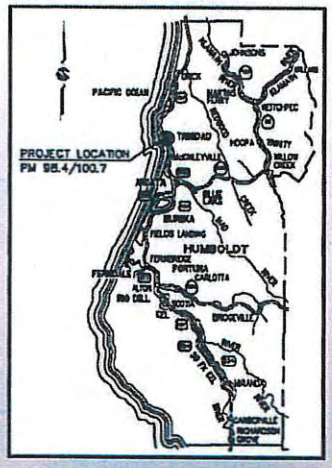
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS

Project Study Report-Project Development Support

01-HUM-101
PM 98.4/100.7
XX.XX.XXX.XXX
PPNO XXXX
01 0002 D301
01-48040K

PROJECT LOCATION

In Humboldt County, near Trinidad from Westhaven Drive Undercrossing to 0.4 Mile North of Trinidad Road Undercrossing



"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 qualification of any technical specialists providing engineering data upon which recommendations, conclusions and decisions are based."

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CALIFORNIA DEPARTMENT OF TRANSPORTATION | DISTRICT 1

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Figure 1 – Exhibit drawing for the programming alternative; Alternative 3A – New US 101/Cher-Ae Lane Interchange.

1. INTRODUCTION

The Trinidad Rancheria and Caltrans District 1 are working in partnership to identify alternatives to meet the transportation needs of the Trinidad Rancheria and the surrounding community. This PSR-PDS identifies 12 alternatives to address the transportation deficiencies between the unincorporated community of Westhaven and the City of Trinidad. The main deficiencies identified for this area are: (1) Scenic Drive's geotechnical instability, with slides and slip-outs commonly occurring along this route, causing partial or complete road closures (typically during winter months); (2) anticipated Rancheria growth is likely to cause several intersections in the area to have inadequate vehicular capacity; and (3) Tribal lands east and west of US 101 have inadequate connectivity.

Project Limits	01-HUM-101 PM 98.4/100.7	
Number of Alternatives	12 Plus No-Build	
Alternative Recommended for Programming	Alternative 3A –New US 101/Cher-Ae Lane Interchange	
Capital Outlay Support Estimate for PA&ED (Anticipated Environmental Approval 7/1/22)	Current (2017): $2,500,000	
Capital Outlay Construction Cost Range	Current (2017): $16,600,000 to $46,200,000	Escalated @ 5% to 2024: $23,360,000 to $65,000,000
Capital Outlay Right-of-Way Cost Range	Current (2017): $800,000 to $3,880,000	Escalated @ 5% to 2024: $1,125,000 to $5,460,000
Funding Source(s)	Anticipated to include some or all of the following: State Transportation Improvement Program (STIP) Tribal Transportation Program (TTP) Indian Reservation Roads (IRR) Active Transportation Program (ATP) Highway Safety Improvement Program (HSIP) Transportation Investment Generating Economic Recovery (TIGER)	
Funding Year	2018	
Type of Facility	4-Lane Freeway	
Number of Structures	1 to 3	
Anticipated Environmental Determination	EIR/FONSI	
Legal Description	In Humboldt County, near Trinidad from Westhaven Drive Undercrossing to 0.4 Mile North of Trinidad Road Undercrossing	
Project Development Category	Category 3 – Projects on previously constructed access controlled routes requiring a new or revised freeway agreement, but not a route adoption.	

The range of alternatives includes improvements to the existing Trinidad-Main Street interchange, improvements to Scenic Drive and Westhaven Drive, and/or a new local road interchange. A detailed description of each alternative can be found in Section 7. Additional studies are needed to determine which of the proposed alternatives will best meet the purpose and need of the project. Either a project report or a supplemental Project Initiation Document (PID), following the format of a Project Study Report (PSR), will serve as the programming document for the remaining components of the project. A project report, accompanied by a signed environmental document, will serve as approval of the selected alternative.

2. BACKGROUND

Description of Existing Facility:

US 101 is the economic lifeline of the north coast and is the most important route in District 1. It serves interregional and interstate traffic, with relatively high traffic volumes and heavy use by both truck and tourist traffic. US 101 is functionally classified as a principal arterial. US 101 is on the National Highway System but is not part of the FHWA Rural and Single Interstate Routing System. It is part of the Strategic Highway Network and the Interregional Highway System and is considered a High Emphasis Route in the Interregional Transportation Strategic Plan. Within the project segment, US 101 is designated a Surface Transportation Assistance Act (STAA) route and is part of the Pacific Coast Bike Route. Portions of US 101 are also eligible for Scenic Highway Designation.

US 101 from PM 98.4 to 100.7 is a four lane freeway with a paved median width that ranges from 4 feet wide at the south end of the project limits, to 22 feet wide at the north end of the project limits. Outside shoulders within the project limits are consistently 4 feet wide, but widen out to 10 feet wide north of the existing US 101/Trinidad-Main Street Interchange. The posted speed limit along US 101 in this area is 65 mph. Within the project limits, US 101 is relatively flat, with some rolling hills, and grades ranging from approximately 2% to 4.5%. The horizontal alignment is curvilinear, with tangents up to nearly a mile long, and horizontal curve radii ranging between 1,800 feet and 12,000 feet. Existing right-of-way widths within the project limits vary from approximately 160 feet wide to 460 feet wide, with access controlled rights-of-way. Existing adjacent land use is almost entirely Residential, of which most is comprised of Rural Residential (RR), with a small amount of Residential Estates (RE). Current year traffic volumes for US 101 are approximately 10,350 vehicles (ADT). Based on the Trinidad Area Freeway Master Plan Study, future (year 2040) traffic volumes are estimated to be approximately 14,500 vehicles without full Trinidad Rancheria Master Plan buildout, and 20,510 vehicles (ADT) with full Trinidad Rancheria Master Plan buildout.

There are three existing interchanges (I/C) within the project segment as described below:

TABLE 1: EXISTING INTERCHANGES

Post Mile	Name	Overcrossing or Undercrossing	Description
98.1	Westhaven Drive I/C	Undercrossing	A half interchange with a tight NB off-ramp and a SB hook ramp from Scenic Drive
98.4	Sixth Street I/C	Overcrossing	A hook ramp Type L-6 with all ramps on the north side of Sixth Street
100.7	Trinidad - Main Street I/C	Undercrossing	A tight diamond Type L-1

Scenic Drive is a 2-lane rural roadway, which runs in a south-north direction on the west side of US 101, from the community to Westhaven, north to the City of Trinidad. The roadway begins near Moonstone County Park and the Little River State Beach in Westhaven (Left of PM 97.8), and follows the Pacific coast line northerly for approximately 3.2 miles to Main Street in the City of Trinidad. Scenic Drive is a winding and narrow road, approximately 16'-20' wide through most of the southerly portion, with no sidewalks and little to no useable paved shoulders. The majority of Scenic Drive has severe geotechnical instability, and frequently has closures for emergency roadway repairs to reestablish access. Existing slopes along Scenic Drive are typically very steep, sloping to the Pacific Ocean on the west side, and sloping upwards towards US 101 on the east side. The posted speed limit along Scenic Drive is 30 mph. According to the City of Trinidad Draft General Plan Circulation Element, current year traffic volumes for Scenic Drive are approximately 870 vehicles (ADT), while future (year 2040) traffic volumes are estimated to be 1,357 vehicles (ADT).

Westhaven Drive is a 2-lane rural-residential roadway, which runs in a south-north direction on the east side of US 101 from the community of Westhaven to the City of Trinidad. The roadway begins at a partial interchange on US 101 (PM 98.1), is approximately 3.3 miles long, and terminates at the Trinidad-Main Street interchange (PM 100.7) in the City of Trinidad. The roadway is narrow, typically about 20' wide, with little to no useable shoulders, and no sidewalks. The posted speed limit along Westhaven Drive is 25 mph. According to the City of Trinidad Draft General Plan Circulation Element, current year traffic volumes for Westhaven Drive are approximately 865 vehicles (ADT), while future (year 2040) traffic volumes are estimated to be 1,509 vehicles (ADT).

Main Street is a quiet, 2-lane roadway which lies in the heart of the City of Trinidad. Main Street runs in an east-west direction, and is a primary collector that extends from just east of US 101 through the City of Trinidad. Main Street has a posted speed limit of 20 mph, and according to the City of Trinidad Draft General Plan Circulation Element, current year traffic volumes for Main Street are approximately 3,170 vehicles (ADT), while future (year 2040) traffic volumes are estimated to be 4,706 vehicles (ADT). The City of Trinidad has long been known as a rural, seaside fishing village, with very unique characteristics, limited tourist activity, and a strong desire to minimize adverse impacts caused by visitors. There are a few existing RV parks within the area, which typically see increases in use during the summer months.

Discussion of Studies to Date:

Since 2001, several planning studies have been completed, including the draft Project Initiation Document (PID), in order to study accessibility to the Trinidad Rancheria and the surrounding areas, and to investigate alternatives that would provide improved access for current and future needs. The different studies that have been prepared have consistently demonstrated that the existing interchanges and local roads within this corridor can neither: (1) provide the necessary traffic level of service to all areas within the corridor, nor (2) be improved economically to appropriately accommodate the design-year traffic demands. The various studies that have been completed are listed below:

- *Trinidad Rancheria Access Improvement Feasibility Study*, Winzler & Kelly, May 2002
- *Trinidad Rancheria Tribal Transportation Plan 2006-2026*, Winzler & Kelly, March 2006
- *Trinidad Rancheria Highway 101 Interchange Community Design Fair*, Local Government Commission, June 2009
- *Trinidad Rancheria Comprehensive Community-Based Plan,* Trinidad Rancheria, December 2011
- *Trinidad Area Freeway Master Plan Study*, Omni-Means, Ltd., February 2014
- *Trinidad Rancheria Tribal Transportation Safety Plan*, Trinidad Rancheria, June 2014

Since 2012, a Project Development Team (PDT) has met to guide the project through the project development process. This PDT team has been instrumental to date in developing the purpose and need for the project, and preparing the project to reach this stage. The PDT team will continue to play a key role in guiding the project through to completion.

3. PURPOSE AND NEED

Purpose:

The purpose of the project is to:

1. Provide safe and sustainable access to and from US 101, for all modes of transportation, to the Trinidad Rancheria and the surrounding communities located along Scenic Drive, Westhaven Drive, and in the City of Trinidad.
2. Relieve projected traffic congestion associated with planned future development.
3. Reconnect tribal lands.

Need:

The proposed project is needed because:

1. The only access to Trinidad Rancheria lands from US 101, Scenic Drive west of the Trinidad Rancheria, is not safe or sustainable:
   a. It is geologically unstable; slides and slip-outs commonly cause partial or complete road closures, particularly during the winter months.
   b. It is not a pedestrian/bicycle friendly route, due to the lack of sidewalks and minimal or no paved shoulders.
2. The current capacity at several intersections would be inadequate to accommodate projected increases in traffic due to planned future development.
3. The construction of US 101 severed tribal lands.

4. TRAFFIC ENGINEERING PERFORMANCE ASSESSMENT

Traffic Operations:

The *Trinidad Area Freeway Master Plan Study* (Traffic Study), prepared by Omni-Means, Ltd., was approved by District 1 Traffic Operations in February 2014. The Traffic Study analyzed US 101, from the Sixth Street I/C to the Trinidad-Main Street I/C, as well as Main Street, Scenic Drive, Westhaven Drive, the Sixth Street I/C and the Trinidad-Main Street I/C. The Traffic Study analyzed existing performance, and future performance of these facilities based on anticipated growth. The Traffic Study projected traffic growth for this area of Humboldt County, including the City of Trinidad and the Trinidad Rancheria. The development envisioned in the Cher-Ae Heights Indian Community of the Trinidad Rancheria, December 2011, was included in the traffic projections as well. The Traffic Study projected traffic volumes to the year 2040 conditions.

While additional alternatives are presented for consideration in this PSR-PDS, the Traffic Study analyzed three alternatives:

- No Project.
- Alternative 1A. Reconstruct Trinidad-Main Street I/C to accommodate year 2040 traffic
- Alternative 3A. New freeway I/C at Cher-Ae Lane to accommodate year 2040 traffic.

At the time the Traffic Study was prepared, some of the current alternatives had not been brought about yet, including the Baker Ranch Road interchange or the One-Mile Spacing Interchange. While the Traffic

Study does not consider the full range of alternatives, the analysis results can be applied to the range of alternatives presented in the PSR-PDS, based on comparable alternatives. For example, results from the Traffic Study for a new Cher-Ae Lane Interchange can be applied to the Baker Ranch Road Interchange, with similar results.

According to the Traffic Study, all intersections and roadway segments within the study area, including US 101 mainline and interchanges, are currently operating at acceptable levels of service (LOS) (LOS B or higher). With anticipated growth and projected traffic volumes from the Traffic Study, and without full build-out of the Trinidad Rancheria Master Plan, all intersections and roadway segments within the study area are expected to continue operating at acceptable LOS for the year 2040 conditions.

With full development of the Trinidad Rancheria Master Plan, several intersections are expected to operate at unacceptable LOS (LOS D or lower) in the year 2040 conditions. The Scenic Drive/Main Street intersection, Main Street/US 101 northbound ramps intersection, and the Scenic Drive/Cher-Ae Lane intersections all would be operating at LOS F, and would require improvements to provide for acceptable levels of service (LOS C or higher). US 101 mainline and ramp junctions would continue to operate at acceptable LOS under the year 2040 conditions with full build-out. Table 2 shows a summary of the intersection LOS for the year 2040 conditions with full development of the Trinidad Rancheria Master Plan, for the analyzed alternatives.

TABLE 2: INTERSECTION LOS FOR YEAR 2040 CONDITIONS WITH FULL MASTER PLAN DEVELOPMENT

Location	No-Build (Maintain Two-Way Stop Control (TWSC)		Alternative 1A (Reconstruct Trinidad-Main Street I/C with Signals)		Alternative 3A (New US 101/ Cher-Ae Lane I/C)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
6th Street/Kay Avenue	A	A	A	A	A	A
6th Street/Kahlstrom Avenue	A	A	A	A	A	A
Kay Avenue/US 101 SB Ramps	A	A	A	A	A	A
Kahlstrom Avenue/7th Avenue	A	A	A	A	A	A
Scenic Drive/Main Street	F	F	C	C	C	C
Main Street/US 101 SB Ramps	C	C	B	B	B	B
Main Street/US 101 NB Ramps	F	F	B	B	B	B
Westhaven Drive/Frontage Road	B	B	B	B	B	B
Scenic Drive/Baker Ranch Drive	A	A	A	A	A	A
Scenic Drive/Cher-Ae Lane	A	B	C	C	A	A
Scenic Drive/Cher-Ae Heights Casino	B	F	C	C	A	A
Scenic Drive/Landford Road	B	C	B	C	A	A
Cher-Ae/101 SB Ramps	-	-	-	-	B	B
Cher-Ae/101 NB Ramps	-	-	-	-	A	B
Cher-Ae/Westhaven	-	-	-	-	A	A

Notes:

"-" Denotes that the intersection does not exist for this alternative.

Either the proposed US 101/Cher-Ae Lane interchange or reconstruction of the existing Trinidad-Main Street interchange will result in acceptable LOS (LOS C or better) for all of the studied intersections.

Table 3 shows a summary of the US 101 mainline and ramp junction LOS for the year 2040 conditions with full development of the Trinidad Rancheria Master Plan, for the analyzed alternatives.

TABLE 3: US 101 MAINLINE AND RAMP JUNCTION LOS FOR YEAR 2040 CONDITIONS WITH FULL MASTER PLAN DEVELOPMENT

Location	No Project (Maintain Two-Way Stop Control (TWSC)		Alternative 1A (Reconstruct Trinidad-Main Street I/C with Signals)		Alternative 3A (New US 101/ Cher-Ae Lane I/C)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 101 Mainline						
NB US 101 (Westhaven to Trinidad)	A	B	A	B	A	B
SB US 101 (Westhaven to Trinidad)	A	B	A	B	A	A
US 101 Ramps @ Sixth Street Interchange (Merge/Diverge)						
NB Off-Ramp	B	B	B	B	B	B
NB On-Ramp	B	B	B	B	B	B
SB Off-Ramp	A	B	A	B	A	B
SB On-Ramp	A	B	A	B	A	B
US 101 Ramps @ Cher-Ae Lane Interchange (Merge/Diverge)						
NB Off-Ramp	-	-	-	-	B	B
NB On-Ramp	-	-	-	-	A	B
SB Off-Ramp	-	-	-	-	A	B
SB On-Ramp	-	-	-	-	A	B
US 101 Ramps @ Trinidad-Main Street Interchange (Merge/Diverge)						
NB Off-Ramp	B	B	A	B	A	B
NB On-Ramp	A	B	A	B	A	B
SB Off-Ramp	A	A	A	A	A	A
SB On-Ramp	A	B	A	B	A	B

Notes:

"-" Denotes that the ramp junctions do not exist for this alternative.

For the base (no project) year 2040 conditions, the traffic operations analysis shows that without improvements, there will be an unacceptable LOS at several intersections. In order to provide adequate traffic operations, either the existing Trinidad-Main Street interchange will need to be reconstructed or a new interchange in the vicinity of the Trinidad Rancheria is required.

Intersection Control Evaluation (ICE) - New US 101/Cher-Ae Lane Interchange:

In accordance with Traffic Operations Policy Directive (TOPD) 13-02, an Intersection Control Evaluation – Step 1 (ICE) was completed for the proposed US 101/Cher-Ae Lane interchange, which evaluated three alternatives at this proposed interchange. The three intersection alternatives that were evaluated were All-Way Stop Control, Signalized Intersections, and Modern Roundabouts. Based on the ICE Report prepared by Omni-Means, dated November 30, 2015, all three alternatives are projected to provide acceptable traffic operations beyond the year 2040 conditions. The All-Way Stop Control and Signalized Intersection alternatives provide LOS B for both AM and PM peak hours, while the Modern Roundabout alternative provides LOS A for both AM and PM peak hours.

Intersection Control Evaluation (ICE) - US 101/Trinidad-Main Street Interchange:

In accordance with Traffic Operations Policy Directive (TOPD) 13-02, an intersection control evaluation was completed for the US 101/Trinidad-Main Street interchange, which evaluated three alternatives at this interchange. The three intersection alternatives that were evaluated were No-Build, Signalized Intersections, and Modern Roundabouts. Based on the ICE Report prepared by Omni-Means, dated November 30, 2015, the No-Build alternative is projected to provide unacceptable traffic operations under the year 2040 conditions. Both the Signalized Intersections and Modern Roundabout alternatives are projected to provide acceptable traffic operations under the year 2040 conditions. The Modern Roundabout alternative is projected to provide the highest levels of service for all intersections, with LOS of either A or B for the year 2040 conditions. Signalized intersections would provide LOS B or C, and the No-Build alternative is projected to provide levels of service as low as LOS F.

ICE Review by Caltrans District 1 Traffic Operations:

The Intersection Control Evaluations prepared for both the Proposed US 101/Cher-Ae Lane Interchange and the US 101/Trinidad-Main Street Interchange were reviewed by Caltrans District 1 Traffic Operations staff, and concurrence on both ICE Reports was received in a letter from Troy Arseneau, PE, District 1 ICE Coordinator, dated December 16, 2015. Along with concurrence on the ICE Reports, the letter states that if full build-out of the Rancheria Master Plan is anticipated, a new interchange is the appropriate alternative, versus making significant improvements to downtown Main Street in Trinidad.

Weaving Analysis:

Caltrans District 1 Office of Traffic Operations performed an independent weaving analysis for the proposed US 101/Cher-Ae Lane interchange, with results provided in a memorandum dated January 17, 2014. Based on the approximate 0.7 mile spacing proposed, the conclusion from this analysis was that there is adequate distance on US 101 between the proposed interchange ramps and the existing Trinidad interchange ramps to accommodate the interaction of entering and exiting traffic. The analysis included both current and projected traffic volumes on US 101, in both the north and south directions. The analysis also confirmed that auxiliary lanes will not be needed if a new interchange is constructed near PM 100.2.

Traffic Collision Analysis:

A traffic collision analysis was prepared by the District 1 Traffic Safety Office on November 17, 2017. The collision analysis was conducted for the most recently available 3-year time period (in TASAS database), from 07/01/2012 to 6/30/2015, for the US 101 corridor from PM 97.4 to PM 101.2 (From 0.7 mile south of Westhaven Undercrossing to 0.5 mile north of the Trinidad-Main Street interchange).

There were 30 total reported collisions within this 4.068 mile segment (13 SB, 17 NB, 0 fatality, 9 injury, 23 "property damage only", 5 multi-vehicle, 8 "wet road surface", 2 "snow, icy road surface", 3 "dark-no street light", 3 "dark-street light"). From TASAS Table B, this highway segment has actual "Fatal" and "F+I" collision rates which are less than the statewide average for similar highway facilities. The actual "Total" collision rate is 1.9 times greater than the statewide average for similar highway facilities, as shown below in Table 4.

TABLE 4: COLLISION RATE SUMMARY FOR HUM-101-97.4 / 101.2
TABLE B DATES: 07/01/2012 TO 6/30/2015

Actual Accident Rates			Average Accident Rates		
Fatal	**F+I**	**Total**	**Fatal**	**F+I**	**Total**
0.000	0.17	0.72	0.014	0.17	0.38

Of the reported 30 collisions within this segment, the principal primary collision factor was "improper turn" (11 of 30), followed by "speeding" (6 of 30), "other than driver" (6 of 30), "influence of alcohol" (4 of 30), "other violations" (2 of 30), and "failure to yield" (1 of 30). The primary "Type of Collision" resulted in a single vehicle running off the road in 18 of 30 collisions. Of the 18 run off road collisions, 17 involved a vehicle hitting an object off the roadway; the objects struck are as follows: tree(s) (1 of 17), sign (3 of 17), embankment (6 of 17), fence (1 of 17), guard rail (1 of 17), object off road (1 of 17), curb or dike (1 of 17), ditch (1 of 17), utility pole (1 of 17).

Summarizing the 18 run off road collisions, 4 involved a driver under the influence of alcohol, 13 of 18 were of unknown cause, 4 of 18 were the result of improper turn, and 1 of 18 was caused by a merging vehicle at the Westhaven SB onramp. The initial movement preceding collision involved a vehicle run off road. The majority of the 30 reported collisions occurred during "daylight" (20 of 30) on a "dry" road surface (20 of 30). There has been no history of Table B collision concentration locations within this segment. After review and consideration of all driver/witness statements and Traffic Collision Report summaries, no collision concentrations or apparent collision patterns were identified. Three of the reported 30 collisions occurred on ramps within the project limits; these collisions are as follows:

- **SB Westhaven On-ramp - PM 97.772 SB:** This collision involved a motorist that ran off the road to the driver's right due to speeding and uncertainty as to which way to turn onto this onramp.
- **NB Westhaven Off-ramp - PM 98.003 NB**: This collision involved a reckless driver speeding and running off the road.
- **SB Trinidad Off-ramp - PM l00.832 SB:** This collision involved a reckless driver (traveling at 80-120 mph) which ran off the road to the driver's left, over-corrected, and ran off the road to the driver's right.

The project is expected to include shoulder widening to reduce the frequency of run off road collisions within the project limits, by providing additional recovery room for errant vehicles. As stated in the previous collision analysis from November 16, 2015, collision frequency from construction of one of the proposed interchange alternatives (HUM-101 approximately PM 98.8/100.3) is expected to increase when compared with the collision frequency of the existing highway segment at this location. This increase is expected to be offset by a decrease in collision frequency at the Westhaven, Sixth St., and Trinidad Interchanges due to lower traffic volumes utilizing these interchanges after construction of one of the proposed interchange alternatives. Perpetuation of existing center-line and shoulder rumble strip at all appropriate locations within the project limits is recommended to help continue to provide auditory and vibro-tactile warning to errant drivers.

5. DEFICIENCIES

Primary Deficiencies:

Safe and Sustainable Access to the Trinidad Rancheria - Scenic Drive, from 1.5 miles south of Cher-Ae Lane to Cher-Ae Lane, has numerous narrow, one-lane unpaved areas that are geologically unstable. Maintaining this section of Scenic Drive in a sustainable and reliable manner is not viable as documented in the Geotechnical Screening of Alternatives Memorandum, SHN Consulting Engineering & Geologists, Inc., August 27, 2015. See Attachment J. Winter storms often result in full closure of this section of Scenic Drive, leaving the Rancheria with only one means of ingress/egress (Scenic Drive, north of Cher-Ae Lane).

Traffic Level of Service - Based on the information presented in Section 4 above, and the *Trinidad Area Freeway Master Plan Study* (Traffic Study), prepared by Omni-Means, Ltd, projected traffic growth within

the study will result in LOS F conditions at intersections on Scenic Drive and at the US 101/Trinidad-Main Street I/C.

Tribal Lands Connectivity - When US 101 was constructed in the early 1950's, Tribal lands were severed by the freeway. Currently, Tribal members living on the east side of US 101 have to travel 2 miles to access services at the Trinidad Rancheria. Some residents on the east side of the freeway simply walk across the freeway lanes to reach the Rancheria (a 0.3+/- mile distance).

Secondary Deficiencies:

Inadequate Shoulder Widths - According to the collision analysis prepared by Caltrans District 1 Traffic Operations, collisions along US 101 in the study area more often than not have resulted in the driver running off road, typically hitting another object off the road. US 101 shoulder widths through most of the study area are 4' wide, rather than the standard 10' wide. In addition, shoulder widths along Scenic Drive and Westhaven Drive are minimal or non-existent.

6. CORRIDOR AND SYSTEM COORDINATION

Route Adoption:

US 101, from Little River Bridge (PM 97.5) to 0.3 mile north of Trinidad-Main Street (PM 101.0), was adopted into the freeway system by the California Highway Commission on June 21, 1955.

The US 101 freeway agreement, within the then City of Trinidad city limits, between the California Department of Public Works and the City of Trinidad, was approved in 1957. The freeway agreement reconfigured portions of the state highway and identified a half interchange at Trinidad-Main Street.

The US 101 freeway agreement, from Little River Bridge to 0.3 mile north of Trinidad-Main Street, between the California Division of Highways and Humboldt County, was approved in 1957. In 1959, the freeway agreement was amended to provide a full interchange at Trinidad-Main Street. The freeway agreements reconfigured state and local roads to result in the current configuration.

Statewide, Regional, and Local Planning:

The US 101 Draft Transportation Concept Report (TCR) within District 1 was completed in October, 2017. The Draft TCR concept is to maintain the existing Ultimate Facility Concept in Humboldt County, which includes a mixture of 4-lane freeway/expressway and 2-lane conventional highway. US 101 is a 4-lane Freeway within the project area.

US 101, within much of District 1 and within the project limits, is legislatively designated as the "Pacific Coast Bike Route". Meeting the needs of non-motorized travel is a priority with ongoing consideration being given to upgrading shoulders and providing parallel route access where appropriate.

The District System Management Plan for District 1 was approved on October 3, 2012. US 101, in the project area, meets the ultimate transportation concept.

US 101, in the project area, is served by Redwood Coast Transit and Redwood Transit System.

There are park and ride lots on both the east and west sides of the Trinidad-Main Street I/C.

There are not any other planned or programmed STIP projects in the project area.

The Trinidad Rancheria approved the Cher-Ae Heights Indian Community of the Trinidad Rancheria Comprehensive Community-Based Plan in December 2011. The 90+/- acre Rancheria is bisected by US

101 and includes housing, offices, library, restaurant and casino on the west side of US 101. East of US 101, the Rancheria includes housing. In the City of Trinidad, the Rancheria owns the Trinidad Pier & Harbor, as well as a restaurant. The land use portion of the plan identifies expanded commercial, cultural and residential development.

The Trinidad Rancheria Transportation Plan (TRTP) identifies the need to develop a new interchange with US 101 at Cher-Ae Lane (*Cher-Ae Heights Indian Community of the Trinidad Rancheria – Tribal Transportation Plan 2006-2026*, Winzler & Kelly, March 15, 2006).

The Humboldt County General Plan does not specifically allow for construction of new roadways, highway overcrossings, or interchanges. However, Humboldt County representatives have been involved with the development of the project, and have expressed support with regards to moving forward with the project.

The City of Trinidad's General Plan update has been in draft form since 2009. Within the City's draft General Plan update, significant effort was made to express the City's desire to maintain the current rural lifestyle, protect the unique character of the City as a "fishing village", encourage limited tourism, and minimize adverse impacts caused by visitors.

Maintenance Agreements:

Improvements identified in the various alternatives will likely require a modification to the existing maintenance agreement, or a new maintenance agreement with Humboldt County or the Trinidad Rancheria. This modified or new maintenance agreement would be needed to define maintenance responsibilities and financial arrangements, and would be executed after the Project Approval and Environmental Document (PA&ED) phase.

FHWA Actions:

No FHWA action is required.

State Actions:

Alternatives proposing modifications to existing or new interchanges will affect existing freeway access-control, and will need to be addressed. In addition, the California Transportation Commission (CTC) will need to provide consent prior to adding a new public road connection to US 101, which will require a new freeway agreement with Humboldt County (to be completed after PA&ED phase).

7. ALTERNATIVES

A range of alternatives, including the No-Build Alternative, were considered at this Project Initiation phase. All these alternatives, and potentially additional alternatives, will be analyzed in the Project Approval and Environmental Document (PA&ED) phase. Following are the alternatives under consideration. Each alternative was analyzed using consistent factors in order to provide similar comparisons between each alternative. As summarized in Table 5 below, five alternatives have been identified (Alternatives 3A, 3B, 5A, 5B, and 8) that appear to meet the Purpose and Need. See **Attachment B** for preliminary exhibits for each alternative.

TABLE 5: SUMMARY OF PROJECT ALTERNATIVES

Alternative	Appears to Meet Purpose and need?	Improves Traffic Operations?	Increased Safety?	Estimated Project Cost	Environmental Impacts	Right-of-Way Impacts	Aesthetics
(Analysis Item)	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Alternative 1A: Improvements to the US 101/Trinidad-Main Street interchange with Traffic Signals	No	Yes	Yes	$38.8M	Med	Med	High
Alternative 1B: Improvements to the US 101/Trinidad-Main Street interchange with Roundabouts	No	Yes	Yes	$20.1M	Med	High	High
Alternative 2: Cher-Ae Lane Overcrossing with local road connections to Westhaven Drive and Scenic Drive	No	Yes	Yes	$18.2M	High	High	High
Alternative 3A: New US 101/Cher-Ae Lane interchange with local road connections to Scenic Drive and Westhaven Drive	Yes	Yes	Yes	$32.3M	High	High	High
Alternative 3B: Identical to Alternative 3A but with local road connection to Scenic Drive and Class I Mixed-Use Trail connection to Westhaven Drive	Yes	Yes	Yes	$31.3M	High	High	High
Alternative 4A: Improvements to Scenic Drive from Westhaven to Trinidad.	No	No	Yes	$22.0M	Med	Low	Low
Alternative 4B: Construction of new frontage road to replace Scenic Drive, from Westhaven to Cher-Ae Lane, and improvements to Scenic Drive from Cher-Ae Lane to Trinidad.	No	No	Yes	$31.7M	Very High	Very High	Med
Alternative 5A: Combine Alternative 1A and Alternative 2. Improvements to the US 101/Trinidad-Main Street interchange with Traffic Signals, and Cher-Ae Lane Overcrossing with local road connections to Westhaven Drive and Scenic Drive.	Yes	Yes	Yes	$48.0M	High	High	Very High

TABLE 5: SUMMARY OF PROJECT ALTERNATIVES

Alternative	Appears to Meet Purpose and need?	Improves Traffic Operations?	Increased Safety?	Estimated Project Cost	Environmental Impacts	Right-of-Way Impacts	Aesthetics
(Analysis Item)	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Alternative 5B: Combine Alternative 1B and Alternative 2. Improvements to the US 101/Trinidad-Main Street interchange with Roundabouts, and Cher-Ae Lane Overcrossing with local road connections to Westhaven Drive and Scenic Drive.	Yes	Yes	Yes	$31.5M	High	High	Very High
Alternative 6: New US 101/Baker Ranch Road interchange with local road connections to Scenic Drive and Westhaven Drive, and frontage road between Baker Ranch Road and Cher-Ae Lane.	No	Yes	Yes	$39.6M	Very High	Very High	High
Alternative 7: Combine Alternative 2 and Alternative 4B. Cher-Ae Lane Overcrossing with local road connections to Westhaven Drive and Scenic Drive, new frontage road to replace Scenic Drive, from Westhaven to Cher-Ae Lane, and improvement to Scenic Drive from Cher-Ae Lane to Trinidad.	No	No	Yes	$39.5M	Very High	Very High	High
Alternative 8: New US 101/1.0 Mile Spacing Interchange approximately 1 mile south of the US 101/Trinidad-Main Street Interchange, with local road connections to Cher-Ae Lane and Westhaven Drive.	Yes	Yes	Yes	$32.6M	High	High	High
No-Build Alternative: This alternative assumes no improvements to any of the roadways in the study area.	No	No	No	-	None	None	None

Nonstandard Design Features:

For each alternative, the preliminary designs were compared to design standards using the DIB 78 Design Checklist and a Design Standards Risk Assessment was completed. Common to alternatives 3A and 3B is the need for an exception to the following mandatory design standard:

Nonstandard Feature:
It is proposed to construct a new interchange on US 101 that would result in interchange spacing less than the minimum standard spacing. A new interchange is proposed to be located between the 6th Street Interchange and the Trinidad-Main Street Interchange, and would be a minimum of 0.7 miles or greater south of the Trinidad-Main Street Interchange.

Standard for Which Exception is Required:
Per the Highway Design Manual (HDM), Topic 501.3: **The minimum interchange spacing shall be one mile in urban areas, two miles outside of urban areas, and two miles between freeway-to-freeway interchanges and other interchanges.**

Reason for Requesting Exception:
The primary reason for requesting the exception is that the project will provide improved access between the Trinidad Rancheria and US 101. Currently, Scenic Drive is the only roadway serving the residential, recreational and tribal developments along the coast, between the community of Westhaven and the City of Trinidad. North and south of the Trinidad Rancheria, Scenic Drive extends along unstable coastal bluffs that have a history of slides and slip-outs resulting in closure of the road for extended periods of time. Numerous locations are unpaved and single-lane. These closures have a significant negative impact on public access and emergency access along Scenic Drive. The proposed project would add another point of access between US 101 and Scenic Drive which will improve emergency access and result in a public safety benefit.

Additional benefits to the project are the reconnection of tribal lands, which were severed by the construction of US 101, and to provide infrastructure that will accommodate planned future development. Development of the Trinidad Rancheria's approved master plan (Cher-Ae Heights Indian Community of the Trinidad Rancheria, Comprehensive Community-Based Plan, December 2011) would increase traffic volume and cause an unacceptable level of service.

Interchange Spacing Design Exception Approval:
The interchange spacing design standard exception was approved on September 29, 2016 and can be provided upon request.

In support of the approval of the interchange spacing design exception, Omni-Means prepared a Technical Memorandum, dated September 22, 2016, that provides a detailed analysis of the items required to be addressed pursuant to DIB No. 77 "Interchange Spacing".

Other anticipated exceptions to design standards that are common to all alternatives are summarized below and included in Table 6.

Standard for Which Exception is Required:

Mandatory Design Standard, **203.2 Standards for Curvature**: **Tables 202.2A through 202.2E shall be the minimum radius of curve for superelevation rates and design speeds on highways.**

Nonstandard Feature:

The minimum radius of horizontal curves for US 101 is 2,100 feet. Existing horizontal curves along US 101 vary from 1,800 feet to 12,000 feet, thus would require an exception without a change in the horizontal alignment.

Standard for Which Exception is Required:

Mandatory Design Standard, **305.1 Median Width**: Freeways and Expressways. **In areas where restrictive conditions prevail the minimum median width shall be 22 feet.**

Nonstandard Feature:

Currently the median width along US 101 in the project area varies from 4 feet at the south end to 22 feet at the north end. The various project alternatives would improve US 101 with a minimum median width of 12'.

Standard for Which Exception is Required:

Advisory Design Standard, **309.1 Horizontal Clearances for Highways**: Existing above-ground utilities and existing large trees as defined in Index 902.2(2) should conform to the guidance associated with necessary highway features stated above.

Nonstandard Feature:

It is anticipated that all alternatives will have conflicts with existing trees, and may not be able to conform to the guidance discussed above. This item will be further reviewed during subsequent phases of project development.

TABLE 6: DESIGN STANDARDS RISK ASSESSMENT (COMMON TO ALL ALTERNATIVES)

Mandatory Design Standard	Probability of Design Exception Approval	Justification for Probability Rating
M: 203.2 Standards for Curvature: **Tables 202.2A through 202.2E shall be the minimum radius of curve for superelevation rates and design speeds on highways.** The minimum radius of horizontal curves for US 101 is 2,100 feet. Existing horizontal curves along US 101 vary from 1,800 feet to 12,000 feet, thus would require an exception without a change in the horizontal alignment.	HIGH	• Existing condition. • Evaluate collisions.
M: 305.1 Median Width: Freeways and Expressways. **In areas where restrictive conditions prevail the minimum median width shall be 22 feet.** Currently the median width along US 101 in the project area varies from 4 feet at the south end to 22 feet at the north end. The various project alternatives would improve US 101 with a minimum median width of 12'.	HIGH	• Existing condition. • Proposed improvement to existing condition.

TABLE 6: DESIGN STANDARDS RISK ASSESSMENT (COMMON TO ALL ALTERNATIVES)

Advisory Design Standard	**Probability of Design Exception Approval**	**Justification for Probability Rating**
A: 309.1 Horizontal Clearances for Highways: Existing above-ground utilities and existing large trees as defined in Index 902.2(2) should conform to the guidance associated with necessary highway features stated above. It is anticipated that all alternatives will have conflicts with existing trees, and may not be able to conform to the guidance discussed above. This item will be further reviewed during subsequent phases of project development.	HIGH	• Fixed objects will be addressed and removed to the fullest extent feasible.

For all other exceptions to design standards, a Design Standards Risk Assessment was completed and is included with each alternative discussion below.

Alternative 1A

Improvements to Main Street with Signalized Intersections:

- Four traditional signalized intersections
- Replacement of the Trinidad-Main Street Interchange
- Widen Main Street from Scenic Drive to Westhaven Drive
- Widen Scenic Drive from Cher-Ae Lane to Main Street

Alternative 1A includes Improvements to Main Street with signalized intersections, replacement of the Trinidad-Main Street Interchange (PM 100.7), widening of Main Street from Scenic Drive to Westhaven Drive, and widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad.

See **Figure 2.**

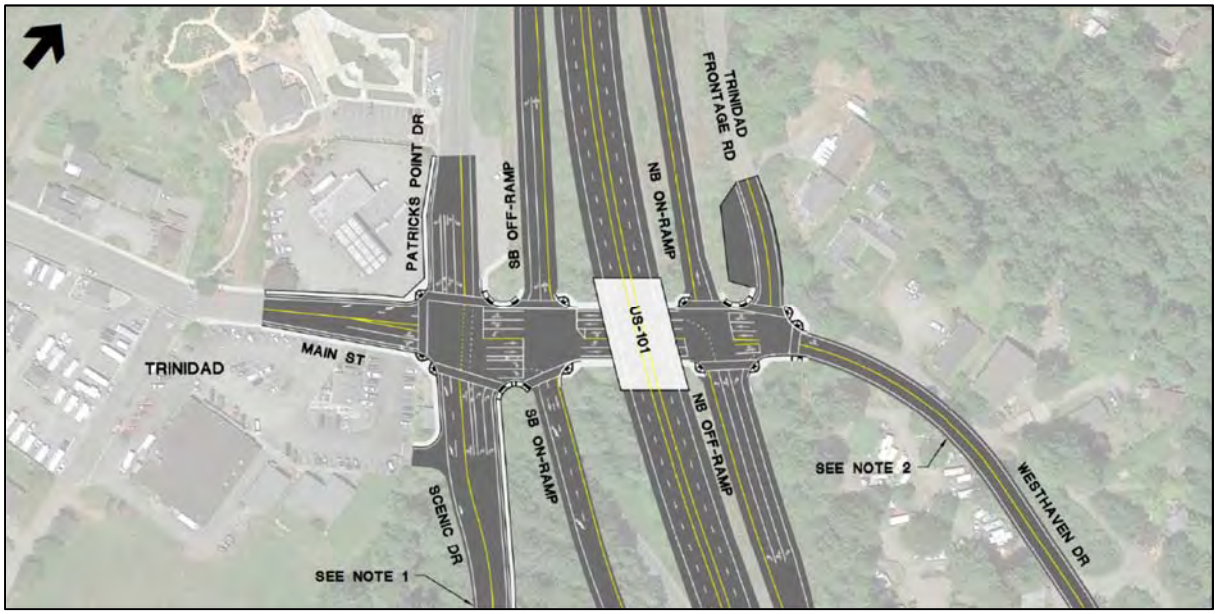


Figure 2 - Alternative 1A Schematic Exhibit

Alternative 1A improvements include:

- Construction of traffic signals at each of the four Main Street and Westhaven Drive intersections at this location
- Reconstruction and widening of Main Street to accommodate future traffic demands
- Reconstruction of the Main Street profile to meet current design standards
- Construction of a new US 101 undercrossing structure to accommodate the widened Main Street
- Reconstruction of the US 101 on and off-ramps to accommodate future traffic demands
- Reconstruction of US 101 mainline to provide a minimum 12 foot wide median and 10 foot shoulders
- Reconstruction of US 101 mainline profile to meet current decision sight distance standards
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Reconstruction of adjacent roadways to tie in to existing improvements

(1) Purpose and Need: Alternative 1A alone does not meet the purpose and need for this project. While improvements to the Trinidad-Main Street Interchange would accommodate the planned future development in the area, it does not provide for a 2nd safe and sustainable access to and from US 101, for all modes of transportation, to the Trinidad Rancheria and the surrounding communities, nor does it reconnect tribal lands within the study area.

(2) Traffic Operations: Alternative 1A includes improvements to the US 101/Trinidad-Main Street interchange, as well as Scenic Drive, that would result in improved traffic operations, and would provide for acceptable levels of service for the 3 intersections that would otherwise perform at unacceptable levels of service.

(3) Increased Safety: Alternative 1A will widen the median and shoulders on US 101, and would chiefly construct the proposed improvements to current standards (See Section 8). Scenic Drive, between Cher-Ae Lane and Main Street, will also be improved. These improvements will likely result in increased public safety.

(4) Project Costs: Total Capital Outlay project costs for Alternative 1A are estimated at $38.8 million, are higher than expected for projects of similar size and nature, and are in the high-range of estimated costs for all alternatives. The additional project costs can be attributed to replacement of the Trinidad-Main Street Interchange (PM 100.7), extensive grading work and significant retaining wall work. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 1A will have some minor impacts to existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. In addition, there is potential to discover cultural resources in the vicinity of the project. However, since it is reconstruction and will have a similar footprint to the existing footprint, the risk level is less than other alternatives proposing new roadways.

(6) Right-of-Way Impacts: Due to the extensive grading and vertical profile changes, it is anticipated that some right-of-way acquisition will be required for Alternative 1A. Right-of-way acquisition is expected to be limited to partial takes in areas where roads are widened, or extensive grading must be done to allow for adequate sight distance or to meet other standards. It is estimated that 7-10 parcels will be affected adjacent to the US 101/Trinidad-Main Street interchange, and 10-15 parcels could be affected along Scenic Drive. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 1A will significantly alter the existing rural and unique character of the Trinidad-Main Street interchange. The drastic change is likely to be considered incompatible with the rural fishing village character of the City of Trinidad, and the City's Draft General Plan.

(8) Design Exceptions: The preliminary design and design standards were checked using the DIB 78 Design Checklist. A Design Standards Risk Assessment was completed for Alternative 1A and the anticipated exceptions to design standards (beyond those identified for all alternatives) are presented in **Table 6.** The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

TABLE 7: DESIGN STANDARDS RISK ASSESSMENT (ALTERNATIVE 1A)

<u>Mandatory</u> Design Standard	Probability of Design Exception Approval	Justification for Probability Rating
M: 504.3(3) - Location and Design of Ramp Intersections on the Crossroads. **The minimum distance (curb return to curb return) between ramp intersections and local road intersections shall be 400 feet**. As little as 20 feet is provided in the design.	MEDIUM	• Proposed is similar to the existing condition. • Operation to be verified by traffic modeling.

TABLE 7: DESIGN STANDARDS RISK ASSESSMENT (ALTERNATIVE 1A)

Advisory Design Standard	Probability of Design Exception Approval	Justification for Probability Rating
A: 310.2 - Outer Separation. In urban areas and in mountainous terrain, the width of the outer separation should be a minimum of 26 feet from edge of traveled way to edge of traveled way. Outer separation between the southbound US 101 off-ramp and Patricks Point Drive is only 24'.	HIGH	• Existing condition. • Need to evaluate collisions.

Alternative 1B

Improvements to Main Street with Roundabouts:

- Construct two modern roundabouts
- Reconstruct on and off-ramps
- Widen Scenic Drive from Cher-Ae Lane to Main Street

Alternative 1B includes improvements to Main Street with modern roundabouts, including reconstruction of the on and off-ramps, reconstruction of Main Street, and widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad (PM 100.0 – 101.1).

See **Figure 3.**

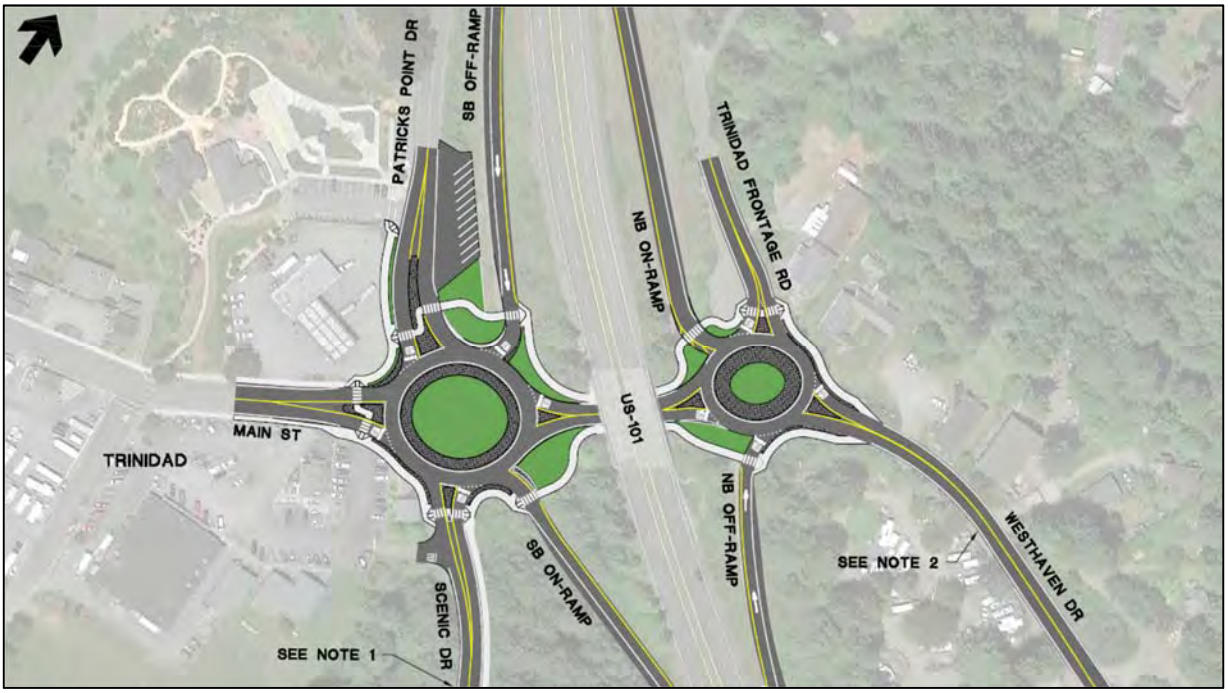


Figure 3 - Alternative 1B Schematic Exhibit

Alternative 1B improvements include:

- Construction of two large modern roundabouts at the interchange
- Reconstruction of Main Street to accommodate future traffic demands
- Reconstruction of the US 101 on and off-ramps
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Reconstruction of adjacent roadways to tie in to existing improvements

(1) Purpose and Need: Alternative 1B alone does not meet the purpose and need for this project. While improvements to the Trinidad-Main Street Interchange would accommodate the planned future development in the area, it does not provide for a 2nd safe and sustainable access to and from US 101, for all modes of transportation, to the Trinidad Rancheria and the surrounding communities, nor does it reconnect tribal lands within the study area.

(2) Traffic Operations: Alternative 1B includes improvements to the US 101/Trinidad-Main Street interchange, as well as Scenic Drive, that would result in improved traffic operations, and would provide for acceptable levels of service for the 3 intersections that would otherwise perform at unacceptable levels of service.

(3) Increased Safety: Alternative 1B will widen the shoulders on US 101 within the immediate project area, and would chiefly construct the proposed improvements to current standards (See Section 8). Scenic Drive, between Cher-Ae Lane and Main Street, will also be improved. These improvements will likely result in increased public safety.

(4) Project Costs: Total Capital Outlay project costs for Alternative 1B are estimated at $20.1 million, which is similar to what would be expected for projects of similar size and nature, and is in the low-range of estimated costs for all alternatives. The cost estimate provided for this alternative assumes significantly less reconstruction of US 101 adjacent to the Trinidad-Main Street interchange, as well as allowing the existing undercrossing structure to remain in place. The median is not widened with this alternative, since the existing structure would remain in place, and there would not be adequate decision sight distance (DSD) from US 101 to the northbound off-ramp to Main Street without reconstruction of US 101 similar to alternative 1A. To replace the existing structure and reconstruct US 101 to meet the DSD standard, estimated costs for Alternative 1B would be similar to Alternative 1A, around $37.8 million. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 1B will have slightly more impacts (than Alternative 1A) to existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. In addition, there is potential to discover cultural resources in the vicinity of the project. However, since it is reconstruction and will have a similar footprint to the existing footprint, the risk level is less than other alternatives proposing new roadways.

(6) Right-of-Way Impacts: Due to the extensive grading and vertical profile changes, it is anticipated that some right-of-way acquisition will be required for Alternative 1B. Right-of-way acquisition would be similar to Alternative 1A, with the exception that the roundabout footprints will be larger, and providing accessibility through the interchange will require additional length of lower grades, thereby lowering the vertical profile of Main Street more than Alternative 1A. This would likely require some full R/W acquisition to adjacent parcels east of US 101, and northeast of Westhaven Drive. It is estimated that 7-10 parcels will be affected adjacent to the US 101/Trinidad-

Main Street interchange, and 10-15 parcels could be affected along Scenic Drive. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 1B will significantly alter the existing rural character of the Trinidad-Main Street interchange, and will require a significantly larger footprint within the interchange area. The drastic change is likely to be considered incompatible with the rural fishing village character of the City of Trinidad, and the City's Draft General Plan.

(8) Design Exceptions: The preliminary design and design standards were checked using the DIB 78 Design Checklist. A Design Standards Risk Assessment was completed for Alternative 1B and the anticipated exceptions to design standards (beyond those identified for all alternatives) are presented in **Table 7**. The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

TABLE 8: DESIGN STANDARDS RISK ASSESSMENT (ALTERNATIVE 1B)

Mandatory Design Standard	**Probability of Design Exception Approval**	**Justification for Probability Rating**
M: 504.3(3) - Location and Design of Ramp Intersections on the Crossroads. **The minimum distance (curb return to curb return) between ramp intersections and local road intersections shall be 400 feet**. As little as 20 feet is provided in the design.	MEDIUM	• Proposed is similar to the existing condition. • Operation to be verified by traffic modeling.
Advisory Design Standard	**Probability of Design Exception Approval**	**Justification for Probability Rating**
A: 201.7 – Decision Sight Distance. On freeways and expressways the decision sight distance values in Table 201.7 should be used at lane drops and at off-ramp noses to interchanges, branch connections, roadside rests, vista points, and inspection stations. The minimum Decision Sight Distance for 70 mph is 1,105 feet. Without reconstruction of the US 101 profile, a decision sight distance of approximately 972 feet (55 mph) is provided for the northbound off-ramp to Main Street.	MEDIUM	• SSD is OK; 70 mph SSD = 750-ft. • Need to evaluate collisions. • Need to evaluate potential mitigation measures including lighting striping, signage and others.
A: 310.2 - Outer Separation. In urban areas and in mountainous terrain, the width of the outer separation should be a minimum of 26 feet from edge of traveled way to edge of traveled way. Outer separation between the southbound US 101 off-ramp and Patricks Point Drive is only 24'.	HIGH	• Existing condition. • Need to evaluate collisions.

Alternative 2

New Cher-Ae Lane Overcrossing (PM 100.0):

- Construct new Cher-Ae Lane Overcrossing
- Local road connection to Scenic Drive and Westhaven Drive
- Widen Scenic Drive from Cher-Ae Lane to Main Street
- Widen Westhaven Drive from Westhaven to Trinidad

Alternative 2 includes construction of a new overcrossing structure at Cher-Ae Lane (PM 100.0), with local road connections to Scenic Drive and Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, and widening of Westhaven Drive in the Community of Westhaven to Main Street in the City of Trinidad. (PM 98.1 – 100.7).

See **Figure 4.**

Figure 4 - Alternative 2 Schematic Exhibit

Alternative 2 improvements include:

- Construction of a new overcrossing structure at PM 100.0
- Reconstruction of Cher-Ae Lane from Scenic Drive into the Rancheria
- Construction of the Cher-Ae Lane Extension to Westhaven Drive
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Widening of Westhaven Drive from the Community of Westhaven to the City of Trinidad

(1) Purpose and Need: Alternative 2 alone does not meet the purpose and need for this project. A new overcrossing structure without a connection to US 101 would provide for only 2 of the 3 items of the purpose and need. The new overcrossing would provide for a 2nd safe and sustainable access to the Trinidad Rancheria, and would also reconnect tribal lands across US 101. But these improvements will not accommodate the planned future development in the area, and thus, does not meet the purpose and need.

(2) Traffic Operations: Alternative 2 includes construction of a new overcrossing structure over US 101 at Cher-Ae Lane, as well as improvements to Scenic Drive and Westhaven Drive, that would result in slightly improved traffic operations. However, without any improvements to any of the interchange areas, and without a direct connection to US 101, conditions for the Trinidad-Main Street interchange will remain at unacceptable levels of service, as outlined in the Traffic Operations section above.

(3) Increased Safety: Alternative 2 will not provide any improvements to US 101, but will provide improvements to Scenic Drive and Westhaven Drive. Therefore, increased safety would be expected on Scenic Drive, from Cher-Ae Lane to Trinidad, and along the length of Westhaven Drive, but generally, overall increased safety would be minimal.

(4) Project Costs: Total Capital Outlay project costs for Alternative 2 are estimated at $18.2 million, which is similar to what would be expected for projects of similar size and nature, and is in the low-range of estimated costs for all alternatives. The cost estimate provided for this alternative assumes no reconstruction of US 101 adjacent to the Trinidad Rancheria or Trinidad. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 2 will have somewhat high environmental impacts, since it includes construction of a new roadway. It is likely that impacts would include existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. The area east of US 101 is mostly undeveloped, and has an increased potential of various environmental impacts. In addition, there is potential to discover cultural resources in the vicinity of the project. This alternative is in the medium range of environmental impacts as compared to other alternatives, since the footprint only includes a single road connection across US 101, with no connection to US 101.

(6) Right-of-Way Impacts: Right-of-Way impacts for Alternative 2 will be somewhat high, since the project will construct a new roadway across US 101, thereby requiring acquisition of R/W for the full width of the roadway and associated improvements, including grading. Much of the R/W that will be required for this project is land already owned by the Trinidad Rancheria, which will significantly decrease the overall R/W impacts. It is estimated that 10-12 parcels may be affected adjacent to US 101 in the Cher-Ae Lane area for the overcrossing, as well as 10-15 parcels along Scenic Drive. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 2 will alter the US 101 corridor with construction of a new overcrossing structure. This impact will be significant for the area, but will be similar to existing interchanges and overcrossing structures along the US 101 corridor.

(8) Design Exceptions: The preliminary design and design standards were checked using the DIB 78 Design Checklist. A Design Standards Risk Assessment was completed for Alternative 2 and there no anticipated exceptions to design standards (beyond those identified for all alternatives). The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

Alternative 3A

New US 101/Cher-Ae Lane Interchange (PM 100.0):

- Construct new US 101/Cher-Ae Lane Interchange
- Local road connection to Scenic Drive and Westhaven Drive
- Widen Scenic Drive from Cher-Ae Lane to Main Street
- Widen Westhaven Drive from Westhaven to Trinidad

Alternative 3A includes construction of a new Type L-1 Compact Diamond interchange at Cher-Ae Lane (PM 100.0), with both northbound and southbound ramp connections, local road connections to Scenic Drive and Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, and widening of Westhaven Drive in the Community of Westhaven to Main Street in the City of Trinidad. (PM 98.1 – 100.7).

See **Figure 5.**

Figure 5 - Alternative 3A Schematic Exhibit

Alternative 3A improvements include:

- Construction of a new Type L-1 Compact Diamond interchange at PM 100.0
- Construction of all northbound and southbound ramp connections
- Reconstruction of Cher-Ae Lane from Scenic Drive into the Rancheria
- Construction of the Cher-Ae Lane Extension to Westhaven Drive
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Widening of Westhaven Drive from the Community of Westhaven to the City of Trinidad

(1) Purpose and Need: Alternative 3A appears to meet the purpose and need for this project. A new interchange with connections to US 101, and public road connections to Scenic Drive and Westhaven Drive would provide for all of the purpose and need requirements outlined in this study. The new interchange would provide for a 2nd safe and sustainable access to and from US 101, for all modes of transportation, to the Trinidad Rancheria and the surrounding communities, accommodate the planned future development in the area, and would also reconnect tribal lands across US 101.

(2) Traffic Operations: Alternative 3A includes construction of a new interchange with an overcrossing structure over US 101, public road connections to Scenic Drive and Westhaven Drive, as well as improvements to Scenic Drive from Cher-Ae Lane to Trinidad and for the length of Westhaven Drive. These improvements would result in greatly improved traffic operations within the study area. Once constructed, and upon full build-out of the Trinidad Rancheria Master Plan, all roadways, including US 101 mainline and interchanges, will operate at acceptable levels of service, including the 3 intersections that would otherwise perform at unacceptable levels of service.

(3) Increased Safety: Alternative 3A will widen the median and shoulders on US 101, and would chiefly construct the proposed improvements to current standards (See Section 8). Scenic Drive, between Cher-Ae Lane and Main Street, will also be improved, along with Westhaven Drive from the community of Westhaven to Trinidad. These improvements will likely result in increased public safety.

(4) Project Costs: Total Capital Outlay project costs for Alternative 3A are estimated at $32.3 million, which is slightly higher than what would be expected for projects of similar size and nature, and is in the mid-range of estimated costs for all alternatives. Costs estimated for this alternative are increased due to areas that will require some extensive grading and retaining wall work due to existing topography. This additional cost is typical of nearly all of the alternatives that were analyzed with this study, due to the highly variable terrain within the entire study area. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 3A will have somewhat high environmental impacts, since it includes construction of a new roadway, and construction of a full new interchange. It is likely that impacts would include existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. The area east of US 101 is mostly undeveloped, and has an increased potential of various environmental impacts. The area that includes the new interchange and on and off-ramps is also mostly undeveloped, and will likely have impacts to existing environmentally sensitive areas. In addition, there is potential to discover cultural resources in the vicinity of the project. This alternative is in the high range of environmental impacts as compared to other alternatives, since the footprint includes a road connection across US 101, along with full ramp connections to US 101.

(6) Right-of-Way Impacts: Right-of-Way impacts for this alternative will be somewhat high, since the project will construct a new roadway across US 101, as well as new ramp connections to US 101, thereby requiring acquisition of R/W for the full width of the roadway, ramps, and associated improvements, including grading. A significant amount of the R/W that will be required for this project is land already owned by the Trinidad Rancheria, and therefore will significantly decrease the overall R/W impacts. It is estimated that 15-20 parcels may be affected adjacent to US 101 in the Cher-Ae Lane/Trinidad Rancheria area, as well as 10-15 parcels along Scenic Drive. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 3A will alter the US 101 corridor with construction of a new interchange. While this impact will be significant for the area, a new interchange will be similar to existing interchanges and overcrossing structures along the US 101 corridor.

(8) Design Exceptions: The preliminary design and design standards were checked using the DIB 78 Design Checklist. A Design Standards Risk Assessment was completed for Alternative 3A and the anticipated exceptions to design standards (beyond those identified for all alternatives) are presented

in **Table 9.** The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

TABLE 9: DESIGN STANDARDS RISK ASSESSMENT (ALTERNATIVE 3A)

Mandatory Design Standard	**Probability of Design Exception Approval**	**Justification for Probability Rating**
M: 504.3(3) - Location and Design of Ramp Intersections on the Crossroads. **The minimum distance (curb return to curb return) between ramp intersections and local road intersections shall be 400 feet**. 250-ft provided between the southbound ramps and the new Cher-Ae Lane roundabout.	HIGH	• No negative operational effect, to be verified by traffic modeling. • Maximized distance based on other design criteria to match existing facilities.
M: 504.7 – Weaving Sections. **The minimum weaving length, measured as shown on Figures 504.2A and 504.2B shall be 2,000 feet in urban areas, 5,000 feet outside urban areas, and 5,000 feet between freeway-to-freeway interchanges and other interchanges. The minimum distance (curb return to curb return) between ramp intersections and local road intersections shall be 400 feet**. 1,720-ft and 2,385-ft provided in the NB and SB directions, respectively, between the proposed interchange ramps and the existing interchange ramps.	HIGH	The CT District 1 Traffic Operations Branch completed a weaving analysis between the US 101/Trinidad-Main Street Interchange (PM 100.7) and the Alternative 3A and 3B proposed interchange at Route 101/Cher-Ae Lane (PM 100.0). Projected design year 2040 traffic volumes were used and concluded that the freeway section between the two interchanges would operate with acceptable levels of service with the project's full build out under future conditions and auxiliary lanes on the freeway between the interchanges would not be required within the design year period. These findings would also apply to interchanges at greater spacing such as the Alternative 8 proposed interchange at US 101/New Local Road (PM 99.7).

TABLE 9: DESIGN STANDARDS RISK ASSESSMENT (ALTERNATIVE 3A)

Advisory Design Standard	Probability of Design Exception Approval	Justification for Probability Rating
A: 201.7 – Decision Sight Distance. On freeways and expressways the decision sight distance values in Table 201.7 should be used at lane drops and at off-ramp noses to interchanges, branch connections, roadside rests, vista points, and inspection stations. The minimum Decision Sight Distance for 70 mph is 1,105 feet. Without reconstruction of the US 101 profile, a decision sight distance of approximately 750 feet (50 mph) is provided for the northbound off-ramp to Cher-Ae Lane.	HIGH	• SSD is OK; 70 mph SSD = 750-ft. • Need to evaluate collisions. • Need to evaluate potential mitigation measures including lighting striping, signage and others.

Alternative 3B

New US 101/Cher-Ae Lane Interchange (PM 100.0):

- Construct new US 101/Cher-Ae Lane Interchange
- Local road connection to Scenic Drive; mixed-use path to Westhaven
- Widen Scenic Drive from Cher-Ae Lane to Main Street
- Widen Westhaven Drive from Westhaven to Trinidad

Alternative 3B is identical to Alternative 3A, with the exception that instead of a local road connection to Westhaven Drive, a Class I mixed-use trail will be constructed from the northbound ramps intersection east to Westhaven Drive.

See **Figure 6.**

Figure 6 - Alternative 3B Schematic Exhibit

Alternative 3B improvements include:

- Construction of a new Type L-1 Compact Diamond interchange at PM 100.0
- Construction of all northbound and southbound ramp connections
- Reconstruction of Cher-Ae Lane from Scenic Drive into the Rancheria
- Construction of a Class I mixed-use trail connection to Westhaven Drive
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Widening of Westhaven Drive from the Community of Westhaven to the City of Trinidad

(1) Purpose and Need: Alternative 3B appears to meet the purpose and need for this project. A new interchange with connections to US 101, and an improved public road connection to Scenic Drive, would provide for all of the purpose and need requirements outlined in this study. The new interchange would provide for a 2nd safe and sustainable access to and from US 101, for all modes of transportation, to the Trinidad Rancheria and the surrounding communities, accommodate the planned future development in the area, and would also reconnect tribal lands across US 101 with a mixed-use trail connection to Westhaven Drive.

(2) Traffic Operations: Alternative 3B includes construction of a new interchange with an overcrossing structure over US 101, a public road connection to Scenic Drive, a mixed-use trail connection to Westhaven Drive, as well as improvements to Scenic Drive from Cher-Ae Lane and for the length of Westhaven Drive. These improvements would result in greatly improved traffic operations within the study area. Once constructed, and upon full build-out of the Trinidad Rancheria Master Plan, all roadways, including US 101 mainline and interchanges, will operate at acceptable levels of service, including the 3 intersections that would otherwise perform at unacceptable levels of service.

(3) Increased Safety: Alternative 3B will widen the median and shoulders on US 101, and would chiefly construct the proposed improvements to current standards (See Section 8). Scenic Drive, between Cher-Ae Lane and Main Street, will also be improved, along with Westhaven Drive from the community of Westhaven to Trinidad. These improvements will likely result in increased public safety.

(4) Project Costs: Total Capital Outlay project costs for Alternative 3B are estimated at $31.3 million, slightly less than alternative 3A, is slightly higher than what would be expected for projects of similar size and nature, and is in the mid-range of estimated costs for all alternatives. Costs estimated for this alternative are increased due to areas that will require some extensive grading and retaining wall work due to existing topography. This additional cost is typical of nearly all of the alternatives that were analyzed with this study, due to the highly variable terrain within the entire study area. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 3B will have somewhat high environmental impacts, since it includes construction of a new roadway, and construction of a full new interchange. It is likely that impacts would include existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. The area east of US 101 is mostly undeveloped, and has an increased potential of various environmental impacts. The area that includes the new interchange and on and off-ramps is also mostly undeveloped, and will likely have impacts to existing environmentally sensitive areas. In addition, there is potential to discover cultural resources in the vicinity of the project. This alternative is in the high range of environmental impacts as compared to other alternatives, since the footprint includes a road connection across US 101, along with full ramp connections to US 101.

(6) Right-of-Way Impacts: Right-of-Way impacts for Alternative 3B will be somewhat high, slightly less than Alternative 3A as the project will construct a new roadway across US 101, as well as new ramp connections to US 101, thereby requiring acquisition of R/W for the full width of the roadway, ramps, and associated improvements, including grading. A significant amount of the R/W that will be required for this project is land already owned by the Trinidad Rancheria, and therefore will significantly decrease the overall R/W impacts. It is estimated that 15-20 parcels may be affected adjacent to US 101 in the Cher-Ae Lane/Trinidad Rancheria area, as well as 10-15 parcels along Scenic Drive. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 3B will alter the US 101 corridor with construction of a new interchange. While this impact will be significant for the area, a new interchange will be similar to existing interchanges and overcrossing structures along the US 101 corridor.

(8) Design Exceptions: The preliminary design and design standards were checked using the DIB 78 Design Checklist and a draft Design Standards Risk Assessment was completed for Alternative 3B. The exceptions to design standards for Alternative 3B are anticipated to be identical to Alternative 3A. See previous **Table 9.**

Alternative 4A

Improve Scenic Drive from Westhaven to Trinidad:

- Improve Scenic Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.4/100.7)

Alternative 4A includes widening of Scenic Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad. (PM 98.4/100.7)

See **Figure 7.**

Figure 7 – Section of Scenic Drive, south of Cher-Ae Lane, showing slopes falling into Scenic Drive, and existing pavement in poor condition.

Alternative 4A improvements include:

- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side

(1) Purpose and Need: Alternative 4A does not meet the purpose and need for this project. Improvements to Scenic Drive from the community of Westhaven, to Main Street in the City of Trinidad, will improve the safety and reliability of Scenic Drive, but will not sufficiently address any of the requirements of the purpose and need for the study.

(2) Traffic Operations: Alternative 4A includes improvements to Scenic Drive, from the community of Westhaven, to Main Street in the City of Trinidad. These improvements will have little effect on the overall traffic operations within the study area. Upon full build-out of the Trinidad Rancheria Master Plan, conditions for the Trinidad-Main Street interchange will operate at unacceptable levels of service, as outlined in the Traffic Operations section above.

(3) Increased Safety: Alternative 4A will improve Scenic Drive, between the community of Westhaven and Main Street. This will increase the safety of Scenic Drive through this segment, but increased safety for this alternative is significantly lower than most other alternatives.

(4) Project Costs: Total Capital Outlay project costs for Alternative 4A are estimated at $22.0 million, which is significantly higher than what would be expected for projects of similar size and nature, and is in the low-range of estimated costs for all alternatives. Costs estimated for this alternative are increased significantly due to multiple areas along Scenic Drive that will require extensive grading and retaining wall work due to existing topography along the roadway. Much of Scenic Drive

includes steep slopes down to the ocean on the west side of Scenic Drive, and steep slopes upwards to the east of Scenic Drive. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 4A will have a medium amount of environmental impacts, since it includes improvements to an existing roadway. It is likely that impacts would include existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. There are up to 4-5 existing streams within the Scenic Drive corridor that would likely require modification or mitigation. Extensive grading for this alternative will likely impact other environmentally sensitive areas. In addition, there is potential to discover cultural resources in the vicinity of the project. This alternative is in the mid-range of environmental impacts as compared to other alternatives, since the footprint is increased only slightly because the project area is an existing roadway.

(6) Right-of-Way Impacts: Right-of-Way impacts for Alternative 4A will be lower than other alternatives included in this study. Since the roadway already exists, R/W impacts are expected to be limited to small takes along Scenic Drive for grading modifications. It is estimated that 20 parcels may be affected adjacent to Scenic Drive along this corridor, with impacts mostly including sliver R/W acquisitions. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 4A will have somewhat low impacts to aesthetics as compared to other project alternatives. The main impacts to aesthetics include the extensive retaining wall work that is anticipated for this work. Overall the impacts to Aesthetics are lower than most other alternatives.

(8) Design Exceptions: A design standards check and Design Standards Risk Assessment was not fully performed for Alternative 4A, since the project consists only of reconstruction/improvements to an existing roadway, along an existing local road corridor. It is anticipated that the project would have various exceptions to design standards. The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

Alternative 4B

Improve Scenic Drive from Cher-Ae Lane; New Frontage Road from Westhaven to Cher-Ae Lane:

- Improve Scenic Drive from Cher-Ae Lane to Trinidad
- Construct new frontage road from US 101 in the Community of Westhaven to Cher-Ae Lane

Alternative 4B includes widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, and construction of a new frontage road from US 101 in the Community of Westhaven to Cher-Ae Lane.

Alternative 4B improvements include:

- Widening and/or reconstruction of Scenic Drive from Cher-Ae Lane to Trinidad, to provide 4 foot minimum shoulders and sidewalk on one side
- Construction of a new frontage road from US 101 in the Community of Westhaven to Cher-Ae Lane

(1) Purpose and Need: Alternative 4B does not meet the purpose and need for this project. Improvements to Scenic Drive from Cher-Ae Lane to Main Street, and a new frontage road from the community of Westhaven to Cher-Ae Lane will improve the safety and reliability of the access to the Trinidad Rancheria, but will not sufficiently address any of the requirements of the purpose and need for the study. This alternative will not reconnect tribal lands, and will not accommodate the planned future development in the area.

(2) Traffic Operations: Alternative 4B includes improvements to Scenic Drive, from Cher-Ae Lane to Main Street in the City of Trinidad, and a new frontage road from the community of Westhaven to Cher-Ae Lane. These improvements will have some effect on the overall traffic operations within the study area. However, upon full build-out of the Trinidad Rancheria Master Plan, conditions for the Trinidad-Main Street interchange will continue to operate at unacceptable levels of service, as outlined in the Traffic Operations section above.

(3) Increased Safety: Alternative 4B will improve Scenic Drive from Cher-Ae Lane to Main Street, and provide a new frontage road to the community of Westhaven to the south. This will increase the safety of access routes to the Trinidad Rancheria and surrounding community, but overall increases in safety for this alternative are still significantly lower than most other alternatives.

(4) Project Costs: Total Capital Outlay project costs for Alternative 4B are estimated at $31.7 million, which is significantly higher than what would be expected for projects of similar size and nature, and is in the mid-range of estimated costs for all alternatives. Costs estimated for this alternative are increased significantly due to some extensive grading and retaining wall work along Scenic Drive north of Cher-Ae Lane, as well as significant grading, retaining walls, clearing and grubbing work, and R/W acquisition within the area proposed along US 101 for this alternative. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 4B will have a high amount of environmental impacts, since it includes improvements to a completely undeveloped area adjacent to US 101, between the community of Westhaven and the Trinidad Rancheria. It is likely that impacts would include existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. There are multiple existing drainage ways along this stretch that could require up to 50-60 foot fills, along with excavation of similar amounts in multiple areas. In addition, there is a high potential to discover cultural resources in the vicinity of this proposed frontage road. This alternative is in the very high range of environmental impacts as compared to other alternatives, since the footprint includes construction of a new roadway within a completely undeveloped area adjacent to US 101, south of Cher-Ae Lane.

(6) Right-of-Way Impacts: Right-of-Way impacts for Alternative 4B will be in the high range as compared to other alternatives included in this study. R/W impacts for Scenic Drive from Cher-Ae Lane to Main Street will be similar to other alternatives, and will include small partial acquisitions. R/W impacts for the new frontage road along US 101 will be significant, and would likely require multiple acquisitions of full parcels within this corridor, along with multiple partial acquisitions of parcels adjacent to US 101. It is estimated that 10-15 parcels may be affected adjacent to the Scenic Drive corridor, with impacts mostly including sliver R/W acquisitions. It is estimated that 15-20 parcels may be affected with the proposed frontage road from Westhaven to Cher-Ae Lane, with many of the acquisitions requiring full parcel takes. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 4B will have medium impacts to aesthetics as compared to other project alternatives. The main impact to aesthetics will be the new frontage road that parallels US 101 from Westhaven to Cher-Ae Lane, to include removal of significant amounts of trees and vegetation, as well as significant grading and slopes along this segment of new roadway.

(8) Design Exceptions: A design standards check and Design Standards Risk Assessment was not fully performed for Alternative 4B, since the project consists of reconstruction/improvements to an existing roadway, and a new local road facility adjacent to US 101, south of Cher-Ae Lane. It is anticipated that the project would have various exceptions to design standards. The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

Alternative 5A

Improvements to Main Street with Signalized Intersections and Construction of a new Cher-Ae Lane Overcrossing:

- Four traditional signalized intersections
- Replacement of the Trinidad-Main Street Interchange
- Widen Main Street from Scenic Drive to Westhaven Drive
- Widen Scenic Drive from Cher-Ae Lane to Main Street
- Construct new overcrossing at Cher-Ae Lane

Alternative 5A is a combination of Alternative 1A and 2, and includes Improvements to Main Street with signalized intersections, replacement of the Trinidad-Main Street Interchange (PM 100.7), widening of Main Street from Scenic Drive to Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad (PM 100.0 – 101.1), and construction of a new overcrossing structure at Cher-Ae Lane (PM 100.0), with local road connections to Scenic Drive and Westhaven Drive.

See previous **Figures 2 and 4.**

Alternative 5A improvements include:

- Construction of traffic signals at each of the four intersections at this location
- Reconstruction and widening of Main Street to accommodate future traffic demands
- Reconstruction of the Main Street profile to meet current design standards
- Construction of a new US 101 undercrossing structure to accommodate the widened Main Street
- Reconstruction of the US 101 on and off-ramps to accommodate future traffic demands
- Reconstruction of US 101 mainline to provide a minimum 12 foot wide median and 10 foot shoulders
- Reconstruction of US 101 mainline profile to meet current decision sight distance standards
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Construction of a new overcrossing structure at PM 100.0
- Reconstruction of Cher-Ae Lane from Scenic Drive into the Rancheria
- Construction of the Cher-Ae Lane Extension to Westhaven Drive
- Widening of Westhaven Drive from the Community of Westhaven to the City of Trinidad
- Reconstruction of adjacent roadways to tie in to existing improvements

(1) Purpose and Need: Alternative 5A appears to meet the purpose and need for this project. Improvements to the Trinidad-Main Street Interchange, along with a new overcrossing structure at

Cher-Ae Lane, would accommodate the planned future development in the area, would provide for a 2nd safe and sustainable access to the Trinidad Rancheria, and would also reconnect tribal lands across US 101.

(2) Traffic Operations: Alternative 5A includes improvements to the US 101/Trinidad-Main Street interchange, as well as Scenic Drive, and a new overcrossing structure at Cher-Ae Lane, which would result in improved traffic operations, and would provide for acceptable levels of service for the 3 intersections that would otherwise perform at unacceptable levels of service.

(3) Increased Safety: Alternative 5A will widen the median and shoulders on US 101, and would chiefly construct the proposed improvements to current standards (See Section 8). Scenic Drive, between Cher-Ae Lane and Main Street, will also be improved, as will Westhaven Drive from the community of Westhaven to Trinidad. These improvements will likely result in increased public safety.

(4) Project Costs: Total Capital Outlay project costs for Alternative 5A are estimated at $48.0 million, which is somewhat higher than expected for projects of similar size and nature, and has the highest estimated cost of all alternatives. The additional project costs can be attributed to replacement of the Trinidad-Main Street Interchange (PM 100.7), extensive grading work and significant retaining wall work. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 5A will have some minor impacts to existing environmental facilities within the Trinidad-Main Street Interchange area, along with more significant impacts to the areas adjacent to US 101 at Cher-Ae Lane. Existing drainage features, including culverts and drainage ditches/streams, will need modification or mitigation. The area east of US 101 near the Trinidad Rancheria is mostly undeveloped, and has an increased potential of various environmental impacts. In addition, there is potential to discover cultural resources in the vicinity of the project. This alternative is in the high range of environmental impacts as compared to other alternatives.

(6) Right-of-Way Impacts: Due to the extensive grading and vertical profile changes in the Trinidad-Main Street interchange area, along with a new overcrossing structure at Cher-Ae Lane, it is anticipated that significant right-of-way acquisition will be required for Alternative 5A. Right-of-way acquisition is expected to be limited to partial takes in areas where roads are widened, or extensive grading must be done to allow for adequate sight distance or to meet other standards. Much of the R/W that will be required for this project in the Cher-Ae Lane area is land already owned by the Trinidad Rancheria, which will significantly decrease the overall R/W impacts. It is estimated that 7-10 parcels may be affected adjacent to the US 101/Trinidad-Main Street interchange, 10-12 parcels may be affected adjacent to US 101 in the Cher-Ae Lane area for the overcrossing, and 10-15 parcels could be affected along Scenic Drive between Cher-Ae Lane and Main Street.

(7) Aesthetics: Alternative 5A will significantly alter the existing rural and unique character of the Trinidad-Main Street interchange. The drastic change is likely to be considered incompatible with the rural fishing village character of the City of Trinidad, and the City's Draft General Plan. Alternative 5A will also alter the US 101 corridor with construction of a new overcrossing structure. This impact will also be significant for the area, but will be similar to existing interchanges and overcrossing structures along the US 101 corridor.

(8) Design Exceptions: The preliminary design and design standards were checked using the DIB 78 Design Checklist and a draft Design Standards Risk Assessment was completed for Alternative 5A, with various exceptions to design standards anticipated. The anticipated exceptions to design

standards for Alternative 5A will be identical to those presented for Alternatives 1A and 2. The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

Alternative 5B

Improvements to Main Street with Roundabouts and Construction of a new Cher-Ae Lane Overcrossing:

- Construct two large scale modern roundabouts
- Reconstruct on and off-ramps
- Widen Scenic Drive from Cher-Ae Lane to Main Street
- Construct new Cher-Ae Lane Overcrossing

Alternative 5B is a combination of Alternative 1B and 2, and includes improvements to Main Street with modern roundabouts, including reconstruction of the on and off-ramps, reconstruction of Main Street, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad (PM 100.0 – 101.1), and construction of a new overcrossing structure at Cher-Ae Lane (PM 100.0), with local road connections to Scenic Drive and Westhaven Drive.

See previous **Figures 3 and 4.**

Alternative 5B improvements include:

- Construction of two large modern roundabouts at the interchange
- Reconstruction of Main Street to accommodate future traffic demands
- Reconstruction of the US 101 on and off-ramps
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Construction of a new overcrossing structure at PM 100.0
- Reconstruction of Cher-Ae Lane from Scenic Drive into the Rancheria
- Construction of the Cher-Ae Lane Extension to Westhaven Drive
- Widening of Westhaven Drive from the Community of Westhaven to the City of Trinidad
- Reconstruction of adjacent roadways to tie in to existing improvements

(1) Purpose and Need: Alternative 5B appears to meet the purpose and need for this project. Improvements to the Trinidad-Main Street Interchange, along with a new overcrossing structure at Cher-Ae Lane, would accommodate the planned future development in the area, would provide for a 2nd safe and sustainable access to the Trinidad Rancheria, and would also reconnect tribal lands across US 101.

(2) Traffic Operations: Alternative 5B includes improvements to the US 101/Trinidad-Main Street interchange, as well as Scenic Drive, and a new overcrossing structure at Cher-Ae Lane, which would result in improved traffic operations, and would provide for acceptable levels of service for the 3 intersections that would otherwise perform at unacceptable levels of service.

(3) Increased Safety: Alternative 5B will widen the shoulders on US 101 within the immediate project area, and would chiefly construct the proposed improvements to current standards (See Section 8). Scenic Drive, between Cher-Ae Lane and Main Street, will also be improved, as will Westhaven Drive from the community of Westhaven to Trinidad. These improvements will likely result in increased public safety.

(4) Project Costs: Total Capital Outlay project costs for Alternative 5B are estimated at $31.5 million, which is similar to what would be expected for projects of similar size and nature, and is in the mid-range of estimated costs for all alternatives. The cost estimate provided for this alternative assumes significantly less reconstruction of US 101 adjacent to the Trinidad-Main Street interchange, as well as allowing the existing undercrossing structure to remain in place. The median is not widened with this alternative, since the existing structure would remain in place, and there would not be adequate decision sight distance (DSD) from US 101 to the northbound off-ramp to Main Street without reconstruction of US 101 similar to alternative 5A. To replace the existing structure and reconstruct US 101 to meet the DSD standard, estimated costs for Alternative 5B would be similar to Alternative 5A, around $47.8 million. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 5B will have some minor impacts to existing environmental facilities within the Trinidad-Main Street Interchange area, along with more significant impacts to the areas adjacent to US 101 at Cher-Ae Lane. Existing drainage features, including culverts and drainage ditches/streams, will need modification or mitigation. The area east of US 101 near the Trinidad Rancheria is mostly undeveloped, and has an increased potential of various environmental impacts. In addition, there is potential to discover cultural resources in the vicinity of the project. This alternative is in the high range of environmental impacts as compared to other alternatives.

(6) Right-of-Way Impacts: Due to the extensive grading and vertical profile changes in the Trinidad-Main Street interchange area, along with a new overcrossing structure at Cher-Ae Lane, it is anticipated that significant right-of-way acquisition will be required for Alternative 5B. The extensive reconstruction in the Trinidad-Main Street interchange area would likely require some full R/W acquisition for adjacent parcels east of US 101, and northeast of Westhaven Drive, similar to Alternative 1B. Much of the R/W that will be required for this project in the Cher-Ae Lane area is land already owned by the Trinidad Rancheria, which will significantly decrease the overall R/W impacts. It is estimated that 7-10 parcels may be affected adjacent to the US 101/Trinidad-Main Street interchange, 10-12 parcels may be affected adjacent to US 101 in the Cher-Ae Lane area for the overcrossing, and 10-15 parcels could be affected along Scenic Drive between Cher-Ae Lane and Scenic Drive. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 5B will significantly alter the existing rural and unique character of the Trinidad-Main Street interchange. The drastic change is likely to be considered incompatible with the rural fishing village character of the City of Trinidad, and the City's Draft General Plan. Alternative 5B will also alter the US 101 corridor with construction of a new overcrossing structure. This impact will also be significant for the area, but will be similar to existing interchanges and overcrossing structures along the US 101 corridor.

(8) Design Exceptions: The preliminary design and design standards were checked using the DIB 78 Design Checklist and a draft Design Standards Risk Assessment was completed for Alternative 5B, with various exceptions to design standards anticipated. The anticipated exceptions to design standards for Alternative 5B will be identical to those presented for Alternatives 1B and 2. The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

Alternative 6

New US 101/Baker Ranch Road Interchange (PM 99.6):

- Construct new US 101/Baker Ranch Road Interchange
- Local road connection to Scenic Drive and Westhaven Drive
- Widen Scenic Drive from Cher-Ae Lane to Main Street
- Widen Westhaven Drive from Westhaven to Trinidad
- New frontage road from Baker Ranch Road to Cher-Ae Lane

Alternative 6 includes construction of a new Type L-1 Compact Diamond interchange at Baker Ranch Road (PM 99.6), with both northbound and southbound ramp connections, local road connections to Scenic Drive and Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, widening of Westhaven Drive in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7), and construction of a new frontage road from Baker Ranch Road to Cher-Ae Lane.

See **Figure 8.**

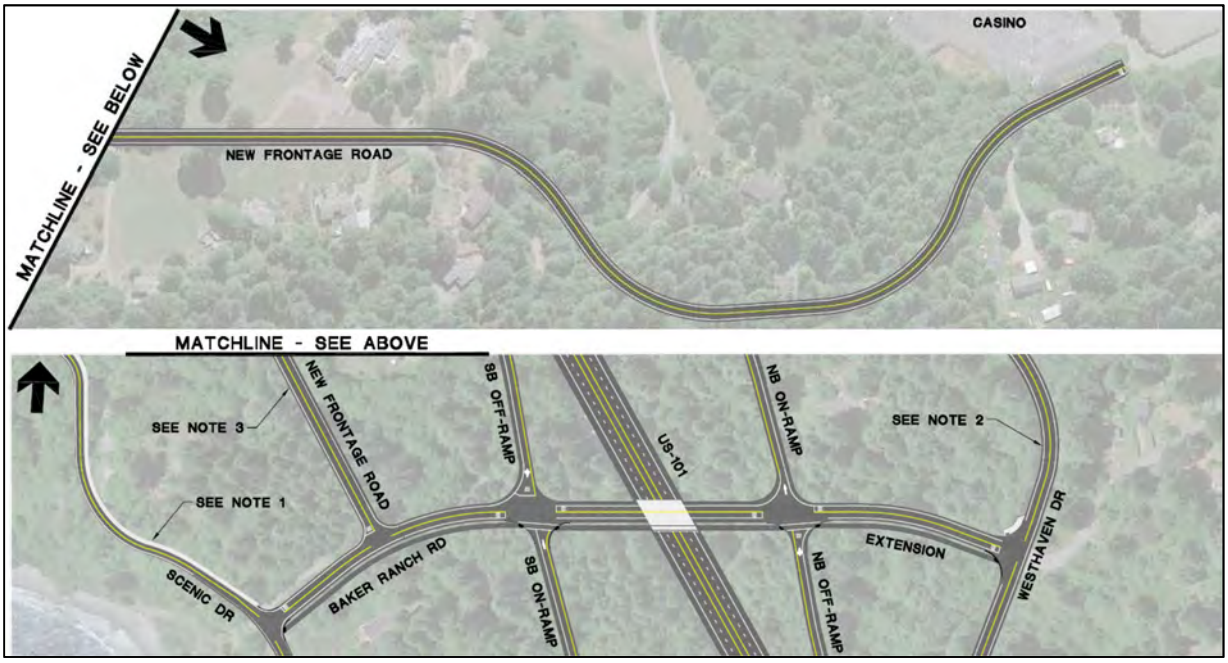


Figure 8 - Alternative 6 Schematic Exhibit

Alternative 6 improvements include:

- Construction of a new Type L-1 Compact Diamond interchange at PM 99.6
- Construction of all northbound and southbound ramp connections
- Reconstruction of Baker Ranch Road east of US 101
- Construction of Baker Ranch Road from US 101 to Westhaven Drive
- Construction of a new frontage road from Baker Ranch Road to Cher-Ae Lane
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Widening of Westhaven Drive from the Community of Westhaven to the City of Trinidad

(1) Purpose and Need: Alternative 6 does not meet the purpose and need for this project. A new interchange at Baker Ranch Road, with connections to US 101, and public road connections to Scenic

Drive and Westhaven Drive would provide only 2 of 3 of the requirements of the purpose and need outlined in this study. The new interchange would provide for a 2nd safe and sustainable access to and from US 101, for all modes of transportation, to the Trinidad Rancheria and the surrounding communities, and it would accommodate the planned future development in the area. This new interchange at Baker Ranch Road would not reconnect tribal lands across US 101 in the Trinidad Rancheria area, and therefore does not meet the purpose and need.

(2) Traffic Operations: Alternative 6 includes construction of a new interchange at Baker Ranch Road (PM 99.6), with an overcrossing structure over US 101, public road connections to Scenic Drive and Westhaven Drive, frontage road between Baker Ranch Road and Cher-Ae Lane, as well as improvements to Scenic Drive from Baker Ranch Road to Trinidad, and for the length of Westhaven Drive from the community of Westhaven to Trinidad. These improvements would result in improved traffic operations within the study area. If constructed, and upon full build-out of the Trinidad Rancheria Master Plan, it is possible that this alternative may improve traffic operations enough to provide acceptable levels of service for the entire study area. Additional analysis may be required to fully determine if this alternative would provide for acceptable LOS for the study area.

(3) Increased Safety: Alternative 6 will widen the median and shoulders on US 101, and would chiefly construct the proposed improvements to current standards. Scenic Drive, between Baker Ranch Road and Main Street, will also be improved, along with Westhaven Drive from the community of Westhaven to Trinidad. A new frontage road would be provided between Baker Ranch Road and Cher-Ae Lane, thereby creating a 2nd access point to the Trinidad Rancheria. These improvements will likely result in increased public safety within the study area.

(4) Project Costs: Total Capital Outlay project costs for Alternative 6 are estimated at $39.6 million, which is significantly higher than what would be expected for an interchange project of similar size and nature, and is in the high-range of estimated costs for all alternatives. Costs estimated for this alternative are increased due to areas that will require extensive grading, retaining wall work, clearing and grubbing work, R/W acquisition within the proposed interchange area, and frontage road between Baker Ranch Road and Cher-Ae Lane. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 6 will have the highest amount of environmental impacts of all the alternatives studied, since it includes construction of a new roadway, construction of a full new interchange, as well as construction of a new frontage road adjacent to US 101. It is very likely that impacts would include existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. There are multiple existing drainage ways along this stretch that could require up to 50-60 foot fills, along with excavation of similar amounts to provide for an acceptable vertical profile of the new Baker Ranch Road segment. The area that includes the new interchange and on and off-ramps is also mostly undeveloped, and will likely have impacts to existing environmentally sensitive areas. In addition, there is potential to discover cultural resources in the vicinity of the project. This alternative is anticipated to have the most environmental impacts of all alternatives analyzed for this study.

(6) Right-of-Way Impacts: Right-of-Way impacts for this alternative will also likely be the highest of all alternatives, since the project will construct a new roadway across US 101, as well as new ramp connections to US 101, thereby requiring acquisition of R/W for the full width of the roadway, ramps, and associated improvements, including grading. Much of this area includes very steep terrain, which will likely require additional R/W acquisition to provide for grading. Additional R/W will also likely be required along the new frontage road from Baker Ranch Road to Cher-Ae Lane. It is

estimated that 25-35 parcels may be affected in the Baker Ranch Road interchange area, as well as 15-20 parcels along Scenic Drive. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 6 will alter the US 101 corridor with construction of a new interchange, similar to Alternatives 3A and 3B. While this impact will be significant for the area, a new interchange will be similar to existing interchanges and overcrossing structures along the US 101 corridor.

(8) Design Exceptions: A design standards check was performed for Alternative 6, at a lesser degree than Alternatives 1A, 1B, 2, 3A, 3B, 5A, and 5B. It is anticipated that various exceptions to design standards would be required. One of the concerns with regards to design standards would be the vertical design standards. A preliminary vertical profile for the Baker Ranch Road connection from Scenic Drive to Westhaven Drive includes grades near 15%, while holding grades within the interchange area at 4% +/- to meet interchange standards. The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

Alternative 7

New Cher-Ae Lane Overcrossing (PM 100.0); New Frontage Road from Westhaven to Cher-Ae Lane:

- Construct new Cher-Ae Lane Overcrossing
- Local road connection to Scenic Drive and Westhaven Drive
- Improve Scenic Drive from Cher-Ae Lane to Trinidad
- Widen Westhaven Drive from Westhaven to Trinidad
- Construct new frontage road from US 101 in the Community of Westhaven to Cher-Ae Lane

Alternative 7 is a combination of Alternative 2 and Alternative 4B, and includes construction of a new overcrossing structure at Cher-Ae Lane (PM 100.0), with local road connections to Scenic Drive and Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, widening of Westhaven Drive in the Community of Westhaven to Main Street in the City of Trinidad, and construction of a new frontage road from Westhaven to Cher-Ae Lane.

See previous **Figure 4.**

Alternative 7 improvements include:

- Construction of a new overcrossing structure at PM 100.0
- Reconstruction of Cher-Ae Lane from Scenic Drive into the Rancheria
- Construction of the Cher-Ae Lane Extension to Westhaven Drive
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Widening of Westhaven Drive from the Community of Westhaven to the City of Trinidad
- Construction of a new frontage road from Westhaven to Cher-Ae Lane

(1) Purpose and Need: Alternative 7 does not meet the purpose and need for this project. A new overcrossing structure without a connection to US 101, along with a new frontage road from

Westhaven to Cher-Ae Lane would provide for 2 of the 3 items of the purpose and need. The new overcrossing and frontage road would provide for a 2nd safe and sustainable access to the Trinidad Rancheria, and would also reconnect tribal lands across US 101. But these improvements will not accommodate the planned future development in the area, and thus, does not meet the purpose and need.

(2) Traffic Operations: Alternative 7 includes construction of a new overcrossing structure over US 101 at Cher-Ae Lane, a new frontage road from Westhaven to Cher-Ae Lane, as well as improvements to Scenic Drive and Westhaven Drive, that would result in slightly improved traffic operations. However, without any improvements to any of the interchange areas, and without a direct connection to US 101, conditions for the Trinidad-Main Street interchange will remain at unacceptable levels of service, as outlined in the Traffic Operations section above.

(3) Increased Safety: Alternative 7 will not provide any improvements to US 101, but will provide improvements to Scenic Drive and Westhaven Drive, and provide a 2nd safe access between Westhaven and Cher-Ae Lane. Therefore, increased safety would be expected on Scenic Drive, from Cher-Ae Lane to Trinidad, along the length of Westhaven Drive, and along the new frontage road. However, overall increased safety for the project study area would be minimal.

(4) Project Costs: Total Capital Outlay project costs for Alternative 7 are estimated at $39.5 million, which is significantly higher than what would be expected for a project of similar size and nature, and is in the high-range of estimated costs for all alternatives. Similar to estimated costs for Alternative 4B, estimated costs for this alternative include amounts for significant grading, retaining walls, clearing and grubbing work, and R/W acquisition within the area proposed along US 101 between Westhaven and the Trinidad Rancheria for the new frontage road. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 7 will have similar environmental impacts to combining Alternatives 2 and 4B. Environmental impacts will be very high, and in the high range for all of the alternatives analyzed for this study. For additional environmental discussion on this alternative, see Alternatives 2 and 4B above.

(6) Right-of-Way Impacts: It is anticipated that Alternative 7 will have similar R/W impacts to combining Alternatives 2 and 4B. R/W impacts will be somewhat high, and in the high range for all of the alternatives analyzed for this study. For additional R/W impact discussion on this alternative, see Alternatives 2 and 4B above. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 7 will alter the US 101 corridor with construction of a new overcrossing at Cher-Ae Lane. While this impact will be significant for the area, a new interchange will be similar to existing interchanges and overcrossing structures along the US 101 corridor. Similar to Alternative 4B, the new frontage road will have significant impacts on aesthetics along this corridor, to include removal of significant amounts of trees and vegetation, as well as significant grading and slopes along this segment of new roadway.

(8) Design Exceptions: A design standards check and Design Standards Risk Assessment were not performed specifically for Alternative 7. Design exception discussions for this alternative are included in the Alternative 2 and 4B sections. The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

Alternative 8

New US 101/1.0 Mile Spacing Interchange (PM 99.7):

- Construct new US 101/1.0 Mile Spacing Interchange
- Local road connection to Cher-Ae Lane and Westhaven Drive
- Widen Scenic Drive from Cher-Ae Lane to Main Street
- Widen Westhaven Drive from Westhaven to Trinidad

Alternative 8 includes construction of a new Type L-1 Compact Diamond interchange approximately 1 mile south of the US 101/Trinidad-Main Street Interchange (PM 100.7), with both northbound and southbound ramp connections, local road connections to Cher-Ae Lane and Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, and widening of Westhaven Drive in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7).

See **Figure 9.**

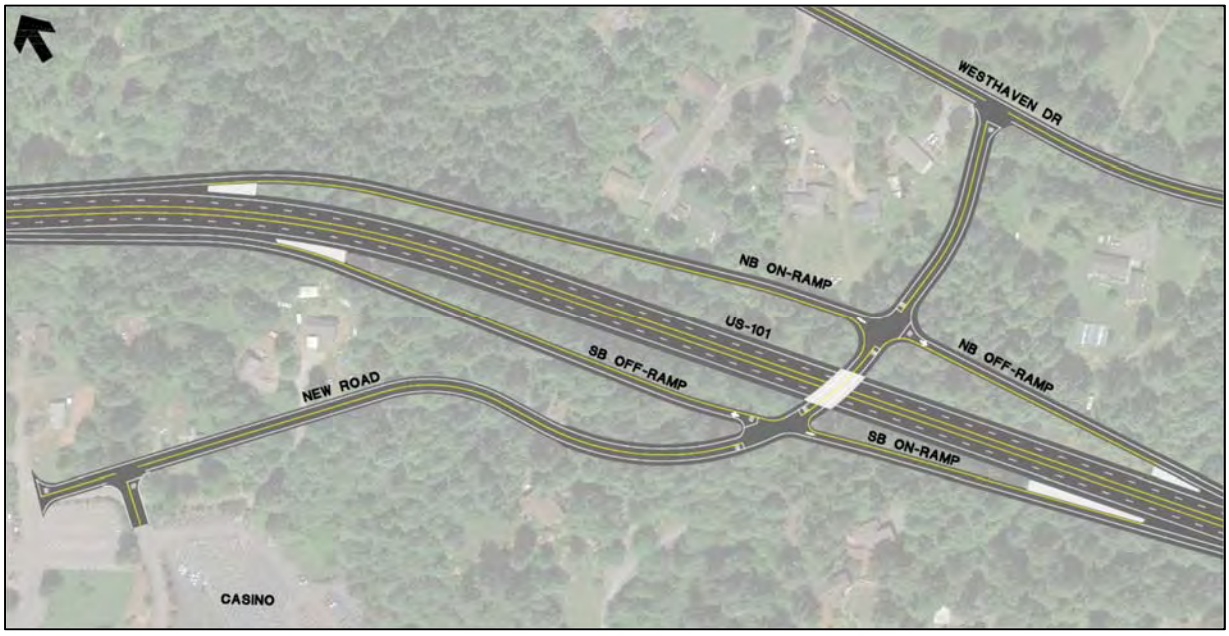


Figure 9 - Alternative 8 Schematic Exhibit

Alternative 8 improvements include:

- Construction of a new Type L-1 Compact Diamond interchange at PM 99.7
- Construction of all northbound and southbound ramp connections
- Construction of a new road from Cher-Ae Lane to Westhaven Drive
- Widening and/or reconstruction of Scenic Drive to provide 4 foot minimum shoulders and sidewalk on one side
- Widening of Westhaven Drive from the Community of Westhaven to the City of Trinidad

(1) Purpose and Need: Alternative 8 appears to meet the purpose and need for this project. A new interchange 1 mile south of the existing US 101/Trinidad-Main Street Interchange, with connections to US 101, and public road connections to Cher-Ae Lane and Westhaven Drive would provide for all of the purpose and need requirements outlined in this study. The new interchange would provide for a 2nd safe and sustainable access to and from US 101, for all modes of transportation, to the Trinidad

Rancheria and the surrounding communities, accommodate the planned future development in the area, and would also reconnect tribal lands across US 101.

(2) Traffic Operations: Alternative 8 includes construction of a new US 101 interchange (PM 99.7) at approximately 1.0 mile south of the existing US 101/Trinidad-Main Street Interchange (PM 100.7), with an overcrossing structure over US 101, public road connections to Cher-Ae Lane and Westhaven Drive, as well as improvements to Scenic Drive from Cher-Ae Lane to Trinidad, and for the length of Westhaven Drive from the community of Westhaven to Trinidad. These improvements would result in improved traffic operations within the study area. If constructed, and upon full build-out of the Trinidad Rancheria Master Plan, it is projected that this alternative would improve traffic operations enough to provide acceptable levels of service for the entire study area. Additional analysis may be needed to fully determine if this alternative would provide for acceptable LOS for the entire study area.

(3) Increased Safety: Alternative 8 will widen the median and shoulders on US 101, and would chiefly construct the proposed improvements to current standards (See Section 8). Scenic Drive, between Cher-Ae Lane and Main Street, will also be improved, along with Westhaven Drive from the community of Westhaven to Trinidad. This alternative would provide a new stable crossing location for US 101, as well as easier access to US 101 from Cher-Ae Lane along a more stabilized roadway. These improvements will likely result in increased public safety within the study area.

(4) Project Costs: Total Capital Outlay project costs for Alternative 8 are estimated at $32.6 million, which is slightly higher than what would be expected for projects of similar size and nature, and is in the mid-range of estimated costs for all alternatives. Costs estimated for this alternative are increased due to areas that will require some extensive grading and retaining wall work due to existing topography. This additional cost is typical of nearly all of the alternatives that were analyzed with this study, due to the highly variable terrain within the entire study area. See **Appendix E** for the preliminary project cost estimate worksheet.

(5) Environmental Impacts: It is anticipated that Alternative 8 will have somewhat high environmental impacts, since it includes construction of a new roadway, and construction of a full new interchange. It is likely that impacts would include existing environmental resources within the project limit. Some existing drainage features, including culverts and drainage ditches/streams will need modification or mitigation. The areas both east and west of US 101 are mostly undeveloped, and have an increased potential of various environmental impacts. The area that includes the new interchange and on and off-ramps is also mostly undeveloped, and will likely have impacts to existing environmentally sensitive areas. In addition, there is potential to discover cultural resources in the vicinity of the project. This alternative is in the high range of environmental impacts as compared to other alternatives, since the footprint includes a road connection across US 101, along with full ramp connections to US 101, and a longer roadway extension to Cher-Ae Lane.

(6) Right-of-Way Impacts: Right-of-Way impacts for this alternative will also be somewhat high, since the project will construct a new roadway across US 101, as well as new ramp connections to US 101, and a lengthy extension of new roadway connecting to Cher-Ae Lane. R/W acquisition would be required for the full roadway width and associated improvements, including grading and retaining walls. Some of this area includes very steep terrain, which will likely require additional R/W acquisition to provide for extensive grading. The roadway extension to Cher-Ae Lane skirts privately owned and Rancheria residential neighborhoods. It is estimated that 10-15 parcels may be affected in the interchange area, and another 10-15 parcels may be affected along Scenic Drive; including impact to a Rancheria residence and close proximity to two privately owned residences. See **Section 8** and **Appendix D** for the right-of-way impact summary and exhibit.

(7) Aesthetics: Alternative 8 will alter the US 101 corridor with construction of a new interchange, similar to Alternatives 3A and 3B. While this impact will be significant for the area, a new interchange will be similar to existing interchanges and overcrossing structures along the US 101 corridor.

(8) Design Exceptions: A design standards check and Design Standards Risk Assessment were not performed specifically for Alternative 8. Geometric features influencing design exception requirements include vertical grades, minimum curve radii for the new road, cut slopes affecting sight distance requirements, and interchange configuration. The Design Standards Risk Assessment for this alternative will be further addressed in the PA&ED phase.

8. RIGHT OF WAY

All alternatives will require some amount of right of way acquisition to accommodate new or widened roadways, new alignments and other improvements. Anticipated right of way acquisition for all alternatives is summarized below. See **Attachment D** for right of way impact exhibits.

TABLE 10: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 1A)

Location (Number of Parcels)	General Description	Acres
West of US 101 at Trinidad-Main I/C (3)	Commercial	0.4
East of US 101 at the Trinidad-Main I/C (4)	Residential and Vacant	0.4
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7

TABLE 11: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 1B)

Location (Number of Parcels)	General Description	Acres
West of US 101 at Trinidad-Main I/C (3)	Commercial	0.3
East of US 101 at the Trinidad-Main I/C (4)	Residential and Vacant	2.7
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7

TABLE 12: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 2)

Location (Number of Parcels)	General Description	Acres
West of US 101 at Cher-Ae Lane (6)	Residential and Tribal Government	2.3
East of US 101 at Cher-Ae Lane (3)	Residential	2.3
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7

TABLE 13: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 3A)

Location (Number of Parcels)	General Description	Acres
West of US 101 at Cher-Ae Lane (7)	Residential and Tribal Government	3.7
East of US 101 at Cher-Ae Lane (10)	Residential	4.4
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7

TABLE 14: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 3B)

Location (Number of Parcels)	General Description	Acres
Same as Alternative 3A		

TABLE 15: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 4A)

Location (Number of Parcels)	General Description	Acres
Scenic Drive south of Cher-Ae Lane (26)	Residential and Vacant	4.0
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7

TABLE 16: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 4B)

Location (Number of Parcels)	General Description	Acres
New Frontage Road south of Cher-Ae Lane (18)	Residential	11.2
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7

TABLE 17: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 5A)

Location (Number of Parcels)	General Description	Acres
West of US 101 at Trinidad-Main I/C (3)	Commercial	0.4
East of US 101 at the Trinidad-Main I/C (4)	Residential and Vacant	0.4
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7
West of US 101 at Cher-Ae Lane (6)	Residential and Tribal Government	2.3
East of US 101 at Cher-Ae Lane (3)	Residential	2.3

TABLE 18: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 5B)

Location (Number of Parcels)	General Description	Acres
West of US 101 at Trinidad-Main I/C (3)	Commercial	0.3
East of US 101 at the Trinidad-Main I/C (4)	Residential and Vacant	2.7
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7
West of US 101 at Cher-Ae Lane (6)	Residential and Tribal Government	2.3
East of US 101 at Cher-Ae Lane (3)	Residential	2.3

TABLE 19: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 6)

Location (Number of Parcels)	General Description	Acres
West of US 101 at Baker Ranch Road (5)	Residential and Vacant	7.8
East of US 101 at Baker Ranch Road (9)	Residential and Vacant	9.2
Scenic Drive (19)	Residential and Vacant	2.8

New Frontage Road between Baker Ranch Road and Cher-Ae Lane (15)	Residential and Vacant	7.5

TABLE 20: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 7)

Location (Number of Parcels)	General Description	Acres
West of US 101 at Cher-Ae Lane (6)	Residential and Tribal Government	2.3
East of US 101 at Cher-Ae Lane (3)	Residential	2.3
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7
New Frontage Road south of Cher-Ae Lane (18)	Residential	11.2
Scenic Drive north of Cher-Ae Lane (15)	Residential and Vacant	1.7

TABLE 21: RIGHT OF WAY ACQUISITION SUMMARY (ALTERNATIVE 8)

Location (Number of Parcels)	General Description	Acres
West of US 101 (8)	Residential and Tribal Government	5.0
East of US 101 (10)	Residential	5.7
Scenic Drive (15)	Residential and Vacant	1.7

Utilities

The following utilities may be impacted in various degrees by the project:

- City of Trinidad Water: Existing water facilities will be impacted and require relocation for Alternatives 1A, 1B, 5A and 5B.
- City of Trinidad Sewer: Existing sewer facilities will be impacted and require relocation for Alternatives 1A, 1B, 5A and 5B.
- AT&T: Existing AT&T facilities will be impacted for all alternatives.
- PG&E: Existing PG&E facilities will be impacted for all alternatives.

Railroad

There are not any railroad impacts or involvement.

9. STAKEHOLDER INVOLVEMENT

The Trinidad Rancheria held a 5-day Design Fair for the Highway 101 I/C in May 2009, and held another 5-day Design Fair in November 2010 for the Comprehensive Community-Based Plan. Tribal members, tribal council, community members, and City, County and State Officials shared their visions for improving access to the Rancheria and the surrounding community. A design team of professional architects, landscape architects, engineers, and environmental planners were also in attendance to facilitate the public presentations and interactions. Construction of a new US 101/Cher-Ae Lane I/C was identified by the Rancheria as a core necessity.

The Project Development Team (PDT) includes staff representatives as attendees from Caltrans, Trinidad Rancheria, City of Trinidad, Humboldt County, and Humboldt Council of Governments. The PDT team has been instrumental in developing the purpose and need statement for the project, as well as

identifying all of the alternatives studied to date, and guiding discussions relating to design exceptions and this PSR-PDS.

10. ENVIRONMENTAL DETERMINATION/DOCUMENT

The CEQA environmental document for the project is anticipated to be an Environmental Impact Report (EIR) and the NEPA environmental document is anticipated to be a Finding of No Significant Impact (FONSI).

A Preliminary Environmental Analysis Report (PEAR) was submitted for approval on November 30, 2015, with comments subsequently received and addressed. An updated PEAR is included in this PSR-PDS as **Attachment H**. The updated PEAR identifies the need for the following technical studies in support of the environmental documents:

- Community Impact Assessment.
- Visual Impact Assessment.
- Archeological Survey Report.
- Historical Resources Evaluation Report.
- Historic Property Survey Report.
- Geotechnical Investigation.
- Air Quality Analysis.
- Greenhouse Gas Modeling.
- Biological Assessment.

11. FUNDING

Capital Outlay Project Estimate:

The proposed project is anticipated to include some or all of the following funding sources: State Transportation Improvement Program (STIP), Tribal Transportation Program (TTP), Indian Reservation Roads (IRR), Active Transportation Program (ATP), Highway Safety Improvement Program (HSIP), and Transportation Investment Generating Economic Recovery (TIGER).

The estimated range for capital outlay project costs for the alternatives are shown below. At the PSR-PDS phase, the anticipated capital outlay funding by source has not been determined.

TABLE 22 CAPITAL OUTLAY PROJECT COST ESTIMATE[2]

Alternative	R/W Capital ($1,000's)	Construction Capital ($1,000's)	Total ($1,000's)
Alternative 1A	$800	$38,020	$38,820
Alternative 1B	$1,290	$18,775	$20,065
Alternative 2	$1,600[1]	$16,586	$18,206[1]
Alternative 3A	$2,410[1]	$29,882	$32,292[1]
Alternative 3B	$2,410[1]	$28,846	$31,256[1]
Alternative 4A	$1,520	$20,501	$22,021
Alternative 4B	$3,070	$28,596	$31,666
Alternative 5A	$1,820[1]	$46,194	$48,014[1]
Alternative 5B	$2,340[1]	$29,199	$31,539[1]
Alternative 6	$3,880	35,735	$39,615
Alternative 7	$2,830[1]	$36,629	$39,459[1]
Alternative 8	$3,016[1]	$29,585	$32,601[1]

Note:
(1) Includes the estimated value of R/W currently under ownership of the Trinidad Rancheria, which will provide a reduction in overall right-of-way impacts and costs.

Capital Outlay Support Estimate:

Cooperative Agreement Number 01-0365 addresses the PID phase only. A Cooperative Agreement will be required for the PA&ED phase. The Trinidad Rancheria is the project Sponsor with Caltrans providing Quality Assurance. At the PA&ED phase, each partner will be responsible for their own costs.

The capital outlay support estimate for programming PA&ED in the 2018 STIP for this project is $2.5 million. The estimated resources by WBS Code for environmental studies during the PA&ED phase are included as an attachment to the PEAR, with an estimated total of 15,354 person-hours. This total includes 15% for Caltrans oversight. The environmental studies are estimated to be two-thirds of the total resources required during the PA&ED phase (or ~$1.7M), while the engineering studies are estimated to be the remaining one-third (or ~$0.8M).

Of the $2.5 million total estimated for the PA&ED phase, $775,000 will come from STIP funding through the Humboldt County Association of Governments (HCAOG), while the remaining funds, $1,725,000, would come from Tribal Transportation Funds and/or Economic Development Funds.

12. DELIVERY SCHEDULE

TABLE 23 ESTIMATED PROJECT DELIVERY SCHEDULE

Project Milestones		Scheduled Delivery Date
Program Project	M015	July 1, 2018
Begin Environmental (PA&ED) Phase	M020	July 1, 2018
Notice of Intent (NOI)	M035	November 1, 2018
Circulate Draft Environmental Document (DED) Externally	M120	January 1, 2021
End Environmental (PA&ED) Phase	M200	July 1, 2022
Begin Project Design (PS&E) Phase	M377	July 1, 2022
Begin Right of Way Phase	M377	July 1, 2022
End Right of Way Phase (Right of Way Certification)	M410	February 1, 2024
End Project Design (PS&E) Phase (Ready to List)	M460	March 1, 2024
Begin Construction Phase (Contract Award)	M495	July 1, 2024
End Construction Phase (Contract Acceptance)	M600	July 1, 2026

13. RISKS

A risk assessment was performed for the project, and a Risk Register created. A total of eight (8) risks were identified on the Risk Register, and include: (1) Funding, (2) EIR / EA., (3) Design Exceptions, (4) Right of Way, (5) External Project Sponsor, (6) Public Controversy/Opposition, (7) Local Coastal Amendment Approval, and (8) Litigation. The risks identified range from low risk for External Project Sponsor, to very high risk for Public Controversy/Opposition and environmental related risks.

See **Attachment I** for the Risk Register and Risk Register Certification Page.

14. FHWA COORDINATION

NEPA approval is anticipated to be from either the Office of Federal Lands Highway (FHWA) or the Bureau of Indian Affairs.

It is also anticipated that the FHWA Office of Federal Lands Highway may be a funding partner.

15. PROJECT REVIEWS

District Maintenance _____ Date _____
District Traffic Operations _____ Date _____
District Traffic Safety Bryan Thomas _____ Date 11/16/15 _____
Headquarters Project Delivery Coordinator _____ Date _____
District Safety Review _____ Date _____

16. PROJECT PERSONNEL

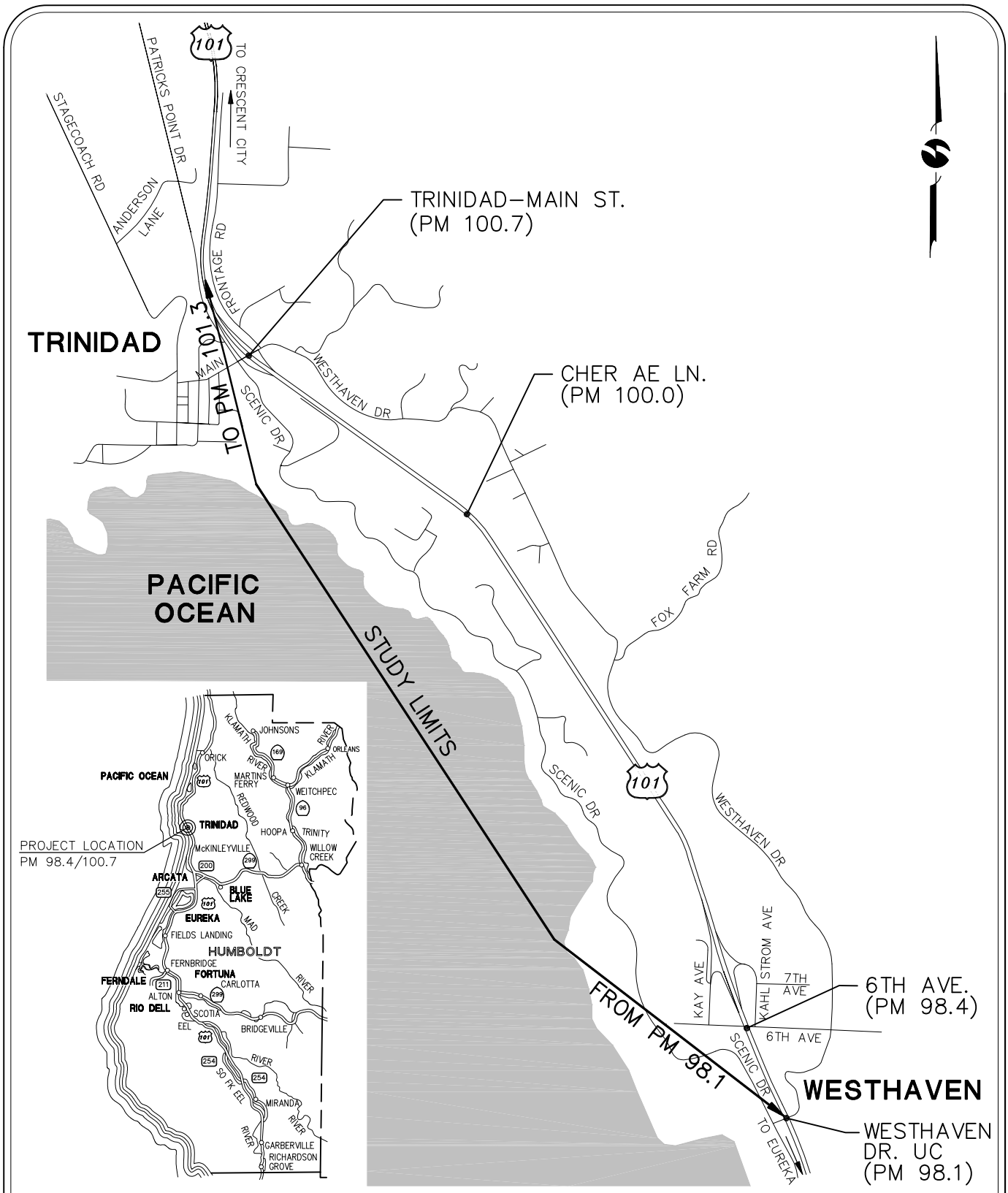
Name	Title	Phone Number
Jacque Hostler-Carmesin	Trinidad Rancheria CEO	707-677-0211
Leslie Sanders	Transp. Manager (Trinidad Rancheria)	707-825-2738
Kim Floyd, PE	Project Manager (Caltrans)	707-441-5739
Lena Ashley, PE	Design Engineer (Caltrans)	707-445-6602
Russ Wenham, PE	Project Manager (Omni-Means, Ltd.)	530-242-1700
Brandon Tenney, PE	Project Engineer (Omni-Means, Ltd.)	530-242-1700
Douglas DeMallie, PE	Project Planner (Omni-Means, Ltd.)	530-242-1700

17. ATTACHMENTS

A. Location Map (1)
B. Preliminary Alternative Schematic Exhibits (15)
C. Structures Cost Estimates Memorandum (3)
D. Right of Way Impact Exhibits (7)
E. Project Cost Estimate Worksheets (36)
F. Storm Water Data Report Signature Page (1)
G. Transportation Management Plan (6)
H. Preliminary Environmental Analysis Report (PEAR) (26)
I. Risk Register and Certification Form (2)
J. Geotechnical Screening Report (4)

ATTACHMENT A

PROJECT LOCATION MAP



US 101 / TRINIDAD INTERCHANGE

ATTACHMENT A

LOCATION MAP

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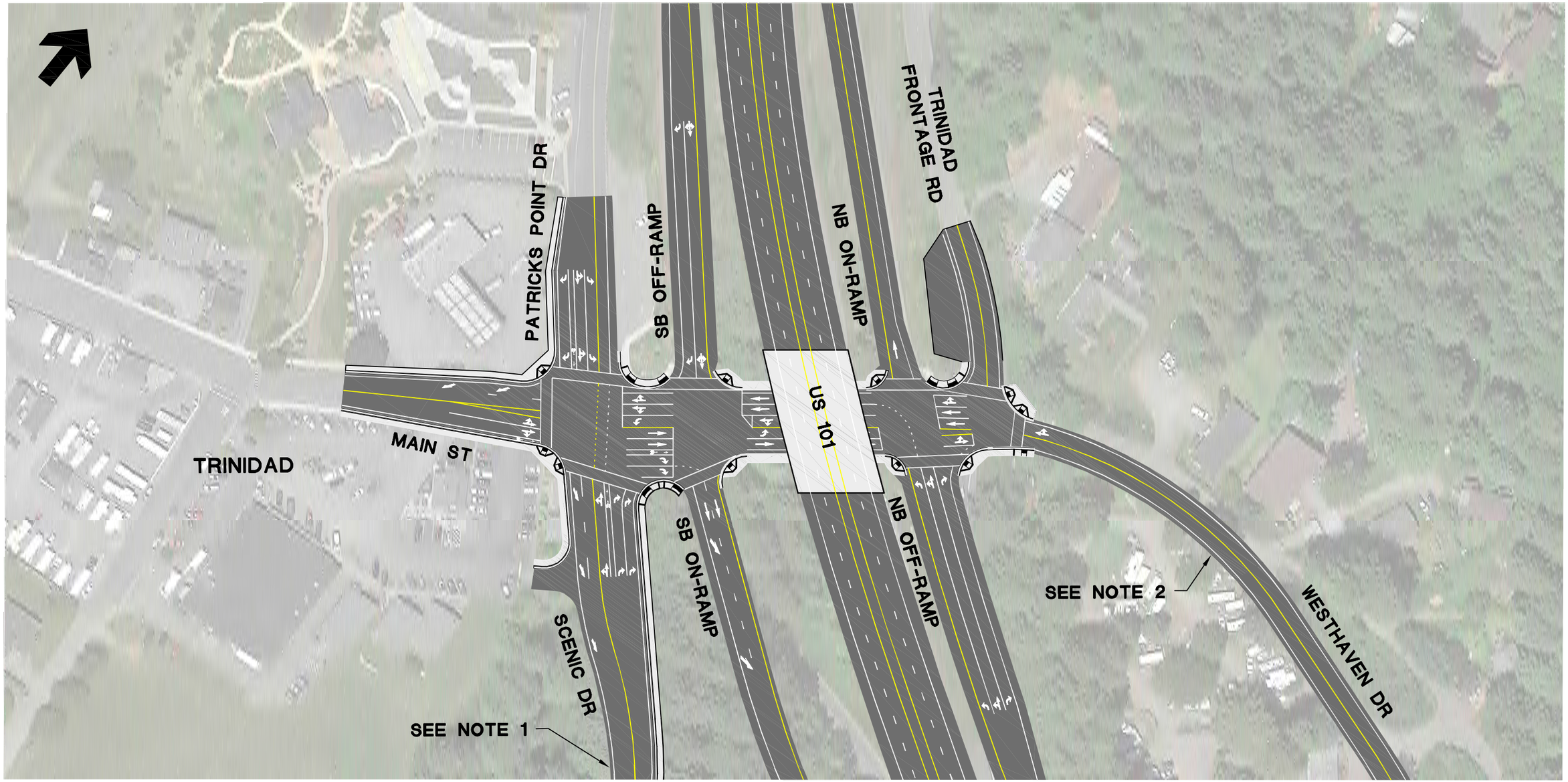
ATTACHMENT B

PRELIMINARY ALTERNATIVE SCHEMATIC EXHIBITS



PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

0 100'
Scale: 1"= 100'

PRELIMINARY, NOT FOR CONSTRUCTION

Figure 1A
Scale: 1"=100'

ALTERNATIVE 1A - IMPROVEMENTS TO US 101 | TRINIDAD-MAIN ST INTERCHANGE WITH TRAFFIC SIGNALS

TRINIDAD RANCHERIA INTERCHANGE

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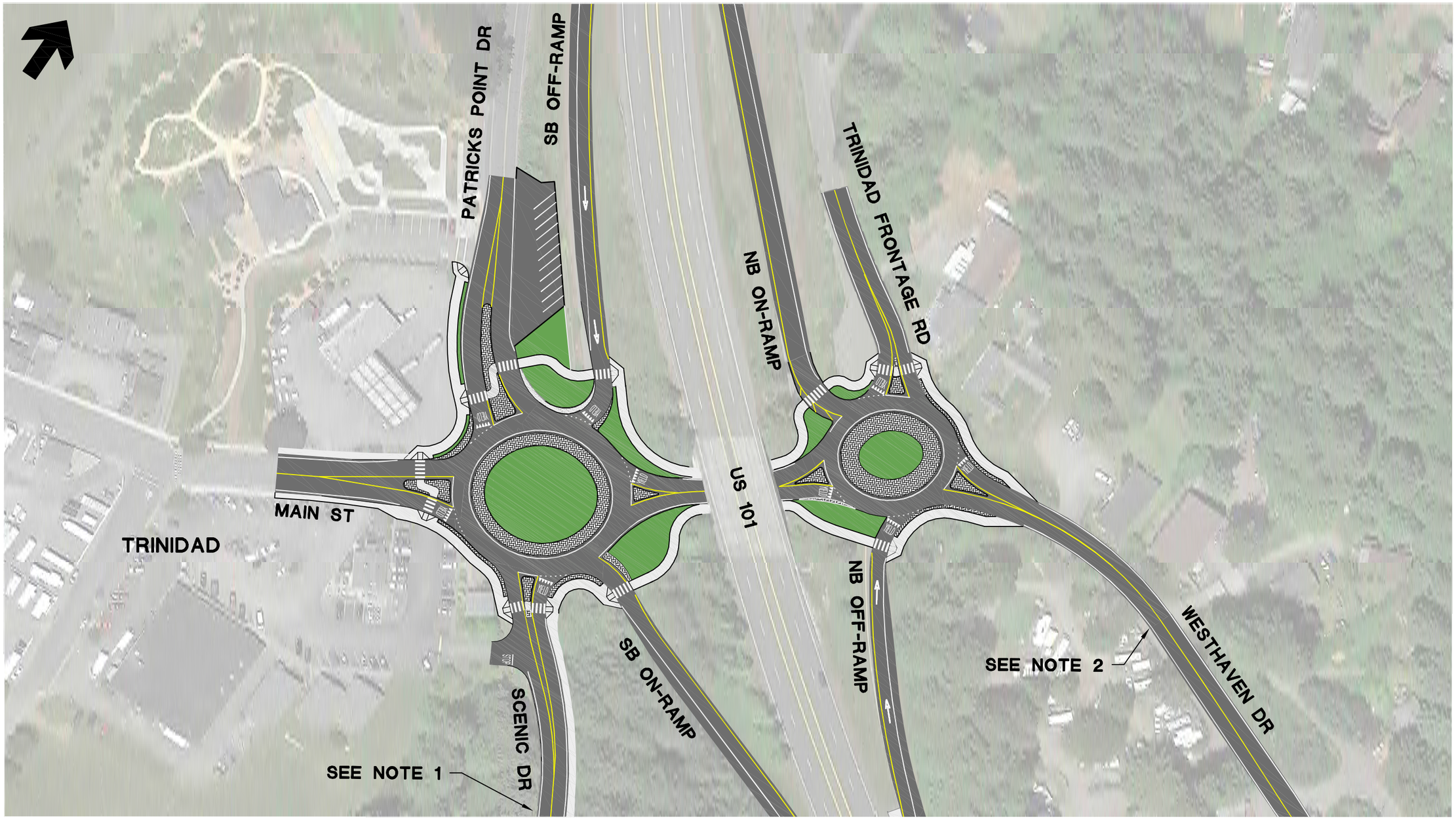

PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

PRELIMINARY, NOT FOR CONSTRUCTION

0 100'
Scale: 1"= 100'

Figure 1B
Scale: 1"=100'

ALTERNATIVE 1B - IMPROVEMENTS TO US 101 | TRINIDAD-MAIN ST INTERCHANGE WITH ROUNDABOUTS

TRINIDAD RANCHERIA INTERCHANGE

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PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

0 150'
Scale: 1"= 150'

PRELIMINARY, NOT FOR CONSTRUCTION

Figure 2
Scale: 1"=150'

ALTERNATIVE 2 - US 101 OVERCROSSING AT CHER-AE LN WITH LOCAL ROAD CONNECTIONS

TRINIDAD RANCHERIA INTERCHANGE

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PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

PRELIMINARY, NOT FOR CONSTRUCTION

0 150'
Scale: 1"= 150'

Figure 3A
Scale: 1"=150'

ALTERNATIVE 3A - NEW US 101 / CHER-AE LN INTERCHANGE WITH VEHICLE ACCESS TO WESTHAVEN

TRINIDAD RANCHERIA INTERCHANGE

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PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.
3. CONSTRUCT CLASS I MIXED-USE TRAIL CONNECTION TO WESTHAVEN DRIVE.

PRELIMINARY, NOT FOR CONSTRUCTION

0 150'
Scale: 1"= 150'

Figure 3B
Scale: 1"=150'

ALTERNATIVE 3B - NEW US 101 | CHER-AE LN INTERCHANGE WITH NO VEHICLE ACCESS TO WESTHAVEN

TRINIDAD RANCHERIA INTERCHANGE

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December 1, 2017
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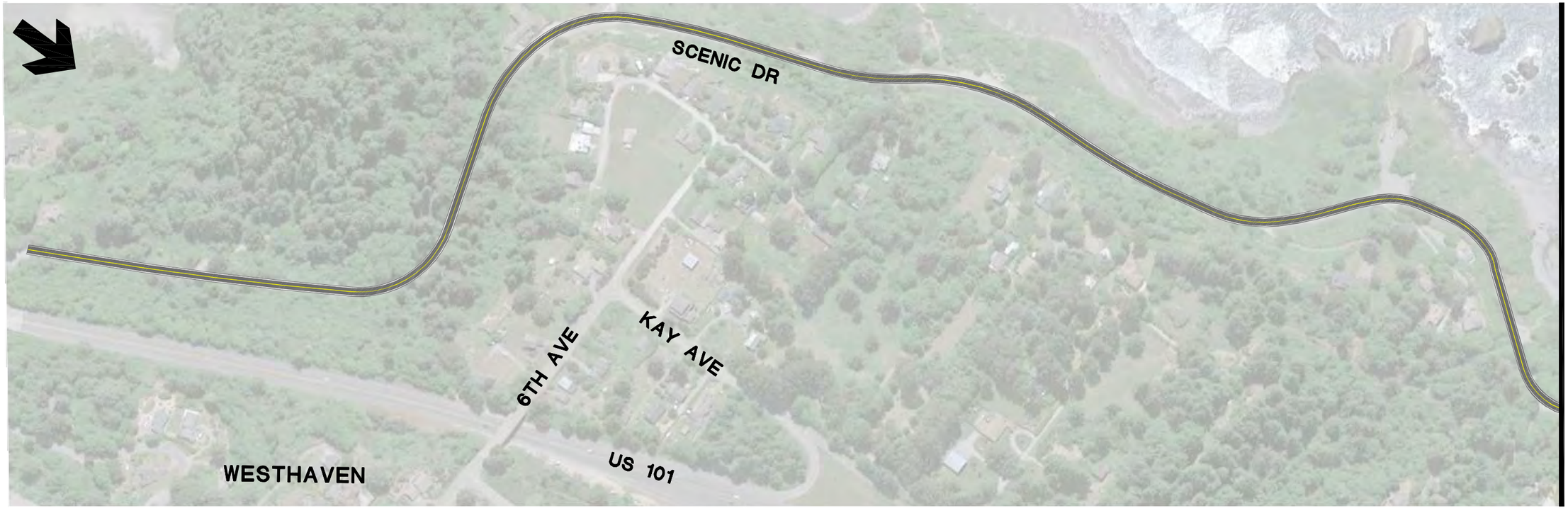

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PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

PRELIMINARY, NOT FOR CONSTRUCTION

0 300'
Scale: 1"= 300'

Figure 4A-1
Scale: 1"=300'

ALTERNATIVE 4A - IMPROVE SCENIC DR FROM WESTHAVEN TO TRINIDAD

TRINIDAD RANCHERIA INTERCHANGE

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December 1, 2017
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PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

PRELIMINARY, NOT FOR CONSTRUCTION

0 300'
Scale: 1"= 300'

Figure 4A-2
Scale: 1"=300'

ALTERNATIVE 4A - IMPROVE SCENIC DR FROM WESTHAVEN TO TRINIDAD

TRINIDAD RANCHERIA INTERCHANGE

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December 1, 2017
1721EX040.dwg

PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTE:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.

PRELIMINARY, NOT FOR CONSTRUCTION

0 300'
Scale: 1"= 300'

Figure 4B
Scale: 1"=300'

ALTERNATIVE 4B - IMPROVE SCENIC DR NORTH / NEW FRONTAGE ROAD SOUTH TO WESTHAVEN

TRINIDAD RANCHERIA INTERCHANGE

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December 1, 2017
1721EX041.dwg

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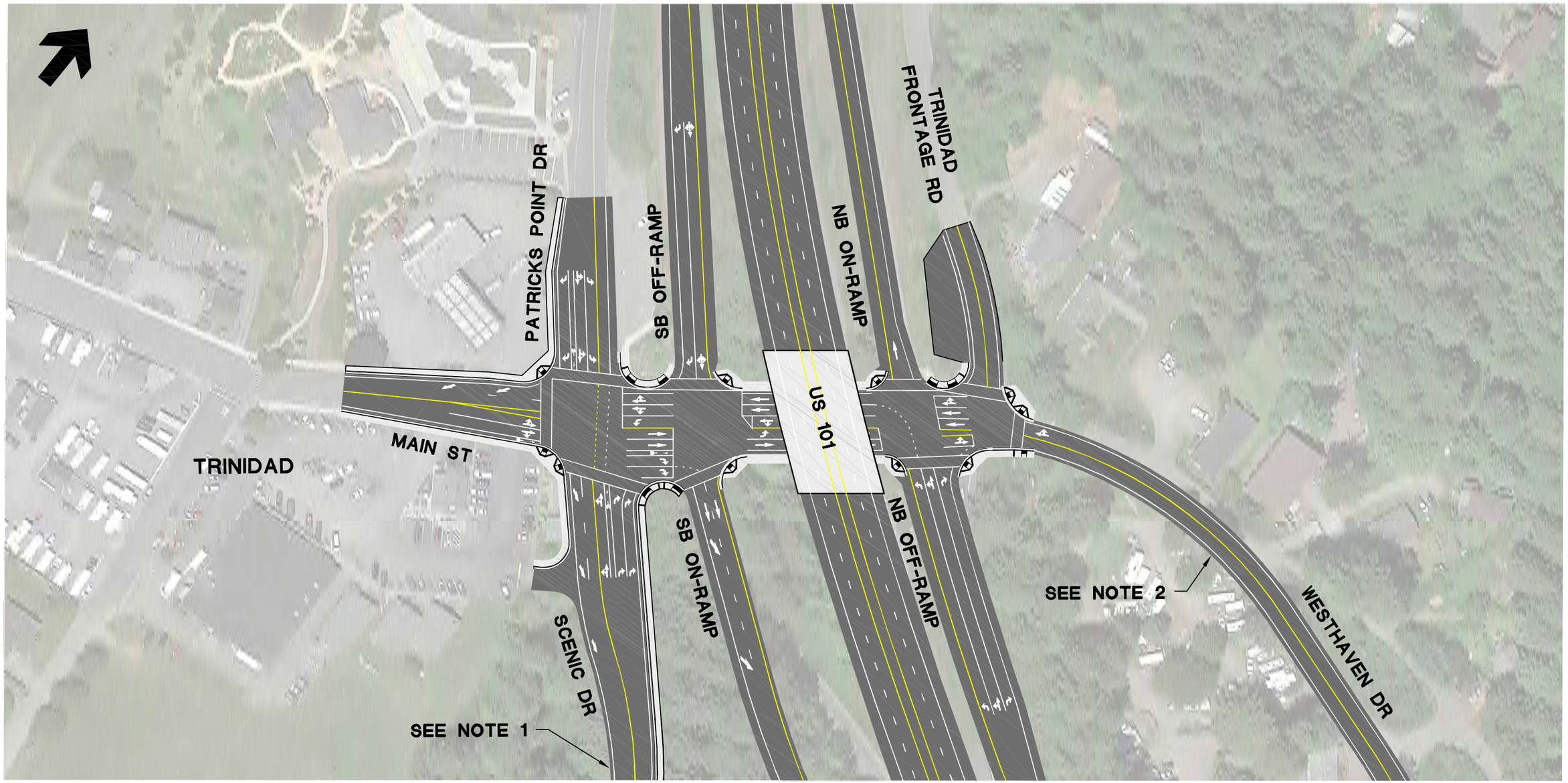

PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

0 100'
Scale: 1"= 100'

PRELIMINARY, NOT FOR CONSTRUCTION

Figure 5A-1
Scale: 1"=100'

ALTERNATIVE 5A - IMPROVE US 101 | TRINIDAD-MAIN ST INT W/SIGNALS & NEW OVERCROSSING AT CHER-AE LN

TRINIDAD RANCHERIA INTERCHAGE

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December 1, 2017
1721EX035.dwg

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PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

0 150'
Scale: 1"= 150'

PRELIMINARY, NOT FOR CONSTRUCTION

Figure 5A-2
Scale: 1"=150'

ALTERNATIVE 5A - IMPROVE US 101 | TRINIDAD-MAIN ST INT W/SIGNALS & NEW OVERCROSSING AT CHER-AE LN

TRINIDAD RANCHERIA INTERCHANGE

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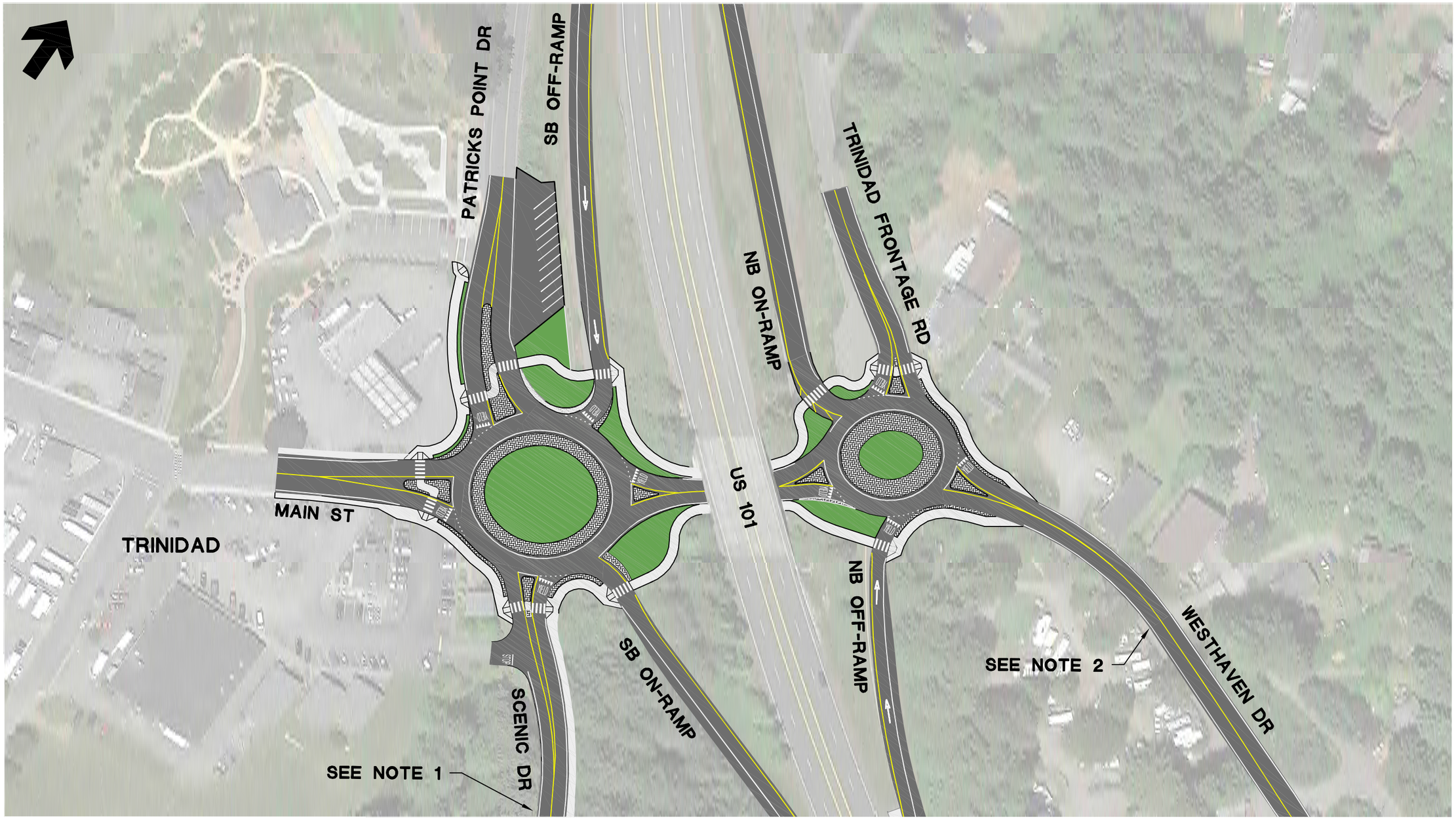
December 1, 2017
1721EX037.dwg

12/1/2017 9:56:28 AM J:\PRJ\1721\1721EX037.DWG



PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

PRELIMINARY, NOT FOR CONSTRUCTION

0 100'
Scale: 1"= 100'

Figure 5B-1
Scale: 1"=100'

ALTERNATIVE 5B - IMPROVE US 101 | TRINIDAD-MAIN ST INT W/ROUNDABOUTS & NEW OVERCROSSING AT CHER-AE-LN

TRINIDAD RANCHERIA INTERCHANGE

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December 1, 2017
1721EX036.dwg

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PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

0 150'
Scale: 1"= 150'

PRELIMINARY, NOT FOR CONSTRUCTION

Figure 5B-2
Scale: 1"=150'

ALTERNATIVE 5B - IMPROVE US 101 | TRINIDAD-MAIN ST INT W/ROUNDABOUTS & NEW OVERCROSSING AT CHER-AE LN

TRINIDAD RANCHERIA INTERCHANGE

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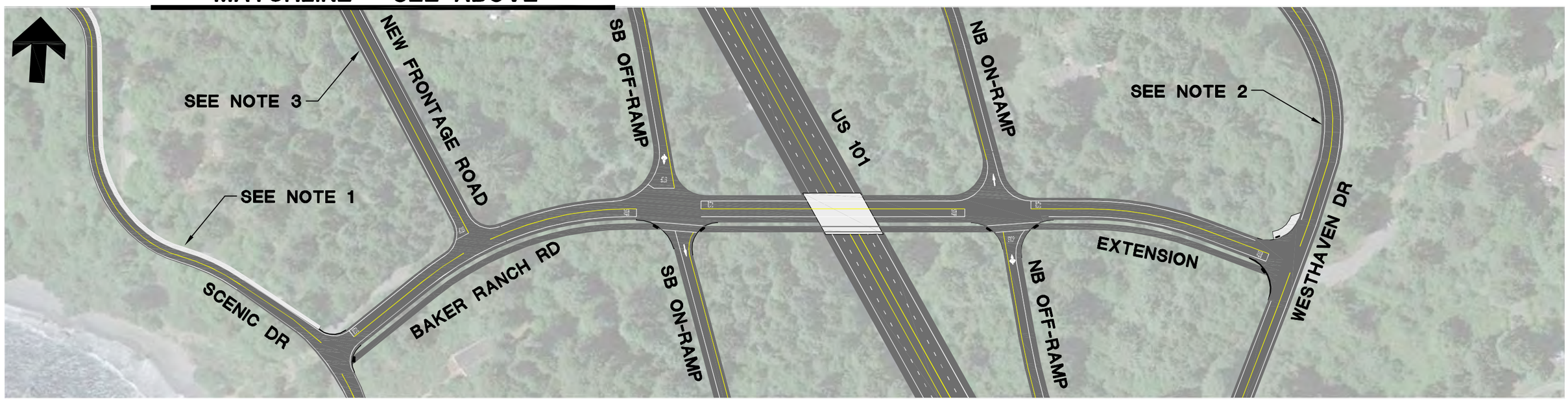
December 1, 2017
1721EX037.dwg

12/1/2017 9:54:04 AM J:\PRJ\1721\1721EX037.DWG

MATCHLINE - SEE ABOVE



PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM BAKER RANCH ROAD TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.
3. CONSTRUCT A NEW FRONTAGE ROAD FROM BAKER RANCH ROAD TO CHER-AE LANE.

0 150'
Scale: 1"= 150'

PRELIMINARY, NOT FOR CONSTRUCTION

Figure 6
Scale: 1"=150'

ALTERNATIVE 6 - NEW US 101 | BAKER RANCH RD INTERCHANGE

TRINIDAD RANCHERIA INTERCHANGE

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December 1, 2017
1721EX042.dwg

12/1/2017 9:52:54 AM J:\PRJ\1721\1721EX042.DWG

PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.
3. CONSTRUCT A NEW FRONTAGE ROAD FROM KAY AVENUE TO CHER-AE LANE.

PRELIMINARY, NOT FOR CONSTRUCTION

0 150'
Scale: 1"= 150'

Figure 7
Scale: 1"=150'

ALTERNATIVE 7 - US 101 OVERCROSSING AT CHER-AE LN AND NEW FRONTAGE RD

TRINIDAD RANCHERIA INTERCHANGE

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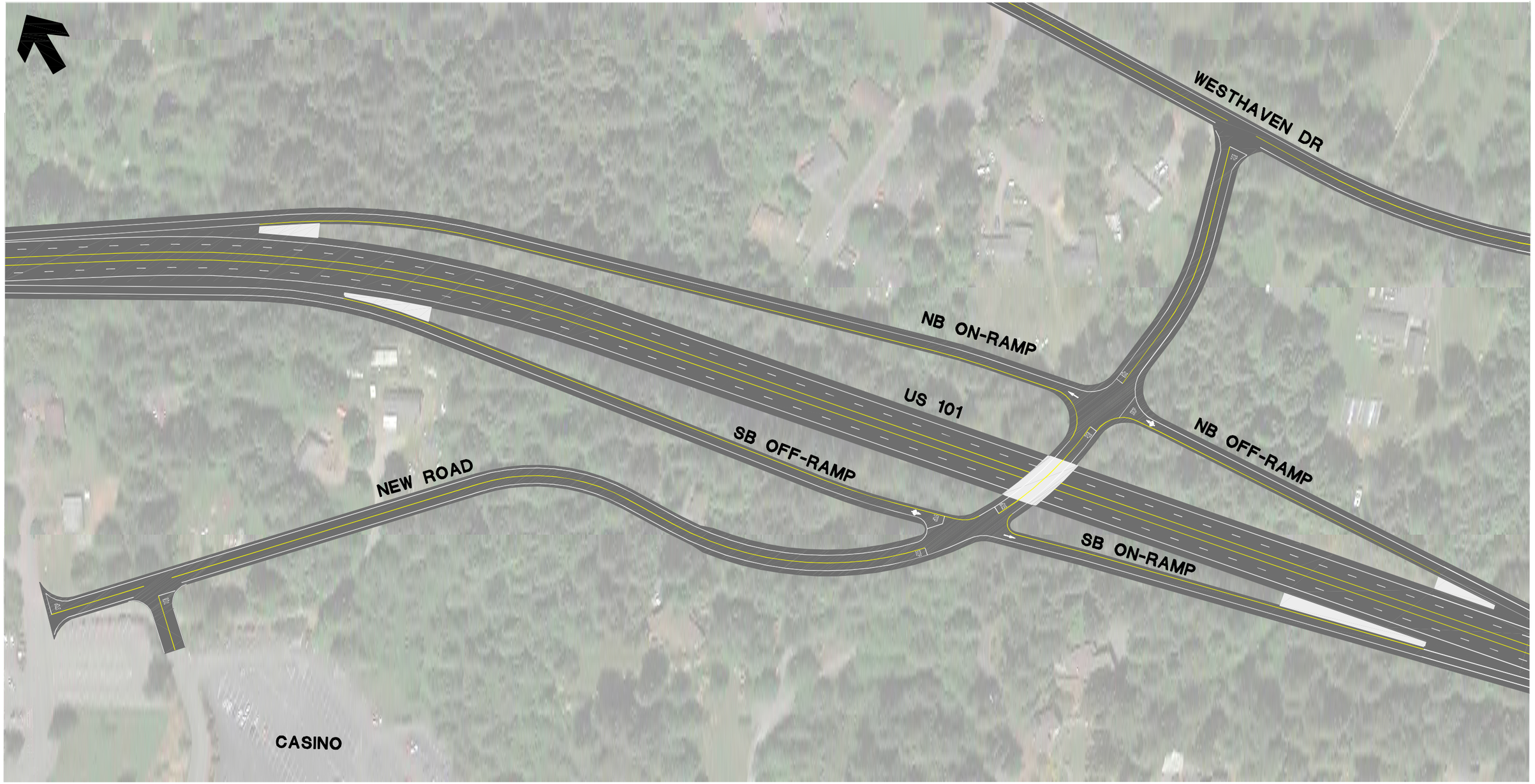
December 1, 2017
1721EX043.dwg

12/1/2017 9:50:28 AM J:\PRJ\1721\1721EX043.DWG



PROJECT INFORMATION
US 101/TRINIDAD AREA ACCESS IMPROVEMENTS
01-HUM-101 PM 98.4/100.7
EA: 01-48040K

NOTES:
1. WIDEN SCENIC DRIVE FROM CHER-AE LANE TO MAIN STREET IN THE CITY OF TRINIDAD TO PROVIDE SHOULDERS AND SIDEWALK.
2. WIDEN WESTHAVEN DRIVE TO PROVIDE SHOULDERS FROM US 101 IN THE COMMUNITY OF WESTHAVEN TO MAIN STREET IN THE CITY OF TRINIDAD.

0 150'
Scale: 1"= 150'

PRELIMINARY, NOT FOR CONSTRUCTION

Figure 8
Scale: 1"=150'

ALTERNATIVE 8 - NEW US 101 | 1.0 MILE SPACING INTERCHANGE WITH LOCAL ROAD CONNECTIONS

TRINIDAD RANCHERIA INTERCHANGE

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December 1, 2017
1721EX044.dwg

12/1/2017 9:47:39 AM J:\PRJ\1721\1721EX044.DWG

ATTACHMENT C

STRUCTURES COST ESTIMATES MEMORANDUM

Morrison Structures
1890 Park Marina Drive, Ste 104
Redding, CA 96001

Structure Memorandum

From: Bob Morrison, Jr., S.E., Morrison Structures, Redding, California

To: Russ Wenham, P.E, Omni Means, Redding, California

Date: November 21, 2017

Re: US 101/Trinidad Area Access Improvements
HUM-101, PM 98.4/100.7
01-48040K

General

The purpose of this memorandum is to provide structure information for the proposed interchange Alternatives 1A, 2, 3A, 3B, 5A, 5B, 6, 7, & 8 for the Trinidad Area Access Improvements Study project. The level of study we have conducted is a Project Study Report-Project Development Support (PSR-PDS) Cost Estimate. The purpose of this study is to determine preliminary scope, feasibility, rough cost range, and a list of potential project risks for the proposed structures work.

Alternative 1A – Construct a replacement US 101/Main Street (Trinidad) Undercrossing

The existing US101/Trinidad Undercrossing (04-0058) is a 3-span, 125-foot-long, cast-in-place T-beam bridge structure on column bents (3) and concrete abutments. The structure was constructed in 1960. The bent columns are supported on spread footings, and the abutments on driven steel 45-ton piles. The structure is located east of, or over the Trinidad fault on a hanging wall. Recent surface rupture studies conducted by Caltrans indicate that surface rupture does not need to be further addressed. The studies estimated that only a few inches of vertical separation will occur based on a 975 year return period and using a probabilistic fault displacement analysis.

This proposed improvement intends to construct a replacement US 101/Main Street Undercrossing to facilitate the improvement of Main Street in the City of Trinidad by widening the roadway and roadway shoulders, raising profile grade, and adding pedestrian sidewalks. Also proposed are improvements to the existing northbound and southbound US 101 on and off-ramps. In order to provide for widening and raising Main Street, it will be necessary to replace the existing 3-span undercrossing. The existing bridge is in fair condition, however its' main span is of insufficient dimension to accommodate the wider Main Street and its soffit elevation will not allow for raising Main Street's profile grade beneath the structure. Based on the conditions at the site and the interchange geometrics, the replacement undercrossing will be a single-span structure approximately 99-feet in length and 86.33-feet in width. The most economical structure type will likely be a precast, prestressed, concrete girder structure with a 5-foot structure depth. Supports will be high-cantilever wall type abutments founded on driven piling. An increase in elevation of US 101 on the order of 2.5-feet will be necessary to allow for a minimum of 15-feet vertical clear distance from the bottom of soffit to Main Street. The undercrossing will be designed to accommodate a Type 742 concrete left barrier, a 13.5-foot left shoulder, two 12-foot lanes of southbound traffic, a 5-foot southbound median shoulder, a future Type 60 median barrier, a 5-foot northbound median shoulder, two 12-foot lanes of northbound traffic, a 10-foot right shoulder, and a Type 742 concrete right barrier. Falsework is not necessary to erect this type of girder structure. Girders will be set in place from Main Street using traffic closures.

The anticipated 2017 structure cost including bridge removal ($200,000), 10 percent for mobilization, and 25 percent for contingencies is $6,818,000 which is $798/SF.

Alternatives 2, 5B, & 7 – Construct a new US 101/Cher-Ae Lane Overcrossing

This proposed improvement intends to construct a new Cher-Ae Lane Overcrossing of US 101 about 0.73 miles south of the Trinidad undercrossing. The new overcrossing will connect Scenic Drive, west of US 101, to Westhaven Drive, east of US 101.

Based on the conditions at the site and the roadway geometrics, the new overcrossing will be a single-span structure approximately 132-feet in length and 47.3-feet in width. The most economical structure type will likely be a precast, prestressed, concrete girder structure with a 6.3-foot structure depth. Supports will be high-cantilever wall type abutments founded on driven piling. The overcrossing will be designed to accommodate a Type 742 concrete left barrier, a 4-foot left shoulder, a 12-foot lane of westbound traffic, a 12-foot lane of eastbound traffic, a 4-foot right shoulder, a 12.5-foot mixed use path, and a Type 742 concrete right barrier. Falsework is not necessary to erect this type of girder structure. Girders will be set in place from US 101 using traffic closures.

The anticipated 2017 structure cost including 10 percent for mobilization, and 25 percent for contingencies is $4,074,000 which is $652/SF.

Alternatives 3A & 3B – Construct a new US 101/Cher-Ae Lane Interchange

This proposed improvement intends to construct a new Cher-Ae Lane Interchange with a new Cher-Ae Lane Overcrossing of US 101 about 0.73 miles south of the Trinidad undercrossing. The new overcrossing will connect Scenic Drive, west of US 101, to Westhaven Drive, east of US 101. New northbound and southbound on and off-ramps will be constructed connecting US 101 to Cher-Ae Lane.

Based on the conditions at the site and the interchange geometrics, the new overcrossing will be a single-span structure approximately 132 feet in length and 54.8 feet in width. The most economical structure type will likely be a precast, prestressed, concrete girder structure with a 6.3-foot structure depth. Supports will be high-cantilever wall type abutments founded on driven piling. The overcrossing will be designed to accommodate a Type 742 concrete left barrier, an 8-foot left shoulder, a 12-foot lane of westbound traffic, a 12-foot lane of eastbound traffic, an 8-foot right shoulder, a 12-foot mixed use path, and a Type 742 concrete right barrier. Falsework is not necessary to erect this type of girder structure. Girders will be set in place from US 101 using traffic closures.

The anticipated 2017 structure cost including 10 percent for mobilization, and 25 percent for contingencies is $4,441,000 which is $614/SF.

Alternative 5A – Construct a replacement US 101/Main Street Undercrossing and a new US101/Cher-Ae Lane Interchange

This proposed improvement intends to construct a replacement US 101/Main Street Undercrossing in Trinidad and a new Cher-Ae Lane Interchange with a new Cher-Ae Lane Overcrossing of US 101 about 0.73 miles south of the Trinidad undercrossing. The replacement undercrossing structure includes improvements to the existing northbound and southbound US 101 on and off-ramps. The new overcrossing will connect Scenic Drive, west of US 101, to Westhaven Drive, east of US 101.

Based on the conditions at the sites and the site specific geometrics, the replacement undercrossing will be a single-span structure approximately 99-feet in length and 86.33-feet in width while the new overcrossing will be a single-span structure approximately 132-feet in length and 47.3-feet in width. The most economical structure types will likely be precast, prestressed, concrete girders with 5-foot and 6.3-foot structure depths respectively. Supports for both will be high-cantilever wall type abutments founded on driven piling. The undercrossing will be designed to accommodate a Type 742 concrete left barrier, a 13.5-foot left shoulder, two 12-foot lanes of southbound traffic, a 5-foot southbound median shoulder, a

future Type 60 median barrier, a 5-foot northbound median shoulder, two 12-foot lanes of northbound traffic, a 10-foot right shoulder, and a Type 742 concrete right barrier. The overcrossing will be designed to accommodate a Type 742 concrete left barrier, a 4-foot left shoulder, a 12-foot lane of westbound traffic, a 12-foot lane of eastbound traffic, a 4-foot right shoulder, a 12.5-foot mixed use path, and a Type 742 concrete right barrier. Falsework is not necessary to erect this type of girder structure. Girders will be set in place from Main Street in Trinidad and US 101 respectively using traffic closures.

The anticipated 2017 structure cost including bridge removal ($200,000), 10 percent for mobilization, and 25 percent for contingencies is $10,892,000 which is $736/SF for this two structure project.

Alternative 6 – Construct a new US 101/Baker Ranch Road Interchange

This proposed improvement intends to construct a new Baker Ranch Road Interchange with a new Baker Ranch Road Undercrossing of US 101 about 1.24 miles south of the Trinidad undercrossing. The new undercrossing will connect Scenic Drive, west of US 101, to Westhaven Drive, east of US 101. New northbound and southbound on and off-ramps will be constructed connecting US 101 to Baker Ranch Road.

Based on the conditions at the site and the interchange geometrics, the new undercrossing will be a single-span structure approximately 71-feet in length and 86.33-feet in width. The most economical structure type will likely be a precast, prestressed, concrete girder structure with a 3.75-foot structure depth. Supports will be high-cantilever wall type abutments founded on driven piling. The undercrossing will be designed to accommodate a Type 742 concrete left barrier, a 13.5-foot left shoulder, two 12-foot lanes of southbound traffic, a 5-foot southbound median shoulder, a future Type 60 median barrier, a 5-foot northbound median shoulder, two 12-foot lanes of northbound traffic, a 10-foot right shoulder, and a Type 742 concrete right barrier. Falsework is not necessary to erect this type of structure. Girders will be set in place from Baker Ranch Road below.

The anticipated 2017 structure cost including 10 percent for mobilization, and 25 percent for contingencies is $6,585,000 which is $1074/SF.

Alternative 8 – Construct a new US 101/New Local Road Interchange

This proposed improvement intends to construct a New Local Road Interchange with a New Local Road Overcrossing of US 101 about 1.0 miles south of the Trinidad undercrossing. The new overcrossing will connect Scenic Drive (via Cher-Ae Lane), west of US 101, to Westhaven Drive, east of US 101. New northbound and southbound on and off-ramps will be constructed connecting US 101 to the New Local Road.

Based on the conditions at the site and the interchange geometrics, the new overcrossing will be a single-span structure approximately 94-feet in length and 42.83-feet in width . The most economical structure type will likely be a precast, prestressed, concrete girder structure with a 5-foot structure depth. Supports will be high-cantilever wall type abutments founded on driven piling. The overcrossing will be designed to accommodate a Type 742 concrete left barrier, an 8-foot left shoulder, a 12-foot lane of westbound traffic, a 12-foot lane of eastbound traffic, an 8-foot right shoulder, and a Type 742 concrete right barrier. Falsework is not necessary to erect this type of girder structure. Girders will be set in place from US 101 using traffic closures.

The anticipated 2017 structure cost including 10 percent for mobilization, and 25 percent for contingencies is $3,119,000 which is $775/SF.

ATTACHMENT D

RIGHT OF WAY IMPACT EXHIBITS

LOCATION	KEY	ASSESSOR'S PARCEL NUMBER	AREAS (SF)	REMARKS
Trinidad I/C		04-205-130	4,798	
Trinidad I/C		04-205-204	19	
Trinidad I/C		04-205-205	719	
Trinidad I/C		04-206-335	1,547	
Trinidad I/C		04-206-336	11,320	
Trinidad I/C		51-515-166	13,568	
Trinidad I/C		51-533-111	2,428	
Total		22*	107,304	

*–INCLUDES ESTIMATED R/W FOR SCENIC DRIVE RECONSTRUCTION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	101	98.4/100.7	1	7

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RUSSELL A. WENHAM No. 43162 CIVIL STATE OF CALIFORNIA

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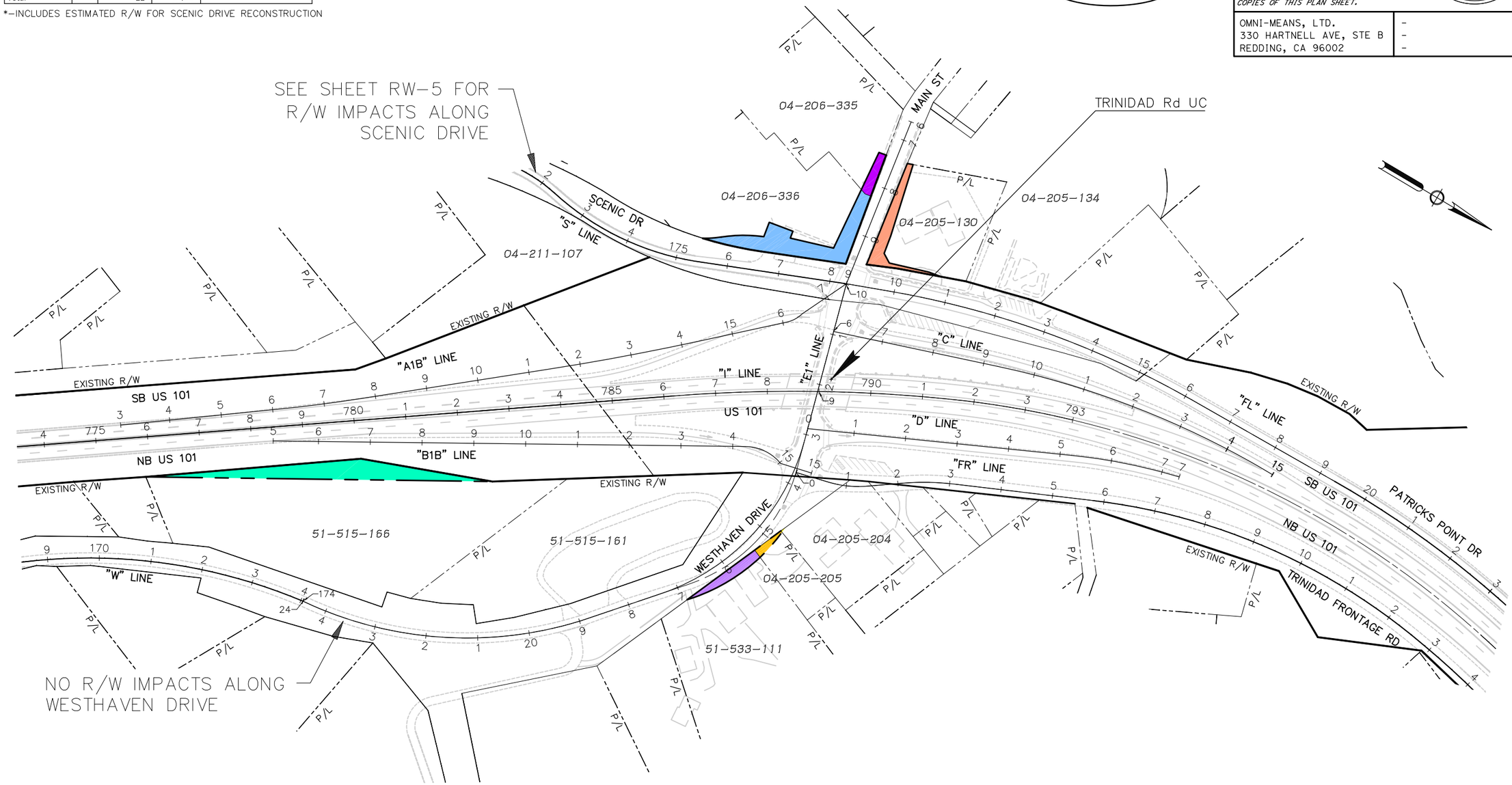
330 HARTNELL AVE, STE B
REDDING, CA 96002

EXHIBIT ONLY



US 101/TRINIDAD-MAIN STREET INTERCHANGE

R/W IMPACTS FOR ALT. 1A & ALT. 5A

RIGHT OF WAY IMPACT EXHIBIT

SCALE: 1"=100'

RW-1

REVISED BY | DATE REVISED
BRANDON TENNEY | RUSSELL WENHAM
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR: RUSSELL WENHAM
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

J:\Prj\1721\1721EX020.dwg

LAST REVISION: 12-01-17 | DATE PLOTTED: | TIME PLOTTED:

BORDER LAST REVISED 4/11/2008 | DRAWN BY: MES | DWG FILE: 1721EX020.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE | EA: 01-48040K

LOCATION	KEY	ASSESSOR'S PARCEL NUMBER	AREAS (SF)	REMARKS
Trinidad I/C		04-205-130	5,545	
Trinidad I/C		04-205-204	37,000	Full Parcel Take
Trinidad I/C		04-205-205	11,082	Full Parcel Take
Trinidad I/C		04-206-335	813	
Trinidad I/C		04-206-336	6,412	
Trinidad I/C		51-515-161	46	
Trinidad I/C		51-533-111	70,992	Full Parcel Take
Total		22*	204,795	

*—INCLUDES ESTIMATED R/W FOR SCENIC DRIVE RECONSTRUCTION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	101	98.4/100.7	2	7

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — RUSSELL A. WENHAM — No. 43162 — CIVIL — STATE OF CALIFORNIA

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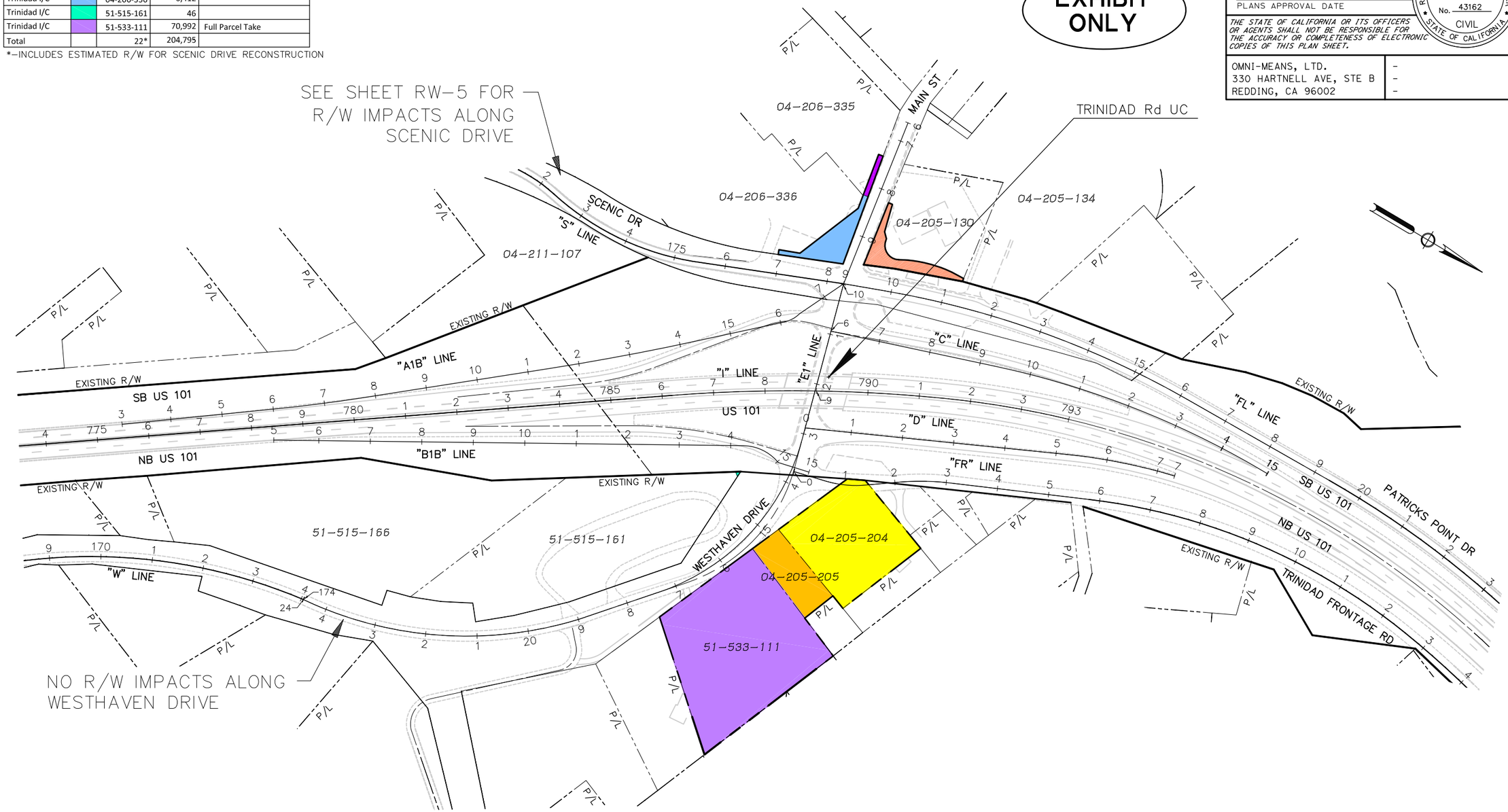
330 HARTNELL AVE, STE B
REDDING, CA 96002

EXHIBIT ONLY

SEE SHEET RW-5 FOR R/W IMPACTS ALONG SCENIC DRIVE



US 101/TRINIDAD-MAIN STREET INTERCHANGE

R/W IMPACTS FOR ALT. 1B & ALT. 5B

RIGHT OF WAY IMPACT EXHIBIT

SCALE: 1"=100'

RW-2

CONSULTANT FUNCTIONAL SUPERVISOR: RUSSELL WENHAM
CALCULATED-DESIGNED BY: BRANDON TENNEY
CHECKED BY: RUSSELL WENHAM
REVISED BY / DATE REVISED:
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

J:\Prj\1721\1721EX020.dwg

LAST REVISION: 12-01-17
DATE PLOTTED:
TIME PLOTTED:

BORDER LAST REVISED 4/11/2008 | DRAWN BY: MES | DWG FILE: 1721EX020.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE | EA: 01-48040K

LOCATION	KEY	ASSESSOR'S PARCEL NUMBER	AREAS (SF)	REMARKS
Cher-Ae O/C		51-514-165	10,865	
Cher-Ae O/C		51-514-166	91,290	
Cher-Ae O/C		51-515-140	81	
Cher-Ae O/C		51-536-122	16,130	
Cher-Ae O/C		51-531-104	16,975	
Cher-Ae O/C		51-531-105	31,017	
Cher-Ae O/C		51-531-106	14,038	
Cher-Ae O/C		51-531-107	9,880	
Cher-Ae O/C		51-531-114	8,763	
Cher-Ae O/C		51-531-113	2,329	
Total:		10	201,369	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	101	98.4/100.7	3	7

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RUSSELL A. WENHAM No. 43162 CIVIL STATE OF CALIFORNIA

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REDDING, CA 96002

EXHIBIT ONLY

NO R/W IMPACTS ALONG WESTHAVEN DRIVE

SEE SHEET RW-5 FOR R/W IMPACTS ALONG SCENIC DRIVE

NB US 101
SB US 101
US 101
EXISTING R/W
"I" LINE
"E" LINE
"W" LINE
"S" LINE
CHER-AE LANE
WESTHAVEN DRIVE
SCENIC DRIVE
P/L
51-515-140
51-514-165
51-514-166
51-514-173
51-514-174
51-514-175
51-514-167
51-531-104
51-531-105
51-531-106
51-531-107
51-531-113
51-531-114
51-536-122

NEW CHER-AE LANE OVERCROSSING

R/W IMPACTS FOR ALTERNATIVES 2, 5A. 5B, & 7

RIGHT OF WAY IMPACT EXHIBIT

SCALE: 1"=100'

RW-3

REVISED BY	DATE REVISED
BRANDON TENNEY	RUSSELL WENHAM
CALCULATED-DESIGNED BY	CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR	
RUSSELL WENHAM	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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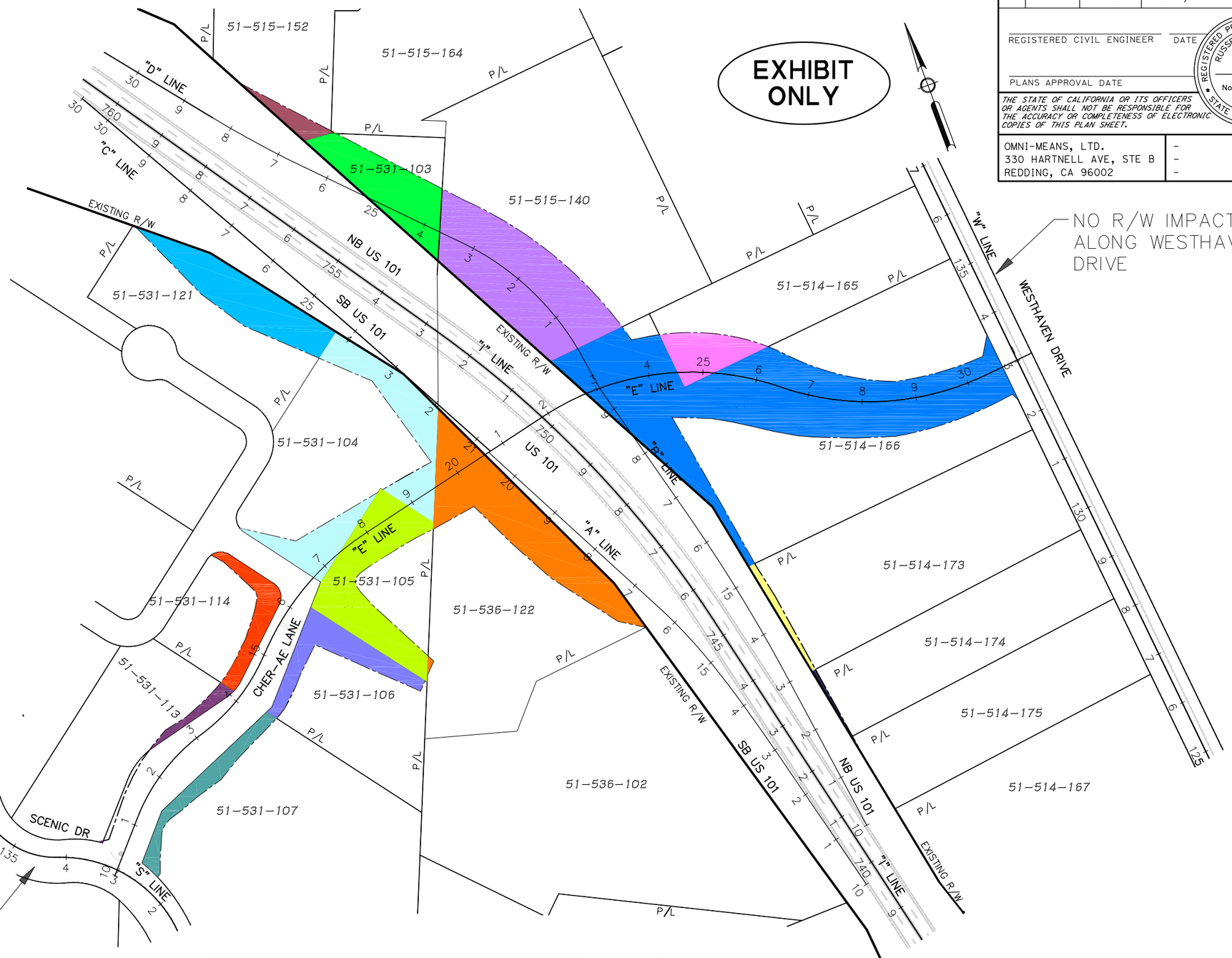
LAST REVISION 12-01-17 DATE PLOTTED: TIME PLOTTED:

BORDER LAST REVISED 4/11/2008 | DRAWN BY: MES | DWG FILE: 1721EX045.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE | EA: 01-48040K

LOCATION	KEY	ASSESSOR'S PARCEL NUMBER	AREAS (SF)	REMARKS
Cher-Ae I/C		51-514-165	10,865	
Cher-Ae I/C		51-514-166	104,150	
Cher-Ae I/C		51-514-173	2,567	
Cher-Ae I/C		51-514-174	685	
Cher-Ae I/C		51-514-175	57	
Cher-Ae I/C		51-515-140	49,505	
Cher-Ae I/C		51-515-152	3,819	
Cher-Ae I/C		51-515-164	19	
Cher-Ae I/C		51-531-103	21,683	
Cher-Ae I/C		51-531-104	31,754	
Cher-Ae I/C		51-531-121	24,340	
Cher-Ae I/C		51-536-122	39,925	
Cher-Ae I/C		51-531-105	29,790	
Cher-Ae I/C		51-531-106	13,806	
Cher-Ae I/C		51-531-107	9,174	
Cher-Ae I/C		51-531-114	8,944	
Cher-Ae I/C		51-531-113	2,650	
Total		17	353,705	



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	101	98.4/100.7	4	7

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — RUSSELL A. WENHAM — No. 43162 — CIVIL — STATE OF CALIFORNIA

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REVISED BY | DATE REVISED
BRANDON TENNEY | RUSSELL WENHAM
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
RUSSELL WENHAM

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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NEW US 101/CHER-AE LANE INTERCHANGE

R/W IMPACTS FOR ALT. 3A & ALT 3B

RIGHT OF WAY IMPACT EXHIBIT

SCALE: 1"=100'

RW-4

LAST REVISION 12-01-17 | DATE PLOTTED: | TIME PLOTTED:

BORDER LAST REVISED 4/11/2008 | DRAWN BY: MES | DWG FILE: 1721EX019.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE | EA: 01-48040K

NORTH OF CHER-AE LANE

LOCATION	KEY	ASSESSOR'S PARCEL NUMBER	AREA (SF)	REMARKS
Scenic Dr - North		04-211-103	5,774	
Scenic Dr - North		04-211-109	3,058	
Scenic Dr - North		04-214-120	10,161	
Scenic Dr - North		04-214-121	20,093	
Scenic Dr - North		04-215-108	800	
Scenic Dr - North		04-215-109	824	
Scenic Dr - North		04-215-110	1,028	
Scenic Dr - North		04-215-111	1,475	
Scenic Dr - North		04-215-112	1,122	
Scenic Dr - North		51-505-104	4,662	
Scenic Dr - North		51-515-155	4,001	
Scenic Dr - North		51-531-111	8,099	
Scenic Dr - North		51-531-112	4,425	
Scenic Dr - North		51-531-113	3,665	
Scenic Dr - North		51-531-119	3,717	
Total		15	72,904	

SOUTH OF CHER-AE LANE

	# OF PARCELS	
Scenic Dr - Cher-Ae Ln to Baker Ranch Rd	4	48,000
Scenic Dr - Baker Ranch Rd to Westhaven	26	174,000
New Frontage Rd - Cher-Ae Ln to Sixth Ave (Alt 4b)	18	489,000

Note: The R/W impacts estimated for Scenic Drive South of Cher-Ae Lane are based on a more general approach, and therefore are not shown on the map below.

EXHIBIT ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	101	98.4/100.7	5	7

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — RUSSELL A. WENHAM — No. 43162 — CIVIL — STATE OF CALIFORNIA

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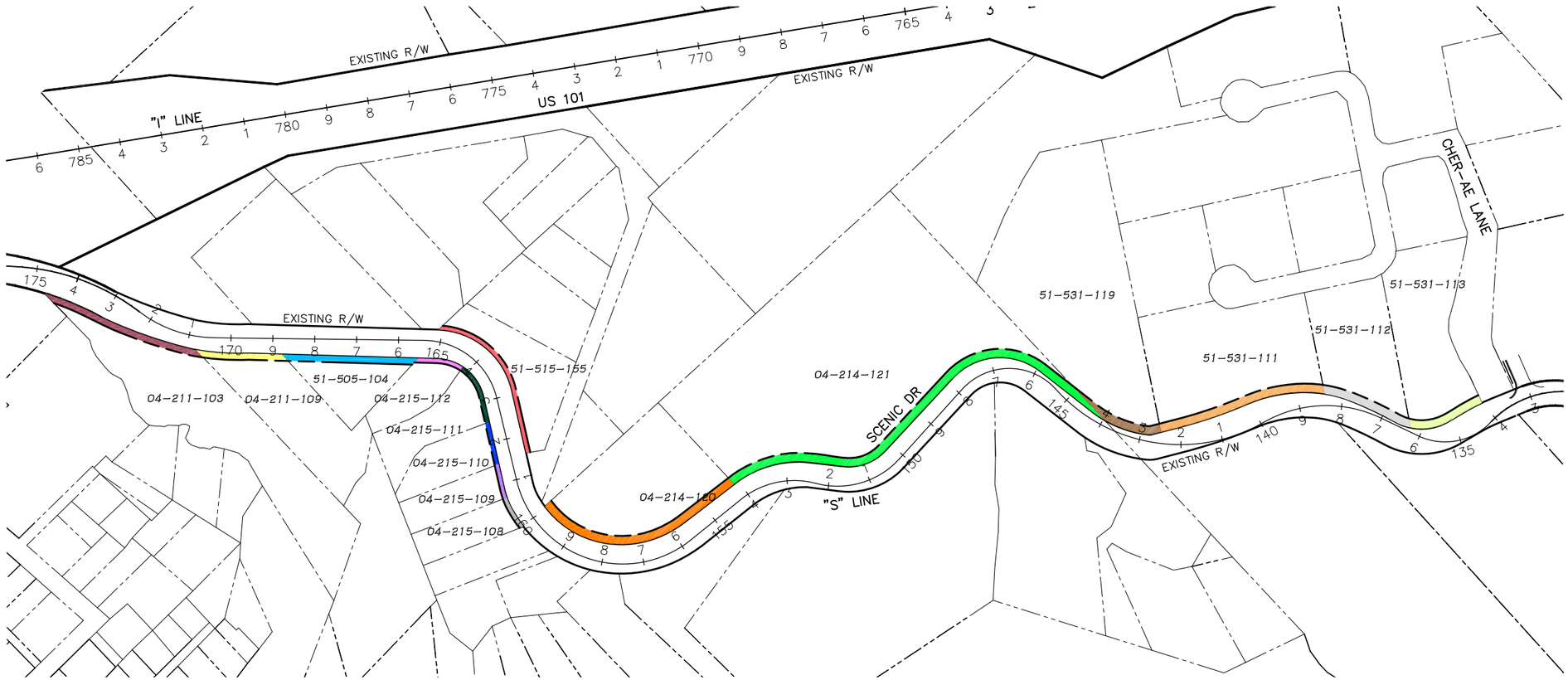

SCENIC DRIVE

R/W IMPACTS FOR ALL ALTERNATIVES

RIGHT OF WAY IMPACT EXHIBIT

SCALE: 1"=150'

RW-5

REVISED BY | DATE REVISED
BRANDON TENNEY | RUSSELL WENHAM
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR: RUSSELL WENHAM
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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LAST REVISION: 12-01-17 | DATE PLOTTED: | TIME PLOTTED:

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LOCATION	KEY	ASSESSOR'S PARCEL NUMBER	AREA (SF)	REMARKS
Baker Ranch I/C		51-514-130	104,828	
Baker Ranch I/C		51-514-134	96,734	
Baker Ranch I/C		51-514-135	41,678	
Baker Ranch I/C		51-514-167	17,775	
Baker Ranch I/C		51-514-168	36,366	
Baker Ranch I/C		51-514-169	92,452	
Baker Ranch I/C		51-514-170	107,706	
Baker Ranch I/C		51-514-173	1,598	
Baker Ranch I/C		51-514-174	3,031	
Baker Ranch I/C		51-514-175	5,159	
Baker Ranch I/C		51-531-105	13,899	
Baker Ranch I/C		51-531-106	8,287	

Baker Ranch I/C	51-536-103	8,511	
Baker Ranch I/C	51-536-104	29,492	
Baker Ranch I/C	51-536-105	85,868	
Baker Ranch I/C	51-536-106	70,914	
Baker Ranch I/C	51-536-110	46,652	
Baker Ranch I/C	51-536-111	5,813	
Baker Ranch I/C	51-536-113	113,540	
Baker Ranch I/C	51-536-114	15,405	
Baker Ranch I/C	51-536-115	12,137	
Baker Ranch I/C	51-536-116	4,796	
Baker Ranch I/C	51-536-117	5,289	
Baker Ranch I/C	51-536-118	7,886	
Baker Ranch I/C	51-536-119	3,946	
Baker Ranch I/C	51-536-120	5,512	

Baker Ranch I/C	51-536-122	19,623	
Baker Ranch I/C	51-536-123	54,962	
Baker Ranch I/C	51-536-125	2,251	
Total	27	1,071,026	

EXHIBIT ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	101	98.4/100.7	6	7

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RUSSELL A. WENHAM No. 43162 CIVIL STATE OF CALIFORNIA

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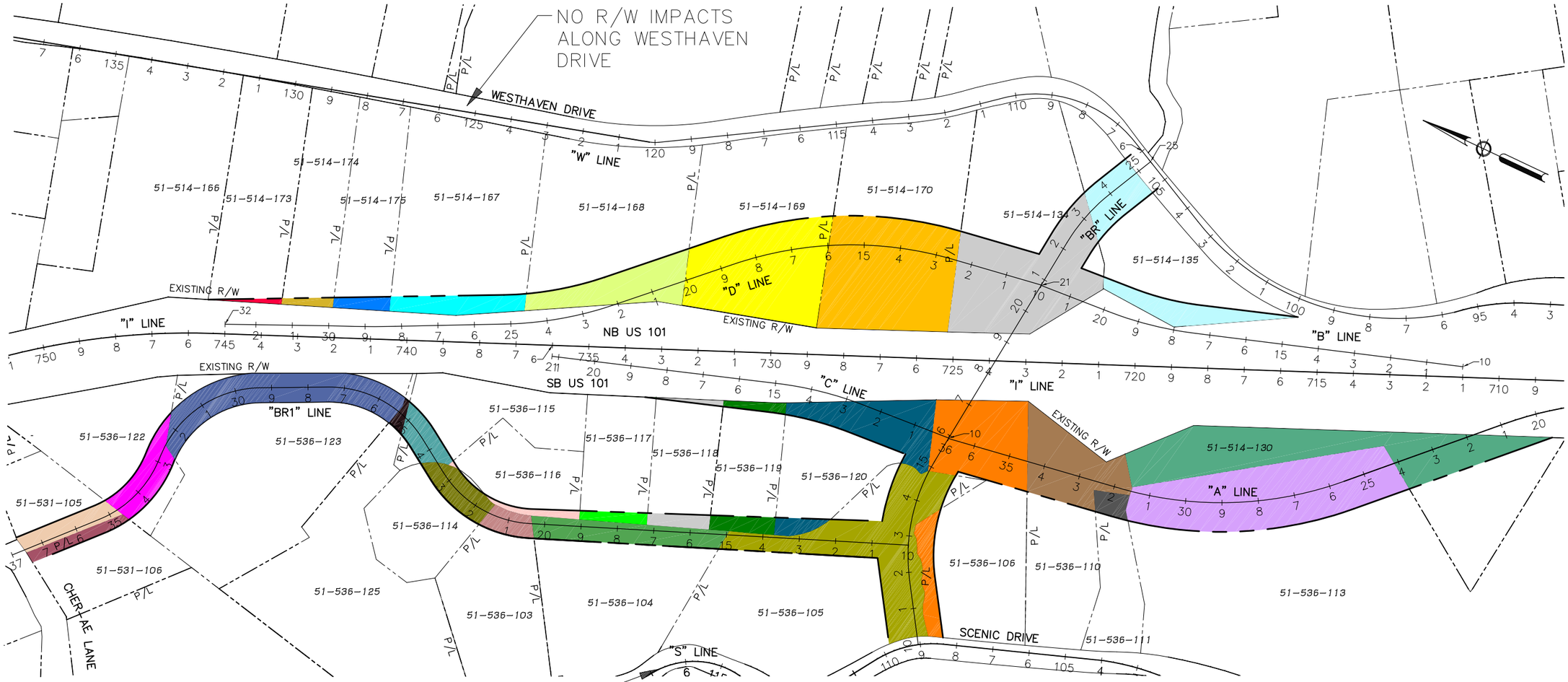

SEE SHEET RW-5 FOR R/W IMPACTS ALONG SCENIC DRIVE

NEW US 101/BAKER RANCH ROAD INTERCHANGE

R/W IMPACTS FOR ALT. 6

RIGHT OF WAY IMPACT EXHIBIT

SCALE: 1"=150'

RW-6

REVISED BY	DATE REVISED				
BRANDON TENNEY	RUSSELL WENHAM				
CALCULATED-DESIGNED BY	CHECKED BY				
FUNCTIONAL SUPERVISOR	RUSSELL WENHAM				
CONSULTANT FUNCTIONAL SUPERVISOR	RUSSELL WENHAM				
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	Caltrans				

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LOCATION	KEY	ASSESSOR'S PARCEL NUMBER	AREA (SF)	REMARKS
Baker Ranch I/C		51-514-166	33,760	
Baker Ranch I/C		51-514-167	81,306	
Baker Ranch I/C		51-514-168	41,938	
Baker Ranch I/C		51-514-169	19,806	
Baker Ranch I/C		51-514-170	8,229	
Baker Ranch I/C		51-514-173	15,488	
Baker Ranch I/C		51-514-174	13,719	
Baker Ranch I/C		51-514-175	17,726	
Baker Ranch I/C		51-515-140	13,291	
Baker Ranch I/C		51-531-103	985	
Baker Ranch I/C		51-531-104	1,650	
Baker Ranch I/C		51-531-105	22,157	
Baker Ranch I/C		51-531-106	1,337	
Baker Ranch I/C		51-531-114	3,185	
Baker Ranch I/C		51-536-115	36,290	
Baker Ranch I/C		51-536-122	25,724	
Baker Ranch I/C		51-536-123	126,727	
Baker Ranch I/C		51-536-125	9,224	
Total		18	472,542	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	101	98.4/100.7	7	7

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — RUSSELL A. WENHAM — No. 43162 — CIVIL — STATE OF CALIFORNIA

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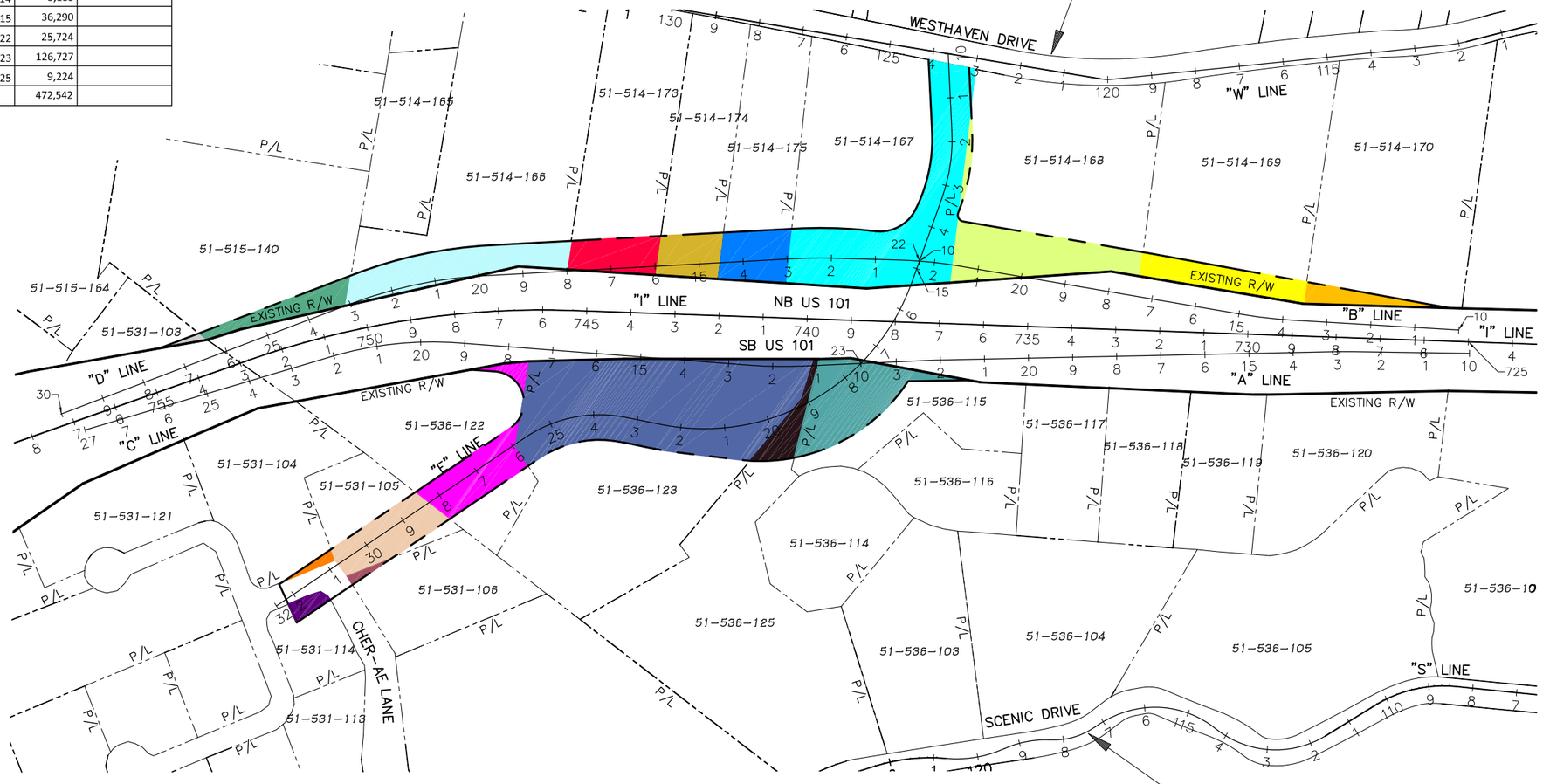
EXHIBIT ONLY

NO R/W IMPACTS ALONG WESTHAVEN DRIVE



SEE SHEET RW-5 FOR R/W IMPACTS ALONG SCENIC DRIVE

NEW US 101/1.0 MILE SPACING INTERCHANGE

R/W IMPACTS FOR ALT. 8

RIGHT OF WAY IMPACT EXHIBIT

SCALE: 1"=150'

RW-7

BRANDON TENNEY — REVISED BY — DATE REVISED
RUSSELL WENHAM — CALCULATED-DESIGNED BY — CHECKED BY
RUSSELL WENHAM — CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

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LAST REVISION 12-01-17 | DATE PLOTTED: | TIME PLOTTED:

ATTACHMENT E

PROJECT COST ESTIMATE WORKSHEETS

Project Study Report - Project Development Support
Capital Outlay Project Estimate

Dist - Co - Rte	01-HUM-101
PM	98.4/100.7
Program Code	
Project Number	
Month / Year	December 2017

PROJECT DESCRIPTION:

Limits: From 0.6 Mile south to 0.4 Mile north of Trinidad Road Undercrossing

Proposed Improvement (Scope): Improvements to Main Street with signalized intersections, including reconstruction of the Trinidad-Main Street Interchange (PM 100.7), widening of Main Street from Scenic Drive to Westhaven Drive, and widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad (PM 100.1-101.1).

Alternate: 1A

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	30,400,000
TOTAL STRUCTURES ITEMS	$	6,818,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	800,000
SUBTOTAL CONSTRUCTION COSTS	$	38,018,000
TOTAL RIGHT-OF-WAY ITEMS	$	800,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	38,818,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 3,800,000	X	8.0	=	$ 30,400,000

Explanation:

Cost includes complete replacement of Main Street on new vertical profile to meet structure clearance requirements and accessibility requirements. All ramps are completely replaced to current geometric standards. Scenic Drive is widened. The mainline UC structure is replaced necessitating half width stage construction and a raised vertical profile to provide standard vertical clearance on Main Street. Number of lane miles includes Main Street, Westhaven Drive, Secenic Drive, mainline, and ramps. Significant costs include an estimated 12,000 feet of retaining walls, with an average height of 8 feet; nearly 1,000,000 square feet of structure section; an estimated 130,000 cubic yards of excavation.

TOTAL ROADWAY ITEMS $ 30,400,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	Trinidad UC	N/A	N/A
Total Cost for Structure	$ 6,818,000	$ -	$ -

Explanation:

Existing UC structure will be replaced to accommodate standard vertical clearance on Main Street. Half width construction will be required and the vertical profile raised. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on driven piling. The cost includes removal of the existing structure and aesthetic treatments.

TOTAL STRUCTURE ITEMS $ 6,818,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 800,000	=	$ 800,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 800,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 590,000
B. Utility Relocation (State share)	$ 210,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Acquisition estimate assumes full take of small retail business in SW quadrant of the Scenic Drive/Main Street intersection and partial takes of other businesses in the vicinity of the Trinidad-Main Street Interchange. Numerous additional takes along the frontages of Scenic Drive, from Cher-Ae Lane to Main Street are included in the estimate. City of Trinidad utility impacts are assumed to be in franchise agreement areas. It is assumed that a portion of the PG&E and AT&T impacts, east of the I/C and along Scenic Drive, will be relocated as state expense.

TOTAL RIGHT-OF-WAY ITEMS $ 800,000

Project Study Report - Project Development Support
Capital Outlay Project Estimate

Dist - Co - Rte	01-HUM-101
PM	98.4/100.7
Program Code	
Project Number	
Month / Year	December 2017

PROJECT DESCRIPTION:

Limits: From 0.4 Mile South to 0.4 Mile North of Trinidad Road Undercrossing

Proposed Improvement (Scope): Improvements to Main Street with roundabout intersections, including reconstruction of the Trinidad-Main Street Interchange ramps (PM 100.7), widening of Main Street from Scenic Drive to Westhaven Drive, and widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad (PM 100.3 – 101.1).

Alternate: 1B

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	18,200,000
TOTAL STRUCTURES ITEMS	$	-
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	575,000
SUBTOTAL CONSTRUCTION COSTS	$	18,775,000
TOTAL RIGHT-OF-WAY ITEMS	$	1,290,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	20,065,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 5,200,000	X	3.5	=	$ 18,200,000

Explanation:

Cost includes complete replacement of Main Street on new vertical profile to meet accessibility requirements and acceptable grades through the roundabouts, while leaving US 101 mainline and structure intact. All ramps are completely replaced to current geometric standards. Scenic Drive is widened. The mainline UC structure will remain, while Main Street is lowered significantly to the east of the interchange. Lowering Main Street increases costs per lane mile since numerous walls and right-of-way takes are required to account for the lower profile. Number of lane miles includes Main street, Westhaven Drive, Scenic Drive,Patricks Point Drive, Trinidad Frontacge Road, and ramp replacement.
Significant costs include an estimated 10,000 feet of retaining walls, with an average height if 8 feet; neary 550,000 square feet of stuctural section.

TOTAL ROADWAY ITEMS	$ 18,200,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	N/A	N/A	N/A
Total Cost for Structure	$ -	$ -	$ -

Explanation:

This alternative assumes the existing structure will remain in place.

TOTAL STRUCTURE ITEMS	$ -

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 575,000	=	$ 575,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations. This alternative is mostly contained within existing areas, which minimizes environmental impacts.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 575,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 1,040,000
B. Utility Relocation (State share)	$ 250,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Acquisition estimate assumes full take of small retail business in SW quadrant of the Scenic Drive/Main Street intersection and partial takes of other businesses in the vicinity of the Trinidad-Main Street Interchange. Full takes of multiple parcels along Westhaven Drive and Trinidad Frontage Road east of the interchange increase the acquisition estimates significantly. Numerous additional takes along the frontages of Scenic Drive, from Cher-Ae Lane to Main Street are included in the estimate. City of Trinidad utility impacts are assumed to be in franchise agreement areas. It is assumed that a portion of the PG&E and AT&T impacts, east of the I/C and along Scenic Drive, will be relocated as state expense.

TOTAL RIGHT-OF-WAY ITEMS $ 1,290,000

Project Study Report - Project Development Support
Capital Outlay Project Estimate

Dist - Co - Rte: 01-HUM-101
PM: 98.4/100.7
Program Code:
Project Number:
Month / Year: December 2017

PROJECT DESCRIPTION:

Limits: 0.8 Mile South of Trinidad Undercrossing

Proposed Improvement (Scope): Construct new Cher-Ae Lane Overcrossing (PM 100.0) with local road connection to Scenic Drive and Westhaven Drive (no connection to US 101), including widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7).

Alternate: 2

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	12,012,000
TOTAL STRUCTURES ITEMS	$	4,074,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	500,000
SUBTOTAL CONSTRUCTION COSTS	$	16,586,000
TOTAL RIGHT-OF-WAY ITEMS	$	1,620,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	18,206,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 1,320,000.00	X	9.1	=	$ 12,012,000

Explanation:

Cost includes all new roadway for Cher-Ae Lane connecting Scenic Drive to Westhaven Drive. Scenic Drive is widened from Cher-Ae Lane to Main Street in the City of Trinidad. Westhaven Drive is widened from the Community of Westhaven to Main Street in the City of Trinidad. Number of lane miles includes Cher-Ae Lane, Scenic Drive, and Westhaven Drive. Costs per lane mile are low since there is not a lot of significant retaining wall and roadway excavation work.
Significant costs include nearly 750,000 square feet of structural section.

TOTAL ROADWAY ITEMS $ 12,012,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	Cher-Ae Lane OC	N/A	N/A
Total Cost for Structure	$ 4,074,000	$ -	$ -

Explanation:

A new one span OC structure is proposed over Route 101 as an extension of Cher-Ae Lane. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on driven piling. The cost includes aesthetic treatments.

TOTAL STRUCTURE ITEMS $ 4,074,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 500,000	=	$ 500,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 500,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 1,420,000
B. Utility Relocation (State share)	$ 200,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Acquisition estimate includes costs for property already owned by the Trinidad Rancheria (project Sponsor). Actual costs for acquisition through Cher-Ae Lane would be reduced since the project sponser owns a portion of the required rights-of-way. Numerous takes along the frontages of Scenic Drive, from Cher-Ae Lane to Main Street are included in the estimate. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense. The utility cost also includes state expense to relocate utilities on Rancheria owned property.

TOTAL RIGHT-OF-WAY ITEMS $ 1,620,000

Project Study Report - Project Development Support
Capital Outlay Project Estimate

Dist - Co - Rte 01-HUM-101
PM 98.4/100.7
Program Code
Project Number
Month / Year December 2017

PROJECT DESCRIPTION:

Limits: From 1.2 Miles south to 0.2 Miles south of Trinidad-Main Street Undercrossing

Proposed Improvement (Scope): Construct new US 101/Cher-Ae Lane Interchange (PM 100.0) with local road connection to Cher-Ae Lane, Scenic Drive, and Westhaven Drive, including widening of Scenic Drive in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7).

Alternate: 3A

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	24,690,500
TOTAL STRUCTURES ITEMS	$	4,441,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	750,000
SUBTOTAL CONSTRUCTION COSTS	$	29,881,500
TOTAL RIGHT-OF-WAY ITEMS	$	2,410,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	32,291,500

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 2,185,000	X	11.3	=	$ 24,690,500

Explanation:

Cost includes all new roadway (Cher-Ae Lane) connecting Scenic Drive to Westhaven Drive. Scenic Drive is widened. Westhaven Drive is widened. Mainline right shoulders are widened to 10-feet. Number of lane miles includes Cher-Ae Lane, Scenic, Westhaven, US 101 ramps, and mainline widening.
Significant costs include nearly 900,000 square feet of structural section; 16,000 feet of retaining wall, with an average height of 8 feet.

TOTAL ROADWAY ITEMS $ 24,690,500

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	Cher-Ae Lane OC	N/A	N/A
Total Cost for Structure	$ 4,441,000	$ -	$ -

Explanation:

A new one span OC structure is proposed over Route 101 as an extension of Cher-Ae Lane. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on driven piling. The cost includes aesthetic treatments.

TOTAL STRUCTURE ITEMS $ 4,441,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 750,000	=	$ 750,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 750,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 2,200,000
B. Utility Relocation (State share)	$ 210,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Acquisition estimate includes costs for property already owned by the Trinidad Rancheria (project Sponsor). Actual costs for acquisition through Cher-Ae Lane would be reduced since the project sponser owns a portion of the required rights-of-way. Numerous takes along the frontages of Scenic Drive, from Cher-Ae Lane to Main Street are included in the estimate. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense. The utility cost also includes state expense to relocate utilities on Rancheria owned property.

TOTAL RIGHT-OF-WAY ITEMS $ 2,410,000

Project Study Report - Project Development Support
Capital Outlay Project Estimate

Dist - Co - Rte	01-HUM-101
PM	98.4/100.7
Program Code	
Project Number	
Month / Year	December 2017

PROJECT DESCRIPTION:

Limits: From 1.2 Miles south to 0.2 Miles south of Trinidad-Main Street Undercrossing

Proposed Improvement (Scope): Construct new US 101/Cher-Ae Lane Interchange (PM 100.0) with local road connection to Cher-Ae Lane and Scenic Drive, a mixed-use path connection to Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7).

Alternate: 3B

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	23,705,000
TOTAL STRUCTURES ITEMS	$	4,441,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	700,000
SUBTOTAL CONSTRUCTION COSTS	$	28,846,000
TOTAL RIGHT-OF-WAY ITEMS	$	2,410,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	31,256,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 2,155,000	X	11	=	$ 23,705,000

Explanation:

Cost includes all new roadway (Cher-Ae Lane) connecting Scenic Drive the US 101 NB Ramps, and a mixed use trail connection to Westhaven Drive. Scenic Drive is widened from Cher-Ae Lane to Main Street in Trinidad. Westhaven Drive is widened from Westhaven to Trinidad. Mainline right shoulders are widened to 10-feet. Number of lane miles includes Cher-Ae Lane, Scenic, Westhaven, US 101 ramps, and mainline.
Significant costs include nearly 850,000 square feet of structural section; an estimated 12,000 of retaining walls with an average height of 8 feet.

TOTAL ROADWAY ITEMS $ 23,705,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	Cher-Ae Lane OC	N/A	N/A
Total Cost for Structure	$ 4,441,000	$ -	$ -

Explanation:

A new one span OC structure is proposed over Route 101 as an extension of Cher-Ae Lane. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on driven piling. The cost includes aesthetic treatments.

TOTAL STRUCTURE ITEMS $ 4,441,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 700,000	=	$ 700,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 700,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 2,200,000
B. Utility Relocation (State share)	$ 210,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Acquisition estimate does not include the cost of the property already owned by the Trinidad Rancheria (project Sponsor). Numerous takes along the frontages of Scenic Drive, from Cher-Ae Lane to Main Street are included in the estimate. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense. The utility cost also includes state expense to relocate utilities on Rancheria owned property.

TOTAL RIGHT-OF-WAY ITEMS $ 2,410,000

Project Study Report - Project Development Support
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Dist - Co - Rte	01-HUM-101
PM	98.4/100.7
Program Code	
Project Number	
Month / Year	December 2017

PROJECT DESCRIPTION:

Limits: From the Community of Westhaven to the City of Trinidad

Proposed Improvement (Scope): Restore/Widen Scenic Drive from the Community of Westhaven to Main Street in Trinidad.

Alternate: 4A

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	20,001,000
TOTAL STRUCTURES ITEMS	$	-
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	500,000
SUBTOTAL CONSTRUCTION COSTS	$	20,501,000
TOTAL RIGHT-OF-WAY ITEMS	$	1,520,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	22,021,000

Note: Costs escalated at 5% per year for 4 ye

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 3,390,000	X	5.9	=	$ 20,001,000

Explanation:

Cost includes widening Scenic Drive and reconstructing as necessary to provide geologically sustainable roadway. Significant roadway excavation and retaining wall work is included in this alternative.
Significant costs include nearly 500,000 square feet of structural section; an estimated 15,400 feet of retaining wall, with an average height of 8 feet.

TOTAL ROADWAY ITEMS $ 20,001,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	N/A	N/A	N/A
Total Cost for Structure	$ -	$ -	$ -

Explanation:

No structures are proposed.

TOTAL STRUCTURE ITEMS $ -

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 500,000	=	$ 500,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations. Widening and retaining wall work is not expected to significantly affect environmentally sensitive areas.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 500,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 1,320,000
B. Utility Relocation (State share)	$ 200,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Numerous takes along the frontages of Scenic Drive. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense.

TOTAL RIGHT-OF-WAY ITEMS $ 1,520,000

Project Study Report - Project Development Support
Capital Outlay Project Estimate

Dist - Co - Rte	01-HUM-101
PM	98.4/100.7
Program Code	
Project Number	
Month / Year	December 2017

PROJECT DESCRIPTION:

Limits: From Westhaven Undercrossing to the Trinidad Undercrossing

Proposed Improvement (Scope): Restore Scenic Drive from Cher-Ae Lane to Main Street in Trinidad, and construct new frontage road from the Community of Westhaven to Cher-Ae Lane.

Alternate: 4B

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	27,096,000
TOTAL STRUCTURES ITEMS	$	-
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	1,500,000
SUBTOTAL CONSTRUCTION COSTS	$	28,596,000
TOTAL RIGHT-OF-WAY ITEMS	$	3,070,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	31,666,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 5,645,000	X	4.8	=	$ 27,096,000

Explanation:

Cost includes widening/reconstruction of Scenic Drive, from Cher-Ae Lane to Main Street, and construction of a new frontage road from Westhaven to Cher-Ae Lane. Due to existing terrain, extensive roadway excavation and embankment work would be required, along with extensive retaining wall work through this corridor. This work increases the cost per lane mile significantly over many of the other alternatives.
Significant costs include nearly 410,000 square feet of strucural section; an estimated 5,600 feet of retaining wall. with an average height of 8 feet and an estimated 4,400 feet of retaining wall with an average height of 20 feet; nearly 250,000 cubic yards of excavation.

TOTAL ROADWAY ITEMS $ 27,096,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	N/A	N/A	N/A
Total Cost for Structure	$ -	$ -	$ -

Explanation:

No structures are proposed.

TOTAL STRUCTURE ITEMS $ -

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 1,500,000	=	$ 1,500,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations. Environmental mitigation costs for this alternative are expected to be significant since the new frontage road will be constructed mostly through undeveloped, steep existing terrain.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 1,500,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 2,870,000
B. Utility Relocation (State share)	$ 200,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Numerous takes along the frontages of Scenic Drive north of Cher-Ae Lane. There will also be significant takes for the new frontage road, which likely would include full parcel takes for some properties, along with extensive right-of-way takes due to grading and retaining wall work. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense.

TOTAL RIGHT-OF-WAY ITEMS $ 3,070,000

Project Study Report - Project Development Support
Capital Outlay Project Estimate

Dist - Co - Rte: 01-HUM-101
PM: 98.4/100.7
Program Code:
Project Number:
Month / Year: December 2017

PROJECT DESCRIPTION:

Limits: From 0.7 Mile South to 0.4 Mile North of Trinidad Undercrossing

Proposed Improvement (Scope): Construct new Cher-Ae Lane Overcrossing (PM 100.0) with local road connection to Scenic Drive and Westhaven Drive (no connection to US 101), Improvements to Main Street with signalized intersections, including reconstruction of the Trinidad-Main Street Interchange (PM 100.7), widening of Main Street from Scenic Drive to Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7).

Alternate: 5A

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	34,501,500
TOTAL STRUCTURES ITEMS	$	10,892,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	800,000
SUBTOTAL CONSTRUCTION COSTS	$	46,193,500
TOTAL RIGHT-OF-WAY ITEMS	$	1,820,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	48,013,500

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 2,255,000	X	15.3	=	$ 34,501,500

Explanation:

Cost includes the same roadway features outlined in Alternatives 1A and 2. Cost includes complete replacement of Main Street on new vertical profile to meet structure clearance requirements and accessibility requirements. All ramps are completely replaced to current geometric standards. Scenic Drive is widened from Cher-Ae Lane to Main Street in the City of Trinidad. Westhaven Drive is widened from the Community of Westhaven to Main Street in the City of Trinidad. The mainline UC structure is replaced necessitating half width stage construction and a raised vertical profile to provide standard vertical clearance on Main Street. Costs also include all new roadway for Cher-Ae Lane connecting Scenic Drive to Westhaven Drive. Number of lane miles includes Main Street, Cher-Ae Lane, Scenic Drive, Westhaven Drive, mainline and ramps.
Significant costs include 1,401,000 square feet of structural section; an estimated 12,000 feet of retaining walls with an average height of 8 feet; traffic signals, lighting and traffic control system.

TOTAL ROADWAY ITEMS	$ 34,501,500

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	Cher-Ae Lane OC	Trinidad UC	N/A
Total Cost for Structure	$ 4,074,000	$ 6,818,000.00	$ -

Explanation:

At Cher-Ae Lane, a new one span OC is proposed over Route 101 as an extension of Cher-Ae Lane. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on pile driving. The cost includes aesthetic treatments.
At the Trinidad-Main I/C, the existing UC structure will be replaced to accommodate standard vertical clearance on Main Street. Half width construction will be required and the vertical profile raised. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on driven piling. The cost includes removal of the existing structure and aesthetic treatments.

TOTAL STRUCTURE ITEMS	$ 10,892,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 800,000	=	$ 800,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 800,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 1,610,000
B. Utility Relocation (State share)	$ 210,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Acquisition estimate includes costs for property already owned by the Trinidad Rancheria (project Sponsor). Actual costs for acquisition through Cher-Ae Lane would be reduced since the project sponser owns a portion of the required rights-of-way. Acquisition estimate assumes full take of small retail business in SW quadrant of the Scenic Drive/Main Street intersection and partial takes of other businesses in the vicinity of the Trinidad-Main Street Interchange. Numerous additional takes along the frontages of Scenic Drive, from Cher-Ae Lane to Main Street are included in the estimate. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense. The utility cost also includes state expense to relocate utilities on Rancheria owned property.

TOTAL RIGHT-OF-WAY ITEMS $ 1,820,000

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Dist - Co - Rte	01-HUM-101
PM	98.4/100.7
Program Code	
Project Number	
Month / Year	December 2017

PROJECT DESCRIPTION:

Limits: From 0.7 Mile South to 0.4 Mile North of Trinidad Undercrossing

Proposed Improvement (Scope): Construct new Cher-Ae Lane Overcrossing (PM 100.0) with local road connection to Scenic Drive and Westhaven Drive (no connection to US 101), Improvements to Main Street with roundabouts, including reconstruction of the Trinidad-Main Street Interchange ramps (PM 100.7), widening of Main Street from Scenic Drive to Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7).

Alternate: 5B

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	24,525,000
TOTAL STRUCTURES ITEMS	$	4,074,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	600,000
SUBTOTAL CONSTRUCTION COSTS	$	29,199,000
TOTAL RIGHT-OF-WAY ITEMS	$	2,340,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	31,539,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 2,250,000	X	10.9	=	$ 24,525,000

Explanation:

Cost includes the same roadway features outlined in Alternatives 1B and 2. Cost includes complete replacement of Main Street on new vertical profile to meet accessibility requirements and acceptable grades through the roundabouts, while leaving US 101 mainline and structure intact. All ramps are completely replaced to current geometric standards. Scenic Drive is widened. The mainline UC structure will remain, while Main Street is lowered significantly to the east of the interchange. Lowering Main Street increases costs per lane mile since numerous walls and right-of-way takes are required to account for the lower profile.. Westhaven Drive is widened from the Community of Westhaven to Main Street in the City of Trinidad. Costs also include all new roadway for Cher-Ae Lane connecting Scenic Drive to Westhaven Drive. Number of lane miles includes Main Street, Cher-Ae Lane, Scenic Drive, Westhaven Drive, and ramps.
Significant costs include 1,006,000 sqare feet of strucural section; an estimated 10,000 feet of retaining wall, with an average height of 8 feet; an estimated 68,600 cubic yards of excavation.

TOTAL ROADWAY ITEMS $ 24,525,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	Cher-Ae Lane OC	N/A	N/A
Total Cost for Structure	$ 4,074,000	$ -	$ -

Explanation:

At Cher-Ae Lane, a new one span OC is proposed over Route 101 as an extension of Cher-Ae Lane. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on pile driving. The cost includes aesthetic treatments.

TOTAL STRUCTURE ITEMS $ 4,074,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 600,000	=	$ 600,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 600,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 2,090,000
B. Utility Relocation (State share)	$ 250,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Acquisition estimate includes costs for property already owned by the Trinidad Rancheria (project Sponsor). Actual costs for acquisition through Cher-Ae Lane would be reduced since the project sponser owns a portion of the required rights-of-way. Acquisition estimate assumes full take of small retail business in SW quadrant of the Scenic Drive/Main Street intersection and partial takes of other businesses in the vicinity of the Trinidad-Main Street Interchange. Numerous additional takes along the frontages of Scenic Drive, from Cher-Ae Lane to Main Street are included in the estimate. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense. The utility cost also includes state expense to relocate utilities on Rancheria owned property.

TOTAL RIGHT-OF-WAY ITEMS $ 2,340,000

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Dist - Co - Rte 01-HUM-101
PM 98.4/100.7
Program Code
Project Number
Month / Year December 2017

PROJECT DESCRIPTION:

Limits: From 0.4 Mile North of Sixth Avenue OC to 0.9 Mile South of Trinidad Undercrossing

Proposed Improvement (Scope): Construct new Baker Ranch Road Interchange with local road connections to Scenic Drive and Westhaven Drive. Construct new frontage road between Baker Ranch Road and Cher-Ae Lane. Widen and reconstruct Scenic Drive from Baker Ranch Road to Main Street, and Trinidad
(PM 98.1 – 100.7).

Alternate: 6

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	28,400,000
TOTAL STRUCTURES ITEMS	$	6,585,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	750,000
SUBTOTAL CONSTRUCTION COSTS	$	35,735,000
TOTAL RIGHT-OF-WAY ITEMS	$	3,880,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	39,615,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 2,000,000	X	14.2	=	$ 28,400,000

Explanation:

Cost includes all new roadway (Baker Ranch Road) connecting Scenic Drive to Westhaven Drive, as well as construction of a full interchange with US 101. A new frontage road is constructed from Baker Ranch Road to Cher-Ae Lane. Scenic Drive is widened from Cher-Ae Lane to Main Street in Trinidad. Number of lane miles includes Baker Ranch Road, Scenic Drive, Westhaven Drive, the new Frontage Road to Cher-Ae Lane, some mainline widening, and ramp work.
Significant costs include 1,093,000 sqare feet of strucural section; an estimated 5,000 feet of retaining walls, with an average height of 8 feet; an estimated 208,400 cubic yards of excavation.

TOTAL ROADWAY ITEMS	$ 28,400,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	Baker Ranch UC	N/A	N/A
Total Cost for Structure	$ 6,585,000	$ -	$ -

Explanation:

At Baker Ranch Road, a new one span UC structure is proposed over US 101 as an extension of Baker Ranch Road. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on driven piling. The cost includes aesthetic treatments.

TOTAL STRUCTURE ITEMS	$ 6,585,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 750,000	=	$ 750,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 750,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 3,670,000
B. Utility Relocation (State share)	$ 210,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Numerous takes along the new Baker Ranch Road connection to Westhaven, and for the new interchange and ramps to US 101. Will include additional partial takes along the new Frontage Road from Baker Ranch Road to Cher-Ae Lane. Numerous takes along the frontages of Scenic Drive. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense.

TOTAL RIGHT-OF-WAY ITEMS $ 3,880,000

Project Study Report - Project Development Support
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Dist - Co - Rte 01-HUM-101
PM 98.4/100.7
Program Code
Project Number
Month / Year December 2017

PROJECT DESCRIPTION:

Limits: From 0.4 Mile North of Sixth Avenue OC to 0.9 Mile South of Trinidad Undercrossing

Proposed Improvement (Scope): Construct new Cher-Ae Lane Overcrossing (PM 100.0) with local road Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, constructing a new frontage road from 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7).

Alternate: 7

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	30,805,000
TOTAL STRUCTURES ITEMS	$	4,074,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	1,750,000
SUBTOTAL CONSTRUCTION COSTS	$	36,629,000
TOTAL RIGHT-OF-WAY ITEMS	$	2,830,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	39,459,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 2,525,000	X	12.2	=	$ 30,805,000

Explanation:

Cost includes all new roadway for Cher-Ae Lane connecting Scenic Drive to Westhaven Drive. Scenic Drive is widened from Cher-Ae Lane to Main Street in the City of Trinidad. A new frontage road is constructed from the Community of Westhaven to Cher-Ae Lane. Westhaven Drive is widened from the Community of Westhaven to Main Street in the City of Trinidad. Number of lane miles includes Cher-Ae Lane, Scenic Drive, and Westhaven Drive. Due to existing terrain, extensive roadway excavation and embankment work would be required, along with extensive retaining wall work through the new Frontage Road corridor. This work increases the cost per lane mile significantly.

Significant costs include 965,000 square feet of structural section; an estimated 5,600 feet of retaining wall, with an average height of 8 feet and an estimated 4,400 feet of retaining wall, with an

TOTAL ROADWAY ITEMS	$ 30,805,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	Cher-Ae Lane OC	N/A	N/A
Total Cost for Structure	$ 4,074,000	$ -	$ -

Explanation:

At Cher-Ae Lane, a new one span OC is proposed over US 101 as an extension of Cher-Ae Lane. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on pile driving. The cost includes aesthetic treatments.

TOTAL STRUCTURE ITEMS	$ 4,074,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 1,750,000	=	$ 1,750,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations. Environmental mitigation costs for this alternative are expected to be significant since the new frontage road will be constructed mostly through undeveloped, steep existing terrain.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 1,750,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 2,630,000
B. Utility Relocation (State share)	$ 200,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Acquisition estimate includes costs for property already owned by the Trinidad Rancheria (project Sponsor). Actual costs for acquisition through Cher-Ae Lane would be reduced since the project sponser owns a portion of the required rights-of-way. Numerous takes to accomoate the new frontage road and along Scenic Drive are included in the estimate. It is assumed that all PG&E and AT&T impacts along the new frontage road will be state expense. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as state expense. The utility cost also includes state expense to relocate utilities on Rancheria owned property. Minor impacts to Westhaven Community Service District water utility is assumed a utility company expense.

TOTAL RIGHT-OF-WAY ITEMS $ 2,830,000

Project Study Report - Project Development Support
Capital Outlay Project Estimate

Dist - Co - Rte: 01-HUM-101
PM: 98.4/100.7
Program Code:
Project Number:
Month / Year: December 2017

PROJECT DESCRIPTION:

Limits: From 0.4 Mile North of Sixth Avenue OC to 0.9 Mile South of Trinidad Undercrossing
Proposed Improvement (Scope): Construct new US 101/1.0 Mile Spacing Interchange near Trinidad Rancheria. Construct new roadway to connect Cher-Ae Lane and Westhaven Drive.

Alternate: 8

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	$	25,766,000
TOTAL STRUCTURES ITEMS	$	3,119,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	$	700,000
SUBTOTAL CONSTRUCTION COSTS	$	29,585,000
TOTAL RIGHT-OF-WAY ITEMS	$	3,016,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$	32,601,000

Note: Costs escalated at 5% per year for 4 years

I. ROADWAY ITEMS

	Average Cost Per Lane Mile		Number of Lane Miles		Total Cost
Total Cost	$ 1,982,000	X	13.0	=	$ 25,766,000

Explanation:

Cost includes all new roadway for New Local Road connecting Cher-Ae Lane to Westhaven Drive. Scenic Drive is widened from Cher-Ae Lane to Main Street in the City of Trinidad. A new frontage road is constructed from the Community of Westhaven to Cher-Ae Lane. Westhaven Drive is widened from the Community of Westhaven to Main Street in the City of Trinidad. Number of lane miles includes New Local Road, Westhaven Drive, Scenic Drive, some mainline widening, and ramp work. Due to existing terrain, extensive roadway excavation and embankment work would be required, along with retaining wall work through the New Local Road corridor.
Significant costs include 707,700 sqare feet of strucural section; an estimated 16,000 feet of retaining wall , with an average height of 8 feet; an estimated 42,600 cubic yards of excavation and an estimated 43,400 cubic yards of imported borrow.

TOTAL ROADWAY ITEMS $ 25,766,000

II. STRUCTURES ITEMS

	Structure 1	Structure 2	Structure 3
Bridge Name	New Local Road OC	N/A	N/A
Total Cost for Structure	$ 3,119,000	$ -	$ -

Explanation:

At New Local Road, a new one span OC is proposed over US 101 as an extension of Cher-Ae Lane. The cost assumes a precast, prestressed, concrete girder structure. Supports would be high-cantilever wall type abutments on pile driving. The cost includes aesthetic treatments.

TOTAL STRUCTURE ITEMS $ 3,119,000

III. ENVIRONMENTAL MITIGATION

	Quantity	Unit		Unit Price		Item Cost
Environmental Mitigation	1	LS	X	$ 700,000	=	$ 700,000

Explanation:

Environmental mitigation cost includes costs for mitigating impacts to permanently filling wetlands and other mitigation items that may be necessary to meet Coastal Commission expectations. Environmental mitigation costs for this alternative are expected to be significant since New Local Road will be constructed mostly through undeveloped, steep existing terrain.

TOTAL ENVIRONMENTAL MITIGATION ITEMS $ 700,000

IV. RIGHT-OF-WAY ITEMS

	Escalated Value
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	$ 2,766,000
B. Utility Relocation (State share)	$ 250,000
Anticipated Date of Right-of-Way Certification (Date to which values are escalated at 5% per year)	2019

Explanation:

Numerous takes along the New Local Road connection to Westhaven, and for the new interchange and ramps to US 101. Numerous takes along the frontages of Scenic Drive. It is assumed that a portion of the PG&E and AT&T impacts, along Scenic Drive, will be relocated as a state expense.

TOTAL RIGHT-OF-WAY ITEMS $ 3,016,000

ATTACHMENT F

STORM WATER DATA REPORT SIGNATURE PAGE

Dist-County-Route: 01-HUM-101
Post Mile Limits: 98.4 / 100.7
Project Type: New Interchange
Project ID (EA): 01-48040K
Program Identification: STIP
Phase: ☒ PID ☐ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): North Coast Region (1)

1.	Does the project disturb 5 or more acres of soil?	Yes ☒	No ☐
2.	Does the project disturb more than 1 acre of soil and not qualify for the Rainfall Erosivity Waiver?	Yes ☒	No ☐
3.	Is the project required to implement Treatment BMPs?	Yes ☒	No ☐
4.	Does the project impact existing Treatment BMPs?	Yes ☐	No ☒

If the answer to any of the preceding questions is "Yes", prepare a Long Form – Stormwater Data Report. Unless otherwise agreed upon by the District/Regional Design Stormwater Coordinator.

Total Disturbed Soil Area: 16.0 to 44.1 acres
New Impervious Surface: 3.8 to 13.1 acres
Estimated Const. Start Date: 10/1/23
Estimated Const. Completion Date: 6/30/25
Risk Level: RL 1 ☐ RL 2 ☐ RL 3 ☒ Not Applicable ☐

This Short Form – Stormwater Data Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

Brandon Tenney #C83928 — 12/12/17
Brandon Tenney, P.E., Project Engineer — *Date*

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

[Stamp Required at PS&E only]

[signature] — 12/12/17
[Name], District/Regional Design SW Coordinator or Designee — *Date*

ATTACHMENT G

TRANSPORTATION MANAGEMENT PLAN

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

TRANSPORTATION MANAGEMENT PLAN

To: RUSSELL A. WENHAM
Project Engineer
Omni-Means

Date: 21 December 2015
File: HUM-101 PM 98.4/100.7
EA: 01-48040K
EFIS: 01 0002 0301 K
Trinidad Rancheria Interchange

From: SHERI RODRIGUEZ, Chief
District 1 Office of Traffic Operations

Project Information

Location:	In Humboldt County, in and near Trinidad, from Sixth St OC #4-57 to Trinidad Rd UC #4-58.	
Type of Work:	Construct overcrossing structure.	
Anticipated Traffic Control:	Lane reduction Intermittent closure (Alt 5) Shoulder closure	
Estimated Maximum Delay:	Minimal 30 minutes during intermittent closure	
Peak Hour Traffic Volumes:	1100 vph	
Lane Requirement Charts Included:	Yes	
Closure During Night Hours:	Possible	
Number of Working Days:	TBD	
PA&ED Date:	July 1, 2017	
RTL Date:	May 15, 2019	
District Traffic Manager/ TMP Manager:	Sheri Rodriguez	(707) 445-6377
TMP Coordinator:	Paul Hailey	(707) 445-5213

Anticipated Traffic Impacts

Significant traffic impacts are possible depending on the preferred alternative. In conformance with Deputy Directive-60, District Lane Closure Review Committee (DLCRC) approval is required for projects with anticipated traffic delay of 30 minutes or greater.

Requirement

A request for an updated Transportation Management Plan (TMP) must be made during the design phase

Hours of Work

- See Chart no. 1 "Freeway Lane Requirements" for work hour restrictions.
- See Chart no. 2 "Lane Closure Restrictions for Designated Holidays" for work day restrictions.

Public Notice

- Upon receipt of notice that the total roadway width, including paved shoulder, will be narrowed to less than 16 ft or there is a change in vertical clearance, the Resident Engineer must promptly notify the HQ District 1 Construction Liaison D'Ann Watanabe-Gulling at (916) 322-4822 so annual permit holders can be notified of width restrictions.
- The District Public Information Office, (707) 445-6444, must be contacted two weeks in advance of the start of construction.
- Each closure must be entered in the Lane Closure System (LCS; http://lcs.dot.ca.gov/lcsprod/).
    - Every Monday by noon, submit a schedule of planned closures for the next week period. The next week period is defined as Friday midnight through the following Friday midnight.
    - Closures must be statused daily with first cone up (1097) and last cone down (1098) or cancelled (1022). Statusing can be accomplished through:

Status With	Day	Time	Contact Number
LCS	Any	Any	-
District 1 Dispatch	Monday-Friday	6am-6pm	(707) 441-5747
District 3 Dispatch	Monday-Friday	6pm-6am	(916) 859-7900
District 3 Dispatch	Saturday and Sunday	Any	(916) 859-7900

    - To access the LCS you will need an account. Contact Jeannette Candalot at (707) 445-7807 to get set up with an account.

- Any emergency service agency whose ability to respond to incidents will be affected by any lane closure must be notified prior to that closure.

- Impacts to tribal land during the construction phase must be coordinated with the affected local tribal government and other entities during the design phase. Contact Jaime Hostler, District 1 Native American Liaison, (707) 441-5815.

- Work must be coordinated with the local busing system (including school buses and public systems) to minimize impact on their bus schedules.

- The Resident Engineer must provide information to residents and businesses before and during project work that may represent a negative impact on commerce and travel surrounding the zone of construction. Funding must be included in supplemental funds for public information (Item 066063 Traffic Management Plan – Public Information; consider $2,000).

- Consider incorporating supplemental funds into the cost estimate for this project for an open house public meeting prior to the construction phase.

- Notify the Resident Engineer at least 5 days in advance of excavation work in the vicinity of possible Caltrans electrical facilities. The Resident Engineer must contact the Maintenance-Electrical Supervisor at (707) 463-4713 to locate existing Caltrans underground electrical facilities.

Traffic Control

- One lane closure is permitted within the project limits.

- The W11-1 vehicular traffic sign (bicycle symbol) and the W16-1p supplemental plaque (SHARE THE ROAD) must be placed, in each direction of travel, prior to the construction zone.

- Work that requires a lane and/or shoulder closure on a freeway must be in conformance with the Caltrans Revised Standard Plan T-10, "TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS."

    - A minimum of 16 ft of paved roadway in each direction of travel must be open for use by public traffic.

- Work that requires closing half the roadway must be in conformance with the Caltrans Revised Standard Plan T-12, "TRAFFIC CONTROL SYSTEM FOR HALF ROAD CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS AND EXPRESSWAYS."

  - A minimum of 16 ft of paved roadway in each direction of travel must be open for use by public traffic.

- Pending DLCRC approval, the road may be closed and public traffic stopped for periods not to exceed 30 minutes during girder placement. After each closure, all accumulated traffic must be allowed to pass through the work before another closure is made.

- A minimum of one PCMS in advance of both ends of the construction site must be required to notify the public of the closures related to this project.

  - Start displaying the message on the PCMS 15 minutes before closing the lane.

- Access to businesses, side roads and residences must be maintained at all times. When work or traffic queues extend through an intersection, additional traffic control will be required at the intersection.

- This section of Highway 101 is part of the Pacific Coast Bike Route. Bicyclists must be accommodated through the work zone. Signage must be used to alert vehicles of the possible presence of bicyclists. During lane reduction traffic control, bicyclists must be provided space adjacent to the open traffic lane to traverse through the work zone.

- Pedestrian detours must be required when sidewalks are not available for public travel and must be in conformance with "Figure 6H-28. Sidewalk Detour or Diversion (TA-28)" in the November 7, 2014 CA MUTCD (pp. 1200 and 1201).

- Pedestrian detours must be required when sidewalks and/or crosswalks are not available for public travel and must be in conformance with "Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)" in the November 7, 2014 CA MUTCD (pp. 1202 and 1203).

- COZEEP is recommended for this project based on risk factors associated with this project and the COZEEP Guidelines (CA DOT Construction Manual Section 2-215C). The associated risk factors include: workers exposed to traffic, night construction activities, end of queue management, speed management, and significant truck volumes.

Contingency Plan

The contractor must prepare a contingency plan for reopening closures to public traffic. The Contractor must submit the contingency plan for a given operation to the Engineer within one working day of the Engineer's request. Contingencies for

unanticipated delays, emergencies, etc. must be coordinated between the RE and the Contractor.

Approval

Approved by: _____
Transportation Management Plan Coordinator

As Signed by PWH for SMR

Approved by: _____
District Traffic/ TMP Manager

SMR/pwh

CC: 1)SMRodriguez, 2)JCandalot
KFloyd
JMcGee
Traffic Safety
PIO

Chart no. 1
Freeway Lane Requirements

County: HUM	Route/Direction: 101 NB/SB	PM: 98.4/100.7

Closure limits:

From hour to hour	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	N	N	N	N	N	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	N	N	
Fridays	N	N	N	N	N	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Saturdays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Sundays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	N	N	

Legend:

1	Provide at least one through freeway lane open in direction of travel. The maximum closure length is one mile.
N	Provide at least one through freeway lane open in direction of travel. The maximum closure length is one mile. Traffic may be stopped for periods not to exceed 30 minutes pending DLCRC approval.

REMARKS: The full width of the traveled way must be open for use by public traffic when construction operations are not actively in progress.

Chart no. 2: Lane Closure Restrictions for Designated Holidays

Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun
xx	**H** xx									
	xx	**H** xx								
	xx		**H** xx	xx						
	xx			**H** xx						
				xx	**H** xx					
					xx	**H** xx				
						xx	**H** xx	xx		

Legend:

	Refer to lane requirement charts
xx	Except during stage construction, the full width of the traveled way must be open for use by public traffic.
H	Designated Holiday

ATTACHMENT H

PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT (PEAR)

PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

1. Project Information

District 1	County Humboldt	Route 101	PM 98.4 / 100.7	EA 01-48040K
Project Title: US 101/Trinidad Area Access Improvements				
Project Manager Kim Floyd, Caltrans District 1			Phone # (707) 441-5739	
Project Manager (Consultant) Russ Wenham, Omni-Means, Ltd.			Phone # (530) 242-1700	
Environmental Office Chief/Manager Sandra Rosas, Caltrans North Region			Phone # (707) 441-5730	
PEAR Preparer Douglas DeMallie, Project Planner, Omni-Means, Ltd.			Phone # (530) 242-1700	

2. Project Description

Purpose and Need

The purpose of the project is to:

1. Provide safe and sustainable access to and from US 101, for all modes of transportation, to the Trinidad Rancheria and the surrounding communities located along Scenic Drive, Westhaven Drive, and in the City of Trinidad.
2. Relieve projected traffic congestion associated with planned future development.
3. Reconnect tribal lands.

The proposed project is needed because:

1. The only access to Trinidad Rancheria lands from US 101, Scenic Drive west of the Trinidad Rancheria, is not safe or sustainable:
   a. It is geologically unstable; slides and slip-outs commonly cause partial or complete road closures, particularly during the winter months.
   b. It is not a pedestrian/bicycle friendly route, due to the lack of sidewalks and minimal or no paved shoulders.
2. The current capacity at several intersections would be inadequate to accommodate projected increases in traffic due to planned future development.
3. The construction of US 101 severed tribal lands.

Description of Work

The project proposes to make operational improvements between the unincorporated community of Westhaven (PM 98.4) and the City of Trinidad (100.7). The improvements could include construction of a Type L-1 Compact Diamond interchange

on US 101 at approximately post mile (PM) 100.0, between the existing 6th Street interchange located at PM 98.4 and the existing Trinidad-Main Street interchange located at PM 100.7 in Humboldt County. The project limits would extend from PM 99.5 to PM 100.3.

Alternatives

Alternative 1A: Improvements to Main Street with signalized intersections, including replacement of the Trinidad-Main Street Interchange (PM 100.7), widening of Main Street from Scenic Drive to Westhaven Drive, and widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad. **(Does not meet P&N)**

Alternative 1B: Improvements to Main Street with roundabout intersections, including reconstruction of the Trinidad-Main Street Interchange ramps (PM 100.7), widening of Main Street from Scenic Drive to Westhaven Drive, and widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad. **(Does not meet P&N)**

Alternative 2: Construct new Cher-Ae Lane Overcrossing (PM 100.0) with local road connection to Scenic Drive and Westhaven Drive (no connection to US 101), including widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad. **(Does not meet P&N)**

Alternative 3A: New US 101/Cher-Ae Lane Interchange (PM 100.0) with local road connection to Cher-Ae Lane, Scenic Drive, and Westhaven Drive, including widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad. (**Appears to meet P&N**)

Alternative 3B: New US 101/Cher-Ae Lane Interchange (PM 100.0) with local road connection to Cher-Ae Lane and Scenic Drive, a Class I Mixed-Use Trail connection to Westhaven Drive, and widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad. (**Appears to meet P&N**)

Alternative 4A: Improvements to Scenic Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1-100.7). **(Does not meet P&N)**

Alternative 4B: Construct new frontage road to replace Scenic Drive from US 101 in the Community of Westhaven to Cher-Ae Lane and improvements to Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad (PM 98.4-100.7). **(Does not meet P&N)**

Alternative 5A: Combination of Alternative 1A and Alternative 2: Improvements to Main Street with signalized intersections and construct new Cher-Ae Lane Overcrossing (PM 100.0) with local road connection to Scenic Drive and Westhaven Drive (no connection to US 101), including reconstruction of the Trinidad–Main Street Interchange, widening of Main Street from Scenic Drive to Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, and widening of Westhaven Drive from US

101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 101.1). (**Appears to meet P&N**)

Alternative 5B: Combination of Alternative 1B and Alternative 2: Improvements to Main Street with roundabout intersections and construct new Cher-Ae Lane Overcrossing (PM 100.0) with local road connection to Scenic Drive and Westhaven Drive (no connection to US 101), including reconstruction of the Trinidad–Main Street Interchange, widening of Main Street from Scenic Drive to Westhaven Drive, widening of Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 101.1). (**Appears to meet P&N**)

Alternative 6: New US 101/Baker Ranch Road Interchange (PM 99.6) with local road connections to Scenic Drive and Westhaven Drive, construct new frontage road between Baker Ranch Road and Cher-Ae Lane, widen and reconstruct Scenic Drive from Baker Ranch Road to Main Street in the City of Trinidad and widening of Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7). **(Does not meet P&N)**

Alternative 7: Combine Alternative 2 with Alternative 4B: Construct New Cher-Ae Lane Overcrossing (PM 100.0) with local road connection to Scenic Drive and Westhaven Drive (no connection to US 101), construct new frontage road to replace Scenic Drive from the Community of Westhaven to Cher-Ae Lane, improve Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad, and widen Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7). **(Does not meet P&N)**

Alternative 8: New US 101/1.0 Mile Spacing Interchange (PM 99.7) approximately 1 mile south of the US 101/Trinidad-Main Street Overcrossing Interchange, with local road connections to Cher-Ae Lane and Westhaven Drive. Widen and reconstruct Scenic Drive from Cher-Ae Lane to Main Street in the City of Trinidad and widen Westhaven Drive from US 101 in the Community of Westhaven to Main Street in the City of Trinidad (PM 98.1 – 100.7). (**Appears to meet P&N**)

No-Build Alternative: This alternative assumes no improvements to any of the roadways in the study area. **(Does not meet P&N)**

3. Anticipated Environmental Approval

CEQA		NEPA	
Environmental Determination			
Statutory Exemption	☐		
Categorical Exemption	☐	Categorical Exclusion	☐
Environmental Document			
Initial Study or Focused Initial Study with proposed Negative Declaration (ND) or Mitigated ND	☐	Routine Environmental Assessment with proposed Finding of No Significant Impact Complex Environmental Assessment with proposed Finding of No Significant Impact	☐ ☒
Environmental Impact Report	☒	Environmental Impact Statement	☐
CEQA Lead Agency (if determined):		Caltrans	
Estimated length of time (months) to obtain environmental approval:		48 months	
Estimated person hours to complete identified tasks:		15,354 person hours (see Attachment B)	

4. Special Environmental Considerations

For all project alternatives, special considerations that may affect project delivery and require unusual, exceptional, or extended environmental processes include the following: seasonally appropriate floristic surveys; complex processes, such as, Section 106 of the National Historic Preservation Act; Section 404 of the Federal Clean Water Act; Section 7 of the Federal Endangered Species Act; obtaining permits and approvals from resource agencies, including local coastal program amendment(s) and permit appeal(s) to the California Coastal Commission; obtaining access permission to enter property owned or controlled by others; construction constraints due to seasonal wet weather restrictions and seasonal nesting bird restrictions; and biological monitoring and Native American cultural monitoring during construction.

5. Anticipated Environmental Commitments

For all project alternatives, anticipated environmental commitments (mitigation measures) include, but may not be limited to, the following:

- Cultural Resources–Native American cultural monitoring during construction
- Hazardous Waste/Materials–Potential environmental remediation
- Noise and Vibration–Potential noise barrier mitigation
- Biological Environment–Mitigation and/or monitoring for impacts to wetlands/other waters, riparian, special status species and habitats, and other California Coastal Zone environmentally sensitive habitat areas (ESHAs)

A cost estimate for anticipated environmental commitments would be developed later in the process, unless needed for right-of-way cost estimates.

6. Permits and Approvals

Permits and approvals potentially required for this type of project would include, but are not necessarily limited to, the following (Table 1). Actual permit requirements will depend upon detailed project information, site-specific information, and coordination with the various regulatory agencies.

Table 1
Anticipated Permits for
US 101/Trinidad Area Access Improvements

Agency	Permit	Time
California Coastal Commission	Certification of City and/or County Local Coastal Program amendment(s)	12 months
	Review of City of Trinidad and County of Humboldt coastal development permits if they get appealed to California Coastal Commission	12 months
City of Trinidad	Coastal development permit, encroachment permit, grading permit, and design review	6 months
County of Humboldt	Local Coastal Program amendment	12 months
	Coastal development permit, encroachment permit, and grading permit	12 months
Caltrans	Encroachment permit	24 months
CDFW[1]	Lake and Streambed Alteration Agreement	6 months
RWQCB[2]	Clean Water Act Section 401 Water Quality Certification and/or Waste Discharge Requirements, and Construction General Permit	6 months
US Army Corps of Engineers	Clean Water Act Section 404/Section 10 permit	12 months

1. CDFW: California Department of Fish & Wildlife
2. RWQCB: North Coast Regional Water Quality Control Board

California Coastal Commission

All project alternatives are located entirely within the Coastal Zone. All project alternatives are located at least partially within County of Humboldt's local coastal program planning area and all except Alternative 6 are located at least partially within City of Trinidad's local coastal program planning area. All alternatives include portions located within both "local" and "appeal" areas of coastal permit jurisdiction; therefore coastal development permitting for all project alternatives would be appealable to the California Coastal Commission (CCC). (For a project of this magnitude it is expected that the project would be appealed to the CCC regardless of the alternative selected.) The CCC's review of the project would result in a determination that the City and County coastal development permits (CDPs) either would stand or be overturned (denied). If the project requires amendment of the City of Trinidad's and/or the County of Humboldt's Local Coastal Program(s) (see Section 8.1 below), CCC certification of the amendment(s) would also be required. Preliminary discussion with the CCC's Federal Consistency Manager indicated that unless an Environmental Impact Statement is required pursuant to NEPA, a Federal Consistency Certification by the CCC will not likely be necessary.

City of Trinidad

As described above, all project alternatives, except Alternative 6, would require a CDP from the City of Trinidad, which would be expected to be appealed to the CCC for final consideration. Other permits required from the City of Trinidad include an encroachment permit, grading permit, and design review.

County of Humboldt

As described above, all project alternatives would require a CDP from the County of Humboldt, which would be expected to be appealed to the CCC for final consideration. Other permits required from the County of Humboldt include an encroachment permit and grading permit. Due to the project's potential conflict with the *Humboldt County General Plan-Volume II: Trinidad Area Plan of the Humboldt County Local Coastal Program* (see Section 8.1 below), amendment of the *Trinidad Area Plan* may be necessary prior to the County's processing of the CDP application.

California Department of Transportation

All project alternatives involving work within the Caltrans right-of-way will require an encroachment permit from Caltrans. Caltrans will also serve as the lead agency for California Environmental Quality Act (CEQA).

California Department of Fish & Wildlife

Fish and Game Code section 1602 requires an entity to notify California Department of Fish & Wildlife (CDFW) prior to commencing any activity that may do one or more of the following:

- substantially divert or obstruct the natural flow of any river, stream, or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit debris, waste, or other materials that could pass into any river, stream, or lake.

CDFW requires a lake and streambed alteration (LSA) Agreement when it determines

that the activity may substantially adversely affect existing fish or wildlife resources. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest ways to modify the project that would eliminate or reduce harmful impacts to fish and wildlife resources. All project alternatives are expected to require an LSA Agreement, because each involves multiple stream crossings.

North Coast Regional Water Quality Control Board

All project alternatives are expected to require a Clean Water Act Section 401 Water Quality Certification and/or Waste Discharge Requirements from the North Coast Regional Water Quality Control Board (RWQCB), because each involves multiple stream crossings and potential direct or indirect impacts to wetlands or other Waters of the State.

Construction activities that involve more than one acre of land disturbance are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ as amended by Order No. 2010-0014-DWQ and 2012-0006-DWQ). The Construction General Permit requires the site owner to submit an application to the State, to prepare and implement a stormwater pollution prevention plan, and to monitor the effectiveness of the plan. All project alternatives would likely require coverage under the Construction General Permit due to ground disturbance greater than one acre.

U.S. Army Corps of Engineers

All project alternatives are expected to require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (ACOE), because each involves multiple stream crossings and potentially impacts to wetlands or other Waters of the U.S.

Office of Federal Lands Highway (FHWA) or Bureau of Indian Affairs

Either the Office of Federal Lands Highway (FHWA) or Bureau of Indian Affairs will be the lead agency for National Environmental Policy Act (NEPA) compliance.

7. Level of Effort: Risks and Assumptions

Important factors that could affect the cost, schedule, level of effort, and resources needed to obtain permits and agency approvals and to complete environmental documentation include the following: location of the project within the Coastal Zone, project incompatibility with local coastal program(s), potential public controversy, potential presence of federally-listed species that may cause extended Section 7 consultation, and uncertainties regarding geotechnical risks, undiscovered cultural resources, and widespread environmentally sensitive habitat areas (ESHAs). Federal Consistency Certification by the CCC is assumed to be unnecessary unless an Environmental Impact Statement is required for NEPA.

8. PEAR Technical Summaries

8.1 Land Use: The *Humboldt County General Plan-Volume II: Trinidad Area Plan of the Humboldt County Local Coastal Program* limits the types of roadway improvements allowed in the project area and does not allow for construction of new roadways, highway overcrossings, or interchanges. Communication with the County of Humboldt and California Coastal Commission is recommended to determine the implications of this section of the Local Coastal Program. Land use

issues have "High" potential to pose significant constraints to Alternatives 2, 3A, 3B, 4B, 5A, 5B, 6, 7 and 8, which all involve construction of new roadways. Alternatives 1A, 1B and 4A do not involve construction of new roadways so they are assigned a "Medium" likelihood of land use issues posing a substantial constraint. Amendment of the *Trinidad Area Plan* may be necessary for Alternatives 2, 3A, 3B, 4B, 5A, 5B, 6, 7 and 8, which could add approximately 18-24 months to the coastal development permit process. Coastal zone access points, scenic areas, and scenic views exist along Scenic Drive. No 4(f) property is known to occur within the project area.

8.2 Growth: All of the project alternatives involve increased transportation capacity and/or access. The potential exists for such projects to be seen as indirectly inducing population growth. However, because the project is intended to provide adequate transportation capacity based on the Cher-Ae Heights Indian Community Comprehensive Community-Based Plan (Trinidad Rancheria, December 2011), this concern may be reduced. Therefore, all project alternatives are identified as having a "Low" likelihood of growth-inducement issues posing a substantial constraint.

8.3 Farmlands/Timberlands: Humboldt County webGIS does not show mapped agricultural or prime agricultural soils within the areas of the project alternatives. There does not appear to be any land zoned for agriculture or forestry within any of the alternatives. Therefore, all project alternatives are assigned a "Low" concern level for this environmental factor.

8.4 Community Impacts: The *Humboldt County General Plan-Volume II: Trinidad Area Plan of the Humboldt County Local Coastal Program* limits the types of roadway improvements allowed in the project area and does not allow for construction of new roadways, highway overcrossings, or interchanges. Communication with the County of Humboldt and California Coastal Commission is recommended to determine the implications of this section of the Local Coastal Program. Although all project alternatives involve increased transportation capacity and/or access, and the potential exists for such projects to be seen as indirectly inducing population growth, such concerns may be reduced because the project is intended to provide adequate transportation capacity based on the Cher- Ae Heights Indian Community Comprehensive Community-Based Plan (Trinidad Rancheria, December 2011). There does not appear to be any land zoned for agriculture or forestry within any of the alternatives. It is assumed that no relocation of housing or businesses or other economic effects will be involved under any project alternative. The entire project area (including the Trinidad Rancheria) is designated as either "economically disadvantaged community" or "severely economically disadvantaged community." The project is assumed to have a positive effect on police, fire, and emergency services, which will benefit from improved access. The project will improve community cohesion related to tribal connectivity. Given the rural coastal zone project setting, public and agency concern about community character and cohesion may be substantial. Community impacts have "High" potential to pose significant constraints to Alternatives 2, 3A, 3B, 4B, 5A, 5B, 6, 7 and 8, which all involve construction of new roadways. Alternatives 1A, 1B and 4A do not involve construction of new roadways, so they are assigned a "Medium" likelihood of

community impacts posing a substantial constraint.

8.5 Visual/Aesthetics: US Highway 101 is eligible for State Scenic Highway designation, but is not officially designated. Coastal scenic views, scenic areas, and coastal access points occur along Scenic Drive. Aesthetics are generally a substantial concern with any development in the Coastal Zone.

> **** 30251 The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas* (Trinidad Area Plan Section 3.40 Visual Resource Protection, 2007).

Aesthetics and coastal scenic resources have the potential to pose significant constraints to all project alternatives, which all involve improvements to Scenic Drive and areas west of Highway 101. Any project involving development of a new highway overcrossing or a new frontage road in the Coastal Zone will involve aesthetic considerations. A visual impact assessment and photo-simulation may be required for development of certain alternatives, particularly those involving construction of a new overcrossing or roadway. Alternative 4A was assigned a "Medium" concern level for Visual/Aesthetics, and the others were assigned a "High" level of concern, because Alternative 4A involves merely restoration of Scenic Drive, and all the other alternatives involve a new highway overcrossing, a new frontage road, and/or substantial improvements to the Trinidad-Main Street interchange.

8.6 Cultural Resources: All project alternatives will require cultural resource investigations addressing historical and archaeological resources, because many locations of sensitive resources are unknown. Anticipated studies include an archaeological survey report, historical resources evaluation report, and historic property survey report. All alternatives will likely require a cultural monitor onsite observing ground disturbing activities. Cultural resources may pose a significant constraint to project development, but it is unknown at this time where sensitive cultural resources may occur. The Trinidad Area Plan (Humboldt County, 2007) includes the following potential mitigation measures for when archaeological or paleontological sites are present:

a) changing building and construction sites and/or road locations to avoid sensitive areas;
b) providing protective cover for sites that cannot be avoided; and
c) where appropriate and with the approval of all parties concerned, providing for the removal or transfer of culturally significant material by a professional archaeologist or geologist.

Project alternatives involving construction of a new roadway (Alternatives 2, 3A, 3B, 4B, 5A, 5B, 6, 7 and 8) may be more likely to encounter cultural resources constraints than those involving improvements to an existing roadway, because they

may have a larger footprint of new disturbance. Therefore, those alternatives were assigned a "High" concern level for cultural resources. The remaining alternatives were assigned a "Medium" concern level for cultural resources**.**

8.7 Hydrology and Floodplain: No FEMA flood zone or floodway is mapped in the project area by FEMA Flood Insurance Rate Maps. Therefore, all project alternatives are identified as having a "Low" likelihood of hydrology and floodplain issues posing a substantial constraint.

8.8 Water Quality and Storm Water Runoff: Eight streams have been identified within the overall project area that may be affected by the various project alternatives–Mill Creek, Parker Creek, McConnahan's Mill Creek, Unnamed Creek, Deadman's Creek, Luffenholtz Creek, Joland Creek, and Two Creeks Creek. The number of stream crossings associated with the various project alternatives ranges from two to seven. All project alternatives will need to comply with water quality standards and adequately address stormwater drainage and best management practices for erosion and sediment control. All project alternatives would likely require coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ as amended by Order No. 2010-0014-DWQ and 2012-0006-DWQ) due to ground disturbance greater than one acre. However, water quality and stormwater runoff issues are not likely to be a significant constraint to any of the project alternatives. Therefore, all project alternatives are identified as having a "Low" likelihood of water quality and stormwater runoff issues posing a substantial constraint.

8.9 Geology, Soils, Seismic, and Topography: Project alternatives involving improvement of the US 101/Trinidad-Main Street interchange and/or Scenic Drive/Main Street intersection are subject to the potential for active surface fault rupture, because the active Trinidad fault is mapped through, or in very close proximity to, the interchange. Those alternatives (Alternatives 1A, 1B, and 5A and 5B) were assigned at least a "Medium" concern level for geology and soils resources. Alternatives involving a new overcrossing at Cher-Ae Lane (Alternatives 2, 3A, 3B and 8) were described by the geotechnical screening memorandum as relatively straightforward from a geotechnical standpoint and were, therefore, assigned at least a "Low" concern level for geology and soils resources. Alternative 6, involving a new interchange at US101/Baker Ranch Road, did not appear to be subject to significant geotechnical limitations, although a topographic obstacle was noted, resulting in a "Medium" concern level. Scenic Drive north of the Rancheria has been subject to several past slope failures, although retreat into the bank cuts along the inboard road edge appeared feasible in most cases ("Low" concern level). Alternative 4A, involving reconstruction of Scenic Drive between Westhaven and the Rancheria, was considered geotechnically infeasible due to the severely degraded roadway and severe land sliding and was assigned a "High" concern level. Alternative 4B, involving construction of a new frontage road between Westhaven and the Rancheria, was also assigned a "High" concern level due to the alignment crossing several large earth flows and two significant drainages.

8.10 Paleontology: None of the project alternatives involves a location known to contain paleontological resources (either vertebrate or invertebrate) or geological

formations that would be likely to contain them. Therefore, all project alternatives are identified as having a "Low" likelihood of paleontology issues posing a substantial constraint.

8.11 Hazardous Waste/Materials: According to the California Envirostor database, no hazardous materials site pursuant to Government Code Section 65962.5 is located within the project vicinity. The State Water Resources Control Board's GeoTracker website, which provides access to statewide environmental data and tracks regulatory data, did not list any site in the project vicinity.

A Phase I environmental site assessment (ESA) completed in February 2015 investigated a study area that includes only portions of some of the project alternatives (SHN, 2015a). The ESA encountered evidence of recognized environmental conditions including:

- potential concentrations of concern from aerially deposited lead (ADL) within the Caltrans right-of-way and the proposed project boundary;
- former residential dwellings that are and will be demolished within the proposed project area, all of which have a possibility that lead- and/or asbestos-containing materials may be present in the shallow soils or in the demolition debris that will require disposal; and
- a residential area, around a dwelling being demolished, where containers and debris of unknown materials have been disposed in an uncontrolled manner.

Other concerns listed in the ESA include the septic tanks and leach fields that are situated within the project area and require proper abandonment.

The above-listed concerns will need to be addressed and resolved in compliance with all applicable regulations. The ESA did not include recommendations as to remediation. Project alternative locations not investigated in the ESA will also need to be investigated and may have environmental conditions that will need to be remediated. However, hazards and hazardous materials are seen as having a "Low" likelihood of posing a substantial constraint to any project alternative.

8.12 Air Quality: The project site is located within the North Coast Air Basin. The North Coast Unified Air Quality Management District (NCUAQMD) regulates air pollutant point sources found within the air basin. Currently, Humboldt County is a non-attainment area for state standards for particulate matter of less than 10 micrometers in diameter (PM-10). For other point source pollutants, the air basin is an attainment area.

An air quality analysis addressing both construction-phase and operational-phase impacts of the project will likely be required, potentially including a health risk assessment regarding the project's potential to emit toxic or hazardous air pollutants in proximity to sensitive receptors. However, air quality impacts are not likely a significant constraint for any project alternative. Therefore, all project alternatives were assigned a "Low" concern level for this environmental factor.

8.13 Noise and Vibration: All project alternatives will involve temporary noise

generation during construction in the vicinity of sensitive receptors (residences). Increasing roadway capacity and construction of new roadways has the potential to expose people/residences to long-term traffic noise levels in excess of noise standards. A traffic noise study report may be needed for any/all alternatives in order to characterize noise impacts and determine suitable mitigation. Alternative 4A was assigned a "Low" concern level for noise because it involves restoring Scenic Drive without expanding the number of lanes. All the other alternatives were assigned "High" concern levels, because they involve construction of new roadways in the vicinity of sensitive receptors (residences).

8.14 Energy and Climate Change: The project is not expected to be considered a "major project" for the consumption of energy during project construction or operation. Therefore, an energy technical report is not anticipated.

All project alternatives will need to be evaluated for effects on greenhouse gas (GHG) emissions from construction and from post-project effects on vehicle miles travelled as part of the CEQA process. GHG emissions modeling will likely be required. However, energy and climate change issues are not anticipated to pose significant constraints to any project alternative. Therefore, all project alternatives are identified as having a "Low" likelihood of energy and climate change issues posing a substantial constraint.

8.15 Biological Environment: Environmentally sensitive habitat areas (ESHAs) are expected to be widespread within the project area, affecting and constraining all project alternatives, although site-specific information is limited at this time. No wetland or coastal wetland area is mapped by the County webGIS as being within the project area. Aside from some of the streams and estuarine areas, no wetland is identified in the project area by the National Wetlands Inventory. However, it is very likely that wetlands and other ESHAs are present within the various project alternative locations. Based on the results of the special status queries, the following biological studies are anticipated:

- A biological assessment and natural environment study that includes results of a detailed assessment and/or survey for potentially occurring special status botanical, wildlife, and fish species, including the following components:
  - An assessment of habitat and/or survey for all potentially occurring special status wildlife species, including listed amphibians
  - An assessment of habitat for potentially occurring special status fish species including, but not limited to, salmonid species, with recommendations for limiting impacts to fish species
  - Seasonally appropriate surveys for all listed plant species and natural communities that may meet the definition of ESHA
- To avoid impacts to wetlands, a preliminary site evaluation should be conducted during the winter or early spring to determine if wetland hydrology is present and if impacts are likely to occur. If so, a formal wetland delineation report and wetland assessment will be needed.
- To avoid impacts to nesting birds and/or raptors, one of the following should be implemented. Either:
  - conduct vegetation removal and other ground disturbance activities

associated with construction during mid-August through February, when most species of birds are not nesting; or

- conduct a pre-construction survey for nesting birds if vegetation removal or ground disturbing activities is to take place during the nesting season (March through mid-August for most birds).

Coordination with resource agencies including CDFW and CCC is also necessary in order to determine the location and extent of ESHAs and biological constraints.

Mitigation for impacts to ESHAs has the potential to be a costly factor in project development.

Although the locations of ESHAs are unknown at this time and there are many types of ESHA (many of which are not associated with streams), it may be helpful to consider the number of stream crossings involved with each alternative as a potential indicator of the likelihood/ magnitude of biological constraints (see Table 2).

Table 2
Approximate Number of Stream Crossings Per Project Alternative Trinidad Rancheria US Highway 101/Trinidad Interchange Project

Alternative Number	Approximate Number of Stream Crossings[1]
1A	3 or 4
1B	3 or 4
2	2 or 3
3A	2 or 3
3B	2 or 3
4A	7
4B	6
5A	4 or 5
5B	4 or 5
6	2
7	6 or 7
8	2 or 3

1. Several creeks and drainages traverse the project area, crossing Highway 101 and Scenic Drive. Not all are mapped or named. For the purposes of this memorandum, the number of potential creek crossings for each project alternative is approximated based on mapping from the City of Trinidad Draft General Plan (2009).

It is also noted that alternatives involving construction of a new roadway (Alternatives 2, 3A, 3B, 4B, 5A, 5B, 6, 7 and 8) may be more biologically constrained than those involving improvements to an existing roadway, because they may have a larger footprint of new disturbance. But even the latter are likely to face substantial biological constraints given the project's setting in the California Coastal Zone.

Therefore, all project alternatives are identified as having a "High" likelihood of biological resources posing a substantial constraint.

8.16 Cumulative Impacts: Cumulative impacts from the project when added to other closely related past, present, and reasonably foreseeable probable future projects are unknown at this time. If potentially significant cumulative impacts are identified, the CEQA analysis must also identify feasible mitigation measures for each significant environmental effect identified in the EIR.

8.17 Context Sensitive Solutions: Early agency coordination for each resource area as well as early outreach to the community will help ensure a successful context sensitive solutions outcome. To date, early agency coordination has been limited but the City of Trinidad has been represented at PDT meetings.

9. Summary Statement for PSR or PSR-PDS

This Preliminary Environmental Analysis Report (PEAR) provides the initial environmental evaluation of the project and its alternatives before it is programmed. It anticipates the environmental constraints that may affect project design, alternatives, cost, schedule, and delivery. It estimates the scope, schedule, and costs associated with the subsequent environmental compliance process and it documents the assumptions and risks used to develop those estimates.

For the majority of the project alternatives (All except 4A), the anticipated environmental documents are an Environmental Impact Report pursuant to the California Environmental Quality Act and a Complex Environmental Assessment with proposed Finding of No Significant Impact pursuant to the National Environmental Policy Act.

It is estimated that the final environmental document process will require approximately 48 months. This time period includes field reviews, technical report preparation, agency consultation, environmental document preparation, circulation to the public, and possible revisions if the project scope changes.

Further Environmental Effort

Except where otherwise stated, the key environmental issues, studies, permits, and anticipated environmental commitments listed below apply to all project alternatives.

Land Use and Community Impacts: The project is located entirely within the Coastal Zone. The project conflicts with the *Humboldt County General Plan-Volume II: Trinidad Area Plan of the Humboldt County Local Coastal Program*, which does not allow for construction of new roadways, highway overcrossings, or interchanges in the project area. If necessary, Local Coastal Program amendment would require certification by the California Coastal Commission, which also has appeal jurisdiction over County and City coastal development permits. Local Coastal Program amendment could add approximately 18-24 months to the coastal development permit processes. Public controversy regarding the project may be considerable. A community impact assessment is anticipated.

Visual/Aesthetics: A visual impacts assessment with photo-simulation is anticipated due to the proposed highway overcrossing.

Cultural Resources: It is unknown at this time where sensitive cultural resources may occur. Anticipated studies include an archaeological survey report, historical resources evaluation report, and historic property survey report. Native American cultural monitoring is anticipated during ground disturbing activities.

Water Quality and Stormwater Runoff: The proposed project footprint involves approximately three stream crossings. A water quality study is anticipated. If ground disturbing activity exceeds one acre, coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit) will be required.

Geology, Soils, Seismic, and Topography: Project Alternatives 1A, 1B, 5A, and 5B, involving improvement of the US 101/Trinidad Main Street interchange and Scenic Drive/Main Street intersection, is subject to the potential for active surface fault rupture because the active Trinidad fault is mapped through, or in very close proximity to, the interchange.

Geotechnical investigation(s) are anticipated for all alternatives.

Hazardous Waste/Materials: An initial site assessment completed for part of the project area found evidence of recognized environmental conditions including potential for aerially deposited lead, lead- and/or asbestos-containing materials, disposal of unknown materials, and septic tanks and leach fields within the project area. An initial site assessment of the rest of the project area is anticipated. The project site is not on the Hazardous Waste and Substances Site List (Cortese List).

Air Quality: An air quality analysis addressing both construction phase and operational phase impacts of the project is anticipated; potentially including a health risk assessment regarding the project's potential to emit toxic or hazardous air pollutants in proximity to sensitive receptors (residences).

Noise and Vibration: A traffic noise study report is anticipated to characterize noise impacts to nearby sensitive receptors (residences) and determine suitable mitigation. Potential mitigation could include construction of a noise barrier.

Energy and Climate Change: Greenhouse gas emission modeling is anticipated.

Biological Environment: The project, located entirely within the Coastal Zone, has the potential to affect a range of sensitive biological resources, including waters of the US and/or state, coastal ESHAs, and multiple special status species. Surveys and other investigations (many with seasonal timing requirements) should be conducted to determine the presence or potential for impacts to these biological resources. Section 7 consultation with National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) will be necessary. A biological assessment(s) will need to be completed and submitted to NMFS and/or USFWS. Anticipated permits include Section 404 from the ACOE, 401 from the RWQCB, and 1602 from the CDFW for fill and impacts to waters of the US and/or state. Coastal development permits from the County of Humboldt and City of Trinidad will be required and are appealable to the California Coastal Commission.

Avoidance and minimization measures may be necessary. Construction will likely be constrained by seasonal wet weather restrictions and seasonal nesting bird restrictions. Environmental commitments may include mitigation and/or monitoring for impacts to waters of the US and/or state, special status species and habitats, and other ESHAs.

10. Disclaimer

This PEAR provides information to support programming of the proposed project. It is not an environmental determination or document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in the project study report (PSR). The estimates and conclusions in the PEAR are approximate and are based on cursory analyses of probable effects. A reevaluation of the PEAR will be needed for changes in project scope or alternatives, or in environmental laws, regulations, or guidelines.

11. List of Preparers

Water Quality specialist Brandon Tenney, Project Engineer, Omni-Means, Ltd.	Date: 12/1/17
Hydrology and Floodplain specialist Brandon Tenney, Project Engineer, Omni-Means, Ltd.	Date: 12/1/17
PEAR Preparer (Name and Title) Douglas DeMallie, Project Planner, Omni-Means, Ltd.	Date: 12/1/17

12. Review and Approval

I confirm that environmental cost, scope, and schedule have been satisfactorily completed and that the PEAR meets all Caltrans requirements. Also, if the project is scoped as a routine EA, complex EA, or EIS, I verify that the HQ DEA Coordinator has concurred in the Class of Action.

Steve Crotteau
Environmental Branch Chief

Date: 12/14/17

Project Manager

Date: 12/14/17

REQUIRED ATTACHMENTS:

Attachment A: PEAR Environmental Studies Checklists
Attachment B: Estimated Resources by WBS Code
Attachment C: Schedule (Gantt Chart)

REFERENCES CITED

California Department of Toxic Substances Control. (2015). California EnviroStor database. Accessed at: http://www.envirostor.dtsc.ca.gov/public/

California State Water Resources Control Board. (2015). GeoTracker website. Accessed at: http://geotracker.waterboards.ca.gov/

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Trinidad Rancheria. (December 2011). *Cher-Ae Heights Indian Community Comprehensive Community-Based Plan*. Trinidad, CA: Trinidad Rancheria.

Attachment A: PEAR Environmental Studies Checklist (Alt 3A, 3B & 8)

Rev. 11/08

Environmental Studies for PA&ED Checklist (Alt 3A, 3B & 8)					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Land Use	☐	☐	☒	H	Project conflicts with Local Coastal Program. Community impact assessment is recommended.
Growth	☐	☒	☐	L	Growth inducement concerns reduced because project is intended to address build-out based on the Cher-Ae Heights Indian Community Comprehensive Community-Based Plan.
Farmlands/Timberlands	☒	☐	☐	L	No farmland/ timberland assumed to be within project area.
Community Impacts	☐	☐	☒	H	Project conflicts with Local Coastal Program. Community impact assessment is recommended.
Community Character and Cohesion	☐	☐	☒	H	Public and agency concern about community character and cohesion may be substantial. Project will improve community cohesion related to tribal connectivity. Community impact assessment is recommended.
Relocations	☒	☐	☐	L	No relocation anticipated.
Environmental Justice	☐	☒	☐	L	Project entirely within “economically disadvantaged community” or “severely economically disadvantaged community.”

Environmental Studies for PA&ED Checklist (Alt 3A, 3B & 8)					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Utilities/Emergency Services	☐	☒	☐	L	Project is assumed to have a positive effect on police, fire, and emergency services, which will benefit from improved access.
Visual/Aesthetics	☐	☐	☒	H	Visual impact assessment and photosimulation is expected due to new highway overcrossing.
Cultural Resources:	☐	☐	☒	H	Many locations of sensitive resources are unknown.
Archaeological Survey Report	☐	☐	☒	H	
Historic Resources Evaluation Report	☐	☐	☒	H	
Historic Property Survey Report	☐	☐	☒	H	
Historic Resource Compliance Report	☒	☐	☐	L	HRCR would only be required if no federal funding.
Section 106 / PRC 5024 & 5024.5	☐	☐	☒	H	
Native American Coordination	☐	☐	☒	H	
Finding of Effect	☒	☐	☐	H	
Data Recovery Plan	☒	☐	☐	H	
Memorandum of Agreement	☒	☐	☐	H	
Other:	☐	☐	☐	L	
Hydrology and Floodplain	☐	☒	☐	L	No FEMA flood zone or floodway is mapped in the project area.
Water Quality and Stormwater Runoff	☐	☐	☒	L	2-3 stream crossings.
Geology, Soils, Seismic and Topography	☐	☐	☒	L	
Paleontology	☒	☐	☐	L	No known paleontological resource.
PER	☒	☐	☐	L	
PMP	☒	☐	☐	L	
Hazardous Waste/Materials:	☐	☐	☒	L	
ISA (Additional)	☐	☐	☒	L	
PSI	☐	☐	☒	L	
Other:	☐	☐	☐	L	
Air Quality	☐	☐	☒	L	Air quality analysis expected.
Noise and Vibration	☐	☐	☒	H	Traffic noise study report expected.
Energy and Climate Change	☐	☐	☒	L	GHG emissions modeling expected.
Biological Environment	☐	☐	☒	H	Widespread

Environmental Studies for PA&ED Checklist (Alt 3A, 3B & 8)					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
					environmentally sensitive habitat areas.
Natural Environment Study	☐	☐	☒	**H**	
Section 7:	☐	☐	☒	**H**	
Formal	☐	☐	☒	**H**	
Informal	☒	☐	☐	**L**	
No effect	☒	☐	☐	**L**	
Section 10	☒	☐	☐	**L**	No work in navigable waters.
USFWS Consultation	☐	☐	☒	**H**	
NMFS Consultation	☐	☐	☒	**H**	
Species of Concern (CNPS, USFS, BLM, S, F)	☐	☐	☒	**H**	
Wetlands & Other Waters/Delineation	☐	☐	☒	**H**	
404(b)(1) Alternatives Analysis	☐	☐	☒	**M**	Required if 404 IP is required.
Invasive Species	☐	☐	☒	**M**	
Wild & Scenic River Consistency	☒	☐	☐	**L**	No wild and scenic river.
Coastal Management Plan	☒	☐	☐	**L**	
HMMP	☐	☐	☒	**H**	
DFG Consistency Determination	☐	☐	☒	**H**	
2081	☐	☐	☒	**H**	
Other:	☐	☐	☐	**L**	
Cumulative Impacts	☐	☐	☒	**M**	
Context Sensitive Solutions	☐	☒	☐	**M**	
Section 4(f) Evaluation	☒	☐	☐	**M**	No 4(f) has been identified in project area.
Permits:					
401 Certification Coordination	☐	☐	☒	**H**	
404 Permit Coordination, IP, NWP, or LOP	☐	☐	☒	**H**	
1602 Agreement Coordination	☐	☐	☒	**H**	
Local Coastal Development Permit Coordination	☐	☐	☒	**H**	
State Coastal Development Permit Coordination	☐	☐	☒	**H**	
NPDES Coordination	☐	☐	☒	**M**	
US Coast Guard (Section 10)	☒	☐	☐	**L**	No work in navigable waters.
TRPA	☒	☐	☐	**L**	Not in Tahoe.
BCDC	☒	☐	☐	**L**	Not in SF bay area.

Attachment A: PEAR Environmental Studies Checklist (Alt 5A & 5B)

Rev. 11/08

Environmental Studies for PA&ED Checklist (Alt 5A & 5B)					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Land Use	☐	☐	☒	H	Project conflicts with Local Coastal Program. Community impact assessment is recommended.
Growth	☐	☒	☐	L	Growth inducement concerns reduced because project is intended to address build-out based on the Cher-Ae Heights Indian Community Comprehensive Community-Based Plan.
Farmlands/Timberlands	☒	☐	☐	L	No farmland/ timberland assumed to be within project area.
Community Impacts	☐	☐	☒	H	Project conflicts with Local Coastal Program. Community impact assessment is recommended.
Community Character and Cohesion	☐	☐	☒	H	Public and agency concern about community character and cohesion may be substantial. Project will improve community cohesion related to tribal connectivity. Community impact assessment is recommended.
Relocations	☒	☐	☐	L	No relocation anticipated.
Environmental Justice	☐	☒	☐	L	Project entirely within “economically disadvantaged community” or “severely economically disadvantaged community.”

Environmental Studies for PA&ED Checklist (Alt 5A & 5B)					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Utilities/Emergency Services	☐	☒	☐	L	Project is assumed to have a positive effect on police, fire, and emergency services, which will benefit from improved access.
Visual/Aesthetics	☐	☐	☒	H	Visual impact assessment and photosimulation is expected due to new highway overcrossing.
Cultural Resources:	☐	☐	☒	H	Many locations of sensitive resources are unknown.
Archaeological Survey Report	☐	☐	☒	H	
Historic Resources Evaluation Report	☐	☐	☒	H	
Historic Property Survey Report	☐	☐	☒	H	
Historic Resource Compliance Report	☒	☐	☐	L	HRCR would only be required if no federal funding.
Section 106 / PRC 5024 & 5024.5	☐	☐	☒	H	
Native American Coordination	☐	☐	☒	H	
Finding of Effect	☒	☐	☐	H	
Data Recovery Plan	☒	☐	☐	H	
Memorandum of Agreement	☒	☐	☐	H	
Other:	☐	☐	☐	L	
Hydrology and Floodplain	☐	☒	☐	L	No FEMA flood zone or floodway is mapped in the project area.
Water Quality and Stormwater Runoff	☐	☐	☒	L	3-4 stream crossings.
Geology, Soils, Seismic and Topography	☐	☐	☒	M	
Paleontology	☒	☐	☐	L	No known paleontological resource.
PER	☒	☐	☐	L	
PMP	☒	☐	☐	L	
Hazardous Waste/Materials:	☐	☐	☒	L	
ISA (Additional)	☐	☐	☒	L	
PSI	☐	☐	☒	L	
Other:	☐	☐	☐	L	
Air Quality	☐	☐	☒	L	Air quality analysis expected.
Noise and Vibration	☐	☐	☒	H	Traffic noise study report expected.
Energy and Climate Change	☐	☐	☒	L	GHG emissions modeling expected.

Environmental Studies for PA&ED Checklist (Alt 5A & 5B)					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Biological Environment	☐	☐	☒	**H**	Widespread environmentally sensitive habitat areas.
Natural Environment Study	☐	☐	☒	**H**	
Section 7:	☐	☐	☒	**H**	
Formal	☐	☐	☒	**H**	
Informal	☒	☐	☐	**L**	
No effect	☒	☐	☐	**L**	
Section 10	☒	☐	☐	**L**	No work in navigable waters.
USFWS Consultation	☐	☐	☒	**H**	
NMFS Consultation	☐	☐	☒	**H**	
Species of Concern (CNPS, USFS, BLM, S, F)	☐	☐	☒	**H**	
Wetlands & Other Waters/Delineation	☐	☐	☒	**H**	
404(b)(1) Alternatives Analysis	☐	☐	☒	**M**	Required if 404 IP is required.
Invasive Species	☐	☐	☒	**M**	
Wild & Scenic River Consistency	☒	☐	☐	**L**	No wild and scenic river.
Coastal Management Plan	☒	☐	☐	**L**	
HMMP	☐	☐	☒	**H**	
DFG Consistency Determination	☐	☐	☒	**H**	
2081	☐	☐	☒	**H**	
Other:	☐	☐	☐	**L**	
Cumulative Impacts	☐	☐	☒	**M**	
Context Sensitive Solutions	☐	☒	☐	**M**	
Section 4(f) Evaluation	☒	☐	☐	**M**	No 4(f) has been identified in project area.
Permits:					
401 Certification Coordination	☐	☐	☒	**H**	
404 Permit Coordination, IP, NWP, or LOP	☐	☐	☒	**H**	
1602 Agreement Coordination	☐	☐	☒	**H**	
Local Coastal Development Permit Coordination	☐	☐	☒	**H**	
State Coastal Development Permit Coordination	☐	☐	☒	**H**	
NPDES Coordination	☐	☐	☒	**M**	
US Coast Guard (Section 10)	☒	☐	☐	**L**	No work in navigable waters.
TRPA	☒	☐	☐	**L**	Not in Tahoe.
BCDC	☒	☐	☐	**L**	Not in SF bay area.

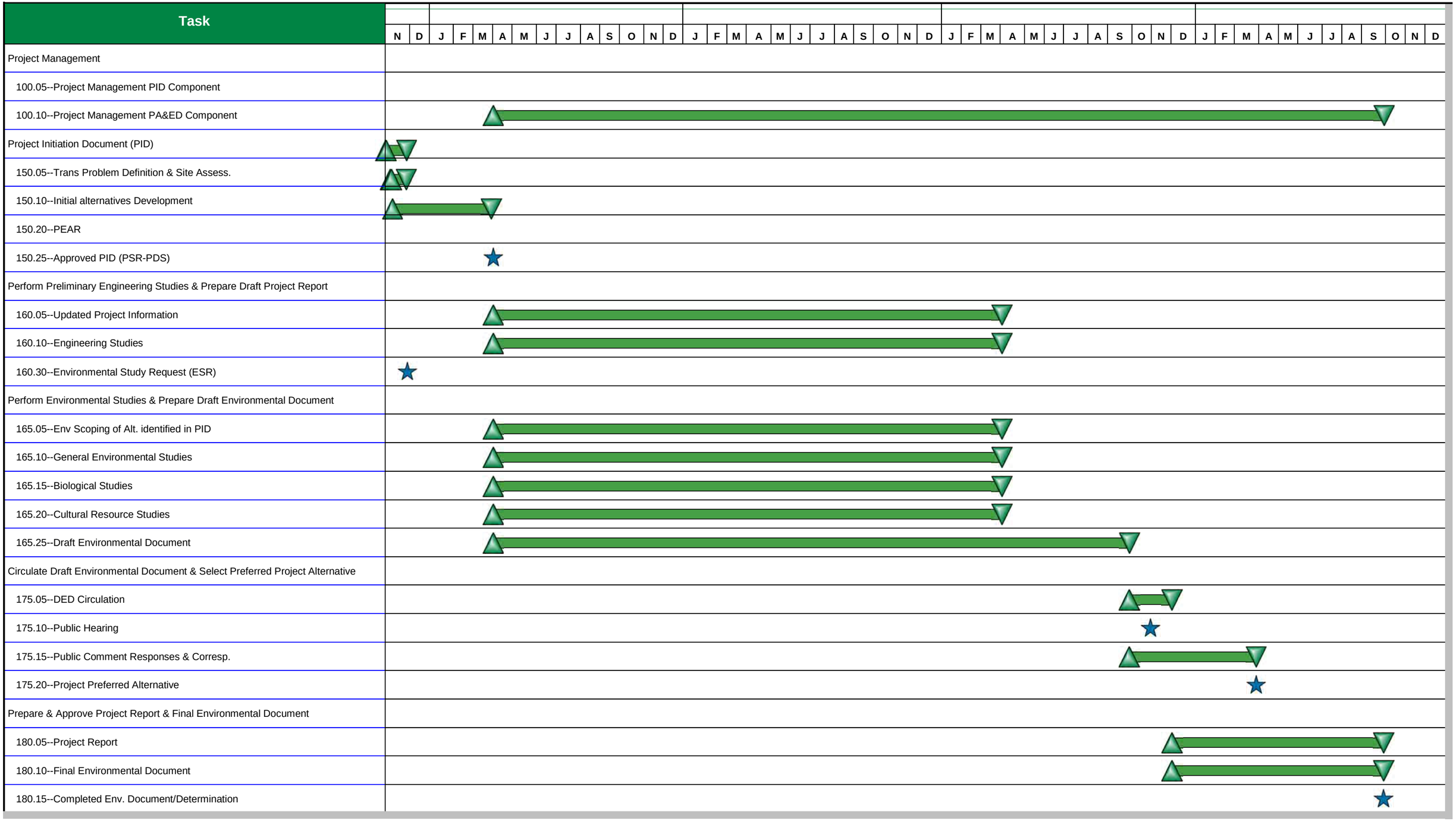
Attachment B - Estimated Resources By WBS Code

Duration 0 Phase:	Duration 1 Phase:	Duration 3 Phase:

PROJECT TYPE (Type E): Major project on new alignment within an urban area or a rural setting with known environmentally sensitive issues (a bypass project or new expressway/freeway segment). Highly likely to have adverse impact upon known environmental resources; technical studies required to determine significance of those impacts. Project may involve work on bridges, be in an area of known HW sites, close to or within a known historic district, and involve some aesthetic and biological resources, as well as air and water quality; Section 4(f) lands likely involved. ED to be an EIR/EA. 1601 Agreement, 401 and 404 permits required (Coastal Permit if applicable). NOTE: Use hours as a starting point for EIR/EIS.

WBS Task Activity Code	Deputy/ Chief	Senior	Coord.	Biology	Steward - ship	Cultural	Haz Waste	Water Quality	Noise	Air	Sup Svcs	ECL	Permit Liaison	Consultant Services	Total
Project Management															
100.10 - Project Management PA&ED Component	20	40	40	24	8	20	16	8	4	24	40				244
Total Project Management	**20**	**40**	**40**	**24**	**8**	**20**	**16**	**8**	**4**	**24**	**40**	**-**	**-**	**-**	**244**
Perform Preliminary Engineering Studies and Prepare Draft Project Report															
160.05 - Updated Project Information	4	20	20								4				48
160.10 - Engineering Studies	4	20	60								4				88
160.30 - Environmental Study Request (ESR)	6	40	40								4				90
Total Perf Pre Eng Studies	**14**	**80**	**120**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**12**	**-**	**-**	**-**	**226**
Perform Environmental Studies and Prepare Draft Environmental Document															
165.05 - Env Scoping of Alt Identified in PID	4	100	150	105	60	105									524
165.10 - General Environmental Studies	6	200	530	15		15	820	640	525	485		100	80		3,416
165.15 - Biological Studies	2	100	100	2,100	200								90		2,592
165.20 - Cultural Resource Studies	2	100	100			2,300									2,502
165.25 - Draft Environmental Document	24	200	1,430	50	25	50					105				1,884
Total Env Studies & Prepare DED	**38**	**700**	**2,310**	**2,270**	**285**	**2,470**	**820**	**640**	**525**	**485**	**105**	**100**	**170**	**-**	**10,918**
Circulate Draft Environmental Document and Select Preferred Project Alternative															
175.05 - DED Circulation	20	40	170								20				250
175.10 - Public Hearing	4	40	60	4							44				152
175.15 - Public Comment Responses & Corresp	10	150	200	26		24	12	24	30	20	20				516
175.20 - Project Preferred Alternative	12	40	40								12				104
Total DED & Preferred Alt	**46**	**270**	**470**	**30**	**-**	**24**	**12**	**24**	**30**	**20**	**96**	**-**	**-**	**-**	**1,022**
Prepare and Approve Project Report and Final Environmental Document															
180.05 - Project Report	2	20	20					16			12				70
180.10 - Final Environmental Document	30	200	400	30		30	30		8	30	20				778
180.15 - Completed Env Document/Determination	12	20	40								20				92
Total App PR & FED	**44**	**240**	**460**	**30**	**-**	**30**	**30**	**16**	**8**	**30**	**52**	**-**	**-**	**-**	**940**
Subtotal	**162**	**1,330**	**3,400**	**2,354**	**293**	**2,544**	**878**	**688**	**567**	**559**	**305**	**100**	**170**	**-**	**13,350**
15% Caltrans Oversight	**24**	**200**	**510**	**353**	**44**	**382**	**132**	**103**	**85**	**84**	**46**	**15**	**26**	**-**	**2,004**
Total	**186**	**1,530**	**3,910**	**2,707**	**337**	**2,926**	**1,010**	**791**	**652**	**643**	**351**	**115**	**196**	**-**	**15,354**

Attachment C: Schedule (Gantt Chart)
US 101/Trinidad Area Access Improvements



ATTACHMENT I

RISK REGISTER AND CERTIFICATION FORM

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

RISK REGISTER CERTIFICATION (ACCOUNTABILITY CHECKPOINTS)

Form PM-0001/NR (Rev. 10/30/2012)

The risk register is to be approved and signed-off by the deputies listed below for all scalability levels. By signing this form, you are certifying that you have reviewed the risks documented in the register and agree that they have been managed to the extent possible by the PDT.

Project Information

District – EA/EFIS	01-48040K
Project Description	US 101 / Trinidad Area Access Improvements
Project Risk Manager (Same as PM for Risk Level 1&2 Projects)	Caltrans - Kim Floyd; Consultant - Russ Wenham
Project Manager (PM)	Caltrans - Kim Floyd; Consultant - Russ Wenham

PID (Required)

Deputy Dist Director, Right of Way	Susan E Sheckler	Date: 12-12-17
Deputy Dist Director, Planning		Date: 12/12/17
Deputy Dist Director, Design	Eileen F. Hughes	Date: 12-12-17
Deputy Dist Director, Proj. Management		Date: 12/13/17
Deputy Dist Director, Maintenance & Traffic Ops.		Date: 12/12/2017
Deputy Dist Director, Environmental		Date: 12/6/17

PA&ED (Required)

Deputy Dist Director, Right of Way		Date:
Deputy Dist Director, Planning		Date:
Deputy Dist Director, Design		Date:
Deputy Dist Director, Proj. Management		Date:
Deputy Dist Director, Maintenance & Traffic Ops.		Date:
Deputy Dist Director, Environmental		Date:

Prior to PS&E (Required)

Deputy Dist Director, Design		Date:
Deputy Dist Director, Construction		Date:
Deputy Dist Director, Right of Way		Date:
Deputy Dist Director, Environmental		Date:
Deputy Dist Director, Proj. Management		Date:
Deputy Dist Director, Maintenance & Traffic Ops.		Date:

Re File Hand-Off (Recommended)

Deputy Dist Director, Design		Date:
Deputy Dist Director, Construction		Date:
Deputy Dist Director, Proj. Management		Date:
Deputy Dist Director, Maintenance		Date:
Project Manager		Date:

LEVEL 2 - RISK REGISTER		Project Name:	US 101 / Trinidad Area Access Improvements		DIST- EA	01-48040K	Project Manager	Caltrans - K. Floyd; Omni-Means - R. Wenham						
Risk Identification							Risk Assessment						Risk Response		
Status	ID #	Type	Category	Title	Risk Statement	Current status/assumptions	Probability	Cost Impact	Cost Score	Time Impact	Time Score	Rationale	Strategy	Response Actions	Risk Owner	Updated
Active	1	Threat	PM	Funding.	Funding has not been programmed.	The Trinidad Rancheria (Sponsor) is lead for securing funding from multiple sources.	4-High	8 -High	32	16 - Very High	64	Securing adequate funding will be a challenge.	Accept	Sponsor will diligently pursue all available funding sources.	Jacque Hostler-Carmesin (Trinidad Rancheria)	12/1/2017
Active	2	Threat	Environmental	EIR / EA.	Environmental approval is anticipated to be complex and controversial.	Activity has not commenced. Resources are identified in PSR-PDS.	5-Very High	8 -High	40	16 - Very High	80	The assessment is based on Caltrans staff experience.	Accept	Secure full funding for PA&ED; Use experienced consultant team; Outreach to stakeholders and agencies early and often during PA&ED.	Russ Wenham (Omni-Means)	12/1/2017
Active	3	Threat	Design	Design Exceptions.	Several advisory and mandatory design exceptions are required for the various alternatives.	An exception for interchange spacing (DIB77) has been approved. All other design exception approvals will be secured during PA&ED.	4-High	8 -High	32	8 -High	32	Design exception approvals are complex and time consuming.	Accept	Coordinate requests for design exceptions closely with North Region Design Liaison and HQ Project Delivery Coordinator.	Russ Wenham (Omni-Means)	12/1/2017
Active	4	Threat	ROW	Right of Way.	Significant acquisitions are required.	Only planning level right of way impact identification has been performed.	5-Very High	8 -High	40	8 -High	40	Numerous parcels are expected to be impacted.	Accept	Minimize right of way footprint and impacts to existing development.	Russ Wenham (Omni-Means)	12/1/2017
Active	5	Threat	Organizational	External Project Sponsor	This is a large and complex project with an inexperienced Sponsor (in the context of delivering a Caltrans project).	Sponsor is the lead and committed to providing experienced consultants.	2-Low	1 -Very Low	2	4 -Moderate	8	Sponsor has a successful track record on other complex projects.	Accept	Close coordination between the Sponsor, Caltrans and the consultant team.	Jacque Hostler-Carmesin (Trinidad Rancheria)	12/1/2017
Active	6	Threat	Environmental	Public Controversy/ Opposition	Due to the rural and unique character of the project, it is likely that most alternatives (if not all) will have some amount of public controversy or opposition.	Public and community outreach for the proposed project began in 2008, and the project Sponser is commited to addressing public concerns.	5-Very High	4 -Moderate	20	8 -High	40	The proposed project is anticipated to significantly affect the local community.	Accept	Continue to work with the public and provide public outreach, and solicit feedback at every available opportunity.	Jacque Hostler-Carmesin (Trinidad Rancheria)	12/1/2017
Active	7	Threat	Environmental	Local Coastal Amendment Approval	This is a large and complex project with potential significant impacts to the local coatal region.	Activity has not commenced, but will be addressed in the PA&ED phase.	4-High	4 -Moderate	16	8 -High	32	Approval is anticipated to be somewhat difficult and time consuming due to the potential impacts, and the sensitive nature of the project area.	Accept	Provide close and constant coordination and communication between the project team and the coastal commission.	Russ Wenham (Omni-Means)	12/1/2017
Active	8	Threat	Organizational	Litigation	Potential lawsuits may challenge the environmental report, delaying the start of construction or threatening loss of funding.	Public and community outreach for the proposed project began in 2008. Significant public outreach will be required during every future phase of the project.	2-Low	8 -High	16	8 -High	16	Although likelihood is low, potential exists for lawsuits stemming from the project.	Accept	Close coordination between the stakeholders and the public during the environmental process. Provide outreach and solicit feedback early and often.	Jacque Hostler-Carmesin (Trinidad Rancheria)	12/1/2017

ATTACHMENT J

GEOTECHNICAL SCREENING REPORT

CONSULTING ENGINEERS & GEOLOGISTS, INC.
812 W. Wabash Ave. • Eureka, CA 95501-2138 • 707-441-8855 • FAX: 707-441-8877 •shninfo@shn-engr.com

Reference: 013071

August 27, 2015

Ms. Jacque Hostler-Carmesin, CEO
Trinidad Rancheria
PO Box 630
Trinidad, CA 95570

Subject: Geotechnical Screening of Alternatives, Trinidad Rancheria Interchange Evaluation, Trinidad, California

Dear Jacque:

SHN Engineers & Geologists (SHN) is providing this geotechnical screening assessment of a variety of alternatives for the Trinidad Rancheria Interchange project. The intent of this report is to provide an assessment of the geotechnical conditions relative to a series of previously identified alternatives to the proposed interchange, provide conceptual design recommendations, and provide preliminary assessment of locations where stabilization improvements may be required.

In order to complete the assessment outlined herein, SHN conducted a work scope that included review of available literature and aerial imagery, a brief field reconnaissance of accessible areas within the study area (private property was not accessed for this phase of the assessment), and preparation of this report. The conceptual design recommendations and locations should be considered preliminary, as they are based on reconnaissance-level field investigation; there may be other approaches that would become apparent with additional site investigation. Below, we present a brief discussion of the geotechnical considerations for each alternative.

Alternative 1 – Improve US 101/Main Street Interchange & Scenic Drive (North of the Rancheria)

From a geotechnical standpoint, expansion of the US 101/Main Street interchange is relatively straightforward because most of the improvements would occur at existing grade. The primary consideration to this expansion, however, is geologic; the active Trinidad fault is mapped through, or in very close proximity to, the interchange. To our knowledge, the California Department of Transportation recently completed a seismic retrofit assessment of the overpass, including fault trenching. The overpass was subsequently reinforced. Expansion of the interchange would be subject to the potential for active surface fault rupture to pass through the improvement should an earthquake occur on the Trinidad fault; the northeast side of the fault would be thrust up and over the southwestern block, with a likely displacement of several meters.

Scenic Drive (north of the Rancheria), the current access to the property, is a winding coastal road that has been subject to several past slope failures that have required stabilization repairs. We noted at least three slope repairs along the outboard edge of the road along this segment; the repairs are apparently welded wire walls or gabion walls (which are largely overgrown with vegetation at this point). Assuming that these slope repairs define fixed points in the event of road

widening (because of the expense in relocating one of these repairs oceanward), retreat of the road into the cut bank is the most likely option to expand the road width. Retreat into the cuts along the inboard road edge of Scenic Drive north of the Rancheria appears feasible in most cases; there is a bank just west of Langford Road that is relatively steep and high, however, and buttressing or retaining may be required if the cut is expanded in this area. This area is about 200 feet in length. Finally, there is a stream crossing that would have to be widened to allow expansion of the Scenic Drive road bed. The culvert would need to be replaced (lengthened) and the side slopes on one or both sides of the crossing re-built. The crossing is estimated at about 100 feet in length.

Alternative 2 – US 101 Overcrossing at Cher-Ae Lane & Scenic Drive (North of the Rancheria)

Alternative 2 is relatively straightforward from a geotechnical standpoint because the traffic roundabout and new roadways would primarily be built at or near existing grade, on generally low gradient ground with no evidence of instability. Construction of an overpass of Highway 101 would entail building abutments on either side of the highway, but this does not appear problematic based on the initial geotechnical reconnaissance.

Geotechnical issues related to Scenic Drive (north of the Rancheria) are described in Alternative 1.

Alternative 3a – New US 101/Cher-Ae Lane Interchange with Vehicle Access to Westhaven Drive & Scenic Drive (North of the Rancheria)

Alternative 3a is associated with similar geotechnical issues as Alternative 2, with the addition of on- and off-ramps on either side of the highway. Initial geotechnical reconnaissance did not identify significant concerns with the development of abutments or on- and off-ramps in the vicinity of the proposed Rancheria interchange.

Geotechnical issues related to Scenic Drive (north of the Rancheria) are described in Alternative 1.

Alternative 3b – New US 101/Cher-Ae Lane Interchange Without Vehicle Access to Westhaven Drive & Scenic Drive (North of the Rancheria)

There are no significant distinctions between the geotechnical issues related to Alternatives 3a and 3b. There would be less site preparation and a thinner pavement section associated with development of a pedestrian path relative to a road.

Alternative 4a – Restore Scenic Drive from Westhaven to Main Street in Trinidad

Reconstruction of Scenic Drive from Westhaven to the Rancheria is considered geotechnically infeasible. Years ago, this former highway alignment was abandoned and left to the County of Humboldt to maintain, and the result has been a severely degraded roadway that has experienced multiple long-term closures due to landsliding.

Near Westhaven, at the foot of 6th Avenue, Scenic Drive occupies a narrow road bed bordered by high, steep debris slide slopes on the inboard edge and the precipitous, unstable coastal bluff. Expansion of the road bed in this location would require construction of a series of significant retaining structures (soldier pile walls for example) on the coastal bluff, which would be problematic and extremely expensive. To the north of Houda Point, the road crosses a series of active earthflows that are continuously reactivated because they are being undercut by ocean waves at the shoreline. One-lane road segments, with gravel surfacing (due to the degradation of the asphalt surfacing), are common through this area. The road crosses multiple escarpments along the lateral margins of earthflows that are actively displacing the road bed (pavement patches across scarps up to 5 feet in height are common). Stabilization of these earthflows would require a monumental effort far beyond the scope of any other alternative under consideration here.

At Luffenholtz Beach, severe landsliding has compromised the road many times in recent years; this is the most recent segment to suffer a long-term closure. The roadway in this area is extremely uneven due to the degree of movement in the road subgrade. This degree of instability prevails until Scenic Drive reaches the Rancheria. We tentatively estimate that a minimum of 50% of Scenic Drive from Westhaven to the Rancheria is compromised in some way due to instability, and in some cases, quite severely.

Geotechnical issues related to Scenic Drive north of the Rancheria are described in Alternative 1.

Alternative 4b – Realign Scenic Drive South/Restore Scenic Drive North

The realignment of Scenic Drive south of the Rancheria in Alternative 4b is by way of a long, undeveloped (forested) route that closely parallels the west side of Highway 101. Although we did not conduct reconnaissance of this route (because it is virtually all private property), it is apparent from review of aerial images that it crosses the heads of several large earthflows. The earthflows in the Luffenholtz Creek watershed are significant, very active failures that are currently impacting homes on Trinima Road. It is likely that additional earthflows are present along this alignment; these would have to be identified in future phases of the investigation, if necessary, due to the private property considerations. In addition, there is significant topographic relief along this alignment as it crosses two significant drainages (Luffenholtz Creek and an unnamed tributary), that would require significant grade adjustment (large-scale filling). Geotechnical issues related to this proposed alignment are concentrated at the southern end, between Kay Avenue and Baker Ranch Road (about 3,000 feet of roadway). Because this is largely undeveloped forest land, road construction would be complicated by the presence of tree roots and disturbed ground that would require a significant effort to generate a suitable road bed.

Geotechnical issues related to Scenic Drive north of the Rancheria are described in Alternative 1.

Alternative 5 – Improve US 101/Main Street Interchange & New Overcrossing at Cher-Ae Lane

The individual elements associated with Alternative 5 have been discussed above in Alternatives 1 and 2.

Alternative 6 – New US 101/Baker Ranch Road Interchange

The elements necessary to create this alternative do not appear to be subject to significant geotechnical limitations. We were unable to conduct reconnaissance between Baker Ranch Road and Highway 101 due to private property considerations. There is a hill between the highway and the location of the proposed connection with Baker Ranch Road that would present a topographic obstacle, and may complicate development of on and off ramps and the interchange for the road to the Rancheria. There are, however, no apparent unstable areas in this vicinity. The alignment from Baker Ranch Road to the Rancheria parallels the highway, and follows undeveloped, forested land that appears devoid of significant landslides. Road construction in this area would be complicated by the presence of tree roots and disturbed ground that would require a significant effort to generate a suitable road bed.

The preceding discussion represents a preliminary assessment of site conditions, provided in order to facilitate a discussion regarding the geotechnical issues or merits related to the identified project alternatives. The information presented herein should be viewed as preliminary, as it is based on a brief reconnaissance and review of aerial photography and maps. Higher precision locations and quantities for individual alternatives should be developed as the need arises.

If additional information is required for the alternatives analysis presented herein, please do not hesitate to contact us; it is our goal to provide the necessary information to make an informed decision about this important infrastructure project.

Respectfully,

SHN Consulting Engineers & Geologists, Inc.

Gary D. Simpson, CEG
Geosciences Director

GDS:dla