Coastal Rail Resiliency Study Update

Coastal Rail Remediation Efforts

Emergency Rail Projects

past projects

- **Cyprus Shore** (September 2022 – April 2023) Slope secured with ground anchors
- **Casa Romantica** (April 2023 – July 2023)
  Temporary catchment wall built
- **Mariposa Point** (January 2024 – March 2024)
  Temporary catchment wall built
- Remove temporary catchment walls at Casa Romantica and Mariposa Point when appropriate
- Mitigation discussion are ongoing for the Cyprus Shore

Coastal Rail Stabilization Priority Project

immediate needs

- Four priority reinforcement areas identified as imminent threats
- Actions include armoring, catchment wall, trail restoration, and sand replenishment
- $305 million in state and federal funds secured
- Accomplishments to date include riprap repair and sand placement in Areas 1-2, and catchment wall and trail restoration construction (60 percent complete) in Area 3
- Ongoing alternatives analysis and permitting in Area 4

Coastal Rail Resiliency Study

short- to mid-term solutions

- Evaluate concepts to protect seven miles of coastal rail infrastructure with a 30-year design life
- Scoring and selection of short-listed concepts
- Two to four short-listed concepts per category (i.e., bluffside, rail, and beachside) carried forward into further design and future implementation

Coastal Rail Long-Term Solutions Study

long-term solutions

- State-led study
- Develop options for long-term solutions including potential rail line relocation
- Create an action plan for key elements
- Partner with Los Angeles-San Diego-San Luis Obispo Rail Corridor Agency, state, and federal agencies
- Engage key stakeholders

Feasibility Study Overview

- Study Approach
- Alternative Concept Development
  - Rail Concepts (3) - improve structural stability of the track foundation and extend useful life of rail infrastructure
  - Bluffside Concepts (9) - prevent bluff erosion, sliding, and debris hazards originating east of the corridor from blocking the tracks
  - Beachside Concepts (11) - address coastal erosion, flooding, and wave overtopping hazards west of the corridor impacting track stability
- Screening and Evaluation Process
- Shortlisted Concepts
- Community, Environmental, and Recreational Considerations
- Funding Strategy and Federal Partnership Opportunities
- Next Steps

Community Input

Most Recent Public Meetings Held:

- October 28, 2025, virtual meeting via Zoom
- October 29, 2025, San Clemente City Hall
- Shared information regarding refined range of alternative concepts for the short- to mid-term with a 30-year design life
- Meeting notifications were distributed via newspaper ads, bilingual flyers, email blasts, project website updates, social media ads, social media posts, and press releases
- Public participants:
  - 48 (virtual)
  - 26 (in-person)

Community Comments on Short-listed Concepts:

- Strong support for sand nourishment and desire for recurring placement to be integrated into sand retention strategies
- Concern that shoreline protections structures will permanently eliminate sandy beaches
- Desire for more clarity on long-term planning and rail relocation

Action Taken to Respond to Comments:

- Provide additional conceptual design to public and include in the Draft Coastal Rail Resiliency Study (CRRS) report
- Provide public with information on next steps after CRRS completion

Alternative Concept Development Process

Ongoing Stakeholder Engagement

Purpose and Need

- Determine the problem to be solved
- Develop evaluation criteria to meet the project needs

Identifying Feasible Concepts by Category and Typical Section

1. Rail concepts
2. Bluffside concepts
3. Beachside concepts

Evaluate Concepts

- Score concepts based on evaluation criteria
- One to four short-listed concepts per category carried forward into further study

Results

- Further develop concepts to support implementation

Community input received

Future community input opportunities

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Short-Listed Concepts

Two Rail Concepts Carried Forward:

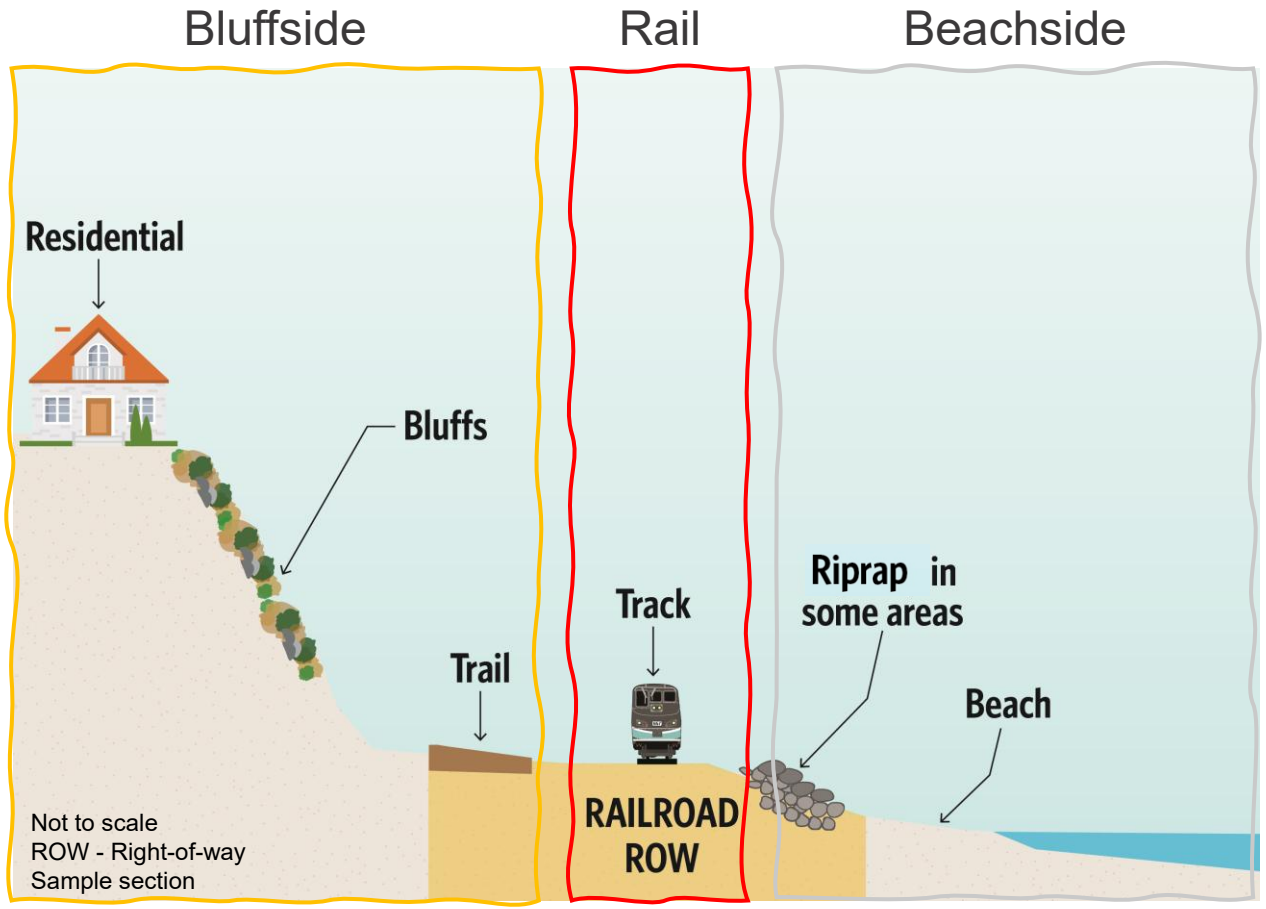
- Alternative materials for critical railroad infrastructure to reduce lifecycle costs
- Ground improvement

Two Bluffside Concepts Carried Forward:

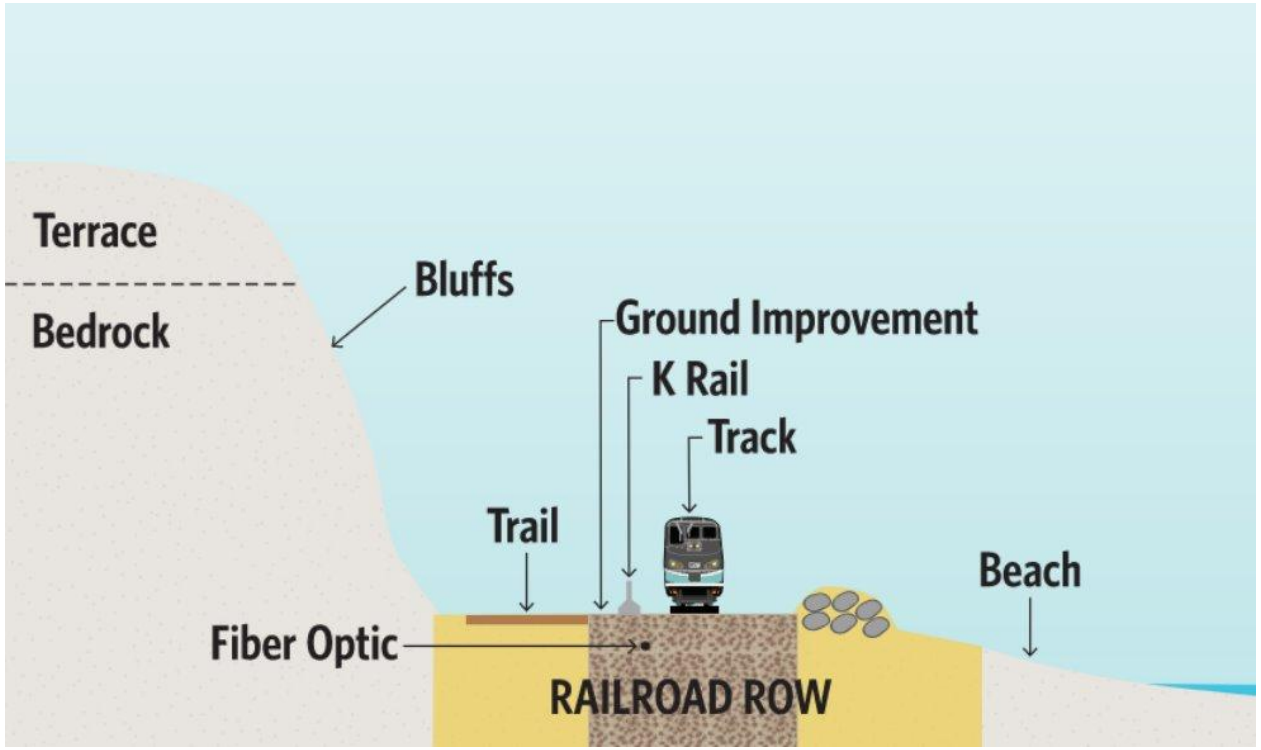
- Catchment walls
- Tieback/soil nail/pin-pile walls

Four Beachside Concepts Carried Forward:

- One-time beach nourishment with shoreline protection structure:
  - Riprap
  - Engineered rock revetment
  - Seawall
  - Combination (seawall and rock)

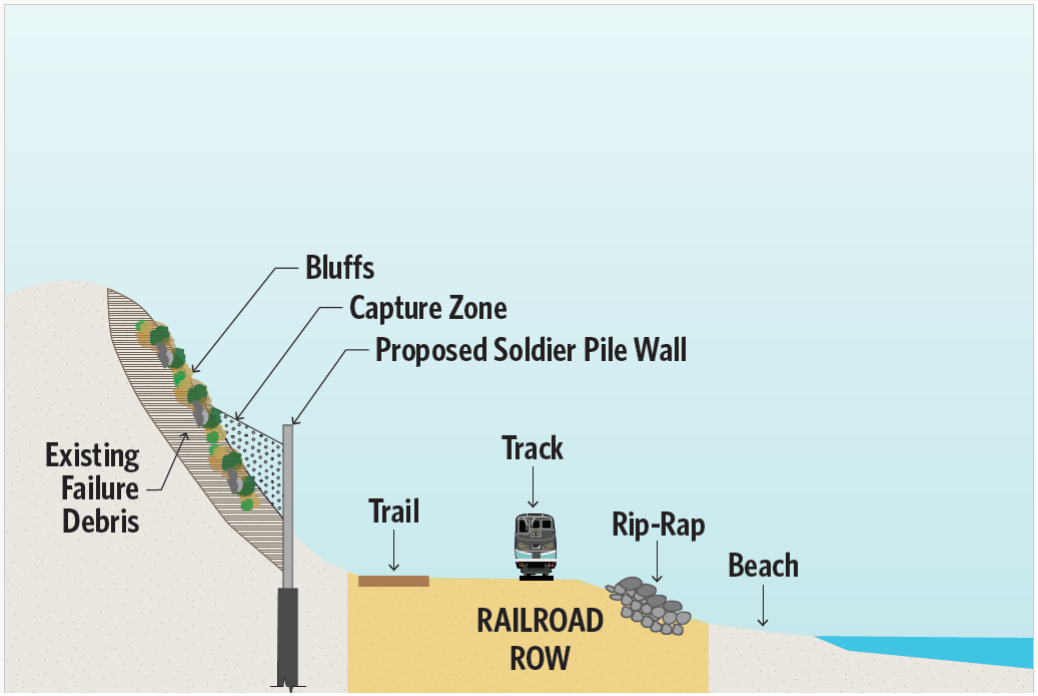


Short-Listed Rail Concepts

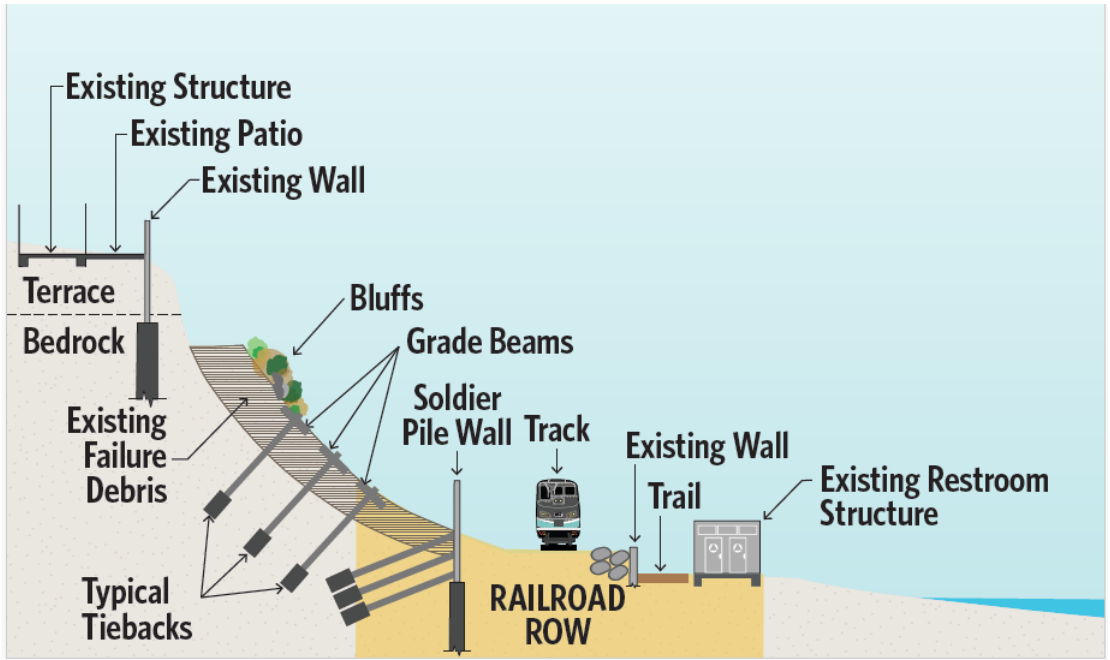


Ground Improvement

Short-Listed Bluffside Concepts

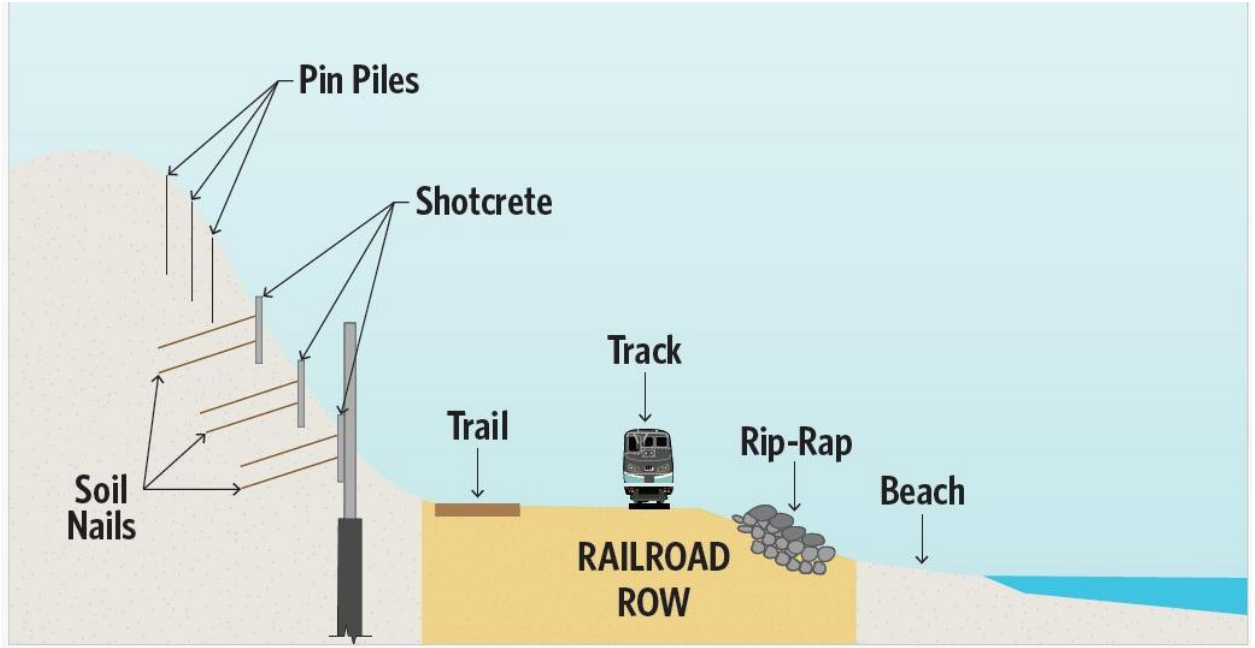


Catchment Wall



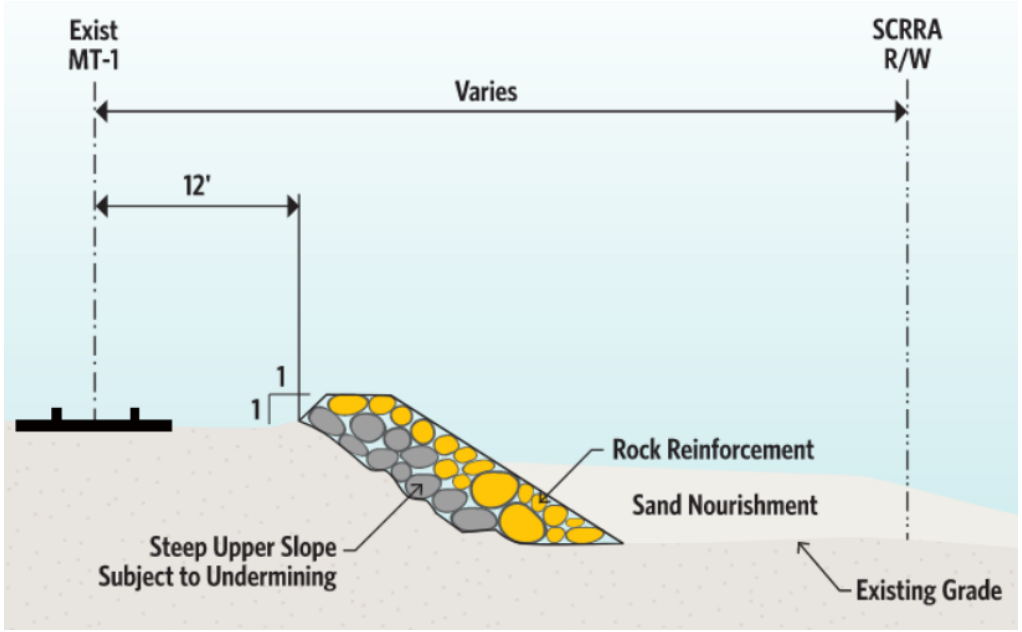
Tieback Wall

Short-Listed Bluffside Concepts (Cont.)

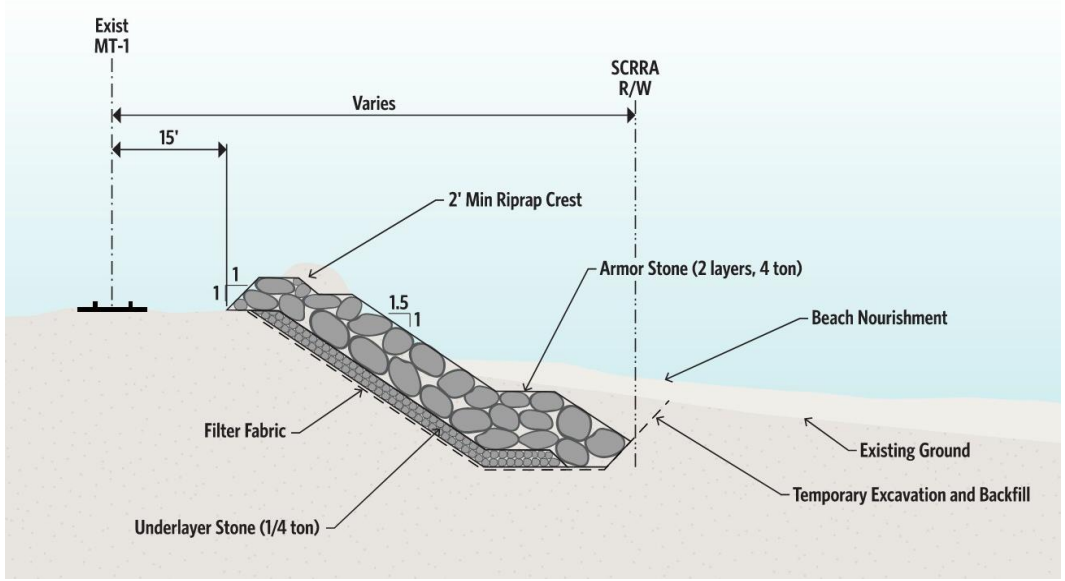


Soil Nail/Pin Pile Wall

Short-Listed Beachside Concepts



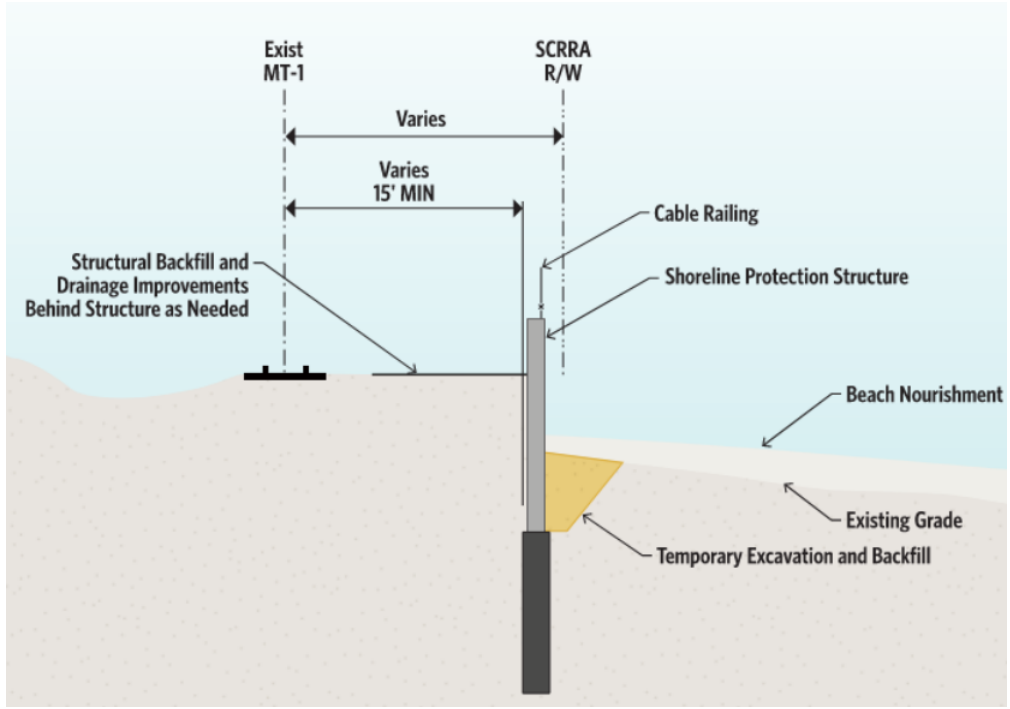
Riprap Repair Restoration



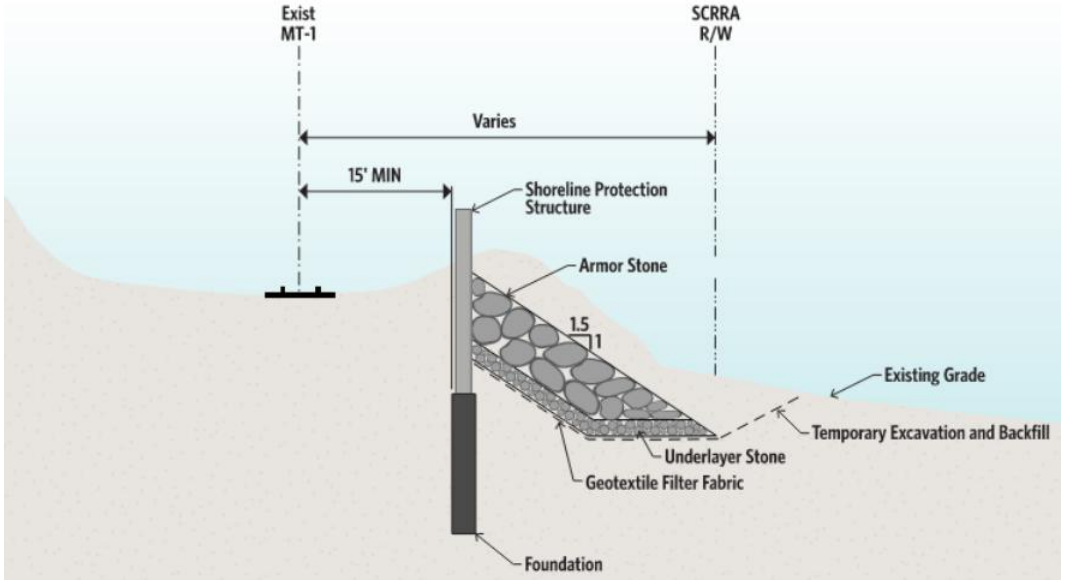
Engineered Revetment Shore Protection

Min - Minimum
MT – Metrolink Track 1
R/W – Right-of-Way
SCRRA – Southern California Regional Rail Authority

Short-Listed Beachside Concepts (Cont.)



Seawall Shore Protection



Combination Seawall/Revetment Shore Protection

Coastal Rail Resiliency Study Schedule

Purpose and Need/ Evaluation Criteria	Draft Concept Development	Refinement of Concepts	Draft Feasibility Study Report	Final Feasibility Study Report
• Draft: fall 2023 to summer 2024 • Informed by listening session feedback	• Draft Alternative Concepts: summer to fall 2024 • Obtain feedback from public, stakeholders, and interest groups: fall 2024 to summer 2025	• Refined Alternative Concepts: summer to fall 2025 • Obtain feedback from public, stakeholders, and interest groups: fall 2025 to winter 2026	• Draft report: summer 2026 • Update to Board: July 2026 • Obtain feedback from public, stakeholders, and interest groups: spring to summer 2026	• Publish final report: Fall 2026

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Board - Board of Directors

Coastal Rail Resiliency Study Schedule (Cont.)

CIP	CIP Prioritization Plan	PSR	PA&ED	PSE and Construction
• Project specific locations to implement short-listed concepts • Initial project budgets • Identify funding sources	• Prioritize projects • Prioritize funding opportunities • Overall CIP schedule	• Individual PSR for specific projects • Alternatives analysis of short-listed concepts • Conceptual engineering • Cost estimates • Funding plan • Project schedule	• Individual PA&ED for specific project • Environmental compliance (CEQA/NEPA) • Preliminary engineering • Outreach • Permits identification • Project approval	• Final design • Engineer's estimate • Obtain permits • Specifications • Construction procurement • Construction

CEQA - California Environmental Quality Act
CIP - Create Capital Improvement Program
NEPA - National Environmental Policy Act
PA&ED - Project Approval and Environmental Document
PSE - Plans, Specifications and Estimates
PSR- Project Study Report