

West Mission Bay Drive Bridge Replacement

ITE San Diego Section – February 14, 2024 Meeting

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TYLin





Introduction
History
Design
Permitting
Construction
Acknowledgements



Project Location





West Mission Bay Drive Bridge Replacement

Funding

Total Cost \$150 million

Federal Participating Cost \$140 million

- Federal HBP Grant – 88.5%
- Federal Gas Tax – \$0.184 per gallon

- Local Match funds – 11.5%

Local Non-Participating Cost \$10 million

- San Diego Sales Tax – 1/2 percent
- Sea World traffic mitigation funds

HBP Program

Caltrans Local Assistance

Structurally Deficient Bridges

\$20 million/year





West Mission Bay Drive Bridge | Before Construction



Existing Bridge

- Built in 1950
- Capacity 40,000 ADT/ demand 60,000 ADT
- 1300 ft. long
- 63'-10" wide
- Four 12' travel lanes (2 each direction)
- Barrier separated 5' sidewalks
- Type 50 concrete median barrier
- Concrete pier walls on timber piles (30'-45' in length)
- 20" Water, 8"+14" Sewer
- 24 ft. – 29 ft. above sea level





OCEAN BEACH
SUNSET-CLIFFS
SAN DIEGO

WARNING
TRUCKS AND LOADS
SEVEN TONS PER
AXLE PERmitted

NOTICE
OF A FINE SHALL
BE IMPOSED FOR
VIOLATION

MISSION BAY BRIDGE
MISSION BEACH, CAL



SD Project Timeline

- 1996** Preliminary Engineering (E-76)
- 2001** Rehab v. Replacement
- 2005** BRT
- 2008** Technical Studies
- 2013** IS/MND & EA/FONSI Approved
- 2017** Advertised
- 2018** Start of Construction
- 2023** Construction Completed

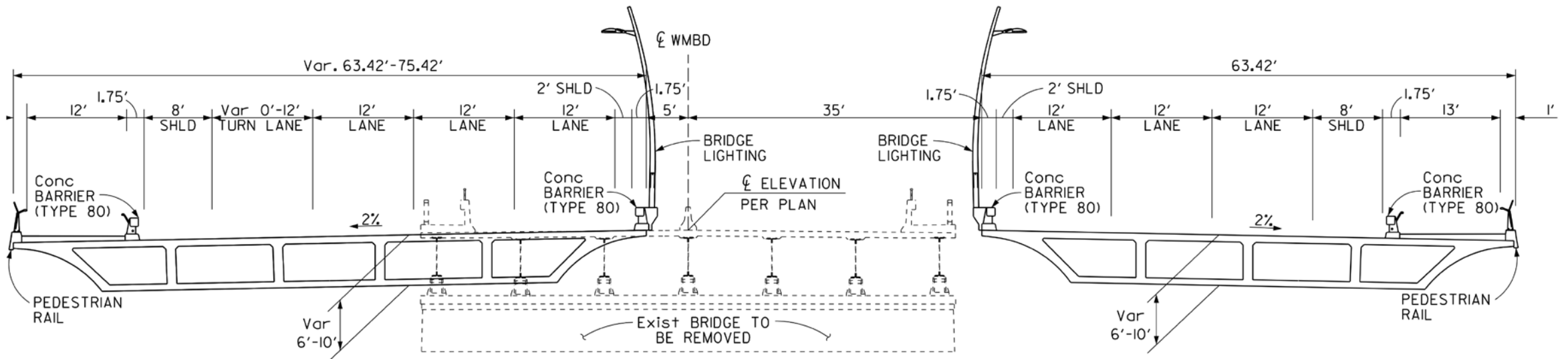






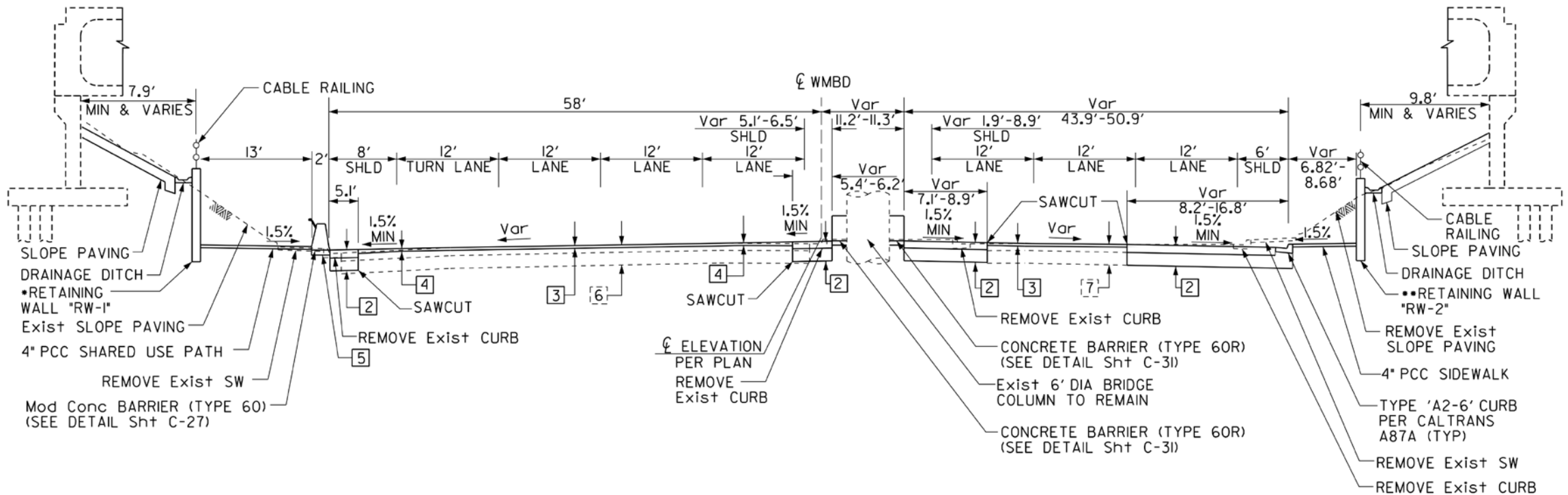
West Mission Bay Drive Bridges

- Northbound and Southbound Bridges
- 3 Lanes each direction
- 2-foot inside + 8-foot outside shoulders
- 12-foot Shared-Use Paths
- Southbound Auxiliary Lane to Interstate 8
- Bridge Lighting and Concrete Barriers



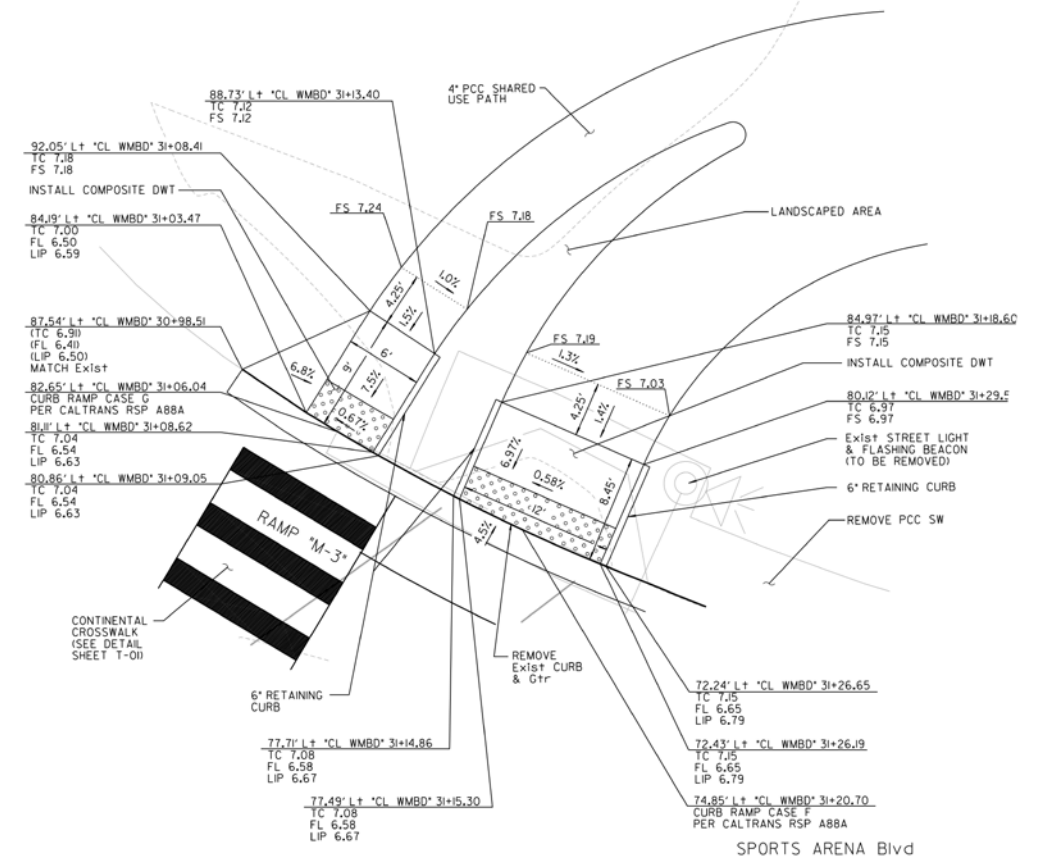
Maximized Widening under Interstate 8

- Tie-Back Walls on either side
- Protection of I-8 Columns

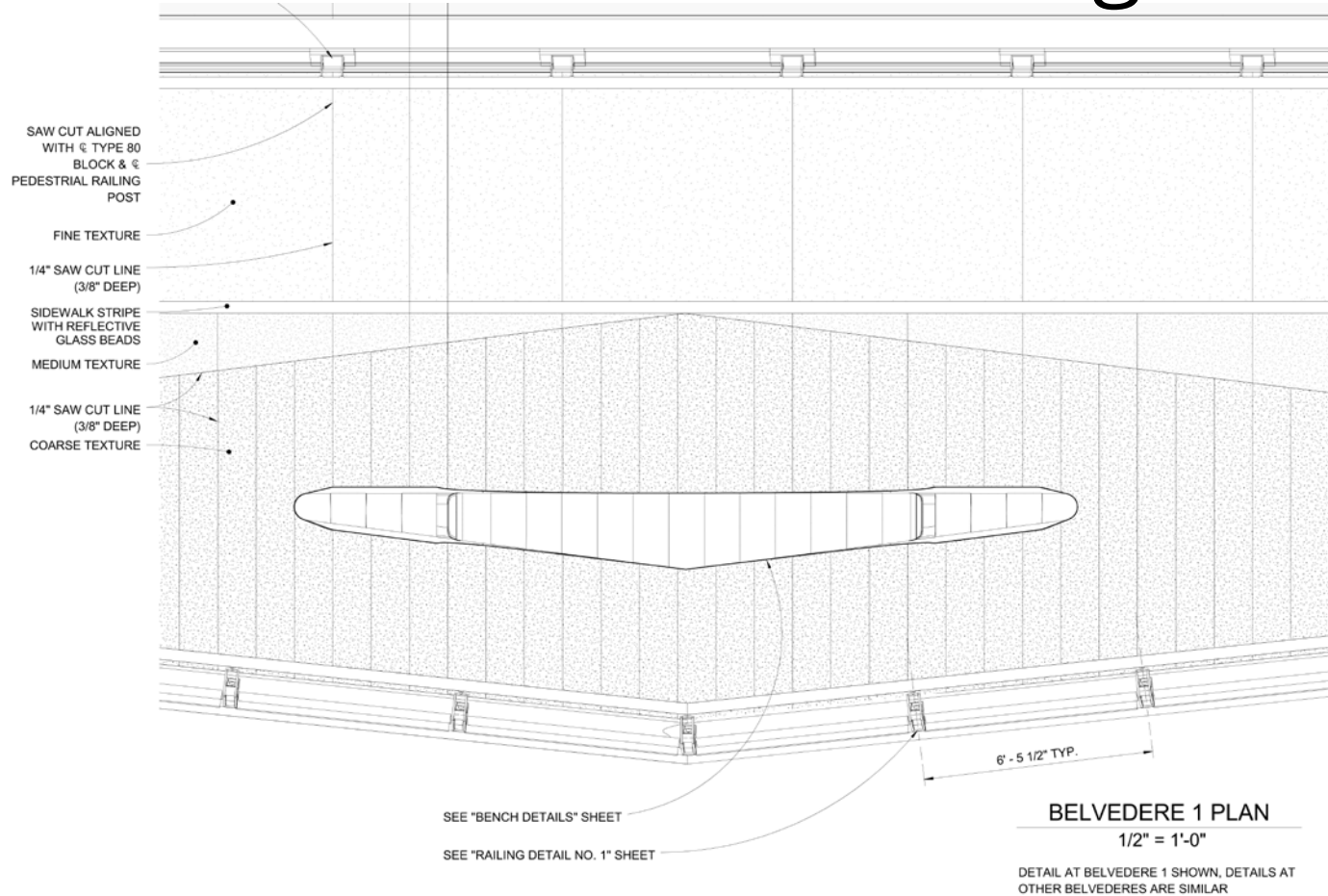


Control of Pedestrians versus Bicycles

- Separated Pedestrians and Bicyclist Crossing of Interstate 8 Eastbound Loop Entrance Ramp
- Striping Used along Shared-Use Paths to delineate routes



Shared-Use Path Texturing



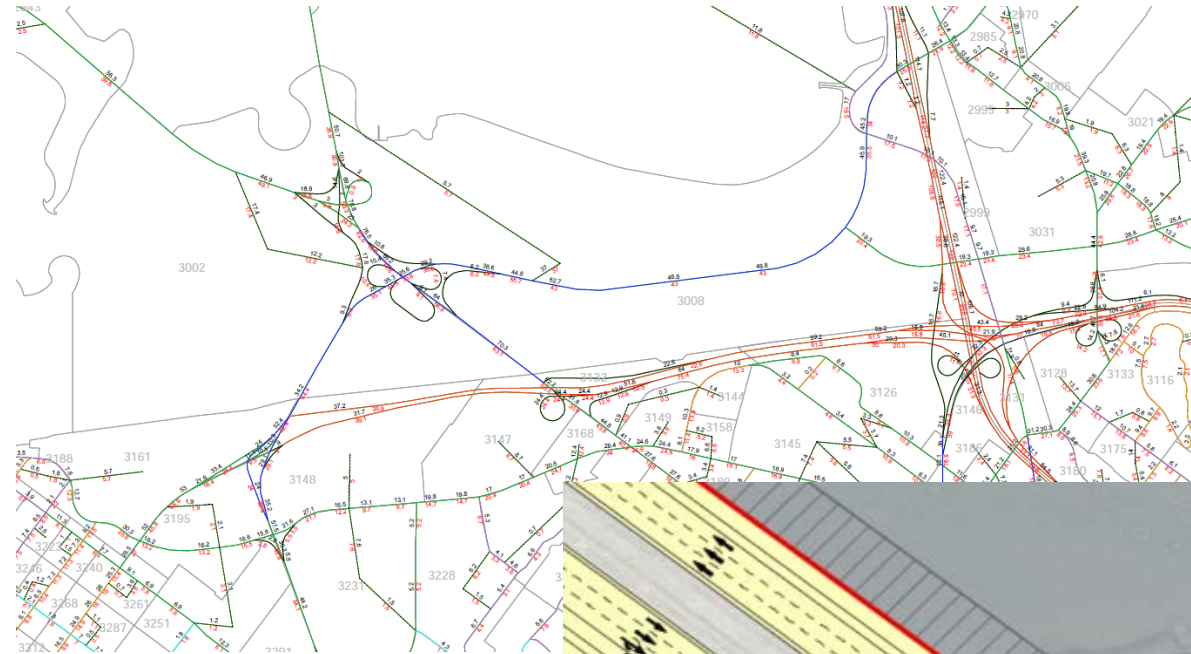
San Diego River Bike Paths

- North and South San Diego Bike Path Replacements
- Connections to West Mission Bay Drive
- Required to Maintain Access During Construction



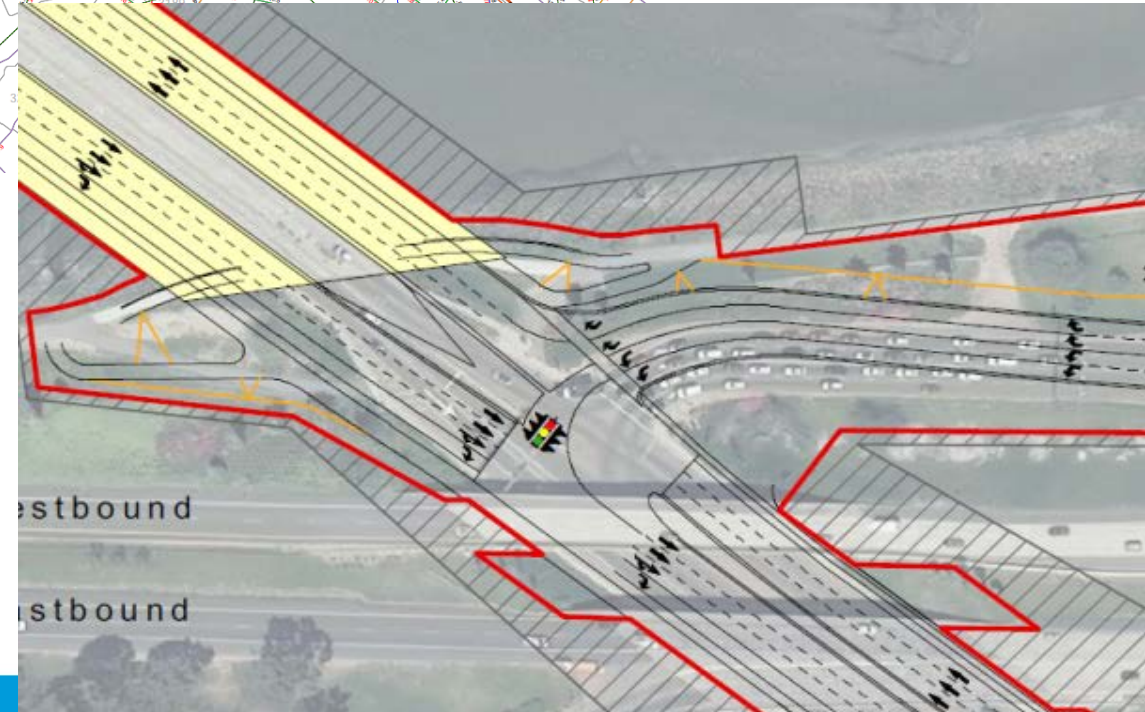
Traffic Analysis

Existing (2009) – 60,000 ADT
Forecast 2015 – 70,000 ADT
Forecast 2035 – 80,000 ADT



Intersection Lane Configuration Options at I-8 WB Off ramp

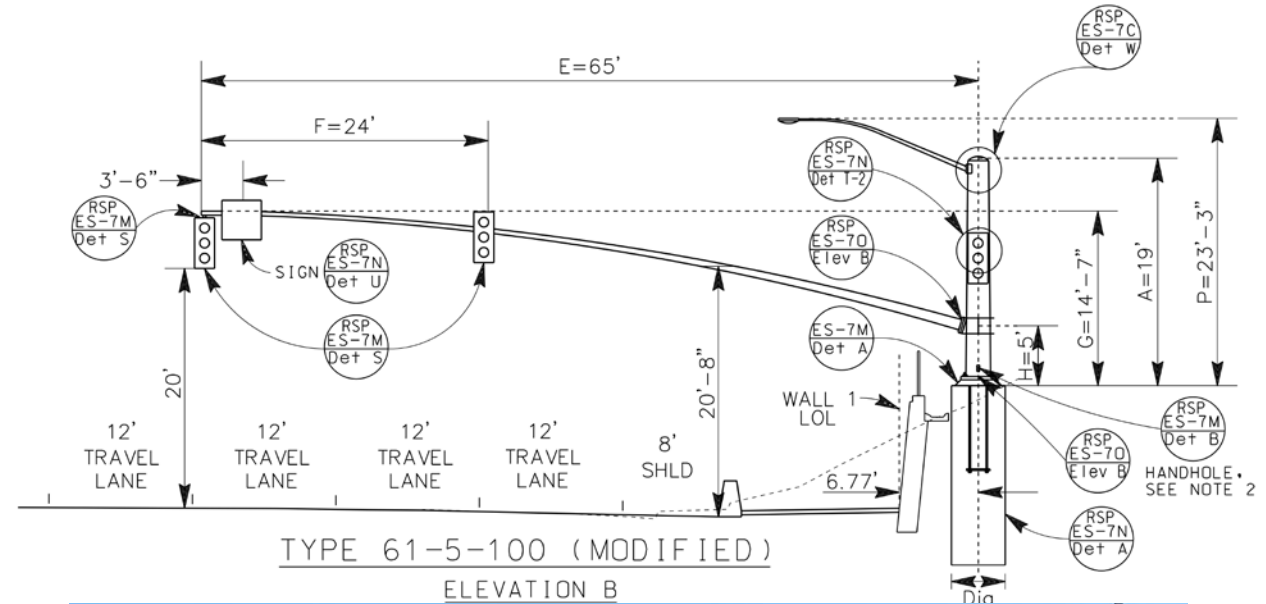
- 4 SB / 3 NB approach lanes
- Double Rights
- Triple rights



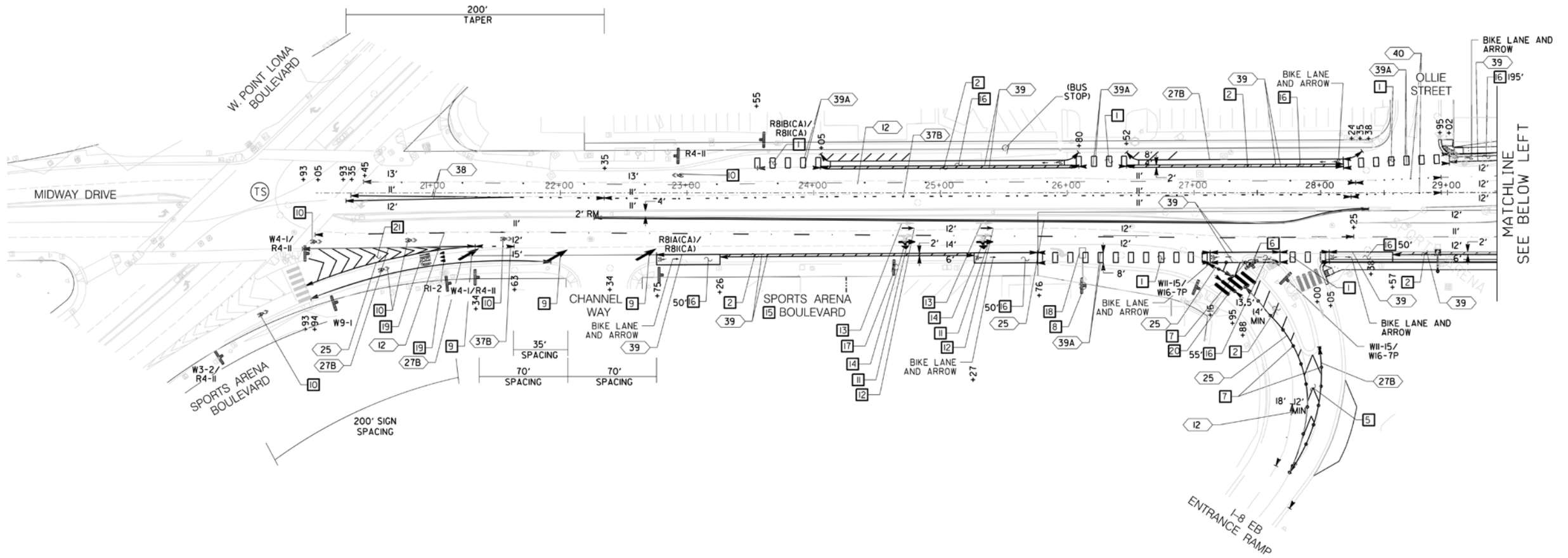


Shortened Signal Pole

- Reduced Standard Height of Signal Pole behind tie-back wall due to grade change
- Required Clearance from Caltrans



Caltrans Bicycle Pedestrian Advisory Committee (BPAC)





BPAC Striping



Construction Staging

- Required to Maintain 2 Lanes of Traffic in each direction along West Mission Bay Drive per EIR
- Required to Maintain access along San Diego River Bike Paths at all times per EIR
- Temporary Signal at I-8 WB Exit Ramp and WMBD

https://www.sandiego.gov/sites/default/files/west_mission_bay_drive_bridge_-_construction_animation_0.mp4





BRIDGE CONFIGURATION
Bridge Length = 1,300 ft
Number of Spans = 7
Number of Frames = 2
Max Span Length = 200 ft









































Acknowledgements

