

# Last Chance Grade

## Permanent Restoration Project

Draft Environmental Document (DED)  
and Draft Section 4(f) Evaluation  
Open House Meeting

January 24, 2024



# Agenda

- Welcome and introductions
- Project background
- Project alternatives
- Terminology
- Draft Environmental Document (DED)
- Next steps
  - How to comment on the DED
- Q&A

## Project Location

**LAST  
CHANCE  
GRADE**











STOP

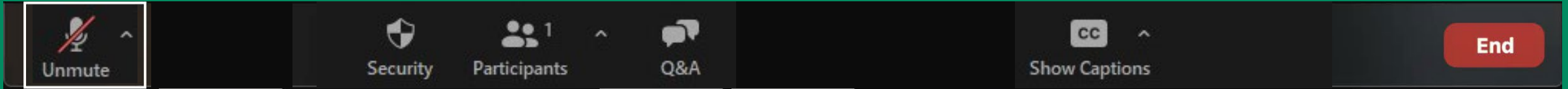
STOP  
HERE ON  
RED  
↓

BIKERS  
MUST  
PUSH BUTTON

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CLOSED



# Virtual participation on Zoom



## 1 Audio & Video

- Use the toolbar
- Audio is muted to limit background noise
- Video and participant list are turned off to honor attendees' request for privacy
- Use "Raise Hand" feature to be unmuted
- If dialing in on telephone, use \*9 to raise and lower hand

## 2 Q&A

- Click on "Q&A" to enter your questions

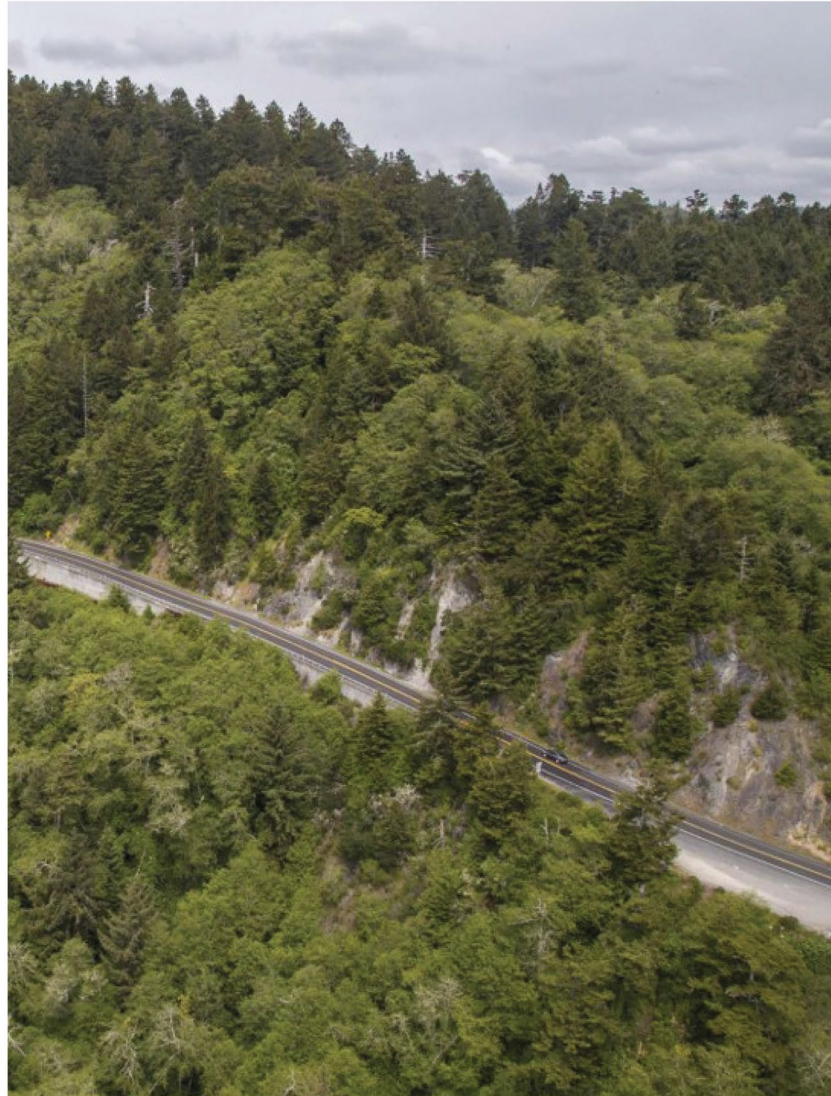


# How to Submit a Comment



The comment period for the Draft Environmental Document began on **December 15, 2023** and will end on **February 13, 2024**.

**All comments must be submitted by email or letter.**



## Two options for submitting comments

### Email



Send an email to  
**[DEDcomments@lastchancegrade.com](mailto:DEDcomments@lastchancegrade.com)**

### Letter



Send a written comment to:  
Caltrans District 1  
Attention: Steve Croteau  
P.O. Box 3700  
Eureka, CA 95502-3700





## LEGEND

Broken  
Formation  
Melange  
Formation  
Coastal  
Erosion

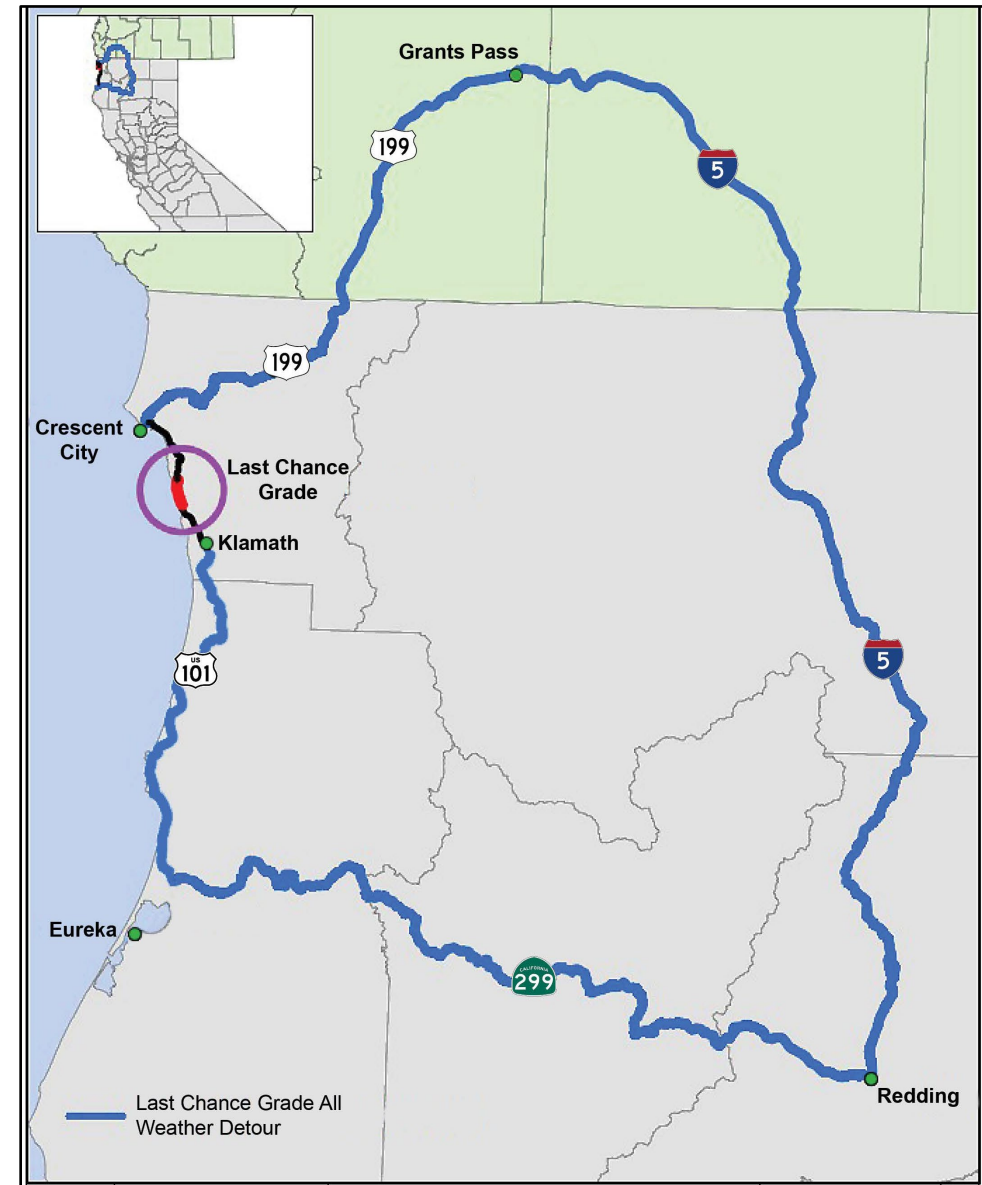


- Dashed lines indicate large active landslides in project area
- Surrounding area is part of Redwood National and State Parks



# Project Purpose

- Provide a more reliable connection
- Reduce maintenance costs
- Protect the economy, natural resources, and cultural resources

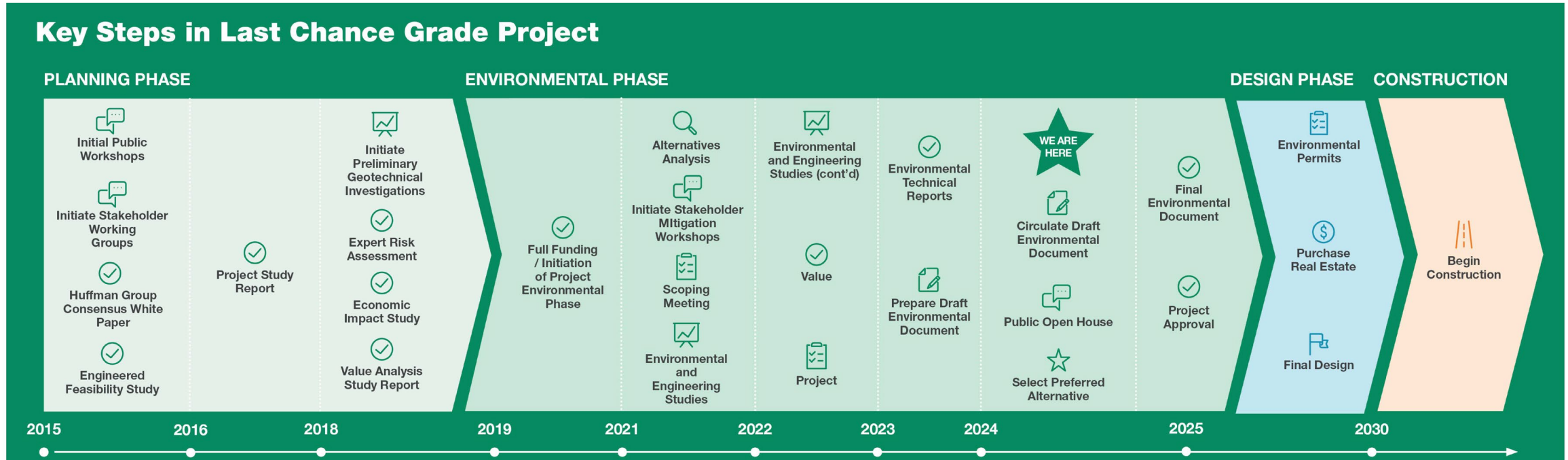






# Project Timeline since 2015

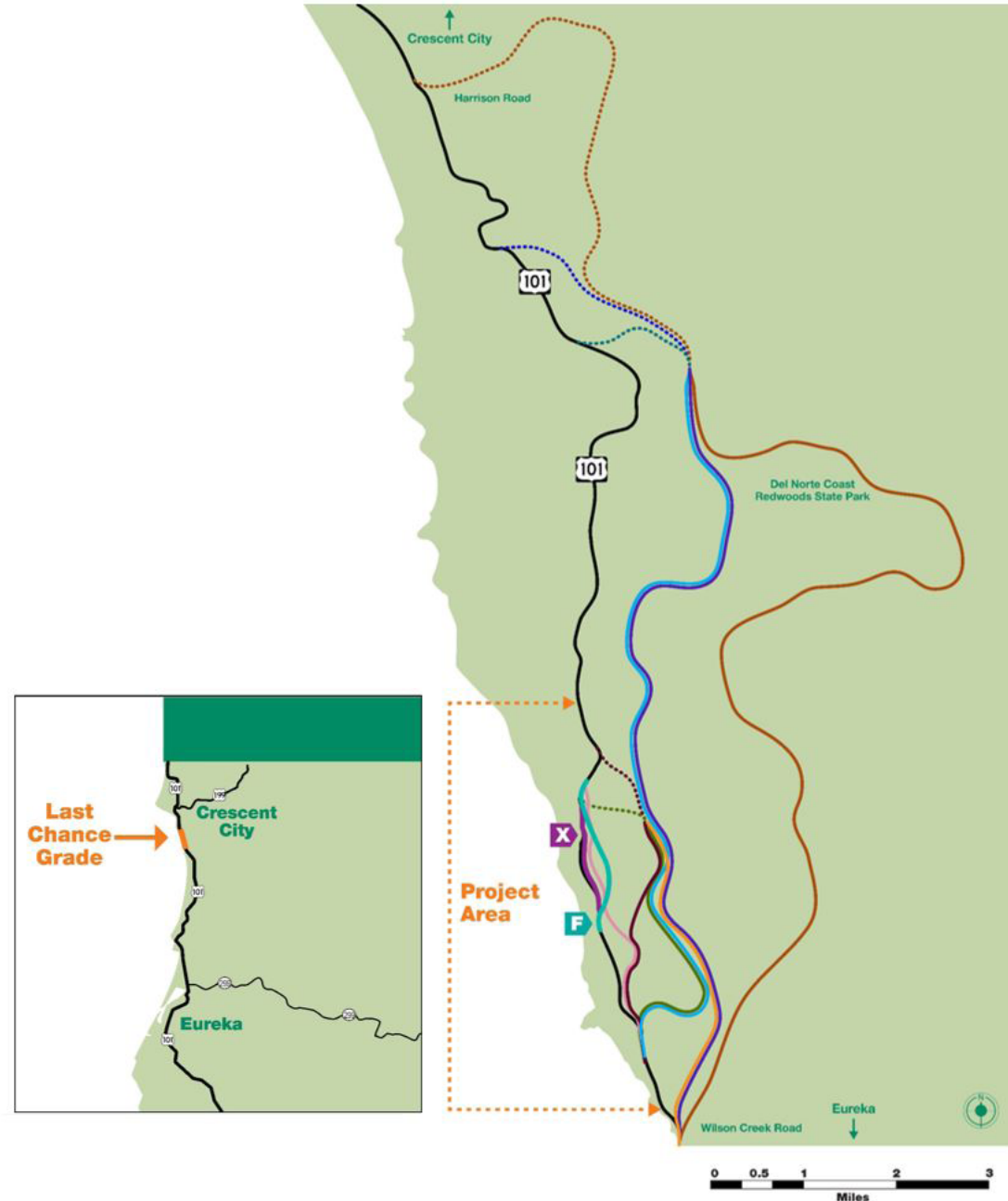
## Key Steps in Last Chance Grade Project





# Alternatives

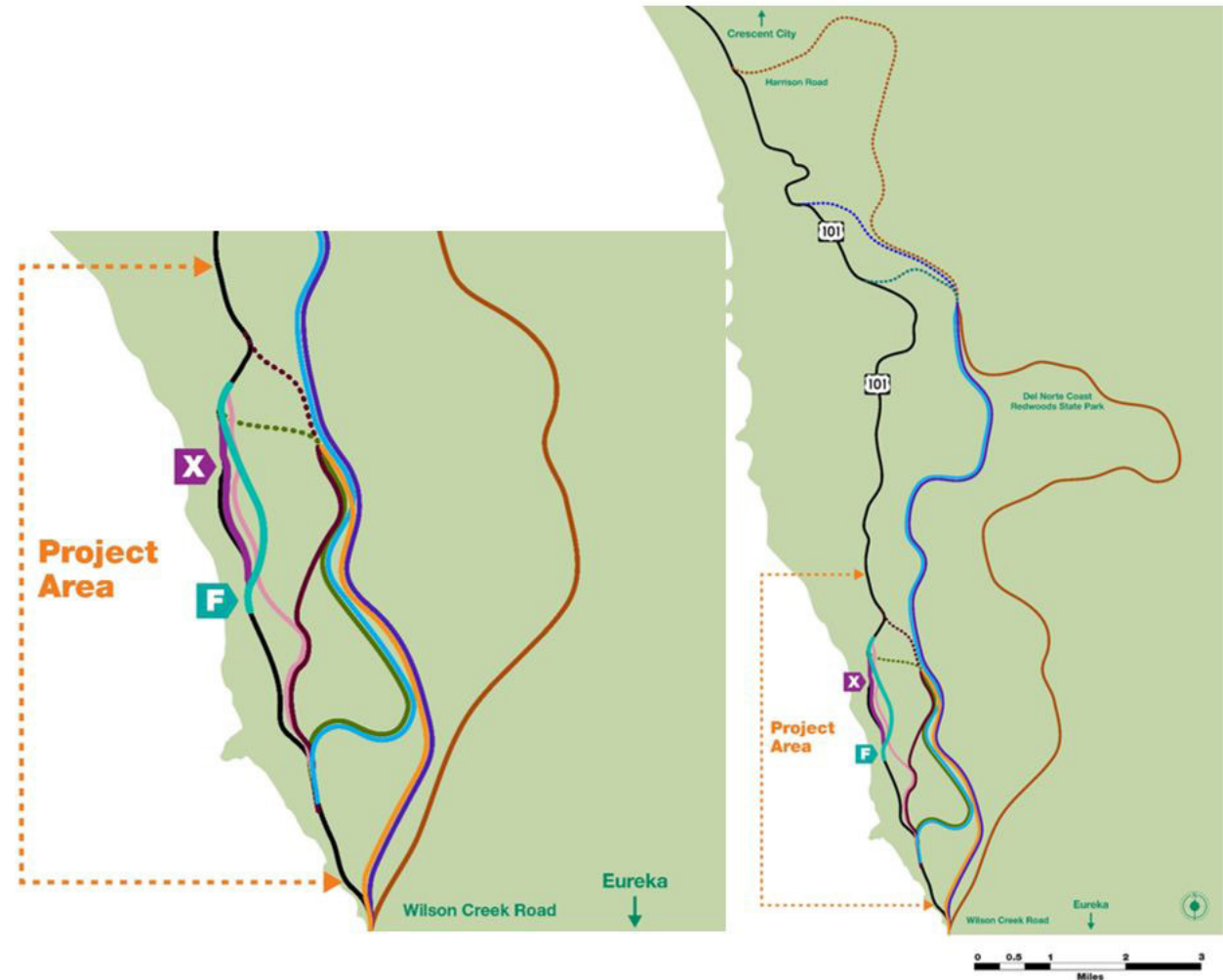
- Caltrans and stakeholders have worked collaboratively since 2015
- 18 alternatives narrowed to two
- Alternatives X and F rose to the top
  - ◆ Others eliminated from further study as infeasible (higher costs and environmental impacts, longer time to construct)





# Alternatives

- Caltrans and stakeholders have worked collaboratively since 2015
- 18 alternatives narrowed to two
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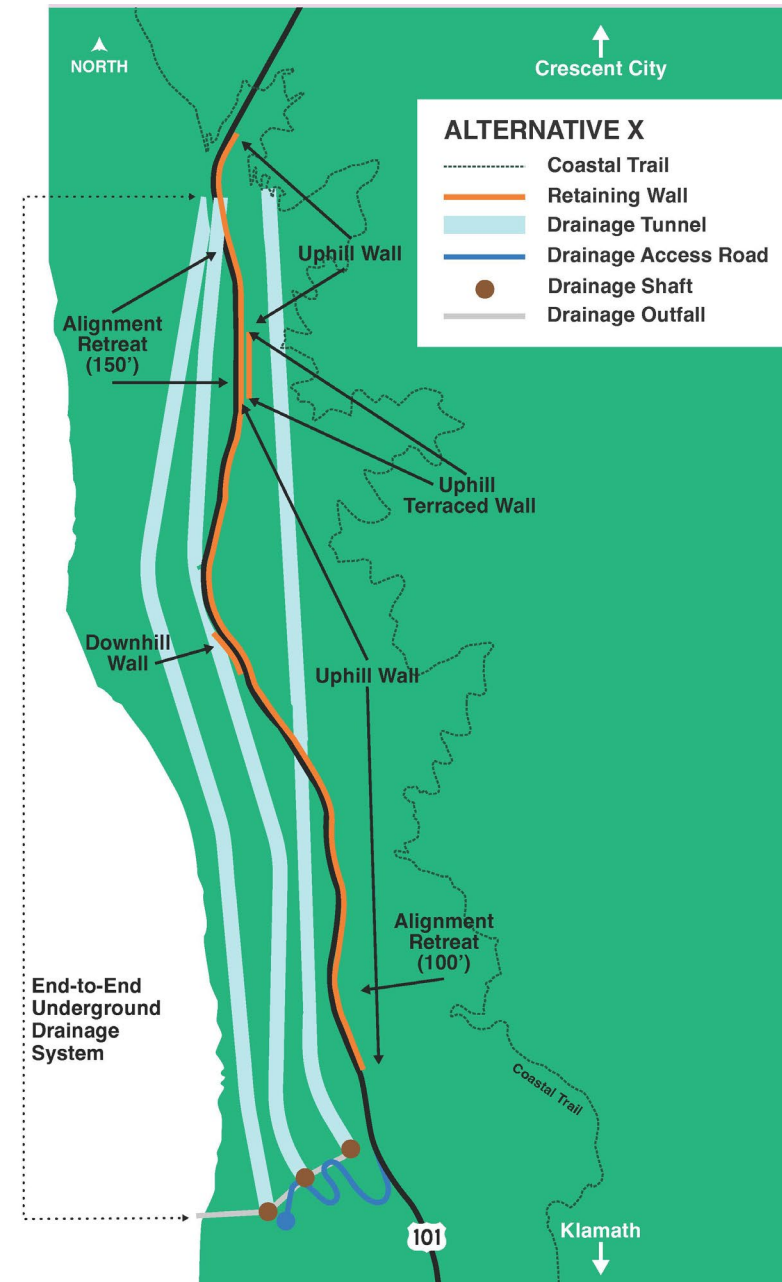




# Alternative X

## *Re-engineered roadway*

- Landslide controls
  - Underground drainage system
- Within/adjacent to existing roadway
  - 1.6-mile-long continuous retaining wall





# Alternative X - Simulation

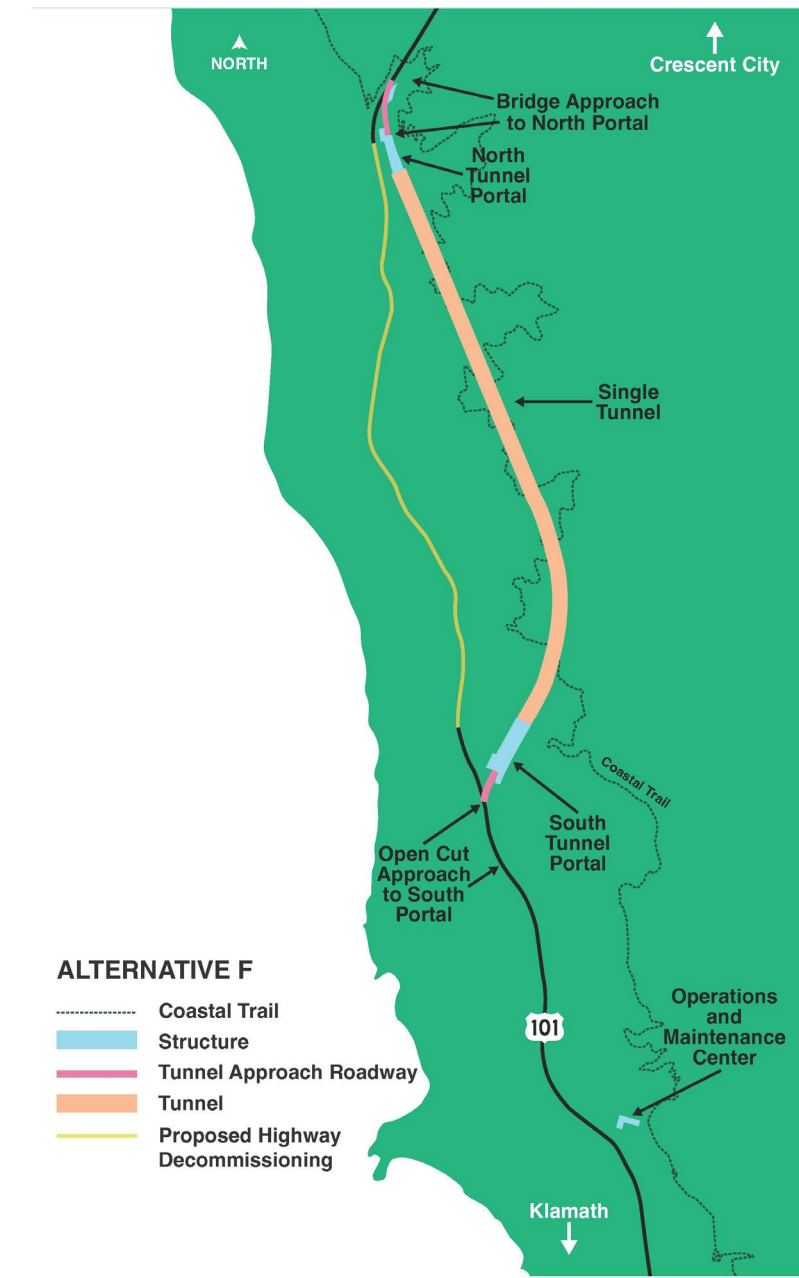




# Alternative F

## Tunnel Option

- Off-alignment bypass
- Portals near existing alignment
- Tunnel would include separated pedestrian-bike pathways
- Bridge at north portal







# Alternative F - Simulation





## “No Build” Alternative

- Required to be considered as basis for comparison
- Regular maintenance and operations would continue
- Emergency restoration projects would be conducted as needed to address landslides and roadway failures





# Summary Overview of Alternatives X and F

## Alternative X

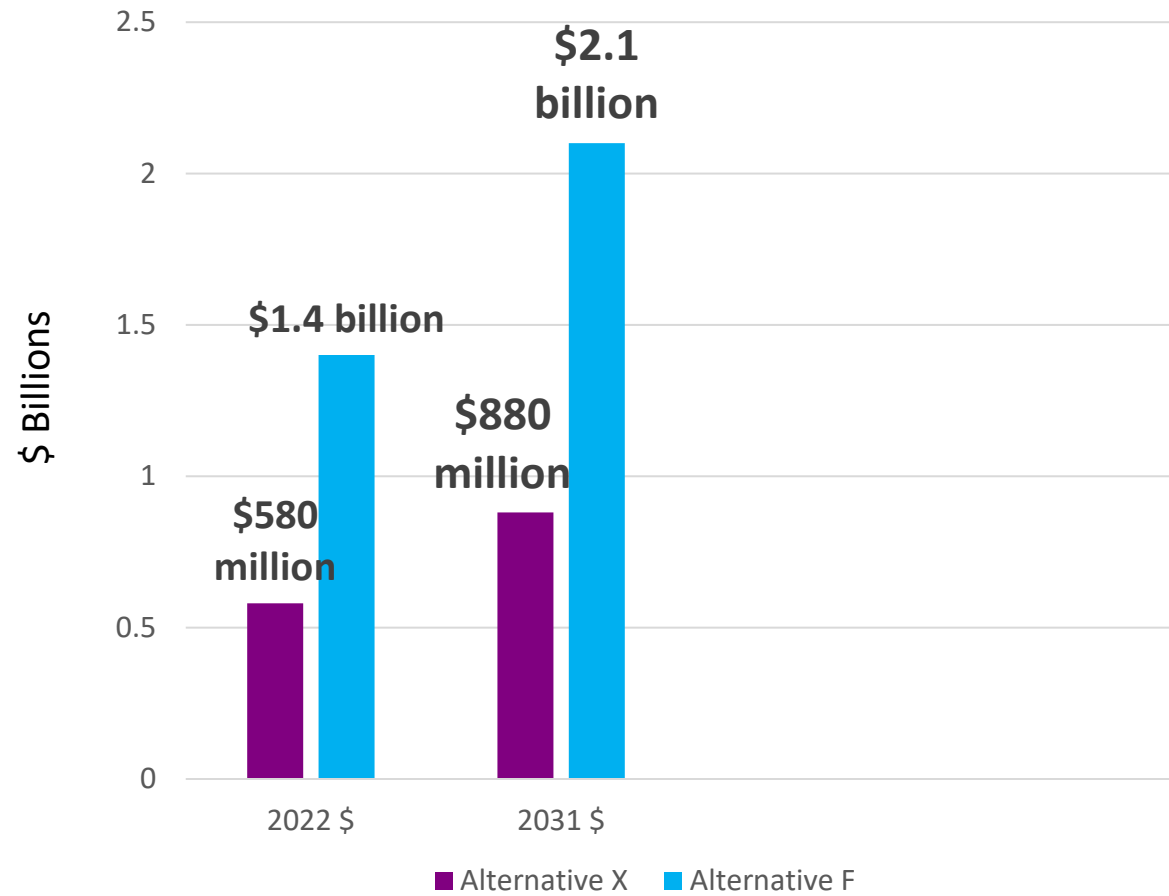
- Key approach: large-scale hillside/slide drainage system plus retaining wall
- Lower cost, quicker to construct
- Stays closer to existing roadway
  - Resources affected already somewhat impacted by proximity to road
- Key issues to refine in further design:
  - Effectiveness/maintenance of drainage galleries

## Alternative F

- Key approach: tunnel that would largely (but not fully) avoid landslides
- Higher cost, longer to construct
  - Requires tunnel operations/maintenance building
- Goes outside existing roadway at tunnel portals
  - Northern tunnel portal would go through late successional redwood forest off the road
- Key issues to refine in further design:
  - Southern tunnel portal within landslide zone



# Capital Cost Estimates 2022 and 2031





# Terminology

- CEQA
  - California Environmental Quality Act
- NEPA
  - National Environmental Policy Act
- Draft Environmental Document (DED)
  - Joint CEQA/NEPA Analysis (EIS/EIR)
  - Environmental Impact Report (EIR) CEQA
  - Environmental Impact Statement (EIS) NEPA





# Terminology

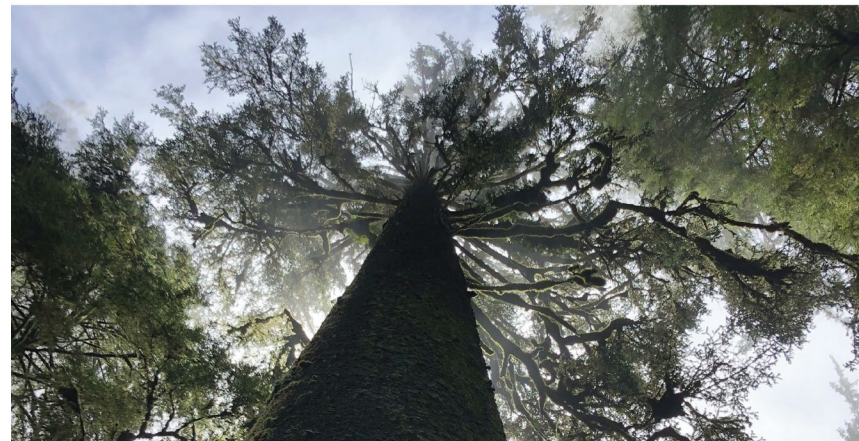
- Alternatives
  - Action(s) proposed by lead agency to meet project purpose/objectives
- Environmental Impact
  - Physical and or socio-economic effect of a project alternative
- Mitigation
  - Measure that would reduce, offset, or compensate for environmental impact



# Significant and Unavoidable Impacts

## Alternative X

- Late successional Sitka spruce forest
- Marbled murrelet/critical habitat



## Alternative F

- Late successional redwood forest
- Late successional Sitka spruce forest
- Marbled murrelet/critical habitat

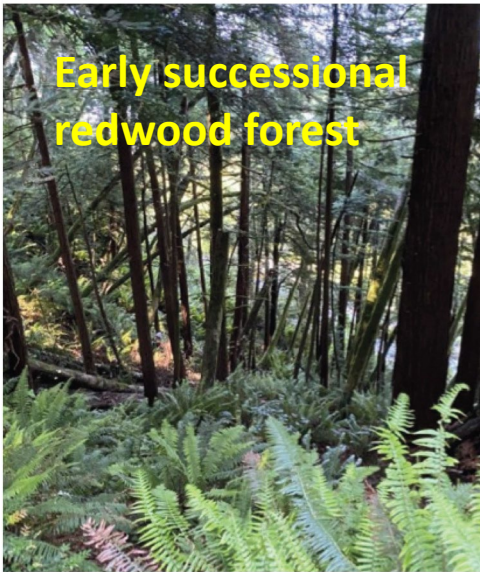


# Sensitive Natural Communities



Comparative Permanent Impacts/Habitat Conversion of sensitive natural communities (acres)	Alternative X	Alternative F
Redwood forest (early and late successional)	0.09	1.11
Red alder forest	1.57	2.98
Sitka spruce forest	0.89	1.13
Coastal brambles	1.09	0.25

Early successional redwood forest



Late successional redwood forest



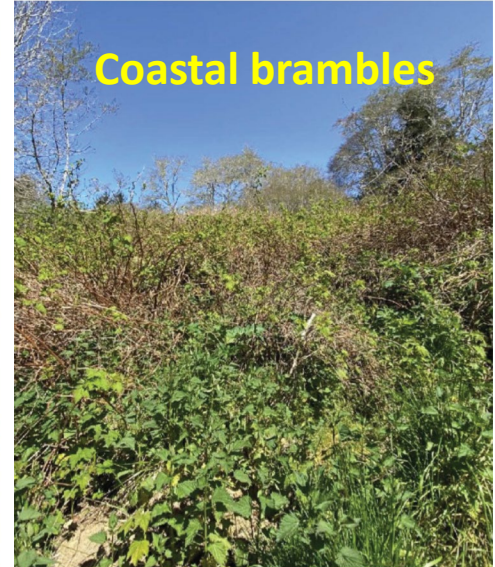
Red alder forest



Late successional Sitka spruce forest



Coastal brambles





# Special Status Species

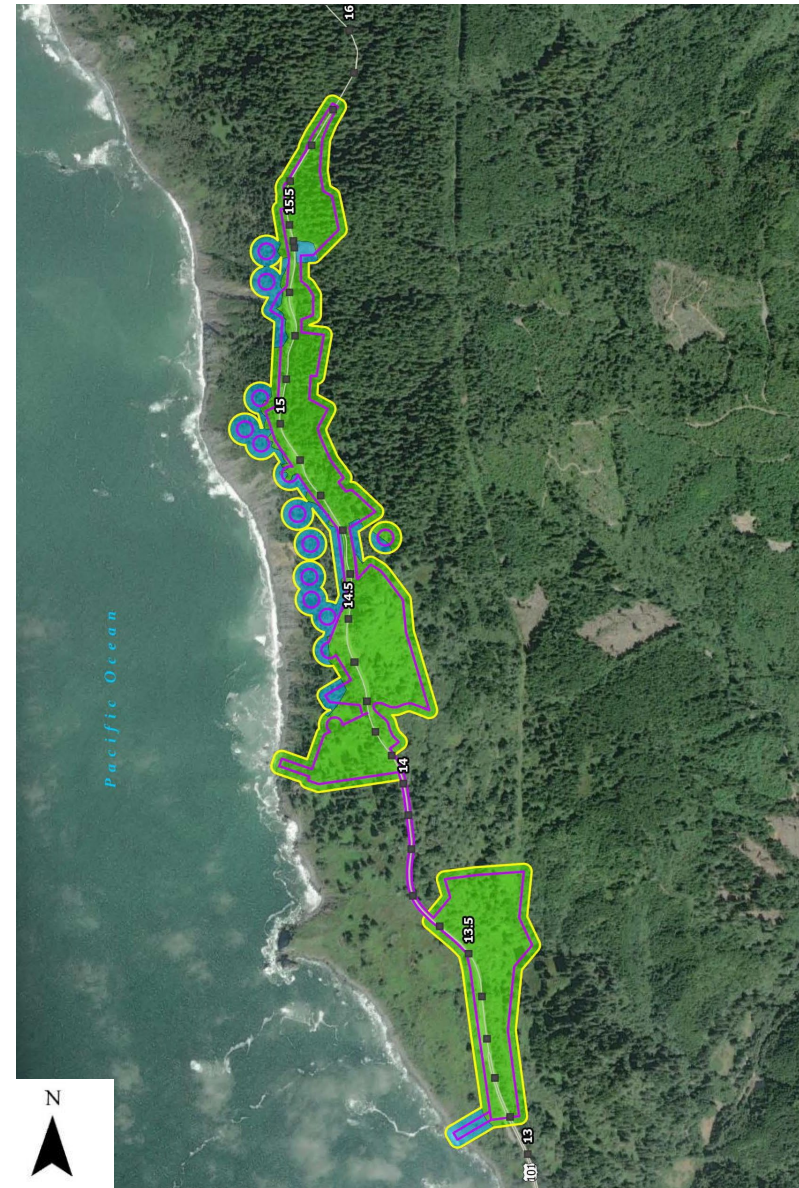


	Alternative X	Alternative F
Suitable habitat for Marbled Murrelet and Northern Spotted Owl (acres)	4.73	2.53



# Tree Survey Background

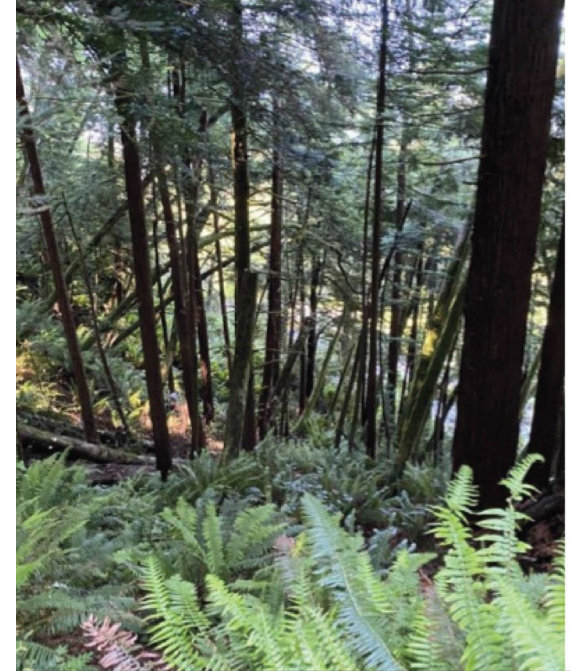
- Surveys conducted in 2021 & 2022
- Surveyed area = **260.4 acres**
- Alternative “footprints” (disturbance)
  - Alternative X: **15.71 acres**
  - Alternative F: **23.25 acres**





# Tree Survey – Smaller Trees

- Surveyors estimated number of smaller trees within impact areas
  - “Smaller” means tree diameter at breast height (**DBH**) is less than 2 feet and greater than 6 inches
- Surveyors divided impact areas into transects (small portions) to estimate numbers and types of smaller trees





# Tree Survey – Large Trees

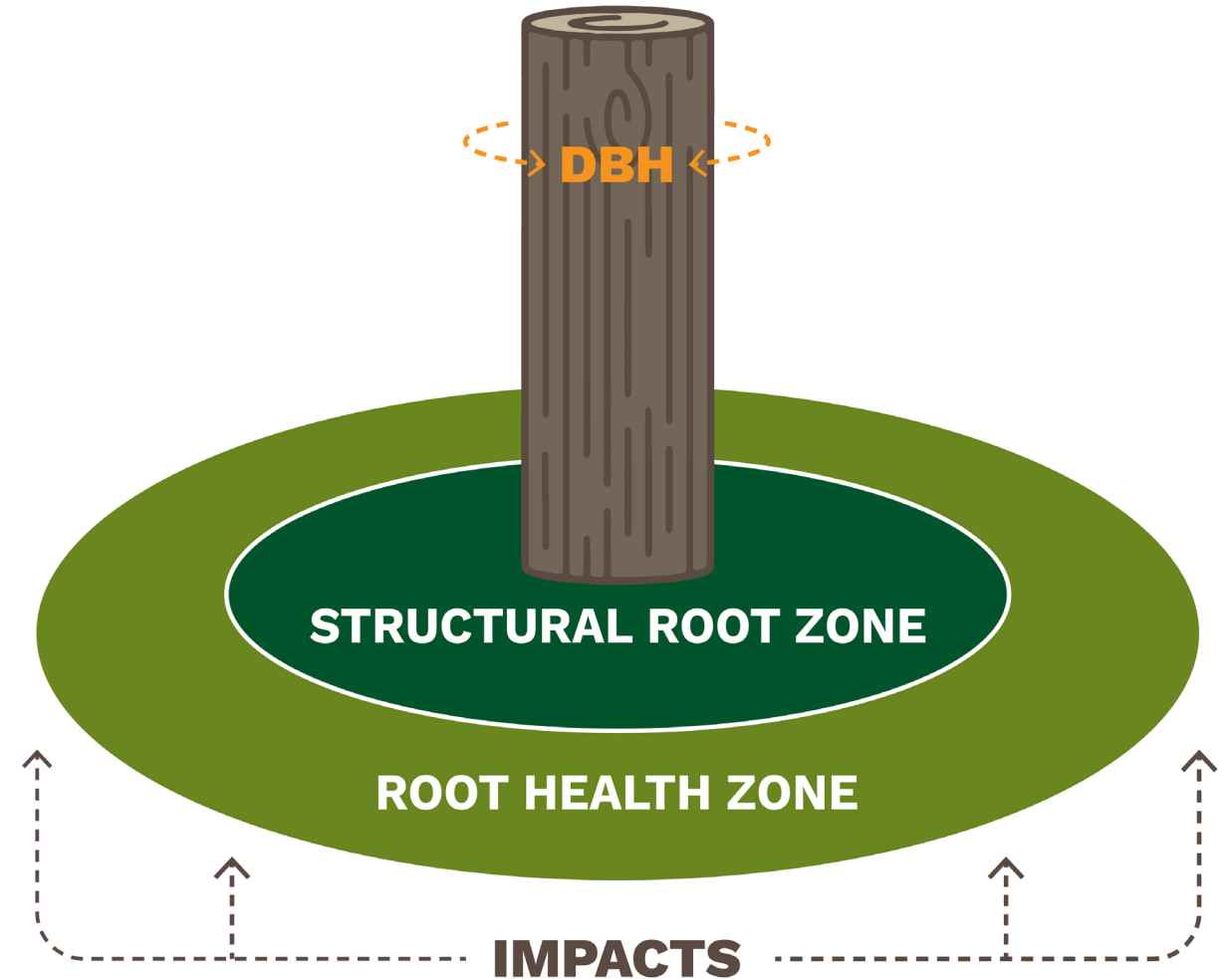
- Within survey area, full inventory of all trees 24 inches DBH and greater
- Surveyors took several months to identify, photograph, and geocode large trees
- Health, height, crown ratio, also assessed
- Survey encompassed more than 3,000 large trees



# Large Tree Impact Assessment



- **Structural root zone (SRZ):** where most of tree's supporting roots are located; provide stability
  - 3 times the diameter at breast height
- **Root health zone (RHZ):** where both structural and absorbing roots are located
  - 5 times the diameter at breast height
- Trees and the two root zones overlaid on project footprint (area of ground disturbance)





# Large Tree Impact Assessment (Severity 0-3)



Effect Severity	Effect Description	Anticipated Outcome
0 – None	Negligible Effect	Tree left in place. No measurable effect.
1 – Minimal	Less than 10% of RHZ (5x dbh) affected	Tree left in place. Effects minimal.
2 – Slight	10%-20% RHZ affected	Tree left in place. Mild effect to health and vigor.
3 – Moderate	20%-30% of RHZ affected	Tree left in place. Effects to health, vigor, and disease susceptibility. On-site arborist recommended for work within the RHZ and monitoring post-construction.

# Large Tree Impact Assessment (Cont'd)

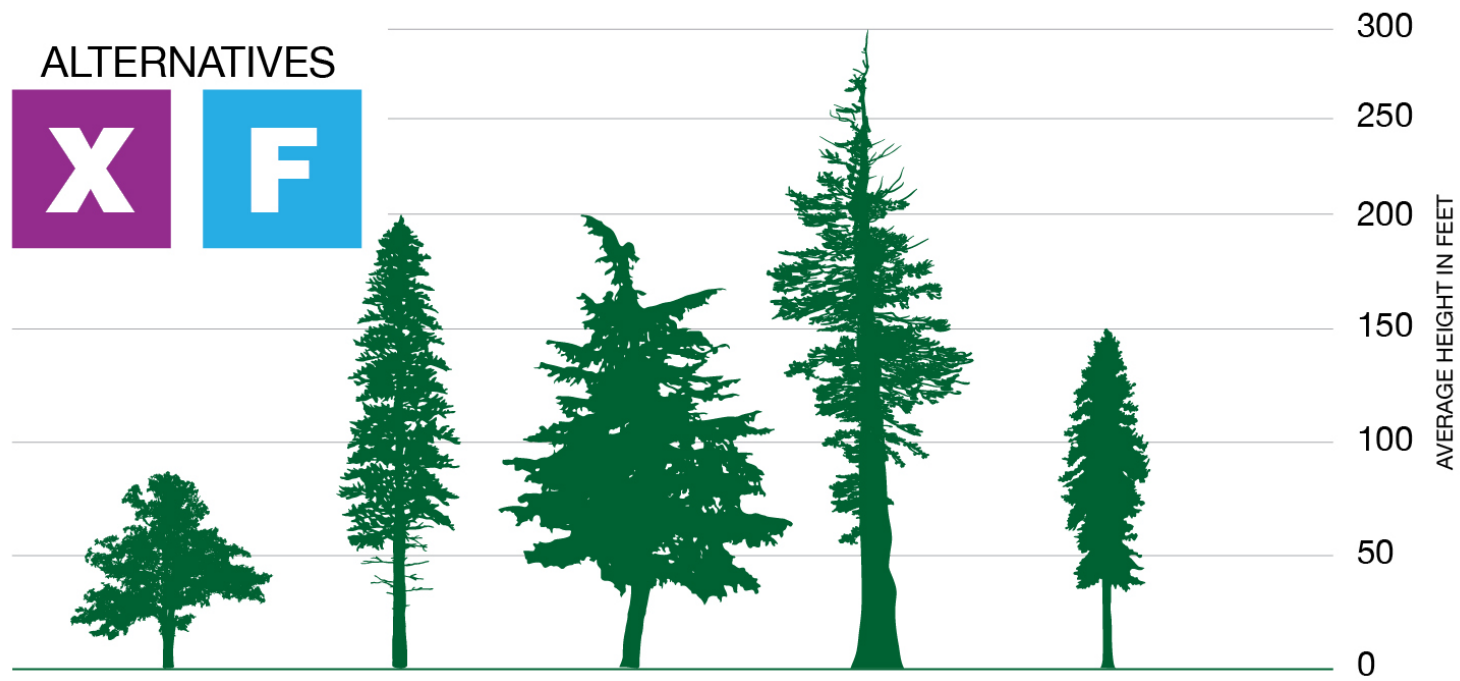
## (Severity 4-6)



Effect Severity	Effect Description	Anticipated Outcome
4 – Considerable	30%-40% of RHZ affected, including some of the SRZ (3x dbh)	Tree may be removed. Substantial effects to health, vigor, and disease susceptibility. On-site arborist recommended for work within the RHZ and monitoring post-construction. Arborist to assess whether to remove tree or if other measures can be used to save tree, such as topping or limbing.
5 – Severe	>40% of RHZ affected, including SRZ	Tree likely to be removed. On-site arborist recommended to assess measures to save tree, such as topping or limbing.
6 – Remove	Trunk is within the footprint of the project; tree will need to be removed.	Tree will be removed.



# Large (2' DBH+) Tree Impacts – Total



Estimated number of large trees removed

	RED ALDER	DOUGLAS FIR	SITKA SPRUCE	COASTAL REDWOOD	WESTERN HEMLOCK	TOTAL TREES
ALTERNATIVE X	13	44	20	52	0	129
ALTERNATIVE F	40	9	49	39	7	144

# Large Tree Impacts – by Size and Species



		RED ALDER	DOUGLAS FIR	SITKA SPRUCE	COASTAL REDWOOD	WESTERN HEMLOCK
DBH RANGE IN FEET	8.0-8.9				1	
	7.0-7.9				1	
	6.0-6.9			2	1	
	5.0-5.9		2	3	3	
	4.0-4.9		3	4	1	
	3.0-3.9	2	7	3	16	
	2.0-2.9	11	32	8	29	

ESTIMATED NUMBER OF TREES IN EACH DBH RANGE BY SPECIES



		RED ALDER	DOUGLAS FIR	SITKA SPRUCE	COASTAL REDWOOD	WESTERN HEMLOCK
DBH RANGE IN FEET	8.0-8.9				2	
	7.0-7.9			1		
	6.0-6.9			1	3	
	5.0-5.9		1	7	7	1
	4.0-4.9		2	9	4	2
	3.0-3.9	6	2	13	10	2
	2.0-2.9	34	4	18	13	2

ESTIMATED NUMBER OF TREES IN EACH DBH RANGE BY SPECIES



# Very Large Tree Impacts – Four feet+ DBH



		DOUGLAS-FIR	SITKA SPRUCE	COASTAL REDWOOD	WESTERN HEMLOCK
<b>ALTERNATIVE X</b>	DBH RANGE IN FEET				
	8.0-8.9			1	
	7.0-7.9			1	
	6.0-6.9		2	1	
	5.0-5.9	2	3	3	
	4.0-4.9	3	4	1	
<b>ALTERNATIVE F</b>	DBH RANGE IN FEET				
	8.0-8.9			2	
	7.0-7.9		1		
	6.0-6.9		1	3	
	5.0-5.9	1	7	7	1
	4.0-4.9	2	9	4	2

# Mitigation for Large Tree Impacts



## Options

1. Fund efforts to accelerate transition of second-growth forests (top) towards more “old growth” character (bottom)
2. Purchase and protect areas of older growth redwood forest at risk of logging or development



Photos: Redwood Rising



# Comparison of Individual Tree Impacts Alternatives X and F



## Alternative X

- Would mostly affect trees that are:
  - Along/close to existing roadway
  - In landslide-threatened areas
  - Habitat value/quality lower (Douglas-fir, Sitka spruce forest)
- Seven (7) large redwoods (greater than 4 feet in DBH) would need to be removed

## Alternative F

- Impacts to large trees (redwoods, Sitka spruce) associated with north tunnel portal
  - Habitat value/quality very high (“old growth” redwood forest)
- Sixteen (16) redwoods greater than 4 feet in DBH would need to be removed

# Next Steps



- 60 days of public comment on DED
  - December 15, 2023 – February 13, 2024
- **Spring 2024** - Public comments reviewed and responses prepared
- **Summer 2024** - Selection of Preferred Alternative
- **Fall 2025** - Final Environmental Document published
- **2025/2026** - Record of Decision issued, environmental reviews complete

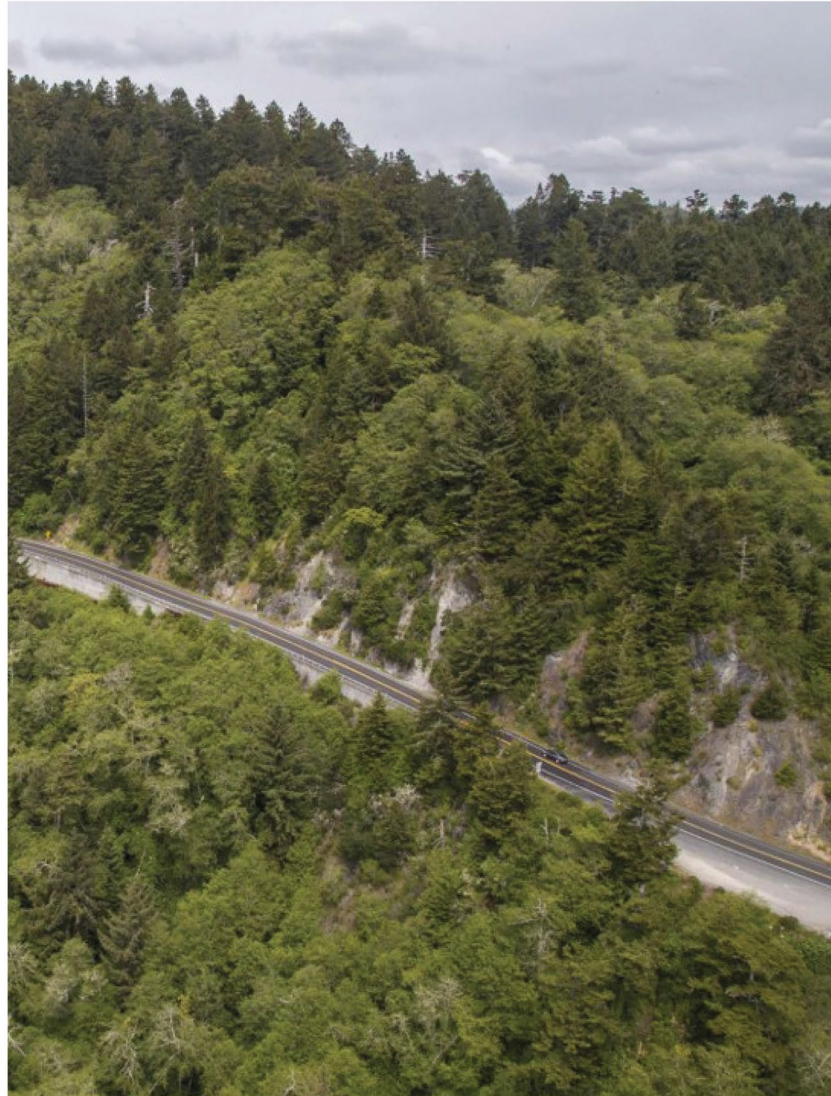


# How to Submit a Comment



## Comment Period

- Caltrans invites comments on the Last Chance Grade Permanent Restoration Project Draft Environmental Document.
- The comment period for the Draft Environmental Document began on **December 15, 2023 and ends on February 13, 2024.**
- **All comments must be submitted via mail or e-mail.**
- Comments received during the comment period will be considered and relevant environmental issues raised will be responded to in the Final Environmental Document (publication anticipated fall 2025).



## Two options for submitting comments

### Email



Send an email to  
[DEDcomments@lastchancegrade.com](mailto:DEDcomments@lastchancegrade.com)

### Letter



Send a written comment to:  
Caltrans District 1  
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Eureka, CA 95502-3700



# Last Chance Grade

## Permanent Restoration Project

Draft Environmental Document (DED)  
and Draft Section 4(f) Evaluation  
Open House Meeting

January 24, 2024







# END OF PRESENTATION

Slides following could be pulled up if needed

## Section 4(f) Resources

- Section 4(f) = requirement within federal law
- Discourages transportation project that would “use” public parks, recreation areas, cultural resources, and similar resources unless no “prudent or feasible alternative” exists

