



## Carmel River Reroute & San Clemente Dam Removal Project

### Cachagua Community Outreach Meeting

September 25, 2012



# Agenda

- Introduce Project Team
- Ground Rules
- Presentation
- Questions and concerns from community
- Summary of follow-up actions for project team



# Agenda

- Introduce Project Team
  - Jeff Szytel, CAW project manager, [jszytel@wsc-inc.com](mailto:jszytel@wsc-inc.com), 805-457-8833 ext. 101
  - Trish Chapman, State Coastal Conservancy, [tchapman@scc.ca.gov](mailto:tchapman@scc.ca.gov), 510-286-0749
  - Joyce Ambrosius, National Marine Fisheries Service, [joyce.ambrosius@noaa.gov](mailto:joyce.ambrosius@noaa.gov), 707-575-6064
  - [www.sanclementedamremoval.org](http://www.sanclementedamremoval.org)
- Ground Rules
- Presentation
- Questions and concerns from community
- Summary of follow-up actions for project team

# Ground Rules

- Honor the agenda
- Provide written questions and comments
- Everyone is encouraged to participate
- Respectful interaction
- One person speaks at a time
- Avoid side conversations

# Presentation Outline

1. Key Points
2. Project Overview
3. Access Route Requirements
  - a. Construction Equipment Requirements
  - b. Equipment Mobilization
4. Alternative Routes
5. Road Improvement Summary
  - a. Cachagua Road
  - b. Jeep Trail
6. Estimated Construction Traffic
  - a. Northern Cachagua Road
  - b. Tassajara to Southern Cachagua Road
7. Mitigation Measures

# Key Points

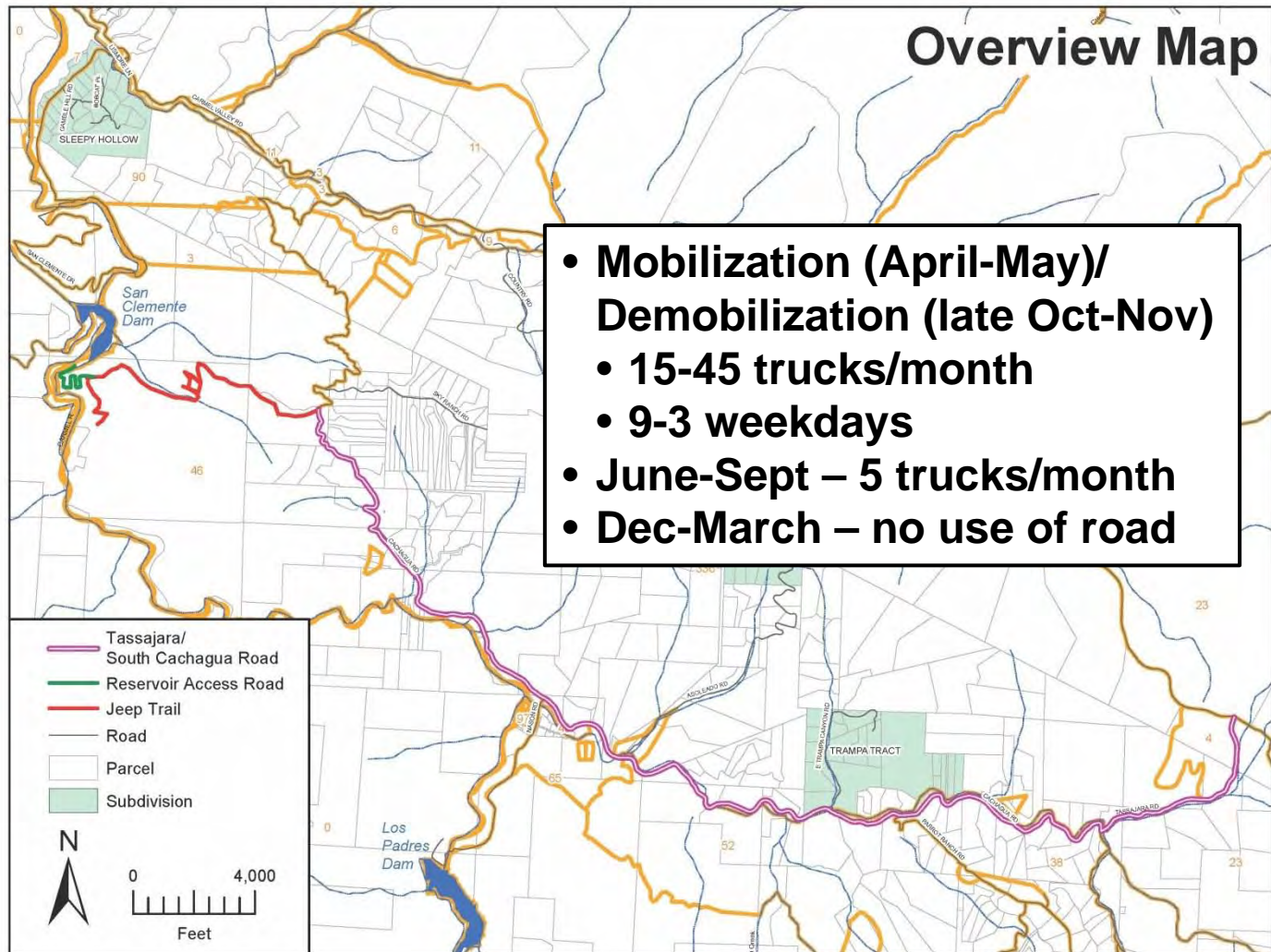


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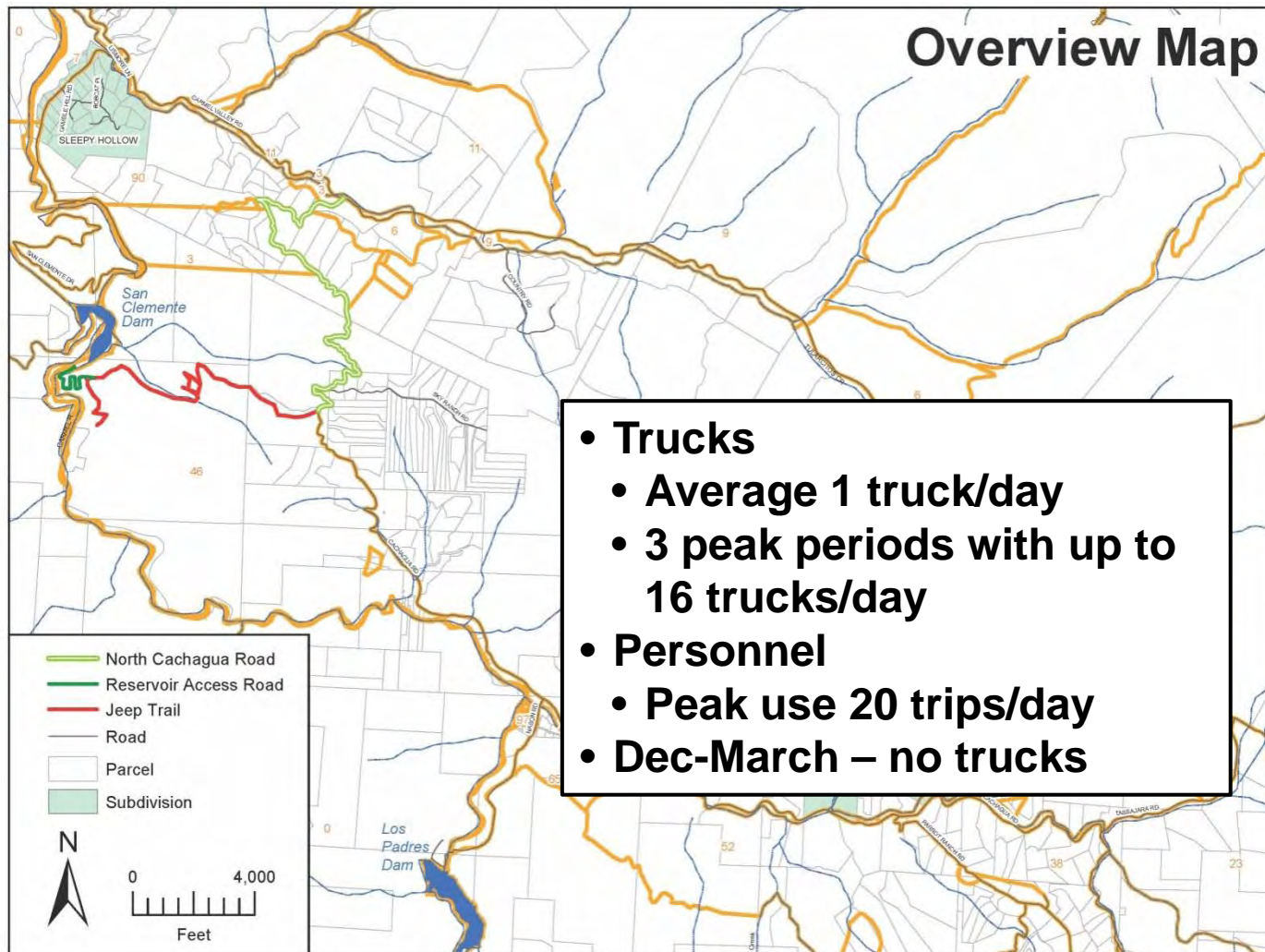
# Tassajara-Southern Cachagua Route



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# Northern Cachagua Route



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# Project Overview

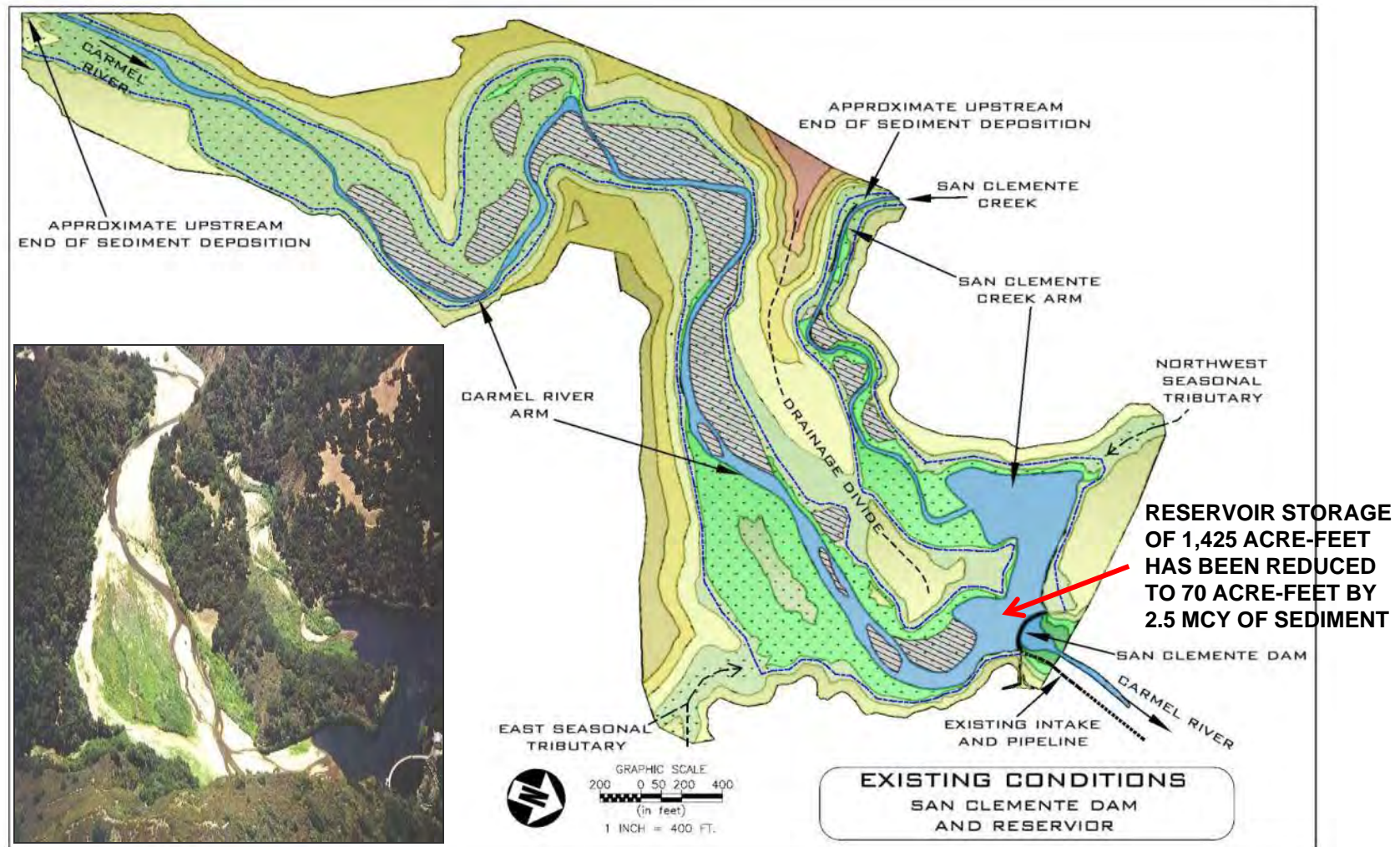


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# Project Overview

## Existing Conditions

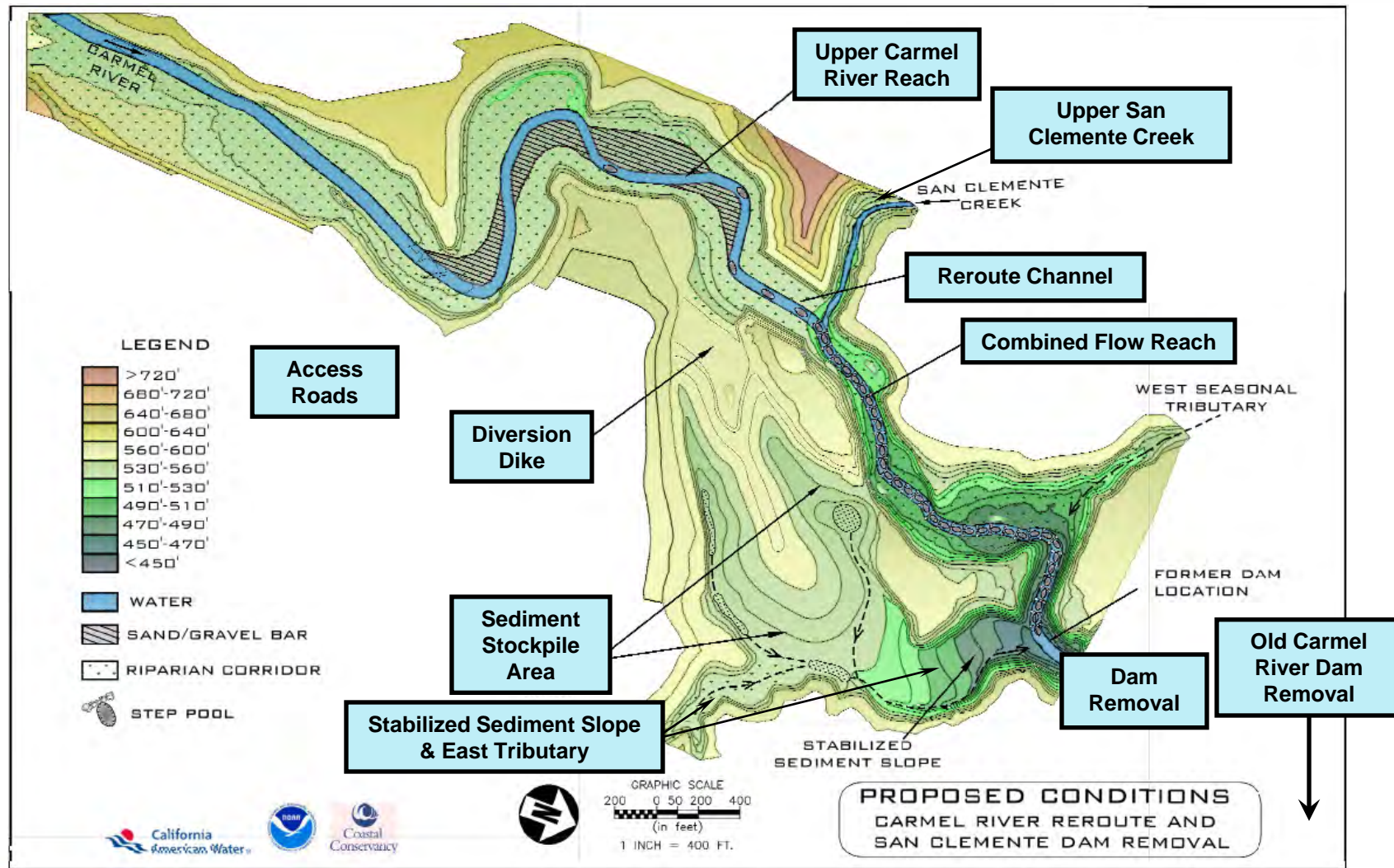


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# Project Overview

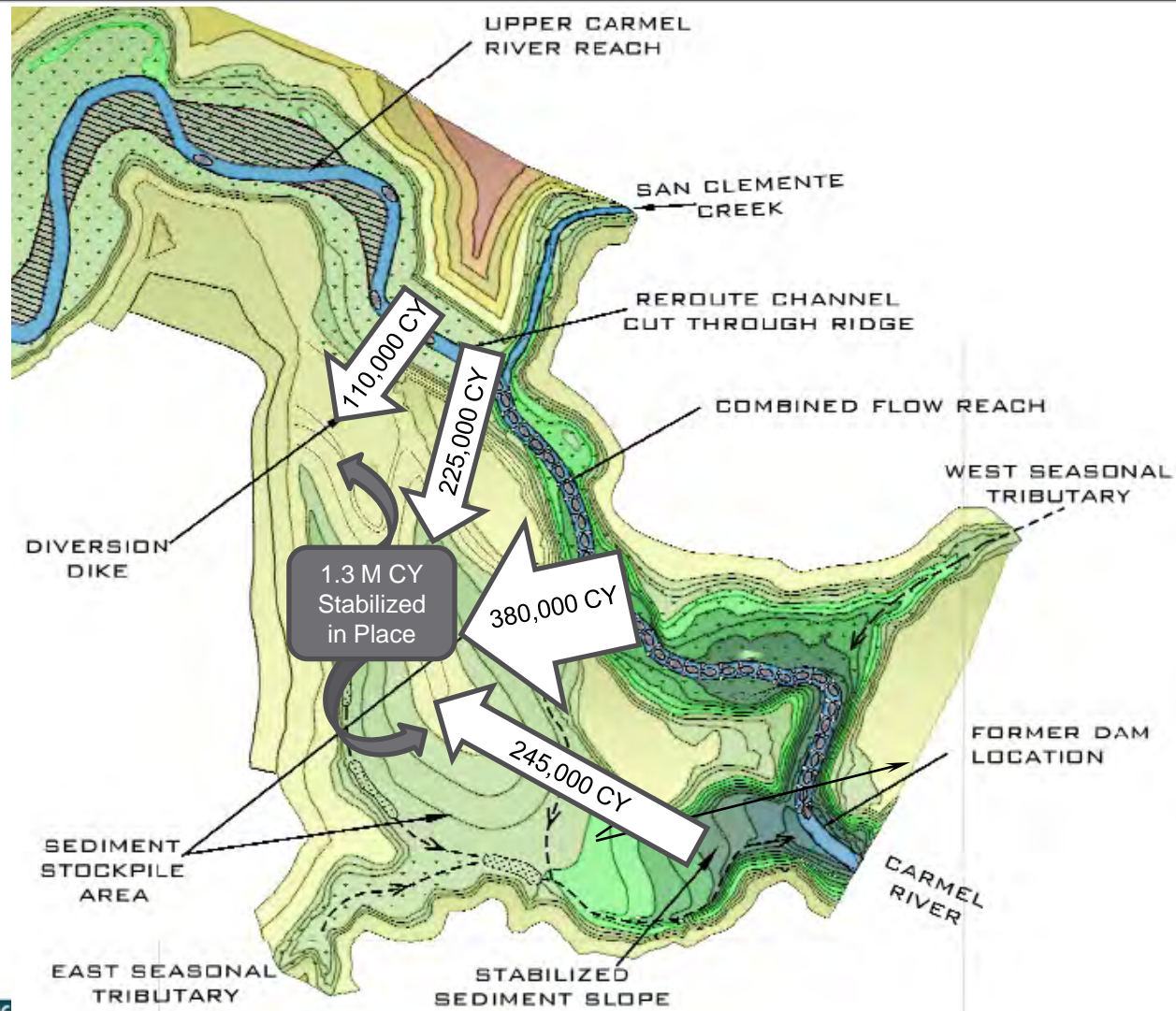
## Proposed Features



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# Project Overview

## Earthwork Summary



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# Project Schedule

	2011				2012				2013				2014				2015			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Preliminary Design																				
Permitting																				
Design-Build Contractor Procurement																				
Access Road Improvements																				
Construction																				

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# Access Route Requirements



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# Access Route Requirements

## Earthmoving Equipment

### Large Hydraulic Excavators



390D (530 hp):  
14' width



336E (300 hp):  
11.25' width

### Bulldozers



D8T (310 hp)  
10' track width  
14' blade width



D6T (205 hp)  
8.5' track width  
12' blade width

### Articulated Haulers



740: 11.6' width



730: 9.7' width

### Motor Graders



16M: 10.2' width

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# Construction Equipment

## Additional Construction Equipment

### Cranes for Dam Demolition



Manitowoc Grove RT880E  
11' width

Manitowoc 8000  
16.25' width

### Tractor-Trailer with Lowboy for Equipment Mobilization



### Screening Plant for Rock Separation



### Rollers for Compaction



CS76  
7' width

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# Alternative Routes



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# Assessment of Access Routes

- Key considerations
  - Feasibility/Reliability
  - Environmental Impacts (including traffic)
  - Cost

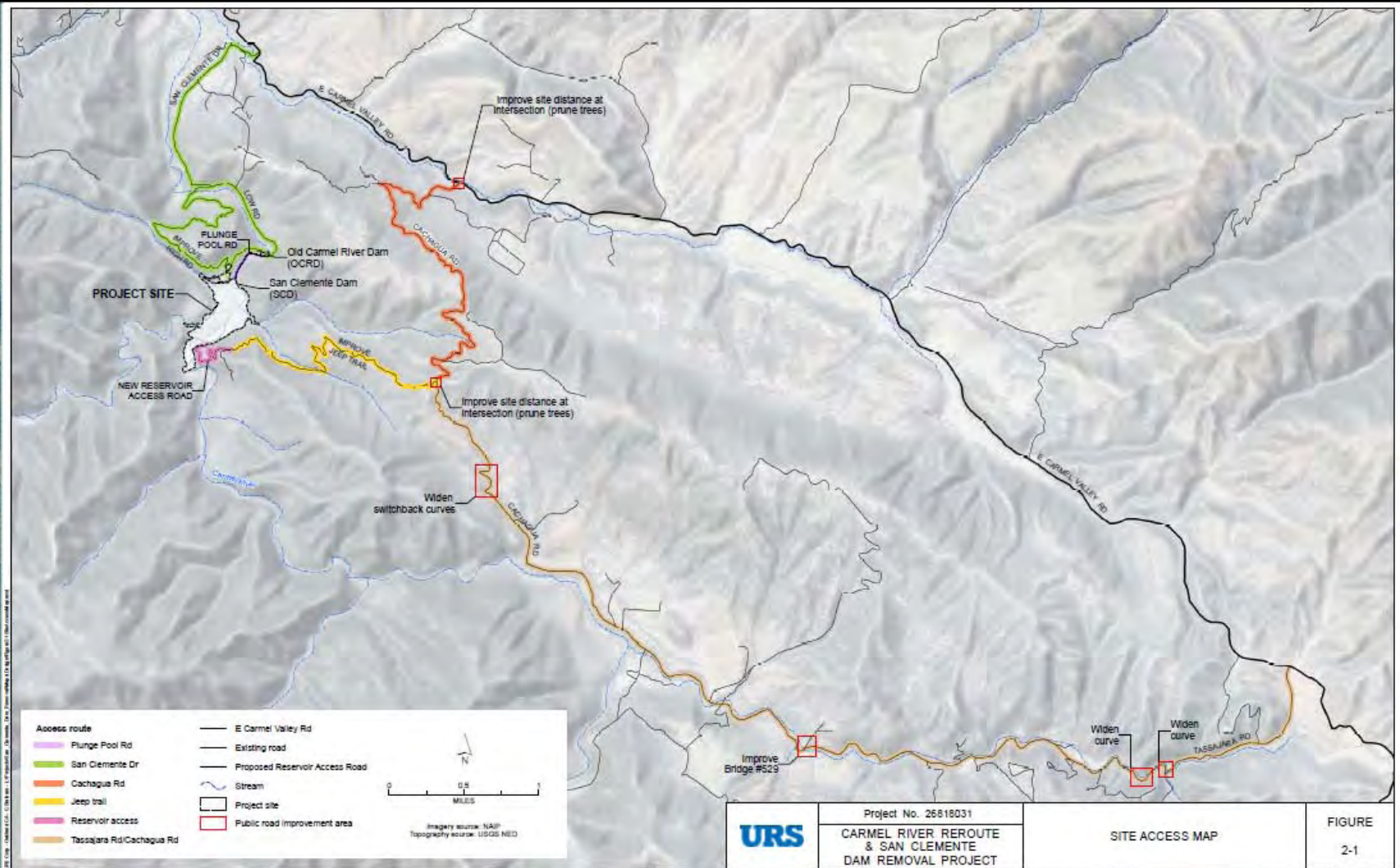


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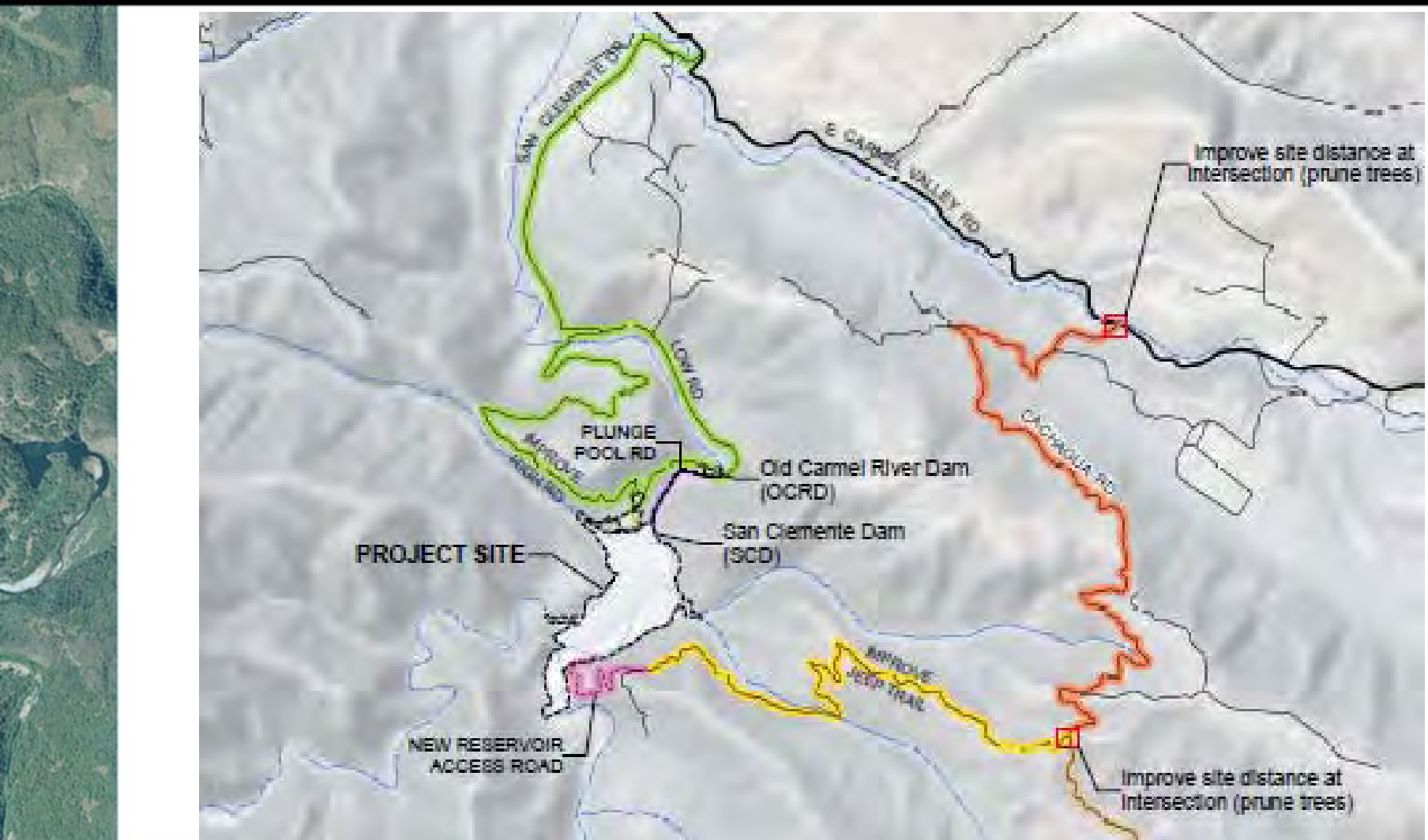
# Potential Access Routes



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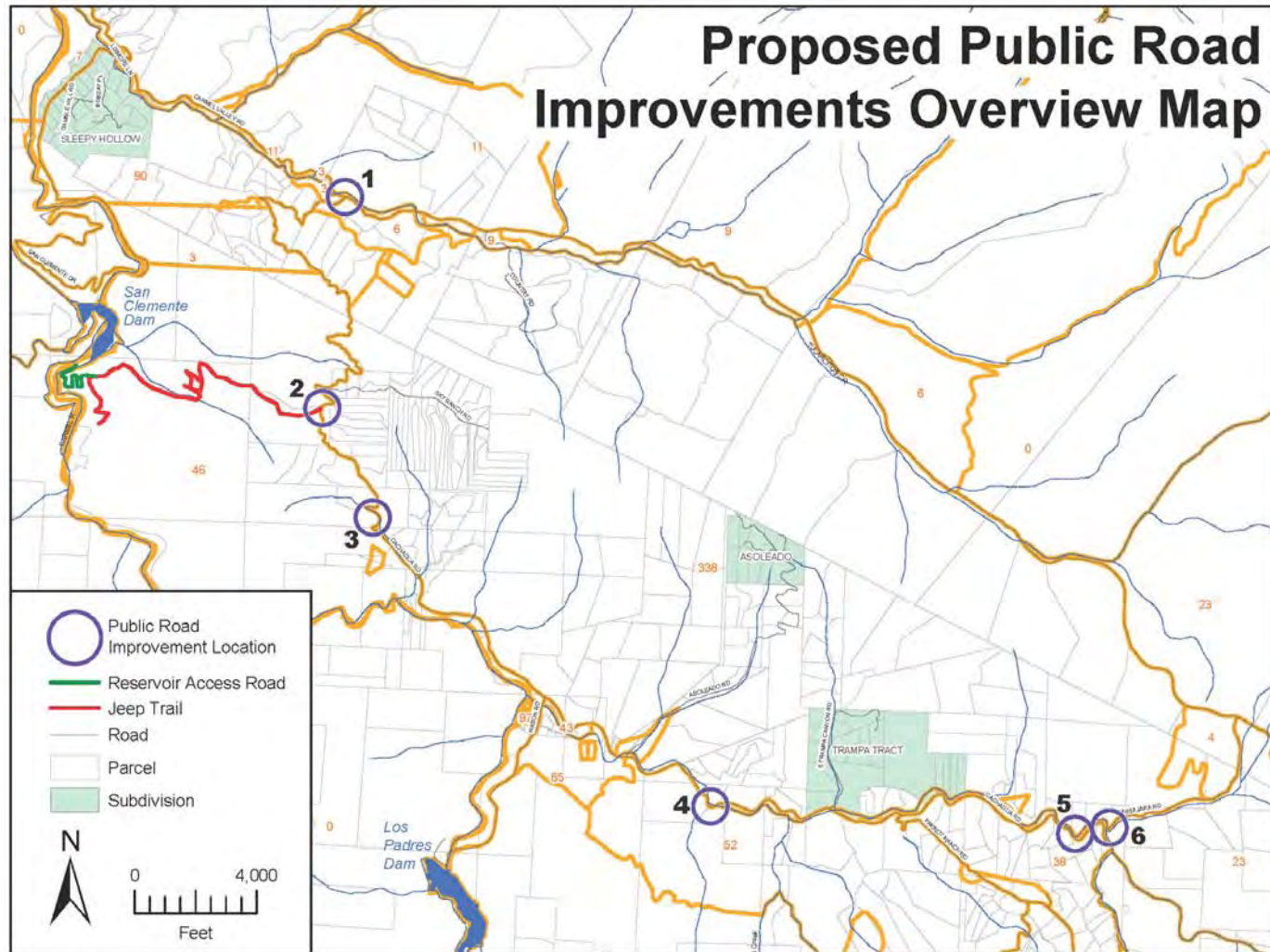
# Potential Access Routes



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# Northern Cachagua Route



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# Access to the Reservoir

## Feasibility Criteria

- Access required for:
  - Construction
  - Monitoring following construction
  - Maintenance following construction
- Requirements
  - Adequate for construction
    - 18-foot-wide (12 foot-wide with 3 foot shoulders), with turnouts, for safe operation of construction vehicles
    - Curves with sufficient radius of curvature for trucks delivering materials
  - Reliable
  - Constructible

# San Clemente Drive Routes

## Three Bridges Required

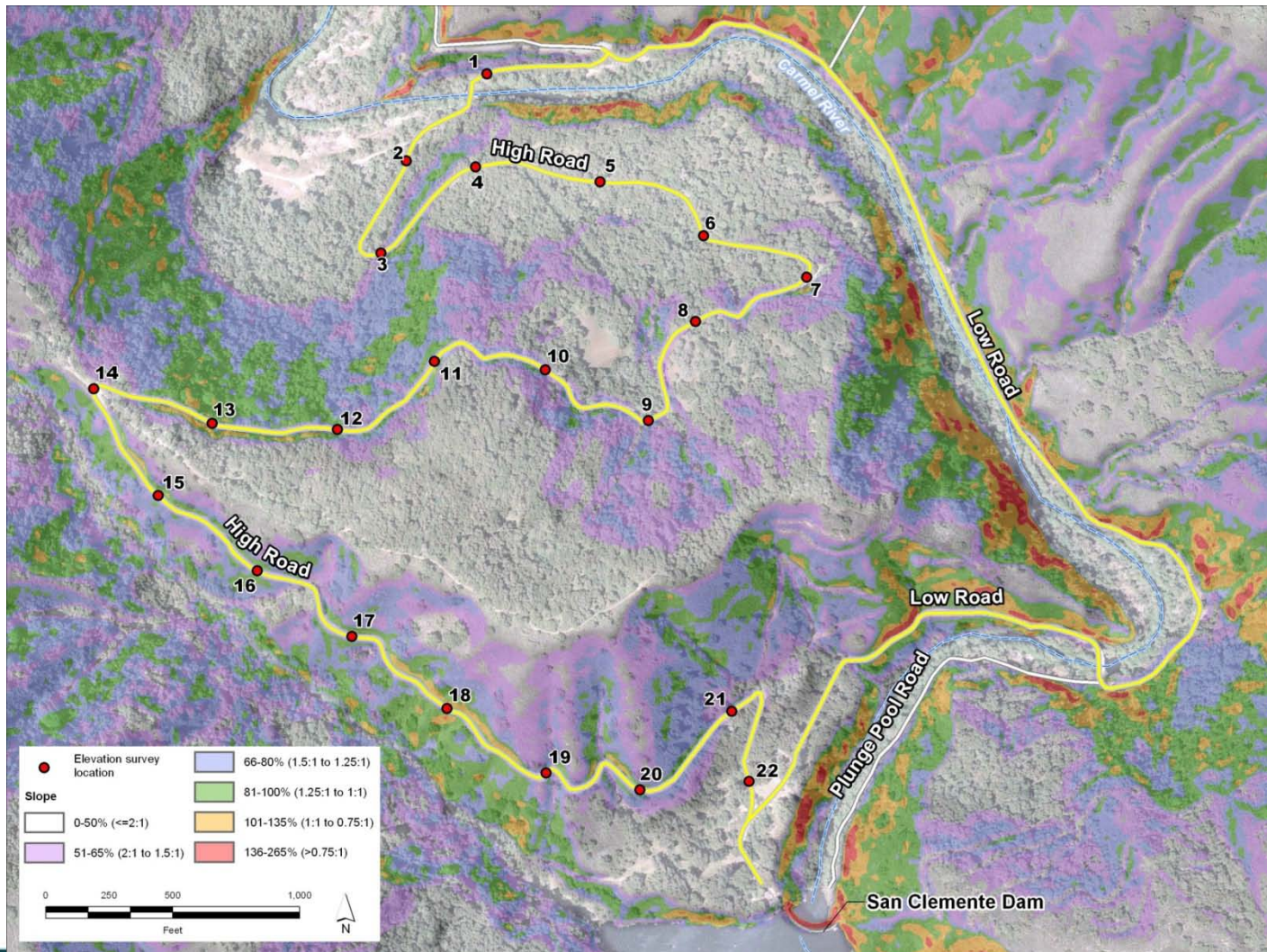


- Tularcitos Creek
- Carmel River
  - High Road at Sleepy Hollow Ford *or*
  - Low Road at Old Carmel River Dam
- San Clemente Creek
  - To reach reservoir area



# San Clemente Drive Routes

## Slope Map

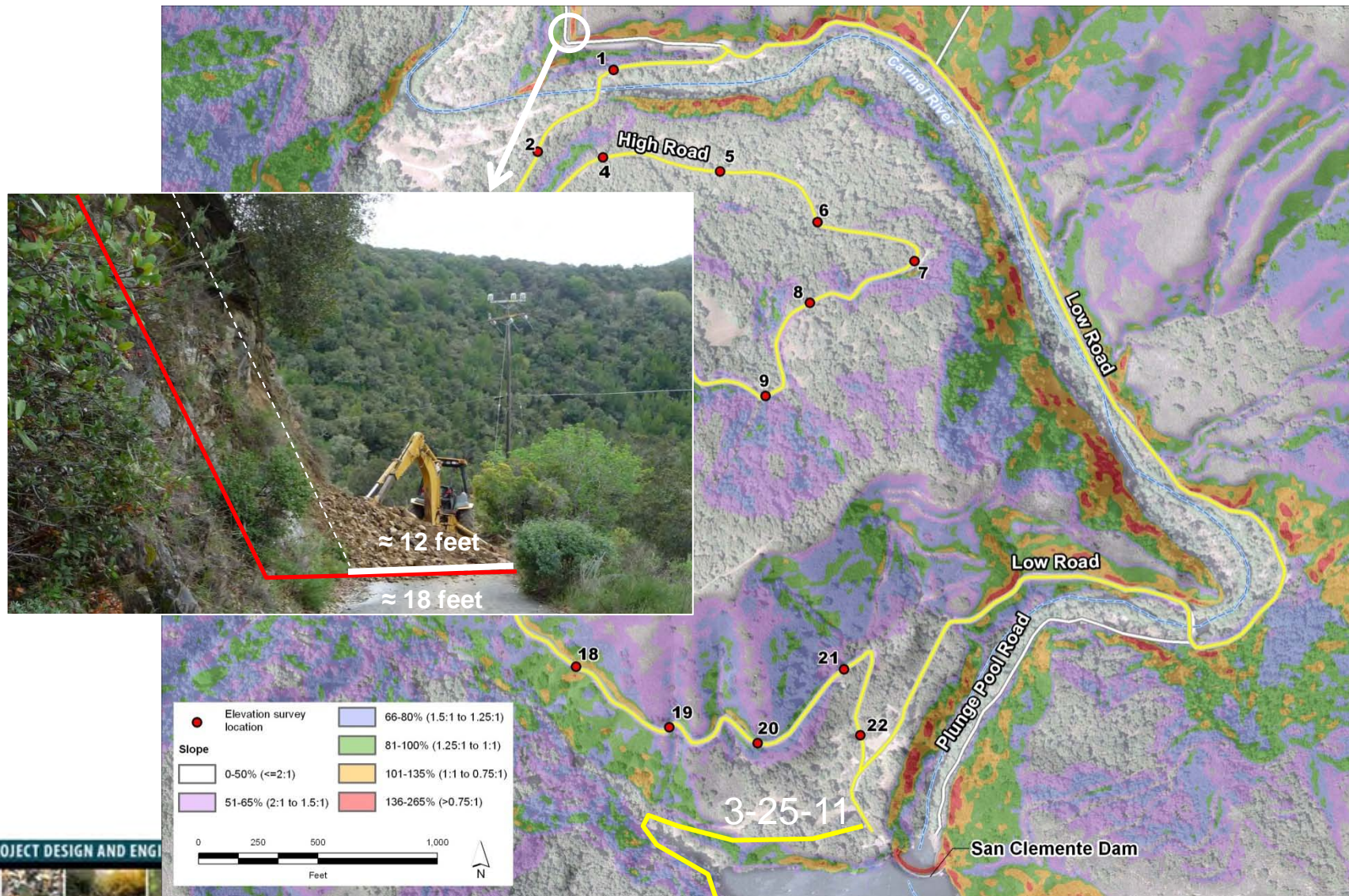


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# San Clemente Drive Routes

## San Clemente Drive Rock Slopes

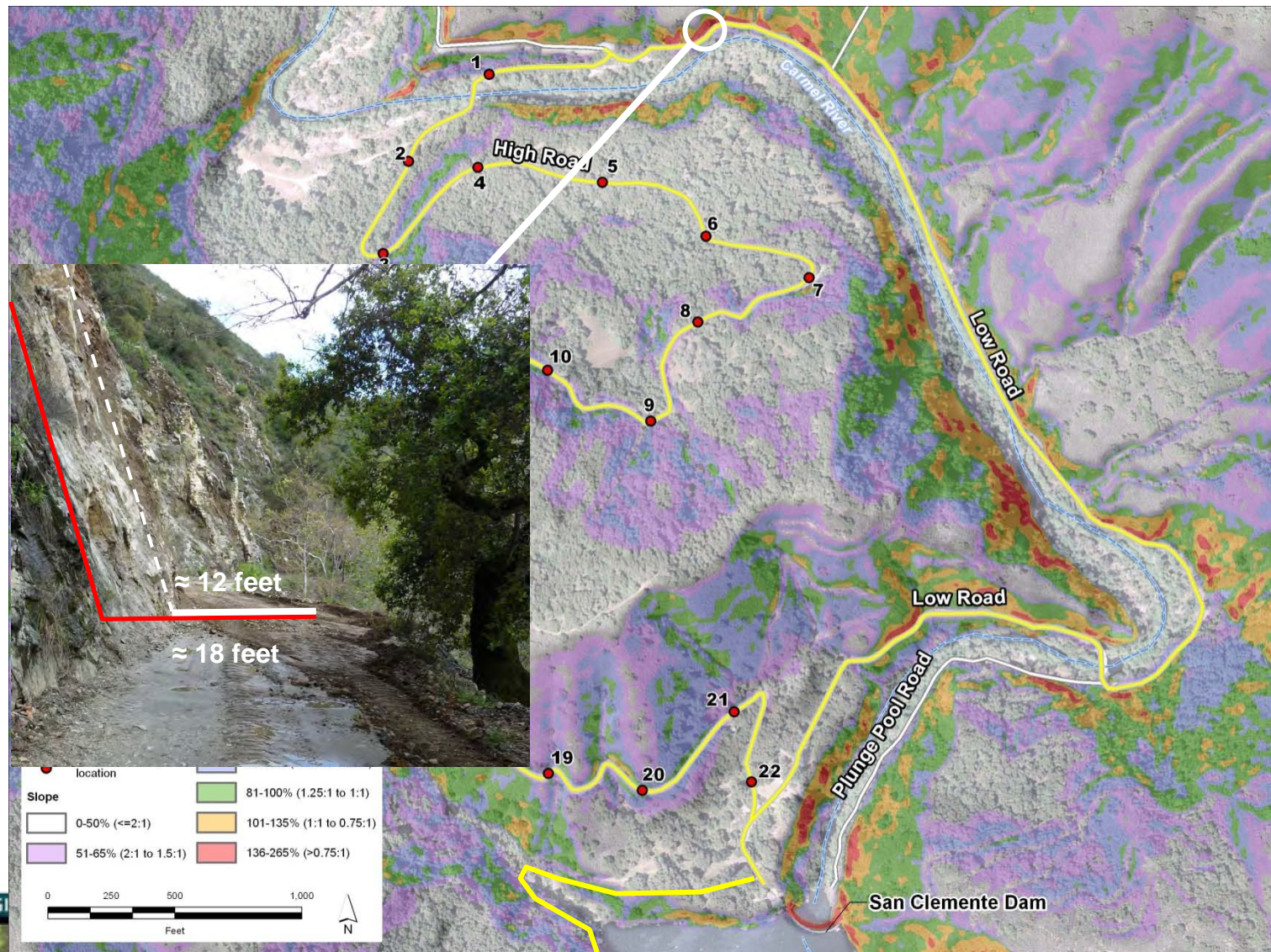


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# San Clemente Drive Routes

## Low Road Rock Slopes

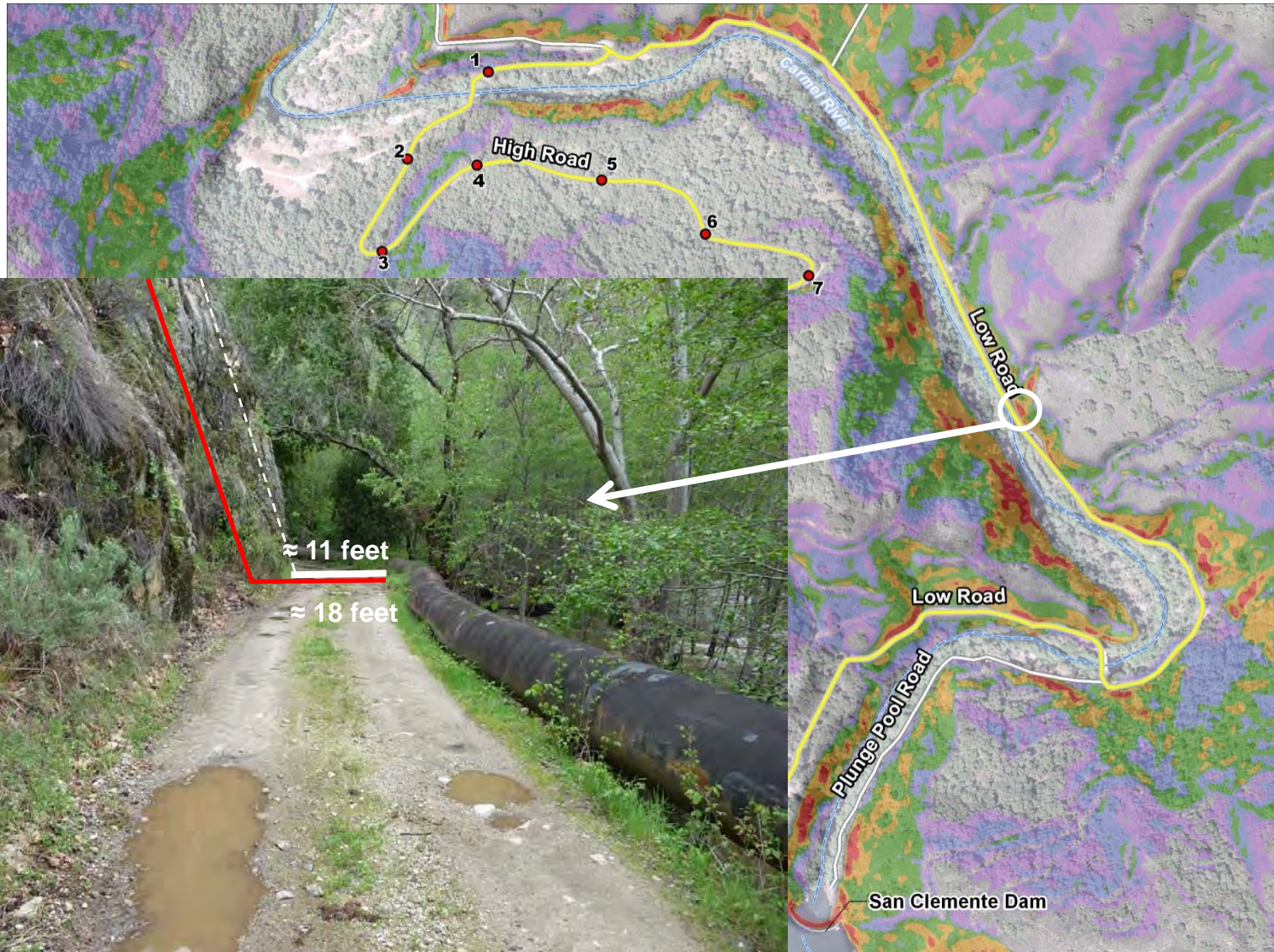


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# San Clemente Drive Routes

## Low Road Rock Slopes

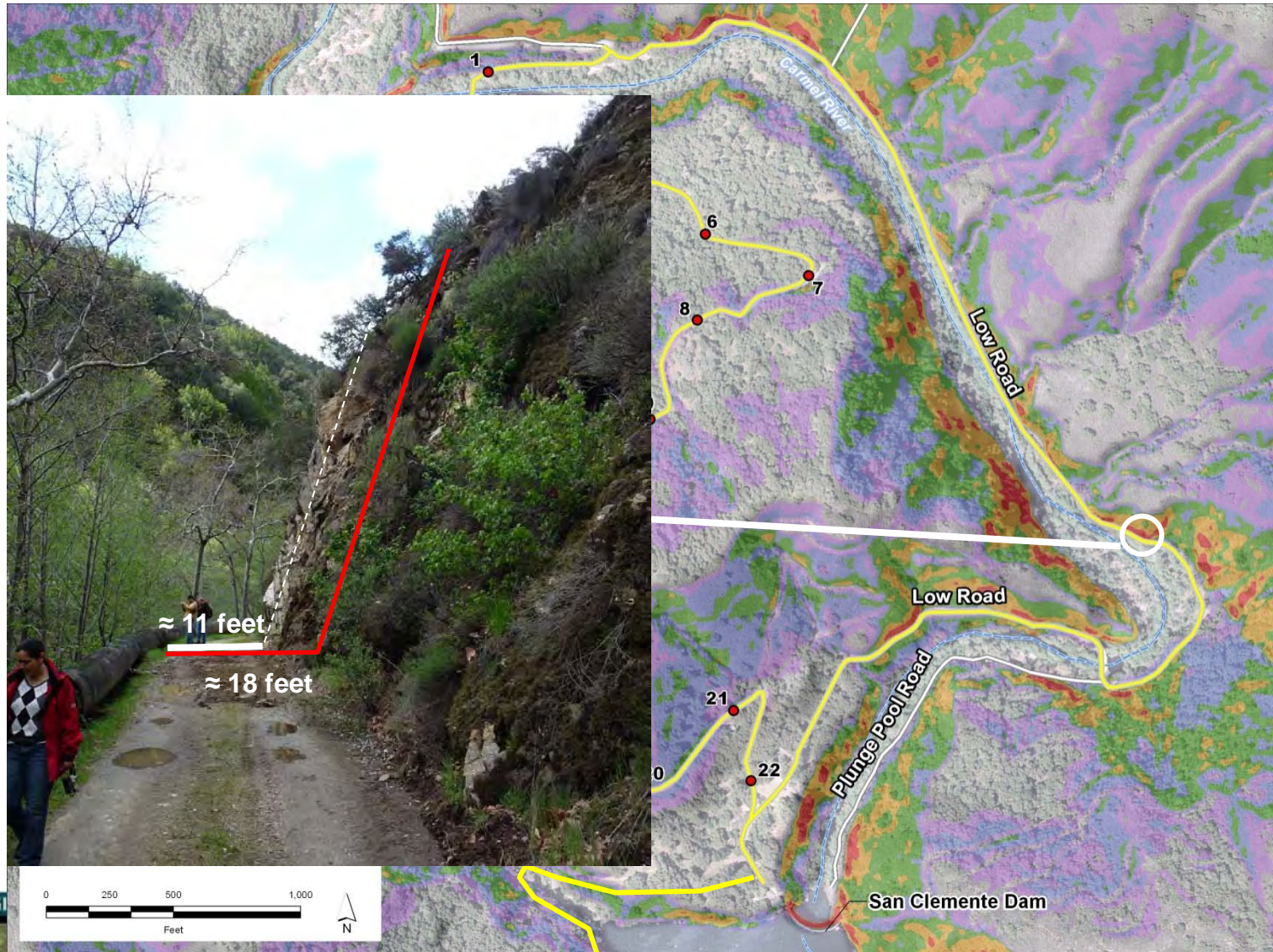


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# San Clemente Drive Routes

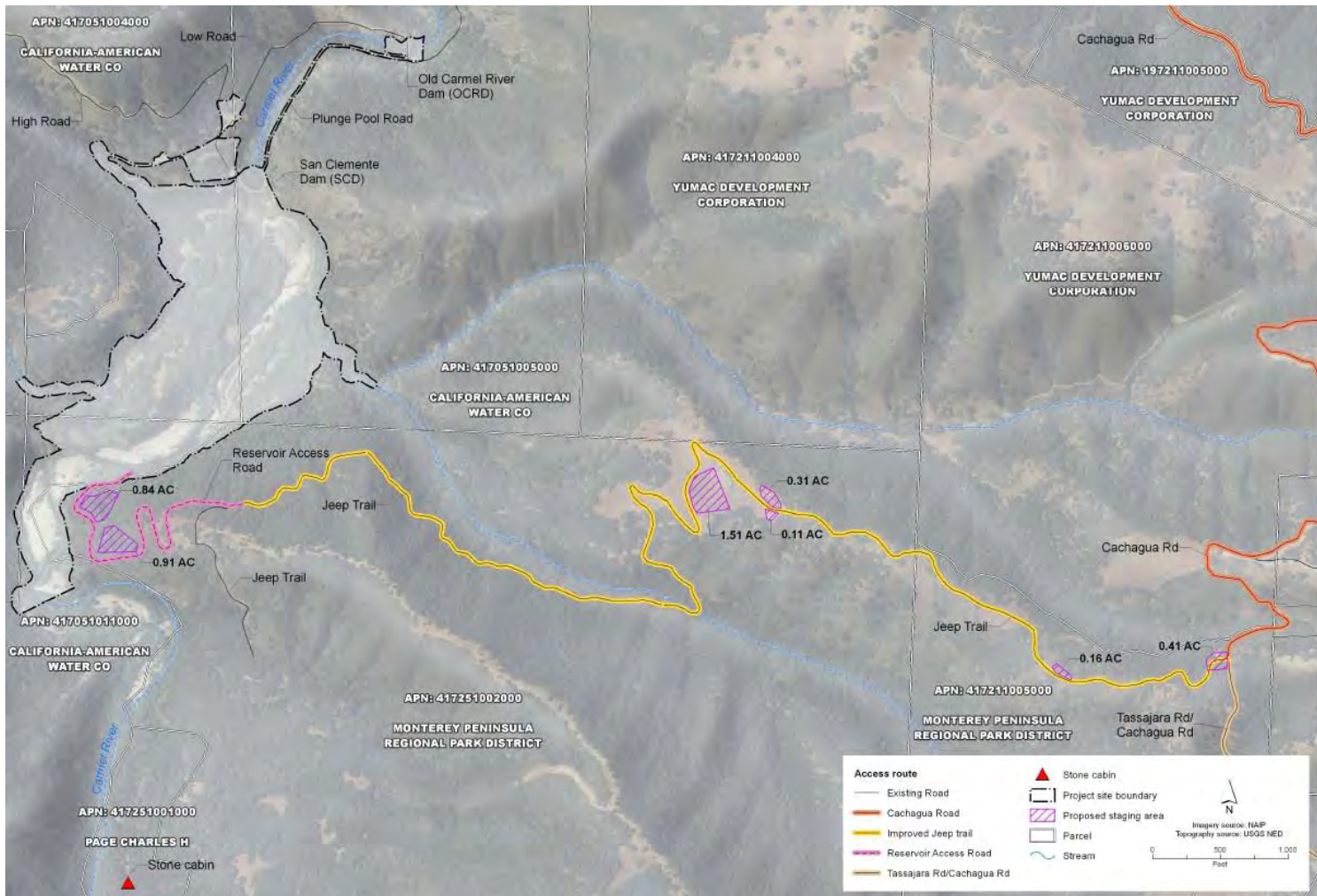
## Low Road Rock Slopes



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# Jeep Trail Route



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# SC Drive Access Challenges

## Jeep Trail – Typical x-section (for comparison)



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# Access Route Assessment

## Reliability Comparison

	Jeep Trail	Low Road	High Road
Flooding	Low to no susceptibility	Highest susceptibility <ul style="list-style-type: none"> <li>- Increased delays during construction</li> <li>- Increased maintenance during/after construction</li> </ul>	Medium susceptibility <ul style="list-style-type: none"> <li>- Increased delays during construction</li> <li>- Increased maintenance during/after construction</li> </ul>
Blockage by landslides	Low susceptibility	Highest susceptibility <ul style="list-style-type: none"> <li>- Greatest safety risk</li> <li>- Increased delays during construction</li> <li>- Increased maintenance during/after construction</li> </ul>	Medium susceptibility <ul style="list-style-type: none"> <li>- Safety risk</li> <li>- Increased delays during construction</li> <li>- Increased maintenance during/after construction</li> </ul>
Reliability	- Reliable	- Unreliable	- Less reliable





# Environmental Impacts

	Jeep Trail	High Road
Traffic and Circulation	Medium	Low
Improve existing roads	11,500 linear feet	14,300 linear feet
Construct new road	3,000 linear feet	3,000 linear feet
Area of disturbance	2.8 acres	7.3 acres
Existing bridge improvements	One	One
Construct new bridges	None	Two
Tree Removal	486 trees	729 trees



# Estimated Cost

**Jeep Trail Route (with  
Cachagua  
improvements)**

\$2.9 million

**High Road Route (with  
San Clemente Drive  
improvements)**

\$5-6 million

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# Access Route Comparison

	Jeep Trail	High Road
Constructability/Reliability	✓	
Less vulnerable to flooding/landslides (more reliable access)	✓	
Environmental – Traffic and Circulation		✓
Environmental – Habitat	✓	
Cost	✓	

# Access Routes Summary

- Project site is difficult to reach
- Every access route has impacts – Project must minimize the impacts
- Use different routes for different purposes
  - Tassajara-southern Cachagua – large trailer vehicles mobilizing equipment and large materials
  - Northern Cachagua – Personnel and most materials (10 wheel trucks)
  - San Clemente Drive – Construction management and smaller trucks (sized to use existing road) for work occurring in front of the dam

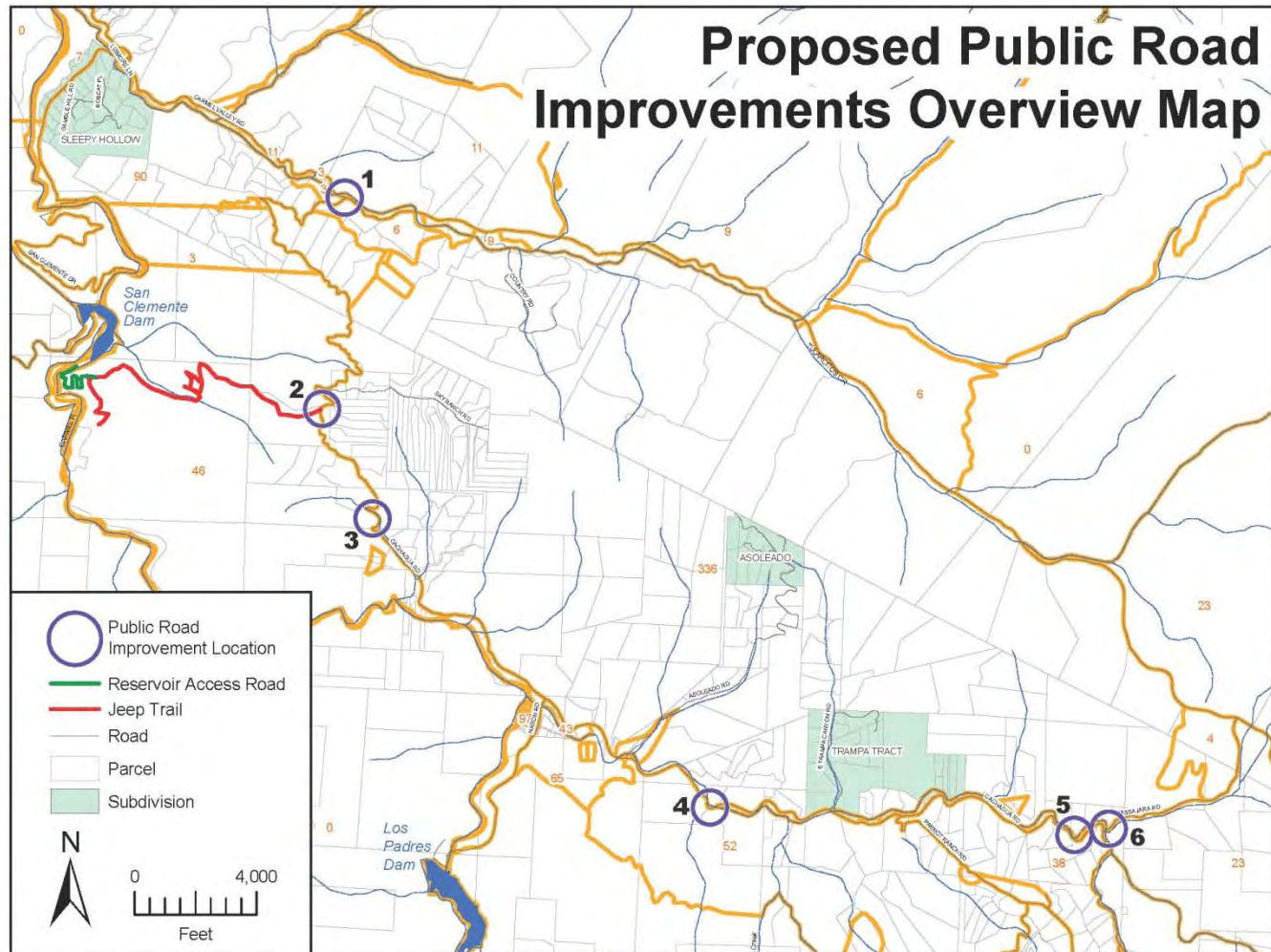


# Road Improvement Summary



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# Public Road Improvements



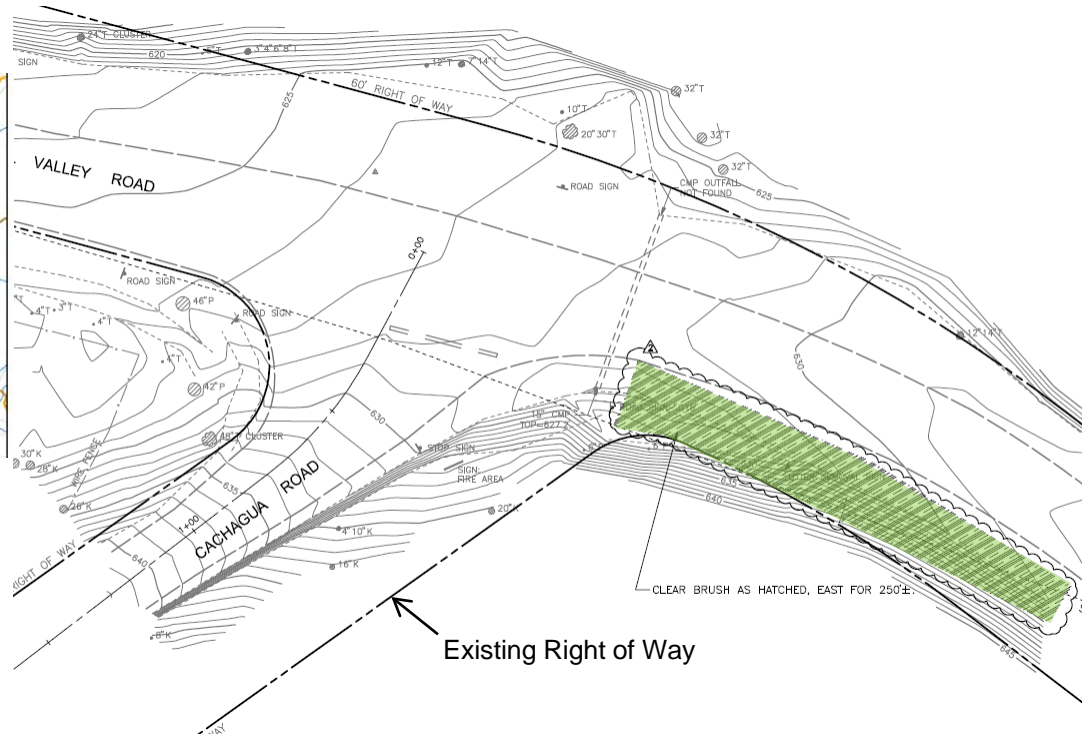
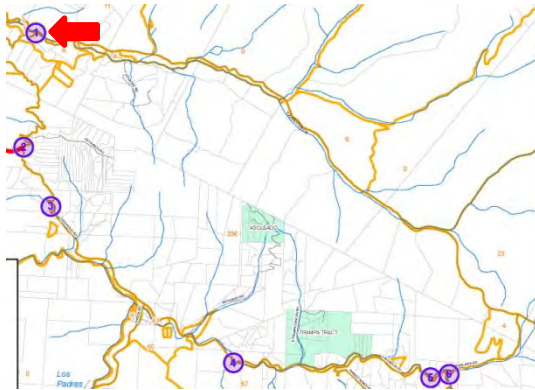
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# Public Road Improvements

## 1. Carmel Valley Road & Cachagua Road

Key Map



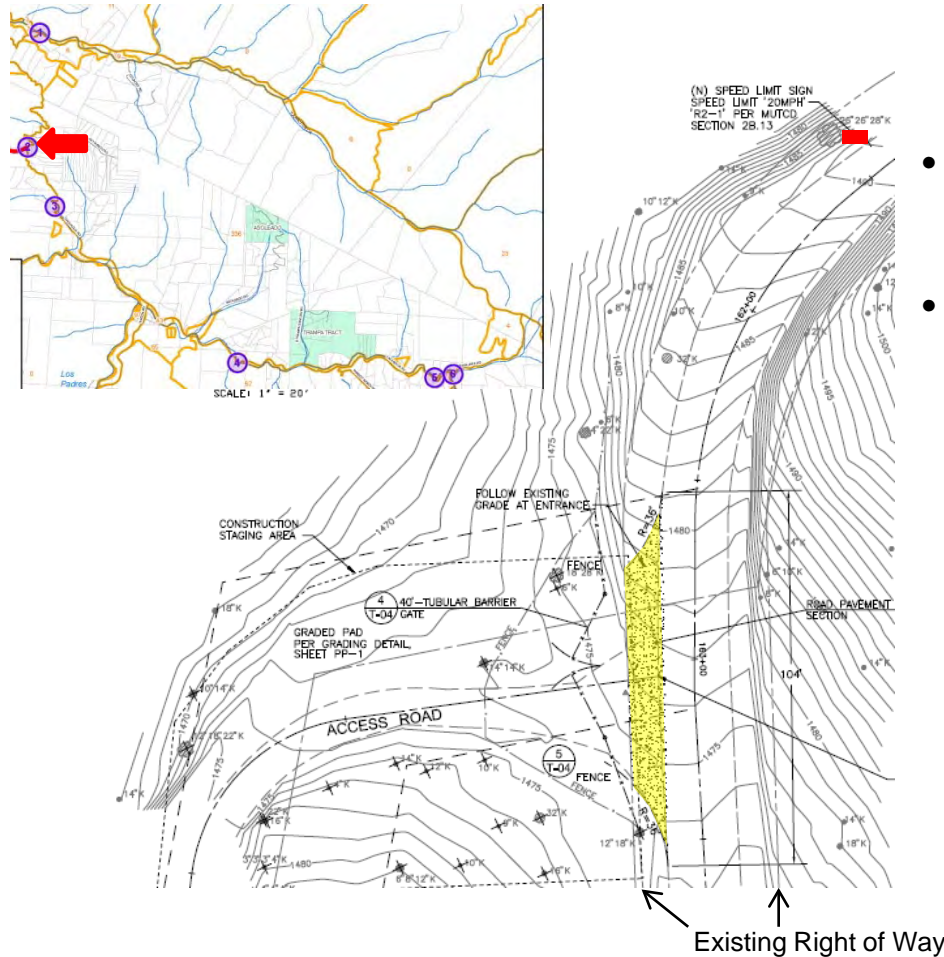
### Improvement Summary:

- Improve sight distance at intersection by clearing vegetation (green highlight) south of Carmel Valley Road and east of Cachagua Road

# Public Road Improvements

## 2. Cachagua Road & Jeep Trail

Key Map



### Improvement Summary:

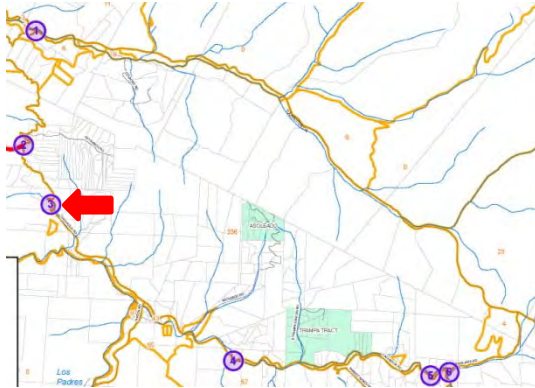
- Harden western shoulder of Cachagua Road at entrance to Jeep Trail (yellow highlight)
- Erect reduced speed limit sign (red highlight) for southbound traffic on Cachagua Road to mitigate limited sight distance due to hillslope east of Cachagua Road



# Public Road Improvements

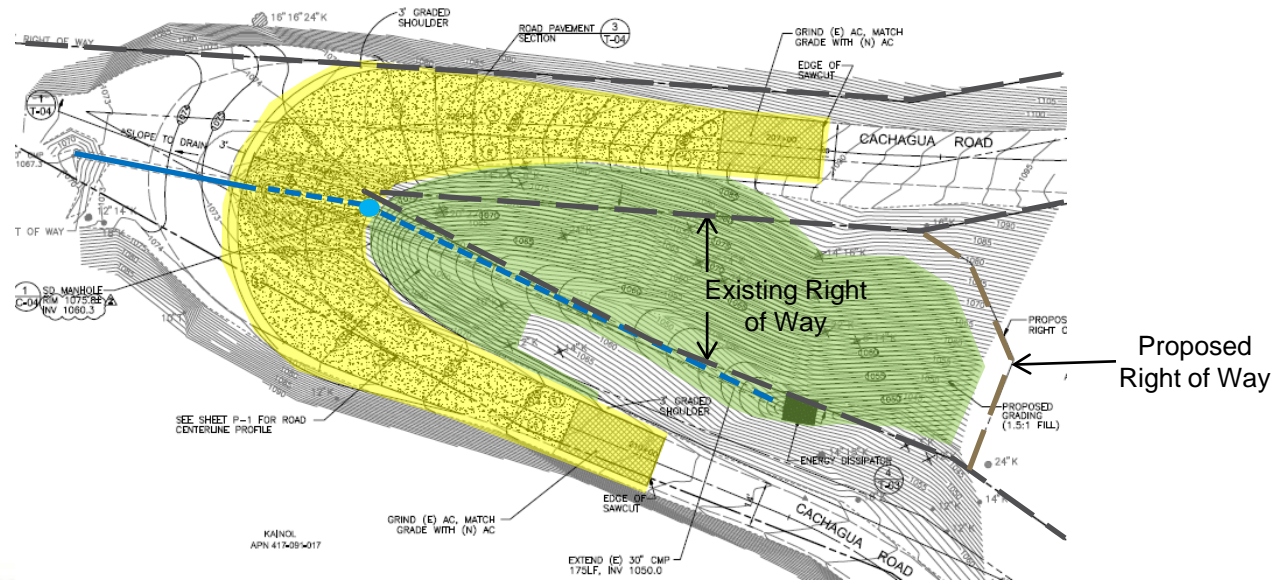
## 3. Cachagua Road Switchback No. 1

Key Map



### Improvement Summary:

- Extend existing culvert (solid blue line) with proposed culvert (dashed blue line), construct new manhole (blue dot) and discharge into rock energy dissipator.
- Place, grade and compact rockfill (green highlight) inside of existing switchback
- Replace existing asphalt concrete pavement with new pavement (yellow highlight) in proposed alignment



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# Public Road Improvements

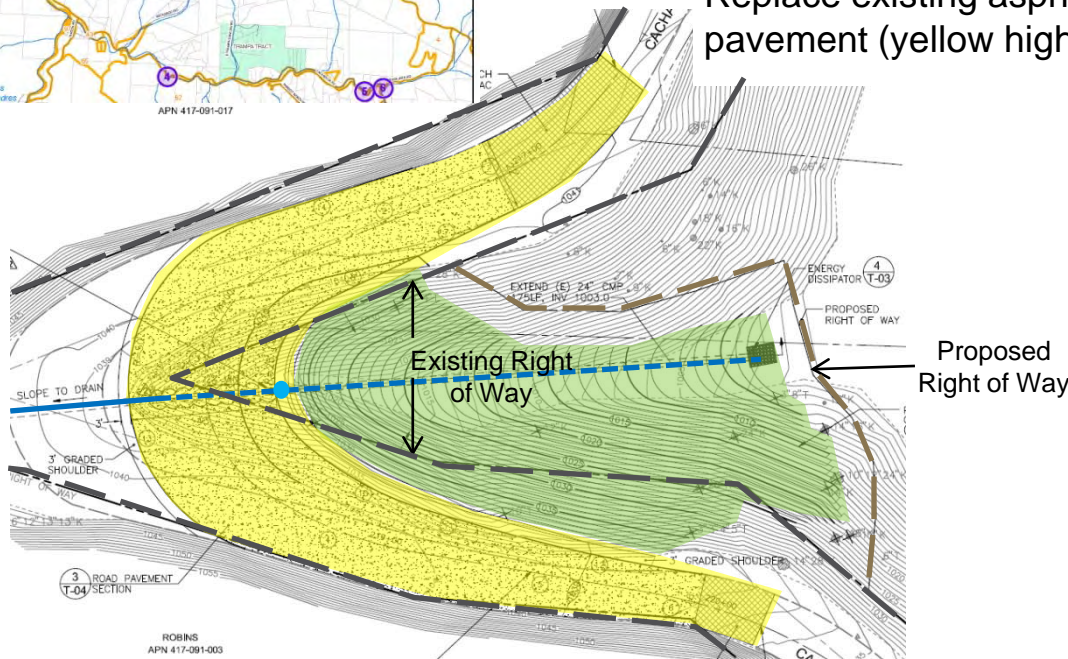
## 3. Cachagua Road Switchback No. 2

Key Map



### Improvement Summary:

- Extend existing culvert (solid blue line) with proposed culvert (dashed blue line), construct new manhole (blue dot) and discharge into rock energy dissipator.
- Place, grade and compact rockfill (green highlight) inside of existing switchback
- Replace existing asphalt concrete pavement with new pavement (yellow highlight) in proposed alignment



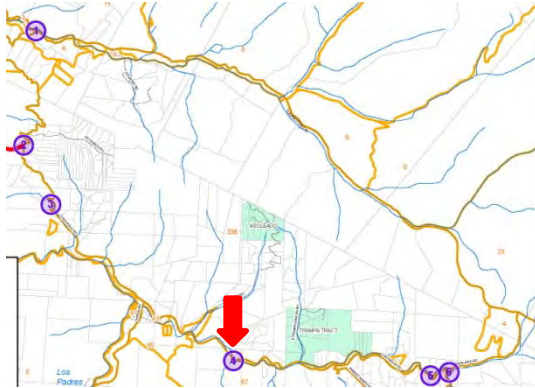
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# Public Road Improvements

## 4. Cachagua Road at Bridge #529

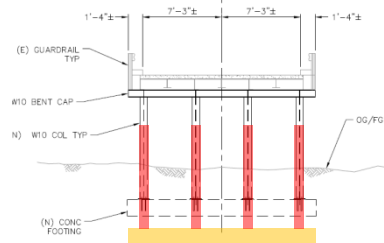
Key Map



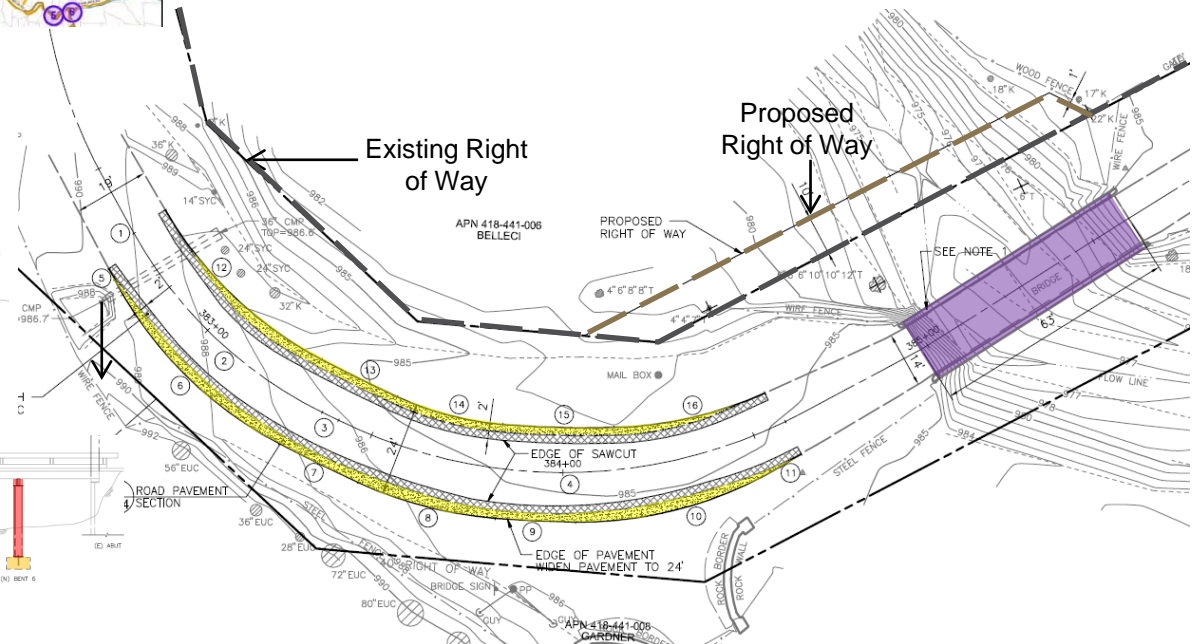
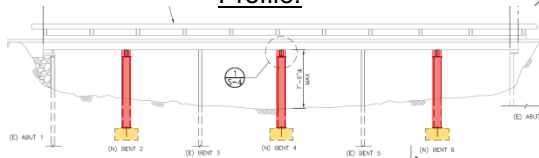
Improvement Summary:

- Strengthen substructure of Bridge #529 (purple highlight) with installation of 3 rows of concrete footings (orange highlight) and 4 steel columns in each row (red highlight). Shim columns to fit under existing substructure.
- Widen shoulders at mile marker 7.3 of Cachagua Road (yellow highlight).

Section:



Profile:

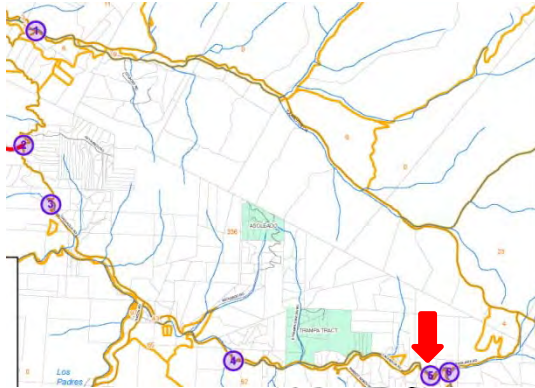


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# Public Road Improvements

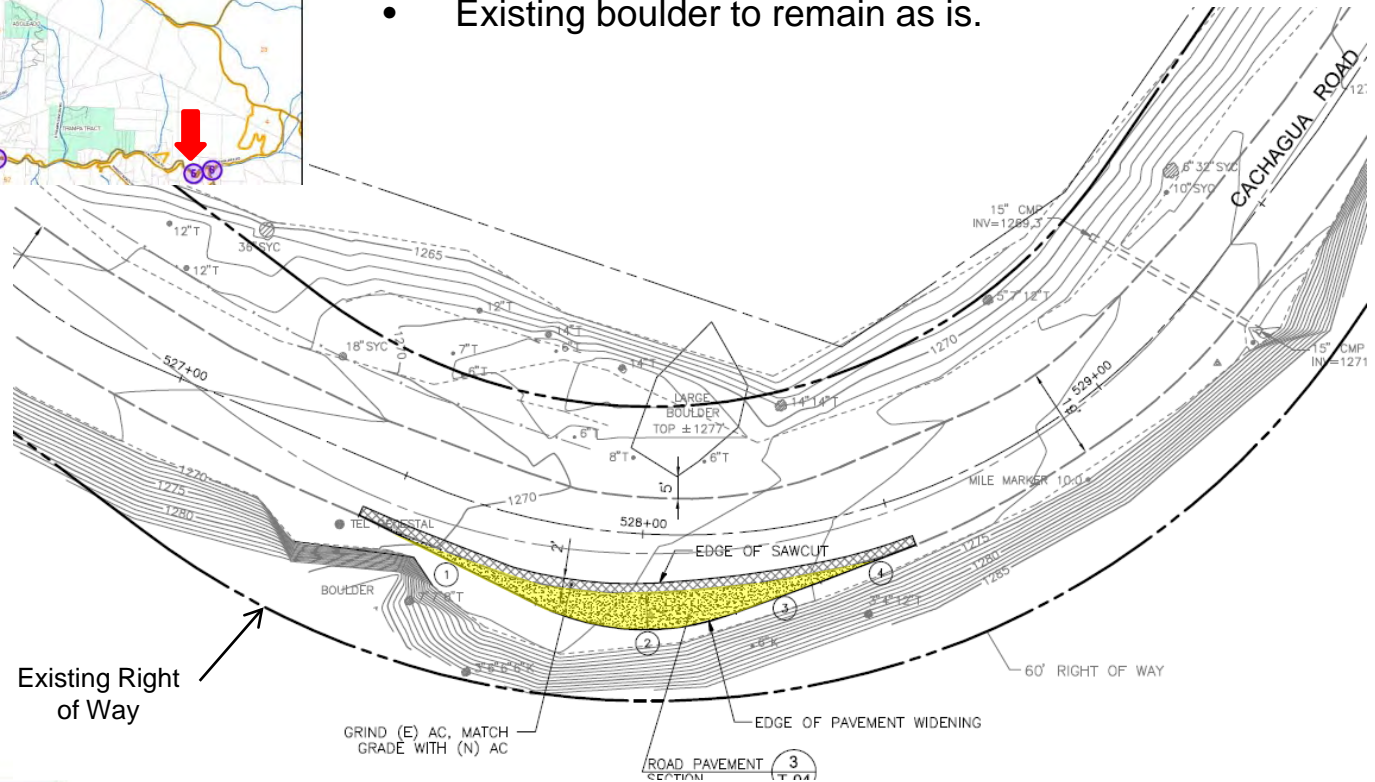
## 5. Cachagua Road at Mile Marker 10

Key Map



### Improvement Summary:

- Widen southern shoulder at mile marker 10 of Cachagua Road (yellow highlight).
- Existing boulder to remain as is.



Existing Right  
of Way

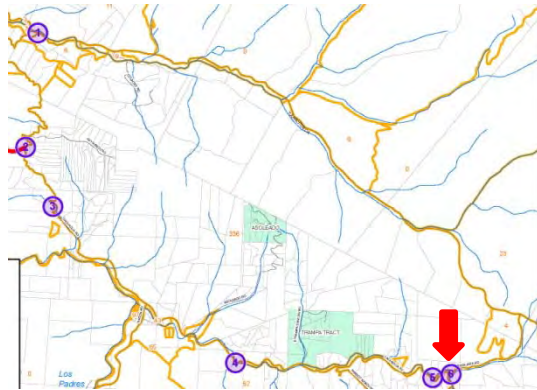
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# Public Road Improvements

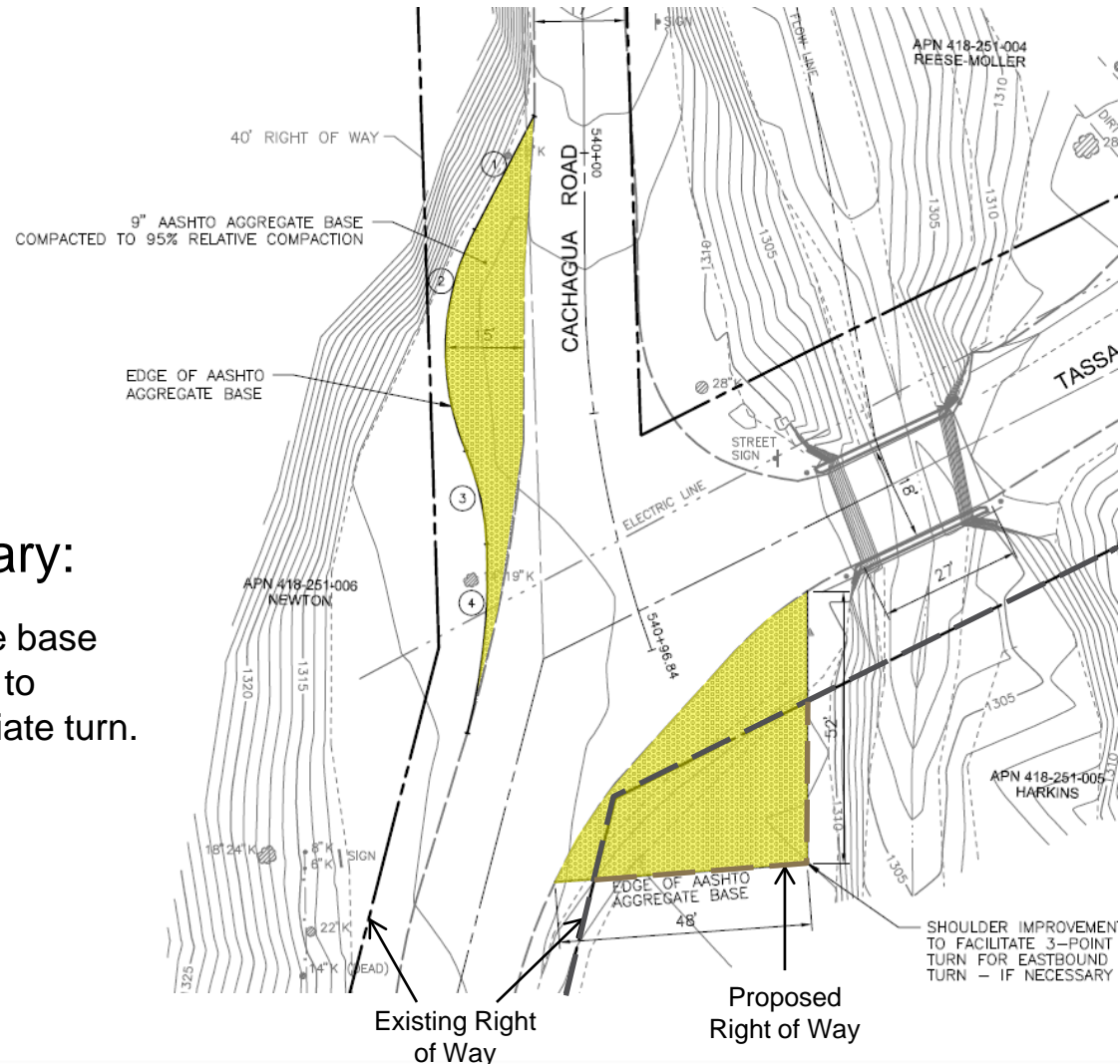
## 6. Cachagua Road & Tassajara Road

Key Map



### Improvement Summary:

- Widen shoulders with aggregate base (yellow highlight) at intersection to facilitate large vehicles to negotiate turn.



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# Estimated Construction Traffic



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# Tassajara - Southern Cachagua

## Traffic Estimate

- Heavy Equipment Mobilization
  - Extended flatbed to bring in large equipment, crane or long material (diversion pipe); Mobile material processing plant.
- Trip Estimates:
  - Peak Period
    - Mobilization (April/May) and Demobilization (late October/November)
    - Average 1 truck per day. Estimated peak trips per day = ## trucks

Year	April/May	Late Oct-Nov ★
2013	25 trucks/mo	20 trucks/mo
2014	40 trucks/mo	45 trucks/mo
2015	30 trucks/mo	15 trucks/mo

★ Wine harvest season.  
Coordination with wineries required

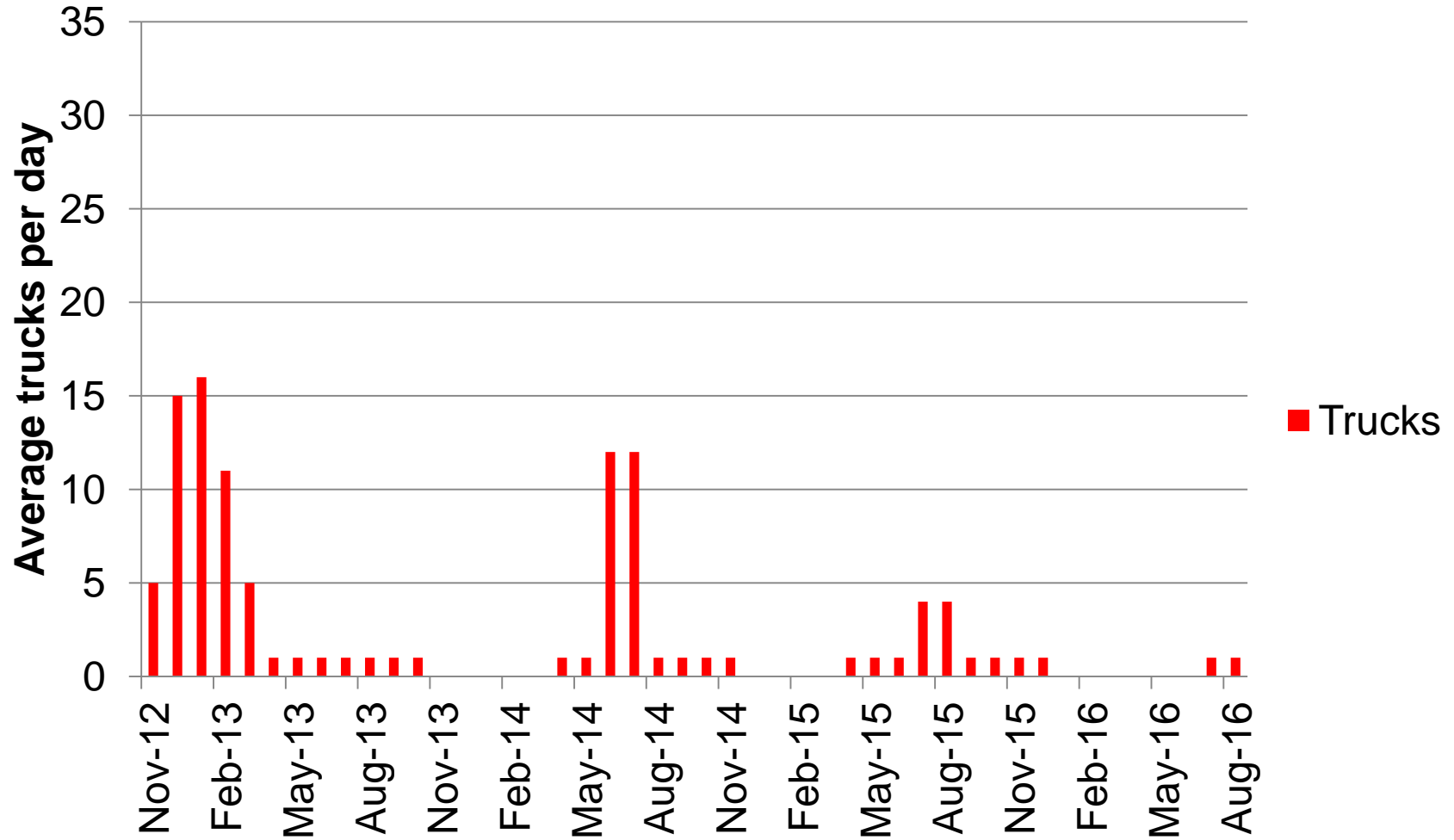
- Non-peak – average 0-5 trucks per month

# Key Roadway Mitigation Measures

- Truck deliveries restricted to 9 am – 3 pm on weekdays
- No truck deliveries on weekend or holidays
- Pilot cars
- Required to use turnouts
- Ongoing coordination with emergency service providers
- Coordinated to not conflict with school bus schedules
- Coordination with wineries, particularly in fall harvest season

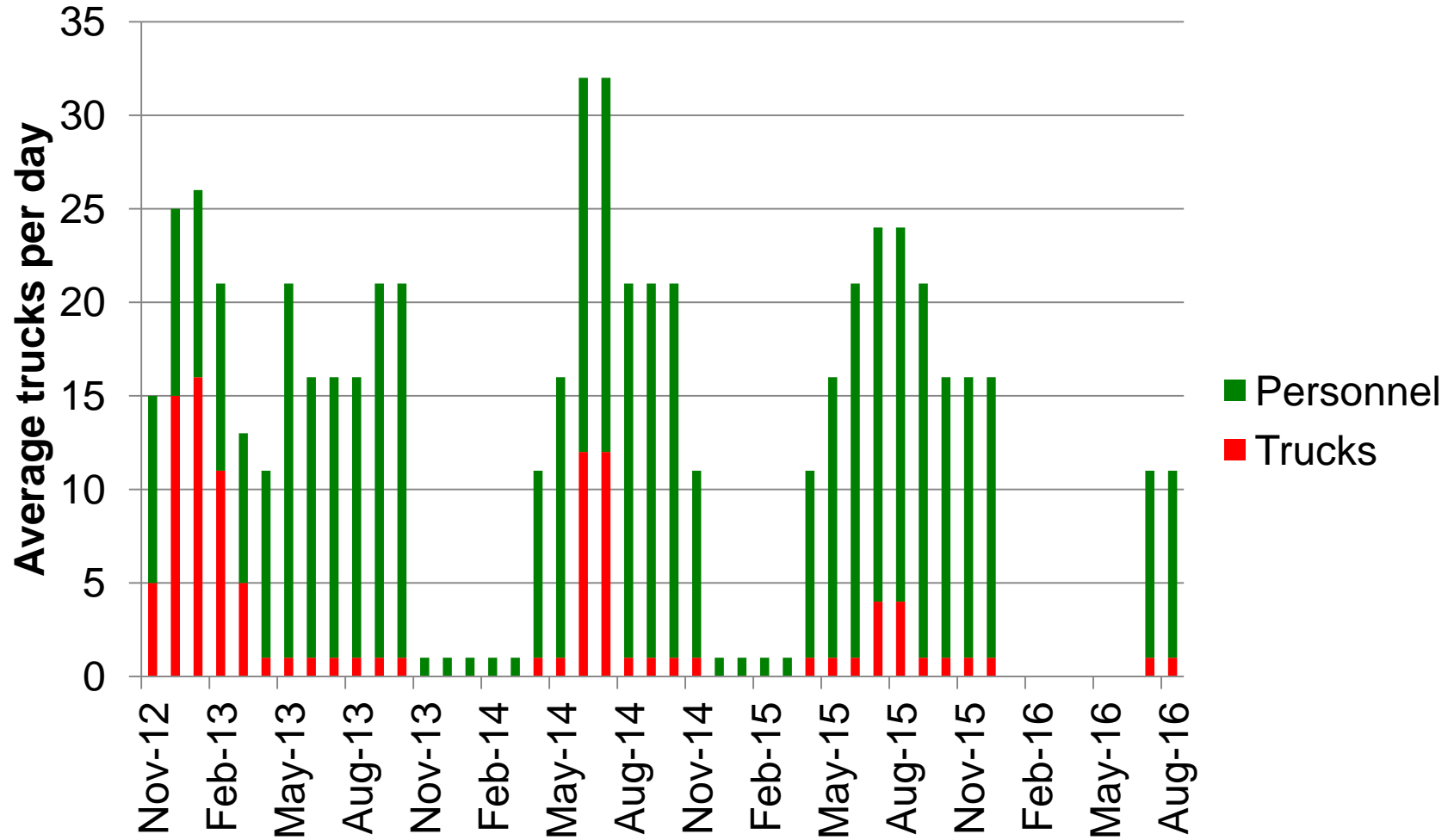


# Northern Cachagua Traffic Estimate



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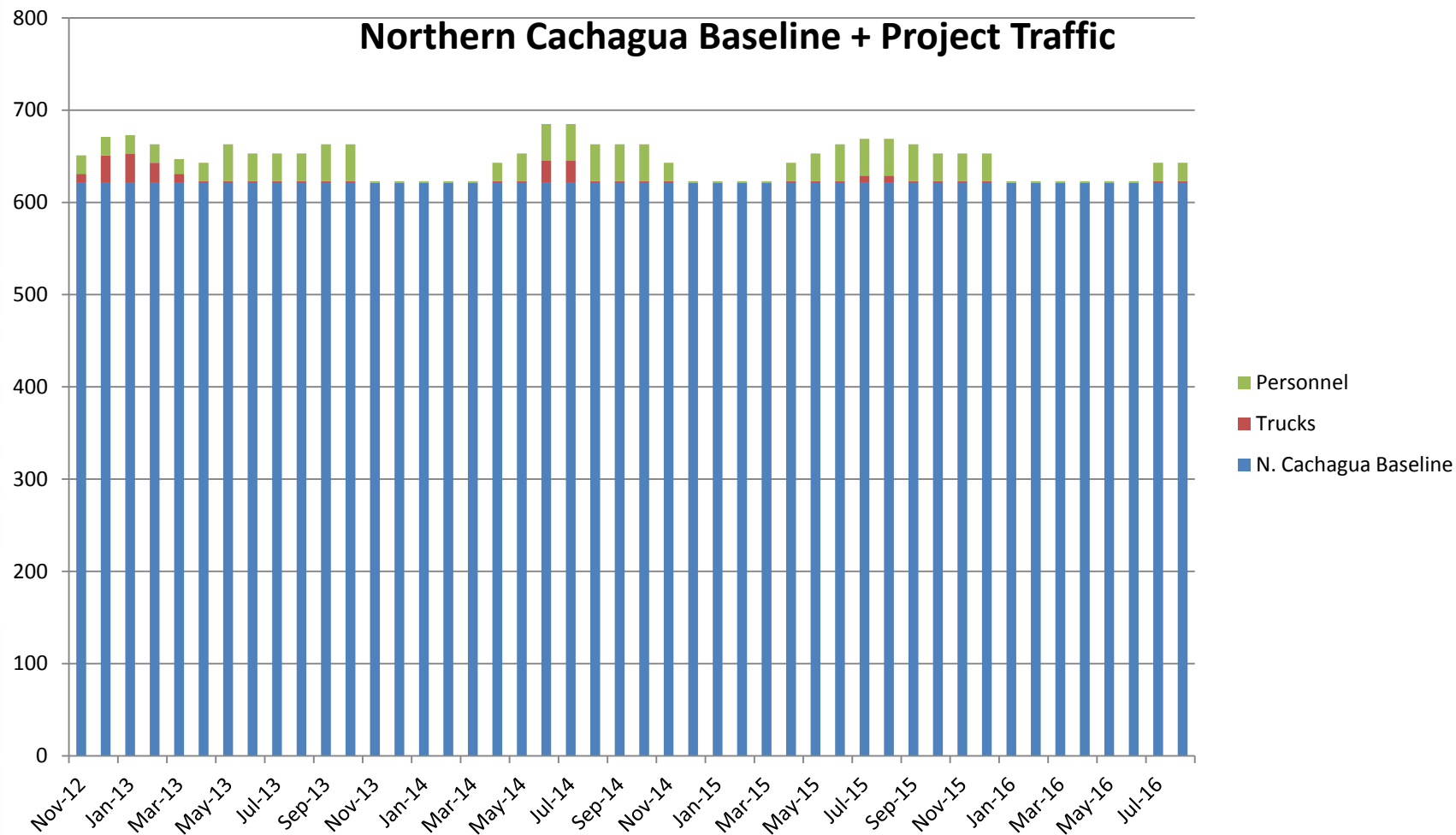
# Northern Cachagua Traffic Estimate



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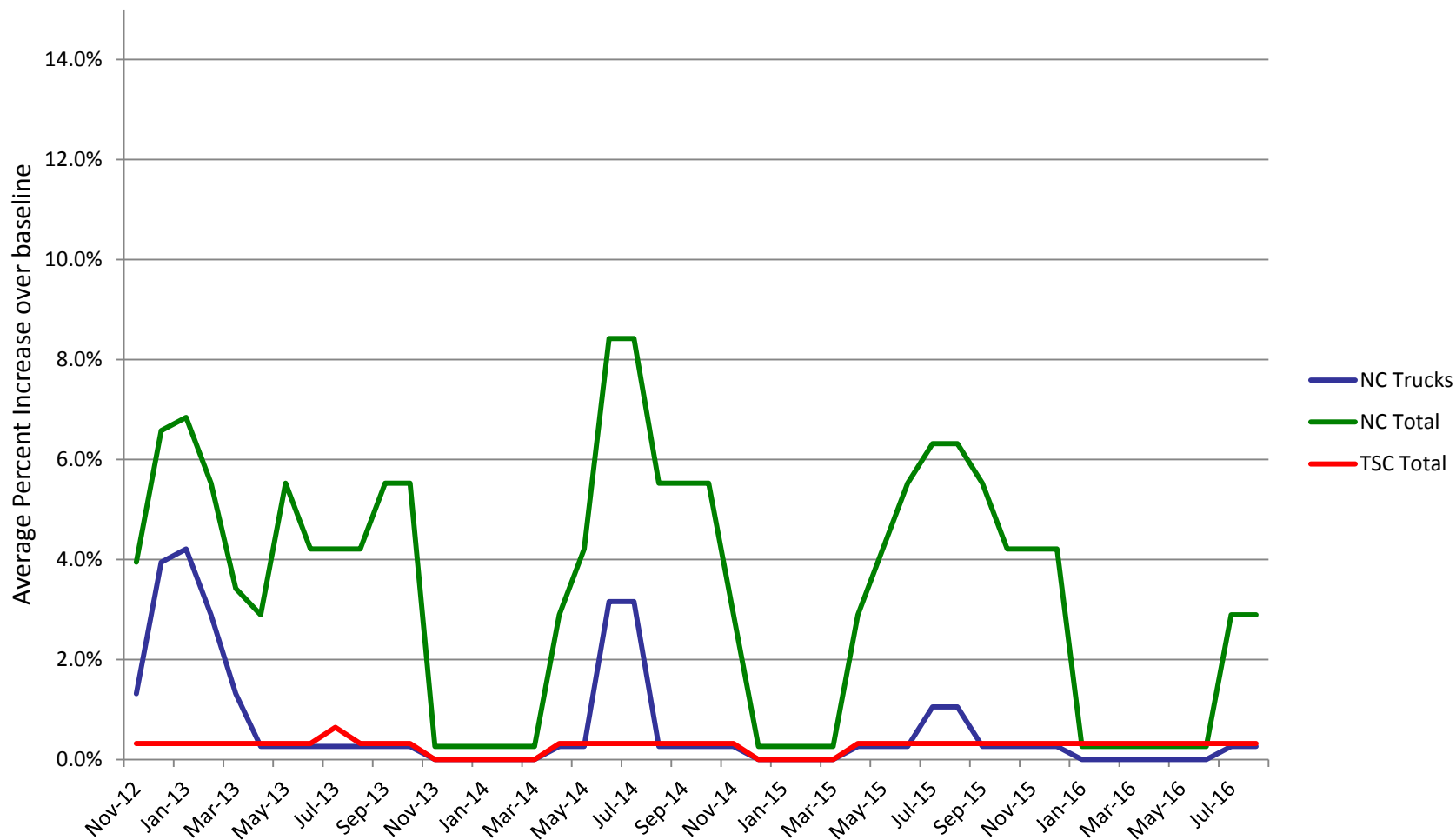


# Traffic Impact



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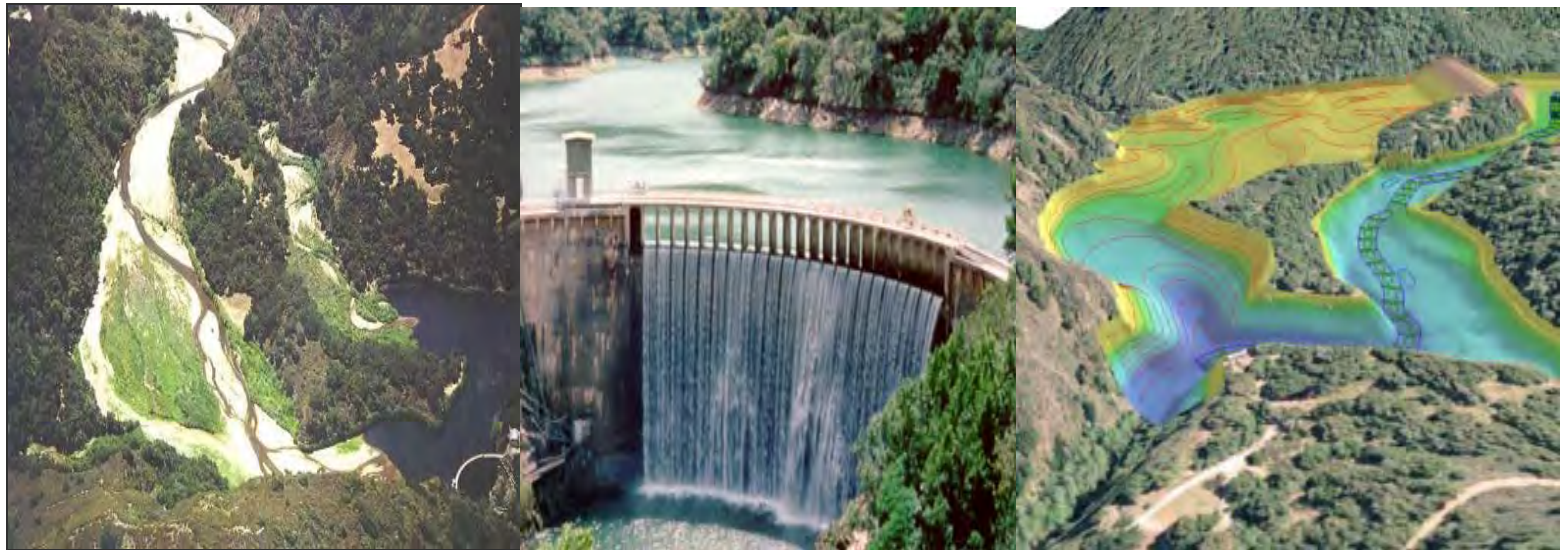
# Traffic Impact



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# Mitigation Measures



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# Key Roadway Mitigation Measures

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- Coordination with wineries, particularly in fall harvest season



# Additional Mitigation Measures

- Communication
  - Traffic coordinator
  - Electronic signs
  - Website with information on specific estimated trucking schedules
  - Monthly meetings with the community – ongoing identification of mitigation measures
- Road maintenance and post-construction road repair.
- No other closures or significant changes to road improvements without notification to the community and opportunity for input

# Work In Progress

- Turnout study
- Plan for road maintenance and post-project road construction
- Additional coordination with emergency service providers
- Update route comparison with tree removal and disturbance area for jeep trail route
- Update route comparison with information on extra fuel/time costs for Jeep Trail route
- Use fire map as the base map



# Questions?

- Website: [www.sanclementedamremoval.org](http://www.sanclementedamremoval.org)
- Contact
  - Jeff Szytel  
CAW project manager  
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[joyce.ambrosius@noaa.gov](mailto:joyce.ambrosius@noaa.gov), 707-575-6064

