



DATE: February 10, 2020

TO: Transportation Authority of Marin Administration, Projects & Planning Executive Committee

FROM: Anne Richman, Executive Director *Anne Richman*
Nicholas Nguyen, Principal Project Delivery Manager

SUBJECT: Marin County State Route 37 Segment A1 Adaptation Study Presentation (Discussion), Agenda Item No. 7

RECOMMENDATION:

N/A Discussion Item. Receive Marin County Department of Public Works State Route 37 (SR-37) Segment A1 Adaptation Study presentation.

BACKGROUND:

SR-37 is a key transportation corridor linking the four North Bay counties. Due to its strategic transportation role and environmentally sensitive natural footprint, SR-37 has been the subject of numerous planning studies conducted by various agencies and organizations, including University of California (UC) Davis and the California Department of Transportation (Caltrans). In addition, staff and elected officials from the four counties have been in discussion over the past four years about how local transportation authorities might play a role in advancing improvements in the corridor.

The corridor is broken up into three segments. Segment A is from Hwy 101 to Hwy 121 with 3.4 miles in Marin and 3.9 miles in Sonoma. Segment B is from Hwy 121 to Mare Island with 2.3 miles in Sonoma and 7 miles in Solano. Segment C is 4.4 miles entirely in Solano. Each segment has unique challenges and varies in how those challenges can be met in regards to mobility, sea level rise, and flooding.

The Corridor has been cooperatively developed for over the past four years by the coalition of the four county transportation agencies in Marin, Sonoma, Napa, and Solano, Caltrans and MTC (Metropolitan Transportation Commission)/BATA (Bay Area Toll Authority) via the SR-37 Policy Committee, in concert with numerous resource agency partners. Consensus was reached where MTC/BATA would develop interim and ultimate project solutions for Segment B, TAM would work with Caltrans and local partners to develop interim and ultimate project solutions for Segment A, and Solano Transportation Authority (STA) would develop projects in Segment C.

Past Actions:

Since 2015 and the completion of two key reports (MTC's SR-37 Corridor Improvement Plan and TAM's SR-37 Segment A Corridor Improvement Study), the roadmap addressing current and anticipated issues on the highway has been conceptually defined. An essential element that is missing is whether there is a levee

reconstruction and management option that could jointly protect the existing SR-37 in Segment A, as well as other adjacent transportation facilities and land uses. Towards this end, staff recommended additional studies be conducted. In response, two actions were taken to date:

1. In August 2017, the TAM Board authorized the Executive Director to review and pursue Caltrans planning grant opportunities for SR-37 and Novato Creek flooding mitigation in coordination with Marin County Public Works (PW) and approved local match funding. Marin County PW subsequently applied for a Caltrans Adaptation Planning Grant with TAM as a co-applicant and received a small grant award in May 2018 to conduct the SR-37 Segment A1 Adaptation Study which is being presented tonight.
2. In November 2018, the SR-37 Policy Committee convened and discussed future RM3 funding for specific segments of the corridor. It was agreed that TAM would receive \$3 million for a future Segment A levee and roadway study that would look into developing specific projects to protect and adapt this segment to sea level rise (SLR) without having to completely raise the roadway. The funds and work are both on hold due to the RM3 litigation.

FISCAL CONSIDERATION:

There are no fiscal impacts to the recommended action.

NEXT STEPS:

Staff will work with Marin County PW to finalize the report and submit to Caltrans for review in February, 2020.

ATTACHMENTS:

Marin County SR-37 Segment A1 Adaptation Study Presentation



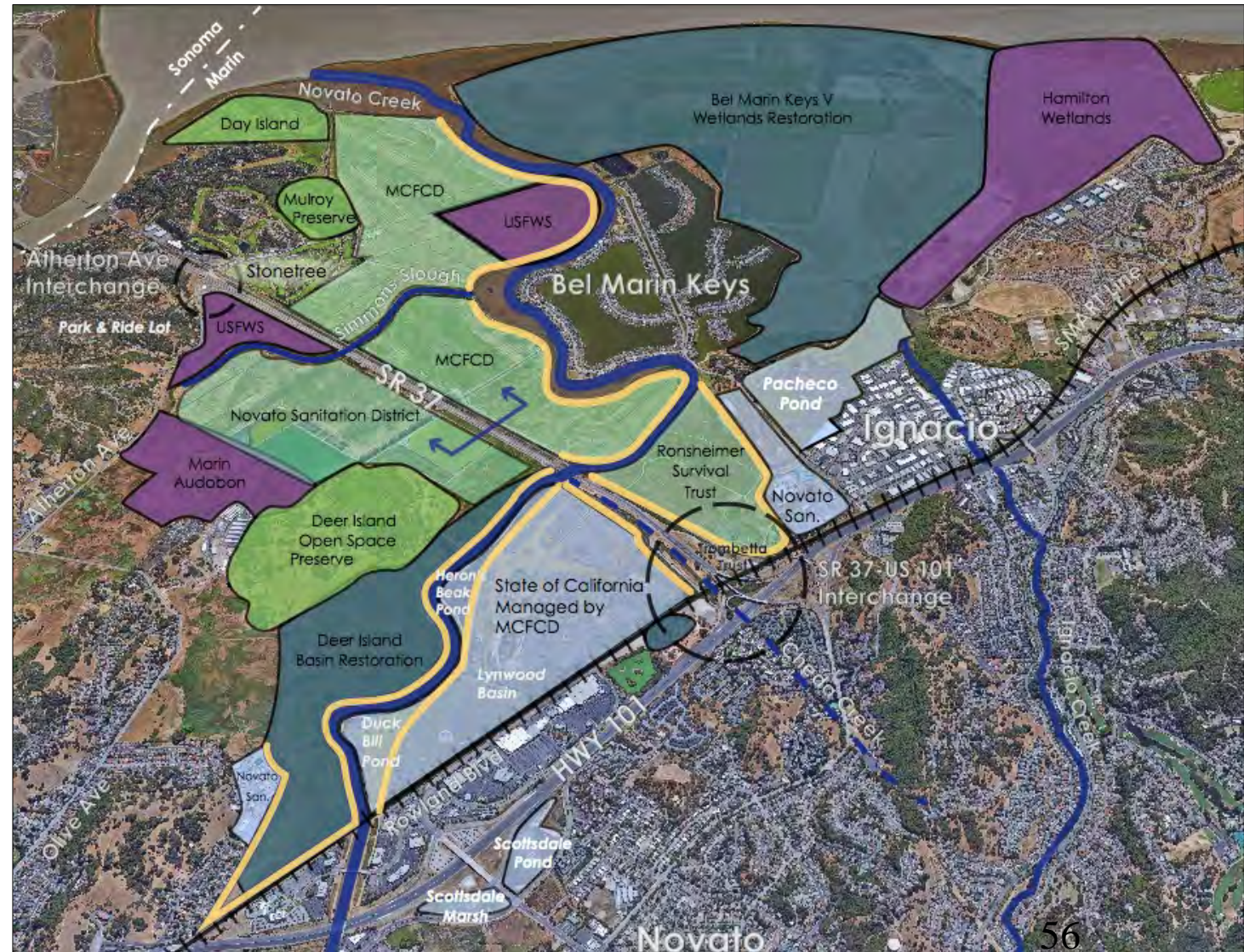
Highway 37 Corridor Adaptation Study

TAM Administration, Projects and Planning Executive Committee

February 10, 2020

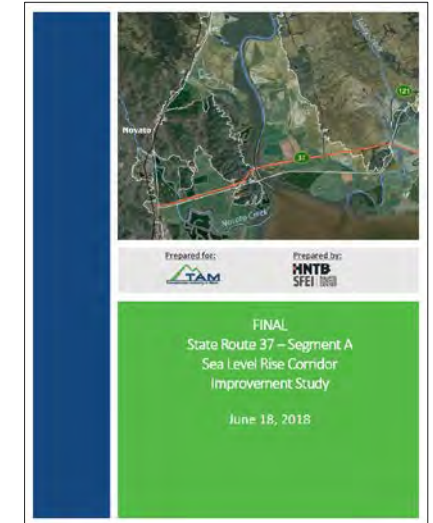
Study Scope

- Collect previous studies and synthesize contents related to Highway 37 Segment A-1
- Identify additional information needed to identify the "Preferred Approach"
- Provide guidance to Caltrans and MTC regarding Approach Alternatives and priority "Next Steps" to protect the corridor from flooding resulting from high tides, sea level rise, and storm surge



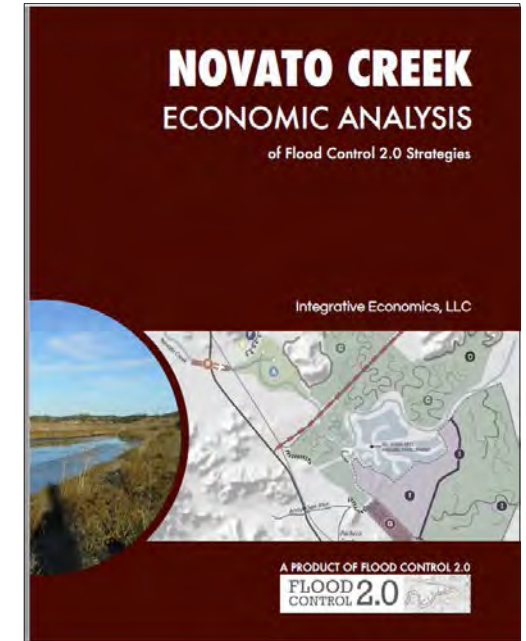
Key Findings/ Transportation

- Segment A-1 has the lowest roadway elevations in the entire corridor
- Caltrans High Risk Design standards require raising the roadway by 18 to 22 feet
- Interchanges require reconfiguration at U.S.101, Atherton Avenue, Hanna Ranch Road, and Marsh Drive
- California State Rail Plan recommends linking SMART with Capitol Corridor trains by 2040
- Napa Transit study identified feasible micro-transit and 2 express bus routes after Segment B widening



Report Key Findings/ Habitat

- Novato's Baylands are a priority for restoration and expanded watershed connectivity
- Widening the Novato Creek crossing and increasing tidal marsh would reduce flooding and benefit Bay ecology
- In 2016, County Flood District adopted a plan to reduce flooding and restore marshlands
- Coastal Conservancy is restoring 1600 acres of marshland southeast of Bel Marin Keys
- Marin County is designing 194 acre marshland restoration between Novato Creek and Deer Island
- Novato Sanitary is approved to move its summer irrigation fields to new BMK V Phase 2 lagoon



Highway 37 Corridor Outreach / Stakeholders

Outreach Process

TAG Meeting #1 April 18, 2019

TAG Meeting #2 June 6, 2019

Property Owner Meeting August 22, 2019

City of Novato Meeting August 27, 2019

SCTA Meeting September 5, 2019

SMART Meeting September 6, 2019

Novato Sanitary District September 10, 2019

Caltrans Meeting October 10, 2019

TAG Meeting #3 November 12, 2019

Community Meeting November 21, 2019

Hwy 37 Policy Committee December 5, 2019

Technical Advisory Group

County of Marin

Transportation Authority of Marin

Marin County Flood Control District

Bel Marin Keys CSD

Caltrans

California Coastal Conservancy

City of Novato

Pacific Gas and Electric

Sonoma County Transportation
Authority

SMART

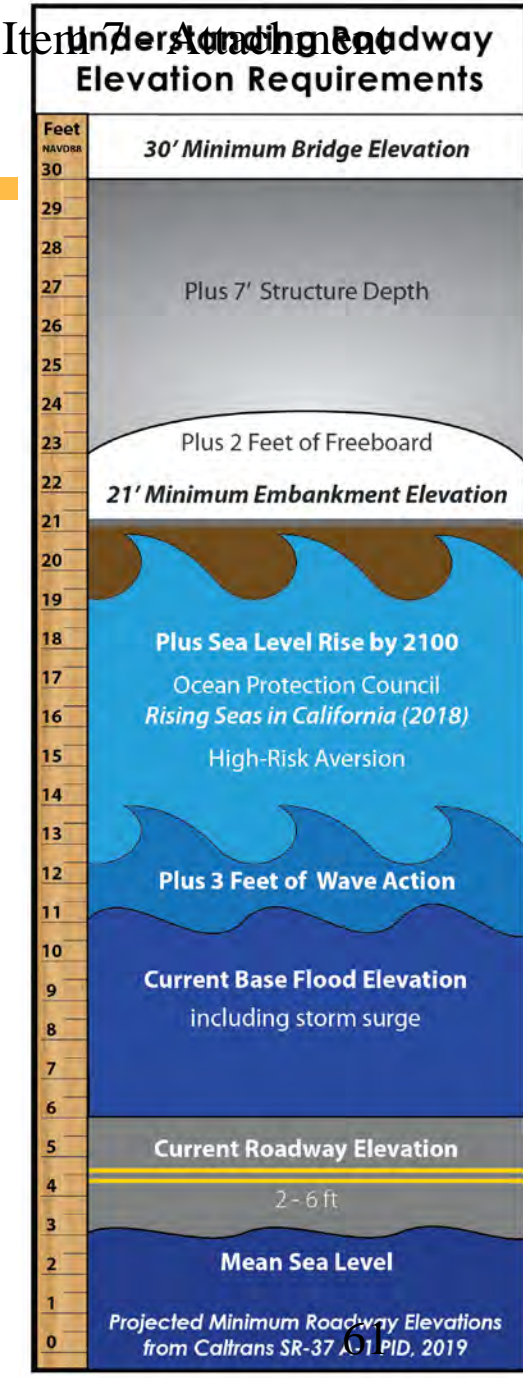
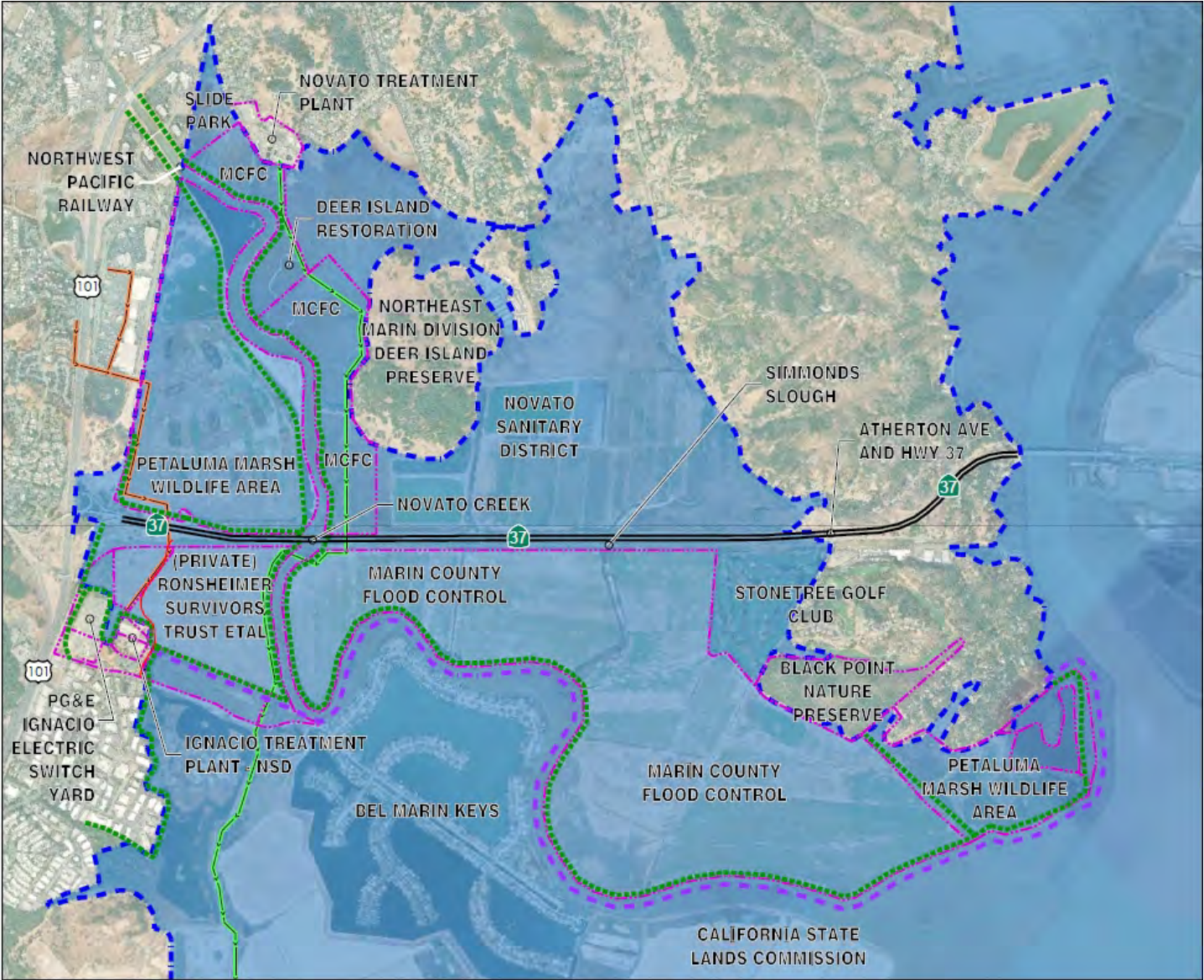
Novato Sanitary District

Segment A-1 Key Challenges

- Urgent public interest to prevent Highway 37 flooding
- Increasing frequency of flooding / Climate Change
- Highly Sensitive Environmental Setting
- Few Mobility Options currently available
- Long-term ecosystem management
- Funding

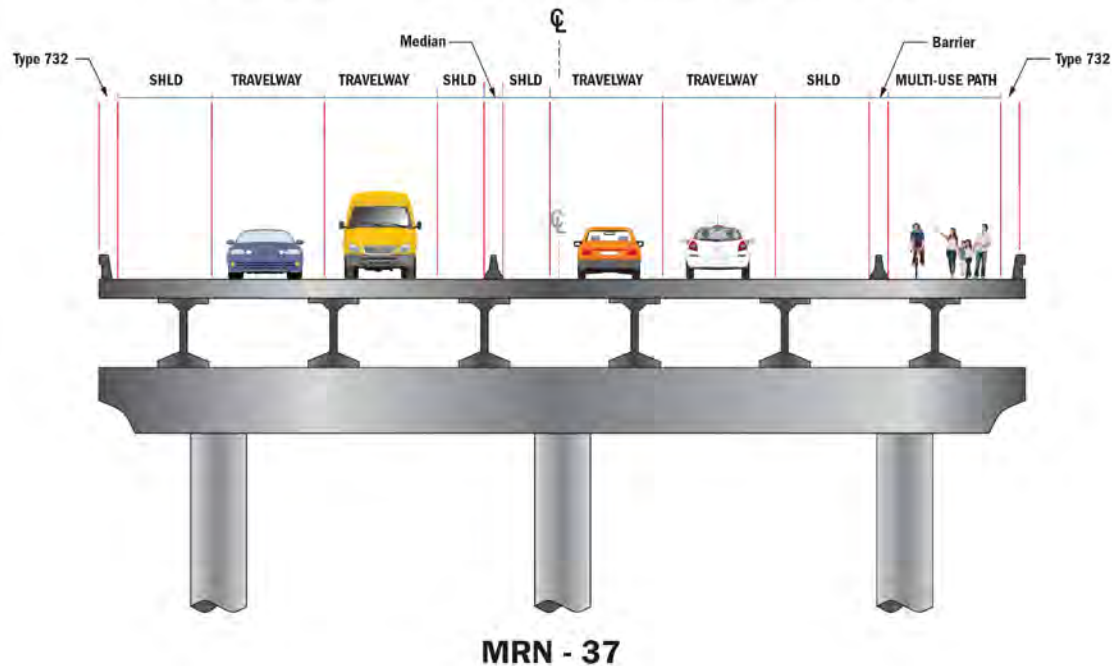


Flooding Resulting from “Do Nothing”

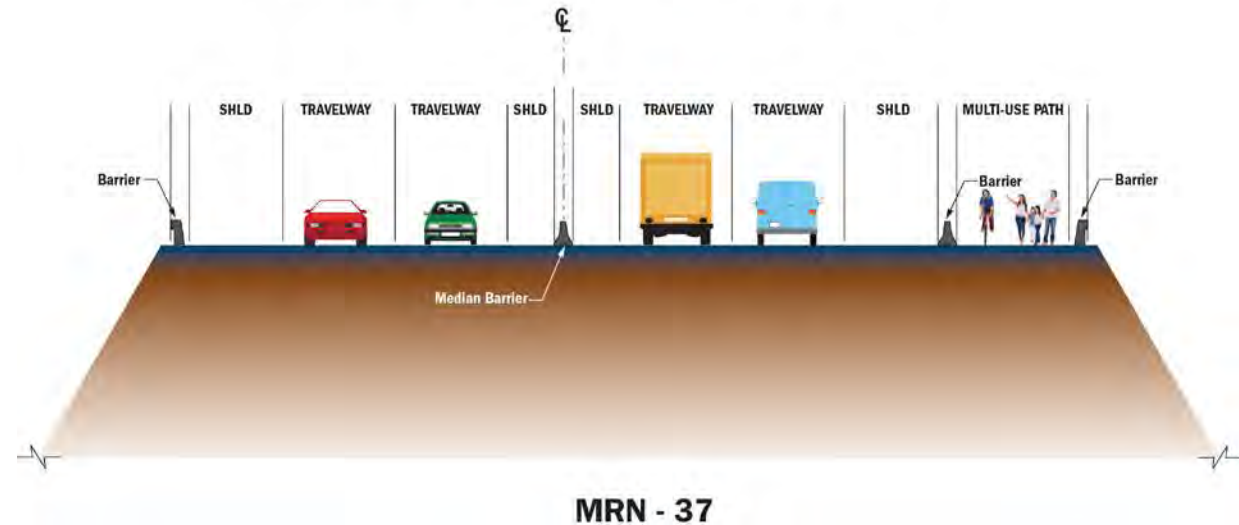


Caltrans Long Term Study Options

ALTERNATIVE A1: TYPICAL CAUSEWAY SECTION

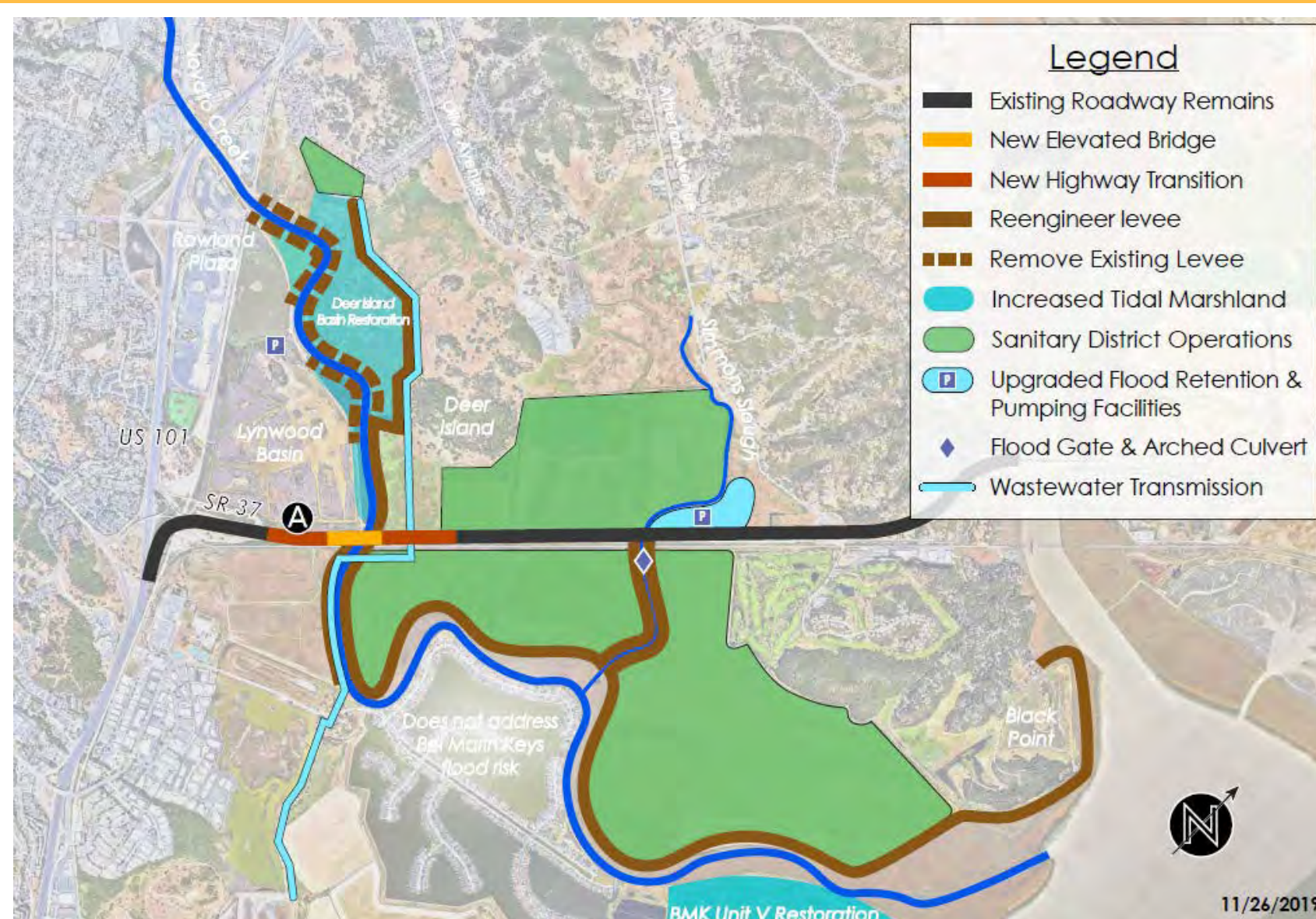


ALTERNATIVE A2: TYPICAL EMBANKMENT SECTION



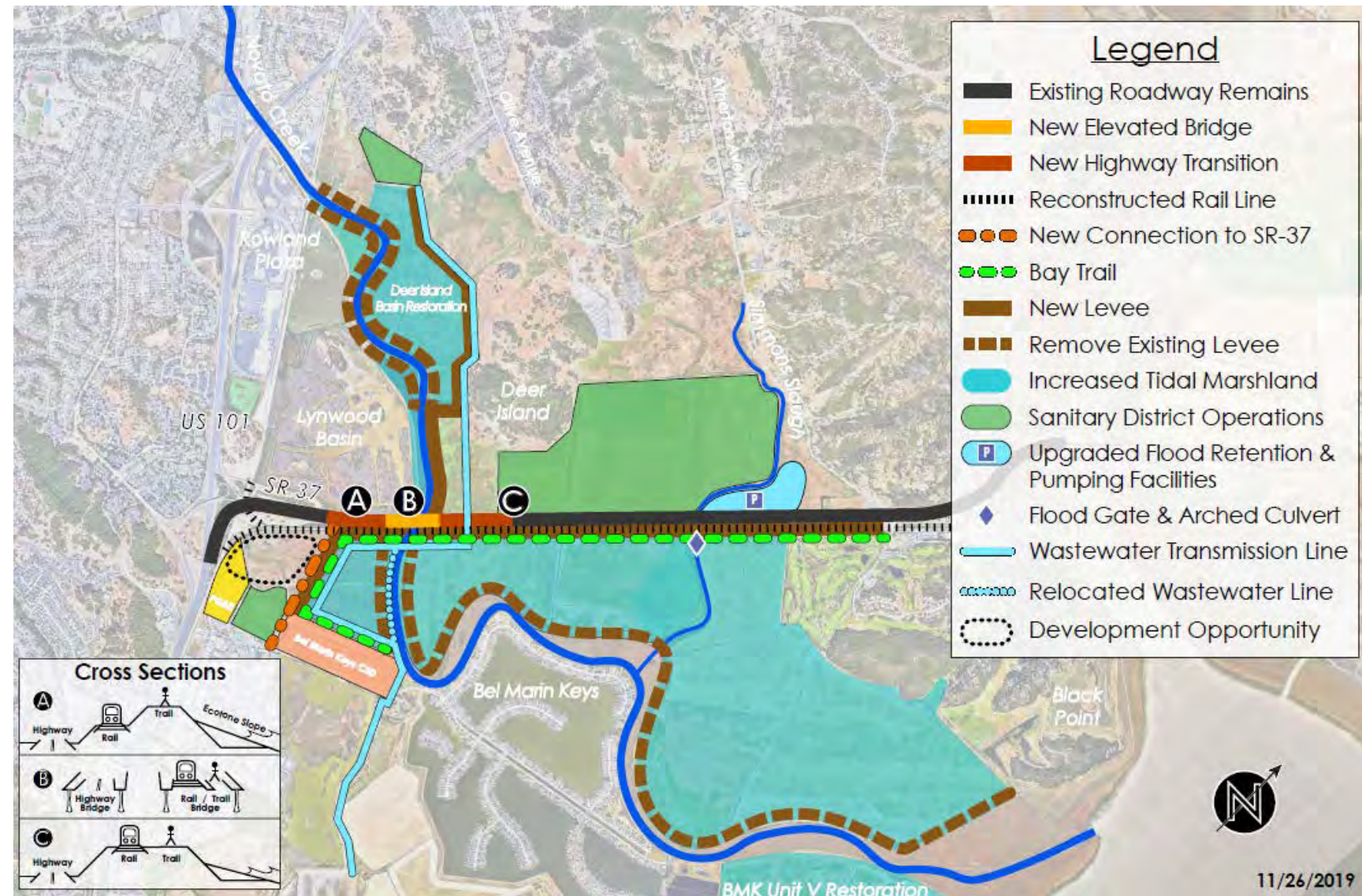
SHOPP grant is targeted to identify a preferred approach by 2023

Vision 1 – Hold the Line



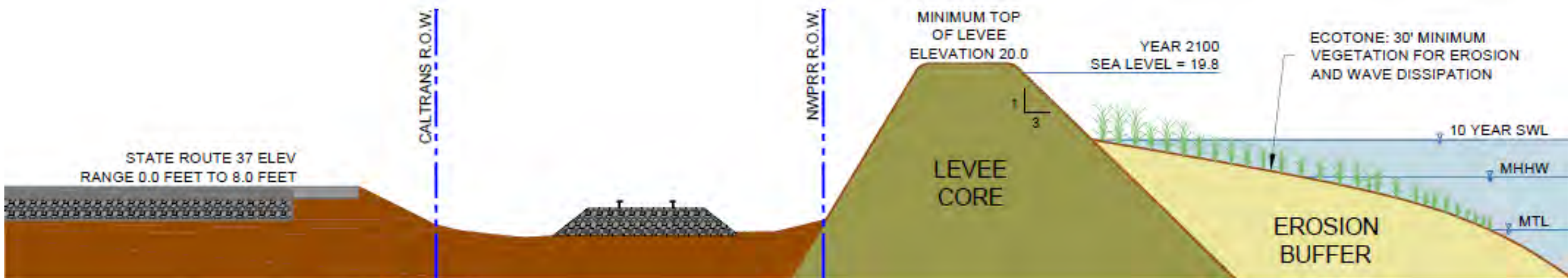
This Vision has 100 year protection for road, rail, new Bay Trail, and sewage facilities by re-constructing levees in their current location. It has the most fill, most flood water pumping, and the least marshland.

Vision 2 – Move the Line



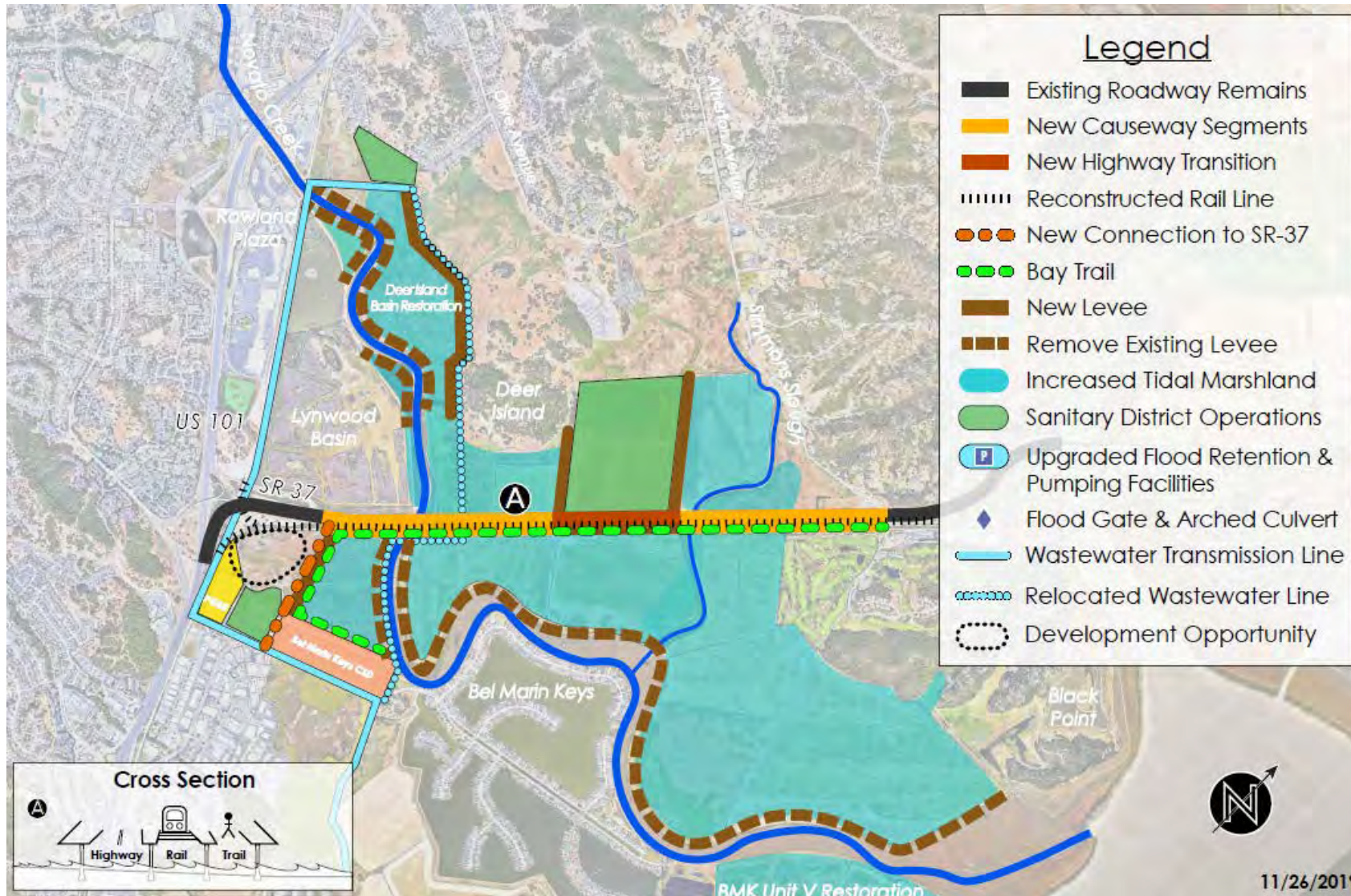
This Vision has 100 year protection for existing road, rail, and new Bay Trail by relocating the levee bayside of the rail. Sewage irrigation sites are restored to tidal marsh south of SR37, but flood water pumping remains a necessity. New connector road from Bel Marin Keys to SR37.

Vision 2 – Move the Line



Transportation facilities protected by levees

Vision 3 – Multi-Beneficial

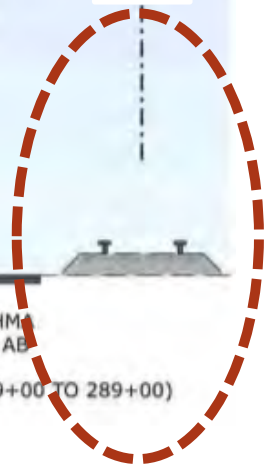


This Vision has 100 year protection for road, rail, and new Bay Trail on a shared causeway, has the greatest marsh restoration and flood protection with the least flood water pumping, but the most sewage facility modification.

The diagram illustrates a cross-section of a multi-use path. Key dimensions and components include:

- Path Width:** 12' (labeled "MULTI - USE PATH")
- Shoulder Width:** 30' (labeled "FRONTAGE RD")
- Barrier:** CONC BARRIER TYPE 732 (MOD) W/ TUBULAR HAND RAILING, with a height of 4.50'.
- Grading:** 1% slope indicated for the path surface.
- Other Dimensions:** 1.48' (width of the path edge), 32' (width of the frontage road), and 80' & VARIES (total width).

A large red question mark is overlaid on the diagram, indicating a question or uncertainty about the design or safety of this configuration.



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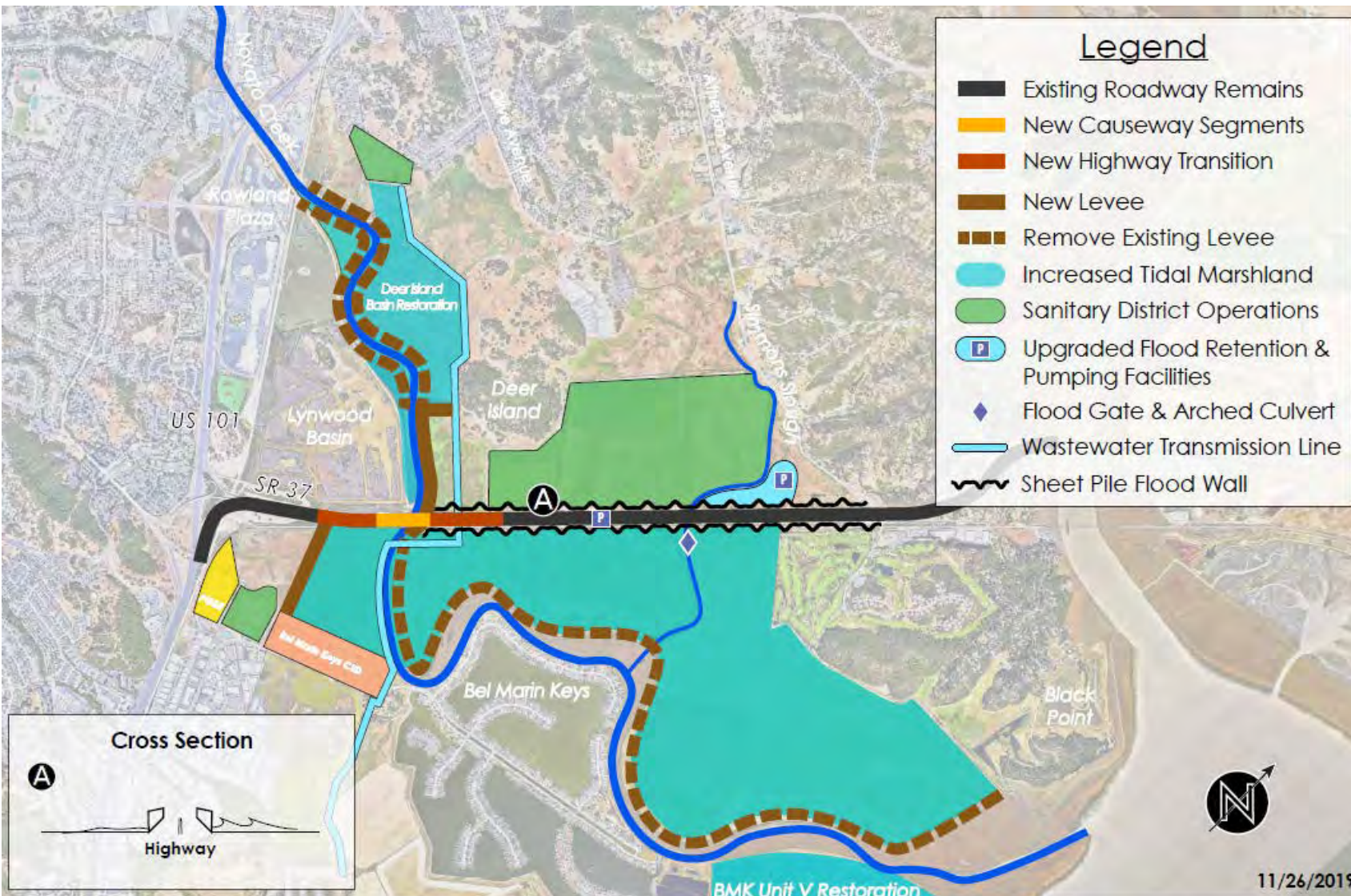
Conceptual Design Approaches

Vision 4 – Buying Time

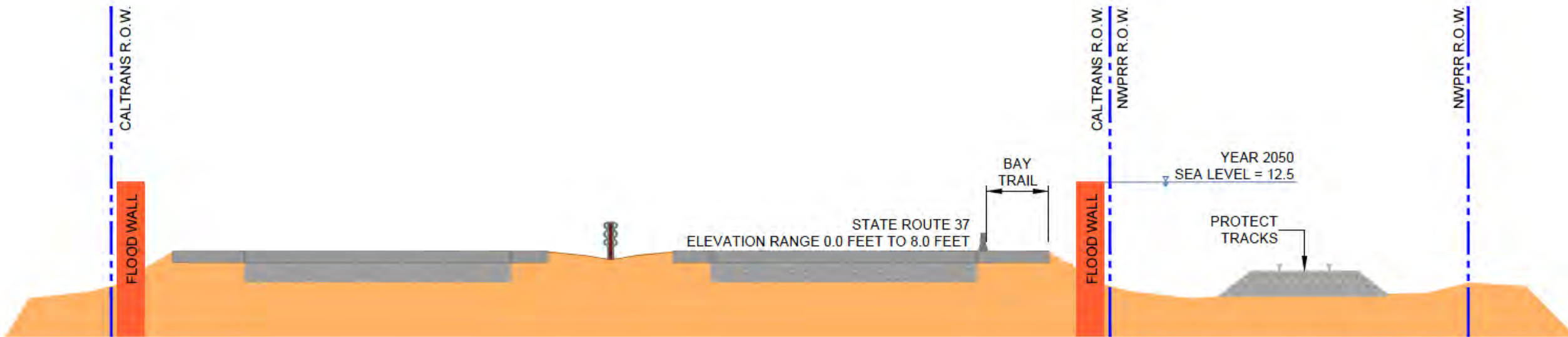
Item 7 - Attachment

This Vision has 30 year protection for road and new Bay Trail by constructing floodwalls at the ROW edge, while a long-term plan is designed and funded. Sewage irrigation sites are restored to tidal marsh south of SR37, but flood water pumping remains a necessity.

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Vision 4 – Mid Century Option



Conceptual Design Approaches

Vision Comparison

Item 7 - Attachment

Vision	Sea Level Rise Protection	Enhances Env. Resources	Time to Implement	Lifecycle Cost	2019 Cost
Vision 1 Hold the Line			 	\$\$\$	\$300 MM
Vision 2 Move the Line	 			\$\$	\$250 MM
Vision 3 Multi beneficial	  	 	  	\$	\$600 MM to \$1 B
Vision 4 Buying Time				\$\$\$\$	\$200 MM



**For more information, please
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