

Last Chance Grade

Summary of March 2016 Community Town Halls

Prepared by:



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Berkeley, CA 94710
April 2016

Last Chance Grade



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Last Chance Grade

Summary of March 2016 Community Town Halls

I. INTRODUCTION

The “Last Chance Grade” (LCG) is a 3-mile segment of US Highway 101 in Del Norte County, California located between Klamath and Crescent City. Last Chance Grade is an area of highway prone to geological activity. Landslides and road failures have been an ongoing issue for decades and substantial funds have been invested in repairs. The road is currently safe to use, but a long term solution is needed to ensure continued safe and reliable transportation on US 101.

Caltrans, the California Department of Parks and Recreation, the National Park Service, the Yurok Tribe, the Tolowa Dee-ni’ Nation, and the Elk Valley Rancheria entered into a Memorandum of Understanding for the partners to work collaboratively to identify a long-term solution at Last Chance Grade. The partners meet about every 3-4 months to discuss resource issues so they can be addressed early in the planning process as Caltrans prepares the required planning, technical and environmental documents.

During January 2015, the LCG Partners hosted three community workshops presenting possible alternatives for future study, and provided opportunities for stakeholders and the public to submit input regarding the alternatives. In June 2015, Caltrans completed the Last Chance Grade Feasibility Study which identified a full range of alternatives that could provide a long-term solution. Alternatives for this study were developed using design criteria based on constructability, adherence to design standards, and impacts to the environment and sensitive resources. Using the design criteria, a set of fourteen alternatives were studied. These alternatives range from a one-mile long tunnel retreating behind the Last Chance Grade slide, to a 15.5-mile bypass east of the existing US 101 alignment.

Following the Feasibility Study, Caltrans initiated the preparation of the Project Initiation Document (PID), also referred to as the Project Study Report (PSR). The PID is a document that describes the scope, cost, and potential schedule for a transportation project. The PID also narrows down the number of project alternatives to be studied, which allows for a more efficient design and engineering process.

The conditions at Last Chance Grade are complex and there is no alternative that can be achieved without impacts to the significant natural and cultural resources within the project area. As a results, Caltrans is engaged in extensive activities to ensure coordination with the wide variety of federal, state and local agencies and interests who need to be involved. Caltrans has also been meeting with and providing information to area officials regarding the funding needs of the project. Caltrans is limited in its efforts to advance the planning process until funding sources are identified.

II. METHODOLOGY

In March 2016, Caltrans and the Last Chance Grade Partners hosted three community town halls to inform the community on the status of the project and current efforts to ensure the safety of travelers on Last Chance Grade.

Outreach Methods

Participation opportunities were promoted and advertised through a variety of methods including:

- Postcard mailing and e-mail announcements to local residents and updated stakeholder lists and to stakeholder groups including:
 - County, state and city elected officials
 - Local public agencies including transportation, community development and community services agencies
 - Natural resources agencies including State and National Parks, State and National Fish and Wildlife, regional and national coastal and water commissions, and USDA Forest Service
 - Native American Tribes
 - Local and regional public transportation providers
 - Bicycle and pedestrian advocacy groups
 - Safety groups including CHP, CalFire and local fire departments, paramedics and emergency responders
 - Hospitals and clinics
 - Special interest organizations including environmental organizations
 - Chambers of Commerce
 - Local businesses
 - Schools and universities
- Posting on dedicated webpage at www.lastchancegrade.com
- Press releases and media coverage including local and regional online and print newspapers and radio. Local news coverage received included articles in the *Del Norte Triuplicate* and *Eureka Times-Standard*.

For more information, see Appendix A, “Outreach Materials.”

Community Town Hall Meetings

Three community town hall meetings were conducted by the Last Chance Grade Partners, with assistance provided by MIG, Inc. on March 22, 23 and 24. MIG is Caltrans’ On-Call contractor whose participation is made available through funding and resources provided through the statewide Public Participation and Engagement Contract.

The workshops were held in the three main communities located along the route: Crescent City, Klamath and Eureka. All workshops were held at ADA-accessible locations. The following workshops were held:

Location	Address	Date and Time
Eureka	Wharfinger Building Great Room Eureka Public Marina, #1 Marina Way Eureka, CA	Tuesday, March 22, 2016 5:30-7:30 p.m.
Crescent City	Del Norte County Fairgrounds Mail Hall Building 421 Highway 101 North Crescent City, CA	Wednesday, March 23, 2016 5:30-7:30 p.m.
Klamath	Yurok Tribal Office Klamath Community Room 190 Klamath Boulevard Klamath, CA	Thursday, March 24, 2016 3:30-5:30 p.m.

Town Hall Format

All three workshops followed the same interactive format, consisting of an open house with multiple stations, staffed by Partner experts to answer attendee's questions, and a presentation by the Caltrans Project Manager on Last Chance Grade.

Each workshop began with a brief open house period. After attendees signed in, they were able to view maps and displays which provided information about the project, the alternatives for a solution currently under consideration, and current efforts to ensure safety on the Grade. The displays were organized into subject matter stations and included the following:

- Introductory LCG information:
 - Location Map showing the location of the project area in relation to Del Norte and Humboldt Counties, local roads, rivers, watersheds and National and State Parks
 - Purpose, need for and description of the Last Chance Grade project
- Project alternatives and current status:
 - Map showing the 6 alternative alignments currently being studied; their position in relation to the existing Last Chance Grade alignment, Highway 101, and State and National Parks; and the topology of the region
 - Matrix comparing details of the alternatives
 - Map with images and information on retaining walls at Last Chance Grade
 - Map of estimated travel delays between Arcata and Crescent City due to project work during Summer 2016
- Geotechnical information:
 - Map of landslides in the project area, with types of landslide specified, shown in relation to Highway 101, existing LCG alignment and alternatives
 - Displays including: typical cross-section of landslide area; horizontal movement at select post miles along slide complex; slide movement and its relation to

recent rainfall at Retaining Wall #3 (most heavily damaged); photograph of “broken formation” common to slide areas

- Environmental and cultural resources:
 - Environmental Resources Map showing the general location of environmental resources including old growth redwoods, coastal zones, state/national parks, watersheds and streams
 - Information regarding tribal cultural resources and federally recognized Tribes participating in the Last Chance Grade partnership
- Information regarding emergency scenarios and funding:
 - Information regarding Caltrans’ Emergency Projects Process, plus requirements and options for Federal emergency relief funding
 - A diagram showing scenarios for emergency repair in the event of small, moderate and large scale slipouts of the road
- Additional general LCG information:
 - Projected Last Chance Grade project timeline
 - List of groups working to support a permanent solution at Last Chance Grade
 - Contact information for the Last Chance Grade project including website address, project team email and phone number

Attendees were also provided with the following handouts:

- Materials packet which included: Agenda, Location Map, Purpose, Need and Description, and Map of Alternatives
- Alternatives Comparison matrix
- Emergency Repair Scenarios diagram
- Comment Card

Information on emergency preparedness for earthquakes and tsunamis was also provided. Last Chance Grade Partner staff experts were available at each station to answer questions.

Presentation

After a fifteen-minute open house period, Caltrans’ Last Chance Grade Project Manager, Sebastian Cohen, made a PowerPoint presentation. The presentation included:

- A summary of the geology of Last Chance Grade including major landslides;
- A history of Last Chance Grade, including details of various emergency events and consequent repair projects undertaken as well as public concern and requests for action, cost history from 1981 to present, completed documents and data on road movement due to seismic activity; and
- An update on the status of the permanent repair project, including alternatives, possible impacts to cultural and environmental resources, likely project timeline,

challenges, emergency project and funding requirements, and stakeholders involved.

Following the presentation, attendees were encouraged to continue visiting the various display stations and get their questions answered one-to-one by the Partner staff experts.

For reproductions of all displays and handouts and the full presentation, please see Appendix B, “Workshop Materials.”

III. COMMUNITY TOWN HALL PARTICIPATION AND RESULTS

Community Town Hall Participation

Approximately 180 people from throughout the region attended the community town halls. They represented a wide variety of organizations and interests, including:

- Area residents, many of whom regularly travel Last Chance Grade
- Local and regional transportation agencies
- Law enforcement agencies
- County and municipal governments
- Fire departments and Community Service Districts
- Regional and local planning staff
- Native American tribal governments
- Emergency and medical services providers
- Environmental organizations
- Bicycle and pedestrian advocacy groups
- National and State Parks and natural resources agencies
- Statewide, regional and local transportation providers
- Tourism organizations
- Local civic and cultural organizations
- Local educators, schools and colleges
- Political organizations
- Local and regional Chambers of Commerce
- Local business interests and labor unions
- Local news media

Community Town Hall Results

At all three town halls, attendees displayed a high degree of interest in the project, engaging in conversation and asking questions of staff at the various display stations. Several attendees at the meeting held in Crescent City had expectations that the meeting format would include a large group comment period. These participants

provided substantial feedback to Caltrans including numerous suggestions regarding their preferred format. A small number of comment cards were submitted; a transcription can be found in Appendix C, “Comment Cards.”

APPENDIX A: OUTREACH MATERIALS

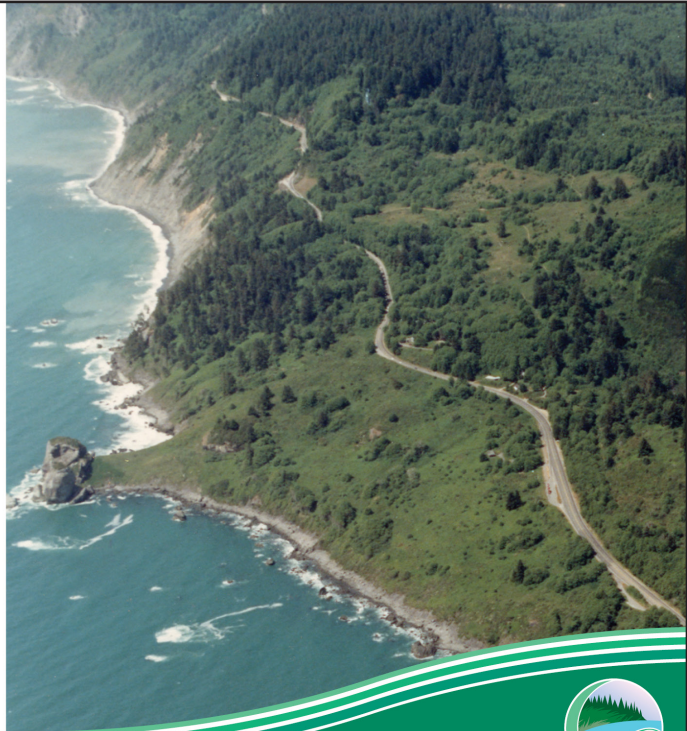
I. Postcard Mailing

LAST CHANCE GRADE COMMUNITY TOWN HALLS

The “Last Chance Grade” is a 4-mile segment of US Highway 101 just south of Crescent City. Landslides and road failures have been ongoing issues for decades. While the road is currently safe to use, a long term solution is needed to ensure continued safe and reliable transportation on US 101.

In March, Caltrans will hold a series of town-hall style meetings to discuss the status of the project and share what’s being done to keep motorists safe as they travel on the Grade right now.

Please join us at a Community Town Hall to get an update on Last Chance Grade.



JOIN US AT A COMMUNITY TOWN HALL!

EUREKA

Tuesday, March 22, 2016

5:30–7:30 p.m.

Wharfinger Building, Great Room
Eureka Public Marina
#1 Marina Way

KLAMATH

Thursday, March 24, 2016

3:30–5:30 p.m.

Yurok Tribal Office
Klamath Community Room
190 Klamath Boulevard

CRESCENT CITY

Wednesday, March 23, 2016

5:30–7:30 p.m.

Del Norte County Fairgrounds
Main Hall Building
421 Highway 101 North

All locations are
ADA-accessible.

Attn: Last Chance Grade
Project Team
Caltrans District 1
P. O. Box 3700
Eureka, CA 95502-3700

CONTACT

For project updates and general information:

www.lastchancegrade.com

Or contact the Last Chance Grade Project Team at:

lastchancegrade@dot.ca.gov

(707) 445-6465, TTY 711



II. Email Blast Sent to Stakeholders

LAST CHANCE GRADE COMMUNITY TOWN HALLS

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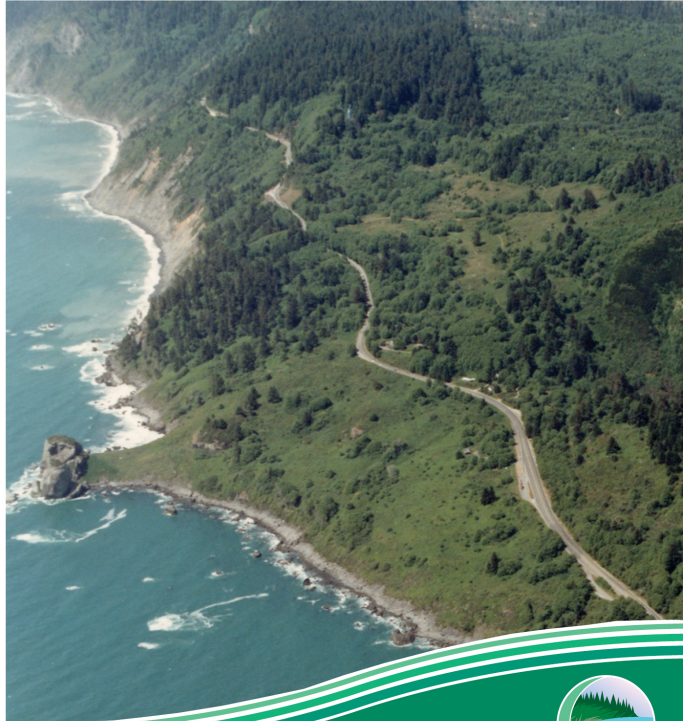
III. Flyer

LAST CHANCE GRADE COMMUNITY TOWN HALLS

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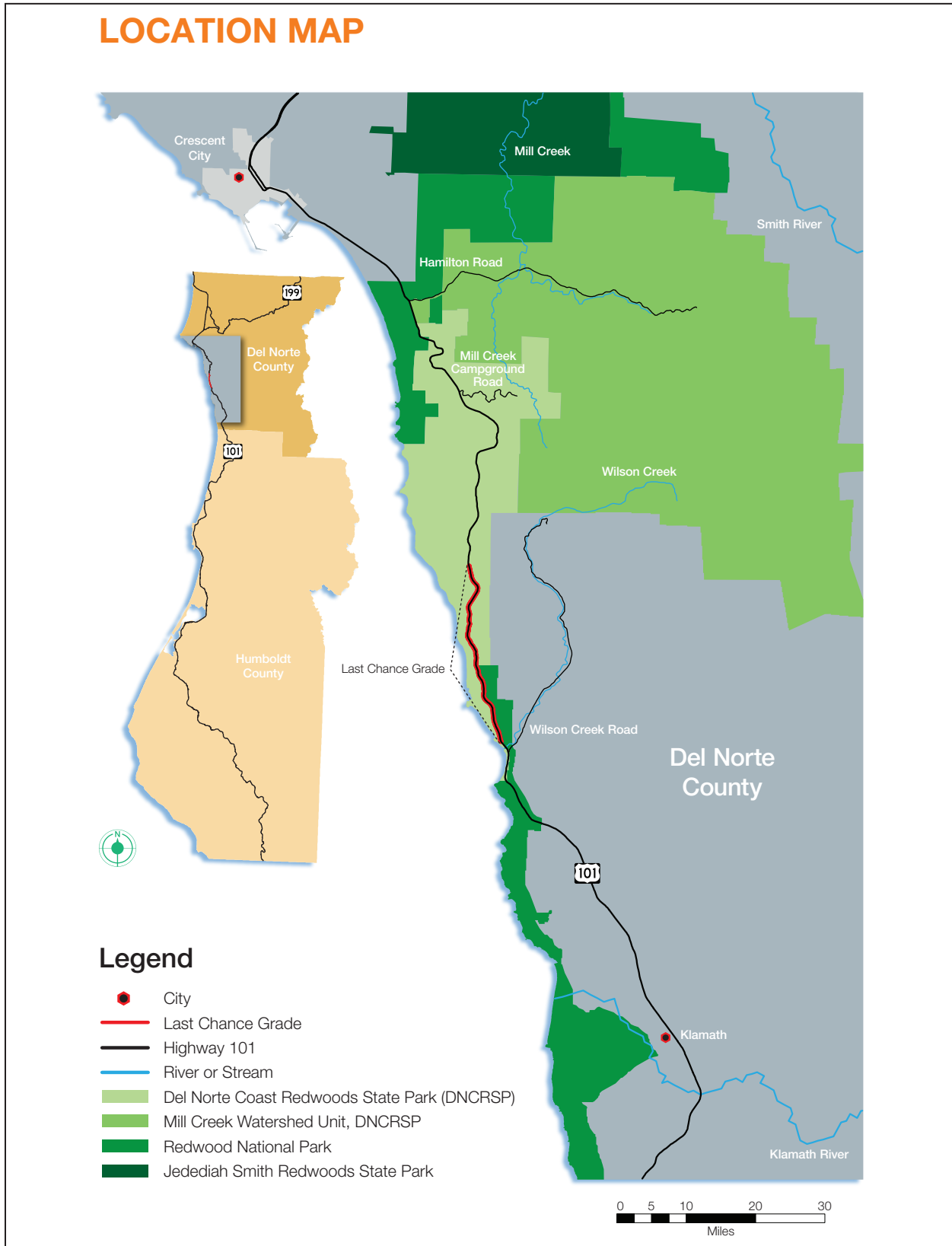
lastchancegrade@dot.ca.gov

(707) 445-6465, TTY 711



APPENDIX B: TOWN HALL MEETING MATERIALS

I. Displays



LAST CHANCE GRADE

Purpose

The purpose of this project is to develop a permanent solution to instability and potential roadway failure at Last Chance Grade. Caltrans is developing the Project Study Report which will consider alternatives that reduce maintenance costs, provide a reliable highway facility, and protect economic, environmental, and cultural resources.

Need

Landslides and road failures at Last Chance Grade have been an ongoing issue for decades. A geologic study in 2000 conducted for Caltrans by the California Geological Survey mapped over 200 historical and active landslides (both deep-seated and shallow) within the corridor between Wilson Creek and Crescent City. Over the years, Caltrans has conducted a considerable number of construction projects and expended significant resources on maintenance activities in order to keep the highway open for traffic. Since 1980, landslide mitigation projects – including roadbed overlays, slipout and washout repairs, retaining walls, drainage improvements, and significant maintenance – have cost over \$40 million. There is a need for a long-term solution to this historic instability at Last Chance Grade.

Description

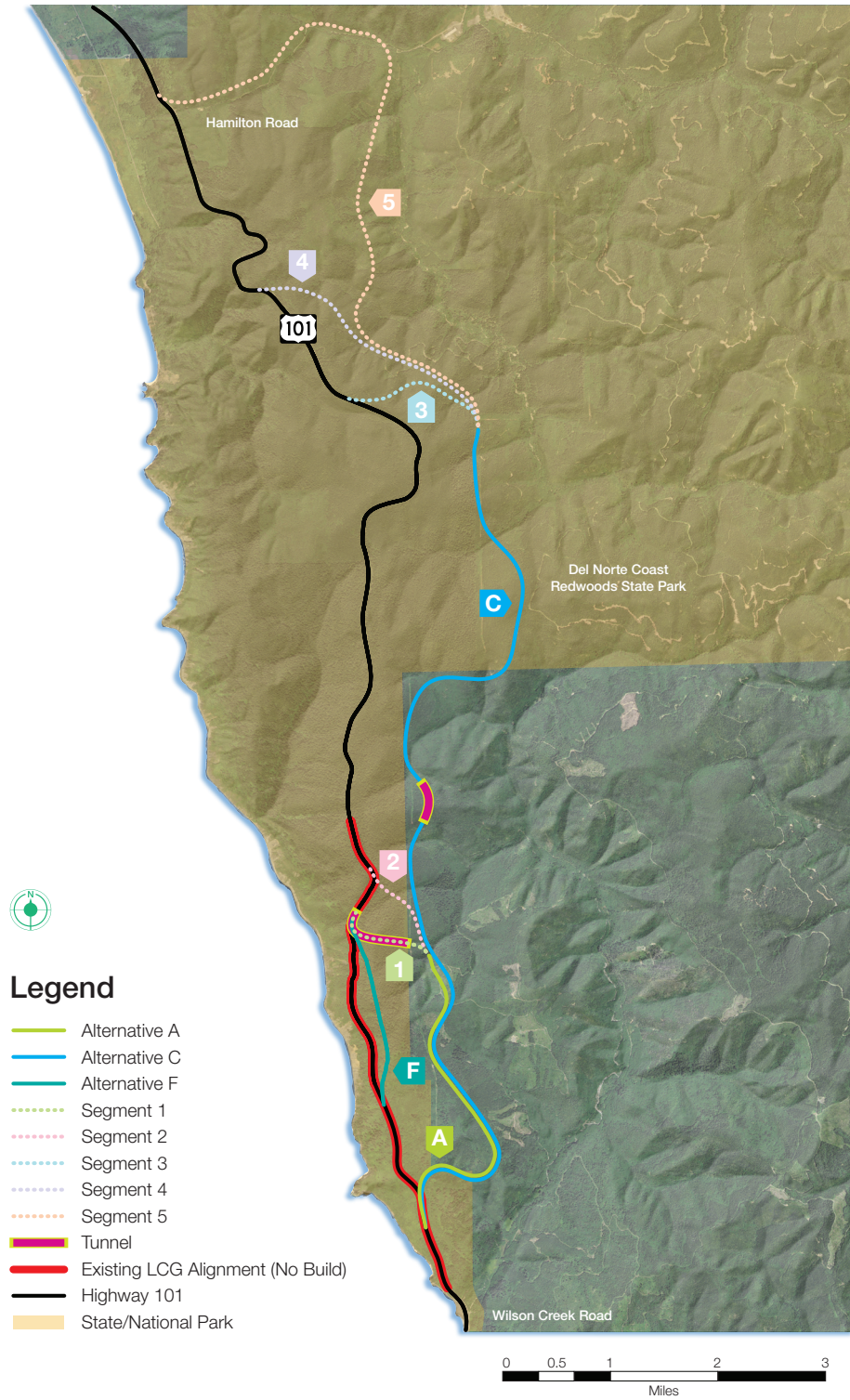
This Project Study Report will propose a range of alternatives to address the segment of US Highway 101 at Last Chance Grade impacted by landslides and increasing instability. A Partnership was formed with the National Park Service, California Department of Parks and Recreation, the Yurok Tribe, Elk Valley Rancheria, and the Tolowa Dee-ni' Nation to study and develop feasible solutions that ensure environmental and cultural resources are considered in the development of a solution.

Last Chance Grade



MAP OF ALTERNATIVES

A1, A2, C3, C4, C5, F



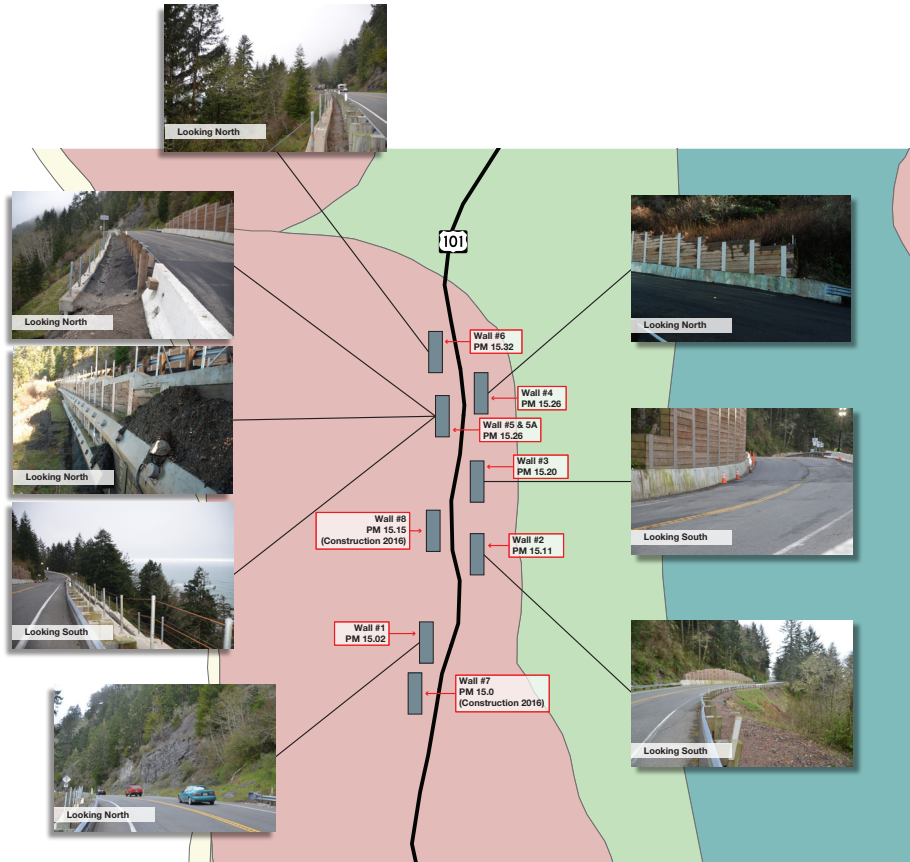
PRELIMINARY ALTERNATIVES COMPARISON*

ALTERNATIVE	NEW CONSTRUCTION										WATERSHED CROSSINGS			EXISTING HABITAT TYPE	
	TRAVEL TIME ADDED (MINUTES)	CONSTRUCTION LENGTH (MILES)	STRUCTURES				LENGTH WITHIN PARKS (MILES)	CONSTRUCTION FOOTPRINT (ACRES)	CONSTRUCTION SCHEDULE (YEARS)	WILSON CREEK	MILL CREEK	CONSTRUCTION COST IN 2016 \$ (MILLIONS)	TYPE	ACRES	
			CULVERTS > 36"	TUNNEL	BRIDGES										
A1 Rudisill Road to LCG Tunnel (Includes 2,425 ft. tunnel)	1.0 min.	3.2 miles	9	Yes	1	0.8 miles	80 acres	3 years	1	0	\$680	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 57 0 1.5		
A2 Rudisill Road to Damnation Trailhead	0.8 min.	3.2 miles	10	No	2	0.6 miles	85 acres	2 years	2	0	\$275	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 61 0 3		
C3 Rudisill Road to South of Mill Creek Access (Includes 1,680 ft. tunnel)	1.7 min.	7.8 miles	19	Yes	4	3.2 miles	245 acres	3 years	6	3	\$950	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 200 23 0		
C4 Rudisill Road to North of Mill Creek Access (Includes 1,680 ft. tunnel)	1.5 min.	8.6 miles	14	Yes	5	4.0 miles	265 acres	4 years	6	4	\$1,000	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 200 43 0		
C5 Rudisill Road to Hamilton Road (Includes 1,680 ft. tunnel)	2.6 min.	11.7 miles	21	Yes	11	7.0 miles	330 acres	4 years	6	10	\$1,250	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 216 93 0		
F Full Tunnel Parallel to Existing Alignment (5,600 ft.)	1.0 min.	1.3 miles	N/A	Yes	N/A	N/A	4.5 acres	6.5 years	N/A	N/A	\$1,050	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	2 0 0 0 1 1.5		
Maintain Existing Alignment	Unknown and unquantifiable														

*All figures are estimates



LAST CHANCE GRADE RETAINING WALLS



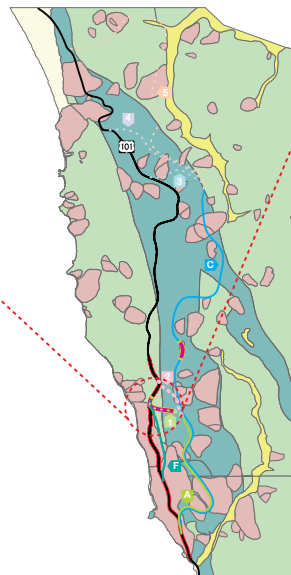
Legend

Routes

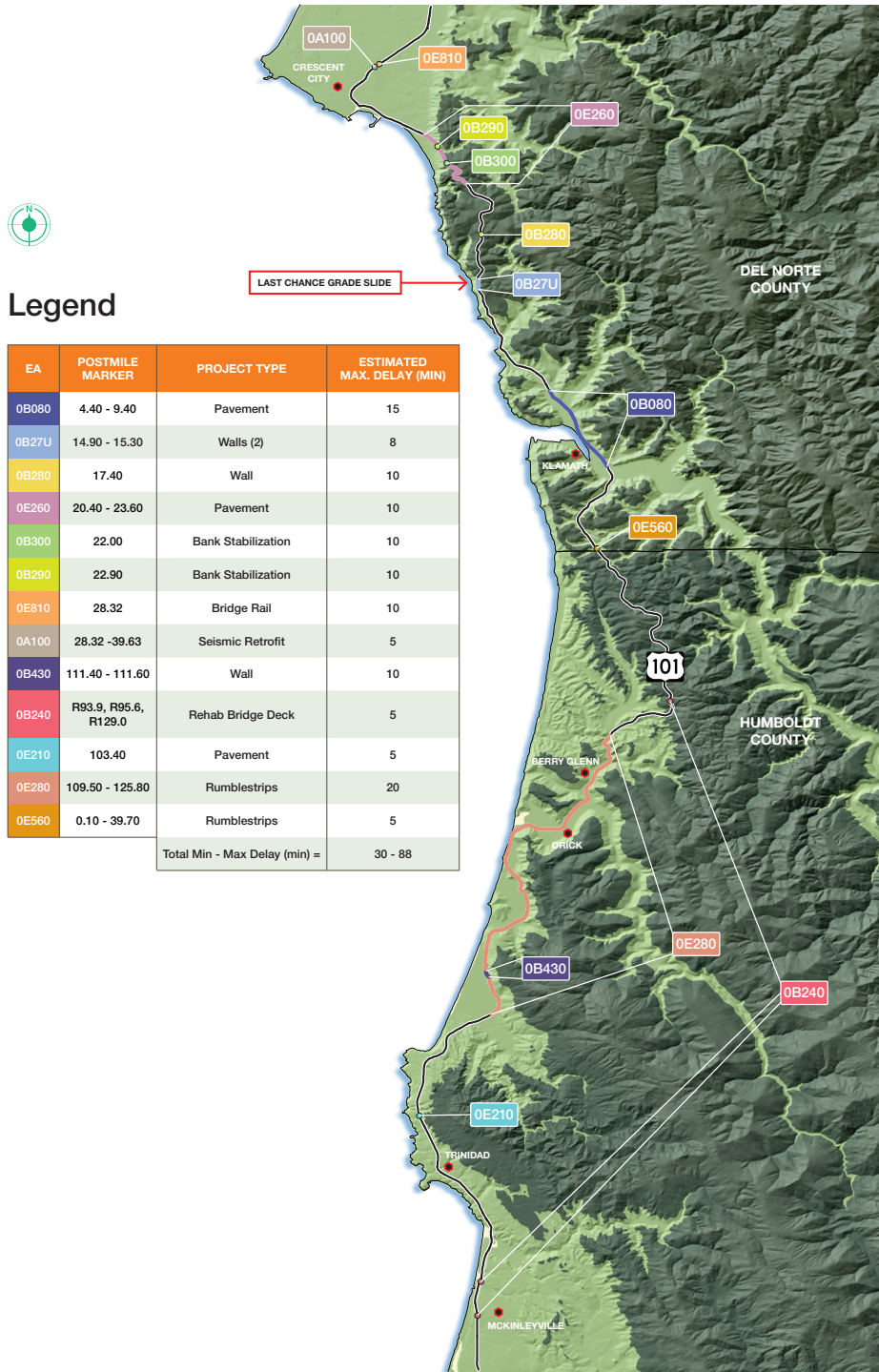
- Alternative A
- Alternative C
- Alternative F
- ⋯ Segment 1
- ⋯ Segment 2
- ⋯ Segment 3
- ⋯ Segment 4
- ⋯ Segment 5
- Tunnel
- Existing LCG Alignment (No Build)
- Highway 101
- Walls

Geologic Units

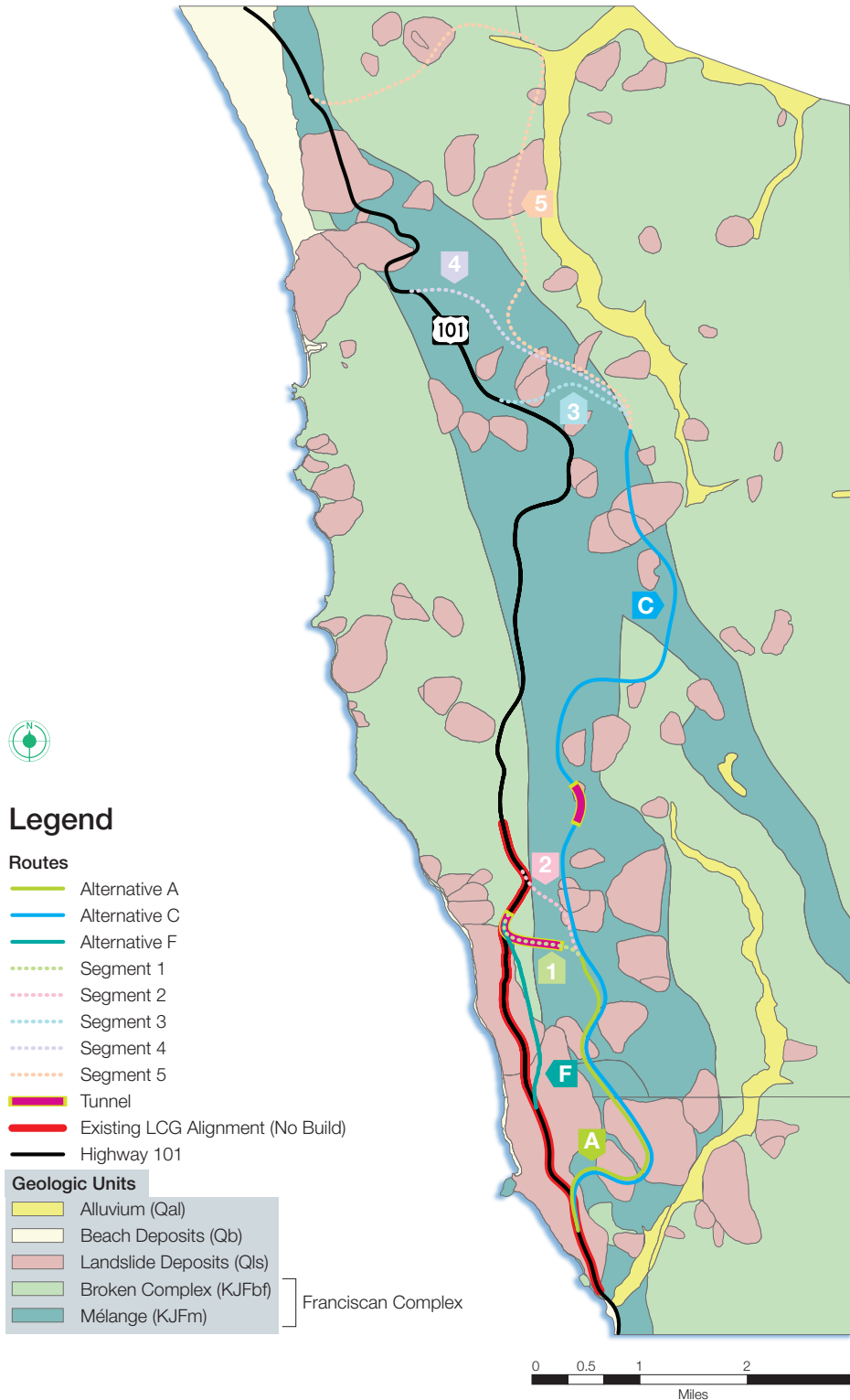
- Alluvium (Qal)
 - Beach Deposits (Qb)
 - Landslide Deposits (Qls)
 - Broken Complex (KJFbf)
 - Mélange (KJFm)
- } Franciscan Complex



HIGHWAY 101 ESTIMATED TRAVEL DELAYS DUE TO PROJECT WORK (SUMMER 2016)

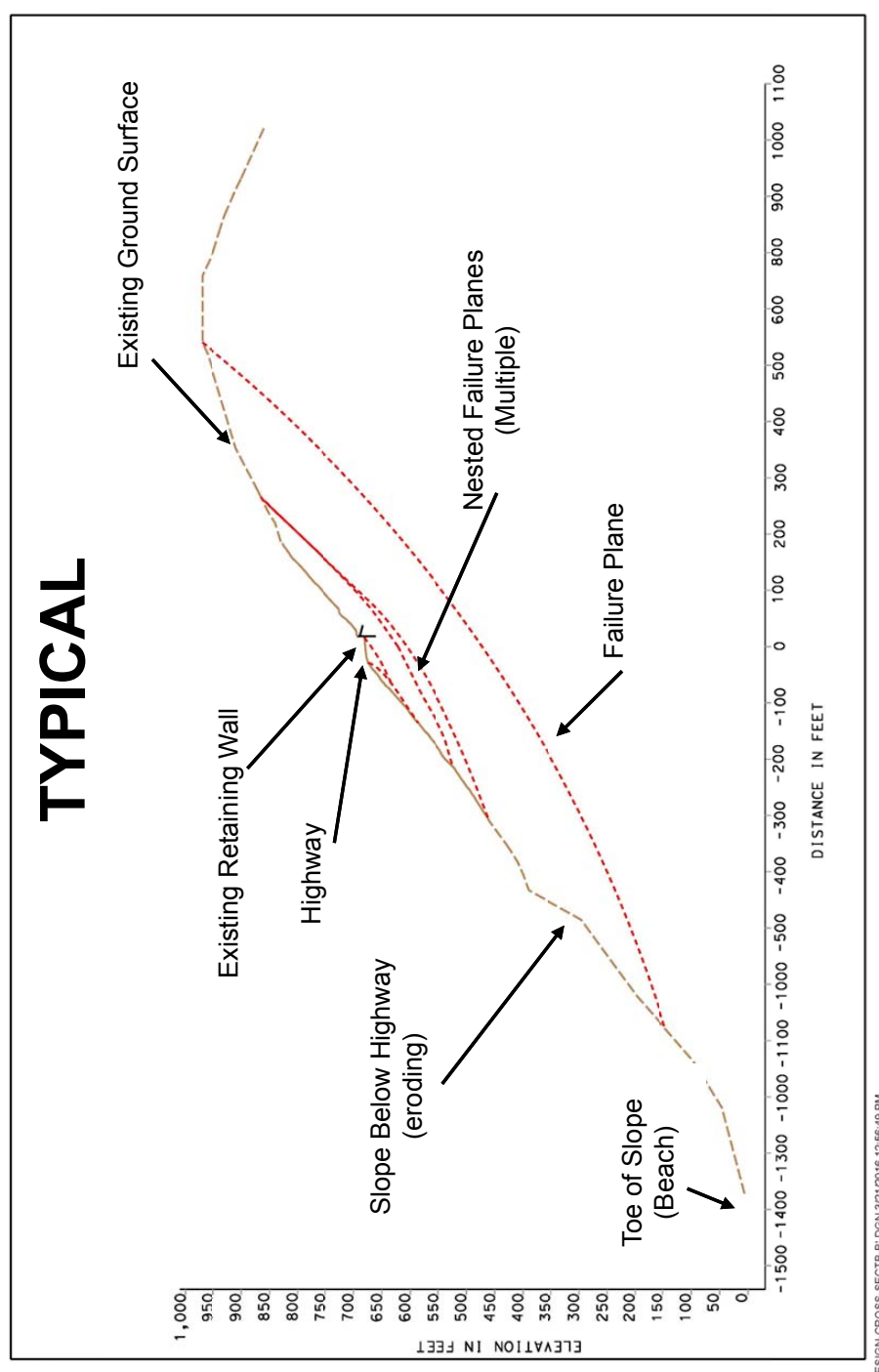


LANDSLIDE MAP



CROSS-SECTION

TYPICAL



DESIGN-CROSS-SECT-B: DGN 3/21/2016 12:56:48 PM

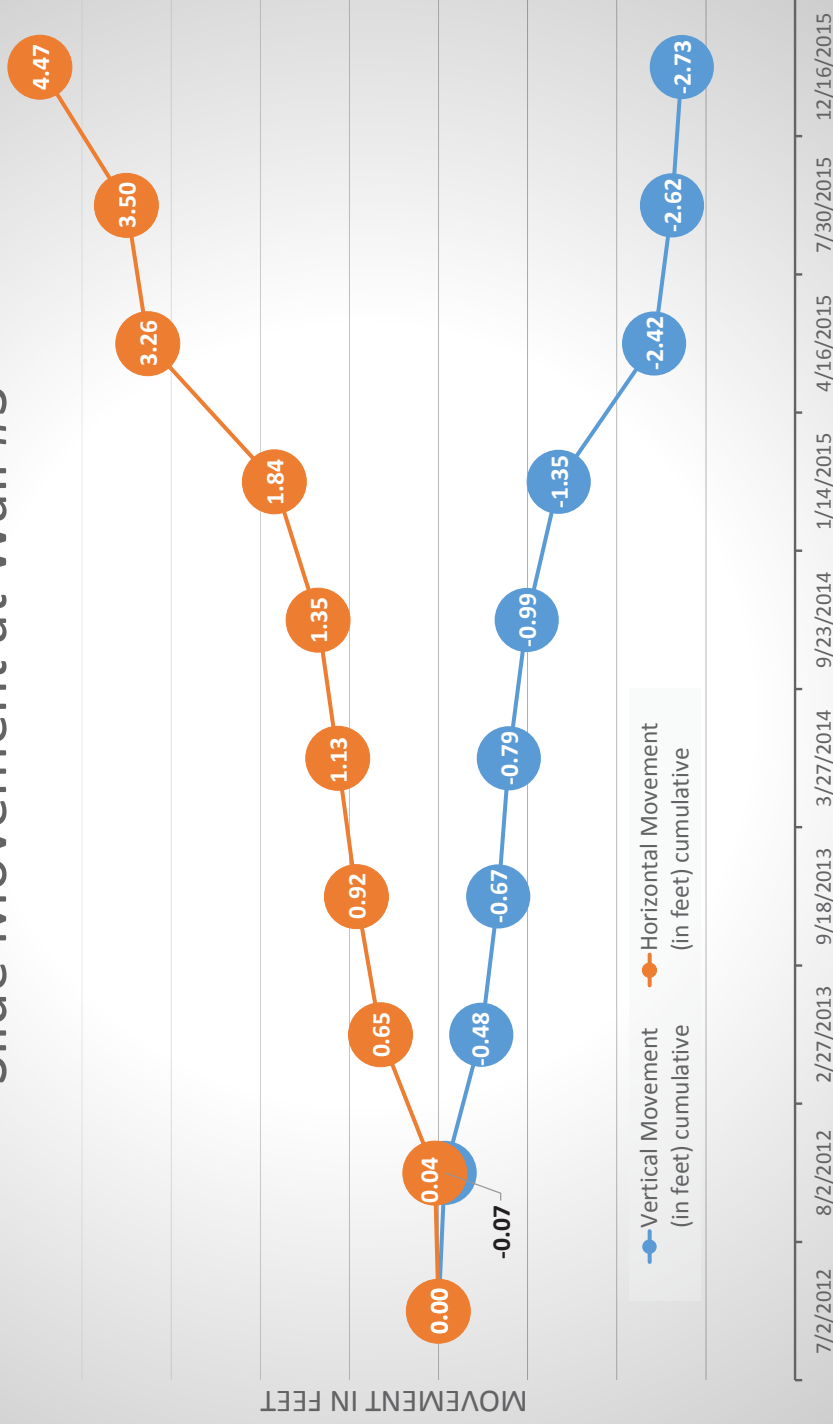


LAST CHANCE GRADE

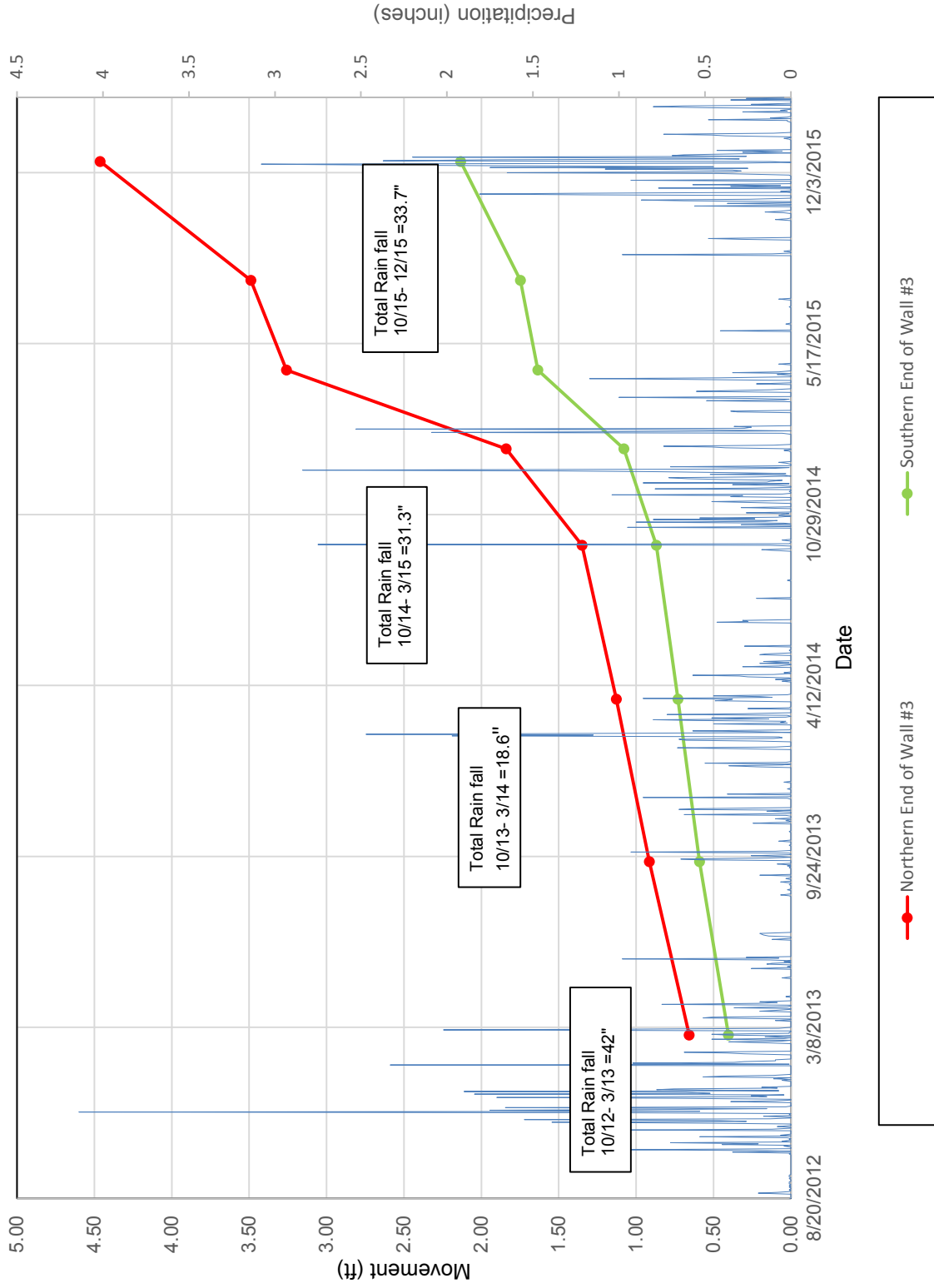
Horizontal Movement at Select Post Miles Along Slide Complex



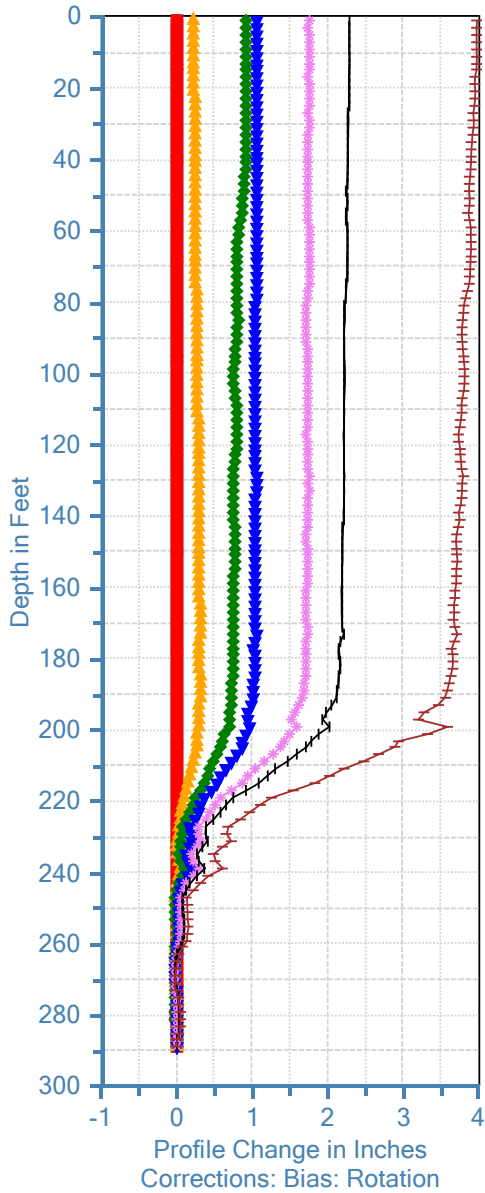
Slide Movement at Wall #3



Wall #3 Horizontal Movement and Rainfall

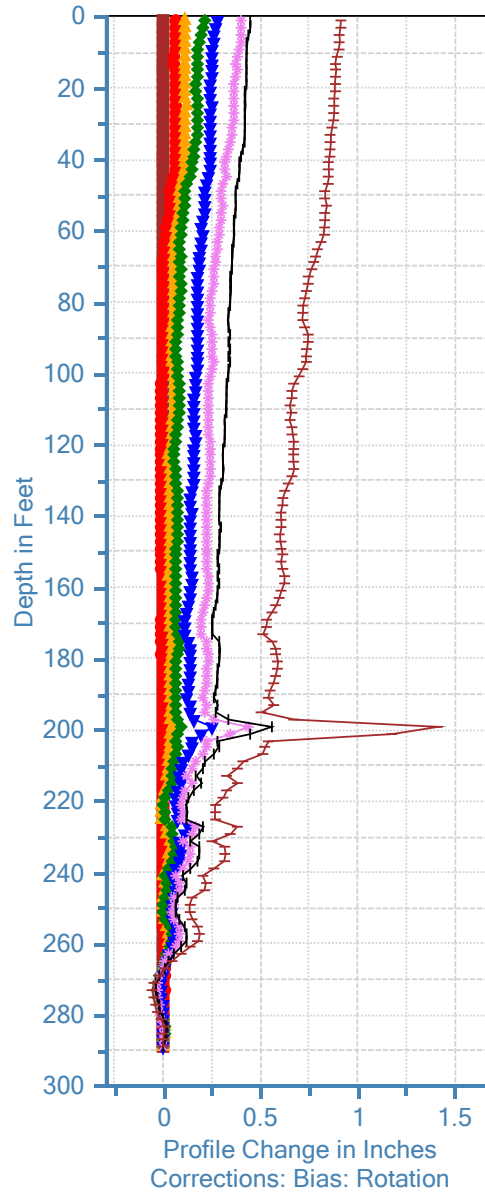


LCGEFS P14050 A



- 3/18/2014
- 3/18/2014
- ▲ 4/8/2014
- ◆ 5/13/2014
- ▼ 9/16/2014
- ✱ 1/13/2015
- ⊠ 2/12/2015
- 7/29/2015

LCGEFS P14050 B



- 3/18/2014
- 3/18/2014
- ▲ 4/8/2014
- ◆ 5/13/2014
- ▼ 9/16/2014
- ✱ 1/13/2015
- ⊠ 2/12/2015
- 7/29/2015



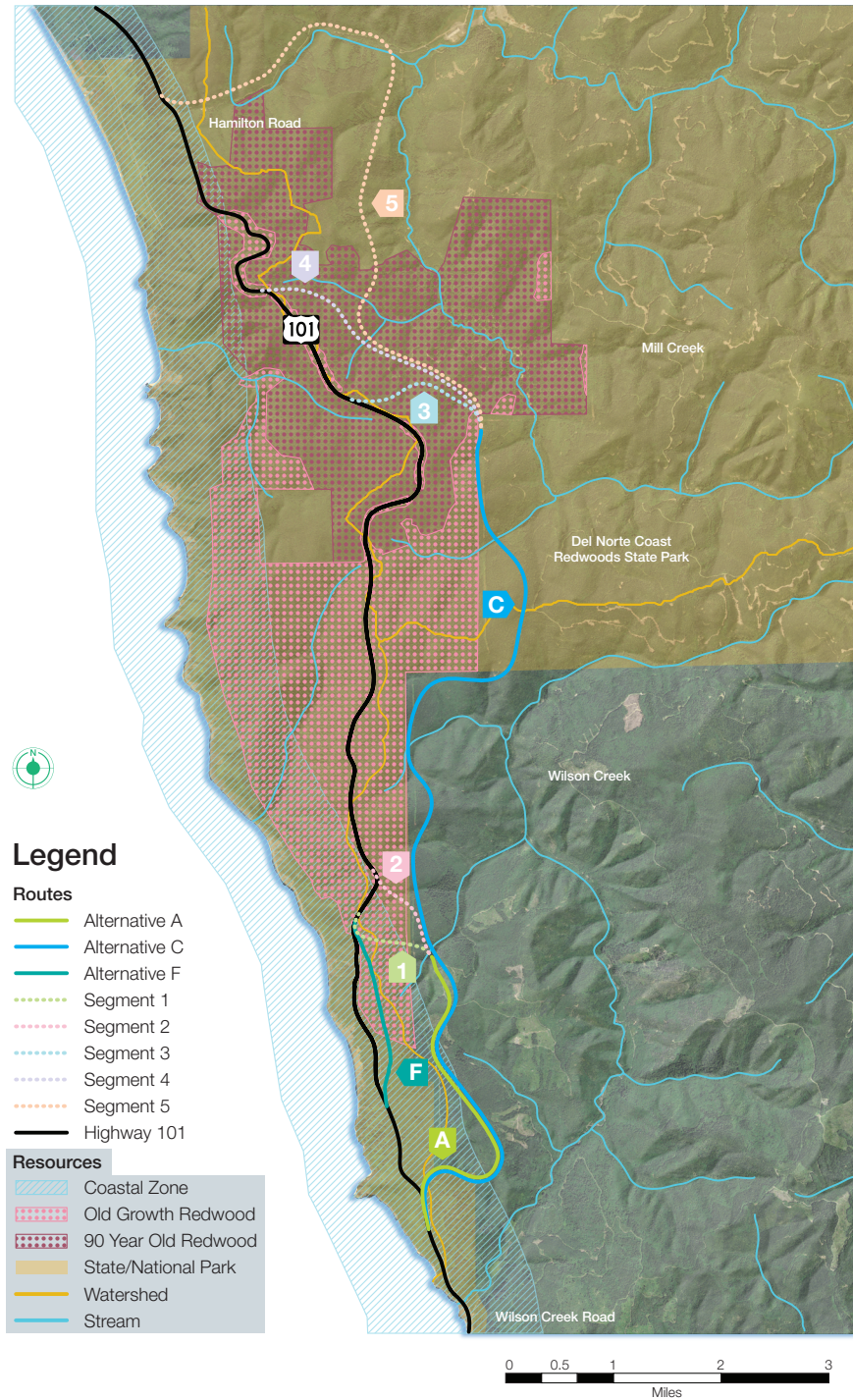
INCLINOMETER RESULTS
01-DN-101-P.M 15
LCG EFS-Last Change Grade
E.A. No: 0112000259
0114000066

DEPTH OF INCLINOMETER CASING: 289'
Ao DIRECTION: 248 * (MAGNETIC NORTH)
LOCATION (WGS-84): N41*38.198', W124*06.922'

BROKEN FORMATION



ENVIRONMENTAL RESOURCES



Preliminary Alternatives:
A1, A2, C3, C4, C5, F

CULTURAL RESOURCES

There are important tribal cultural resources located in the vicinity of the proposed alternative alignments for Last Chance Grade. The Last Chance Grade Partners are committed to avoiding and minimizing potential impacts on these resources.

The Last Chance Grade Partners include the following federally recognized Tribes:

Elk Valley Rancheria
Tolowa Dee-ni' Nation
Yurok Tribe

Last Chance Grade



FHWA EMERGENCY RELIEF (ER) PROGRAM REQUIREMENTS

- Applicable for identified Federal Aid Routes only
- Governor or Presidential Proclamation required
- Project scope to restore pre-event conditions only (repair of pre-existing conditions not allowed)
- Betterments / Improvements / Traffic capacity increase not allowed
- No work allowed outside State ROW
- Strict project delivery schedule—must reach construction phase by end of second fiscal year following the year of the event.
- Maximum Project Cost—\$100 million max, per event with a Proclamation, per state, per year.
 - Note that ER Program is only funded with \$100 million per year, for all US States and territories. Allocation of funding beyond the maximum requires unique congressional appropriation.
- Variances from ER Program Requirements must be requested and approved.

Last Chance Grade



EMERGENCY REPAIR SCENARIOS

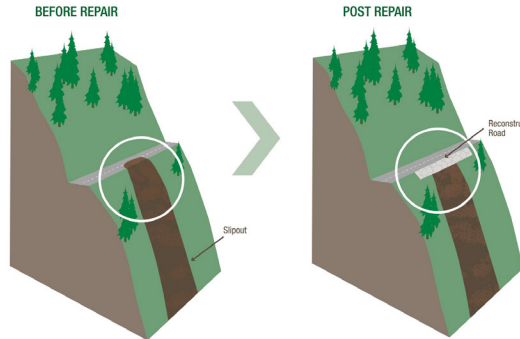
SCENARIO 1

Small Scale Slipout

Caltrans Response
Reconstruct Roadway
in Place

Construction Duration
Days to Weeks

Traffic Access
Yes. Likely One-Way
Reversible



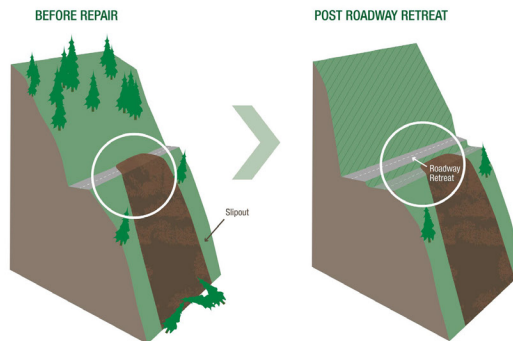
SCENARIO 2

Moderate Scale Slipout

Caltrans Response
Roadway Retreat Away
from Ocean

Construction Duration
Weeks to Years

Traffic Access
Short-Term Full Closure.
Then, One-Way
Reversible Traffic



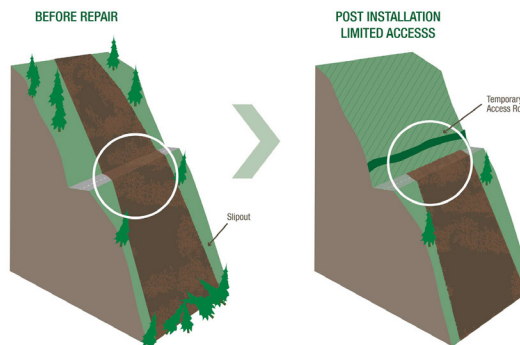
SCENARIO 3

Large Scale Slipout

Caltrans Response
Construct Temporary
Access Road (1 or 2 lanes)
+ Accelerate LCG
Realignment Project

Construction Duration
Years

Traffic Access
Full Closure. Then,
One-Way Reversible
Traffic on Temporary
Road Until Realignment
is Complete



Last Chance Grade



CALTRANS EMERGENCY PROJECTS PROCESS

When Emergency Damage Occurs:



*Note: an Emergency Opening (EO) project only eliminates advertisement and contracting requirements. Caltrans complies with environmental and right of way requirements, and expeditiously obtains required permits, approvals, and any required mitigation. Caltrans expends significant resources ensuring the laws allowing use of emergency contracts is respected, complied with and not abused or over-utilized, as such contracts are an invaluable tool which, along with our Field Maintenance Forces, allow us to keep our roadways open and safe for the traveling public.



FEDERAL EMERGENCY FUNDING

Funding source: Federal Highway Administration (FHWA) Emergency Relief (ER) Program. Note that this is a Congressionally Appropriated program, not a standard Fed-Aid Program.

Requirements:

- Significant damage occurs (coordination with FHWA begins)
- Through coordination with the Office of Emergency Services (OES), a Gubernatorial or Presidential Proclamation declares a State of Emergency and initiates the ER process
- Caltrans & FHWA specialist staff review damage sites and project applications
- FHWA approves, denies or requests adjustments to project applications

If Request For Project Funding Is Approved:

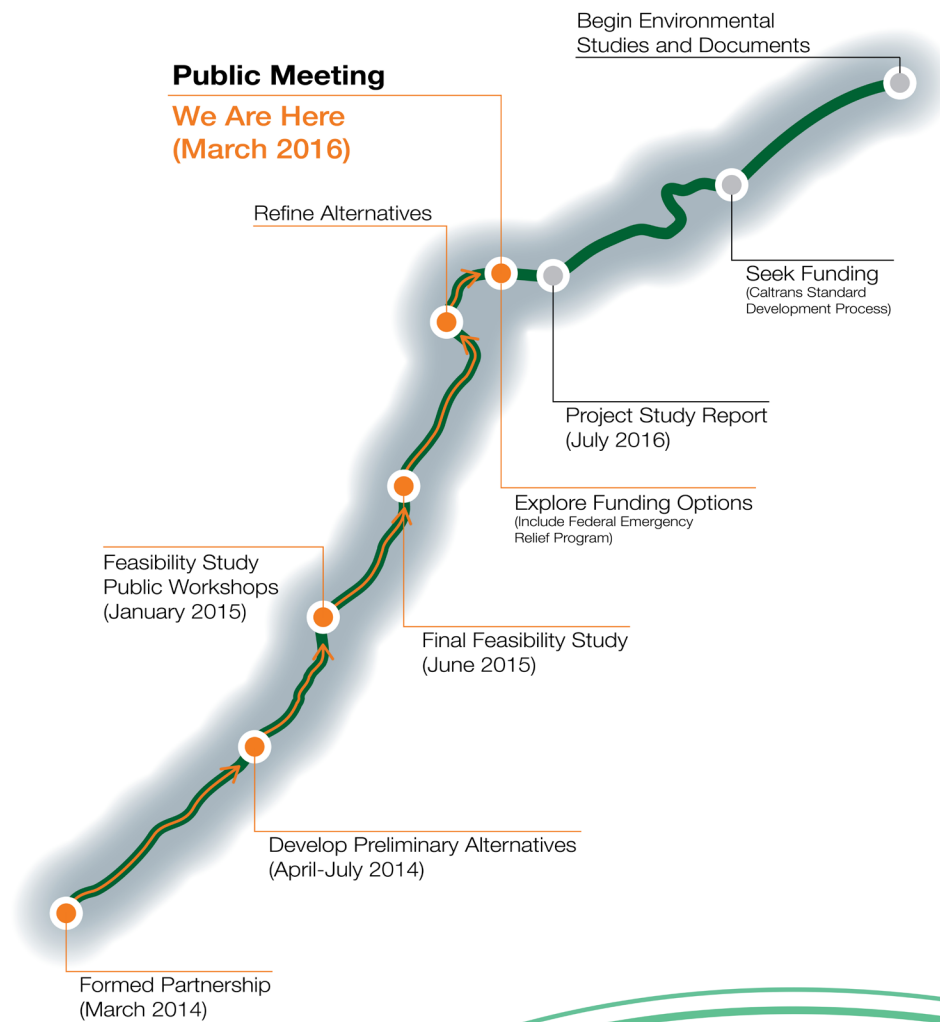
- Emergency Opening (EO) projects, which are minimally scoped to solely restore essential traffic and minimize the extent of further damage until a restoration project that completely restores the roadway to pre-damage conditions can be developed and implemented, are 100% reimbursed for the 1st 180 days after the date of the event stated on the Proclamation.
- Permanent Restoration (PR) projects, which are scoped to bring the roadway facility back to pre-damage conditions, are implemented via the standard federal-aid contract procedures and project delivery process.
- Process includes CEQA/NEPA* compliance, acquisition of approved Permits, and Right of Way (ROW) approvals & acquisitions.

*California Environmental Quality Act of 1970 (CEQA), and National Environmental Policy Act of 1969 (NEPA) are state and federal laws outlining the required environmental analysis.

Last Chance Grade



LAST CHANCE GRADE PROJECT TIMELINE



Last Chance Grade



GROUPS WORKING TO SUPPORT A PERMANENT SOLUTION AT LAST CHANCE GRADE

Congressman Huffman's Stakeholder Group

Convened by Congressman Huffman, representatives from the following groups participate in facilitated full day meetings to explore options for Last Chance Grade.

- Del Norte County
- Humboldt County
- Curry County
- Del Norte Local Transportation Commission
- Yurok Tribe
- Tolowa Dee-ni' Nation
- Elk Valley Rancheria
- Redwood National and State Parks
- California State Parks
- Caltrans
- California Highway Patrol
- Crescent City
- Humboldt County Association of Governments
- Environmental Protection Information Center (EPIC)
- Friends of Del Norte
- Save the Redwoods League
- Green Diamond Resource Co.
- Crescent City-Del Norte Chamber of Commerce
- Last Chance Grade Advisory Committee
- C. Renner Petroleum
- Rumiano Cheese

Biological Resources Working Group

Comprised of Partner and agency specialists and regulators, this group meets to ensure that the proposed strategies are consistent with regulatory requirements.

- Coastal Commission
- California Department of Fish and Wildlife
- Army Corps of Engineers
- California Department of Parks and Recreation
- Yurok Tribe
- National Park Service
- Tolowa Dee-ni' Nation
- Elk Valley Rancheria
- US Fish and Wildlife
- NOAA Fisheries (NMFS)
- North Coast Regional Water Quality Control Board

Last Chance Grade Partners

Comprised of entities with responsibilities in the project area, the Partners meet regularly to discuss issues specific to their entities' missions and responsibilities while working collaboratively to support development of a permanent solution at Last Chance Grade.

- Caltrans District 1
- California Department of Parks and Recreation
- National Park Service
- Elk Valley Rancheria
- Tolowa Dee-ni' Nation
- Yurok Tribe

Caltrans Multi-Disciplinary Project Development Team

Comprised of Caltrans specialists with the goal of determining and advancing the selected alternative.

- Project Manager
- Advanced Planning Project Engineers
- Regional Planner
- Construction Engineer
- Hydraulics Engineer
- Engineering Geologist
- Geologist
- Structures Construction Engineer
- Structures Design Engineer
- Surveyor
- Archaeologist
- Biologist
- Environmental Coordinator
- Traffic Safety Engineer
- Traffic Operations Engineer
- Right of Way Agent and Engineer
- Program Manager and Advisor
- Major Damage Coordinator
- Public Information Officer
- Tribal Liaison

Cultural Resources Sub-Working Group

Comprised of Tribal representatives with the goal of ensuring that impacts to cultural resources and possible mitigation are included in the consideration of alternatives.

- Elk Valley Rancheria
- Tolowa Dee-ni' Nation
- Yurok Tribe
- Caltrans Archeologist

Del Norte County Last Chance Grade Citizens Advisory Committee

Comprised of community members from Del Norte County, with the goal of supporting the effort to find an alternate route at Last Chance Grade and raise public awareness of the issue. To date, they have collected 16 letters of support from government entities and potentially impacted businesses throughout the region.

Other Significant Communications and Ongoing Working Relationships

- Federal Highway Administration (FHWA) Sacramento and FHWA Geotech, Colorado
- Congressman Jared Huffman
- Congressman Peter DeFazio, 4th District Oregon
- Assembly Member, Jim Wood, 2nd District
- State Senator Mike McGuire, 2nd District
- California Highway Patrol
- US Coast Guard
- Crescent City Harbor Commission
- Del Norte County
- Humboldt County
- City of Crescent City
- Del Norte Local Transportation Commission (DNLTC)



LAST CHANCE GRADE CONTACT INFORMATION

For project updates and general information:

www.lastchancegrade.com

Or contact the Last Chance Grade Project Team at:

lastchancegrade@dot.ca.gov
(707) 445-6465, TTY 711

Last Chance Grade



II. Agenda Packet

Last Chance Grade COMMUNITY TOWN HALL

EUREKA
March 22, 2016
5:30-7:30 p.m.
Wharfinger Building
Great Room
Eureka Public Marina
#1 Marina Way

CRESCENT CITY
March 23, 2016
5:30-7:30 p.m.
Del Norte County Fairgrounds
Main Exhibit Hall
421 Highway 101 North

KLAMATH
March 24, 2016
3:30-5:30 p.m.
Yurok Tribal Office
Klamath Community Room
190 Klamath Boulevard

AGENDA

15 min. Sign-in and Open House

20 min. Presentation

85 min. Open House/Q&A

Adjourn

Last Chance Grade Contact Information

For project updates and general information:

www.lastchancegrade.com

Or contact the Last Chance Grade Project Team at:

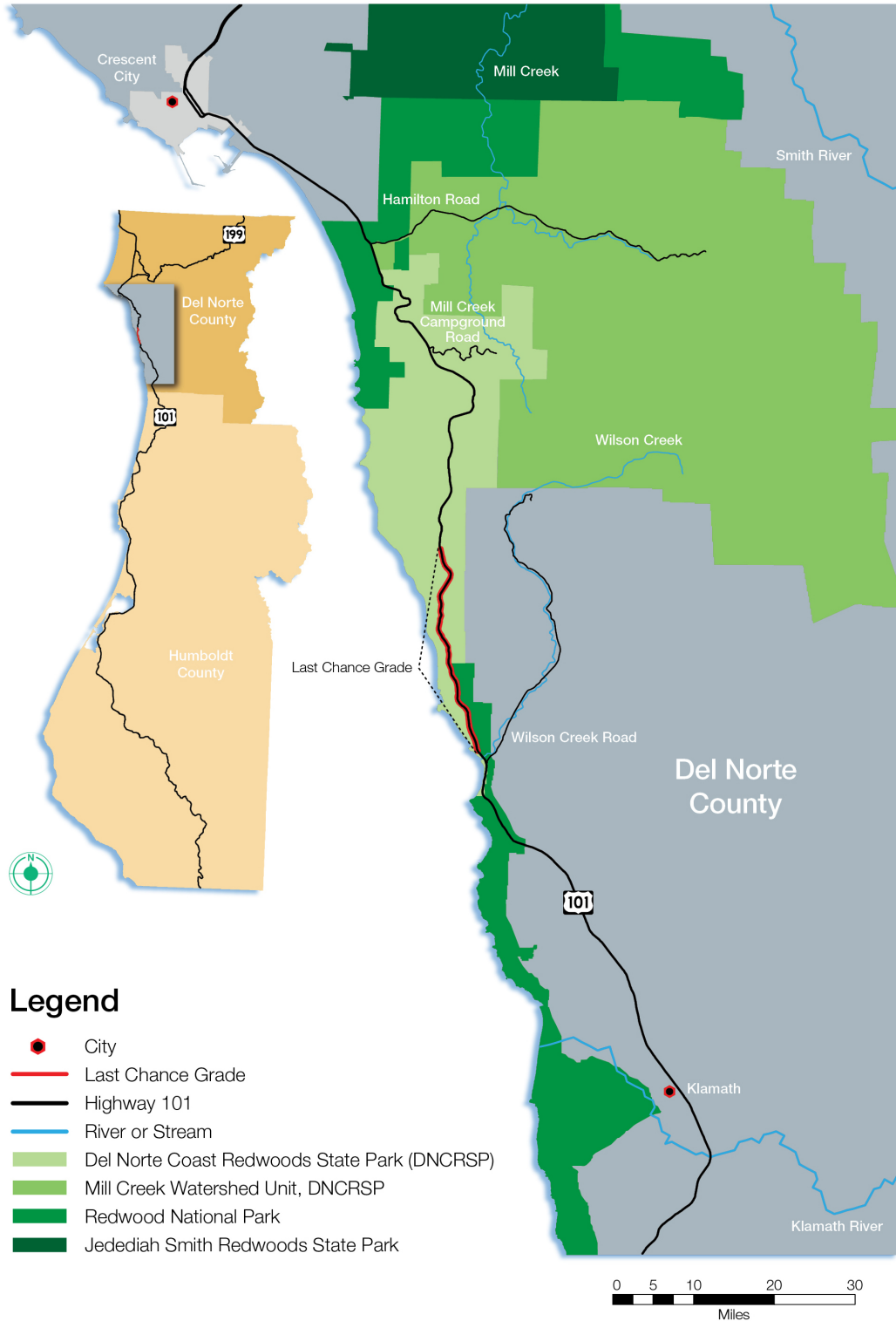
lastchancegrade@dot.ca.gov

(707) 445-6465, TTY 711

Last Chance Grade



LOCATION MAP



LAST CHANCE GRADE

Purpose

The purpose of this project is to develop a permanent solution to instability and potential roadway failure at Last Chance Grade. Caltrans is developing the Project Study Report which will consider alternatives that reduce maintenance costs, provide a reliable highway facility, and protect economic, environmental, and cultural resources.

Need

Landslides and road failures at Last Chance Grade have been an ongoing issue for decades. A geologic study in 2000 conducted for Caltrans by the California Geological Survey mapped over 200 historical and active landslides (both deep-seated and shallow) within the corridor between Wilson Creek and Crescent City. Over the years, Caltrans has conducted a considerable number of construction projects and expended significant resources on maintenance activities in order to keep the highway open for traffic. Since 1980, landslide mitigation projects – including roadbed overlays, slipout and washout repairs, retaining walls, drainage improvements, and significant maintenance – have cost over \$40 million. There is a need for a long-term solution to this historic instability at Last Chance Grade.

Description

This Project Study Report will propose a range of alternatives to address the segment of US Highway 101 at Last Chance Grade impacted by landslides and increasing instability. A Partnership was formed with the National Park Service, California Department of Parks and Recreation, the Yurok Tribe, Elk Valley Rancheria, and the Tolowa Dee-ni' Nation to study and develop feasible solutions that ensure environmental and cultural resources are considered in the development of a solution.

Last Chance Grade



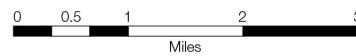
MAP OF ALTERNATIVES

A1, A2, C3, C4, C5, F



Legend

- Alternative A
- Alternative C
- Alternative F
- Segment 1
- Segment 2
- Segment 3
- Segment 4
- Segment 5
- Tunnel
- Existing LCG Alignment (No Build)
- Highway 101
- State/National Park



III. Other Handouts

PRELIMINARY ALTERNATIVES COMPARISON*

ALTERNATIVE	NEW CONSTRUCTION										WATERSHED CROSSINGS			EXISTING HABITAT TYPE	
	TRAVEL TIME ADDED (MINUTES)	CONSTRUCTION LENGTH (MILES)	STRUCTURES			LENGTH WITHIN PARKS (MILES)	CONSTRUCTION FOOTPRINT (ACRES)	CONSTRUCTION SCHEDULE (YEARS)	WILSON CREEK	MILL CREEK	CONSTRUCTION COST IN 2016 \$ (MILLIONS)	TYPE	ACRES		
			CULVERTS > 36"	TUNNEL	BRIDGES										
A1 Rudisill Road to LCG Tunnel (Includes 2,425 ft. tunnel)	1.0 min.	3.2 miles	9	Yes	1	0.8 miles	80 acres	3 years	1	0	\$680	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 57 0 1.5		
A2 Rudisill Road to Damnation Trailhead	0.8 min.	3.2 miles	10	No	2	0.6 miles	85 acres	2 years	2	0	\$275	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 61 0 3		
C3 Rudisill Road to South of Mill Creek Access (Includes 1,680 ft. tunnel)	1.7 min.	7.8 miles	19	Yes	4	3.2 miles	245 acres	3 years	6	3	\$950	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 200 23 0		
C4 Rudisill Road to North of Mill Creek Access (Includes 1,680 ft. tunnel)	1.5 min.	8.6 miles	14	Yes	5	4.0 miles	265 acres	4 years	6	4	\$1,000	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 200 43 0		
C5 Rudisill Road to Hamilton Road (Includes 1,680 ft. tunnel)	2.6 min.	11.7 miles	21	Yes	11	7.0 miles	330 acres	4 years	6	10	\$1,250	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	7 1 13 216 93 0		
F Full Tunnel Parallel to Existing Alignment (5,600 ft.)	1.0 min.	1.3 miles	N/A	Yes	N/A	N/A	4.5 acres	6.5 years	N/A	N/A	\$1,050	Coastal scrub/grassland/spruce Riparian Clear cut Young Redwood Forest Mature Redwood Forest Old Growth Redwood Forest	2 0 0 0 1 1.5		
Maintain Existing Alignment	Unknown and unquantifiable														

*All figures are estimates



EMERGENCY REPAIR SCENARIOS

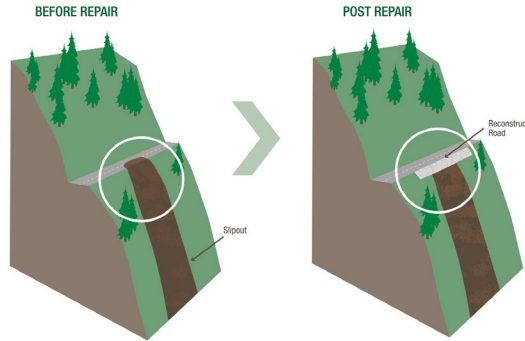
SCENARIO 1

Small Scale Slipout

Caltrans Response
Reconstruct Roadway
in Place

Construction Duration
Days to Weeks

Traffic Access
Yes. Likely One-Way
Reversible



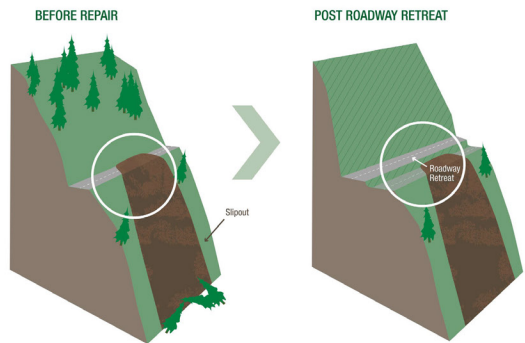
SCENARIO 2

Moderate Scale Slipout

Caltrans Response
Roadway Retreat Away
from Ocean

Construction Duration
Weeks to Years

Traffic Access
Short-Term Full Closure.
Then, One-Way
Reversible Traffic



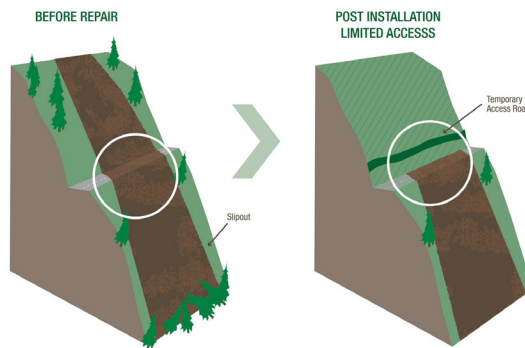
SCENARIO 3

Large Scale Slipout

Caltrans Response
Construct Temporary
Access Road (1 or 2 lanes)
+ Accelerate LCG
Realignment Project

Construction Duration
Years

Traffic Access
Full Closure. Then,
One-Way Reversible
Traffic on Temporary
Road Until Realignment
is Complete



Last Chance Grade



COMMENT CARD

Please share your comments regarding Last Chance Grade.

Optional:

Name: _____ Affiliation: _____

Contact Info: (Mailing address or email):

Thank you for your participation! Please turn this card in at the end of the meeting. You may also return it by mail or email **no later than April 15, 2015**. Please mail to: Caltrans District 1, c/o Sebastian Cohen, 1656 Union Street, Eureka, CA 95501, or email to: lastchancegrade@dot.ca.gov.



VI. Presentation

LAST CHANCE GRADE

COMMUNITY TOWN HALL



Eureka: 03/22/16

Crescent City: 03/23/16

Klamath: 03/24/16

Sebastian Cohen

Caltrans-Project Manager

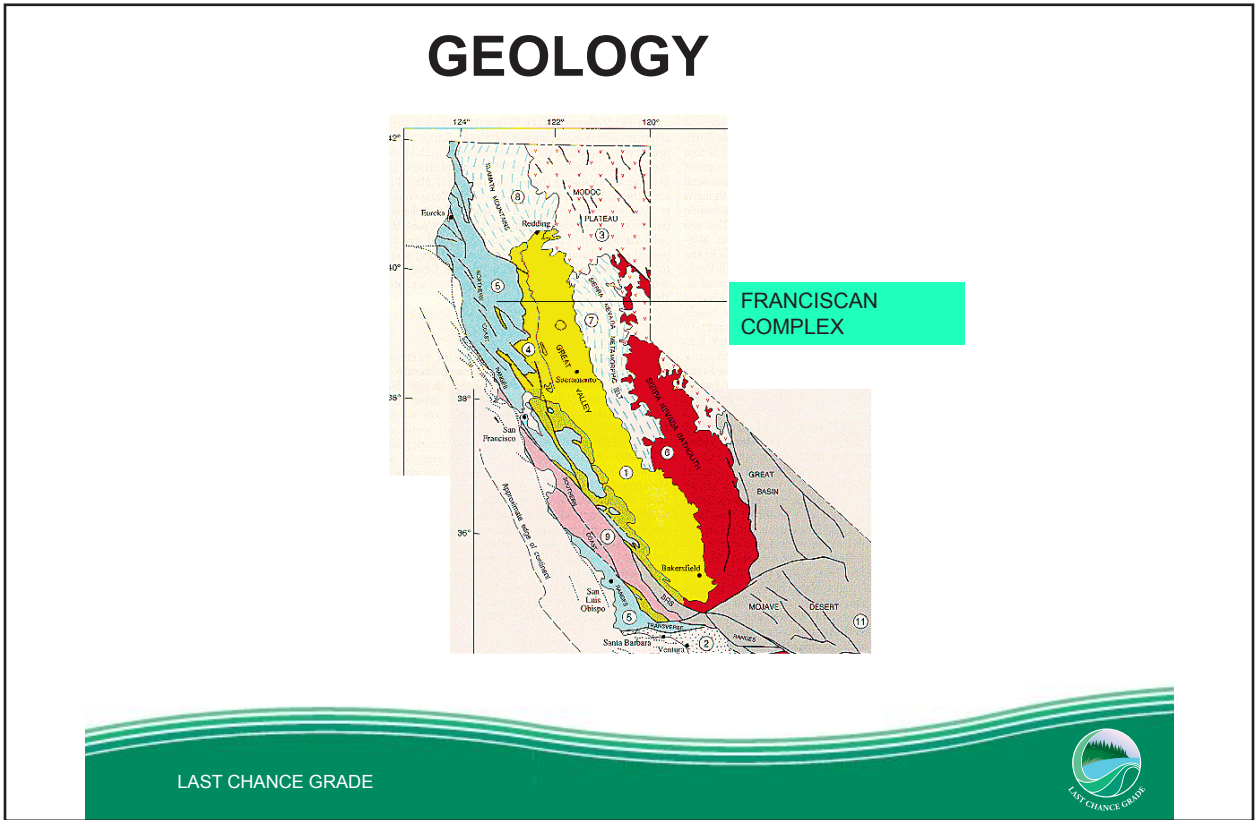


Presentation Overview

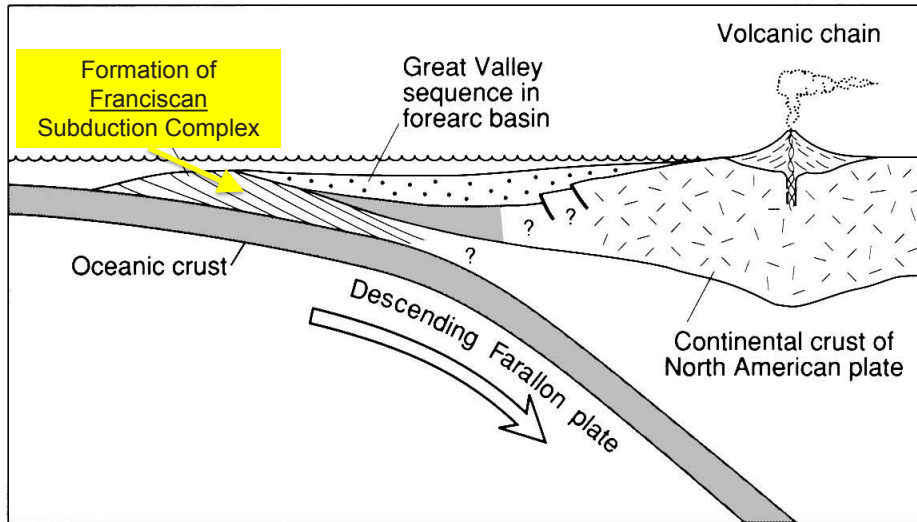
- Geology
- History
- Site Status
 - What's Occurring
- Status of Permanent Repair Project (Realignment)
 - Alternatives, Cultural & Environmental Resources
 - Challenges
 - Emergency Project / Emergency Response / Emergency Funding
 - Stakeholders

LAST CHANCE GRADE





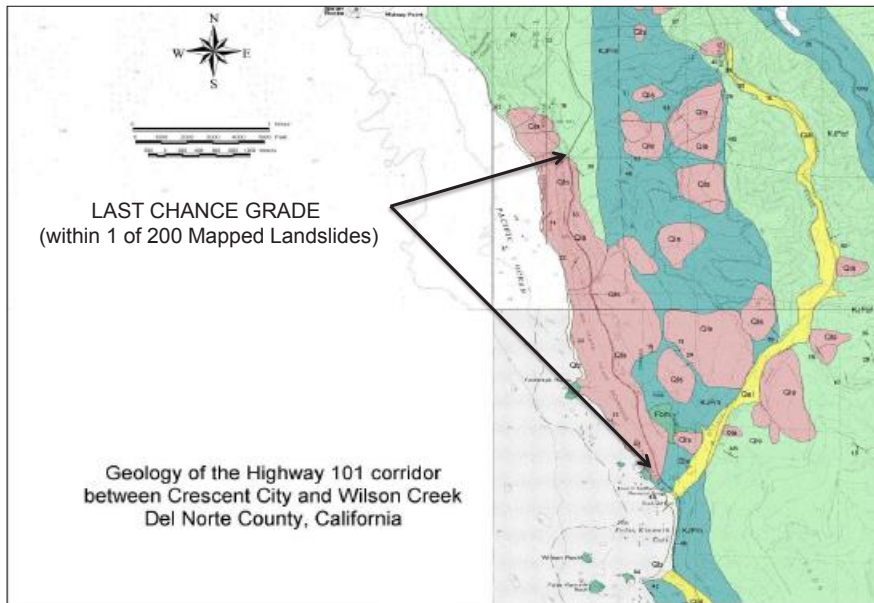
GEOLOGY



LAST CHANCE GRADE

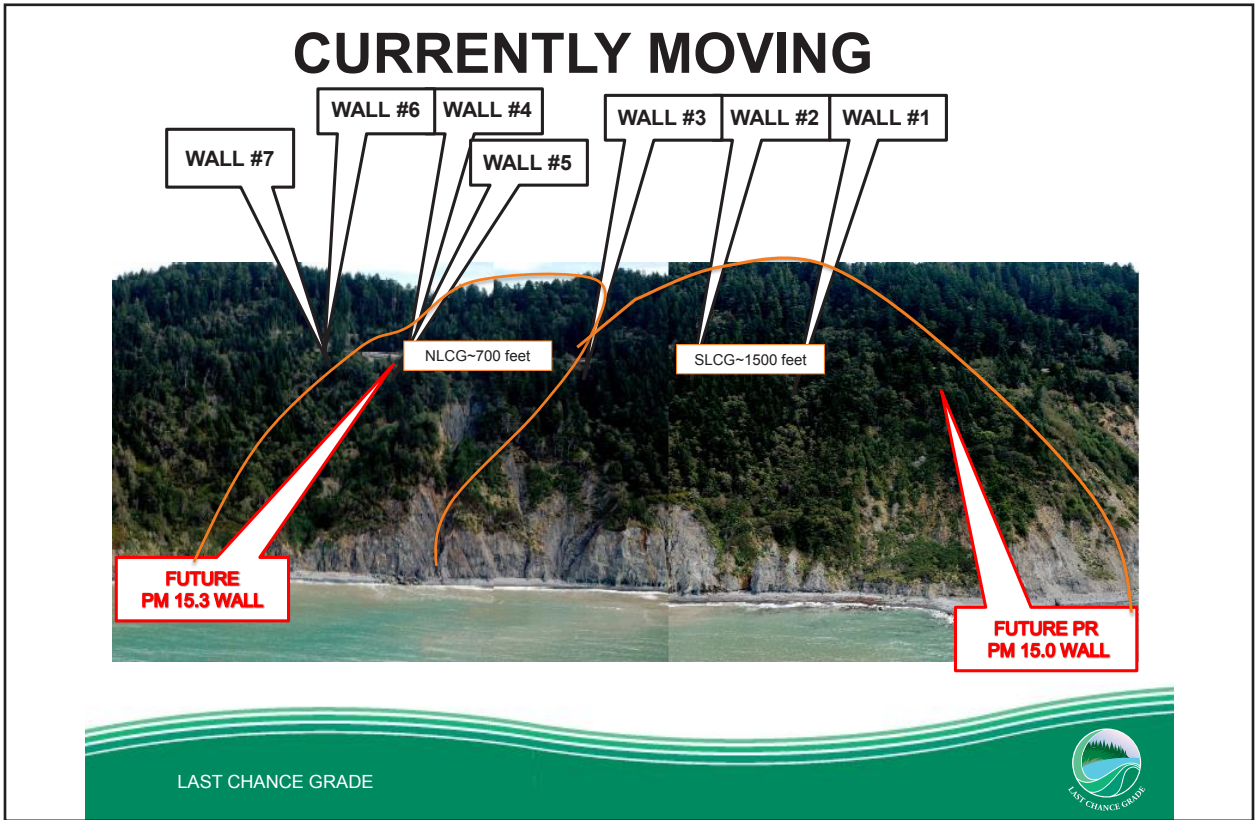
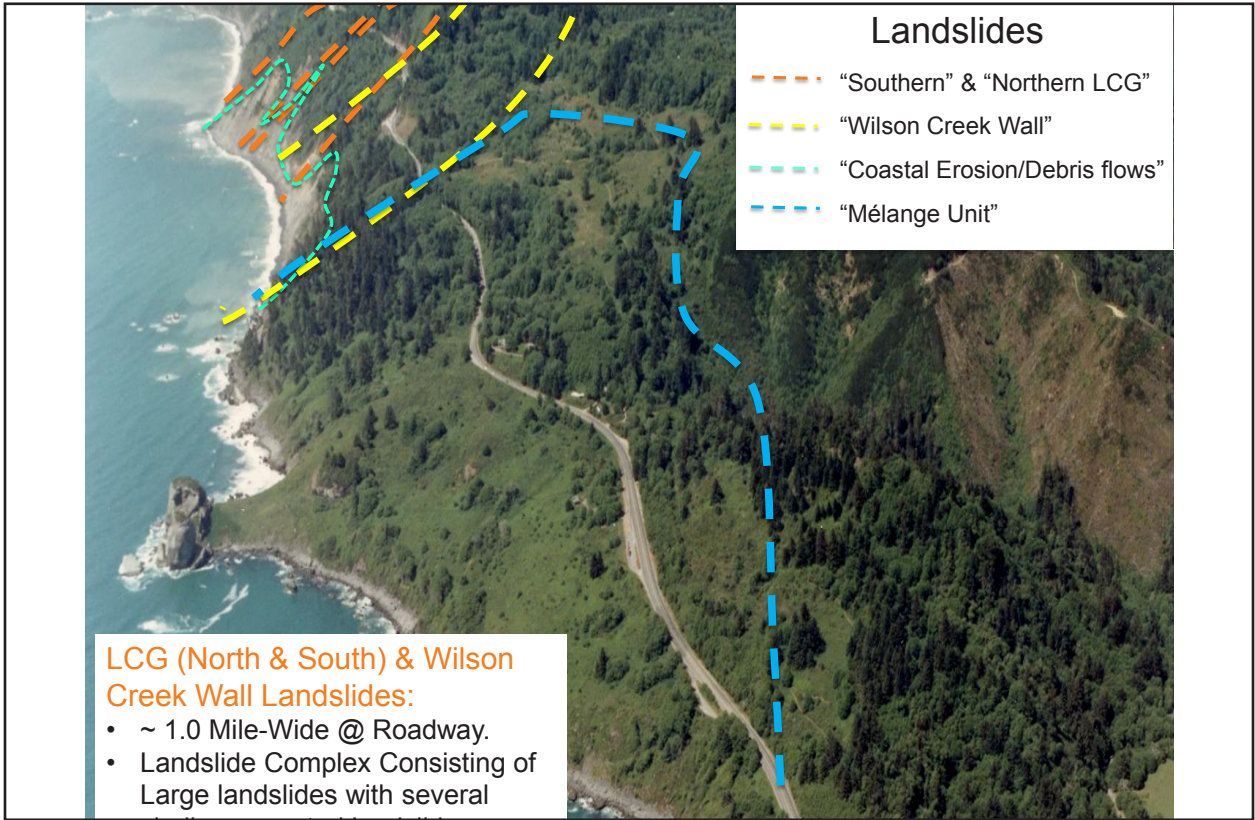


LANDSLIDE OVERVIEW MAP



LAST CHANCE GRADE





Undulating Vertical Alignment



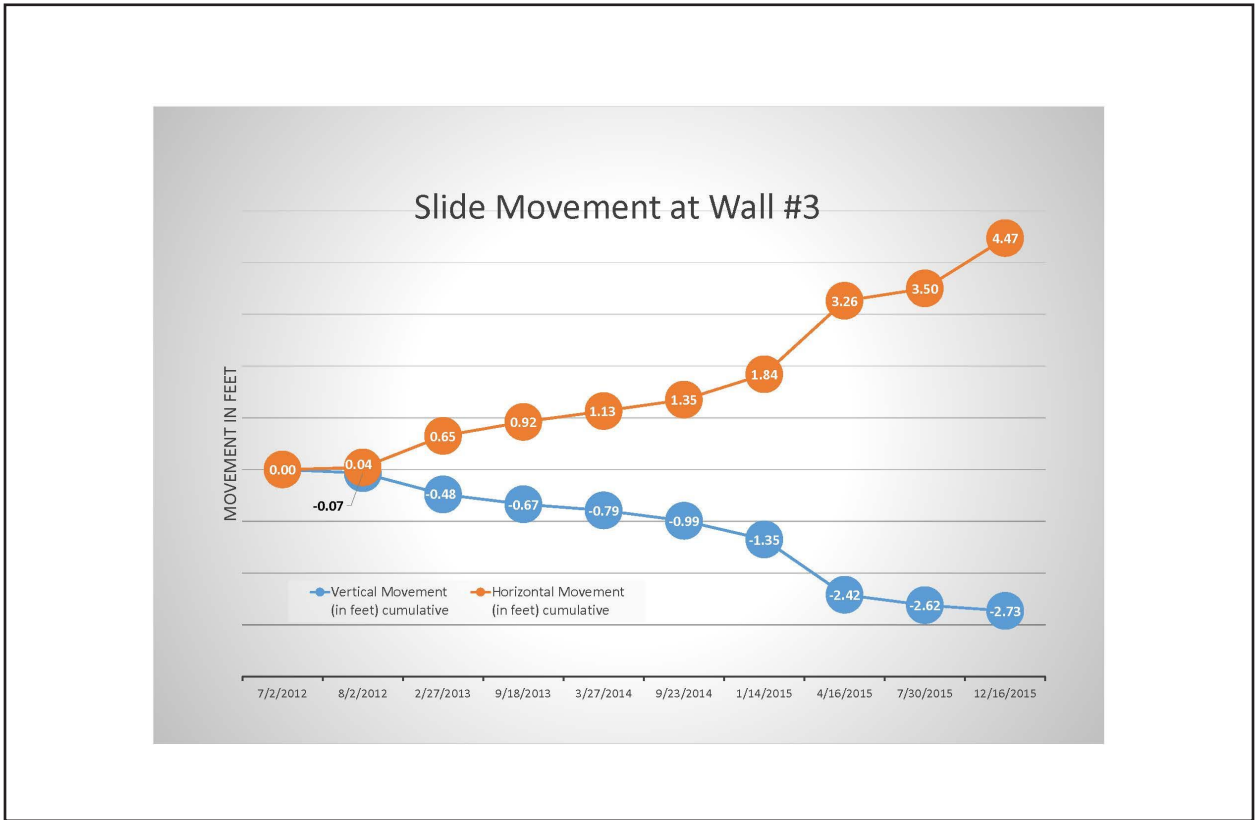
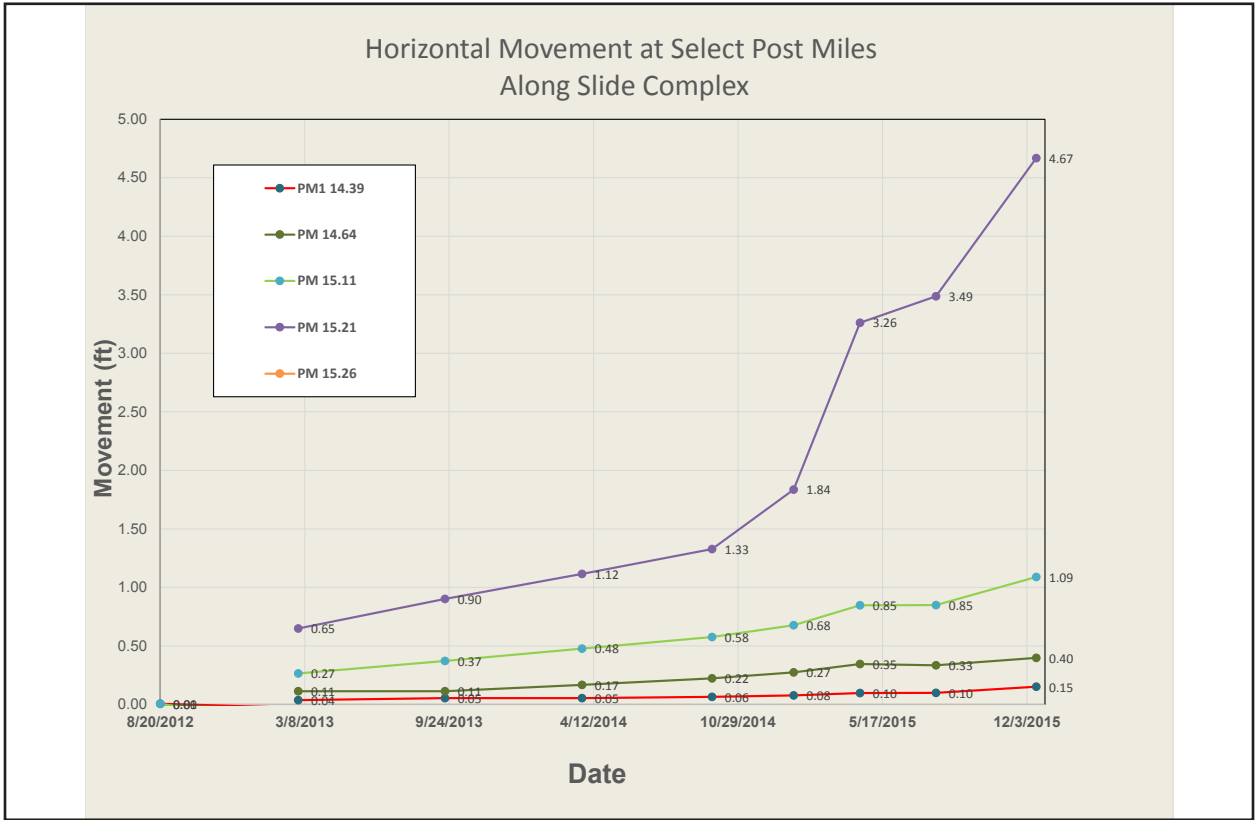
LAST CHANCE GRADE



Work To Be Done This Summer

LAST CHANCE GRADE





ROADWAY LATERAL MOVEMENT



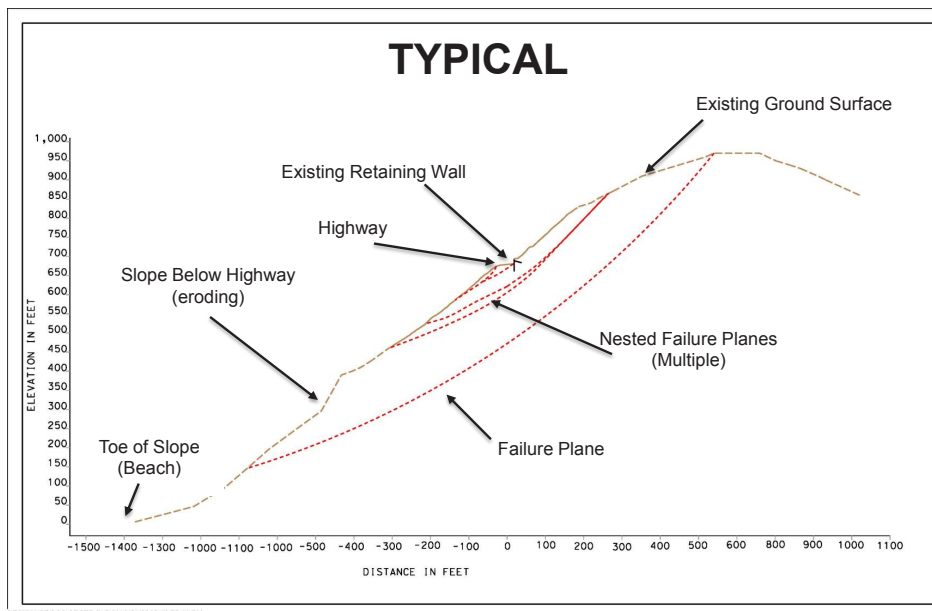
Surface Monitoring Data (Land Surveys) July 2012 – December 2015

- Recent LCG slide movement near RW #3: Vertical ~ **2.5'** Horizontal ~ **3.5'**
- Max horizontal movement near PM 15.21 ~ **4.67'**



CROSS-SECTION

TYPICAL



LAST CHANCE GRADE



HISTORIC TIMELINE

- 1894- Initial “Roadway” built across the site
 - Landslide Noted- “Last Chance Slide”
- 1930’s- Minor realignment performed
 - Landslide Noted-Expensive Maintenance Noted
- 1970’s -\$ and frequency of movement increasing
- 1980’s -Initiated studies for major realignment
 - Realignment Costly & Infeasible
- 1990’s –Reanalyzed major realignment
 - Realignment Costly & Infeasible
 - Maintain Existing Alignment
- 2009 -Safety Project
 - 6 Retaining Walls Constructed

LAST CHANCE GRADE



HISTORIC TIMELINE

- 2010 & 2011 -Federally Declared Storm Event
 - Received Federal Emergency Relief Program Funding
 - Additional Retaining Walls Necessary to Maintain Alignment
- 2012 –Increased Landslide Movement
 - Community Interest Rapidly Increased
 - Congressmen & Assemblymen Involvement
- 2014/15- Feasibility Study & Economic Impact Study
 - Congressman Huffman Working Group
 - Official Partnering with Parks & Tribes
 - Monitoring Systems Installed
 - Project Initiation Document Started
- Currently
 - Emergency Project (RW#3 / Undulating Alignment))
 - Funding Being Sought

LAST CHANCE GRADE



SUMMARY of HISTORY

- **Longstanding History of Road Failures**
- **No Full Closures**
- **Average Repair Cost**
 - \$1.2 mil / yr (1981-2012)
 - \$1.5 mil / yr (2012-2016)
 - Over \$40 mil (1981-present)

LAST CHANCE GRADE



PROJECT DEVELOPMENT (To-Date)

- **Feasibility Study Completed**
 - Included Economic Analysis
- **Project Initiation Document: On track to be completed this summer**
 - Funding identification is next critical step
- **Public Engagement Plan – Proactive Engagement w/ Stakeholders**
 - Initiated early
 - Will continue through out project
- **Several Working Groups**
 - Caltrans Staff/Specialists
 - Congressman Huffman's Working Group
 - Biological Resources Working Group (Agencies)
 - Partnering with Tribes & Parks (not Gov. to Gov)
 - Cultural Resources Working Group

LAST CHANCE GRADE



SIGNIFICANT SUPPORT FOR A PERMANENT SOLUTION

- Congressman Huffman's Stakeholder Group
- Last Chance Grade Partners
- Biological Resources Working Group
- Caltrans Multi-Disciplinary Project Development Team
- Cultural Resources Sub-Working Group
- Del Norte County LCG Citizens Advisory Committee
- Many Others.....(local and regional)

LAST CHANCE GRADE



MAP OF ALTERNATIVES

A1, A2, C3, C4, C5, F



PRELIMINARY ALTERNATIVES FOR STUDY

Note: All ALTERNATIVES STILL REQUIRE GEOTECHNICAL & ENVIRONMENTAL STUDIES (CEQA / NEPA)



PRELIMINARY ALTERNATIVES COMPARISON*

ALTERNATIVE	TRAVEL TIME ADDED (MINUTES)	NEW CONSTRUCTION							WATERSHED CROSSINGS		CONSTRUCTION COST IN 2016 \$ (MILLIONS)	EXISTING HABITAT TYPE	
		CONSTRUCTION LENGTH (MILES)	STRUCTURES			LENGTH WITHIN PARKS (MILES)	CONSTRUCTION FOOTPRINT (ACRES)	CONSTRUCTION SCHEDULE (YEARS)	WILSON CREEK	MILL CREEK		TYPE	ACRES
			CULVERTS > 36"	TUNNEL	BRIDGES								
A1 Rudisill Road to LCG Tunnel (Includes 2,425 ft. tunnel)	1.0 min.	3.2 miles	9	Yes	1	0.8 miles	80 acres	3 years	1	0	\$680	Coastal scrub/grassland/spruce Riparian	7
												Clear cut	1
												Young Redwood Forest	13
												Mature Redwood Forest	57
												Old Growth Redwood Forest	0
												Old Growth Redwood Forest	1.5
A2 Rudisill Road to Dammation Trailhead	0.8 min.	3.2 miles	10	No	2	0.6 miles	85 acres	2 years	2	0	\$275	Coastal scrub/grassland/spruce Riparian	7
												Clear cut	1
												Young Redwood Forest	13
												Mature Redwood Forest	61
												Old Growth Redwood Forest	0
												Old Growth Redwood Forest	3
C3 Rudisill Road to South of Mill Creek Access (Includes 1,680 ft. tunnel)	1.7 min.	7.8 miles	19	Yes	4	3.2 miles	245 acres	3 years	6	3	\$950	Coastal scrub/grassland/spruce Riparian	7
												Clear cut	1
												Young Redwood Forest	13
												Mature Redwood Forest	200
												Old Growth Redwood Forest	23
												Old Growth Redwood Forest	0
C4 Rudisill Road to North of Mill Creek Access (Includes 1,680 ft. tunnel)	1.5 min.	8.6 miles	14	Yes	5	4.0 miles	265 acres	4 years	6	4	\$1,000	Coastal scrub/grassland/spruce Riparian	7
												Clear cut	1
												Young Redwood Forest	13
												Mature Redwood Forest	200
												Old Growth Redwood Forest	43
												Old Growth Redwood Forest	0
C5 Rudisill Road to Hamilton Road (Includes 1,680 ft. tunnel)	2.6 min.	11.7 miles	21	Yes	11	7.0 miles	330 acres	4 years	6	10	\$1,250	Coastal scrub/grassland/spruce Riparian	7
												Clear cut	1
												Young Redwood Forest	13
												Mature Redwood Forest	216
												Old Growth Redwood Forest	93
												Old Growth Redwood Forest	0
F Full Tunnel Parallel to Existing Alignment (5,600 ft.)	1.0 min.	1.3 miles	N/A	Yes	N/A	N/A	4.5 acres	6.5 years	N/A	N/A	\$1,050	Coastal scrub/grassland/spruce Riparian	2
												Clear cut	0
												Young Redwood Forest	0
												Mature Redwood Forest	0
												Old Growth Redwood Forest	1
												Old Growth Redwood Forest	1.5
Maintain Existing Alignment												Unknown and unquantifiable	

*All figures are estimates



ENVIRONMENTAL & CULTURAL RESOURCES

- Extensive Environmental & Cultural resources located in the vicinity of all proposed alternative alignments for Last Chance Grade.
- Stakeholders are working together early & committed to avoiding and minimizing potential impacts to these resources.

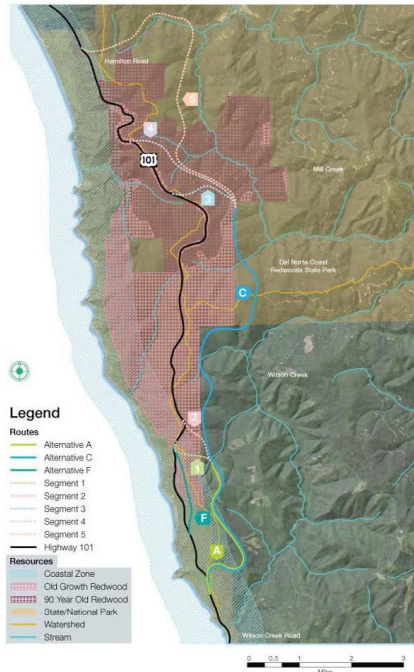
Federally Recognized Tribes:

- Elk Valley Rancheria
- Tolowa Dee-ni' Nation
- Yurok Tribe

LAST CHANCE GRADE



ENVIRONMENTAL RESOURCES



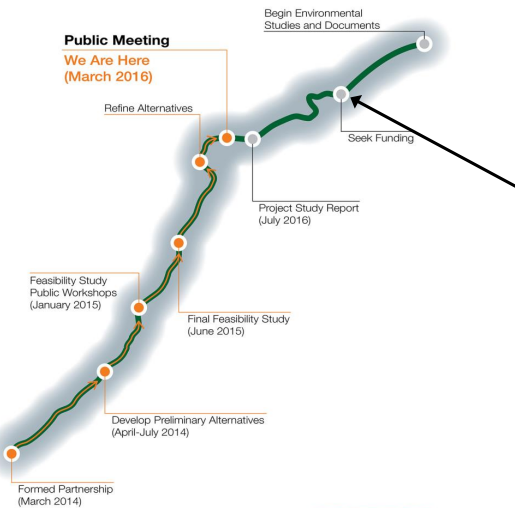
Preliminary Alternatives:
A1, A2, C3, C4, C5, F

SIGNIFICANT ENVIRONMENTAL RESOURCES

- **Many Studies Will Be Required:**
 - **Old Growth Redwoods**
 - **Marbled Murrelet**
 - **Cumulative Watershed Impacts**
 - **Specific Fisheries Impacts**
 - **Habitat Connectivity Issues**
 - **Bats, Pollinators, etc...**
- **Significant Mitigation Expected**



Project Timeline



Actual Project Delivery Determined by Acquisition of Funding.

Different Funding Programs Have Different Delivery Requirements

Usually Seek Funding After PSR Seeking It Now

Potential Project Delivery Milestone Durations:

- **Enviro Studies: ~5-8 yrs**
- **Design, Permits, ROW: ~3-5 yrs**
- **Construction: ~5-8 yrs**

Last Chance Grade Project



EMERGENCY PROJECTS

- **CALTRANS' EMERGENCY PROJECT REQ.**
- **FEDERAL EMERGENCY FUNDING**
 - **PROCESS**
 - **FUNDING REQ.**
- **CALTRANS' RESPONSE SCENARIOS**

LAST CHANCE GRADE



CALTRANS' EMERGENCY PROJECT DEVELOPMENT PROCESS

Per PCC 10122 – State can suspend State Contract Act, and initiate an Emergency Contract under specific conditions-

Requirements / Constraints:

- Beyond Caltrans' Maintenance Forces Abilities (Schedule / Equipment / Materials / Technical)
- Project must prevent or mitigate the loss or impairment of life, health, property, or essential services.
- State funds must exist before contract can be initiated

LAST CHANCE GRADE



Damage That Caltrans Responds To



Federal Highway Administration (FHWA) Emergency Relief (ER) Program

Congressionally appropriated program, not a standard Fed-Aid Program. Only applicable under unique conditions. Program has many constraints & specific requirements.

Program Initiation:

- Significant damage occurs & coordination with FWHA begins
- Through Office of Emergency Services (OES), a Gubernatorial or Presidential Proclamation declares a State of Emergency, which initiates the ER Program - allowing project applications.
- FHWA approves, denies or requires adjustments to project applications

LAST CHANCE GRADE



Federal Highway Administration (FHWA) Emergency Relief (ER) Program

Some of the Requirements:

- State ROW Only.
- Betterments (improvements) not allowed.
- CEQA/NEPA*, Permits, Right of Way (ROW) all required.
- Funded \$100 million per year- All US States and Territories.
- \$100 million max project cost, per proclamation, per state, per year.
 - Projects above \$100 million requires unique congressional appropriation.

❖ LCG Realignment Project would require several Variances

LAST CHANCE GRADE



EMERGENCY RESPONSE -1

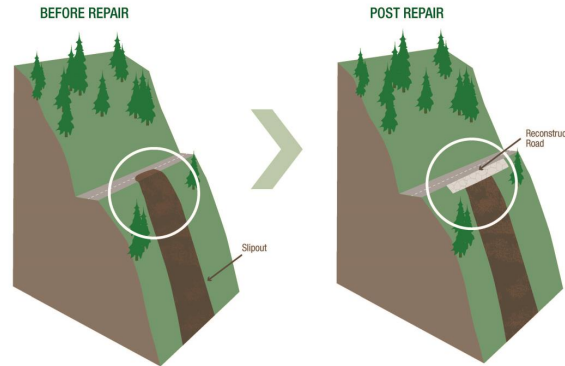
SCENARIO 1

Small Scale Slipout

Caltrans Response
Reconstruct Roadway
in Place

Construction Duration
Days to Weeks

Traffic Access
Yes. Likely One-Way
Reversible



HAS BEEN OCCURRING AT LCG

LAST CHANCE GRADE



EMERGENCY RESPONSE -2

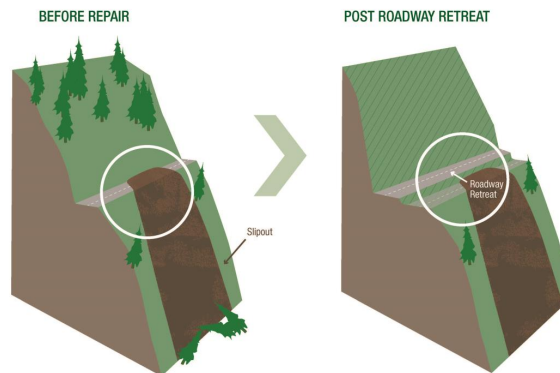
SCENARIO 2

Moderate Scale Slipout

Caltrans Response
Roadway Retreat Away
from Ocean

Construction Duration
Weeks to Years

Traffic Access
Short-Term Full Closure.
Then, One-Way
Reversible Traffic



**NOT OCCURRING AT LCG
(will be next step)**

LAST CHANCE GRADE



EMERGENCY RESPONSE-3

SCENARIO 3

Large Scale Slipout

Caltrans Response

Construct Temporary Access Road (1 or 2 lanes)
+ Accelerate LCG Realignment Project

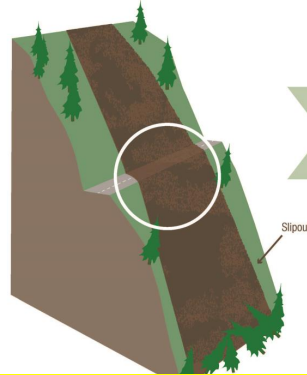
Construction Duration

Years

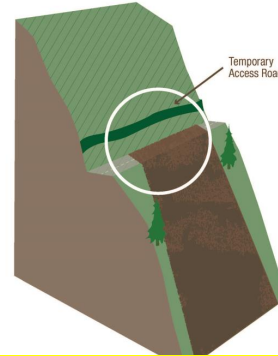
Traffic Access

Full Closure. Then, One-Way Reversible Traffic on Temporary Road Until Realignment is Complete

BEFORE REPAIR



POST INSTALLATION LIMITED ACCESS



**NOT OCCURRING AT LCG
(if necessary)**

LAST CHANCE GRADE



EXTENSIVE SITE MONITORING

- Near-Real Time Monitoring System
- Field Topographic Surveys
- Aerial Surveys
Slope & Toe Erosion
- Daily Field Inspections

LAST CHANCE GRADE



WHATS OCCURRING NOW

- Project Initiation Document will be completed June, 2016.
- Federal Funding (ER & Other Potential Sources) Being Sought
- Monitoring & Maintaining Existing Road is Priority
 - Repair Retaining Walls
 - Adjust Vertical Alignment
 - Power Supply; Signs w/ Lights; Changeable Message Signs
 - Additional Monitoring Systems Planned
 - Web Cameras for Public's Use
 - Slope Lighting

LAST CHANCE GRADE



FOR MORE INFORMATION

Website:

www.Lastchancegrade.com

Contact:

lastchancegrade@dot.ca.gov

(707) 445-6464, TTY 711

LAST CHANCE GRADE



APPENDIX C: COMMENT CARDS

EUREKA

I would hope that my comment is so obvious as to be unnecessary, but I am told, that is not the case. Since all routes except F start by bypassing the most problematic area, in partly much the same route, that when construction finally begins, you would start work at the south end. That is the part that is mandatory regardless of the route chosen. It would also prepare as quickly as possible for a complete loss of the existing road. If one of the C routes were chosen, you could still cut over route 1 or 2 and replace the part which must be replaced.

Great job! Thank you for the fascinating information. I really want to work on this project ... after I finish Lake 20/53.

- 1) Keep 101 to Oregon/California open! Period
- 2) A2 best
- 3) Tunnel won't work, too much money to maintain.

I have deep concerns based on Caltrans past record of numerous serious screw ups and sloppy work. I do not want to see any so-called improvements such as road adjustment/expansions to facilitate access for Starbucks. I have concerns for the old growth redwoods and wildlife since Caltrans record in that regard is very poor. My other concern is for the salmon at Mill Creek – that is critical salmon habitat!

My preferences for road placement is to (starting south) go on to Green Diamond land (blue and yellow lines), continues to top of blue line and then continue up 5 to Hamilton Road. If the road is moved inland the old 101 would hopefully recover and revert back to nature giving the trees, _____, etc. a chance.

CRESCENT CITY

A1

Horrible meeting.

KLAMATH

- How will Caltrans maximize the economic opportunities for local tribes and communities?
- What is the yearly costs of Last Chance Grade now based off past costs for maintenance?

- What is the actual movement in feet (out and down)?
- Where are the top 3 funding sources for each alternative? How will Caltrans work with tribes to fundraise?
- How will Caltrans “empower” tribes with this project as an example for future projects? How will Caltrans get guidance of “empower” from tribes?