (backyards), within the development, are shown in Table 9-12.

Table 9-11
FHWA Traffic Noise Prediction Model Inputs, Future Conditions
(Vineyard Creek Subdivision)

Roadway	Future ADT	Day/Night	Medium Trucks	Heavy Trucks	Speed
Florin Road	19,300	83%/17%	3.5%	2%	45 mph
Waterman Road	8,700	83%/17%	3.5%	2%	45%

Source: Traffic Study for the NVSSP Phasing Analysis, and Bollard and Brennan, Inc. file data.

Table 9-12
Predicted Future Traffic Noise Levels
(Vineyard Creek Subdivision)

Location	Distance from Backyard to Roadway Centerline	Computed L_{dn}, dB (unmitigated)	Distance to 60 dB Contour	Distance to 65 dB Contour
Florin Road	100'	67	280'	130'
Waterman Road	80'	65	165'	76'

EXTERIOR TRAFFIC NOISE LEVELS

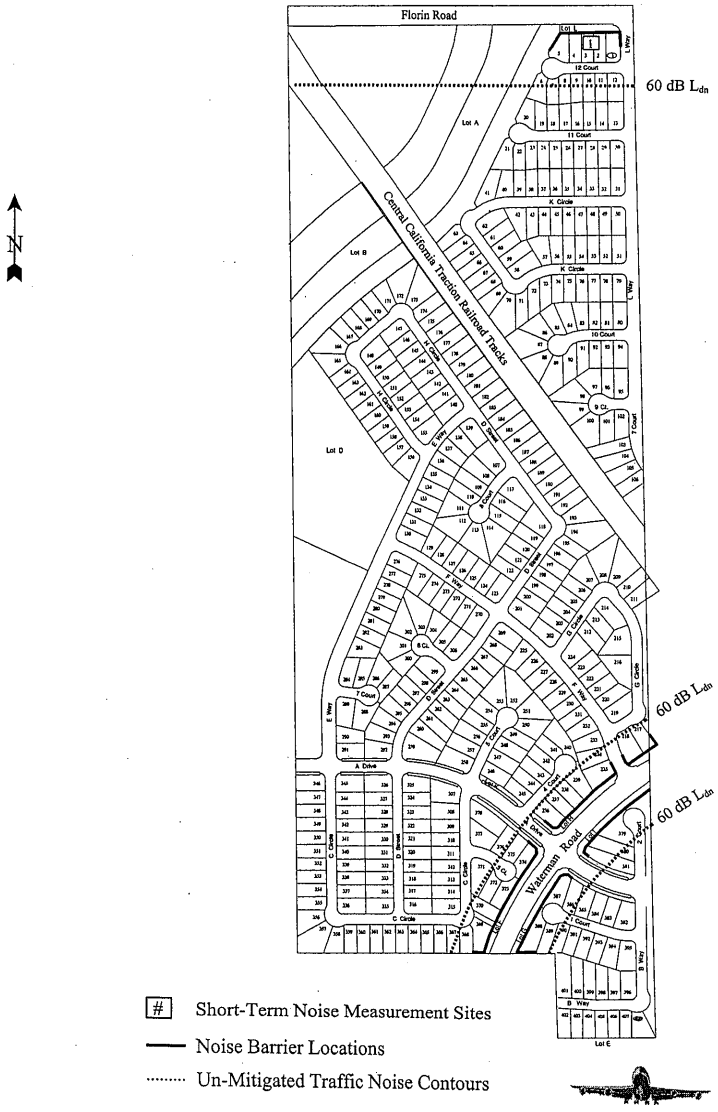
It is apparent from the Table 9-12 data that the residences proposed nearest to Florin Road and Waterman Road would be exposed to future traffic noise levels which exceed the 60 dB L_{dn} Sacramento County Noise Element standard. The ~~Table XX~~ Table 9-12data indicate that the predicted future unmitigated traffic noise levels in the nearest proposed lots adjacent to Florin Road and Waterman Road would be approximately 67 db L_{dn} and 65 dB L_{dn} respectively.

To achieve compliance with the Sacramento County 60 dB L_{dn} exterior noise level standard, Bollard and Brennan, Inc. evaluated the effectiveness of a solid noise barrier in reducing future Florin Road and Waterman Road traffic noise levels for this development.

The FHWA Model traffic noise barrier insertion loss methodology was used to determine the noise reduction which would be provided by a noise barrier of various heights. All assumptions were per usual FHWA practice, with the receiver located at a height of 5 feet above ground in the approximate center of the back yard area, and the autos, medium and heavy trucks located at heights of 0,2 and 8 feet above the roadway elevation, respectively. The summarized results of the FHWA barrier analysis for the receivers located nearest to Florin Road and Waterman Road are contained in Table 9-13.

Plate NS -1
Noise Measurement Sites and Barrier Locations
(Vineyard Creek Subdivision)

Figure 2
Vineyard Creek Subdivision
Noise Measurement Sites and Barrier Locations



Bollard & Brennan, Inc.

Table 9-13
Predicted Future Traffic Noise Levels with Varying Property Line Barrier Heights
(Vineyard Creek Subdivision)

Roadway	Location	Barrier Height	Predicted L_{dn}, dB
Florin Road	Property Line	6’	61
		7’	60
		8’	59
Waterman Road	Property Line	6’	59
		7’	58
		8’	57
Note: All barriers are assumed to be located at the rear of the residential backyards. The distance shown reflects the approximate locations of the center of the backyards to the roadway centerline.			

The Table 9-13 data indicate that barrier heights of 7-feet and 6-feet would be required to reduce future traffic noise levels to less than 60 dB L_{dn} at the lots proposed nearest to Florin Road and Waterman Road, respectively. A 30-foot barrier wrap should be provided at the ends of all barriers in order to provide complete shielding to the outdoor areas. Openings for access roads should wrap a minimum of 10-feet. Barrier locations are shown in Plate ~~XX~~NS-1.

INTERIOR TRAFFIC NOISE LEVELS

The Table 9-12 data indicate that future Florin Road and Waterman Road traffic noise levels at the unshielded first-floor locations of the nearest residences would be approximately 67 dB L_{dn} and 65 dB L_{dn}, respectively. Following construction of the property line noise barriers, future traffic noise levels at first floor facades will be 60 dB L_{dn} or less. Due to reduced ground absorption at elevated positions, second floor noise levels are generally about 2-3 dB higher than unshielded first floor locations (70 dB L_{dn} and 68 dB L_{dn}). To achieve compliance with the Sacramento County 45 dB L_{dn} interior noise level standard at exposed second floor locations nearest to the roadways, building façade noise level reductions of approximately 25 dB and 23 dB would be required. At first floor facades, a building façade noise reduction of 15 – 20 dB would be required.

Standard residential construction (wood siding, STC-28 windows, door weatherstripping, exterior wall insulation, composition plywood roof), results in an exterior to interior noise reduction of about 25 dB with windows closed, and approximately 15 dB with windows open. Therefore, standard construction would be acceptable for first and second floor facades.

EVALUATION OF FUTURE RAILROAD NOISE LEVELS

The CCTC railroad tracks cross diagonally through the project site. According to a representative of the Sacramento Area Council of Governments (SACOG), the CCTC

no longer uses these tracks and they have not been used in over 2 years. In addition, there are currently no plans for use of these tracks for either light or heavy rail.

Based upon the Vineyard Creek Tentative Map, residential property lines are located 50 feet from the railroad track centerline, and therefore, the property lines are inside of the 60 dB L_{dn} noise level contour, associated with the CCTC operations. However, all residential outdoor activity areas within the Vineyard Creek subdivision are a minimum of 10 feet from the property line, and are therefore, located outside of the 60 dB L_{dn} CCTC noise contour.

IMPACTS

Residences proposed nearest to Florin Road and Waterman Road would be exposed to future traffic noise levels that exceed the 60 dB L_{dn} Sacramento County Noise Element Standard. This impact is considered significant.

MITIGATION MEASURES

NO-1. A 7-foot tall property line barrier along Florin Road and a 6-foot tall property line barrier along Waterman Road, shall be constructed. Sufficient barrier wrap should be provided as shown in Plate NS -1.

VINEYARD POINT SUBDIVISION

TRAFFIC NOISE PREDICTION MODEL

Bollard and Brennan, Inc. employs the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic noise levels. The FHWA model is the analytical method currently favored for traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans). 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.

On June 9, 2003, Bollard and Brennan, Inc. conducted noise level measurements and concurrent counts of Bradshaw Road and Gerber Road traffic at the project site. The purpose of the short-term traffic noise level measurement was to determine the accuracy of the FHWA model in describing the existing noise environment on the project site, actual travel speeds, and roadway grade. Noise measurement results were compared to the FHWA model results by entering the observed traffic volume, speed, and distance as inputs to the FHWA model. See Plate NS -2 for noise measurement locations.

Instrumentation used for the measurement was a Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter which was calibrated in the field

before use with and LDL CA-200 acoustical calibrator. Table 9-14 shows the results of the traffic noise calibration. Based upon the calibration results, the FHWA Model was found to accurately predict Florin Road traffic noise levels within 0.6 dB of the measured noise levels on the project site.

Table 9-14
Comparison of FHWA Model to Measured
Bradshaw Road and Gerber Road Traffic

Vehicles/Hr.				Speed (mph)	Dist. (feet)[1]	Measured L_{eq}, dB	Modeled L_{eq}, dB[2]	Difference
Site	Autos	Med. Trk.	Hvy. Trk.					
1	1292	32	40	45	60	67.0	68.6	+1.6dB
2	804	48	8	50	60	66.1	67.2	+1.1dB
3	692	32	0	50	60	65.9	65.8	-0.1dB

[1]The noise measurement location is from the roadway centerline
[2]Acoustically "soft" site assumed

EXISTING TRAFFIC NOISE LEVELS

Average daily traffic volumes for existing conditions were obtained from the traffic study performed for the NVSSP Phasing Analysis (Fehr & Peers Associates April 3, 2002). The day/night distribution was derived from Bollard and Brennan, Inc. file data for similar roadways. The percentages of medium and heavy trucks were estimated from Bollard and Brennan traffic counts. Estimated future traffic speed assumptions were based on posted speed limits and field observations. The FHWA Model inputs are contained Table 9-15.

The FHWA model was used with the Table 9-15 data to predict existing traffic noise levels at the project site. The results of that analysis at the identified locations of future outdoor activity areas (back yards) within the development are shown in Table 9-16

Plate NS -2
Noise Measurement Sites and Barrier Locations
(Vineyard Point Subdivision)

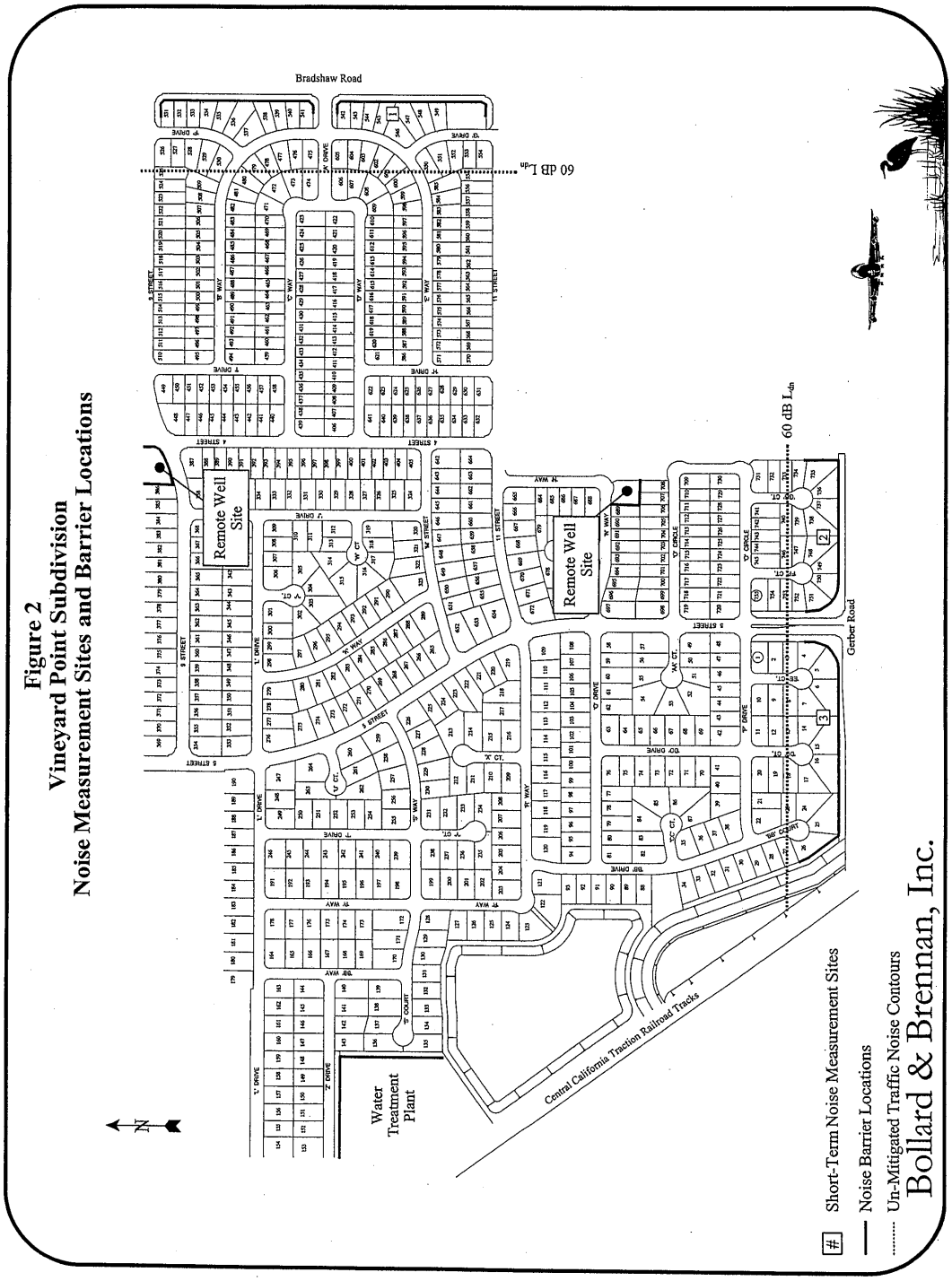


Table 9-15
FHWA Traffic Noise Prediction Model Inputs, Existing Conditions
(Vineyard Point Subdivision)

Roadway	Future ADT	Day/Night	Medium Trucks	Heavy Trucks	Speed
Bradshaw Road	14,500	83%/17%	2.5%	2%	45 mph
Gerber Road	7,500	83%/17%	2.5%	2%	45mph

Source: Traffic Study for the NVSSP Phasing Analysis, and Bollard and Brennan, Inc. file data.

Table 9-16
Existing Traffic Noise Levels
(Vineyard Point Subdivision)

Location	Distance from Backyard to Roadway Centerline	Computed L_{dn}, dB (unmitigated)	Distance to 60 dB Contour	Distance to 65 dB Contour
Bradshaw Road	90’	66	226’	105’
Gerber Road	80’	64	145’	68’

FUTURE TRAFFIC NOISE LEVELS

Average daily traffic volumes for future conditions were obtained from the traffic study performed for the NVSSP Phasing Analysis (Fehr & Peers Associates April 3, 2003). The day/night distribution was derived from Bollard and Brennan, Inc. file data for similar roadways. The percentages of medium and heavy trucks were estimated from Bollard and Brennan traffic counts. Estimated future traffic speed assumptions were based on posted speed limits and field observations. The FHWA Model inputs are contained in Table 9-17.

Table 9-17
FHWA Traffic Noise Prediction Model Inputs, Future Conditions
(Vineyard Point Subdivision)

Roadway	Future ADT	Day/Night	Medium Trucks	Heavy Trucks	Speed
Bradshaw Road	26,500	83%/17%	3.5%	2%	45 mph
Gerber Road	17,100	83%/17%	3.5%	2%	45mph

Source: Traffic Study for the NVSSP Phasing Analysis, and Bollard and Brennan, Inc. file data.

PREDICTED FUTURE TRAFFIC NOISE LEVELS

The FHWA model was used with the Table 9-17 data to predict future traffic noise levels at the project site. The results of that analysis at the identified locations of future outdoor activity areas (back yards) within the development are shown in Table 9-18.

Table 9-18
Predicted Future Traffic Noise Levels
(Vineyard Point Subdivision)

Location	Distance from Backyard to Roadway Centerline	Computed L_{dn}, dB (unmitigated)	Distance to 60 dB Contour	Distance to 65 dB Contour
Bradshaw Road	90’	69	337’	157’
Gerber Road	80’	67	252’	117’

EXTERIOR NOISE LEVELS

It is apparent from the Table 9-18 data that the residences proposed nearest to Bradshaw Road and Gerber Road would be exposed to future traffic noise levels that exceed the 60 dB Ldn Sacramento County Noise Element standard. The Table 9-18 data indicate that the predicted future unmitigated traffic noise levels in the nearest proposed lots adjacent to Bradshaw Road and Gerber Road would be approximately 69 dB Ldn and 67 Ldn, respectively.

To achieve compliance with the Sacramento County 60 dB Ldn exterior noise level standard, Bollard and Brennan, Inc. evaluated the effectiveness of a solid property line barrier in reducing future Bradshaw Road and Gerber Road traffic noise levels for this development.

The FHWA model traffic noise insertion loss methodology was used to determine the noise reduction that would be provided by property line barriers of various heights. All assumptions were per usual FHWA practice, with the receiver located at a height of 5 feet above ground in the approximate center of the back yard area, and the autos, medium and heavy trucks located at heights of 0,2, and 8 feet above the roadway elevation, respectively. The summarized results of the FHWA barrier analysis for the receivers located nearest to Bradshaw Road and Gerber Road are contained in Table 9-19.

Table 9-19
Predicted Future Traffic Noise Levels with Varying Property Line Barrier Heights (Vineyard Point Subdivision)

Roadway	Location	Barrier Height	Predicted L_{dn}, dB
Bradshaw Road	Property Line	6’	63
		7’	62
		8’	61
		9’	60
		10’	59
Gerber Road	Property Line	6’	61
		7’	61
		8’	59
		9’	58
		10’	57

Note: All barriers are assumed to be located at the rear of the residential backyards. The distance shown reflects the approximate locations of the center of the backyards to the roadway centerline.

The Table 9-19 data indicate that barrier heights of 9 and 8 feet would be required to reduce future traffic noise levels to less than 60 dB Ldn at the lots proposed nearest to Bradshaw Road and Gerber Road, respectively. A 30-foot barrier wrap should be provided at the ends of all barriers in order to provide complete shielding to the outdoor areas. Openings for access roads should wrap a minimum of 10-feet. Barrier locations are shown in Plate NS -2.

INTERIOR TRAFFIC NOISE LEVELS

The Table 9-18 data indicate that future Bradshaw Road and Gerber Road traffic noise levels at the unshielded first-floor locations of the nearest residences would be approximately 69 dB Ldn and 67 dB Ldn. Following construction of the property line

barriers, future traffic noise levels at first floor facades will be 60 dB Ldn or less. Due to reduced ground absorption at elevated positions, second floor noise levels are generally about 2 – 3 dB higher than unshielded first floor locations (72dB Ldn and 70 dB Ldn). To achieve compliance with the 45 dB Ldn interior noise level standard of the Sacramento County at exposed second floor locations nearest to the roadways, building facade noise level reductions of approximately 27 dB and 25 dB would be required. Standard residential construction (wood siding, STC-28 windows, door weatherstripping, exterior wall insulation, composition plywood roof), results in an exterior to interior noise reduction of about 25 dB with windows closed, and approximately 15 dB with windows open. Therefore, standard construction would be acceptable for first floor facades since those facades would be shielded by the required property line barrier. However, improvements to second-floor bedroom window assemblies are recommended for the lots adjacent to Bradshaw Road to achieve compliance with the County's interior noise level standard. In addition, mechanical ventilation (air conditioning) should be provided to allow occupants to close doors and windows to achieve the desired traffic noise isolation.

To satisfy the interior noise level standard of 45 dB at the second floor facades of the residences constructed adjacent to Bradshaw Road, all second-floor bedroom windows, from which the roadway is visible, should have a minimum sound transmission class (STC) rating of 30.

Evaluation of Future Railroad Noise Levels

The CCTC railroad tracks border the west side of the project site. According to a representative of the Sacramento Area Council of Governments (SACOG), the CCTC no longer uses these tracks and they have not been used in over 2 years. In addition, there are currently no plans for use of these tracks for either light or heavy rail.

Based upon the Vineyard Point Tentative Map, residential property lines are located outside the 60 dB Ldn CCTC noise contour.

Impacts

Residences proposed nearest to Bradshaw Road and Gerber Road would be exposed to future traffic noise levels that exceed the 60 dB L_{dn} Sacramento County Noise Element Standard. This impact is considered significant.

Mitigation Measures

NO-2. A 9-foot tall property line barrier along Bradshaw Road and an 8-foot tall property line barrier along Gerber Road, shall be constructed. Sufficient barrier wrap should be provided as shown in Plate NS -2.

NO-3. STC-30 windows shall be installed in the second floor of the first row of houses which are adjacent to Bradshaw Road. In these houses, only second floor windows with a direct view of Bradshaw Road need to be upgraded.

EVALUATION OF WATER TREATMENT FACILITY AND WELL SITES

WATER TREATMENT FACILITY

Noise from activities at the water treatment facility, may result in noise levels which exceed the Sacramento County hourly noise criteria for non-transportation noise sources. The most significant noise sources at the water treatment plant will be the booster pumps, electric motors, and the emergency generator.

As a means of determining the likely noise impacts associated with the booster pumps and motors, Bollard and Brennan, Inc. conducted noise level measurements of a similar pump assembly at the SSWD Northrop Darnejo #68 Pump Station in Sacramento on March 4, 2003. The pump and motor assembly included a 150-horse power Newton electric motor and Johnson pump.

Instrumentation used for collecting overall A-weighted sound levels and linear frequency data included a Larson Davis (LD) Model 824 precision integrating sound level meter and real time analyzer which is capable of narrow-band and 1/3 octave band frequency analysis. The equipment meets ANSI standards for precision sound level meters and narrow band filters. The equipment was calibrated in the field before use with an LDL CA200 acoustical calibrator. Table 9-20 and Table 9-21 show the results of the noise level measurements.

Table 9-20
Pump and Motor Overall A-Weighted Noise Level Measurement Results
March 4, 2003

Site	Distance	Measured Sound Level, dBA		Comments
		L_{50}	L_{max}	
A	2 feet	84.6	85.1	Pump motor is primary noise source
B	20 feet	70.8	73.1	Pump motor is primary noise source

Table 9-21
Pump and Motor Octave Band Noise Level Measurement Results
March 4, 2003

Site	Distance	Linear Sound Level for each Octave Band Center Frequency (Hz)								
		31.5	63	125	250	500	1k	2k	4k	8k
A	2 feet	68.0	75.5	82.4	78.0	81.5	80.4	77.0	73.9	72.7
B	20 feet	56.5	61.1	65.4	62.7	65.6	67.0	63.2	60.9	59.8

Residential uses are located to the north and east of the proposed water treatment facility. The nearest residential property line is located approximately 150 feet from the booster pumps. Based upon the noise level measurement data contained within Table 9-20, the predicted noise level at the backyard of the nearest residence is 53 dB $L_{50.}$ This level exceeds the Sacramento County hourly noise criteria of 50 dB L_{50} for daytime noise and the 45 dB L_{50} criteria for nighttime noise. Since the booster pumps are expected to operate during the nighttime hours, it is recommended that noise control measures, which will reduce overall pump noise levels by a minimum of 8 dBA, be included in the project design. According to the project design, the treatment facility will be bordered by 7-foot masonry sound walls on the north and east sides. Bollard and Brennan, Inc. evaluated the effectiveness of these property line barriers in reducing noise levels associated with the booster pumps and electric motors. The results of this analysis are shown in Table 9-22. Barrier locations are shown in Plate NS -2.

Table 9-22
Predicted Water Treatment Facility Noise Levels
with Varying Property Line Barrier Heights
(Vineyard Point Subdivision)

Source	Location	Barrier Height	Noise Reduction, dB	Predicted L_{50}, dB
Water Treatment Plant	Property Line	6’	-5.2	47.8
		7’	**-6.1**	**46.9**
		8’	-7.2	45.8
		9’	-8.3	44.7

The data in Table 9-22 indicate that a 7-foot property line barrier would reduce booster pump noise by 6.1 dB to an overall level of 46.9 dB L_{50}. This level still exceeds the Sacramento County nighttime noise criteria of 45 dB L_{50}. The use of a 7-foot tall property line barrier would not be sufficient to reduce nighttime noise levels to within the Sacramento County hourly noise criteria.

The project engineers for the treatment facility (Luhdorff and Scalmanini) have stated the desire of enclosing the pump assemblies within a concrete building in order to provide noise reduction, improved aesthetics, and security. Such a building could provide a significant reduction in overall pump noise levels. However, ventilation

requirements may be needed for the equipment, therefore, openings for air flow will be required, which may compromise noise control.

A typical concrete building would provide a 20 dB minimum noise reduction. To ensure adequate air flow for the electrical equipment, all openings in the concrete building must be fitted with acoustical louvers or silencers similar to Vibron Brand Low Frequency Rectangular Silencers Model VRS-SV. The silencers should be applied to the supply and return air sides. The silencers or louvers should provide a minimum insertion loss of 10 – 15 dB at the 125 Hz through 1000 Hz frequency ranges.

Companies that provide silencers can provide assistance in determining proper air flow and pressure drop requirements are met.

Doors on the enclosure should have weather stripping to reduce flanking sound.

This type of structure, along with the proposed 7-foot tall property line barriers would be sufficient to reduce booster pump noise levels to within the Sacramento County nighttime noise criteria of 45 dB L_{dn}.

EMERGENCY GENERATOR EXHAUST

The treatment facility will also include a backup diesel generator that could exceed the Sacramento County noise level standards. Table 9-23 provides manufacturers noise level data for an un-muffled exhaust stack for a single generator.

Table 9-23
Noise Level Data
Caterpillar 1000 ekW Standby Generator Exhaust Stack

Component	Overall Noise Level	Octave Band Center Frequency, Hz							
		63	125	250	500	1000	2000	4000	8000
Exhaust Stack	102 dB	94 dB	110 dB	105 dB	96 dB	94 dB	95 dB	95 dB	92 dB

The nearest residential property line to the exhaust stacks would be approximately 150 feet away. The predicted un-muffled exhaust noise level with the generator in operation is predicted to be 85 dBA at the backyard of the nearest residence. Assuming that the generator operates continually for one half of an hour while being exercised, the hourly L_{50} (sound level not to be exceeded 30 minutes of the hour) is 82 dBA. This level would exceed the daytime and nighttime noise level criteria of 50 dBA L_{50} and 45 dBA L_{50}, respectively.

Mufflers such as a Vibron-brand residential muffler, which is generally used in residential areas or hospitals will provide an overall noise level reduction of up to 47 dBA. Therefore, use of mufflers on the exhaust stacks would result in noise levels at the nearest residences of less than 45 dB L_{50}. The use of mufflers would reduce noise

levels within compliance with the Sacramento County daytime and nighttime exterior noise level criteria of 50 dBA L_{50} and 45 dBA L_{50}, respectively.

It is recommended that all routine exercising of the emergency generator is done during the weekday daytime hours. All doors to the generator enclosure should be in the closed position during the testing.

Use of this type of muffler and these operating procedures would result in a less than significant noise impact.

REMOTE WELL SITES

The project designers have proposed the use of vertical turbine pumps for use at the two remote well sites. The pumps are to be housed within concrete masonry buildings and surrounded by solid masonry walls at the adjacent residential property lines. The noise emissions of these pumps are expected to be similar to those shown in Table 9-23~~Table XX~~. Assuming that the pumps will be located in the middle of each of the sites, the nearest residential property lines would be approximately 40 feet from the backyard of the nearest residence. This level exceeds the Sacramento County hourly noise criteria of 50 dB L50 for daytime noise and the 45 dB L50 criteria for nighttime noise. Since the pump and motor assembly are expected to operate during the nighttime hours, it is recommended that the noise control measures, which will reduce overall pump noise levels by a minimum of 17 dBA, be included in the project design. According to the project designer, the remote well sites will be bordered by 7-foot masonry sound walls on the sides adjacent to residential properties. Bollard and Brennan, Inc. evaluated the effectiveness of this property line barrier in reducing noise levels associated with the booster pumps and electric motors. The results of this analysis are shown in Table 9-24.

Table 9-24
Predicted Water Treatment Facility Noise Levels
with Varying Property Line Barrier Heights
(Vineyard Point Subdivision)

Source	Location	Barrier Height	Noise Reduction, dB	Predicted L_{50}, dB
Remote Well Sites	Property Line	6’	-5.6	56.4
		7’	**-7.2**	**54.8**
		8’	-9.0	53.1
		9’	-10.4	51.6

The data in Table 9-24 indicate that a 7-foot property line barrier would reduce well pump noise by 7.2 dB to an overall level of 54.8 dB L_{50}. The use of a 7-foot tall property line barrier would not be sufficient to reduce nighttime noise levels to within the Sacramento County noise criteria of 45 dB L_{50}.

The project engineers have stated the desire of enclosing the remote well pump within a concrete building in order to provide noise reduction, improved aesthetics, and security. Such a building could provide a significant reduction in overall pump noise levels. However, ventilation requirements may be needed for the equipment, therefore, openings for air flow will be required, which may compromise noise control.

A typical concrete building would provide a 20 dB minimum noise reduction. To ensure adequate air flow for the electrical equipment, all openings in the concrete building must be fitted with acoustical louvers or silencers similar to Vibron Brand Low Frequency Rectangular Silencers Model VRS-SV. The silencers should be applied to the supply and return air sides. The silencers/louvers should provide a minimum insertion loss of 10-15 dB at the 125 Hz through 1000 Hz frequency ranges.

Companies that provide silencers can provide assistance in determining proper air flow and pressure drop requirements are met.

Doors on the enclosure should have weather stripping to reduce flanking sound.

This type of structure, along with the proposed 7-foot tall property line barriers would be sufficient to reduce remote well pump noise levels to within the Sacramento County Noise Criteria.

IMPACTS

Based upon the noise level measurement data contained within Table 9-20, the predicted noise level at the backyard of the nearest residence to the water treatment facility is 53 dB $L_{50.}$ This level exceeds the Sacramento County hourly noise criteria of 50 dB L_{50} for daytime noise and the 45 dB L_{50} criteria for nighttime noise. Since the booster pumps are expected to operate during the nighttime hours, it is recommended that noise control measures, which will reduce overall pump noise levels by a minimum of 8 dBA, be included in the project design.

The predicted un-muffled exhaust noise level with the emergency generator in operation is predicted to be 85 dBA at the backyard of the nearest residence. Assuming that the generator operates continually for one half of an hour while being exercised, the hourly L_{50} (sound level not to be exceeded 30 minutes of the hour) is 82 dBA. This level would exceed the daytime and nighttime noise level criteria of 50 dBA L_{50} and 45 dBA L_{50}, respectively.

The following mitigation measures will ensure that noise impacts associated with the project are less-than-significant.

MITIGATION MEASURES

NO-4. The water treatment facility should have 7-foot tall property line barriers at the adjacent residential property lines. In addition to the solid barriers, the pumps should be housed in concrete buildings with acoustical louvers/silencers and

weather stripping around the doors. The louvers/silencers must provide a minimum insertion loss of 10-15 dB at the 125 Hz through 1000 Hz frequency ranges.

NO-5. A muffler such as a Vibron brand residential muffler should be fitted on the exhaust stack at the water treatment facility in order to provide adequate noise reduction to meet the Sacramento County noise standards.

NO-6. Remote well (Pump) sites should have 7-foot tall property line barriers at the adjacent residential property lines. In addition to the solid barriers, the pumps should be housed in concrete buildings with acoustical louvers/silencers and weather stripping around the doors. The louvers/silencers must provide a minimum insertion loss of 10-15 dB at the 125 Hz through 1000 Hz frequency ranges.

10 BIOLOGICAL RESOURCES

INTRODUCTION

The prior FEIR indicated that the Plan Area contained a variety of biological resources including wetlands, vernal pools, and a variety of plant and animal species. This section looks in more detail at the current proposal including the Vineyard Creek and Vineyard Point subdivisions, the NVSSP Drainage Master Plan, and the NVSSP Water Treatment Facility.

REGULATORY SETTING

GENERAL PLAN (GP) CONSERVATION ELEMENT

Given that the project area contains tree resources, riparian resources, and wetlands, the following *Sacramento County General Plan* policies apply to the proposed projects.

The Conservation Element contains several policies designed to foster the protection of native and landmark trees, riparian vegetation, and wetlands.

CO-130 Make every effort to protect and preserve non-oak native, excluding cottonwoods, and landmark trees and protect and preserve native oak trees measuring 6 inches in diameter at 4.5 feet above the ground in urban and rural areas, excluding parcels zoned exclusively for agriculture.

CO-131 Native trees other than oaks, which cannot be protected, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed. In addition, with respect to oaks, a provision for a comparable on-site area for the propagation of oak trees may substitute for replacement of tree planting requirements at the discretion of the County Tree Coordinator when removal of a mature oak tree is necessary in accordance with consistent policy.

CO-132 If the project site is not capable of supporting all the required replacement trees, a sum equivalent to the replacement cost of the number of trees that cannot be accommodated shall be paid to the County's Tree Preservation Fund. The replacement cost of trees shall be established in accordance with the Council of Tree and Landscape Appraiser's standards for appraising trees.

CO-134 Mitigate for loss of trees for road expansion and development consistent with County Tree Ordinance and General Plan policies.

CO-62. Ensure no net loss of marsh and riparian woodland acreage, values or functions.

CO-96. Prior to adoption of the mitigation banking ordinance, utilize on a county-wide basis, the adopted interim wetland mitigation/compensation policy: All wetland acreage proposed to be disturbed by any project over which the Board of Supervisors has discretionary approval shall be mitigated/compensated for by either one or a combination of the following methods:

1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provide reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.

2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved and, provided, further, that such mitigation and management plan shall be subject to the independent, discretionary approval of the Board of Supervisors.

3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Pplan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.

WATERS OF THE UNITED STATES

The U.S. Army Corps of Engineers (Corps) has jurisdiction and permitting authority under Section 404 of the Clean Water Act (CWA) over the discharge of dredged or fill material into waters of the United States, including wetlands. The Corps determines the

significance of and approves, restricts, or prohibits discharges through application of the Section 404(b)(1) guidelines, the substantive criteria for dredged and fill material discharges under the CWA. These guidelines have been developed by the U.S. EPA in conjunction with the Corps. The guidelines are based on the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern. Under the Fish and Wildlife Coordination Act, the USFWS advises the Corps on projects involving dredge and fill activities in waters and wetlands of the United States.

SENSITIVE SPECIES

The United States Congress passed the Federal Eendangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. In 1984, the State of California enacted a similar law, the California Endangered Species Act (CESA), to protect species identified and listed by the California Fish and Game Commission as endangered or threatened with extinction.

The state and federal Endangered Species Acts are intended to operate in conjunction with CEQA and the National Environmental Policy Act (NEPA) to help protect ecosystems that endangered and threatened species depend upon. The United States Fish and Wildlife Service (USFWS) is responsible for implementation of the FESA while the California Department of Fish and Game (CDFG) implements the CESA.

Accidental or intentional killing of a threatened or endangered species is labeled “take.” “Take” is defined by the FESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” any threatened or endangered wildlife species. Take may include significant habitat modification or degradation and is applied to threatened or endangered plant species as well.

Incidental take to an otherwise lawful activity may be authorized by one of two procedures. If a federal agency is involved with the permitting, funding, or carrying out of the project, then initiation of formal consultation between that agency and USFWS pursuant to Section 7 of the FESA is required if a proposed project may affect a federally listed species. Such consultation would result in a biological opinion that addresses the anticipated effects of the project to listed species and may authorize a limited level of incidental take. If a federal agency is not involved with the project, and federally listed species may be taken as part of the project, then an incidental take permit pursuant to Section 10(a) of the FESA must be obtained. The USFWS may issue such a permit upon completion of a satisfactory conservation plan for any listed species that would be affected by the project.

Under CEQA, species officially proposed for listing (federal classification), candidate species (federal and state classification), species of special concern (State of California classification), and species of concern (federal classification) are fully protected. Plants

identified as “1B” by the California Native Plant Society are also afforded protection pursuant to CEQA.

Raptors (birds of prey) and migratory birds are protected by both federal and state law. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of any migratory birds (including raptors) except in accordance with regulations prescribed by the Secretary of Interior. Raptors are also protected by the Fish and Game Code of California.

Collectively, the sensitive species outlined above are referred to as *special status species.*

The USFWS requires the following notification to be provided in the environmental document for any project which has the potential to adversely affect threatened or endangered species:

> The applicant is hereby notified of additional conditions as stipulated by the U.S. Fish and Wildlife Service. Features of the applicant’s project may adversely affect federally listed threatened or endangered species. An applicant must go through one of two processes to obtain authorization to take federally listed species incidental to completing his or her project. One of the processes is formal consultation. When the authorization or funding of a Federal agency is an aspect of a project that may affect federally listed species, section 7 of the Endangered Species Act requires the Federal agency to formally consult with the Service. Formal consultation is concluded when the Service issues a biological opinion to the Federal agency. The biological opinion includes terms and conditions to minimize the effect of take on listed species. The Federal agency must make the terms and conditions of the biological opinion into binding conditions of its own authorization to the project applicant. An example of this process is when the U.S. Army Corps of Engineers consults with the Service prior to issuing a permit to fill jurisdictional waters under Section 404 of the Clean Water Act. The terms and conditions of the biological opinion become binding on the project applicant through the Corps’ 404 authorization. When no Federal funding or authorization is involved in a project, an applicant must prepare a habitat conservation plan and obtain a permit directly from the Service in accordance with section 10(a)(1)(B) of the Act. For additional information on these processes please contact the Endangered Species Division of the U.S. Fish and Wildlife Service’s Sacramento Fish and Wildlife Office at (916) 979-2725.

VINEYARD POINT

ENVIRONMENTAL SETTING

The site is comprised of leveled and gently rolling terrain, and is situated at an elevation of approximately 60 feet above mean sea level. According to the *Soil Survey of Sacramento County, California* (U.S. Department of Agriculture, Natural Resource Conservation Service 1993), several soil units, or types, have been mapped for the site These are: (157) Hedge loam, 0-2 percent slopes, (191) Redd Bluff loam, 0-2 percent slopes, (197) Redding loam, 2-8 percent slopes, (198) Redding gravelly loam, 0-8 percent slopes, (213) San Joaquin silt loam, leveled, 0-1 percent slopes, (214) San Joaquin silt loam, 0-3 percent slopes, (215) San Joaquin silt loam, 3-8 percent slopes, (216) San Joaquin-Durixeralfs complex, 0-1 percent slopes, (218_ San Joaquin-Galt complex, 0-3 percent slopes, and (221) San Joaquin-Xerarents complex, leveled, 0-1 percent slopes.

The primary vegetation community present on-site is annual grassland. Within the annual greassland are ephemeral features including vernal pools, wetland swales, and intermittent drainages. ~~An unnamed~~Gerber Creek, a tributary to Elder Creek meanders through the southwestern corner of the subject property. The western portion of the site has been historically leveled and farmed. These leveled areas have been farmed in the past with various row crops and rice. The historic rice fields were ~~.~~located in the northwestern corner of the property but have since been leveled and no evidence of rice farming remains. The eastern half of the site has been historically farmed with dry cereal crops such as oats but was not leveled. Through the entire property, active farming and tilling has not occurred for over five years, and the annual grassland community persists.

The annual grassland community is comprised primarily of non-native naturalized Mediterranean grasses. These include ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), wild oats (*Avena fatua*), ryegrass (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum*), and medusahead grass (*Taeniatherum caput-medusae*). Other non-native herbaceous species in this community include hairy hawk-bit (*Leontodon taraxacoides*), filaree (*Erodium botrys*), pinapple weed (*Chamomilla suaveolens*), and yellow-star thistle (*Centaurea solstitialis*). Several blue gum (*Eucalyptus globules*), Fremont cottonwood (*Populus fremontii*), locust ~~tree~~ (*Robinia pseudoacacia*),~~m~~ and other non-native ornamental trees are scattered throughout the site, particularly at the southern boundary, where homes were once located.

WATERS OF THE U.S.

A wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The entire site was walked to determine the extent of potential waters of the U.S. within the project site. Potentially jurisdictional waters of the U.S. mapped include wetlands (8.50 acres) and

other waters (0.52 acres). Wetlands consist of vernal pools (8.41 acres) and seasonal wetland swale (0.09 acres). Other waters include the intermittent creek (0.52 acres).

WETLANDS

Vernal pools are scattered through the site. Vernal pools are topographic basins within the grassland community and typically are underlain with an impermeable or semi-permeable hardpan or duripan layer. Vernal pools are inundated up to one foot through the wet season and are dry by late spring through the following wet season.

A total of 8.41 acres of vernal pools have been mapped within the site. The plant species composition within vernal pools is predominantly native annual species that include slender popcorn flower (*Plagiobothrys stipitatus*), bractless hedge hyssop (*Gratiola ebracteata*), annual hairgrass (*Deswchampsia danthonioides*), dwarf wooly heads (*Psilocarphus brevissimuys*), and Fremont's goldfields (*Lasthenia fremontii*).

Seasonal wetland swales are ephemerally wet linear features. The vegetative composition of the seasonal wetlands on-site is primarily comprised ~~on~~ of non-native wetland generalist plants. These include ryegrass, Mediterranean barley, hyssop loosestrife (*Lythrum hyssopifolium*), and curly dock (*Rumex crispus*).

OTHER WATERS

~~The unnamed tributary to Elder Creek~~Gerber Creek, which flows in a westerly direction towards Elder Creek, has been mapped as an intermittent creek, according to the "Elk Grove, California" 7.5-minute quadrangle. However, this Elder Creek and its tributaries may be perennial during high water years or as irrigation runoff increases from upstream sources. In general the intermittent creek exhibits bed-and-bank characteristics and is largely unvegetated due to the depth and scouring effects of flowing water. However, some hydrophytic vegetation may be present along the upper edges, and in areas where sediment accumulations provide a substrate suitable for plant establishment and growth.

SPECIAL STATUS SPECIES

Based upon vegetation communities present on the property, species' known distributive data, and the references cited above, a list of potentially occurring special status species has been developed for the Vineyard Point property. This list is presented in Plate BR -1. Species include: six plant species, two invertebrates, one amphibian, two reptiles, fifteen birds, and seven mammals.

PLANTS

Special status plants that may occur on-site include those that are associated with vernal pools and marshes. The vernal pool species include dwarf downingia (*Downingia pusilla*, CNPS list 2), Boggs Lake hedge-hyssop (*Gratiola heterosepala*,

California-endangered and CNPS List 1B), Ahart's dwarf rush (*Juncus leiospermus* var. ahartii, federal species of concern and CNPS list 1B), Green's legenere (*Legenere limosa*, federal species of concern and CNPS List 1B), slender Orcutt grass (*Orcuttia tenuis*, California endangered, federal threatened, and CNPS List 1B) and Sacramento Orcutt grass (*Orcuttia viscida*, California endangered, federal endangered, and CNPS List 1B), and the marsh species includes Sanford's arrowhead (*Sagittaria sanfordii*, federal species of concern and CNPS List 1B). Of these, Boggs Lake hedge-hyssop, slender Orcutt grass, and Sacramento Orcutt grass are listed and protected pursuant to the state and/or federal Endangered Species Acts. Dwarf downingia, Green's legenere, Ahart's dwarf rush, and Sanford's arrowhead are not listed and protected pursuant to either state or federal Acts.

ECORP Consulting, Inc. conducted a rare plant survey for the proposed Vineyard Point project site. These surveys were conducted during the optimum blooming period for each of the potentially occurring special-status species. ECORP biologist Jinnah Hansen conducted surveys on May 28 and May 29, 2003. The survey was conducted by walking transects through the appropriate wetland features depicted on the wetland delineation map. Plant species found during the survey were identified using *The Jepson Manual, Higher Plants of California* (Hickman, 1993). No special-status species were observed on-site during the surveys.

Invertebrates

The vernal pool basins on-site can provide habitat for the federally listed vernal pool fairy shrimp (*Branchinecta lynchi*, federal threatened) and vernal pool tadpole shrimp (*Lepidurus packardi*, federal endangered), and as such, are often considered by the U.S. Fish and Wildlife Service (USFWS) to represent potentially occupied habitat.

Fish

There are no immediate fish issues within ~~the unnamed tributary to Elder~~Gerber Creek. However, impacts to ~~the Creek and its tributaries~~Gerber Creek may affect down stream conditions for federally listed fish species such as Sacramento Splittail and Central Valley Evolutionarily Significant Units (ESU) anadromous salmonids, such as Central Valley steelhead, Fall-run Chinook salmon, and spring-run salmon.

Amphibians

The vernal pools and adjacent grasslands on-site represent potentially suitable habitat for the western spadefoot toad (*Spea hammondi*, CDFG species of special concern and federal species of concern). No other special-status amphibians have the potential to occur on-site.

REPTILES

Two special-status reptiles may occur on-site, the giant garter snake (*Thamnophis gigas*, California and federally threatened) and northwestern pond turtle (*Clemmys marmorata marmorata*, CDFG species of special concern and California Code of Regulation Title 14 fully protected species). Giant garter snakes typically occupy perennial ponds, marshes, slow-moving streams, and agricultural ditches containing adequate water supply during the spring and summer months. Northwestern pond turtles typically occur within perennial streams, creeks, ponds and marshes. This reach of Gerber Creek within the subject property represents potentially suitable giant garter snake and northwestern pond turtle habitat.

BIRDS

The potentially occurring special status birds on-site include nesting raptors, nesting songbirds, and wintering or migrant birds. The nesting raptors include both tree nesting and ground nesting species.

The potential for raptors nesting in trees is unlikely due to the limited number of available trees. The potential nesting trees are limited to several Fremont cottonwood (*Populus fremontii*) and other ornamental trees around the existing buildings, barns, and corrals. However, several raptor species have been observed nesting within close proximity of human habitation. These tree nesting species are white-tailed kite (*Elanus leucurus*, Fish and Game Code fully protected and USFWS bird of management concern), Cooper's hawk (*Accipiter cooperii*, CDFG species of special concern), and Swainson's hawk (*Buteo swainsoni*, California threatened).

Potentially occurring ground nesting birds on-site include northern harrier (*Circus cyaneus*, CDFG species of special concern) and burrowing owl (*Athene cunicularia*, CDFG species of special concern and federal species of concern).

Special status songbirds that may occur within the project site include loggerhead shrike (*Lanius ludovicianus*, CDFG species of special concern and USFWS bird of management concern) and tricolored blackbird (*Agelaius tricolor*, CDFG species of special concern and USFWS bird of management concern).

Other special status birds that may occur on-site are not known to nest in this region and/or suitable nesting habitat is not present on-site. However, grassland and pastures on the project site represent potential foraging habitat for these remaining species. These are: sharp-shinned hawk (*Accipiter striatus*, CDFG species of special concern), ferruginous hawk (*Buteo regalis*, CDFG species of special concern and USFWS Bird of Management Concern), golden eagle (*Aquila chrysaetos*, Fish and Game Code §3511 fully protected species and CDFG species of special concern), Merlin (*Falco columbarius*, CDFG species of special concern), prairie falcon (*F. mexicanus*, CDFG species of special concern), mountain plover (*Charadrius montanus*, federally proposed threatened and USFWS Bird of Management Concern), long-billed curlew (*Nemenius*

americanus, CDFG species of sSpecial concern and USFWS Bird of Management Concern), and short-eared owl (*Asio flammeus*, CDFG species of special concern).

MAMMALS

~~Elder~~ Gerber Creek and the irrigated pastures on-site may provide foraging habitat for a variety of special-status bats that are known to occur in this region. These are: small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*M. evotis*), fringed myotis (*M. thysanodes*), long-legged myotis (*M. volans*), Yuma myotis (*M. yumanensis*), Townsend's big-eared bat (*Corynorhinus townsendii*), and pallid bat (*Antrozous pallidus*). Typical roosting and breeding sites for these species are not present within the project site but include appropriate cliffs, buildings, caves, mines and bridges. None of these species are listed and protected pursuant to the California or federal Endangered Species Act; they are considered CDFG species of special concern, Forest Service sensitive species, and/or Bureau of Land Management sensitive species.

IMPACTS AND ANALYSIS (VINEYARD POINT)

Impact: Impacts to wetlands.

The proposed project will impact 9.02 acres of waters of the United States. The proposed mitigation will ensure that this impact is less-than-significant.

MITIGATION MEASURES:

BR-1. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented:

1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provides reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.

2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved. ~~and, provided, further, that such mitigation and management plan shall be subject to the independent, discretionary approval of the Board of Supervisors.~~

3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and

CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.

Impact: Effects on Vernal Pool Species.

Construction of the proposed project will remove 8.41 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.

MITIGATION MEASURES**:**

BR-2. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation.

Impact: Effects on birds of prey.

Project construction has the potential to disturb nesting activities of listed birds of prey. In addition, the proposed project will remove ~~179~~ 181.8 acres of Swainson's Hawk foraging habitat upon completion. Impacts to Swainson's Hawk and other raptor are considered significant.

MITIGATION MEASURES**:**

BR-3. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required.

BR-4. To mitigate for the loss of ~~179~~ 181.8 acres of Swainson's hawk foraging habitat, prior to the approval of Improvement Plans or building permits, or recordation of Final Subdivision Map, whichever occurs first, the applicant shall perform one of the following:

~~BR-5.~~1. The project proponent shall preserve ~~89.5~~90.9 acres (0.50 acre for each acre lost) of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game).

~~1.~~2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

~~2.~~3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect.

~~3.~~4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

Impacts to Giant Garter Snake and Northwestern Pond Turtle

The portion of Gerber Creek located within the project area represents potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements and construction near ~~the~~ Gerber Creek could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant.

MITIGATION MEASURES**:**

~~BR-6.~~BR-5. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of ~~Elder~~ Gerber Creek. Survey of the area shall be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914.

Plate BR -1
Potentially Occurring Special-Status Species
Vineyard Point Subdivision

Attachment D. Potentially Occurring Special-Status Species

Common Name	Scientific Name	Federal Status	State Status	Other Status	Habitat Description	Approximate Survey Period J F M A M J J A S O N D
Plants						
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	-	CE	1B	vernal pools	
Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	-	-	FSC, 1B	vernal pools	
Greene's legenere	*Legenere limosa*	-	-	FSC, 1B	vernal pools	
Slender orcutt grass	*Orcuttia tenuis*	FT	CE	1B	vernal pools	
Sacramento orcutt grass	*Orcuttia viscida*	FE	CE	1B	vernal pools	
Sanford's arrowhead	*Sagittaria sanfordii*	-	-	FSC, 1B	marsh, creeks, ditches	
Invertebrates						
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	-	-	vernal pools/wetlands	
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	-	-	vernal pools/wetlands	
Amphibians						
Western spadefoot toad	*Spea hammondi*	-	-	CSC, CCR, BLM	vernal pools, wetlands/adjacent grassland	
Reptiles						
Northwestern pond turtle	*Clemmys marmorata marmorata*	-	-	CSC, CCR, FS	creeks, ponds	
Giant garter snake	*Thamnophis gigas*	FT	CT	CCR	ditches, sloughs, marshes	
Birds						
White-tailed kite	*Elanus leucurus*	-	-	CFP, MNB	woodland, grassland	
Northern harrier	*Circus cyaneus*	-	-	CSC	marsh, grassland	
Sharp-shinned hawk	*Accipiter striatus*	-	-	CSC	woodland	
Cooper's hawk	*Accipiter cooperii*	-	-	CSC	woodland	
Swainson's hawk (nesting)	*Buteo swainsoni*	-	CT	-	grassland, riparian	
Ferruginous hawk	*Buteo regalis*	-	-	CSC, MNB	grassland	
Golden eagle	*Aquila chrysaetos*	-	-	CFP, CSC, CDF	grassland	
Merlin	*Falco columbarius*	-	-	CSC	woodland, grassland	
Prairie falcon	*Falco mexicanus*	-	-	CSC	grassland	
Mountain plover (wintering)	*Charadrius montanus*	FPT	-	CSC, MNB	grassland, pasture	
Long-billed curlew (nesting)	*Numenius americanus*	-	-	CSC, MNB	grassland, pasture	
Burrowing owl	*Athene cunicularia*	-	-	CSC, MNB, BLM	grassland	
Short-eared owl	*Asio flammeus*	-	-	CSC, MNB	marsh, grassland	
Loggerhead shrike	*Lanius ludovicianus*	-	-	CSC, MNB	grassland, woodland	
Tricolored blackbird	*Agelaius tricolor*	-	-	CSC, MNB, BLM	marsh, grassland	
Mammals						
Small-footed myotis	*Myotis ciliolabrum*	-	-	BLM	various woodland/shrubland	

2002-053 SSS List

Plate BR-1 (cont.)
Potentially Occurring Special Status Species
Vineyard Point Subdivision

Attachment D. Potentially Occurring Special-Status Species

Common Name	Scientific Name	Federal Status	State Status	Other Status	Habitat Description	Approximate Survey Period J F M A M J J A S O N D
Long-eared myotis	*Myotis evotis*	-	-	BLM	deciduous or coniferous	
Fringed myotis	*Myotis thysanodes*	-	-	BLM	deciduous or coniferous	
Long-legged myotis	*Myotis volans*	-	-	CNDDB	deciduous or coniferous	
Yuma myotis	*Myotis yumanensis*	-	-	CSC, BLM	Riparian woodland	
Townsend's big-eared bat	*Corynorhinus townsendii*	-	-	CSC, FS, BLM	mines, man-made structures,	
Pallid bat	*Antrozous pallidus*	-	-	CSC, FS, BLM	mines, man-made structures,	

Status Codes

FE - Federally listed, Endangered.
FT - Federally listed, Threatened.
FPT - Formally Proposed for federal listing as Threatened.
FC - Candidate for federal listing as Threatened or Endangered.
FSC - U. S. Fish and Wildlife Service Species of Concern
MNB - U. S. Fish and Wildlife Service Migratory Nongame Birds of Management Concern
BLM - Bureau of Land Management Sensitive Species
CE - California listed, Endangered.
CT - California listed, Threatened.
CCR - California Code of Regulations Title 14 Fully Protected Species
CFP - Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).
CSC - California Department of Fish and Game Species of Special Concern.
CDF - California Department of Forestry Sensitive Species
1B - California Native Plant Society/Rare or Endangered in California and elsewhere
2 - California Native Plant Society/Rare or Endangered in California, more common elsewhere
4 - California Native Plant Society/Plants of Limited Distribution
CNDDB - Species that is tracked by CDFG's Natural Diversity Database but does not have any of the above special-status designations otherwise.

2002-053 SSS List

VINEYARD CREEK

ENVIRONMENTAL SETTING

The site is comprised of leveled pasture and is situated at an elevation of approximately 50 feet above mean sea level. Rural residences and a horse boarding facility are located at the northern portion of the site. According to the *Soil Survey of Sacramento County, California* (U.S. Department of Agriculture, Natural Resource Conservation Service 1993), two soil units, or types, have been mapped for the site. These are: (213) San Joaquin silt loam, leveled, 0-1 percent slopes and (214) San Joaquin silt loam, 0-3 percent slopes.

The primary vegetation community present on-site is annual grassland. Within the annual grassland are ephemeral features (i.e., vernal pools). Elder Creek meanders through the northern and western portion of the subject property. Gerber Creek is located adjacent to the southeast corner of the property. The site has been historically leveled and farmed. Currently, the pasture north of the railroad easement is being grazed by horses and is no longer actively irrigated. The pasture immediately south of the railroad easement is being grazed by horses and is irrigated. A small pen of cows is located within this pasture. The southernmost pasture currently lies fallow and is not irrigated.

The non-irrigated annual grassland community is comprised primarily of non-native naturalized Mediterranean grasses. These include ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), wild oats (*Avenua fatua*), ryegrass (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum*), and medusahead grass (*Taeniatherum caput-medusae*). Other non-native herbaceous species in this community include hairy hawk-bit (*Leontodon taraxacoides*), filaree (*Erodium botrys*), pinapple weed (*Chamomilla suaveolens*), and yellow-star thistle (*Centaurea solstitialis*). The irrigated pasture is comprised of a mixture of native and non-native hydrophytic plants. These include Bermuda grass (*Cynondon da*ctylon), curly dock (*Rumex crispus*), spiny-fruit buttercup (*Ranunculus muricatus*), rye grass (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum*), and slender popcorn flower (*Plagiobothrys stipitatus*). The leveled irrigated pasture was not considered a potential water of the U.S., as it is likely that wetland hydrology, hydrophytic vegetation, and Hydric soils would not persist in the absence of irrigation. Also, because this pasture has been leveled, there are no distinct topographic basins that, in the absence of irrigation, would pond water long enough during the growing season to exhibit wetland characteristics.

WATERS OF THE U.S.

A wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The entire site was walked to determine the extent of potential waters of the U.S. within the project site. Potentially jurisdictional waters of the U.S. mapped include wetlands (1.85 acres) and other waters (0.84 acres). Wetlands consist of vernal pools (1.77) and seasonal

wetlands (0.08), and Elder Creek is mapped as the other waters. This acreage includes those areas needed for off-site infrastructure.

WETLANDS

Two relatively large vernal pools have been mapped within the non-irrigated pastures. Vernal pools are topographic basins within the grassland community and typically are underlain with an impermeable or semi-permeable hardpan or duripan layer. Vernal pools are inundated up to one foot through the wet season and are dry by late spring through the following wet season.

A total of 1.77 acres of vernal pools have been mapped within the site. The plant species composition within the vernal pools is predominantly native annual species that include slender popcorn flower (*Plagiobothrys stipitatus*), bractless hedge hyssop (*Gratiola ebracteata*), annual hairgrass (*Deschampsia danthonioides*), dwarf wooly heads (*Psilocarphus brevissimus*), and Fremont's goldfields (*Lasthenia fremontii*).

OTHER WATERS

Elder Creek, which flows in a westerly direction, has been mapped as a seasonal creek according to the "Elk Grove, California" 7.5-minute quadrangle. However, Elder Creek and its tributaries may be perennial during high water years or as irrigation runoff increases from upstream sources. In general, Elder Creek exhibits bed-and-bank characteristics and is largely unvegetated due to its depth and the scouring effects of flowing water. However, some hydrophytic vegetation may be present along the upper edges, and in areas where sediment accumulations provide a substrate suitable for plant establishment and growth. Himalaya blackberry (*Rubus discolor*) thickets can be found along the banks at various reaches of the creek.

SPECIAL STATUS SPECIES

Based upon vegetation communities present on the property, species' known distributive data, and the references cited above, a list of potentially occurring special-status species has been developed for the Vineyard Creek project site. This list is presented in Plate BR -2. Species include: six plant species, two invertebrates, one amphibian, two reptiles, fifteen birds, and seven mammals.

PLANTS

Special status plants that may occur on-site include those that are associated with vernal pools and marshes. The vernal pool species include dwarf downingia (*Downingia pusilla*, CNPS list 2), Boggs Lake hedge-hyssop (*Gratiola heterosepala*, California-endangered and CNPS List 1B), Ahart's dwarf rush (*Juncus leiospermus* var. ahartii, federal species of concern and CNPS list 1B), Green's legenere (*Legenere limosa*, federal species of concern and CNPS List 1B), slender Orcutt grass (*Orcuttia tenuis*, California endangered, federal threatened, and CNPS List 1B) and Sacramento

Orcutt grass (*Orcuttia viscida*, California endangered, federal endangered, and CNPS List 1B), and the marsh species includes Sanford's arrowhead (*Sagittaria sanfordii*, federal species of concern and CNPS List 1B). Of these, Boggs Lake hedge-hyssop, slender Orcutt grass, and Sacramento Orcutt grass are listed and protected pursuant to the state and/or federal Endangered Species Acts. Dwarf downingia, Green's legenere, Ahart's dwarf rush, and Sanford's arrowhead are not listed and protected pursuant to either state or federal Acts.

ECORP Consulting, Inc. conducted a rare plant survey for the proposed Vineyard Point project site. These surveys were conducted during the optimum blooming period for each of the potentially occurring special-status species. ECORP biologist Jinnah Hansen conducted surveys on May 29, 2003. The survey was conducted by walking transects through the appropriate wetland features depicted on the wetland delineation map. Plant species found during the survey were identified using the *Jepson Manual, Higher Plants of California* (Hickman, 1993). No special-status species were observed on-site during the surveys.

INVERTEBRATES

The vernal pool basins on-site can provide habitat for the federally listed vernal pool fairy shrimp (*Branchinecta lynchi*, federal threatened) and vernal pool tadpole shrimp (*Lepidurus packardi*, federal endangered), and as such, are often considered by the U.S. Fish and Wildlife Service (USFWS) to represent potentially occupied habitat.

FISH

There are no immediate fish issues within Elder Creek. However, impacts to the Creek may affect down stream conditions for federally listed fish species such as Sacramento Splittail and Central Valley Evolutionarily Significant Units (ESU) anadromous salmonids, such as Central Valley steelhead, Fall-run Chinook salmon, and spring-run salmon.

AMPHIBIANS

The vernal pools and adjacent grasslands on-site represent potentially suitable habitat for the western spadefoot toad (*Spea hammondi*, CDFG species of special concern and federal species of concern). No other special-status amphibians have the potential to occur on-site.

REPTILES

Two special-status reptiles may occur on-site, the giant garter snake (*Thamnophis gigas*, California and federally threatened) and northwestern pond turtle (*Clemmys marmorata marmorata*, CDFG species of special concern and California Code of Regulation Title 14 fully protected species). Giant garter snakes typically occupy perennial ponds, marshes, slow-moving streams, and agricultural ditches containing

adequate water supply during the spring and summer months. Northwestern pond turtles typically occur within perennial streams, creeks, ponds and marshes. This reach of Elder Creek within the subject property and the reach of Gerber Creek adjacent to the southeast corner of the property, represents potentially suitable giant garter snake and northwestern pond turtle habitat.

BIRDS

The potentially occurring special status birds on-site include nesting raptors, nesting songbirds, and wintering or migrant birds. The nesting raptors include both tree nesting and ground nesting species.

Tree nesting species that may nest on-site are white-tailed kite (*Elanus leucurus*, Fish and Game Code fully protected and USFWS bird of management concern), Cooper's hawk (*Accipiter cooperii*, CDFG species of special concern), and Swainson's hawk (*Buteo swainsoni*, California threatened). A white-tailed kite was foraging within the site but was not observed nesting within the project site during the April 2002 field assessment. The probability for raptors nesting within the trees on-site is considered low due to the tree's close proximity to areas of daily human activity (i.e., home and horse boarding). These trees include Fremont cottonwood (*Populus fremontii*) and a variety of ornamental non-native species.

Potentially occurring ground-nesting birds on-site include northern harrier (*Circus cyaneus*, CDFG species of special concern) and burrowing owl (*Athene cunicularia*, CDFG species of special concern and federal species of concern). Burrowing owls have been reported by the current occupants to have nested within the dry perimeter of the irrigated pasture, but none were observed during the field assessment.

Special status songbirds that may occur within the project site include loggerhead shrike (*Lanius ludovicianus*, CDFG species of special concern and USFWS bird of management concern) and tricolored blackbird (*Agelaius tricolor*, CDFG species of special concern and USFWS bird of management concern). During the April 2002 field assessment, a large tricolored blackbird colony of up to 500 pairs was nesting within the blackberry thicket along Elder Creek. Most of the nesting had been completed or very near completion by the June survey date.

Other special status birds that may occur on-site are not known to nest in this region and/or suitable nesting habitat is not present on-site. However, grassland and pastures on the project site represent potential foraging habitat for these remaining species. These are: sharp-shinned hawk (*Accipiter striatus*, CDFG species of special concern), ferruginous hawk (*Buteo regalis*, CDFG species of special concern and USFWS Bird of Management Concern), golden eagle (*Aquila chrysaetos*, Fish and Game Code §3511 fully protected species and CDFG species of special concern), Merlin (*Falco columbarius*, CDFG species of special concern), prairie falcon (*F. mexicanus*, CDFG species of special concern), mountain plover (*Charadrius montanus*, federally proposed threatened and USFWS Bird of Management Concern), long-billed curlew (*Nemenius*

americanus, CDFG species of Special concern and USFWS Bird of Management Concern), and short-eared owl (*Asio flammeus*, CDFG species of special concern).

MAMMALS

Elder Creek and the irrigated pastures on-site may provide foraging habitat for a variety of special-status bats that are known to occur in this region. These are: small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*M. evotis*), fringed myotis (*M. thysanodes*), long-legged myotis (*M. volans*), Yuma myotis (*M. yumanensis*), Townsend's big-eared bat (*Corynorhinus townsendii*), and pallid bat (*Antrozous pallidus*). Typical roosting and breeding sites for these species include appropriate cliffs, buildings, caves, mines and bridges. The homes, outbuildings, and horse barns may be potentially used as roost sites, but breeding or nursery use is highly unlikely due to the presence of human disturbances. None of these species are listed and protected pursuant to the California or federal Endangered Species Act; they are considered CDFG species of special concern, Forest Service sensitive species, and/or Bureau of Land Management sensitive species.

IMPACTS AND ANALYSIS (VINEYARD CREEK)

Impact: Impacts to wetlands.

The proposed project will impact 2.69 acres of waters of the United States. The proposed mitigation will ensure that this impact is less-than-significant.

MITIGATION MEASURES:

~~BR-7.~~BR-6. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented:

1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provides reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.

2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved. ~~and, provided, further, that such mitigation and management plan shall be subject to the independent, discretionary approval of the Board of Supervisors.~~

3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.

Plate BR -2
Potentially Occurring Special Status Species
Vineyard Creek Subdivision

Attachment D. Potentially Occurring Special-Status Species

Common Name	Scientific Name	Federal Status	State Status	Other Status	Habitat Description	Approximate Survey Period J F M A M J J A S O N D
Plants						
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	-	CE	1B	vernal pools	
Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	-	-	FSC, 1B	vernal pools	
Greene's legenere	*Legenere limosa*	-	-	FSC, 1B	vernal pools	
Slender orcutt grass	*Orcuttia tenuis*	FT	CE	1B	vernal pools	
Sacramento orcutt grass	*Orcuttia viscida*	FE	CE	1B	vernal pools	
Sanford's arrowhead	*Sagittaria sanfordii*	-	-	FSC, 1B	marsh, creeks, ditches	
Invertebrates						
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	-	-	vernal pools/wetlands	
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	-	-	vernal pools/wetlands	
Amphibians						
Western spadefoot toad	*Spea hammondi*	-	-	CSC, CCR, BLM	vernal pools, wetlands/adjacent grassland	
Reptiles						
Northwestern pond turtle	*Clemmys marmorata marmorata*	-	-	CSC, CCR, FS	creeks, ponds	
Giant garter snake	*Thamnophis gigas*	FT	CT	CCR	ditches, sloughs, marshes	
Birds						
White-tailed kite	*Elanus leucurus*	-	-	CFP, MNB	woodland, grassland	
Northern harrier	*Circus cyaneus*	-	-	CSC	marsh, grassland	
Sharp-shinned hawk	*Accipiter striatus*	-	-	CSC	woodland	
Cooper's hawk	*Accipiter cooperii*	-	-	CSC	woodland	
Swainson's hawk (nesting)	*Buteo swainsoni*	-	CT	-	grassland, riparian	
Ferruginous hawk	*Buteo regalis*	-	-	CSC, MNB	grassland	
Golden eagle	*Aquila chrysaetos*	-	-	CFP, CSC, CDF	grassland	
Merlin	*Falco columbarius*	-	-	CSC	woodland, grassland	
Prairie falcon	*Falco mexicanus*	-	-	CSC	grassland	
Mountain plover (wintering)	*Charadrius montanus*	FPT	-	CSC, MNB	grassland, pasture	
Long-billed curlew (nesting)	*Numenius americanus*	-	-	CSC, MNB	grassland, pasture	
Burrowing owl	*Athene cunicularia*	-	-	CSC, MNB, BLM	grassland	
Short-eared owl	*Asio flammeus*	-	-	CSC, MNB	marsh, grassland	
Loggerhead shrike	*Lanius ludovicianus*	-	-	CSC, MNB	grassland, woodland	
Tricolored blackbird	*Agelaius tricolor*	-	-	CSC, MNB, BLM	marsh, grassland	
Mammals						
Small-footed myotis	*Myotis ciliolabrum*	-	-	BLM	various woodland/shrubland	

2002-051 SSS List

Plate BR-2 (cont.)
Potentially Occurring Special Status Species
Vineyard Creek Subdivision

Attachment D. Potentially Occurring Special-Status Species

Common Name	Scientific Name	Federal Status	State Status	Other Status	Habitat Description	Approximate Survey Period J	F	M	A	M	J	J	A	S	O	N	D
Long-eared myotis	*Myotis evotis*	-	-	BLM	deciduous or coniferous												
Fringed myotis	*Myotis thysanodes*	-	-	BLM	deciduous or coniferous												
Long-legged myotis	*Myotis volans*	-	-	CNDDB	deciduous or coniferous												
Yuma myotis	*Myotis yumanensis*	-	-	CSC, BLM	Riparian woodland												
Townsend's big-eared bat	*Corynorhinus townsendii*	-	-	CSC, FS, BLM	mines, man-made structures,												
Pallid bat	*Antrozous pallidus*	-	-	CSC, FS, BLM	mines, man-made structures,												

Status Codes

FE - Federally listed, Endangered.
FT - Federally listed, Threatened.
FPT - Formally Proposed for federal listing as Threatened.
FC - Candidate for federal listing as Threatened or Endangered.
FSC - U. S. Fish and Wildlife Service Species of Concern
MNB - U. S. Fish and Wildlife Service Migratory Nongame Birds of Management Concern
BLM - Bureau of Land Management Sensitive Species
CE - California listed, Endangered.
CT - California listed, Threatened.
CCR - California Code of Regulations Title 14 Fully Protected Species
CFP - Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).
CSC - California Department of Fish and Game Species of Special Concern.
CDF - California Department of Forestry Sensitive Species
1B - California Native Plant Society/Rare or Endangered in California and elsewhere
2 - California Native Plant Society/Rare or Endangered in California, more common elsewhere
4 - California Native Plant Society/Plants of Limited Distribution
CNDDB - Species that is tracked by CDFG's Natural Diversity Database but does not have any of the above special-status designations otherwise.

2002-051 SSS List

Impact: Effects on Vernal Pool Species.

Construction of the proposed project will remove 1.49 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.

MITIGATION MEASURES**:**

~~BR-8.~~BR-7. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation.

Impact: Effects on birds of prey.

Project construction has the potential to disturb nesting activities of listed birds of prey. In addition, the proposed project will remove ~~108~~ 104.8 acres of Swainson's Hawk foraging habitat upon completion. Impacts to Swainson's Hawk and other raptors are considered significant.

MITIGATION MEASURES**:**

~~BR-9.~~BR-8. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required.

~~BR-10.~~BR-9. To mitigate for the loss of ~~108~~ 104.8 acres of Swainson's hawk foraging habitat, prior to the approval of Improvement Plans or building permits, or recordation of Final Subdivision Map, whichever occurs first, the applicant shall perform one of the following:

1. The project proponent shall preserve ~~56~~ 52.4acres (0.50 acre for each acre lost) of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game).

2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect.

4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

Impacts to Tricolor Blackbird

During the April 2002 field assessment, a large tricolor blackbird colony of up to 500 pairs was nesting within the blackberry thicket along Elder Creek. Construction activities have the potential to disturb nesting activities and remove habitat. Impacts to Tricolor Blackbird are, therefore, potentially significant.

MITIGATION MEASURES**:**

~~BR-11.~~BR-10. Prior to the ~~issuance of a work authorization permit~~approval of grading plans, submit a Tricolored Blackbird Mitigation Plan to the California Department of Fish and Game (CDFG) for review and approval. The plan shall include the following:

1. Preliminary surveys to determine the presence of nesting tricolored blackbirds;

2. Avoidance of active nesting colonies present on the site to the extent possible through establishment of temporary setbacks around the colonies until a qualified biologist verifies that young birds have successfully fledged.

Impacts to Giant Garter Snake and Northwestern Pond Turtle

The portion of Elder Creek located within the project area and the portion of Gerber Creek located adjacent to the southeast corner of the project area, represent~~s~~ potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements and construction near ~~the~~ Elder Creek and Gerber Creek could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant.

MITIGATION MEASURES**:**

~~BR-12.~~BR-11. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of Elder and Gerber Creek. Survey of the area shall be repeated if a lapse in

construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914.

NVSSP DRAINAGE MASTER PLAN

WATERS OF THE U.S.

On behalf of the County of Sacramento, ECORP Consulting, Inc. conducted a wetland delineation of the North Vineyard Station Specific Plan Area (NVSSP) Drainage Master Plan Site located in Sacramento County, California.

A portion of the NVSSP wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), and several parcels have subsequently been field verified by the Corps. Waters of the U.S. mapped on-site include wetlands and other waters. Wetlands consist of seasonal wetlands, wetland swales, vernal pools, and seasonal marshes. Other waters include Elder Creek and Gerber Creek.

Waters of the U.S. within the Drainage Master Plan field verified by the Corps of Engineers within the Vineyard Creek, Vineyard Point, and Morvai properties total 2.31 acres and are comprised of 0.94 acre of vernal pool, and 1.37 acres of creek.

Waters of the U.S. mapped according to Corps of Engineers protocol but not yet verified include 0.14 acre of vernal pool, 0.84 acre of seasonal wetland, 0.03 acre of wetland swale, and 7.21 acres of creek. Waters of the U.S. mapped via aerial photograph interpretation in the absence of ground-truthing include 0.03 acre of seasonal wetland, 4.90 acres of creek, and 0.84 acre of stock pond.

WETLANDS

Vernal pools have been mapped throughout the unleveled and non-irrigated grasslands. Vernal pools are topographic basins within the grassland community and typically are underlain with an impermeable or semi-permeable hardpan or duripan layer. Vernal pools are inundated up to one foot through the wet season and are dry by late spring

through the following wet season. The plant species composition within vernal pools is predominantly native annual species that include slender popcorn flower (*Plagiobothrys stipitatus*), bractless hedge hyssop (*Gratiola ebracteata*), annual hair grass (*Deschampsia danthonioides*), dwarf wooly heads (*Psilocarphus brevissimus*), and Fremont's goldfields (*Lasthenia fremontii*).

The seasonal wetlands and wetland swales on-site are ephemerally wet features where runoff accumulates from adjacent upland areas into topographic basins or swales, which is further directed into larger creeks and streams. The vegetative composition of the seasonal wetlands and wetland swales on-site is primarily comprised on non-native wetland generalist plants with scattered native annual species. These include ryegrass, Mediterranean barley, annual hairgrass (*Deschampsia danthonioides*), hyssop loosestrife (*Lythrum hyssopifolium*), and little quaking grass (*Briza minor*). Seasonal wetlands have been mapped within the unleveled and non-irrigated pastures but have also been found within the previously farmed areas that have been left fallow and not irrigated.

OTHER WATERS

Elder Creek and Gerber Creek, which flow in a westerly direction, have been mapped as seasonal creeks according to the "Elk Grove, California" 7.5-minute quadrangle. However, they may be perennial during high water years or as irrigation runoff increases from upstream sources. In general, both creeks exhibit bed-and-bank characteristics and ~~is~~ are largely unvegetated due to ~~its~~ depth and the scouring effects of flowing water. However, some hydrophytic vegetation may be present along the upper edges, and in areas where sediment accumulations provide a substrate suitable for plant establishment and growth. Himalaya blackberry (*Rubus discolor*) thickets can be found along the banks at various reaches of the creek.

Two stock ponds have been mapped within the Drainage Master Plan area. These aquatic features were not field mapped but appear to be excavated basins adjacent to the creeks. They likely fill to overflowing during the wet season and may be artificially maintained during the dry season.

SPECIAL STATUS SPECIES

Based upon vegetation communities present on the property, species' known distributive data, and the references cited above, a list of potentially occurring special-status species has been developed for the Drainage Master Plan project area. This list is presented in Plate BR -3. Species include: six plant species, three invertebrates, one amphibian, two reptiles, fifteen birds, and seven mammals.

PLANTS

Special status plants that may occur on-site include those that are associated with vernal pools and marshes. The vernal pool species include dwarf downingia

(*Downingia pusilla*, CNPS list 2), Boggs Lake hedge-hyssop (*Gratiola heterosepala*, California-endangered and CNPS List 1B), Ahart's dwarf rush (*Juncus leiospermus* var. ahartii, federal species of concern and CNPS list 1B), Green's legenere (*Legenere limosa*, federal species of concern and CNPS List 1B), slender Orcutt grass (*Orcuttia tenuis*, California endangered, federal threatened, and CNPS List 1B) and Sacramento Orcutt grass (*Orcuttia viscida*, California endangered, federal endangered, and CNPS List 1B), and the marsh species includes Sanford's arrowhead (*Sagittaria sanfordii*, federal species of concern and CNPS List 1B). Of these, Boggs Lake hedge-hyssop, slender Orcutt grass, and Sacramento Orcutt grass are listed and protected pursuant to the state and/or federal Endangered Species Acts. Dwarf downingia, Green's legenere, Ahart's dwarf rush, and Sanford's arrowhead are not listed and protected pursuant to either state or federal Acts.

INVERTEBRATES

The vernal pool basins on-site can provide habitat for the federally listed vernal pool fairy shrimp (*Branchinecta lynchi*, federal threatened) and vernal pool tadpole shrimp (*Lepidurus packardi*, federal endangered), and as such, are often considered by the U.S. Fish and Wildlife Service (USFWS) to represent potentially occupied habitat.

Elderberry shrubs (*Sambucus mexicanus*) are host plant to the federally threatened Valley elderberry longhorn beetle (VELB, *Desmocerus californicus dimorphus*). The U.S., Fish and Wildlife Service typically consider all elderberry shrubs in this region to represent potentially occupied habitat.

FISH

There are no immediate fish issues within Elder Creek. However, impacts to the Creek may affect down stream conditions for federally listed fish species such as Sacramento Splittail and Central Valley Evolutionarily Significant Units (ESU) anadromous salmonids, such as Central Valley steelhead, Fall-run Chinook salmon, and spring-run salmon.

AMPHIBIANS

The seasonal wetlands, drainage swales, and vernal pools and adjacent grasslands on-site represent potentially suitable habitat for the western spadefoot toad (*Spea hammondi*, CDFG species of special concern and federal species of concern). No other special-status amphibians are expected to occur on-site.

REPTILES

Two special-status reptiles may occur on-site, the giant garter snake (*Thamnophis gigas*, California and federally threatened) and northwestern pond turtle (*Clemmys marmorata marmorata*, CDFG species of special concern and California Code of Regulation Title 14 fully protected species). Giant garter snakes typically occupy

perennial ponds, marshes, slow-moving streams, and agricultural ditches containing adequate water supply during the spring and summer months. Northwestern pond turtles typically occur within perennial streams, creeks, ponds and marshes. ~~This reach of Elder Creek~~The reaches of Elder Creek and Gerber Creek within the subject property represents potentially suitable giant garter snake and northwestern pond turtle habitat.

Plate BR -3
Potentially Occurring Special Status Species
NVSSP Drainage Master Plan

Attachment A. Potentially Occurring Special-Status Species

Common Name	Scientific Name	Federal Status	State Status	Other Status	Habitat Description	Approximate Survey Period J F M A M J J A S O N D
Plants						
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	-	CE	1B	vernal pools	
Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	-	-	FSC, 1B	vernal pools	
Greene's legenere	*Legenere limosa*	-	-	FSC, 1B	vernal pools	
Slender orcutt grass	*Orcuttia tenuis*	FT	CE	1B	vernal pools	
Sacramento orcutt grass	*Orcuttia viscida*	FE	CE	1B	vernal pools	
Sanford's arrowhead	*Sagittaria sanfordii*	-	-	FSC, 1B	marsh, creeks, ditches	
Invertebrates						
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	-	-	vernal pools/wetlands	
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	-	-	vernal pools/wetlands	
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	-	-	riparian, woodland	
Amphibians						
Western spadefoot toad	*Spea hammondi*	-	-	CSC, CCR, BLM	vernal pools, wetlands/adjacent grassland	
Reptiles						
Northwestern pond turtle	*Clemmys marmorata marmorata*	-	-	CSC, CCR, FS	creeks, ponds	
Giant garter snake	*Thamnophis gigas*	FT	CT	CCR	ditches, sloughs, marshes	
Birds						
White-tailed kite	*Elanus leucurus*	-	-	CFP, MNB	woodland, grassland	
Northern harrier	*Circus cyaneus*	-	-	CSC	marsh, grassland	
Sharp-shinned hawk	*Accipiter striatus*	-	-	CSC	woodland	
Cooper's hawk	*Accipiter cooperii*	-	-	CSC	woodland	
Swainson's hawk (nesting)	*Buteo swainsoni*	-	CT	-	grassland, riparian	
Ferruginous hawk	*Buteo regalis*	-	-	CSC, MNB	grassland	
Golden eagle	*Aquila chrysaetos*	-	-	CFP, CSC, CDF	grassland	
Merlin	*Falco columbarius*	-	-	CSC	woodland, grassland	
Prairie falcon	*Falco mexicanus*	-	-	CSC	grassland	
Mountain plover (wintering)	*Charadrius montanus*	FPT	-	CSC, MNB	grassland, pasture	
Long-billed curlew (nesting)	*Numenius americanus*	-	-	CSC, MNB	grassland, pasture	
Burrowing owl	*Athene cunicularia*	-	-	CSC, MNB, BLM	grassland	
Short-eared owl	*Asio flammeus*	-	-	CSC, MNB	marsh, grassland	
Loggerhead shrike	*Lanius ludovicianus*	-	-	CSC, MNB	grassland, woodland	
Tricolored blackbird	*Agelaius tricolor*	-	-	CSC, MNB, BLM	marsh, grassland	
Mammals						
Small-footed myotis	*Myotis ciliolabrum*	-	-	BLM	various woodland/shrubland	
Long-eared myotis	*Myotis evotis*	-	-	BLM	deciduous or coniferous	

2002-052 SSS List

Plate BR-3 (cont.)
Potentially Occurring Special Status Species
NVSSP Drainage Master Plan

Attachment A. Potentially Occurring Special-Status Species

Common Name	Scientific Name	Federal Status	State Status	Other Status	Habitat Description	Approximate Survey Period J F M A M J J A S O N D
Fringed myotis	*Myotis thysanodes*	-	-	BLM	deciduous or coniferous	
Long-legged myotis	*Myotis volans*	-	-	CNDDB	deciduous or coniferous	
Yuma myotis	*Myotis yumanensis*	-	-	CSC, BLM	Riparian woodland	
Townsend's big-eared bat	*Corynorhinus townsendii*	-	-	CSC, FS, BLM	mines, man-made structures,	
Pallid bat	*Antrozous pallidus*	-	-	CSC, FS, BLM	mines, man-made structures,	

Status Codes

FE - Federally listed, Endangered.
FT - Federally listed, Threatened.
FPT - Formally Proposed for federal listing as Threatened.
FC - Candidate for federal listing as Threatened or Endangered.
FSC - U. S. Fish and Wildlife Service Species of Concern
MNB - U. S. Fish and Wildlife Service Migratory Nongame Birds of Management Concern
BLM - Bureau of Land Management Sensitive Species
CE - California listed, Endangered.
CT - California listed, Threatened.
CCR - California Code of Regulations Title 14 Fully Protected Species
CFP - Fish and Game Code of California Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).
CSC - California Department of Fish and Game Species of Special Concern.
CDF - California Department of Forestry Sensitive Species
1B - California Native Plant Society/Rare or Endangered in California and elsewhere
2 - California Native Plant Society/Rare or Endangered in California, more common elsewhere
4 - California Native Plant Society/Plants of Limited Distribution
CNDDB - Species that is tracked by CDFG's Natural Diversity Database but does not have any of the above special-status designations otherwise.

2002-052 SSS List

BIRDS

The potentially occurring special status birds on-site include nesting raptors, nesting songbirds, and wintering or migrant birds. The nesting raptors include both tree nesting and ground nesting species. The potential nesting trees are scattered throughout the Drainage Master Plan area. Tree nesting species that may nest on-site are white-tailed kite (*Elanus leucurus*, Fish and Game Code fully protected and USFWS bird of management concern), Cooper's hawk (*Accipiter cooperii*, CDFG species of special concern), and Swainson's hawk (*Buteo swainsoni*, California threatened). Potentially occurring ground-nesting birds on-site include northern harrier (*Circus cyaneus*, CDFG species of special concern) and burrowing owl (*Athene cunicularia*, CDFG species of special concern and federal species of concern).

Special status songbirds that may occur within the project site include loggerhead shrike (*Lanius ludovicianus*, CDFG species of special concern and USFWS bird of management concern) and tricolored blackbird (*Agelaius tricolor*, CDFG species of special concern and USFWS bird of management concern).

Other special status birds that may occur on-site are not known to nest in this region and/or suitable nesting habitat is not present on-site. However, grassland and pastures on the project site represent potential foraging habitat for these remaining species. These are: sharp-shinned hawk (*Accipiter striatus*, CDFG species of special concern), ferruginous hawk (*Buteo regalis*, CDFG species of special concern and USFWS Bird of Management Concern), golden eagle (*Aquila chrysaetos*, Fish and Game Code §3511 fully protected species and CDFG species of special concern), Merlin (*Falco columbarius*, CDFG species of special concern), prairie falcon (*F. mexicanus*, CDFG species of special concern), mountain plover (*Charadrius montanus*, federally proposed threatened and USFWS Bird of Management Concern), long-billed curlew (*Nemenius americanus*, CDFG species of Special concern and USFWS Bird of Management Concern), and short-eared owl (*Asio flammeus*, CDFG species of special concern).

MAMMALS

Gerber Creek, Elder Creek and the irrigated pastures on-site may provide foraging habitat for a variety of special-status bats that are known to occur in this region. These are: small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*M. evotis*), fringed myotis (*M. thysanodes*), long-legged myotis (*M. volans*), Yuma myotis (*M. yumanensis*), Townsend's big-eared bat (*Corynorhinus townsendii*), and pallid bat (*Antrozous pallidus*). Typical roosting and breeding sites for these species include appropriate cliffs, buildings, caves, mines and bridges. The homes, outbuildings, and horse barns may be potentially used as roost sites, but breeding or nursery use is highly unlikely due to the presence of human disturbances. None of these species are listed and protected pursuant to the California or federal Endangered Species Act; they are considered CDFG species of special concern, Forest Service sensitive species, and/or Bureau of Land Management sensitive species.

Impact: Impacts to Waters of the U.S.

Gerber Creek and Elder Creek will generally remain in their current locations. However, 12.99 acres of the creeks will be directly or indirectly impacted by the proposed deepening and widening. In addition, in order to widen and realign the creeks, additional wetland impacts will result in some locations. These impacts include 1.08 acres of vernal pool, 0.77 acre of seasonal wetland, 0.03 acre of seasonal wetland swale, and 0.84 acre of stock pond. The reconstructed creeks will consist of a low-flow channel, associated channel bottom wetlands, wetland/riparian benches and nesting islands.

The DMP project will emphasize enhancement and long-term preservation of the creek corridors' functions and values. The initial design of the drainage corridor focused primarily on flood-flows and water quality treatment requirements. The preliminary design has been refined to avoid wetland features where possible, to incorporate a meandering low-flow channel with adjacent wetlands, wetland and riparian benches, and nesting islands to compensate for impacts to wetlands and their functions and values. The channel was designed to require minimal maintenance and allow for the establishment of woody vegetation without compromising flood protection.

The proposed DMP design replaces and enhances the acreage, functions and values of the wetlands to be impacted during construction. The existing channelized creeks will be re-contoured, widened and deepened to accommodate anticipated storm water flood-flows and provide for public safety. The existing channel alignments will be maintained wherever practicable. In order to preserve as much of the existing riparian habitat as possible, portions of the creeks that have significant vegetation have been avoided and incorporated into the final overall channel design.

The modified drainage corridors will result in 4.85 acres of creek (low-flow channel), 17.55 acres of channel bottom/wetlands and 3.23 acres of wetland/riparian benches. Post-project wetland/riparian habitat acreages will total 25.63 acres, a net gain of nearly 11.80 acres of habitat.

This plan has been submitted to the U.S. Army Corps of Engineers as part of an application for an individual permit. Impacts associated with the implementation of the NVSSP Drainage Master Plan are considered less-than-significant.

MITIGATION MEASURES**:**

None.

Impact: Effects on Vernal Pool Species.

Construction of the proposed project will remove 1.08 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.

MITIGATION MEASURES:

~~BR-13.~~BR-12. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation.

Impact: Effects on birds of prey.

Project construction has the potential to disturb nesting activities of listed birds of prey. Impacts to Swainson's Hawk and other raptors are considered potentially significant.

MITIGATION MEASURES:

~~BR-14.~~BR-13. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required.

Impacts to Giant Garter Snake and Northwestern Pond Turtle

The portions of Elder Creek and Gerber Creek located within the project area represent potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant.

MITIGATION MEASURES:

~~BR-15.~~BR-14. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of Elder or Gerber Creeks. Survey of the area shall be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and

Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914.

NVSSP WATER TREATMENT FACILITY

A portion of the NVSSP Water Treatment Facility is located in the northwest corner of the Vineyard Point subdivision Plate ~~XX~~BR-4. The remainder of the property lies immediately to the west, between Vineyard Point and the CCTR tracks.

The area, which is not located within the subdivision boundaries, contains a vernal pool complex as detailed by Plate BR -5. Impacts to the site are similar to impacts of the Vineyard Point subdivision.

Impact: Impacts to wetlands.

The proposed project has the potential to impact Waters of the United States including vernal pools. The proposed mitigation will ensure that this impact is less-than-significant.

MITIGATION MEASURES**:**

~~BR-16.~~BR-15. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented:

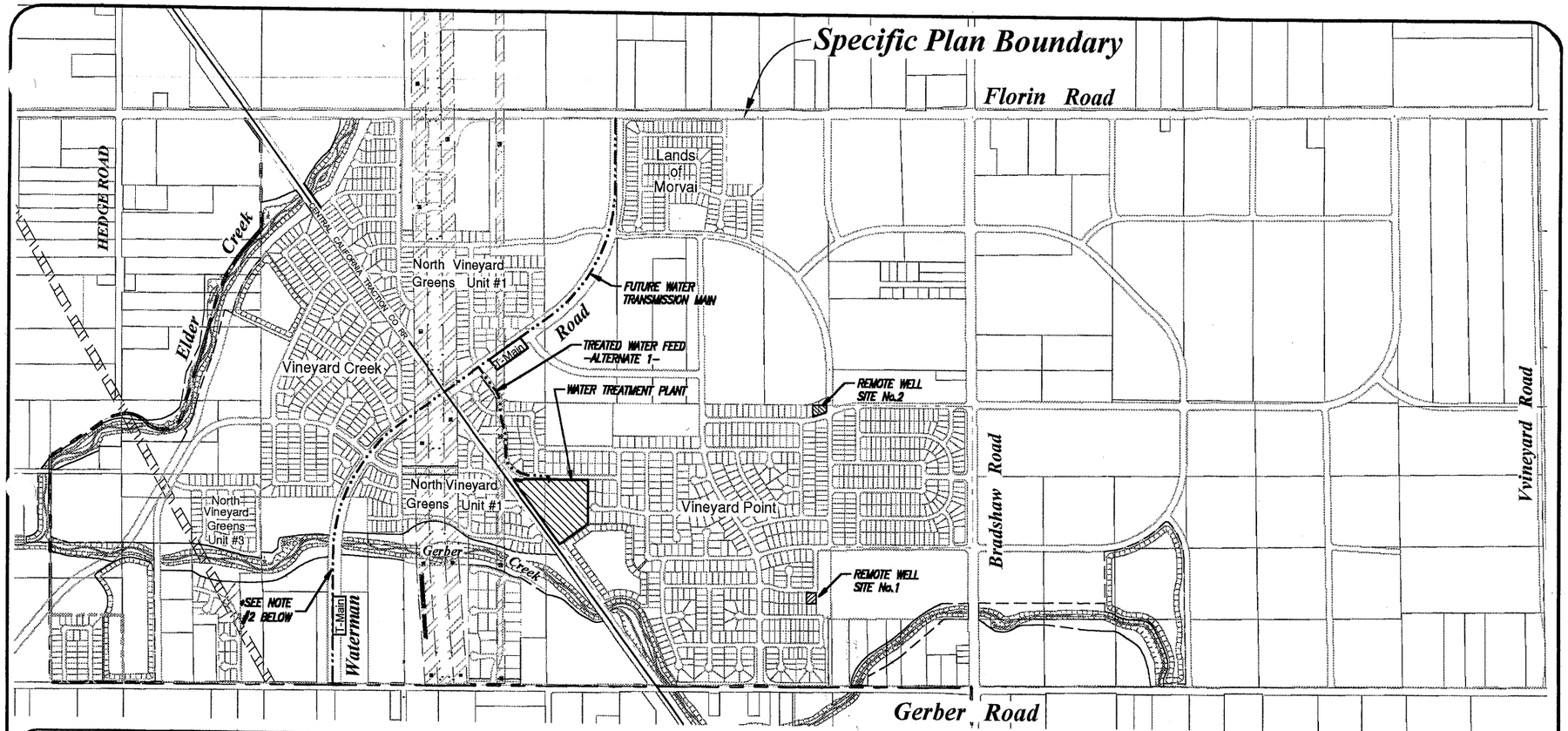
1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provide**s** reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.

2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved**.** ~~and, provided, further, that such mitigation and management plan shall be subject to the independent, discretionary approval of the Board of Supervisors.~~

3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or

Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.

Plate BR -4
NVSSP Water Treatment Facility Location



NOTES:

1. Lotting alignments shown hereon are based on Preliminary Tentative Map layouts submitted to Sacramento County.

* 2. Utilities (future T-Main) South of the Treated Water Feed from Treatment Plant shall be constructed by the Developer of "Vineyard Greens Unit 1" at the time that construction of the Treatment Plant begins.

Exhibit C-1

Regional Water Facilities Location Exhibit

NORTH VINEYARD STATION

County of Sacramento, California May 2, 2003 Scale: 1"=900'

MACKAY & SOMPS
CIVIL ENGINEERS, INC.
SACRAMENTO, CALIFORNIA (916) 929-4025
JOB NUMBER: 7536-10 DATE: 04/15/2003

Impact: Effects on Vernal Pool Species.

Construction of the proposed project has the potential to impact vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.

MITIGATION MEASURES**:**

~~BR-17.~~BR-16. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation.

Impact: Effects on birds of prey.

Project construction has the potential to disturb nesting activities of listed birds of prey. Impacts to Swainson's Hawk and other raptor are considered potentially significant.

MITIGATION MEASURES**:**

~~BR-18.~~BR-17. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required.

~~BR-19.~~BR-18. To mitigate for the loss of Swainson's hawk foraging habitat, prior to the approval of Improvement Plans, the applicant shall perform one of the following:

1. The project proponent shall preserve acreage at a rate of 0.50 acre for each acre lost of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game).

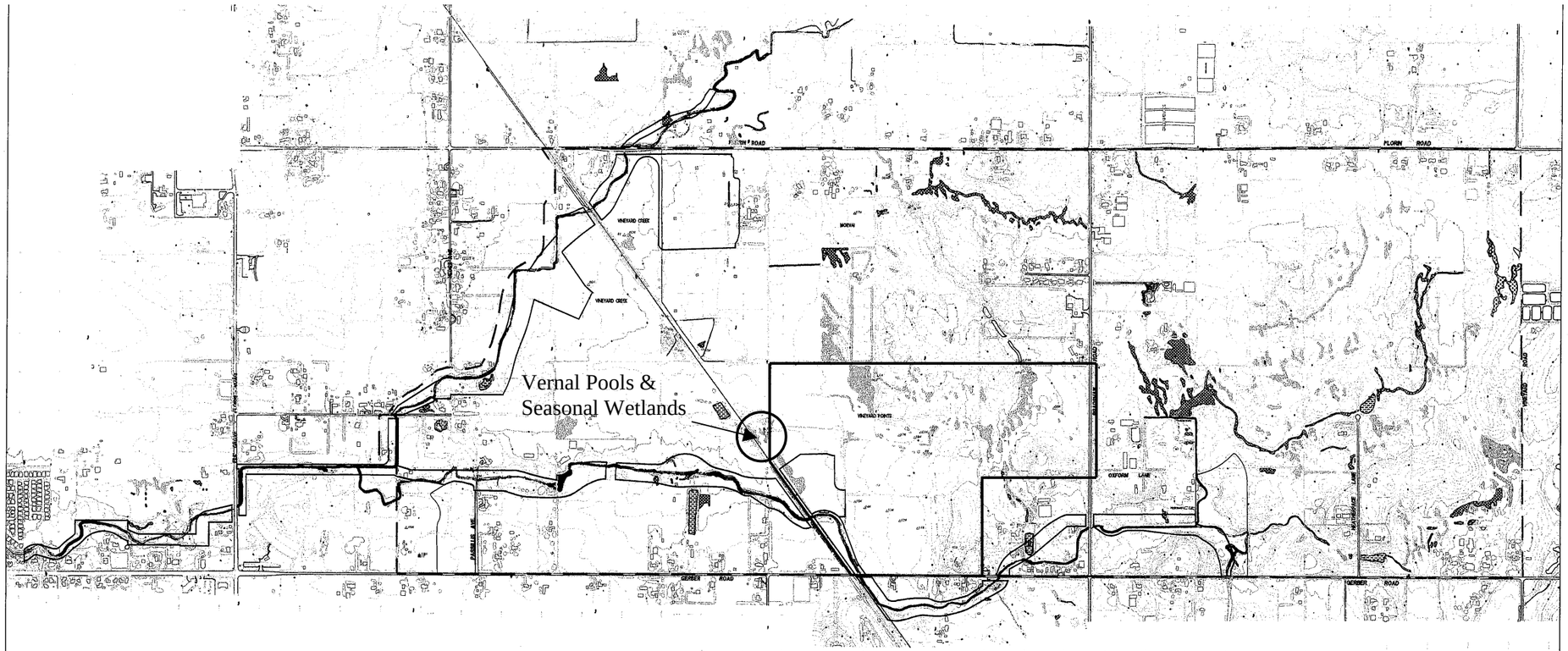
2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of

the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect.

4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

Plate BR -5
Wetlands on Treatment Plant Site



CLASSIFICATION	WATERS OF THE U.S. ACREAGE	TOTAL NVSSP ACREAGE	DMP ACREAGE
Vernal Pool		27.96	1.08
Seasonal Wetland		19.13	0.87
Seasonal Wetland Swale		1.52	0.03
Seasonal Marsh		3.92	--
Creek		13.48	13.48
Stock Pond		4.24	0.84
Fresh Water Marsh		1.97	--
TOTAL		72.22	16.30

Drainage Master Plan Boundary

NOTE:
Portions of the project have been field delineated and verified by the CORPS of Engineers. Other portions have been field delineated, but have not yet been verified by the CORPS. Those areas where permission to access the property have been delineated by aerial photograph interpretation (See Attachment) identifies the level of delineations conducted for parcels affected by the propsed project.

FILENAME: -DWGS\2002-052\NVS-WINCREST.DWG 12/6/02

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

FIGURE 9. North Vineyard Station Specific Plan Wetlands

2002-052 Vineyard Station

11 CULTURAL RESOURCES

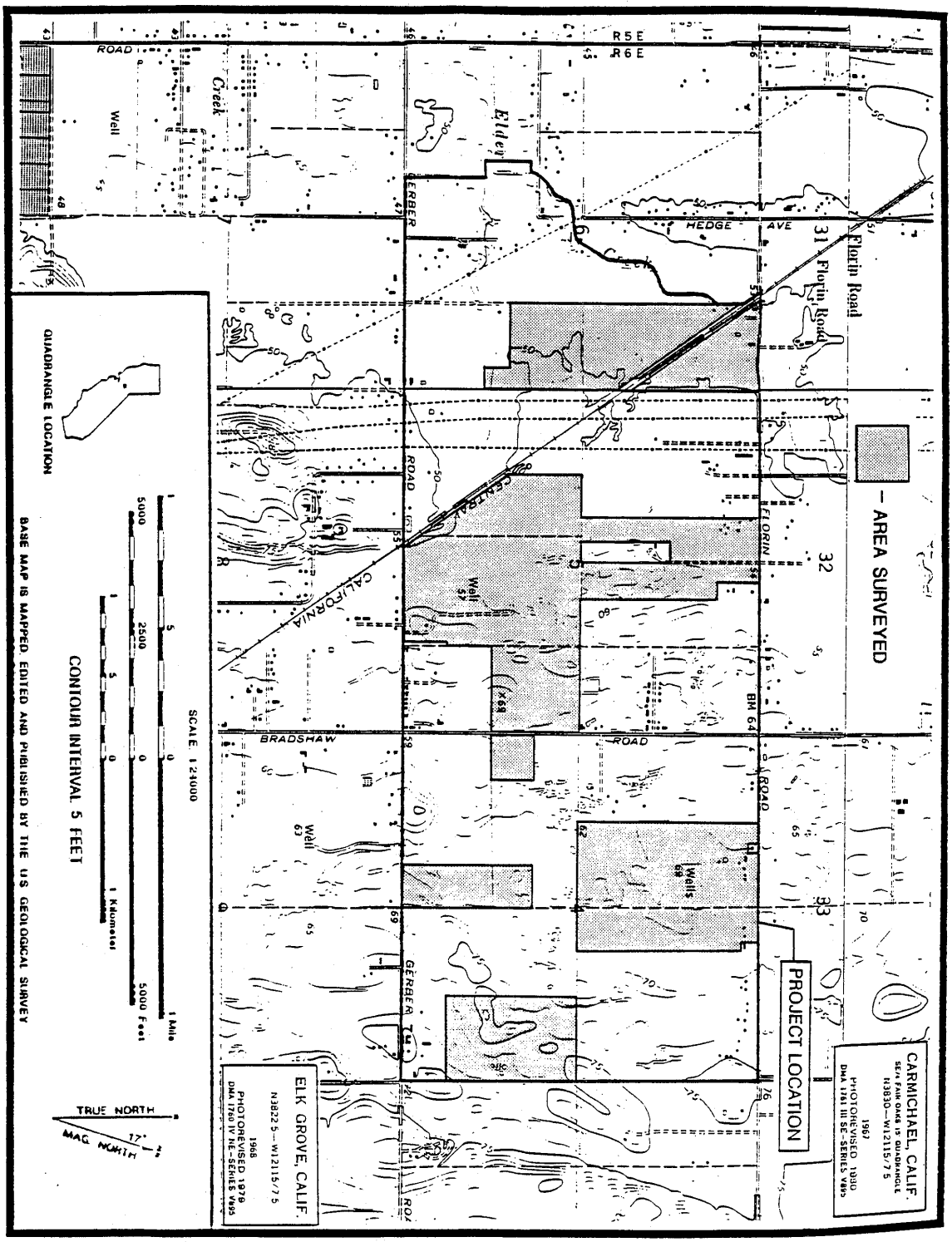
BACKGROUND

For the prior EIR, a total of 556 acres of the Specific Plan Area, known as the Survey Area (Plate CR -1), was given a complete pedestrian walk-over by a team of archeologists. This acreage includes the areas encompassed by the Vineyard Creek Subdivision and the Vineyard Point Subdivision. The remaining 1,024 acres of the Specific Plan Area were inspected for the presence or absence of historic period structures via public roadways.

No prehistoric artifacts or evidence of prehistoric use of the Survey Area was found. One historic period archeological site was discovered near the Central California Traction Railroad in the northwest portion of the Plan Area. This site consists of a small scatter of 1930s/40s era refuse that was primarily domestic in nature. Broken condiment bottles, fragments of a child's decorated ceramic tea set, sardine cans, red bricks, a sewer pipe fragment, and a bent iron pipe were all discovered protruding from the ground surface. No existing structures, or structures shown on historic period maps or other documentary sources, were located anywhere near this refuse deposit. The closest feature is the Central California Traction Railroad, which is located to the west and south of the site area. Given the types of historic period artifacts present at the site, it is unlikely that this refuse was once associated with the railroad. It would appear that this small refuse pile probably represents a single episode dumping of material that was once associated with a residence. The existing structure on this parcel is located approximately 2,000 feet to the north, northwest. This home was constructed in 1910, however, and it is possible that the refuse deposited at the site originated from this residence. According to the prior EIR, this deposit does not qualify as an important archeological resource, and no additional mitigation is required.

Twelve historic period (greater than 45 years old) structures were identified during the pedestrian and vehicular inspection of the Specific Plan Area. Three of these structures are located within the Survey Area, while the remaining nine were found within the remaining Specific Plan Area. One of these structures is located within the Vineyard Creek Subdivision area. The prior EIR concluded the following regarding the historic period structures:

Plate CR -1
Survey Area



> None of the surviving structures within the Survey Area represent the early years of pioneer settlement in this area. The earliest structures date to about the turn of the century. There are a number of structures in the Specific Plan Area dating within the 1900-1920 era representing small rural residence types and agricultural utility buildings common for this period. The types of residences within the Plan Area varied. The two most common styles were the Craftsman and bungalow, which was popular throughout rural America from about 1905 to 1920, and the Minimal Traditional, a style that became popular in the late 1930s and remained the dominant style during the post-war 1940s and 1950s. Examples in the Plan Area range from well preserved to poorly maintained to remodeled beyond recognition. None of the extant buildings are associated with important individuals or events, and therefore, do not constitute "important" resources under CEQA criteria in this area.

However, four historic structures were identified as potentially important due to their architectural integrity and as representative examples of identifiable architectural styles. One of these structures is located within the Vineyard Creek Subdivision area. The remaining three structures are located within the remaining Specific Plan planning area. At the time of publication of the prior EIR, these four properties were considered potentially significant historical resources, but were not evaluated for eligibility to the National Register of Historic Places.

The prior EIR concluded that the project could result in future disturbance of known and unknown prehistoric and/or historic resources. These impacts are considered potentially significant. The County of Sacramento has an environmental review process for projects involving discretionary permits that requires cultural resource reports to be prepared in situations where development is proposed in areas known to be sensitive for cultural (archaeological and historic) resources. Since future development within the Plan area will require additional entitlements such development will also be subject to further discretionary review. Potential construction-related impacts to cultural resources will be addressed at that time. However, to ensure impacts to cultural resources are minimized and addressed at the earliest stages of proposed development, mitigation measures were incorporated into the North Vineyard Specific Plan. These measures remain applicable to the current project.

VINEYARD CREEK

Peak & Associates prepared a Cultural Resource Inventory and Evaluation for the Vineyard Creek subdivision. This report further evaluated the potentially significant historic resources on the Vineyard Creek property using National Register criteria.

ARCHEOLOGICAL RESOURCES

Three prehistoric isolates were identified during surveys. These include:

- Isolate #1 is two basalt secondary flakes
- Isolate #2 is a single, small, black chert, tertiary flake
- Isolate #3 is a possible mano made on a gneiss stream cobble, and a possible hammerstone, made on a granitic stream cobble

All isolates were mapped and documented, and left in place. Isolates are *a priori*, considered not significant, and are ineligible for inclusion on the National Register of Historic Places, thus requiring no protective measures.

HISTORIC PERIOD SITES

FRAMEWORK FOR EVALUATION

Decisions regarding management of cultural resources hinge on their determination of significance (36 CFR 60.2). As part of this decision-making process, the National Park Service has identified components which must be considered in the evaluation process, including:

- Criteria for significance;
- Historic context; and
- Integrity

CRITERIA FOR SIGNIFICANCE

Significance of cultural resources is measured against the National Register criteria for evaluation:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and,
>
> a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b) That are associated with the lives of persons significant in our past; or
>
> c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d) That have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

HISTORIC CONTEXT

The historic context is a narrative statement "that groups information about a series of historic properties based on a shared theme, specific time period, and geographical area" To evaluate resources in accordance with federal guidelines, these sites must be examined to determine whether they are examples of a defined "property type". The property type is a "grouping of individual properties based on shared physical or associative characteristics". Through this evaluation, each site is viewed as a representative of a class of similar properties rather than as a unique phenomenon.

A well developed historical context helps determine the association between property types and broad patterns of American history. Once this linkage is established, each resource's potential to address specific research issues can be explicated.

INTEGRITY

For a property to be eligible for listing in the National Register it must meet one of the criteria for significance (36 CFR 60.4 [a, b, c, d]) and retain integrity. Integrity is defined as "the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period".

The following discussion is derived from National Register Bulletin 15 ("How to Apply the National Register Criteria for Evaluation").

Within the concept of integrity, there are seven aspects or qualities that define integrity in various combinations. The seven aspects are: location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity, a property will possess several or usually most of these aspects. The retention of specific aspects is necessary for a property to convey this significance. Determining which of the seven aspects are important involves knowing why, where and when the property is significant.

The prescribed steps in assessing integrity are as follows:

- Define the essential physical features that must be present for a property to represent its significance;
- Determine whether the essential physical features are visible enough to convey their significance;
- Determine whether the property needs to be compared with similar properties; and,

- Determine, based on the significance and essential physical features, which aspects of integrity are particularly vital to the property being nominated and if they are present.

Ultimately, the question of integrity is answered by whether or not the property retains the identity for which it is significant. All properties change over time. It is not necessary for a property to retain all its historic physical features or characteristics. However, the property must retain the essential physical features that enable it to convey its historic identity. The essential physical features are those features that define why a property is significant.

A property's historic significance depends on certain aspects of integrity. Determining which of the aspects is most important to a particular property requires an understanding of the property's significance and its essential physical features. For example, a property's historic significance can be related to its association with an important event, historical pattern or person. A property that is significant for its historic association is eligible for listing if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person.

A property important for association with an event, historical pattern, or person ideally might retain some features of all seven aspects of integrity. Integrity of design and workmanship, however, might not be as important to the significance, and would not be relevant if the property were an archeological site. A basic integrity test for a property associated with an important event or person is whether a historical contemporary would recognize the property as it exists today. For archeological sites that are eligible under Criteria a and b, the seven aspects of integrity can be applied in much the same way as they are to buildings, structures, or objects.

In sum, the assessment of a resource's National Register eligibility hinges on meeting two conditions:

1. the site must possess the potential to be eligible for listing in the National Register under one of the evaluation criteria either individually or as a contributing element of a district based on the historic context that is established; and

2. The site must possess sufficient integrity, i.e. it must retain the qualities that make it eligible for the National Register.

For the National Register, "a district possesses a significant concentration, linkage, or continuity of … objects united historically or aesthetically by plan or physical development." The identity of a district derives from the relationship of its resources, which can be an arrangement of functionally related properties.

RESEARCH

PREVIOUS RESEARCH

Two cultural resource studies have been conducted on the subject property. The first of those studies resulted in the recordation of one of the resources –CA-SAC-715H (PAR 1995). The second study involved the recordation of a segment of a previously recorded linear resource—CA-SAC-506H, and an evaluation of both of the resources (Jones & Stokes 2001). The 2001 evaluation concluded that neither of the resources were eligible for the National Register or for the California Register of Historical Resources.

CURRENT RESEARCH

To confirm the conclusions reached by previous researchers, a minor amount of archival research has been conducted to supplement the previous research effort. Research was conducted at the California Room of the California State Library, and at the Sacramento Archives and Museums Collections Center. Documents used include County Tax Assessment Map Books, County Tax Assessment Rolls, Probate Records, County histories, and the Sacramento Bee-Union Index.

HISTORIC CONTEXT

HISTORIC LAND USE AND OCCUPANCY

The lands of this portion of Sacramento County are primarily dry plains, cut be occasional drainages. Elder Creek crosses the project area. The lands along the major drainages were the first to be occupied with settlement occurring in the dry plains and on the lesser drainages such as Elder Creek in the 1850s and early 1860s.

The lands of this portion of Sacramento County were used for dry land farming for crops such as grain and hay. With a permanent water source, some of the lands could be used for grapes and orchards, or for dairies.

The 1855 General Land Office for the Township shows no houses within three miles of the project area. Elder Creek is shown as an “arroyo” suggesting that it was a fairly minor drainage. The only agricultural improvements are “fields”, again suggesting dry-land cultivation of grain or hay.

As early as 1900, Robert Larson had acquired the east half of the northeast quarter of section 6,a total of 79 acres. The land was valued at $1,420, with improvements valued at $250 (County Tax Assessment Roll 1900). The 1903 County map indicates this ownership.

In 1912, Robert Larson land had increased in value to $2,240, and improvements had increased in value to $1,000. Larson also owned land to the north of Florin Road in section 31, Township 8 North Range 6 East.

The first detailed topographic map of the region is the 1909 Elk Grove 1:31,680 topographic map, based on a 1907 survey. There were two houses in the project vicinity. One of these locations appears to be the location of CA-SAC-715H. The other is further east, on the south side of Elder Creek.

The County Building Record gave an approximate date of construction for the residence as 1910 (Jones & Stokes 2001). It is likely that the actual date of construction preceded this by a few years, with a building at this location by 1907. The increase in improvement values between 1900 and 1912 further supports this. The second building shown on the 1909 topographic map may have been Larson's first house on the land, or the house first built by a previous owner.

By 1919, the land ownership had changed from Robert Larson to Robert and Anna Larson (County Tax Assessment Roll 1919). The Larsons owned the land together until at least 1934. In that year, the 74 acres were valued at $2,660, and improvements at $1,400. They paid a total tax of $6.88 for the year. They also had $1,800 in personal property, for which they paid an additional $3.85 in taxes (County Tax Assessment Roll 1934). The Larsons apparently raised grain and grapes.

Anna Larson died in 1934 or 1935. Her husband prepared a new will on Jan. 21, 1936, leaving all his estate to his daughter Mary Barton of Hagginwood. Nothing was left to the other two children, Minnie Lewis and Newton Larson, both of Florin, as they had been "otherwise provided for" (Probate Case File 19666).

By 1939, the land and house were owned by Minnie Lewis (County Tax Assessment Roll 1939). Lewis was the daughter of Robert and Anna Larson. This suggests that the house was turned over to Minnie right after the death of her mother, and other lands or property transferred to Newton Larson.

Robert Larson re-married after he prepared his 1936 will. He died October 3, 1939. His widow had to petition the court for $10 a month as she was left without any means of support. Ultimately, she received a portion of the estate, even though she was not named in the will (Probate Case File 19666).

The 1941 Franklin quadrangle (1:62,500 scale) produced by the U.S. Army showed two buildings on the property. The 1952 Elk Grove USGS 7.5' topographic quadrangle indicates that the creek had moved considerably southward, with the building on the south side of the creek no longer present. There was also an outbuilding to the southwest of the residence. South and east of the creek is a vineyard totaling about 10 acres.

THE RAILROAD

The early years of the twentieth century were an era of rapid development of a large number of interurban electrified railways. Technological advances related to the production and long-distance transmission of hydroelectric generated power in the late nineteenth century made this a popular form of transportation for passenger service and

freight service throughout the virtually flat terrain of the Central Valley. One of the systems to be organized and built in this era was the Central California Traction Railroad (CCT). The corporation was organized in 1905 with three goals in mind: to compete with the Southern Pacific and Western Pacific railroads for transporting agricultural products from farms on the east side of the San Joaquin and Sacramento valleys; to develop farmland along the railroad right-of-way; and to provide a major customer for the power company owned by several of the corporate directors.

The 53-mile CCT main line connected Sacramento with Stockton, with a branch from the main line to Lodi. The section from Sheldon to Sacramento including the section under review was completed in 1910. Almost from the beginning, the railroad built up a substantial freight business, and was a financial success. In the 1920s, Southern Pacific, Santa Fe and Western Pacific purchased the railway jointly. Eventually, the increasing use of personal automobiles and bus lines brought a reduction in the number of passengers for the CCT, and passenger service was eliminated in 1933. In 1946, the use of electricity was discontinued in favor of diesel service (Hilton and Due 1960: 401; Fickewirth 1992:27).

SITE DESCRIPTIONS

CA-SAC-715H is a two-story, square Craftsman-style house. The roof is flared and hipped, with beaded tongue and groove boxed eaves and knee braces. A large brick chimney is located along the exterior center of the eastern façade. Dormers are set in the roof on both the front and back of the residence. The house is sited on a 3-foot high concrete foundation. The top row of the concrete has wheat sheath designs impressed in the concrete. The residence is covered with 3-in-1 board siding. The west side of the residence has a bay window, and the east has an oriel window with brackets. The front porch extends across the full width of the residence, and has a hipped roof. This roof is supported by four tapered columns on concrete piers. In 1959, a second story, sympathetic to the original style, was added to the house (Jones & Stokes 2001:11-12).

CA-SAC-506H is a 400-foot segment of the Central California Traction Railroad and an associated trestle. The railroad is a single-track standard gauge line on a berm continuing onto a trestle spanning Elder Creek. The trestle is six feet in height, and is supported by five concrete and wood supports (Jones & Stokes 2001:11).

EVALUATION OF THE SITES

CA-SAC-715H

The residence is not associated with events important in our past (Criterion A), nor with individuals important in our past (Criterion B). Robert Larson did not even have a biography in the County histories published during his prime years on the property (Willis 1913; Reed 1923).

Evaluated under Criterion C, it can be concluded that the building represents a fairly common style in Sacramento County. It is not a particularly good example of the style. The addition of the second story in 1959 destroyed the integrity of the building's original design and appearance. As such, it can be concluded that the building is not eligible for the National Register.

CA-SAC-506H

The relatively short electric interurban line is one of many electric railways built in the early years of the twentieth century. It is not associated with events or individuals important in our past (Criteria A and B). The line was constructed on the Central Valley floor, involving relatively simple construction and few engineering challenges. The conversion to diesel in 1946 involved the removal of many design elements and materials of the original system, impacting the overall integrity of the resource. The resource is not eligible for the National Register under Criterion C.

CONCLUSIONS

Neither the building nor the section of the railroad are eligible for inclusion in the National Register. No prehistoric, archaeological sites were encountered during the field investigation of the Survey Area. However, the lack of surface evidence does not preclude the existence of important, subsurface cultural materials. There is a potential to unearth buried cultural remains during future project construction activities. Caution should, therefore, be exercised during future development activities. Any accidental encountered of previously unidentified cultural materials will require notification of the Department of Environmental Review and Assessment. If skeletal remains are encountered, both the Department of Environmental Review and Assessment and the County Coroner must be immediately notified. With the implementation of the mitigation proposed in the prior EIR, however, these potential impacts to cultural resources in the Vineyard Creek subdivision are considered less than significant.

VINEYARD POINT

The Vineyard Point subdivision was also a part of the original Survey Area. No potentially significant archeological or architectural resources were discovered during the surveys. However, this does not preclude the existence of important, subsurface cultural materials. With the implementation of the mitigation proposed in the prior EIR, however, these potential impacts to cultural resources in the Vineyard Point subdivision are considered less than significant.

12 WATER SUPPLY

INTRODUCTION

An updated Master Water Supply and Water Distribution System Report (July 9, 2003) was prepared for the NVSSP by MacKay and Somps civil engineers. The purpose of this study is to identify facilities necessary to meet the water supply needs of developing the Plan area. This study updates the Master Water Supply and Water Distribution System Report for the Plan dated December 1997 also prepared by MacKay & Somps, which was incorporated into the Board certified Final EIR for the project dated February 1998.

The NVSSP comprises 1,595 acres of the 5,596-acre Northern Study Area identified in the 1998 Zone 40 Adjacent Areas Study. Approximately 1,285 acres of the NVSSP area will contribute to water demands per the approved land use designations. The NVSSP area will ultimately be served by a combination of groundwater and surface water. Water demands and associated infrastructure needs for the various land uses have been identified and hydraulic analyses, including fire flow, for all major phases of development within the NVSSP area have been prepared and are included in this report.

REGULATORY SETTING

GENERAL PLAN (GP)

The Sacramento County General Plan includes Policies CO-20 and CO-21, which state the following:

> CO-20 – In new development areas, as identified in Figure III-1 of the Land Use Element, entitlements for urban development shall not be granted until a Master Plan for water supply has been adopted by the Board of Supervisors and all agreements and financing for supplemental water supplies are in place. The land use planning process may proceed, and specific plans and rezoning may be approved.
>
> CO-21 – The Master Water Plan shall include three planning objectives which direct the plan to consider alternate conservation measures, achieve safe yield of ground water supply in conjunction with development in new urban growth areas, and formulate a five year monitoring program to review water plan progress.

The intent of these policies is to assist the County in meeting its objective of having a regionally safe ground water yield.

SACRAMENTO COUNTY WATER AGENCY (SCWA) ZONE 40

The Sacramento County Water Agency (SCWA) will provide major water facilities such as transmission pipelines, storage reservoirs, pump stations, wells and treatment facilities for the Specific Plan Area. The SCWA is governed by the Sacramento County Board of Supervisors acting as the Agency's Board of Directors. It may contract with the Federal Government and others with respect to the purchase, sale, and acquisition of surface water.

PROPOSED WATER SUPPLY MASTER PLAN

WATER DEMAND

The NVSSP currently proposes six phases of development with project buildout taking place over a 15-year period. The timelines provided are used for infrastructure planning purposes and could be somewhat different in actuality.

PHASE A-1 (YEAR EST. 2004-2005)

Phase A-1 is bounded on the north by 9 Street, on the south by Gerber Road, on the east by 4 Street, and on the west by the CCTC Railroad tracks. This initial phase is primarily comprised of single-family residential zoning of 3 to 7 units per acre. The water demands of this phase are based on current planning for the development of 114 acres, which includes construction of up to 601 residential units.

PHASE A-2 (YEARS EST. 2005-2009)

Phase A-2 is comprised of four separate areas in the western portion of the NVSSP. It consists of 166 acres of proposed development and is generally comprised of single-family residential zoning of 3 to 7 units per acre for a total of 947 residential units, including approximately 16 acres of parkland.

PHASE B (YEARS EST. 2006-2011)

Phase B is located in the north and central portion of the NVSSP. This phase is roughly bounded on the north by Florin Road, on the south by 9 Street, on the east by Bradshaw Road, and on the west by the overhead electrical transmission easement. Phase B consists of 256 acres of proposed development and is comprised of single and multi-family residential, commercial, school, parkland, and public services zoning, with a total of 1,262 residential dwelling units.

PHASE C (YEARS EST. 2008-2014)

Phase C is located in the eastern portion of the NVSSP. This phase is bounded on the north by Florin Road, on the south by Gerber Road, on the east by the Vineyard Road extension and on the west by Bradshaw Road. Phase C consists of 350 acres of proposed development and is comprised of single-family residential, school, and parkland zoning, including 1,259 residential dwelling units.

PHASE D

Phase D includes four separate areas in the NVSSP. This phase adds 240 acres of proposed development including single-family residential, commercial and school zoning, with a total number of 920 residential dwelling units.

PHASE E (BUILDOUT)

Phase E represents the final build-out condition for the NVSSP. It is comprised of the remaining 156 acres of proposed development including single and multi-family residential, commercial and parkland zoning, with a total number of 730 residential dwelling units.

Water demand for the transmission pipeline and storage facilities were derived using equivalent development unit (EDU) demands for each development phase of the Plan. Proposed unit development and land uses are converted to EDUs, which are then converted to average daily demand (ADD) by applying a single conversion factor (1 EDU + 0.41 gallons per minute (gpm) ADD x 1.07). A 7% transmission loss is accounted for in this conversion. Water supply modeling (WaterCAD) was generated for each major development phase through buildout of the Plan area. Maximum-Day and Peak-Hour demand scenarios were created for each water supply. The results are tabulated in the Master Water Supply and Water Distribution System Report Appendices. The EDU conversion factor utilized in the Land Use and Water Demand Tabulations are as follows:

Table 12-1
Equivalent Development Unit/Water Demand Conversion Factors

Zoned Land Use	EDU Conversion Factor	AVG. Daily Demand (gpm/EDU)	Max Day Demand (gpm/EDU)
Residential (1 – 3 units/acre)	1 EDU / Unit	0.41	0.82
Residential (3 – 5 units/acre)	1 EDU / Unit	0.41	0.82
Residential (5 – 7 units/acre)	1 EDU / Unit	0.41	0.82
Residential (7 – 14 units/acre)	1 EDU / Unit	0.41	0.82
Multi-Family	0.366 EDUs / Unit	0.41	0.82
Commercial/Industrial	3.34 EDUs / Acre	0.41	0.82
Schools/Institutional	6.47 EDUs / Acre	0.41	0.82
Park/Recreational Land	6.47 EDUs / Acre	0.41	0.82
Public Services Facilities	1.94 EDUs / Acre	0.41	0.82

WATER SUPPLY SOURCE

The 1997 preferred water supply alternative consisted of a combination of groundwater and surface water supplies. Groundwater was to be supplied by on-site wells and surface water was to be delivered by the City of Sacramento through a pipeline along Florin Road. The source of the surface water was through the City of Sacramento's Fairbairn Water Treatment Plant. This water could only be used within the portion of the NVSSP area that is within the City's American River Place of Use (ARPOU).

The updated preferred water supply alternative will ultimately meet demands in the western portion of the NVSSP area (west of Bradshaw Road) with surface water, and the eastern portion with groundwater. All facilities will be sized to meet maximum Day Demand. Peak demands will be met by pumping from storage met by groundwater. Maximum-Day demands are estimated to be 2,220 gpm groundwater and 2,900 gpm surface water.

Reliance on local groundwater and existing conjunctive Zone 40 sources within the NVSSP is anticipated through the occupancy of 2,530 equivalent dwelling units (EDU's) towards the end of Phase B development. No more than a cumulative total of 2,530 EDU's in tentative subdivision map lots may be approved within the NVSSP area until either surface water supply consistent with the approved NVS Water Supply Master Plan has been secured, or the SCWA Board of Directors finds that an acceptable alternative supply has been secured.

The following infrastructure components are included in the revised preferred alternative:

- Water Treatment plant site area: 6.0 acres
- Number of Storage Tanks: 2[1]
- Volume of each storage tank : 2.0 mg (4.0 mg total)
- Booster pump capacity: 10,678 gpm peak hour
- Total number of wells: 3

GROUNDWATER COMPONENT

Based on an equivalent daily production of 1,500 gpm per well, three wells will be required to supply the demands in the portion of the NVSSP Area outside the City's ARPOU. Allowing for one well to be taken out of service, the remaining two wells will be designed to produce 2,220 gpm. A single treatment facility will be centrally located with three wells providing water to it. The treated groundwater will be discharged to storage reservoirs located on-site. A booster pump station will then deliver the stored water to the distribution system.

AVAILABLE WATER SUPPLY

Initial water supply may be supplied by an extension of the Elk Grove-Florin Road T-main from existing SCWA facilities. The boundary pressure conditions modeled for Phase A-1 at the proposed initial connection to existing Zone 40 infrastructure are 45 psi as prescribed by SCWA.

The availability of water from the existing system is based on an estimate provided by SCWA. This estimate is subject to change, reflecting ongoing development and increasing water demands outside the NVSSP area. SCWA will re-evaluate available capacity prior to approval of infrastructure improvement plans. Development within the NVSSP area beyond existing water supply will be dependent on timely completion of proposed on-site groundwater treatment plant and associated supply, storage, and pumping facilities.

As Phase A-1 will depend on the construction of a single feed transmission main extending off the existing Zone 40 transmission network, the construction of a fire well within the Phase A-1 development is necessary to supplement emergency water supplies. In accordance with applicable fire code and SCWA requirements, this fire well will need to be operational prior to the storage and/or construction of any combustible materials on-site. When the on-site groundwater treatment facility is completed, this fire well will be converted to a standard municipal production well and connected to the treatment facility.

[1] NVS minimum storage requirements = 1.73 mg. Second future storage tank of 2 mg capacity included as directed by WRD.

Groundwater will be an integral component of the buildout system serving the area. However, groundwater production is limited to 2,220 gpm (sufficient 2,530 EDU's). Surface water will need to be made available for development to exceed 2,530 EDU's.

Groundwater will be extracted from the deep aquifer and then delivered to a treatment facility for removal of iron and manganese. Treatment, storage, and pumping capacities are modeled in this study to accommodate each development phase in accordance with SCWA design standards.

The groundwater treatment facility is to be constructed near the intersections of the CCTC Railroad and Waterman Road, at the west edge of Phase A-1 development (submitted Tentative Map for Vineyard Point) prior to development of Phase A-2.

The 1998 EIR for the NVSSP identified a second groundwater treatment facility with associated wells to be constructed with Phase D, southwest of the intersection of Florin Road and the Vineyard Road extension. This water treatment plant, if needed, would be constructed by SCWA.

SURFACE WATER COMPONENT

The Draft 2002 Zone 40 Water Supply Master Plan dated December 2002 is intended to update previous Zone 40 water supply plans and incorporates terms and conditions for SCWA's water supply through the year 2030 from the recently adopted Water Forum Agreement. The Water Forum Agreement includes a provision for surface water to be obtained from the City of Sacramento for that portion of Zone 40 that lies within the City's ARPOU. This provision is for up to 9,300 acre-feet per year. The NVSSP portion of this supply is approximately 25%. Transmission and treatment of this water will most likely be through the Freeport Regional Water Project. This project consists of a diversion structure on the Sacramento River near the community of Freeport and a raw water conveyance pipeline to the central portion of Zone 40. An 85-MGD (ultimate capacity) surface water treatment facility and treated water conveyance pipeline will be constructed in phases by SCWA in the vicinity of Bradshaw and Florin Roads to supply surface water throughout Zone 40.

As an alternative, SCWA could negotiate the purchase of City of Sacramento ARPOU water and deliver it through the City's Fairbairn or Sacramento River water treatment plants. This system involves purchasing treatment capacity and constructing conveyance facilities from the current City delivery point near Florin Road and Power Inn Road to the location to the location where the surface water would be introduced into the SCWA system. To deliver this water, a transmission main would need to be constructed in Florin Road, from Power Inn Road to Waterman Road. Booster pump capacity as well as additional storage would also be required.

Surface water supply facilities to meet the Specific Plan Area demands within the City's ARPOU will need to ultimately provide 2,900 gpm.

WATER TREATMENT AND STORAGE

GROUND WATER TREATMENT PLANT

Ground water treatment plants within Zone 40 are comprised of water processing facilities combined with both storage and pumping capabilities. Strategic placement of water treatment plants throughout the zone is intended to provide reliable operational pressure and flow in the system. Water is received via raw water pipelines linked to well sites in relatively close proximity to each plant. Construction of facilities within the North Vineyard Station water treatment plant, including storage tanks, pumps, processing systems, etc., may be phased in accordance with the following development-demand thresholds:

Table 12-2
Development/Demand Thresholds

Phase	Cumulative EDUs	Minimum Treatment Capacity (mgd)	Peak-Hour Distribution Capacity (gpm)	Operational Pressure (psi)
A-1	***	N/A	N/A	45*
A-2	1,666	0.98	2,924	50 – 55
B**	2,834	1.67	4,973	50 – 55
C**	4,268	2.52	7,490	50 – 55
D**	5,289	3.12	9,281	50 – 55
E**	6,085	3.59	10,678	50 – 55

* Assumed initial connection to main at Elk Grove-Florin Road T-main.
** Combination of ground and surface water sources.
*** To be determined prior to approval of infrastructure improvement plans.

Construction of groundwater treatment facilities and well sites is an integral part of development within Zone 40. The acquisition of real property in additional to planning and construction of facilities may require substantial time for completion. Real property shall be reserved per the guidelines contained in Chapter 22.50 of the Sacramento County Code and Government Title 7, Division 2, Article 4 (1/03). A site for the proposed NVS groundwater treatment plant, storage tanks, booster pump and other appurtenances has been designated on the Vineyard Point Tentative Subdivision Map on file with the County Planning Department. Phase A-1 development consists entirely of the Vineyard Point Subdivision.

To allow for proper environmental impact evaluation of the proposed water treatment plant and its operation by the County, the NVSSP proponents have had their consultant prepare a "Narrative Description with Preliminary Operation and Construction Mitigation Measures."

GROUNDWATER WELL PLACEMENT CRITERIA

Approximately 85% of water for domestic distribution in the County of Sacramento Zone 40 is supplied by groundwater sources within the district. Well sites are to be situated evenly throughout the district within development projects, as they occur, in accordance with the requirements of SCWA and the Department of Health Services (DHS). Minimum well site setbacks per DHS are as follows:

A. 50 foot separation – Primary drinking water source protection, no sanitary, industrial, storm water main, or leader lines and no house foundations without approved special provisions.

B. 100 foot separation – Secondary drinking water source protection; no sanitary sewer or storm gravity mains, septic tanks, or leach lines without approved special provisions.

C. 200 foot separation – from sanitary or storm sewer force main and/or approved special provisions.

Wells are typically designed with pumping capacities of 1,500 gpm and are considered to operate 18 hours per day. This provides an effective flow of 1,000 gpm over a 24-hour period. Based on these operational parameters, a minimum of three wells will be required to meet groundwater demands. Additional well sites may be required, if deemed necessary by SCWA, to insure long-term system reliability. Well sites and raw water mains are not included in the water distribution modeling. Well capacities and production, per phase, are proposed as follows:

Table 12-3
Well Sites

Phase	Wells Added	Cumulative Wells	Cumulative Well Production Capacity (gpm)	Daily Pumping Capability (mgd)	Average Daily Demand (mgd)
A-1	1*	1	1,500	1.44	0.56
A-2	2	3	3,000**	4.32	1.13

* Fire well upgraded to supply well in Phase A-2

** Two well sites providing 1,500 gpm continuous production with remaining well site for reduncancy to produce an ultimate 3,000 gpm

STORAGE TANK SIZING

Storage tank sizes are calculated as the aggregate total of 4 hours of peak-hour demand minus max-day demand, three hours of fire flow at 3,000 gpm, plus an emergency storage volume equal to 1/3 of the average day demand. Peak-hour demand for sizing storage facilities is the max-day demand multiplied by a peaking factor of 1.8.

Table 12-4
Minimum Storage Volume

Phase	Max-Day Demand (gpm)	Peak-Hour Demand for Storage** (gpm)	1	2		Minimum Storage Volume (mg)
			PHD – MDD x 4 hours (mg)	3,000 gpm FF x 3 hours	1/3 ADD x 3 hours	
A-1*	***	965	0.102	0.540	0.016	0.658
A-2	1,462	2,632	0.281	0.540	0.044	0.865
B	2,487	4,477	0.478	0.540	0.075	1.09
C	3,744	6,739	0.719	0.540	0.112	1.37
D	4,640	8,352	0.891	0.540	0.139	1.57
E	5,339	9,610	1.025	0.540	0.160	1.73

* Assumes initial connection to main at Elk Grove-Florin Road T-main.
** Peak-hour demand for storage is 1.8 times max-day demand.
*** To be determined prior to approval of infrastructure improvement plans.

As identified in the current WMP update (July 9, 2003) the North Vineyard Station requires a minimum storage of 1.73 million gallons. This is an update of the 1997 study that identified a needed volume of 2.3 MG. This reduced volume is based on updated modeling conditions (supply and distribution). The 4 million gallons of storage identified in the current study includes a second future 2 MG storage tank that was included as directed by WRD.

WATER DISTRIBUTION

RAW WATER MAINS

Raw water mains currently being installed in Zone 40 are generally 12 – 18 inches in diameter PVC pipe similar to potable water mains. Raw water mains, per phase, are proposed as follows:

Table 12-5
Raw Water Mains

Phase	Size (in.)	Material	Quantity
A-1	N/A	N/A	N/A
A-2	12	PVC	3,700
B	12	**PVC**	0
C	12	**PVC**	0
D	12	**PVC**	0
E	12	**PVC**	0
Totals			**3,700**

TRANSMISSION MAINS

Transmission mains (T-mains) will be installed incrementally as development progresses within the NVSSP. Transmission main sizes were determined by Zone-40 based on regional system modeling. Approximate T-main pipe lengths and size for each proposed development phase are quantified as follows:

Table 12-6
Transmission Mains

Phase	Quantity (LF)					
	12”	**16”**	**18”**	**24”**	**36”**	**48”**
A-1			2,764	7,986		
A-2			5,391	7,737		
B		657	1,981			
C		7,969	3,344	1,363		
D		4,037				
E	N/A	N/A	N/A	N/A	N/A	N/A
Totals	**N/A**	**12,663**	**13,480**	**17,086**	**N/A**	**N/A**

MAX-DAY DEMAND ANALYSIS

MAX-DAY ASSUMPTIONS/CRITERIA

Max-Day demand for the North Vineyard Specific Plan is based on the anticipated land use and respective average annual demands per EDU both outside and within the ARPOU. ~~The Max-Day values are obtained by multiplying the Average Daily demand by a factor of 2 per Sacramento County Improvement Standards Manual. Max-Day demands are individually entered at respective demand nodes in the WaterCAD® model.~~

~~The Hazen-Williams formula is used in the hydraulic study of the system, using a C-value of 125 for PVC pipe as required by the Sacramento County Improvement Standards Manual. This C-Value is generally considered conservative as it is intended to take into account various minor losses in the system.~~

Table WS-7
Summary of Results for Max-Day Demand

Phase	**Max-Day Demand* (gpm)**
A-1	536.10
A-2	1,461.87
B	2,486.55
C	3,744.90
D	4,640.61
E	5,338.99

CONCLUSIONS

The prior EIR concluded that implementation of the North Vineyard Station Specific Plan Water Master Plan would result in less than significant water supply impacts. However, the implementation of the NVSSP Water Master Plan was contingent on the implementation of the Water Master Plan for Areas Adjacent to the Zone 40 Water Supply Master Plan Update's Study Area, as well as fulfillment of the City of Sacramento American River Place of Use. Until all agreements are in place to wheel "firm" surface water supplies to the Specific Plan area, the project will contribute to the incremental decline in ground water levels. This incremental decline and the dewatering of private wells is a regional issue, beyond the scope of the proposed project. However,

the project would add to the significant adverse cumulative impacts that regional development has on ground water supplies. Compliance with the requirements of the SCWA and the Water Forum Agreement will ensure that impacts are less than significant.

REQUIREMENTS OF THE SACRAMENTO COUNTY WATER AGENCY:

The SCWA requires the following conditions of approval be placed on all tentative maps and vesting tentative maps within the North Vineyard Station Specific Plan Area:

1. That Simple Title ownership or sale agreements for the WTP lands are completed prior to any Tentative Map approvals within the North Vineyard Station Specific Plan area. WTP lands shall be reserved per the guidelines contained in Chapter 22.50 of the Sacramento County Code and Government Title 7, Division 2, Article 4.(1/03).

2. That well sites be identified prior to Tentative map approvals for subdivisions within the North Vineyard Station Specific Plan area and reserved per the guidelines contained in Chapter 22.50 of the Sacramento County Code and Government Title 7, Division 2, Article 4.(1/03).

3. That well sites be reserved on the Final Subdivision Maps of subdivisions within the North Vineyard Station Specific Plan area.

4. That no more than a cumulative total of 2,530 equivalent dwelling units (EDUs) in Tentative Subdivision Map lots may be approved within the North Vineyard Station Specific Plan area until either surface water supply consistent with the approved NVS Water Supply Master Plan has been secured, or the SCWA Board of Directors finds that an acceptable alternative supply consistent with the Zone 40 Water Supply Master Plan has been secured.

Comments were also provided in regards to the Vineyard Creek Tentative Subdivision Map:

1. Destroy all abandoned wells on the proposed project site in accordance with the requirements of the Sacramento County Environmental Health Division. Clearly show all abandoned/destroyed wells on the improvement plans for the project. Prior to abandoning any existing agricultural wells, applicant shall use water from agricultural wells for grading and construction.

2. Prior to tentative subdivision map approval, prepare a Water Supply Master Plan, to the satisfaction of the Sacramento County Water Agency.

3. Prior to tentative subdivision map approval, the Sacramento County Water Agency requires either fee simple title or sale agreements or reservation agreements for a water treatment plant site as identified in the most current approved North Vineyard Station Specific Plan Water Supply Master Plan. In

addition, prior to final map recordation, the affected property owner, future successors or interests shall enter into an agreement with SCWA consistent with Chapter 22.50 of the Sacramento County Code and Government Code Title 7, Division 2, Article 4.

4. The Sacramento County Water Agency (SCWA) will not issue water connection permits or sign improvement plans until adequate water supplies have been secured. In addition, the final map shall not be recorded until the SCWA has secured fee simple title to the North Vineyard Station WTP.

5. Prior to the issuance of any building permits for the project, the project developer/owner shall pay Zone 40 development fees applicable at the time of building permit issuance in accordance with Sacramento County Water Agency Ordinance No. 18.

6. Prior to the issuance of any building permits for the project, the project shall conform to the specific provisions of the Sacramento County Landscape Water Conservation Ordinance (Chapter 14.10 of the Sacramento County Code) to the satisfaction of the County Landscape/Oak Tree Coordinator.

MITIGATION MEASURES:

None required.

13 SEWER SERVICE

INTRODUCTION

McKay and Somps prepared a Revised Sewer Study (July 1, 2002) in conjunction with the Water Quality Division of the Sacramento County Department of Public Works. It is a part of the Phased CIP Financing Plan for the North Vineyard Station Specific Plan (NVSSP).

The sewer study provides background information and refines the master plan for sanitary sewer facilities, providing greater detail along with updated land use and flow data. The study has been revised to facilitate development of the sanitary sewer portion of the Capital Improvement Program for the Specific Plan and provide updated construction cost estimates. Land development in the contributing shed areas will dictate how construction of the trunk system will be phased. Market and economic forces dictate the development phasing.

EXISTING CONDITIONS

Currently, there are no public sewer facilities within the North Vineyard Station Specific Plan area. Existing development within the project site is served by private septic systems. Public sewer service will be required to serve the proposed urban land uses. The NVSSP area lies within the Spheres of Influence of the Sacramento Regional County Sanitation District (SRCSD) and County Sanitation District No. 1 (CSD-1), which provide public sewer service within Sacramento County. CSD-1 provides local sewage collection and transport from its facilities to the regional sewage transmission, treatment and disposal facilities operated by SRCSD. Treated effluent from the Sacramento urban area is ultimately discharged to the Sacramento River at SRCSD's Regional Wastewater Treatment Plant, located approximately six miles southwest of the Specific Plan area near Freeport. SRCSD and CSD-1 are administered by the Water Quality Division of the Sacramento County Public Works Agency, which provides engineering and planning services to these sewer districts and operates and maintains district facilities. In order to receive public sewer service, the NVSSP area must be annexed to SRCSD and CSD-1.

CSD-1 and SRCSD classify sewer pipelines carrying 10 million gallons per day (mgd) or more as "interceptors". Sewer pipes carrying between 1 mgd and 10 mgd are known as "trunks". Sewer pipes carrying less than 1 mgd are referred to as "laterals". The cost of interceptor and trunk facilities are reimbursable or creditable against sewer fees.

There is an existing 108-inch sewer interceptor located in Elk Grove-Florin Road, approximately ½ mile west of the Specific Plan area. However, this interceptor is

nearing capacity. A countywide Sewer System Master Plan, entitled the "Sewerage Facilities Expansion Master Plan" (the SFEMP) is currently being considered for adoption by CSD-1 and SRCSD. The Final Draft was accepted by the Board of Supervisors in November of 2001 and is currently in the final stages of environmental review. The SFEMP uses updated land use information and projections, as well as updated design criteria to analyze capacities of existing facilities and to identify necessary expansions to the sewerage system throughout the Sacramento County Urban Services Area. The flow estimation criteria developed in the SFEMP are used throughout the NVSSP sewer study.

The SRCSD Interceptor System Master Plan calls for a new 108-inch pipeline (Bradshaw/Folsom Interceptor 6A) to be constructed generally along Elder Creek through the Plan Area. This interceptor is needed to relieve the Elk Grove-Florin Interceptor described above. It is also planned to serve future growth in the northeast portion of Sacramento County's Urban Service Area, including the City of Folsom.

Construction of the new Bradshaw 6A Interceptor is expected to extend through the western portion of the Specific Plan in 2004/2005 and will serve the entire Specific Plan area as well as surrounding lands. The Sewer System Shed Map (Plate SE -1) defines all sub-areas contributing flow to the trunk system serving the NVSSP.

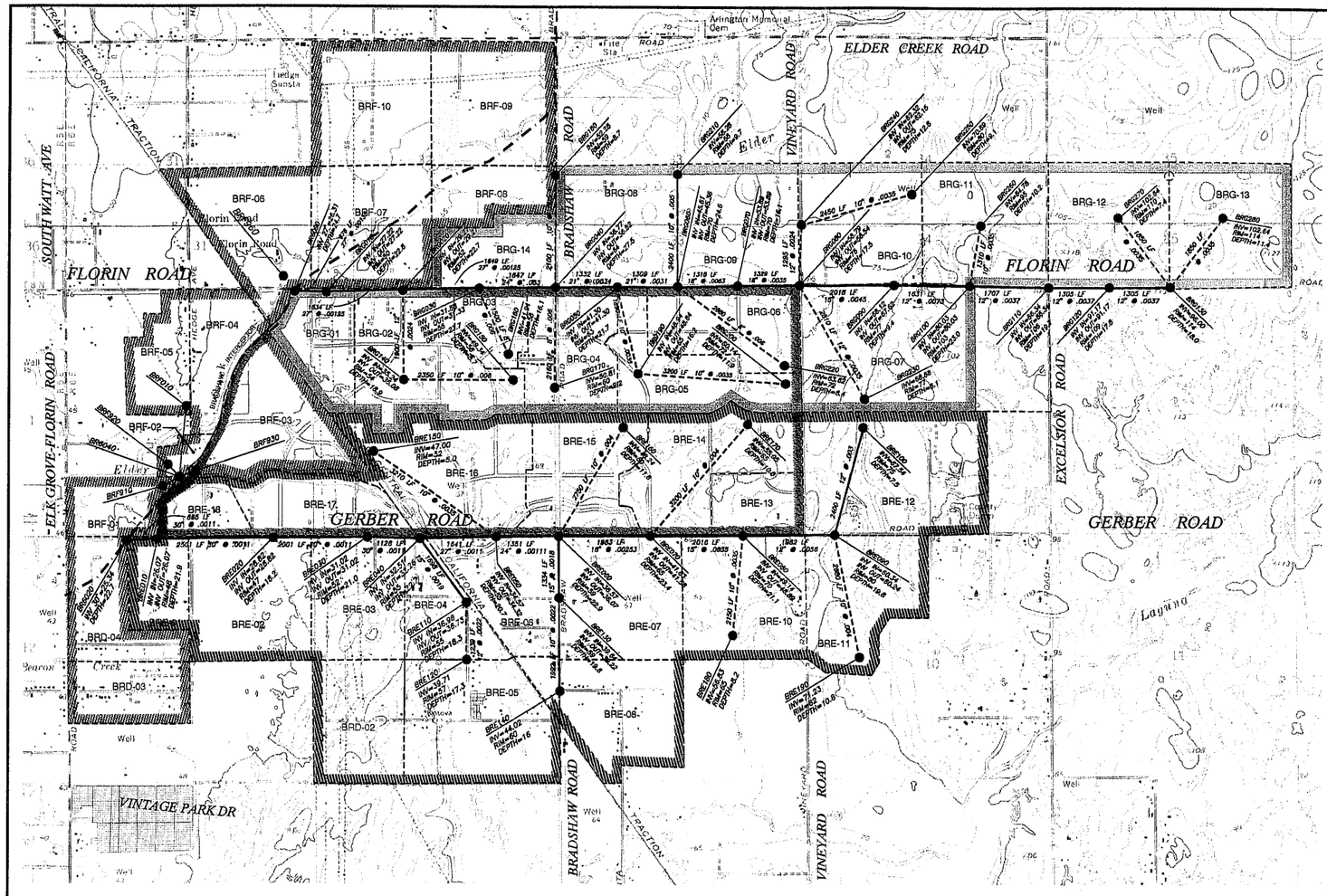
Gravity trunk systems (BR Gerber Road and BR Florin Road) will convey sewage to the new interceptor and have been identified in the Sewer System Shed Map and Master Plan (Plate SE -1 and Plate SE -2). The Sewer System Shed Map also identifies schematic extensions of laterals to the limits of individual sub-areas. The laterals have been included to verify the ability to serve future development by gravity.

PROPOSED SEWER SYSTEM

INTERIM SERVICE

Current development phasing projections predict Phase 1A-1 to begin construction prior to completion of the Bradshaw/Folsom Interceptor extension that will ultimately serve the Specific Plan area. In order to provide interim service to residences built, a sewer line will need to be designed and constructed from the downstream end of the Gerber Road trunk sewer to the existing Central Interceptor located in Elk Grove-Florin Road. All design and construction costs for the interim facilities are to be borne by the developer(s) and are to be considered non-reimbursable.

Plate SE -1
Sewer System Shed Map



SUBSHED TABLE

Subshed	Developed Area (acres)	ESD's Per Acre	Landuse
BRF–03	107.7	6.2	SFR 3–5; SFR 4–7; SCHOOL; PARK; OPEN SPACE
BRG–01	35.0	6.7	SFR 3–5; SFR 4–7; PUB SERV
BRG–02	133.0	7.4	SFR 3–5; SFR 4–7; MFR 12–22; PARK; PUB SERV; OPEN SPACE
BRG–03	47.0	8.4	SFR 3–5; SFR 4–7 MFR 12–22
BRG–04	105.5	7.3	B/P; COMMERCIAL; SFR 1–3; SFR 3–5; MDR 7–12; MFR 12–22; PARK
BRG–05	104.0	6.0	SFR 1–3; SFR 3–5; SCHOOL; PARK
BRG–06	109.0	6.0	SFR 1–3; SFR 3–5; PARK
BRG–07	229.0	6.0	
BRG–08	155.0	6.0	
BRG–09	155.0	6.0	
BRG–10	158.0	6.0	
BRG–11	161.0	6.0	
BRG–12	157.0	6.0	
BRG–13	158.0	6.0	
BRG–14	516.0	6.0	
BRE–01	58.0	6.0	
BRE–02	116.0	6.0	
BRE–03	78.0	6.0	
BRE–04	82.0	6.0	
BRE–05	183.0	6.0	
BRE–06	111.0	6.0	
BRE–07	149.0	8.3	
BRE–08	149.0	6.0	
BRE–10	149.0	7.6	
BRE–11	147.0	6.0	
BRE–12	235.0	6.0	
BRE–13	48.0	6.0	SFR 1–3
BRE–14	141.0	6.0	SFR 1–3; SFR 3–5; PARK
BRE–15	118.0	7.3	COMMERCIAL ; SFR 1–3; SFR 3–5; PARK; SFR 4–7; MDR 7–12; MFR 12–22
BRE–16	155.0	6.2	SFR 3–5; SFR 4–7; SCHOOL; PARK; OS
BRE–17	62.0	6.0	SFR 1–3; SFR 3–5
BRE–18	32.0	6.5	SFR 3–5; SFR 4–7

LEGEND

- NORTH VINEYARD STATION BOUNDARY
- BR FLORIN ROAD TRUNK SHED BOUNDARY
- GERBER FLORIN SUPPLEMENTAL SHED BOUNDARY
- BR GERBER ROAD TRUNK SHED BOUNDARY
- SUB–SHED BOUNDARY
- BRG-13 — SUB–SHED DESIGNATION (CSD–1)
- XX LF 10" @ .XXXX — CONCEPTUAL LOCAL SEWER PIPE ALIGNMENT AND PIPE DATA
- MANHOLE DATA

Note: See Figure 4 (Sewer System Master Plan) for detailed flow data.

NORTH

0 500 1000 2000
SCALE:1" = 1000'

Figure 3

SEWER SYSTEM
SHED MAP
for
North Vineyard Station
Specific Plan

DATE: April 2002
DESIGN BY: JPP
CHK'D BY:

MacKAY & SOMPS
CIVIL ENGINEERING/LAND PLANNING/LAND SURVEYING
SACRAMENTO, CA 95815 (916) 924-5092

JOB NO.: 2944-18
DWG. NO.: SP-shed
SHEET 1 OF 1

Plate SE -2
Sewer System Master Plan

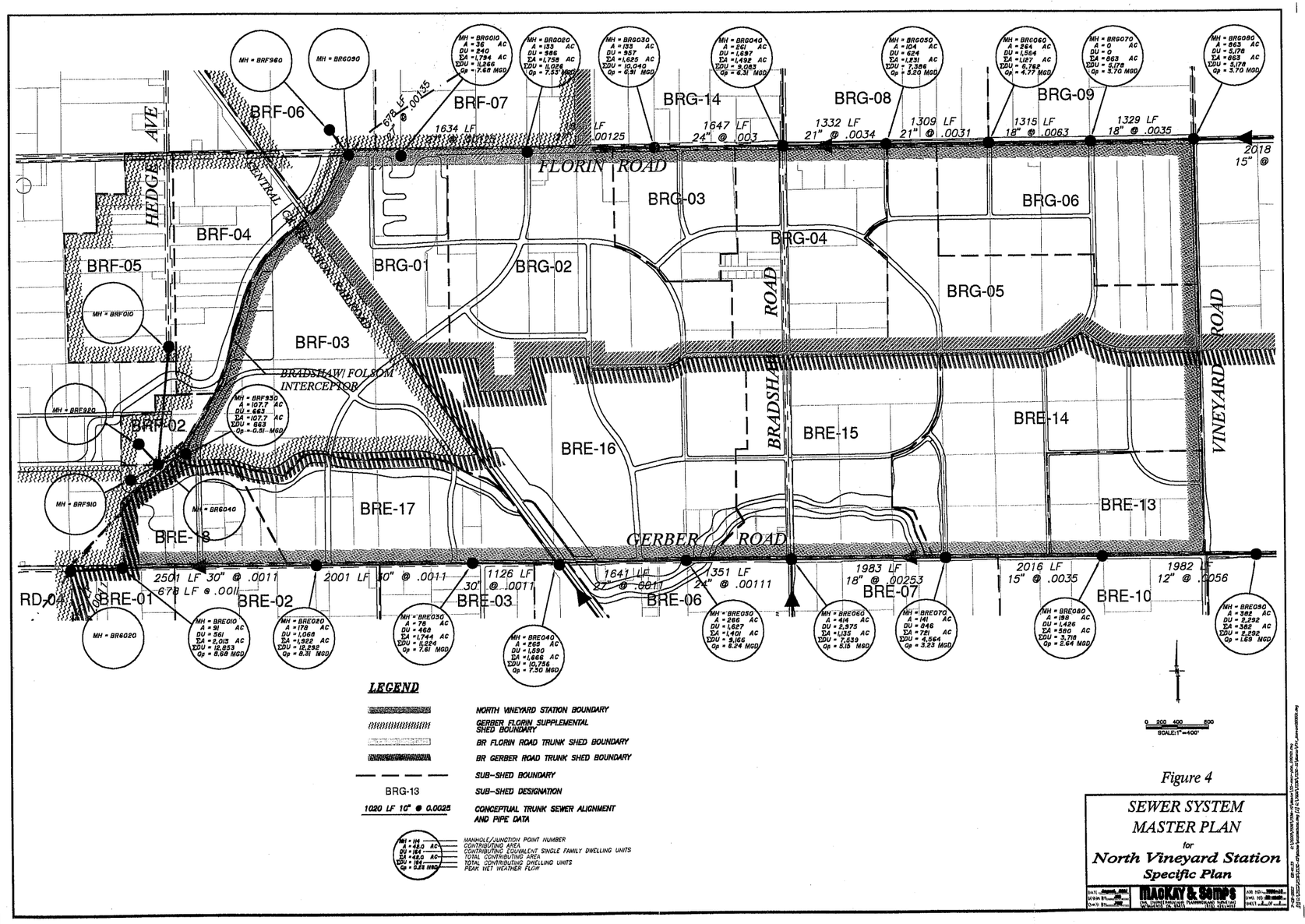


Figure 4

SERVICE AREA LIMITS

The area to be served by the sewer facilities analyzed in the NVSSP Sewer Study extends to areas surrounding the NVSSP. The study area has been divided into three major service sheds: (1) BR Gerber Road Shed, (2) BR Florin Road Shed, and (3) Gerber-Florin Supplemental Shed which are shown on Plate SE -1 and Plate SE -2. Shed designations 1 and 2 correspond to those used by CSD-1. The areas labeled shed 3 do no contribute flow to either the Gerber Road or Florin Road trunks and was separated and renamed for clarity. The overall boundary of the three major sheds corresponds to the area originally established by the Water Quality Division formerly for sheds 1 and 2 and is based on the previous SSES, analysis of topography, and the ability to sewer by gravity.

The direction to accommodate off-site is consistent with the County's General Plan Policy PF-9, which states:

> *"Design trunk and interceptor systems to accommodate flows generated by full urban development at urban densities within the ultimate service area. This could include phased construction where deferred capital costs are appropriate."*

The NVSSP and lands to the south are within the County's Urban Policy boundary, which defines the expected areas of urbanization during the planned twenty-year buildout of the General Plan. Areas to the north and east of the Specific Plan are not within the Urban Policy boundary. However, the General Plan acknowledges that development in Sacramento County will ultimately extend beyond its Urban Policy boundary. This acknowledgment is made in part through inclusion of an Urban Services boundary. This line establishes the area for which infrastructure improvements are to be sized. The Urban Services boundary in this portion of Sacramento County is along the west side of the Deer Creek/Cosumnes River floodplain, roughly six miles east of the NVSSP. Therefore, oversizing to accommodate future development of the service area is consistent with the General Plan.

ANALYSIS PROCEDURES

The development of the revised Sewer Master Plan is a refinement of the original Sewer Master Plan developed for the NVSSP Environmental Impact Report. Preparation for the updated Plan included the following steps

1. Shed maps and technical data from the SESS for the BR Gerber Road and BR Florin Road sheds were obtained from the Water Quality Division of the Sacramento County Department of Public Works, and the requirements for this study were discussed with staff.

2. The SESS data was reviewed and compared with the original sewer report.

3. The schematic backbone collection system was refined using the updated data.

4. Sub-sheds were compared to the updated data, then the areas and laterals refined as required.

5. To estimate sewage flows, land use boundaries were overlaid on the sub-sheds creating sub-areas of single land use within each sub-shed. The acreages of these sub-areas were determined and multiplied by the average number of Equivalent Single-Family Dwellings (ESD's) per acre for their particular land use in order to determine the total number of ESD's entering each pipe system. The criteria and methodology used to estimate flows are described in more detail in the Design Criteria sub-section below.

6. Pipes were sized and inverts calculated using an iterative process. The starting invert elevations of the trunks in Gerber and Florin Roads were set to match the crown elevations of the Bradshaw/Folsom Interceptor. Other lateral pipelines were typically designed to be approximately ten feet deep at the upstream end. At the time this report was prepared, information was not available about the layouts of subdivisions internal to the NVSSP. Therefore, the depth of ten feet at the upstream end was chosen conservatively to allow for the potential of longer routes to the extremities of the system.

ESTIMATION OF SEWAGE GENERATION

The methodology used to estimate sewage flows in trunk and interceptor systems is defined in the Sacramento Sewerage Expansion Study (SSES), and design criteria follow standard Sacramento County guidelines:

- ESD is defined as the flow equivalent for the average wastewater contribution from a single-family dwelling (1 ESD). A multi-family dwelling unit is assumed equivalent to 0.75 ESD. See Table 14-1 for EDS values.

- DWF is Dry Weather Flow; and

- PDWF is Peak Dry Weather Flow; and

- FWWF is Peak Wet Weather Flow; and

- I&I are Infiltration and Inflow.

Table 14-2 shows the Design Flow Criteria and Peaking Factor formula taken from the SSES methodology and used in the flow calculations.

PDWF has been computed based on 310 gpd per ESD entering each trunk pipe system. ESD values used in this analysis are as follows:

Table 13-1
ESD Values

Land Use	ESD Value
Business/Professional	6 Per Acre
Commercial	6 Per Acre
Single-Family Residential	1 Per Dwelling Unit (Minimum 6 Per Acre)
Medium Density Residential 7 – 12	10 Per Acre
Multi-Family Residential 12 - 22	0.75 Per Dwelling Unit (16.5 Per Acre)
School	6 Per Acre
Parks	6 Per Acre
Public Service	6 Per Acre
Open Space/Non-Constrained Areas (including golf courses)	6 Per Acre
Open Space/Constrained Areas (Detention, drainage channels, and powerline corridor)	0
Off-Site/Non-Constrained Areas	Per SESS (Minimum 6 Per Acre)

Table 13-2
Design Criteria

Item	Value
ESD Flow Factor	310 gpd/ESD
Dry Weather Peaking Factor	Curve[a]
I/I (Rainfall-Dependent ~ 10 year storm)	1,000 gpd/acre
Groundwater Infiltration	200 gpd/acre

[a] For average flow greater than or equal to 0.1 mgd, the peaking factor is expressed by the following equation which defines the peaking factor curve:

$$PF = 3.5 – 1.8Q^{0.05}$$

Where

PF = dry weather peaking factor (minum = 1.2)
Q = average flow (mgd)

At the direction of the Water Quality Division, the analysis assumes that areas within the Specific Plan which are planned for less than five dwelling units to the acre may eventually be rezoned to a higher density (six dwelling units per acre on the average). This assumption is consistent with standard Sacramento County sewer infrastructure planning procedures.

PIPE SLOPES

Schematic alignment slopes were generally used within the Specific Plan Area as collector roadway systems are still subject to change at this time. Schematic alignment slopes were typically used outside the boundaries of the Specific Plan, as accurate planning data is not available for these areas. The purpose of using steeper pipe grades in this study for "unplanned" areas is to allow for the potential that pipe lengths may turn out to be longer than anticipated at this time.

Table 13-3
Minimum Pipe Slopes

Pipe Diameter (in.)	Fixed	Schematic	Pipe Diameter (in.)	Fixed	Schematic
8	0.0035	0.00600	21	0.00110	N/A
10	0.0025	0.00350	24	0.00100	N/A
12	0.0020	0.00240	27	0.00100	N/A
15	0.0015	0.00180	30	0.00100	N/A
18	0.0012	0.00140	33+	0.00100	N/A

SYSTEM LAYOUT

The pipelines in Gerber Road and Florin Road are estimated to carry in excess of 1 million gallons per day (mgd) each, and therefore are classified as "trunk" facilities subject to CSD-1 policies for reimbursement of construction costs. Portions of other parts of the system may also reach trunk classification.

IMPACTS AND ANALYSIS

Impact:

The revised sewer study does not include the proposed water treatment facility, which has the potential to contribute a significant amount of effluent into the sewer system. In addition, the proposed increased development densities anticipated from the density bonus program will also result in incremental increases in effluent generation from the

Plan area. The County Sanitation District-1 (CSD-1) staff has indicated the increased flows will necessitate revised sewer studies and the planned sizing of the Gerber Road Trunk would have to be increased. Since the Gerber Road Trunk sewer line has yet to be constructed, these necessary adjustments can be made and the impact of the increased flows is expected to be less than significant. The Gerber Trunk will tie into the Bradshaw 6A and 6B Interceptors, and the Central Interceptor further downstream, where there will be adequate capacity in to handle the increased flows from the water treatment facility and expected small to moderate increases in dwelling units through the density bonus program.

CSD-1 indicated that the revised sewer study need not be included in this Draft EIR, but would be required prior to installation of the Gerber Road Trunk (pers. comm., Matt Morgan, CSD-1, June 15, 2004). Because potential impacts from the water treatment facility on the Gerber Road Trunk will be evaluated prior to installation of the trunk line and sized appropriately, lack of sewer capacity should not be an impediment to future development. Therefore impacts associated with sewer service are considered less-than-significant.

RECOMMENDATIONS/REQUIREMENTS OF CSD-1:

Provide a revised sewer study, to the satisfaction of the County Sanitation District-1 staff, to address the increased sizing needs for the Gerber Road Trunk Sewer in order to adequately accommodate anticipated effluent flows from the proposed water treatment facility and potential increases in dwelling units through the density bonus program.

VINEYARD CREEK

1. Connection to the public sewer system shall be required to the satisfaction of CSD-1. Sacramento County Improvement Standards apply to any on and off-site sewer construction.

2. CSD-1 shall require an approved sewer study prior to the submittal of improvement plans for plan check to CSD-1. Portions of the subject project shall flow into the BR Florin Road Trunk Shed and other portions shall flow into the BR Gerber Road Trunk Shed in accordance with the Sanitary Sewer Study for the North Vineyard Station Specific Plan and the Sewage Facilities Expansion Master Plan.

3. Each lot shall have a separate connection to the public sewer system.

4. In order to obtain sewer service, construction of on and off-site public sewer will be required to the satisfaction of CSD-1.

5. Construction of off-site public trunk sewer will be required in conformance with approved sewer studies and to the satisfaction of CSD-1. In accordance with the

Connection Fee Ordinance, it will be necessary to schedule a meeting to discuss reimbursement requirements with appropriate CSD-1 staff prior to any trunk design.

6. Design of all public sewers shall be coordinated with and approved by CSD-1. Sewer easements may be required. All sewer easements shall be dedicated to CSD-1, in a form approved by the District Engineer. All sewer easements shall be 20 feet in width and ensure continuous access for maintenance.

7. The trunk and collector sewer system for the project will not be accepted for maintenance and building occupancy will not be granted until the downstream sewer system serving the project is also accepted for maintenance.

8. Prior to the recordation of the Final Map the applicant will enter into and record an agreement, in a form approved by the District Engineer and District Counsel of Sacramento Regional County Sanitation District (SRCSD), to require the property owner(s) to reserve lands for acquisition by the District to install District pipelines and facilities for public health purposes and in conformance with the District Master plan. The District shall exercise the agreement and acquire the reserved lands within two years of the completion and acceptance of required public improvements. The area of land will be 75 feet wide, or as determined by SRCSD. The applicant shall coordinate the area required with SRCSD and clearly show the area by meets and bounds on the Final Maps.

9. A Temporary Construction Easement (TCE) will be required along both sides of the future interceptor. The required TCE shall be 42.5 feet wide on each side of the permanent 75-foot wide interceptor easement. The Final Maps shall clearly show the TCE.

10. Construction of any and all improvements, including but not limited to grading, streets, utilities, houses and other structures, within the TCE shall be prohibited until such time the TCE is released by SRCSD unless approved by the District Engineer.

MITIGATION MEASURES:

None required.

14 DRAINAGE AND HYDROLOGY

BACKGROUND

As part of the NVSSP planning process, MacKay & Somps Civil Engineers, Inc. (MacKay & Somps), prepared a Drainage Master Plan (DMP), dated January 30, 1998. A preferred Drainage Plan was identified in the NVSSP DMP. A Capital Improvement Program (CIP) and Financing Strategy were also developed as part of the NVSSP. The CIP and Financing Strategy identified cost estimates for the infrastructure and potential funding sources to serve the NVSSP area. Costs associated with drainage were based upon the Preferred Drainage Plan formulated by MacKay & Somps.

The Sacramento County Department of Water Resources (SCDWR) provided guidance on the scope for an NVSSP Drainage Phasing Study. Subsequently, Borcalli & Associates, Inc. (B&A), on behalf of Lennar Communities, Inc., and U.S. Home Corporation, evaluated drainage facilities required to accommodate development of Phase 1A of the NVSSP consistent with the original objectives of the DMP and the SCDWR's criteria. The results of B&A's evaluation are presented in a report entitled, "Technical Memorandum No. 1, North Vineyard Specific Plan, Drainage Phasing Study." dated April 19, 2000. From the results of B&A's evaluation, it was determined by Lennar Communities and U.S. Home Corporation, in consultation with the SCDWR, that constructing features of the Preferred Drainage Plan to accommodate development of Phase 1A, was not financially feasible.

In the interest of developing a financially feasible plan for phasing development within the NVSSP area, B&A, on behalf of Lennar Communities and U.S. Home Corporation, evaluated phasing alternatives. The results of B&A's work are presented in the report entitled, "North Vineyard Station Specific Plan, Drainage Master Plan, Phasing Concept," dated April 10, 2001. The phasing concept developed by B&A, which included pumping from newly constructed detention basins into unimproved channels on an interim basis, appeared to offer a feasible means of phasing development that would be financially feasible and provide the level of flood protection and mitigation of impacts consistent with Sacramento County's objectives, policies, and standards. The phasing concept outlined in the above-referenced report, would allow deferring the construction of improved drainage channels until sufficient development occurred to generate revenues required to fund the drainage facilities. Since interim pumping of storm drainage was not a component of the Preferred Drainage Plan for the NVSSP area, the concept of interim pumping of storm drainage to phase development was presented to the Sacramento County Board of Supervisors for consideration.

In July 2001, the Board of Supervisors advised SCDWR that interim pumping could be considered in phasing development within the NVSSP area, however, more detailed information was needed before a decision could be made to acceopt the proposed concept.

Although not a part of the original NVSSP DMP document, the policy prohibiting storm drainage pumping within the NVSSP area was introduced by the Sacramento County Board of Supervisors upon adoption of the NVSSP. It was for this provision that B&A prepared the Phasing Concept Report. Upon review of the concept by the SCDWR, and expressed willingness of the Sacramento County Board of Supervisors to consider pumping of storm drainage on an interim basis, B&A was requested to update the DMP and developing drainage plan to support phasing development within the NVSSP area. Accordingly, the purpose of this update is to develop the information necessary for the Board of Supervisors to make a decision on phasing the construction of storm drainage facilities to accommodate development within the NVSSP area. In developing a phasing plan for storm drainage facilities, it was essential to complete construction of the Preferred Drainage Plan facilities as early as possible.

SYNOPSIS OF THE NVSSP DMP

PLAN FORMULATION GUIDELINES

Various policies, standards, and criteria were used as guidelines in formulating the NVSSP DMP. These are as follows:

SACRAMENTO COUNTY POLICIES AND STANDARDS

The Conservation Element of the Sacramento County General Plan presents policies aimed at preserving and protecting the values of natural streams. The policies apply to specific urban stream corridors designated in the General Plan, which include Elder Creek.

Sacramento County's floodplain policies and improvement standards and specifications require that development will not adversely impact flooding and drainage conditions on other properties and must meet the stated master planning objectives of the County's Drainage Master Plan Program and General Plan

SACRAMENTO COUNTY DRAINAGE MASTER PLAN PROGRAM

The Sacramento County Drainage Master Plan Program addresses the long-term drainage and flood control needs of the County, The intent of drainage master planning is to implement cost-effective drainage and flood control systems which:

- Accommodate development
- Provide the objective levels of drainage service and flood control
- Minimize continuing maintenance and operation costs
- Minimize and mitigate flooding, habitat loss, and water quality impacts.

NVSSP DMP

The NVSSP Preferred Drainage Plan meets the objectives, policies, and standards stated below. In no case shall adverse flooding and drainage impacts occur on other properties or the property being developed.

PURPOSE

The stated purpose of the NVSSP DMP is to:

- Identify existing drainage facilities and predicted flooding patterns.
- Analyze alternatives and recommend preferred flood control and conveyance facilities and to mitigate for potential impacts due to development
- Recommend storm water quality management facilities consistent with Sacramento County's Development Management Program.

OBJECTIVES

The stated objectives of the NVSSP DMP are to:

- Provide 10-year gravity drainage service to developing area within the NVSSP area.
- Provide 100-year flood protection to the NVSSP area consistent with Sacramento County's Standards.
- Provide a plan which meets the hydrologic and hydraulic criteria of:
    - No increase in the peak 100-year flow at the City and County limit line downstream of the NVSSP area.
    - No significant out of bank 100-year flows in the existing improved channel downstream of the NVSSP area.
- Provide storm water quality management facilities in accordance with the County's Development Management Program.

HYDROLOGIC AND HYDRAULIC ANALYSES

SCDWR requested an evaluation of the need for Basin E20. B&A's analysis of Basin E20 concluded that Basin E20 was not needed to mitigate downstream impacts from development of the NVSSP area. Basin E20, therefore, is not included in the models developed by B&A for updating the Drainage Master Plan and developing a plan for phasing the drainage facilities.

HYDROLOGIC AND HYDRAULIC CRITERIA

The basis for B&A's modeling and analyses is the result of the hydrologic and hydraulic analyses performed by Mr. Doug Hamilton for Sacramento County, cited in the Background section, and as refined by MacKay & Somps Civil Engineers, Inc., in formulating the Preferred Drainage Plan.

B&A's analyses are consistent with hydrologic criteria established in the report entitled, "Volume 2: Hydrology Standards," of the "Drainage Manual," prepared by Sacramento City/County, dated December 1996. The analysis of all hydraulic structures is based upon the Sacramento County Improvement standards, 1999, as modified by Board Resolution 2001-0265 (March 13, 2001), which provides that storm drains be designed based upon a 10-year hydraulic grade line (HGL) in downstream receiving waters.

SUPPORTING DOCUMENTATION

As development progresses through the NVSSP area, Letters of Map Revision (LOMRs) will be submitted to the Federal Emergency Management Agency (FEMA) to request modifying the existing floodplain, as delineated on current Flood Insurance Rate Maps (FIRMs). FEMA reviews the accuracy of all hydrologic and hydraulic analyses used to determine such changes. With respect to the submittals to FEMA, B&A was informed by SCDWR that all necessary supporting analyses and documentation regarding drainage and flooding related to the NVSSP will be based upon the HEC-1 and UNET modeling performed and accepted by SCDWR.

SCDWR'S MODELS FOR NVSSP AREA

SCDWR developed models for the NVSSP area for three conditions: Existing, Ultimate, and Stand-Alone. For the Elder Creek and Gerber Creek system, the short duration storm was determined to result in the worst-case flooding. Accordingly, the design storms have a 12-hour duration. The three conditions are described below.

EXISTING CONDITIONS

The Existing Conditions models represent conditions in 1997. SCDWR's UNET models for 10-year and 100-year storm events for the Existing Conditions show a broad floodplain within the NVSSP area. During the 100-year event, runoff in Laguna Creek basins upstream of the Central California Traction Rialroad (CCTR) and spills 1,050 cfs into the Gerber Creek Basin east of the CCTR. Immediately west of the CCTR, approximately 400 cfs spills from Gerber Creek over Gerber Road and into the Unionhouse Creek Basin. In the 10-year event, a peak flow of approximately 90 cfs enters Gerber Creek from Laguna Creek, however, no flow enters Unionhouse Creek from Gerber Creek. Presented on Plate DR -1 is the Existing Conditions Subbasin Map.

Ultimate Conditions

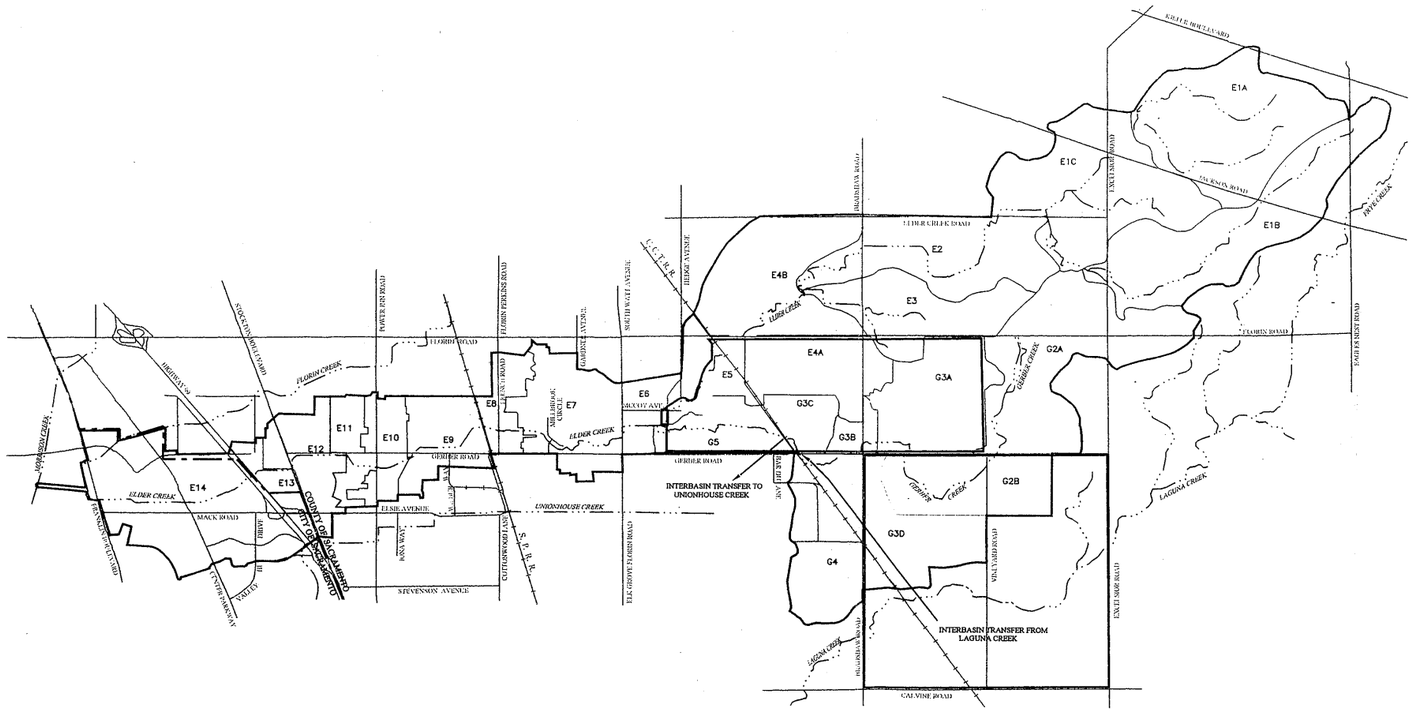
SCDWR's UNET models of the 10-year and 100-year storm events for the Ultimate Conditions represent full build out of the Elder Creek Basin, which includes all of the Gerber Creek Basin. Under the Ultimate conditions, the interbasin spill from Laguna Creek to Gerber Creek does not occur. The time before facilities will be in place to eliminate this spill from Laguna Creek is likely 10 to 15 years.

Presented on Plate DR -2 is the Ultimate Land Use Plan for the NVSSP area. Presented on Plate DR -3 is the Preferred Drainage Plan. The Preferred Drainage Plan includes Basin E20 along Elder Creek downstream of the NVSSP area. The results of B&A's evaluation indicate that Basin E20 is not required for the Ultimate Conditions or Stand-Alone Conditions. B&A modified the Ultimate Conditions model to include available flood storage within Storm Water Detention Basin E24B. Also, the size of the box culverts were increased at Gerber Road Crossing No. 4. The increase in size of the box culverts is required to eliminate increases to peak stages in the creeks for the Stand-Alone conditions. Upon review of the Gerber Road Crossing No. 4 improvements identified in the NVSSP DMP and CIP, it appears the model and documents are now consistent.

Stand-Alone Conditions

In the Stand-Alone Conditions, the spill from Laguna Creek to Gerber Creek is the same as in the Existing Conditions Model. SCDWR's UNET model for the 100-year storm event for the Stand-Alone Conditions represents Existing Conditions within the Elder Creek and Laguna Creek basins with full build out of the NVSSP area.

Plate DR -1
Elder and Gerber Creeks
Subbasin Map



LEGEND

- NVSSP Boundary
- Vineyard Springs CPA Boundary
- Basin Boundary
- Subbasin Boundary
- E4B — Subbasin Name
- Creek
- City/County Limits
- Major Road
- Railroad

SOURCE

Based upon the Sacramento County Department of Public Works, Water Resources Division, "Elder and Gerber Creeks Technical Appendix: UNET Analysis," dated January 1997.

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

ELDER AND GERBER CREEKS
SUBBASIN MAP
EXISTING CONDITIONS

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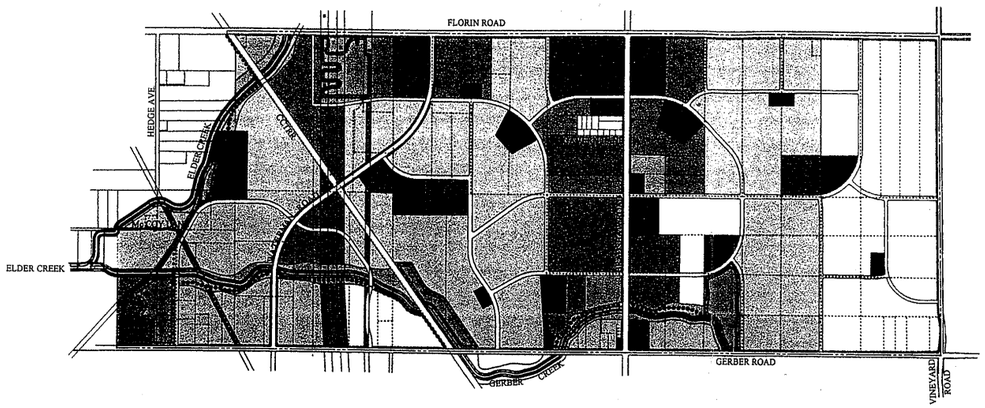
Plate DR -2
Ultimate Land Use



LEGEND

- Business/Professional
- Commercial
- Single Family Residential (1-3)
- Single Family Residential (3-5)
- Single Family Residential (4-7)
- Medium Density Residential (7-12)
- Multi-Family Residential (12-22)
- Landscape Corridor
- Drainage Parkway
- Parkway
- Storm Water Detention Basin
- Open Space
- Public Services
- Schools
- Parks
- Creek
- NVSSP Boundary
- Roads, Railroad
- Property Line, Easement
- Sewer Interceptor
- Trail

NOTE

An eight-acre park facility or two smaller park facilities shall be constructed within the area generally bounded by Passallis Lane (Loop) and Gerber Road. The actual size, configuration, and location of park site(s) will be determined at a later date following the submission and review of tentative maps and development proposal within the general area. Consideration should be given to locating the park site adjacent to Gerber Creek in conjunction with the open space area associated with Gerber Creek. Developing property owners shall contact the Southgate Park and Recreation District to determine the size, configuration, and location of the park site(s).

SOURCE

Based on the "North Vineyard Station Specific Plan," dated Fall 1998

LAND USE SUMMARY

RESIDENTIAL SUMMARY

LAND USE	DENSITY RANGE	DENSITY FIXED COUNT	AREA NET	AREA GROSS	UNITS
Multi-Family Res.	12 to 22	18 (net)	37.8	39.7	680
Medium Density Res.	7 to 12	10 (net)	18.7	19.4	187
Single Family Res.	4 to 7	6 (gross)		204.6	1,227
Single Family Res.	3 to 5	5 (gross)		611.7	3,058
Single Family Res.	1 to 3	2 (gross)		283.4	567
Existing Residential				5.8	13
SUBTOTAL				1,164.6	5,732

NON-RESIDENTIAL SUMMARY

LAND USE	AREA NET	AREA GROSS
Golf Course	19.8	20.1
Commercial	29.9	30.5
Business/Professional	7.1	7.9
Schools	20.0	21.6
Parks	63.5	68.2
Parkways	---	2.5
Drainage Parkway	---	75.5
Open Space/Storm Water Detention	---	104.7
Landscape Corridors	---	23.2
Public Services	5.3	5.5
Major Streets	---	57.6
Railroad	---	14.6
SUBTOTAL		431.9
TOTAL		1,596.5

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

ULTIMATE LAND USE

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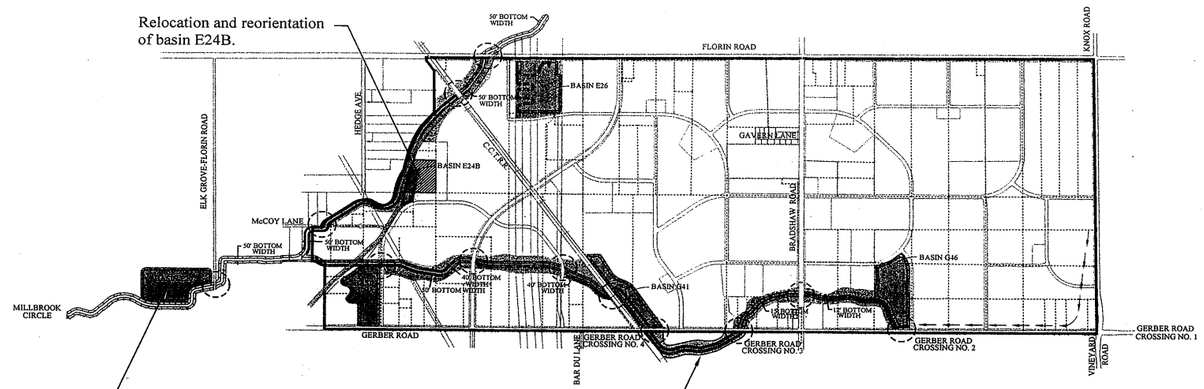
Plate DR -3
Preferred Drainage Plan



NOTE:
Basin E20 was reevaluated under the current phasing study and determined not necessary to mitigate peak stages and flows in the Stand-Alone and Ultimate Conditions. Final determination to be made by Sacramento County.

NOTE:
Spill from Laguna Creek will, in Ultimate Conditions, be eliminated by drainage improvements within the Laguna Creek drainage system and not from facilities implemental as part of the Preferred Drainage Plan.

LEGEND

- Drainage Corridor
- Storm Water Detention Basin
- Channel and Detention Basin Improvements
- NVSSP Boundary
- Road
- Railroad
- Power Line Corridor
- Property Line, Easement
- Proposed Land Use Boundary
- Sewer Interceptor
- Drainage Crossing
- Interim Overflow Path
- Trail

NOTE

The interim overflow path will be required until Gerber Creek is improved upstream of Gerber Road Crossing #1, or another plan is implemented to eliminate the existing spill through the NVSSP area during large storm events.

SOURCE

"Drainage Master Plan for the North Vineyard Station Specific Plan," dated January 30, 1998.

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

PREFERRED DRAINAGE PLAN

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FIGURE 4

In the Stand-Alone Condition presented in the report entitled, “Elder and Gerber Creeks Technical Appendix: UNET Analysis,” the weir elevations for the basins are at the elevations included in the Ultimate Conditions model. With the weirs at these elevations, the basins fill in advance of the peak flow, occurring from the Laguna Creek spill. A minimum of one foot of freeboard for the creeks is not achieved for this Stand-Alone Condition. SCDWR did not develop a Stand-Alone Conditions model for the 10-year storm event.

As part of the NVSSP DMP, the Stand-Alone Conditions model was modified to include higher weir elevations to allow the basins to function more effectively with the higher flow that occurs in the Stand-Alone Conditions model. The weir crests would need to be lowered under Ultimate Conditions.

APPROACH

GENERAL

B&A’s approach to formulating and evaluating drainage facilities required to provide adequate drainage and flood protection for new development without adversely affecting existing flooding is discussed in this section. The facilities defined in the Preferred Drainage Plan and the associated hydrologic and hydraulic models provide the basis for B&A’s work.

HYDROLOGY

The hydrologic modeling accepted by SCDWR for drainage within the NVSSP area utilizes runoff hydrographs generated with the HEC-1 modeling program to simulate rainfall and runoff in the Elder Creek Basin. The HEC-1 models developed by Mr. Hamilton, to establish Existing Conditions runoff, were used by B&A to simulate runoff in areas of the basin where no change in land use occurs.

The NVSSP area was essentially “cut out” of the basin model and isolated in separate HEC-1 models to update the runoff within the NVSSP area consistent with changed land use, while leaving the Existing Conditions model outside the NVSSP area unmodified.

The development phases, as defined for the NVSSP area, were used to update the hydrologic subbasins within the NVSSP area. The increased runoff due to each phase of development was incrementally reflected in the hydrologic paramenters for each subbasin for each phase and the SACPRE and HEC-1 programs were utilized to update each subbasin storm runoff. Each runoff hydrograph was imported into the respective UNET model to combine the effects of phased development within the NVSSP area with the surrounding Existing Conditions subbasins.

The NVSSP DMP hydrologic analysis for the Elder Creek Basin includes an input parameter that reflects an overall drainage shed area of 143.6 square miles. This area is not consistent with the area of the actual drainage shed. B&A requested clarification from SCDWR as to whether to use the value currently in the models or to use a revised value. B&A was advised to utilize the actual area contributing upstream of the confluence of Elder Creek and Florin Creek, which is located downstream of the NVSSP area. B&A did a comparative analysis and determined the change in this specific imput parameter resulted in a minimal impact to peak flow and volumes for the same storm. Accordingly, for consistency and expediency, B&A used the existing hydrologic models as created previously.

The original NVSSP DMP included on-line and off-line detention basins. At the locations of the off-line basins, storm runoff discharges directly to the creeks, with a diversion of the flow from the creeks into the nearest downstream water quality/detention basin. This method was problematic for phasing when faced with the hydraulic constraints of draining into unimproved channels with high water surface elevations. B&A's approach differs in that the on-site Basin G41 and Basin G46 are on-line basins with respect to the pipe drainage system in that the pipes discharge directly into the detention basins, allowing all flow from frequent storm events, for which water quality treatment is most critical, to drain through the basins before entering the creeks. To preserve as much flood control volume in the basins as possible, runoff in excess of the capacity of the storm drain pipe system was routed to discharge directly into the creeks. Grading for development will need to be designed accordingly, to ensure that overland conveyance drains directly to the creeks.

Modeling (100-year) to account for the runoff routed through the pipe system and the overland flow concurrent with external runoff in the creeks is complex because flow into the basin through the pipe system is not only limited by the hydraulic capacity of the pipe system (designed for a 10-year event), but may be limited by the downstream water surface, thus volume of water in the basin as well. The water in the basin is affected by the flow out (gravity or pump), as well as the flow in from the creek over the weir. The hydraulic analysis required to accurately evaluate such a complex flow system was beyond the scope of this analyses. For purposes of this analysis, B&A's approach was to use a worst-case scenario to conservatively determine the size of the storage facilities.

WORST-CASE SCENARIO FOR CREEKS

The 10-year developed conditions and 100-year developed conditions hydrographs were modeled utilizing HEC-1. During a 100-year design event, the maximum overland flow and volume assumed to reach the creek directly was estimated by subtracting the 10-year runoff hydrograph from the 100-year runoff hydrograph for each time-step of the hydrograph simulation. This assumes flow only reaches the pond through the pipe system and over the weir from the creek. The flow actually reaching the creeks should by less since the storm drains are designed to carry the 10-year peak flow when the basin contains the entire 10-year storm volume. The local 100-year runoff is generally conveyed within the

channels while the basins are being filled through the pipe system, with only minor flow entering over the weirs from the creeks.

Worst-Case Scenario for Basins

The reciprocal approach was used to estimate the worst-case volumes reaching the basins during the 100-year event. The hydraulic capacity of the pipe system was flow control into the basins. The 100-year subbasin runoff hydrograph was used to direct flow up to the pipe capacity into its respective detention basin. This again is conservative since the basins are also receiving water from the creeks at the same time.

Consequently, both of these worst-case scenarios were input into the UNET model at the same time (i.e., worst-case residual runoff to creeks and worst-case basin volume to basins). This results in a double counting of the same volume in the model. This approach results in slightly oversizing the basins, but has little effect on the peak flow in the creeks since the spill from Laguna Creek, which governs, occurs after the local storm peak has passed and creates the worst-case peak flow conditions in Gerber Creek and in Elder Creek downstream of the confluence.

As noted above, the runoff to the basin and to the creeks was divided only for Basin G41 and Basin G46, along Gerber Creek. Basin E24A functions as an off-line basin until Phase 2, and does not require the application of the above-mentioned methodology. Basin E24B and Basin E26 are designed as on-line basins that receive the entire 100-year storm runoff (i.e., pipe flow and overland flow) from the adjacent NVSSP subbasins in all phases and did not require the application of the methodology described above.

Hydraulics

Storm Drain Pipe System

B&A utilized the *Nolte Method* and Nolte charts in “Volume 2: Hydrology Standards,” of the “Drainage Manual” prepared by the Sacramento City/County to calculate the peak 10-year design flow to size the storm drain pipes.

Manning’s equation was used to calculate the HGL. In accordance with Sacramento County Standards, the HGL is a minimum of 0.5 feet below the proposed drain inlet.

All the storm drain trunks sized by B&A drain into water quality/detention basins. The starting water surface at each detention basin was assumed to be for the volume associated with storing the runoff volume from a 10-year, 24-hour storm. The maximum 10-year basin stage is based upon the flood control pumps being off to reflect a worst-case condition for the fully developed condition. When the pumps are working, the basin elevations will be lower. B&A developed UNET models to determine if any other flow enters the basins from the creeks under the 10-year, 12-hour (maximum peak flow)

phased conditions. Under each of the phases, the channels convey the 10-year creek flow with pumps running, without flow spilling over the weirs into the basins. Thus the detention basins and the creeks are essentially hydraulically disconnected under the 10-year event, except for the pumps or flap-gated gravity outlet pipes.

Detention Basins

To phase development using interim pumping, detention basins will likely require storage volumes greater than identified in the NVSSP DMP. With this understanding, B&A's approach was to keep the creek or channel improvements the same as those identified in the NVSSP DMP, and to increase the detention basin capacity, as necessary, to provide the desired flood control protection and mitigation.

Pumping from the detention basins is at the rate of 10 cfs. In B&A's work in developing the Phasing Concept (April 10, 2001) it was determined that, in the case of a 100-year, 12-hour storm event followed by a local 10-year, 12-hour storm within a day, the available detention basin storage would not be exceeded. This pumping capacity of 10 cfs was, therefore, kept as the criteria in B&A's approach for sizing the detention basins during the phasing of development.

Channel Improvements

By virtue of B&A's approach, as noted above, all the creek channel improvements are the same as defined for the Preferred Drainage Plan. These channels, or portions thereof, were incorporated into the UNET models where improved conveyance was required to mitigate impacts of phased development.

Water Quality Treatment

B&A's approach to water quality treatment of urban runoff differs from the original NVSSP DMP approach. Due to hydraulic limitations relating to the storm drain design discussed above, it was not feasible to divert water from the creek into the basins for water quality treatment in advance of the creeks being excavated to the size and elevation established for the Preferred Drainage Plan.

Therefore, B&A's approach was to direct runoff from developed areas within the NVSSP area through the storm drain pipe system directly to the basins for water quality treatment. Areas within the NVSSP area that are isolated by physical features (I.e., creeks and topography) from larger water quality/detention basins, are assumed to require individual water quality treatment basins of one acre or less. These smaller water quality treatment facilities could be placed at the downstream ends of smaller storm drains, and have overflow weirs that would spill directly into improved channels. These smaller water quality basins are considered "on-site" infrastructure rather than master plan facilities, thus the design is not included as part of this report. Evaluating the hydraulics for each of these isolated areas will have to be addressed as they plan

for development. The aggregate of the land in this category amounts to 142 acres, which represents approximately nine percent of the NVSSP area.

Within the major part of the NVSSP area, the initial runoff is directed to five primary water quality/detention basins that were identified as part of the Preferred Drainage Plan (Plate DR -3). To maximize the available flood control volumes in these basins, while minimizing the footprints of these basins, B&A sized the water quality features as wet water quality basins with the top of the water quality pool at the invert of the adjacent channels when constructed to the ultimate channel section. The wet water quality pond concept has been, and is currently being, implemented within the Sacramento Region including Sacramento County for development similar to that proposed for the NVSSP area. During the interim drainage scenarios, the evacuation pumps will be operated to pump storm water from the basins into the existing channels at higher elevations to maintain the flood control storage volume for the respective basin. When designed, the basins are to be configured to ensure that "short circuiting" of the flow does not occur from the storm drain outlets to the basin outlets.

Currently, Sacramento County has no standard for sizing wet water quality basins, however, after consulting with SCDWR, B&A was advised to size the wet water quality basins utilizing the City of Sacramento Department of Utilities' "North Natomas Drainage Design and Procedures Manual," dated July 1998. The City's standards have been accepted, unofficially, by SCDWR for sizing wet water quality treatment facilities. B&A used the Wet Basin Option "b," as shown on Figure 6-5, of the "North Natomas Drainage Design and Procedures Manual," as the basis for sizing and draining water quality volumes. This option allows for the efficient evacuation of water quality volumes and flood control volumes with a submerged outlet pipe (with flap-gate) configuration. Whenever the downstream outlet water surface elevation is lower than the basin elevation, the excess volume will drain effectively.

DRAINAGE FACILITIES PHASING ANALYSIS

DEVELOPMENT PHASING

Development within the NVSSP area is planned to occur in five phases: Phase 1A, Phase 1B, Phase 1C, Phase 2, and Phase 3. The geographic area and location of the respective phases are shown on Plate DR -4. Development within Phase 1A was further refined by the development community into two areas identified as Phase 1A-1 and Phase 1A-2.

These development phases provide the basis for analyzing the phasing drainage infrastructure while meeting Sacramento County's objectives, policies, and standards.

PHASE 1A

The area of development within the NVSSP area for the initial phase is identified as Phase 1A-1 and Phase 1A-2 on Plate DR -4. For the Phase 1A analysis, these areas were reflected as developed with all remaining areas with the NVSSP area remaining defined as existing land use conditions. The subbasins affected by this phase of development were revised and runoff hydrographs were developed to reflect the increases in runoff associated with this development.

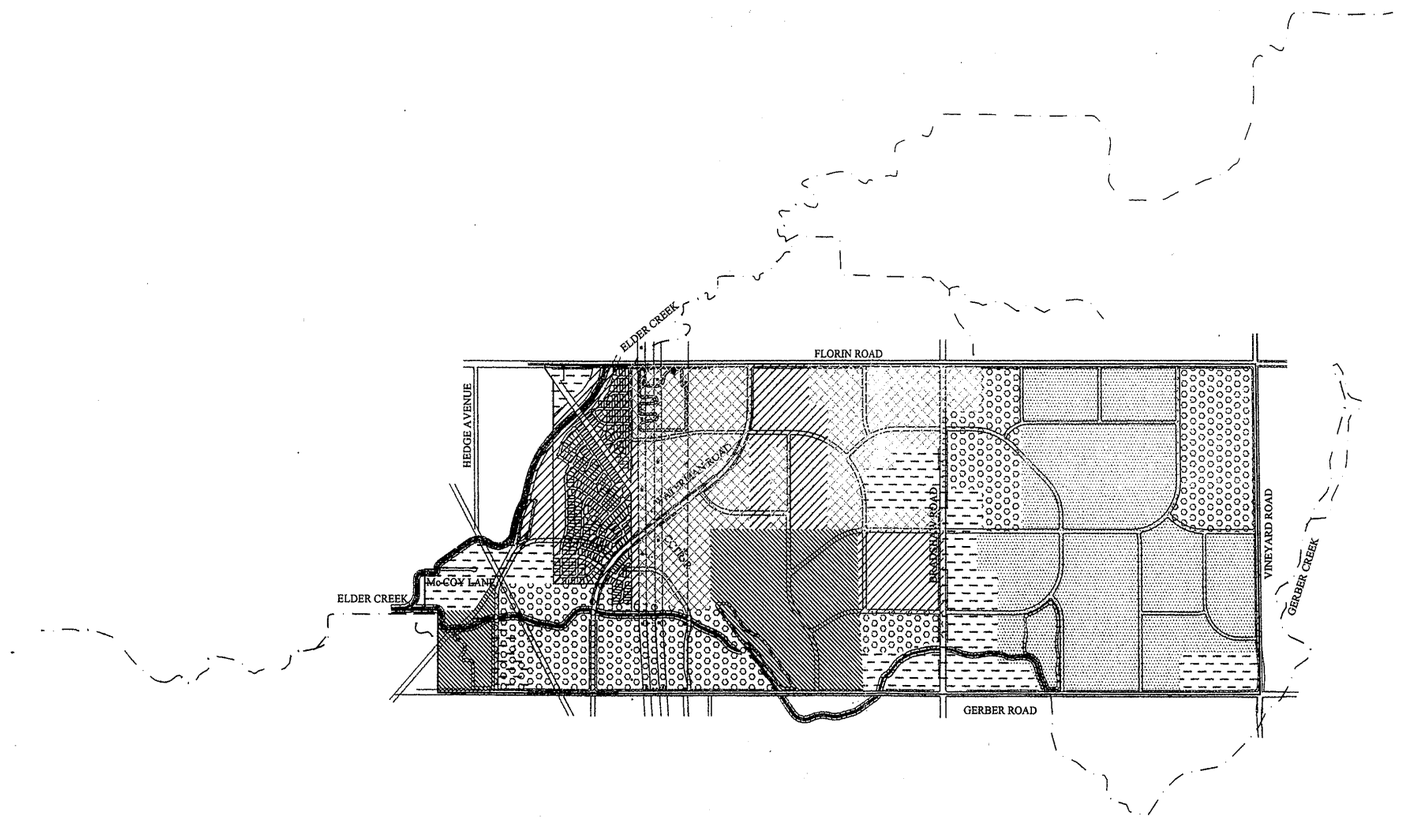
Illustrated on Plate DR -5 is the typical cross section of the detention basins reflecting storage for water quality and flood control.

The drainage facilities required to mitigate flooding impacts (i.e., no increases in peak creek stages or flow) in Elder Creek and Gerber Creek, resulting from development of Phase 1A-1, are identified below.

- Water Quality/Detention Basin G41 with connecting weir structure to Gerber Creek and 10 cfs pump station.
- Water Quality/Detention Basin E24A with connecting weir structure to Gerber Creek and 10 cfs pump station.
- Drainage channel improvements consistent with the Preferred Drainage Plan on Gerber Creek from the CCTR crossing upstream to Gerber Road, adjacent to Basin G41.
- Improved crossing on Gerber Creek at Gerber Road just upstream of Basin G41.

For development of Phase 1A-2, the drainage facilities identified below are required to mitigate impacts in Elder Creek and Gerber Creek.

Plate DR -4
Development Phasing



LEGEND

- Phase 1A-1
- Phase 1A-2
- Phase 1B
- Phase 1C
- Phase 2
- Phase 3
- Creek
- NVSSP Boundary
- Roads, Railroad, Easements

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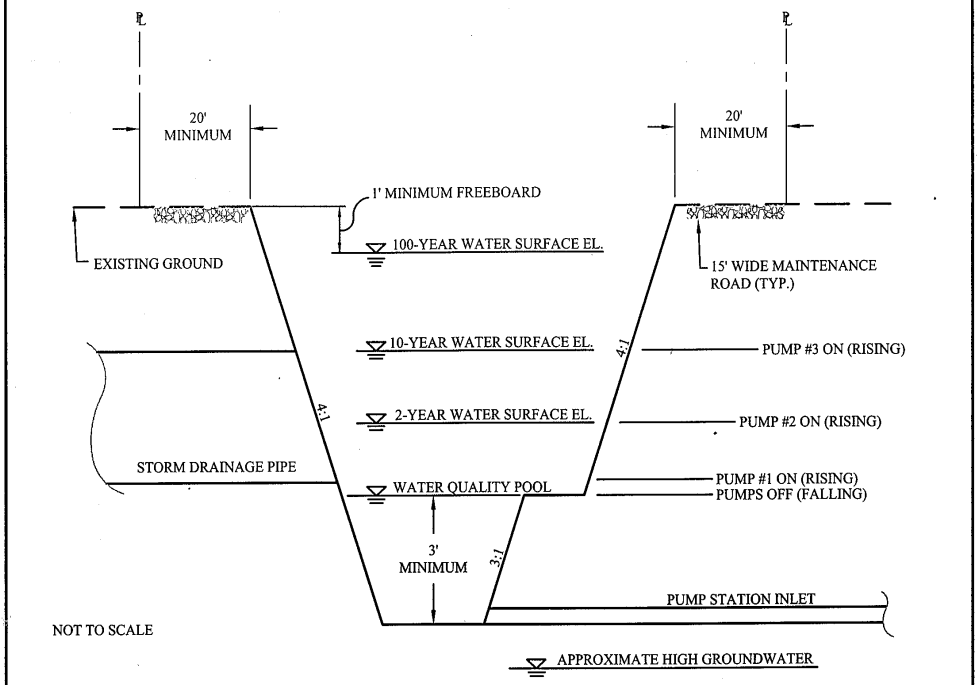
NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

DEVELOPMENT PHASING

Plate DR -5
Detention Basin Cross Section



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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

TYPICAL DETENTION BASIN CROSS SECTION

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FIGURE 10

- Water Quality/Detention Basin E24B with connecting weir structure to Elder Creek and 10 cfs pump station.

- Detention Basin E26 with 10 cfs pump station and connecting outlet pipe.

- Drainage channel improvements consistent with the Preferred Drainage Plan on Elder Creek from Florin Road downstream to Basin E24B.

- Drainage channel improvements consistent with the Preferred Drainage Plan on Gerber Creek from Waterman Road downstream to Basin E24A.

- Improved crossing on Elder Creek at CCTR.

It is important to point out that the facilities listed above offer mitigation for the development of lands within the Phase 1A areas only. The flood control storage in Basin E24A is utilized to mitigate the impacts of development within Phase 1A along Gerber Creek upstream of the CCTR crossing. The volume created with Basin E24A cannot be used to mitigate the impact of development on other lands without the construction of additional drainage facilities.

It is also important to note that the Waterman Road crossing in the Phase 1A plan is proposed at the size shown to convey flow under Ultimate Conditions. After consultation with Sacramento County staff, this crossing was evaluated for conveyance of the 10-year event without overtopping. Channel improvements are required downstream of the crossing to mitigate the impact of spilling more water over Gerber Road to Unionhouse Creek. The crossing, however, does not convey the interim 100-year flow, which includes the spill flow from the Laguna Creek Basin. In the interim, the Waterman Road crossing will be overtopped from a storm event between a 10-year and 100-year event. Under Ultimate Conditions, Waterman Road is not overtopped.

In Phase 1A, the majority of the proposed drainage facilities are consistent with the Preferred Drainage Plan facilities. The drainage facilities required during the interim that are not part of the Preferred Plan are the pump stations for Basin G41 and Basin E24A, which are required for Phase 1A-1 and the pump stations for Basin E24B and Basin E26, which are required for Phase 1A-2. The overflow weir structures connecting the channels to the basins are constructed at interim elevations that are higher than necessary for Stand-Alone and Ultimate Conditions. Under Stand-Alone and Ultimate Conditions, the weirs will need to be lowered.

Presented on Plate DR -6 and Plate DR -7, respectively are the residual 100-year floodplains from implementing the respective phased drainage facilities to accommodate the planned development. Presented on Plate DR -8 and Plate DR -9 are the maximum water surface profiles along Elder Creek with the development and associated drainage facilities for the respective phases completed.

PHASE 1B

Phase 1B is defined as the areas within the NVSSP area that are designated for development following development of Phase 1A. The Phase 1B area is shown on Plate DR -4. All hydrologic and hydraulic evaluation of drainage requirements for Phase 1B presupposes all lands within Phase 1A are already developed.

No drainage facilities are required in addition to those identified for Phase 1A to mitigate the flooding impact in Elder Creek and Gerber Creek as a result of development within the Phase 1B area.

Presented on Plate DR -10 is the residual floodplain following development of Phase 1B, and construction of the Phase 1B drainage facilities. Presented on Plate DR -11 is the maximum water surface profile along Elder Creek with the Phase 1B development and associated drainage facilities completed.

PHASE 1C

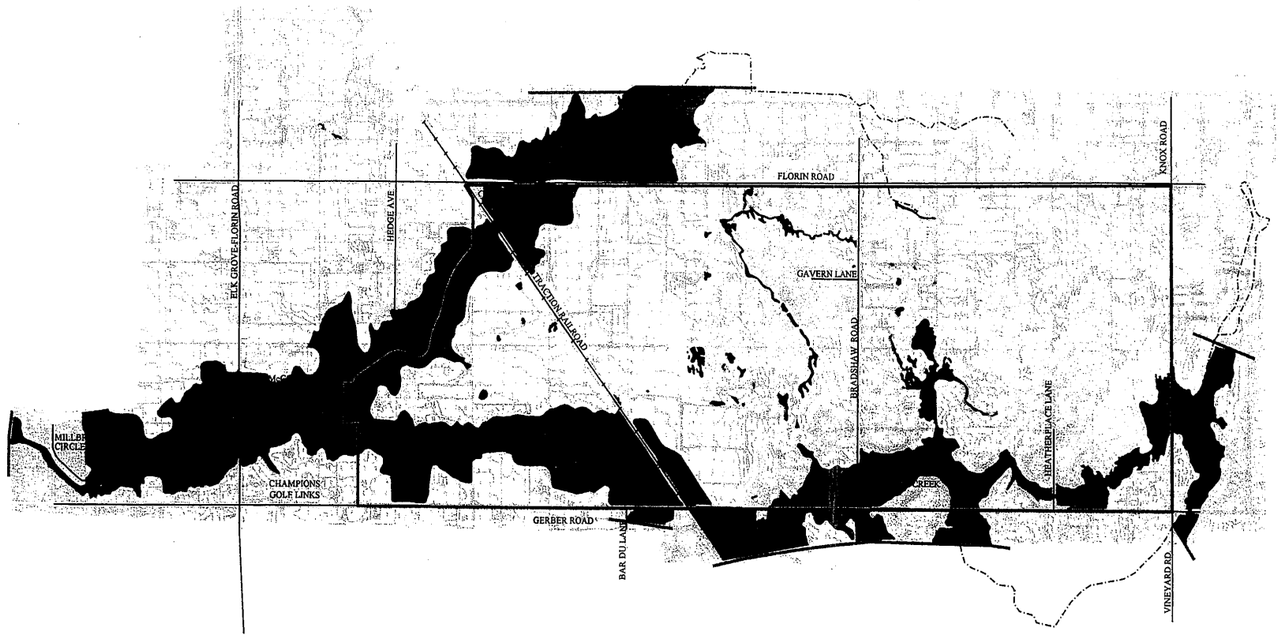
The area identified for development as Phase 1C is presented on Plate DR -4. The majority of the land identified as Phase 1C is tributary to Basin G46. All hydrologic and hydraulic analyses performed to mitigate flooding impacts for Phase 1C, presuppose all development identified for previous phases has occurred.

The drainage facilities required in addition to those previously listed under Phase 1A and Phase 1B to mitigate the flooding impact in Elder Creek and Gerber Creek, resulting from development within the Phase 1C area, are identified below.

- Detention Basin G46 with connecting weir structure to Gerber Creek and 10 cfs pump station.

Presented on Plate DR -12 is the residual floodplain following development of Phase 1C, and construction of the Phase 1C drainage facilities. The pump station at Basin G46 is an interim facility that is not part of the Preferred Drainage Plan. The overflow weir connecting Basin G46 with Gerber Creek is constructed at an interim elevation and will need to be lowered under Ultimate Conditions. Presented on Plate DR -13 is the maximum water surface profile along Elder Creek with the Phase 1C development and associated drainage facilities completed.

Plate DR -6
Phase 1A-1 Residual 100-Year Floodplain



LEGEND

- 100-Year Floodplain (UNET Model)
- Vernal Pool
- Seasonal Wetland
- Stock Pond
- NVSSP Boundary
- Creek
- Major Road
- Railroad
- Limit of Floodplain Mapping

NOTE

The 100-year floodplain is based upon Stand-Alone Conditions.

SOURCE

The wetland delineation is based upon the "North Vineyard Station Specific Plan Technical Appendix: Biotic Resources," prepared by Sugnet and Associates Environmental Consultants, dated May 3, 1996.

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

PHASE 1A-1
RESIDUAL 100-YEAR FLOODPLAIN

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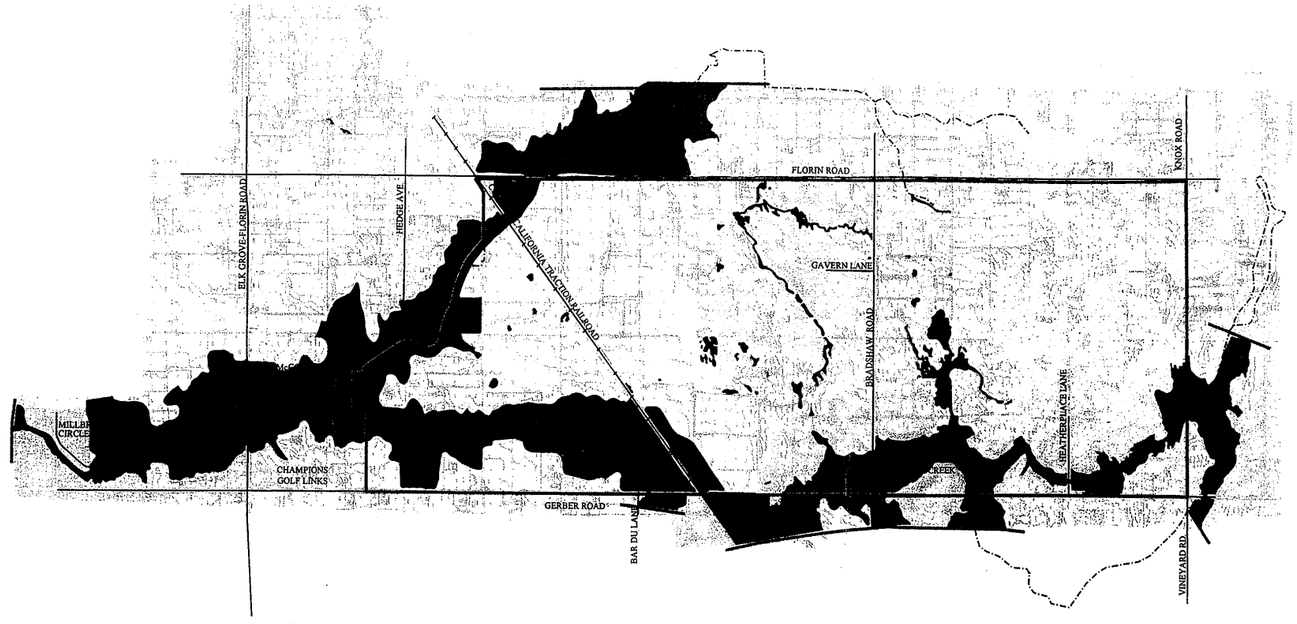
Plate DR -7
Phase 1A-2 Residual 100-Year Floodplain



LEGEND

- 100-Year Floodplain (UNET Model)
- Vernal Pool
- Seasonal Wetland
- Stock Pond
- NVSSP Boundary
- Creek
- Major Road
- Railroad
- Limit of Floodplain Mapping

NOTE

The 100-year floodplain is based upon Stand-Alone Conditions.

SOURCE

The wetland delineation is based upon the "North Vineyard Station Specific Plan Technical Appendix: Biotic Resources," prepared by Sugnet and Associates Environmental Consultants, dated May 3, 1996.

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

PHASE 1A-2
RESIDUAL 100-YEAR FLOODPLAIN

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Plate DR -8
Elder Creek Maximum Water Surface Water Profile
Phase 1A-1

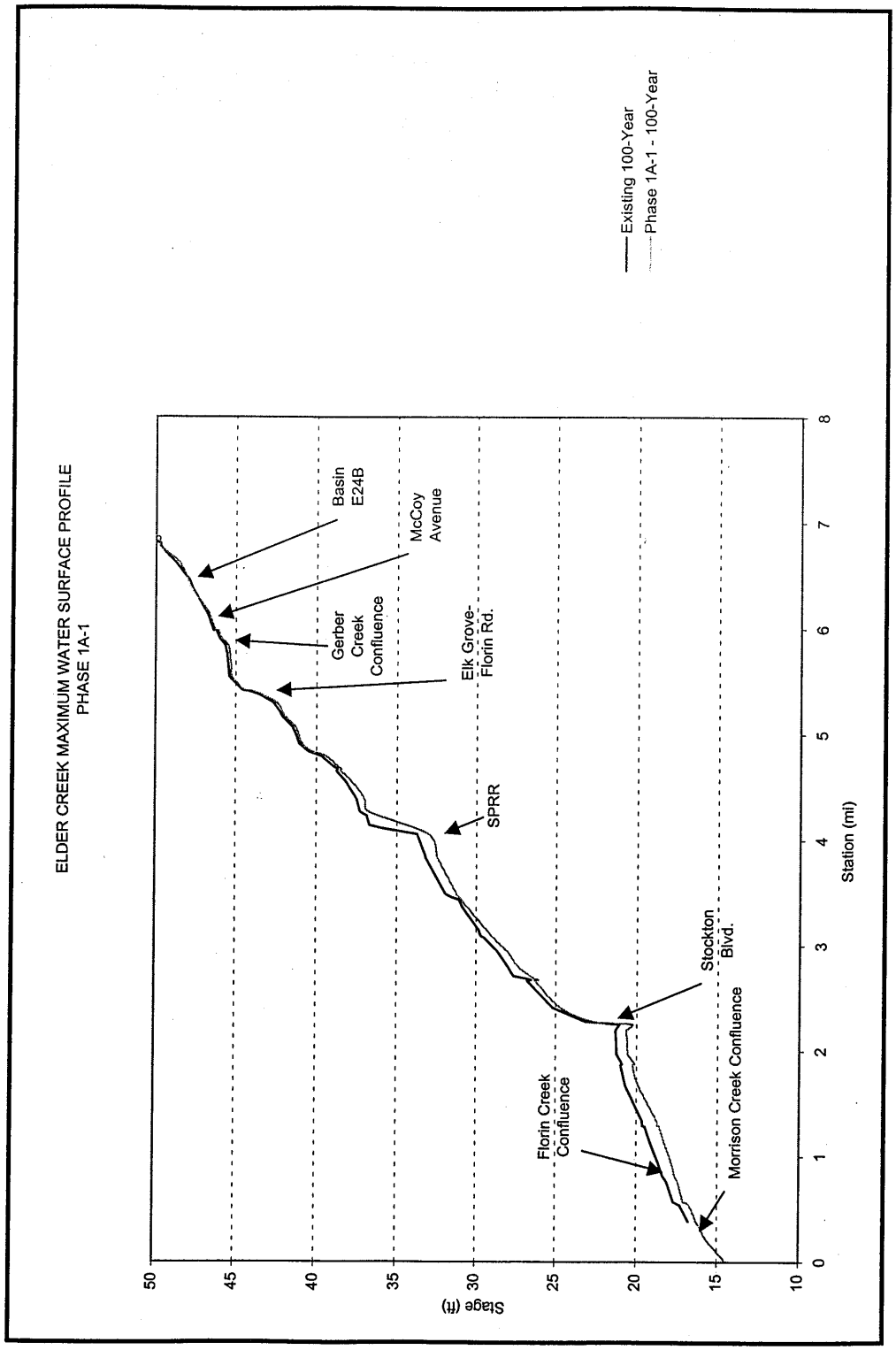


Plate DR -9
Elder Creek Maximum Water Surface Water Profile
Phase 1A-2

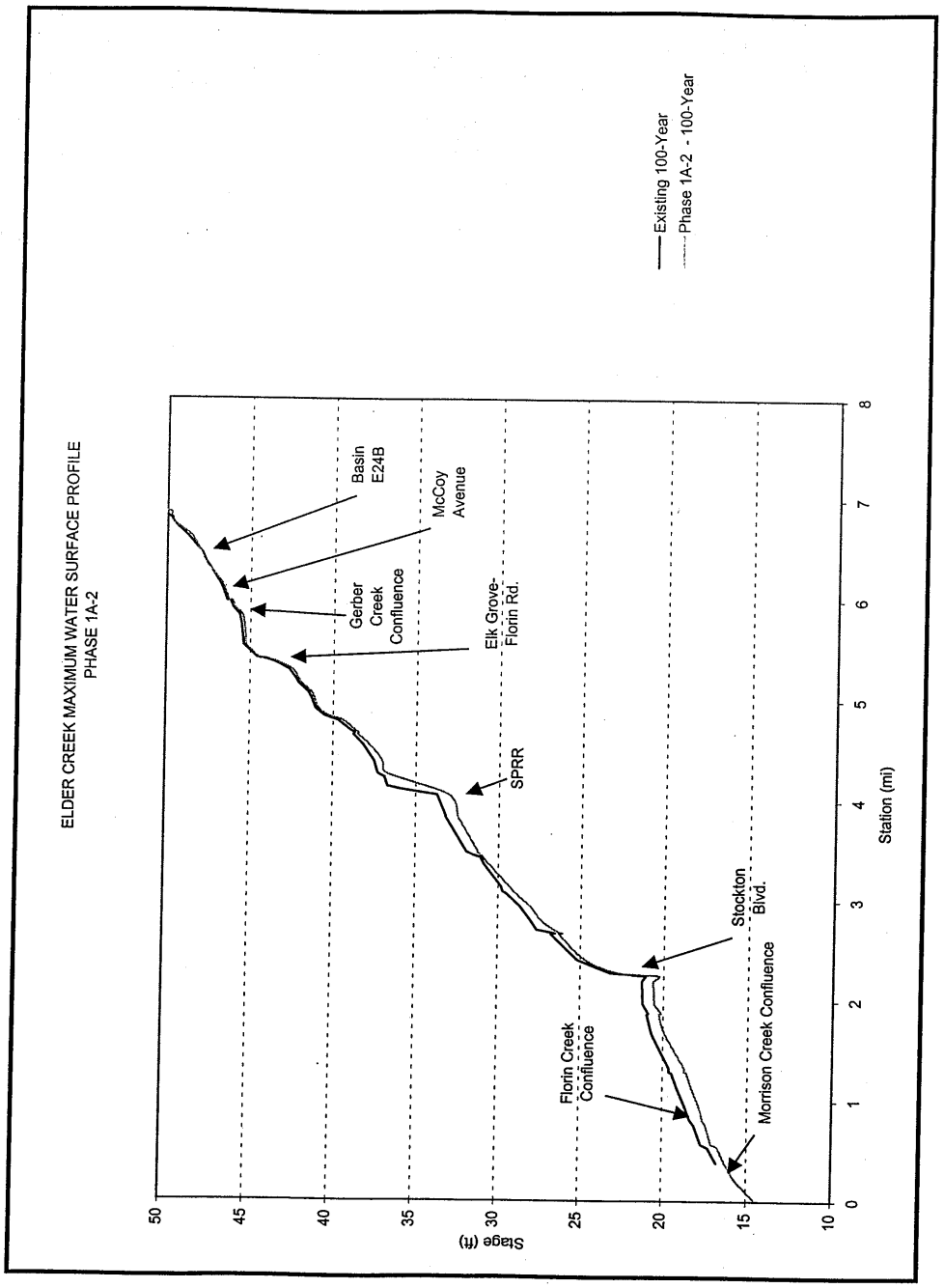
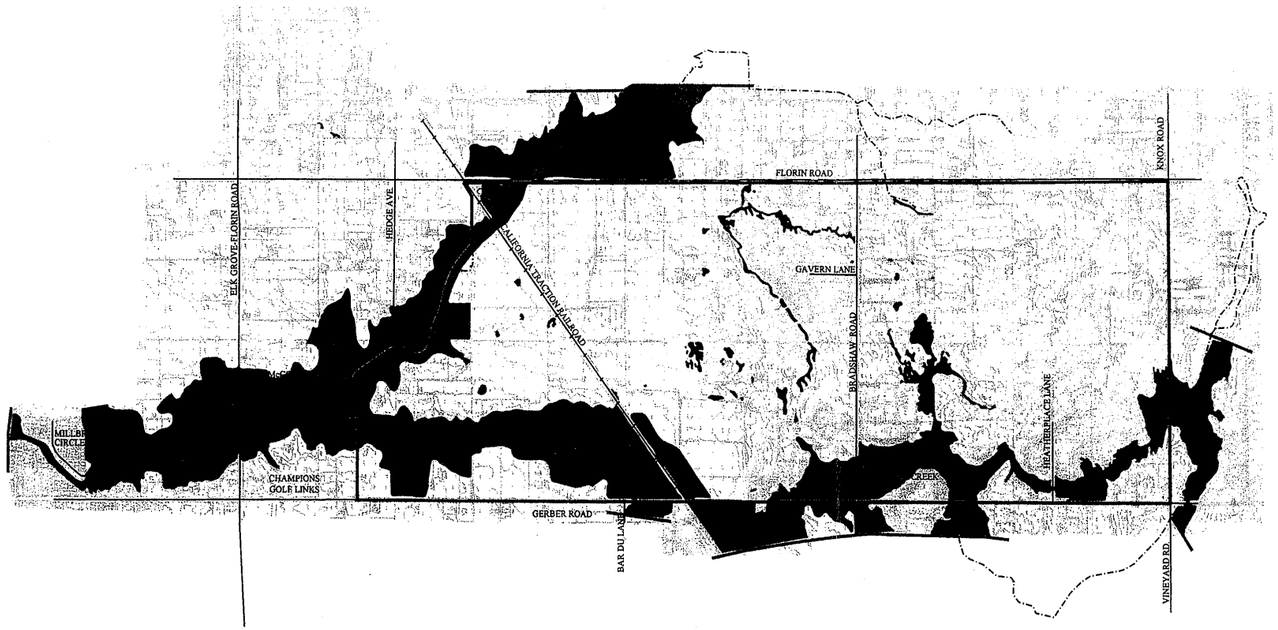


Plate DR -10
Phase 1B Residual 100-Year Floodplain



LEGEND

- 100-Year Floodplain (UNET Model)
- Vernal Pool
- Seasonal Wetland
- Stock Pond
- NVSSP Boundary
- Creek
- Major Road
- Railroad
- Limit of Floodplain Mapping

NOTE

The 100-year floodplain is based upon Stand-Alone Conditions.

SOURCE

The wetland delineation is based upon the "North Vineyard Station Specific Plan Technical Appendix: Biotic Resources," prepared by Sugnet and Associates Environmental Consultants, dated May 3, 1996.

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

PHASE 1B
RESIDUAL 100-YEAR FLOODPLAIN

BORCALLI & ASSOCIATES, INC.

Plate DR -11
Elder Creek Maximum Water Surface Profile
Phase 1B

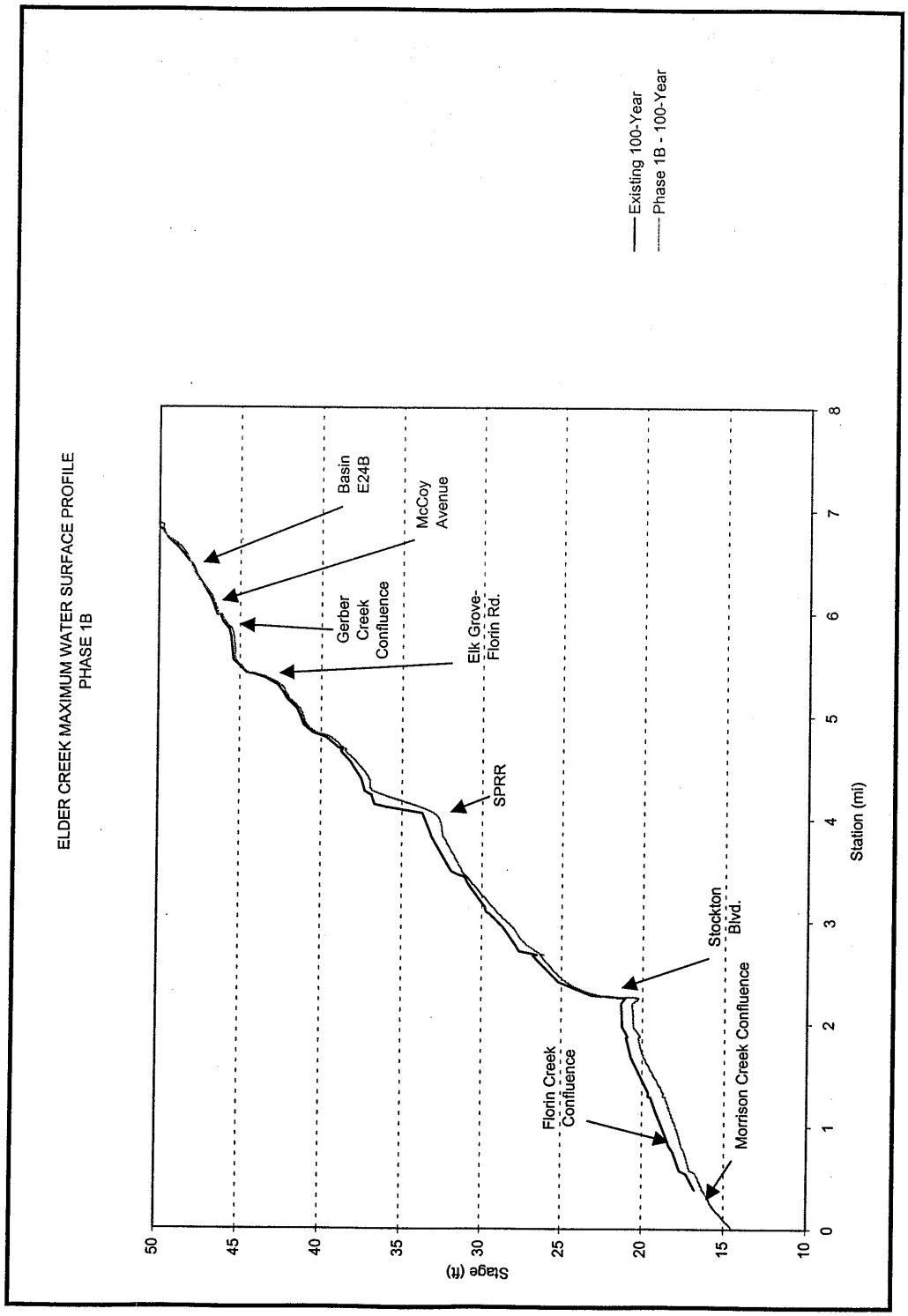
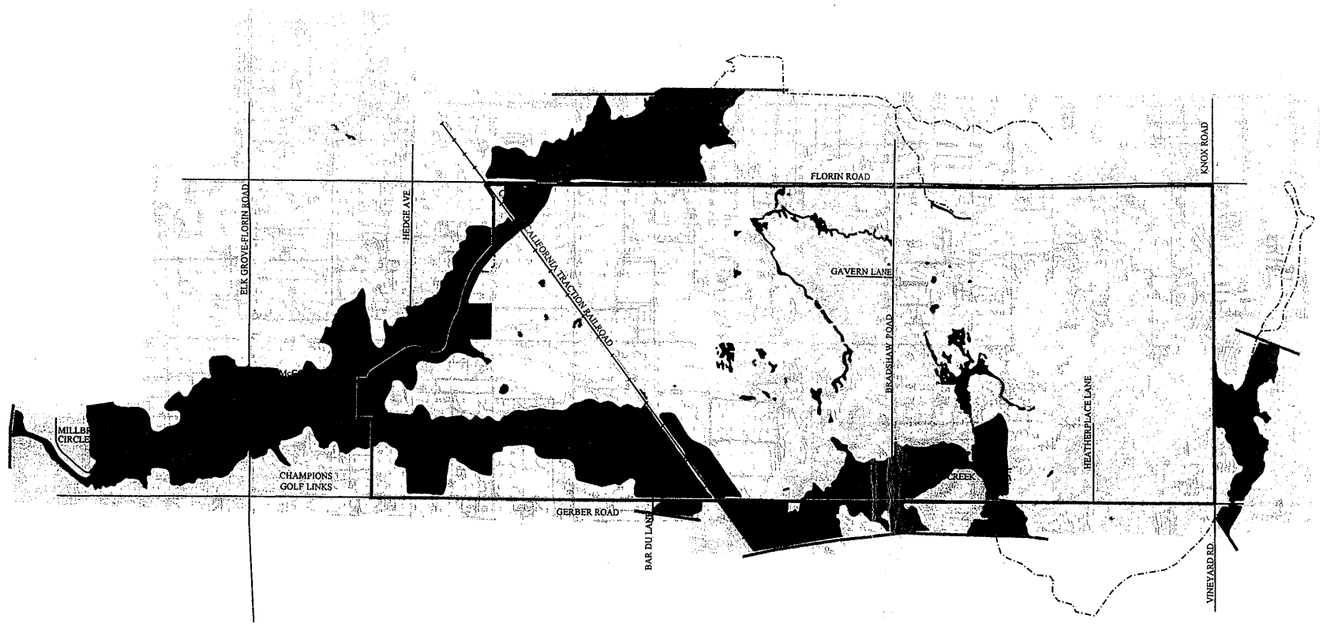


Plate DR -12
Phase 1C Residual 100-Year Floodplain



LEGEND

- 100-Year Floodplain (UNET Model)
- Vernal Pool
- Seasonal Wetland
- Stock Pond
- NVSSP Boundary
- Creek
- Major Road
- Railroad
- Limit of Floodplain Mapping

NOTE

The 100-year floodplain is based upon Stand-Alone Conditions.

SOURCE

The wetland delineation is based upon the "North Vineyard Station Specific Plan Technical Appendix: Biotic Resources," prepared by Sugnet and Associates Environmental Consultants, dated May 3, 1996.

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

PHASE 1C
RESIDUAL 100-YEAR FLOODPLAIN

Plate DR -13
Elder Creek Maximum Water Surface Profile
Phase 1C

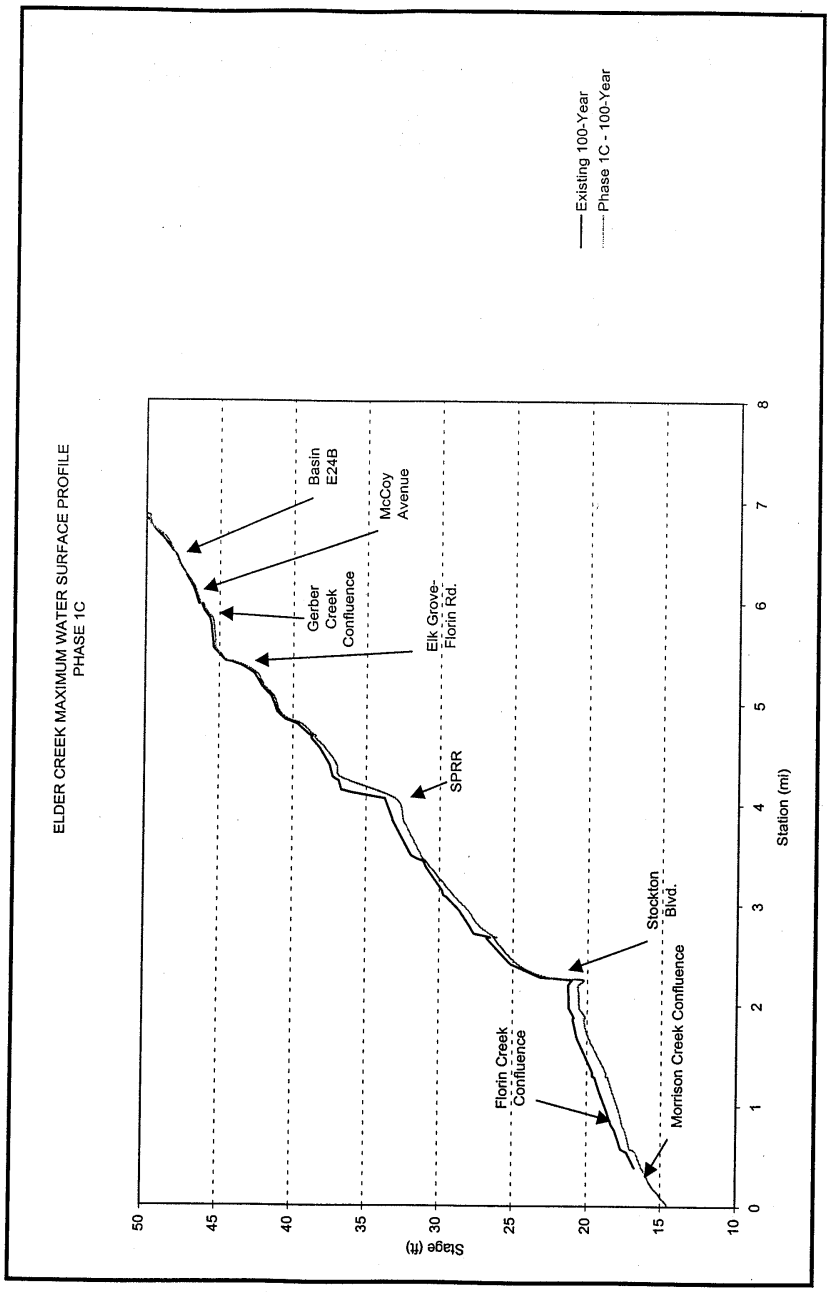


FIGURE 18
1/18/02

PHASE 2

The area identified for development as Phase 2 is presented on Plate DR -4. The majority of land included in Phase 2 is tributary to Basin E24A and Basin G46, which would be constructed in Phase 1A and Phase 1C, respectively. All hydrologic and hydraulic analyses performed to mitigate flooding impacts for Phase 2, presuppose all development within previous phases has already occurred.

It is important to note here that Phase 2 development and drainage impacts resulting therfrom, could be mitigated using the phasing concept using detention and interim pumping, as proposed for Phase 1A, Phase 1B, and Phase 1C. It is anticipated, however, that development occurring in the earlier phases, together with development of Phase 2, will generate funds sufficient to commence construction of facilities outlined in the Preferred Drainage Plan. Accordingly, in keeping with the commitment to Sacramento County to construct the Preferred Drainage Plan facilities as early as possible, the analysis for Phase 2 is aimed at identifying features of the Preferred Drainage Plan that result in mitigation commensurate with the impacts resulting from Phase 2 development.

Following the above noted approach, the drainage facilities required, in addition to those previously listed under Phase 1A, Phase 1B, and Phase 1C, to mitigate the flooding impact in Elder Creek and Gerber Creek, as a result of development within the Phase 2 area, are identified below.

- Drainage channel improvements consistent with the Preferred Drainage Plan on Elder Creek from Basin E24B, downstream to Millbrook Circle.
- Drainage channel improvements consistent with the Preferred Drainage Plan on Gerber Creek from Waterman Road upstream to CCTR, and downstream of Basin E24A to the confluence with Elder Creek.
- Removing the 10 cfs pump station at Basin E24A from flood control service.
- Improved crossing on Elder Creek at Elk Grove-Florin Road.
- New crossing on Gerber Creek for Passalis Lane East.
- New crossing on Gerber Creek or Passalis Lane West.

All Phase 2 drainage facilities are permanent.

Presented on Plate DR -14 is the residual floodplain from implementing the respective drainage facilities to accommodate the planned development. Presented on Plate DR -15 is the maximum water surface profile along Elder Creek with the Phase 2 development and associated drainage facilities completed.

PHASE 3

The area identified for development as Phase 3, the final phase of the NVSSP area, is presented on Plate DR -4.

At this point in development of the NVSSP area, it is assumed that funding is sufficient to construct the remaining elements of the Preferred Drainage Plan. Concurrently, the interim facilities constructed in Phase 1A, Phase 1B, and Phase 1C, namely pump stations, would be physically removed or designated to a function only for maintenance f the water quality basin.

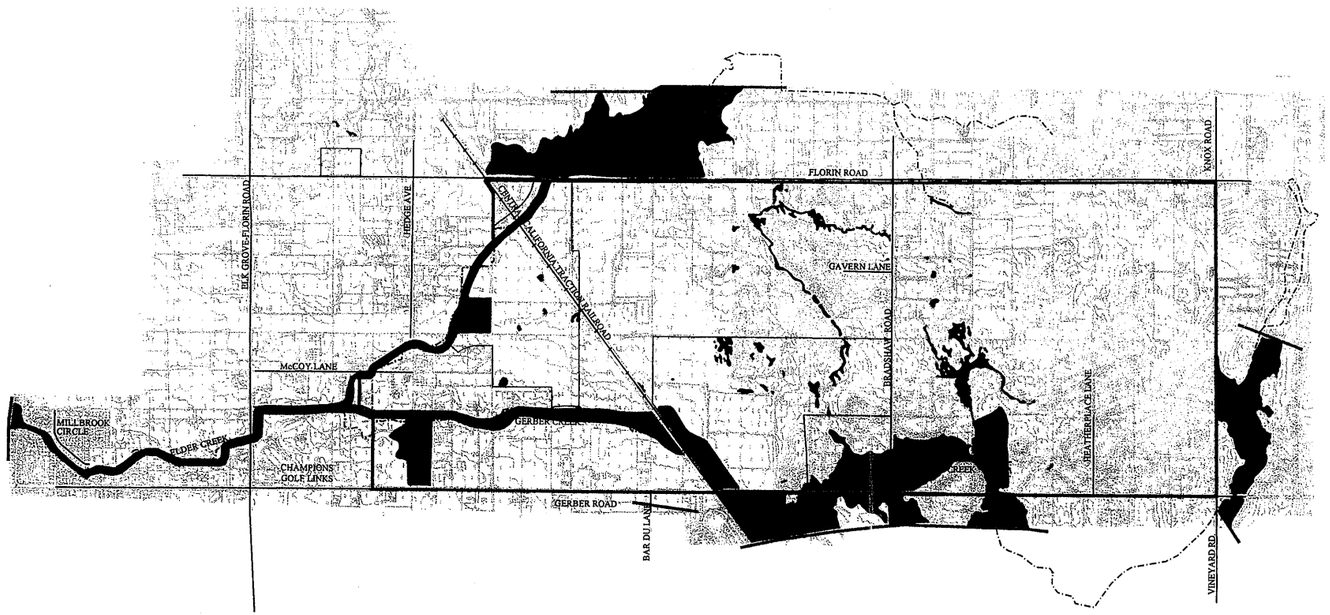
The Preferred Drainage Plan will be fully implemented at this phase of development. The residual floodplain, at this point, will be confined to the creek channels adjacent to and downstream of the NVSSP area for both Ultimate Conditions and Stand-Alone Conditions.

Presented on Plate DR -16 is the residual floodplain from implementing the respective drainage facilities to accommodate the balance of the planned development. Presented on Plate DR -17 is the corresponding maximum water surface profile along Elder Creek with the Phase 3 development and associated drainage facilities completed.

Presented on Table 14-1 is a summary of the detention basin parameters at Phase 3, under the Stand-Alone Conditions. At the point in time when Ultimate Conditions exist, the detention basin parameters will be modified slightly, primarily with respect to weir elevations. The detention basin parameters for the Ultimate Conditions are presented in Table 14-2.

The spill from Laguna Creek will not be eliminated by virtue of constructing the Preferred Drainage Plan facilities.

Plate DR -14
Phase 2 Residual 100-Year Floodplain



LEGEND

- 100-Year Floodplain (UNET Model)
- Vernal Pool
- Seasonal Wetland
- Stock Pond
- NVSSP Boundary
- Creek
- Major Road
- Railroad
- Limit of Floodplain Mapping

NOTE

The 100-year floodplain is based upon Stand-Alone Conditions.

SOURCE

The wetland delineation is based upon the "North Vineyard Station Specific Plan Technical Appendix: Biotic Resources," prepared by Sugnet and Associates Environmental Consultants, dated May 3, 1996.

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

PHASE 2
RESIDUAL 100-YEAR FLOODPLAIN

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Plate DR -15
Elder Creek Maximum Water Surface Profile
Phase 2

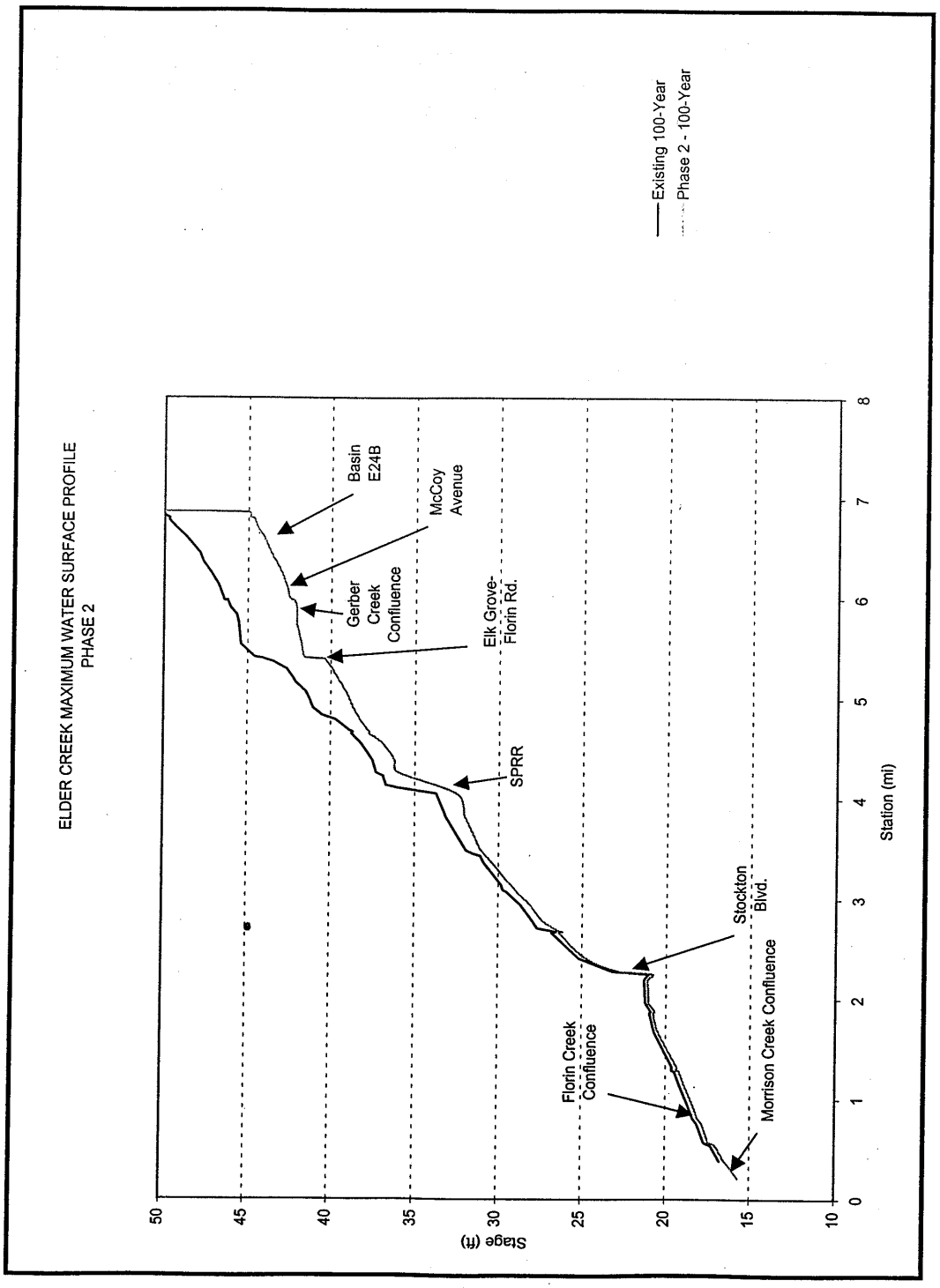
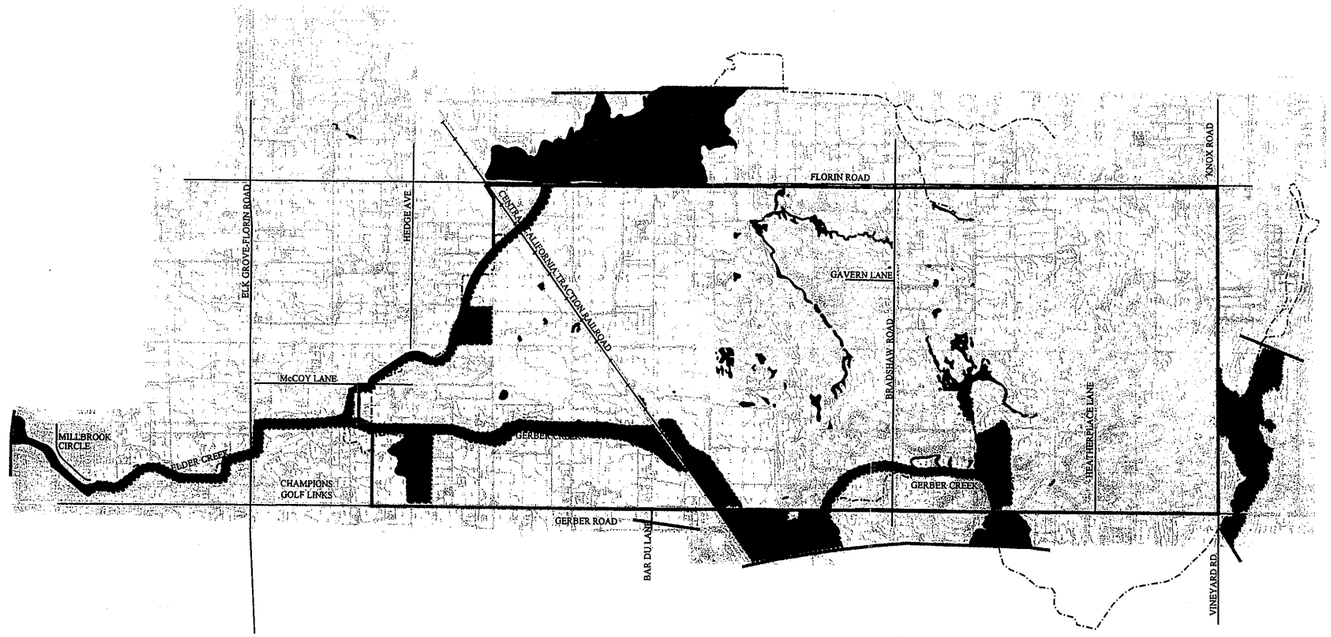


Plate DR -16
Phase 3 Residual 100-Year Floodplain



LEGEND

- 100-Year Floodplain (UNET Model)
- Vernal Pool
- Seasonal Wetland
- Stock Pond
- NVSSP Boundary
- Creek
- Major Road
- Railroad
- Limit of Floodplain Mapping

NOTE

The 100-year floodplain is based upon Stand-Alone Conditions.

SOURCE

The wetland delineation is based upon the "North Vineyard Station Specific Plan Technical Appendix: Biotic Resources," prepared by Sugnet and Associates Environmental Consultants, dated May 3, 1996.

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NORTH VINEYARD STATION SPECIFIC PLAN
DRAINAGE MASTER PLAN
UPDATE AND PHASING

PHASE 3
RESIDUAL 100-YEAR FLOODPLAIN

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Plate DR -17
Elder Creek Maximum Water Surface Profile
Phase3

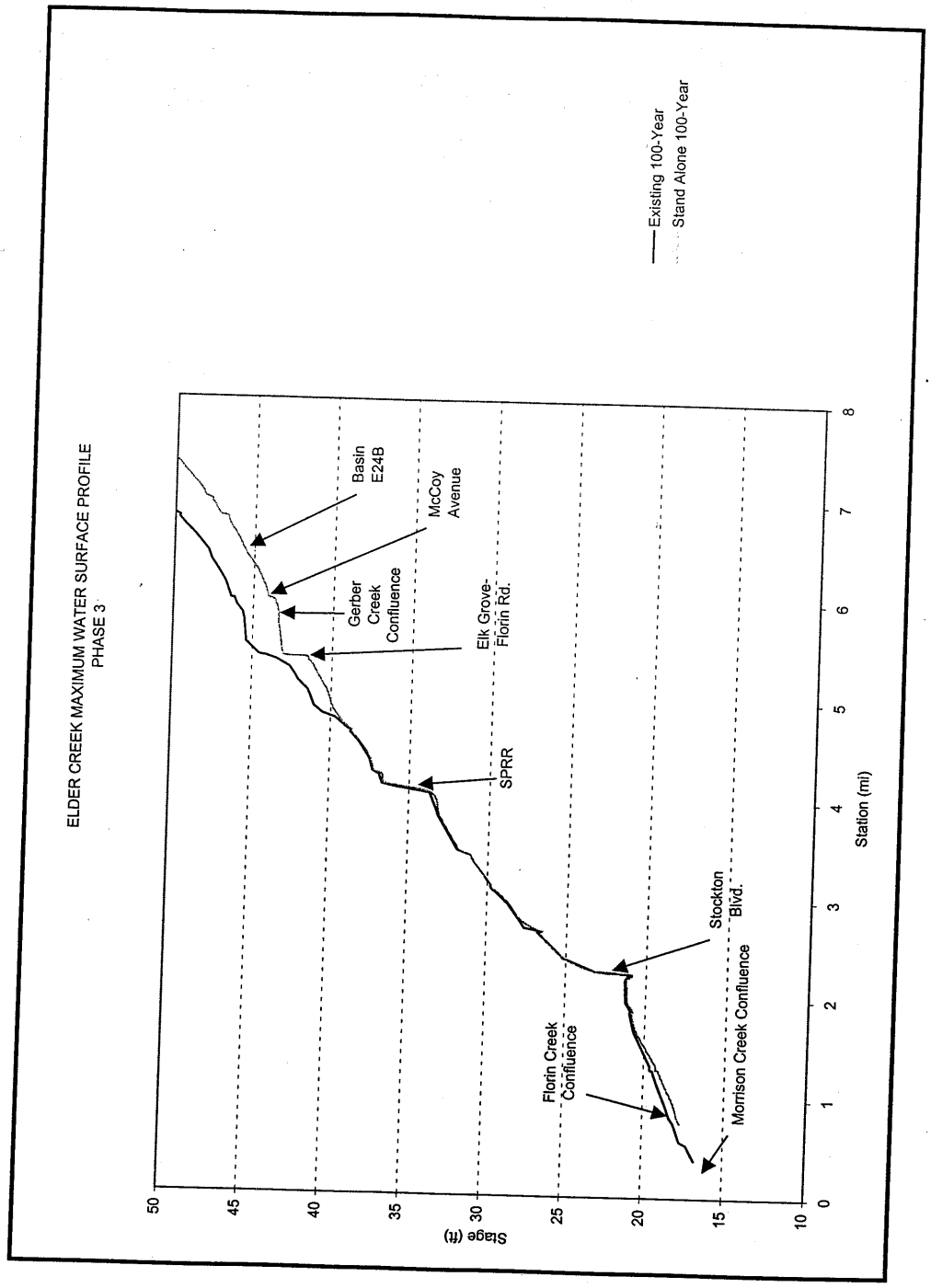

Table 14-1
Detention Basin Parameters
Stand-Alone Condition

Basin Parameters	Basin Name				
	E24A	E24B	E26	G41	G46
Basin Site (ac)	14	7.1	22	11	17
Basin Description	Online W.Q./ Combined F.C.	Online W.Q./ Combined F.C.	Online W.Q./F.C.	Online W.Q./ Combined F.C.	Online W.Q./ Combined F.C.
UNET Storage Area Number	11	6	5	10	8
Bottom Elevation	33.5	36	39.5	38.5	47.5
Maximum Side Slopes	4:1	4:1	4:1 and 3:1	4:1	4:1
Basin Equation	$4.84y + 0.487y^2$	$4.74y + 0.0925y^2$	$9.6y + 0.16y^2$	$5.46y + 0.389y^2$	$11.48y + 0.0028y^2$
Water Quality Volume (ac-ft)	7.2	2.3	17	8.7	17.1
Water Quality Pool Elevation	36.5	39	42.5	41.5	50.5
10-Year Flood Control Volume					
10-Year Pool Elevation	38.89	40.73	46.08	45.13	54.73
100-Year Flood Control Volume					
100-Year Pool Elevation	43.86	45.35	47.51	50.85	57.87
Total Weir Length (ft)	100	100	n/a	150	100
Segment 1 Weir Elevation and Length	100' @ 43.3	100'@43.5		150' @ 50.0	100' @ 56.2
Segment 2 Weir Elevation and Length					
Segment 3 Weir Elevation and Length					
Diameter of Outfall Pipe (in)	24	24	60	24	24

Table 14-2
Detention Basin Parameters
Ultimate Conditions

Basin Parameters	Basin Name				
	E24A	E24B	E26	G41	G46
Basin Site (ac)	14	7.1	22	11	17
Basin Description	Online W.Q./ Combined F.C.	Online W.Q./ Combined F.C.	Online W.Q./F.C.	Online W.Q./ Combined F.C.	Online W.Q./ Combined F.C.
UNET Storage Area Number	11	6	5	10	8
Bottom Elevation	33.5	36	39.5	38.5	47.5
Maximum Side Slopes	4:1	4:1	4:1 and 3:1	4:1	4:1
Basin Equation	$4.84y + 0.487y^2$	$4.74y + 0.0925y^2$	$9.6y + 0.16y^2$	$5.46y + 0.389y^2$	$11.48y + 0.0028y^2$
Water Quality Volume (ac-ft)	7.2	2.3	17	8.7	17.1
Water Quality Pool Elevation	36.5	39	42.5	41.5	50.5
10-Year Flood Control Volume					
10-Year Pool Elevation	38.89	40.73	46.08	45.13	54.73
100-Year Flood Control Volume					
100-Year Pool Elevation	41.91	44.44	46.83	47.73	56.67
Total Weir Length (ft)	50	100	n/a	150	100
Segment 1 Weir Elevation and Length	50' @ 41.0	100'@43.5		150' @ 48.0	100' @ 56.2
Segment 2 Weir Elevation and Length					
Segment 3 Weir Elevation and Length					
Diameter of Outfall Pipe (in)	24	24	60	24	24

IMPACTS AND ANALYSIS

The revised DMP concluded that Basin E20 was not needed to mitigate downstream impacts from development of the NVSSP area. From a technical standpoint, the entire NVSSP area could be developed implementing the concept of interim storm drainage pumping. Development can be phased with interim pumping, and meet the drainage and flood control objectives, policies and standards of Sacramento County. Impacts associated with drainage are less-than-significant.

MITIGATION MEASURES:

None required.

15 SUMMARY OF IMPACTS AND THEIR DISPOSITION

SIGNIFICANT EFFECTS WHICH CAN NOT BE AVOIDED WITH IMPLEMENTATION OF MITIGATION MEASURES

AIR QUALITY-- CONSTRUCTION-RELATED PARTICULATE EMISSIONS

Due to their size, the Vineyard Creek and Vineyard Point projects exceed the Sacramento Metropolitan Air Quality District's Thresholds of significance for construction emissions. Therefore, temporary construction-related air quality impacts are considered significant. Mitigation measures may reduce this impact but not likely to less-than-significant levels given the size of the developments.

SIGNIFICANT EFFECTS WHICH COULD BE AVOIDED WITH IMPLEMENTATION OF MITIGATION MEASURES

TRAFFIC AND CIRCULATION

PHASE 1A

Based on the roadway and intersection analysis, the addition of Phase 1A trips will cause or contribute to deficiencies at the following study locations under Year 2002 conditions:

STUDY ROADWAYS

- S. Watt Avenue – (North of SR 16);
- S. Watt Avenue – (SR 16 to Elder Creek Road);
- Elk Grove-Florin Road – (Florin Road to Gerber Road);
- Gerber Road – (Elk Grove-Florin Road to Bradshaw Road);

STUDY INTERSECTIONS

- SR 16/S. Watt Avenue;
- SR 16/Bradshaw Road; and
- Elder Creek Road/S. Watt Avenue

PHASE 1B

Based on the roadway and intersection analysis, the addition of Phase 1B trips will cause or contribute to deficiencies at the following study locations under Year 2005 conditions.

STUDY ROADWAYS

- None.

STUDY INTERSECTIONS

- SR 16/S. Watt Avenue;
- Florin Road/Excelsior Road; and
- Gerber Road/Excelsior Road.

YEAR 2010 CONDITIONS

The daily volumes were compared to the roadway capacity thresholds. The addition of project trips will result in a deficiency at the following study roadway segments.

- S. Watt Avenue (North of SR 16); and
- Elk Grove-Florin Road (Gerber Road to Calvine Road).

YEAR 2015 CONDITIONS

Based on the roadway and intersection analysis, buildout of the NVSSP will cause or contribute to deficiencies at the following study locations under Year 2015 conditions.

STUDY ROADWAYS

- Florin Road (West of S. Watt Avenue);
- Florin Road (S. Watt Avenue to Bradshaw Road);
- S. Watt Avenue (North of SR 16);
- S. Watt Avenue (SR 16 to Elder Creek Road);
- Elk Grove-Florin Road (Gerber Road to Calvine Road); and
- Bradshaw Road (Elder Creek Road to Florin Road).

STUDY INTERSECTIONS

- SR 16/S. Watt Avenue;
- SR 16/Bradshaw Road;
- Elder Creek Road/Bradshaw Road;
- Florin Road/Elk Grove-Florin Road; and
- Florin Road/Bradshaw Road.

NOISE IMPACTS ON PROPOSED LAND USES

The following are noise impacts of the proposed development projects. These impacts can be mitigated to less-than-significant through implementation of the mitigation measures outlined in the Noise section of this SEIR.

VINEYARD CREEK SUBDIVISION

Residences proposed nearest to Florin Road and Waterman Road would be exposed to future traffic noise levels that exceed the 60 dB L_{dn} Sacramento County Noise Element Standard. This impact is considered significant

VINEYARD POINT SUBDIVISION

Residences proposed nearest to Bradshaw Road and Gerber Road would be exposed to future traffic noise levels that exceed the 60 dB L_{dn} Sacramento County Noise Element Standard. This impact is considered significant.

WATER TREATMENT FACILITY AND WELL SITES

Based upon the noise level measurement data, the predicted noise level at the backyard of the nearest residence to the water treatment facility is 53 dB $L_{50.}$ This level exceeds the Sacramento County hourly noise criteria of 50 dB L_{50} for daytime noise and the 45 dB L_{50} criteria for nighttime noise. Since the booster pumps are expected to operate during the nighttime hours, it is recommended that noise control measures, which will reduce overall pump noise levels by a minimum of 8 dBA, be included in the project design.

The predicted un-muffled exhaust noise level with the emergency generator in operation is predicted to be 85 dBA at the backyard of the nearest residence. Assuming that the generator operates continually for one half of an hour while being exercised, the hourly L_{50} (sound level not to be exceeded 30 minutes of the hour) is 82 dBA. This level would exceed the daytime and nighttime noise level criteria of 50 dBA L_{50} and 45 dBA L_{50}, respectively.

The pump noise from the proposed remote well sites is expected to exceed Sacramento County hourly noise criteria of 50 dB L50 for daytime noise and 45 dB L50 for nighttime noise at the nearest residential properties. Implementation of recommended mitigation will reduce pump noise to meet County noise criteria.

BIOLOGICAL RESOURCES

WETLANDS

VINEYARD POINT SUBDIVISION

The proposed project will impact 9.02 acres of waters of the United States. The proposed mitigation will ensure that this impact is less-than-significant.

VINEYARD CREEK SUBDIVISION

The proposed project will impact 2.69 acres of waters of the United States. The proposed mitigation will ensure that this impact is less-than-significant.

DRAINAGE MASTER PLAN

The modified drainage corridors will result in 4.85 acres of creek (low-flow channel), 17.55 acres of channel bottom/wetlands and 3.23 acres of wetland/riparian benches. Post-project wetland/riparian habitat acreages will total 25.63 acres, a net gain of nearly 11.80 acres of habitat.

WATER TREATMENT FACILITY

The proposed project has the potential to impact Waters of the United States including vernal pools. The proposed mitigation will ensure that this impact is less-than-significant

VERNAL POOL SPECIES

VINEYARD POINT SUBDIVISION

Construction of the proposed project will remove 8.41 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.

VINEYARD CREEK SUBDIVISION

Construction of the proposed project will remove 1.49 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.

DRAINAGE MASTER PLAN

Construction of the proposed project will remove 1.08 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.

WATER TREATMENT FACILITY

Construction of the proposed project has the potential to impact vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact.

SWAINSON'S HAWK

VINEYARD POINT SUBDIVISION

Project construction has the potential to disturb nesting activities of listed birds of prey. In addition, the proposed project will remove 179 acres of Swainson's Hawk foraging habitat upon completion. Impacts to Swainson's Hawk and other raptors are considered significant.

VINEYARD CREEK SUBDIVISION

Project construction has the potential to disturb nesting activities of listed birds of prey. In addition, the proposed project will remove 108 acres of Swainson's Hawk foraging habitat upon completion. Impacts to Swainson's Hawk and other raptors are considered significant.

DRAINAGE MASTER PLAN

Project construction has the potential to disturb nesting activities of listed birds of prey. Impacts to Swainson's Hawk and other raptors are considered potentially significant.

WATER TREATMENT FACILITY

Project construction has the potential to disturb nesting activities of listed birds of prey, and remove Swainson's hawk foraging habitat. Impacts to Swainson's Hawk and other raptors are considered potentially significant.

TRICOLORED BLACKBIRD

VINEYARD CREEK SUBDIVISION

During the April 2002 field assessment, a large tricolor blackbird colony of up to 500 pairs was nesting within the blackberry thicket along Elder Creek. Construction activities have the potential to disturb nesting activities and remove habitat. Impacts to Tricolor Blackbird are, therefore, potentially significant.

GIANT GARTER SNAKE & NORTHWESTERN POND TURTLE

VINEYARD POINT SUBDIVISION

The portion of Gerber Creek located within the project area represents potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements and construction near ~~the~~ Gerber Creek could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant.

VINEYARD CREEK SUBDIVISION

The portion of Elder Creek located within the project area and the portion of Gerber Creek located adjacent to the southeast corner of the project area, represent~~s~~ potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements and construction near ~~the~~ Elder and Gerber Creek~~s~~ could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant.

DRAINAGE MASTER PLAN

The portions of Elder Creek and Gerber Creek located within the project area represent potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant

CULTURAL RESOURCE IMPACTS

No sites or building were found to be eligible for inclusion in the National Register. No prehistoric, archaeological sites were encountered during the field investigation of the Survey Area. However, the lack of surface evidence does not preclude the existence of important, subsurface cultural materials. There is a potential to unearth buried cultural remains during future project construction activities. Caution should, therefore, be exercised during future development activities. Any accidental encounter~~ed~~ of previously unidentified cultural materials will require notification of the Department of Environmental Review and Assessment. If skeletal remains are encountered, both the Department of Environmental Review and Assessment and the County Coroner must be immediately notified. With the implementation of the mitigation proposed in the prior EIR, however, these potential impacts to cultural resources in the Vineyard Creek subdivision are considered less than significant.

EFFECTS FOUND NOT TO BE SIGNIFICANT

LAND USE

The proposed developments are generally consistent with the General Plan, North Vineyard Station Specific Plan, and the Sacramento County Zoning Code. The proposed amendments to the Specific Plan are in response to a need throughout the unincorporated County for affordable housing. The number of potential additional units that may be developed in the Plan area as a result of these changes represents only a small overall increase in the total number of units within the NVSSP.

PUBLIC SERVICES

The increased demands created by the project on the following services can be accommodated through compliance with requirements of the service agencies and no significant environmental impacts are expected.

WATER SUPPLY

The prior EIR concluded that implementation of the North Vineyard Station Specific Plan Water Master Plan would result in less than significant water supply impacts. However, the implementation of the NVSSP Water Master Plan was contingent on the implementation of the Water Master Plan for Areas Adjacent to the Zone 40 Water Supply Master Plan Update's Study Area, as well as fulfillment of the City of Sacramento American River Place of Use. Until all agreement are in place to wheel "firm" surface water supplies to the Specific Plan area, the project will contribute to the incremental decline in ground water levels. This incremental decline and the dewatering of private wells is a regional issue, beyond the scope of the proposed project. However, the project would add to the significant adverse cumulative impacts that regional development has on ground water supplies. Compliance with the requirements of the Sacramento County Water Agency will ensure that impacts are less-than-significant.

SEWER SERVICE

The revised sewer study does not include the proposed water treatment facility, which has the potential to contribute a significant amount of effluent into the sewer system. In addition, the proposed increased development densities anticipated from the density bonus program will also result in incremental increases in effluent generation from the Plan area. The County Sanitation District-1 (CSD-1) staff has indicated the increased flows will necessitate revised sewer studies and the planned sizing of the Gerber Road Trunk would have to be increased. Since the Gerber Road Trunk sewer line has yet to be constructed, these necessary adjustments can be made and the impact of the increased flows is expected to be less than significant. The Gerber Trunk will tie into the Bradshaw 6A and 6B Interceptors, and the Central Interceptor further downstream, where there will be adequate capacity ~~in~~ to handle the increased flows from the water

treatment facility and the expected small to moderate increases in flows from additional dwelling units ~~through~~ associated with the density bonus program.

CSD-1 indicated that the revised sewer study need not be included in this Draft EIR, but would be required prior to installation of the Gerber Road Trunk (pers. comm., Matt Morgan, CSD-1, June 15, 2004). Because potential impacts from the water treatment facility on the Gerber Road Trunk will be evaluated prior to installation of the trunk line and sized appropriately, lack of sewer capacity should not be an impediment to future development. Therefore impacts associated with sewer service are considered less-than-significant.

DRAINAGE AND HYDROLOGY

The revised DMP concluded that Basin E20 was not needed to mitigate downstream impacts from development of the NVSSP area. From a technical standpoint, the entire NVSSP area could be developed implementing the concept of interim storm drainage pumping. Development can be phased with interim pumping, and meet the drainage and flood control objectives, policies and standards of Sacramento County. Impacts associated with drainage are less-than-significant.

IRREVERSIBLE ENVIRONMENTAL CHANGES

The project will result in the irreversible loss of agricultural-residential designated properties and the loss of a rural lifestyle. Once land is converted to a higher density urban uses and infrastructure is in place, it is highly unlikely that the land would revert back to rural uses. The commitment to urban uses will be permanent.

CUMULATIVE IMPACTS

Cumulative impacts of the project were fully analyzed throughout this document along with project-specific, singularly significant impacts.

GROWTH INDUCING IMPACTS

There may be some growth inducing potential associated with the project in that extension and upgrade of urban infrastructures and services will facilitate development of surrounding properties. However, the Plan Area and most of its surrounding lands were committed to urbanization with the adoption of the 1993 General Plan. The Plan Area interfaces to the northeast and east represent the most potential for land use compatibility concerns and thus, the greatest potential for growth inducement would be

in those same directions. Those potentially affected lands are shown on the General Plan Land Use Diagram for non-urban land uses: Recreation (along the creek), Agricultural Urban Reserve, General Agriculture and Agricultural Residential. These lands are outside the Urban Policy Area, which is defined in the General Plan as that "area expected to receive urban levels of public infrastructure and services within the 20-year planning period." By virtue of being outside the Urban Policy Area, the General Plan policies would not support near term urbanization of those lands. Furthermore, there are lands contiguous to the Plan Area that are within the designated growth area that would be given much higher priority for accommodating growth needs before any additional lands outside the Urban Policy Area are committed for urbanization. For these reasons, the growth inducing potential of the project on lands not otherwise designated for urbanization during the next 20 years is considered less than significant.

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PERSONAL COMMUNICATIONS -

Morgan, Matt. County Sanitation District 1. Telephone conversation, May 2003.

17 COMMENTS AND RESPONSES

The following text introduces each Draft EIR reviewer, and paraphrases his or her comment. Responses to those comments immediately follow. Comment letters in their entirety are included at the back of this chapter.

Opportunity for oral comments was presented at the Project Planning Commission on August 24, 2004, however, no comments on the Draft EIR were received.

Letters Received:

1. Southgate Recreation and Park District
2. California Department of Transportation (e-mail from Ken Champion)
3. California Department of Transportation (letter from Katherine Eastham)
4. Sacramento Metropolitan Air Quality Management District
5. Sacramento County Department of Water Resources
6. Elk Grove Unified School District
7. County Sanitation District 1
8. California Public Utilities Commission
9. Sacramento County Department of Transportation
10. Sacramento County Municipal Services Agency, Infrastructure Finance Section

LETTER 1
Comments from Southgate Recreation and Parks District

COMMENT:

The letter asserts that a more detailed description of the multi-use trail system, and other potential recreation facilities within the drainage parkway, is needed to fully evaluate environmental impacts associated with these facilities. This description would include showing exact locations of the trail, timing of improvements, developer responsibilities in constructing these improvements, requirements for areas outside the NVSSP, and the amount of funding required to construct these improvements.

Response:

The EIR considers impacts within the footprint of the Drainage Master Plan. The multi-use trail is an element of the Drainage Master Plan within this footprint, and, therefore, impacts associated with the trail are considered in all discussions pertaining to the Drainage Master Plan. Page 7-9 of the Draft EIR states:

> "Improvements, such as trail alignment and landscaping, associated with the Drainage Parkway are considered to be an element of the overall Drainage Master Plan. Impacts associated with these recreational improvements are considered in the context of evaluating the DMP."

The Financing Plan costs are projections of what improvements may cost at the time of construction. Updates to the Plan regarding these costs will be ongoing.

Coordination with adjacent Plan Areas in design of the trail system is important in order to maintain consistency of the facility throughout the Drainage Parkway. However, it is outside the scope of the EIR to place restrictions and/or requirements on land outside the NVSSP. This type of coordination is ultimately a planning issue to be addressed in the development of these adjacent Plan Areas.

LETTER 2 AND 3
Comments from the California State Department of Transportation

The following responses to comments were provided by the Sacramento County Department of Transportation (Clark):

Comment 1:

Can improvements be implemented which would raise the Level of Service (LOS) at the Watt Avenue and Bradshaw Road intersections of SR16 to LOS D?

Response 1:

Evaluation of other Public Facility Financing Plans revealed that the Sunridge Public Facility Financing Plan includes improvements at the State Route 16 and Bradshaw Road intersection. The proposed improvements are expansion of the intersection to accommodate two left turn lanes, two through lanes and one right turn lane on all approaches. It is likely that right-of-way will need to be acquired to provide the proposed improvements. The improvement is included in Phase 1 on the Sunridge Public Facility Financing Plan, which would mean that the improvement would be constructed in the next 5 years. With those improvements, the intersection level of service would improve to LOS D in the a.m. peak hour and LOS C in the p.m. peak hour, with build out of Phase 1A of the North Vineyard Station Specific Plan.

Subsequent to the publishing of the traffic analysis, the County of Sacramento moved forward a project to widen South Watt Avenue from State Route 16 to Kiefer Boulevard to five lanes. The project includes the State Route 16 and South Watt Avenue intersection. The intersection improvement includes an additional left turn lane and through lane on the southbound approach and one new left turn lane and two new through lanes on the northbound approach. The improvement is planned to be completed by 2006. With those improvements and Mitigation Measure TC-8, an additional through lane on the eastbound and westbound approaches, the intersection level of service3 would improve to LOS C in both the a.m. and p.m. peak hours, with build out of Phase 1A and 1B of the North Vineyard Station Specific Plan.

Comment 2:

Does the Sacramento County General Plan show the future outlook for SR16 through this area to eventually become a six-lane roadway facility with 6x6 type intersections? Shouldn't the County participate in an assessment to consider the feasibility of larger intersection configurations, similar to those at Watt Avenue and Fair Oaks Boulevard?

Response 2:

South Watt Avenue, Bradshaw Road and State Route 16 are shown as 6-lane thoroughfares in the Sacramento County General Plan. The intersections of State Route 16 and South Watt Avenue and State Route 16 and Bradshaw Road would be 6x6 intersections. According to the Sacramento County Standard Plans, a 6x6 intersection includes two left turn lanes, three through lanes and one right turn lane on each approach. The intent of the County of Sacramento would be to acquire right-of-way and install roadway improvements consistent with standards.

Comment 3:

The State standard for intersection LOS is LOS D. Mitigation Measures TC-6 and TC-8 appear to be inadequate, as they do not improve LOS at the Bradshaw Road/SR-16 and Watt Avenue/SR-16 intersections to LOS D.

Response 3:

See Response 1 above.

Comment 4:

Does sufficient right-of-way exist at the Watt Avenue/SR-16 and Bradshaw Road/SR-16 intersections for additional improvements beyond the TC-6 and TC-8 mitigation?

Response 4:

Sufficient right-of-way does not currently exist to implement full 6x6 standards at either the State Route 16 and South Watt Avenue and State Route 16 and Bradshaw Road intersections.

LETTER 4

Comments from the Sacramento Metropolitan Air Quality Management District

Comment 1:

There is no discussion or provision of funding for a Transportation Management Association as indicated in Mitigation Measure AQ-5, #8.

Response 1:

See Letter #10 from the County Municipal Services Agency, Infrastructure Finance Section. A condition of approval has been suggested to fund a County Service Area (CSA), or equivalent financing mechanism for the purpose of funding a variety of transportation demand management (TDM) services to implement an overall TDM strategy that will contribute to the goal of reducing vehicle trips. This condition has been included in the "Requests/Requirements of Other Agencies" section of this EIR.

LETTER 5

Comments from Sacramento County Department of Water Resources

Comment 1:

More detailed information about the Freeport Regional Water Project may be needed due to the size of the FRWP facilities within the NVSSP area.

Response 2:

The purpose of this section of the EIR is to identify the potential sources of water for the NVSSP. The EIR need not discuss in detail the specifics of pipe routes and sizes in order to convey this.

Comment 2:

Change the “Max Day Analysis” section on page 13-11 to the language in the attached document.

Response 2:

The requested edits have been made.

LETTER 6

Comments from the Elk Grove Unified School District

Comment:

The District is investigating a site on the south side of Florin Road and the future extension of Vineyard Road as a possible school site. If the site is pursued, there will be a displacement of 80 – 240 residential housing units.

Response:

Comment noted and forwarded to the Board of Supervisors via this Final EIR.

LETTER 7

Comments from County Sanitation District 1

Comment :

CSD-1 shall require an approved sewer study prior to the approval of the Final Maps or submittal of the improvement plans for plan check to CSD-1, whichever comes first. Sewer studies shall reflect the increase in residential zoning and the addition of the Water Treatment Facility.

Response:

This requirement is acknowledged on page 14-9 of the Sewer Service chapter of this EIR.

LETTER 8

Comments from the California Public Utilities Commission

Comment:

Consider safety issues when designing roadways and housing units near at-grade rail crossings.

Response:

Comment noted and forwarded via this Final EIR.

LETTER 9

Comments from Sacramento County Department of Transportation

Comment 1:

Correct Tables 8-4, 8-7, 8-9, 8-11, 8-14, 8-15 and 8-17 to show only LOS F facilities in boldface type.

Response 2:

The requested edits have been made.

LETTER 10

Comments from the County Municipal Services Agency, Infrastructure Finance Section

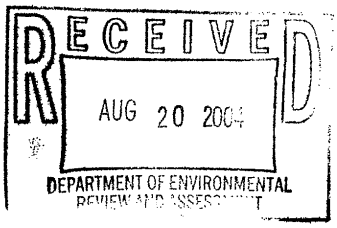
Comment:

Add the condition contained in the letter to the conditions of approval for the project.

Response:

The condition has been added to the “Requests/Requirements of Other Agencies” section of this Final EIR.

Letter 1



August 18, 2004

Joyce Horizumi
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SOUTHGATE
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RE: Draft Supplemental Environmental Impact Report for North Vineyard Station Specific Plan Amendment, Financing Plan, Water Treatment Facilities, and Associated Vineyard Point Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map and Special Development Permit; and Vineyard Creek Rezone, Vesting Tentative Subdivision Map and Large Lot Tentative Subdivision Map (Control Numbers: 03-CPB-0082, 02-PWE-0532, 04-PWE-0144, 02-RZB-SDB-SVB-0293, 03-RZB-SVB-0385)

Dear Joyce;

Southgate Recreation and Park District (District) would like to thank the Sacramento County DERA for the opportunity to comment on the above referenced Draft Supplemental EIR. Please continue to forward documentation related to these projects and the North Vineyard Station Specific Plan to the District. The District has prepared and submits the following comments respective to the above Draft Supplemental EIR and requests answers to questions raised, inclusion of additional language where indicated and the implementation of mitigation measures where significant impacts would occur to District resources.

The Draft Supplemental EIR omits a comprehensive discussion of the master-planned, multi-use, recreational trail system that affects each geographic entity of the subject document: North Vineyard Station, Vineyard Point, and Vineyard Creek. Particularly, the discussion of the Drainage Master Plan omits references to the trail system and its intended dual use for both drainage management and recreational uses, (e.g., usage of the detention basins for passive recreation). These omissions should be corrected; following are examples of where changes should be made.

Additionally, all figures should illustrate the continuation of Elder Creek beyond Elk Grove-Florin Road to the west because its omission inaccurately represents current and future drainage/trail needs. Similarly, all figures should illustrate the continuation of Gerber Creek south of Gerber Road for the same reasons.

The Draft Supplement EIR should state that all drainage system upgrades are to be accompanied by concomitant trail system improvements;[1] there are a number of instances in the Draft Supplemental EIR where the two should be referenced simultaneously. These are also described below.

Section 2 Executive Summary and Mitigation Measures

- Consistent with the District's request that developers provide landscaped access to the trail system from the Central California Traction Railroad Corridor should it be abandoned and deemed eligible for recreational use in the future (page 2-33), the Draft Supplemental EIR should state that the land use prescriptions of the pending Florin-Vineyard GAP Plan area should also require compatible trail alignments and linkages in the future since these are related projects that may have significant effects upon both the drainage and recreational functions of the trail system.

Section 3 Project Characteristics

- The Drainage Master Plan is first described on page 11-24 of Section 11, Biological Resources, where it discusses the delineation of wetlands, vernal pools, and special status species identified in the area of the Drainage Master Plan. Because the Master Plan is treated

[1] Cooper, Rod. 2004a. "Response to Notice of Preparation of the North Vineyard Station Specific Plan Amendment, Financing Plan, Water Treatment Facilities and Associated Vineyard Point Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map and Special Development Permit; and Vineyard Creek Rezone, Vesting Tentative Subdivision Map and Large Lot Tentative Subdivision Map," transmitted to Ms. Joyce Horizumi, Environmental Coordinator, County of Sacramento Department of Environmental Review and Assessment, 827 Seventh Street, Room 220, Sacramento, CA, April 20, 2004.

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separately and because it concerns Section 15, Drainage and Hydrology, as well as recreational open space via the master-planned, multi-purpose trail system, it should more clearly cross-reference the Project Description (page 3-1) and Section 15 (page 15-1) and/or be enveloped succinctly within a separate "Drainage Master Plan and Multi-Purpose Trail System" section.

- Many of the exhibits only reference a "drainage channel," which misrepresents the nature of the multi-use recreational trail system. Mention the Drainage Master Plan and master-planned, multi-use trail system as a project element in the Project Description (page 3-1).

- Under the "Specific Plan Amendment" section, add the following after the first sentence: "Although these proposed changes are internal modifications, they have important external effects because of the trail system, which relies upon successful implementation of similar alignments and improvements outside the Specific Plan Area in neighboring jurisdictions."

- Plate A, *Specific Plan Amendment,* on page 3-3, should be revised to clearly show the planned trails with appropriate reference in the land use legend.

- Plate B, *Conceptual Layout—Water Treatment Plan,* on page 3-7, should reference the dual nature of the "drainage channel" as part of the trail system in its vicinity map.

- Plate C, *Water Treatment Facilities—Alternate 1*, on page 3-8, should reference the dual nature of the "drainage channel" as part of the trail system in its vicinity map and on the large-scale Exhibit C-2.

- Plate E, *Location Layout Map*, on page 3-10, should also include a representation of the trail system in both the vicinity map and Exhibit D.

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- On page 3-11, mention trail improvements as distinct from the references to "O recreation" and "detention basin" sites and "landscape corridor" and "drainage channel" lots.

- Under the "Environmental Setting" section on page 3-19 to 3-20 at the bottom of the page that discusses Elder and Gerber Creeks and their watersheds, insert a sentence providing an overview of the master-planned, multi-use trail system. The occurrence of the 100-year floodplain should also be emphasized here to underscore the importance of the trail system and its relation to the Drainage Master Plan.

Section 5 Land Use

- Under the discussion of open space policies in relation to the North Vineyard Station Specific Plan, add a sentence regarding the master-planned, multi-purpose trail system and the need for simultaneous improvement of the trail system with the drainage amenities at the top of page 5-8, where the reference currently is to "a park, drainage parkway, and storm water detention." Also, mention that consistency with the pending Florin-Vineyard GAP Community Plan is critical since this is a related project that affects the drainage and recreation functions of the multi-use trail system.

Section 6 Public Facilities Financing Plan

- The discussion of the backbone infrastructure and public facilities summary describes "drainage backbone infrastructure costs including ROW acquisition;" the trail system should be referenced here as well as detention basin construction and improvement costs. Southgate will be including the landscape improvement costs only, in the "Park and Recreation Facility" component of the financing plan.

- Plate PF-1, *North Vineyard Station Specific Plan Development Phasing*, on page 6-3, misrepresents the creeks and omits the trail system; Elder Creek appears inaccurately broken. Plate PF-1 should be

amended to show the effects of the phases of development on the drainage/recreation land uses.

- In Table 6-2, *North Vineyard Station Phasing Summary*, on page 6-6, drainage improvements are discussed for Elder and Gerber Creeks, particularly the construction of detention basins. A reference to their recreational functions as well as their linkages to the trail system should be made here.

- The "Parks and Recreation" section, which begins on page 6-20, does not include accurate, up-to-date information. In particular, the following changes are recommended:

    - From the second sentence, delete "one regional park" since no regional parks are planned.
    - Insert "two community parks" in the second sentence.
    - Change "six neighborhood parks" to "five neighborhood parks in the second sentence."
    - Change "The total cost of parks is estimated to be $12.2 million" to "The total cost of parks and trails are projected to be more than $17 million" in the first sentence of the second paragraph. Add: "Detention basin landscape improvements will be added as an additional section to the Park Facility Improvements. These improvement costs are roughly estimated to be $1.25 million."

- Under the "Parks and Recreation" section on page 6-20, insert a reference to the master-planned, multi-use trail system to supplement the reference to the "joint use trail system" at the end of the section on page 6-21.

- Insert the following on page 6-21:

    "Planned Park related improvements for the North Vineyard Station Specific Plan area include:"

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- Vineyard Creek. In addition to including the following information in the "Parks and Recreation" section, include it or a synopsis of it on pages 7-16 to 7-20:

  - *Description*: The approximately 14-acre community park will include a variety of athletic fields such as soccer (youth and adult), youth baseball with possible overlap of the softball fields. Additional facilities would include tennis courts (at least 4), basketball courts (half or full size), parking lot(s), permanent restrooms, three covered group picnic areas, and two playgrounds. It is important to note that some of the athletic fields and the tennis courts will include sports lighting for use after dark. The community park is located adjacent to the Elder Creek Drainage and Open Space corridor. This park site will be integrated with the detention basin to the north and the open space corridor to the west.

  - *Multi-Use Trails*: The District has master planned a regional multi-use trail system that will run along Elder Creek to the north (adjacent to the detention basin), west and south of this park site, connecting to the Gerber Creek Regional Trail system. The trail system will be improved at the same time the drainage corridor improvements are constructed. The trail will have several points of connection to the park and the detention basin. The multi-use trail shall be approximately 20 feet in width. This will accommodate a 12-foot paved trail with 2-foot decomposed granite shoulders on each side, and an additional 4-foot, blade-graded trail for horses.

  - *Park*: This community park will serve as an athletic field complex to accommodate a variety of athletic fields, including youth and adult soccer and youth baseball

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with a possible overlap of softball fields. Additional facilities would include tennis courts (at least 4), basketball courts (half or full size), parking lot(s), permanent restrooms, three covered group picnic areas, and two playgrounds. It is important to note that some of the athletic fields and the tennis courts will include sports lighting for use after dark. Typically, the park would remain open for activities at these facilities until 10:00 p.m. Restrooms and parking lot(s) would also have lights. It is anticipated that during periods of games and tournaments the park would attract many users, which would add to the traffic on the frontage streets and increased noise. Typically, community parks attract users from outside the immediate neighborhood because they are larger in size and can accommodate multiple uses for different large groups at the same time.

- *Detention Basin*: In addition to the water retention and quality features typical of these basins, landscape improvements will be made to accommodate passive recreational use (i.e., walking, observing nature, etc.). Proposed improvements for this basin would, at a minimum, include paved trail around the perimeter, benches, landscaping, irrigation, and possibly, security lighting.

- Vineyard Point. In addition to including the following information in the "Parks and Recreation" section, include it or a synopsis of it on pages 7-16 to 7-20:

  - *Description*: The approximately 14-acre community park is the future site of the North Vineyard Station Community Center (approximately 10,000 to 15,000 square feet). Additional facilities planned for this park site include soccer fields (youth and adult), a youth

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baseball field, basketball courts (half or full size), multiple covered picnic areas, two playgrounds and a permanent restroom. There will also be a separate parking lot for users of the facilities. It is anticipated that some of the athletic facilities will be lit to accommodate evening use. This park site is adjacent to a future elementary school to the east. The community park is situated to have access to the detention basin, just south of the water treatment facility. This combination of facilities will allow continuous pedestrian and bicycle access from the community park to the north, proceeding south to the improved detention basin, and ultimately culminating at the Gerber Creek drainage and open space corridor accessing the regional multi-use trail system.

- *Multi-Use Trails*: The District has master planned a regional multi-use trail system that will run along Elder Creek and Gerber Creeks. This subdivision will have access to the Gerber Creek portion of the drainage/open space corridor. The trail system will be improved at the same time the drainage corridor improvements are constructed. Portions of the trail will run along the California Central Traction Railroad. The multi-use trail shall be approximately 20 feet in width. This will accommodate a 12-foot paved trail with 2-foot decomposed granite shoulders on each side and an additional 4-foot, blade-graded trail for horses.

- *Park*: This community park will serve as the site for the North Vineyard Station Community Center and will also accommodate a variety of athletic fields, including soccer fields (youth and adult), a youth baseball field, basketball courts (half or full size), multiple covered picnic areas, two playgrounds and a permanent restroom. It is important to note that some of the

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athletic fields and the tennis courts will include sports lighting for use after dark. Typically, the park would remain open for activities at these facilities until 10:00 p.m. Restrooms and parking lot(s) would also have lights. It is anticipated that during periods of games and tournaments the park would attract many users, adding to the traffic on the frontage streets and increased noise. Typically, community parks attract users from outside the immediate neighborhood because they are larger in size and can accommodate multiple uses for different large groups at the same time. Additionally, due to the proximity of this park site to the adjacent future elementary school, use by the school is expected not only during but after school hours as well.

- *Detention Basin*: In addition to the water retention and quality features typical of these basins, landscape improvements will be made to accommodate passive recreational use (i.e., walking, observing nature, etc.). Proposed improvements for this basin would, at a minimum, include paved trail around the perimeter, benches, landscaping, irrigation, and possibly, security lighting.

Section 7 Public Services

- Include a "Drainage Master Plan and Multi-Use Trail System" bullet (page 7-9) that specifically describes the interrelated nature of the Drainage Master Plan and the trail system. Add a bullet above the final three paragraphs (and below the bullet on "Water Treatment Plant Impacts"), which discusses the trail system and future development.

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- In pages 7-16 to 7-20, include planned park, trail, and detention basin descriptions for Vineyard Creek and Vineyard Point from page 6-21, as referenced above in the "Parks and Recreation" section.

- Consistent with the District's request that developers provide landscaped access to the trail system from the Central California Traction Railroad Corridor should it be abandoned and deemed eligible for recreational use in the future (page 7-18), also state here that the land use prescriptions of the pending Florin-Vineyard GAP Plan area also require compatible trail alignments and linkages in the future since these are related projects that may have significant effects upon both the drainage and recreational functions of the trail system.

- Mention the relationship between the Gerber Creek trail and the Drainage Master Plan in subsection (n) on page 7-22.

Section 8 Traffic and Circulation

- The master-planned, multi-use trail system should be adequately represented on Plate TC-5, *North Vineyard Station Land Use Diagram—Phase 1A,* on page 8-13; Plate TC-12, *North Station Land Use Diagram—Phase 1B,* on page 8-30; and Plate TC-21, *North Vineyard Station Land Use Diagram Buildout Conditions,* on page 8-52. In their current forms, the maps misrepresent the trail system and do not refer to them in the respective legends.

Section 11 Biological Resources

- If the Drainage Master Plan and master-planned, multi-purpose trail system are being implemented as part of the U.S. Army Corps permit process for the areas referenced on pages 11-2, 11-6, 11-9 (for Vineyard Point), and/or 11-18 (for Vineyard Creek), then they should be mentioned concurrently.

10

- Page 11-11 references the potential impact on habitat for the giant garter snake and northwestern pond turtle during construction of creek improvements at and around Gerber Creek. If this is related to the planned drainage and recreational improvements as part of the Drainage Master Plan and/or the master-planned, multi-purpose trail system, it should be mentioned here.

- Page 11-23 references the potential impact on habitat for the tricolor blackbird, giant garter snake, and northwestern pond turtle during construction of creek improvements at and around Elder Creek. If this is related to the planned drainage and recreational improvements as part of the Drainage Master Plan and/or the master-planned, multi-purpose trail system, it should be mentioned here.

- The references to species impact should be linked with those that are discussed in the subsequent (but separate) Drainage Master Plan (page 11-24):

- Insert description of trail system from subsection (m) on page 7-19, and insert the following from Cooper 2004a: "the District and the County of Sacramento have agreed that Detention Basins and Water Quality Basins can and should have a recreational value and use for the benefit of community. 'Decorating' the detention and/or water quality basins with native plantings...". (p. 3)

- The trail system should be mentioned in the discussion of the Drainage Master Plan, specifically on pages 11-24 as mentioned above, and where discussion of the U.S. Army Corps of Engineers permit requirements are referenced on page 11-31. The requirement for developers to guarantee accurate trail alignments should be suggested as a mitigation measure on page 11-31.

11

Section 15 Drainage and Hydrology

- On page 15-1, the master-planned, multi-purpose trail system should be mentioned as part of the project description and the subsequent "Synopsis of the NVSSP DMP" on pages 15-2 to 15-3.

  Specifically, it is appropriate to mention the requirement that all drainage upgrades be accompanied by trail system improvements and that developers be required to ensure that the upgrades that take place outside the jurisdiction of the subject plan and map areas are required to be consistent. The requirement to ensure development of detention basins for dual-use purposes should be mentioned here as well.

- Clarification is necessary in the first paragraph to indicate that trail improvements will be constructed at the same time as drainage improvements. The method of funding the trail improvements should also be clarified (i.e., from the Recreation and Park component versus the Drainage Capital Improvement Program).

- The existing and planned trail system should be made explicit on the map and in the legend of Plate DR-1, *Elder and Gerber Creeks Subbasin Map,* on page 15-6 and amended for accuracy on Plate DR-2, *Ultimate Land Use*, on page 15-7.

- Plate DR-3, *Preferred Drainage Plan,* on page 15-8, references the related project areas west of Elk Grove-Florin Road and south of Gerber Road. This figure should be referenced in the textual description of the interconnected nature of the Drainage Master Plan and Trail System and specifically in regard to requiring developers to extend drainage/recreation improvements west/beyond the boundaries of the subject plan and map areas.

- Trail system development plans should be included in the textual discussion and graphical depiction of the drainage development phasing (Phase 1A, 1B, 1C, 2, and 3) on pages 15-14 to 15-28,

12

especially in regard to plans for detention basins. On page 15-12, note that some, if not all, of the detention basins will have passive recreation uses for public access (e.g., walking, etc.). If specific project information is not currently available, then placeholder language should be inserted that requires consultation with and adherence to the master-planned, multi-purpose trail system prescriptions, as well as the relevant neighboring jurisdiction plans (e.g., the Florin-Vineyard GAP Community Plan area). For example, Drainage Master Plan prescriptions should also include information concerning the acquisition of adequate open space and trailways for Elder Creek (that extend west to Elk Grove-Florin Road) that are consistent with the (pending update) Florin-Vineyard GAP Community Plan. Also, within the Florin-Vineyard GAP Community Plan area, the channel improvements should be prescribed with respect to open space corridor preservation and drainage.

- Plate DR-5, *Detention Basin Cross Section,* on page 15-16, should be revised to include the walking trail and any other elements of the existing or planned trail system.

- A figure depicting the overlay of the existing and planned trail system on the Drainage Master Plan should be included between pages 15-15 and 15-16.

- Another related project that should be included here in the discussion of trail and drainage system consistency is the Upper Laguna Creek Collaborative (ULCC), which is intended to "coordinate all projects and explore the development of a comprehensive, combined application for the requisite environmental permits for all public works projects along Laguna Creek that would address the needs of all agencies, interested private groups, the general public and the environment concurrently" with the goal of allowing for the development of a multi-use corridor that shall provide sufficient drainage especially during times of flooding, improving water quality by using constructed wetlands to treat urban runoff prior to its discharge into the creek channel, creating a space for the future

13

sewer interceptor, providing a recreational trail for public use, and providing buffers and preserving habitat that supports native plant and animal species, while creating a scenic open space corridor that will be maintained and preserved in perpetuity.[2]

Once again the District would like to thank the Sacramento County DERA for the opportunity to comment on the North Vineyard Station Specific Plan Amendment, and the Vineyard Point and Vineyard Creek Vesting Tentative Subdivision Maps Draft Supplemental EIR. Please continue to forward information and documentation related to this plan and respective plan projects to the District. If you require additional information or assistance please do not hesitate to contact Judy Robinson, Planning & Facilities Manager, at 428-1171 ext. 14.

Sincerely,

Ward Winchell
Interim General Manager

[2] Cooper, Rod. 2004b. Attachments to "Notice of Preparation of a Draft Environmental Impact Report for the Bradshaw Christian High School-Comments", transmitted to Ms. Joyce Horizumi, Environmental Coordinator, County of Sacramento Department of Environmental Review and Assessment, 827 Seventh Street, Room 220, Sacramento, CA, July 20, 2004.

14

RESOLUTION 04-21

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SOUTHGATE RECREATION AND PARK DISTRICT COMMENTING ON THE **DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT** FOR THE NORTH VINEYARD STATION SPECIFIC PLAN AMENDMENT, FINANCING PLAN, WATER TREATMENT FACILITIES AND ASSOCIATED VINEYARD POINTE REZONE, VESTING TENTATIVE SUBDIVISION MAP, LARGE LOT TENTATIVE SUBDIVISION MAP AND SPECIAL DEVELOPMENT PERMIT; AND VINEYARD CREEK REZONE, VESTING TENTATIVE SUBDIVISION MAP AND LARGE LOT SUBDIVISION MAP

SOUTHGATE
RECREATION & PARK DISTRICT

Sheldon
Administrative Headquarters
6000 Orange Avenue
Sacramento, CA 95823-3225
Phone 916-428-1171
Facsimile 916-428-7334
www.southgaterecandpark.net

WHEREAS, the District is in receipt of a Draft Supplemental Environmental Impact Report for the North Vineyard Station Specific Plan Amendment, Financing Plan, Water Treatment Facilities and Associated Vineyard Pointe Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map and Special Development Permit; and Vineyard Creek Rezone, Vesting Tentative Subdivision Map and Large Lot Tentative Subdivision Map; and

WHEREAS, the North Vineyard Station Specific Plan Area runs through the central portion of the Southgate Recreation and Park District potentially impacting District parks, landscape corridors and recreational facilities; and

WHEREAS, the Board of Directors has previously commented on the Notice of Preparation through Resolution 03-153 adopted April 20, 2004; and

WHEREAS, the Board of Directors has also previously commented on proposed projects within the North Vineyard Station Specific Plan area inclusive of Resolutions 03-17 and 03-120 for Vineyard Creek and Resolutions 02-32, 02-79 and 03-98 for Vineyard Pointe; and

WHEREAS, there could be significant impacts to the value of parks, recreation and open space in the existing and future recreational facilities in the North Vineyard Station Specific Plan area, requiring mitigation measures in order to reduce the impacts to below the level of significance.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Southgate Recreation and Park District hereby provides the comments contained in the attached letter to be addressed and clarified by the County of Sacramento where indicated and included with the Final Environmental Impact Report.

BE IT FURTHER RESOLVED that adequate response to the District's comments, with a detailed description of potential mitigation measures to assist in reducing potential impacts be included in Final Environmental Impact Report.

Resolution 04-21
Page 2

PASSED AND ADOPTED by the Board of Directors of the Southgate Recreation and Park District this 17th day of August, 2004, by the following vote to wit:

AYES:

Appel, Cockerham, Smith, Thompson & Wirth

NOES:

None

Rolfe Appel, Chair

Edwin A. Smith, Clerk

Letter 2

Hawkins. Tim

From: ken_champion@dot.ca.gov
Sent: Wednesday, August 11, 2004 5:23 PM
To: Hawkins. Tim
Cc: katherine_eastham@dot.ca.gov; steve_hetland@dot.ca.gov; jeff_pulverman@dot.ca.gov; john_holzhauser@dot.ca.gov; dennis_azevedo@dot.ca.gov; larry_brohman@dot.ca.gov
Subject: North Vineyard Station DSEIR State Route 16 Mitigation

Please indicate if a justification rationale and right-of-way research exists in this EIR (or other to be referenced) regarding the State Route (SR) 16 intersections at Watt Avenue and Bradshaw Road to show why a larger "intersection right-of-way foot print" cannot be developed. We would like to see information that discusses with greater certainty whether greater numbers of turn lanes and wider intersection approaches "can" OR "cannot" be provided to raise certain intersection movements to a performance level of LOS "D" instead of "E".

Doesn't the Sacramento County General Plan show the future outlook for SR16 through this area to eventually become a six lane roadway facility with 6 X 6 type intersections? Also, consider that lower standard arterials, at the intersection of Watt Avenue and Fair Oaks Boulevard, were allowed to be developed with a triple left turn movement. As the County develops with higher traffic demands, shouldn't an environmental assessment (on a fair share fee basis) at these intersections consider and discuss the feasibility of such enlarged intersections at Bradshaw and Watt Avenue on SR 16? If they are ruled out, we would like to know why and the rationale behind the decision.

On signalized State highways the State intersection standard adhered to is an LOS D, if it can be obtained by re-geometricizing and re-phasing the signalization of the intersection. The DSEIR appears to be inadequate thus far in its TC-6 and TC-8 mitigation on Page 2-4 (of the yellow pages). It does not explain why LOS D could not be obtained to meet the State highway intersection standard.

We would like to know whether sufficient intersection right-of-way exists at either location for additional improvements beyond the TC-6 and TC-8 mitigation.

1

Letter 3

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 3 – SACRAMENTO AREA OFFICE
VENTURE OAKS, MS 15
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
PHONE (916) 274-0614
FAX (916) 274-0648
TTY (530) 741-4509

Flex your power!
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August 19, 2004

04SAC0109
03SAC-16/99 PM 6.220/19.512
North Vineyard Station Specific Plan Amendment,
Rezone, Subdivision Map, Water Treatment Facilities,
Financing Plan, Special Development Permit
Draft Supplemental Environmental Impact Report
SCH#2004032104

Ms. Joyce Horizumi
Sacramento County
Department of Environmental Review and Assessment
827 7th Street, Suite 220
Sacramento, CA 95814

Dear Ms. Horizumi:

Thank you for the opportunity to review and comment on the above mentioned project. Our comments are as follows:

- The State highway standard for the State Route 16 intersections with South Watt Avenue and Bradshaw Road is LOS "D". The DSEIR proposes two mitigation measures (TC-6 and TC-8) which would decrease the project's traffic impacts to LOS "E". The mitigation measures should be modified to either meet LOS "D" or an explanation should be provided regarding why this standard cannot be met and whether the impact is significant and unavoidable.

Please provide our office with a response to the above comments. If you have any questions regarding these comments, please contact Ken Champion at (916) 274-0615.

Sincerely,

KATHERINE EASTHAM, Chief
Office of Transportation Planning – Southwest

c: Scott Morgan, State Clearinghouse

"Caltrans improves mobility across California"

Letter 4

Aug-20-2004 09:43am From-SAC. METRO AQMD 916 874 4899 T-917 P.001/002 F-470

Fax to 2pgs
Tim Hawkins
874-8343
From - Jeane Borkenhagen
ph 874-4885

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Larry Greene
AIR POLLUTION CONTROL OFFICER

August 18, 2004

Mr. Tim Hawkins
County of Sacramento
Department of Environmental Review and Assessment
827 7th St, Room 220
Sacramento, CA 95814

COPY

SUBJECT: North Vineyard Station Specific Plan Amendment, Financing Plan, Water Treatment Facilities, Draft Supplemental EIR
SC:2004032104
SMAQMD # SAC200400199

Dear Mr. Hawkins:

Thank you for providing the environmental document listed above to the Sacramento Metropolitan Air Quality Management District (District). Staff comments follow.

We understand from the document that the changes to the land use plan are considered minor and so "it is not expected that these changes will contribute to additional regional air quality impacts beyond those already analyzed in the prior FEIR."

There are two Air Quality mitigation measures listed in the Mitigation Monitoring Report we want to comment on:

AQ 5. Comply with the adopted AQ-15 Plan.

"The following measures, which are incorporated into the North Vineyard Station Specific Plan, are all contained in the preliminary list of acceptable measures. According to the County's preliminary guidelines, the above measures result in a 15.5 percent reduction in emissions and meet the requirements of General Plan Policy AQ-15." (pg 9-4, 9-5)

Under the following list of measures (presumably the AQ-15 Plan), there is #8: "The Plan area will participate in a Transportation Management Association to create, administer, and finance on-going programs to reduce vehicle trips. The Financing Plan for the Plan will include means to fund the TMA. SPECIFIC PLAN CREDIT=3%"

Unfortunately, there is no discussion or provision of funding for such a TMA. In order to create the financing for an on-going program, we suggest a zoning condition be applied to the project area which would read:

The North Vineyard Station Specific Plan shall participate in a County Service Area (CSA), or an equivalent financing mechanism to the satisfaction of the Board of Supervisors, for the purpose of funding a variety of transportation demand management (TDM) services to implement an overall TDM strategy that will contribute to a goal of a 30% reduction in daily vehicle trips. The purpose of this CSA, or equivalent financing mechanism, is to fund programs and services to implement trip reduction measures that

777 12th Street, 3rd Floor ▮ Sacramento, CA 95814-1908
916/874-4800 ▮ 916/874-4899 fax
www.airquality.org

improve mobility and coincidentally reduce air quality impacts. Such programs and services may include but are not limited to:

- On site Transportation Coordinators and education outreach
- Incentives for alternative mode use such as transit subsidies, guaranteed ride home programs, and bicycle purchase subsidies
- Programs encouraging people to work close to where they live
- Grade School trip pool programs
- Transit shuttle system

The second mitigation measure we want to comment on is AQ-6. That measure reads:

"Individual development projects within the Specific Plan Area shall achieve an additional 2 percent reduction in combined operational and area source air quality emissions to ensure overall AQ-15 compliance."

We suggest that this measure actually include some suggested ways to achieve the reduction requested. Specifically, the County could suggest that the developer install "Energy-Star" labeled roofing materials and or that the project comply with SMUD Advantage (Tier II or III) energy standards."

If you have questions, please contact me at 874-4884 or jborkenhagen@airquality.org.

Sincerely,

Jeane Borkenhagen

Jeane Borkenhagen
Associate Air Quality Planner Analyst
cc: Ron Maertz SMAQMD
Dave Pevny Planning Department

Letter 5

COUNTY OF SACRAMENTO
MUNICIPAL SERVICES AGENCY – CHERYL CRESON, ADMINISTRATOR
Department of Water Resources
Including service to the Cities of Citrus Heights, Elk Grove and Rancho Cordova
Keith DeVore, Director

August 4, 2004

To: Tim Hawkins
Department of Environmental Review and Assessment

RE: Comments to DEIR for North Vineyard Station

Dear Mr. Hawkins,

The following are comments to the DEIR for North Vineyard Station:

- The "Surface Water Component" briefly discusses the Freeport Regional Water Project. I have attached a more detailed document which discusses the project. You may want to incorporate more information about this project (Freeport), since it involves such large facilities within the project area.
- In the "Max Day Analysis" section, delete the "crossed out" section and add the table as shown in the attached document.

If you have any questions, please feel free to give me a call.

Sincerely,

Jody Hashigami
Associate Civil Engineer
S.C.W.A.
916-874-4256

Main Office: 827 7th Street, Room 301, Sacramento, CA 95814 • Phone: (916) 874-6851 • Fax: (916) 874-8693
Field Offices: *Drainage Operations and Maintenance* – 3847 Branch Center Road, Sacramento, CA 95827 • Phone: (916) 875-7159
Facilities Operations and Administration – 3847 Branch Center Road, Sacramento, CA 95827 • Phone: (916) 875-4913

Groundwater will be an integral component of the buildout system serving the area. However, groundwater production is limited to 2,220 gpm (sufficient 2,530 EDU's). Surface water will need to be made available for development to exceed 2,530 EDU's.

Groundwater will be extracted from the deep aquifer and then delivered to a treatment facility for removal of iron and manganese. Treatment, storage, and pumping capacities are modeled in this study to accommodate each development phase in accordance with SCWA design standards.

The groundwater treatment facility is to be constructed near the intersections of the CCTC Railroad and Waterman Road, at the west edge of Phase A-1 development (submitted Tentative Map for Vineyard Point) prior to development of Phase A-2.

The 1998 EIR for the NVSSP identified a second groundwater treatment facility with associated wells to be constructed with Phase D, southwest of the intersection of Florin Road and the Vineyard Road extension. This water treatment plant, if needed, would be constructed by SCWA.

SURFACE WATER COMPONENT

The Draft 2002 Zone 40 Water Supply Master Plan dated December 2002 is intended to update previous Zone 40 water supply plans and incorporates terms and conditions for SCWA's water supply through the year 2030 from the recently adopted Water Forum Agreement. The Water Forum Agreement includes a provision for surface water to be obtained from the City of Sacramento for that portion of Zone 40 that lies within the City's ARPOU. This provision is for up to 9,300 acre-feet per year. The NVSSP portion of this supply is approximately 25%. Transmission and treatment of this water will most likely be through the Freeport Regional Water Project. This project consists of a diversion structure on the Sacramento River near the community of Freeport and a raw water conveyance pipeline to the central portion of Zone 40. An 85-MGD (ultimate capacity) surface water treatment facility and treated water conveyance pipeline will be constructed in phases by SCWA in the vicinity of Bradshaw and Florin Roads to supply surface water throughout Zone 40.

As an alternative, SCWA could negotiate the purchase of City of Sacramento ARPOU water and deliver it through the City's Fairbairn or Sacramento River water treatment plants. This system involves purchasing treatment capacity and constructing conveyance facilities from the current City delivery point near Florin Road and Power Inn Road to the location to the location where the surface water would be introduced into the SCWA system. To deliver this water, a transmission main would need to be constructed in Florin Road, from Power Inn Road to Waterman Road. Booster pump capacity as well as additional storage would also be required.

Surface water supply facilities to meet the Specific Plan Area demands within the City's ARPOU will need to ultimately provide 2,900 gpm.

FREEPORT
REGIONAL WATER AUTHORITY

September 15, 2004

Subject: Request for Proposal (RFP) for Design Services
FRWA Pipeline Facilities Project

Dear Consultant:

The Freeport Regional Water Authority (FWRA) seeks the services of a design consultant for the FRWA Pipeline Facilities Project. You are invited to submit a proposal for these services.

This project consists of a raw water conveyance pipeline comprised of four segments as follows:

1. Approximately 5.1 miles of 84-inch diameter pipeline which will convey up to 185-mgd of raw Sacramento River water from the end of a tunneled pipeline crossing location east of Interstate 5 (I-5) to State Route 99 (SR 99);

2. Approximately 7.6 miles of 84-inch diameter pipeline which will convey up to 185-mgd of raw Sacramento River water from State Route 99 to a turnout at Vineyard Road and Gerber Road;

3. Approximately 3.9 miles of 66-inch diameter pipeline which will convey up to 100-mgd of raw Sacramento River water from the turnout at Vineyard Road and Gerber Road to the Folsom South Canal (FSC). A pipeline Terminal Facility located at the FSC consisting of a weir and outfall structure is also included in this segment; and

4. Approximately 1.0 mile of 60-inch diameter pipeline which will convey up to 85-mgd of raw Sacramento River water from the turnout at Vineyard Road and Gerber Road to the future SCWA water treatment plant (Zone 40 WTP) near Florin Road and Vineyard Road and the flow control facilities.

The estimated capital cost of these project elements is $150 million. Completion of design is targeted for Summer 2006. Completion of facility construction is targeted for Fall 2009.

The FRWA pipelines will receive raw water flow from an intake structure and pumping facility to be constructed on the Sacramento River near Freeport, California. Design services for the intake structure and pumping facility will be procured by FRWA under a separate RFP process. The consultant selected for the pipeline design will not be prohibited from performing design services for the intake structure and pumping facility.

1510 J STREET • SUITE 140 • SACRAMENTO • CA 95814
Tel. (916) 326-5480 • Fax. (916) 444-2137
www.freeportproject.org

MAX-DAY DEMAND ANALYSIS

MAX-DAY ASSUMPTIONS/CRITERIA

Max-Day demand for the North Vineyard Specific Plan is based on the anticipated land use and respective average annual demands per EDU both outside and within the ARPOU. The Max-Day values are obtained by multiplying the Average Daily demand by a factor of 2 per Sacramento County Improvement Standards Manual. Max-Day demands are individually entered at respective demand nodes in the WaterCAD® model.

The Hazen-Williams formula is used in the hydraulic study of the system, using a C-value of 125 for PVC pipe as required by the Sacramento County Improvement Standards Manual. This C-Value is generally considered conservative as it is intended to take into account various minor losses in the system.

CONCLUSIONS

The prior EIR concluded that implementation of the North Vineyard Station Specific Plan Water Master Plan would result in less than significant water supply impacts. However, the implementation of the NVSSP Water Master Plan was contingent on the implementation of the Water Master Plan for Areas Adjacent to the Zone 40 Water Supply Master Plan Update's Study Area, as well as fulfillment of the City of Sacramento American River Place of Use. Until all agreement are in place to wheel "firm" surface water supplies to the Specific Plan area, the project will contribute to the incremental decline in ground water levels. This incremental decline and the dewatering of private wells is a regional issue, beyond the scope of the proposed project. However, the project would add to the significant adverse cumulative impacts that regional development has on ground water supplies.

REQUIREMENTS OF THE SACRAMENTO COUNTY WATER AGENCY:

The SCWA requires the following conditions of approval be placed on all tentative maps and vesting tentative maps within the North Vineyard Station Specific Plan Area:

1. That Simple Title ownership or sale agreements for the WTP lands are completed prior to any Tentative Map approvals within the North Vineyard Station Specific Plan area. WTP lands shall be reserved per the guidelines contained in Chapter 22.50 of the Sacramento County Code and Government Title 7, Division 2, Article 4.(1/03).

2. That well sites be identified prior to Tentative map approvals for subdivisions within the North Vineyard Station Specific Plan area and reserved per the guidelines contained in Chapter 22.50 of the Sacramento County Code and Government Title 7, Division 2, Article 4.(1/03).

7. MAX-DAY DEMAND ANALYSIS

Max-Day Assumptions/Criteria

Max-Day demand for the North Vineyard Specific Plan is based on the anticipated land use and respective average annual demands per EDU both outside and within the ARPOU. ~~The Max-Day values are obtained by multiplying the Average Daily demand by a factor of 2 per Sacramento County Improvement Standards Manual. Max-Day demands are individually entered at respective demand nodes in the WaterCAD® model.~~

~~The Hazen-Williams formula is used in the hydraulic study of the system, using a C-value of 125 for polyvinyl chloride (PVC) pipe as required by the Sacramento County Improvement Standards Manual. This C-value is generally considered conservative as it is intended to take into account various minor losses in the system.~~

Table 7.1 – Summary of Results for Max-Day Demand

Phase	Max-Day Demand* (gpm)	Maximum System Pressure (psi)	Minimum System Pressure (psi)	Minimum Pressure Junction	Maximum Headloss Gradient (ft/1000ft)
A-1	536.10	45	37.47	J-A2-08	0.09
A-2	1,461.87	56.83	49.91	J-A2-08	0.10
B	2,486.55	61.68	55.27	J-A2-10	0.12
C	3,744.90	61.75	47.35	J-C-05	0.23
D	4,640.61	61.73	47.28	J-C-05	0.25
E	5,338.99	61.70	47.26	J-C-05	0.25

* incl. 7% transmission loss

Letter 6

Constantine I. Baranoff
Assistant Superintendent
Facilities and Planning

Robert L. Trigg Education Center
9510 Elk Grove-Florin Road, Elk Grove, CA 95624

(916) 686-7711
FAX: (916) 686-7754

August 24, 2004

Ms. Joyce Horizumi
County of Sacramento
Department of Environmental Review and Assessment
827 7th Street, Room 220
Sacramento, CA 95814

Dear Joyce:

On behalf of the Elk Grove Unified School District, please accept the following comments concerning the Draft Supplemental Environmental Impact Report for the North Vineyard Station Financing Plan:

The School District has been looking for a combination High School/Middle School site of approximately 80 acres for the past several months. As you know, this type of site was not included in the North Vineyard Station Specific Plan. The District did not request one at the time the plan was being considered because the number of housing units in the land use plan did not generate enough students; however, when the North Vineyard Station Specific Plan is coupled with the proposed Elk Grove-Florin Specific Plan, there are more than enough students generated to fill both a High School and Middle School.

Obtaining a full 80 acres for this type of facility is difficult with all of the environmental and California Department of Education school site requirements. As a result of the District's investigation of possible school sites, we have narrowed the selection process to include three possible options. Two of these options are within the North Vineyard Station Specific Plan, and the other is within the proposed Elk Grove-Florin Specific Plan. Please see attached exhibit.

On August 2, 2004, the Elk Grove Unified School District Board of Education reviewed the three options and requested the District Staff investigate option #8, located on the south side of Florin Road and the future extension of Vineyard Road. If this site is pursued by the District, there will be a displacement of 80-240 residential housing units, which will impact the proposed Financing Plan. In addition to this issue, the District is extremely interested in the timing of the extension of Vineyard Road in order to provide access on two sides of the site.

Please contact Mr. Jim Bush, School Site Solutions, Inc. (916-930-0736) or me if you have any questions.

Sincerely,

Constantine I Baranoff
Assistant Superintendent, Facilities and Planning

CIB:gg
Corresp\JH82404CommentsNorthVineyard

cc: Steve Looper
Marnie Rosenstein

Letter 7

CSD-1
COUNTY SANITATION DISTRICT 1
Wastewater Conveyance For a Growing Sacramento

10545 Armstrong Avenue
Mather
California
95655
Tele: [916] 876-6000
Fax: [916] 876-6160
www.csd-1.com

August 24, 2004
E225.000

Joyce Horizumi
Dept. of Environmental Review & Assessment
Sacramento County
827 Seventh Street, Room 220
Sacramento, CA 95814

Dear Ms. Horizumi:

Subject: **Notice of Preparation of a Draft Environmental Impact Report for North Vineyard Station Specific Plan Amendment, Financing Plan, Water Treatment Facilities, and Associated Vineyard Point Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map, and Special Development Permit; and Vineyard Creek Rezone, Vesting Tentative Subdivision Map, and Large Lot Tentative Subdivision Map (Cont. NOS. 03-0082, 02-0532, 02-0293, & 03-0385)**
Control No. 03-CPB-0082, 02-PWE-0532, 04-PWE-0144, 02-RZB-SDB-SVB

Sacramento Regional County Sanitation District (SRCSD) and County Sanitation District 1 (CSD-1) have reviewed the subject Notice of Preparation (NOP) and have the following comments.

We expect that if the project is subject to currently established policies, ordinances, fees, and to conditions of approval that we have and will propose after review of entitlement application documents, then mitigation measures within the Environmental Impact Report (EIR) will adequately address the sewage aspects of the project, and we anticipate a less than significant impact to the sewage facilities.

The North Vineyard Station Specific Plan (NVSSP) area is currently within the CSD-1 and SRCSD boundary and does not have to be annexed.

CSD-1 shall require an approved sewer study prior to the approval of the Final Maps or submittal of the improvement plans for plan check to CSD-1, whichever comes first. Sewer studies shall reflect the increase in residential zoning and the addition of the Water Treatment Facility.

If you have any questions regarding these comments, please call Joyce Ferguson at (916) 876-6098 or myself at (916) 876-6094.

RECEIVED
AUG 25 2004
DEPARTMENT OF ENVIRONMENTAL REVIEW AND ASSESSMENT

Sincerely,

Matt Morgan, P.E.
Development Services

MM/RS: pc

cc: Christoph Dobson
Steve Hong

horizumi082404.ltr.doc

Letter 8

STATE OF CALIFORNIA | ARNOLD SCHWARZENEGGER, *Governor*

PUBLIC UTILITIES COMMISSION
515 "L" Street, Suite 1119
Sacramento, CA 95814

July 27, 2004

032104
SCH# 2004
Comments

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STATE CLEARING HOUSE

Clear
8-20-04
e

State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

RE: Written Comments for the Notice of Completion of the North Vineyard Station Specific Plan Amendment, Financing Plan, Water Treatment Facilities, and Associated Vineyard Point Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map, and Special Development Permit; and Vineyard Creek Rezone, Vesting Tentative Subdivision Map, and Large Lot Tentative Subdivision Map

Dear Sir:

As the state agency responsible for rail safety within California, we recommend that any development projects planned adjacent to or near any railroad are planned with the safety of the rail corridors in mind. New developments may increase traffic volumes not only on streets and at intersections, but also at at-grade highway-rail crossings. This includes considering pedestrian circulation patterns/destinations with respect to the railroad right-of-way.

Safety factors to consider include the planning for grade separations for major thoroughfares, improvements to existing at-grade highway-rail crossings due to increase in traffic volumes, or pull out lanes for busses, and appropriate fencing to limit the access of trespassers onto the railroad right-of-way.

The above-mentioned safety improvements should be considered when approval is sought for new developments which may impact surrounding at-grade crossings. Working with Commission staff early in the conceptual design phase will help improve the safety to motorists and pedestrians in the City.

If you have any questions in this matter, please call me at (916) 324-7143.

Sincerely,

Bree Arnett
Utilities Engineer
Rail Crossings Engineering Section
Consumer Protection and Safety Division

Letter 9

COUNTY OF SACRAMENTO

Inter-Department Correspondence

July 27, 2004

TO: Steve Hong
Infrastructure Finance Section

FROM: Jeff Clark
Department of Transportation

SUBJECT: **DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR NORTH VINEYARD STATION SPECIFIC PLAN AMENDMENT, FINANCING PLAN, WATER TREATMENT FACILITIES, AND ASSOCIATED VINEYARD POINT REZONE, VESTING TENTATIVE SUBDIVISION MAP, LARGE LOT TENTATIVE SUBDIVISION MAP, AND SPECIAL DEVELOPMENT PERMIT; AND VINEYARD CREEK REZONE, VESTING TENTATIVE SUBDIVISION MAP, AND LARGE LOT TENTATIVE SUBDIVISION MAP (CONTROL NUMBERS: 03-0082, 02-0532, 04-0144, 02-0293, 03-0385).**

The Department of Transportation has reviewed the Draft Environmental impact Report (DEIR) for the North Vineyard Specific Plan and has the following comment:

In Tables 8-4, 8-7, 8-9, 8-11, 8-14, 8-15 and 8-17 there are roadway segments that have bold level of service definitions indicating that the roadway segment is operating at an unacceptable level of service. Only segments operating at level of service F (LOS F) should be bold. Please make the appropriate corrections for the Final EIR.

If you have any questions, please call me at 874-5553.

JEC:jec

c. Matt Darrow
Tammy Urquhart
David Robinson, Fehr & Peers

Letter 10

COUNTY OF SACRAMENTO

MUNICIPAL SERVICES AGENCY

Inter-Departmental Correspondence

August 20, 2004

TO: Joyce Horizumi, Environmental Coordinator
Department of Environmental Review and Assessment

FROM: Robert Davison, Manager of Special Districts
Infrastructure Finance Section

SUBJECT: **Draft Supplemental Environmental Impact Report (DSEIR) for North Vineyard Station Specific Plan Amendment, Financing Plan, Water Treatment Facilities, and Associated Vineyard Point Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map, and Special Development Permit; and Vineyard Creek Rezone, Vesting Tentative Subdivision Map, and Large Lot Tentative Subdivision Map (Control Nos. 03-0082, 02-0532, 04-0144, 02-0293, and 03-0385)**

As stated in the subject DSEIR, an air quality analysis prepared for the previous EIR for the North Vineyard Station Specific Plan (Project) concluded that the Project will increase regional concentrations of ozone and would contribute to adverse localized air quality conditions at congested intersections. Any reduction in Project vehicle trips and emissions would help reduce impacts on air quality.

At the Board of Supervisors hearing this year for the levy of County Service Area (CSA) No. 10 Benefit Zone No. 1 (Villages of Zinfandel) Service Charges, the Municipal Services Agency received direction from the Board that similar trip reduction finance mechanisms be implemented in new development areas such as North Vineyard Station, Elverta, and Florin-Vineyard Gap.

Given this Board direction, there should be discussion in the SEIR about this issue and appropriate conditions recommended. The following is a suggested condition for the Project:

"Prior to the approval of final maps, the property owner shall participate in a County Service Area (CSA), or an equivalent financing mechanism to the satisfaction of the Board of Supervisors, for the purpose of funding a variety of transportation demand management (TDM) services to implement an overall TDM strategy that will contribute to the goal of reducing vehicle trips. The purpose of this CSA, or equivalent financing mechanism, is to fund programs and services to implement trip reduction measures that improve mobility and coincidentally reduce air quality impacts. Such programs and services may include but are not limited to:

- on-site transportation coordinators and education outreach
- incentives for alternative mode use such as transit subsidies, guaranteed ride home programs, and bicycle purchase subsidies
- programs encouraging people to work close to where they live
- grade school trip pool programs
- transit shuttle system

Any component of the trip reduction strategy implemented through the CSA or equivalent financing mechanism may be revised or discontinued if it is proven to be ineffective. Additional programs and services may be implemented as appropriate to assist in achieving the targeted reduction in daily vehicle trips."

If you have any questions, I can be reached at 874-6926.

RAD:bsg

Distribution: Tim Hawkins
Jeff Gamel
Ron Maertz
Rich Blackmarr
Susan Goetz
Steve Hong
Steve Pedretti
Kurt Schmidt
Mike Penrose
Dan Shoeman
Jeff Clark

P:\Shared Folders\Financing and Specific Plans\NORTH VINEYARD STATION\Memo to Joyce Horizumi re DSEIR for North Vineyard Station.doc

ACKNOWLEDGEMENTS

EIR PREPARERS

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Tim Hawkins, *Associate Environmental Analyst*

Bob DeMorales, *Associate Environmental Analyst (Initial Review)*

SUPPORT STAFF

Linda Bryceson, *Administrative Services Officer II*

Neil Phaby*, Customer Support Specialist*

Justin Maulit*, Office Assistant II*

TECHNICAL STUDIES

Economic & Planning Systems, Public Facilities Financing Plan

Bollard and Brennan, Inc, Noise Analysis

Fehr and Peers, Traffic Study

ECORP Consulting, Inc, Biological Resources

Peak and Associates, Inc, Cultural Resources

Wood Rodgers, Drainage Study

Luhdorff & Scalmanini, Groundwater Treatment and Storage Facilities

MacKay & Somps, Water Supply and Sewer Study

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COUNTY OF SACRAMENTO

OFFICE OF THE COUNTY COUNSEL

Inter-Department Correspondence

November 9, 2004

To: Chairman and Members
Board of Supervisors

From: Krista Whitman
Supervising Deputy

Subject: North Vineyard Station Specific Plan Findings
Agenda – November 10, 2004

Enclosed are proposed CEQA findings for the Final Supplemental EIR for the above matter.

If you have any questions, please feel free to contact me at 874-5100.

Krista Whitman
KRISTA WHITMAN
Supervising Deputy

Enclosure

cc: Robert Sherry
Joyce Horizumi

CEQA FINDINGS OF FACT

OF THE BOARD OF SUPERVISORS OF SACRAMENTO COUNTY

for the

NORTH VINEYARD STATION
SPECIFIC PLAN AMENDMENT, FINANCING PLAN,
WATER TREATMENT FACILITIES

VINEYARD POINT
REZONE, VESTING TENTATIVE SUBDIVISION MAP, LARGE LOT TENTATIVE SUBDIVISION MAP, AND SPECIAL DEVELOPMENT PERMIT

VINEYARD CREEK
REZONE, VESTING TENTATIVE SUBDIVISION MAP,
AND LARGE LOT TENTATIVE SUBDIVISION MAP

Control Numbers: 03-CPB-0082, 02-PWE-0532, 04-PWE-0144, 02-RZB-SDB-SVB-0293, 03-RZB-SVB-0385

November 10, 2004

I. INTRODUCTION

The final Supplemental Environmental Impact Report (Final SEIR) prepared for the North Vineyard Station Specific Plan Amendment, Financing Plan and Water Treatment Facilities; Vineyard Point Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map, and Special Development Permit; and Vineyard Creek Rezone, Vesting Tentative Subdivision Map, and Large Lot Tentative Subdivision Map (the "NVSSP amendment project"), addresses the potential impacts associated with land use, public facilities financing, public services, traffic and circulation, air quality, noise, biological resources, cultural resources, water supply, sewer service, and drainage and hydrology arising from the development of the NVSSP, and more specifically, the Vineyard Point and Vineyard Creek subdivisions of the Specific Plan, located in the south-central unincorporated area of Sacramento County, at the western edge of the Vineyard community. These findings, as well as the accompanying statement of overriding considerations, have been prepared to comply with the requirements of the California Environmental Quality Act ("CEQA") (Pub. Resources Code, § 21000 et seq.), the CEQA Guidelines (Cal. Code Regs. Tit. 14, § 15000 et seq.), and the Planning and Zoning Law (Gov. Code, § 65000 et seq.).

II. PROJECT DESCRIPTION

The proposed NVSSP amendment project is a request for:

- **Specific Plan Amendments** to the land use designations for the NVSSP to accommodate stormwater detention and drainage facilities, internal street and park site modifications, and addition of a water treatment facility. Minor internal residential density adjustments result in a slight change in overall holding capacity, which increases from 5,732 dwelling units to 6,063 dwelling units;

- **Water Treatment and Storage Facilities** for the North Vineyard Water System;

- **A Rezone, Vesting Tentative Subdivision Map and Large Lot Tentative Subdivision Map** for the Vineyard Creek Subdivision within the NVSSP area;

- **A Rezone, Vesting Tentative Subdivision Map, Large Lot Tentative Subdivision Map, and Special Development Permit** for the Vineyard Point Subdivision within the NVSSP area; and

- **Public Facilities Financing Plan** for the NVSSP.

(Final SEIR, pp. 3-1—3-19.)

The project site is located in the south-central unincorporated area of Sacramento County, at the western edge of the Vineyard community. The City of Sacramento's Central Business District is located approximately eleven miles to the northwest of the project site. The Plan Area encompasses 1,590± acres of the Vineyard Community Planning Area. The Plan Area is bounded by Florin Road to the north, Gerber Road to the South, the northerly extension of the Vineyard Road on the east, and generally by Elder Creek's north and south forks. Bradshaw Road transects the Plan Area in a north/south alignment. The 6-acre water treatment facility site is located on the east side of the Central California Traction Railroad tracks, approximately 100 feet north of Gerber Road. The Vineyard Creek property is located on the south side of Florin Road, 1,300 feet east of Hedge Avenue, in the Vineyard community. The Vineyard Point property is generally located on the north side of Gerber Road and the east side of the Central California Traction Railroad, in the Vineyard community. (Final SEIR, pp. 3-20—3-21.)

III. BACKGROUND

The NVSSP area consists of approximately 1,595± acres. The Specific Plan provides a comprehensive plan for development of an area that was designated for Urban Growth by the Sacramento County General Plan. It refines the policy direction provided by the General Plan and replaces or supplements the Zoning Map and regulations. The Plan includes development standards and zoning to address unique situations within the Plan area, sets forth a Land Use Diagram for future development, and contains programs for the provision of public facilities. The Plan thus serves as a policy and regulatory document, with policy direction and project development concepts consistent with the County's General Plan. The current project is an amendment to the previously approved 1998 plan. (Final SEIR, p. 4-1.)

The Sacramento County Board of Supervisors certified the Final Master EIR for the North Vineyard Station Specific Plan ("NVSSP Master EIR") on August 12, 1998, and subsequently approved the NVSSP itself on November 4,1998. (Final SEIR, p. 4-1.)

The Master EIR for the NVSSP, prepared pursuant to CEQA Guidelines section 15175, identified significant and unavoidable impacts associated with traffic and circulation, regional and local air quality, traffic noise impacts to existing noise receptors, cumulative loss of wildlife habitats, and cumulative groundwater decline (interim impact). (NVSSP Master EIR, pp. 1.1—1.3.) The Master EIR also found that the project would create significant, but mitigable effects in the areas of land use, short-term, construction-related air quality impacts, traffic noise impacts to future development, hydrology and flooding, water supply (long term), biological resources, cultural resources, and hazardous materials. (NVSSP Master EIR, pp. 1.3—1.7.)

The Supplemental EIR for the NVSSP amendment project updates the previous Master EIR. A Notice of Preparation (NOP) for the Draft Supplemental EIR ("DSEIR") was issued to reviewing agencies and interested persons on March 17, 2004. The DSEIR addresses potential impacts associated with land use, public facilities financing, public services, traffic and circulation, air quality, noise, biological resources, cultural resources, water supply, sewer service, and drainage and hydrology. (DSEIR, pp. 1-1.) The DSEIR has identified project-related impacts associated with air quality as significant and unavoidable. Traffic and circulation, noise, biological resources, and cultural resources were found to be potentially significant, but could be reduced to a less than significant level through adoption of recommended mitigation measures. Impacts associated with land use, public services, public facilities financing, water supply, drainage and hydrology, and sewer service are considered less than significant. (DSEIR, p.2-1.)

The information contained in the Final Supplemental EIR ("FSEIR," which also includes the DSEIR) in conjunction with the prior Final Master EIR for the NVSSP will be used as the environmental documentation for the current project application.

IV. RECORD OF PROCEEDINGS

The record of proceedings for the Board's decision on the NVSSP amendment project consists of the following documents, at a minimum:

- The Draft SEIR for the NVSSP amendment project;
- All comments received on the DSEIR;
- The Final SEIR for the NVSSP amendments project;
- The NOP and all other public notices issued by the County in conjunction with the NVSSP;
- The Draft EIR for the NVSSP (July 1997);
- The Final EIR for the NVSSP (February 1998), including all comments submitted by agencies or members of the public during the 45-day comment period on the Draft EIR;
- The mitigation monitoring and reporting programs for the original and amended NVSSP project;
- All findings and resolutions adopted by the Board in connection with the original NVSSP project, and all documents cited or referred to therein;

- All reports, studies, memoranda, maps, staff reports, or other planning documents relating to the NVSSP Project prepared by the County, consultants to the County, or responsible or trustee agencies with respect to the County's compliance with the requirements of CEQA and with respect to the County's action on the NVSSP;

- All documents submitted to the County (including the Planning Commission and Board of Supervisors) by other public agencies or members of the public in connection with the NVSSP, up through the close of the public hearing the NVSSP project;

- Any minutes and/or verbatim transcripts of all information sessions, public meetings, and public hearings held by the County in connection with the NVSSP;

- Any documentary or other evidence submitted to the County at such information sessions, public meetings and public hearings;

- The Sacramento General Plan and all environmental documents prepared in connection with the 1993 adoption of the General Plan;

- All resolutions adopted by the County regarding the NVSSP, and all staff reports, analyses, and summaries related to the adoption of those resolutions;

- Matters of common knowledge to the County, including, but not limited to Federal, State, and local laws and regulations;

- Any documents expressly cited in these findings, in addition to those cited above; and

- Any other materials required for the record of proceedings by Public Resources Code section 21167.6, subdivision (e).

The official custodian of the record is the Clerk of the Sacramento County Board of Supervisors, 700 H Street, Sacramento, California 95814.

V. FINDINGS REQUIRED UNDER CEQA

Public Resources Code section 21002 provides that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects[.]" The same statute states that the procedures required by CEQA "are intended to assist public agencies in systematically identifying both the significant effects of

proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects." Section 21002 goes on to state that "in the event [that] specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof."

The mandate and principles announced in Public Resources Code section 21002 are implemented, in part, through the requirement that agencies must adopt findings before approving projects for which EIRs are required. (See Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a).) For each significant environmental effect identified in an EIR for a proposed project, the approving agency must issue a written finding reaching one or more of three permissible conclusions. The first such finding is that "[c]hanges or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR." (CEQA Guidelines, § 15091, subd. (a)(1).) The second permissible finding is that "[s]uch changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency." (CEQA Guidelines, § 15091, subd. (a)(2).) The third potential conclusion is that "[s]pecific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR." (CEQA Guidelines, § 15091, subd. (a)(3).) Public Resources Code section 21061.1 defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors." CEQA Guidelines section 15364 adds another factor: "legal" considerations. (See also Citizens of Goleta Valley v. Board of Supervisors ("Goleta II") (1990) 52 Cal.3d 553, 565.)

The concept of "feasibility" also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (City of Del Mar v. City of San Diego (1982) 133 Cal.App.3d 410, 417.) "'[F]easibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors." (Id.; see also Sequoyah Hills Homeowners Assn. v. City of Oakland (1993) 23 Cal.App.4th 704, 715; Sierra Club v. County of Napa (2004) 121 Cal.App.4th 1490, 1507-1508 (the failure to meet project objectives can be sufficient evidence demonstrating infeasibility of an alternative).) The CEQA Guidelines do not define the difference between "avoiding" a significant environmental effect and merely "substantially lessening" such an effect. The County must therefore glean the meaning of these terms from the other contexts in which the terms are used. Public Resources Code section 21081, on which CEQA Guidelines section 15091 is based, uses the term "mitigate" rather than "substantially lessen." The CEQA Guidelines therefore equate

"mitigating" with "substantially lessening." Such an understanding of the statutory term is consistent with the policies underlying CEQA, which include the policy that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." (Pub. Resources Code, § 21002.)

For purposes of these findings, the term "avoid" refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less than significant level. In contrast, the term "substantially lessen" refers to the effectiveness of such measure or measures to substantially reduce the severity of a significant effect, but not to reduce that effect to a less than significant level. These interpretations appear to be mandated by the holding in Laurel Hills Homeowners Association v. City Council (1978) 83 Cal.App.3d 515, 519-521, in which the Court of Appeal held that an agency had satisfied its obligation to substantially lessen or avoid significant effects by adopting numerous mitigation measures, not all of which rendered the significant impacts in question less than significant.

Although CEQA Guidelines section 15091 requires only that approving agencies specify that a particular significant effect is "avoid[ed] *or* substantially lessen[ed]," these findings, for purposes of clarity, in each case will specify whether the effect in question has been reduced to a less than significant level, or has simply been substantially lessened but remains significant.

Moreover, although section 15091, read literally, does not require findings to address environmental effects that an EIR identifies as merely "potentially significant," these findings will nevertheless fully account for all such effects identified in the Final EIR.

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where such changes are infeasible or where the responsibility for modifying the project lies with some other agency. (CEQA Guidelines, § 15091, subd. (a), (b).)

With respect to a project for which significant impacts are not avoided or substantially lessened, a public agency, after adopting proper findings, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project's "benefits" rendered "acceptable" its "unavoidable adverse environmental effects." (CEQA Guidelines, §§ 15093, 15043, subd. (b); see also Pub. Resources Code, § 21081, subd. (b).) The California Supreme Court has stated, "[t]he wisdom of approving . . . any development project, a delicate task which requires a balancing of interests, is necessarily left to the sound discretion of the local officials and their constituents who are responsible for such decisions. The law as

we interpret and apply it simply requires that those decisions be informed, and therefore balanced." (Goleta II, 52 Cal.3d at p. 576.)

These findings constitute the Board of Supervisors' best efforts to set forth the evidentiary and policy bases for its decision to approve the project in a manner consistent with the requirements of CEQA. To the extent that these findings conclude that various proposed mitigation measures outlined in the Final EIR are feasible and have not been modified, superseded or withdrawn, the County hereby binds itself to implement these measures. These findings, in other words, are not merely informational, but rather constitute a binding set of obligations that will come into effect when the Board adopts a resolution approving the project.

VI. MITIGATION MONITORING AND REPORTING PROGRAM

A new Mitigation Monitoring and Reporting Program ("MMRP") was prepared for the NVSSP amendment project, and was approved by the Board of Supervisors by the same resolution that has adopted these findings. (See Pub. Resources Code, § 21081.6, subd. (a)(1); CEQA Guidelines, § 15097.) The County will use the MMRP to track compliance with project mitigation measures. The MMRP will remain available for public review during the compliance period. (Final SEIR, pp. 2-3—2-22, 2-25—2-44.)

VII. SIGNIFICANT EFFECTS AND MITIGATION MEASURES

The Draft SEIR identified a single significant, unavoidable impact in connection with air quality. For reasons set forth in Section VIII, *infra*, however, the Board has determined that the significant, unavoidable effects of the project are outweighed by overriding economic, social, and other considerations. Traffic and circulation, noise, biological resources, and cultural resources were found to be potentially significant, but could be reduced to a less than significant level through adoption of recommended mitigation measures.

A. AIR QUALITY

Impact: Specific Plan Buildout. The previous EIR found that the Specific Plan long-term emissions (ROG, NOX, PM10) from vehicle traffic and stationary sources would result in **significant unavoidable** impacts to regional air quality. (Final SEIR, p. 8-1.)

Finding: Through the use of the following mitigation measures, the proposed project has been designed in a manner that substantially lessens, but does not avoid, the significant unavoidable impact associated with long-term emissions. No further feasible mitigation is available to render the effect less-than-significant.

Impact: Vineyard Creek and Vineyard Point Subdivisions. The Sacramento Metropolitan Air Quality District (SMAQMD) commented that, due to their size, the Vineyard Creek and Vineyard Point projects would directly or indirectly generate air emissions exceeding the District's Thresholds of significance. Therefore, construction related air quality impacts are considered significant. Short-term construction activity involving the disturbance of 10 to 25 acres per day can be accomplished without violating PM_{10} emissions standards though strict adherence to recommended mitigation measures. However, it is unrealistic to assume strict application of dust mitigation measures for the widespread development that is slated to occur. Therefore dust generation during construction activities is expected to exceed the PM_{10} threshold and constitutes a ***significant impact***. (Final SEIR, pp. 8-1, 8-6—8-7.)

Finding: Through the use of the following mitigation measures, the proposed project has been designed in a manner that substantially lessens, but does not avoid, the significant unavoidable impact associated with long-term emissions. No further feasible mitigation is available to render the effect less-than-significant.

Mitigation Measures for all air quality impacts:

AQ-1. The project shall provide a plan for approval by the County of Sacramento and SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet average 20 percent NOx reduction and 45 percent particulate reduction compared to the most recent CARB fleet average.

AQ-2. The project representative shall submit to the County of Sacramento and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-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.

AQ-3. The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity shall be repaired immediately, and the County 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 30-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 supercede other SMAQMD or state rules or regulations.

AQ-4. The following construction-related measures apply to construction activities within the Specific Plan area:

a. Water exposed, graded surfaces at least two times per day and if possible, keep soil moist at all times.
b. Properly maintain diesel and/or gas fueled construction equipment.
c. Water haul roads at least two times per day.
d. Use low VOC architectural coatings

AQ-5. Comply with the adopted AQ-15 Plan, which is included in Section 7.6 (Travel Demand Reduction Measures) of the NVSSP text.

AQ-7. No wood burning appliances shall be permitted in new construction within the Specific Plan area. Fireplaces and similar "wood stoves" shall be fueled by natural gas or propane.

(Final SEIR, pp. 8-8—8-9.)

B. TRAFFIC AND CIRCULATION

Impact: Phase 1A. Based on the roadway and intersection analysis, the addition of Phase 1A trips will cause or contribute to deficiencies at the following study locations under Year 2002 conditions:

STUDY ROADWAYS
- S. Watt Avenue –(North of SR 16);
- S. Watt Avenue –(SR 16 to Elder Creek Road);
- Elk Grove-Florin Road –(Florin Road to Gerber Road);
- Gerber Road –(Elk Grove-Florin Road to Bradshaw Road);

STUDY INTERSECTIONS
- SR 16/S. Watt Avenue;
- SR 16/Bradshaw Road; and
- Elder Creek Road/S. Watt Avenue.

(Final SEIR, p. 7-21.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

TC-1. S. Watt Avenue (North of SR 16) –Widening this segment from two to four lanes will improve operations to LOS D.

TC-2. S. Watt Avenue (SR 16 to Elder Creek Road) – Widening this segment from two to four lanes will improve operations to LOS A.

TC-3. Elk Grove-Florin Road (Florin Road to Gerber Road) – Widening this segment from two to four lanes will improve operations to LOS B.

TC-4. Gerber Road (Elk Grove-Florin Road to Bradshaw Road) – Improving the roadway cross-section to include minimum 12-foot travel lanes and 6-foot shoulders will improve operations to LOS C.

TC-5. SR 16/S. Watt Avenue – Widening the northbound and southbound approaches to include an additional through lane will improve operations to LOS D during the a.m. and p.m. peak hours. This improvement is consistent with the recommended widening of S. Watt Avenue to four lanes between Elder Creek Road and SR 16.

TC-6. SR 16/Bradshaw Road – Widening the eastbound approach to include dual left-turn lanes will improve operations to LOS E during the a.m. peak hour.

Evaluation of other Public Facility Financing Plans revealed that the Sunridge Public Facility Financing Plan includes improvements at the State Route 16 and Bradshaw Road intersection. The proposed improvements are expansion of the intersection to accommodate two left turn lanes, two through lanes and one right turn lane on all approaches. It is likely that right-of-way will need to be acquired to provide the proposed improvements. The improvement is included in Phase 1 on the Sunridge Public Facility Financing Plan, which would mean that the improvement would be constructed in the next 5 years. With those improvements, the intersection level of service would improve to LOS D in the a.m. peak hour and LOS C in the p.m. peak hour, with build out of Phase 1A of the North Vineyard Station Specific Plan.

TC-7. Elder Creek Road/S. Watt Avenue – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-turn lane will improve operations to LOS D during the p.m. peak hour.

(Final SEIR, pp. 7-21—7-23.)

Impact: Phase 1B. Based on the roadway and intersection analysis, the addition of Phase 1B trips will cause or contribute to deficiencies at the following study locations under Year 2005 conditions:

STUDY ROADWAYS
- None.

STUDY INTERSECTIONS
- SR 16/S. Watt Avenue;
- Florin Road/Excelsior Road; and
- Gerber Road/Excelsior Road.

(Final SEIR, p. 7-37.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

TC-8. SR 16/S. Watt Avenue – Widening the eastbound and westbound approaches to include an exclusive left-turn lane, a through lane, and a shared through/right-turn lane will improve operations to LOS E and D during the a.m. and p.m. peak hours, respectively.

Subsequent to the publishing of the traffic analysis, the County of Sacramento moved forward a project to widen South Watt Avenue from State Route 16 to Kiefer Boulevard to five lanes. The project includes the State Route 16 and South Watt Avenue intersection. The intersection improvement includes an additional left turn lane and through lane on the southbound approach and one new left turn lane and two new through lanes on the northbound approach. The improvement is planned to be completed by 2006. With those improvements and Mitigation Measure TC-8, an additional through lane on the eastbound and westbound approaches, the intersection level of service3 would improve to LOS C in both the a.m. and p.m. peak hours, with build out of Phase 1A and 1B of the North Vineyard Station Specific Plan.

TC-9. Florin Road/Excelsior Road – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-turn lane will improve operations to LOS C and B during the a.m. and p.m. peak hours, respectively.

TC-10. Gerber Road/Excelsior Road – Installing a traffic signal and widening each approach to include an exclusive left-turn lane and a shared through/right-turn lane will improve operations to LOS B and A during the a.m. and p.m. peak hours, respectively.

(Final SEIR, pp. 7-37—7-38.)

Additional Discussion: The California State Department of Transportation ("Caltrans") asked whether further improvements could be implemented which would raise the Level of Service (LOS) at the Watt Avenue and Bradshaw Road intersections of SR16 to LOS D. Caltrans further commented that because the State standard for intersection LOS is LOS D, Mitigation Measures TC-6 and TC-8 appear to be inadequate, as they do not improve LOS at the Bradshaw Road/SR-16 and Watt Avenue/SR-16 intersections to LOS D. (Final SEIR, p. 17-6.)

The County Department of Transportation's ("DOT's") response is as follows:

> Evaluation of other Public Facility Financing Plans revealed that the Sunridge Public Facility Financing Plan includes improvements at the State Route 16 and Bradshaw Road intersection. The proposed improvements are expansion of the intersection to accommodate two left turn lanes, two through lanes and one right turn lane on all approaches. It is likely that right-of-way will need to be acquired to provide the proposed improvements. The improvement is included in Phase 1 on the Sunridge Public Facility Financing Plan, which would mean that the improvement would be constructed in the next 5 years. With those improvements, the intersection level of service would improve to LOS D in the a.m. peak hour and LOS C in the p.m. peak hour, with build out of Phase 1A of the North Vineyard Station Specific Plan.
>
> Subsequent to the publishing of the traffic analysis, the County of Sacramento moved forward a project to widen South Watt Avenue from State Route 16 to Kiefer Boulevard to five lanes. The project includes the State Route 16 and South Watt Avenue intersection. The intersection improvement includes an additional left turn lane and through lane on the southbound approach and one new left turn lane and two new through lanes on the northbound approach. The improvement is planned to be completed by 2006. With those improvements and Mitigation Measure TC-8, an additional through lane on the eastbound and westbound approaches, the intersection level of service3 would improve to LOS C in both the a.m. and p.m. peak hours, with build out of Phase 1A and 1B of the North Vineyard Station Specific Plan.

(Final SEIR, pp. 17-6—17-8.)

Caltrans also asked whether the Sacramento County General Plan shows the future outlook for SR16 through this area to eventually become a six-lane roadway facility with 6x6 type intersections, and asked whether the County shouldn't participate in an assessment to consider the feasibility of larger intersection configurations, similar to those at Watt Avenue and Fair Oaks Boulevard. (Final SEIR, p. 17-7.)

The County DOT's response was as follows:

> South Watt Avenue, Bradshaw Road and State Route 16 are shown as 6-lane thoroughfares in the Sacramento County General Plan. The intersections of State Route 16 and South Watt Avenue and State Route 16 and Bradshaw Road would be 6x6 intersections. According to the Sacramento County Standard Plans, a 6x6 intersection includes two left turn lanes, three through lanes and one right turn lane on each approach. The intent of the County of Sacramento would be to acquire right-of-way and install roadway improvements consistent with standards.

(Final SEIR, p. 17-7.)

Additionally, Caltrans asked whether sufficient right-of-way exists at the Watt Avenue/SR-16 and Bradshaw Road/SR-16 intersections for additional improvements beyond the TC-6 and TC-8 mitigation. The County DOT responded that "[s]ufficient right-of-way does not currently exist to implement full 6x6 standards at either the State Route 16 and South Watt Avenue and State Route 16 and Bradshaw Road intersections." (Final SEIR, p. 17-8.)

Impact: Year 2010 Conditions (50% Buildout). The daily volumes were compared to the roadway capacity thresholds. The addition of project trips will result in a deficiency at the following study roadway segments:

- S. Watt Avenue (North of SR 16); and
- Elk Grove-Florin Road (Gerber Road to Calvine Road)

(Final SEIR, p. 7-43.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

TC-11. S. Watt Avenue (North of SR 16) – Widening this segment from four to six lanes will improve operations to LOS D.

TC-12. Elk Grove-Florin Road (Gerber Road to Calvine Road) – Widening this segment from four to six lanes will improve operations to LOS B.

(Final SEIR, p. 7-43.)

Impact: Year 2015 Conditions (Cumulative). Based on the roadway and intersection analysis, buildout of the NVSSP will cause or contribute to deficiencies at the following study locations under Year 2015 conditions:

STUDY ROADWAYS
- Florin Road (West of S. Watt Avenue);
- Florin Road (S. Watt Avenue to Bradshaw Road);
- S. Watt Avenue (North of SR 16);
- S. Watt Avenue (SR 16 to Elder Creek Road);
- Elk Grove-Florin Road (Gerber Road to Calvine Road); and
- Bradshaw Road (Elder Creek Road to Florin Road).

STUDY INTERSECTIONS
- SR 16/S. Watt Avenue;
- SR 16/Bradshaw Road;
- Elder Creek Road/Bradshaw Road;
- Florin Road/Elk Grove-Florin Road; and
- Florin Road/Bradshaw Road.

(Final SEIR, p. 7-59—7-60.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

TC-13. Florin Road (West of S. Watt Avenue) – Widening this segment from two to four lanes will improve operations to LOS A.

TC-14. Florin Road (S. Watt Avenue to Bradshaw) – Widening this segment from two to four lanes will improve operations to LOS A.

TC-15. S. Watt Avenue (North of SR 16) – Widening this segment from four to six lanes will improve operations to LOS D.

TC-16. S. Watt Avenue (SR 16 to Elder Creek Road) – Widening this segment from four to six lanes will improve operations to LOS C.

TC-17. Elk Grove-Florin Road (Gerber Road to Calvine Road) – Widening this segment from four to six lanes will improve operations to LOS C.

TC-18. Bradshaw Road (Elder Creek Road to Florin Road) – Widening this segment from four to six lanes will improve operations to LOS B.

TC-19. SR 16/S. Watt Avenue – Widening the southbound approach to include dual left-turn lanes will result in less than a 0.05 increase in the V/C ratio during the p.m. peak hour.

TC-20. SR 16/Bradshaw Road – Widening the northbound and southbound approaches to include two exclusive left turn lanes, two through lanes and a shared through/right-turn lane will result in less than a 0.05 increase in the V/C ratio during the a.m. and p.m. peak hours.

TC-21. Elder Creek Road/Bradshaw Road – Widening the northbound and southbound approaches to include a third through lane will improve operations to LOS D during the a.m. peak hour and LOS C during the p.m. peak hour. This improvement is consistent with the recommended widening of Bradshaw Road to six lanes between Elder Creek Road and Florin Road.

TC-22. Florin Road/Elk Grove-Florin Road – Widening the northbound and southbound approaches to include a third through lane will improve operations to LOS E during the p.m. peak hour.

TC-23. Florin Road/Bradshaw Road – Widening the northbound and southbound approaches to include a third through lane and widening the eastbound approach to include a second exclusive left-turn lane will improve operations to LOS E during the a.m. peak hour. This improvement is consistent with the recommended widening of Florin Road to four lanes between Watt Avenue and Bradshaw Road and with the recommended widening of Bradshaw Road to six lanes between Elder Creek Road and Florin Road.

(Final SEIR, pp. 7-60—7-62.)

C. NOISE

Impact: Vineyard Creek Subdivision. Residences proposed nearest to Florin Road and Waterman Road would be exposed to future traffic noise levels that exceed the 60 dB Ldn Sacramento County Noise Element Standard. This impact is considered significant. (Final SEIR, p. 9-16.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

NO-1. A 7-foot tall property line barrier along Florin Road and a 6-foot tall property line barrier along Waterman Road shall be constructed. Sufficient barrier wrap should be provided as shown in Plate NS-1 [of the SEIR]. (Final SEIR, p. 9-16.)

Impact: Vineyard Point Subdivision. Residences proposed nearest to Bradshaw Road and Gerber Road would be exposed to future traffic noise levels that exceed the 60 dB Ldn Sacramento County Noise Element Standard. This impact is considered significant. (Final SEIR, p. 9-22.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

NO-2. A 9-foot tall property line barrier along Bradshaw Road and an 8-foot tall property line barrier along Gerber Road shall be constructed. Sufficient barrier wrap should be provided as shown in Plate NS-2 of the EIR.

NO-3. STC-30 windows shall be installed in the second floor of the first row of houses that are adjacent to Bradshaw Road. In these houses, only second floor windows with a direct view of Bradshaw Road need to be upgraded.

(Final SEIR, pp. 9-22—9-23.)

Impact: Water Treatment Facility and Well Sites. Based upon the noise level measurement data, the predicted noise level at the backyard of the nearest residence to the water treatment facility is 53 dB L50. This level exceeds the Sacramento County hourly noise criteria of 50 dB L50 for daytime noise and the 45 dB L50 criteria for nighttime noise. Since the booster pumps are expected to operate during the nighttime hours, it is recommended that noise control measures, which will reduce overall pump noise levels by a minimum of 8 dBA, be included in the project design. The predicted un-muffled exhaust noise level with the emergency generator in operation is predicted to be 85 dBA at the backyard of the nearest residence. Assuming that the generator operates continually for one half of an hour while being exercised, the hourly L50 (sound level not to be exceeded 30 minutes of the hour) is 82 dBA. This level would exceed the daytime

and nighttime noise level criteria of 50 dBA L50 and 45 dBA L50, respectively. (Final SEIR, p. 9-27.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

NO-4. The water treatment facility should have 7-foot tall property line barriers at the adjacent residential property lines. In addition to the solid barriers, the pumps should be housed in concrete buildings with acoustical louvers/silencers and weather stripping around the doors. The louvers/silencers must provide a minimum insertion loss of 10-15 dB at the 125 Hz through 1000 Hz frequency ranges.

NO-5. A muffler such as a Vibron brand residential muffler should be fitted on the exhaust stack at the water treatment facility in order to provide adequate noise reduction to meet the Sacramento County noise standards.

NO-6. Remote well (Pump) sites should have 7-foot tall property line barriers at the adjacent residential property lines. In addition to the solid barriers, the pumps should be housed in concrete buildings with acoustical louvers/silencers and weather stripping around the doors. The louvers/silencers must provide a minimum insertion loss of 10-15 dB at the 125 Hz through 1000 Hz frequency ranges.

(Final SEIR, pp. 9-27—9-28.)

D. BIOLOGICAL RESOURCES

Impact: Vineyard Point. The proposed project will impact 9.02 acres of waters of the United States. The proposed mitigation will ensure that this impact is less-than-significant. (Final SEIR, p. 10-9.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

BR-1. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented:

1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provides reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.

2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved.

3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.

(Final SEIR, pp. 10-9—10-10.)

Impact: Vineyard Point. Construction of the proposed project will remove 8.41 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact. (Final SEIR, p. 10-10.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

BR-2. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation. (Final SEIR, p. 10-10.)

Impact: Vineyard Point. Project construction has the potential to disturb nesting activities of listed birds of prey. In addition, the proposed project will remove 181.8 acres of Swainson's Hawk foraging habitat upon completion. Impacts to Swainson's Hawk and other raptors are considered significant. (Final SEIR, p. 10-10.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

BR-3. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required.

BR-4. To mitigate for the loss of 181.8 acres of Swainson's hawk foraging habitat, prior to the approval of Improvement Plans or building permits, or recordation of Final Subdivision Map, whichever occurs first, the applicant shall perform one of the following:

1. The project proponent shall preserve 90.9 acres (0.50 acre for each acre lost) of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game).

2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect.

4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

(Final SEIR, pp. 10-10—10-11.)

Impact: Vineyard Point Subdivision. The portion of Gerber Creek located within the project area represents potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements and construction near Gerber Creek could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant. (Final SEIR, p. 10-11.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

BR-5. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of Gerber Creek. Survey of the area shall be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914. (Final SEIR, p. 10-11.)

Impact: Vineyard Creek. The proposed project will impact 2.69 acres of waters of the United States. The proposed mitigation will ensure that this impact is less-than-significant. (Final SEIR, p. 10-18.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

BR-6. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented:

1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of

wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provides reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.

2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved.

3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.

(Final SEIR, pp. 10-18—10-19.)

Impact: Vineyard Creek. Construction of the proposed project will remove 1.49 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact. (Final SEIR, p. 10-22.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

BR-7. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation. (Final SEIR, p. 10-22.)

Impact: Vineyard Creek. Project construction has the potential to disturb nesting activities of listed birds of prey. In addition, the proposed project will remove 104.8 acres of Swainson's Hawk foraging habitat upon completion. Impacts to Swainson's Hawk and other raptors are considered significant. (Final SEIR, p. 10-22.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

BR-8. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required.

BR-9. To mitigate for the loss of 104.8 acres of Swainson's hawk foraging habitat, prior to the approval of Improvement Plans or building permits, or recordation of Final Subdivision Map, whichever occurs first, the applicant shall perform one of the following:

1. The project proponent shall preserve 52.4 acres (0.50 acre for each acre lost) of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game).

2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect.

4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

(Final SEIR, pp. 10-22—10-23.)

Impact: Vineyard Creek. During the April 2002 field assessment, a large tricolor blackbird colony of up to 500 pairs was nesting within the blackberry thicket along Elder Creek. Construction activities have the potential to disturb nesting activities and remove habitat. Impacts to Tricolor Blackbird are, therefore, potentially significant. (Final SEIR, p. 10-23.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

BR-10. Prior to the approval of grading plans, submit a Tricolored Blackbird Mitigation Plan to the California Department of Fish and Game (CDFG) for review and approval. The plan shall include the following:

1. Preliminary surveys to determine the presence of nesting tricolored blackbirds;

2. Avoidance of active nesting colonies present on the site to the extent possible through establishment of temporary setbacks around the colonies until a qualified biologist verifies that young birds have successfully fledged.

(Final SEIR, p. 10-23.)

Impact: Vineyard Creek. The portion of Elder Creek located within the project area and the portion of Gerber Creek located adjacent to the southeast corner of the project area represent potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements and construction near Elder Creek and Gerber Creek could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant. (Final SEIR, p. 10-23.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

BR-11. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of Elder and Gerber Creek. Survey of the area shall be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective

measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914. (Final SEIR, pp. 10-23—10-24.)

Impact: NVSSP Drainage Master Plan. Construction of the proposed project will remove 1.08 acres of vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact. (Final SEIR, p. 10-31.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

BR-12. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation. (Final SEIR, p. 10-32.)

Impact: NVSSP Drainage Master Plan. Project construction has the potential to disturb nesting activities of listed birds of prey. Impacts to Swainson's Hawk and other raptors are considered potentially significant. (Final SEIR, p. 10-32.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

BR-13. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the

non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required. (Final SEIR, p. 10-32.)

Impact: NVSSP Drainage Master Plan. The portions of Elder Creek and Gerber Creek located within the project area represent potential habitat for the giant garter snake and the northwestern pond turtle. Construction of creek improvements could impact both GGS and northwestern pond turtle. Impacts to GGS and northwestern pond turtle are potentially significant. (Final SEIR, p. 10-32.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

BR-14. The project site shall be surveyed for giant garter snakes and the northwestern pond turtle by a qualified biologist within 24 hours prior to the start of construction activities (including clearing and grubbing) located within 200 feet of Elder or Gerber Creeks. Survey of the area shall be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake and/or northwestern pond turtle is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake and/or turtle will not be harmed. Giant garter snakes and northwestern pond turtles encountered during construction should be allowed to move away on their own. Capture and relocation of trapped or injured individuals shall only be attempted by personnel or individuals with current USFWS recovery permits. Any incidental take shall be reported to the USFWS at (916) 979-2725 and Department of Environmental Review and Assessment at (916) 874-7914 within one working day. Any giant garter snake and/or northwestern pond turtle sightings shall be reported within 24 hours to the Department of Environmental Review and Assessment at 874-7914. (Final SEIR, pp. 10-32—10-33.)

Impact: NVSSP Water Treatment Facility. The proposed project has the potential to impact Waters of the United States including vernal pools. The proposed mitigation will ensure that this impact is less-than significant. (Final SEIR, p. 10-33.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

BR-15. To compensate for the loss of wetlands and waters of the U.S., one of the following measures shall be implemented:

1. Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provides reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.

2. Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided a no net loss of wetlands is achieved.

3. Pay to the County of Sacramento an amount based on a rate of $35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited into the Wetlands Restoration Trust Fund.

(Final SEIR, pp. 10-33—10-34.)

Impact: NVSSP Water Treatment Facility. Construction of the proposed project has the potential to impact vernal pools, habitat for the vernal pool fairy shrimp, vernal pool tadpole shrimp, and spadefoot toad. Removal of this habitat represents a significant impact. (Final SEIR, p. 10-36.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measure:

BR-16. The applicant shall compensate for impacts to vernal pool species through consultation with the U.S. Fish and Wildlife Service as outlined in Section 7 of the Endangered Species Act. The applicant shall implement all measures included in the Biological Opinion issued as a result of this consultation. (Final SEIR, p. 10-36.)

Impact: Water Treatment Facility. Project construction has the potential to disturb nesting activities of listed birds of prey, and remove Swainson's hawk foraging habitat.

Impacts to Swainson's Hawk and other raptors are considered potentially significant. (Final SEIR, p. 10-36.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures:

BR-17. If construction is proposed during the raptor breeding season (February – August), a focused survey for migratory bird nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on the site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September – January). If no active nests are found during the focused survey, no further mitigation will be required.

BR-18. To mitigate for the loss of Swainson's hawk foraging habitat, prior to the approval of Improvement Plans, the applicant shall perform one of the following:

1. The project proponent shall preserve acreage at a rate of 0.50 acre for each acre lost of similar habitat within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game).

2. The project proponent shall, to the satisfaction of the California Department of Fish and Game, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

3. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect.

4. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

(Final SEIR, pp. 10-36—10-37.)

E. CULTURAL RESOURCES

Impact: Vineyard Creek Subdivision. No sites or building were found to be eligible for inclusion in the National Register. No prehistoric, archaeological sites were encountered during the field investigation of the Survey Area. However, the lack of surface evidence does not preclude the existence of important, subsurface cultural materials. There is a potential to unearth buried cultural remains during future project construction activities. Caution should, therefore, be exercised during future development activities. Any accidental encounter of previously unidentified cultural materials will require notification of the Department of Environmental Review and Assessment. If skeletal remains are encountered, both the Department of Environmental Review and Assessment and the County Coroner must be immediately notified. With the implementation of the mitigation proposed in the prior EIR, however, these potential impacts to cultural resources in the Vineyard Creek subdivision are considered less than significant. (Final SEIR, p. 11-10.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Impact: Vineyard Point Subdivision. The Vineyard Point subdivision was a part of the original Survey Area which was included in the prior EIR. No potentially significant archeological or architectural resources were discovered during the surveys. However, this does not preclude the existence of important, subsurface cultural materials. With the implementation of the mitigation proposed in the prior EIR, however, these potential impacts to cultural resources in the Vineyard Point subdivision are considered less than significant. (Final SEIR, p. 11-10.)

Finding: Changes or alterations have been required in, or incorporated into, the NVSSP amendment project that avoid the significant environmental effect as identified in the Final EIR.

Mitigation Measures applicable to all cultural resources impacts:

Mitigation included in the prior EIR is sufficient to ensure this potential impact is less-than-significant. (Final SEIR, p. 11-10.) That mitigation requires cultural resource surveys to be performed, inspection of sites within or adjacent to the boundaries of any identified archaeological sites by qualified professional archaeologists, historic architecture studies, and suspension of work and investigation by qualified specialists in the event of discovery of cultural resources during development activities. (Final Master EIR, pp. 2.17—2.19.)

VIII. STATEMENT OF OVERRIDING CONSIDERATIONS

As set forth in the preceding sections, the Board of Supervisors' approval of the NVSSP project will result in significant adverse environmental effects that cannot be avoided even with the adoption of all feasible mitigation measures. Despite the occurrence of these effects, however, the Board of Supervisors chooses to approve the project because, in its view, the economic, social, and other benefits that the project will produce will render the significant effects acceptable.

The following statement identifies the reasons why, in the Board's judgment, the benefits of the project as approved outweigh its unavoidable significant effects. Any one of these reasons is sufficient to justify approval of the project. Thus, even if a Court were to conclude that not every reason is supported by substantial evidence, the Board would stand by its determination that each individual reason is sufficient. The substantial evidence supporting the various benefits can be found in the preceding findings, which are incorporated by reference into this section (VIII), and in the documents found in the Record of Proceedings, as defined in section IV.

The Board finds that the NVSSP project would have the following economic, social, and environmental benefits:

Consistency with, and Implementation of, the County General Plan.

As set forth elsewhere in these Findings of Fact, the requested amendment and entitlements are consistent with the General Plan with respect to its land use designation and various policies found in the text of the General Plan. The land uses contemplated by the project are fully consistent with the growth policies embodied in the 1993 Sacramento County General Plan. The General Plan identified the Project area as an Urban Development Area, signifying the County's intent to encourage and allow development of the area with the types of urban uses proposed by the Project's proponents. (Final Master NVSSP EIR, p. 3.4b.) Furthermore, the residential focus of the Project serves to accommodate the projected need for 94,000 additional housing units in the County by the year 2010. (General Plan, Land Use Element, p. 18.) The Board's approval of the project as proposed fully complies with and implements the policy decisions embodied in the 1993 General Plan for Sacramento County.

Diversification of the County's Housing Stock.

The proposed amendments to the NVSSP consist of a slight increase in residential density, resulting in an overall holding capacity increase from 5,732 dwelling units to 6,063 dwelling units, or about a 6% increase.

The increase in density is in response to the need for more affordable housing sites within the County, as outlined in the current General Plan Housing Element Update process. Legal Services of Northern California challenged the May 2002 vacant land inventory, suggesting that there is a lack of vacant multi-family land of suitable size and location to accommodate very low and low-income housing within the unincorporated area of the County. The vacant land inventory acknowledges that there is an inadequate supply of multi-family zoned land to met the demand for very low and low-income housing needs identified in the Regional Housing Needs Assessment.

The Sacramento County Planning and Community Development Department (Planning Department) has identified the need to create more multi-family land (multi-family development is generally seen as the most feasible way for meeting the affordability index) to ensure a viable affordable housing program through the new community and specific plans now being processed. New development areas are seen as offering the best opportunity to accommodate affordable housing needs.

The primary scope of the pending Affordable Housing Program currently being developed by the Planning Department and the Sacramento Housing and Redevelopment Agency (SHRA), with significant input from affordable housing stakeholders, is that all new residential development in the unincorporated county will be required to provide affordable housing, and the goal is to have 15% of all new housing units constructed to be affordable to targeted low-income groups. As originally proposed, the Housing Element update Policy HE-45 had called for a 10% affordability factor; however the Policy Planning Commission has recommended a 15% affordability factor and the current Draft Affordable Housing Program has followed through with a 15% requirement.

In anticipation of this requirement, the applicants for the NVSSP are attempting to meet affordable housing component by increasing multi-family residential sites in three areas of the Plan effectively adding 439 more multi-family units for a total of 1,119 units on 65 acres. In addition, another site has been redesignated as medium-density residential (7 to 12 units per acre), adding another 122 units for a total of 309 medium density units on 32.7 acres for development as possible affordable units. These increases in higher density units are offset by slightly fewer single-family units, resulting in a net increase of 331 units for the NVSSP area for a gross holding capacity of 6,063 units on 1,595 acres. This represents just under a 6% increase in units in the Plan area from the previously approved 5,732 units.

Approval of the NVSSP amendment proposed by the project applicants, therefore, would encourage the development of affordable housing opportunities, thereby assisting the County in meeting its affordable housing goals.

(Final SEIR, pp. 4-2—4-4.)

DATED: November 19, 2004

BY: Muriel L. Johnson
Chairperson of the Board of Supervisors
of the County of Sacramento,
State of California

RECORDING REQUESTED
WHEN RECORDED MAIL TO:

ENDORSED

NOV 12 2004

MARK NORRIS, CLERK-RECORDER

COUNTY OF SACRAMENTO
DEPARTMENT OF ENVIRONMENTAL
REVIEW AND ASSESSMENT
827 SEVENTH STREET, ROOM 220
SACRAMENTO, CA 95814

CONTACT PERSON: JOYCE HORIZUMI
TELEPHONE: (916) 874-7914

SPACE ABOVE RESERVED FOR RECORDER'S USE

NOTICE OF DETERMINATION

SUBJECT:
Filing of Notice of Determination in compliance with SECTION 21108 or 21152 of the Public Resources Code

PROJECT TITLE:
North Vineyard Station Specific Plan Amendments and Zoning Ordinance Amendment

CONTROL NUMBER:
03-CPB-ZOB-0082

STATE CLEARINGHOUSE NUMBER (IF SUBMITTED):
2004032104

PROJECT LOCATION:
The North Vineyard Station Specific Plan is bounded by Florin Road on the north, Gerber Road on the south, the proposed northerly extension of Vineyard Road on the east, and the approximate alignment of Elder Creek on the west. It is contained within the Vineyard Community area.

APN:
Various

DESCRIPTION OF PROJECT:
Proposed amendments to the land use designations of the North Vineyard Station Specific Plan accommodate stormwater detention and drainage facilities, internal street and park site modifications, and addition of a water treatment facility. Minor internal residential density adjustments result in a slight change in overall holding capacity, which increases from 5,732 dwelling units to 6,063 dwelling units.

NAME OF PUBLIC AGENCY APPROVING PROJECT:
Sacramento County

NAME, ADDRESS AND PHONE NUMBER OF PERSON OR AGENCY CARRYING OUT PROJECT:
Lennar Communities, 1075 Creekside Ridge Drive, Suite 110, Roseville, CA 95678-3504

This is to advise that the County of Sacramento (Lead Agency) has approved the above described project on November 10, 2004 and has made the following determinations concerning the above described project.

1. The project **will** have a significant effect on the environment.
2. A **Final Supplemental Environmental Impact Report** was certified as adequate and complete on **November 10, 2004**.
3. Mitigation measures **were not** made a condition of the approval of the project.
4. A mitigation monitoring and reporting program **was** not adopted.
5. A statement of Overriding Considerations **was** adopted for this project.
6. Findings **were** made pursuant to the provisions of CEQA.
7. California State Department of Fish and Game Fees (AB 3158)
   a. **The project has been found to be de minimis thus not subject to the provisions of AB 3158.**

for **Joyce Horizumi**
ENVIRONMENTAL COORDINATOR OF
SACRAMENTO COUNTY, STATE OF CALIFORNIA

Copy To:
_____County of Sacramento County Clerk, 600 8th Street, Room 101 Sacramento, CA 95814
_____State of California OPR, 1400 Tenth Street, Room121 Sacramento, CA 95814