**CALIFORNIA COASTAL COMMISSION**
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105- 2219
VOICE (415) 904- 5200
FAX ( 415) 904- 5400
TDD (415) 597-5885

# W12b

| | |
|---|---|
| Filed: | 2/8/13 |
| 3 Months: | 5/8/13 |
| 6 Months: | 8/8/13 |
| Staff: | M. Delaplaine-SF |
| Staff Report: | 6/27/13 |
| Commission Meeting: | 7/10/13 |

## STAFF REPORT: REGULAR CALENDAR

| | |
|---|---|
| **Consistency Certification No.:** | **CC-016-13** |
| **Applicant:** | **California Department of Transportation (Caltrans)** |
| **Location:** | Route 101, between the Eureka Slough Bridge, Eureka, and the 11th St. overcrossing, Arcata, east side of Humboldt Bay, Humboldt Co. (Exhibit 1) |
| **Project Description:** | Construction of the Eureka - Arcata Route 101 Corridor Improvement Project (Exhibits 2-3, 5-7, & 10-11) |
| **Staff Recommendation:** | Objection |

### SUMMARY OF STAFF RECOMMENDATION

The California Department of Transportation (Caltrans) proposes to construct the Eureka - Arcata Route 101 Corridor Improvement Project in Humboldt County. The primary purpose of the project is to improve safety by eliminating uncontrolled left turn moves at six intersections. Historically, the majority of collisions resulting in serious injuries or fatalities on Route 101 between Eureka and Arcata have occurred at the at-grade intersections (with collision rates exceeding statewide averages as shown in Exhibit 4). Secondary project purposes are reducing operational conflicts and delay, roadway rehabilitation to meet current design standards, and extending pavement service life. Major project features include closing median crossings (i.e.,

eliminating uncontrolled turns across oncoming traffic lanes - Exhibit 6), constructing an interchange at Indianola Cutoff (Exhibits 7-8), replacing the southbound Jacoby Creek Bridge (Exhibit 10), and partially signalizing the Route 101/Airport Road intersection (Exhibit 5).

The standard of review for Commission's review of federal consistency certifications is whether the project is consistent with the enforceable policies of the California Coastal Management Program (i.e., with Chapter 3 of the Coastal Act).

The project would result in the permanent fill of 10.3 acres of wetlands. The staff recommends the Commission find the project inconsistent with the allowable use, alternatives, and mitigation tests of the Coastal Act's wetland fill policy (Section 30233(a)). Caltrans has argued that it meets the allowable use test because it serves an incidental public service purpose. However, the proposed interchange at Indianola Cutoff (a major component of the project) would require some of the wetland fill mentioned above and would increase the highway capacity at that intersection. Based on historic Commission interpretations of the "incidental public service purpose" language, as informed by controlling court cases, road expansions only qualify as incidental public services if they are "necessary to maintain *existing* capacity" and where there is "no other alternative." Thus, the project does not qualify as an incidental public service, and it does not qualify as any of the other allowable uses either.

In addition, even for projects that meet the allowable use test, Section 30233(a) still only allows them to proceed if the Commission finds that there is no feasible less environmentally damaging alternative. The staff recommends the Commission find that the project does not represent the least environmentally damaging feasible alternative. The staff believes a "signalized intersection" at Indianola would be feasible and less environmentally damaging because it would avoid or lessen the effects from the proposed Indianola Interchange, which would include 240,000 cu. yds. of grading, significant natural landform alteration, 25 ft. high fill slopes, adverse effects on scenic public views and the visual character of the area, growth inducement, and potential prejudice to sea level rise planning options.

Section 30233(a) also requires that whenever wetland fill is allowed, the project include feasible mitigation measures to minimize adverse environmental effects. The staff recommends the Commission find that the project's wetland mitigation plan is inadequate and does not meet the mitigation test of Section 30233(a). The lands on which Caltrans proposes wetland mitigation (in the form of restoration projects) are mostly wetland and in agricultural operation. Separate from the wetland fill provisions, the Coastal Act limits the conversion of agricultural lands. Thus, the Commission has historically not allowed lands in agricultural production in the Humboldt Bay area to be converted to wetland for mitigation purposes, and Caltrans has not fully established that no non-agricultural lands are available for this purpose. Also, historically the Commission has found that substantial wetland *creation* or substantial restoration, as opposed to mere enhancement, is needed to mitigate permanent wetland fill impacts. In addition, the mitigation ratio may need to be increased, and other details need further refinement.

The staff recommends the Commission find that the proposed Indianola Interchange, with its raised elevation and 240,000 cu. yds. of grading, is inconsistent with the scenic view protection policy (Section 30251) of the Coastal Act, because it would not minimize alteration of natural landforms, and would degrade scenic public views and be incompatible with the character of the surrounding area.

The staff recommends the Commission find that the project is inconsistent with the public access and recreation policies of the Coastal Act because it does not further statewide Coastal Trail goals by including a separated bicycle and pedestrian path component. Caltrans does allow bicyclists to use this stretch of Route 101; commuters between Eureka and Arcata regularly use it for bicycle transportation. However, by "speeding up" the traffic flow it may become less safe for bicyclists, and closure of medians would make some bicycle trips longer. A Coastal Trail may eventually be implemented on the parallel rail line corridor, but the implementation and timing of such an alternative trail remains speculative.

The staff also recommends the Commission find that this interchange would be growth-inducing (by removing a constraint to growth) and be inconsistent with the public works policy (Section 30254) of the Coastal Act..

For these reasons, the staff is recommending that the Commission **object** to Caltrans' consistency certification.

# TABLE OF CONTENTS



## APPENDICES



## EXHIBITS

Exhibit 4 – Caltrans Pre- and post-Safety Corridor Accident Statistics Graph
Exhibit 5 – Airport Rd Half Signal
Exhibit 6 – Closed Medians for Mid-City Motors, Redwood Lumber, Bracut, and Bayside Cutoff
Exhibit 7 – Indianola Interchange
Exhibit 8 – Interchange Design Configuration (DEIR/S/ Fig 3-7)
Exhibit 9 – Signalized treatment for Indianola (NOT proposed by Caltrans)
Exhibit 10 – Jacoby Creek Bridge
Exhibit 11 – Tide gate locations
Exhibit 12 – Alternatives Overview
Exhibit 13 – Alternatives Comparison Chart
Exhibit 14 – Caltrans Cover Memo June 17, 2013, Response to CCC staff concerns
Exhibit 15 – Caltrans chart -Wetland impacts from a signalized approach
Exhibit 16 – Caltrans July 17, 2012, Memo Traffic Operations Chief
Exhibit 17 – Caltrans June 28, 2012, Issue Paper – Safety Analysis of Signalization at Indianola
Exhibit 18 – Caltrans Analysis of Two Signal Corridor Scenario June 14, 2013
Exhibit 19 – Caltrans Response to Walmart Traffic Study, April 1, 1993
Exhibit 20 – Route Concept Report, Route 101 Corridor, p. 17
Exhibit 21 – Proposed Demello and Somoa Wetland Restoration Sites
Exhibit 22 – Caltrans Response to CCC Staff Comments on Wetland Mitigation/Restoration Plan
Exhibit 23 – Caltrans Indianola Interchange Visual Simulations
Exhibit 24 – County LCP Scenic Area Maps
Exhibit 25 – Caltrans List - Mitigation Options Pursued and Rejected
Exhibit 26 – Caltrans Review of Barrier Separated Trail
Exhibit 27 – Correspondence

# I. MOTION AND RESOLUTION

**Motion:**

*I move that the Commission **concur** with Caltrans' consistency certification CC-016-13 that the project described therein is consistent with the enforceable policies of the California Coastal Management Program (CCMP).*

The staff recommends a **NO** vote on the motion. Failure of this motion to pass will result in an objection to the certification and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

**Resolution:**

*The Commission hereby **objects** to the consistency certification by Caltrans, on the grounds that the project described therein is inconsistent with the enforceable policies of the CCMP.*

# II. APPLICANT'S CONSISTENCY CERTIFICATION

Caltrans has certified that the proposed activity complies with California's approved coastal management program (CCMP) and will be conducted in a manner consistent with such program.

# III. FINDINGS AND DECLARATIONS

### A. PROJECT DESCRIPTION

Caltrans proposes the construction of the Eureka - Arcata Route 101 Corridor Improvement Project along the east side of Humboldt Bay in Humboldt County, from the Eureka Slough Bridge in Eureka to the 11th St. overcrossing in Arcata (Postmile (PM) 79.9 to 86.3) (Exhibits 1-3, 5-7, & 10-11). Caltrans characterizes Route 101 in the project reach to be "approximately 5 miles of expressway and 1 mile of freeway." The expressway typically carries high volumes of traffic, and combined with the six at-grade intersections, leads to hazardous uncontrolled crossings at the intersections, which is the primary source of safety concerns in the corridor. Two of the six crossings, Mid-City Motor World and Indianola Cutoff, have collision rates higher than the state average for similar facilities (Exhibit 4). The project's primary purpose is to improve safety by eliminating uncontrolled left turn moves at the unsignalized intersections. Caltrans therefore proposes to control or close all six of the crossings on this stretch of Route 101. Caltrans states secondary project purposes include reduction of operational conflicts and delay, and roadway rehabilitation.

Major project features include closing roadway median crossings, constructing an interchange at Indianola Cutoff, replacing the southbound Jacoby Creek Bridge, upgrading the bridge rail on northbound Gannon Slough and Jacoby Creek Bridges, partially signalizing the Route 101/Airport Road intersection, and constructing various roadway improvements such as

widening, paving, and restriping (Exhibits 2-3, 5-7, &10). More specifically, the project would include:

**Bridge Construction Work at Jacoby Creek and Gannon Slough.** At both Jacoby Creek and Gannon Slough, existing pairs of bridges carry Route 101 traffic in both directions. Construction work at northbound Jacoby Creek and Gannon Slough Bridges consists of replacing the bridge rail. Concerning the bridge rail designs, which has been an issue of particular focus by the Commission in recent years, Caltrans has committed that the bridge railings on the bridges will be similar to designs previously approved by the Commission on north coast bridges.

**Replacement of the Southbound Jacoby Creek Bridge.** The new southbound Route 101 Jacoby Creek Bridge would be approximately 74-feet long and 53.5-feet wide (14.5 feet wider than the current bridge) (Exhibit 10). The additional width would provide improved pedestrian and bicycle passage across this bridge. The new bridge would have about 1,073 sq. ft. of increased surface area compared to the existing bridge. The new bridge would be single span with no piers in the channel (the current bridge is a three-span structure with pier supports within the creek channel).

The new bridge would be erected to the east of the current alignment and serve as a temporary detour bridge. Approximately fourteen 3-ft. diameter cast in place steel shell piles would be oscillated (i.e., no impact pile driving is proposed) into place: seven piles on each side of the bank and three per side of bank for the temporary bridge and four per side of bank for the permanent bridge. The piles would be about 15 feet from the creek - bay mean higher water elevation.

**Tide Gate Replacement**. Existing tide gates on culverts that extend under the Route 101 roadway minimize inundation of surrounding pasturelands from tidal waters while allowing freshwater to drain. All of the existing tide gates within the project limits (i.e., six locations and a total of nine tide gates) will be replaced (Exhibit 11). The existing tide gates are the standard top hinged flap gate design, either round or rectangular. At the locations where fish may be present, in consultation with the California Department of Fish and Wildlife, National Marine Fisheries Service, and the U.S Fish and Wildlife Service, Caltrans proposes that “fish-friendly” tide gates with an auxiliary door will be installed. To enhance fish habitat, a rock weir will be placed downstream of the tide gates at Gannon Slough. The 101 Slough, Brainard Slough, Old Jacoby Creek, and Gannon Slough are locations where both tidewater gobies and salmonids (special status fish) may be present. The gates with auxiliary doors are similar to the existing gates, with the added feature of a small manually adjustable auxiliary door that can remain open at all times. The small auxiliary door allows muted tidal flow in both directions. The ditch that enters Eureka Slough south of Jacobs Avenue and the California Redwood Sawmill ditch have no special status fish present, so these replacement gates will not use the auxiliary door design.

**Extension of Existing Acceleration and Deceleration Lanes.** Acceleration lanes and deceleration lanes would be extended at Mid-City Motor World, California Redwood (formerly Simpson) Sawmill, Bracut (east side of highway), and Bayside Cutoff. At Cole Avenue, the

existing acceleration onto Route 101 would be closed and the existing deceleration lane would be extended. The acceleration/deceleration lanes typically would include 4-ft. wide right side shoulders, except at the Indianola Cutoff, where 8-ft. wide right side shoulders would be provided.

To extend the existing acceleration/deceleration lanes on southbound 101 at the California Redwood Sawmill, roadway widening would require realigning the two southbound Route 101 lanes 8 feet towards the median. The realignment would avoid removing any eucalyptus trees to extend the acceleration and deceleration lanes.

The acceleration and deceleration improvements would require placement of up to 40,000 cubic yards of fill. Construction activities would not occur within Humboldt Bay, the 101 slough on the east side of Route 101, and the ditch between the railroad bed and Route 101 roadway.

**Close Median Crossings.** All remaining Route 101 median crossings would be closed at the following intersecting roads/driveways: Mid-City Motor World, California Redwood sawmill, Bracut, and Bayside Cutoff (Exhibit 6). Median closures would consist of the removal of asphalt-concrete paving and possibly some excavation and seeding bare slopes with native or cultivated grasses. The closed areas are proposed for wetland creation/mitigation.

**Interchange at Indianola Cutoff.** At this intersection Caltrans proposes to separate the crossing movements vertically, which would eliminate the primary conflicting paths of vehicles turning left and crossing Route 101. Originally designed with typical 2:1 engineered slopes, to reduce wetland impacts, overall footprint, fill quantities, and cost, Caltrans modified the interchange to be a "compact diamond interchange" (Exhibits 7 & 8) "Compact" refers to the fill slopes being steeper than typical standard slopes, with a maximum slope of 1½:1 (horizontal:vertical), and the median reduced to an all paved 22-feet width within the interchange area. Caltrans also notes that "The revised interchange design does not readily accommodate the addition of lanes in the distant future." The compact design would nevertheless involve placement of 240,000 cubic yards of fill for the interchange. Construction activities would not occur within Humboldt Bay, the 101 slough on the east side of Route 101 and the ditch between the railroad bed and Route 101 roadway. Landscaping is included in the project to visually enhance the interchange.

**Half Signal and Intersection work at Route 101 and Jacobs Avenue, Airport Road, and Route 101.** A "half signal" would be constructed at the Airport Road Intersection with Route 101. The half signal would operate such that northbound traffic would have signal control to allow for southbound left turns east to Airport Road/Jacobs Avenue, and westbound left turns from Airport Road/Jacobs Avenue to a southbound acceleration lane, while southbound 101 through traffic would not be stopped (Exhibit 5). The Airport Road/Jacobs Avenue intersection would include a slight realignment of Jacobs Avenue to the east (within City of Eureka and County of Humboldt Right of Way), to accommodate a second northbound lane to allow immediate access for northbound traffic to enter Route 101 northbound. Stopping northbound Route 101 traffic with a signal also requires adding a third northbound lane to minimize queue lengths, for shorter signal cycle times, and less potential for diversion to other

routes. The third northbound lane would be added toward the median, and would extend from 400 feet south of the Airport Road Intersection to Mid-City Motor World for a total 3-lane segment length of 3,000-feet. This three lane section is required to ensure vehicles have adequate merging distance between the Airport Road and Mid-City Motor World intersections.

The half signal would be configured to minimize delay to Route 101 traffic (in both directions). To maintain a Level of Service (LOS) C for Route 101, greater delays would be added to the left turning movements to and from Airport Road to southbound Route 101. Based on anticipated increases in traffic volumes, the analysis of the half signal indicated that the delay for the turning movements will become excessive. As the signalized intersection exceeds its capacity based on predicted growth rates, traffic flow would be maintained by using right turns to and from Airport Road and disabling the signal controlling the westbound move from Airport Road to southbound 101; if this occurred, westbound traffic from Airport Road needing to access southbound Route 101 would first need to turn right and proceed northbound on Route 101 and turn around at the proposed grade separation at Route 101 and Indianola Cutoff.

The right turn move from northbound Route 101 to Airport Road and onto Jacobs Avenue is presently not adequate for truck turning without using both lanes of Jacobs Avenue. Jacobs Avenue needs to be widened to the east to prevent interference from these vehicles with queued vehicles on Jacobs Avenue waiting to turn left onto southbound Route 101. To avoid encroaching into the adjacent private property due to elevation differences, a retaining wall up to 4-feet high, 150-feet long, would be constructed along the edge of Jacobs Avenue. An existing 150-feet long by 4-feet wide roadside drainage would be realigned to modify the current drainage through a culvert (approximately 50 feet long) under Jacobs Avenue. The remaining 100 feet of the drainage is an open ditch along the Airport Road shoulder, which would be eliminated and realigned into a 130-feet long, 24-inch diameter culvert.[1]

**Clear Recovery Zone.** Twenty to forty mature Monterey cypress (*Cupressus macrocarpa*) and Monterey pine (*Pinus radiata*) trees would be removed that are currently too close to the edge of the Route 101 traveled way. Large trees can pose potential hazards for errant vehicles or vehicles making emergency maneuvers. Removing or shielding fixed objects that are within 30 feet from the edge of the traveled way, known as the clear recovery zone, would enhance safety.

**Traffic Management During Construction**. How traffic flow will be maintained during bridge relocation and other construction will be addressed through preparation of a comprehensive transportation management plan (TMP) to maintain flows during the three-year construction period in a manner minimizing disruption to travelers, business owners, customers and residents. The TMP would include limiting long-term lane closures; minimizing peak travel period disruption, keeping open local streets and private driveways, use of changeable message signs and media notifications, prohibiting any road work on holidays (such as the 4th of July or Labor Day weekend) or when special events are scheduled, maintenance of bicycles access through the work zone (including maintenance of a clean shoulder that is safely passable by

[1] Note: the two paragraphs preceding this footnote represent a clarification to the project description in the consistency certification made by Caltrans in an April 18, 2012, email from Mitch Higa (Caltrans) to Mark Delaplaine (CCC).

bicyclists), and maintaining the existing speed limit on Route 101 to avoid diverting traffic to State Route 255 or Old Arcata Road.

Construction is expected to occur over an approximately three year period, beginning in 2015. Caltrans estimates the project cost to be approximately $46 million.

**B. BACKGROUND**

Historically, the currently uncontrolled intersections have led to safety problems. In May 2002, due to the increasing frequency of injury and fatal collisions, Caltrans formally established the Eureka – Arcata "Safety Corridor," which it considered to be an interim solution/safety enhancement to reduce the hazards. This Safety Corridor included a doubled fine for speeding violations, reducing speed limits (from 60-mph to 50-mph), warning signs, actual speed traveled signs, headlights-on requirements, and flashing light warnings at intersections.

While lowering the speed limit for the three year period the Safety Corridor was in place did not eliminate the potential for severe collisions at the at-grade crossings, the Safety Corridor successfully improved driver behavior and awareness. During its first year, the Safety Corridor resulted in 45% fewer collisions, including 80% fewer collisions at intersections. The legislation authorizing the double fine zone expired after several years (on January 1, 2006), and Caltrans maintains that safety corridors are generally considered ineffective as permanent solutions, because driver reversion to former behavior and future growth lead to reduced effectiveness over time. The DEIR/S (p. 15) notes about safety corridors in general:

> *Moreover, a review of safety corridors on other highways within the State has shown that their effectiveness is short lived. Among the explanations for this loss of effectiveness given by traffic safety engineers is the phenomenon of habituation. It explains why warning signs, which rely upon driver alertness and attentiveness, are not long-term meaningful substitutes for permanent roadway geometric (configuration of roadway elements) improvements engineered using the latest design standards. After an initial enhanced enforcement period (ranging one to three years), the collision rates in these 29 safety corridors approached the pre-safety corridor implementation collision rates. Despite the Safety Corridor, traffic volumes are predicted to increase over time resulting in an increase in traffic collisions even if the reduced speed limit remains in effect.*

Specifically for this Corridor, Caltrans states:

> *Prior to the Safety Corridor, the collision rate five-year averages were higher than the statewide average (for similar highway intersections) at four of the six intersections. After implementation of the Safety Corridor, collision rate five-year averages at Mid-City Motor World and Indianola Cutoff remain above statewide averages; in fact, the collision frequency at Mid-City Motor World and Indianola Cutoff are actually higher than prior to the Safety Corridor.*

Exhibit 4 shows pre- and post-Safety Corridor accident statistics, both for accidents in general and severe accidents/fatalities, and compares them to statewide averages. It should be noted that although the total *number* of collisions was greater at two of the six intersections after the

Safety Corridor was in place (Exhibit 4, Figure 2-2), the *severe* collision rates (Exhibit 4, Figure 2-3), show that while the severe collision rates are still well above the state average for two of the intersections (Mid-City Motor and Indianola), at all the intersections the rates declined compared to the pre-Safety Corridor rates (and for 4 of the 6 intersections the declines were significant).

In June 2007 Caltrans circulated a Draft Environmental Impact Statement/Environmental Impact Report (DEIR/S) for the project. The 2007 DEIR/S focused on four alternatives: three Build alternatives (numbered Alternatives 1, 2 & 3), and a No-Build Alternative. These are described more fully below.

Working with a number of local, state, and federal agencies and local interest groups, Caltrans refined its alternatives analysis, and after receiving public comments on the Draft EIR/S, Caltrans modified two of the build alternatives to address concerns from local governments, public agencies, and individuals (Alternative 1A and 3A, the second of which would include a modified interchange at Indianola Cutoff and a half signal at Airport Road). After a public meeting in 2008, Caltrans summarized the public's response as follows:

> *About 75% of the written comments received after the meeting did not mention Alternatives 1A or Alternative 3A. Alternative 3A was favored about two-to-one over Alternative 1A; however, many more comments favored the No-Build Alternative or an alternative that would include a bicycle path. Although Alternative 1A would meet the project need and purpose, two common objections to this alternative were the safety concern anticipated by bicyclists using the turnarounds* [i.e., allowing U-turns] *and the turnarounds potentially creating driver confusion. Some commentators objected to the interchange feature of Alternative 3A* [i.e., the fill slopes and vertical separation of lanes].

In June 2009, Caltrans selected Alternative 3A as its preferred alternative (and under U.S. Clean Water Act 404(b)(1) Guidelines, the "preliminary Least Environmentally Damaging Practicable Alternative (LEDPA). In June 2010, and at the request of the Humboldt County Association of Governments (HCAOG) and Jacobs Avenue residents and businesses, Caltrans considered additional modifications to Alternative 3A, resulting in the currently proposed project referred to as "Modified Alternative 3A." The additional modifications were to the turn moves allowed at the Airport Road signal (referred to in this document as a "half signal"), to allow southbound turn moves from Airport Road. While Caltrans has not finalized the EIR/S (and will not until after Commission action on this consistency certification), it nevertheless states:

> *Modified Alternative 3A is currently the proposed LEDPA and Preferred Alternative that meets the project need and purpose of safety improvement (and other long-term highway improvements) that would benefit all travel modes, while minimizing traffic access, visual, and wetland impacts.*

On November 30, 2011, Caltrans submitted a consistency certification to the Commission for the proposed project (CC-054-11). That consistency certification included Caltrans' responses to public comments on the DEIR/S. While the matter was originally scheduled for Commission

action at the May 2012 Commission meeting, the Commission staff had communicated a number of Coastal Act concerns raised by the project, and on April 24, 2012, Caltrans withdrew the certification in order to respond more fully to these concerns. On February 8, 2013, Caltrans submitted the subject consistency certification for the project (CC-016-13), which included an addendum responding to Commission staff concerns, which included:

1. Whether the project was necessary to maintain existing traffic capacity, and thus whether it could be considered an allowable use under Section 30233(a) for wetland fill as an incidental public service facility;

2. Whether a "signalized boulevard alternative" would be an environmentally less damaging feasible alternative, in particular to the proposed Indianola Interchange;

3. Whether the project would be growth inducing in a manner inconsistent with the Coastal Act;

4. Whether a feasible visually less damaging, and less landform-altering, alternative to the Indianola Interchange was available (e.g., a signalized intersection);

5. Whether the project could include a guard-rail separated bicycle/pedestrian path along Route 101; and

6. Whether wetland mitigation sites that did not involve conversion of agricultural land to wetland habitat were feasible or available, and even if not, whether adequate wetland mitigation was included in the project.

Caltrans' responses, which will be discussed in more detail in the following sections of this report, include the above-mentioned addendum, as well as a revised wetland restoration concept plan. In these submittals, Caltrans maintained that its proposal would not increase capacity, induce growth, would be less environmentally damaging, and would minimize fuel consumption and greenhouse gas emissions. Caltrans maintained that a signalized boulevard would be less safe and effective, would not result in improved traffic flow, would involve more wetland fill, would be growth inducing, would not minimize fuel consumption and greenhouse gas emissions, would have more adverse visual effects, and would be more problematic for bicyclists and pedestrians. Caltrans also rejected the Commission staff suggestions for a guard-rail separated bicycle/pedestrian path on 101 because it would involve an additional 7.4 acres of wetland fill and would cost $12.3 million, and notes that a Coastal Trail is under consideration on the parallel rail corridor just west of 101.

### C. PHASED REVIEW

As has historically occurred for Commission review of Caltrans projects that also require an EIR/EIS, and where federal funding is involved, prior to Federal Highway Administration (FHWA) certification of the Final EIS and signing of the Record of Decision (ROD) for the project, FHWA policy guidance is that Caltrans obtain a Commission consistency concurrence before FHWA will sign the ROD and release federal funding for the project. These reviews do not supplant the need for subsequent coastal development permits (CDPs) by the appropriate jurisdictions. When the Commission conducts these types of "pre-coastal development permit"

phase federal consistency reviews, the Commission is reviewing the concept, goals and objectives of the proposed project. At this stage in the review process, the information submitted may not include final project plans or final mitigation and monitoring plans. The Commission needs to determine whether it has sufficient information to find that the project, to the extent the project elements and mitigation measures *have* been described, are generally consistent with the applicable Coastal Act policies, and where details may not have been finalized, to identify the mechanism the Commission will rely on to assure that the final details will be consistent with the Coastal Act. The Commission also generally uses this procedure to indicate to Caltrans what modifications and/or assurances, if any, are needed to enable the project to be found consistent with the Coastal Act.

If (and after) the ROD is signed, Caltrans will complete its design and planning process and apply for any necessary CDPs. In addition, any changes to the project design or mitigation commitments raising Coastal Act policy concerns not previously identified could independently trigger additional federal consistency review under the "reopener" provisions of Section 930.66(b) and/or Section 930.100(b) of the federal consistency regulations (15 CFR Part 930), which provide for re-review, based on "changed circumstances," of federally permitted and federally funded activities in which the Commission has previously concurred (i.e., based on a determination that the project is having coastal zone effects that are substantially different than originally proposed and, as a result, the project is no longer consistent with the applicable coastal management program policies).

For this project, which spans four CDP jurisdictions, CDPs will be needed from the Commission, Humboldt County, and the Cities of Eureka and Arcata. However, Caltrans has indicated that it intends to request consolidating the permit jurisdictions and apply for one coastal development permit from the Commission (based on the provisions of Section 30601.3 of the Coastal Act). If the CDPs are not consolidated in this matter, any local government-issued CDP for components of this project would be appealable to the Commission.

**D. OTHER AGENCY APPROVALS**

Other Regulatory approval/permits needed include:

**U.S. Army Corps of Engineers Section 404 Permit** for filling of wetlands/Waters of the U. S., and possibly a Section 10 permit for the construction of any structure in or over any navigable water of the U.S.

**U.S. Coast Guard Approval of Bridges** under the General Bridge Act of 1946 (33 U.S.C. 525).

**Regional Water Quality Control Board "Section 401 Water Quality Certification"** and possibly approval of any waste discharge into waters of the state, under the Porter-Cologne Act (Water Code Section 13260).

**U.S. Fish and Wildlife Service/National Marine Fisheries Service Section 7 Consultation** for incidental take of any federally listed species under the Endangered Species Act. (The Fish and Wildlife Service has issued a "No Jeopardy" opinion, dated November 22, 2010, and the

National Marine Fisheries Service, has issued a "May affect, but is not likely to affect" letter, dated January 20, 2010. Both these documents contain additional mitigation to protect "listed species" and "Essential Fish Habitat".)

**National Marine Fisheries Service Essential Fish Habitat Consultation** under the Magnuson-Stevens Act.

**Section 106 Compliance Coordination with the State Historic Preservation Officer (SHPO)** under the National Historic Preservation Act for protection of significant archaeological and historical resources. Procedures for dealing with previously unsuspected cultural resources discovered during construction.

**California Department of Fish and Wildlife 1602 Streambed Alteration Agreement** for activities that would affect a stream, and possibly a California Endangered Species Act (CESA) consistency determination may also be required for effects on Coho salmon.

**Humboldt Bay Harbor Recreation and Conservation District** permit for bridge construction work at Jacoby Creek and Gannon Slough.

**E. WETLANDS**

Section 30233(a) of the Coastal Act states, in part:

> *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
>
> *(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
>
> *(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
>
> *(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
>
> *(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*

*(6) Restoration purposes.*

*(7) Nature study, aquaculture, or similar resource-dependent activities.*

Humboldt Bay is one of California's most important wetland complexes and is the largest bay between Coos Bay, Oregon and the San Francisco Bay. The Bay and its surrounding wetland complexes provide habitat for 316 species of birds, 40 species of mammals, and over 100 species of fish and marine invertebrates, many of which contribute to sport and commercial fisheries, including steelhead, coho and chinook salmon, and Dungeness crab. Despite its current high habitat value, over the past 120 years more than 90% of its wetlands have been diked and filled for agricultural, transportation, and urban uses, and only about 850 acres of salt marsh (out of a historic approximately 9,000 acres) remain.

The Coastal Act recognizes the importance and scarcity of wetlands primarily in Section 30233, which allows only limited types of uses in wetlands and imposes strict alternatives and mitigation tests. According to Caltrans' consistency certification, using the Coastal Act wetlands definition the proposed project would result in 10.3 acres of permanent wetland fill, which it indicates results from: replacement of the southbound Jacoby Creek Bridge; construction of the Indianola interchange; extension of acceleration and deceleration lanes; and construction of a (half) signalized intersection at Airport Road. This fill triggers the 3-part test under Section 30233(a) for projects involving wetland fill: (a) the allowable use test; (b) the alternatives test; and (c) the mitigation test. A project must pass all three tests to be authorized pursuant to Section 30233(a).

**Allowable Use**

Under the first of these tests, a project must qualify as one of the seven stated uses allowed under Section 30233(a). Caltrans maintains that the project is an allowable use under Section 30233(a)(4), which authorizes wetland fill for "*Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines*." Caltrans maintains that the project qualifies for this allowable use for the follow reasons:

> *The project is needed for public safety improvement and other roadway improvements that would benefit all travel modes. Expansion of an existing road or bridge is an "incidental public service purpose" allowed under Section 30233(a)(4) when no other alternative exists and the roadway expansion is limited and necessary to maintain existing traffic capacity. Since coastal wetlands occur within the existing Route 101 roadway fill prisms and the median, roadway improvements beyond the existing pavement often result in wetland impacts. Although constructing Modified Alternative 3A* [i.e., the proposed alternative] *would result in wetland impacts, any wetland impacts would be fully compensated off-site. The project would improve coastal access and improve safety for both motorized and non-motorized transit by eliminating uncontrolled left turn moves and constructing an interchange.*

> *Even though the project includes extending acceleration and deceleration lanes, as well as a new interchange, these improvements are for safety purposes and would not increase the capacity of the roadway; the overall number of through lanes would remain the same after project construction. No new travel lanes will be added to the Route 101 corridor's length in either the northbound or the southbound directions. The proposed interchange at Indianola Cutoff would create a roadway grade separation between the lower ranked left turn movements to and from Route 101 and mainline Route 101 through traffic at Indianola Cutoff would not add additional lane capacity to the overall Route 101 corridor. While interchanges have a greater intersection capacity than intersections with at-grade minor street stop control, interchanges alone do not increase the through capacity of freeway-expressway segments. The existing two-lane highway capacity on Indianola Cutoff also will not increase with the construction of an interchange.*

In support of these assertions, Caltrans cites several previous Commission approvals of other Caltrans-proposed projects where it believes the Commission relied on a similar analysis in its approval findings. Several of the cases cited by Caltrans as analogous are as follows:

1. CDP 1-07-013, Mad River Bridge Replacement, Route 101 between Arcata and McKinleyville, involving 2 acres of wetland fill, with the relevant Commission finding being:

> *The Commission has in the past determined that the fill for certain highway safety improvement projects that did not increase vehicular capacity was considered to be for an "incidental public service" pursuant to the requirements of Coastal Act Section 30233(a)(4). In reaching such conclusion, the Commission has typically determined that a bridge replacement is a public safety project – and thus is undertaken for a public purpose -- and further, that the project is incidental to "something else as primary." That is, the project is a public safety project incidental to the primary transportation service provided overall by the existing highway. This finding is supported in part on the basis that the subject bridge project is not part of new route or highway expansion.*

2. CDP 1-90-295, Highway 1 widening, realignment and left turn lanes 2 mi. north of Fort Bragg, Mendocino Co., involving 1 acre of wetland fill, with the relevant Commission finding being:

> *In this case, the fill is proposed in conjunction with a project designed to improve a dangerous access to beaches and parks. The highway rebuilding project is a public service. Therefore, the Commission finds that the purpose of the fill is consistent with subsection (5) of Section 30233.* [Note: subsection 30233(a)(5) from 1990 is the same as subsection (a)(4) today]

3. CC-007-95 Route 150 realignment and replacement of two bridges over Rincon Creek, at the Ventura/Santa Barbara Co. line, involving 0.02 acres of wetland fill for slope protection for the bridges, with the relevant Commission finding being:

> *The project is consistent with Coastal Act wetland policies (Section 30233) because it: is an allowable use as an incidental public service, because it is consistent with the Commission's wetland guidelines allowing fill for highways where no capacity increases are proposed, where it is the least environmentally damaging feasible alternative, and where adequate mitigation is provided.*

4. CC-074-05 Highway 1 Ten Mile River Bridge replacement, north of Fort Bragg, Mendocino Co., involving primarily temporary wetland effects but also 113. sq. ft. of permanent wetland fill, with the relevant Commission finding being:

> *Construction and demolition activities for the project will occur in the river and within and adjacent to freshwater and brackish water wetlands found along the south bank of the river. The project includes new fill of coastal waters and is an allowable use under the "incidental public service" provision of Section 30233(a)(5)* [now (4)] *as the project is a limited expansion of an existing transportation facility necessary to maintain existing capacity.*

The above cases Caltrans cites involve allowable use considerations the Commission has ruled upon postdating the Commission's adoption of statewide interpretive guidelines in 1981 ("Statewide Interpretive Guidelines for Wetlands and Other Wet Environmentally Sensitive Habitat Areas" (hereinafter, the "Guidelines")). The Guidelines analyze the allowable uses in wetlands under Section 30233 including the provision regarding "incidental public service purposes." The Guidelines state that fill is allowed for:

> *Incidental public service purposes which temporarily impact the resources of the area, which include, but are not limited to, burying cables and pipes, inspection of piers, and maintenance of existing intake and outfall lines (roads do not qualify).*

A footnote (no. 3) to the above-quoted passage further states:

> *When no other alternative exists, and when consistent with the other provision of this section, limited expansion of roadbeds and bridges necessary to maintain existing traffic capacity may be permitted.*

The Court of Appeal concurred with the Commission's interpretation in the Guidelines of the term "incidental public service purposes" as a permissible one. *Bolsa Chica Land Trust et al. v. Superior Court* ("*Bolsa Chica*") (1999) 71 Cal.App.4$^{th}$ 493, 516 ("We agree with these aspects of Commission's guidelines"). In Bolsa Chica, the court held that:

> *… we accept Commission's interpretation of sections 30233 and 30240… In particular we note that under Commission's interpretation, incidental public services are limited to temporary disruptions and do not usually include permanent roadway expansions. Roadway expansions are permitted only when no other alternative exists and the expansion is necessary to maintain existing traffic capacity.*

The key tests to determine whether the proposed Eureka-Arcata 101 Corridor project qualifies as an incidental public service under these historic interpretations, and thus with the above cited cases and applicable findings, are the questions of whether the proposed improvements are "necessary to maintain existing traffic capacity" and whether there is "no other alternative" available that would avoid or reduce wetland impacts. The Commission believes neither of these tests is met in this situation.

The Commission agrees with Caltrans that the "operational conflicts" posed by the uncontrolled crossings at the intersections on Route 101 between Eureka and Arcata are indeed the safety problems that warrant resolution, although it should be pointed out, as noted on pp. 9-10, that that since the Safety Corridor was installed, the data (Exhibit 4) show declines in *severe* collision rates compared to the pre-Safety Corridor rates, and no fatalities have occurred to date since the Safety Corridor began. In any event, the Commission does not agree with Caltrans that the resolving of these operational conflicts needs to occur in a manner that maximizes traffic flow, as the interchange proposed at Indianola would do. Because the project involves wetland fill, the resolution must be one that does not increase capacity, and it must represent the minimum amount of fill necessary to maintain *existing* traffic capacity.

Caltrans states for safety reasons, it needs to plan and design highways to accommodate an increasingly aging population, and that to accommodate higher future traffic volumes (Caltrans estimates a 30% increase in traffic volumes over the next 20 years), that that intersection Levels of Service (LOS) need to be improved, stating:

> *There is no substantial delay or capacity problem along the mainline (Route 101 through lanes) in the Eureka - Arcata corridor, however, substantial delays associated with left turn traffic crossing Route 101 currently exist and are expected to deteriorate further if no change is made.*

Caltrans' consistency certification confirms that one of the project purposes is:

> ***Reduce delay at intersections.*** *Reducing traffic delays at intersections along the Route 101 corridor to provide a LOS D or better along the Route 101 mainline and LOS C at Route 101 for signalized intersection moves through the year 2031 is another project purpose.*

Through this assumption (i.e., the need to accommodate future traffic increases - a 30% increase over 20 years), Caltrans is defining the concept of maintaining existing traffic capacity to include maintaining a particular level of service, which is a broader interpretation than what the Commission has historically relied on when it has determined whether a project is necessary to maintain *existing* capacity.

The courts have also rejected the notion that Section 30233(a) could be interpreted to apply to maintaining Levels of Service. For example Headnote 13 of the appellate court decision in the above-cited Bolsa Chica case states:

> *[13] Although we accept Commission's interpretation of sections 30233 and 30240, we do not accept Commission's application of that interpretation to Warner Avenue Pond. In particular we note that under Commission's interpretation, incidental public services are limited to temporary disruptions and do not usually include permanent roadway expansions. Roadway expansions are permitted only when no other alternative exists and the expansion is necessary to maintain existing traffic capacity. As the trust points out, Commission found that the widening of Warner Avenue was needed to accommodate future traffic created by local and regional development in the area. Contrary to Koll's argument, this limited exception cannot be extended by finding that a roadway expansion is permissible when, although it increases the vehicle capacity of a roadway, it is designed to maintain an existing level of traffic service. Such an interpretation of the exception would entirely consume the limitation Commission has put on the incidental public services otherwise permitted by section 30233, subdivision (a)(4).* [Emphasis added]

The Commission finds that Caltrans' proposed solution, most particularly at Indianola, is one which has the effect of increasing, rather than maintaining, highway capacity. As noted in the following (Alternatives) discussion below, Caltrans' Route Concept Report adopted in 2002 lists (on page 17) the Corridor Project as amongst a number of "capacity increasing" projects (i.e., project list entitled "2000 STIP Programmed Capacity Increasing Improvements") (Exhibit 20). Also as noted in the discussion below, anecdotal information exists to support a conclusion that the interchange would be growth-inducing (and thus capacity-increasing) in the context of an early 1990s proposal by Walmart Stores Inc. (Walmart), later abandoned, to develop a store near the Indianola Cutoff. Caltrans' response to a traffic study conducted for the proposal stated that "…the Walmart project [which the memo indicates would need at least a signal in the short term and probably an interchange in the long term] could be growth-inducing." (Caltrans Response to TJKM Traffic Study" Re: Walmart at Indianola Road, 1-Hum-101-82.67, April 1, 1993) (Exhibit 19).

At this time, Caltrans maintains that highway capacity is determined by the number of through lanes, that capacity is not affected by intersection bottlenecks, that the non-signalized intersections are not major impediments to traffic flow, that extending acceleration and deceleration lanes serve only to facilitate merging and diverging traffic (i.e., maintaining existing highway capacity by improving level of service), and that the proposal can be considered limited to safety and operational improvements to existing intersection and rehabilitation improvements which are allowable under the incidental use policy.

Caltrans also cites a Commission decision in San Diego as supporting its assertion that intersection improvements do not increase capacity (although it should be noted that the case cited was not one that involved wetland fill and thus did not turn on the question of whether it was an allowable use under Section 30233(a)). The case cited is a 2012 San Diego Caltrans case involving the addition of an auxiliary lane to I-5/I-8 intersection, near Sea World, and where the Commission's findings include the following statements (CDP 6-12-060):

(1) The … project would not result in an increase of capacity to the general travel lanes of the freeway.

(2) This auxiliary lane project is proposed to alleviate increased congestion on northbound I-5 due to increased traffic volume within the project limits. This increased traffic demand has resulted in a significant backup along I-5 that often extends onto the I-8 connector ramp and further east along I-8.

(3) The proposed project would not increase the capacity of the freeway segment, but would function to improve safety and reduce congestion within the subject area, and all work will occur within the Caltrans right-of-way.

Caltrans' assertions may be a reasonable way to interpret the Corridor intersections *other* than the one at Indianola, and the Commission agrees that the four cases cited above (pp. 15-16) would be comparable to Caltrans' proposed solutions for the other five intersections. However, the solution Caltrans proposes at Indianola goes further than the minimum amount necessary to improve safety and maintain existing capacity at this intersection. The Commission believes that the design for this intersection appears to be based as much on maximizing and improving traffic flow and maintaining Level of Service C (based on present and future projected growth rates), as it is to improve safety. The Commission further notes that this design differs significantly from the designs Caltrans proposes for the other Corridor intersections.

The Commission finds that, based on the above information, the proposed project would increase the capacity at the Indianola Cutoff intersection. In addition, as will be discussed in the following section, the Commission will further find that the project is not the least environmentally damaging feasible alternative, and thus the Commission is unable to find that "no other alternative" (that would not result in increased capacity) is available. The Commission therefore concludes that the project does not qualify as an incidental public service and is therefore inconsistent with the first test of Section 30233(a), because it is not limited to improvements *necessary to maintain existing capacity* and because it is not the only (or least damaging, as discussed in the following section) alternative available to improve the safety problem at this intersection.

**Alternatives**

The currently proposed project is called "Modified Alternative 3A" in the consistency certification and other environmental documents analyzing the project. In its Draft EIR/S, Caltrans focused on four alternatives consisting of:

Alternative 1 - Resurface, restore, and rehabilitate (RRR) with median closures.

Alternative 2 - RRR Project with median closures and interchange at Indianola Cutoff

Alternative 3 - RRR Project With Median Closures and Interchange at Indianola Cutoff and Signalized Intersection at Airport Road

Alternative 7 – No-Build[2]

[2] The fourth alternative is numbered non-consecutively (as No. 7) in the NEPA document.

Alternative 1 would consist of 14 components, with Alternatives 2 and 3 each adding one more major component to these. **Alternative 1** would be to close Route 101 median crossing and construct the following roadway improvements: (1) improve acceleration lanes and deceleration lanes at intersections; (2) close median crossings; (3) install and reset safety and weed barriers; (4) make Route 101/255 improvements; (5) make pavement and striping improvements; (6) replace the southbound Jacoby Creek Bridge; (7) upgrade bridge rail on northbound Jacoby Creek and Gannon Slough Bridges; (8) replace nine existing tide gates; (9) add or replace roadway lighting; (10) protect safety by installing guardrail adjacent to two to three billboards south of Bracut; (11) remove specified large trees within the 30-feet clear recovery zone; and (12) remove Safety Corridor sign from the Eureka Slough Bridge to Gannon Slough.

**Alternative 2** would be the same as Alternative 1, with one addition: the construction of an interchange at Route 101 and Indianola Cutoff (i.e., the "Indianola Interchange"). Features of the interchange would include 2,600 ft. long off-ramps, 2,000 ft. long on ramps, elevating Route 101 by 25 ft., constructing separated north and southbound bridges, a 50 ft. median width and a median barrier.

**Alternative 3** would be the same as Alternative 2, with one more addition: full signalization of the Route 101/Airport Road intersection, including a southbound left turn pocket (and allowing truck U-turns). Southbound traffic speeds would be reduced for vehicles approaching the intersection. The Airport Rd./Route 101 intersection would be relocated to the north to improve operational efficiency. A lane would be added from the Cole Avenue acceleration lane to the deceleration lane at Mid-City Motor World to maintain traffic flow. To minimize wetland/drainage impacts, a retaining wall would be required for a portion of the lane between Jacobs Avenue and Airport Road.

As noted above, after receiving public comments on the Draft EIR/S, Caltrans considered two additional alternatives involving modifications to the Alternatives 1 and 3, as follows:

**Alternative 1A** would involve closing the medians with turnarounds at three locations in the corridor and partial signalization (a "half signal") at Airport Road. No interchange would be involved.

**Alternative 3A** would involve reducing the footprint, amount of grading, and extent of wetland fill at the Indianola Interchange, by steepening the engineered slopes (from 2:1 to 1.5:1) and reducing the median width (to 22 ft. wide) at the interchange. This alternative would also include the half signal at Airport Road described in the previous paragraph.

As noted in the Background section of this report, after selecting Alternative 3A as its previously preferred alternative, and with additional public agency and other community input, Caltrans identified **Modified Alternative 3A** as the preferred alternative, which further modified the turn moves allowed at the Airport Road signal.

Schematic diagrams of Alternatives 1, 2, 3, 1A, and Modified 3A are shown in Exhibit 12. The chart in Exhibit 13 compares these, as well as the no build alternative. In its consistency certification, Caltrans rejects the no build alternative, which would essentially mean keeping the

non-expired elements of the Safety Corridor (e.g., continuation of a posted 50 mph speed limit *and daylight use of headlights, but continued discontinuation of a double fine zone for speeding, enhanced public education, and increased traffic enforcement). Caltrans states this would not adequately address safety needs, in part because two of the intersections are already at double the statewide accident average. Caltrans maintains further that the effectiveness of the safety corridor measures will erode over time, especially as future traffic levels increase.*

Caltrans states the other build alternatives it examined (Alternatives 1, 1A, 2, 3, and 3A) would all meet the project's need and purposes, and that Modified Alternative 3A is the least environmentally damaging feasible alternative.

Concerning Alternative 1, Caltrans acknowledges it would involve less permanent wetland fill than the proposed alternative (7.2 acres for Alternative 1A, versus 10.3 acres for the proposed alternative). However Caltrans maintains that the more extensive wetland fill from the proposed alternative is outweighed by other factors. Caltrans concludes:

> *Modified Alternative 3A meets the LEDPA criteria because it balances overall benefits with environmental impacts. While Alternatives 1 and 1A have less direct impacts to wetlands, they would have the most potential out-of-direction travel impacts to businesses, bicyclists, and Environmental Justice communities. The benefits and advantages of Modified Alternative 3A include:*
>
> *• Would avoid or minimize impacts to Environmental Justice communities compared to Alternatives 1, 1A, and 2;*
>
> *• Would reducing out-of-direction travel, which in turn would reduce air quality impacts, fuel consumption, travel delay and costs, and greenhouse gas production, and costs to businesses;*
>
> *• Would substantially improve the safety of public coastal access by eliminating uncontrolled left turn moves while reducing out-of-direction travel with an interchange and a half signal;*
>
> *• Unlike Alternative 1, Modified Alternative 3A would not increase traffic on Old Arcata Road;*
>
> *• Unlike Alternatives 1, 1A, and 2, Modified Alternative would improve the safety of bicyclists crossing Route 101 at two locations;*
>
> *• Modified Alternative 3A would have less wetland impact than Alternatives 2 and 3 while providing nearly the same access benefits as Alternative 3;*

> *• Minimal energy and air impacts from out-of-direction travel compared to Alternatives 1, 1A, and 2.*

Caltrans also states that while the Indianola Interchange would result in adverse visual effects ("a moderately high reduction in visual quality for west bound travelers on Indianola Cutoff"), this effect would be offset because "travelers on Route 101 would have better views of the bay as they travel over Indianola Cutoff."

Concerning the alternative that the Commission staff has urged Caltrans to consider on multiple occasions (including in the Commission staff's 2007 DEIR/S comment letter), Caltrans continues to maintain that a "Signalized Boulevard" alternative would not be environmentally less damaging and did not sufficiently meet the project purpose for inclusion in the EIR/S as among the alternatives analyzed in detail. The consistency certification states:

> ***Other Alternatives and Design Options Considered but Dropped From Consideration***
>
> ***Signalize multiple intersections.*** *Caltrans staff performed a brief operational analysis of a "boulevard" facility in the corridor by signalizing all six intersections and extending southbound Route 101 left turn lanes (no additional through lanes). Assuming a year 2011 opening day, this option would result in poor Level of Service (LOS D or below) for all left turn moves and LOS D for northbound through traffic at Indianola Cutoff and Bracut. When modeling for year 2031 volumes the LOS conditions are further degraded for left turn movements and Route 101 through traffic. Because of the resulting degraded LOS, some traffic would likely divert to Old Arcata Road and State Route 255 and thus increase traffic through residential areas. In addition, it is unlikely that Caltrans would receive funding approval from the California Transportation Commission for a project that does not follow the approved Route Concept and would in fact lower the performance of the facility. For more information, see Appendix C for a discussion of the "Boulevard" Concept.*

The consistency certification also included several additional documents to support its conclusions, including:

(1) Appendix C, entitled Signalized "Boulevard" Analysis;

(2) schematics and plans for what such a signalized boulevard might look like;

(3) a Traffic Operational Response to the Commission staff's previous suggestions and recommendations (July 17, 2012, memo from District 1 Traffic Operations Chief Troy Arseneau) (Exhibit 16);

(4) a safety analysis (June 28, 2012, Issue Paper – Safety Analysis of Signalization at Indianola Cutoff/Route 101); and

(5) a chart detailing wetland impacts from a signalized approach (Exhibit 15).

In its consistency certification Caltrans points out that many factors need to be examined before decisions can be made to signalize an intersection, including traffic warrants, engineering and safety analyses, which would need to establish that installing a traffic control signal would improve the overall safety and/or operation of an intersection. Caltrans states:

> *Surrounding land use, traffic volumes, pedestrian volumes, and the number of correctable collisions occurring at the intersection are some of the factors looked at in the warrant analysis process in addition to looking to see if intermittent non-signal improvements have been previously applied prior to considering signalization. Other considerations such as the Route 101 Concept (discussed in Chapter 1), the characteristics of the highway, and the potential impact of signalization to adjacent segments of highway need to be considered before a decision is made to signalize an intersection.*

Caltrans distinguishes Airport Rd., where it is proposing a (half) signal, from Indianola Cutoff, stating that a number of overriding considerations justify placing a signal at Airport Road only, including:

(1) the existence at Airport Rd. of residents and numerous businesses with no secondary access;

(2) its proximity to urbanized Eureka, compared to the remaining intersections;

(3) safety considerations, including the greater ability to warn motorists if only a single signal is installed (Caltrans states: "With numerous signals within this segment of Route 101, there is an expectation that the phenomenon of habituation will leave motorists less aware of a single and specific potential conflict, and reduce the effectiveness of warning systems, and increase the potential for collisions"); and

(4) "Signalizing Route 101 at Airport would not likely remove a constraint to growth at this location compared to signalizing Route 101 at Indianola Cutoff or Bracut: the Airport Road and Jacobs Avenue have less areas of developable potential" (here, and as discussed below, Caltrans maintains that signals at other intersections would be growth inducing).

In consistency certification Appendix C (Signalized "Boulevard" Concept Analysis), Caltrans examined (based on a "brief operational analysis") a "boulevard" facility, which would consist of signalizing all six intersections and extending southbound Route 101 left turn lanes. To paraphrase this analysis, Caltrans maintains that such alternative would not be feasible and would be more environmentally damaging because:

1. Further analysis of site conditions, consistency with the "approved Route Concept," and traffic levels that would be transferred to other roads (Old Arcata Rd., Rte. 255) would be needed before a decision could be made to install a signal.

2. It would provide poor levels of service and would divert traffic to Old Arcata Rd. and State Route 255 as a year-2031-expected 30% traffic increase occurs. Upon immediate implementation traffic would be at LOS D at peak periods, and worsen over time if expected traffic increases occur.

3. It may not be eligible for funding approval from the California Transportation Commission if it would not improve the performance of the facility and does not follow the "approved Route Concept."

4. The Airport Rd. intersection, which is proposed for a half signal, can be treated differently than the more northern intersections because: (a) it is close to the City of Eureka where vehicles will be less likely to be moving at highway speeds, and driver expectations are therefore different; and (b) it would be easier to maintain a less-than-statewide-average rate of collisions if only one intersection is signalized.

5. Drivers are more able to observe warnings at a single intersection than at multiple signalized intersections, as they will habituate to them and warnings will be less effective, leading to more collisions.

6. Signalized intersections will need additional acceleration and deceleration lanes.

7. Installing signals at intersections other than Airport Rd. would be growth inducing "because existing commercial development could be more easily intensified from the opportunity provided by signalized traffic controls."

8. Signalized intersections, with their inherent stop and go traffic, would increase greenhouse gas emissions, air quality impacts, and not be energy-conserving.

9. Signalized intersections would change the semi-rural character to a more urbanized character.

10. It would be difficult to accommodate pedestrians with signalized intersections.

Caltrans also included in its consistency certification an estimate of wetland fill associated with such alternative (Exhibit 15 - chart showing wetland impacts from a signalized approach). In its February 2013 consistency certification addendum, Caltrans estimates that "a signalized alternative would require the filling of approximately 15 acres of wetlands as opposed to the approximate 10.3 acres of wetlands that the Preferred Alternative would remove. This is an impact ratio of about 3 to 2." Caltrans states:

> *A signalized boulevard alternative would require more highway widening due to the need for additional through and turning/acceleration/deceleration lanes to maintain LOS C performance at the signalized intersections. A signalized boulevard alternative would require four northbound through travel lanes and three southbound through*

> *travel lanes. Single left turn lanes would be required at all intersections with dual left turn lanes being required for southbound Route 101 left turning traffic at the Indianola Cutoff intersection.*

Because the Commission staff also requested analysis of an "opening day" signalized alternative (i.e., one not taking into account a need to accommodate projected future traffic growth), Caltrans stated the amount of permanent wetland fill associated with a six-signal signalized alternative would be much closer to the proposed alternative (11 acres for an "opening day" scenario as compared to 10.3 acres for the proposed project), stating:

> *For the signalized boulevard scenario in 2018, three through lanes in both the northbound and southbound directions would be required on Route 101 for LOS C. Based upon this lane requirement, the estimated wetlands impact for the opening day scenario would be 11 acres; however, the wetland impacts for the other alternatives are compared using 20-year design requirements. The wetlands impact for the signalized boulevard scenario is 15 acres for the 20-year design period, due to a fourth through lane being required in the northbound direction.*

The Commission staff responded to this information (letter to Caltrans dated June 4, 2013) by requesting that Caltrans compare the proposed alternative with what the Commission staff would call a "Modified Signalized Alternative," consisting of only providing signals at one intersection (Indianola Cutoff) (aside from the already proposed half signal at Airport Rd.)), elimination of the 4th northbound lane that Caltrans had characterized as would be needed for 20 year projected traffic, and elimination of several turning lanes at Indianola. Caltrans' response (letter dated June 17, 2013) (Exhibit 17) was that such an alternative would entail 7.91 acres of permanent wetland fill, which would be less than the proposed project. However Caltrans also included as an attachment a June 14, 2013, Traffic Operations Memo ("Traffic Analysis of Two Signal Corridor Scenario") (Exhibit 18), which states that:

(1) "signalization [at Indianola] is no longer a practical intersection treatment due to the heavy through and left turn volumes … during peak periods;"

(2) "such an installation would change the nature of the traffic flow through the corridor transforming it from a rural uninterrupted traffic flow environment to an urbanlike interrupted traffic flow environment;"

(3) eliminating the lanes that Commission staff requested analysis of would result in "… traffic flow in all directions … experienc[ing] added and undesirable congestion as the traffic signal timing could not be fully optimized to serve the most traffic per cycle length."

The memo concludes:

> *… signalizing Indianola Cutoff is not a viable option for the Eureka-Arcata Corridor. Due to the high level of traffic volumes present in the corridor, a more advanced intersection treatment is required to adequately facilitate traffic through the corridor.*

> *For this very reason, a signalized alternative at Indianola Cutoff was eliminated from consideration years ago in the project development process.*
>
> *A traffic signal at Indianola Cutoff would immediately introduce added congestion to the U.S. 101 corridor between Eureka and Arcata on opening day even if additional lanes were provided to optimize the intersection's signal performance.*

The memo also notes that:

> *Interchanges do <u>not</u> require traffic to stop and wait for the next available green time as is the case with signalized intersections. For this reason, additional lanes are usually not needed on four lane (two lanes in each direction) divided highway/expressway/ freeway segments when interchanges are added, unless traffic volume and weaving movement levels on the mainline require it to alleviate congestion.* [Emphasis in original]

The Commission questions a number of Caltrans' underlying assumptions and believes Caltrans has artificially constrained the number of alternatives it considers feasible and available to those that would maximize smooth traffic flow, at the expense of coastal resource protection needs and Coastal Act legal requirements.

The Commission disagrees with Caltrans statements that signals would be growth inducing, whereas the proposed intersections would not. Caltrans appears to base this assertion on a purported effect that drivers stopped at lights would be more aware of, and could more easily make turn movements to access, adjacent businesses. If these factors lead to growth inducement, then such an argument would have to be extended to the proposed Indianola Interchange, where Caltrans is proposing to facilitate turn movements and increase visibility to drivers of any surrounding development.

As discussed in the previous ("Allowable Use") discussion, at least anecdotal evidence exists to support a contention that an interchange would be growth-inducing (Caltrans Response to TJKM Traffic Study" Re: Walmart at Indianola Road, April 1, 1993 (Exhibit 19)). That memo also appears to pose (at that time) that a signal could be a reasonable short- to mid-term alternative (for up to 8 to 9 years, which the Commission would argue further supports its feasibility, as well as it continued consideration). At the same time it should be acknowledged that the memo also expresses Caltrans' fairly strong institutional resistance to signals as inconsistent with its route concept and possibly unpopular locally.

The Commission questions Caltrans' statement that installing signals *other* than at Airport Rd. would conflict with a "rural uninterrupted traffic flow environment." The Commission believes this ignores the reality that the 101 corridor between the two cities is both semi-urban and semi-rural environment. The Corridor is a relatively short stretch of highway between two cities, is physically within the City limits of the City of Eureka, and businesses do and will continue to exist adjacent to the Corridor. Due to its proximity to Eureka, any time delays during commute

periods that additional signals would pose would be minimal compared to the delays encountered once commuters reach the downtown area, with its numerous signalized intersections on Route 101.

The Commission also questions Caltrans' statement that Airport Rd.'s proximity to Eureka means vehicles would be less likely to be travelling at highway speeds. Airport Rd. is over a mile (approximately 1.4 mi.) from the last in a series of traffic lights in Eureka, and after the existing last light drivers are likely to reach highway speeds quickly when existing the City to the north. In any event, the Commission has not been provided evidence to support Caltrans' assertion.

The Commission acknowledges Caltrans' argument that a signal would increase fuel consumption and greenhouse gas emissions, as well as electricity use for signals, compared to the proposed interchange. However the Commission finds these effects to be relatively minor and outweighed by the proposed interchange's other adverse effects described in this section.

The Commission also questions Caltrans' assertion that signalized intersections within the corridor would be inherently unsafe. The Commission believes that a safety conflict at an unsignalized intersection could only be *improved* by the installation of a signal, and if only one more signal (at Indianola) is added (to the proposed half signal at Airport Rd.), sufficient warning signs and other devices could be provided to alert drivers to any hazard, and thus avoid the habituation/inattentiveness to and ignoring of warnings/signals Caltrans maintains would occur if all the intersections were signalized. The predominant safety problem for the corridor is driver uncertainty as to when to make a safe turn at unsignalized intersections. Both median closing and installing signals would significantly reduce such driver uncertainty. In addition, providing for slower rather than faster traffic, if that is indeed the consequence of signal installation approach, may actually improve bicycle safety and the compatibility of the Corridor for bicycle use.

Moreover, the effect of constructing the proposed raised fill slopes at Indianola would be far more irrevocable, would involve significant alteration of natural landforms, would involve more significant adverse visual effects in a scenic area, and may be premature, in that it may prejudice future planning options being considered in Caltrans "Climate Change Adaptation Pilot Strategy for Critically Vulnerable Assets in Northwest California." This pilot study being undertaken by Caltrans is intended to focus on the vulnerability of four areas of particular concern, one of which is the project area between Eureka and Arcata. Caltrans indicates (June 17, 2013 letter to CCC staff) the study will not be complete until December 2014, and states:

> *While [Caltrans] staff cannot predict what the study's short or long-term recommended actions will be, it may be possible that short term recommendations could be incorporated into the project. It is unlikely that the long-term recommendations would be incorporated into the project.*

Despite the uncertainties as to the likely study results and ramifications, the Commission notes that installing a signal at Indianola would be less likely to conflict with (and easier to modify to harmonize with) any study outcomes for addressing sea level rise. With a raised interchange the

roadway below the overpasses would be fixed at a low level relative to sea level, and it would be much more difficult to raise the roadway elevation and maintain sufficient clearances given the presence of the overpass above.

The Commission also notes that Caltrans has not provided evidence to support its statement that the California Transportation Commission might not be willing to fund a signalized intersection approach.

In comparing the *extent* of permanent wetland fill alone from the various alternatives, the proposed project would involve 10.3 acres of permanent wetland fill. Caltrans' Table S-1 in its consistency certification (Exhibit 13) compares the alternatives as follows:

| | |
|---|---|
| Alternative 1 | 3.7 acres |
| Alternative 1A | 7.2 acres |
| Alternative 2 | 12.5 acres |
| Alternative 3 | 15.1 acres |
| Modified Alternative 3A | 10.3 acres (the proposed alternative) |
| No-Build Alternative | 0 acres |

As noted earlier, in response to the Commission staff's request to consider signalized alternatives, Caltrans subsequently estimated: (1) a "full-buildout" signalized alternative (signals at each intersection, and extra through and turning lanes) to entail **15 acres** of permanent wetland fill; (2) an "opening day" signalized alternative (signals at each intersection, and the minimum number of through and turning lanes) to entail **11 acres** of permanent wetland fill; and (3) a "modified signalized" alternative (additional signal only at Indianola, with fewer turning lanes at Indianola than shown in the "full-buildout" plan for that intersection) to entail **7.91 acres** of permanent wetland fill.

Having found in the previous section of this report that a signal at Indianola would not increase capacity (a necessary determinant to finding consistency with the incidental public service test of Section 30233(a)), and if closing the median at Indianola is not a reasonable option, the question for the Commission from a wetland acreage impact perspective then becomes: What improved intersection design would minimize wetland fill acreage while still providing for adequate public safety? Of the three signalized alternatives the Commission staff requested Caltrans to look at, at least two would entail less than or roughly equal wetland acreage to the proposed interchange. Either of these could be considered less environmentally damaging feasible alternatives to the proposed project, and design refinements may be possible to further reduce wetland effects (such as using some of the lower quality median wetlands rather than the surrounding wetlands just east and west of 101 for turning lanes).

In conclusion, the Commission finds that Caltrans has not proposed the least environmentally damaging feasible alternative for the Indianola intersection. The 240,000 cu. yds. of grading and 25 ft. height of the proposed interchange fill slopes would significantly alter natural landforms, degrade scenic public views and alter the scenic character of the area, and possibly prejudice sea level rise planning options. The Indianola interchange would also most likely be growth inducing, and regardless, as noted in the previous section of this report, it would

increase capacity and not be able to be found consistent with the allowable use test of section 30233(a). As discussed above, a signalized intersection would avoid or reduce many of these impacts; it would involve fewer or comparable wetland impacts, fewer visual impacts, would be more compatible with the character of the area than the proposed project, would raise fewer growth-related concerns, and could be found consistent with the incidental public service test of Section 30233(a). The Commission therefore concludes that the proposed project is not the least environmentally damaging feasible alternative and is therefore inconsistent with the alternatives test of Section 30233(a) of the Coastal Act.

**Mitigation**

Temporary wetland impacts (approximately 4.5 acres for the proposed project) would be restored on site. To mitigate the project's permanent wetland impacts, Caltrans' consistency certification states that only limited areas on-site (i.e., within the right-of-way) are available for mitigation, and that for both quantity and quality reasons Caltrans needs to provide offsite mitigation. Caltrans states the off-site wetland mitigation proposal would consist of restoring, enhancing, and preserving tidal wetland "with high value and function to compensate for impacts to wetlands with relatively low value and function within the roadway setting." Caltrans coordinated with a number of public resource agencies, land trusts, restoration professionals, and private landowners in developing its mitigation plan and in its attempts to identify appropriate sites within the Humboldt Bay watershed and the coastal zone.

Caltrans has submitted two Conceptual Mitigation/Restoration Plans (a Conceptual Wetland Mitigation Plans dated April 2011, and a Draft Restoration Plan dated January 2013). The plans provide for wetland enhancement and/or restoration at the following two sites (shown on Exhibit 21).

The **Demello South** site is a 78 acre parcel west of Arcata and adjacent to the Mad River Slough and the U.S. Fish and Wildlife Service (USFWS) Humboldt Bay National Wildlife Refuge's Lanphere and Ma-le'l Dunes Units. The parcel is zoned Agricultural Exclusive within a combining zone for archeological resource area, beach and dune, flood hazard and transitional agricultural lands.

The **Old Samoa Parcel** site is a 38.3 acre parcel south of Arcata and adjacent to the Dept. of Fish and Game (CDFG) Mad River Slough Wildlife Area, as well as the City of Arcata's Marsh and Wildlife Sanctuary. The parcel is zoned Agricultural Exclusive within a combining zone for flood hazard and transitional agricultural lands.

Caltrans owns both sites, which are adjacent to wildlife reserves near Arcata, and are predominantly diked and drained former tidelands, and include wetlands and non-prime agricultural soils. The Concept Plans indicate that 84 acres of wetland restoration could occur on the two sites, with an additional 4 acres of upland buffer.

The Plans are conceptual at this point, and propose a range of possible mitigation strategies at these two sites, including: (1) freshwater wetland expansion; (2) muted tidal restoration of salt marsh habitat; or (3) full-tidal salt marsh restoration.

Historically, in reviewing Caltrans mitigation plans at the consistency review stage, as is the case here, when subsequent coastal development permitting (or where applicable, further federal consistency review) can refine and further develop mitigation proposals, the Commission attempts to ascertain whether (and/or the degree to which) concept or draft plans are likely to be implemented in a manner consistent with past Commission actions and fundamental Coastal Act policy goals, and whether they provide sufficient specificity at this stage of the review process and are likely to be able to provide sufficient acreage and appropriate habitat types to mitigate a project's impacts. (In other words, the Commission's review, like the plans, are conceptual at this stage.)

In numerous discussions and meetings with Caltrans, the Commission staff raised several fundamental concerns over the proposed mitigation proposals, primarily: (1) the conversion of agricultural land; (2) whether the restoration included adequate wetland "creation" or "substantial restoration," as opposed to merely "enhancement;" (3) the adequacy of the mitigation ratio; and (4) the types of habitat being created or enhanced. The most recent iterations of the Commission staff/Caltrans communications can be found in Caltrans' memo entitled "Response to CC-016-13, Staff Report Comments on Draft Wetland Mitigation/Restoration Plan," which summarizes the Commission staff's concerns and responds point by point (Exhibit 22).

The **first** of the Commission staff's concerns was that the mitigation plans would convert agricultural lands to wetlands, which the Commission had not previously authorized in the Humboldt Bay area unless the conversion was a pure restoration proposal, rather than mitigation for a project's wetland fill impacts. The former can be accomplished using the conflict resolution policy of the Coastal Act, whereas it is much more difficult to accomplish when the restoration is intended as mitigation, in part because, among other things, it would be necessary to establish that no non-agricultural lands are feasible or available for mitigation (i.e., whether the effect on agriculture can be avoided and thus not raise a conflict at all between Coastal Act policies).

Caltrans has responded to this historic policy concern partially by designing a restoration project as a "stand-alone" project, which may apply to one or more additional projects, and which would be the subject of a separate coastal development permit before the Commission. Caltrans also maintains that it has been unable to find suitable and available non-agricultural sites, has provided a list of sites it has considered (Exhibit 25), and concludes that "Within the Humboldt Bay area, no feasible non-agricultural lands are available for the development of mitigation (restoration) to compensate for impacts to wetland habitat" (Exhibit 22).

Concerning past Commission actions, the Commission staff indicated to Caltrans that the Commission has not, to date, allowed conversion of agricultural lands to be used for wetland mitigation in the Humboldt Bay area. Relevant past Commission actions include the Commission's review of Caltrans' Mad River Bridges coastal development permit (1-07-013), where Caltrans also proposed wetland mitigation at the same "Old Samoa" site being proposed here. In reviewing that permit the Commission found:

*Caltrans now proposes, in light of the revised delineation, to undertake riparian wetland mitigation on two acres of the Old Samoa parcel as previously proposed and to undertake an additional 3.4 acres of wetland mitigation at Old Samoa for a total of about 5.4 acres of wetland mitigation at that site. This would raise the total acreage of existing grazed wetland pasturelands at Old Samoa that would be converted to willow and willow-associate species plantings impermissibly and cause a conversion of agricultural lands that would be inconsistent with Coastal Act Section 30242, as discussed below. Although the Old Samoa parcel is not prime agricultural land, this amount of conversion would be significant, and is avoidable. Caltrans could perform the necessary additional riparian wetland mitigation that will be required elsewhere.*

*Coastal Act Section 30242 protects lands suitable for agricultural use that are not prime agricultural lands or agricultural lands on the periphery of urban areas from conversion to non-agricultural use unless continued agricultural use is not feasible, or such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. In the case of the Old Samoa parcel, cattle grazing (though limited by seasonal inundation and general pasture quality) has been the primary use of the subject site for decades, and would likely continue. Bottomland pastures are considered relatively nutritious compared to upland pastures. Caltrans delineated the parcel as nearly 100% wetlands and alternative development options appear to be severely constrained. Thus, continued agricultural use appears to be feasible, and conversion of the land to non-agricultural use under Caltrans' proposal for riparian mitigation would not preserve prime agricultural land or concentrate development, which the Coastal Act prescribes as the basis for allowing conversion. For these reasons, the proposed conversion of agricultural lands at the Old Samoa parcel would not be consistent with the requirements of Coastal Act Section 30242.* [Emphasis added]

The Commission acknowledges that it *has* historically authorized conversion of agricultural land in the Humboldt Bay area for restoration activities alone, under the conflict resolution policy (Section 30007.5 of the Coastal Act) (e.g., in Consistency Determination CD-007-88, U.S. Fish and Wildlife Service, McBride Ranch Acquisition, and CDP 1-06-036 and 1-06-036-A1, City of Arcata Department of Environmental Services – McDaniel Slough Wetland Enhancement Project).

Responding to historic Commission policy concerns (Exhibit 22), Caltrans:

(1) points out the underlying policy goals in the Coastal Act afforded to wetlands and environmentally sensitive habitat (ESHA);

(2) states that the Coastal Act:

*… provides no legislative authority to regulate agricultural use as a priority over habitat protection and restoration, clearly, preservation of agriculture is not intended to take precedence over the protection and restoration of wetlands and ESHA;*

(3) cites a recent former chief legal counsel letter to the Commission (dated May 2, 2013), including a statement that it would be:

> *… a reasonable assumption under the language of the Coastal Act, and prior CCC interpretation, is that ESHA preservation has higher priority than agriculture. Mr. Faust concludes that it is fair to assume that the ultimate goal of the Coastal Act is the preservation of habitat and all else is subordinate, as consistent with Section 30240 of the Act and years of CCC practice.*

(4) asserts that the Commission staff has given inconsistent direction to applicants on the subject of the conversion of agricultural land to wetland for mitigation purposes;

(5) cites as support for its position the Commission's approval of the McDaniel's Slough Wetland Enhancement Project, which authorized conversion of 90 acres of grazing lands to wetlands adjacent to the Samoa parcel.

The Commission is not disputing the emphasis in the Coastal Act on wetland and sensitive habitat protection, creation, and enhancement. The Commission disagrees with the statement that infers the Coastal Act lacks legislative authority over weighing agricultural and habitat protection. The legislature has provided for such weighing, as proscribed in the conflict resolution policies (Sections 30007.5 and 30200(b)) of the Coastal Act. One of the principal tenets of the conflict resolution approach is that it can only be invoked if a project creates a true conflict in that there are no feasible alternatives that would achieve the objectives of the project without violating any Chapter 3 policies. That means that until Caltrans has established that there is no such alternative, the Commission cannot invoke the conflict resolution approach and thus cannot even consider allowing the conversion of these agricultural lands. Moreover, even if the Commission were to find such a conflict, Caltrans' suggestion involves a sort of balancing-within-balancing approach, where a project is not only treated as inconsistent with a Chapter 3 policy and allowed only through conflict resolution, but the mitigation required to bring a project as close to compliance with section 30233 as possible involves a project that itself violates section 30233 and could only be allowed through further balancing. The Commission is not aware of having ever sanctioned or taken such an approach.

On the Commission staff's **second** concern (creation or substantial restoration, versus enhancement), Caltrans quotes several state and national wetland guidance documents (including the Commission's "Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone") and states that wetland creation is "wrought with uncertainty" and that enhancement of degraded habitat and restoration are generally treated as acceptable forms of mitigation. Caltrans concludes:

> *The Caltrans mitigation proposal meets the criterion for an acquisition with a restoration component. Additionally, as conceptually proposed, we hope to open up a more-than-equivalent acreage to tidal action. The proposed mitigation proposal more*

> *than fully compensates for projected project related impacts to highly degraded jurisdictional wetland, and in fact may over-compensate*[3]. [footnote, and emphasis in footnote, in original]

On the Commission staff's **third and fourth** concerns, which are whether restored habitat types and acreages are adequate, including a Commission staff-expressed preference for use of the Demello site (as opposed to Samoa) and to tidal restoration (as opposed to muted tidal or freshwater habitat restoration), Caltrans states:

> *In consultation with CCC staff since 2007, Caltrans has proposed to preferentially perform tidal restoration at the site. Any "acknowledgement" of a "likelihood" to instead perform a freshwater restoration, and/or that likely "site-constraints" exist (within the plan dated January 2013) is a mis-wording on Caltrans' part likely resulting from a third repackaging of our mitigation proposal. Our intent is to whole-heartedly pursue tidal restoration at the site. If this does prove to be infeasible, then a muted tidal approach would be pursued; only as a last resort would a freshwater approach be utilized. With regard to feasibility studies, Caltrans has been and continues to seek CCC support for our restoration proposal prior to expending limited funding on hydraulic design studies.* [Emphasis in original]

Concerning Caltrans' points (4) and (5) above, the Commission staff disagrees that it has given inconsistent direction to applicants (the staff would need further evidence to more fully rebut this point). Concerning the McDaniel's Slough project, the Commission points out that the McDaniel Slough project predominantly restored the diked seasonal grazed wetlands to salt marsh, the original condition of the site before dikes were installed in the late 1800s, whereas Caltrans' proposal at Samoa would simply convert diked grazed seasonal wetlands to diked riparian wetlands and would not result in the true restoration of the Samoa site to the tidal marsh that originally existed at the site.

To conclude, even if the project were not (as discussed in the previous sections of this report) inconsistent with the first two tests of Section 30233(a), in looking at the mitigation issues alone, Caltrans' proposal involves an unprecedented expansion of the Commission's use of the conflict resolution approach. Although, from a biological perspective, it would be beneficial to restore sites that were historically wetland, and it should be easier to achieve success through return to natural or close to former hydrological conditions, the Commission is not in a position to balance these issues in the context of this project.

[3] Proposed mitigation likely over-compensates for projected impacts (fill) to approximately ten acres of highly degraded seasonal wetlands within a narrow strip over a distance of many miles. To-be-filled wetlands have been previously affected by multiple factors including: the previous historic conversion from their natural state as a tidally influenced wetland to a freshwater system; their location beside, and between, a four-lane divided roadway; and, their routine mowing for roadway maintenance reasons. These wetlands exhibit extremely low functionality related to the following function/value criteria: production export, wildlife diversity/abundance, aquatic diversity/abundance, uniqueness or heritage value, recreation value, or storm water treatment. In contrast, proposed mitigation will provide for coastal wetlands with extremely high functionality with regard to the same criteria.

Moreover, even if the Commission were to focus solely on the ecological benefits of the mitigation proposal in isolation, the Commission still does not have sufficient details and assurances at this time to find the project consistent with the mitigation test. In reviewing Caltrans restoration proposals and responses to Commission staff comments, the Commission's staff ecologist (Dr. John Dixon) states that, agricultural land conversion issue aside, the restoration at the Samoa site may not be appropriate, in terms of either habitat types or acreage, to be used to offset project impacts. The proposed mitigation at the Samoa site would not restore or create any new wetland area, as the site consists already of nearly 100% wetlands. In addition, the mitigation proposal would merely convert grassy seasonal freshwater wetlands to freshwater riparian wetlands, rather than restore the site to its original condition as salt marsh prior to the diking off of the baylands in the area for agricultural use. The Commission staff has previously indicated that staff would support giving mitigation credit for the restoration of the site to tidal action by the introduction of seawater and the construction of a perimeter dike, but not the conversion in this location of one type of freshwater wetland to another. Dr. Dixon indicates the Demello site may be appropriate for mitigation for the project, but questions remain as to whether sufficient habitat acreages could be provided, what mitigation ratios are being committed to, and how the timing of the restoration would coincide with or precede any project ultimately approved. The Commission finds it would need assurances that substantial tidal restoration would need to be a major component of any restoration being carried out at the site. In addition, the Commission finds that Caltrans would need to provide more extensive documentation than already provided establishing that no non-agricultural sites are available, and that Caltrans may need to consider sites outside the Humboldt Bay area (but still within the County) before the Commission could agree that no non-agricultural land alternatives are available.

Given the above concerns, the Commission is not prepared at this time to find the project consistent with the mitigation test of Section 30233(a) of the Coastal Act. Since the Commission is objecting to this project for other reasons, the Commission staff will continue to work with Caltrans to modify or refine wetland mitigation proposals and fill other information gaps in relation to whichever alternative is ultimately proposed and authorized, assuming it involves wetland fill.

In conclusion, for the reasons discussed above, the Commission finds the project inconsistent with the allowable use, alternatives, and mitigation tests of Section 30233(a) of the Coastal Act.

**F. PUBLIC VIEWS**

Section 30251 of the Coastal Act states:

> *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 land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

The primary public view protection issue raised by the proposed project is the 25 ft. high, raised highway interchange proposed at Indianola Rd., which would alter the level topography along the bay, thus altering natural landforms (240,000 cu. yds. of grading) and modifying the character of this scenic area. While at this stage of the Commission's review (as a federal consistency matter), Local Coastal Programs (LCPs) are not the legal standard of review, the Commission nevertheless looks to the relevant LCPs for guidance in conducting federal consistency reviews, especially where a local government has adopted scenic designations. Such designations are particularly relevant when coastal development permits will need to be obtained later (as is the case here - see p. 12).

Humboldt County does not use the term "highly scenic" in its LCP policies; nevertheless it does designate the area a "scenic coastal area" and contains similar standards to those found in Section 30251 of the Coastal Act for coastal development permit reviews, requiring development in this scenic area to be "subordinate to the character of its setting." The County's Land Use Plan (Humboldt Bay Area Plan, Section 3.40-B), provides:

> *3. Coastal Scenic Area*
>
> *In the Coastal Scenic Area designated in the Area Plan Map (Indianola area), it is the intent of these regulations that all developments visible from Highway 101 be subordinate to the character of the designated area, …*
>
> *4. Coastal View Areas*
>
> *In Coastal View Areas as designated in the Area Plan, it is the intent of these regulations that no development shall block coastal views to the detriment of the public; …*
>
> *5. Highway 101 Corridor*
>
> *The Humboldt County Board of Supervisors shall initiate the preparation of a Scenic Route Study pursuant to the adopted Scenic Highways Element of the Humboldt County General Plan for the portion of Highway 101 between Eureka and Arcata and that portion south of Fields Landing, inclusively.*
>
> *The Scenic Route Study shall be prepared by the County Planning Department in cooperation with the California Department of Transportation. The content of the Study is outlined in Appendix E. A special emphasis of the study shall include opportunities for Cal-Trans, the County, and the Humboldt Bay Harbor and Conservation District to eliminate billboarding between Eureka and Arcata, through acquisition and other means, and to identify suitable areas for clustered signing.*
>
> *New off-site signs may be permitted in suitable areas identified in a County and State Coastal Commission approved Scenic Route Study.*

(Unfortunately, while the Land Use Plan (Appendix G) went on to list Caltrans and County responsibilities to be carried forth in the development of the Scenic Route Study described in 3.40-B(5) above, based on recent Commission staff discussions with the County, this study was never carried out.)

The County's LUP maps identify visually significant areas of the County through designations as "coastal scenic areas" and/or "coastal view areas." Route 101 in the Indianola area is designated a coastal view area (CVA) (Exhibit 24,p. 1). Much of the area on both sides of Indianola Cutoff, between Route 101 and Myrtle Ave./Old Arcata Road is designated a coastal scenic area (CSA) (Exhibit 24, p. 2). (Page 3 of the Exhibit shows both the CVA and CSA.)

The County's LCP Zoning Code requires that coastal development permits in the area not be approved unless the County can make the following findings:

> *312-17.3 SUPPLEMENTAL FINDINGS*
>
> *In addition to the required findings for all permits and variances, the Hearing Officer may approve or conditionally approve an application for a Special Permit, use Permit, Coastal Development Permit, or Planned Unit Development Permit only if the supplemental findings, as applicable, are made. (See Sections 312-18 through 312-49)*
>
> …
>
> *312-39 SUPPLEMENTAL COASTAL RESOURCE PROTECTION IMPACT FINDINGS*
>
> …
>
> *39.3 COASTAL SCENIC AREAS*
>
> *39.3.1 The project is sited and designed to be subordinate to the character of the setting. …*
>
> …
>
> *39.5 COASTAL VIEW AREAS*
>
> *39.5.1 To the maximum extent feasible, the project is sited so as not to interfere with public views to and along the ocean from public roads and recreation areas. …*

In looking at the map designations, while the County LCP policies appear to be focusing more on the views from Highway 101, rather than across Highway 101, this may be because it did not anticipate the raising of portions of Highway 101. The policies are nevertheless indicative of the scenic resources and importance of public views in the area.

While Caltrans' originally proposed interchange described in the DEIR/S involved more grading and landform alteration (Original Alternative 3), for several reasons discussed in the Alternatives section above Caltrans steepened the slopes and reduced the amount of fill. Nevertheless the interchange would still involve placement of 240,000 cu. yds. of fill, and would raise the highway elevation for a distance of up to approximately one half mile by up to 25. ft. Public views to and across the Bay from Indianola Cutoff would be altered and existing large trees would be removed, which would alter scenic views inland from Route 101. Caltrans states in its consistency certification (p. 75) that the proposed project:

> *… consists of various roadway improvements that would not substantially alter the existing roadway; however, there are project elements that could change the existing visual setting:*
>
> > *1. A compact diamond interchange would be constructed at Route 101 and Indianola Cutoff. The interchange was designed with steepened fill slopes to reduce the overall footprint of the interchange. See Appendix J* [Exhibit 23] *for photograph simulations of the interchange. Landscaping is included in the project to visually enhance the interchange.*
> >
> > *2. The new southbound Route 101 Jacoby Creek Bridge would be approximately 74-feet long and 53.5-feet wide (about 14.5 feet wider than the current bridge).*
> >
> > *3. Modified Alternative 3A would require removing up to 54 mature trees within the roadway median and east side of Route 101 during construction. The project includes landscaping of areas disturbed by construction activities with native plants.*
>
> *Overall, the proposed project would be designed and constructed to be visually compatible with the character of the surrounding area, which consists of a mix of commercial, industrial, and open space lands.*

On page 50 of the same document Caltrans states:

> *The proposed interchange would result in a moderately high reduction in visual quality for west bound travelers on Indianola Cutoff; however, travelers on Route 101 would have better views of the bay as they travel over Indianola Cutoff.*

Caltrans also notes that the replacement trees would be a mixture of Bishop Pines, alders and cypress trees, with a height at maturity of 40-50 ft., that it will make every attempt to avoid tree removal along the entire Route, if such retention can be accomplished in a manner maintaining safe traffic conditions, and finally, that bridge railings designs will be similar to those preferred by the Commission in past Caltrans bridge review projects.

The Commission disagrees with Caltrans that the above minimization and mitigation measures bring the project into conformance with Section 30251, or that view blockage would be offset by improved views for interchange travelers. Under Section 30251 the Commission needs to be able to find that the project would not block public views, would minimize alteration of natural landforms, would minimize public view impacts, and be compatible, if not subordinate to, the character of the area. The Commission is unable to make any of these affirmative findings. Placement of 240,000 cu. yds. in a level area that is barely above sea level, and creation of an approximately half mile long (north to south), up to 25 ft. high, interchange, would block public views to and across the Bay from Indianola Cutoff, and would represent a significant visual intrusion into a scenic area. The Commission further finds that because minimizing visual impacts inherently involves looking at alternatives, based on the discussion in the Alternatives

section of this report, alternatives are available that would avoid the need to modify the landforms and topography and the substantial grading associated with a raised interchange. For these reasons the Commission finds the proposed Indianola Interchange would not minimize alteration of natural landforms or public view impacts, would not be compatible with the character of the area, and would be inconsistent with the requirements of Section 30251 of the Coastal Act.

**G. PUBLIC ACCESS AND RECREATION**

Section 30210 of the Coastal Act provides:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30213 provides:

> *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.*

Section 30214 of the Coastal Act provides:

> *(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:*
>
> *(1) Topographic and geologic site characteristics.*
>
> *(2) The capacity of the site to sustain use and at what level of intensity.*
>
> *(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.*
>
> *(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.*
>
> …

> *(c) In carrying out the public access policies of this article, the commission and any other responsible public agency shall consider and encourage the utilization of innovative access management techniques, including, but not limited to, agreements with private organizations which would minimize management costs and encourage the use of volunteer programs.*

The primary Coastal Act policy considerations raised by the proposed project involving public access and recreation opportunities are the effects of the project on, and opportunities available to maximize, public access and recreation along the Route 101 Corridor, in particular non-motorized bicycle and pedestrian opportunities. Bicyclists currently are allowed to, and do, traverse the corridor; however the predominant bicycle use is by commuters.

In recent years the Commission has urged implementation of Coastal Trail segments when opportunities have arisen in its permit, federal consistency, and Local Coastal Program reviews. Providing for the Coastal Trail would contribute to the Commission's ability to find that a project has maximized public access and recreation in a manner required under Section 30210 of the Coastal Act. The Coastal Trail is a vision for all Californians and future generations worldwide that has been endorsed by the legislature and the governor, who have directed state transportation and other agencies to coordinate development of the Coastal Trail, including, where applicable, making lands available for completion of the trail (PRC Section 31408(b), as amended by AB 1396 (2007)).

There appears to be a general consensus that two coastal trails should occur between Arcata and Eureka, one on each side of the Bay, which would converge in downtown Eureka before travelling further south. For the trail along the east side of the bay, the City of Arcata has recently issued planning documents for the Coastal Trail through the City and as far south as Bracut (Arcata Rail with Trail Connectivity). For the Route 101 Corridor itself, much of the discussions of the ideal trail location have involved attempts to determine whether a trail fully separated from the highway, and along the North Coast Rail Authority (NCRA) trackbed paralleling the Route 101 Corridor, could be achieved. Serious questions remain concerning whether such a trail alignment could actually be realized, and the Commission has urged Caltrans to consider implementing at least an interim trail as part of the Route 101 Corridor.

In analyzing the project's impacts, Caltrans contends that the proposed project would not adversely affect public access and recreation and would make the Corridor safer for bicyclists, due to the median closures and other roadway improvements, including restriping to assure consistent 10-foot wide outside shoulders throughout the project. Caltrans also contends that the proposed interchange would provide a much safer crossing of Route 101 compared to the existing uncontrolled at-grade intersection; consistency certification (p. 58) states:

> *The grade separation at Indianola Cutoff is approximately midway between Eureka and Arcata and would provide a convenient means for bicyclists to cross or turn around on Route 101. In addition, the grade separation would provide a much safer crossing of Route 101 compared to the existing uncontrolled at-grade intersection. Finally, the grade separation would provide a safer connection to any potential future bicycle trail on the west side of Route 101 for bicyclists traveling to and from the east side of Route 101 between Eureka and Arcata.*

> *… [T ]he Preferred Alternative would maintain the existing accessibility for pedestrians, while adding an ability for pedestrians to use the overcrossing at the Indianola Cutoff interchange to cross Route 101 while being "grade-separated" from mainline traffic, a feature that does not currently exist. Thus, the advantage of the grade separation that is included in Modified Alternative 3A over both the existing[4] Route 101 condition and the signalization of all intersections is that both pedestrians and bicyclists could safely cross Route 101 at Indianola Cutoff. Although the construction of Modified Alternative 3A would involve out-of-direction travel for bicyclists needing to turn left or cross Route 101 at locations other than Indianola Cutoff, the enhanced safety of a grade separation at Indianola Cutoff, the approximate midpoint between Eureka and Arcata, would outweigh the out-of-direction travel inconvenience.* [footnote in original]

In its response to Commission staff recommendations that it consider a physically separated bicycle path along Route 101, Caltrans included plans for and a brief analysis of a separated bike trail along 101 (Caltrans Memo, July 24, 2012: Review of Barrier Separated Trail) (Exhibit 26). That memo:

(1) identifies a configuration for an 8 ft. wide bike trail with 2 ft. shoulders and a 2 ft. wide by 3 ft. high concrete separation barrier;

(2) estimates approximately 7.6 acres of permanent wetland fill would be needed for such a trail; and

(3) estimates construction costs of approximately $10.8 million (with unknown costs for any wetland mitigation requirements).

Caltrans' consistency certification February 2013 Addendum refigures the construction cost to be $12.3 million. This addendum also states:

> *The high magnitude of construction cost, permanent wetland impacts, and wetland mitigation would not be feasible for an "interim" coastal trail. However, Caltrans recognizes the importance of completion of the Coastal trail to the Commission, as well as to the public, evidenced by the comments received on the desire for a separate bike and pedestrian path. In addition, at the December 2012 NCRA meeting, the NCRA board took action to approve resolution No. 2012-13 made by the NCRA Humboldt Bay Rail Corridor Committee which included the following:*
>
> - *NCRA will authorize clearly defined and strictly limited exceptions to its current trail policy to enable development of a trail in the Humboldt Bay corridor without compromising the prospects of rail service restoration;*

[4] *The Humboldt Bay Area Bike Map*, second edition, 2012, prepared by the Redwood Community Action Agency, lists Indianola Cutoff, Bracut, and Bayside as "difficult" intersections for bicyclists. An explanation of "difficult intersections" is not given, but bicyclists must negotiate four lanes of Route 101 traffic to cross or turn left at these non-signalized intersections.

- *NCRA will prioritize rail infrastructure restoration and trail development in the Eureka to Arcata corridor to more clearly align its timing and objectives with those of the joint Humboldt County Association of Governments and Caltrans Route 101 Corridor Improvement Project.*

*The preferred alternative will make safety and operational improvements at the existing intersections. This includes eliminating potential conflicts for not only motor vehicles but for bicyclists as well.*

The California Coastal Conservancy has published Coastal Trail siting and design standards,[5] which include:

> *1. … Shoreline trail segments that may not be passable at all times should be augmented by inland alternative routes. Special attention should be given to identifying any segments that may need to be incorporated into water-crossing structures and that necessarily must be placed within Caltrans right-of way.*
>
> *2. Where gaps are identified, interim segments should be employed to ensure continuity of the coastal trail. Interim segments should be noted as such, with provisions that as opportunities arise, the trail shall be realigned as close as possible to its optimum location. Interim trail segments should meet as many of the CCT objectives and standards as possible.*
>
> *3. The CCT should be designed and located to minimize impacts to environmentally sensitive habitat areas and prime agriculture lands to the maximum extent feasible. … For situations where impact avoidance is not feasible, appropriate mitigation measures should be identified, including but not limited to use of boardwalks, reducing width of trails, protective fencing and drainage measures along edges of agricultural land, etc.*
>
> ….
>
> *5. The CCT should be designed to avoid being located on roads with motorized vehicle traffic where feasible. In locations where it is not possible to avoid siting the trail along a roadway, the trail should be located off of the pavement and within the public right-of-way, and separated from traffic by a safe distance or by physical barriers that do not obstruct, or detract from, the scenic views and visual character of their surroundings.* [Emphasis added]

The Commission believes these design standards speak directly to the requirements of Section 30214 of the Coastal Act by specifying the manner and balancing considerations that need to be applied in implementing in any Coastal Trail for the area. The Commission disagrees with Caltrans that proposed project itself would not adversely affect access and recreation. The Commission believes the project would adversely affect bicycle use, by cutting off intersections

[5] http://scc.ca.gov/webmaster/pdfs/CCT_Siting_Design.pdf

from bicycle access, and requiring out-of-direction bicycle travel for some users of the Route no longer able to turn at medians proposed for closure, and by increasing vehicular traffic speeds along 101, which would increase the potential severity of any collisions with bicyclists.

The Commission believes a Coastal Trail within the 101 Corridor is feasible, and that reliance on any future rail trail through the Corridor is highly speculative at this point. The Commission does not believe that, although it would likely entail additional wetland fill, such a trail would necessarily be unapprovable. The Commission concludes that in order to mitigate the project's impacts on non-motorized public access, and in order to enable the Commission to find that the project will maximize public access in a manner consistent with the goals and policies articulated in Sections 30210-30214 of the Coastal Act (as well as other state mandates), the project needs to be modified to include at least an interim Coastal Trail in the form of a separated bicycle/pedestrian pathway along the highway shoulder.

**H. PUBLIC WORKS**

Section 30254 of the Coastal Act states:

> *New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.*

Section 30250 states, in part:

> *(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.*

One of the underlying premises of the Coastal Act policies is the expression of the need to size infrastructure (generally roads, water, and sewer public works facilities) in a manner that does not lead to pressure to convert habitat, agricultural lands, or threaten coastal resources in other ways. Concerns have been raised that the proposed Indianola Interchange would increase traffic

capacity in the rural area of the coastal zone that surrounds it. This area contains important wetland and agricultural uses and lack2 sewer and road capacity for more intensive urban (and non-Coastal Act priority) uses.

Caltrans' DEIR/S "Growth" analysis indicates:

> *Lands in the vicinity of the Indianola Cutoff are within the jurisdiction of the City of Eureka on the south side and Humboldt County on the north side, with the exception of a relatively small flag lot, which is within Eureka's City limits. The land within the County is designated and zoned for Agricultural use in an approximately 366- meter (1,200-foot) wide band along Route 101 and Rural Residential use to the east of the agricultural band.*

The DEIR acknowledged urban development potential in the area, stating:

> *Because the Eureka-Arcata Route 101 Corridor has high visibility and is the most heavily traveled corridor in the region between the larger population areas, large-scale retailers have been interested in building within the corridor. In addition, the City of Eureka has limited area zoned for commercial development. In 1993, a Sam's Club was proposed in the vicinity of Route 101 and Indianola Cutoff. The project was abandoned because of the infrastructure constraints, permit obstacles (since the area lies within the Coastal Zone and would require a Coastal Development Permit, as well as city permits and a Caltrans permit to enter) and the potential traffic impact mitigation costs. Both Costco and Wal-Mart subsequently looked at locating in the same area and decided against it for similar reasons. The Wal-Mart proposal encountered staunch local opposition from residents and businesses. In addition, the existing area zoned commercial may be insufficient for off-street parking requirements as well as a large-scale retail building with required street set-backs and landscaping. A recent proposal to expand facilities at Bracut Industrial Park was also abandoned, because of the costs of completing the environmental analysis for the project and potential mitigation costs.*

Caltrans further states:

> *Mitigation for improving growth related effects was not included as part of this project because the Route 101/Indianola Cutoff is already developed and the proposed project would not remove the only major obstacle to growth: growth is possible, but not likely as a result of project construction.*
>
> *Construction of any large scale retail business, such as Walmart, would be considered intensification in a location that is currently zoned for commercial use. Caltrans has stated that intensification of the existing land use is possible with or without the construction of a grade separation. However, a transportation improvement alone would[not] remove the only major constraint to development intensification: in addition to transportation improvements, intensive commercial development in this area would require improved water service, sewer expansion, and coastal permits.*

Caltrans maintains that other existing growth constraints in the area will be adequate to protect coastal resources and limit growth, based on the following factors:

> *• Lands in the vicinity of the Indianola Cutoff are within the jurisdiction of the City of Eureka on the south side and Humboldt County on the north side, with the exception of a relatively small (approximately 4 acre) lot, which is within Eureka's City limits. The land within the County is designated and zoned for Agricultural use in an approximately 1,200-foot wide band along the Route 101 roadway and Rural Residential use to the east of the agricultural band.*
>
> *• Land in the vicinity of the Route 101/Indianola Cutoff intersection within the city limits is zoned for commercial use in the area east of Route 101 and south of Indianola Cutoff, with a small area designated for Estate Residential use; further south and east to Walker Point Road is an area of limited commercial and residential use, isolated at the north end of the city limits, and is separated from the rest of Eureka's urban area by over a mile of sensitive wetland habitat and preserved open space. This sensitive area is well protected by adopted local plans, policies, and zoning.*
>
> *• There is no sewer service to the area, and because of the shallow groundwater depth, the land is not suitable for most conventional septic systems. The City of Eureka is unlikely to extend sewer service to the area, due to the environmental impacts and costs associated with constructing a new pipeline across protected wetlands.*

Historically, the Commission has rejected the notion that potential growth-related pressures resulting from one type of infrastructure (in this case, highway capacity) can be ignored based on either reliance on existing zoning, its ability to review future zoning changes, or the presence of other infrastructure constraints. The Coastal Act requires, and the Commission has repeatedly found, that any increases in infrastructure capacity be sized and tailored to accommodate only development levels and patterns that will remain consistent with Chapter 3 policies. The Commission remains concerned over the potential for increased development pressure that may be intensified by the proposed interchange. When such pressures intensify, land use plans and zoning restrictions, as well as infrastructure, can be modified to accommodate additional development. The evidence discussed above and in the previous sections of this report make a compelling case that business decisions to locate and expand non-Coastal Act priority uses in this area would be more likely to occur if traffic ingress and egress is improved by the proposed interchange. By facilitating such development the interchange would increase pressure to modify other infrastructure constraints and potentially convert high priority uses under the Coastal Act (such as agriculture and sensitive habitat areas) to lower priority uses. The Commission therefore concludes that the proposed Indianola Interchange component of the project would pose cumulative impact and growth pressures in a manner inconsistent with the requirements of Sections 30254 and 30250 of the Coastal Act.

## IV. PROCEDURE IF COMMISSION OBJECTS

Section 930.63(b) of the federal consistency regulations (15 CFR Section 930.63(b)) states that, if the Commission's objection is based on a finding that the proposed activity is inconsistent with the CCMP, it may identify measures, if they exist, that would bring the project into conformance with the CCMP. Section 930.63 provides:

> *§930.63 State agency objection to a consistency certification.*
>
> *(b) State agency objections that are based on sufficient information to evaluate the applicant's consistency certification shall describe how the proposed activity is inconsistent with specific enforceable policies of the management program. The objection may describe alternative measures (if they exist) which, if adopted by the applicant, may permit the proposed activity to be conducted in a manner consistent with the enforceable policies of the management program.*

As described in Sections III A-H above, the proposed project is inconsistent with the CCMP. In order to bring the activity into conformance with the CCMP, Caltrans needs to modify the activity to include the following provisions:

1. Revise the project to eliminate the raised fill slopes and other elements of the Indianola Interchange, and replace it with a traffic light signal design, in a manner minimizing wetland impacts to the degree possible.

2. Provide for a separated bicycle/pedestrian corridor on one or both sides of the highway along the entire Corridor.

3. Provide sufficient information and analysis to support Caltrans' contention that no non-agricultural lands are available and feasible to provide wetland mitigation. If such contention can be adequately supported, modify the proposed restoration plan to assure a wetland mitigation ratio of 4:1, or if a lesser ratio is proposed, assure that the mitigation will be in place and determined successful prior to project construction, and provide for full tidal restoration as the major component of the restoration plan.

## V. RIGHT OF APPEAL

Pursuant to 15 CFR Part 930, Subpart H, and within 30 days from receipt of the Commission's letter notifying Caltrans of the Commission's action, Caltrans may request that the Secretary of Commerce override the Commission's objection to consistency certification CC-016-13. In order to grant an override request, the Secretary must find that the activity is consistent with the objectives or purposes of the Coastal Zone Management Act, or is necessary in the interest of national security. A copy of the request and supporting information must be sent to the California Coastal Commission, the U.S. Army Corps of Engineers, and the Federal Highway Administration. The Secretary may collect fees from Caltrans for administering and processing its request.

## APPENDIX A

**SUBSTANTIVE FILE DOCUMENTS**:

1. Consistency Certification No. CC-016-13, Caltrans, Resubmitted Consistency Certification, Eureka-Arcata 101 Corridor, with attachments, February 2013).

2. Consistency Certification No. CC-054-11 (Caltrans, Eureka-Arcata 101 Corridor).

3. Route 101 Eureka-Arcata Corridor Improvement Project Federal Coastal Consistency ADDENDUM, February 2013.

4. Draft Environmental Impact Statement/Environmental Impact Report, Eureka – Arcata Route 101 Corridor Improvement Project, U.S. Department of Transportation, Federal Highway Administration (FHWA) and the State of California Department of Transportation (Caltrans), For the Humboldt County Association of Governments (HCAOG), June 2007.

5. APPLICATION: 1-07-013 Caltrans, Highway 101, Mad River Bridges, Between Arcata and McKinleyville, unincorporated area of Humboldt County.

6. CDP 1-11-048 California Department of Fish and Wildlife After-the-fact authorization for the restoration of 16 acres of seasonal freshwater marsh (diked former tidelands) to restored tidal marsh, CDFW Fay Slough Wildlife Area east of Highway 101 and Humboldt Bay, south of Walker Point Road, Humboldt Co.

7. CDP 1-07-038, Caltrans, Highway 101/Route 36 Alton Interchange, south of Fortuna, Humboldt Co.

8. CDP 1-05-014, RDHC, Vance Dairy wetland pond excavation, near Hookton Rd. and Hwy 101, south Humboldt Bay.

9. CDP 1-06-036 and 1-06-036-A1 (City of Arcata Department of Environmental Services – McDaniel Slough Wetland Enhancement Project).

10. CDP 6--12-060, Caltrans, addition of auxiliary lane to I-5/I-8 intersection, near Sea World, San Diego.

11. Route 101 Concept Report, Caltrans, October 2002.

12. California Coastal Trail (CCT) Definition & Siting and Design Standards, Coastal Conservancy.

13. Climate Change Adaptation Pilot Strategy for Critically Vulnerable Assets in Northwest California.

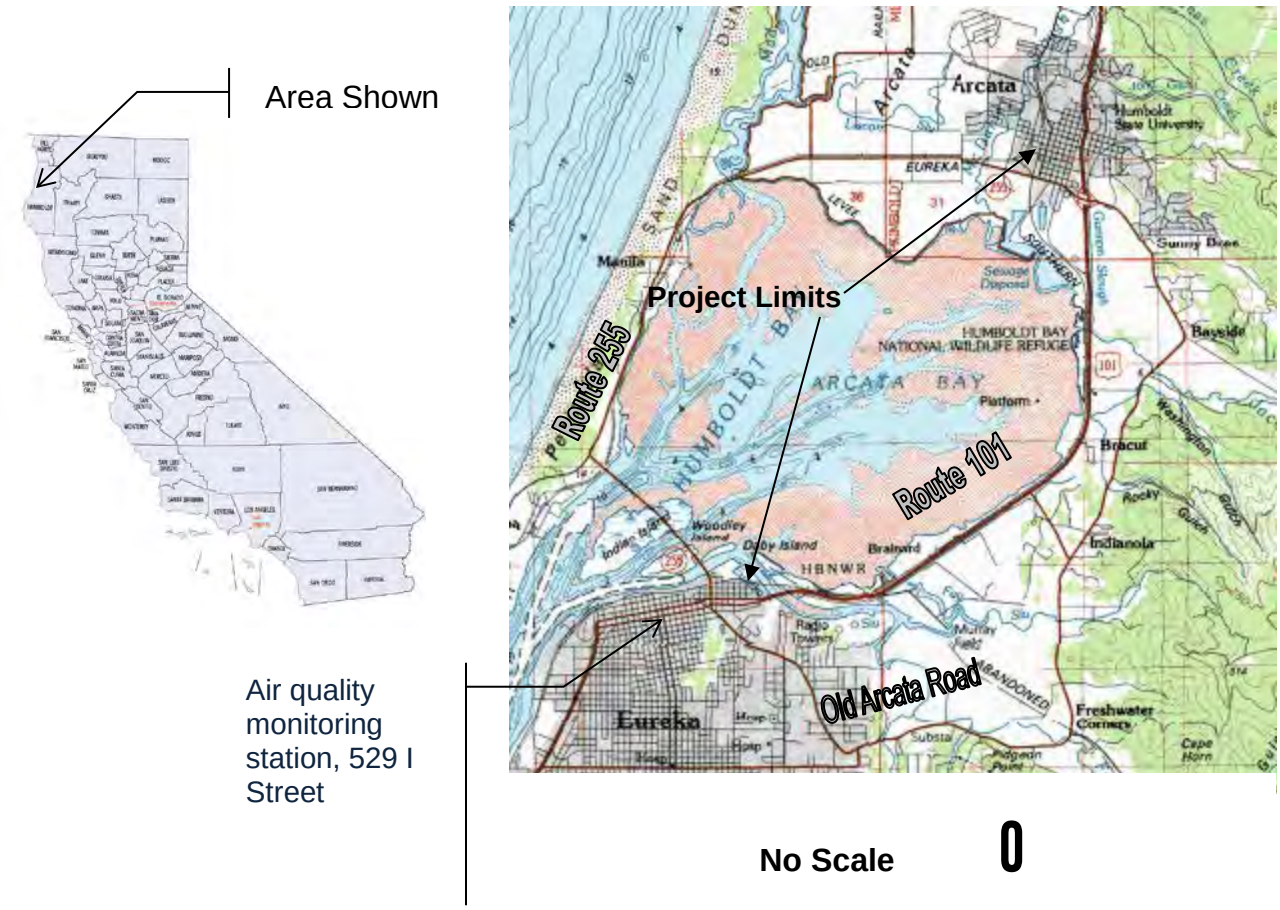



Figure S-1
Project Location Maps

**EXHIBIT 1**
**CC-016-13**
**CALTRANS**


**Figure S-2**

**Aerial Photograph of North Humboldt Bay**

**EXHIBIT 2**
**CC-016-13**
**Aerial Photo**

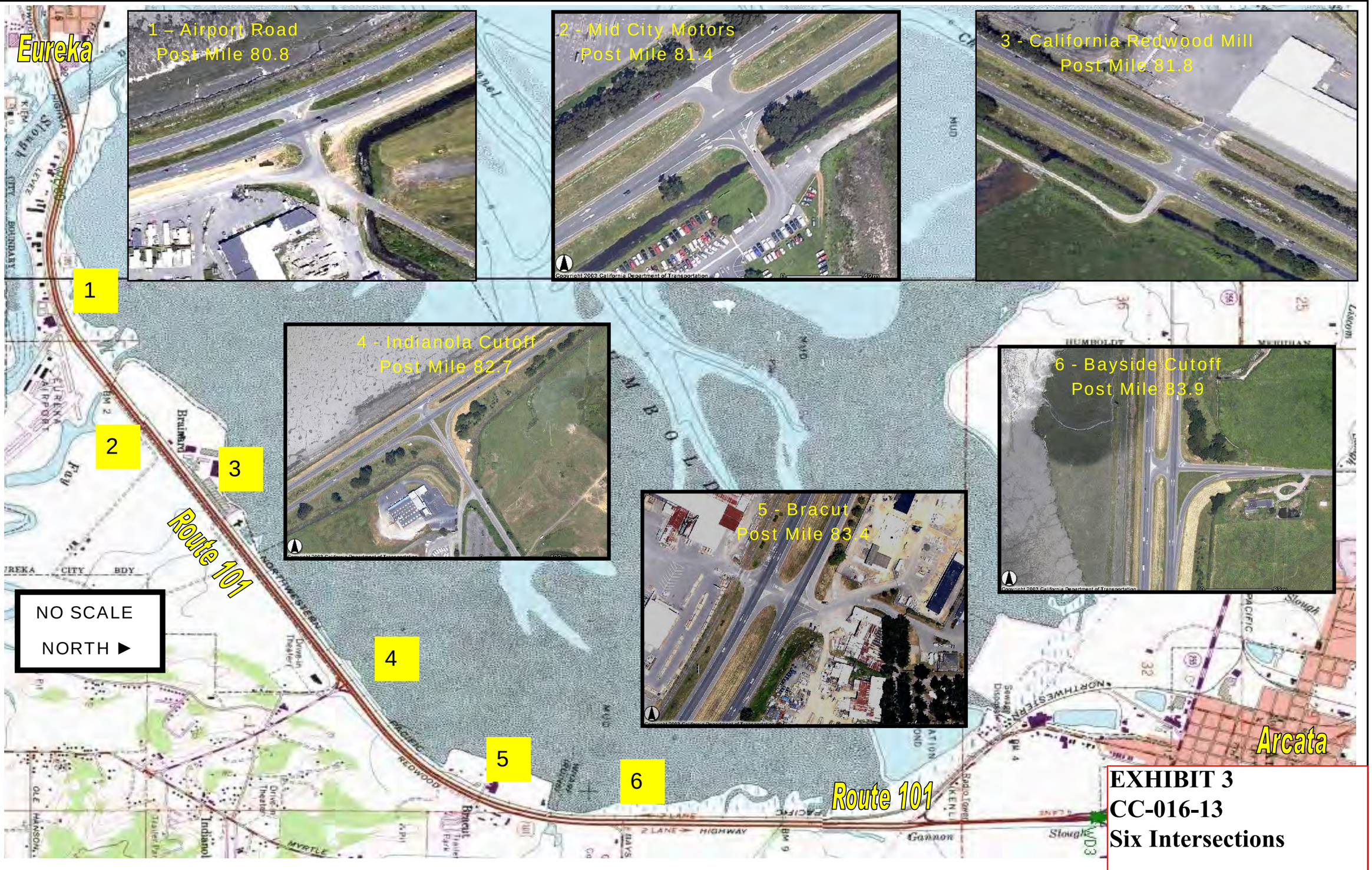
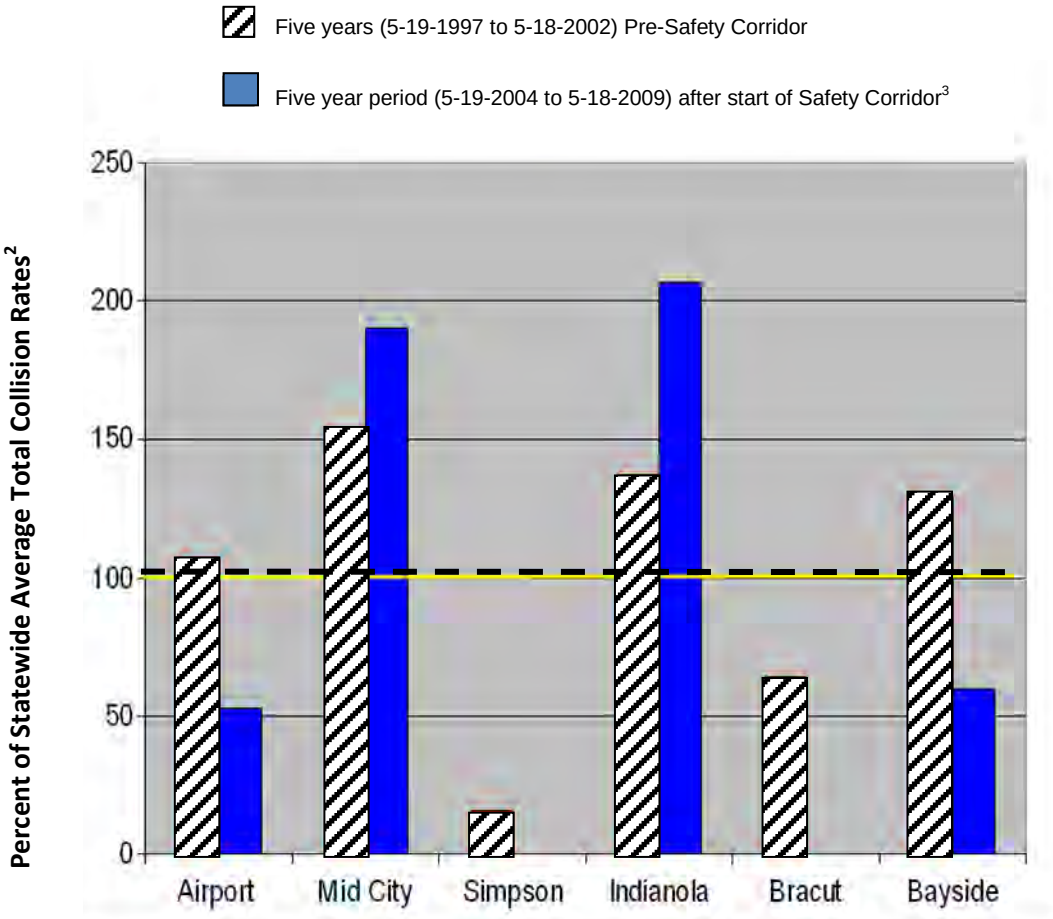



**Figure S-3**
**Route 101 Existing Open Median Locations**

**Figure 2-2 – Average Total Collision Rates at Route 101 Intersections as a Percentage of Statewide Average Rates[1]**




Note 1: Total collisions consist of all types of collisions: fatal, injury, and property damage.

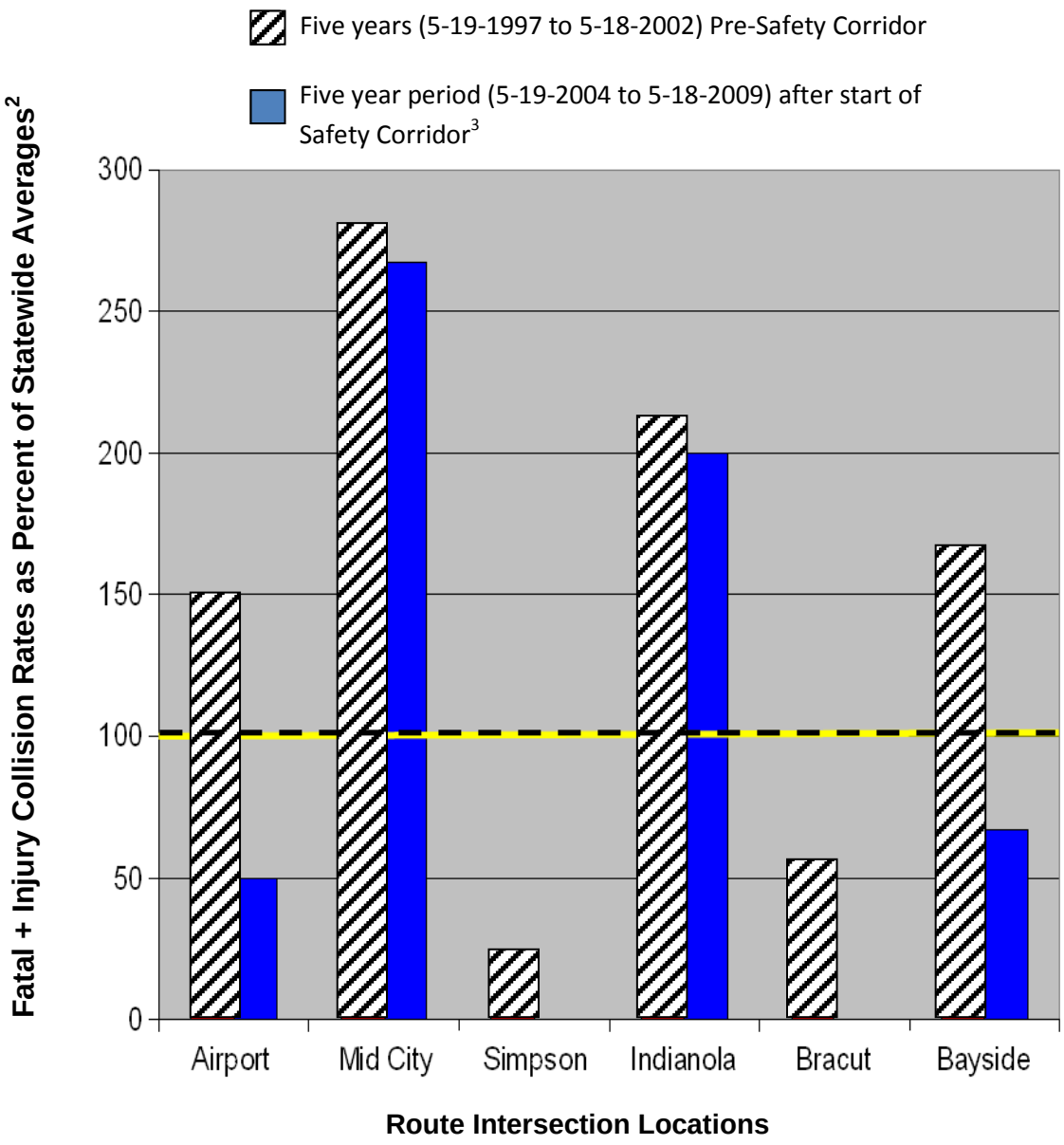
Note 2: For intersections, collision rates are a measure of the number of collisions per million vehicles. One hundred represents the percentage of the statewide average collision rate for similar highway intersections and is designated by the dashed horizontal line in the graph.

Note 3: The Safety Corridor was started on May 19, 2002.

Source: Collision data obtained from Caltrans Transportation System Network (TSN). District 1 Traffic Safety.

**EXHIBIT 4**
**CC-016-13**
**Collision Rates**

## Figure 2-3 – Average Severe Collision Rates at Route 101 Intersections as a Percentage of Statewide Average Rates[1]




Note 1: Severe collisions consist of fatal and injury collisions.

Note 2: For intersections, collision rates are a measure of the number of collisions per million vehicles. One hundred represents the percentage of the statewide average collision rate for similar highway intersections and is designated by the dashed horizontal line in the graph.

Note 3: The Safety Corridor was started on May 19, 2002.

Source: Collision data obtained from Caltrans Transportation System Network (TSN). District 1 Traffic Safety.

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

FOR DESIGN STUDY ONLY

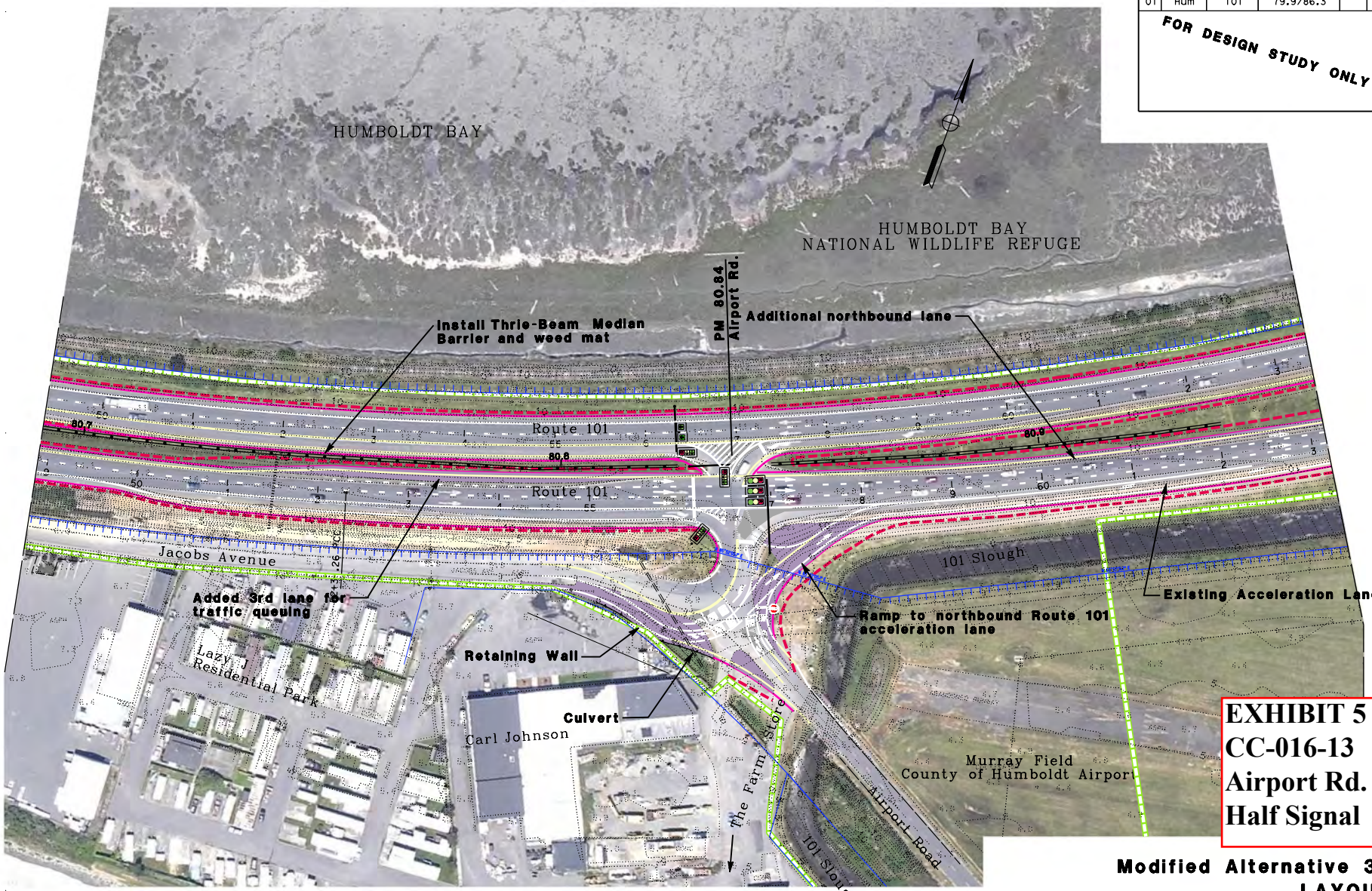



**EXHIBIT 5**
**CC-016-13**
**Airport Rd.**
**Half Signal**

**Modified Alternative 3A**
**LAYOUT**
**L-4** (iv)

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN
FUNCTIONAL SUPERVISOR: L.R. ASHLEY
CALCULATED-DESIGNED BY
CHECKED BY
TODD LARK
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 12-OCT-2012
08-11-08 TIME PLOTTED => 15:18

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => s119316
DGN FILE => 136330ea004-rev.dgn
CU 03232
EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

FOR DESIGN STUDY ONLY

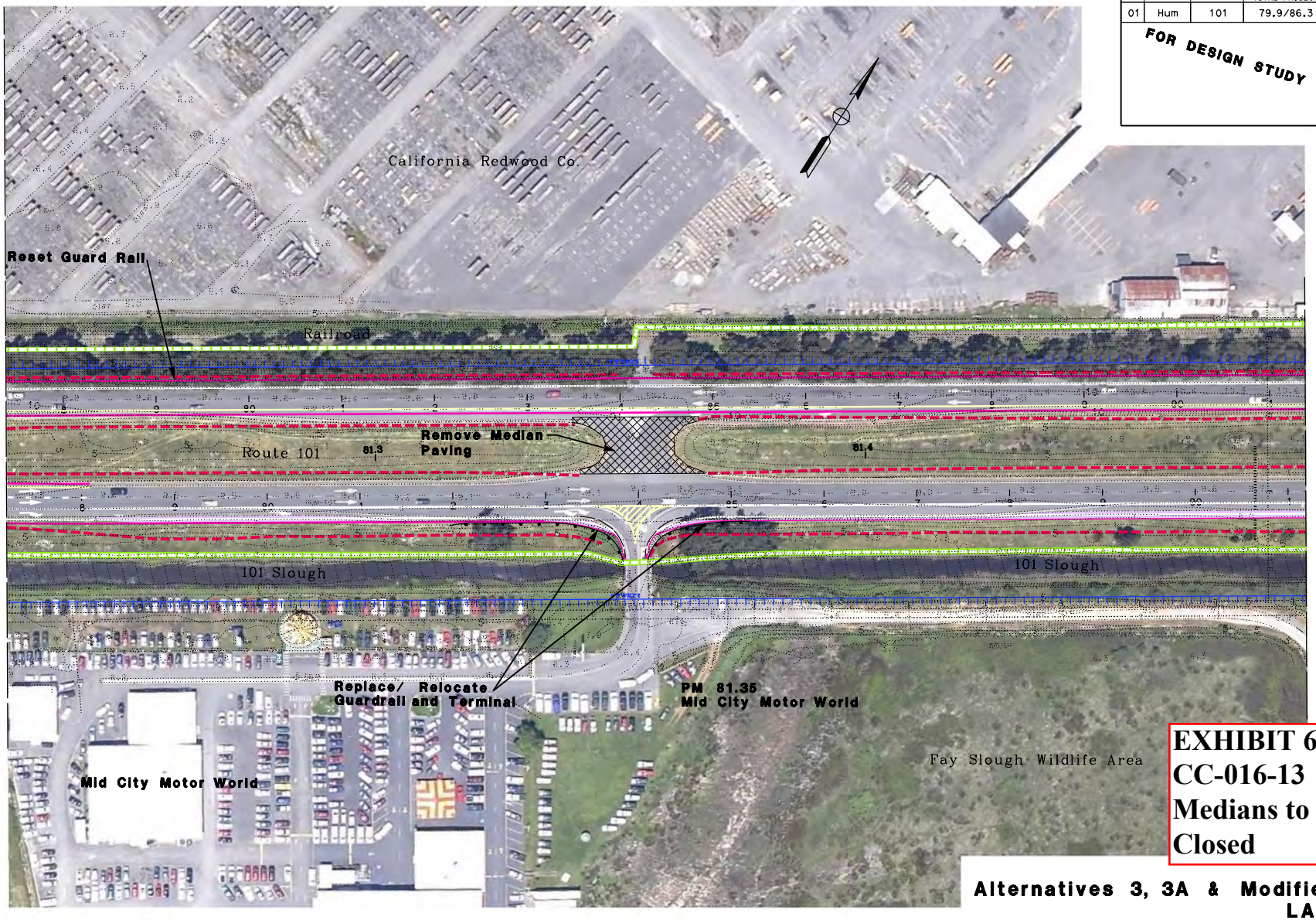



**EXHIBIT 6**
**CC-016-13**
**Medians to be Closed**

**Alternatives 3, 3A & Modified 3A**
**LAYOUT**
**L-6** (i)

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: L.R. ASHLEY
CALCULATED-DESIGNED BY:
CHECKED BY:
TODD LARK
REVISED BY
DATE REVISED

LAST REVISION 08-11-08
DATE PLO
TIME PLO

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

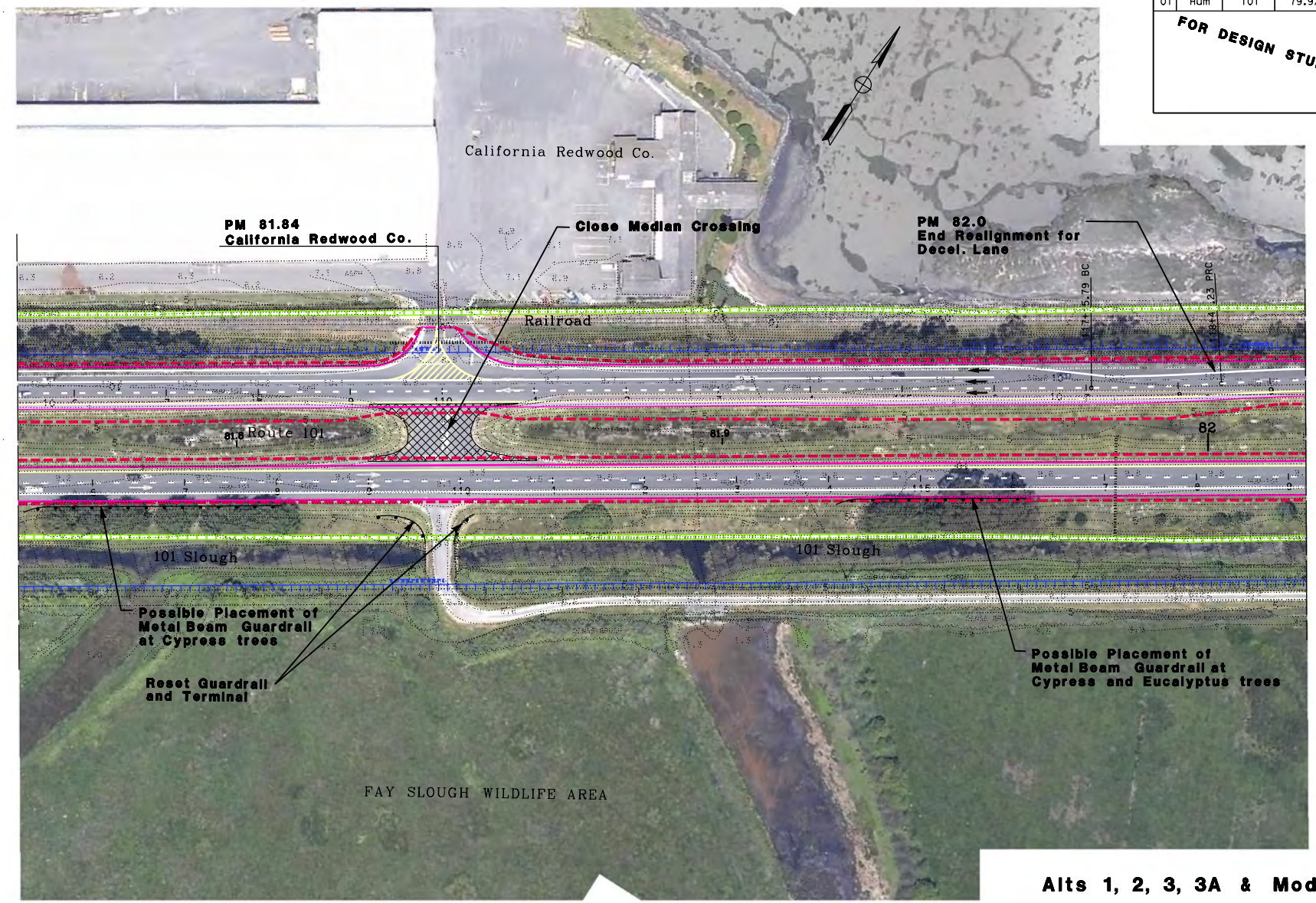
USERNAME => s119316
DGN FILE => 136330ea006-rev.dgn

CU 03232

EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

FOR DESIGN STUDY ONLY




# Alts 1, 2, 3, 3A & Modified 3A LAYOUT L-8

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: L.R. ASHLEY
CALCULATED-DESIGNED BY:
CHECKED BY:
TODD LARK
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 12-OCT-2012
08-11-08 TIME PLOTTED => 15:18

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

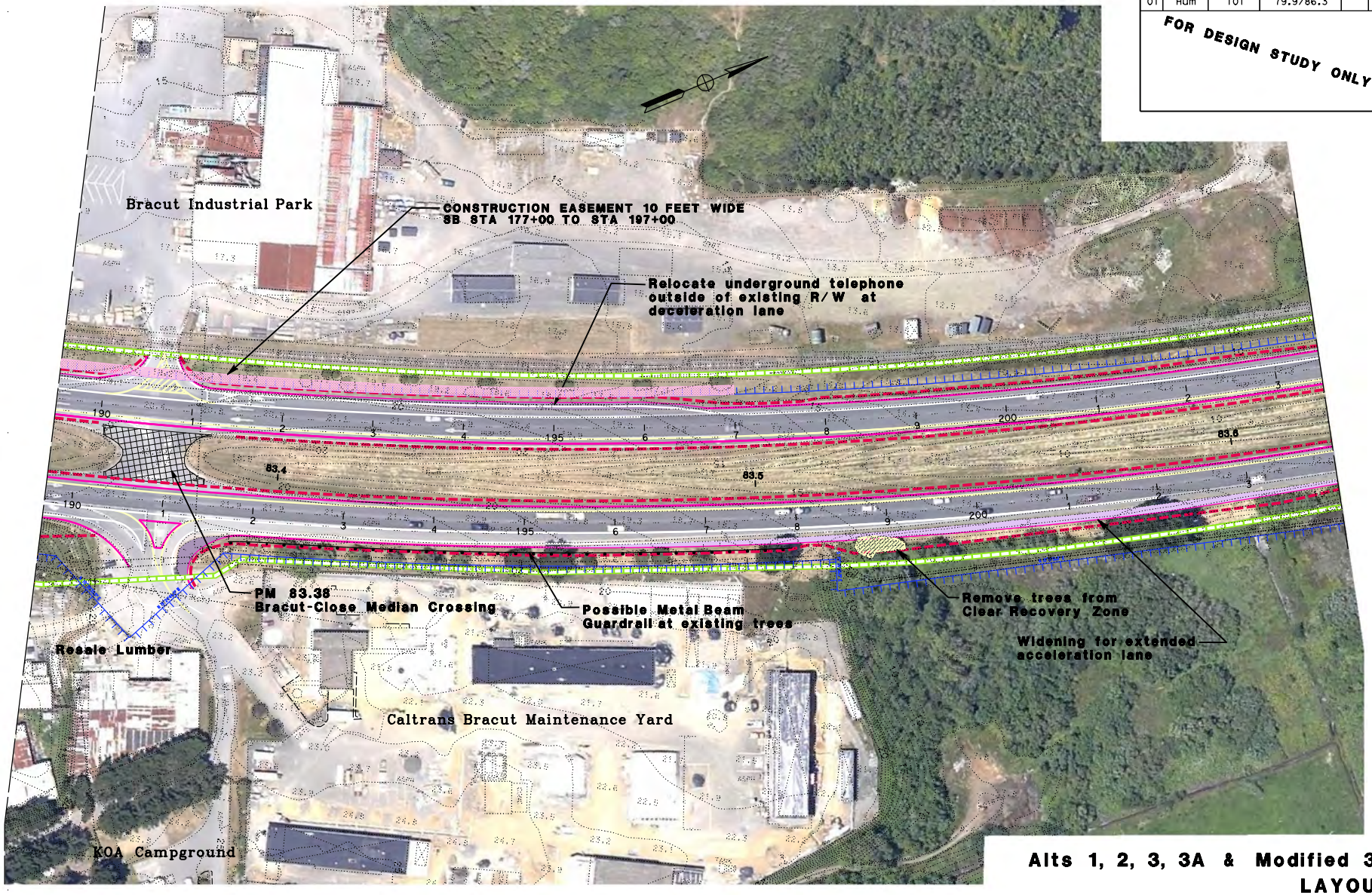
USERNAME => s119316
DGN FILE => 136330ea008.dgn

CU 03232

EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

FOR DESIGN STUDY ONLY




**Alts 1, 2, 3, 3A & Modified 3A**

**LAYOUT L-14**

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN

FUNCTIONAL SUPERVISOR: L.R. ASHLEY
CALCULATED-DESIGNED BY: TODD LARK
CHECKED BY:
REVISED BY:
DATE REVISED:

LAST REVISION DATE PLOTTED => 12-OCT-2012
08-11-08 TIME PLOTTED => 15:25

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

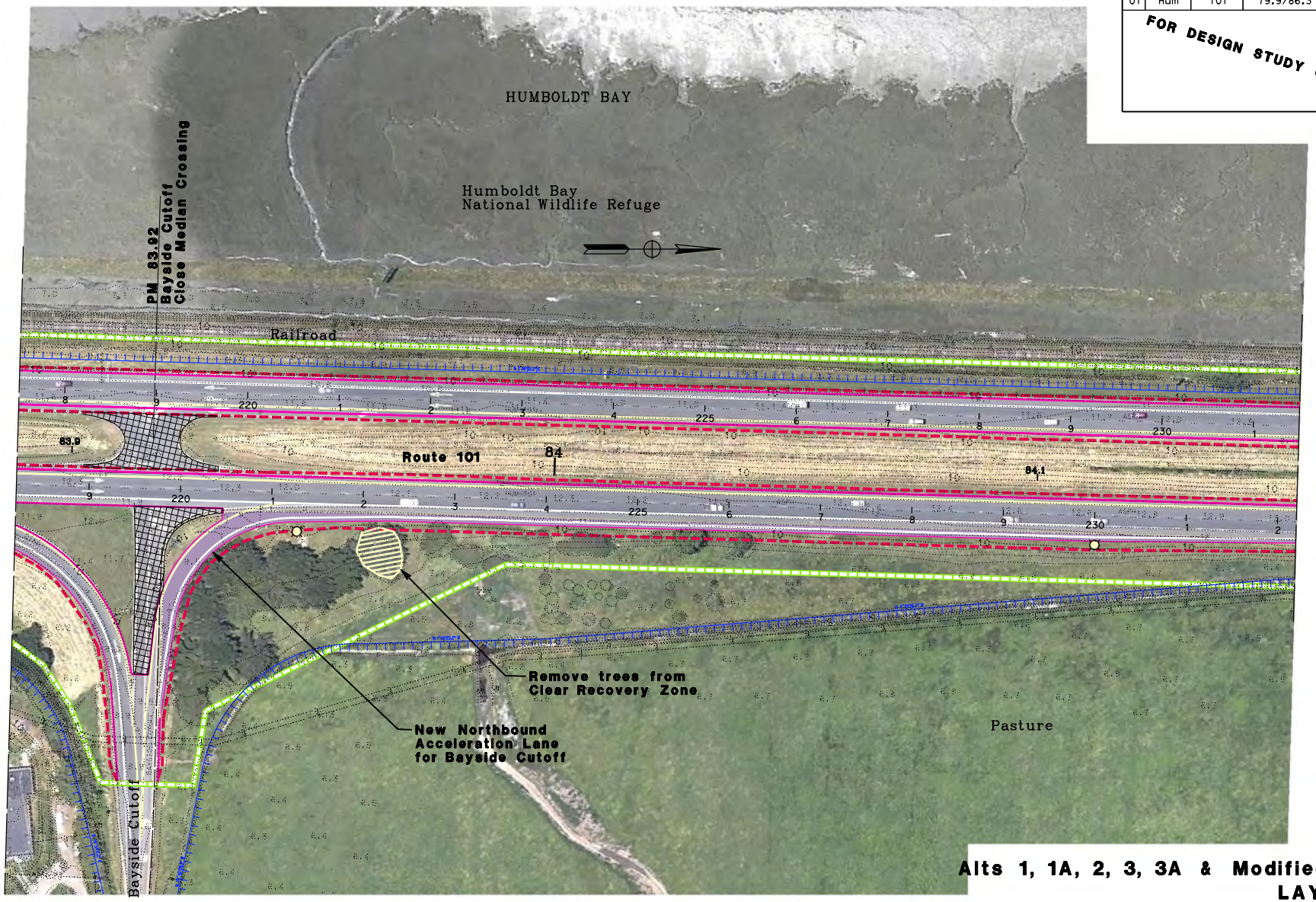
USERNAME => s119316
DGN FILE => 136330eo014.dgn

CU 03232

EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

FOR DESIGN STUDY ONLY




Exact locations of lighting to be determined.
Trenching for lighting not shown.

# Alts 1, 1A, 2, 3, 3A & Modified 3A
# LAYOUT
# L-16

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: L.R. ASHLEY
CALCULATED-DESIGNED BY:
CHECKED BY:
TODD LARK
REVISED BY
DATE REVISED

LAST REVISION 08-11-08
DATE PLOTTED => 08-OCT-2012
TIME PLOTTED => 10:52

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => s119316
DGN FILE => 136330ea016.dgn

CU 03232

EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

FOR DESIGN STUDY ONLY

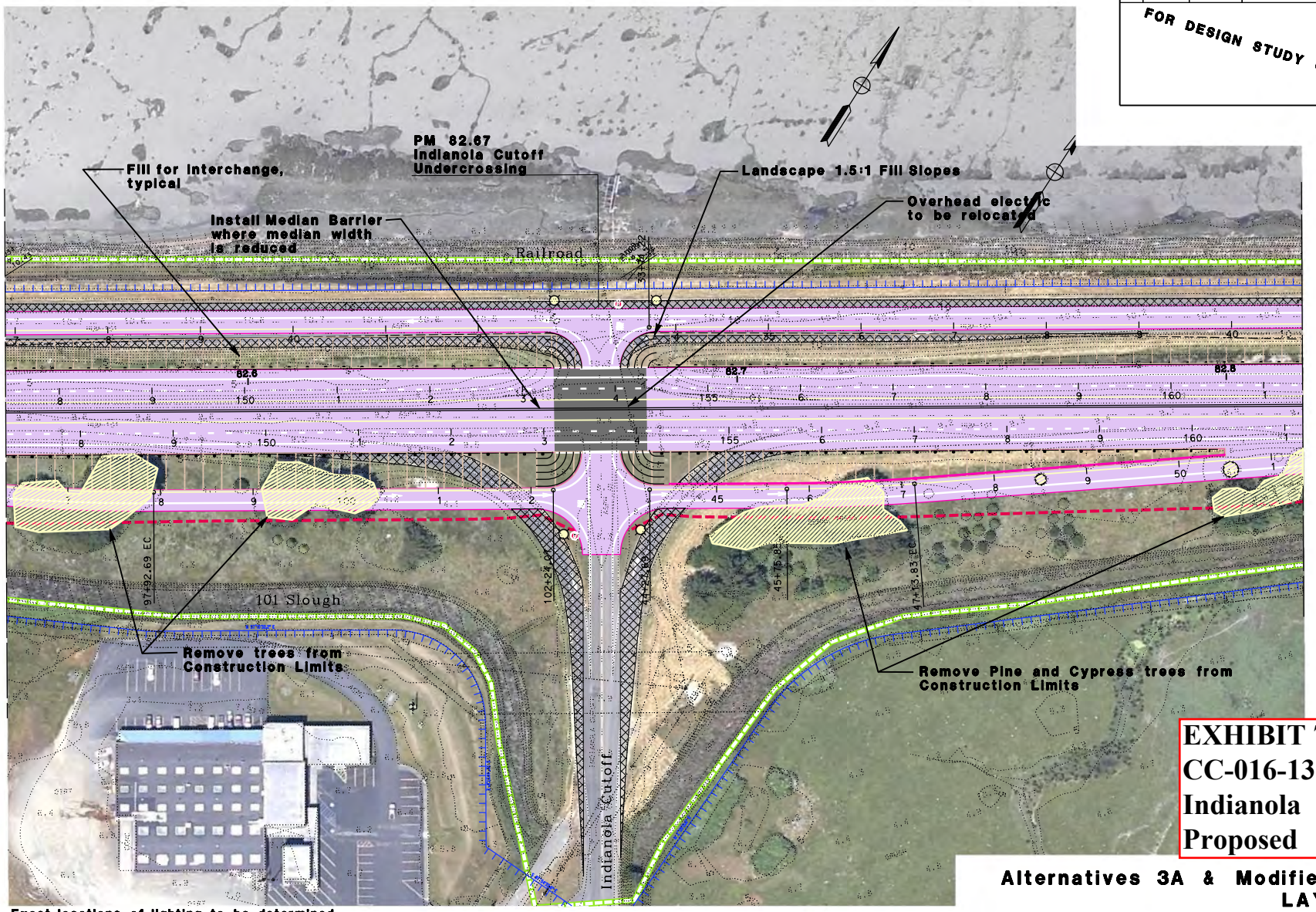



**EXHIBIT 7**
**CC-016-13**
**Indianola**
**Proposed**

Exact locations of lighting to be determined.
Trenching for lighting not shown.

## Alternatives 3A & Modified 3A LAYOUT L-11

SCALE: 1"=50'

| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED |
|---|---|---|---|---|---|
| DESIGN | L.R. ASHLEY | TODD LARK | | | |

LAST REVISION DATE TIME 08-11-08

BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => s119316 DGN FILE => 136330ea011.dgn | CU 03232 | EA 363301

- Motorists on Route 101 as they approach and pass the new interchange from either direction;
- Westbound motorists on Indianola Cutoff as they approach the new interchange;
- A few local residents within the vicinity of Indianola Cutoff; and
- Views from Humboldt Bay looking east toward the shore at the new interchange.

The following Figures 3-7 through 13 represent visual simulations of the proposed interchange configuration as it would appear from different perspectives.


**Figure 3-7**
**Proposed Interchange Design Configuration**

**EXHIBIT 8**
**CC-016-13**
**Indianola**
**Design Configuration**

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

**FOR DESIGN STUDY ONLY**

Permanent Impact to Coastal Wetland Added 0.54 acres

Permanent wetland impacts 0.36 acres

Permanent wetland impacts 0.38 acres

101 Slough

Indianola Cutoff

NORTHWESTERN PACIFIC RAILROAD

**EXHIBIT 9**
**CC-016-13**
**Indianola with a signal - NOT PROPOSED**

# WETLAND IMPACTS
## Boulevard
## LAYOUT
## L-11

SCALE: 1"=50'

| | | | |
|---|---|---|---|
| CALCULATED-DESIGNED BY | | REVISED BY | |
| CHECKED BY | TODD LARK | DATE REVISED | |
| FUNCTIONAL SUPERVISOR | L.R. ASHLEY | | |
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | DESIGN | | |

LAST REVISION 08-11-08 | DATE PLOTTED => 14-JUN-2012 | TIME PLOTTED => 09:59

BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => s119316 | DGN FILE => 136330wet011-blvd.dgn | CU 03232 | EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

FOR DESIGN STUDY ONLY

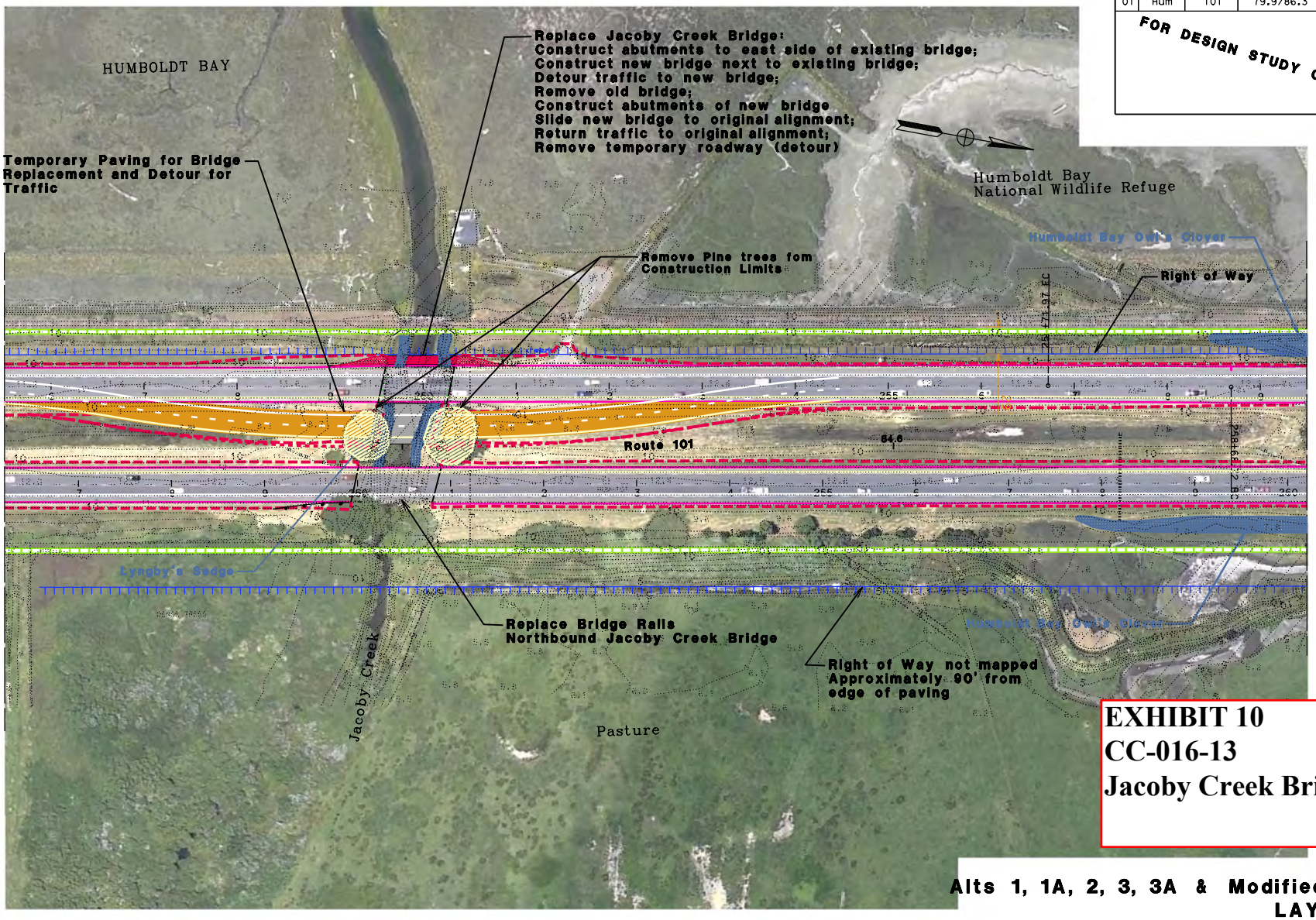



**EXHIBIT 10**
**CC-016-13**
**Jacoby Creek Bridge**

**Alts 1, 1A, 2, 3, 3A & Modified 3A**
**LAYOUT L-18**

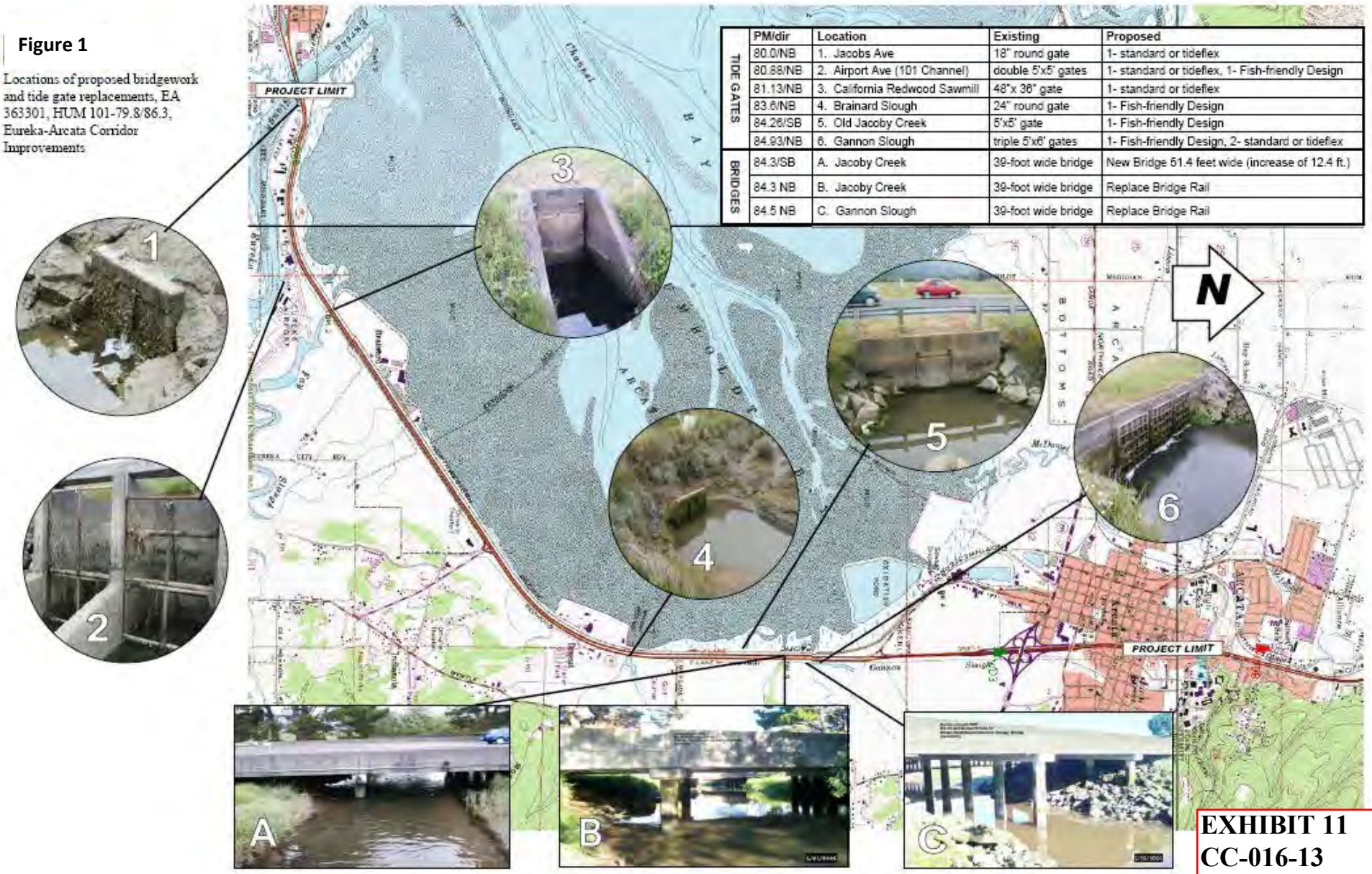
SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: L.R. ASHLEY
CALCULATED-DESIGNED BY
CHECKED BY
TODD LARK
REVISED BY
DATE REVISED
LAST REVISION DATE PLOT: 08-11-08
TIME PLOTTED => 10:53

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => s119316
DGN FILE => 136330eo018.dgn
CU 03232
EA 363301

**Figure 1**

Locations of proposed bridgework and tide gate replacements, EA 363301, HUM 101-79.8/86.3, Eureka-Arcata Corridor Improvements




| | PM/dir | Location | Existing | Proposed |
|---|---|---|---|---|
| TIDE GATES | 80.0/NB | 1. Jacobs Ave | 18" round gate | 1- standard or tideflex |
| | 80.88/NB | 2. Airport Ave (101 Channel) | double 5'x5' gates | 1- standard or tideflex, 1- Fish-friendly Design |
| | 81.13/NB | 3. California Redwood Sawmill | 48"x 36" gate | 1- standard or tideflex |
| | 83.6/NB | 4. Brainard Slough | 24" round gate | 1- Fish-friendly Design |
| | 84.26/SB | 5. Old Jacoby Creek | 5'x5' gate | 1- Fish-friendly Design |
| | 84.93/NB | 6. Gannon Slough | triple 5'x6' gates | 1- Fish-friendly Design, 2- standard or tideflex |
| BRIDGES | 84.3/SB | A. Jacoby Creek | 39-foot wide bridge | New Bridge 51.4 feet wide (increase of 12.4 ft.) |
| | 84.3 NB | B. Jacoby Creek | 39-foot wide bridge | Replace Bridge Rail |
| | 84.5 NB | C. Gannon Slough | 39-foot wide bridge | Replace Bridge Rail |

**EXHIBIT 11**
**CC-016-13**
**Tide Gates**

# Eureka-Arcata Route 101 Corridor






•Close all medians, rehabilitation work
•Construct steep slope Indianola interchange
•Construct ½ signal at Airport Road

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION
In Partnership with HCAOG

# Overview of Build Alternatives

Figure S-4

**EXHIBIT 12**
**CC-016-13**
**Alternatives Overview**

Summary of Potential Adverse Environmental Consequences
After Avoidance and Implementation of Measures to Minimize Harm/Mitigation[#]

| Environmental Resource/Condition Compared to No Build Alternative | **Alternative 1**<br>**Close median crossings**<br>**$29 Million** | **Alternative 1A**<br>**Close median crossings, construct two turnarounds and a southbound only left-turn signal at Airport Road**<br>**$38 Million** | **Alternative 2**<br>**Close median crossings, construct interchange at Indianola Cutoff**<br>**$55 Million** | **Alternative 3**<br>**Close median crossings, construct interchange at Indianola Cutoff and a full signal at Airport Road**<br>**$62 Million** | **Modified Alternative 3A[+]**<br>**Close median crossings, construct steep slope interchange at Indianola Cutoff and a half signal at Airport Road**<br>**$46 Million** | **No-Build Alternative** |
|---|---|---|---|---|---|---|
| **Total permanent wetland impact[#] in acres ≤3-Param / USACE Jurisd. /** TOTAL | 1.3 / 2.4 / **3.7** | 1.7 / 5.5 / **7.2** | 2.1 / 10.4 / 12.5 | 2.2 / 12.9 / 15.1 | 2.0 / 8.2 / 10.3 | 0 |
| **Total permanent impacts in acres to Other Waters of the U.S. (excludes wetland & habitat enhancements)**** | 0 | 0 | 0 | 0 | 0 | 0 |
| **Temporary wetland impact[#] in acres ≤3-Param / USACE Jurisd. /** TOTAL | 0.3 / 3.8 / **4.1** | 0.3 / 4.5 / **4.8** | 0.1 / 5.1/ **5.2** | 0.1 / 4.9/ **5.1** | 0.1 / 4.4/ **4.5** | Not applicable |
| **Listed, Threatened, Endangered Species** | Minor | Minor | Minor | Minor | Minor | No Effect |
| **Water quality during construction** | Minor | Minor | Minor | Minor | Minor | No Effect |
| **Floodplain encroachment** | Negligible | Negligible | Negligible | Negligible | Negligible | No Effect |
| **Air quality** | Minor | Minor | Minor | Minor | Minor | No Effect |
| **Energy: Year 2031 vehicle fuel increase in gallons per day** | 3,970 | 340 | 2,150 | 60 | 290 | Unknown* |
| **Increase in greenhouse gas emissions compared to the No-Build Alternative** | 15.6% | 1.5% | 8.3% | 2.4% | 1.0% | N/A |
| **Traffic increase on local roads** | Substantial | Minor | Minor | Minor | Minor | Moderate* |
| **Pedestrian and bicycle circulation** | Substantial | Substantial | Moderate | Minor | Minor | Unknown* |
| **Route 101 Corridor business access** | Substantial | Moderate | Substantial | Minor | Minor*** | Moderate* |
| **Environmental Justice communities** | Substantial | Moderate | Moderate | Minor | Minor*** | Moderate* |
| **Out of direction travel / delay** | Substantial | Minor | Moderate | Minor | Minor | Moderate* |
| **Potential for growth related/indirect effects** | Minor | Minor | Minor | Minor | Minor | No Effect |
| **Noise** | Minor | Minor | Minor | Minor | Minor | Unknown* |
| **Hazardous waste** | Minor | Minor | Minor | Minor | Minor | No Effect |
| **Cultural resources** | No effect | No effect | No effect | No effect | No effect | No Effect |
| **Trees removed, visual quality** | 23 - Minor | 83 - Moderate | 64 - Moderate | 64 - Moderate | 54 - Moderate | No Effect |

+ Alternative 3A has been modified since it was introduced at the December 3, 2008 public meeting. The Modified Alternative 3A would permanently impact approximately 0.5 acres of additional wetland compared to the initial Alternative 3A proposal. The additional wetland impact is required for an additional northbound Route 101 lane and a half signal at Airport Road. These improvements would provide a westbound left turn option from Airport Road to southbound Route 101 to serve businesses and an Environmental Justice Community on Jacobs Avenue. The westbound left-turn movement may need to be closed 15 to 20 years after construction as traffic volumes increase.

[#] All temporary and permanent wetland impacts resulting from the project will be fully mitigated pursuant to public resource agencies' regulations.

*Even though the No-Build Alternative does not include any proposed roadway changes, traffic volumes and speeds are expected to increase in the foreseeable future, which may necessitate closing one or more Route 101 intersection Closing one or more intersection median openings could potentially restrict access to businesses and residences; add out-of-direction travel and delay; increase fuel consumption; and, adversely affect the Level-of-Service of local street ists and pedestrians as well as motorized vehicles would be affected if this were to occur. In addition, without improvements, left-turn movements onto Route 101 are predicted to degrade to Level-of-Service F in the year 2031 at the fo Road, Mid-City Motor World, California Redwood, Indianola Cutoff, Bracut, and Bayside Cutoff.

**Although some work would occur in Section 10/Waters of the U.S., none of the Build Alternatives would result in adverse impacts requiring mitigation.

*** These environmental consequences are only projected for 15 to 20 years after project construction. After this period, unless there are other improvements, the consequences would likely change from minor to moderate.

**EXHIBIT 13**
**CC-016-13**
**Alternative Comparison**

**DEPARTMENT OF TRANSPORTATION**
DISTRICT 1, P.O. BOX 3700
EUREKA, CA 95502-3700
PHONE (707) 441-5733
FAX (707) 441-5775
TTY 711

*Flex your power!*
*Be energy efficient!*

June 17, 2013

Mr. Mark Delaplaine, Manager
Energy, Ocean Resources
and Federal Consistency Division
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

File: 01-HUM-101
PM 79.9/86.3
01-366600
Eureka-Arcata Route 101
Corridor Improvements

Dear Mr. Delaplaine:

Per your June 4, 2013 letter requesting additional information:

A. Updated Traffic Information is included in Attachments 1-4.

B. Alternative information requested is included in Attachment 5. Per your request the estimated permanent coastal wetland impact for the entire project under this evaluation is 7.91 acres. The US 101 northbound lanes would need to be shifted to the east to accommodate truck turning for both northbound to southbound and southbound to northbound u-turn movements. Also, due to the additional lanes at Indianola Cutoff, the existing box culvert crossing Indianola Cutoff would need to be lengthened, and work to dredge and fill within the slough channel would be required.

C. Climate Change Adaptation
Per Rex Jackman, Caltrans District 1 Planning Department, the results of the "Climate Change Adaptation Pilot Strategy for Critically Vulnerable Assets in Northwest California" will not be complete until December 2014. The Request for Proposals will be out this month and staff hopes to award the work to a consultant in July 2013. While staff cannot predict what the study's short or long-term recommended actions will be, it may be possible that short-term recommendations could be incorporated into the project. It is unlikely that the long-term recommendations would be incorporated into the project.

D. Draft Wetland Mitigation/Restoration Plan response is included in Attachment 6.

E. Scenic Route Study – Per the June 7, 2013 email from Coastal staff this has been dropped.

**EXHIBIT 14**
**CC-016-13**
**Caltrans Letter**

Please let me know when the staff report is available. We look forward to having the chance to bring the project before the Commission in the effort to obtain the consistency determination so that the safety and operational improvements for this important, existing transportation corridor can move forward. If you have any questions or require additional information, please contact me at kim.floyd@dot.ca.gov or at (707) 441-5739.

Sincerely,

KIM FLOYD
Project Manager

Attachments
1. AADT Eureka-Arcata U.S. 101 Corridor (2008-2011)
2. Eureka Arcata 2011 updated LOS
3. Evaluation Traffic Impacts November 2005
4. Evaluation Traffic Impacts Addendum
5. Two Signal Corridor
6. Mitigation/Restoration Response

c: Robert Merrill - North Coast Coastal Commission Office w/enclosures
César Pérez – FHWA w/out enclosure
Marcella Clem – HCAOG w/out enclosure

## Wetland Impacts for Boulevard with Signals Airport Rd to Bayside Cutoff

| Permanent Wetland Impact Estimate | | | | | | |
|---|---|---|---|---|---|---|
| | Wetlands west of highway (acres) | | median wetlands (acres) | | Wetlands east of highway (acres) | |
| Sheet | ACOE (3-parameter) | Coastal (<3-parameter) | ACOE (3-parameter) | Coastal (<3-parameter) | ACOE (3-parameter) | Coastal (<3-parameter) |
| 1 | | | 0.07 | | | |
| 2 | | | | | | |
| 3 | 0.02 | | 0.25 | | 0.06 | |
| 4 | | | | 0.09 | 1.01 | |
| 5 | | | 0.46 | | | |
| 6 | | | 0.23 | | 1.06 | 0.15 |
| 7 | | | 0.58 | | 0.45 | 0.24 |
| 8 | | | 0.84 | | 1.10 | |
| 9 | | | | | | |
| 10 | | | 0.64 | | 0.75 | |
| 11 | | | 0.38 | | 0.36 | 0.54 |
| 12 | | | 0.75 | | 1.20 | |
| 13 | 0.10 | | 0.30 | | 0.44 | |
| 14 | 0.03 | | | | 0.06 | |
| 15 | | | 0.32 | | 0.18 | 0.25 |
| 16 | | | 0.38 | | 0.82 | |
| 17 | | | 0.04 | | | |
| 18 | 0.01 | | 0.35 | 0.01 | | |
| 19 | | | 0.12 | | | |
| 20 | | | 0.48 | | 0.03 | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | | | | | |
| 27 | | | | | | |
| 28 | | | | | | |
| 29 | | | | | | |
| Totals | 0.16 | 0.00 | 6.19 | 0.10 | 7.52 | 1.18 |

Impacts Common to All Alternatives North of Jacoby Creek Bridge
No additional drawings attached.

| | | |
|---|---|---|
| Total Permanent Wetlands Impacted (3-Parameter) | 13.87 | acres |
| Total Permanent Wetlands Impacted (Coastal <3-Parameter) | 1.28 | acres |
| Total Coastal Wetlands Permanently Impacted | 15.15 | acres |

**EXHIBIT 15**
**CC-016-13**
**Caltrans Chart**
**Blvd./Wetlands**

State of California
**DEPARTMENT OF TRANSPORTATION**

Business, Transportation and Housing Agency

# M e m o r a n d u m

***Flex your power!***
***Be energy efficient!***

**To:** **KIM FLOYD, P.E.**
Project Manager
District 1 Office of Project Management

**Date:** July 17, 2012

**File:** Hum 101
PM 79.8/85.8
Eur/Arc Corridor

**From:** **TROY A. ARSENEAU, P.E., T.E., PTOE**
Chief
District 1 Office of Traffic Operations

**Subject:** Traffic Operational Response to Draft CA Coastal Commission Staff Recommendation Document—Eureka-Arcata Corridor Project

In response to the draft California Coastal Commission (CCC) Staff Report to the Commission regarding the Coastal Permit for the Eureka-Arcata Corridor project, the District 1 Office of Traffic Operations conducted additional analysis comparing the impacts of the Modified 3A (preferred) or "NEPA 404 Least Environmentally Damaging Practicable Alternative (LEDPA)" alternative (interchange at Indianola Cutoff, half signal at Airport Road, and median closures) to a "signalized boulevard" alternative (six signalized intersections). Our results from our analysis and comments regarding the CCC document are indicated below.

1. The District 1 Office of Traffic Operations after completing a traffic operational analysis has concluded that a "signalized boulevard" alternative would not be the LEDPA. The "signalized boulevard" analysis used the same criteria applied to all alternatives analyzed. The following conclusions were arrived at by our traffic operations engineers.

   A. Our analysis indicated that a "signalized boulevard" alternative would not be as effective in improving safety and operations in the Eureka-Arcata U.S. 101 Corridor as would the preferred alternative.

      Per the Fundamentals of Traffic Engineering, 14th Edition, Institute of Transportation Studies of the University of California-Berkeley, 1996, Page 17-1, the disadvantages of signal installations are: *"(1) Most installations increase total intersection delay and fuel consumption, especially during off-peak periods, (2) Probable increase in certain types of accidents (e.g., rear-end collisions), (3) When improperly located, cause unnecessary delay and promote disrespect for this type of control, and (4) When improperly timed cause excessive delay, increasing driver irritation."*

      A "signalized boulevard" alternative would not be as effective in reducing the total number of traffic collisions (Please refer also to the Traffic Safety memo by



**EXHIBIT 16**
**CC-016-13**
**Caltrans Traffic Operations Memo**

Ralph Martinelli, dated June 28, 2012.), and the broadside (right angle) collision concern would not be eliminated by signal control. Interchanges remove crossing conflicts, which greatly reduces or eliminates the potential for broadside collisions from an intersection because all movements on and off the highway (mainline) then are only involving right-in and right-out movements (diverging and merging conflict points). Signalized intersections often cause an increase in rear end collisions, especially on the higher volume mainline street that likely did not have stop control prior to the signal installation. Broadside collisions are not eliminated at signalized intersections because travelers do not always obey the traffic signals or simply try to race through the intersection at the end of yellow time or early beginning of red time. Since broadside collisions involve more fatalities and injuries than other types of collisions, properly designed interchanges tend to experience far less severe injury and fatal collisions than signalized intersections due to the almost total elimination of the more severe broadside collisions. Please refer to the Traffic Safety memo, mentioned above, for more information regarding collision frequency and severity comparisons between the two types of intersection controls.

A "signalized boulevard" alternative would not improve traffic flow in the corridor as it would actually cause an increase in congestion on U.S. 101 by introducing six new traffic signals and new cumulative travel delay to U.S. 101 not currently experienced by drivers. The preferred alternative would have much less negative operational impact to U.S. 101 and minor street traffic. Under a "signalized boulevard" scenario, US 101 traffic (both regional and interregional) traveling through signalized network could be forced to stop three or four times at red lights during peak travel times. With the Modified 3A/preferred alternative, traffic on U.S. 101 within the corridor would generally remain free flow, with the exception of interrupted flow at the Airport Road intersection by some movements due to the installation of a half signal at this location.

Per the Traffic Engineering Handbook, 6th Edition, Institute of Transportation Engineers (ITE), 2009, Page 109: *"Traffic characteristics at signalized intersections differ from those on freeways because they are greatly influenced by the periodic interruption of traffic signals. Such control…precipitates and governs the formation and discharge characteristics of queues…"* While the corridor, which is categorized as an expressway, will not be categorized as a freeway once an interchange at Indianola Cutoff is constructed, it will continue to have several characteristics that are common to freeways. Freeways have the advantage of not having to stop mainline traffic. Drivers in the corridor currently enjoy this advantage, with the exception of mainline left turning vehicles that have to yield to opposing traffic before executing their maneuvers.

Another major disadvantage to a "signalized boulevard" alternative would be in facilitating pedestrian traffic across U.S. 101 mainline. In the District 1 Traffic

Operations modeling effort, it was assumed that pedestrians would be allowed to cross U.S. 101 mainline at the Indianola Cutoff intersection, with only one cross walk crossing U.S. 101 being allowed at the intersection. Under this scenario, mainline traffic delay was found to be greatly increased by each pedestrian call due to the large pedestrian crossing distance. Ideally, pedestrians would only cross one direction of U.S. 101 at a time, make an additional pedestrian call (push the pedestrian button) once in the median pedestrian refuge area for the crossing of the opposing mainline travel lanes, and then wait for the next pedestrian phase to occur to finish crossing the highway.

Challenges would exist by having a raised pedestrian refuge in the U.S. 101 median because of the speeds on mainline U.S. 101. Per the Highway Design Manual, Sixth Edition, California Department of Transportation, Index 405.4 (2), "On facilities with speeds over 45 mph, the use of any type of curb is discouraged," meaning that a raised pedestrian island in the median would not be desirable and less likely to be deemed "acceptable" by Caltrans Headquarters geometrician and traffic liaisons.

Not having a raised pedestrian refuge island would place pedestrians at considerable risk of being struck by vehicular traffic. This would force the need to have a long enough pedestrian phase (about 45 seconds) to ensure that pedestrians could cross both directions of mainline traffic causing considerable delay to mainline traffic. Our engineering analysis used the pedestrian walking speed of 3.5 feet per second as recommend by the California Manual on Uniform Traffic Control Devices, 2012 Edition, California Department of Transportation, Page 948, and required by Caltrans Traffic Operations Policy Directive 12-01, dated March 30, 2012.

B. A "signalized boulevard" alternative would have greater wetland impact than the preferred alternative. A "signalized boulevard" alternative and the preferred alternative were modeled in Synchro Version 7.0 traffic analysis software by our traffic operations engineers, and design drawings were created to determine the wetland impact. A signalized alternative would require the removal of approximately 15 acres (as calculated by Project Engineer, Todd Lark using the wetland mapping approved by Coastal Commission staff Dr. Dixon) of wetlands as opposed to the approximate 9.7 acres of wet lands that the preferred alternative would remove. This is a ratio of about 3 to 2, "signalized boulevard" alternative to preferred alternative. A "signalized boulevard" alternative would require more highway widening due to the need for additional through and turning/acceleration/deceleration lanes to maintain LOS C performance at the signalized intersections. A "signalized boulevard" alternative would require four northbound through travel lanes and three southbound through travel lanes. Single left turn lanes would be required at all intersections with dual left turn

lanes being required for southbound U.S. 101 left turning traffic at the Indianola Cutoff intersection.

A "signalized boulevard" alternative would have greater air pollution/greenhouse gas and energy consumption impacts than the preferred alternative. This was determined by our traffic operations engineers using Synchro Version 7.0 traffic analysis software that indicated that the signalized alternative would create about 1.2 times the amount of carbon monoxide (CO), 1.2 times the amount of mono-nitrogen oxides ($NO_x$), and 1.2 times the amount of volatile organic compounds (VOC) as opposed to the preferred alternative. The software also indicated that a "signalized boulevard" alternative would have 1.2 times the fuel consumption of the preferred alternative, and the preferred alternative would have about a 1.2 times fuel economy advantage over the "signalized boulevard" alternative.

Our traffic operations engineers calculated the potential future electrical power usage at the Indianola Cutoff intersection for signalized at-grade intersection control verses an interchange. A signalized intersection would use about 7 times the kilowatt energy in a 24-hour period than would be required for an interchange. Signalized intersections consume energy from traffic signal operations and intersection lighting at night, while interchanges only require intersection and ramp lighting during nighttime hours. By adding the additional power that would be required for the other five signalized intersections in the signalized alternative, the difference in energy consumption between the two alternatives has a far greater margin verifying that the preferred alternative would require far less energy use than a "signalized boulevard."

C. A "signalized boulevard" alternative would very likely also cause some diversion of a portion of the traffic volume on U.S. 101 to parallel routes (State Route 255 and Old Arcata Road). The potential negative impacts associated with diversion of U.S. 101 traffic to parallel corridor routes has long been a concern of many local individuals, groups, and government entities throughout the project's history.

Studies have indicated that the installation of traffic signals often causes some traffic from the major street (or mainline) to divert to inadequate alternate routes. This can partially be attributed to the driver perception that the new traffic signals cause more delay than would be on the alternate route, whether this is an actual truth or not. Other drivers simply prefer to avoid traffic signals even if the alternate route gives them a longer travel time. Historically, our traffic operations engineers have observed various decreases in traffic volumes on the state highway immediately following the installation of new signals at various locations in the district. It is highly probable that this same phenomenon would occur in the Eureka-Arcata Corridor if six new traffic signals were installed on U.S. 101 in the "signalized boulevard" scenario.

It should be noted that although the 2002 installation of the interim Safety Corridor on U.S. 101 in the Eureka-Arcata Corridor did not include the installation of traffic signals, the reduced speed limit, enhanced California Highway Patrol (CHP) radar enforcement, and other features did influence a noticeable number of drivers to use State Route 255 in lieu of driving through the Safety Corridor, as was evidenced in the recorded rise in traffic volumes on State Route 255 (about 20% over 8 years). While the legislation that established the enhanced CHP radar enforcement in the corridor has since expired, it is believed that the presence of the remaining Safety Corridor features (50 mph speed limit, speed radar feedback signs, special signage, etc.) still influences some overall diversion to State Route 255 even to the present day.

2. Upon review of the draft CCC Staff Recommendation document, we make the following comments:

   A. On Page 2, in the second paragraph, the statement is made, "*The project would increase the highway capacity by removing the major impediment to traffic flow along this stretch of Route 101, which is the non-signalized intersections.*"

      This statement is flawed for the following reasons:

      Per our District 1 Traffic Operations engineering review, the preferred alternative will **NOT** increase the highway capacity. The project is not a capacity-increasing project because the project is not adding additional supply, or travel lanes, to the overall system. When the project is completely constructed, there will be two lanes of northbound traffic and two lanes of southbound traffic the same as it is today. No additional regular free-flowing travel lanes will be added to U.S. 101. The construction of an interchange does not increase the capacity of a highway segment as highway capacity is influenced mostly by supply on the mainline, the total number of lanes. While the interchange will no longer require vehicles entering the highway from the minor streets to have to stop (but will have to yield upon entering U.S. 101) as they will be able to merge onto the highway at the interchange, the interchange will not increase highway capacity on either U.S. 101 or the minor streets. No new additional supply or travel lanes will be added to any of the minor streets or to U.S. 101; therefore, the project cannot be considered to be capacity increasing.

      Secondly, the statement erroneously states that the existing unsignalized intersections in this stretch of U.S. 101 are major impediments to traffic flow. Through traffic on mainline U.S. 101 is **NOT** impeded by the unsignalized intersections in the corridor because it is free flowing, with stop sign control only being in place on the minor streets connecting with U.S. 101 in the corridor. The only mainline traffic movement with restrictions are the mainline left turn

movements (which currently experience poor LOS) to the minor streets which require that the left turning vehicles yield to on-coming mainline traffic (traveling in the opposite direction) before completing their maneuver.

B. On Page 2, in the third paragraph, Coastal Commission Staff recommends that the Commission find that the project does not represent the LEDPA and that the staff believes that a signalized boulevard approach, previously rejected by Caltrans is feasible and less environmentally damaging.

   The District 1 Traffic Operations Office does not concur with the assessment that a "signalized boulevard" is feasible or that it is less environmentally damaging for the reasons stated above in Sections 1 of this memo.

C. On Page 2, in the fifth paragraph, the statement is made that staff recommends the Commission find the project inconsistent with the public access and recreational policies of the Coastal Act because it does not include a separated (by guard rail) bicycle and pedestrian path components.

   We do not agree with this statement. There does not seem to be an example elsewhere in the state where the Coastal Commission required an interchange project to construct a separated bicycle/pedestrian facility parallel to an expressway or freeway segment as a condition of issuing a coastal permit. There was no such separated bicycle/pedestrian facility requirement by the Coastal Commission for the recently completed Alton Interchange project at the junction of U.S 101 and State Route 36, south of the City of Fortuna. Collision records in the Eureka-Arcata corridor did not and currently do not indicate a major significant pattern of either bicycle or pedestrian collisions that would indicate a need for creating separated facilities for bicycle/pedestrian traffic within the corridor. In addition, bicycle and pedestrian volumes remain relatively low in comparison to motorized traffic volumes in the corridor, and existing shoulders along the highway provide space for bicyclists and pedestrians to traverse the highway outside of the travel lanes.

   A statement was also made indicating that the project will "speed up" traffic and make it less safe for bicyclists and impact the bicycle trips length. This statement is incorrect because the project geometrical improvements, in themselves, will not cause an increase in vehicular speed on U.S. 101. In addition, speed limits are determined in a separate process, which is mandated by the California Vehicle Code and the California Manual on Uniform Traffic Control Devices (CAMUTCD).

   While the closure of medians at some intersections may slightly increase bicycle trip length, depending upon the specific origin and destination of each cyclist, overall through trip travel times on mainline U.S. 101 would not increase because

the mainline will remain free flow. The only exception to this would be for northbound mainline traffic having to stop at the Airport Road intersection (controlled by a half signal) during the red phase. Our modeling efforts have indicated that there will be a slight increase in travel time for bicycles on U.S. 101 under the conditions that would be put in place with the preferred project alternative.

D. On Page 3, in the fourth paragraph, statements are made indicating a belief that the construction of an interchange will be growth inducing by itself, and that it may be inconsistent with Section 30254 of the Coastal Act.

While Caltrans experience, in the Intergovernmental Review (IGR) and encroachment permit review processes, has revealed that developers prefer intersections to have a traffic signal control or be controlled by interchanges, the reality of whether or not adjacent lands will be more likely to be developed after any such improvement are constructed, is dependent upon the particular location and the constraints that impact the ability to develop the adjacent land. Many of the same constraints on this project will also be on any development wanting to develop privately owned parcels within the corridor. A coastal development permit would also be required for private development in the corridor.

We also do not believe that an interchange would be more growth inducing than a "signalized boulevard" would be. It is very likely that a "signalized boulevard" would create more developer interest in the adjacent lands along the corridor because traffic would be forced to stop at each at-grade intersection, a highly desirable access and visibility feature to developers wanting to make it easier to attract customers to the new businesses.

E. On Page 13, in the last paragraph (continuing to Page 14), the statement is made, *"The key tests to determine whether the proposed Eureka-Arcata 101 Corridor project qualifies as an incidental public service under these historic interpretations, and thus with the above cited cases and applicable findings, are the questions of whether the proposed improvements are 'necessary to maintain existing traffic capacity' and whether there is 'no other alternative' available that would avoid or reduce wetland impacts. The Commission believes neither of these tests is met in this situation."*

This statement is incorrect because the "signalized boulevard," which has been identified as the alternative that Coastal Commission staff prefers, does not avoid or reduce wetland impacts in comparison to the project's preferred alternative, and all identified alternatives were deemed not viable.

In addition, our modeling has indicated that the "signalized boulevard" alternative would still have poor LOS for all of the left turn movements on the highway and

the minor streets even with the addition of supplemental travel lanes. In reality, the installation of several signals within the corridor would create a decrease of LOS and an increase in delay for all movements on U.S. 101 and the minor streets.

The preferred alternative passes the test as being necessary to maintain existing capacity because the LOS values for the mainline and minor street left turn lane movements continue to worsen as traffic volumes increase with time. The preferred alternative will greatly improve the LOS to the mainline left turn movements and minor streets movements that are reduced because of stop control delay. This improvement to LOS would not increase the overall capacity of the highway but would allow the existing capacities on both the mainline and minor streets to be available for drivers traveling in the corridor. Because the preferred alternative is the LEDPA and the improvements are necessary to maintain existing capacity, the preferred alternative qualifies as an incidental public service.

F. On Page 14, in the second paragraph, the statement is made that *"the Commission does not agree with Caltrans that the resolution of these operational conflicts by eliminating most of the intersections, which also results in speeding up the flow of traffic, thereby increasing highway capacity…"*

This statement is incorrect for the following reasons: (1) the preferred alternative of the project does not eliminate any intersections. While some intersections will be restricted to right-in/right-out only movements, no intersections will be eliminated, (2) There is no evidence that indicates that traffic flow will be sped up significantly beyond the existing speed limit in the corridor as a result of the project, and (3) The preferred alternative will not increase highway capacity as no new travel lanes are being added to the corridor (The facility will remain a four-lane divided highway.).

G. On Page 15, in the second paragraph, the statement is made that *"inherently that Caltrans' solution is one which has the effect of increasing, rather than maintaining, highway capacity. The various intersection closures and increased acceleration and deceleration lanes intended to increase this capacity…"*

This statement is incorrect. The addition or expansion of acceleration and deceleration lanes as part of the preferred alternative of the project does not increase the overall highway capacity of the corridor. The acceleration and deceleration lanes serve only to more safely facilitate merging and diverging traffic (traffic weaving) while helping to maintain existing highway capacity by improving level of service. As also was stated before in Item F above, no intersections will be closed by the project, and the highway will remain a four-

lane divided highway upon completion of the project. The project will not increase the highway capacity of the corridor.

H. On Page 15, in the fourth paragraph, the statement is made that *"Upgrading the intersections, which are the primary bottlenecks in this stretch of Route 101, from the current LOS E (and projected to be F in 2030) during peak periods, to LOS C will have the effect of increasing highway capacity."*

This statement is incorrect for the following reasons: (1) The existing intersections in the corridor are stop controlled intersections where mainline highway traffic is free flow (does not have to stop); therefore, the existing intersections are not bottlenecks on the existing highway, and (2) Increasing the LOS to either specific intersection movements or the overall intersection LOS does not increase the overall highway capacity of the corridor. Upgrading or improving the performance of an intersection in the corridor will not increase the highway capacity of U.S. 101 because the facility will remain a four-lane divided highway once the project is completed.

I. On Page 16, in the second paragraph, the statement is made that "*the proposed project would increase the capacity at the Indianola Road and Highway 101 intersections, and in so doing, the carrying capacity of the Highway 101 corridor itself…"*

This statement is incorrect for the following reasons: (1) While an interchange at U.S. 101 and Indianola Cutoff will better facilitate left turn movements on both the highway and minor street, the overall highway capacity of the U.S. 101 corridor or any of the minor streets connecting to the corridor will not increase. Again, the proposed project is not a capacity-increasing project because it is not increasing the supply by adding additional travel lanes as would be the case if the project would be converting the four-lane divided highway into a six-lane divided highway.

J. On Page 27, in the second paragraph, the statement is made that *"…It is unfortunate that Caltrans did not include a level of service analysis of a signalized alternative in a manner comparable to the other "build" alternatives did examine in detail, because, for the reasons discussed in the previous section of this staff report, a signalized alternative may be the only alternative (other than the No-Build alternative) that could be found consistent with the allowable use test of the Coastal Act wetlands policy…"*

Regardless of whether or not a detailed LOS analysis was previously performed for a "signalized boulevard" alternative, such an alternative never was and ever will be a very viable alternative due to the following reasons: (1) Additional lanes would be required to make the signalized intersections work at acceptable level of

service which causes this alternative to have greater wetland impact than most of the alternatives identified in the project study report; (2) Not all of the intersections would be viable candidates for traffic signalization due to most not meeting traffic signal warrants; (3) Signalizing the corridor would introduce congestion and delay not currently experienced in the corridor, (4) The spacing between intersections does not allow for very efficient traffic signal coordination, and (5) Signalizing the corridor would not remove the crossing conflicts at each intersection, which has led to numerous occurrences of broadside (right-angle) collisions.

K. On Page 28, in the fourth paragraph, the statement is made that "*the Commission strongly disagrees with the Caltrans position that adding signals would be growth-inducing, and that the proposed alternative designed specifically to improve traffic flow and accommodating 30% increase in traffic would not. Certainly no evidence has been provided to suggest that signalizing the intersections along this stretch would increase the capacity of U.S. 101.*"

This statement is flawed for the following reasons: (1) Neither adding traffic signals nor installing an interchange would necessarily be growth-inducing within the corridor, by themselves, because of the existing environmental and physical limitations of the privately-owned lands adjacent to U.S. 101. Both types of intersection treatments can potentially encourage growth, but neither can necessarily induce growth unless other factors are in play, such as the presence of privately-owned land that can be feasibly zoned and developed; and (2) Adding additional lanes for a "signalized boulevard" alternative in order to bring level of service of mainline to acceptable levels would not be capacity-increasing. The additional lanes would function only to restore loss of LOS that the traffic signals would cause due to mainline traffic flow transforming from uninterrupted flow to interrupted flow. For both options, the capacity on U.S. 101 would not increase because the facility would basically remain a four-lane divided highway with additional lanes added only to push through hourly traffic past the signalized intersections, six intersections in the case of a "signalized boulevard" alternative and one signalized (half signal) intersection in the case of the preferred alternative, without having uncontrollable traffic queues that would gridlock the corridor during peak periods.

An important thing to note also is that the freeway entering Eureka to the south and the freeway entering Arcata from the U.S. 101 Eureka-Arcata corridor north to the freeway segment in Arcata will remain four-lane freeway segments after the project is constructed, regardless of what alternative is selected. This project will not increase the highway capacity of the existing freeway segments to the south and to the north, nor will it increase the segment highway capacity between the southern and northern freeway segments (U.S. 101 through Eureka and U.S. 101 through the Eureka-Arcata Corridor).

L. On Page 28, in the fourth paragraph, the statement is made that, *"It is unclear the degree to which signalized intersections would increase greenhouse gas emissions and air quality impacts, and reduce energy efficiency. Caltrans has not provided sufficient analysis to enable any quantification or weighing of this factor against other coastal resource impacts, such as wetland fill. Highway proponents before the Commission have routinely made the argument that building and widening highways is inherently energy efficient because it reduces traffic congestion. The Commission's experience has generally been that new and widened highways bring growth and attract traffic, to the degree that they eventually reach congestion conditions, thereby minimizing these purported benefits."*

In response to this statement, (1) Our recent Synchro Version 7.0 analysis of the "signalized boulevard" alternative and the preferred alternative has indicated that about 20% more greenhouse gases would be produced by the "signalized boulevard" alternative as was noted in Section 1B of this document; (2) The preferred alternative of this project will not create a new highway, and the widening that will occur is minimal. While level of service will be improved for left turn movements from the highway and the minor streets, no additional highway capacity will be added. This project is neither a congestion reducing nor a capacity-increasing project.

M. On Page 29, in the first paragraph, the statement is made that *"the project DEIR/S notes that 'Pedestrian use on Route 101 is infrequent from Airport Road northward.' Caltrans has not provided a comparison of pedestrian opportunities and limitations between the proposed project and a signalized alternative."*

In response to this statement, it should be noted that the preferred alternative would maintain the existing accessibility for pedestrians, while adding an ability for pedestrians to use the overcrossing at the Indianola Cutoff interchange to cross U.S. 101 while being "grade-separated" from mainline traffic, a feature that does not currently exist. The "signalized boulevard" alternative was modeled with a single pedestrian crossing at the Indianola Cutoff intersection as Indianola Cutoff has the highest minor street traffic volume within the corridor. It would not be appropriate to allow pedestrians to cross U.S. 101 at each intersection in the corridor. As was noted earlier in this document, by allowing a pedestrian phase at Indianola Cutoff, traffic on mainline would be required to stop for about 45 seconds every time a pedestrian push button was activated. Also noted earlier in this document, it would not be practical to provide a raised pedestrian refuge island in the median due to speeds on the highway exceeding 45 miles per hour, so pedestrians would have to be given enough time to safety cross both directions of traffic on U.S. 101. Our modeling has indicated that each activated pedestrian phase will cause significant delay for motorists traveling on U.S. 101 through this

intersection. This delay would not exist with the preferred alternative, where pedestrians would be allowed to cross the highway using the grade-separation bridge at the Indianola Cutoff interchange.

N. On Page 29, in the second paragraph, the statement is made that, "*the Commission finds that while it may entail some degree of wetland fill, a signalized "boulevard" alternative that the Commission staff previously requested Caltrans to consider (in the Commission staff's DEIR/S comment letter dated Sept. 28, 2007) should be considered the least environmentally damaging feasible alternative. The Commission finds that given the evidence available to date, such an alternative would not increase highway capacity and would be eligible as an allowable use under Section 30233(a) of the Coastal Act. It would also likely involve fewer wetland impacts, fewer visual impacts (compared to the proposed Indianola Interchange), more opportunities to improve non-motorized transit, fewer growth-related concerns, and would be more compatible with the character of the area than the proposed project. The Commission therefore concludes that the proposed project is not the least environmentally damaging feasible alternative and is therefore inconsistent with the alternatives test of Section 30233(a) of the Coastal Act."*

   In response to this statement, we conclude that the "signalized boulevard" alternative is not the LEDPA because it will require the removal of approximately 15 acres of wetland, it will produce more greenhouse gases, and it will require more electrical energy use within the corridor. The "signalized boulevard" alternative would not be as effective in improving safety and would increase congestion rather than reduce it. For the reasons stated in Section 1 and elsewhere in this memo, we disagree with Coastal Commission staff in their assessment that the preferred alternative does not meet the alternatives test of Section 30233 (a) of the Costal Act.

O. On Page 37, in the third paragraph, the statement is made, "*Concerns have been raised that the proposed Indianola Interchange would increase traffic capacity in the rural area that surrounds it. This area contains important wetland and agricultural uses and lack sewer and road capacity of more intensive urban (and non-Coastal Act priority) uses."*

   This statement is not correct in that it is impossible for any interchange, by itself, to increase traffic capacity in the area that surrounds it. While an interchange would improve the LOS of left turn movements both from and to U.S. 101, an interchange would not increase the segment highway capacity of either U.S. 101 or Indianola Cutoff.

P. On Page 40, Provision Item #1 requires Caltrans (1) to "*permanently retain a speed limit of not more than 50 mph in the subject four-mile section of U.S. 101*

*and* (2) *consider coordinated speed controls/reductions on inter-tied corridors (Highway 255 and Old Arcata Road, for example).”*

These “mitigation” requirements are not viable options, are beyond the scope of the project, and/or are located on roadways not within the jurisdiction of the State.

The first condition to retain a maximum speed limit of 50 mph cannot be established without proper engineering justification under existing California law if the speed limit is to be enforceable by the CHP or local law enforcement. Per Section 2B.13 of the California Manual on Uniform Traffic Control Devices, 2012 Edition, Paragraph 01: *“Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering and traffic survey (E&TS) that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles.”* As conditions will change within the Eureka-Arcata Corridor upon completion of this project, future speed limit requirements will be subject to potential change when future E&TS’s are completed for this segment of highway. Future E&TS’s could indicate higher or lower speed limits based upon the calculated 85$^{th}$ percentile speed.

The second condition to require the project to consider coordinated speed controls/reductions on inter-tied corridors is well beyond the purpose and need of this project. Also, no segments of State Route 255 or Old Arcata Road are or have ever been included within the project limits.

Q. On Page 40, Provision Item #2 requires Caltrans to “*install at-grade traffic lights dependent on emerging ‘Intelligent Traffic Management Technology’ to facilitate optimal flow of traffic…”*

For reasons stated elsewhere in this memo, a “signalized boulevard” is not a feasible project alternative.

R. On Page 40, Provision Item #3 requires Caltrans to “*install a guard-rail separated bicycle/pedestrian corridor on one or both sides of the highway…”*

This “mitigation” requirement is beyond the purpose and need of this project.

Should you have any questions regarding these comments, please contact me at: 445-6377.

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

# Memorandum

*Flex your power!*
*Be energy efficient!*

**To:** KIM R. FLOYD, Project Manager
District 1 Office of Project Management

**Date:** June 28, 2012

**File:** HUM-101-PM 79.8/85.8
EA 01-366000
Eureka-Arcata Corridor
Improvement Project

**From:** RALPH M. MARTINELLI, Chief
District 1 Traffic ~~Safety Office~~

**Subject:** **Issue Paper: Safety Analysis of Signalization at Indianola Cutoff/Route 101**

The District 1 Traffic Safety Branch has performed a safety analysis of a full signal at the Route 101 and Indianola Cutoff intersection. Our analysis compared the statewide average number of collisions for 3 alternatives (Interchange, signals, no-build) using average daily traffic (ADT) projected out to the design year of 2040. Also investigated was the existing performance of similar signalized intersections on rural expressways in Northern California. Safety performance information/statistics were also obtained from various research reports, NCHRP Report 500, as well as from traffic engineering professionals in the Caltrans Division of Traffic Operations: Robert Peterson, Branch Chief of the Highway Safety Improvement Program, Craig Copelan, Branch Chief of Traffic Safety Studies, and Thomas Schriber, Traffic Liaison Engineer to Districts 1,7,8, and 9.

## BACKGROUND AND HISTORY

Caltrans, in cooperation with Humboldt County Association of Governments (HCAOG) and state and local law enforcement agencies, implemented the Eureka-Arcata Route 101 Safety Corridor as a temporary measure to reduce the high intersection collision rates on the expressway portion of Route 101 between Eureka and Arcata. Although monitoring data at most locations since May 19, 2002 indicates a significant reduction in total, fatal plus injury (F+I), and fatal collisions for the intersections, the Safety Corridor was intended as an interim solution. It has not solved the concern over significantly high total and F+I collision rates at the intersections of greatest concern, Mid-City and Indianola Cutoff. At Mid-City, the total and F+I collision rates are 1.6 and 2.0 times the statewide average, respectively. At Indianola Cutoff, the total and F+I collision rates are 1.9 and 1.7 times the statewide average, respectively.

Since its inception in 2002, the number of collisions has increased on the ancillary routes, SR-255 through the community of Manila and Old Arcata Road. Traffic volumes have increased by 20% over eight years on SR-255, while decreasing slightly on Old Arcata Road. As noted above, the collision rates at Mid-City and Indianola Cutoff remain higher



**EXHIBIT 17**
**CC-016-13**
**Caltrans Safety Analysis**

than the statewide average while the at-grade intersections within the corridor remain open to uncontrolled cross-median traffic. Together with HCAOG, it is the intent of Caltrans to develop and maintain a safe and efficient transportation facility that includes improvements utilizing the latest design standards.

Route 101 Corridor improvements between Eureka and Arcata have historically been an important priority of both Caltrans and HCAOG. In response to HCAOG, Caltrans developed a Project Study Report (PSR), which documented the existing and projected future needs and began the alternative development process that would identify strategies to improve safety and highway operations within the Route 101 corridor. In addition, an iterative value analysis (VA) process and a Supplemental PSR were completed to further develop the range of project alternatives. In May 2003 the two build and the No-Build Alternatives were presented to the public. At that time, a group of individuals representing businesses within the Route 101 corridor made presentations to HCAOG regarding concerns about adverse impacts to their businesses as a result of median closures. Consequently, HCAOG requested Caltrans to evaluate alternatives that included signalization of Route 101 at Airport Road. Thus, a third build alternative was developed, which consists of the same project elements as Alternative 2 but with an addition of a signal at Airport Road.

Alternatives generated by the PSR and VA process also must meet the requirements of the NEPA/404 Integration Memorandum of Understanding (MOU). This MOU requires that Caltrans and the FHWA obtain formal concurrence from various federal agencies on the stated need and purpose of the project as well as the range of alternatives developed. The project need stated in the April 2006 concurrence request letter is to reduce the number of injury and fatal collisions at intersections along the corridor. These at-grade intersections have been the site of numerous collisions resulting in property damage, serious injuries and fatalities. The primary purpose stated is to improve safety by improving how traffic enters and exits U.S. 101 at intersections along the corridor. The signatory agencies have provided their concurrence on the current range of alternatives, which includes Alternatives 1 through Mod 3A and the No-Build.

## PREFERRED ALTERNATIVE

Modified Alternative 3A was approved as the Preferred Alternative by HCAOG in June 2009. In general, it includes:

- Half-signal at Airport Road, stopping northbound 101 traffic only, and providing for southbound and westbound left-turns.
- Construct compact diamond interchange at Indianola Cutoff, with steepened slopes (1.5:1) and narrower median (22').
- Close median crossings at Mid-City Motors, Arcata Redwood, Bracut, and Bayside Cutoff intersections.
- Lengthen right side acceleration and decelerations lanes at each of the existing access locations (except Airport Road).

- Construct a third northbound lane from Cole Avenue to Mid-City Motors.

Modified Alternative 3A meets the Safety Conformance Criteria defined for the project.

## COMPARISON OF STATEWIDE AVERAGE NUMBER OF COLLISIONS: Interchange, Signals, and No-build

Statewide average collision rates were calculated using highway segment, intersection, and ramp rate groups, base rates, and ADT factors as specified in Highway Safety Improvement Program (HSIP) Guidelines, dated 12/22/09. Statewide average rates, when multiplied by a projected yearly vehicle travel, yield the statewide average number of collisions per year for that facility. Table 1 below contains the number of collisions for the 3 alternatives at Indianola Cutoff: Interchange, Signal, and No-build.

**TABLE 1- Comparison of Statewide Average Number of Collisions for Indianola Cutoff**

(Design Year 2040, Projected Mainline ADT 51,700 VPD)

| | Number of Collisions Per Year | | | |
|---|---|---|---|---|
| **Alternative** | Total | Fatal | Injury | F+I |
| Interchange | 10.81 | 0.09 | 3.47 | 3.56 |
| Signal | 19.64 | 0.18 | 7.18 | 7.37 |
| No-build | 16.56 | 0.16 | 5.99 | 6.15 |

Conclusions:

- For Total collisions per year, an interchange will have 55% the number of a signalized intersection.
- For F+I collisions per year, an interchange will have 48% the number of a signalized intersection.
- For Fatal collisions per year, an interchange will have 50% the number of a signalized intersection.
- From a collision standpoint, the No-build will have fewer collisions than the signal alternative.

## PERFORMANCE OF EXISTING LOCATIONS IN NORTHERN CALIFORNIA

For comparison only, the performances of eleven northern California signalized intersections were surveyed. The intersections were selected to be comparable in terms of traffic volumes, approach conditions and roadside environments. Following are the results:

**Table 2**

**Collision Rates 1/01/2006 Through 12/31/2010**
**Signalized Intersections on Various Routes in District 3**
**Facility Type: 4-Lane Rnral Expressway**

| Intersection | County | Rte | PM | Severity | Collision Rates[1] Actual | State Avg | % of State Avg |
|---|---|---|---|---|---|---|---|
| **Township Road** | Sutter | 20 | 12.670 | Fatal | 0.000 | 0.005 | **0** % |
| | | | | Fatal + Injury | 0.32 | 0.22 | **145** % |
| **(1st signal EB)[2]** | | | | Total | 0.64 | 0.60 | **107** % |
| **George Washington Blvd** | Sutter | 20 | 13.600 | Fatal | 0.000 | 0.002 | **0** % |
| | | | | Fatal + Injury | 0.29 | 0.19 | **153** % |
| | | | | Total | 0.51 | 0.55 | **93** % |
| **Harter Road** | Sutter | 20 | 14.470 | Fatal | 0.000 | 0.002 | **0** % |
| | | | | Fatal + Injury | 0.17 | 0.11 | **155** % |
| | | | | Total | 0.21 | 0.30 | **70** % |
| **Sunset Blvd** | Placer | 65 | R9.569 | Fatal | 0.000 | 0.005 | **0** % |
| | | | | Fatal + Injury | 0.33 | 0.22 | **150** % |
| | | | | Total | 1.05 | 0.60 | **175** % |
| **Elverta Road** | Sacto | 99 | 35.370 | Fatal | 0.013 | 0.005 | **260** % |
| | | | | Fatal + Injury | 0.25 | 0.22 | **114** % |
| **(1st signal NB)[2]** | | | | Total | 0.64 | 0.60 | **107** % |
| **Riego Road** | Sutter | 99 | 0.950 | Fatal | 0.000 | 0.005 | **0** % |
| | | | | Fatal + Injury | 0.28 | 0.22 | **127** % |
| | | | | Total | 0.56 | 0.60 | **93** % |
| **Barry Road** | Sutter | 99 | 26.120 | Fatal | 0.028 | 0.002 | **1400** % |
| | | | | Fatal + Injury | 0.30 | 0.19 | **158** % |
| **(1st signal NB)[2]** | | | | Total | 0.39 | 0.55 | **71** % |
| **Bogue Road** | Sutter | 99 | 27.650 | Fatal | 0.000 | 0.002 | **0** % |
| | | | | Fatal + Injury | 0.44 | 0.19 | **232** % |
| | | | | Total | 0.96 | 0.55 | **175** % |
| **Lincoln Road** | Sutter | 99 | 28.670 | Fatal | 0.016 | 0.002 | **800** % |
| | | | | Fatal + Injury | 0.25 | 0.19 | **132** % |
| | | | | Total | 0.90 | 0.55 | **164** % |
| **Estates Drive** | Butte | 99 | 28.360 | Fatal | 0.000 | 0.003 | **0** % |
| | | | | Fatal + Injury | 0.20 | 0.11 | **182** % |
| **(1st signal NB)[2]** | | | | Total | 0.34 | 0.30 | **113** % |
| **Entler/ Southgate** | Butte | 99 | 29.367 | Fatal | 0.000 | 0.005 | **0** % |
| | | | | Fatal + Injury | 0.14 | 0.22 | **64** % |
| | | | | Total | 0.38 | 0.60 | **63** % |

Notes: 1. Collisions per million vehicles. Reference Traffic Accident Surveillance and Analysis System (TASAS) Table B Selective Accident Rate Calculations for intersection locations.

2. "1st signal ..." means it is the first signalized intersection in a series of multiple signals after a significant length of uncontrolled high-speed freeway or expressway. The first signal in a series has the highest

approach speeds and could be a surprise to a driver who is not noticing the advance warning systems in place.

Conclusions:

- First signals (i.e., Isolated signals) all have higher F+I rates than expected.
- 2 of 3 high fatal rate locations are first signals. The 3rd location (Lincoln Road) has ADT comparable to Indianola.
- Highway segments with multiple signalized intersections experience high levels of injury accidents.

## COLLISION REDUCTION STRATEGIES, TREATMENTS AND COUNTERMEASURES

To achieve the Safety Conformance Criteria defined for the project, i.e. the reduction in severity of collisions in the Eureka-Arcata Safety Corridor, careful application of additional safety strategies for a signal at Indianola Cutoff would need to be added to the scope of work. Many of these features exist at the signalized intersections identified in Table 2, yet still the safety performance is degraded.

In general, there are three main areas where reduction in fatalities and injuries from collisions at signalized intersections may be achieved:

- Sound Traffic Engineering
- Sustained and Effective Education and Enforcement Measures
- Well-designed facilities

**Sound Traffic Engineering**--The following excerpt from FHWA's *Signalized Intersections: Informational Guide* (FHWA-HRT-04-091) summarizes the key concept of using traffic engineering to provide drivers with effective warning to reduce collision rates: "Approaches are critical components of a signalized intersection. It should be obvious to someone approaching by motor vehicle, bicycle, or on foot that an intersection is ahead, and the traffic control device is a traffic signal. Adequate signing and pavement marking is required to provide the driver with sufficient information to determine the appropriate lane to choose and direction to travel. The pavement on the approaches should provide the driver with a smooth, skid-resistant surface, with adequate drainage. The approaches ideally should meet at right angles and should be at grade and free of unnecessary clutter and obstacles. Sight distance for all approaches should be adequate for drivers proceeding through the intersection, particularly those making a left turn."

The following list of approach treatments is indicative of the many strategies, treatments and countermeasures that would need to be considered in order to encourage successful safety performance of a signal at Indianola Cutoff:

- Provide Advance Warning. These systems are recommended by the MUTCD in cases where the primary traffic control is not visible from a sufficient distance to permit the driver to respond to the signal. Advance warning devices may be an effective countermeasure for: a) rear-end collisions where a driver appears to have stopped suddenly to avoid running a red light and was struck from behind, b) angle collisions caused by inadvertent red light running, and c) queues from a red signal occurring at a location where approaching traffic cannot see it because of a vertical or horizontal curve.

  There are two main types of treatments used to provide advance warning to motorists approaching a signalized intersection. There are those that provide a general warning of a signalized intersection ahead, and those that provide a specific warning of downstream signal status or traffic conditions ahead. Of the first type, typical measures used are static signs and pavement markings ("Signal Ahead"), and continuous flashing beacons with signs that may read "Be Prepared to Stop." Radar-feedback and other interactive dynamic signs may also be included.

  The more specific type of warning may be activated showing yellow flashing lights or illuminating an otherwise blank changeable message such as "Red Signal Ahead" for several seconds. The sign and the flashers are placed a certain distance from the limit line as determined by the speed limit on the approach.

  Another type of potentially effective specific advance warning safety application available is the Queue Detection System. An excerpt from the 2004 NCHRP Report 500 – Vol. 12: *"A Guide for Reducing Collisions at Signalized Intersections"* describes one such system that has been successfully used in Oregon: "Two loop detectors in each lane on the intersection approach detect when a vehicle is stopped at that location. The detectors are connected to an overhead sign with beacons located a half mile upstream. The sign contains the message 'Prepare to Stop When Lights Flash.' When a vehicle is continuously present at a detector, beacons on the overhead sign flash to warn drivers of the stopped vehicle ahead. A preliminary evaluation indicates a reduction in crashes after installation of this system, but additional data are needed to determine if other factors contributed to this decrease. For additional information on this system, refer to the FHWA report *Safety Applications of ITS in Rural Areas,* (Federal Highway Administration, 2002), available online at http://www.itsdocs.fhwa.dot.gov/JPODOCS/REPTS_TE/5_1_1.htm."

**Sustained and Effective Education and Enforcement Measures--**

1. Education and enforcement programs to increase safety belt usage and decrease drinking and driving, aggressive driving or speeding may help to reduce severe collisions at the intersection. Several enforcement countermeasures that may be effective are:
    - Traditional law enforcement presence.
    - Warning signs for red light and grid-lock vehicle code violations ("$270 fine for violations")
    - Red light camera enforcement, if publicly acceptable.

2. The principles of Human Factors and Positive Guidance can be applied to increase safety at signalized intersections. Much of the previous discussion overlaps with these two principles. A fundamental premise of human factors is that insufficient, conflicting or surprising information reduces both the speed and accuracy of human response. Positive guidance is founded on the following concept, from Chapter 2 of FHWA's *Signalized Intersections: Informational Guide*: "...if drivers are provided with all of the information they need, in a format they can readily read, interpret and apply, and in sufficient time to react appropriately, then the chances of driver error will be reduced, and relative safety will be improved."

**Well-designed Facilities--**

Preliminary design features and operational characteristics of a signal at Indianola Cutoff are included in separate analyses prepared by North Region Design and District 1 Traffic Operations for a boulevard with signals at 6 existing intersections between Eureka and Arcata. Included are descriptions of lane configurations, roadway widths, wetland impacts, signal phasing, and signal head placement.

## MISCELLANEOUS DISADVANTAGES OF SIGNALIZATION

- Signalization would result in increased corridor travel time with resulting diversion to parallel roadways. Potentially, SR-255 could experience a surge of volume increase similar to that following implementation of the Safety Corridor in 2002. (There was an initial 30% increase in volumes on SR-255, as documented in the Safety Corridor monitoring reports to HCAOG.)
- While signal controlled intersections have been demonstrated to reduce the total number of broadside collisions (while at the same time increasing the number of rear-enders),the potential for broadside collisions is not eliminated because prevention still requires driver compliance to traffic signal commands.

- The location of Indianola Cutoff near Humboldt Bay is prone to adverse atmospheric conditions such as dense fog and heavy rain, which can degrade visual signal warning systems and impair motorists' response.
- By adding an isolated signal at Indianola Cutoff, in addition to the half signal planned at Airport Road, there is the expectation that the phenomenon of habituation will leave motorists less aware of a single and specific potential conflict, and reduce the effectiveness of warning systems, and increase the potential for collisions.
- Bicycle access through the signal would be problematic. Both westbound to southbound and southbound to eastbound moves by bikes would require crossing mainline through lanes to access left-turn channelization and may be perilous and disruptive to the mainline traffic stream. Northbound through movements for bikes would conflict with right turning vehicles and merging vehicles turning onto northbound101 from Indianola Cutoff.
- Pedestrians are not prohibited on this expressway. Their presence will likely cause more red signal time for mainline creating longer queues and the potential for rear-end collisions or traffic diverting to SR-255 and Old Arcata Road.
- Multiple safety studies have shown that signalized intersections have higher collision rates than stop-controlled intersections (the No-build Alternative). See References 1-3.
- An excerpt from the NCHRP Report 500, Volume 5, "A Guide for Addressing Unsignalized Intersection Collisions" states that: "Experience shows that intersection collision rates frequently increase with signal installation, although the collisions may be less severe. Signalization usually leads to a shift in collision type, with fewer angle/turning collisions and more rear-end collisions." The report goes on to state: "Signalization should be avoided where practical". See reference 4.
- Collision problems are created by unexpected traffic signals on high-speed rural expressways. See reference 5.
- There is increased frequency and severity of collisions involving trucks at intersections controlled by signals. See reference 6.
- Exhibits in NCHRP Report 500, Volume 12, "A Guide for Reducing Collisions at Signalized Intersections" contains the following statistics:

  --29% of fatal intersection collisions occurred at signalized intersections
  --59% of fatal collisions at signalized intersections involve angle collisions with other vehicles (meaning one of the vehicles ran the red light)
  --there is little difference in severity distribution of collisions (fatal, injury, PDO) between signalized and stop-controlled intersections. See reference 7.

## CONCLUSIONS

Signals are not an appropriate traffic control system for an isolated intersection on a rural expressway with high traffic volumes.

Since there is a well documented, continuing safety problem at Indianola Cutoff, collision projections and existing poor performance of similar facilities prove that installing a traffic signal there would not solve the problem. A grade separated interchange will.

Research studies document that signalization increases collision rates and creates problems rather than solving them for isolated locations on high-speed rural expressways. For these reasons, signalization should be avoided where practical.

Additional collision reduction strategies, treatments, and countermeasures for a signal at Indianola Cutoff would need to be added to the scope of work, thereby increasing costs. Many of these features exist at the signalized intersections identified in Table 2, yet still the safety performance is degraded. In addition, advanced warning features such as signs and flashing beacons will likely degrade the aesthetics along Humboldt Bay.

The suggestion of a signalized boulevard is not supported by this office. Many of the disadvantages stated above for an isolated signal at Indianola Cutoff (diversion, broadside collision potential, adverse weather impacts, warning system habituation, bicycle and pedestrian complications, and overall increased collision potential) apply to the idea of multiple signals through the corridor. In addition, the 1st signal condition described on page 5 would still exist for southbound traffic entering the boulevard from the freeway segment of U.S. 101.

If you have any questions or concerns, please contact me at 707-445-6376 or Bob Kornman of my staff at the District 1 Traffic Safety Office, 707-445-6578.

References:

1. David, N.A. and Norman J.R.; "Motor Vehicle Accidents in Relation to Geometric and Traffic Features of Highway Intersections, Volume II—Research Report", Report No. FHWA-RD-76-129, FHWA, 1979
2. Hanna, J.T., Flynn, T.E., and Tyler W.L.; "Characteristics of Intersection Accidents in Rural Municipalities", Transportation Research Board Record 601, 1976
3. Van Maren, P.A.; "Correlation of Design and Control Characteristics with Accidents at Rural Multi-lane Highway Intersections in Indiana", Purdue University, Joint Highway Research Project, July 1980

4. Neuman, T.R., Pfefer, R., and Slack, K.L.; National Cooperative Highway Research Program (NCHRP) Report 500, Volume 5, "A Guide for Addressing Unsignalized Intersection Collisions", Transportation Research Board, 2003
5. Eck, R.W. and Sabra, Z.A.; "Accident Countermeasures at High-Speed Signalized Intersections, Phase I—Synthesis of Practice", Department of Civil Engineering, West Virginia University, August 1984
6. Agent, K.R.; "Results of Study: Traffic Control and Accidents at Rural, High-speed Intersections", University of Kentucky, 1987
7. Neuman, T.R., Pfefer, R., and Slack, K.L.; NCHRP Report 500, Volume 12, "A Guide for Reducing Collisions at Signalized Intersections", Transportation Research Board, 2004

REK/RMM:rek

c:

1. MLSuchanek
2. RMMartinelli
3. REKornman
4. File

1. TAArseneau
2. ESBrunton

1. LRAshley
2. TRLark

State of California
**DEPARTMENT OF TRANSPORTATION**

Business, Transportation and Housing Agency

# M e m o r a n d u m

***Flex your power!***
***Be energy efficient!***

**To:** KIM FLOYD
Project Manager
District 1

**Date:** June 14, 2013

**File:** Hum 101
PM 79.8/84.9
Eureka/Arcata Corr.

**From:** TROY ARSENEAU
Chief, Office of Traffic Operations
District 1

**Subject:** Traffic Analysis of Two Signal Corridor Scenario

At your request, the District 1 Office of Traffic Operations has performed traffic analysis (requested by the California Coastal Commission) for a two signal scenario in the Eureka-Arcata Corridor for both the anticipated opening day (2018) and the design year (2038). The particulars of this scenario are as follows:

- Full traffic signalization of Indianola Cutoff
- Half signalization of Airport Road (southbound U.S. 101 through, free flow)
- All other corridor intersections with closed medians (right in/out only access)
- Scenarios with and without a 4$^{th}$ northbound through lane on U.S. 101
- Scenarios with and without dual (two) left turn lanes on U.S. 101 and on Indianola Cutoff at the Indianola Cutoff intersection

Traffic Operations performed this analysis using Synchro v8 / SimTraffic v8 and Highway Capacity 2010 Software.

Please refer to Attachment 1 for a summary table of the Level of Service (LOS) and volume to capacity (v/c) ratios for the opening day and design year scenarios in the AM and PM peak periods. Please refer to Attachment 2 for the traffic volume information requested for U.S. 101.

We have listed the volume to capacity ratios in our results table to demonstrate the level of added congestion that signalization at Indianola Cutoff would immediately produce for traffic traveling through the Eureka-Arcata Corridor. We believe that the Indianola



**EXHIBIT 18**
**CC-016-13**
**Caltrans Issue Paper**
**2 Signal Scenario**

Cutoff intersection is at the volume threshold of where signalization is no longer a practical intersection treatment due to the heavy through and left turn volumes on U.S. 101 and the heavy westbound left turns on Indianola Cutoff during peak periods. While a signal system can be installed with the required additional lanes to optimize the signal timing, such an installation would change the nature of the traffic flow through the corridor transforming it from a rural uninterrupted traffic flow environment to an urban-like interrupted traffic flow environment, due to the levels of traffic delay that will be added to the corridor beginning from Day One when the traffic signals are turned on at Indianola.

The volume to capacity ratio is defined by the Highway Capacity Manual 2010 as: "the ratio of flow rate to capacity of a system element." In other words, it is the percentage of available lane capacity being used by traffic. A v/c ratio greater than 1.0 means that the system is over capacity and has heavy congestion. In a signalized system, traffic that has v/c>1.0 is severely delayed as vehicles have to wait more than one cycle length to make it past the intersection (cycle failure), and severe traffic queues (back ups) develop, further compounding the congestion problem. A v/c ratio between 0.75 and 1.0 indicates heavy congestion, and a v/c ratio between 0.5 and 0.75 indicates a moderate level of congestion. Below 0.5 indicates zero to low congestion.

Opening Day (2018)

Our analysis for an opening day scenario in 2018 indicated that four northbound U.S. 101 lanes, three southbound U.S. 101 through lanes, two southbound U.S. 101 left turn lanes, and two westbound Indianola Cutoff left turn lanes would be required to optimize the performance of a traffic signal at the intersection of U.S. 101 and Indianola Cutoff.

If only three northbound lanes, one southbound left turn lane, and one westbound left turn lane are provided at Indianola, traffic flow in all directions would experience added and undesirable congestion as the traffic signal timing could not be fully optimized to serve the most traffic per cycle length. The v/c ratios for the northbound through and the southbound left turn movements would be approximately 0.78 and 1.40, respectively. The southbound left turn traffic would be severely delayed, requiring two or more cycle lengths to clear the traffic queue in the left turn lane and there would likely be traffic backup spilling into the adjacent southbound through lane as well during peak periods.

Under the same lane restrictions above, the northbound through movement and the southbound left turn movement would have LOS C and LOS F, respectively. Our

modeling effort reinforced the fact, discovered in prior traffic analysis performed by our office, that a fourth northbound through lane, second southbound left turn lane, and second westbound turn lane would be required at Indianola Cutoff in order to make the traffic signal timing as efficient as possible on opening day, minimizing delay experienced by the traveling public.

Design Year (2038)

Our analysis for the design year scenario in 2038 further confirmed that even with four northbound through, three southbound through, two southbound left turn lanes, and two westbound left turn lanes, a signalized intersection at Indianola would function very poorly, indicating a need for a more advanced traffic control treatment than can be provided by traffic signals.

In the design year, the worst traffic movement affected by the signalization of Indianola Cutoff would be the southbound left turn movement as is the case with the opening day. Even with three southbound left turn lanes, our modeling indicated that southbound left turning vehicles stopping during red time at the intersection would not be all served during one cycle length, with several vehicles being required to wait for a second or even third signal cycle before they could make it past the intersection during green time. If green time for the southbound left turn movement is increased to better serve these vehicles, the modeling indicated that the northbound through movement would experience more traffic queuing (traffic backups) and have LOS E or worse.

Our modeling indicated that the two southbound left turn lanes would need to be a minimum of 750 feet in length in order to keep traffic from backing up into the adjacent southbound through lanes.

Airport Road Half Signal

Our analysis indicated that the half signal at Airport Road would work satisfactory on opening day and at the design year regardless of whether or not a fourth northbound or second southbound left turn lane at Indianola Cutoff were included, with the exception of the westbound left turn movement from Airport Road which is expected to cause intersection signal failure 10-20 years after opening day, necessitating the likely future restriction of westbound left turns out of Airport Road.

Conclusion

In summary, even by providing four northbound through, three southbound through, two southbound left turn lanes, and two westbound left turn lanes at the Indianola Cutoff intersection, which would maximize the efficiency of the traffic signal timing, operational performance would not be at acceptable levels for the design year in 2038, confirming that signalizing Indianola Cutoff is not a viable option for the Eureka-Arcata Corridor. Due to the high level of traffic volumes present in the corridor, a more advanced intersection treatment is required to adequately facilitate traffic through the corridor. For this very reason, a signalized alternative at Indianola Cutoff was eliminated from consideration years ago in the project development process.

A traffic signal at Indianola Cutoff would immediately introduce added congestion to the U.S. 101 corridor between Eureka and Arcata on opening day even if additional lanes were provided to optimize the intersection's signal performance.

Additional lanes are often needed when traffic signals are being installed at an intersection because vehicles need to be "stored" and separated while being required to stop during red time. More importantly, extra lanes are needed to "push through" as many vehicles as possible during green time. Vehicles that cannot make it through the intersection during the green time given to them in a cycle length need to wait until the next cycle before they are given green time again. The additional lanes allow traffic to pass through the intersection side by side during green time, resulting in the green time serving more vehicles. Since each cycle length is a finite period of time, only so much green time can be allocated to each phase of a cycle. Cycle lengths typically vary from 1 to 2 minutes, depending on the specific location and can be longer in some cases. When vehicular demand exceeds the amount of traffic that can be served during the green time, cycle failure occurs resulting in increased backups on the roadway.

Interchanges do not require traffic to stop and wait for the next available green time as is the case with signalized intersections. For this reason, additional lanes are usually not needed on four lane (two lanes in each direction) divided highway/expressway/freeway segments when interchanges are added, unless traffic volume and weaving movement levels on the mainline require it to alleviate congestion.

c: Mark Suchanek, Matt Brady, Todd Lark, Eric Brunton

TAA:taa/esb

## Attachment 1 – Results of Operational Analysis of Two- Signal Scenario

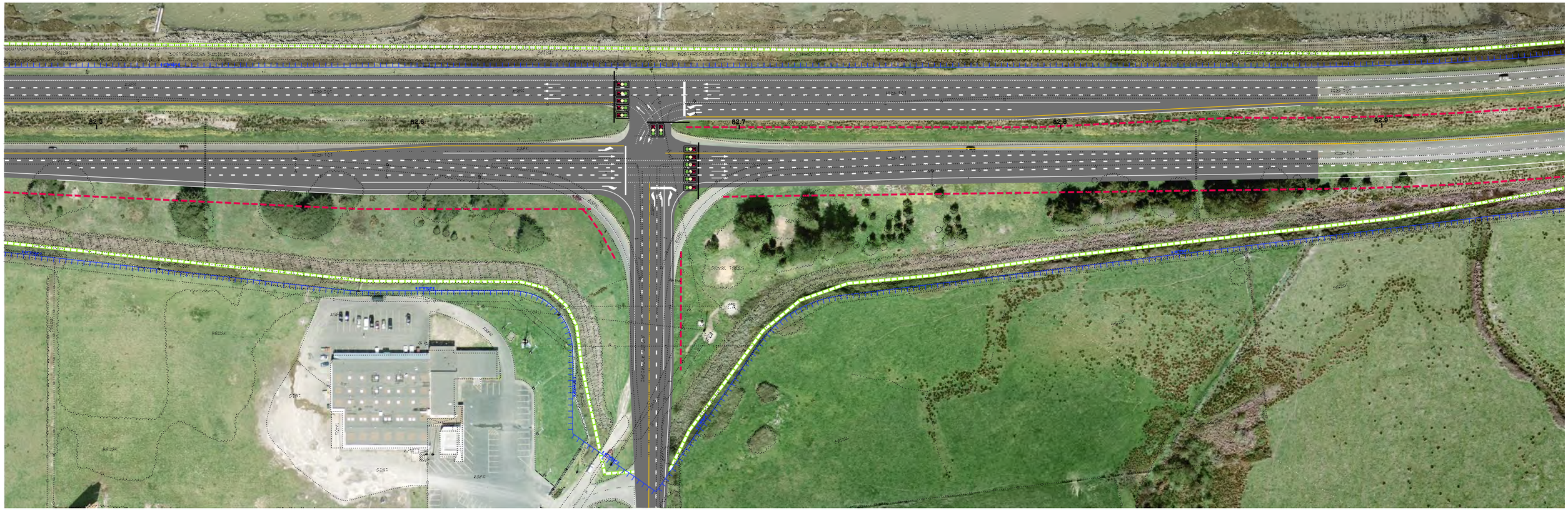
| Full Signalization at Indianola, 4 NBT, 3 SBT, 2 SBL, 2 WBL (optimized) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2018 | | | | 2038 | | | |
| Time | | NBT | SBT | SBL | WBL | NBT | SBT | SBL | WBL |
| 7-8 AM | LOS | C | A | F | D | C | B | F | D |
| | V/C | .73 | .60 | .94 | .28 | .90 | .80 | 1.15 | .33 |
| | | | | | | | | | |
| 4-5 PM | LOS | C | A | F | D | C | B | F | D |
| | V/C | .94 | .60 | 1.41 | .31 | .97 | .76 | 1.93 | .43 |
| | | | | | | | | | |
| **Full Signalization at Indianola, 3 NBT, 3 SBT, 1 SBL , 1 WBL (optimized)** | | | | | | | | | |
| | | 2018 | | | | 2038 | | | |
| Time | | NBT | SBT | SBL | WBL | NBT | SBT | SBL | WBL |
| 7-8 AM | LOS | C | B | F | D | C | B | F | D |
| | V/C | .78 | .66 | .87 | .45 | .90 | .80 | 1.21 | .56 |
| | | | | | | | | | |
| 4-5 PM | LOS | F | B | F | F | F | B | F | F |
| | V/C | 1.02 | .73 | 1.40 | 1.02 | 1.44 | .89 | 1.73 | 1.25 |
| | | | | | | | | | |

**KEY:**

NB=northbound
SB=southbound
WB=westbound
T=through lane
L=left turn lane
1, 2, 3, 4 =indicates number of lanes
*For example: 4 NBT means "4 northbound through lanes"*

LOS=Level of Service
v/c=Volume to Capacity Ratio (v/c > 1.0 indicates over capacity)

2018 is opening day year
2038 is design year


82.5
82.6
82.7
82.8
82.9

EL Wahl

**CALTRANS RESPONSE TO TJKM TRAFFIC STUDY RE: WALMART AT INDIANOLA ROAD.**
**1-Hum-101-82.67** April 1, 1993

TRAFFIC STUDY:

The traffic study acknowledges that the recommended signal is a short-term solution for the Route 101/Indianola intersection. The study suggests signalization should be undertaken as an interim solution along with a commitment that an interchange be constructed within 8 to 9 years. Caltrans cannot commit to an interchange at that location, given the lack of state funds for interchanges to support local development, the limited potential opportunities for local contribution (few parcels zoned for commercial/industrial use in Indianola vicinity), and environmental constraints (wetlands), and physical constraints (railroad).

The traffic study seemed to have acceptable trip generation rates, although it should have included Saturday trip data and data for trips from a fast food business to be located on the out-parcel (as described by the project applicant at the 12/21/92 meeting). Since the traffic study did not make pass-by trip reduction calculations, it errs on the side of caution. The traffic study needs to address impacts to other intersections, such as Bayside Cutoff, Bracut, Mid City Motor World, and Jacobs Avenue. The traffic growth should include growth on Old Arcata Road/Myrtle Avenue in addition to the growth for through traffic on Route 101 (the latter was provided in the traffic study). Since the WalMart project could be growth-inducing, it should be considered jointly by the Cities of Arcata, Eureka, Humboldt County as well as Caltrans.

The traffic study Level of Service (LOS) analysis is for two different facility types, an expressway and a signalized intersection, which are not really comparable. The LOS on turning moves is not a priority to Caltrans. Our priority concerns through traffic LOS.

The traffic study provides a minimal look at the range of alternatives for mitigation purposes. We had previously suggested that the traffic study evaluate alternatives to signalization. The study dismisses an interchange as an alternative "due to funding constraints and the lead time to obtain funding and complete approval...".

SIGNALIZATION:

Pros:

- Some volume warrants may be met
- Would improve flow of cross-traffic
- May provide gaps in traffic flow to improve merges from adjacent intersections

**EXHIBIT 19**
**CC-016-13**
**Caltrans "Walmart" Memo**

Cons:

- Long-term need for interchange or grade separation
  - Lack of State funds for interchanges to serve development
  - Environmental constraints
  - Physical constraints
  - Limited local or developer participation (only a few developable parcels zoned for commercial/industrial uses)
- Increased volumes at the intersection (maybe)
- Delay for through traffic
- Possible increase in total accidents
- Sets precedent for signals at adjacent intersections
- Could cause queuing at V St.
- County Public Works is opposed to signalization

There is not a strong reception at Caltrans concerning the idea of signals. Installing a signal at Indianola Road would convert the expressway between Eureka and Arcata to an urban arterial street, which would not be consistent with the concept of freeway/expressway for an inter-regional road and would not likely be well received by the public. A signal would cause delays for through traffic. Caltrans would want to hear from the public before allowing a signal.

If accident/operational problems were to occur at that intersection, independent of any new development, Caltrans would consider closing the median before installing signals. A signal at that intersection raises concerns about safety, given fog conditions that prevail. Accident rates may stay the same, but the type of accident would change from broad-side to rear-enders. There is not enough of an accident history at this intersection to qualify as a safety project. The overall accident rate is 0.24 actual versus 0.25 expected. The actual fatal plus injury accident rate is 0.15 versus the 0.10 expected rate. During the last 5 years, there has been 1 fatality and 8 injuries. The fatality rate is .016 actual and .004 expected.

POSSIBLE ALTERNATIVES:

- Interchange
- Close median at Indianola and/or at adjacent intersections; closing median at Indianola/Route 101 was discussed in the traffic study
- Elevate north-bound lanes
  - could include Caltrans participation
  - Caltrans could provide a range of costs
- Purchase land (corridor preservation for future interchange, to tie into future Eureka freeway or for wetland mitigation banking)
- Install signal for northbound only and create a long merge for west-bound to south-bound

State of California

ELWOH

Business, Transportation and Housing Agency

# Memorandum

To 1-RSKnapp
2-CSWillis
File

Date June 24, 1993

File No.: Indianola WalMart
1-Hum-101-82.67

From : DEPARTMENT OF TRANSPORTATION District 1
Linda Goff Evans, Associate Transportation Planner

Subject: CALTRANS RESPONSE TO TJKM TRAFFIC STUDY RE: WALMART AT INDIANOLA ROAD.

On April 8, 1993 at 2:30 p.m., the following people met to discuss the TJKM traffic study for a proposed Walmart/Sam's Club at Indianola: Jerry Haynes, Rick Knapp, Jim Graham, and Linda Evans from Caltrans; Dan Moody, Gary Boughton and John Arnold from the City of Eureka; Don Raffaelli and Peter Rei from Humboldt County Public Works; Steve Weinberger from TJKM traffic consulting; Craig Eisenberg and Scott Spier from Eisenberg Co. representing Wal-Mart.

The purpose of our meeting was to convey Caltrans' position in response to the TJKM traffic study recommendations, in particular our position on signalization of the Indianola Cutoff/Route 101 intersection.

Caltrans distributed a copy of a draft letter response to Gary Boughton, Acting City Engineer, which described many of our concerns.

Steve Weinberger described the rationale for the signalization proposal and described a similar signal in Sonoma County on Route 12 west of Route 101 at Stony Point Road, between Santa Rosa and Sebastopol. Steve said that the signal has been in and operating sufficiently for 7 or 8 years.

Rick Knapp indicated the differences between the Route 12 signal and the proposed Route 101 signal. Since Route 101 is an inter-regional road, with a concept of freeway/expressway, it does not really compare. Also, the traffic study indicated that the signal would not work well after just a few years due to the volumes that would have to be handled.

Gary Boughton said with the water treatment plant to be constructed at the source of withdrawal, the City expects to see some growth. The City has a water transmission line that will extend south to Eureka along Old Arcata Road.

Don Raffaelli asked about the CTC policy concerning growth-related impacts and cost sharing. Rick responded that the CTC is looking to developers to pay for development generated impacts. However, the CTC is looking more favorably toward funding projects where there is local

contribution/funding from development impact fees.

Craig Eisenberg stated that Wal-Mart wants to proceed in stages with the signal at the beginning, and to look for local participation or other funding sources to finance an interchange in 6 or 7 years when the traffic study projected the need to arise.

Rick stated that signals at Indianola would be precedent-setting in that other intersections along that reach of highway (Jacobs Ave., Mid City, ARCO, Bracut, Bayside Cutoff) would also want signals. Our highest priority is to provide for the through traffic. Jerry Haynes stated that there would be queuing from signals, delays for northbound traffic, and a probable increase in rear-end accidents. If a full interchange would be necessary in the future, the project site is the only logical place to put one due to environmental conflicts with wetlands, Humboldt Bay and physical conflicts with the railroad.

Don Raffaelli reaffirmed the County's opposition to signals at Indianola. He said it would result in a change in functional classification and a reduction in LOS. He stressed the need for local participation in order to finance any highway improvements.

Jerry Haynes said that Caltrans has not studied the possibility of an interchange at this location. However, an interim solution was discussed that would involve elevating the grade of the north-bound lanes at a cost of approximately $4.5 million (70 mph design speed; 3400' end to end; 15' vertical clearance). Rick indicated that the District is limited on discretionary funds to $300,000 on any one project. For higher dollar amounts, it would take CTC action.

Craig Eisenberg expressed interest in exploring the feasibility of the partial interchange. He asked about funding options, whether bonds could be made available, whether the business area could be extended. Steve Weinberger asked if an interim signal would be allowed if a serious proposal came forth on the partial interchange. The meeting concluded with the understanding that Eisenberg Co. would be investigating the feasibility of a partial interchange and would bring back a proposal for Wal-Mart.

cc: ELWahl
JGHaynes
MDVanZandt
AOSauls
FUlulani
MLSuchanek
GKLuther
1-JEGraham
2-JDTatum
3-SShipman

(c:\wp51\igrlinda.91\hum\101hum82.67d)

## PROGRAMMED IMPROVEMENTS

Table III below is a listing of programmed improvements on Route 101 in the 2000 State Transportation Improvement Program (STIP).

**TABLE III**
**2000 STIP PROGRAMMED CAPACITY INCREASING IMPROVEMENTS**

| POST MILE | IMPROVEMENT | Construction Schedule To Begin | Programmed Cost in 2000 Dollars[10] |
|---|---|---|---|
| MEN-101-PM 5.7/9.2 | South Hopland Unit III, four-lane Expressway - 3.4 mi. | Under construction | $ 16,668,000 |
| MEN-101-PM 8.8/13.0 & MEN-101-PM 13.6/17.6 | Hopland Bypass and North Hopland, four-lane Freeway/Expressway (PDS only) 8.8 mi. | PDS only* | $ 7,200,000 |
| MEN-101-PM T43./52.3 | Willits Bypass, four-lane Freeway - 7.8 mi. | 2004/05** | $ 130,000,000 |
| HUM-101-PM 57.0/58.8 | Rtes 101/ 36 Interchange and Frontage Roads 1.8 mi. | 2005/06[x] | $ 4,795,000 |
| HUM-101-PM 79.8/85.8 | Eureka/Arcata Corridor Improvements | 2008/09 | $ 2,613,000 |
| DN-101-PM R27.5/27.9 | Washington Blvd., Freeway Ramp - 0.4 mi. | 2001/02 | $ 3,374,000 |

**Programmed cost includes Right of Way, except for PDS only projects.**
*** PDS = project development support, the project is funded through Project Approval and Environmental Document.**
**** includes funds for construction and R/W only**
**[x] - does not include construction dollars**

In addition to projects programmed in the STIP, nearly 17 projects on Route 101 are programmed in the State Highway Operation and Protection Program (SHOPP) at a cost of approximately $80 million. These projects generally address safety, rehabilitation, bridge replacement and operational concerns.

## V. ENVIRONMENTAL CONSIDERATIONS

Principal environmental concerns along Route 101 in District 1 include:

- Wild and Scenic Rivers: Route 101 follows the Eel River in Mendocino and Humboldt Counties, and crosses the Van Duzen River in Humboldt County and the Klamath and Smith Rivers in Del Norte County. These wild and scenic rivers have critical salmon and steelhead spawning and nursery habitats, and are unique visual resources.
- Salmon and steelhead: The Route 101 Corridor crosses many large and small river systems that support critical habitat and populations of sensitive species, and water quality is of significant concern on these watercourses.
- The impact of gravel extraction on highway structures.
- Soil stability is a factor for concern along many areas of Route 101.
- Route 101 has archaeological and culturally significant sites where the local Native American tribes gather food and materials necessary for everyday life, sites where their ancestors lived and are buried, and sacred sites associated with religious activity.

[10] CTIPS, Current Official STIP Document, September 2000



**EXHIBIT 20**
**CC-016-13**
**Caltrans Route Concept Report, p. 17**

# **Exhibit 2** Parcel(s) Location Map.

(Portions of the Eureka, Arcata South, Arcata North and Tyee City USGS 7.5 minute quadrangles)

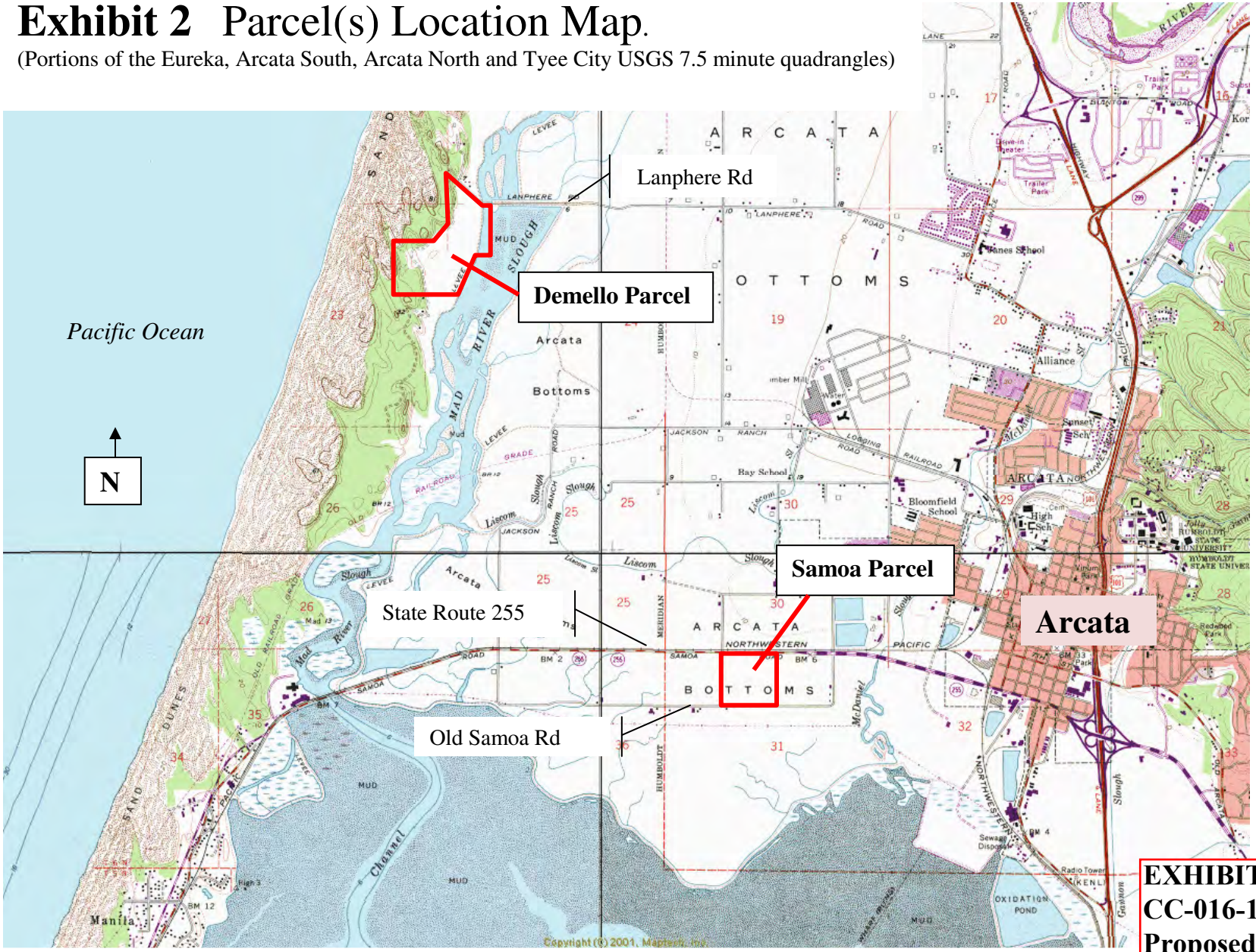
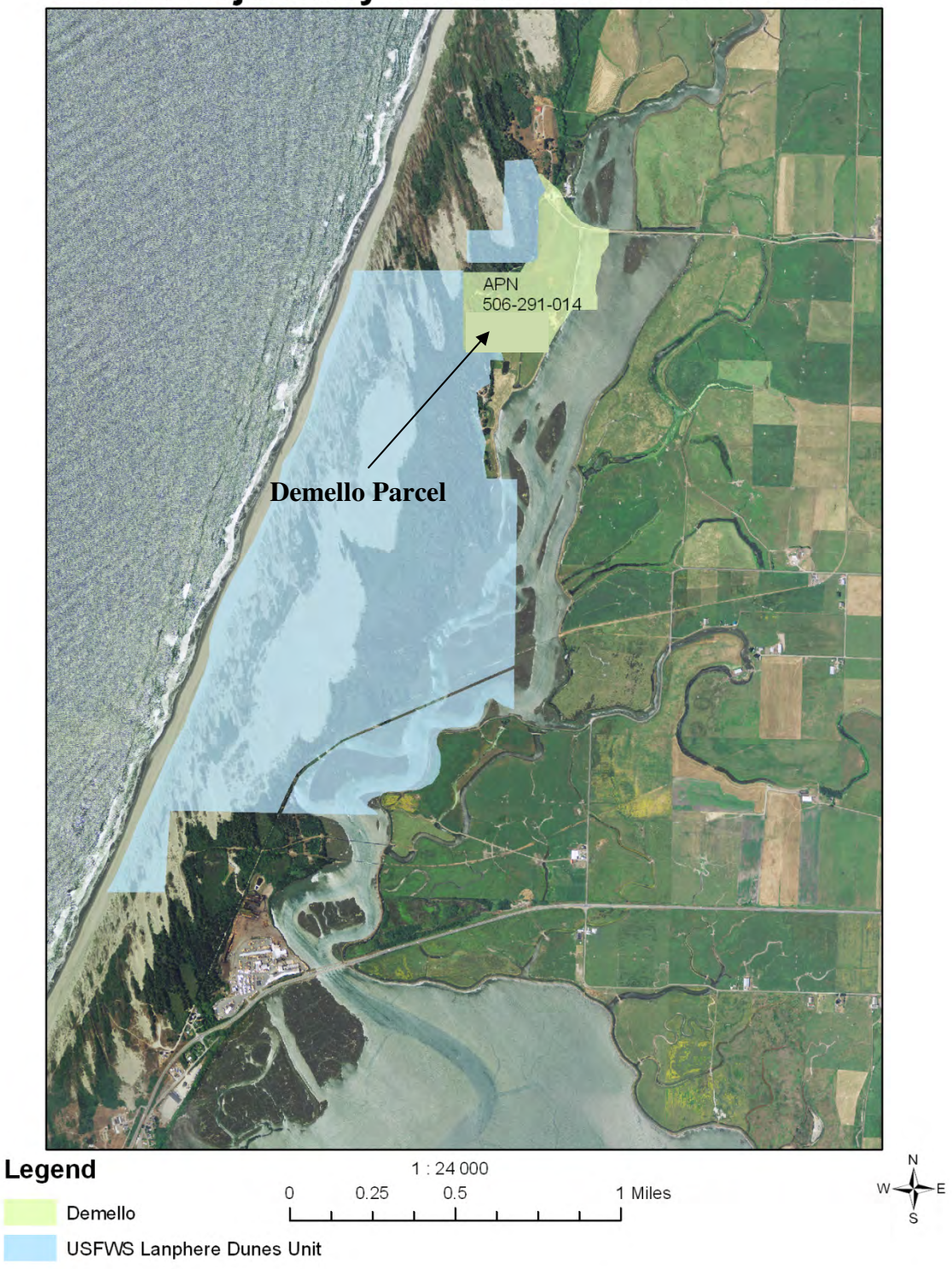



**EXHIBIT 21**
**CC-016-13**
**Proposed Wetland Restoration Sites**

## Exhibit 3a
## Parcel Adjacency to Public Resource Lands



# Exhibit 3b
# Parcel Adjacency to Public Resource Lands

**Response to CC-016-13, Staff Report Comments on Draft Wetland Mitigation/Restoration Plan**

California Coastal Commission (CCC) Comment: The draft Restoration Plan for the Demello and Samoa parcels appears to be written in language primarily intended to satisfy U.S. Army Corps of Engineers mitigation guidance.

Because Caltrans must mitigate for impacts to aquatic resources that are under both federal and state jurisdiction, proposed mitigation is written in the language of federal regulation, the "Mitigation Rule" (33 Code of Federal Regulations (CFR) parts 332 and 40 CFR 230). The Coastal Act utilizes California Environmental Quality Act (CEQA) guidelines to establish mitigation practices. It can however be problematic that under joint National Environmental Protection Act (NEPA) and CEQA review, a shared vernacular for mitigation terms is lacking; it would be consistent with CEQA Guidelines Section 15370 if all parties were to utilize the mitigation definitions of the federal Mitigation Rule[1]. The Mitigation Rule is a definitive legal document regulating how mitigation for impacts to wetland and waters under federal jurisdiction it is to be defined, *as well as how it is to be performed*. State agencies have the discretionary and independent authority to require mitigation that may be additive to that required under federal authority.

CCC Comment: The draft Plan also asserts that upland buffers may be given mitigation credit, which the Commission has not historically allowed.

Chapter 1 of the "CCC Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone" (CCC Guidance) states that in establishing wetland buffers one must consider that buffers should provide habitat for species residing in the transitional zone between wetlands and uplands. Chapter 2 goes on to recommend that wetland restoration design consider the establishment and maintenance of buffer areas both for wetland protection and to provide habitat for animals. The proposed restoration of transitional upland habitat, a minor component of our overall restoration plan, should be creditable.

CCC Comment: Caltrans would need to establish, among other things, that no non-agricultural lands are available or feasible to be used as a mitigation site.

Within the Humboldt Bay area, no feasible non-agricultural lands are available for the development of mitigation (restoration) to compensate for impacts to wetland habitat. Caltrans has previously submitted to CCC staff a listing of the numerous mitigation options pursued prior to arriving at the current proposal.

[1] CEQA Guidelines (Section 15370) notes that CEQA has adopted the definition of the term "mitigation" contained within the federal NEPA regulations so that this term will have identical meanings under joint NEPA/CEQA review.



**EXHIBIT 22**
**CC-016-13**
**Caltrans Response to CCC Wetland Comments**

CCC Comment: The Commission has not historically authorized conversion of agricultural lands in the Humboldt Bay area to mitigate wetland fill projects,

In Section 30001 of the California Coastal Act, the California legislature has declared that the coastal zone is a distinct and valuable natural resource of vital and enduring interest and as such it necessary to protect the ecological balance (of the coastal zone) and prevent its deterioration and destruction. Legislation to affect the specific protection of coastal wetlands from development is afforded by Section 30233(a) of the Coastal Act. Additionally, Section 30240 clearly protects environmentally sensitive habitat area (ESHA), stating that ESHA must be protected against disruption of habitat values and that the avoidance of ESHA, for non-resource dependent development, is mandatory.

Section 30241 of the Act protects prime agricultural land while other lands suitable for agricultural use are protected from conversion under Section 30242; however neither of these provisions provides for a ranking of agriculture as a use within the hierarchy of Coastal Act uses. As the Coastal Act provides no legislative authority to regulate agricultural use as a priority over habitat protection and restoration, clearly, preservation of agriculture is not intended to take precedence over the protection and restoration of wetlands and ESHA.

In a letter to the CCC Chair, Ralph Faust, former CCC Chief Counsel (in commenting on the CCC's regulation and preservation of agricultural lands in the coastal zone) reviews a history of CCC assertion of jurisdiction over agriculture (letter dated May 2, 2013). In quoting the first and primary CCC assertion of agricultural jurisdiction, Faust notes the CCC concern over agricultural intrusion into riparian and/or wetland habitat; stating that in a traditional interpretation the assertion of jurisdiction over agriculture was primarily intended to prevent the expansion of agriculture into sensitive habitat. Elsewhere in his letter, Mr. Faust also notes a reasonable assumption under the language of the Coastal Act, and prior CCC interpretation, is that ESHA preservation has higher priority than agriculture. Mr. Faust concludes that it is fair to assume that the ultimate goal of the Coastal Act is the *preservation of habitat* and *all else is subordinate*, as consistent with Section 30240 of the Act and years of CCC practice.

Caltrans is aware of a private developer seeking to construct a mitigation bank in the south area of Humboldt Bay[2], on lands that are identical to those Caltrans proposes to restore, with respect to existing land use (grazing/haying) and habitat position/condition (former tidelands now expressing as seasonal freshwater wetlands); while these lands are zoned commercial, the current land use is grazing and haying. The private developer proposes to construct mitigation that would restore wetland in a manner identical to that which Caltrans proposes. Per the developer, he has received encouraging feedback from

[2] Personal Conversation with Jim Hoff, private developer, April 4, 2013.

local CCC staff regarding his proposed endeavor, with local staff additionally encouraging the "creation" of wetlands on site through the excavation of a natural landform (transitional upland habitat).

One might conclude that the subtle but significant difference between the private proposal and the Caltrans' proposal is zoning; the private developer offers up commercially zoned property while Caltrans offers agriculturally zoned properties; again, the current land use for both proposed ventures is identical (grazing/haying). The Coastal Act regulates prime agriculture and other lands suitable for agriculture, not zoning, and the commercial properties are clearly "suitable for agriculture". It is puzzling as to why the developer's lands appear to CCC staff to be more suited to mitigation than those Caltrans has brought forward. The parcels Caltrans proposes for use are contiguous to hundreds of acres of protected natural resource properties; while the developer's parcels are bisected by a four-lane divided highway which runs down the middle of them.

Caltrans proposes to rectify damages to coastal wetlands and ESHA that have been incurred by both development and continuing agricultural practices. The CCC could find the following:

- The Coastal Act establishes a fundamental and primary goal that is *the protection of habitat* (wetlands and ESHA), and
- Proposed restoration is most protective of coastal resources pursuant to Sections 30007.5 and 30200(b) of the Act (the balancing provisions for resolving policy conflicts).

The CCC did just that with Coastal Development Permit 1-06-036 A-1, the McDaniel's Slough Wetland Enhancement Project, by permitting the conversion of 90 acres of grazing lands (which coincidentally are adjacent to the Samoa parcel) for wetland restoration purposes by invoking Section 30007.5 to find that implementing the proposed wetland restoration was most protective of coastal resources versus continued agricultural (grazing) use.

Like the McDaniel Slough project, our proposed wetland restoration project is also most protective of coastal resources, because:

- the area in question historically comprised fully functional tidal wetland and freshwater wetland and riparian fringe habitat that was diked and drained to make suitable for agricultural use;
- around Humboldt Bay, a far greater percentage of fully functional coastal wetlands (90%) have historically been lost than have coastal agricultural lands (perhaps 5%);
- with little grading or hydrologic manipulation, the sites are anticipated to return to and maintain historic and natural wetland characteristics, and

- proposed restoration will expand upon existing natural resource properties, providing continuity of use patterns, improved wetland function and habitat connectivity.

CCC Comment: The Commission has not historically allowed "enhancement" to mitigate wetland fill projects; instead creation of new wetlands is normally required to compensate for a net loss (filling) of wetlands associated with a proposed project.

This assertion runs counter to Chapter 2 of CCC Guidance. Chapter 2 acknowledges that the creation of new wetland is an endeavor wrought with uncertainty and warns "CCC staff should be very cautious in recommending wetland creation projects as mitigation for the loss of existing wetlands". (This guidance goes on to further discuss that *enhancement of degraded habitat* (defined as rehabilitation under the Mitigation Rule) *may be included* in a mitigation plan.)

In 2001, a nation-wide study by the National Academy of Sciences found that across-the-board wetland creation as a compensatory form of mitigation had failed to achieve a no net loss of aquatic function and value. The results of this study precipitated the enactment of the federal Mitigation Rule in 2008, which now *prescribes* that *wetland restoration* is the preferential form of compensation.

Under the federal Mitigation Rule wetland restoration, which is defined to include both wetland re-establishment and rehabilitation, (or "enhancement" and "restoration" in CCC usage of the terms[3]) *is the preferred form of compensatory mitigation*. Under CEQA, State agencies retain discretionary and independent authority to require mitigation that may be additive to that required under federal authority.

Per Section 30607.1 of the Coastal Act: *"Where any dike and fill development is permitted in wetlands in conformity with Section 30233 or other applicable policies set forth in this division, mitigation measures shall include, at a minimum, either acquisition of equivalent areas of equal or greater biological productivity or opening up equivalent areas to tidal action."*

With regard to Section 30607.1, Chapter 3 of the CCC Guidance advises that in practice the CCC has interpreted the phrase "at a minimum" to require inclusion of a restoration component in any acquisition plan. An alternative recommended mitigation approach is the "opening up equivalent areas to tidal action".

The Caltrans mitigation proposal meets the criterion for an acquisition with a restoration component. Additionally, as conceptually proposed, we hope to open up a more-than-equivalent acreage to tidal action. The proposed mitigation proposal more

[3] As the terms are utilized in Chapter 2 of the CCC Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone.

than fully compensates for projected project related impacts to highly degraded jurisdictional wetland, and in fact may over-compensate[4].

DEMELLO PARCEL

CCC Comment: As noted above, much of this site already qualifies as a coastal wetland, rendering restoration primarily "enhancement" rather than "creation" of new wetland habitat. Restoration of the grazed, lower area to tidal wetlands would be beneficial… however… (Caltrans) acknowledges (p. 10) the likelihood that the final plan will involve implementing freshwater wetland enhancement.

In conformance with the science predicating the Mitigation Rule, Caltrans does not propose to perform the "creation" of wetlands; however, re-establishment of three-parameter wetland and wetland rehabilitation (or enhancement, as CCC uses the term) is proposed.

In consultation with CCC staff since 2007, Caltrans has proposed to preferentially perform tidal restoration at the site. Any "acknowledgement" of a "likelihood" to instead perform a freshwater restoration, and/or that likely "site-constraints" exist (within the plan dated January 2013) is a mis-wording on Caltrans' part likely resulting from a third repackaging of our mitigation proposal. Our intent is to whole-heartedly pursue tidal restoration at the site. If this does prove to be infeasible, then a muted tidal approach would be pursued; only as a last resort would a freshwater approach be utilized. With regard to feasibility studies, Caltrans has been and continues to *seek CCC support* for our restoration proposal *prior to expending limited funding* on hydraulic design studies.

CCC Comment: While in the past, the Commission has authorized tidal restoration of degraded seasonal, but historically tidal, wetlands as mitigation for wetland impacts (e.g., in San Dieguito wetlands in southern California), as noted above such conversion has been limited locally to the context of pure restoration (versus enhancement) activities.

Our tidal restoration proposal *does* consist of "pure restoration" under the federal definition; it may not under a CCC usage of the term, pointing once again to the fact that a set of common terms is desired. However, linguistic challenges aside the proposal is in full compliance with Section 30607.1 of the Coastal Act which legislates that the opening

[4] Proposed mitigation likely over-compensates for projected impacts (fill) to approximately ten acres of highly degraded seasonal wetlands within a narrow strip over a distance of many miles. To-be-filled wetlands have been previously affected by multiple factors including: the previous historic conversion from their natural state as a tidally influenced wetland to a freshwater system; their location beside, and between, a four-lane divided roadway; and, their routine mowing for roadway maintenance reasons. These wetlands exhibit extremely low functionality related to the following function/value criteria: production export, wildlife diversity/abundance, aquatic diversity/abundance, uniqueness or heritage value, recreation value, or storm water treatment. In contrast, proposed mitigation will provide for coastal wetlands with extremely high functionality with regard to the same criteria.

up of equivalent areas to tidal action is in itself appropriate mitigation for impacts to coastal wetlands.

CCC Comment: Also, please note that the Commission has historically denied permit applications in the Humboldt Bay area for conversion of seasonal grazed wetlands (diked former tidelands) to freshwater ponds.

Although, we do not have complete Coastal Development Permit (CDP) numbers, Caltrans knows of at least two permit applications, of recent times, within the Humboldt Bay area that were approved for the conversion of seasonal grazed wetlands (diked former tidelands) to freshwater ponds; the McDaniel Slough restoration, and restoration performed at Dr. C.J. Ralph's ranch off Lanphere Rd..

CCC Comment: Thus, we believe planting the gaps in the existing deciduous swamp/riparian wetland along the western boundary to be simple enhancement, and not on its own appropriate as mitigation for this particular project, and that expanding that freshwater habitat into the existing wet pasture and former tidelands is also inappropriate as mitigation, and may serve to make future tidal restoration more difficult to implement. Also, it is unclear from the plan whether future road/utility easement vegetation management may affect the viability of the habitat, and/or whether the utility corridors themselves may cause habitat fragmentation or other diminution of habitat value.

CCC staff analysis of our mitigation proposal appears to have discounted the significant value of the existing deciduous swamp/riparian wetland which is present on-site, yet in need of restoration. Discounting the proposed expansion of this valuable resource, runs counter to the expertise of the adjacent land steward's United States Fish and Wildlife Service, Andrea Pickart, Ecologist, and Dr. C.J. Ralph, United States Forest Service, Research Ornithologist. As previously shared with CCC staff, Dr. C.J. Ralph has stated that the area of extant riparian habitat at Demello offers some of the richest habitat for migratory nesting birds in the state.

Performing planting in-fills to minimize habitat fragmentation to this coastal wetland type exhibiting extremely high habitat value, and/or performing expansion of this habitat into the pasture area, should be considered worthy mitigation in its own right, on an acre-for-acre basis, to offset impacts to the highly degraded, minimally functional, wetland existing within the project area.

It is highly unlikely that expanding this habitat type onto the grazed pasture would in any way preclude future tidal expansion, should that prove to be a future goal. An existing road that CCC staff references, belongs to Caltrans; no modifications will be made to it that could affect the viability of the habitat. The utility easements (extant, maintained power and phone line) are unlikely to offer any additive future level of habitat fragmentation or additive future diminution of habitat value.

CCC Comment: Finally, for this site, the proposal to restore the grazed relict dune to restored coniferous forest appears unrealistic and would presumably take decades or longer to achieve success.

With regard to the relic dune that is currently covered in nonnative grass species palatable to cows, coniferous dune forest (a protected rare and declining habitat type) can easily be established at the site, per United States Fish and Wildlife Service, Andrea Pickart, Ecologist.

SAMOA PARCEL

CCC Comment: For the reasons discussed above, the Commission staff does not believe that conversion of a large portion of the site (a third of the site) to riparian, or the grading of large areas to create ponds, could be authorized as consistent with the Coastal Act.

We do not understand how the Coastal Act could be interpreted to subordinate the protection and restoration of coastal wetlands to the protection of agricultural use. Our mitigation proposal is consistent with the Coastal Act, whose ultimate goal is the protection of habitat. Additionally our proposal is consistent with local restoration projects previously permitted by CCC (e.g. McDaniel's Slough Wetland Enhancement Project, permitting the conversion of 90 acres of grazing lands for wetland restoration including the creation of freshwater ponds; and Dr. C.J. Ralph's conversion of grazed wetland to freshwater ponds).

The CCC staff position on proposed restoration at Samoa ignores a science-based, holistic vision. Restoration of both the riparian fringe habitat (ESHA) and the seasonally saturated wetland habitat at this location will begin to remediate the loss of (likely) 90% of their historic extent. The mitigation location has been sited so as to provide additive and complimentary function to the approximate 850 acres of adjacent publically protected tidal and freshwater wetlands. The value of this proposed restoration (enhancement in Coastal terminology) *is significant*.

CCC Comment: In fact, the conversion of one type of wetland (grazed seasonal) to another (riparian) at this site may involve a net loss of wetland area at the site (e.g., filling of drainage ditches).

Restoration of riparian fringe habitat within a grazed wet pasture will in no way result in a net loss of coastal wetland acreage. Within the area proposed for freshwater fringe riparian habitat, despite the fact that they are artificial features, existing drainage swales will likely be retained in an effort to discourage potential "campers". Backfilling of drainage swales within the remainder area of seasonal wetland will serve to preclude the hastening of water off-site, and yet will not result in the loss of wetlands; filled swales

will continue to express as wetlands, as the land located between swales currently does, due to the parcel's low-lying topography, high water table and clay soil components.

---

Chapter 3 of the CCC Guidance specifies that the CCC work with the applicant to develop specific mitigation requirements, with the help of other State and Federal agencies. Caltrans has previously received the support of the California Department of Fish and Wildlife, the North Coast Regional Water Quality Control Board, the Environmental Protection Agency, the National Marine Fisheries Service and the United States Army Corps of Engineers for our mitigation proposal.

**Figure 3-18A**
**Aerial Photograph of existing Route 101/Indianola intersection facing east**

**Figure 3-18B**
**Photo-simulation of proposed interchange (Alternatives 2, 3) at Indianola Cutoff**

**EXHIBIT 23**
**CC-016-13**
**Caltrans Indianola Interchange Photo Simulations**


**Photograph of Existing Route 101**
**facing Humboldt Bay from Indianola Cutoff**

**Visual Simulation of Modified Alternatives 3A Proposed Interchange**
**facing Humboldt Bay from Indianola Cutoff**


**Photograph of existing southbound Route 101**
**north of Indianola Cutoff**

**Visual Simulation of Modified Alternatives 3A proposed interchange**
**north of Indianola Cutoff**


**Photograph of Existing northbound Route 101
south of Indianola Cutoff**

**Visual Simulation of Modified Alternatives 3A Proposed Interchange
south of Indianola Cutoff**


**Photograph of existing southbound Route 101**
**South of Indianola Cutoff**

**Visual Simulation of Modified Alternatives 3A Proposed Interchange**
**south of Indianola Cutoff**


**EXHIBIT 24, p. 1**
**CC-016-13**
**Humboldt County LCP**
**Scenic areas (CSA)**


**EXHIBIT 24, p. 2**
**CC-016-13**
**Humboldt County LCP**
**Scenic areas (CVA)**


**EXHIBIT 24, p. 3**
**Composite**
**Orange = CVA**
**Yellow = CSA**

**ATTACHMENT 2**

# Mitigation Options Pursued

(For the Eureka to Arcata Corridor Improvement Project)

City of Eureka, Martin Slough
Contact: Redwood Community Action Agency (RCAA) Don Allen – problems with perpetuity (no ability for Caltrans to transfer endowment dollars to a non-profit), also RCAA has potential for other funding sources.

DFG Lands
Contact: Karen Kovacs. No ability to use DFG lands for external agency mitigation purposes.

Salt River Restoration – in Eel River watershed. Contacts: California Coastal Commission (CCC). CCC prefers mitigation within same watershed.

Security National
Contact: Randy Gans. Previewed approximately 300 acres in various parcels around Humboldt Bay, but later stated they had no interest in selling at this time.

Bode Property
Contact: Spoke with owner (Mr. Bode, 4/04/06). Properties are all developed. Had maybe 4 acres of existing wetland on a 7 acre parcel still available. Suggested property across from Drive-In at Indianola (Agricultural land at Indianola – see below).

Agricultural land at Indianola
This parcel has unpermitted fill on it per Barry Douglas Caltrans (per "Kelly Reid USACE"). This information was passed on to Carol Heidsiek at the Corps; it was never refuted. Further, this land is in ag use.

Moranda Parcel at SR 255
Contact: Earl Moranda. Not interested in selling. Later sold property to City of Arcata.

Dias Parcel (adjacent to Old Samoa parcel)
Landowner contacted, no interest in selling. Later said he'd sell in package deal with another 20plus acre parcel.

Kelley Garrett,
Mitigation Specialist
Caltrans District 1

**EXHIBIT 25**
**CC-016-13**
**Caltrans List: Mitigation Options Pursued**

Humboldt State University (HSU) property at Mad River Slough
Approximately 20 acres on SR 255 of filled, cut-off, old slough channels. Contact: Director of Facilities Planning, Gary Krietsch. Fall 2006 property review, unfortunately it is on a deed with several other properties of no use to Caltrans for mitigation. Gary was adamant that it was a package deal. Caltrans HazMat unit had concerns that hazardous material might be on site.

Rodoni/Rocky Gulch prop
Behind Bracutt Maintenance Station on 101, 20 –25 acres of brackish marsh enhancement (spartina removal) possible. Contact: Jacoby Creek Land Trust. Later ruled out, CCC staff did not like.

Miranda Ranch
North Coast regional Land Trust proposed a partnership to 80 acres of salt marsh. Property later sold, didn't hit the open market.

Brainard Ditch
Replumb the ditch and restore Cutoff Slough. Ruled out because the property is too close to airport (therefore controversial).

Drive-In on 101
Field review (3/31/06). Property does not appear to be wetland. Pack n' Carry very similar but all paved. Caltrans Design noted these parcels are prohibitively expensive due to need to re-locate. Further, the County of Humboldt (County) has also stated we cannot do restoration on commercial industrial props.

Bracutt Mill Yard
Contact: Rick Hess. Owner may be interested to sell 5 acres of former railroad (RR) RR right-of-way (Rick Hess says RR rights have expired). Also interested to sell 3.73 acres already wetland between RR and eucalyptus trees. However, County has stated we cannot do restoration on commercial industrial props.

Highway 101 Slough
Contact: USFWS (RayBosch) . Proposed to retrofit tide gate, convert freshwater habitat to brackish, increase habitat for Goby, decrease flooding as cattails die out. However, this work is being done as part of the project (E/A Corridor).

King Salmon/Pacific Gas and Electric property
Directed to investigate this lead by NEPA 404 meeting. Upon contact the owner responded that a project was being permitted and built to fix a dike and to re-contact in fall 2006. Not re-contacted as other leads were being pursued.

Kelley Garrett,
Mitigation Specialist
Caltrans District 1

Others
Potential to remove ½ acre parking lot at Bracutt Marsh. Not significant enough area to pursue further.

Approximately 1 acre of wetlands in Caltrans right-of-way, near Myrtle Avenue in Eureka. Caltrans could partner up with other adjacent land owners (County Schools) by buying conservation easements and create higher functioning wetland habitat in perpetuity. Caltrans later sold off these parcels as excess lands.

Wetland props on market
7 acres at Humboldt Hill and 101
1 acre at S. Broadway

Explore Conservation Easements on drainages within coastal zone on private property (CCC and poss. USACE jurisdiction) as mitigation. Coastal Conservancy says this has been done successfully on private THP props. Caltrans Right-of-Way thinks this could be public noticed for acquisition. Acquire a corridor?

Site visit on Miller property, proposed conservation easement (C/E) on "enhanced" riparian. Better would be C/E on created saltmarsh (berm to be moved increasing habitat). However this would involve and affect adjacent agricultural parcels

Kelley Garrett,
Mitigation Specialist
Caltrans District 1

State of California
**DEPARTMENT OF TRANSPORTATION**

Business, Transportation and Housing Agency

# M e m o r a n d u m

*Flex your power!*
*Be energy efficient!*

**To:** Kim Floyd
Project Manager
District 1-Office of Project Management

**Date:** July 24, 2012

**From:** TODD LARK
North Region-Design E3

**File:** 01-HUM-101-PM 79.9/86.3
EA 01-366000
Route 101 Eureka Arcata
Improvement Project

**Subject:** Review of Barrier Separated Trail

Design has prepared typical cross sections to describe the impact associated with constructing a barrier separated trail between Eureka and Arcata. The attached drawings indicate the segments of the highway improvements planned and the necessary revision to provide a barrier separated trail. The trail was assumed to be placed to the west of US 101, along the southbound right side shoulder.

## CONFIGURATION

For a two way Class 1 bicycle path, the minimum width is 8 feet. Class 1 bicycle paths require 2 feet of clearance to obstructions per Section 1003.1 of the Bicycle Transportation Design Chapter of the Highway Design Manual (6th edition). The trail would provide a 2 foot unpaved shoulder in the southbound direction, and a 2 foot wide paved shoulder in the northbound direction, due to the obstruction of the concrete barrier. This 10 foot wide paved trail would meet the minimum width requirements of a Class 1 bicycle trail. However, the requirement for a 5' separation from trail to edge of shoulder is not met (Section 1003.1(6)). The typical cross sections for US 101 also indicate reduced lane and shoulder widths as proposed for the preferred alternative, where an exception to the mandatory design standards had previously been approved. The southbound shoulder of US101 would be 10 feet to provide minimal recovery room for errant vehicles and room for maintenance, enforcement, and disabled vehicles.

## WETLAND IMPACT

A temporary barrier separated trail would increase the permanent impact on wetlands, where fill would cover up to 20 feet in additional width of fill. Adding a trail from PM 79.9 to PM 85.0 would permanently impact a minimum of approximately 7.6 acres of wetlands (see table below).

| BARRIER SEPARATED TRAIL<br>ESTIMATED PERMANENT WETLAND IMPACTS | | | | |
|---|---|---|---|---|
| Location | | Length | Average Width of wetlands impacted | Area |
| PM 79.9 | Crossing Eureka Slough Bridge | 700 feet | 14 feet | 0.2 acres |
| PM 79.9/80.6 | Eureka Slough to Airport Rd | 3,400 feet | 8 feet | 0.6 acres |
| PM 80.6/83.3 | Airport Rd to Bracut | 14,200 feet | 14 feet | 4.6 acres |
| PM 83.7/85.0 | Bracut to South G Street | 6,800 feet | 14 feet | 2.2 acres |
| | Minimum Increase in Total Permanent Wetland Impacts | | | 7.6 acres |



**EXHIBIT 26**
**CC-016-13**
**Caltrans Memo Barrier Separated Trail**

**ESTIMATED COST**

Costs are estimated based on a typical cross section. Earthwork is estimated based on expected thicknesses and widths of fill at 5 representative segments of US101 from the Eureka Slough Bridge and South G Street in Arcata. Because the widening would be toward the median and under traffic, the hot mix asphalt paving thickness is assumed to be approximately 0.5' thick. A materials recommendation was not obtained for this planning level cost estimate.

It should be noted that the barrier is assumed to be a lower cost, minimum footprint Standard Plan Concrete Barrier Type 60, 2'-0" wide by 3'-0" high smooth concrete, with no traffic screens or architectural treatment. There is approximately 25,000 feet of barrier estimated between the Eureka Slough Bridge and South G Street in Arcata. Barrier rail terminal sections would be assumed to be placed at the beginning of the barrier, and one at each opening in the rail; Bracut Industrial Park, Indianola Cutoff, California Redwood (2 entrances). A decorative steel bridge rail, similar to that used on the Van Duzen River bridge would increase the cost by approximately $8 million to the cost of a barrier separated trail.

A temporary barrier separated trail was anticipated to include the crossing of Gannon Slough, which is approximately 400 feet long, and would require widening and replacing the barriers on that bridge. The estimate includes extending a segment of the trail under the Eureka Slough Bridges, and extending the trail east of Caltrans Right of Way to Jacobs Avenue. Right of Way costs for purchase of property for mitigation of wetland impacts are not known, nor is the cost of acquiring an easement from Jacobs Avenue to the Eureka Slough Bridges. The estimated construction cost of a temporary barrier separated trail is as follows:

| CONSTRUCTION COST ESTIMATE<br>TEMPORARY BARRIER SEPARATED TRAIL | |
|---|---|
| Earthwork, paving, barrier (type 60 concrete-no aesthetic) | $ 9,000,000 |
| Gannon Slough Bridge Widening | $ 1,800,000 |
| Total | $ 10,800,000 |

Please contact me for any additional information with regards to a temporary barrier separated trail.

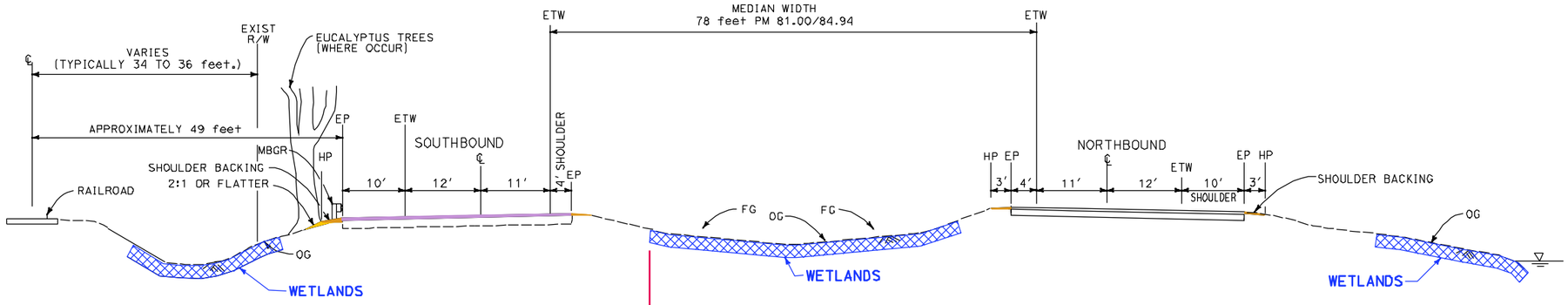
Attachments

Typical cross sections (3 sheets)

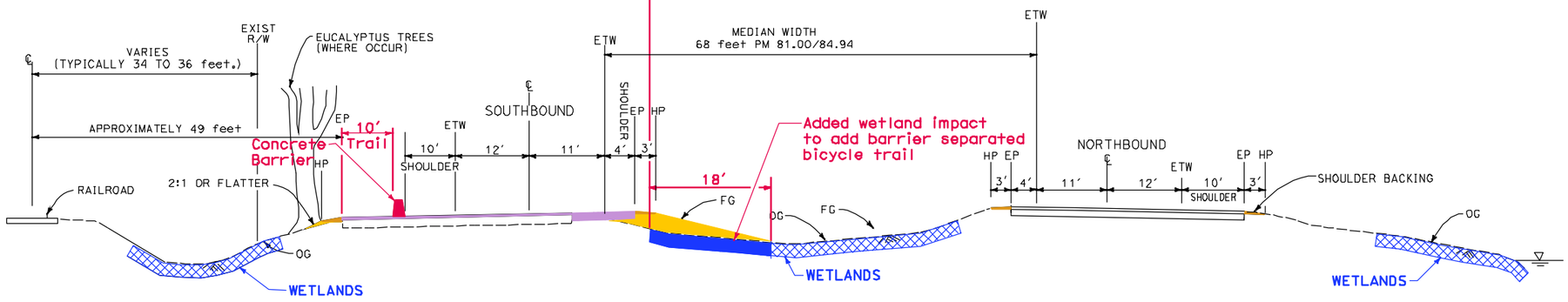
c: Project file

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

**FOR DESIGN STUDY ONLY**




## ROUTE 101
PM 80.6/83.3
## AIRPORT ROAD TO BRACUT




## ROUTE 101
PM 80.6/83.3
## AIRPORT ROAD TO BRACUT
## Realignment for Barrier Separated Trail

**BARRIER SEPARATED TRAIL**
**CALIFORNIA REDWOOD**

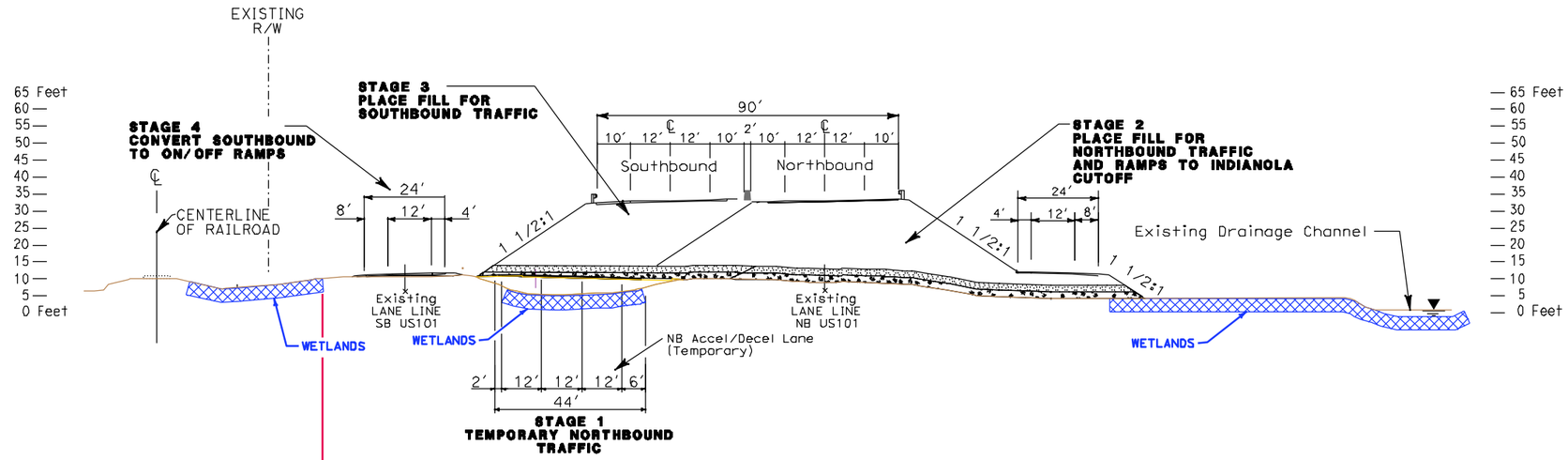


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
**DESIGN**
FUNCTIONAL SUPERVISOR: L.R. ASHLEY
CALCULATED-DESIGNED BY: TODD LARK
CHECKED BY:
REVISED BY / DATE REVISED:
LAST REVISION: 08-11-08
DATE PLOTTED => 23-JUL-2012
TIME PLOTTED => 14:52

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => s119316
DGN FILE => cross-section-trail.dgn
CU 03232
EA 363301

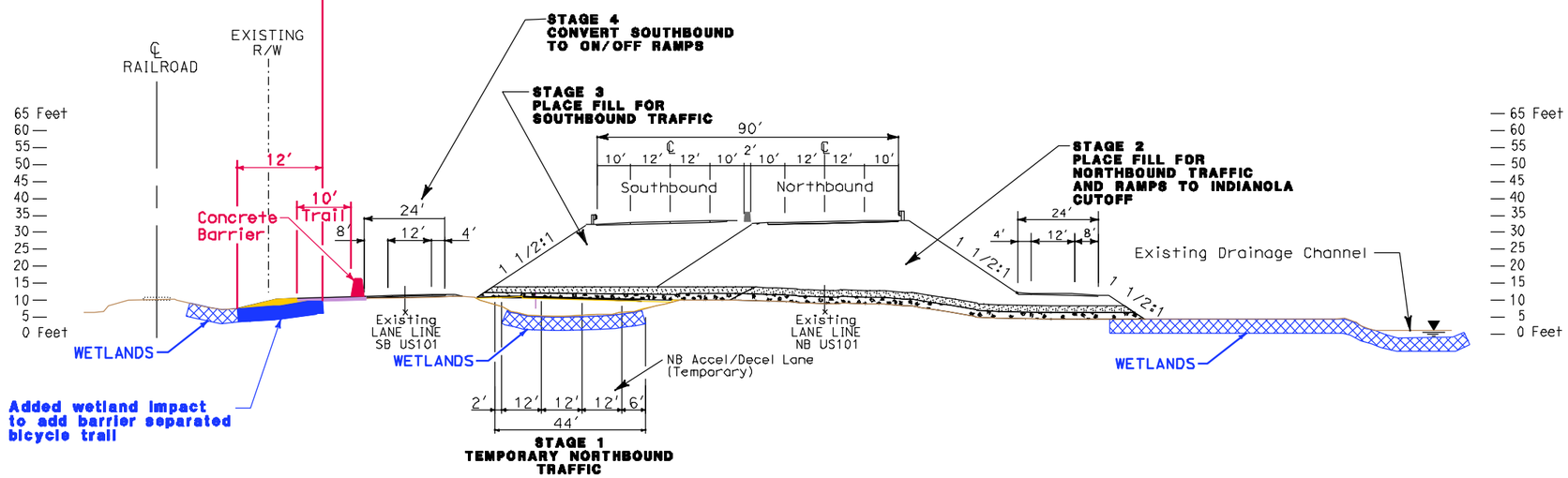
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

**FOR DESIGN STUDY ONLY**




# ROUTE 101
# INDIANOLA CUTOFF INTERCHANGE

PM 82.2/83.3




# ROUTE 101
PM 82.2/83.3

# INDIANOLA CUTOFF INTERCHANGE
## Added Barrier Separated Trail

**BARRIER SEPARATED TRAIL**
**INDIANOLA INTERCHANGE**
**Page 2 of 3**

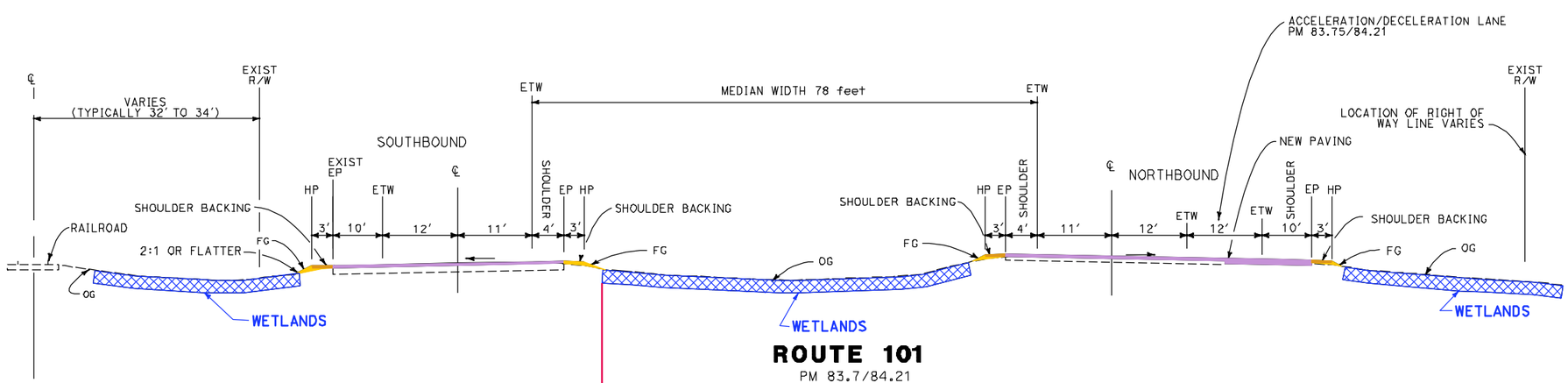
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: L.R. ASHLEY
TODD LARK
REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY | CHECKED BY

LAST REVISION 08-11-08 | DATE PLOTTED => 23-JUL-2012 | TIME PLOTTED => 14:52

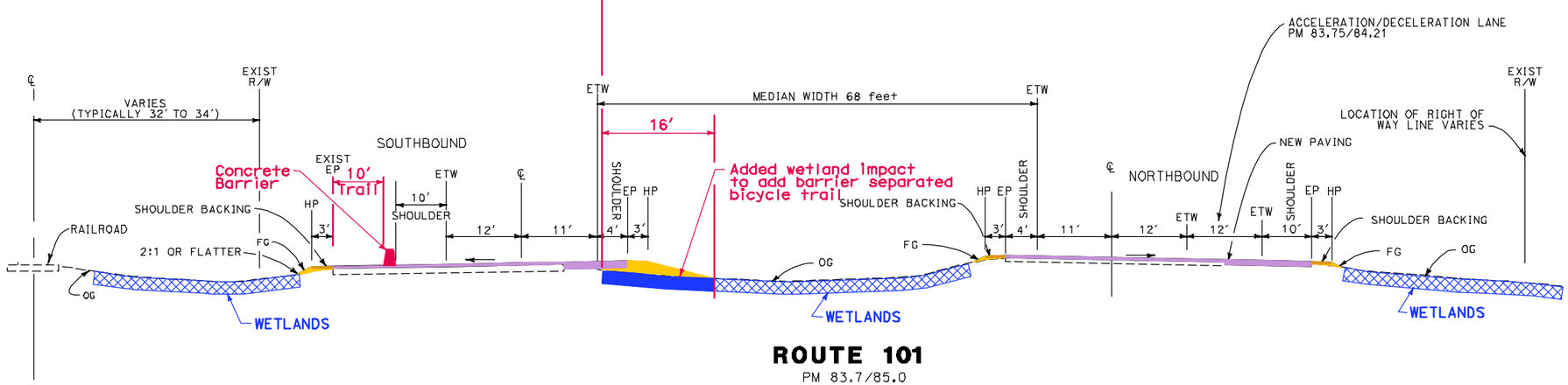
BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => s119316 | DGN FILE => cross-section-trail.dgn | CU 03232 | EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

**FOR DESIGN STUDY ONLY**




**ROUTE 101**
PM 83.7/84.21
**BRACUT TO SOUTH "G" STREET**




**ROUTE 101**
PM 83.7/85.0

**BRACUT TO SOUTH "G" STREET**
**Realignment for Barrier Separated Trail**

**BARRIER SEPARATED TRAIL**
**NORTH OF BRACUT**



REVISED BY | DATE REVISED
TODD LARK
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
L.R. ASHLEY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
Caltrans

LAST REVISION 08-11-08 | DATE PLOTTED => 23-JUL-2012 | TIME PLOTTED => 14:52

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => s119316
DGN FILE => cross-section-trail.dgn
CU 03232
EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

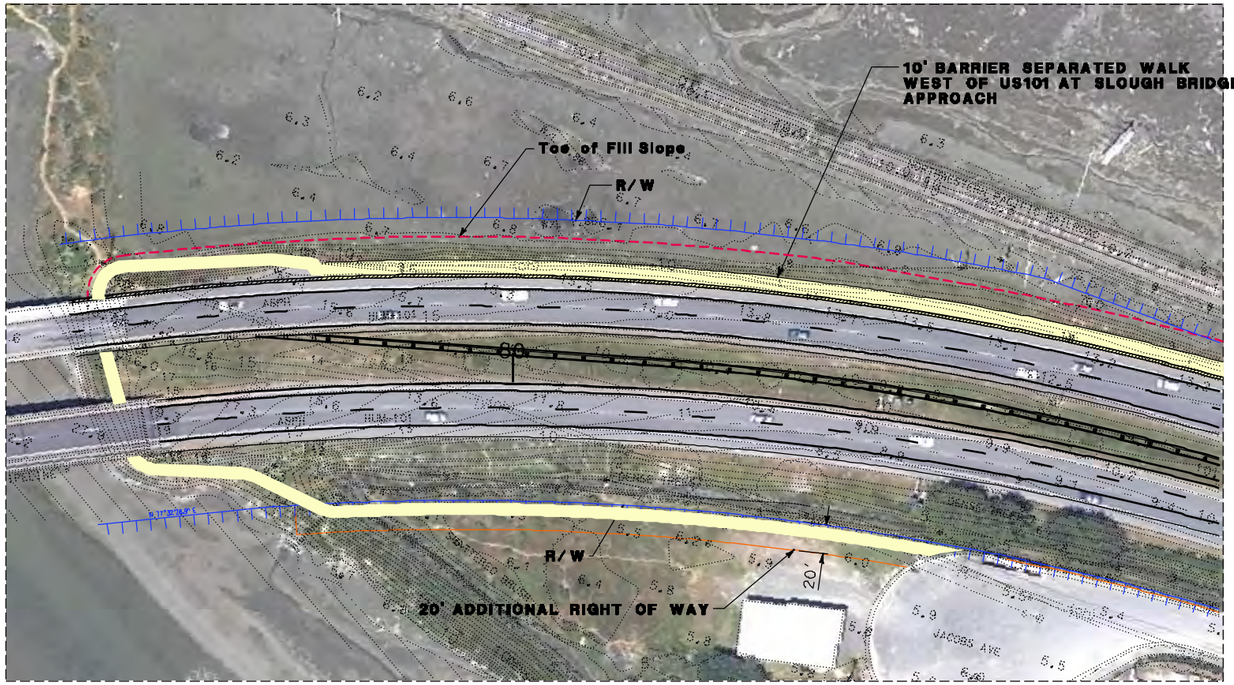
REGISTERED CIVIL ENGINEER DATE

FOR DESIGN STUDY ONLY

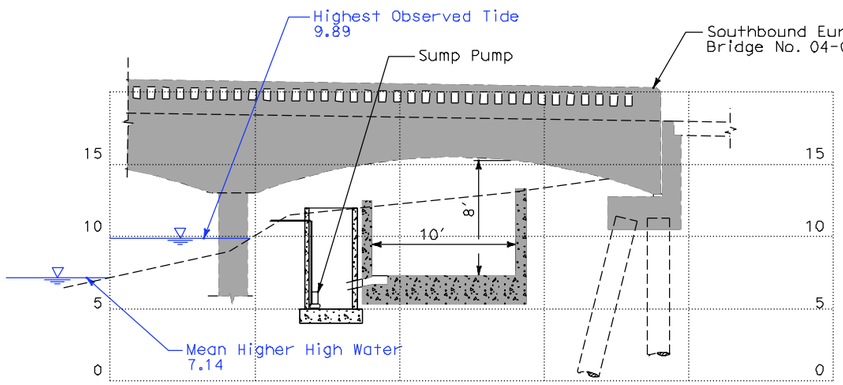
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER NO. CIVIL STATE OF CALIFORNIA

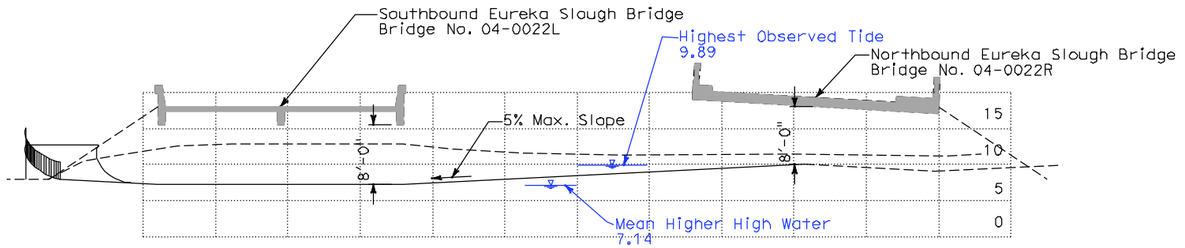





## PLAN
Scale: 1"=100'




## SECTION
Scale: 1"=10' H & V




## ELEVATION (under bridges)
Scale: 1"=20' H & V

# JACOBS AVENUE PEDESTRIAN TRAIL AND UNDERCROSSING

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN

FUNCTIONAL SUPERVISOR: L.R. ASHLEY

CALCULATED-DESIGNED BY

CHECKED BY

TODD LARK

REVISED BY

DATE REVISED

LAST REVISION 08-11-08

DATE PLOTTED => 18-JUL-2012
TIME PLOTTED => 09:48

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => s119316
DGN FILE => Jacobs_trail.dgn

CU 03232

EA 363301

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 01 | Hum | 101 | 79.9/86.3 | | |

**FOR DESIGN STUDY ONLY**

Railroad

Barrier Separated Trail
Jacoby Creek Bridge

Bridge 04-0023L

Begin Bridge "B" 249+55.40

End Bridge "B" 250+29.40

84.5

Postmile

Southbound Route 101

Existing Edge of Paving

New Edge of Paving

TOE OF SLOPE

Northbound Route 101

"A" Line

HUM-101

# JACOBY CREEK BRIDGE
# BARRIER SEPARATED TRAIL
# LAYOUT

SCALE: 1"=10'

| REVISED BY | DATE REVISED |
|---|---|
| TODD LARK | |
| CALCULATED-DESIGNED BY | CHECKED BY |

FUNCTIONAL SUPERVISOR: L.R. ASHLEY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION: 08-11-08
DATE PLOTTED => 20-JUL-2012
TIME PLOTTED => 09:47

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => s119316
DGN FILE => trail-jacoby-ck.dgn

CU 03232

EA 363301

April 11, 2013

via email and U.S. Mail

Mark Delaplaine
Manager, Energy, Ocean Resources
and Federal Consistency Division
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219
Mark.Delaplaine@coastal.ca.gov

Re: Comments on the Federal Consistency Determination for the Eureka - Arcata Route 101 Corridor Improvement Project as Re-Submitted in February 2013

Dear Mr. Delaplaine,

On behalf of the board, staff and supporting members of Humboldt Baykeeper these comments are submitted regarding the Federal Consistency Determination for the proposed Eureka-Arcata Route 101 Corridor Improvement Project ("the Project"). Humboldt Baykeeper appreciates the opportunity to present you with our concerns regarding this Project. These comments on the February 2013 re-submittal reflect additional concerns and are intended to be supplemental to our comments submitted on April 22, 2012.

Humboldt Baykeeper respectfully requests that the Coastal Commission find the Eureka - Arcata Route 101 Corridor Improvement Project submitted by Caltrans is inconsistent with the California Coastal Act, as explained in detail below, and Deny the Federal Consistency Determination.

**Inadequate Alternatives Analysis**

The Signalized Boulevard Plan Alternative does not appear to be a fully-studied, practicable alternative. Creating six intersections is not necessary given current conditions, and Caltrans should have addressed how just having signals at Airport Rd. and Indianola Cutoff would affect traffic. The analysis of six signalized intersections rather than two serves to artificially increase the amount of wetland fill that would be necessary for the Signalized Boulevard Alternative, giving the false impression that the

**EXHIBIT 27**
**CC-016-13**
**Correspondence**

Preferred Alternative is the Least Environmentally Damaging Practicable Alternative, although it may not be.

**Deferred Mitigation for Impacts to Coastal Wetlands (Section 30230)**
A change was made to the document since it was submitted in 2012 which amounts to deferred mitigation to coastal wetlands:

> Caltrans now proposes utilizing a coastal wetland restoration project as mitigation (same locations as in the CMP). The restoration project will be a separate project and will be proposed for mitigation not only for this project but for other projects within the area (including potentially for future work in external efforts to complete the Coastal trail.) The restoration project will be submitted to the Coastal Commission at a later date requesting approval as a separate project and is only described conceptually for this project's consistency review (page 69).

We have concerns about the creation of a conceptual mitigation plan. Our first concern is that it is proposed as a separate project with protection measures that have yet to be disclosed, designed, or budgeted. This does not allow the public, agencies, or the Coastal Commission to evaluate the mitigation measures' effectiveness. Second, reliance on a conceptual mitigation plan amounts to impermissible deferred mitigation. Third, mitigation measures must be fully enforceable, yet because they are not identified and included here, cannot be enforced. The costs of mitigation must be included up front in the overall cost of the project.

**Impacts to Water Quality**
The proposal to extending deceleration and acceleration lanes would require placement of 40,000 cubic yards of fill into coastal wetlands that currently serve as a biofilter for polluted runoff from the roadway.

According to the application, "None of the project alternatives would increase traffic carrying capacity; consequently, no increase to traffic-related pollutant runoff is anticipated from this project." (page 37). But on page 38, it states that "The increase in impervious areas typically causes an increase in the peak flow and runoff volumes… The existing vegetated slopes that provide biofiltration treatment of storm water runoff will be perpetuated."

**Bicycle Safety Concerns**
The partial signalization at Airport Road doesn't address bicycle safety at all. For example, southbound bicyclists wanting to turn left onto Airport Rd. would have to cross two lanes of oncoming traffic just to get over to the median. In Alternatives 1 and 2, anyone, bicyclist or motorist, wishing to turn westbound (left) from Airport Rd. onto southbound Route 101 will be required to travel north one mile to a turnaround to then go south. This wastes fuel for motorists, and it significantly inconveniences bicyclists. The full signal proposed in Alternative 3 provides more efficient mobility for all users, but as it is tied to an interchange and other undesirable alterations, should be explored in isolation as described above.

Additionally, closing medians reduces bicycle access from the Bayside Cutoff, and will force bicyclists to either travel north several miles to Arcata to access Highway 101, or to share Old Arcata Road, which has narrower shoulders, hills, poor paving and posted speeds up to 45 mph, with motorists accessing the Indianola interchange. This does not increase safety or accessibility.

The claim that it will benefit all travel modes (page 69) is unsubstantiated. We believe that Caltrans should provide data comparing the number of bicyclists and bicyclist-involved accidents using Highway 101 between Eureka and Arcata, and between Arcata and McKinleyville, which is a freeway with design conditions much like what is proposed here. We believe that the freeway conditions between Arcata and McKinleyville may actually be a deterrent to use and that this can make accident statistics appear lower, creating a false impression that the proposed alterations are safer.

Caltrans must fully address the needs of multi-modal users along this reach of Highway 101. As part of the Pacific Coast Bike Route, the bikeway along Highway 101 is an important resource for coastal access.

**KOA Campground**
Closure of the median at the KOA Campground will adversely affect bicyclists touring the Pacific Coast Bike Route, since it is the only campground in the area that accommodates tent camping. The KOA Campground is also identified as an EJ community (as defined in Executive Order 12898) whose residents would be adversely affected by the need for out-of-direction travel.

**Growth-Inducing Impacts**
An interchange at Indianola Cutoff and Route 101 would increase capacity of that intersection, and of Indianola Cutoff and would therefore also have the potential to be growth-inducing. Additionally, although we understand that the basic design maintains an "uncontrolled" highway and therefore does not explicitly increase capacity, we believe that the proposal will result in increased speeds which would in theory accommodate more users. The extension of acceleration and deceleration lanes also seem to be needed primarily to accommodate faster-moving traffic. The shortest acceleration lane currently appears to be at Bayside Cutoff, which was not observed to have accidents above state averages.

**Night Lighting**
Addition or extension of acceleration and deceleration lanes is noted to come with additional or upgraded lighting. We are concerned about the potential impacts of night lighting on wildlife, which has only recently been recognized to interfere with migration, hormonal production, and reproductive behavior in organisms. While any additional lighting should be appropriately shielded consistent with the principles of the International Dark-Sky Association and to prevent impacts to wildlife, we once again question the need for these additions where accident levels are not above state averages.

**Sea Level Rise (SLR)**
Although the 2013 re-submittal contains changes to the analysis of sea level rise impacts, however, Caltrans fails to address such impacts in any meaningful way, despite the fact that in 2009, the California Department of Fish and Game commented on the project and impacts related to sea level rise and climate change (attached). Recently, Caltrans applied for and received funding for a "Climate Change Adaptation Pilot Strategy for Critically Vulnerable Assets in Northwest California" to analyze four prototype locations, including "a corridor that includes US 101, the Northwestern Pacific Railroad, the Pacific Coast Bike Route, the California Coastal Trail and is adjacent to Humboldt Bay. Previous Vulnerability Assessments have shown this location to be critically vulnerable to SLR."

Caltrans acknowledges that the project area is critically vulnerable to sea level rise, and yet dismisses the need to address and mitigate potential impacts from sea level rise because they are not fully studied (Appendix D).

**Conclusion**

Humboldt Baykeeper would like to thank the California Coastal Commission and its staff for the opportunity to provide the above comments. We strongly urge you to find the Eureka - Arcata Route 101 Corridor Improvement Project as submitted by Caltrans inconsistent with the California Coastal Act, and Deny the Federal Consistency Determination.

Sincerely,

_____/s/_____ _____/s/_____
Jessica Hall, Executive Director Jennifer Kalt, Policy Director

217 E Street
Eureka, CA 95501
(707) 268-8897
www.humboldtbaykeeper.org