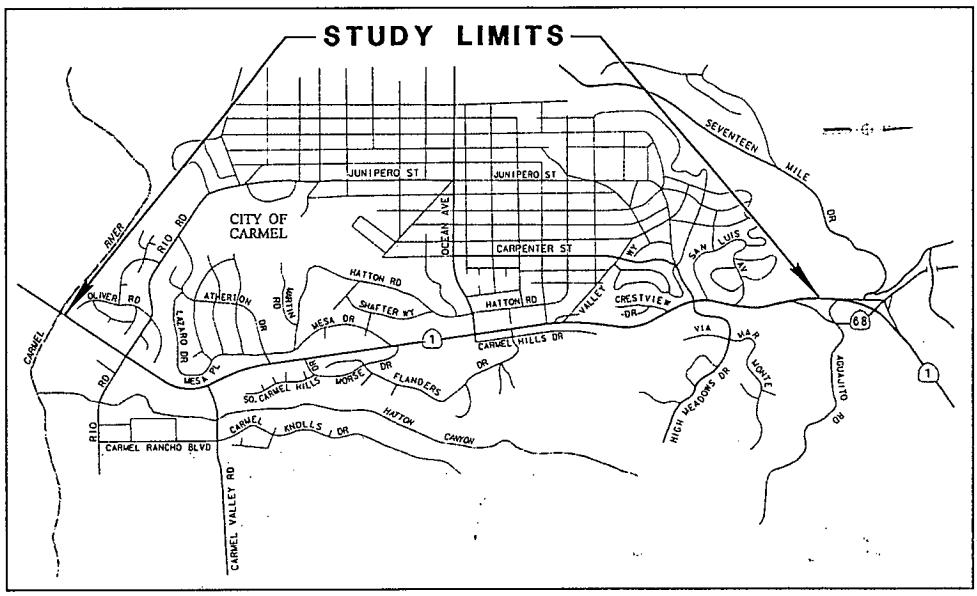
05 – Mon - 1 - KP 116.3 / 121.0
(PM 72.3 / 75.2)
November/2001

PROJECT STUDY REPORT / PROJECT DEVELOPMENT SUPPORT

This document can be used to program only the Engineering and Environmental Support for Project Approval and Environmental Document component. The remaining support and capital components of the project are preliminary estimates and are not suitable for programming purposes. Either a Supplement PSR or a Project Report will serve as the programming document for the remaining support and capital components of the project.



On Route 1 near Carmel
Between the Carmel River Bridge
And Route 68 West

SUBMITTED BY: Transportation Agency for Monterey County
LOCAL AGENCY

APPROVAL RECOMMENDED:
DAVID SILBERBERGER, PROJECT MANAGER

APPROVED:
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This Project Study Report / Project Development Support has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Keith J. Hallsten
REGISTERED CIVIL ENGINEER

11/30/01
DATE

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PROJECT STUDY REPORT
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STIP
Carmel River to SR 68 West

1. Introduction - This study identifies improvements to State Route 1 (SR-1) near Carmel and the adjacent local roads to improve the operations on SR-1 through year 2030. These improvements are in addition to operational improvements currently under construction by Monterey County (second northbound lane on SR-1 from Carmel Valley Road to Morse Drive). This highway currently operates with extremely congested conditions during commute periods and on weekends, due to heavy tourist traffic. State Route 1 operates at capacity for much of every day. Three alternatives are considered for SR-1 in the study area, ranging from minor widening and improving the operation of existing traffic signals, to construction of grade-separated interchanges. Direct access to SR-1 from several minor local roads and private driveways is considered for closure, with access to residences being provided by means of frontage roads instead. The construction cost is estimated to range from $29.3 million (for Alternative 1) to $72.4 million (Alternative 2). The right of way cost is estimated to range from $5.9 million (Alternative 1) to $23.3 million (Alternative 2). Additional alternatives may be considered during Project Approval and Environmental Document (PA&ED) phase by mixing features of the identified alternatives. This study was initiated by the Transportation Agency for Monterey County (TAMC). The improvements are to be funded with State Transportation Improvement Program funding. The proposed project should be assigned to a project development Category 1, since Alternative 2 would convert a portion of the existing conventional highway to controlled-access highway. New right of way, access control, and a Controlled Access Highway Agreement will be required. This report is for purposes of programming the PA&ED support component only. The PA&ED is anticipated to require a budget of $2.2 million and is expected to take 4 years to complete.

2. Background - The study section of SR-1 transitions from low-volume two-lane conventional highway south of the Carmel River to heavily-traveled 4-lane freeway north of the Carpenter Street intersection (see Exhibit A for a map of the local street system adjacent to the study section of SR-1). It is characterized by an average 6% grade rising from the Rio Road intersection to the Carpenter

Street intersection. South of Ocean Avenue SR-1 is two-lane conventional highway. Monterey County has a project underway to construct an additional northbound lane from Carmel Valley Road to Ocean Avenue, to be completed in 2002. North of Ocean Avenue the existing SR-1 is four-lane undivided conventional highway.

Planning for a freeway bypass of the study section of SR-1 through Hatton Canyon has been underway since the late 1940's. A Freeway Agreement between Monterey County and the State of California was executed in 1957 for the Hatton Canyon freeway. That proposal became very controversial over the past 30 years. This controversy was ended by AB 434, which made the legislative finding that the Hatton Canyon Freeway was non-viable and directed Caltrans to transfer right of way acquired in Hatton Canyon during the 1950's and 1960's to the California Department of Parks and Recreation for use as a park. AB 434 was signed by the Governor on August 1, 2001. There is now no viable alternative to improvements substantially on the existing alignment of SR-1.

The study section of SR-1 is a designated bicycle route, although the paved shoulders are less than standard width at some locations. Pedestrian traffic to Carmel High School is also permitted on the shoulders of SR-1.

This project is sponsored by the Transportation Agency for Monterey County, and is supported by its constituent agencies, including Monterey County and the City of Carmel-by-the-Sea. There appears to be general agreement that some improvements to the highway are necessary, but various community organizations have different views on the scope of improvements to be made. Although the area surrounding SR-1 is intensely developed for residential, educational and commercial uses, the visual character of the area is dominated by large trees and ornamental plantings, which are important to the appeal of the area as a tourist destination. Therefore, there is likely to be intense local review of project features which would impact existing trees or otherwise affect the visual character of the highway corridor.

The standard for arterial operations in the Monterey County General Plan is Level of Service (LOS) "C", but in recognition of likely public opposition to the impacts related to the substantial improvements that would be required to achieve LOS "C" on the study section of SR-1, the Project Development Team, with the concurrence of the TAMC Board, has selected arterial LOS "D" in design year 2030 as the standard for screening feasible alternatives for this study. An arterial LOS is based on the free-flow speed of traffic between intersections as well as the approach delay at intersections, while LOS for a signalized intersection is based on average control delay on all of the approaches to the intersection. The Regional Transportation Plan and Congestion Management Plan for Monterey County are consistent with the General Plan.

Public representatives have attended Project Development Team meetings and a Public Information Meeting was held on September 25, 2001 to answer any

questions local residents had regarding the alternatives presented in this PSR (PDS).

3. Need and Purpose - Existing traffic operations on the study section of State Route 1 are characterized by congestion. Two types of "Level of Service" (LOS) are used to describe the operational characteristics in this PSR (PDS). Mainline or arterial LOS includes speed between intersections as well as the approach delay at signalized intersections. It is calculated by direction for each segment along an arterial. Intersection LOS reports average delay, which includes all approaches at that intersection.

   During weekday peak hours both the Carpenter Street intersection and the Carmel Valley Road intersection operate overall at deficient LOS "E". During weekend peak hours, overall operations at these intersections deteriorate further to LOS "F", indicating existing traffic volumes in excess of intersection capacity. The northbound through movement at both of these intersections operates at LOS "F" during peak hours on weekdays as well as weekends. The arterial levels of service are deficient ("E" or "F") on northbound SR-1 in the weekday PM peak hour south of Carpenter Street and south of Carmel Valley Road, and are deficient in the weekend peak hour in both directions approaching Carpenter Street and Rio Road. Northbound SR-1 also operates at LOS "F" approaching Carmel Valley Road in the weekend peak hours. See Table 1 for existing operational conditions. Traffic volumes and turning movements are shown in Exhibit F.

Table 1 - Existing (2001) Intersection LOS Summary

Signalized Intersection	Lane Configuration	Movement	Weekday AM Peak Hr	Weekday PM Peak Hr	Weekend Peak Hour
Carpenter Street / SR-1	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB 2-L, 1-T/R WB 1-L, 1-T/R, 1-R	**Overall I/S**	**C**	**E**	**F**
		NB - T	B	F	F
		SB - T	B	C	E
Ocean Avenue / SR-1	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB 1-L, 1-L/T/R WB 1-L, 1-T/R	**Overall I/S**	**C**	**C**	**D**
		NB - T	B	C	D
		SB - T	B	C	D
Carmel Valley Road / SR-1	NB 1-T, 1-R SB 2-L, 1-T WB 1-R	**Overall I/S**	**D**	**E**	**F**
		NB - T	D	F	F
		SB - L	B	C	B
		WB - R	F	F	F
Rio Road / SR-1	NB 1-L, 1-T, 1-R SB 2-L, 1-T/R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 1-R	**Overall I/S**	**C**	**C**	**D**
		NB - T	C	D	D
		SB - T	C	C	D

The forecast year 2030 traffic volumes will result in further deterioration of operating conditions, such that two or more of the key intersections in the study

area would have a through movement operating at LOS "F" (breakdown) in both morning and evening peak hours on weekdays (See Table 2). Forecast traffic volumes are shown in Exhibit F.

Three out of the four intersections would operate at an overall LOS "E" or worse in both the northbound and the southbound directions on weekends if no further improvements are made.

Table 2 - Forecast 2030 "No Build" Intersection LOS Summary

Signalized Intersection	Lane Configuration	Movement	Weekday AM Peak Hr	Weekday PM Peak Hr	Weekend Peak Hour
Carpenter Street / SR-1	NB 1-L, 2-T, 1-T/R SB 1-L, 2-T, 1-R EB 2-L, 1-T/R WB 1-L, 1-T/R, 1-R	**Overall I/S**	**F**	**F**	**F**
		NB - T	F	F	F
		SB - T	F	F	F
Ocean Avenue / SR-1	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB 2-L, 1-T/R WB 1-L, 1-T/R	**Overall I/S**	**E**	**E**	**F**
		NB - T	E	E	F
		SB - T	E	F	F
Carmel Valley Road / SR-1	NB 1-T, 1-R SB 2-L, 1-T WB 2-R	**Overall I/S**	**E**	**E**	**F**
		NB - T	F	F	F
		SB - L	C	C	C
		WB - R	D	D	C
Rio Road / SR-1	NB 1-L, 1-T, 1-R SB 2-L, 1-T/R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 1-R	**Overall I/S**	**C**	**D**	**E**
		NB - T	D	D	F
		SB - T	C	C	F

The Board of Directors of the Transportation Agency for Monterey County has adopted the following Need and Purpose Statement for this project:

State Route 1 in the project study area has been experiencing substantial congestion, with resulting extended travel time, for many years. This has resulted in significant volumes of through traffic bypassing the study section of State Route 1 by means of local streets in Carmel, with resulting congestion on the local street system. The purpose of the proposed project is to maximize the efficiency of State Route 1 from the Carmel River Bridge to the State Route 68 interchange to serve the needs of local and regional commuter traffic, as well as tourist traffic, to achieve minimum arterial Level of Service D on State Route 1 in the 2030 design year. Features to facilitate bicycle traffic, improve emergency vehicle response time, and accommodate the provision of public transportation services shall be incorporated as necessary.

Traffic accidents for the past 3 years (July 1, 1997 through June 30, 2000) as recorded in the Caltrans Traffic Accident Surveillance and Analysis System were reviewed. The actual accident rates are less than statewide average rates

for similar facilities. Of the 328 accidents, over half (55.1%) were rear-end accidents, and an additional 10% were sideswipe accidents. These accident types are associated with congested conditions, and can be expected to be reduced with better operational characteristics on SR-1.

4. Alternatives - The alternatives identified for this study include the "No Build" Alternative as well as three viable "build" project alternatives.

   All of the alternatives are likely to raise controversy, since even minor operational improvements proposed in this section of SR-1 have been subject to litigation. Environmental issues (see the Environmental Determination and Environmental Issues section of this report) are likely to be the subject of much public interest.

   In all of the "build" alternatives, the many direct private accesses and minor public street connections directly to State Route 1 would be closed or consolidated through the use of frontage roads. This will require right of way acquisitions from the residences abutting SR-1, which may also be controversial. Access to residences to the west of SR-1 would be via Carpenter Street, Ocean Avenue or Rio Road only. Access to residences to the east of SR-1 would be via Carpenter Street, Ocean Avenue, South Carmel Hills Drive, Carmel Valley Road or Rio Road. All of the alternatives will provide at least 2.4 m (8 ft) shoulders on both sides of SR-1, so it would be possible to continue the use of SR-1 as a bike route. (If any portion of SR-1 is upgraded to expressway classification, the right shoulders would have to be widened to 3.0 m (10 ft), or a Design Exception would be required.) It should be noted that the idea of a Hatton Canyon Bike Trail has been considered in the past. However, there is no currently programmed project pursuing this idea. Additionally, the adjacent residential streets may be more appropriate bicycle route(s). A traffic study of the change in traffic patterns on the local street network, including non-motorized vehicles and pedestrians, should be undertaken to identify any improvements that may be necessary as a result. It should be noted that a detailed traffic analysis will need to be performed on each alternative or alternative variation during PA&ED to ensure that it is viable and meets the purpose and need.

   Transportation Management Plan - Due to the high traffic volumes, limited availability of viable alternate routes, and restrictive site conditions, a Transportation Management Plan with Contingency Plans must be carefully developed and implemented in order to maintain acceptable levels of service and safety during all work activities for this project, whichever alternative is constructed. Major lane closures resulting in significant traffic impacts are to be expected. Any lane closures must be at night with two lanes being maintained during daytime hours.

   Possible TMP strategies and elements that would help mitigate traffic impacts for this project are; media releases, telephone hotline, public meetings, a web

site, changeable message signs, off peak work, project phasing, rideshare marketing, and local street improvements.

No Build - The "No Build" alternative assumes that operational improvements currently under construction will be completed. Monterey County is now constructing a second northbound lane on SR-1 from Carmel Valley Road to Morse Drive, where the existing second northbound lane begins. In 2001 Caltrans completed the addition of a second right-turn lane from Carmel Valley Road to northbound SR-1 and a second left-turn lane from southbound SR-1 to Carmel Valley Road.

Even with the construction of these improvements, the existing deficient operational conditions are forecast to continue to deteriorate further with the growth in traffic forecast by year 2030 (see Table 2 for forecast LOS and Exhibit F for forecast traffic volumes). Since existing traffic operations are already worse than the minimally-acceptable LOS "D", the "no-build" alternative is infeasible from a traffic operations point of view.

Alternative 1 - In addition to the "No-Build" improvements currently under construction, Alternative 1 would construct a second northbound lane on SR-1 from Rio Road to Carmel Valley Road, and a third northbound lane from Ocean Avenue through the Carpenter Street intersection. A third southbound through lane on SR-1 through the Carpenter Street intersection would also be constructed. Outside shoulders would be widened to 2.4 m in accordance with conventional highway standards. All of the section of SR-1 that is currently classified as conventional highway would remain conventional highway.

At the Rio Road intersection, a second westbound right-turn lane to SR-1 and an additional northbound through/right-turn lane would be constructed. At the Carmel Valley Road intersection the second northbound lane would be carried through the intersection as a shared through/right-turn lane. The third northbound lane on SR-1 would be added as a shared through/right-turn lane approaching the Ocean Avenue intersection. Ocean Avenue would approach SR-1 from the west with dual dedicated left turn lanes and a combination lane from which left-turn, through and right-turn movements would be permitted. Doris Watson Place (the east leg of the Ocean Avenue intersection and the entrance to Carmel High School) would be improved with the realignment of Carmel Hills Drive to provide minimally-acceptable spacing to the Ocean Avenue intersection. Carpenter Street would approach SR-1 from the west with dual dedicated left-turn lanes and a combination lane from which left-turn, through and right-turn movements would be permitted.

As shown in Table 3, all intersections of Alternative 1 would operate at the minimally-acceptable LOS D or better in peak hour except the Carpenter Street intersection, where the northbound through movement would operate at LOS F, causing the overall intersection operation to drop to LOS E in the PM peak hour on weekdays and on weekends. Forecast traffic volumes are shown in Exhibit F.

Table 3 - Forecast 2030 Intersection LOS Summary, Alternative 1

Signalized Intersection	Lane Configuration	Movement	Weekday AM Peak Hr	Weekday PM Peak Hr	Weekend Peak Hour
Carpenter Street / SR-1	NB 1-L, 2-T, 1-T/R SB 1-L, 3-T, 1-R EB 2-L, 1-L/T/R WB 1-L, 1-T/R, 1-R	**Overall I/S**	**C**	**E**	**E**
		NB - T	D	F	F
		SB - T	C	C	C
Ocean Avenue / SR-1	NB 1-L, 2-T, 1-T/R SB 1-L, 2-T, 1-R EB 2-L, 1-L/T/R WB 1-L, 1-T/R	**Overall I/S**	**C**	**D**	**D**
		NB - T	B	B	C
		SB - T	D	D	E
Carmel Valley Rd / SR-1	NB 1-T, 1-T/R SB 2-L, 1-T WB 2-R	**Overall I/S**	**C**	**C**	**C**
		NB - T	C	D	D
		SB - L	B	C	C
		WB - R	C	D	D
Rio Road / SR-1	NB 1-L, 1-T, 1-T/R SB 2-L, 1-T, 1-R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 2-R	**Overall I/S**	**C**	**D**	**D**
		NB - T	C	D	D
		SB - T	C	C	D

Since northbound SR-1 reduces to two northbound lanes at the off-ramp to westbound SR-68 (Pacific Grove) a short distance north of Carpenter Street, adding a fourth northbound lane on SR-1 through the Carpenter Street intersection was not investigated. The arterial Level of Service on State Route 1 would drop to "E" approaching Carpenter Street in both directions during PM peak hour on weekdays and on weekends. It appears doubtful whether a signalized grade-level intersection can be designed to handle the forecast 2030 traffic volumes at Carpenter Street with the LOS specified in the Need and Purpose statement for this project. Therefore, a modified version of Alternative 1 with an interchange at Carpenter Street should be considered during PA&ED phase of project development.

No design standard exceptions have been identified for Alternative 1, but a detailed analysis may reveal design exceptions due to limited right of way availability and efforts to minimize impacts to existing trees and visual resources.

The capital cost of Alternative 1 is expected to be approximately $35.2 million. This includes $29.3 million in construction and mitigation costs and $5.9 million in right-of-way costs.

Construction of Alternative 1 could be expected to maintain or slightly improve existing poor operational conditions on the study section of State Route 1 as traffic increases to year 2030, except that a fairly significant improvement would be experienced at the Carmel Valley Road intersection.

Alternative 2 - Alternative 2 would significantly improve the capacity and operating efficiency of the study section of SR-1 by replacing the signalized grade-level intersections at Carpenter Street, Ocean Avenue, and Carmel Valley Road with grade-separated interchanges. While the design standards for freeway could be met at Carpenter Street, the limited availability of right of way at Ocean Avenue leads to a "tight diamond" interchange with non-standard spacing to the adjacent local street intersections. Because of this, an in-depth operational analysis will need to be done to determine how this type of interchange will affect the mainline traffic on Highway 1. To the south of Ocean Avenue SR-1 would not be classified as a freeway or expressway, but access would be controlled north of Rio Road and significant improvements beyond conventional highway standards would be made. At the Carmel Valley Road interchange, no provision for a westbound-to-southbound movement is proposed, in keeping with both the existing condition and other alternatives. The demand for access to southbound SR-1 from Carmel Valley Road is light, and met through local road connections to the Rio Road intersection on SR-1. State Route 1 would remain conventional highway at Rio Road and to the south. The improvements to the signalized intersection at Rio Road would be identical for all build alternatives.

As shown in Table 4, all of the signalized intersections of the proposed Carpenter Street and Ocean Avenue interchanges would operate well, at Level of Service "C" or better. Forecast traffic volumes are shown in Exhibit F. The through lanes of State Route 1 would be free-flowing north of Rio Road, and would operate at LOS "C" or better, except northbound SR-1 would drop to LOS "D" south of Carpenter Street in the weekend peak hour, and southbound traffic approaching Rio Road would also operate at LOS "D" in weekend peak hour.

Table 4 - Forecast 2030 Intersection LOS Summary, Alternative 2

Signalized Intersection	Lane Configuration	Movement	Weekday AM Peak Hr	Weekday PM Peak Hr	Weekend Peak Hour
Carpenter St. IC: SB Ramp I/S	SB 1-L/T, 1-R EB 2-T, 1-R WB 1-L, 2-T	**Overall I/S**	**B**	**B**	**B**
Carpenter St. IC: NB Ramp I/S	NB 1-L, 1-T SB 1-T/R EB 1-L, 1-R	**Overall I/S**	**A**	**A**	**A**
Ocean Avenue IC: SB Ramp I/S	SB 1-L/T, 1-R EB 2-T, 1-R WB 1-L, 1-T	**Overall I/S**	**B**	**B**	**B**
Ocean Avenue IC: NB Ramp I/S	NB 1-L, 1-T/R EB 1-L, 1-T WB 1-T, 1-R	**Overall I/S**	**B**	**B**	**C**
Rio Road / SR-1	NB 1-L, 1-T, 1-T/R SB 2-L, 1-T, 1-R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 2-R	**Overall I/S** NB - T SB - T	**C** C C	**D** D C	**D** D D

Alternative 2 would have a greater impact on the parking lots and athletic facilities of Carmel High School (a 4f facility) than the other alternatives. The football field and track would have to be partially reconstructed to shift them away from SR-1. The parking lots and internal circulation patterns to Doris Watson Place (the cul-de-sac opposite Ocean Avenue) would require revision and partial reconstruction. It is clear that further operational analysis will be required to determine the traffic impacts of this alternative to the Carmel High School, especially in the area of access to Highway 1.

Alternative 2 would convert the section of SR-1 from Ocean Avenue northward to freeway or expressway, but would require several exceptions to design standards. The narrow available right of way (due to extreme right of way costs and significant environmental factors) will require exceptions to the standard for median width; the proposed median is 3.6 m (12 feet) wide, while the mandatory design standard for expressways where restrictive conditions prevail is 6.6 meters minimum median width. The right shoulders are shown as 2.4 m wide, while the standard for outside shoulders is 3.0 m. The spacing between the State Route 68 interchange and the proposed Carpenter Street interchange is about 0.75 km (0.5 mile), while the minimum standard spacing in urban areas is 1.5 km (1 mile). The weaving length for the proposed auxiliary lanes between these interchanges is about 518 meters (1700 ft) in the northbound direction, and about 503 meters (1650 ft) in the southbound direction, so the 600 m standard for weaving length between closely-spaced interchanges is not met. The spacing between the proposed Carpenter St interchange and the proposed Ocean Avenue interchange is about 1184 meters (3,885 ft), which is non-standard.

The section of SR-1 south of Ocean Avenue would remain conventional highway, but with some "expressway-like" features. Therefore, it is not entirely clear how standards should be applied. Spacing between the ramp intersections at Ocean Avenue and the adjacent local street intersections (Hatton Road and Carmel Hills Drive) are non-standard for an expressway. The spacing between Ocean Avenue and Carmel Valley Road is about 1419 m (4,655 ft), which would be non-standard if this segment were classified as an expressway. The "left exit" from southbound SR-1 to Carmel Valley Road is non-standard, although the principal traffic volume from southbound SR-1 on weekdays is to Carmel Valley Road, not southbound SR-1. It is also non-standard to drop the number of through lanes through a service interchange. The lack of provision for the westbound-to-southbound movement at the Carmel Valley Road interchange is also non-standard, although no such movement is now permitted.

The capital cost of Alternative 2 is expected to be approximately $95.8 million, including $72.5 million in construction and mitigation costs and $23.3 million in right-of-way costs.

Construction of Alternative 2 could be expected to significantly improve existing poor operational conditions on the study section of State Route 1 as traffic increases to year 2030, except that some minor congestion (LOS D)

would be still be experienced at the Rio Road intersection during weekday evening and weekend peak hours.

Alternative 3 – Alternative 3 would feature the same signalized grade-level intersections on SR-1 as Alternative 1 at Rio Road and Carmel Valley Road, but would modify the intersections at Ocean Avenue and Carpenter Street with the addition of a tunnel to carry left-turning vehicles under the intersection, from the eastbound approach to northbound SR-1. All of the section of SR-1 that is currently classified as conventional highway would remain conventional highway, but the level of access control would be increased.

Table 5 shows that all intersections would operate at the minimally-acceptable Level of Service "D" or better in all peak hours. However, the northbound through movement at the Carpenter Street intersection would experience breakdown conditions during weekend peak hour, which would likely result in unacceptable northbound operations throughout the study section of SR-1 as the queue approaching Carpenter Street lengthens.

Table 5 - Forecast 2030 Intersection LOS Summary, Alternative 3

Signalized Intersection	Lane Configuration	Movement	Weekday AM Peak Hr	Weekday PM Peak Hr	Weekend Peak Hour
Carpenter Street / SR-1	NB 1-L, 2-T, 1-R SB 1-L, 2-T, 1-R EB 1-T/R WB 1-L, 1-T, 1-R	**Overall I/S**	**C**	**C**	**D**
		NB - T	D	D	F
		SB - T	A	A	B
Ocean Ave / SR-1	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB 1-T/R WB 1-L, 1-T/R	**Overall I/S**	**B**	**B**	**C**
		NB - T	A	A	A
		SB - T	B	B	B
Carmel Valley Rd / SR-1	NB 1-T, 1-T/R SB 2-L, 1-T WB 2-R	**Overall I/S**	**C**	**C**	**C**
		NB - T	C	D	D
		SB - L	B	C	C
		WB - R	C	D	D
Rio Road / SR-1	NB 1-L, 1-T, 1-T/R SB 2-L, 1-T, 1-R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 2-R	**Overall I/S**	**C**	**D**	**D**
		NB - T	C	D	D
		SB - T	C	C	D

The weaving length between the exit of the left-turn tunnel at Carpenter Street and the off-ramp to westbound SR-68 may be problematic, as the approximately 1100 feet weaving length may not be sufficient for the traffic volumes forecast. Further analysis will be necessary to determine whether the Alternative 3 concept will be workable at Carpenter Street.

No design standard exceptions have been identified for Alternative 3 if SR-1 is considered conventional highway, but a detailed analysis may reveal design exceptions due to limited right of way availability and efforts to minimize impacts to existing trees and visual resources. The tunnels will have to be

analyzed for design speed/sight distance compliance. The cost estimates in this PSR (PDS) are based on a 7.9 meter (26-ft) inside tunnel width to accommodate a wide inside shoulder.

The capital cost of Alternative 3 is expected to be approximately $43.4 million. This includes $36.8 million in construction and mitigation costs and $6.6 million in right-of-way costs.

Construction of Alternative 3 could be expected to improve existing poor operational conditions on the study section of State Route 1 as traffic increases to year 2030, except that significant congestion on northbound SR-1 at Carpenter Street would be expected during weekend peak hours. Some minor congestion (LOS D) would still be experienced at all study intersections except Ocean Avenue during weekday evening and weekend peak hours.

5. System and Regional Planning – This section considers both the important route designations for State Route 1 (SR-1) within the project limits as well as consistency with regional and system planning documents.

   Route designations. Within the project limits, SR-1 has the following federal, state, and goods movement designations:

   In the federal functional classification system, SR-1 is an urbanized principal arterial and is therefore on the National Highway System (NHS). Facilities included on the NHS are considered essential for interstate and regional commerce, travel, and national defense.

   In the state classification system, SR-1 designations also reflect the route's importance to interregional people and goods movement. SR-1 is on the Freeway and Expressway System to the north of the north limit of Carmel, is a High Emphasis Route on the Caltrans Interregional Road System, and is officially designated as a Scenic Highway. A conventional highway alternative to the south of Carpenter Street would be compatible with the legislative intent.

   From Post Mile (PM) 72.3 to 72.6, SR-1 carries a truck route classification of Advisory < 30, meaning trucks with a kingpin-to-rear axle length of 30 feet or more are not advised to use the route. From PM 72.6 to 75.2, SR-1 is a Terminal Access route that can accommodate larger trucks as defined in the federal Surface Transportation Assistance Act.

   Consistency with Regional and System Planning Documents. The Transportation Agency of Monterey County is nearing finalization of its 2002 Regional Transportation Plan (RTP). The improvements considered in this Project Study Report (Project Development Support) [PSR (PDS)] are consistent with projects contained in the updated RTP. Further, the projects are consistent with the Association of Monterey Bay Area Government's 1999 Metropolitan Transportation Plan Update.

   In addition, the projects are consistent with the route concept LOS proposed in

Caltrans' existing Route Concept Report (RCR) for SR-1. However, this RCR was prepared in 1990 and proposed a four-lane bypass freeway in Hatton Canyon to achieve the concept LOS. As mentioned earlier in this PSR (PDS), in the summer of 2001 the California legislature determined that the Hatton Canyon Freeway was non-viable. Therefore, Caltrans will now consider other strategies to meet the concept LOS when it prepares an updated Transportation Concept Report for SR-1 in the coming year. At this time, it appears that viable improvements will most likely be on the existing alignment, which is consistent with projects proposed in this PSR (PDS). There are no plans for any significant widening of State Route 1 to the south of the Carmel River, so the study section will remain a transition section between the two-lane conventional highway to the south and the existing freeway to the north.

Monterey County has done preliminary planning for an extension of Rio Road to the east, to provide a parallel reliever for Carmel Valley Road. Since this extension is not yet an adopted project, it was not included in the traffic modeling for this SR-1 project. If the Rio Road extension were constructed it would be expected to have a minor impact on the traffic volumes between Rio Road and Carmel Valley Road.

6. Environmental Determination and Environmental Issues – The project area is characterized by mature native trees and landscape plantings. Alternative 2 would have the greatest effect on this resource, particularly the area of Monterey pine forest to the east of the Carpenter Street/SR-1 intersection. Alternative 2 would also have the greatest effect on adjacent residential and school land uses near the Ocean Avenue/SR-1 intersection. Alternative 3 would have the least impact on the Monterey pine forest at the upper end of Hatton Canyon, on the east side of SR-1, opposite the residences on Handley Drive.

   An Environmental Scoping Checklist has been prepared for this project, and is included in Exhibit E. It identifies a number of technical studies which may need to be prepared in support of an Environmental Impact Report/Environmental Impact Statement for the project during the Project Approval & Environmental Document (PA&ED) stage of project development. It is anticipated that Caltrans will be the Lead Agency for compliance with the California Environmental Quality Act and the Federal Highways Administration is anticipated to be the Lead Agency for compliance with the National Environmental Policy Act. This project is in the Coastal Zone, so review by the California Coastal Commission will be required.

   All of the identified alternatives have residential displacement impacts, so a Community Impact Assessment and a Relocation Impact Study will be prepared during the PA&ED phase of the project. The access to a number of residences is proposed to be altered through the closure of some public road connections and private driveways to State Route 1, so access for vehicle and pedestrian traffic throughout the study area will require further evaluation during PA&ED phase. An Air Quality Analysis will be prepared, since the project is located in a non-

attainment area for ozone and particulate matter. The project alternatives construct improvements near existing residences, so a noise technical report will be prepared to quantify any noise impacts to sensitive land uses during the PA&ED phase of project development. There are numerous native trees and horticultural plantings within the project area, some of which will be impacted by the proposed project. The change in views is to be evaluated in a Visual Resources Technical Report during the PA&ED phase. Although none of the alternatives propose any significant grading within the 100-year floodplain of the Carmel River at the south end of the study area, they all propose some widening of the Rio Road intersection and State Route 1 within the floodplain. Therefore, a Floodplain Evaluation will be required during PA&ED. Alternative 2 may have a significant impact on the athletic facilities of Carmel High School, and bicycle lanes along SR-1 could also be affected; these recreation resources are considered Section 4(f) resources which require further evaluation during the development of the Environmental Document. Cultural resource studies are to include archeological testing to determine the boundaries of an archeological site southeast of the Carmel Valley Road/SR-1 intersection, and to evaluate whether the project will impact the site, and whether the site is eligible for listing on the National Register of Historic Places. If the site is determined to be eligible for listing and would be impacted by the project, data recovery excavations would need to be conducted prior to project construction. Also, it must be determined whether any buildings which may be impacted by the project are over 50 years old and have to be evaluated for historical significance in accordance with Section 106 of the National Historic Preservation Act.

An Initial Site Assessment for Hazardous Materials is attached to the Environmental Checklist in Exhibit E. Five leaking underground storage tanks have been identified within ¼ mile of the project site, but none of these appears likely to affect the project. Since the existing roadway corridor has been in use for many decades, the soil adjacent to the highway may have been contaminated by lead from vehicle exhaust. Soil samples should be analyzed for aerially deposited lead prior to project construction. Any buildings which may be demolished or modified by the project should be surveyed for asbestos and lead-based paint prior to such work.

A Natural Environment Study is to be conducted during PA&ED. As part of that study, focused surveys for California red-legged frog, southern steelhead trout, Smith's blue butterfly, monarch butterfly and for special interest plants will be performed to determine the presence or absence of these sensitive species within the area to be impacted by the project. A wetland/waters jurisdictional analysis should also be performed to determine whether any areas to be impacted are subject to U.S. Army Corps of Engineers or California Department of Fish & Game jurisdiction as waters of the United States or waters of the State, respectively.

Caltrans is expected to be the Lead Agency for CEQA. The Federal Highway Administration (FHWA) will be the Lead Agency for NEPA. The

Transportation Agency for Monterey County (TAMC) will assess impacts of the project on the environment and will prepare the Environmental Document (ED) to meet the requirements of both CEQA and NEPA. The draft and final ED will require Caltrans' review and approval prior to public circulation. TAMC will provide all data for and prepare drafts of the Draft Project Report (DPR) and the Project Report (PR). The State will review and process the reports and request approval of the project and its ED by the FHWA. TAMC will be responsible for the public hearing process.

Storm Water. All alternatives for this project have construction activities that have the potential to contribute sediment to storm water discharges, such as roadway excavation and fill, drainage improvements and grading operations. This project must adhere to the requirements specified in Caltrans NPDES permit and the Statewide Storm Water Management Plan (SWMP). The SWMP requires this project to address the feasibility of incorporating one or more of the listed approved treatment Best Management Practices.

Potential impacts to water quality will be addressed in the PA&ED, preliminary engineering and construction phases.

7. Right of Way – The right-of-way impacts of Alternative 1 include the removal of 6 residences and the acquisition of a total of 5,314 m^2 (57,200 sq. ft.) of new highway right of way from 50 residential parcels and 1 commercial parcel. The preliminary estimated value of these acquisitions is $4.5 million. All direct private access to SR-1 will be eliminated. For 16 parcels, direct access will be changed to access via local roads and one of the study intersections.

   The right-of-way impacts of Alternative 2 include the removal of 21 existing residences and the acquisition of a total of 15,833 m^2 (171,500 sq. ft) of new highway right of way from 53 residential parcels, the high school parcel, and 1 commercial parcel. Over 4,650 m^2 (50,100 sq ft) of the Carmel High School parcel will be acquired, resulting in changes to the parking lots and athletic facilities. These acquisitions may prove to be controversial. The preliminary estimated value of these acquisitions is $14.4 million. In addition, all direct private access to SR-1 will be changed to access via local roads and one of the study interchanges – this affects 7 parcels that are not to be acquired.

   The right-of-way impacts of Alternative 3 include the removal of 6 existing residences and the acquisition of a total of 5,720 m^2 (61,570 sq. ft) of new highway right of way from 50 residential parcels and 1 commercial parcel. The preliminary estimated value of these acquisitions is $4.5 million. All direct private access to SR-1 will be eliminated. For 16 parcels, direct access will be changed to access via local roads and one of the study intersections.

8. Funding/Scheduling - The project is expected to be funded through a combination of state and federal sources. The estimated capital costs for each

alternative are summarized in Table 6. The estimates found in Table 6 are sufficiently detailed and accurate to be useful for long-range planning purposes

Table 6
Capital Outlay Estimate

	Estimated Total Cost
Alternative 1	$35.2 million
Alternative 2	$95.8 million
Alternative 3	$43.4 million

only. The capital costs are current, not escalated. The capital outlay estimates should not be used to program or commit capital funds. The Project Report will serve as the appropriate document to program capital costs.

Only the Project Approval & Environmental Document (PA&ED) phase and corresponding support cost is expected to be funded from the Regional Transportation Improvement Program (RTIP) and Interregional Transportation Improvement Program (ITIP) in the 2002 State Transportation Improvement Program (STIP) cycle. All remaining support costs will be funded in a later STIP cycle. The costs for PA&ED support as estimated by Dokken Engineering are shown in Table 7. An additional 10 percent of the cost of PA&ED will be programmed for Caltrans' oversight and quality assurance efforts.

Table 7
Capital and Support Cost Summary
In Thousands of Dollars

Project Cost Component	Fiscal Years						Total
	2002/03	2003/04	2004/05	2005/06	2006/07	Future	
R/W Capital						23,300	23,300
Construct Capital						95,337	95,337
PA&ED	2,200 [3]						2,200
PS&E							(Note 4)
R/W Support							(Note 4)
Construct Support							(Note 4)
Total	2,200					118,637	120,837

Note: (1) All costs X $1,000. Construction Capital costs are escalated at 3.5% per year. Right of Way Capital costs are not escalated.
(2) Support Categories are the same as those identified by SB 45.
(3) This number includes the 10% Caltrans cost for oversight and quality assurance efforts.
(4) These values were not estimated by Dokken Engineering at this time.

The project schedule as estimated by Dokken Engineering is shown in Table 8. Only the PA&ED milestone is to be used for programming commitments. All other milestones are to be used to indicate relative time frames for planning purposes.

Table 8
Estimated Project Schedule

Milestone	Date
Begin Environmental Work	07/2002
Circulate Draft Project Report / Draft ED	09/2004
Public Hearing	10/2004
PA/ED	05/2006
Right of Way Certification	03/2008
Plans, Specifications, & Estimate Complete	05/2008
Construction Complete	10/2009

The schedule and cost for completion of the PA&ED phase are based on the assumption that TAMC and its consultants will prepare the Project Report and EIR/EIS. Caltrans will provide oversight and quality assurance for work done by TAMC and its consultants. Should it become necessary for Caltrans to do any or all of the work related to this project, Caltrans would need to complete a workplan of its own describing the schedule of milestones and costs for support.

A Cooperative Agreement will be prepared for the PA/ED phase. Responsibility for future phases of the project will be determined during the PA/ED phase and appropriate Cooperative Agreements will be executed prior to the PS&E and R/W phase and prior to the Construction phase.

9. Programming Recommendation – It is recommended that project development support be programmed in the 2002 STIP for the Project Approval and Environmental Document (PA&ED) for this project to improve State Route 1 in Monterey County.

10. Contacts – The following personnel have been involved in the development of this PSR (PDS):

Joe Lopez, Transportation Planning Manager Transportation Agency for Monterey County	(831) 775-0933
David Silberberger (Caltrans Project Manager) Caltrans Central Region	(805) 549-3798
David Murray (Regional Planning) Caltrans District 5	(805) 549-3168

Sally Strait (Traffic Operations) Caltrans District 5	(805) 549-3000
David Fapp, PE (Design Oversight) Caltrans District 5	(805) 549-3249
John Fouche, PE (Design Oversight) Caltrans District 5	(805) 549-3330
Ali Hemmati, PE (Consultant Team Manager) Dokken Engineering	(916) 858-0642
Keith Hallsten, PE (Report Preparation) Dokken Engineering	(916) 858-0642
Michael Amling (Environmental Analysis) LSA Associates	(949) 553-0666
Pascal Volet, PE (Traffic Forecasting & Analysis) Higgins Associates	(408) 848-3122
Robert Tarvin, SR/WA, IFAS (Prelim. R/W Valuation) Tarvin & Associates	(805) 489-0147

11. Exhibits:

A. Vicinity Map

B. Alternative Concept Drawings

C. Preliminary Estimates of Project Cost

D. Design Scoping Checklist

E. Environmental Study Checklist, with
   Cultural Resource Screening
   Hazardous Waste Initial Site Assessment
   Preliminary Biological Assessment

F. Traffic Forecast and Analysis

G. Traffic Forecasting, Analysis and Operations Scoping Checklist

H. Right of Way Scoping Checklist

I. Project Support Cost Estimate for PA/ED

EXHIBIT A – VICINITY MAP

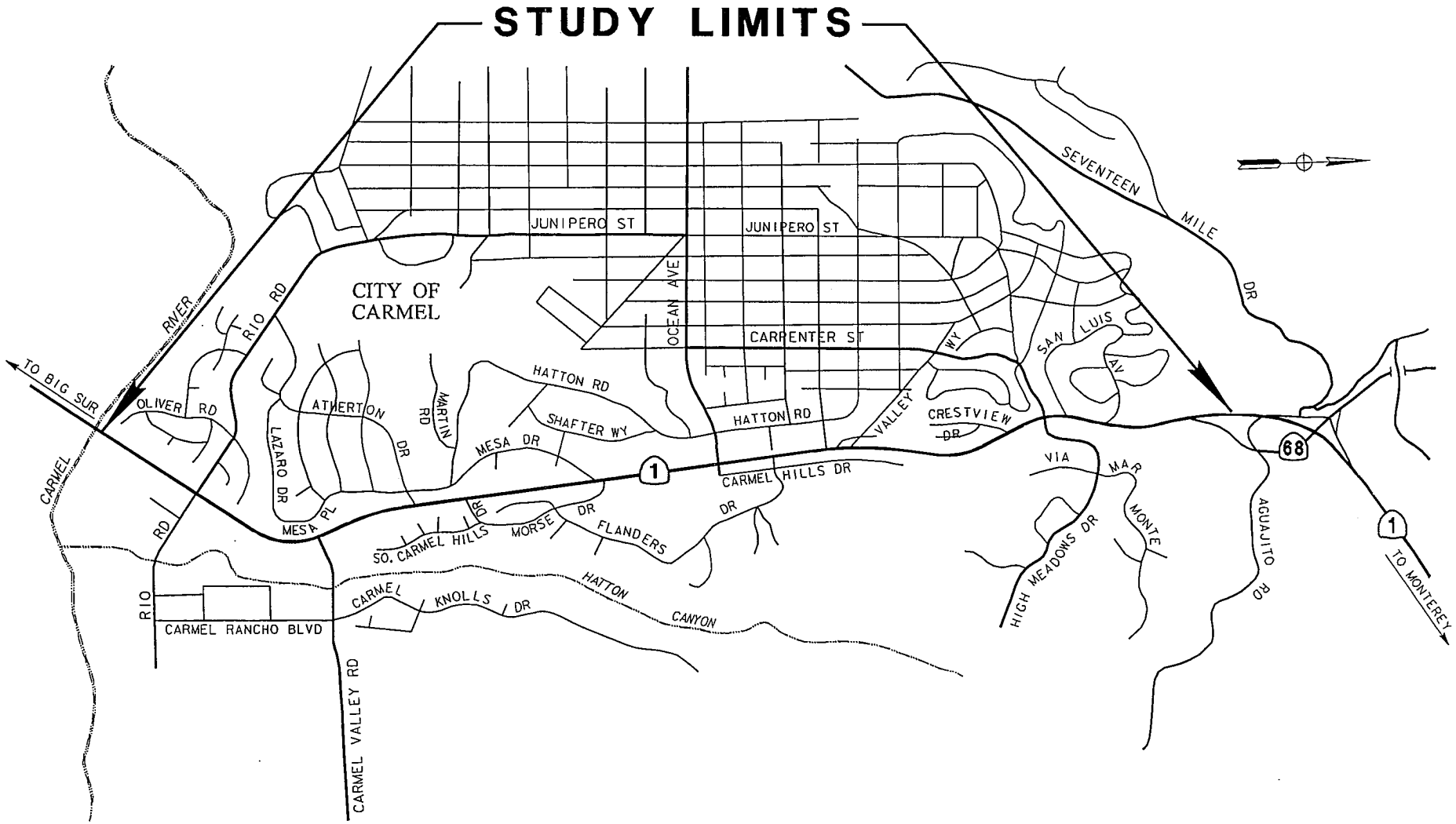

STUDY LIMITS
CITY OF CARMEL
JUNIPERO ST
JUNIPERO ST
OCEAN AVE
CARPENTER ST
SEVENTEEN MILE DR
SAN LUIS AV
WY
VALLEY
CRESTVIEW DR
HATTON RD
HATTON RD
SHAFTER WY
MESA DR
ATHERTON DR
MARTIN RD
LAZARO DR
MESA PL
OLIVER RD
RIO RD
RIVER
TO BIG SUR
CARMEL
RD
RIO
CARMEL RANCHO BLVD
CARMEL VALLEY RD
SO. CARMEL HILLS DR
MORSE DR
FLANDERS DR
CARMEL HILLS DR
CARMEL KNOLLS DR
HATTON CANYON
VIA MAR
MONTE
HIGH MEADOWS DR
AGUAJITO RD
TO MONTEREY
1
68

EXHIBIT B – ALTERNATIVE CONCEPT DRAWINGS


SCALE 1"=200'
HIGHWAY 1
CARMEL HIGH SCHOOL
BARNYARD SHOPPING CENTER
CARMEL CENTER PL
CARMEL VALLEY RD
RIO RD
MESA DR
MESA PL
FLANDERS PL
FLANDERS DR
SO. CARMEL HILLS DR
MORSE DR
OCEAN AVE
HATTON RD
STEWART PL
VALLEY PL
VALLEY WAY
CARMEL HILLS DR
HANDLEY DR
CRESTVIEW DR
UPPER TRAIL
LOWER TRAIL
SAN LUIS AVE
SAN MATEO AVE
SAN PEDRO LN
HIGHWAY 68
VIA MAR MONTE
HIGH MEADOWS DR
EXIST HWY 1 R/W
LIMIT OF RIGHT-OF-WAY RESERVE FOR HWY 1 WIDENING
HATTON CANYON HWY R/W
LEGEND
XXX/YYY(ZZZ)
DENOTES WEEKDAYS AM PEAK HOUR VOLUMES
DENOTES WEEKDAYS PM PEAK HOUR VOLUMES
DENOTES WEEKENDS MIDDAY PEAK HOUR VOLUMES
YEAR 2030 TRAFFIC VOLUME
HIGHWAY 1 CENTERLINE
8' SHLD
12'-36' SB TRAFFIC
12' & VAR
24'-36' NB TRAFFIC
8' SHLD
HIGHWAY 1 TYPICAL SECTION
PROPERTY TO BE PURCHASED
ACCESS TO HWY 1 TO BE ELIMINATED
DOKKEN ENGINEERING
11171 Sun Center Dr, Suite 250
Rancho Cordova, CA 95670
(916)858-0642
PROJECT
STATE ROUTE 1 IMPROVEMENT
ALTERNATIVE 3


SCALE 1"=200'
HIGHWAY 1
CARMEL HIGH SCHOOL
BARNYARD SHOPPING CENTER
CARMEL CENTER PL
CARMEL VALLEY RD
MESA DR
MESA PL
FLANDERS PL
FLANDERS DR
MORSE DR
SO. CARMEL HILLS DR
HATTON RD
STEWART PL
VALLEY PL
VALLEY WAY
CARMEL HILLS DR
HANDLEY DR
CRESTVIEW DR
UPPER TRAIL
LOWER TRAIL
SAN LUIS AVE
SAN MATEO AVE
SAN PEDRO LN
VIA MAR MONTE
HIGHWAY 68
LIMIT OF RIGHT-OF-WAY RESERVE FOR HWY 1 WIDENING
HATTON CANYON HWY R/W
LEGEND
XXX/YYY(ZZZ)
DENOTES WEEKDAYS AM PEAK HOUR VOLUMES
DENOTES WEEKDAYS PM PEAK HOUR VOLUMES
DENOTES WEEKENDS MIDDAY PEAK HOUR VOLUMES
YEAR 2030 TRAFFIC VOLUME
HIGHWAY 1 CENTERLINE
8' SHLD
12'-36' SB TRAFFIC
12' & VAR
24'-36' NB TRAFFIC
8' SHLD
HIGHWAY 1 TYPICAL SECTION
PROPERTY TO BE PURCHASED
ACCESS TO HWY 1 TO BE ELIMINATED
DOKKEN ENGINEERING
11171 Sun Center Dr, Suite 250
Rancho Cordova, CA 95670
(916)858-0642
PROJECT
STATE ROUTE 1 IMPROVEMENT
ALTERNATIVE 2

DOKKEN ENGINEERING
11171 Sun Center Dr, Suite 250
Rancho Cordova, CA 95670
(916)858-0642

PROJECT
STATE ROUTE 1 IMPROVEMENT

ALTERNATIVE 1

EXHIBIT C – PRELIMINARY ESTIMATES OF PROJECT COST

PROJECT STUDY REPORT COST ESTIMATE

District-County-Route	5 - Mon - 1
KP (PM)	116.3/121.0 (72.3/75.2)
EA	0C820K
Program Code	

PROJECT DESCRIPTION: Alternative 1 - Signalized Grade-level Intersections at Rio Road, Carmel Valley Road, Ocean Avenue and Carpenter Street.

Limits: On State Route 1 near Carmel from Carmel River Bridge to SR-68 (Pacific Grove) Interchange
On Rio Road from Birch Place to Crossroads. On Ocean Ave. from Randall Way to SR-1. On Doris Watson Place.
On Carpenter Street from Camino Del Monte to High Meadows Drive.

Proposed Improvements: (Scope) Construct second NB lane on SR-1 from Rio Road to Carmel Valley Road, and third NB lane from Ocean Ave to SR-68 IC. Construct 3rd SB lane on SR-1 from SR-68 IC through Carpenter St intersection. Widen SR-1 to provide standard shoulder width. Construct frontage roads along east side of SR-1 south of Atherton, south of Ocean Ave. to Mesa Dr., and north of Ocean Ave. to Valley Drive. Connect Handley Dr to Lower Trail as a frontage road, connect both ends of San Luis Avenue together as a frontage road. Construct acceleration and deceleration lanes on SR-1 at So. Carmel Hills Drive. Add turn lanes and/or modify signals at Rio Road, Carmel Valley Rd, Ocean Ave. and Carpenter St. intersections

Alternate: NO BUILD, Alt 2, Alt. 3

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	$23,419,275
TOTAL STRUCTURE ITEMS	$	$5,931,673
SUBTOTAL CONSTRUCTION COSTS	$	$29,350,947
TOTAL RIGHT OF WAY ITEMS	$	$5,875,500
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	$35,226,447

Reviewed by Project Manager
Dokken Engineering

Signature

Approved by Project Engineer
Dokken Engineering

Signature

Phone No. (916) 858-0642 Date November 29, 2001

District-County-Route: 5 - Mon - 1

KP(PM): 116.3/121.0 (72.3/75.2)

EA: 0C820K

Program Code:

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation	38,200	M^3	$26.00	$993,200	
Imported Borrow	38,200	M^3	$39.50	$1,508,900	
Clearing & Grubbing	1	LS	$100,000	$100,000	
Develop Water Supply					
				Subtotal Earthwork	$2,602,100

Section 2 Pavement Structural Section*					
PCC Pavement (_____ Depth)					
Asphalt Concrete	19,000	tonne	$66.00	$1,254,000	
Cement-Treated Base					
Aggregate Base	34,400	M^3	$52.50	$1,806,000	
Treated Permeable Base					
Aggregate Subbase					
Edge Drains					
				Subtotal Pavement Structural Section	$3,060,000

Section 3 Drainage					
Large Drainage Facilities					
Storm Drains	1	LS	$200,000	$200,000	
Pumping Plant					
Project Drainage					
(X-Drains, overside, etc.)	1	LS	$300,000	$300,000	
				Subtotal Drainage	$500,000

* Assumed pavement structural section: 150 mm AC over 600 mm AB (0.5 ft AC over 2.0 ft AB).

KP(PM) 116.3/121.0 (72.3/75.2)
EA 0C820K
Program Code

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Retaining Walls	See Structures				
Soundwalls	7,435	M^2	$322.80	$2,400,018	
Landscaping/Irrigation	7.7	Ha	$100,000	$770,000	
Replacement Planting	2.0	Ha	$150,000	$300,000	
Relocate Private Irrigation Facilities					
Erosion Control					
Slope Protection					
Barriers & Guardrails					
Hazardous Waste Mitigation Work					
Environmental Mitigation (Archeology)	1	LS	$1,000,000	$1,000,000	
Storm Water Pollution Prevention	1	LS	$1,400,000.00	$1,400,000	
			Subtotal Speciality Items		$5,870,018

Section 5 Traffic Items					
Lighting	1	LS	$200,000	$200,000	
Traffic Signals	4	EA	$200,000	$800,000	
Permanent Signing	1	LS	$500,000	$500,000	
Traffic Control Systems	1	LS	$900,000	$900,000	
Traffic Management Plan	1	LS	$500,000	$500,000	
Public Awareness Campaign	1	LS	$450,000	$450,000	
			Subtotal Traffic Items		$3,350,000

SUBTOTAL SECTIONS 1-5 $15,382,118

KP(PM) 116.3/121.0 (72.3/75.2)
EA 0C820K
Program Code

Section 6 Minor Items

Subtotal Sections 1-5	$15,382,118	x	5%	$769,106

TOTAL MINOR ITEMS $769,106

Section 7 Roadway Mobilization

Subtotal Sections 1-5	$15,382,118			
Minor Items	$769,106			
Sum	$16,151,224	x	10%	$1,615,122

TOTAL ROADWAY MOBILIZATION $1,615,122

Section 8 Road Additions

Supplemental

Subtotal Sections 1-5	$15,382,118			
Minor Items	$769,106			
Sum	$16,151,224	x	10%	$1,615,122

Contingencies *

Subtotal Sections 1-5	$15,382,118			
Minor Items	$769,106			
Sum	$16,151,224	x	25%	$4,037,806

TOTAL ROADWAY ADDITIONS $5,652,928

TOTAL ROADWAY ITEMS $23,419,275

(Total of Sections 1-8)

ESTIMATE PREPARED BY

DOKKEN ENGINEERING Keith J. Hallsten (Print Name) PHONE # (916) 858-0642 DATE November 29, 2001

* Use appropriate percentage per Chapter 3-50 of Project Development Procedures Manual: PSR 25%, Draft PR 20%, PR 15%.

District-County-Route 5 - Mon - 1

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code

II. STRUCTURES ITEMS

Structure Name	Ret Wall #1	Ret Wall #2	Ret Wall #3	
Structure Type	Type 1	Type 1	MSE	
Height (Average) - (m)	5.5	4.0	6.7	
Length - (m)	335	350	458	
Total Area - (m^2)	1,843	1,400	3,069	
Footing Type (pile/spread)	Spread	Spread	Spread	
Cost Per m^2 (incl. 10% mobilization and 25% contingency)	$870.00	$865.00	$1,016.00	
Total Cost for Structure	$1,602,975	$1,211,000	$3,117,698	

SUBTOTAL STRUCTURES ITEMS $5,931,673

Railroad Related Costs: None

SUBTOTAL RAILROAD ITEMS $0

TOTAL STRUCTURES ITEMS $5,931,673

COMMENTS:

Wall #1 is retaining fill south of So Carmel Hills Drive, E. side of SR-1. Max Height = 25 ft.

Wall #2 is retaining cut north of So Carmel Hills Drive, E. side of SR-1. Max Height = 17 ft.

Wall #3 is retaining fill south of Carpenter Street, E. side of SR-1. Max Height = 36 ft.

ESTIMATE PREPARED BY

DOKKEN ENGRNG Lip Chong, P.E. (Print Name) PHONE # (916) 858-0642 DATE November 29, 2001

(If appropriate, attach additional pages and backup)

District-County-Route 5 - Mon - 1

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code

III. RIGHT OF WAY

Acquisition, including excess lands and damages to remainder	$4,544,000
Utility Relocation (Project share)	$1,075,000
Clearance/Demolition	$60,000
RAP	$120,000
Title and Escrow Fees	$76,500

TOTAL RIGHT OF WAY $5,875,500

CONSTRUCTION CONTRACT WORK $0

COMMENTS

ESTIMATE PREPARED BY

DOKKEN ENGINEERING Keith Hallsten (Print Name) PHONE # (916) 858-0642 DATE November 29, 2001

(If appropriate, attach additional pages and backup.)

PROJECT STUDY REPORT COST ESTIMATE

District-County-Route	5 - Mon - 1
KP(PM)	116.3/121.0 (72.3/75.2)
EA	0C820K
Program Code	

PROJECT DESCRIPTION: Alternative 2 - Interchanges at Carpenter Street, Ocean Avenue & Carmel Valley Road

Limits: On State Route 1 near Carmel from Carmel River Bridge to SR-68 (Pacific Grove) Interchange
On Rio Road from Birch Place to Crossroads. On Ocean Ave. from Randall Way to SR-1. On Doris Watson Place.
On Carpenter Street from Camino Del Monte to High Meadows Drive.

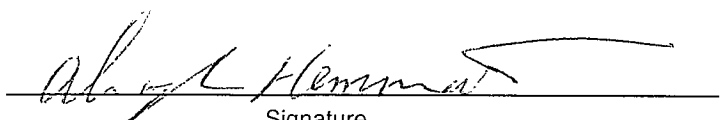
Proposed Improvements: **(Scope)** Construct second NB lane on SR-1 from Rio Road to Carmel Valley Road. Construct interchanges at Carpenter Street, Ocean Avenue, and Carmel Valley Road. Upgrade SR-1 to expressway standards from Ocean Avenue to existing SR-1 freeway. Provide median barrier and widen SR-1 to provide standard outside shoulder width. Construct frontage roads along east side of SR-1 south of Atherton and north of Mesa Dr., and connect 3rd Ave. to Valley Drive. Connect Handley Dr to Lower Trail as a frontage road, connect both ends of San Luis Avenue together as a frontage road. Construct accel and decel lanes on SR-1 at So. Carmel Hills Drive. Add turn lanes and/or modify signals at Rio Road intersecti

Alternate: NO BUILD, Alt. 1, Alt 3

SUMMARY OF PROJECT COST ESTIMATE

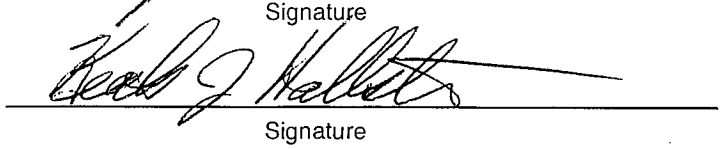
TOTAL ROADWAY ITEMS	$	$52,689,231
TOTAL STRUCTURE ITEMS	$	$19,758,362
SUBTOTAL CONSTRUCTION COSTS	$	$72,447,592
TOTAL RIGHT OF WAY ITEMS	$	$23,332,500
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	$95,780,092

Reviewed by Project Manager
Dokken Engineering



Signature

Approved by Project Engineer
Dokken Engineering



Signature

Phone No. (916) 858-0642 Date November 29, 2001

District-County-Route: 5 - Mon - 1

KP(PM): 116.3/121.0 (72.3/75.2)

EA: 0C820K

Program Code: 0

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation	306,000	m^3	$32.68	$10,000,080	
Imported Borrow					
Clearing & Grubbing	1	LS	$200,000	$200,000	
Develop Water Supply					
				Subtotal Earthwork	$10,200,080
Section 2 Pavement Structural Section*					
PCC Pavement (_____ Depth)					
Asphalt Concrete	44,450	tonne	$66.00	$2,933,700	
Cement-Treated Base					
Aggregate Base	79,300	m^3	$52.50	$4,163,250	
Treated Permeable Base					
Aggregate Subbase					
Edge Drains					
				Subtotal Pavement Structural Section	$7,096,950
Section 3 Drainage					
Large Drainage Facilities					
Storm Drains	1	LS	$500,000	$500,000	
Pumping Plant					
Project Drainage					
(X-Drains, overside, etc.)	1	LS	$1,500,000	$1,500,000	
				Subtotal Drainage	$2,000,000

* Assumed pavement structural section: 150 mm AC over 600 mm AB (0.5 ft AC over 2.0 ft AB).

KP(PM)	116.3/121.0 (72.3/75.2)
EA	0C820K
Program Code	0

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Retaining Walls	See Structures				
Soundwalls	7,435	m^2	$322.80	$2,400,018	
Landscaping/Irrigation	14.6	Ha	$100,000	$1,460,000	
Replacement Planting	4.0	Ha	$150,000	$600,000	
Irrigation Modification					
Relocate Private Irrigation Facilities					
Erosion Control					
Slope Protection					
Barriers & Guardrails					
Hazardous Waste Mitigation Work					
Environmental Mitigation (Archeology)	1	LS	$1,000,000	$1,000,000	
Storm Water Pollution Prevention	1	LS	$3,500,000.00	$3,500,000	
			Subtotal Speciality Items		$8,960,018

Section 5 Traffic Items					
Lighting	1	LS	$500,000	$500,000	
Traffic Signals	5	EA	$150,000	$750,000	
Permanent Signing	1	LS	$1,000,000	$1,000,000	
Traffic Control Systems	1	LS	$2,500,000	$2,500,000	
Traffic Management Plan	1	LS	$1,000,000	$1,000,000	
Public Awareness Campaign	1	LS	$600,000.00	$600,000	
			Subtotal Traffic Items		$6,350,000

SUBTOTAL SECTIONS 1-5	$34,607,048

KP(PM) 116.3/121.0 (72.3/75.2)
EA 0C820K
Program Code 0

Section 6 Minor Items

Subtotal Sections 1-5	$34,607,048	x	5%	$1,730,352

TOTAL MINOR ITEMS $1,730,352

Section 7 Roadway Mobilization

Subtotal Sections 1-5	$34,607,048			
Minor Items	$1,730,352			
Sum	$36,337,400	x	10%	$3,633,740

TOTAL ROADWAY MOBILIZATION $3,633,740

Section 8 Road Additions

Supplemental

Subtotal Sections 1-5	$34,607,048			
Minor Items	$1,730,352			
Sum	$36,337,400	x	10%	$3,633,740

Contingencies *

Subtotal Sections 1-5	$34,607,048			
Minor Items	$1,730,352			
Sum	$36,337,400	x	25%	$9,084,350

TOTAL ROADWAY ADDITIONS $12,718,090

TOTAL ROADWAY ITEMS $52,689,231
(Total of Sections 1-8)

ESTIMATE PREPARED BY
DOKKEN ENGINEERING Lip Chong, P.E. PHONE # (916) 858-0642 DATE November 29, 2001
(Print Name)

* Use appropriate percentage per Chapter 3-50 of Project Development Procedures Manual: PSR 25%, Draft PR 20%, PR 15%.

District-County-Route 5 - Mon - 1

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code 0

II. STRUCTURES ITEMS, Sheet 1 of 4

Structure Name	Carmel Valley Rd UC	CVR UC South Approach Ret. Walls	CVR UC North Approach Ret. Walls	Ret Wall #1
Structure Type	CIP P/S Box Girder	Types 1 & 2	Types 1 & 2	Type 1
Avg. Width (or Height) - (m)	11.6	4.9	4.6	5.5
Length (Span) - (m)	36.6	396.2	204.2	335.3
Total Area - (m^2)	424	1,923	932	1,840
Footing Type (pile/spread)	Spread	Spread	Spread	Spread
Cost Per m^2 (incl. 10% mobilization and 25% contingency)	$1,830.00	$1,358.00	$1,358.00	$871.60
Total Cost for Structure	$775,188	$2,611,434	$1,265,384	$1,603,744

SHEET 1 SUBTOTAL, STRUCTURES ITEMS $6,255,750

Railroad Related Costs:

SHEET 1 SUBTOTAL, RAILROAD ITEMS $0

SHEET 1 TOTAL, STRUCTURES ITEMS $6,255,750

COMMENTS:

South Approach to CVR has 1050' of Type 2 Ret Wall with avg. height of 14 ft, and 250' of Type 1 Ret Wall with avg. height of 24 ft.
North Approach to CVR has 550' of Type 2 Ret Wall with avg. height of 13 ft, and 120' of Type 1 Ret Wall with avg. height of 24 ft.
Wall #1 is retaining fill south of So Carmel Hills Drive, E. side of SR-1. Max Height = 25 ft.

ESTIMATE PREPARED BY

DOKKEN ENGINEERING Hashim Hamzawi (Print Name) PHONE # (916) 858-0642 DATE October 17, 2001

(If appropriate, attach additional pages and backup)

District-County-Route 5 - Mon - 1

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code 0

STRUCTURES ITEMS, Sheet 2 of 4

Structure Name	Ret Wall #2	Ocean Ave. OC	Ocean OC South Approach Ret. Walls	Ocean OC North Approach Ret. Walls
Structure Type	Type 2	CIP P/S Box Girder	Type 2	Type 2
Height (Average) - (m)	3.0	23.8	4.9	4.3
Length - (m)	777	30.5	375	305
Total Area - (m^2)	2,331	726	1,838	1,312
Footing Type (pile/spread)	Spread	Spread	Spread	Spread
Cost Per m^2 (incl. 10% mobilization and 25% contingency)	$885.00	$1,830.00	$1,925.00	$1,925.00
Total Cost for Structure	$2,062,935	$1,328,397	$3,537,188	$2,524,638

SHEET 2 SUBTOTAL, STRUCTURES ITEMS $9,453,157

Railroad Related Costs:

SHEET 2 SUBTOTAL, RAILROAD ITEMS $0

SHEET 2 TOTAL, STRUCTURES ITEMS $9,453,157

COMMENTS:

Wall #2 is retaining cut from So Carmel Hills Drive to Ocean Ave, E. side of SR-1. Max Height = 17 ft.

Ocean Ave. OC Approach walls are between the through lanes of SR-1 and the ramps.

ESTIMATE PREPARED BY

DOKKEN ENGINEERING Hashim Hamzawi (Print Name) PHONE # (916) 858-0642 DATE October 17, 2001

(If appropriate, attach additional pages and backup)

District-County-Route 5 - Mon - 1

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code 0

STRUCTURES ITEMS, Sheet 3 of 4

Structure Name	Ret Wall #3	Ret Wall #4	Ret Wall #5	Ret Wall #6
Structure Type	Type 2	Type 2	MSE	Type 1
Avg. Height - (m)	3.4	2.7	7.6	6.1
Length - (m)	335	198	457	152
Total Area - (m^2)	1,124	543	3,484	929
Footing Type (pile/spread)	Spread	Spread	Spread	Spread
Cost Per m^2 (incl. 10% mobilization and 25% contingency)	$872.00	$872.00	$1,018.00	$1,018.00
Total Cost for Structure	$980,128	$473,496	$3,546,712	$945,722

SHEET 3 SUBTOTAL, STRUCTURES ITEMS $5,946,058

Railroad Related Costs:

SHEET 3 SUBTOTAL, RAILROAD ITEMS $0

SHEET 3 TOTAL, STRUCTURES ITEMS $5,946,058

COMMENTS:

Wall #3 is retaining cut along the west side of the SB on-ramp from Ocean Ave. Max Height = 20 ft.

Wall #4 is retaining cut along the east side of the NB on-ramp from Ocean Ave. Max Height = 20 ft.

Wall #5 is retaining fill along the E. side of SR-1, both north and south of the south abutment of the Hatton Ck Br. Max Height = 37 ft.

Wall #6 is retaining cut at east end of Carpenter Street. Max Height = 25 ft.

ESTIMATE PREPARED BY

DOKKEN ENGINEERING Hashim Hamzawi (Print Name) PHONE # (916) 858-0642 DATE October 17, 2001

(If appropriate, attach additional pages and backup)

District-County-Route 0C820K

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code 0

STRUCTURES ITEMS, Sheet 4 of 4

Structure Name	Hatton Cr Br	Carpenter St OC		
Structure Type	CIP P/S Box Girder	CIP P/S Box Girder		
Avg. Width - (m)	28	74		
Length (Spans) - (m)	36.5 - 48.8 - 36.5	21.3 - 27.4		
Total Area - (m^2)	1,041	1,100		
Footing Type (pile/spread)	Spread	Spread		
Cost Per m^2 (incl. 10% mobilization and 25% contingency)	$1,889.00	$1,894.50		
Total Cost for Structure	$1,965,505	$2,083,950		

SHEET 4 SUBTOTAL, STRUCTURES ITEMS	$4,049,455

Railroad Related Costs:

SHEET 4 SUBTOTAL, RAILROAD ITEMS	$0
SHEET 4 TOTAL, STRUCTURES ITEMS	$4,049,455
SHEET 3 TOTAL, STRUCTURES ITEMS	$5,946,058
SHEET 2 TOTAL, STRUCTURES ITEMS	$9,453,157
SHEET 1 TOTAL, STRUCTURES ITEMS	$6,255,750
GRAND TOTAL STRUCTURES ITEMS	$19,758,362

COMMENTS:

The Hatton Creek Bridge carries the NB off-ramp to Carpenter Street.

ESTIMATE PREPARED BY
DOKKEN ENGINEERING

Hashim Hamzawi (Print Name) PHONE # (916) 858-0642 DATE October 17, 2001

(If appropriate, attach additional pages and backup)

District-County-Route 5 - Mon - 1

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code 0

III. RIGHT OF WAY

Acquisition, including excess lands and damages to remainder	$14,415,000
Utility Relocation (Project share)	$8,145,000
Clearance/Demolition	$230,000
RAP	$460,000
Title and Escrow Fees	$82,500

TOTAL RIGHT OF WAY $23,332,500

CONSTRUCTION CONTRACT WORK $0

COMMENTS

ESTIMATE PREPARED BY

DOKKEN ENGINEERING Keith Hallsten (Print Name) PHONE # (916) 858-0642 DATE November 29, 2001

(If appropriate, attach additional pages and backup.)

PROJECT STUDY REPORT COST ESTIMATE

District-County-Route	5 - Mon - 1
KP(PM)	116.3/121.0 (72.3/75.2)
EA	0C820K
Program Code	

PROJECT DESCRIPTION: Alternative 3 - All Grade-level intersections, except WB-to-NB left turns at Ocean Ave and Carpenter Street in tunnels under intersections.

Limits: On State Route 1 near Carmel from Carmel River Bridge to SR-68 (Pacific Grove) Interchange
On Rio Road from Birch Place to Crossroads. On Ocean Ave. from Hatton Road to SR-1. On Doris Watson Place.
On Carpenter Street from Camino Del Monte to High Meadows Drive.

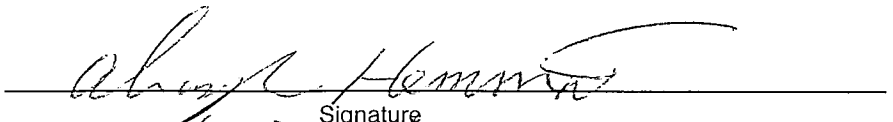
Proposed Improvements: (Scope) Construct second NB lane on SR-1 from Rio Road to Carmel Valley Road. Construct tunnel to conduct left turns from EB Ocean to NB SR-1. Construct tunnel to conduct left turns from EB Carpenter
Widen SR-1 to provide standard shoulder width. Construct frontage roads along east side of SR-1 south of Atherton, south of Ocean Ave. to Mesa Dr., and north of Ocean Ave. to Valley Drive. Connect Handley Dr to Lower Trail as a frontage road, connect both ends of San Luis Avenue together as a frontage road.
Construct acceleration and deceleration lanes om SR-1 at So. Carmel Hills Drive. Add turn lanes and/or modify signals at Rio Road, Carmel Valley Rd, Ocean Ave. and Carpenter St. intersections

Alternate: NO BUILD, Alt. 1, Alt 2

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	$25,536,791
TOTAL STRUCTURE ITEMS	$	$11,317,812
SUBTOTAL CONSTRUCTION COSTS	$	$36,854,603
TOTAL RIGHT OF WAY ITEMS	$	$6,579,500
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	$43,434,103

Reviewed by Project Manager
Dokken Engineering



Signature

Approved by Project Engineer
Dokken Engineering

Signature

Phone No. (916) 858-0642 Date November 29, 2001

District-County-Route: 5 - Mon - 1

KP(PM): 116.3/121.0 (72.3/75.2)

EA: 0C820K

Program Code: 0

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost	Section Cost
Roadway Excavation	22,940	m^3	$32.60	$747,844	
Imported Borrow	11,470	m^3	$39.50	$453,065	
Clearing & Grubbing	1	LS	$80,000	$80,000	
Develop Water Supply					
				Subtotal Earthwork	$1,280,909
Section 2 Pavement Structural Section*					
PCC Pavement (_____ Depth)					
Asphalt Concrete	15,875	tonne	$66.00	$1,047,750	
Cement-Treated Base					
Aggregate Base	28,290	m^3	$52.50	$1,485,225	
Treated Permeable Base					
Aggregate Subbase					
Pavement Reinforcing Fabric					
Edge Drains					
				Subtotal Pavement Structural Section	$2,532,975
Section 3 Drainage					
Large Drainage Facilities					
Storm Drains	1	LS	$500,000	$500,000	
Pumping Plant					
Project Drainage					
(X-Drains, overside, etc.)	1	LS	$1,000,000	$1,000,000	
				Subtotal Drainage	$1,500,000

* Assumed pavement structural section: 150 mm AC over 600 mm AB (0.5 ft AC over 2.0 ft AB).

KP(PM)	116.3/121.0 (72.3/75.2)
EA	0C820K
Program Code	0

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost	Section Cost
Retaining Walls	See Structures				
Soundwalls	7,432	m^2	$322.80	$2,399,050	
Landscaping/Irrigation	5.0	Ha	$100,000	$500,000	
Replacement Planting	1.4	Ha	$150,000	$210,000	
Relocate Private Irrigation Facilities					
Erosion Control					
Slope Protection					
Barriers & Guardrail					
Hazardous Waste Mitigation Work					
Environmental Mitigation (Archeology	1	LS	$1,000,000	$1,000,000	
Storm Water Pollution Prevention	1	LS	$1,750,000	$1,750,000	
				Subtotal Speciality Items	$5,859,050

Section 5 Traffic Items					
Lighting	1	LS	$200,000	$200,000	
Traffic Signals	4	EA	$200,000	$800,000	
Permanent Signing	1	LS	$500,000	$500,000	
Traffic Control Systems	1	LS	$2,500,000	$2,500,000	
Traffic Management Plan	1	LS	$1,000,000	$1,000,000	
Public Awareness Campaign	1	LS	$600,000	$600,000	
				Subtotal Traffic Items	$5,600,000

SUBTOTAL SECTIONS 1-5	$16,772,934

KP(PM) 116.3/121.0 (72.3/75.2)
EA 0C820K
Program Code 0

Section 6 Minor Items

Subtotal Sections 1-5	$16,772,934	x	5%	$838,647

TOTAL MINOR ITEMS $838,647

Section 7 Roadway Mobilization

Subtotal Sections 1-5	$16,772,934			
Minor Items	$838,647			
Sum	$17,611,580	x	10%	$1,761,158

TOTAL ROADWAY MOBILIZATION $1,761,158

Section 8 Road Additions

Supplemental

Subtotal Sections 1-5	$16,772,934			
Minor Items	$838,647			
Sum	$17,611,580	x	10%	$1,761,158

Contingencies *

Subtotal Sections 1-5	$16,772,934			
Minor Items	$838,647			
Sum	$17,611,580	x	25%	$4,402,895

TOTAL ROADWAY ADDITIONS $6,164,053

TOTAL ROADWAY ITEMS $25,536,791
(Total of Sections 1-8)

ESTIMATE PREPARED BY
DOKKEN ENGINEERING Lip Chong, P.E. PHONE # (916) 858-0642 DATE November 29, 2001
(Print Name)

* Use appropriate percentage per Chapter 3-50 of Project Development Procedures Manual: PSR 25%, Draft PR 20%, PR 15%.

District-County-Route 5 - Mon - 1

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code 0

II. STRUCTURES ITEMS, Sheet 1 of 2

Bridge Name	Ret Wall #1	Ret Wall #2	Ret Walls West of Ocean Tunnel	Ocean Ave Tunnel
Structure Type	Type 1	Type 1	Type 2	RC Slab
Width (or Height) - (m)	4.5	4.0	3.0	9.1
Length - (m)	335	350	61	125
Total Area - (m^2)	1,840	1,390	186	1,143
Footing Type (pile/spread)	Spread	Spread	Spread	Spread
Cost Per m^2 (incl. 10% mobilization and 25% contingency)	$872.00	$872.00	$1,612.00	$2,755.00
Total Cost for Structure	$1,604,480	$1,212,080	$299,832	$3,148,965

SHEET 1 SUBTOTAL, STRUCTURES ITEMS $6,265,357

Railroad Related Costs:

SHEET 1 SUBTOTAL, RAILROAD ITEMS $0

SHEET 1 TOTAL, STRUCTURES ITEMS $6,265,357

COMMENTS:

Wall #1 is retaining fill south of So Carmel Hills Drive, E. side of SR-1. Max Height = 25 ft.

Wall #2 is retaining cut north of So Carmel Hills Drive, E. side of SR-1. Max Height = 17 ft.

ESTIMATE PREPARED BY

DOKKEN ENGINEERING: Hashim Hamzawi, PE (Print Name) PHONE # (916) 858-0642 DATE September 21, 2001

(If appropriate, attach additional pages and backup)

District-County-Route 0C820K

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code 0

STRUCTURES ITEMS, Sheet 2 of 2

Structure Name	Ret Walls North of Ocean Tunnel	Carpenter St Tunnel	Ret Walls West Of C.S. Tunnel	Ret Walls North Of C.S. Tunnel
Structure Type	Type 2	Slab	Type 2	Type 2
Width (or Height) - (m)	3.6	9.1	4.3	3.6
Length - (m)	198	116	55	98
Total Area - (m^2)	725	1,059	234	357
Footing Type (pile/spread)	Spread	Spread	Spread	Spread
Cost Per m^2 (incl. 10% mobilization and 25% contingency)	$1,627.00	$2,688.00	$1,777.00	$1,710.00
Total Cost for Structure	$1,179,575	$2,846,592	$415,818	$610,470

SHEET 2 SUBTOTAL, STRUCTURES ITEMS $5,052,455

Railroad Related Costs:

SHEET 2 SUBTOTAL, RAILROAD ITEMS $0

SHEET 2 TOTAL, STRUCTURES ITEMS $5,052,455

SHEET 1 TOTAL, STRUCTURES ITEMS $6,265,357

GRAND TOTAL, STRUCTURES ITEMS $11,317,812

COMMENTS:

ESTIMATE PREPARED BY

DOKKEN ENGINEERING: Hashim Hamzawi, PE (Print Name) PHONE # (916) 858-0642 DATE September 21, 2001

(If appropriate, attach additional pages and backup)

District-County-Route 5 - Mon - 1

KP(PM) 116.3/121.0 (72.3/75.2)

EA 0C820K

Program Code 0

III. RIGHT OF WAY

Acquisition, including excess lands and damages to remainder	$4,548,000
Utility Relocation (Project share)	$1,775,000
Clearance/Demolition	$60,000
RAP	$120,000
Title and Escrow Fees	$76,500

TOTAL RIGHT OF WAY $6,579,500

CONSTRUCTION CONTRACT WORK $0

COMMENTS

ESTIMATE PREPARED BY

DOKKEN ENGINEERING Keith Hallsten (Print Name) PHONE # (916) 858-0642 DATE November 29, 2001

(If appropriate, attach additional pages and backup.)

EXHIBIT D – DESIGN SCOPING CHECKLIST

PDS Design Scoping Checklist

Project Information

District 5 County Mon Route 1 Kilometer Post (Post Mile) 116.3/121.0 (72.3/75.2) EA 0C820K

Description Widen State Route 1 to 4-lane or six-lane conventional highway with partial access control from Rio Road to the State Route 68 Interchange. The project alternatives vary in the limits of widening and degree of access control to be provided.

Project Manager David Silberberger Phone # (805) 549-3798

Project Engineer Keith Hallsten, Dokken Engineering Phone # (916) 858-0642

Design Functional Manager Ali Hemmati, Dokken Engineering Phone # (916) 858-0642

Project Development Coordinator Ken Cozad Phone # (916) 653-0971

Project Screening

(A project location map is included in Exhibit A of the PSR-PDS and preliminary concept drawings are included in Exhibit B of the PSR-PDS to show the location of all design improvements anticipated)

1. Project Description as Noted in Draft 2002 Regional Transportation Plan:
   SR-1 Carmel Corridor Capacity Improvements: Widen to add two or more lanes between Carmel River Bridge and Carpenter Street with at-grade intersection improvements or grade-separated interchange improvements

2. Project Setting High-density residential with a suburban or rural character; Carmel High School is located along the east side of SR-1 near the center of the project area; A commercial center is located east of SR-1, south of Carmel Valley Road.

   Rural or Urban Urban Current land uses State highway

   Adjacent land uses Residential, High School, Commercial
   (industrial, light industry, commercial, agricultural, residential, etc.)

   Existing landscaping/planting Native pine forest, residential landscaping

3. Route Adoption: Date _____ Type of Facility Conventional Highway

   Freeway Agreement: Yes Date 1957 (For Hatton Canyon Bypass – may require modification for Alternative 2)

Description of the Transportation Problem

State Route 1 in the project study area has been experiencing substantial congestion, with resulting extended travel time, for many years. This has resulted in significant volumes of through traffic bypassing the study section of State Route 1 by means of local streets in Carmel, with resulting congestion on the local street system.

Proposed Scope of Work

Widen SR-1 and make intersection improvements at Rio Road, Carmel Valley Road, Ocean Avenue, and Carpenter Street. Reduce the number of other local street intersections (disconnect Atherton Dr., Mesa Dr., Morse Dr., Flanders Dr., 3rd Ave., Valley Way, Handley Dr., and both ends of San Luis Dr. from SR-1 and connect to the local road system by means of frontage roads) and improve those intersections which remain (So. Carmel Hills Drive) with deceleration and acceleration lanes. Provide frontage road connections for private driveways and eliminate private driveway access to SR-1. Widen shoulders to standard (2.4 m) width. Provide for Arterial Level of Service "D" in the 2030 design year. Three alternatives for this project have been identified:

Alternative 1 - Widen SR-1 with the addition of a second northbound lane from Rio Rd. to Carmel Valley Road. Widen SR-1 from 2 lanes to 4 lanes from Carmel Valley Road to Ocean Street. Add a third northbound lane from Ocean Street through the Carpenter Street intersection. Add turn lanes at the signalized Ocean Ave./SR-1 intersection. Add turn lanes (to include a triple EB-to-NB left) at the signalized Ocean Avenue intersection and at the signalized Carpenter Street intersection.

Alternative 2 - Widen SR-1 with the addition of a second northbound lane from Rio Rd. to Carmel Valley Road. Widen SR-1 from 2 lanes to 4 lanes from Carmel Valley Road to Ocean Street. Add turn lanes at the signalized Ocean Ave./SR-1 intersection. Grade-separate the conflicting movements at Carmel Valley Road for free flow. Construct a tight diamond interchange at Ocean Avenue. Construct a modified diamond interchange at Carpenter Street. This would effectively improve SR-1 to expressway standards as far south as Ocean Avenue.

Alternative 3 - Widen SR-1 with the addition of a second northbound lane from Rio Rd. to Carmel Valley Road. Widen SR-1 from 2 lanes to 4 lanes from Carmel Valley Road to Ocean Street. Add turn lanes at the signalized Ocean Ave./SR-1 intersection. Add turn lanes (to include a grade-separated EB-to-NB left in a tunnel) at the signalized Ocean Avenue intersection and at the signalized Carpenter Street intersection.

Forecast (2030) Average Daily Traffic Volumes

	ADT	% Trucks
SR-1, Carmel River Bridge to Rio Road:	12,000	1.0
SR-1, Rio Road to Carmel Valley Road:	20,500	1.5
SR-1, Carmel Valley Road to Ocean Avenue:	48,500	2.0
SR-1, Ocean Avenue to Carpenter Street:	54,500	2.0
SR-1, Carpenter Street to SR-68 IC:	74,000	2.0

Design Criteria - Alternative 1

Type of facility to be considered? (more than one may apply)

Freeway Expressway √ Conventional Highway Urban Street
Other (specify) _____

Design Speed for highway facilities within the project limit? 90 km/hr

Design Period: Construction Year is? 2010 Design Year is? 2030

Design Capacity: Level of Service to be maintained over the design period is?
Mainline Arterial "D" Ramp N/A Local Street "D" Weaving Sections N/A .

Design Vehicle Selection?
STAA_____ California √ Bus_____

Proposed Roadbed and Structure Widths - Alternative 1

	Roadbed Width (m) Existing	Proposed	Standard	Structure Width (m) Existing	Proposed	Standard
State highway						
Lane Widths	3.6	3.6	3.6			
Left Shoulder	N/A	N/A	-			
Right Shoulder	Var 0 - 2.4	2.4	2.4			
Median Width	N/A	N/A	-			
Bicycle Lane	N/A	N/A	-			
Local Street						
Lane Widths	3 - 3.6	3 - 3.6	3 - 3.6			
Left Shoulder	N/A	N/A	-			
Right Shoulder	N/A	N/A	-			
Median Width	N/A	N/A	-			
Bicycle Lane	N/A	N/A	-			

Median Barrier Existing None Proposed None
(Concrete Barrier / Thrie Beam / Other)

Roadway Design Scoping - Alternative 1

Mainline Operations

Mainline Highway Widening

- ■ Existing pavement to be rehabilitated with Asphalt Concrete / Rubberized AC.
- ■ Widen existing 2 to 4 lane facility to 3 to 6 lanes. R/W acquisition for 3 to 6 lanes.
- ❑ Local street structures to span _____ lanes of highway (for future requirements).

Upgrade existing facility to:

❑ Expressway Standards ❑ Freeway Standards
❑ Controlled Access Highway ❑ Traversable Highway
❑ Improve Vertical Clearance ❑ Adequate Falsework Clearance

Ramp / Street Intersection Improvements

❑ New Signals ■ Modify Signals
■ Right Turn Lanes ❑ Widening For Localized Through Lanes
❑ Merging Lanes ■ Deceleration / Acceleration Lanes
■ Left Turn Lanes ■ > 300 VPH Left Turn (Requires Double Left Turn)
❑ Interchange Spacing ❑ Ramps Intersect Local Street < 4 % Grade
❑ Intersection Spacing ❑ Exit Ramps > 1,500 VPH Designed As Two Lane Exit
❑ Single Lane Ramps Exceeding 300 M Widened To Two Lanes

Operational Improvements

Truck Climbing Lane
■ Sustained Grade Exceeding 2% And Total Rise Exceeds 15 M.

Auxiliary Lanes
❑ When 600 M Between Successive On-Ramps.
❑ Two Lane Exit Ramps Have 400 M Auxiliary Lane.
❑ Weaving < 500 M between Off-Ramp and On-Ramp.

Right of Way Access Control

❑ Existing access control extends at least 15 m beyond end of curb return, radius or taper.
❑ New construction access control extends at least 30 m (urban areas) or 100 m (rural areas) beyond end of curb returns, radius or taper.
■ Other Access rights for driveways on the state highway to be acquired

Highway Planting

❑ Replacement ❑ Median ■ Mitigation

Safety

❑ Off-Freeway Access ❑ Maintenance Vehicle Pull-Out

Roadside Management

❑ Slope paving ❑ Gore paving ❑ Roadside paving

Stormwater

■ Erosion control ■ Drainage ■ Slope design

Structures

❑ New Bridge ❑ Bridge Rehab ■ Retaining Wall

❑ Other _____ ❑ On STRAIN list for _____

Design Criteria - Alternative 2

Type of facility to be considered? (more than one may apply)

Freeway √ Expressway √ Conventional Highway Urban Street

(Expressway from Ocean Avenue northward, conventional highway with partial access control south of Ocean Avenue)

Design Speed for highway facilities within the project limit? 90 km/hr

Design Period: Construction Year is? 2010 Design Year is? 2030

Design Capacity: Level of Service to be maintained over the design period is?

Mainline Arterial "D" Ramp "C" Local Street "D" Weaving Sections "D"

Design Vehicle Selection?

STAA _____ California √ Bus _____

Proposed Roadbed and Structure Widths - Alternative 2

	Roadbed Width (m) Existing	Proposed	Standard	Structure Width (m) Existing	Proposed	Standard
State highway						
Lane Widths	3.6	3.6	3.6			
Left Shoulder	N/A	N/A	-			
Right Shoulder	Var 0 - 2.4	2.4	2.4			
Median Width	N/A	N/A	-			
Bicycle Lane	N/A	N/A	-			
Local Street						
Lane Widths	3 - 3.6	3 - 3.6	3 - 3.6			
Left Shoulder	N/A	N/A	-			
Right Shoulder	N/A	N/A	-			
Median Width	N/A	N/A	-			
Bicycle Lane	N/A	N/A	-			

Median Barrier Existing None Proposed None
(Concrete Barrier / Thrie Beam / Other)

Roadway Design Scoping - Alternative 2

Mainline Operations

Mainline Highway Widening

- ■ Existing pavement to be rehabilitated with Asphalt Concrete / Rubberized AC.
- ■ Widen existing 2 to 4 lane facility to 3 to 4 lanes. R/W acquisition for 3 to 4 lanes.
- ❑ Local street structures to span 4 lanes of highway (for future requirements).

Upgrade existing facility, from Ocean Avenue northward, to:

■ Expressway Standards ❑ Freeway Standards
❑ Controlled Access Highway ❑ Traversable Highway
❑ Improve Vertical Clearance ❑ Adequate Falsework Clearance

Ramp / Street Intersection Improvements

■ New Signals ■ Modify Signals
■ Right Turn Lanes ❑ Widening For Localized Through Lanes
❑ Merging Lanes ■ Deceleration / Acceleration Lanes
■ Left Turn Lanes ■ > 300 VPH Left Turn (Requires Double Left Turn)
❑ Interchange Spacing ■ Ramps Intersect Local Street < 4 % Grade
❑ Intersection Spacing ❑ Exit Ramps > 1,500 VPH Designed As Two Lane Exit
❑ Single Lane Ramps Exceeding 300 M Widened To Two Lanes

Operational Improvements

Truck Climbing Lane
■ Sustained Grade Exceeding 2% And Total Rise Exceeds 15 M.

Auxiliary Lanes
❑ When 600 M Between Successive On-Ramps.
❑ Two Lane Exit Ramps Have 400 M Auxiliary Lane.
■ Weaving < 500 M between Off-Ramp and On-Ramp. (*Ocean on-ramp to Carpenter off)*

Right of Way Access Control

❑ Existing access control extends at least 15 m beyond end of curb return, radius or taper.
❑ New construction access control extends at least 30 m (urban areas) or 100 m (rural areas) beyond end of curb returns, radius or taper.
■ Other Access rights for driveways on the state highway to be acquired, and full access control from Carpenter interchange through Ocean interchange.

Highway Planting

❑ Replacement ❑ Median ■ Mitigation

Safety

❑ Off-Freeway Access ❑ Maintenance Vehicle Pull-Out

Roadside Management

❑ Slope paving ❑ Gore paving ❑ Roadside paving

Stormwater

■ Erosion control ■ Drainage ■ Slope design

Structures

■ New Bridges ❑ Bridge Rehab ■ Retaining Walls
❑ Other _____ ❑ On STRAIN list for _____

Design Criteria - Alternative 3

Type of facility to be considered? (more than one may apply)

Freeway Expressway √ Conventional Highway Urban Street

Other (specify) _____

Design Speed for highway facilities within the project limit? 90 km/hr

Design Period: Construction Year is? 2010 Design Year is? 2030

Design Capacity: Level of Service to be maintained over the design period is?

Mainline Arterial "D" Ramp N/A Local Street "D" Weaving Sections N/A

Design Vehicle Selection?

STAA_____ California √ Bus_____

Proposed Roadbed and Structure Widths - Alternative 3

	Roadbed Width (m) Existing	Roadbed Width (m) Proposed	Roadbed Width (m) Standard	Structure Width (m) Existing	Structure Width (m) Proposed	Structure Width (m) Standard
State highway						
Lane Widths	3.6	3.6	3.6			
Left Shoulder	N/A	N/A	-			
Right Shoulder	Var 0 - 2.4	2.4	2.4			
Median Width	N/A	N/A	-			
Bicycle Lane	N/A	N/A	-			
Local Street						
Lane Widths	3 - 3.6	3 - 3.6	3 - 3.6			
Left Shoulder	N/A	N/A	-			
Right Shoulder	N/A	N/A	-			
Median Width	N/A	N/A	-			
Bicycle Lane	N/A	N/A	-			

Median Barrier Existing None Proposed None
(Concrete Barrier / Thrie Beam / Other)

Roadway Design Scoping - Alternative 3

Mainline Operations

Mainline Highway Widening

- ■ Existing pavement to be rehabilitated with Asphalt Concrete / Rubberized AC.
- ■ Widen existing _____ lane facility to _____ lanes. R/W acquisition for _____ lanes.
- ❑ Local street structures to span _____ lanes of highway (for future requirements).

Upgrade existing facility to:

❑ Expressway Standards ❑ Freeway Standards
❑ Controlled Access Highway ❑ Traversable Highway
❑ Improve Vertical Clearance ❑ Adequate Falsework Clearance

Ramp / Street Intersection Improvements

❑ New Signals ■ Modify Signals
■ Right Turn Lanes ❑ Widening For Localized Through Lanes
❑ Merging Lanes ■ Deceleration / Acceleration Lanes
■ Left Turn Lanes ■ > 300 VPH Left Turn (Requires Double Left Turn)
❑ Interchange Spacing ❑ Ramps Intersect Local Street < 4 % Grade
❑ Intersection Spacing ❑ Exit Ramps > 1,500 VPH Designed As Two Lane Exit
❑ Single Lane Ramps Exceeding 300 M Widened To Two Lanes

Operational Improvements

Truck Climbing Lane
■ Sustained Grade Exceeding 2% And Total Rise Exceeds 15 M.
❑ Other_____
Auxiliary Lanes
❑ When 600 M Between Successive On-Ramps.
❑ Two Lane Exit Ramps Have 400 M Auxiliary Lane.
❑ Weaving < 500 M between Off-Ramp and On-Ramp.

Right of Way Access Control

❑ Existing access control extends at least 15 m beyond end of curb return, radius or taper.
❑ New construction access control extends at least 30 m (urban areas) or 100 m (rural areas) beyond end of curb returns, radius or taper.
■ Other Access rights for driveways on the state highway to be acquired

Highway Planting

❑ Replacement ❑ Median ■ Mitigation

Safety

❑ Off-Freeway Access ❑ Maintenance Vehicle Pull-Out

Roadside Management

❑ Slope paving ❑ Gore paving ❑ Roadside paving

Stormwater

■ Erosion control ■ Drainage ■ Slope design

Structures

❑ New Bridge ❑ Bridge Rehab ■ Retaining Walls
■ Other Tunnels ❑ On STRAIN list for _____

Additional Studies

For all alternatives, local street traffic patterns will be changed, and must be studied. This study should address non-motorized vehicles and pedestrians as well as motor vehicle traffic.

Preliminary Review provided by:

Design Manager David Fapp **Date** 12-12-01
David Fapp, P.E.

Design Concept approved by:

Project Development Coordinator _____ **Date** 12-12-01
Ken Cozad, P.E.

Conceptual approval in no way implies that any non-standard features currently identified or identified in the future will be approved. Non-standard features will need to be identified, fully analyzed and justified prior to approval (via a design exception fact sheet) of the selected alternative.

Reviewed by:

Project Manager _____ **Date** 12/12/01
David Silberberger

EXHIBIT E – ENVIRONMENTAL SCOPING CHECKLIST

ENVIRONMENTAL SCOPING CHECKLIST

STATE ROUTE 1 IMPROVEMENTS

Submitted to:

Dokken Engineering
140 Central Avenue
Salinas, CA 93901
Attn.: Ali Hemmati
(831) 751-1701

For Use by:

Transportation Agency for Monterey County and
California Department of Transportation, District 5

Prepared by:

LSA Associates, Inc.
One Park Plaza, Suite 500
Irvine, California 92614
(949) 553-0666

LSA Project No. DEC130

LSA

November 28, 2001

ENVIRONMENTAL SCOPING CHECKLIST

PROJECT INFORMATION

District 5 County Monterey Route 1
Kilometer Post (Post Mile) 116.3/121.0 (PM 72.3/75.2) EA # 05-OC820K

Description

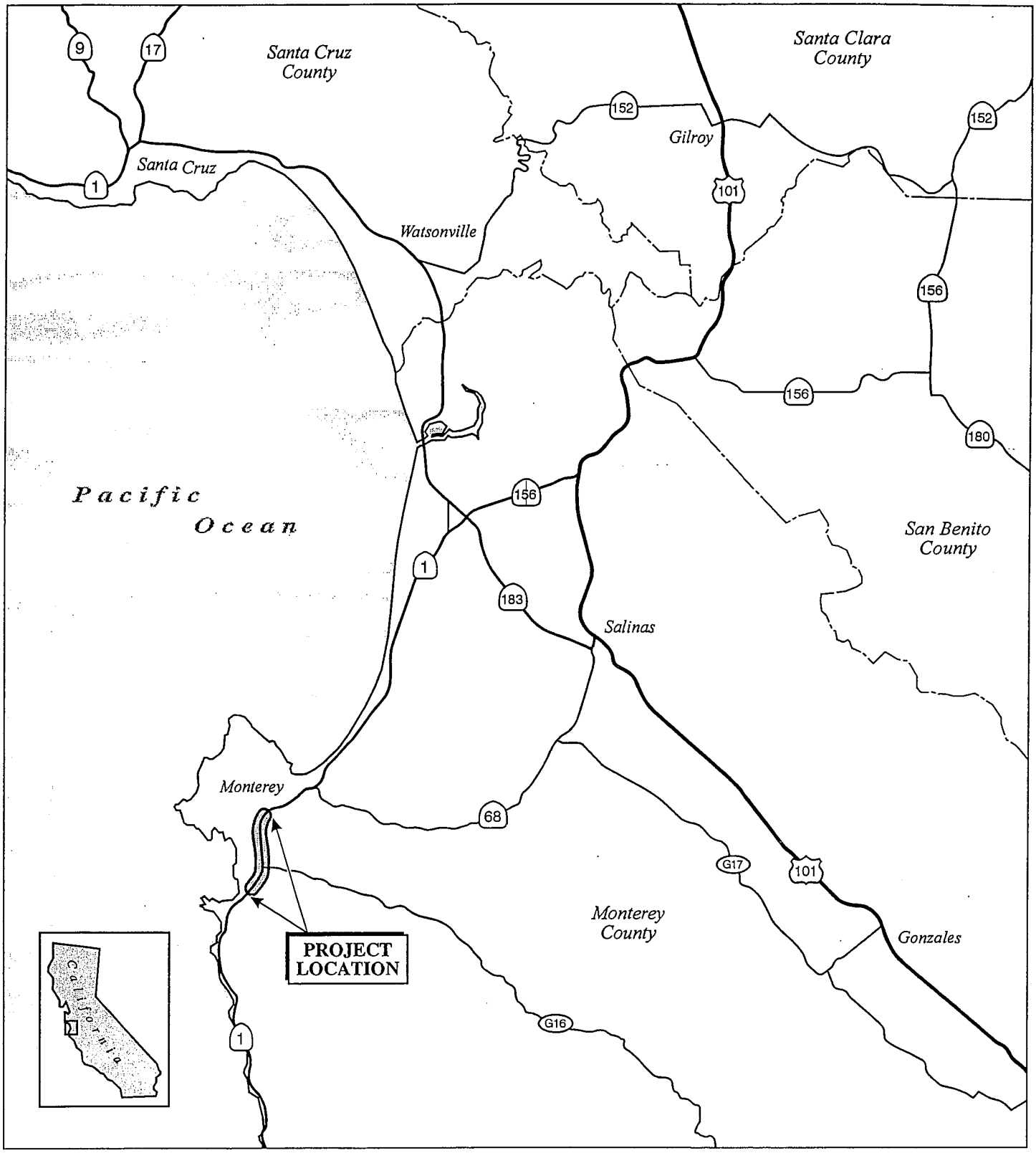
The proposed project includes improvements to State Route 1 (SR-1) between State Route 68 (SR-68) and the Carmel River Bridge, a length of approximately 4.7 kilometers (2.9 miles). The improvements involve widening existing SR-1 to four travel lanes and partial realignment. The widening will occur on the west and east sides of the road from 0.45 kilometer (0.28 mile) south of the SR-68 interchange to 0.16 kilometer (0.1 mile) south of the Carmel River Bridge. Please refer to Figure 1, Regional Location, and Figure 2, Project Vicinity. Figure 2 depicts the local vicinity of the project as well as the potential area of impact of the proposed project. This potential area of impact is where the focus of this environmental screening evaluation was concentrated.

Project Manager David Silberberger (Caltrans, District 5) Phone # (805) 549-3798
Project Engineer Keith Hallsten (Dokken Engineering) Phone # (916) 858-0642
Environmental Functional Manager Wendy Waldron (Caltrans, Dist. 5) Phone # (805) 549-3118

ENVIRONMENTAL SCOPING

An Environmental Scoping Checklist (ESC) has been prepared by LSA Associates, Inc., under contract to Dokken Engineering, the engineering consultant for Transportation Agency for Monterey County (TAMC), for review and approval by Caltrans for the SR-1 improvement alternatives. This document identifies environmental resources and potential environmental issues and impacts that would require further study in subsequent phases of the project. Also, this ESC recommends specific subsequent environmental technical reports and documents to be prepared.

This ESC includes screening for Cultural Resource (Appendix A), Hazardous Materials (Appendix B), and Biological Resources (Appendix C), as required in the Caltrans Project Development Procedures. Based on this ESC, the potential for environmental impacts appears likely. It is anticipated that there will be significant environmental impacts; therefore, an EIR/EIS will be the appropriate environmental document; more detailed studies will be required as part of the Project Approval & Environmental Document (PA&ED) phase of the project. The more detailed studies (to be prepared) may change this conclusion.



LSA

FIGURE 1

N

0 3.5 7 MILES
0 1.1 2.2 KILOMETERS

SR-1 Improvements
Regional Location
KP 116.3/121.0 (PM 72.3/75.2)
EA #05-0C820K
05-MON-1

I:\DEC130\G\Regional.cdr(8/29/01)

LSA

FIGURE 2

SR-1 Improvements
Project Vicinity
KP 116.3/121.0 (PM 72.3/75.2)
EA #05-0C820K
05-MON-1

0 1000 2000 FEET
0 305 610 METERS

MAP SOURCE: USGS 7.5' QUAD - MONTEREY, CA.

I:\DEC130\G\Vicinity.cdr(10/16/01)

PURPOSE OF THE PROJECT

SR-1 in the project study area has been experiencing substantial traffic congestion for over ten years, with resulting extended travel time. This has created significant volumes of through traffic bypassing this section of SR-1 by means of local streets through the City of Carmel-by-the-Sea and Monterey County, resulting in congestion throughout the local street system.

The primary purposes of this project are to alleviate traffic congestion, reduce emergency vehicle response time, reduce pedestrian and vehicle crossing conflicts at intersections and driveways, improve safety, improve air quality, and maintain the rural road character within the study area.

The study area covers a 4.7 kilometer (2.9 mile) segment of SR-1 and a 402.35 meter (0.25 mile) radius surrounding SR-1. The following streets intersect SR-1 within the study segment and are included in the study: San Luis Avenue, Carpenter Street, Handly Drive, Valley Way, Third Avenue, Flanders Drive, Ocean Avenue, Mesa Drive, Morse Drive, Atherton Drive, Carmel Valley Road, Rio Road, and Oliver Road. The study area also covers a portion of Hatton Canyon, located east of SR-1, where alternatives are considered. An approximately 488 meter (1,600 foot) length of Hatton Canyon, north of Carmel Valley Road, was included in the records search and visual survey. Residential, commercial, and open space land uses are within and adjacent to the project study area

ALTERNATIVES

The following two alternatives are under consideration and have been evaluated as part of this document. These alternatives represent a worst case potential area of impact. Additional alternatives may be proposed and evaluated in the PA&ED phase of the project.

SR-1 Improvement Alternatives Along Existing SR-1 Alignment (Three Alternatives)

These alternatives involve varying amounts of widening approximately 4.7 kilometers (2.9 miles) of SR-1 from two to four lanes between the SR-68 interchange and the Carmel River Bridge. These alternatives also include at-grade and grade separated intersection and interchange improvements. Figure 2 (shown earlier) depicts the worst case potential area of impact for all three of these alternatives.

Hatton Canyon Freeway Alternative

In addition, the Hatton Canyon alternative proposes to build a freeway along the floor of existing Hatton Canyon, located east of SR-1. This alternative was evaluated in the Hatton Canyon Final EIR/EIS (1991), which has been litigated; the courts found that the environmental document violates both CEQA and NEPA, and the approval of the Hatton Canyon Freeway project has been set aside. However, this document provides a good source of data for use in this ESC and for comparing the potential effects of the alternatives.

GENERAL ENVIRONMENTAL ISSUES

The potential impacts related to the SR-1 improvement alternatives on the various resources are described below with recommendations for further study.

Land Use

Existing land use in the project vicinity is primarily residential north of Carmel Valley Road. South of Carmel Valley Road, there is a commercial center on the east side of SR-1, with residential on the west side of SR-1. Carmel High School is located on the east side of SR-1 near the center of the study area. The Monterey County Land Use Plan designates the areas east and west of SR-1 as high density residential, or 5-20 units per acre. The area southeast of SR-1 (south of Carmel Valley Road) is designated commercial. In addition, the SR-1 improvements project area is within a Coastal Development Zone.

Residential land uses exist within the project study area. These uses will be sensitive to air, noise, and visual impacts. The proposed SR-1 improvement alternatives will impact land use and will likely have displacement impacts (discussed below). Therefore, further study (Community Impact Assessment) related to land use impacts is recommended for the PA&ED phase of the project.

Displacement. It is anticipated that there will be displacements associated with the implementation of the SR-1 improvement alternatives. Displacements may occur on either side of SR-1 depending on which alternative is evaluated during the PA&ED phase. Therefore, a Relocation Impact Study is recommended during the ED phase of the project if displacements cannot be avoided during the PE phase of the project.

Air Quality

The project site is located in the North Central Coast Air Basin (NCCAB), which includes Santa Cruz, San Benito, and Monterey counties and is under the jurisdiction of the Monterey Bay Unified Air Pollution Control District (MBUAPCD). The MBUAPCD is responsible for monitoring air quality in the basin. Currently, the North Central Coast Air Basin is in nonattainment for ozone (State and federal standards), and particulate matter (State standards). Therefore, an Air Quality Analysis is recommended to be prepared during the ED phase of the project.

Noise

As identified earlier, there are several sensitive land uses (primarily residential) in close proximity to the proposed SR-1 improvement alternatives study area. Therefore, due to the location of these sensitive land uses along the SR-1 improvement alternatives, it is recommended that a noise technical report be prepared during the PA&ED phase of the project.

Visual Resources

The proposed SR-1 improvement alternatives will be built in the foreground of numerous sensitive visual receptors. The improvements are anticipated to result in a substantial change from the current view. The views may be changed to a more modern transportation facility with structures at intersections and/or interchanges. The project may take private property as well as mature trees from some residential land uses along the project alignment. Portions of the SR-1 improvements project area are within a Caltrans designated scenic highway. In addition, the Monterey Pines within the project area are designated as a scenic resource by Monterey County. Therefore, a Visual Resources Technical Report is recommended to be prepared during the PA&ED phase of the project.

Floodplain

The SR-1 improvement alternatives are within the Carmel River 100 year floodplain, and the project area south of Carmel Valley Road is prone to flooding during storms. Therefore, a Floodplain Evaluation will be required during the PA&ED phase of the project.

Recreation/Section 4(f)

The proposed SR-1 improvement alternatives may impact the playfields near Carmel High School as well as potential historic structures along SR-1. In addition, there is a potential that the Hatton Canyon area may become a new state park per Assembly Bill 434 (AB 434). Therefore, this resource would become a recreation resource. There are also bike lanes along SR-1 and Carmel Valley Road within the study area. These potential and existing recreation resources may be considered Section 4(f) resources and will be evaluated further during the PA&ED phase of the project.

Vehicle/Pedestrian Access

Pedestrian/student access to Carmel High School will potentially be impacted by the proposed SR-1 improvement alternatives. Access for vehicle and pedestrian traffic throughout the study area will be evaluated during the PA&ED phase of the project.

Cultural Resources

A Cultural Resources Screening for the SR-1 improvement alternatives was conducted and is included in this ESC as Appendix A. The screening report includes a completed archaeological/ historical record search and a field inspection along the SR-1 improvement alternatives study area.

Based on the archaeological/historical records search and survey, there is a potential for additional archaeological resources to be encountered during project related construction activities. All construction should be monitored by a qualified archaeologist because there are previously recorded archaeological resources. There is one previously recorded archaeological site (CA-MNT-290) within the proposed Area of Potential Effects (APE). If this site cannot be avoided, archaeological testing will need to be conducted to determine the current site boundaries, and to evaluate site

eligibility for listing on the National Register of Historic Places. Should the current site boundaries extend into the proposed APE and the site is determined eligible, data recovery excavations will need to be conducted prior to construction. In addition, many of the buildings and structures within the project right-of-way may be more than 50 years old and will have to be evaluated. Therefore, an historical evaluation of the properties should be conducted pursuant to Section 106 of the National Historic Preservation Act.

Hazardous Waste/Materials

A Hazardous Waste Initial Site Assessment (ISA) for the SR-1 improvement alternatives was prepared and is included in this ESC as Appendix B. The ISA was prepared to determine whether the SR-1 improvement alternatives could be affected by any recorded or visible hazardous waste problems. The ISA included a governmental records search to obtain a listing of properties or known incidents shown on State or federal databases for hazardous waste sites within the project area and a site visit to identify any visible potential contamination that would impact the project. The following is a summary of the recommendations found in the ISA.

- Aerially deposited lead contamination from vehicle emissions may be encountered during excavation in unpaved areas next to traffic lanes or shoulders. Soil samples should be collected and analyzed for lead contamination.
- An asbestos and lead-based paint survey should be conducted by a certified contractor prior to any remodeling or demolition of the buildings in the site area.
- Power lines, which pose a potential human health hazard from possible injury from high voltage lines, electrical transformers, overhead power lines extended along SR-1, and other utility lines in construction areas should be properly moved to prevent contamination from oils and other contaminants and to prevent injury from electric power.

The environmental database indicates that five leaking underground storage tanks (LUST) sites are located within 0.4 kilometer (0.25 mile) of the project site and have potentially impacted groundwater. Two of the cases are closed, two are conducting post remedial action monitoring, and one is conducting further investigation. Sampling for petroleum hydrocarbons in the groundwater (if groundwater will be encountered or if dewatering will occur during construction) should be conducted.

Biological Resources

A Biological Resources Screening for the SR-1 improvement alternatives was prepared and is included in this ESC as Appendix C. This screening analysis was prepared in order to identify the potential biological constraints associated with the SR-1 improvements. This screening includes a complete biological records search, a field reconnaissance survey to evaluate the current habitat conditions, and observations of plant and animal species occurring within the SR-1 improvement alternatives area. The following is a summary of the recommendations of the Biological Resources Screening.

- During the project's PA&ED phase, a Natural Environment Study report (NES) should be prepared.
- A more thorough general survey and focused surveys for the California red-legged frog, southern steelhead, Smith's blue butterfly, and monarch butterfly should be conducted for the possible presence of these species within the project boundaries.
- Focused surveys during appropriate seasons for special interest plants, such as the Monterey Pine, Beach layia, Menzies's wallflower, Coastal dunes milk vetch, and Tidestom's lupine are recommended.
- A wetland/waters jurisdictional analysis should also be conducted to determine whether the riparian areas within Hatton Canyon and the Carmel River streambed are subject to U.S. Army Corps of Engineers or California Department of Fish and Game (CDFG) jurisdiction as waters of the United States or waters of the State, respectively.

Project Comparison

Table A provides a screening comparison of potential impacts for various environmental topics of the SR-1 improvement alternatives and the Hatton Canyon Freeway alternative.

Table A: SR-1 Improvement Alternatives and the Hatton Canyon Freeway Alternatives: Screening Comparison of Potential Environmental Impacts

Potential Impact	SR-1 Improvement Alternatives	Hatton Canyon Freeway Alternative
Land Use	Potentially significant impact	Significant impact
Air Quality	Potentially significant impact (construction related air pollution)	Potentially significant impact (construction and implementation)
Aesthetics/Visual Resources	Less than significant impact with mitigation	Significant impact (unavoidable visual impacts)
Floodplains	Less than significant impact with mitigation. (The risk of flooding is high south of Carmel Valley Road.)	Less than significant impact with mitigation. (The risk of flooding is high south of Camel Valley Road)
Cultural Resources	Potentially significant impact (historic sites/structures may be present and grading may uncover sites.)	Potentially significant impact (Records search indicates no historic sites; however, grading may uncover sites.)

Potential Impact	SR-1 Improvement Alternatives	Hatton Canyon Freeway Alternative
Hazardous Materials	Less than significant impact with mitigation. (Utility poles located along and nearby SR-1 may have transformers that potentially contain polychlorinated biphenyls (PCBs) and leaking underground storage tanks [LUST], all located in the vicinity of the project study area.)	Less than significant impact (Utility poles located along and nearby SR-1 may have transformers that potentially contain polychlorinated biphenyls (PCBs). Leaking underground storage tanks [LUST] are located in the vicinity of the project site.)
Biological Resources:		
• **Wetlands**	Potentially significant impact (Carmel River area)	Potentially significant impact (Carmel River area and Hatton Canyon wetlands)
• **Riparian Vegetation**	Potentially significant impact (Carmel River area)	Significant impact (Carmel River area and Hatton Canyon wetlands)
• **Plants species/wildlife habitat (Monterey Pine)**	Potentially significant impact (High probability- Monterey Pine; Low probability- Beach layia, Menzie's wallflower, Coastal dunes milk-vetch, Tidestrom's lupine)	Significant impact (High probability- Monterey Pine; Low probability- Beach layia, Menzie's wallflower, Coastal dunes milk-vetch, Tidestrom's lupine)
• **Threatened and Endangered Species**	Potentially significant impact (Southern steelhead, California red-legged frog, Smith's blue butterfly)	Potentially significant impact (Southern steelhead, California red-legged frog, Smith's blue butterfly)

Recommended Technical Studies

The following technical studies are recommended to be prepared as part of the PA&ED phase of the project:

- Community Impact Assessment
- Relocation Impact Study
- Visual Resources
- Floodplain Evaluation
- Noise Study

- Air Quality Study
- HPSR including ASR, HASR, HSR
- Section 4(f) Evaluation
- Extended Phase I, Phase II, and Data Recovery excavations (prior to construction, if required)
- Hazardous Materials Assessment
- Natural Environment Study

Anticipated Environmental Documentation, Permits and Schedule

The proposed SR-1 improvements are proposed to be funded by a combination of local, State, and federal funding sources. Therefore, compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) will be required. Caltrans is anticipated to be the Lead Agency for CEQA and FHWA will be the Lead Agency for NEPA. At this time, it is anticipated that the SR-1 improvements would require the preparation of an Environmental Impact Report (EIR) to comply with CEQA and an Environmental Impact Statement (EIS) to comply with NEPA. It is also anticipated that mitigation measures to reduce potential environmental impacts will be required.

It is also anticipated that permits from the California Department of Fish and Game and/or the United States Army Corps of Engineers will be required for the SR-1 improvement alternatives, since it may impact wetland areas and/or the Carmel River.

The schedule for the environmental document will be affected by the number of technical studies required and by the amount of controversy. It is anticipated to take up to 36-48 months.

Anticipated Environmental Approval

	CEQA		NEPA
	Categorical/Statutory Exemption		Categorical Exclusion
	Negative Declaration		Finding of No Significant Impact
X	Environmental Impact Report	X	Environmental Impact Statement

Why? The SR-1 improvement alternatives will be funded through a variety of local, State, and federal funding sources; therefore, both CEQA and NEPA apply to the project. It is anticipated that a EIR/EIS would be the appropriate environmental documentation because of significant impacts to environmental resources. More detailed studies may change this conclusion.

Project Screening

A project location map and/or photos are provided in Appendix A (Cultural Resources Screening), Appendix B (Hazardous Materials Screening), and Appendix C (Biological Resources Screening).

These project location maps reflect the location of all known and/or potentially hazardous materials, and cultural (not archaeological) and biological sites identified.

1. Project Features: New R/W? Yes Excavation? Yes
   Railroad Involvement? No

2. Project Setting:
   Residential, commercial, and a school within a rural natural area of the Monterey Peninsula

   Current land uses:
   Primarily residential and some commercial with a high school along SR-1 within the study area.

   Adjacent land uses:
   Same as defined above.

   Existing landscaping/planting:
   Residential landscaping near the residential areas, some decorative, non-native plantings along the entire length of SR-1 and large areas of natural large mature trees and vegetation within the project site.

Cultural Resources Screening

1. Check federal, State, and local environmental records and databases, as necessary, to see if any known cultural resources site is located in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project. (Do NOT show location of archaeological sites on the map.)

   Please refer to Appendix A of this ESC for a more detailed description of the results and recommendations of the Cultural Resources Screening.

2. Conduct Field Inspection.
   Date: June 11, 2001

3. Other comments and/or observations:

   There is some likelihood cultural deposits will be encountered during project related construction activities. Buildings and structures may represent historic resources and should be evaluated further. Please refer to Appendix A of this ESC for a more detailed description of the results and recommendations of the Cultural Resources Screening.

Hazardous Waste Screening

Is the project on the Hazardous Waste (HW) Study Minimal-Risk Projects List (HW1)? No

1. Check federal, State, and local environmental and health regulatory agency records, as necessary, to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project.

   Please refer to Appendix B, the Initial Site Assessment (ISA) of this ESC.

2. Conduct Field Inspection.
   Date: June 11-12, 2001 Use the attached map to locate potential or known hazardous waste sites.

   Storage Structures/Pipelines:
   Underground tanks Yes, six sites, four LUST — Surface tanks Yes, CT staging area
   Sumps No — Ponds No
   Drums No — Basins No
   Transformers No — Landfill Yes, one off site
   Other Petroleum Pipelines, Chevron gas station

   Contamination: (spills, leaks, illegal dumping, etc.)
   Surface staining No — Oil sheen No
   Odors No — Vegetation damage No
   Aerial lead Yes — Other Potential from pipelines

   Hazardous Materials: (asbestos, lead, etc.)
   Structures Possible — Spray-on fireproofing Possible
   Pipe wrap/Asbestos Cement Pipe Possible — Friable tile Possible
   Yellow thermoplastic paint Possible — Serpentine Possible
   Lead paint Possible — Other Petroleum

3. Additional record search, as necessary, of subsequent land uses that could have resulted in a hazardous waste site. Use the attached map to show the location of potential hazardous waste sites.

   Please refer to Appendix B, the ISA of this ESC.

4. Other comments and/or observations:

   Please refer to Appendix B, the ISA of this ESC for a more detailed description of the results and recommendations of the Hazardous Materials Screening.

Determination

Does the project have potential hazardous waste involvement? Yes If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Preliminary Site Investigation? Yes If "YES," then give an estimate of additional time require:

Please refer to Appendix B, the ISA of this ESC for additional detail regarding future project recommendations.

Biological Resources Screening

1. Check federal, State, and local environmental records, as necessary, to see if any known sensitive biological habitat or wetlands site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project.

   Please refer to Appendix C of this ESC for a more detailed description of the results and recommendations of the Biological Resources Screening.

2. Conduct Field Inspection.
   Date: June11-12, 2001 Use the attached map to locate potential or known endangered species, natural resources, or wetland sites.

3. Other comments and/or observations:

   Please refer to Appendix C of this ESC for a more detailed description of the results and recommendations of the Biological Resources Screening.

ENVIRONMENTAL TECHNICAL REPORTS OR STUDIES REQUIRED/ ANTICIPATED

	Study/ Report	Document Text Only	Not Anticipated
Community Impact Assessment/Land Use	x		
Relocation Impact Study	x		
Visual Resources	x		
Water Quality	x		
Floodplain Evaluation	x		
Noise Study	x		
Air Quality Study	x		
Other			
_____			
_____			
Cultural			
ASR	x		
HSR	x		
HASR	x		

	Study/ Report	Document Text Only	Not Anticipated
HPSR	x		
Section 106/SHPO	x		
Section 4(f) Evaluation	x		
Other			
Section 4(f) Evaluation (as it relates to schools, parks, and recreation resources)	x		
_____			
Hazardous Materials			
ISA (Additional)	x		
PSI			x
Other			x
_____			
_____			
Biological Technical Studies			
Endangered Species (Federal) 6	x		
Endangered Species (State) 4	x		
Biological Opinion/USFWS	x		
Wetlands	x		
401 Permit Coordination	x		
404 Permit Coordination _____	x		
1601 Permit Coordination	x		
NPDES Coordination	x		
Natural Environment Study	x		
Biological Assessment	x		
NEPA 404 Coordination	x		
Other			

Anticipated Project Mitigation

Discuss any known likely mitigation requirements and coordination based on similar projects and experience with resource agencies within the project vicinity:

Based on the environmental analysis conducted to date, there is a potential need for noise mitigation. The extent of this mitigation will not be known until the PA&ED phase of work for this project is completed. Soundwalls may be considered as mitigation. Additional mitigation may be required if the project impacts wetlands subject to United States Army Corps of Engineers (ACOE) or

California Department of Fish and Game (CDFG) jurisdiction or if there are impacts to State or federally listed endangered species.

Estimate of Project Mitigation Costs

Please refer to the table on the following page for a breakdown of the mitigation cost estimate. This estimate is based on conceptual plans and environmental findings and does not include an estimate for the acquisition of right-of-way or the relocation of property owners.

Estimate of Project Mitigation Costs Are: $4,400,000

Hazardous Materials Scoping by Andrea Zullo (LSA Associates, Inc.)	**Date** August 2001
Biological Scoping by Kimberly Peterson (LSA Associates, Inc.)	**Date** August 2001
Cultural Scoping by Nicole Wallock (LSA Associates, Inc.)	**Date** August 2001
Reviewed by	**Date**
Environmental Planning Office Chief	

Estimate of Mitigation Costs

Environmental Issue	Estimate Mitigation Costs
Noise[1]	$2,400,000
Biological Resources[2]	$600,000
Visual/Aesthetics[3]	$400,000
Cultural Resources[4]	$1,000,000
Total	**$4,400,000**

1 Noise mitigation cost includes an estimate based on 10,000 linear feet of eight foot high sound wall at $30 per face square foot. This estimate does not include right-of-way needs for the sound wall.

2 Biological resource cost includes potential revegetation cost associated with impacted natural resources within the project area ($60,000 per potentially impacted acre).

3 Visual/aesthetics costs include landscaping and sound wall revegetation costs.

4 Cultural resource costs include potential data recovery cost, but do not include costs to acquire historic structures or costs to mitigate impacts to historic resources. Please note that it does not appear that any of this original mound (associated with MNT-290) still exists, so this cost estimate is based on old data. Data recovery for this site may not be warranted based on the currently available information, but testing may be necessary.

APPENDIX A

CULTURAL RESOURCE SCREENING

LSA

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949.553.8076 FAX

OTHER OFFICES: FT. COLLINS
BERKELEY RIVERSIDE
PT. RICHMOND ROCKLIN

October 17, 2001

Ali Hemmati
Consultant Project Manager
Dokken Engineering
140 Central Avenue
Salinas, CA 93901

Subject: Results of Cultural Resource Screening for the Proposed State Route 1 Improvements Project, City of Carmel-by-the-Sea, Monterey County, California

The purpose of this letter report is to provide the results of the Cultural Resources Screening by LSA Associates, Inc. (LSA). This screening includes a completed archaeological/historical records search and field survey for the State Route 1 (SR-1) improvements between State Route 68 (SR-68) and the Carmel River Bridge in Carmel-by-the-Sea, Monterey County, California. Results of the records search, field survey, and recommendations are included in this report.

The study area covers a 4.7 kilometer (2.9 mile) segment of SR-1 and a 402.35 meter (one-quarter mile) radius surrounding SR-1. The following streets intersect SR-1 within the study segment and are included in the study: San Luis Avenue, Carpenter Street, Handly Drive, Valley Way, Third Avenue, Flanders Drive, Mesa Drive, Morse Drive, Atherton Drive, Carmel Valley Road, Rio Road, and Oliver Road. The study area also covers a portion of Hatton Canyon, located east of SR-1, where alternatives are considered. An approximately 488 meter (1600 feet) length of Hatton Canyon, north of Carmel Valley Road, was included in the records search and visual survey. Residential, commercial, and open space land uses are within and adjacent to the project study area.

Archaeological/Historical Records Search

On May 4, 2001, LSA conducted an archaeological/historical records search through the Northwest Information Center, located at Sonoma State University, Rohnert Park, California. The records search included a review of all recorded historic and prehistoric archaeological sites within a one-half mile radius of the project area as well as a review of known cultural resource survey and excavation reports. In addition, LSA examined the National Register of Historic Places (National Register), California Register of Historic Resources (California Register), California Historical Landmarks, and California Points of Historical Interest. Please refer to Figure 1 (Regional Location) and Figure 2 (Project Vicinity).

The results of the records search (Attachment A) indicate that there is one prehistoric archaeological site located within the project area. This site, CA-MNT-290, is located on the east side of SR-1, south of Carmel Valley Road. Within one-half mile of the project area, there are two previously recorded isolates and two additional prehistoric archaeological sites. There are no properties listed in the National Register, California Register, California Historical Landmarks, or California Points of Historical Interest within one-half mile of the project area. There have been 15 surveys conducted within or adjacent to the project area.

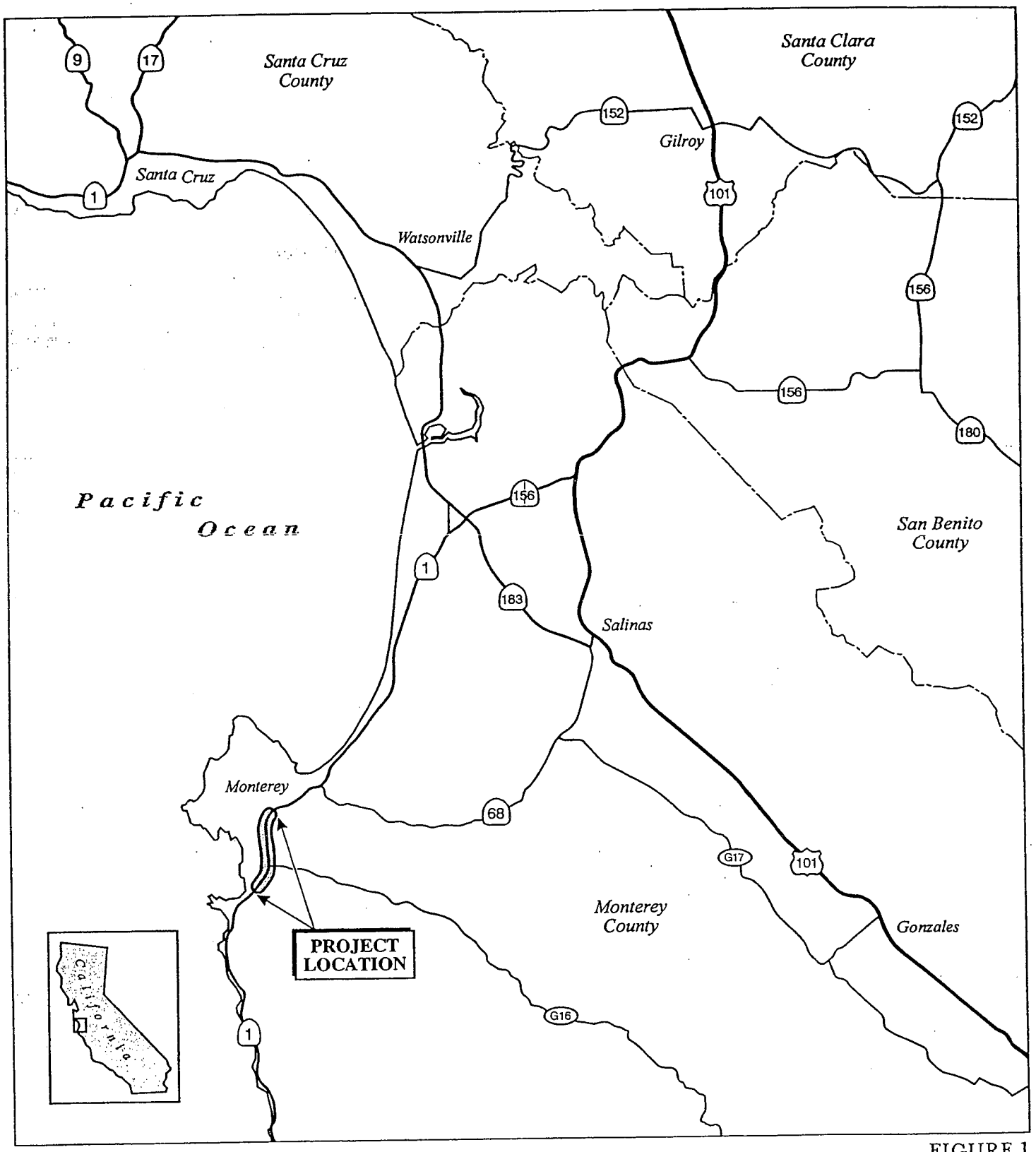


FIGURE 1

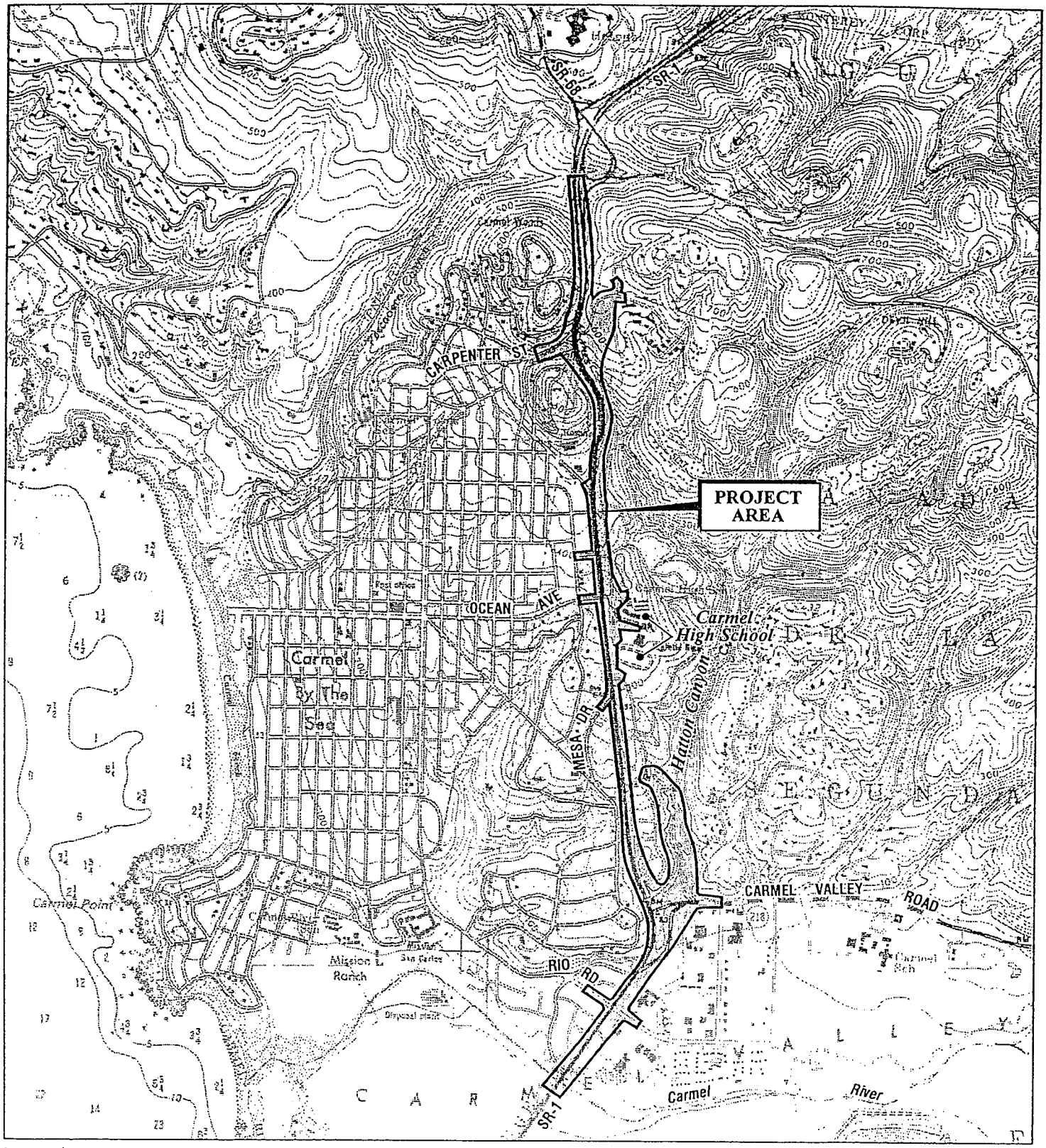
LSA

N

0 3.5 7 MILES
0 1.1 2.2 KILOMETERS

SR-1 Improvements
Regional Location
KP 116.3/121.0 (PM 72.3/75.2)
EA #05-0C820K
05-MON-1

I:\DEC130\G\Regional.cdr(8/29/01)



LSA

FIGURE 2

N

0 1000 2000 FEET

0 305 610 METERS

MAP SOURCE: USGS 7.5' QUAD - MONTEREY, CA.

SR-1 Improvements
Project Vicinity
KP 116.3/121.0 (PM 72.3/75.2)
EA #05-0C820K
05-MON-1

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Field Survey

On May 11, 2001, LSA archaeologist Nicole Wallock completed a field survey of the project area. The entire project area was inspected for cultural resources excluding portions deemed unsafe due to steep topography and high speed traffic.

Cultural resources were observed during the field survey. The area where CA-MNT-290 was recorded is currently under construction, but two large abalone shells were observed on the surface. It appeared as though the shells were uncovered during construction, indicating that the site has not been completely destroyed and that a subsurface deposit may still exist. If the proposed improvements to SR-1 cannot be designed in such a way as to avoid impacts to this site, archaeological testing will need to be conducted. Testing will be undertaken to determine the presence or absence of the site within the Area of Potential Effects. Should cultural materials be observed, they will be used to evaluate the site eligibility for listing on the National Register of Historic Places. If the site will be impacted and is determined eligible, data recovery excavations will need to be conducted prior to construction. Also observed was a portion of the original Carmel River Bridge with the date 1933 stamped into the concrete and a commemorative plaque on an adjacent boulder. This was located on the west side of SR-1, north of the Carmel River. It appears as though this is just outside the current construction limits and should not be impacted by the proposed improvements to SR-1. Should the proposed limits of the project area change, this bridge remnant will need to be evaluated for National Register significance. If displacements occur due to project requirements, buildings and structures within the project area will have to be evaluated as they represent potential historic resources that may be directly or indirectly impacted by the project. Ground visibility in most of the project area was approximately ten percent. In most areas the ground was heavily obscured by tall grasses and vegetation; other areas were obscured by asphalt and concrete. Photographs showing CA-MNT-290 and the Carmel River Bridge can be found in Attachment B.

Recommendations

It is LSA's opinion that, based on the archaeological/historical records search and field survey, there is some likelihood archaeological resources will be encountered during project related construction activities. All construction should be monitored by a qualified archaeologist because there are previously recorded archaeological resources within the project area, and ground visibility during the field survey was low, potentially obscuring other cultural resources. Construction on or adjacent to CA-MNT-290 must be monitored as current site records will need to be updated before the site is destroyed. Buildings within the project right-of-way may be greater than 50 years old. LSA therefore recommends that an historical evaluation of these properties be conducted pursuant to Section 106 of the National Historic Preservation Act.

Sincerely,

LSA ASSOCIATES, INC.

Nicole Wallock
Archaeologist

Attachments: A - Records Search Results
B - Photographs

APPENDIX B

HAZARDOUS WASTE INITIAL SITE ASSESSMENT

HAZARDOUS WASTE
INITIAL SITE ASSESSMENT

STATE ROUTE 1 IMPROVEMENTS

MONTEREY, CALIFORNIA

Submitted to:

Dokken Engineering
140 Central Avenue
Salinas, CA 93901
Attn: Ali Hemmati
(831) 751-1701

For use by:
Transportation Agency for Monterey County and
California Department of Transportation District 5

Prepared by:

LSA Associates, Inc.
One Park Plaza, Suite 500
Irvine, California 92614
(949) 553-0666

LSA Project No. DEC130

LSA

October 17, 2001

HAZARDOUS WASTE INITIAL SITE ASSESSMENT FOR THE STATE ROUTE 1 IMPROVEMENTS PROJECT MONTEREY, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of the hazardous waste Initial Site Assessment (ISA) for the proposed State Route 1 improvements project in Monterey County. This ISA was prepared in accordance with the guidelines provided in Caltrans' Project Development Procedure Manual, 7th Edition (January, 1997).

1.1 Survey Scope of Work

LSA Associates, Inc. (LSA) has prepared this ISA to determine whether the proposed improvements to State Route 1 (SR-1) in Monterey County (County) could be affected by any recorded or visible hazardous waste problems and to recommend any additional ISA work that may be needed prior to completion of the draft environmental document for the project. Subsurface investigation, detailed geological mapping, and laboratory analysis of soil or groundwater samples were not a part of this investigation. The following is a summary of the survey scope of work:

- Analysis of a regulatory agencies' records search, completed by Vista Information Solutions, Inc. The records search lists properties or known incidents as registered on federal and State databases for hazardous waste sites.
- Site visit to identify any visible exterior areas of potential contamination that might impact implementation of the proposed project.

1.2 Purpose and Need

SR-1 in the project study area has been experiencing substantial traffic congestion for over ten years, with resulting extended travel time. This has created significant volumes of through traffic bypassing this section of SR-1 by means of local streets through the City of Carmel-by-the-Sea and Monterey County, resulting in congestion throughout the local street system.

The primary purposes of this project are to alleviate traffic congestion, reduce emergency vehicle response time, reduce pedestrian and vehicle crossing conflicts at intersections and driveways, improve safety, improve air quality, and maintain the rural road character within the study area.

1.3 Project Description

The Transportation Agency for Monterey County (TAMC), in cooperation with the California Department of Transportation (Caltrans), proposes to widen approximately 4.99 kilometers (3.1 miles) of SR-1 from two to four lanes between the SR-68 interchange and the Carmel River Bridge. Work will extend beyond the existing SR-1 rights-of-way. As currently proposed, the project will require the acquisition of additional right-of-way along SR-1. realignment, widening, and other project improvements may extend as far as SR-68 to the north, Carmel River Bridge to the south, Hatton Canyon to the east, and Hatton Road to the west.

1.4 Existing Environmental Setting

The project site is located in Monterey County, California, as shown on Figure 1, Regional Location Map. The study area consists primarily of SR-1 from SR-68 to just south of Carmel River Bridge and is located in portions of the County and the City of Carmel by the Sea. The project vicinity is illustrated in Figure 2. West of the project site is the City of Carmel by the Sea, with the majority of the site located within Monterey County jurisdiction.

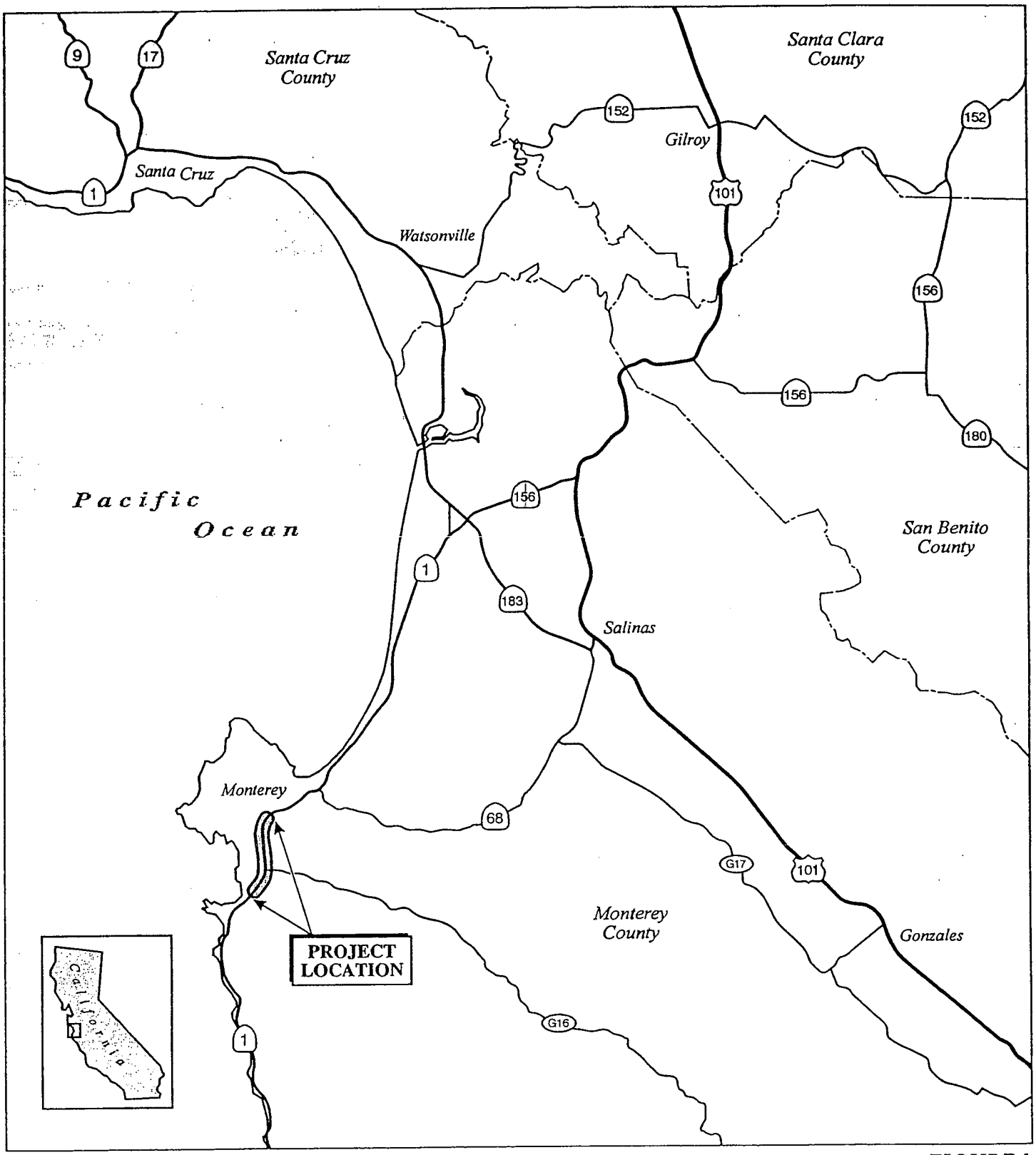
The study area covers a 4.7 kilometer (2.9 mile) segment of SR-1 and a 402.35 meter (one-quarter mile) radius surrounding SR-1. The following streets intersect SR-1 within the study segment and are included in the study: San Luis Avenue, Carpenter Street, Handly Drive, Valley Way, Third Avenue, Flanders Drive, Mesa Drive, Morse Drive, Atherton Drive, Carmel Valley Road, Rio Road, Oliver Road. The study area also covers a portion of Hatton Canyon, located east of SR-1, where alternatives are considered. An approximately 488 meter (1600 feet) length of Hatton Canyon, north of Carmel Valley Road, was included in the records search and visual survey. Residential, commercial, and open space land uses are within and adjacent to the project study area.

2.0 HAZARDOUS MATERIALS

2.1 Hazardous Materials Regulatory Overview

In understanding the analysis and characterization of "hazardous" and "toxic" materials and "designated waste," it is useful to understand what qualifies a material under these terms, as defined by State and federal laws. In the most general terms, hazardous materials are toxic, ignitable, corrosive, reactive, and/or carcinogenic substances, any one of which would qualify a substance as hazardous. A regulated hazardous material may be pure in form or may exist as a constituent of a compound, such as compounds that are additives in common household cleansers, gasoline, or solvents. Once a hazardous material can no longer be used for its original purpose, it is considered to be a hazardous waste. Some materials such as crude oil are considered a "designated waste," potentially having impacts on soils, surface, and subsurface water resources.

The handling, use, storage, emission, transport, and disposal of hazardous materials, hazardous wastes, and designated wastes are specifically regulated by a number of federal, State, and local agencies. These agencies implement a wide range of federal and State regulations with the intent to minimize potential risks to public health and safety.



LSA

FIGURE 1

N

0 3.5 7 MILES

0 1.1 2.2 KILOMETERS

SR-1 Improvements

Regional Location

KP 116.3/121.0 (PM 72.3/75.2)

EA #05-0C820K

05-MON-1

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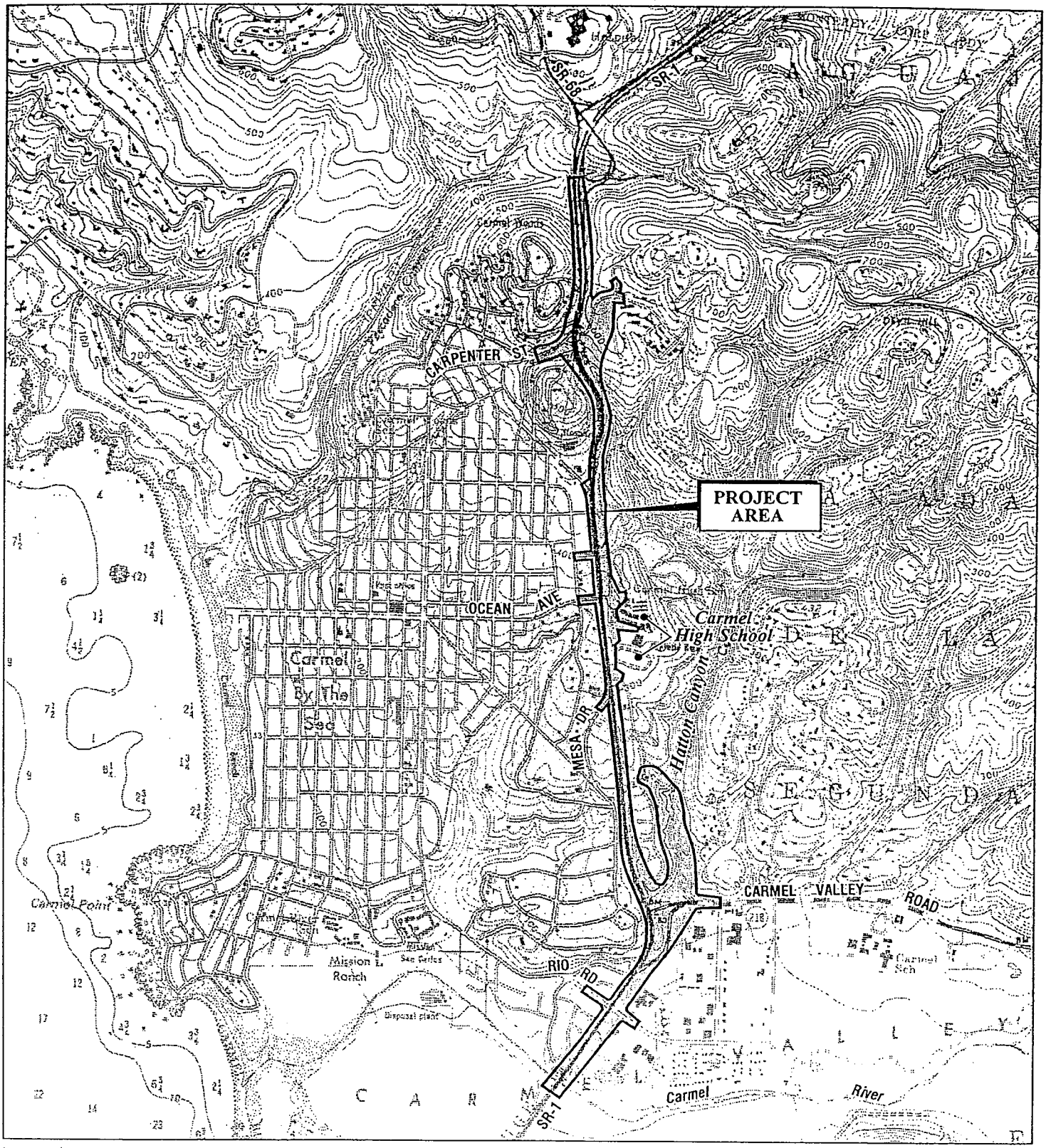

LSA

FIGURE 2

N

0 1000 2000 FEET

0 305 610 METERS

MAP SOURCE: USGS 7.5' QUAD - MONTEREY, CA.

SR-1 Improvements
Project Vicinity
KP 116.3/121.0 (PM 72.3/75.2)
EA #05-0C820K
05-MON-1

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At the federal level, the primary agencies responsible for regulating hazardous materials and wastes management practices include the United States Department of Transportation and the United States Environmental Protection Agency (EPA). Legislation that granted authority to these agencies includes the Hazardous Materials Transportation Act, the Resources Conservation and Recovery Act, the Federal Water Pollution Control Act, and the Clean Water Act, among others.

At the State level, agencies responsible for regulating the use and disposal of hazardous materials and wastes and for providing emergency response assistance include the Department of Health Services, the Department of Toxic Substances Control, the Water Resources Control Board, the Offices of Emergency Services, the California Division of Oil and Gas, Caltrans, and the California Highway Patrol. Legislation granting authority to these agencies includes the California Hazardous Substance Control Law (Health and Safety Code Division 20, Chapter 6.5) standards established by the Department of Health Services, Office of Statewide Health and Planning, and the California Code of Regulations, Title 30, Chapter 22, among others.

At the local and regional levels, agencies responsible for regulating the reuse and disposal of hazardous materials, hazardous wastes, and designated wastes include the Monterey County Hazardous Waste Management Advisory Committee, Monterey County Division of Environmental Health, Monterey County Fire Department regulations and standards, Monterey County Water Resources Agency, Monterey County Health Department, County of Monterey Public Safety Commission, and the Monterey Bay Unified Air Pollution Control District.

A hazardous waste screening checklist has been prepared for the SR-1 improvements project and is located on page 11 of the main ESC document.

2.2 Regulatory Database Search

On May 15, 2001, Vista Information Solutions, Inc. (Vista) completed a government agency records search to identify any known hazardous waste sites, past hazardous waste incidents that have been abated or remediated, or hazardous waste generators within a one-quarter mile radius of the project site. The results of the report were generated from the databases of several federal, State, and County regulatory agency records. A summary of the database findings is presented below. A copy of the Vista report is included as Attachment A of this ISA. A site's inclusion on this database does not necessarily indicate a violation or release.

Sites identified within 0.4 kilometer (0.25 mile) of the study area include:

- State/Regional/County registered leaking underground tanks (LUST) - four sites
- State/Regional/County solid waste land fill (SWLF) - one site
- U.S. EPA Facility Index System (FINDS) - two sites
- Water wells, federal and State drinking water sources - five sites
- State registered underground storage tanks (UST) - six sites
- USEPA RCRA small generators of hazardous waste - one site

3.0 RECONNAISSANCE OBSERVATIONS

A preliminary site survey was conducted by LSA personnel on June 11-12, 2001. Photographs taken during the study are provided in Attachment B, Site Photos. The site is currently developed with SR-1, streets connected to SR-1, and landscaping. Land uses surrounding the site are generally commercial and residential.

3.1 Specific Site Observations

Specific observations about the site are discussed from the Carmel River Bridge in the south portion of the site to the north end near SR-68.

- Just south of Carmel River Bridge and west of SR-1, a road leads to the Carmel treatment facility. The facility is located approximately 610 meters (2,000 feet) northwest of Carmel River Bridge, outside of the project area.
- The Carmel River, which flows west to into the Pacific Ocean, runs through the project site. Construction activity near the Carmel River has the potential to pollute the river and/or disturb the river's habitat.
- Power lines extend along SR-1. These overhead lines have the potential to impair construction activities. Overhead lines pose a possible human health hazard from the power lines/high voltage electricity and the possibility of contact with these overhead lines during construction activities.
- Discarded trash (e.g., food wrappers, beverage containers, waste paper, and other indiscriminate waste) was observed under the Carmel River Bridge and generally along SR-1 and street intersections.
- Some concrete litter was observed near between SR-1 and the movie theater/shopping center parking lot at Carmel Center.
- A partly paved/dirt road connects to the same parking lot from SR-1. There is a potential for underground utility lines beneath this road.
- Evidence of a utility line (telephone) going from SR-1 east to the parking lot.
- The Chevron gas station is located on Rio Road at SR-1
- Trench running parallel to SR-1 on the east side at the Carmel Mission Inn. This connects to a drainage pipe that runs under a "rubble pile" mound with trash on it.
- Manhole between SR-1 and the Carmel Mission Inn located in the grass.
- An old buried gas facility is located east of SR-1 and north of the Carmel Mountain Inn.
- A rusty water well is located at SR-1 and the Barnyard shops.
- The Caltrans staging area at SR-1 and Carmel Valley Road has bulldozed dirt, roots, and concrete rubble, an ignitable compound storage tank, and partly covered asphalt. The tank is labeled and the contents contained. The bulldozed soil has no stains, oil, or obvious evidence of pollutants and trash.

- Hatton Canyon at its lowest elevation has a paved fire road. Just off this road three manholes were observed.

3.2 General Observations

General significant human health and environmental concerns were observed throughout the various areas of the site and study area. These concerns are discussed in the following sections.

3.2.1 Vehicle Emission Concerns. Aerially deposited lead contamination from vehicle emissions may be encountered during excavation in unpaved areas adjacent to traffic lanes or shoulders. Soil samples should be collected, tested, and analyzed for lead contamination prior to construction.

3.2.2 Utility Concerns. Power lines extending along SR-1 can pose a hazard to workers during project implementation. Observed underground utilities in the site area include telephone, water, and gas facilities.

4.0 GENERAL OBSERVATIONS

Known or potential sites that could affect the proposed project have been identified, and it will take more time and effort to define and coordinate cleanup options. The areas of concern are as follows:

- Aerially deposited lead contamination from vehicle emissions may be encountered during excavation in unpaved areas next to traffic lanes or shoulders. Soil samples should be collected and analyzed for lead contamination.
- Buildings to be demolished may contain asbestos and lead based paint materials. Surveys should be conducted by certified contractors prior to any remodeling or demolition of the buildings in the site area.
- Power lines, which pose a potential human health hazard from possible injury from high voltage lines, electrical transformers, overhead power lines extended along SR-1, and other utility lines in construction areas should be properly moved to prevent contamination from oils and other contaminants and to prevent injury from electric power.
- The environmental database indicates that five leaking underground storage tanks (LUST) sites are located within 0.4 kilometer (0.25 mile) of the project site and have impacted groundwater. Two of the cases are closed, two are conducting post remedial action monitoring, and one is conducting further investigation. The status of these cases should continue to be monitored and documented as the SR-1 project advances through project development.

5.0 RECOMMENDATIONS FOR FURTHER WORK

Based on the governmental records search and visual site survey, the following investigations are recommended:

- Soil sampling for aerially deposited lead in construction areas adjacent to roadways
- Asbestos and lead based paint surveys for buildings targeted for demolition
- Sampling for petroleum hydrocarbons in groundwater if groundwater will be encountered or if dewatering will occur during construction.

Soil sampling for lead contamination will be conducted during the PS&E phase. If lead contamination is detected, measures identified in Section 25143, Chapter 6.5, Division 20 of the Health and Safety Code (HSC), the California Department of Toxic Substances (DTSC) variance (Draft June 12, 2000), will be followed. The soil testing results/conclusions will be included in the Standard Special Provisions (SSP) and the Material Information Handout (MIH). The SSP and MIH will be incorporated in the project plans and specifications.

Since the proposed project requires building demolitions, an asbestos survey and lead based paint survey by the Caltrans Hazardous Waste Section will be required prior to the start of construction.

As is the case for any project that proposes excavation, there is the potential for unknown hazardous contamination to be revealed during project construction. For any previously unknown hazardous waste/material encountered during proposed project construction, the procedures outlined in the Caltrans' Construction Hazardous Waste Contingency Plan shall be followed.

5.1 Limitations

This investigation was performed using the degree of care and skill ordinarily exercised under similar circumstances by individuals practicing in this or similar localities and in accordance with Caltrans' guidelines for Initial Site Assessments. No other warranty, expressed or implied, is made to the conclusion and professional advice included in this report. As with most major projects, conditions revealed by excavation or drilling may be at variance with the preliminary findings of this preliminary investigation.

This report is based on the information currently available through Vista's records search and LSA's visual site surveys. This report is issued with the understanding that it is the responsibility of Caltrans and the County of Monterey to ensure that the information and recommendations contained herein are brought to the attention of the regulatory agencies, if required.

These findings are valid as of the present date. However, changes in site conditions can occur with the passage of time, whether they be due to natural processes or human intervention on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside the control of LSA and Vista.

APPENDIX C

BIOLOGICAL RESOURCE SCREENING

LSA

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FT. COLLINS
RIVERSIDE
ROCKLIN

October 17, 2001

Ali Hemmati
Dokken Engineering
140 Central Avenue
Salinas, CA 93901

Subject: Preliminary Biological Assessment for the State Route 1 Improvements in Monterey County, California

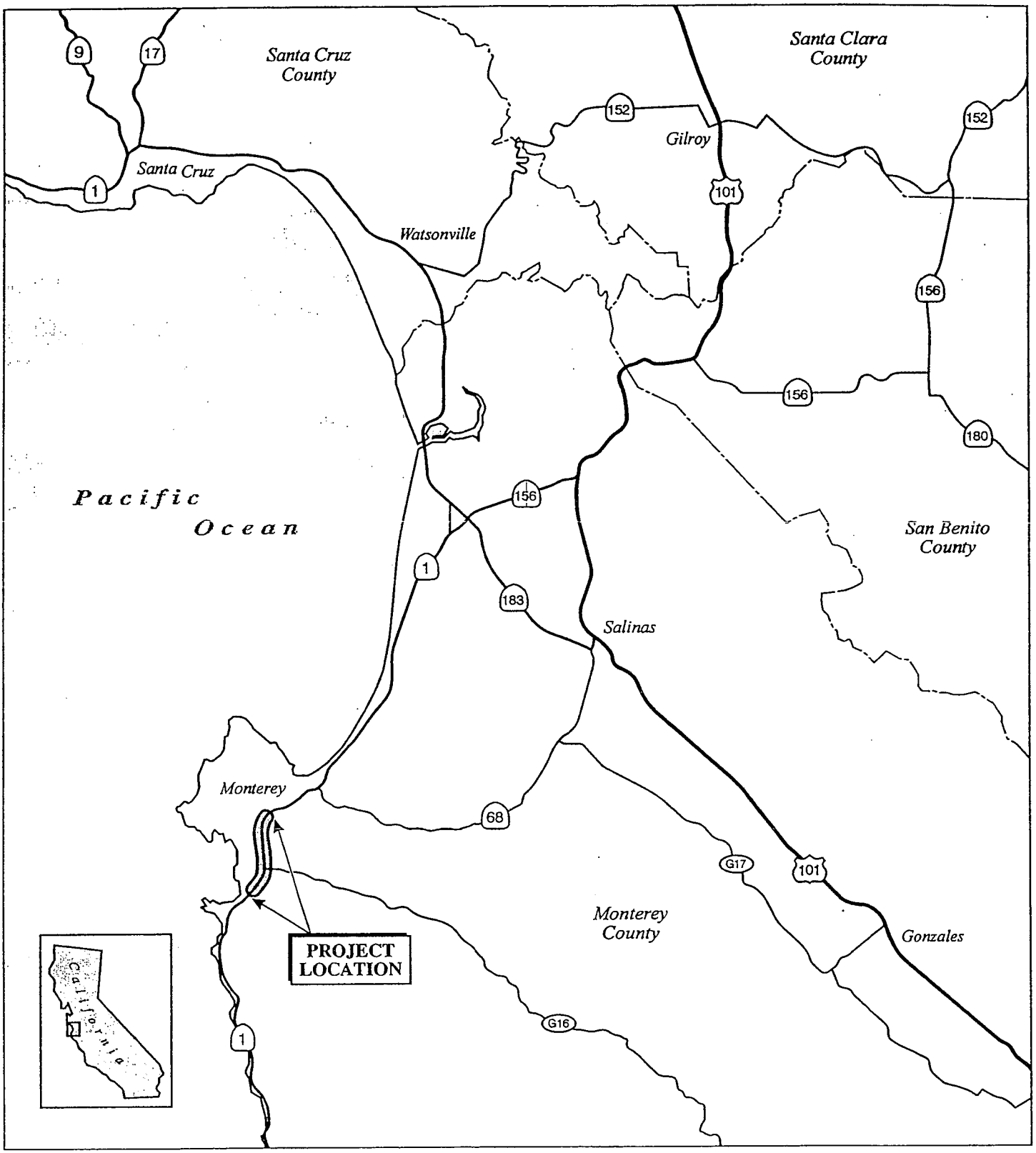
Dear Mr. Hemmati:

LSA Associates, Inc. (LSA) is submitting this preliminary screening analysis of the potential biological constraints associated with the State Route 1 (SR-1) improvements between State Route 68 (SR-68) and the Carmel River Bridge in Monterey County, California. This letter report includes a complete biological record search, a field reconnaissance survey to evaluate the current habitat conditions, and observations of plant and animal species occurring within the proposed project area. Results of the record searches, field survey, and recommendations are included in this letter report.

GENERAL PROJECT DESCRIPTION

The Transportation Agency for Monterey County (TAMC), in cooperation with the California Department of Transportation (Caltrans), proposes improvements along 4.7 kilometers (2.9 miles) of SR-1 between the SR-68 interchange and the Carmel River Bridge. The improvements involve widening existing SR-1 to four travel lanes and partial realignment. The widening will occur on the west and east sides of the road from 0.45 kilometer (0.28 mile) south of the SR-68 interchange to 0.16 kilometer (0.1 mile) south of the Carmel River Bridge. Please refer to Figure 1, Regional Location.

The study area covers a 4.7 kilometer (2.9 mile) segment of SR-1 and a 402.35 meter (one-quarter mile) radius surrounding SR-1. The following streets intersect SR-1 within the study segment and are included in the study: San Luis Avenue, Carpenter Street, Handly Drive, Valley Way, Third Avenue, Flanders Drive, Mesa Drive, Morse Drive, Atherton Drive, Carmel Valley Road, Rio Road, and Oliver Road. The study area also covers a portion of Hatton Canyon, located east of SR-1, where alternatives are considered. An approximately 488 meter (1,600 foot) length of Hatton Canyon, north of Carmel Valley Road, was included in the records search and visual survey.



LSA

FIGURE 1

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0 3.5 7 MILES
0 1.1 2.2 KILOMETERS

SR-1 Improvements
Regional Location
KP 116.3/121.0 (PM 72.3/75.2)
EA #05-0C820K
05-MON-1

I:\DEC130\G\Regional.cdr(8/29/01)

METHODS

LSA conducted a standard literature review, which included a records search, for the project area (United States Geological Survey [USGS] 7.5 quadrangle for Monterey and Soberanes Point). The record search included the California Natural Diversity Data Base (CNDDB, California Department of Fish and Game [CDFG] 2000) and a review of the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2000). Table A includes a summary of findings from the CNDDB and CNPS lists.

LSA biologist Kimberly Peterson surveyed the area on June 11-12, 2001. The area was assessed by driving SR-1 and surveying on foot ruderal and native habitat within the project area. Photographs were taken of densely vegetated areas and locations possibly containing sensitive plants and/or animals (Figures 2 and 3).

RESULTS

Several natural plant communities are present in the proposed SR-1 project area; closed-cone coniferous forest, specifically Monterey pine *(Pinus radiata)* forest, mixed oak-woodland, bramble thicket, and a riparian corridor. The remaining portions within the SR-1 project area can be described as ruderal vegetation. Horticultural plantings are also present on various portions of the site. Attachment A contains a complete list of all plants observed during the field survey.

Closed-Cone Coniferous Forest

The site is located within a disturbed and degraded urbanized area of remnant Monterey pine forest. The canopy cover ranges from relatively open to closed. The majority of the trees are mature pines, naturally occurring and varying in size from 1.3 meters (4 feet) tall saplings to mature trees up to 30 meters (100 feet) in height. The saplings are present among the mature trees and constitute part of the woody understory. Mature Monterey cypress (*Cupressus macrocarpa*) are intermittently scattered along SR-1 and some are as tall as 18 meters (60 feet) tall. The shrubby and herbaceous understory is sparse where the canopy cover is relatively extensive.

Mixed Oak-Woodland

At the proposed interchange east of Carpenter Drive/High Meadows Drive and SR-1 intersection, mature and young individuals of coast live oak (*Quercus agrifolia*) are interspersed among Monterey pine. The coast live oaks vary in size from seedlings to six meters (20 feet) tall.

Table A: Special Interest Plant and Animal Species near the Project Site

Species	Designation	Preliminary Analysis of Occurrence Probability
ANIMAL		
California red-legged frog (*Rana aurora daytonii*)	US: Threatened CA: SA	Low-Moderate: Conditions on site may be suitable for this species but only near the Carmel River edge.
Southern steelhead (*Oncorhynchus mykiss irideus*)	US: Threatened CA: SA	High: This species has been observed in the Carmel River.
California brown pelican (*Pelecanus occidentalis californicus*)	US: Endangered CA: Endangered	Low: Habitat on site is not suitable for this species
Western snowy plover (*Charadrius alexandrinus nivosus*)	US: Threatened CA: SA	Low: Habitat on site is not suitable for this species.
Smith's blue butterfly (*Euphilotes enoptes smithi*)	US: Endangered CA: SA	Moderate: Habitat on site may be suitable for this species. However, the larval and adult food plants were not observed at the time of the site visit.
Monarch butterfly (*Danaus plexippus*)	US: None CA: SA	High: Because of restricted winter roosting sites for this species, it is listed by the State as a Special Animal. Wind protected groves of Monterey pines were observed on site. These pines may provide suitable roosting habitat for this species.
PLANT		
Beach layia (*Layia carnosa*)	US: Endangered CA: Endangered CNPS: 1B	Low: Habitat on site is not suitable for this species.
Menzies's wallflower (*Erysimum menziesii* ssp. *menziesii*)	US: Endangered CA: Endangered CNPS: 1B	Low: Habitat on site is not suitable for this species.
Coastal dunes milk-vetch (*Astragalus tener* var. *titi*)	US: Endangered CA: Endangered CNPS: 1B	Low: Habitat on site may be suitable for this species; however, none were observed at the time of the site visit.

Species	Designation	Preliminary Analysis of Occurrence Probability
Tidestrom's lupine (*Lupinus tidestromii)*	US: Endangered CA: Endangered CNPS: 1B	Low: Habitat on site is not suitable for this species.
Pacific grove clover *(Trifolium polyodon)*	US: None CA: Rare CNPS: 1B	High: Habitat on site is suitable for this species.
Monterey clover *(Trifolium trichocalyx)*	US: Endangered CA: Endangered CNPS: 1B	High: Habitat on site is suitable for this species.
Monterey spineflower *(Chorizanthe pungens* var *pungens)*	US: Threatened CA: SP CNPS: 1B	Moderate: Suitable conditions for this species are present in some areas of the site.
Robust spineflower *(Chorizanthe robusta* var *robusta)*	US: Endangered CA: SP CNPS: 1B	Low: Conditions on site are not suitable for this species.
Sand gilia (*Gilia tenuiflora* ssp *arenaria)*	US: Endangered CA: Threatened CNPS: 1B	Low: Conditions on site are not suitable for this species.
Hickman's cinquefoil *(Potentilla hickmanii)*	US: Endangered CA: Endangered CNPS: 1B	High: Habitat on site is suitable for this species.
Gowen cypress (Cupressus goveniana ssp *goveniana)*	US: Threatened CA: SP CNPS: 1B	High: Habitat on site is suitable for this species.
Yadon's rein orchid *(Piperia yadonii)*	US: Endangered CA: SP CNPS: 1B	High: Habitat on site is suitable for this species.
Hickman's onion *(Allium hickmanii)*	US: None CA: Rare CNPS: 1B	Low-Moderate: Habitat on site is suitable for this species. However, this species is known from fewer than twenty occurrences.
Little Sur manzanita *(Arctostaphylos edmundsii)*	US: None CA: Rare CNPS: 1B	Low: Habitat on site is not suitable for this species.
Sandmat manzanita *(Arctostaphylos pumila)*	US: None CA: SP CNPS: 1B	Moderate-High: Habitat on site is suitable for this species. However, this species is known from fewer than twenty occurrences.

Species	Designation	Preliminary Analysis of Occurrence Probability
Seaside bird's-beak *(Cordylanthus rigidus* ssp *littoralis)*	US: None CA: Endangered CNPS: 1B	High: Habitat on site is suitable for this species.
Monterey cypress *(Cupressus macrocarpa)*	US: None CA: SP CNPS: 1B	Observed: This species was observed within the project area at the time of the site visit.
Hutchinson's larkspur *(Delphinium hutchinsoniae)*	US: None CA: SP CNPS: 1B	Low-Moderate: Habitat on site is suitable for this species.
Eastwood's goldenbush *(Ericameria fasciculata)*	US: None CA: SP CNPS: 1B	High: Habitat on site is suitable for this species.
Fragrant fritillary *(Fritillaria liliacea)*	US: None CA: SP CNPS: 1B	Low: Habitat on site may be suitable for this species.
San Francisco gumplant *(Grindelia hirsutula* var *maritima)*	US: None CA: SP CNPS: 1B	Low-Moderate: Habitat on site may be suitable for this species.
Kellogg's horkelia (*Horkelia cuneata* ssp *sericea)*	US: None CA: SP CNPS: 1B	Moderate-High: Habitat on site is suitable for this species.
Jone's layia *(Layia jonesii)*	US: None CA: SP CNPS: 1B	Low: Conditions on site are not suitable for this species.
Carmel Valley bush mallow *(Malacothamnus palmeri* var *incolucratus)*	US: None CA: SP CNPS: 1B	Low: Habitat on site may be suitable for this species.
Monterey pine *(Pinus radiata)*	US: None CA: SP CNPS: 1B	Observed: This species was observed within the project area at the time of the site visit.

Notes:

1. For a description of status designations see Legend on following page.
2. Based on the following categories: **Absent; Low; Moderate; High; Observed.**

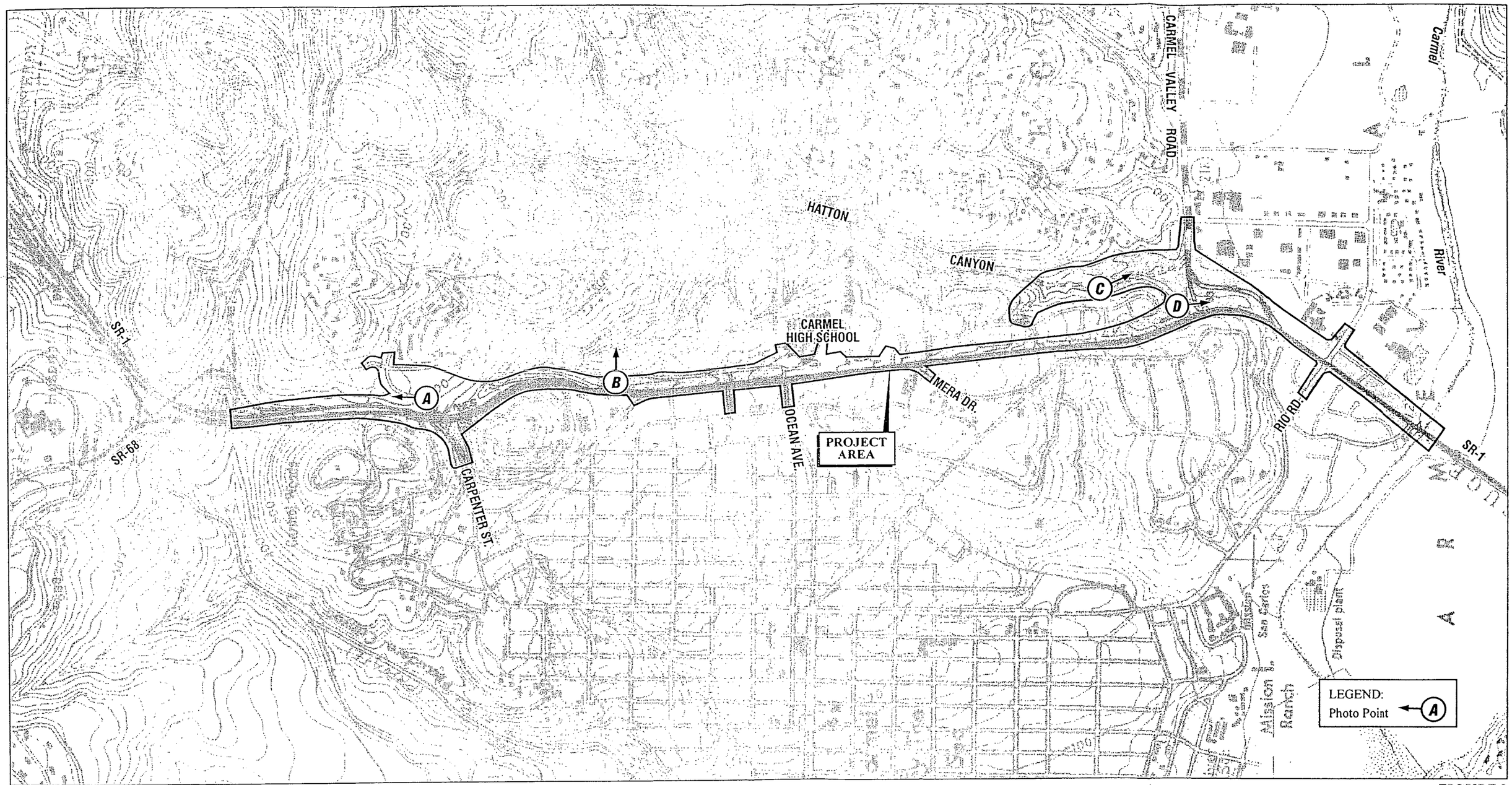


FIGURE 2

LSA

N

0 500 1000 FEET

0 150 300 METERS

MAP SOURCE: USGS 7.5' QUAD - MONTEREY, CA.

I:\DEC130\G\Photo Points.cdr (9/30/01)

SR-1 Improvements

Photo Point Locations

Photo A: Mixed oak woodland located east of Carpenter Street/High Meadows Drive and SR-1 intersection.

Photo B: Bramble thicket at the edge of closed-cone coniferous forest. Photo taken south of Handley Drive and SR-1 intersection on the east side of SR-1.

Photo C: Overview of riparian habitat in Hatton Canyon. Looking southeast over canyon.

Photo D: Overview of riparian habitat located southeast from the corner of Carmel Valley Road and SR-1.

LSA

FIGURE 3

SR-1 Improvements

Photo Points of Habitat Types Within the SR-1 Project Area

I:\DEC130\G\Photos A B C & D.cdr (8/24/01)

Legend: Status Designation

FEDERAL CLASSIFICATIONS

END	Federally listed as Endangered.
THR	Federally listed as Threatened.
P END	Federally proposed as Endangered.
P THR	Federally proposed as Threatened.
C	Candidate for federal listing. Taxa for which the U.S. Fish and Wildlife Service (USFWS) has sufficient information available to support a proposal to list as Endangered or Threatened. Issuance of the proposal(s) is anticipated, but precluded at this time.

STATE CLASSIFICATIONS

END	State listed as Endangered.
THR	State listed as Threatened.
RARE	State listed as Rare.
CFP	California Fully Protected. Taxa legally protected under special legislation enacted prior to the California Endangered Species Act.
C END	State candidate for listing as Endangered.
C THR	State candidate for listing as Threatened.
C RARE	State candidate for listing as Rare.
CSC	California Species of Special Concern. Taxa with populations declining seriously or otherwise highly vulnerable to human developments.
SA	Special Animal. Taxa of concern to the Natural Diversity Data Base regardless of their legal or protection status.
SP	Special Plants. Taxa of concern to the Natural Diversity Data Base regardless of their legal or protection status.

CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CLASSIFICATIONS

1A	List of plants that are presumed extinct in California.
1B	List of plants that are considered by the California Native Plant Society (CNPS) to be Rare, Threatened, or Endangered in California and elsewhere.
2	List of plants that are considered by CNPS to be Rare, Threatened, or Endangered in California, but more common elsewhere.
3	CNPS review list of plants suggested for consideration as Endangered but about which more information is needed.
4	CNPS watch list of plants of limited distribution, whose status should be monitored.

Riparian Corridor

A riparian corridor extends from just south of the intersection at Carmel Valley Road and SR-1 and continues north through Hatton Canyon. This area is dominated by Goodding's black willow (*Salix gooddingii*), red willow (*Salix laevigata*), coyote bush (*Baccharis pilularis)*, mugwort (*Artemisia douglasiana*), and hoary nettle (*Urtica dioica* ssp. *holosericea*).

Bramble Thicket

A substantial bramble thicket at the edge of the closed-cone coniferous forest is located east of SR-1, and just south of the intersection at Handley Drive and SR-1. Dominated by California blackberry (*Rubus ursinus*), this unnamed tributary of Hatton Canyon appears to stay moist throughout most of the year due to the topography and runoff from SR-1 and the adjacent urban development.

Ruderal Habitat

The roadside and heavily disturbed areas of the project area are dominated by ruderal species that include cheeseweed (*Malva parviflora*), long-beaked filaree (*Erodium botrys*), California burclover (*Medicago polymorpha*), yellow sweet clover (*Melilotus indica*), wild radish (*Raphanus sativus*), German ivy (*Senecio mikanioides*), French broom (*Cytisus monspessulanus*), ripgut brome (*Bromus diandrus*), slender wild oat (*Avena barbata*), and quaking grass (*Briza maxima*).

Special Interest Species

Of the 25 potential special interest plant species listed in Table A, only Monterey pine and Monterey cypress were observed during the field survey. The ruderal and disturbed areas along SR-1 are less than ideal for any of the plant species listed in the CNDDB. Some undisturbed native plant communities, such as the oak woodland and riparian habitat areas, do exist within the boundaries of the project area. These areas should be considered more carefully during the appropriate survey season throughout the year to determine whether any special interest species are present.

Special interest wildlife species considered for this assessment include: California red-legged frog (*Rana aurora daytonii*), southern steelhead (*Oncorhynchus mykiss irideus*), California brown pelican (*Pelecanus occidentalis californicus)*, western snowy plover (*Charadrius alexandrinus nivosus*), Smith's blue butterfly (*Euphilotes enoptes smithi*), and monarch butterfly (*Danaus plexippus*). None of the special interest species were observed during the June, 2001, field survey.

The California red-legged frog and the southern steelhead have the potential to inhabit the Carmel River. The southern steelhead is known to historically inhabit the Carmel River at the southernmost end of the site. Although the proposed project is adjacent to and not within the Carmel River, potential indirect impacts to the California red-legged frog or the southern steelhead may be incurred with the proposed project.

Smith's blue and monarch butterfly may occur within the project area. Wind protected groves of Monterey pines can provide suitable roosting habitat for monarch butterfly. Focused surveys to determine the presence or absence of these sensitive butterflies and to identify potential roosting sites and nectar sources should be considered prior to commencement of the proposed project.

Habitat conditions on site are not conducive for California brown pelican or western snowy plover. These species are not expected to occupy the site.

More thorough surveys would likely result in identification of a greater number of animal species on the site, particularly common mammals and bird species. Animals observed during the field visit are listed in Attachment A.

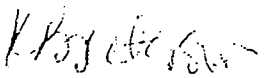
RECOMMENDATIONS

During the project's environmental document phase, a Natural Environmental Study (NES) should be prepared. As part of the NES, a more thorough general survey and focused surveys for California red-legged frog, southern steelhead, Smith's blue butterfly, and monarch butterfly should be conducted for the possible presence of these species within the area potentially affected by the project. Focused surveys for special interest plants should be performed during the appropriate seasons to determine their possible occurrence within the project area.

A wetland/waters jurisdictional analysis should also be conducted to determine whether the riparian areas within and adjacent to Hatton Canyon are subject to U.S. Army Corps of Engineers or CDFG jurisdiction as waters of the United States or waters of the State, respectively.

Sincerely,

LSA ASSOCIATES, INC.



Kimberly Peterson
Project Biologist

EXHIBIT F - TRAFFIC FORECAST AND ANALYSIS

HIGGINS ASSOCIATES
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HIGHWAY 1 - CARMEL PSR/PDS TRAFFIC ANALYSIS

MONTEREY COUNTY, CALIFORNIA

Prepared For

Dokken Engineering
Rancho Cordova, California

August 16, 2001

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF APPENDICES

INTRODUCTION

This report provides an analysis of traffic operations at the SR 1 corridor between the Carmel River and SR 68 interchange (to be called Hwy 1-Carmel in this report) in Monterey County, California. Exhibit 1 shows the location of Hwy 1-Carmel with respect to the regional road network

The existing Highway 1 is a two-lane road from the Carmel River to Ocean Avenue, where a second northbound lane is added south of the intersection. From Ocean Avenue to Carpenter Street, Highway 1 is a four lane undivided arterial, only to become a four lane freeway north of Carpenter.

Also included in the study is Carmel Valley Road, east of Highway 1 and its intersection with Carmel Rancho Boulevard (CRB). The segment between Highway 1 and CRB has one westbound and two eastbound lanes, while the segment east of CRB is a four lane divided arterial.

The study includes analysis of the following intersections:

1. Highway 1/Carpenter Street
2. Highway 1/Ocean Avenue
3. Highway 1/Carmel Valley Road
4. Highway 1/Rio Road
5. Carmel Rancho Boulevard/Carmel Valley Road

Traffic congestion is chronic on Highway 1 along the study corridor. Development of the Carmel Valley has been put on hold until more capacity is built in the corridor. The improvements proposed consist of roadway widening and grade separation projects, to be analyzed for three future alternatives to the no-build condition. This report presented level of service analysis for the existing conditions as well as for the future 2030 condition, forecast using the AMBAG Regional model.

The following three design alternatives were analyzed for this study:

Alternative 1 – Widen the approaches to all intersections along the Hwy 1-Carmel corridor in order to improve overall Level of Service (LOS) to a minimum of LOS D. All intersections would remain at grade

Alternative 2 – Introduce grade separation at all but the Rio Road intersection along Highway 1 in order to create free-flowing condition for North-South movements on Highway 1 and for movements in and out of Carmel Valley Road.

Alternative 3 – The Rio and Carmel Valley Road intersections would remain at-grade as per Alternative 1, while a grade separated eastbound left-turn (tunnel) would be introduced at the Ocean and Carpenter intersections. The other movements at these intersections would remain at grade.

EXISTING CONDITIONS

Existing AM, PM and weekend (WE) peak hour traffic volumes were collected at the five study intersections in early March 2001. Another count was taken at the end of April 2001 in order to get less seasonality of the data. Spring conditions reflect an average situation between the low winter and high summer traffic volumes. Week-end data was collected during both Saturday and Sunday afternoon and reflects a blend of these two time periods. The existing AM, PM and WE peak hour traffic volume counts are shown on Exhibit 2a, 2b and 2c.

Intersection traffic operations were evaluated using technical procedures documented in the *2000 Highway Capacity Manual (HCM).* The 2000 HCM methodology is based on control delay per vehicle. Control delay includes not only the actual time stopped but also time to slow down, accelerate and travel at reduced speeds in queues. The Synchro 5 software program was utilized to evaluate traffic operations at signalized intersections. Overall intersection delays presented in this report are based on a weighted averaging of the control delay on each individual lane grouping on all intersection approaches. LOS D was utilized as the threshold for acceptable levels of service, as determined by TAMC and the project development team. It should be noted that the Monterey County standard is LOS C.

Exhibit 3 presents the existing levels of service for both the overall intersections and for the mainline individual movements. The only significant problem observed during the AM peak hour is the queuing and delay along Carmel Valley Road, at its approach to Highway 1 and also through the CRB intersections, although that is not reflected in the LOS calculation. This is a result of the delay on Highway 1 NB north of Carmel Valley Road, caused by the slope as well as the high traffic volumes.

The PM peak analysis shows deficient LOS E operating conditions at both Carmel Valley Road and Carpenter intersections with Highway 1. The same two intersections are also at a deficient LOS F condition during the week-end peak hour. Week-end peak hour analysis shows acceptable LOS at the other intersections but doesn't account for spill-over from the congested intersections. The NB through movement at Highway 1/Rio and the SB merge after the Highway 1/Ocean are two of the movements that are affected by downstream congestion.

Exhibit 4 present the arterial level of service for the Hwy 1 segments. Level of service analysis is output from the Synchro calculation files and integrates delays at the intersections. Northbound traffic operations south of Carpenter and Carmel Valley Road are deficient during the PM peak hour, as well as during the weekend peak, during which time the segment south of Rio Road as well as the southbound segment into Carpenter and Rio show operational deficiencies.

A series of operational improvements will be introduced over the next years that will correct some of the operational deficiencies in the corridor, of which the southbound dual left turn lane at Carmel Valley Road is already in place. These improvements include an additional WB right turn lane at Hwy 1/Carmel Valley Road, a second NB lane between

Carmel Valley Road and Ocean Avenue, a third EB lane at Hwy 1/Ocean and a third NB through lanes at Hwy1/Carpenter.

Accident data statistics, provided by Caltrans for the last three years and summarized below, show that the accident rate is lower than the average on this type of facility. However, safety is of particular concern in the vicinity of the Highway 1/Ocean Avenue intersection, as the Carmel High School is located immediately to the east of this intersection.

ACCIDENT SUMMARY TABLE

MON-1 – T72.28 to 75.223 July 1st, 1997 to June 30 2000

Actual Collision Rate 1.84 and Statewide average 1.94

Total	Fatality	Injury	F+I	Multi Vehicle	Wet	Dark	Persons Killed	Persons Injured
274	1	65	66	238	36	44	2	92

TRAFFIC FORECASTS

Traffic forecasts for the study corridor were prepared using the AMBAG regional demand model. The model forecasts future travel demand based on type, density and location of future land development and uses the MINUTP software program. The AMBAG travel demand model was developed in the nineties for Air Quality Conformity, based on 1990 Census data and has been updated for this study to analyze the impact of changing land use patterns and travel behavior in the Carmel Valley area. The update included the updating of the model to reflect year 2000 conditions for validation purposes.

In order to be able to use a regional model for detailed traffic analysis, the inputs to the model had to be scrutinized to reflect more closely the location of the different types of jobs and housing. Appendix D presents a summary of the results and modifications that had to be done to the model Traffic Analysis Zones structure and land use in order to obtain an acceptable 2000 validation on the Hwy 1-Carmel corridor area.

Future land use estimates are based on the 2020 AMBAG projections and reflect the same structural changes applied to the 2000 land use file. Given that no major alternative route will be create in the future in the area, the traffic patterns should not be altered significantly with additional development. Therefore, the methodology used to obtain the peak hour turning movements at each of the study intersections was to add the incremental (or absolute) difference obtained between the 2020 and 2000 model runs to the existing volumes. This difference was multiplied by a factor of 1.5 in order to obtain 2030 volumes. The future 2030 volumes are presented in Exhibits 5a, 5b and 5c. Weekend volumes were obtained by using a ratio of existing week-end count to model off-peak volumes in order to obtain the future week-end volumes, as the regional model does not specifically model week-end traffic. Off peak model runs were chosen because they better reflect activities not linked to the home-based work trip purpose, which is

much more prevalent in AM and PM peak hour modeling. As mentioned previously, given the lack of network alternatives in the future, the same simulation volumes were used to test all four existing alignment alternatives

OPERATIONAL ANALYSIS OF DESIGN ALTERNATIVES

Year 2030 – No-Build Alternative

Exhibit 6 presents the level of service summary for the study intersections, 2030 operations, no build conditions. No build conditions refer to the existing geometry plus improvements already identified and funded which will occur over the next ten years. These improvements are identified in italics on Exhibit 6 and consist of adding one extra lane at the intersections of Highway 1 with: Carmel Valley Road (WB right turn lane), Ocean (EB left turn lane) and Carpenter (NB through lane).

Even with these improvements, the LOS is at unacceptable levels during all peak hours at Carpenter, Ocean and Carmel Valley Road, and during the weekend peak hour at Rio Road. The arterial analysis, presented in Exhibit 4, shows unacceptable operations for the segment around Carpenter Street during all peak hours, and around Carmel Valley Road and Rio during PM and weekend peak hours.

Year 2030 – Alternative 1 – All at-Grade Intersections

Exhibit 7 presents the level of service summary for the study intersections, 2030 operations, all at-grade intersections, Alternative 1. The no-build geometry already identified is supplemented with the necessary lane widenings to provide adequate level of service at all study intersections. These improvements are identified in italics on Exhibit 7 and are listed below:

1. Addition of one WB right turn lane at Hwy 1/Rio, which involves widening Hwy 1 NB to two lanes from Rio to Carmel Valley Road. This allows the NB curbside lane to be restriped to a shared through right. Another modification at this intersection is the addition of a SB right turn lane;
2. With the widening of Highway 1 northbound between Carmel Valley Road and Ocean, an additional NB shared through-right lane is to be added;
3. At Ocean Avenue, the third EB lane added with the Caltrans improvement project would be re-striped to allow left turns, which necessitates widening Highway 1 to three lanes northbound. A third through lane would also be added at the NB approach, also necessitating widening of that approach.
4. At Carpenter Street, the same modification to the third EB lane would be done, changing it to a shared left/through/right lane. In addition, a third southbound lane would be necessary. No other at-grade improvements are realistically feasible at that intersection.

Operations at all but the Carpenter intersection would be adequate during all peak periods. At Carpenter, the intersection would function at LOS E during the PM and weekend peak hours, with the NB through movement at LOS F. The signal timing could

be modified to attain LOS D for both the overall intersection and NB through movement, but that would in turn put very high and unrealistic delays on the other minor movements.

The segment levels of service depicted on Exhibit 4 show adequate operations for all segments, except NB Highway 1, south of Carpenter, which would operate at LOS E. Both the intersection and segment operations indicate that an at-grade intersection is not the long-term solution for congestion at the Highway 1/Carpenter intersection.

Year 2030 – Alternative 2 – Grade Separated Intersections

Exhibit 8 presents the level of service summary for the study intersections, 2030 operations, grade-separated intersections, Alternative 2. Highway 1 and Rio Road is the only intersection for which no grade separated solution is presented, as the LOS with the at-grade solution is consistently in the lower LOS D range:

The Highway 1/Carmel Valley Road interchange would consist of grade separating the southbound left turn movement over the northbound through. All movements would flow into their own lane through the intersection, with ordinary downstream merges taking place if vehicles need to position themselves for left or right turns at the next intersections. Level of service calculations for the interchange would not apply, given that the movements are without conflict. Ramp merge and diverge calculations also do not apply since the facility is not on a freeway. Level of service will not be a concern and could be estimated at LOS A or B for the facility given that no stop delay would be incurred by any movement. Distances to the next upstream facilities are sufficient that spillovers would also not be an issue.

The Ocean Avenue interchange with Highway 1 would be a tight diamond configuration. This creates two intersections on Ocean Avenue with the ramps to and from Highway 1. The close proximity of these intersections requires that the analysis be performed as if they were controlled simultaneously with one signal controller. The LOS analysis shows LOS B or C operations during all peak periods. However, the high volume of left turns at the NB ramp intersection will mean that the majority of the volume of the two EB lanes at the SB ramp intersection will have to merge over a very short distance. This could lead to questionable safety situations, particularly unwanted at this close proximity to the High School.

The Carpenter Street interchange with Highway 1 is a quarter clover (one NB on-loop ramp). The NB and SB intersections, which operate at LOS A or B, are 500 feet apart, and are analyzed as a coordinated system. The merging of the two high-volume EB lanes from the SB intersection would occur within the loop on-ramp, thus allowing traffic flows to be balanced on the overpass.

The road segment calculations presented on Exhibit 4 show LOS B or C operations for all of the free-flowing segments north of Rio Road (except between Ocean and Carpenter northbound during the weekend, which is at LOS D). These segment calculations used a different methodology (HCS 2000, Multilane Highways) than the Synchro based segment LOS presented for all other scenarios. This explains some of the counter-intuitive comparisons, especially of the segment between Ocean and Carmel Valley Road.

Year 2030 – Alternative 3 – Tunnels at Carpenter and Ocean

With Design Alternative 3, the intersections of Highway 1 at Rio and Carmel Valley Road would remaining the configuration recommended for Alternative 1, at-grade. At the Ocean and Carpenter intersections, the existing geometry would be supplemented with an EB to NB tunnel, allowing free-flowing EB left turns out onto Highway 1.

Exhibit 9 shows that overall operations at both intersections would be satisfactory during all times. However, the NB through movement at Carpenter would operate at LOS F during the weekend peak hour. Segment operation shows all segments operating at LOS D or better except for the NB segment south of Carpenter.

By-Pass Alternative

Although not specifically analyzed for this study, the Hatton Canyon by-pass alternative, which had been proposed by Caltrans up to a year ago, is not considered a viable alternative, for different environmental and operational considerations. The necessity for a freeway to extend beyond Carmel Valley and Rio Roads has been shown to be unwarranted as a two-lane highway will be more than sufficient to carry traffic volumes for at least the next 30 years. Also, the single interchange between the Carmel River and Carpenter Street would have concentrated on and off ramp volumes on a single point diamond interchange configuration that would not have operated adequately. Finally, the right-of-way (ROW) reserved for this alternative is in the process of being transferred from Caltrans to State Parks, precluding any traffic related use for the area.

Alternate Modes of Transportation

The slope and narrow width of the Highway 1 corridor does not lend itself to the inclusion of bicycle facilities (lanes or paths). The side streets at Rio, Carpenter and especially Ocean will include bicycles traffic lanes if and when these will have to be widened for the capacity enhancements discussed earlier. Park and ride lots may also be identified within the ROW between Carmel Valley Road and Rio Road, in possible conjunction with a parking facility for the future Hatton Canyon Park. High occupancy lanes and preferential bus treatment may not function in the area given the highly touristic nature of the trips as well as the high income level of the area. However, designs of any new road feature will have to take into account the large tour busses that are very common to the area. The Monterey-Salinas Transit serves the area with two bus lines, #24 along Highway 1 and Carmel Valley Road and #22 along Rio Road in Carmel and south along Highway 1 to Big Sur.

SUMMARY/CONCLUSIONS

The traffic analyses documented in this report have established the following:

1. The Highway 1 corridor through Carmel is very congested, with traffic spillovers caused by long queues and inadequate roadway capacity. The improvements that are funded and have partially been put into place will only temporarily relieve this congestion.

2. Acceptable future intersection operations may be achieved at all five study intersections, based on the LOS D standard. The Carmel Rancho Boulevard/ Carmel Valley Road intersection will not need any widening improvements.

3. The Highway 1/Rio Road intersection will need a second WB right turn lane, which will trigger the widening of Highway 1 NB to two travel lanes between Rio and Carmel Valley Roads. This will allow two NB through lanes at the Rio NB approach. A third improvement would be to add a dedicated SB right turn lane at this intersection.

4. The Highway 1/Carmel Valley Road intersection would also function well as an at-grade intersection in the future. An additional NB through lane would be needed, which would be available with the above-mentioned widening of Highway 1 NB between Rio and Carmel Valley Roads. Operations would be at overall LOS C with the worse individual movements at LOS D. Grade separating this intersection would further reduce overall delays to insignificant levels.

5. The Highway 1/Ocean intersection would operate adequately, at best, in an at-grade configuration. The weekend peak hour LOS E for the NB through movement and the near LOS E (LOS D at 54.8 seconds of delay, LOS e is at 55 seconds of delay) for the same movement during the PM peak hour are two reasons which preclude a passing mark for this configuration. The tight diamond configuration allows free-flow N-S conditions on Highway and excellent LOS operations at the ramp intersections. The tunnel option also allows for excellent LOS operations at the intersection, and is much less obtrusive that the diamond.

6. The Carpenter intersection with Highway 1 only really operates well as a grade separated interchange. Both the at-grade and the tunnel options suffer operational deficiencies, although more pronounced in the former. The width of the interchange allows for enough spacing of the NB and SB ramp intersections along Carpenter Street and the operations of these intersections are either LOS A or B. The interchange option (alternative 2) would also allow the mainline to remain at two lanes south of Carpenter Street.

In conclusion, it seems that ideal future solution, based on maximizing operations and minimizing land acquisition, would be at grade intersections at Rio, Carmel Valley Road and Ocean, with the latter being supplemented by an EB to NB tunnel, and a grade-separated interchange at Carpenter Street.

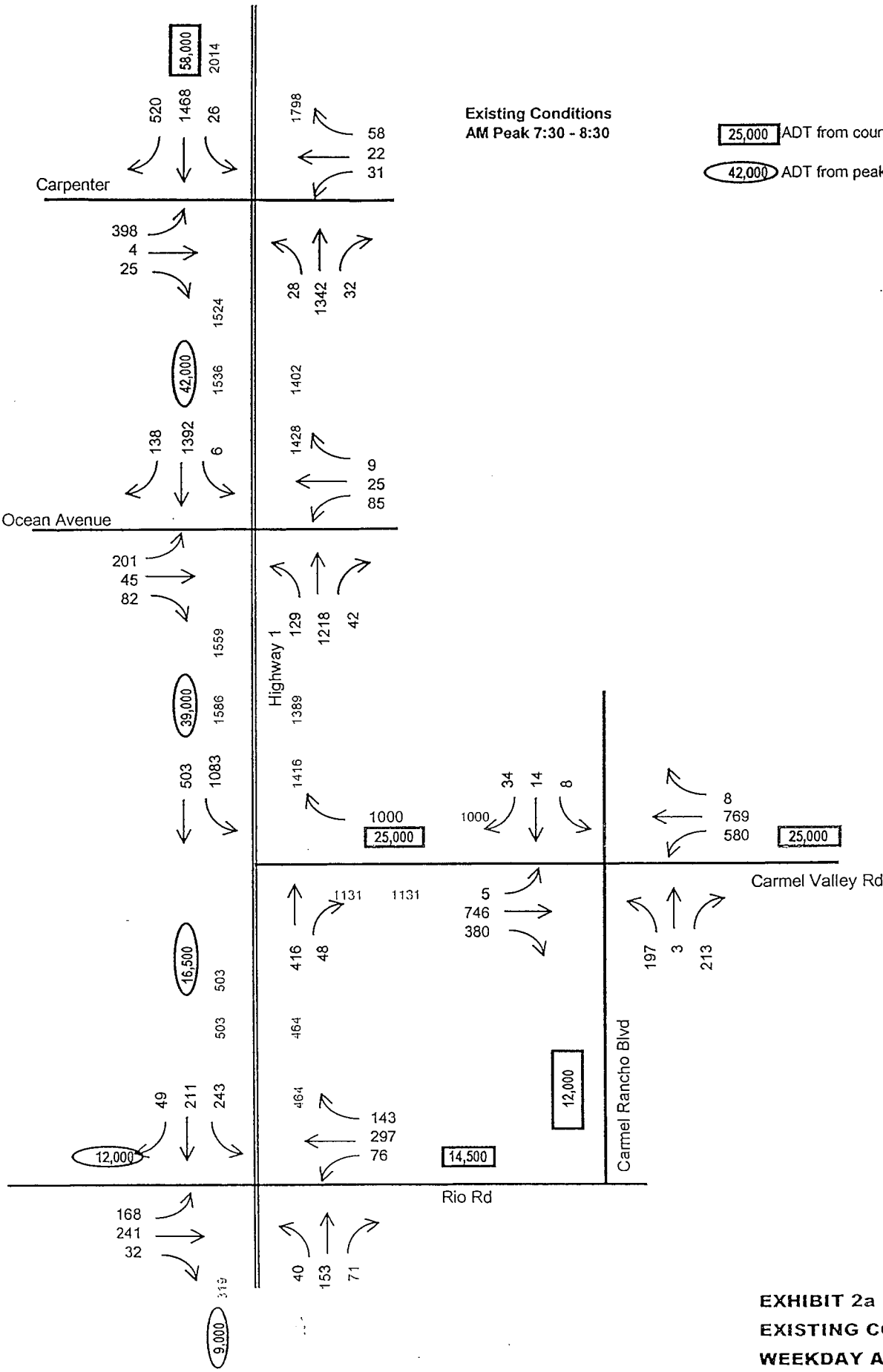

EXHIBIT 2a
EXISTING CONDITIONS
WEEKDAY AM
PEAK HOUR VOLUMES

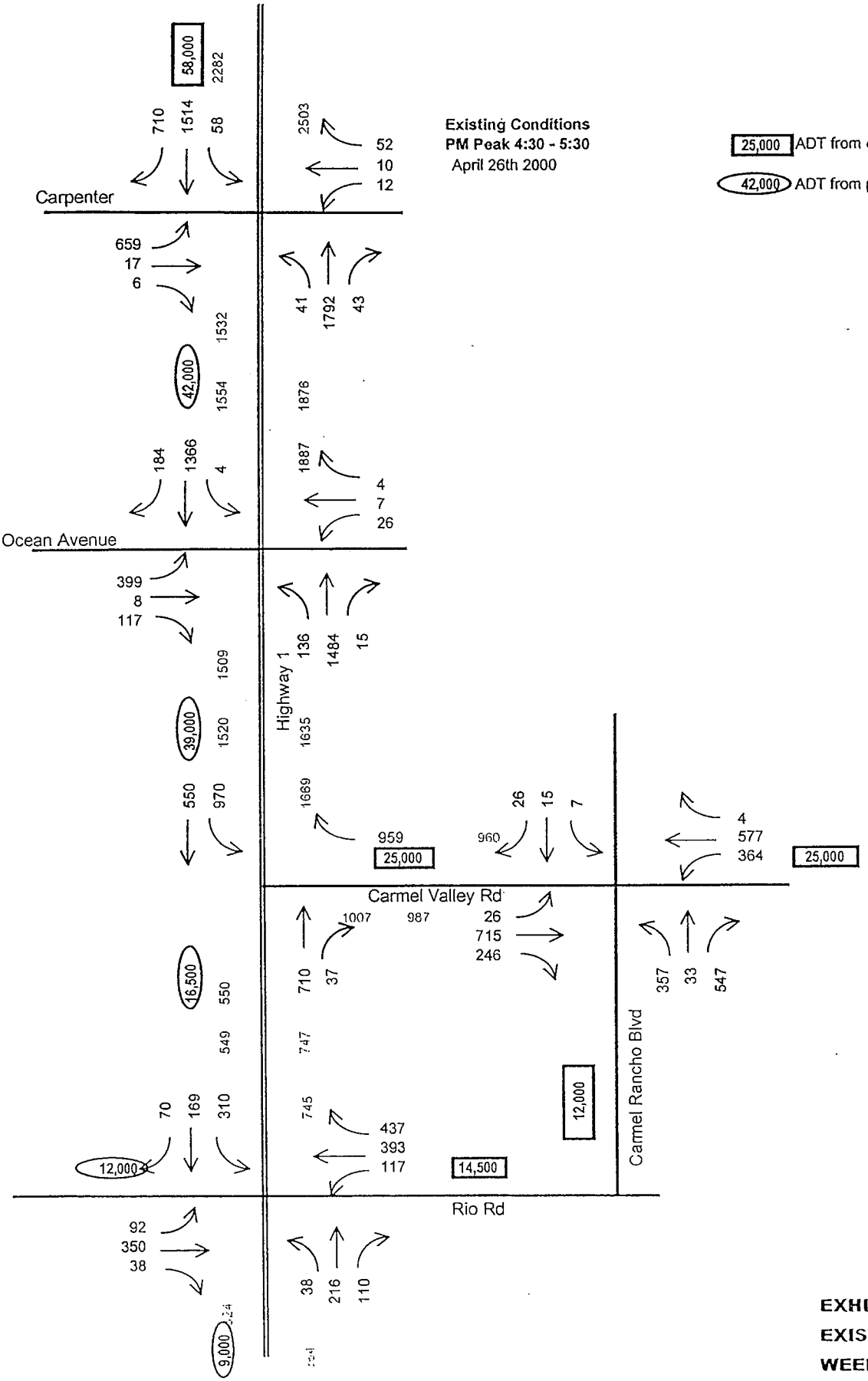

EXHIBIT 2b
EXISTING CONDITIONS
WEEKDAY PM
PEAK HOUR VOLUMES

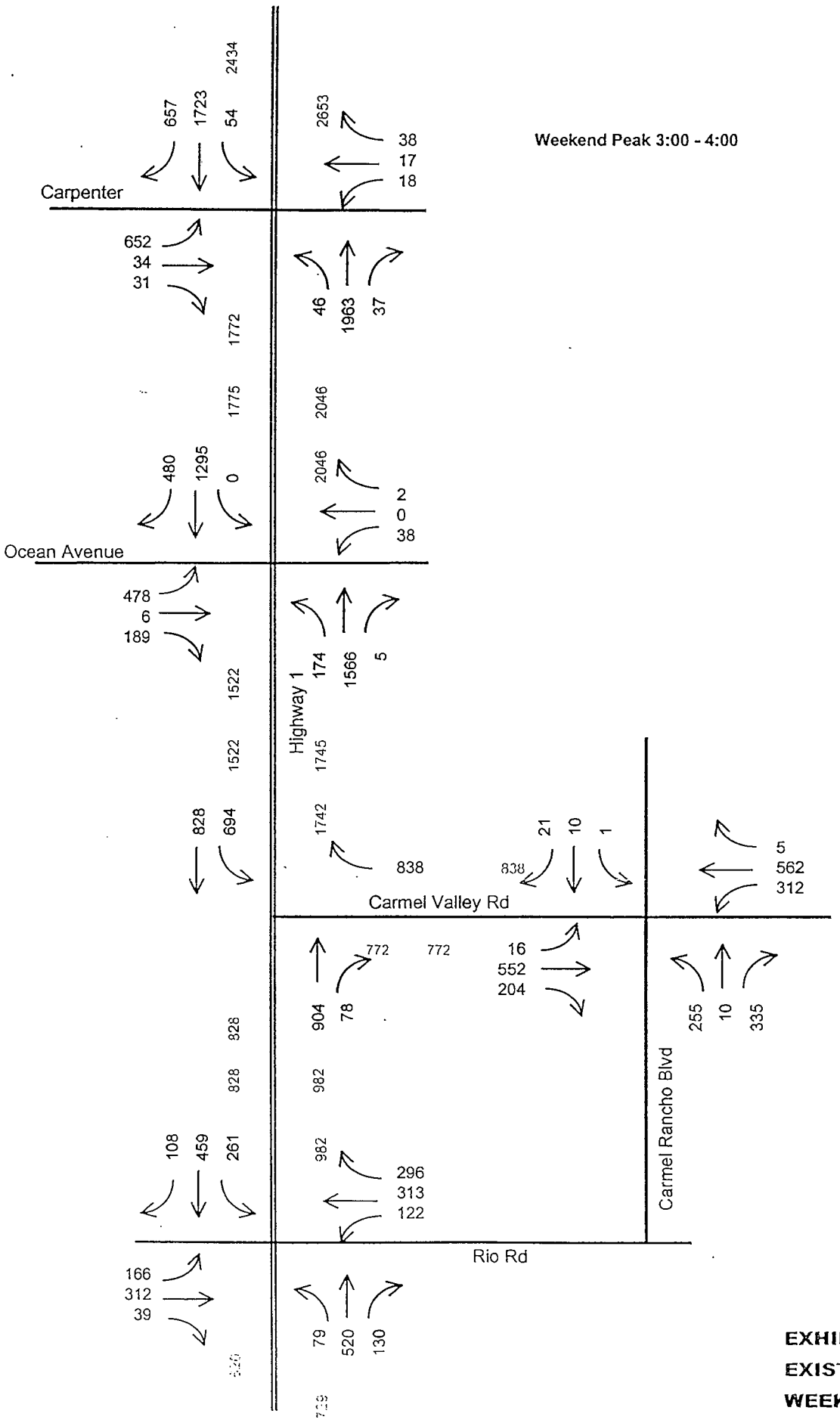

EXHIBIT 2c
EXISTING CONDITIONS
WEEKEND AFTERNOON
PEAK HOUR VOLUMES

Higgins Associates

	N-S Street	E-W Street	Existing Lane Configuration	Existing Intersection Control	*Individual* Movement LOS	April 2001 Updated data					
						Weekday AM Peak Hr		Weekday PM Peak Hr		Weekend Peak	
						Delay (sec)	LOS V/C	Delay (sec)	LOS	Delay (sec)	LOS
1	Highway 1	Carpenter	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB 2-L, 1-T/R WB 1-L, 1-T/R, 1-R	Signal actuated- uncoordinated	 NB-T SB-T	**22.4** 18.5 19.0	**C** B B	**55.4** 98.6 24.9	**E** F C	**120.1** 227.5 70.7	**F** F E
2	Highway 1	Ocean Ave.	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB 1-L, 1-L/T/R WB 1-L, 1-T/R	Signal actuated- uncoordinated	 NB-T SB-T	**27.7** 14.5 29.4	**C** B C	**29.3** 21.9 26.7	**C** C C	**48.4** 42.3 49.7	**D** D D
3	Highway 1	Carmel Valley Rd.	NB 1-T, 1-R SB 2-L, 1-T WB 1-R	Signal actuated- uncoordinated	 NB-T SB-L WB-R	**53.3** 40.9 12.4 130.8	**D** D B F	**76.0** 100.3 21.2 159.3	**E** F C F	**97.4** 243.7 18.5 107.9	**F** F B F
4	Highway 1	Rio Road	NB 1-L, 1-T, 1-R SB 2L, 1-T/R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 1-R	Signal actuated- uncoordinated	 NB-T SB-T	**24.6** 28.9 29.5	**C** C C	**23.8** 38.6 21.6	**C** D C	**46.1** 53.7 37.8	**D** D D
5	Carmel Rancho Blvd.	Carmel Valley Rd.	NB 1-L, 1-T, 1-R SB 1-L/T, 1-R EB 1-L, 2-T, 1-R WB 2-L, 1-T/R	Signal actuated- uncoordinated	 *Cycle*	**27.6**	**C**	**26.0**	**C**	**20.5**	**C**

Notes: 1. L, T, R = Left, Through, Right.
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.
3. Saturation flows have been reduced for all NB Hwy 1 approaches, based on measurements at Carpenter, 4/26/01

EXHIBIT 3
EXISTING CONDITIONS
INTERSECTION LOS SUMMARY

Section of Highway 1	AM Peak Hour				
	Existing	No-Build	Alt. 1	Alt. 2	Alt. 3
Northbound					
South of Carpenter St.	B	E	D	*C*	D
South of Ocean Ave.	B	C	B	*C*	A
South of Carmel Valley Rd.	D	F	D	*B*	D
South of Rio Rd.	D	D	D	D	D
Southbound					
North of Carpenter St.	D	F	D	*C*	C
North of Ocean Ave.	C	D	C	*C*	B
North of Carmel Valley Rd.	B	B	A	*B*	A
North of Rio Rd.	D	D	D	B	D

Section of Highway 1	PM Peak Hour				
	Existing	No-Build	Alt. 1	Alt. 2	Alt. 3
Northbound					
South of Carpenter St.	E	E	E	*C*	D
South of Ocean Ave.	B	D	B	*C*	A
South of Carmel Valley Rd.	F	F	D	*B*	D
South of Rio Rd.	D	D	D	D	D
Southbound					
North of Carpenter St.	D	F	E	*C*	C
North of Ocean Ave.	C	E	D	*C*	B
North of Carmel Valley Rd.	B	B	A	*C*	A
North of Rio Rd.	D	D	D	C	D

Section of Highway 1	Weekend Peak Hour				
	Existing	No-Build	Alt. 1	Alt. 2	Alt. 3
Northbound					
South of Carpenter St.	F	F	E	*D*	E
South of Ocean Ave.	C	D	B	*C*	A
South of Carmel Valley Rd.	F	F	D	*C*	D
South of Rio Rd.	E	F	D	D	D
Southbound					
North of Carpenter St.	F	F	E	*C*	D
North of Ocean Ave.	C	E	D	*C*	B
North of Carmel Valley Rd.	B	B	A	*B*	A
North of Rio Rd.	E	F	D	D	D

LOS output from Synchro Arterial Analysis, except italics which used HCS 2000

EXHIBIT 4
ARTERIAL
LOS SUMMARY

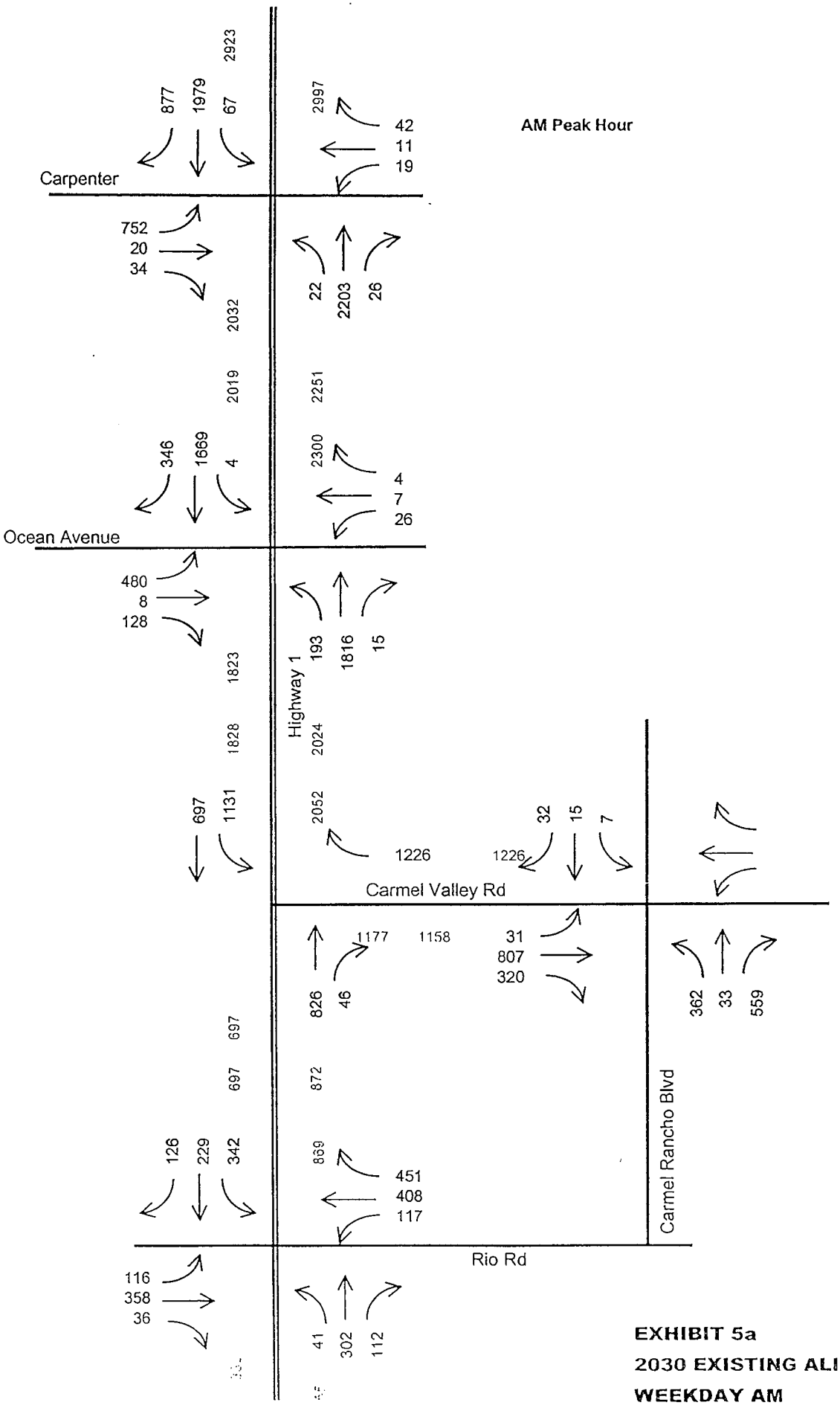

EXHIBIT 5a
2030 EXISTING ALIGNMENT
WEEKDAY AM
PEAK HOUR VOLUMES

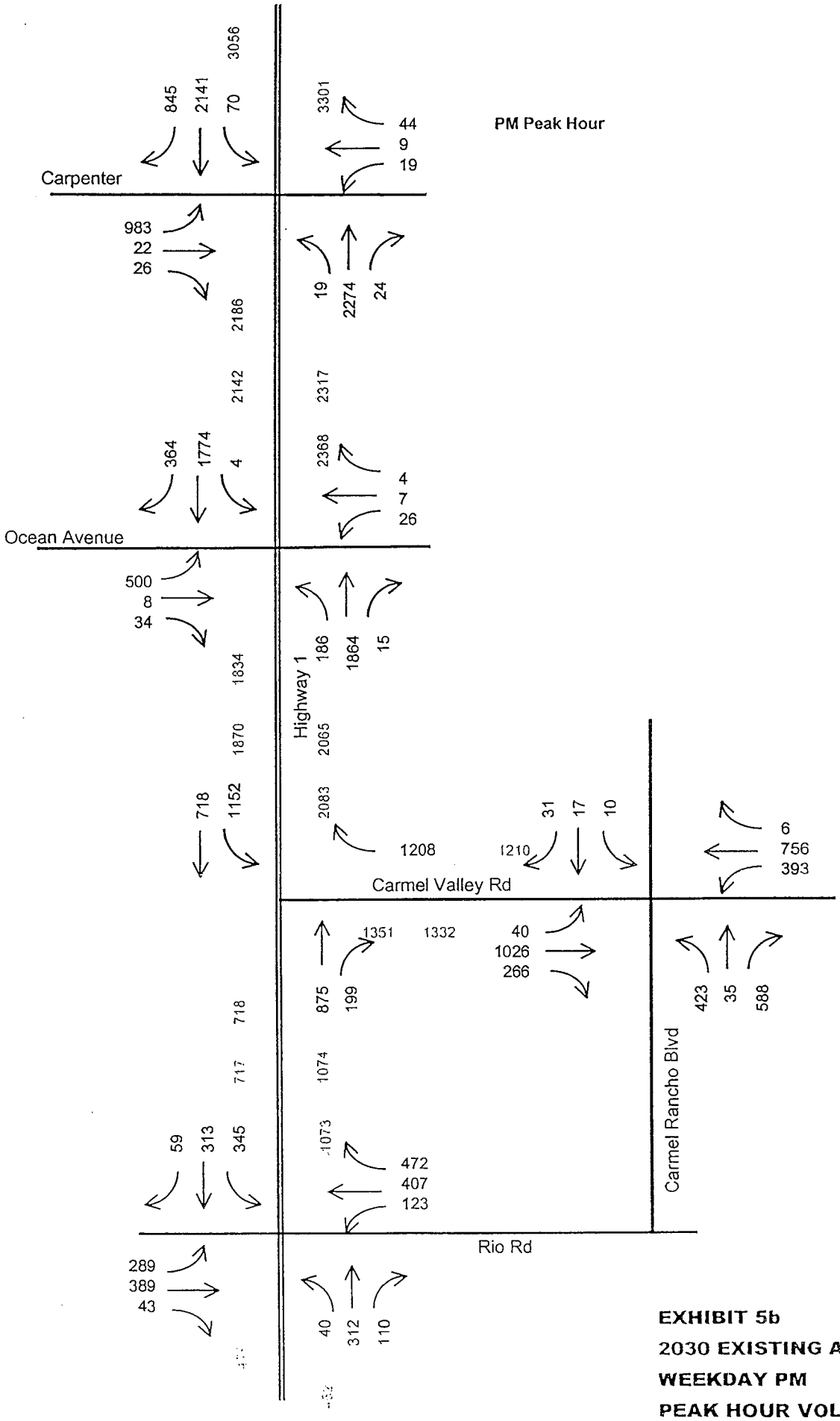

EXHIBIT 5b
2030 EXISTING ALIGNMENT
WEEKDAY PM
PEAK HOUR VOLUMES

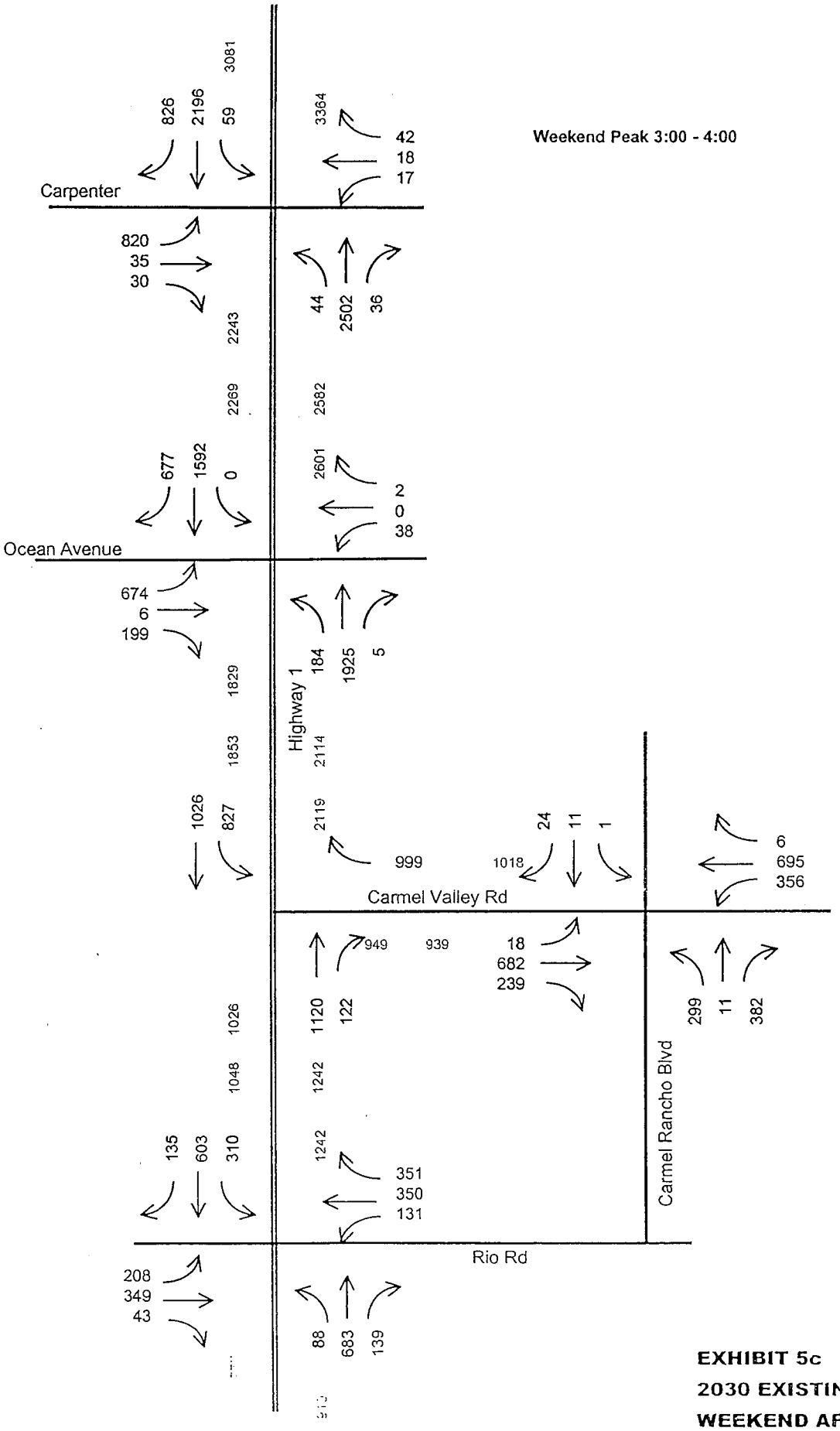

EXHIBIT 5c
2030 EXISTING ALIGNMENT
WEEKEND AFTERNOON
PEAK HOUR VOLUMES

Higgins Associates

EXHIBIT 6

2030 NO-BUILD CONDITIONS

INTERSECTION LOS SUMMARY

Alt. - No Build	N-S Street	E-W Street	Future Lane Configuration	Intersection Control	*Caltrans Planned Improvement* Individual Movement LOS	Synchro 5 HCM Methodology No-Build					
						Weekday AM Peak Hr		Weekday PM Peak Hr		Weekend Peak	
						Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Highway 1	Carpenter	NB 1-L, 2-T, *1-T/R* SB 1-L, 2-T, 1-R EB 2-L, 1-T/R WB 1-L, 1-T, 1-R	Signal actuated- uncoordinated	*Add 3rd NB T lane* NB-T SB-T	**87.2** 108.1 114.6	**F** F F	**113.0** 123.9 152.5	**F** F F	**147.3** 176.0 209.6	**F** F F
2	Highway 1	Ocean Ave.	NB 1-L, 1-T, 1-T/R SB 1-L, 2-T, 1-R EB *2-L, 1-T/R* WB 1-L, 1-T/R	Signal actuated- uncoordinated	*Add 3rd EB lane* NB-T SB-T	**58.7** 66.2 63.2	**E** E E	**72.8** 79.8 86.3	**E** E F	**83.8** 110.6 99.5	**F** F F
3	Highway 1	Carmel Valley Rd.	NB 1-T, 1-R SB 2-L, 1-T WB *2-R*	Signal actuated- uncoordinated	*Add 2nd WB RT lane* NB-T SB-L WB-R	**62.8** 191.1 24.8 48.5	**E** F C D	**68.8** 225.5 25.4 45.3	**E** F C D	**106.1** 340.7 21.8 32.0	**F** F C C
4	Highway 1	Rio Road	NB 1-L, 1-T, 1-R SB 2-L, 1-T/R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 1-R	Signal actuated- uncoordinated	 NB-T SB-T	**31.4** 36.0 24.8	**C** D C	**43.1** 45.8 31.9	**D** D C	**69.7** 107.6 84.6	**E** F F
5	Carmel Rancho Blvd.	Carmel Valley Rd.	NB 1-L, 1-T, 1-R SB 1-L/T, 1-R EB 1-L, 2-T, 1-R WB 2-L,1-T/R	Signal actuated- uncoordinated		**42.8**	**D**	**50.7**	**D**	**27.4**	**C**

Notes:
1. L, T, R = Left, Through, Right.
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.
3. Saturation flows have been reduced for all NB Hwy 1 approaches, based on measurements at Carpenter, 4/26/01.
4. LOS calculations based on 2030 model output (No Build alternative, does include Caltrans funded improvements).

EXHIBIT 7
2030 ALTERNATIVE 1 CONDITIONS
INTERSECTION LOS SUMMARY

Alt. 1 - All At Grade	N-S Street	E-W Street	Future Lane Configuration	Intersection Control	*Caltrans Planned Improvement* + **Other Mitigations** Individual Movement LOS	Synchro 5 HCM Methodology Optimized At-Grade (Actual Settings) Weekday AM Peak Hr Delay (sec)	AM Peak Hr LOS	PM Peak Hr Delay (sec)	PM Peak Hr LOS	Weekend Peak Delay (sec)	Weekend Peak LOS
1	Highway 1	Carpenter	NB 1-L, 2-T, 1-T/R SB 1-L, 3-T, 1-R EB 2-L, 1-L/T/R WB 1-L, 1-T, 1-R	Signal actuated- uncoordinated	*Add 3rd NB T lane* **+ Add 3rd SB T lane** NB-T SB-T	**34.0** 44.9 21.2	**C** D C	**63.2** 112.8 34.6	**E** F C	**60.5** 104.7 30.0	**E** F C
2	Highway 1	Ocean Ave.	NB 1-L, 2-T, 1-T/R SB 1-L, 2-T, 1-R EB 2-L, 1-L/T/R WB 1-L, 1-T/R	Signal actuated- uncoordinated	**Add 3rd NB T lane** **+ Add 3rd EB LT lane** NB-T SB-T	**34.1** 15.6 45.0	**C** B D	**36.2** 14.9 54.8	**D** B D	**43.6** 20.8 67.0	**D** C E
3	Highway 1	Carmel Valley Rd.	NB 1-T, 1-T/R SB 2-L, 1-T WB 2-R	Signal actuated- uncoordinated	*Add 2nd WB RT lane* **+ Add NB T/R lane** NB-T SB-L WB-R	**21.9** 34.4 17.8 29.2	**C** C B C	**31.4** 42.5 24.8 46.3	**C** D C D	**26.1** 37.0 24.3 40.5	**C** D C D
4	Highway 1	Rio Road	NB 1-L, 1-T, 1-T/R SB 2-L, 1-T, 1-R EB 1-L, 1-T, 1-T/R WB 1-L, 1-T, 2-R	Signal actuated- uncoordinated	**Add 2nd WB RT** **+ Add NB T/R lane** NB-T SB-T	**27.4** 32.8 21.9	**C** C C	**36.6** 43.6 30.9	**D** D C	**42.0** 38.9 42.8	**D** D D
5	Carmel Rancho Blvd.	Carmel Valley Rd.	NB 1-L, 1-T, 1-R SB 1-L/T, 1-R EB 1-L, 2-T, 1-R WB 2-L,1-T/R	Signal actuated- uncoordinated		**42.8**	**D**	**50.7**	**D**	**27.0**	**C**

Notes: 1. L, T, R = Left, Through, Right.
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.
3. Saturation flows have been reduced for all NB Hwy 1 approaches, based on measurements at Carpenter, 4/26/01.
4. LOS calculations based on 2030 model output (No Build alternative, does include Caltrans funded improvements).

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EXHIBIT 8
2030 ALTERNATIVE 2 CONDITIONS
INTERSECTION LOS SUMMARY

Alt. 2 - Grade Separated	N-S Street	E-W Street	Future Lane Configuration	Intersection Control		Synchro 5 HCM Methodology Grade-Separated Optimized					
						Weekday					
						AM Peak Hr		PM Peak Hr		Weekend Peak	
						Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Highway 1 SB	Carpenter	SB 1-L/T, 1-R EB 2-T, 1-R WB 1-L, 2-T	Signal actuated-coordinated		12.5	B	12.7	B	12.9	B
2	Highway 1 NB	Carpenter	NB 1-L, 1-T SB 1-T/R EB 1-L, 1-R	Signal actuated-coordinated		2.7	A	3.0	A	2.7	A
3	Highway 1 SB	Ocean Ave.	SB 1-L/T, 1-R EB 2-T, 1-R WB 1-L, 1-T	Signal actuated-shared controller		15.8	B	15.0	B	12.2	B
4	Highway 1 NB	Ocean Ave.	NB 1-L, 1-T/R EB 1-L, 1-T WB 1-T, 1-R	Signal actuated-shared controller		14.1	B	14.4	B	20.0	C

Notes:
1. L, T, R = Left, Through, Right.
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.
3. No delays at Hwy 1/Carmel Valley Road intersection
4. Operations at Hwy1/Rio and CRB/CVR similar to Alternative 1

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EXHIBIT 9

2030 ALTERNATIVE 3 CONDITIONS

INTERSECTION LOS SUMMARY

Alt. 3 - Tunnels	N-S Street	E-W Street	Future Lane Configuration	Intersection Control	*Caltrans Planned Improvement* Individual Movement LOS	Synchro 5 HCM Methodology Optimized At-Grade (Optimized Settings) Weekday AM Peak Hr Delay (sec)	AM Peak Hr LOS	PM Peak Hr Delay (sec)	PM Peak Hr LOS	Weekend Peak Delay (sec)	Weekend Peak LOS
1	Highway 1	Carpenter	NB 1-L, 2-T, 1-R	Signal		**25.4**	**C**	**28.0**	**C**	**51.8**	**D**
			SB 1-L, 2-T, 1-R	actuated-							
			EB 1-T, 1-R	uncoordinated	NB-T	46.4	D	53.1	D	99.8	F
			WB 1-L, 1-T, 1-R		SB-T	6.5	A	7.1	A	13.7	B
2	Highway 1	Ocean Ave.	NB 1-L, 1-T, 1-T/R	Signal		**17.4**	**B**	**12.1**	**B**	**20.4**	**C**
			SB 1-L, 2-T, 1-R	actuated-							
			EB 1-T/R	uncoordinated	NB-T	9.7	A	7.7	A	9.7	A
			WB 1-L, 1-T/R		SB-T	14.8	B	12.9	B	16.1	B
1	Highway 1	Carpenter	NB 1-L, 2-T, 1-R	Signal	w/ optimized settings					**43.5**	**D**
			SB 1-L, 2-T, 1-R	actuated-							
			EB 1-T, 1-R	uncoordinated	NB-T					82.0	F
			WB 1-L, 1-T, 1-R		SB-T					11.4	B
1	Highway 1	Carpenter	NB 1-L, 2-T, 1-T/R	Signal	*Add 3rd NB T lane*					**13.5**	**B**
			SB 1-L, 2-T, 1-R	actuated-							
			EB 1-T, 1-R	uncoordinated	NB-T					10.9	B
			WB 1-L, 1-T, 1-R		SB-T					13.7	B

Notes: 1. L, T, R = Left, Through, Right.
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound.
3. Saturation flows have been reduced for all NB Hwy 1 approaches, based on measurements at Carpenter, 4/26/01.

EXHIBIT G - TRAFFIC FORECASTING, ANALYSIS AND OPERATIONS SCOPING CHECKLIST

PDS Traffic Forecasting, Analysis and Operations Scoping Checklist

Project Information

District 5 County Mon Route 1 Kilometer Post (Post Mile) 116.3/121.0 (72.3/75.2) EA 0C820K

Description (include how project was identified: system planning, safety investigation, highway and freeway surveillance, etc.)
State Route 1 between the Carmel River and State Route 68 (West) has been the subject of much study and controversy for over 40 years. It is one of the most-heavily-traveled sections of 2-lane conventional highway in the State of California, and commonly operates at LOS "E" or "F" during peak hours. A PSR(PDS) has been initiated by the Transportation Agency for Monterey County to identify improvements necessary to improve operations to arterial LOS "D" in year 2030. The Hatton Canyon Freeway bypass of this section of highway was found to be infeasible by the Legislature in 2001.

Project Manager David Silberberger	Phone # (805) 549-3798
Project Engineer Keith J. Hallsten, Dokken Engineering	Phone # (916) 858-0642
Traffic Forecasting Functional Manager David Murray	Phone # (805) 549-3168
Traffic Operations Functional Manager Sally Strait	Phone # (805) 549-3000

Traffic Forecasting, Traffic Analysis Scoping

Describe and identify in the following sections a general description of the existing traffic and forecasted traffic (using existing data and transportation concept reports). Analyze traffic data and determine what traffic operational conditions are anticipated. Identify any additional studies needed to accurately forecast and fully analyze the traffic operations as part of the preparation of the environmental document. Consult with the District Intergovernmental Review/California Environmental Quality Act Coordinator for applicable local agency studies of land development proposals.

Under traffic modeling assumptions, traffic models should be validated and calibrated. The general plan buildout should be used to incorporate potential land use changes that are probable in the future. An interim year may be selected to incorporate a significant land use change or development.

At the PSR (PDS) stage, the traffic forecasting and analysis tasks are intended to utilize readily available information and traffic models. At this stage of the project development process, it is not intended that extensive effort be devoted to the generation of traffic data and to the significant updating of traffic models. If necessary, these tasks will occur at later stages of the process. However, exceptions may be necessary in cases where the traffic data or models are highly suspect.

Traffic Operations Scoping

Based on the traffic analysis, describe and identify in the following sections a general description of the traffic operational improvements required (auxiliary lanes, signalized intersections, etc.) to address the traffic operational conditions and applicable warrants. The traffic operation improvements should be discussed in sufficient detail to identify the project's major geometric features and operations issues. Also discuss in detail traffic management system improvements (ramp metering, CMS, HOV lanes, etc.) to be incorporated. Discuss any components of the traffic management system that may be controversial during development of the environmental document.

Project Screening

1. Project Features: New R/W? Yes Excavation or fill? Yes

2. Project Setting

High-density residential with a suburban or rural character; Carmel High School is located along the east side of SR-1 near the center of the project area; a commercial center is located east of SR-1, south of Carmel Valley Road.

Rural or Urban Urban Current land uses State Highway

Adjacent land uses Residential, High School, Commercial
(industrial, light industry, commercial, agricultural, residential, etc.)

Existing Traffic Operational Conditions and Warrants Supporting the Need for the Improvement

Mainline highway Significant congestion, especially during commute hours and on weekends during special events

Ramp intersection N/A

Merge / diverge N/A

Street intersections

Rio Road/SR-1: Northbound traffic on SR-1 backs up from the Carmel Valley Road intersection through the Rio Road intersection during PM peak hour and weekend peak hour. Signals do not clear.

Carmel Valley Road/SR-1: Operates at LOS "E" in PM peak hour on weekdays and LOS "F" during peak hour on weekends. Signals do not clear.

Atherton Dr./SR-1: This access to be analyzed for closure, with access to be via Ocean Ave and/or Rio Road.

So. Carmel Hills Dr./SR-1: This access to be analyzed for restriction to right-in, right-out (NB) movements, with SB access via Ocean Ave and/or a new local road connection to Carmel Knolls Drive, then via existing streets to Rio Rd.

Mesa Dr./SR-1: This access to be analyzed for closure, with access to be via existing local roads to Ocean Ave and Rio Road.

Morse Dr./SR-1: This access to be analyzed for closure, with NB access to be via So. Carmel Hills Dr. and SB access via existing local roads to Ocean Ave and/or a new local road connection to Carmel Knolls Drive, then by existing roads to Rio Road.

Ocean Ave./SR-1: The SB merge from 2 lanes to 1 lane causes backup through this intersection. Very heavy EB left turn demand.

Flanders Dr./SR-1: This access to be analyzed for closure, with access to be via Carmel Hills Drive to Ocean Ave.

3rd Avenue/SR-1: This access to be analyzed for closure, with access to be via existing local roads to Ocean Ave and Carpenter Street.

Valley Way/SR-1: This access to be analyzed for closure, with access to be via a new frontage road connection to 3rd Avenue, then by existing roads to Ocean Ave, and via Carpenter Street.

Handley Dr./SR-1: This access to be analyzed for closure, with access to be via a new local road connection to Lower Trail, and thereby to Carpenter Street.

Carpenter St./SR-1: Operates at LOS "E" in PM peak hour on weekdays and LOS "F" during peak hour on weekends. Very heavy EB left turn volume. Signals do not clear during heavy traffic periods.

San Luis Ave. (S)/SR-1: This access to be analyzed for closure, with access to be via existing local roads to Carpenter Street.

San Luis Ave. (N)/SR-1: This access to be analyzed for closure, with access to be via existing local roads to Carpenter Street.

Weaving / merging (spacing)

In addition to the large number of closely-spaced street intersections, there are also numerous private driveways with direct access from SR-1, especially on the west side of SR-1 between Handley Drive and Mesa Drive. These private accesses may be provided indirectly via new frontage roads connecting to Atherton Way, Mesa Drive, and/or Valley Way

Other

Traffic Study and Analysis Anticipated

Traffic Modeling Assumptions

o Use Local Model *Yes.*
o Update Local Model *Already done.*
o New Model *For local street operational analysis*
o Existing Traffic Counts *Yes.*
o New Traffic Counts *For local street operational analysis*

o Historical Growth *Assumed 1.5 times 2020 forecast for 2030 demand.*

o General Plan (GP) Buildout *Yes.*

o Pro-Rate GP Growth *No.*

o Existing Year (2000) *Already done.*

o Design Year (2030) *Already done.*

o Interim Year (2020) *Already done.*

Other

The AMBAG regional demand model was updated during the preparation of the PSR-PDS to include the latest future land use estimates. This is described in the report "HIGHWAY 1 - CARMEL PSR/PDS TRAFFIC ANALYSIS" prepared by Higgins Associates and dated August 16, 2001. The 2020 model forecast was factored up by 50% to obtain 2030 volumes.

Detailed modeling of the local street system will be needed to evaluate possible closures, turn restrictions, and reconfigurations of existing local street connections and construction of new local streets.

Traffic Analysis

o Mainline LOS *Required, but already done*

o Merge/Diverge LOS *Not required*

o Ramp Int. LOS *Required, but already done*

o Adjacent IC LOS *Not required*

o Ramp Metering (open) *Not required*

o Ramp Metering (later) *Not required*

o Left/Right Turn Storage *Required, but already done*

o Accident / Safety Analysis *Required, but already done*

o Intersection Queues *Required, but already done*

o Construction Staging *Required for alternatives involving grade separations*

o Project Staging *Required if project is to be phased*

Other

The "HIGHWAY 1 - CARMEL PSR/PDS TRAFFIC ANALYSIS" prepared by Higgins Associates includes Mainline LOS analysis, Ramp Intersection LOS, Left/Right Turn Storage requirements, Intersection Queue Analysis, and Accident Analysis. More detailed analysis of the local street system will be required to evaluate options for revised access from the local street system to the State Highway.

References: Guide for the Preparation of Traffic Impact Studies, Caltrans January 2001; Highway Capacity Manual: Transportation Research Board

Traffic Operations Scoping

Traffic Operational Improvements

Attach the project location map to this checklist to show location of all traffic operations improvements anticipated.

o Auxiliary Lanes *None identified*

o Intersection Improvements:

Rio Road / SR-1: Traffic analysis shows that a second WB right turn lane will be required, with two NB lanes on SR-1 north of Rio Rd. A dedicated SB right turn lane is also suggested.

Carmel Valley Drive / SR-1: Traffic analysis shows that a second NB through lane is needed.

Ocean Avenue / SR-1: Traffic analysis shows that this intersection will not operate acceptably, even with the addition of triple EB-to-NB left turn lanes, through lanes and other turn lanes. A grade-separated left turn lane or a diamond-type interchange will be required.

Carpenter Street / SR-1: Traffic analysis shows that this intersection cannot operate acceptably as a grade-level intersection, even with triple left turn lanes or a grade-separated EB-to-NB left turn. A modified diamond interchange with a NB loop on-ramp is suggested.

o Truck Climbing Lane *Additional NB lane will function as a truck climbing lane, but a dedicated truck lane is not anticipated.*

o New Signals *None identified*

o Modify Signals *At Ocean Ave, Carmel Valley Rd and Ocean Ave.*

o Merging Improvements *None identified*

o Weaving Improvements *None identified*

o Deceleration / Acceleration Lanes *At So. Carmel Hills Drive / SR-1*

Other

_____

_____

Traffic Management Systems

Attach the project location map to this checklist to show location of all traffic management systems identified.

o Ramp Meters *None*

o HOV Ramp Bypass *None*

o Mainline HOV Lanes *None*

o Detector Loops

o Communication Networks (fiber optic, telephone, etc.) *None*

o Closed Circuit Television *None*

o Changeable Message Sign *None*

o Highway Advisory Radio *None*

Other

_____

_____

Discuss strategies (technical analysis, public outreach, etc.) to secure local agency and public support to implement HOV lanes and ramp metering: *N/A*

Preliminary Traffic Forecasting and Operations Evaluation provided by:

Traffic Forecasting & Operational Analysis Pascal Volet, Higgins Associates

Phone # (408) 848-3122 Date 9/16/01

EXHIBIT H - RIGHT OF WAY SCOPING CHECKLIST

Right of Way Scoping Checklist

Project Information

District 5 County Mon Route 1 Kilometer Post (Post Mile) 116.3/121.0 (72.3/75.2) EA 0C820K

Description Alternative 1 – Signalized Grade-level intersections at Rio Road, Carmel Valley Road, Ocean Avenue and Carpenter Street

Project Manager David Silberberger Phone # (805) 549-3798

Project Engineer Keith Hallsten, Dokken Engineering Phone # (916) 858-0642

Right of Way Functional Manager _____ Phone # _____

Right of Way Scoping

Describe and identify in the following sections a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, access modifications, etc.). The right of way issues should be discussed in sufficient detail to determine a preliminary-planning-level cost of Right of Way and identify the project's sensitive acquisition issues. Any environmental mitigation that requires R/W cost should also be identified.

Anticipated Right of Way Acquisition

Anticipated number of Right of Way Parcels to be acquired: 51

	Preliminary Value*	Number of Parcels	Estimated Square Meters	Full Take	Partial Take
Business/ Non-Profit	$36,110	1	44.64	0	1
Single Family Residences	$4,739,498	50	5,267.72	6	44
Multi Family Residences	0	0	0	0	0
Vacant Lot	0	0	0	0	0
Farmland	0	0	0	0	0
Totals	$4,775,608	51	5,312.36	6	45

* Note: Value includes contingency figure for RAP, Damages, Goodwill, Demolition, Construction Contract Work & Fees

Project Screening

The project location map in Exhibit A and the alternative concept drawing in Exhibit B of the PSR-PDS show the location of all right of way acquisition identified.

1. Project Features: New R/W? *Yes.* Excavation? *Yes*
   Railroad Involvement? *No* Access Changes? *Yes*
   Structure demolition/modification? *Yes* Subsurface utility relocation? *Yes*

2. Project Setting *High-density residential with a suburban or rural character; Carmel High School is located along the east side of SR-1 near the center of the project area; a commercial center is located east of SR-1, south of Carmel Valley Road.*
   Rural or Urban *Urban* Current land uses *State Highway*
   Adjacent land uses *Single-family residential, High school, Commercial*
   (industrial, light industry, commercial, agricultural, residential, etc.)

Right of Way Screening

Describe in detail and quantify any questions answered with a yes.

1) Are any utility facilities or rights of way affected? Yes X No

Overhead Electrical, Telephone and Cable TV on approximately 60 utility poles will require relocation.

2) Railroad facilities or right of way affected? Yes No X

3) Any known or potential sites with hazardous waste and/or material found? Yes X None Evident

Aerially-deposited lead may be present in soil adjacent to paved shoulders. Residences to be demolished may contain asbestos or lead-based paint.

4) Environmental Mitigation parcels anticipated? Yes No X

5) Any parcels with access modifications? Yes X No

All private driveways onto SR-1 will be redirected via frontage roads to public streets.

6) Any parcels with indirect access modifications? Yes X No

(example left turn pocket access eliminated) Left turns to be restricted at So. Carmel Hills Drive. Direct access to SR-1 from Atherton Dr., Mesa Dr., Morse Dr., Flanders Dr., 3rd Ave., Valley Way, Handley Drive and San Luis Ave is to be eliminated.

Preliminary Evaluation provided by:

Acquisition Estimator *R.H Tarvin* **Date** *11-16-01*

Railroad Liaison N/A **Date** _____

Utility Relocation Coordinator *L. Chong* **Date** *11-30-01*

Reviewed by:

Field Office Chief, Right of Way _____ **Date** *12/12/01*

Entered PMCS By: _____ **Date** _____
(Event, Cost, Agree)

Right of Way Scoping Checklist

Project Information

District 5 County Mon Route 1 Kilometer Post (Post Mile) 116.3/121.0 (72.3/75.2) EA 0C820K

Description Alternative 2 – Signalized Grade-level intersection at Rio Road, Grade Separation at Carmel Valley Road, Tight Diamond Interchange at Ocean Avenue, and Modified Diamond Interchange at Carpenter Street with cloverleaf ramps in the southeast quadrant.

Project Manager David Silberberger Phone # (805) 549-3798

Project Engineer Keith Hallsten, Dokken Engineering Phone # (916) 858-0642

Right of Way Functional Manager _____ Phone # _____

Right of Way Scoping

Describe and identify in the following sections a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, access modifications, etc.). The right of way issues should be discussed in sufficient detail to determine a preliminary-planning-level cost of Right of Way and identify the project's sensitive acquisition issues. Any environmental mitigation that requires R/W cost should also be identified.

Anticipated Right of Way Acquisition

Anticipated number of Right of Way Parcels to be acquired: 56

	Preliminary Value*	Number of Parcels	Estimated Square Meters	Full Take	Partial Take
Business/ Non-Profit	$788,210	2	4,708.25	0	2
Single Family Residences	$14,399,398	54	36,825.95	23	31
Multi Family Residences	0	0	0	0	0
Vacant Lot	0	0	0	0	0
Farmland	0	0	0	0	0
Totals	$15,187,608	56	41,534.2	23	33

* Note: Value includes contingency figure for RAP, Damages, Goodwill, Demolition, Construction Contract Work & Fees

Project Screening

Attach the project location map to this checklist to show location of all right of way acquisition identified.

1. Project Features: New R/W? *Yes.* Excavation? *Yes*
   Railroad Involvement? *No* Access Changes? *Yes*
   Structure demolition/modification? *Yes* Subsurface utility relocation? *Yes*

2. Project Setting *High-density residential with a suburban or rural character; Carmel High School is located along the east side of SR-1 near the center of the project area; a commercial center is located east of SR-1, south of Carmel Valley Road.*
   Rural or Urban *Urban* Current land uses *State Highway*
   Adjacent land uses *Single-family residential, High school, Commercial*
   (industrial, light industry, commercial, agricultural, residential, etc.)

Right of Way Screening

Describe in detail and quantify any questions answered with a yes.

1) Are any utility facilities or rights of way affected? Yes X No

Overhead Electrical, Telephone and Cable TV on approximately 70 utility poles will require relocation. Approx 2,440 m of underground Telephone will require relocation. Approx. 3,350 m of 150 mm Gas, 3,050 m of 200 mm water, and 1,830 m of 150 mm sewer pipe will be relocated.

2) Railroad facilities or right of way affected? Yes _____ No X

3) Any known or potential sites with hazardous waste and/or material found? Yes X None Evident ____

Aerially-deposited lead may be present in soil adjacent to paved shoulders. Residences to be demolished may contain asbestos or lead-based paint.

4) Environmental Mitigation parcels anticipated? Yes _____ No X

5) Any parcels with access modifications? Yes X No _____

All private driveways onto SR-1 will be redirected via frontage roads to public streets.

6) Any parcels with indirect access modifications? Yes X No _____

(example left turn pocket access eliminated) Left turns to be restricted at So. Carmel Hills Drive. Direct access to SR-1 from Atherton Dr., Mesa Dr., Morse Dr., Flanders Dr., 3rd Ave., Valley Way, Handley Drive and San Luis Ave is to be eliminated.

Preliminary Evaluation provided by:

Acquisition Estimator *R.H. Tarvin* **Date** *11-16-01*

Railroad Liaison N/A **Date** _____

Utility Relocation Coordinator *L. Chong* **Date** *11-30-01*

Reviewed by:

Field Office Chief, Right of Way _____ **Date** 12/5/01

Entered PMCS By: _____ **Date** 12/5/01
(Event, Cost, Agree)

Right of Way Scoping Checklist

Project Information

District 5 County Mon Route 1 Kilometer Post (Post Mile) 116.3/121.0 (72.3/75.2) EA 0C820K

Description Alternative 3 – Signalized Grade-level intersections at Rio Road, Carmel Valley Road, Ocean Avenue and Carpenter Street, with tunnels to conduct EB-to-NB left turns under the Ocean Ave. & Carpenter St. intersections.

Project Manager David Silberberger Phone # (805) 549-3798

Project Engineer Keith Hallsten, Dokken Engineering Phone # (916) 858-0642

Right of Way Functional Manager _____ Phone # _____

Right of Way Scoping

Describe and identify in the following sections a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, access modifications, etc.). The right of way issues should be discussed in sufficient detail to determine a preliminary-planning-level cost of Right of Way and identify the project's sensitive acquisition issues. Any environmental mitigation that requires R/W cost should also be identified.

Anticipated Right of Way Acquisition

Anticipated number of Right of Way Parcels to be acquired: 51

	Preliminary Value*	Number of Parcels	Estimated Square Meters	Full Take	Partial Take
Business/ Non-Profit	$36,110	1	44.64	0	1
Single Family Residences	$4,767,958	50	5,675.80	6	44
Multi Family Residences	0	0	0	0	0
Vacant Lot	0	0	0	0	0
Farmland	0	0	0	0	0
Totals	$4,804,068	51	5,720.44	6	45

* Note: Value includes contingency figure for RAP, Damages, Goodwill, Demolition, Construction Contract Work & Fees

Project Screening

Attach the project location map to this checklist to show location of all right of way acquisition identified.

1. Project Features: New R/W? *Yes, minor.* Excavation? *Yes*
   Railroad Involvement? *No* Access Changes? *Yes*
   Structure demolition/modification? *No* Subsurface utility relocation? *Yes*

2. Project Setting *High-density residential with a suburban or rural character; Carmel High School is located along the est side of SR-1 near the center of the project area; a commercial center is located east of SR-1, south of Carmel Valley Road.*
   Rural or Urban *Urban* Current land uses *State Highway*
   Adjacent land uses *Single-family residential, High school, Commercial*
   (industrial, light industry, commercial, agricultural, residential, etc.)

Right of Way Screening

Describe in detail and quantify any questions answered with a yes.

1) Are any utility facilities or rights of way affected? Yes X No

Overhead Electrical, Telephone and Cable TV on approximately 60 utility poles will require relocation. Approx 150 m of Underground Telephone will require relocation. Approx. 305 m of 150 mm Gas, 150 m of 200 mm water, and 610 m of 150 mm sewer pipe will be relocated.

2) Railroad facilities or right of way affected? Yes No X

3) Any known or potential sites with hazardous waste and/or material found? Yes X None Evident

Aerially-deposited lead may be present in soil adjacent to paved shoulders.

Residences to be demolished may contain asbestos or lead-based paint.

4) Environmental Mitigation parcels anticipated? Yes No X

5) Any parcels with access modifications? Yes X No

All private driveways onto SR-1 will be redirected via frontage roads to public streets.

6) Any parcels with indirect access modifications? Yes X No

(example left turn pocket access eliminated) Left turns to be restricted at So. Carmel Hills Drive. Direct access to SR-1 from Atherton Dr., Mesa Dr., Morse Dr., Flanders Dr., 3rd Ave., Valley Way, Handley Drive and San Luis Ave is to be eliminated.

Preliminary Evaluation provided by:

Acquisition Estimator *R.H. Tarvin* **Date** *11-16-01*

Railroad Liaison N/A **Date** _____

Utility Relocation Coordinator *L. Chong* **Date** *11-30-01*

Reviewed by:

Field Office Chief, Right of Way _____ **Date** *12/12/01*

Entered PMCS By: _____ **Date** _____
(Event, Cost, Agree)

EXHIBIT I - PROJECT SUPPORT COST ESTIMATE FOR PROJECT APPROVAL AND ENVIRONMENTAL DOCUMENT

DOKKEN ENGINEERING
www.dokkenengineering.com

Project Support Cost Estimate
For Project Approval and Environmental Document

Preparation of Project Report and Environmental Document by Consultant:

Aerial Topographic Mapping	$100,000
Field Topo Surveys (X-sections, Utilities, etc.)	$ 50,000
Right of Way Research	$ 80,000
Traffic Modeling & Analysis	$ 40,000
Geotechnical Investigation & Report	$100,000
Preliminary Project Design	$750,000
Project Report Preparation	$330,000
Environmental Document, including technical studies, Draft & Final EIR/EIS	$500,000
Public Relations	$ 50,000
Budget	**$2,000,000**