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Rail Committee Meeting

Review of Updated Materials Grade Separation Projects



AGENDA

- — **Purpose**
- — **Background**
- — **Project Planning**
- — **Technical Reviews**
- — **Alternatives Update**
 - Churchill Avenue
 - Meadow Drive
 - Charleston Road
- — **Next Steps**

Purpose

Purpose



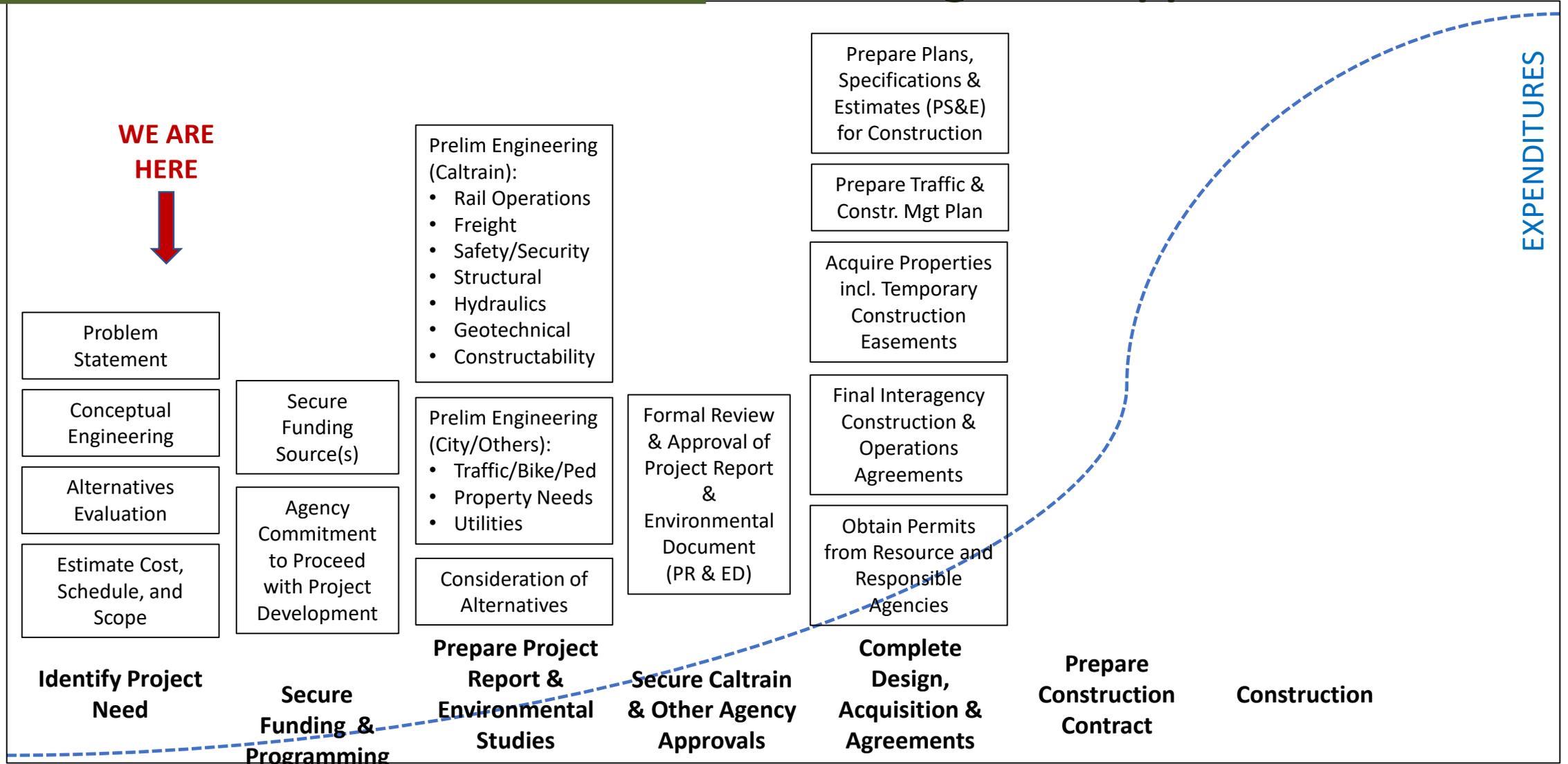
- Review of the updated Grade Separation materials for Churchill Avenue, Meadow Drive, and Charleston Road Crossings



Background

CAP & XCAP	City Council	Rail Committee	Caltrain/PCJPB
<ul style="list-style-type: none"> • Alternatives developed, reviewed and updated (2018 - July 2020) • Community Outreach & Community Feedback (August – October 2020) • Deliberation and Recommendation to City Council (November 2020 - March 2021) 	<ul style="list-style-type: none"> • Council Review and Discussion <ul style="list-style-type: none"> • Meadow Drive – Charleston (Narrowed Alternatives) - August 2021 • Churchill Avenue (Preferred Alternative & Backup Selection) - November 2021 • Approved Amendment with AECOM June 2021 • Approve Updated Council Adopted Evaluation Criteria (June 2023) • Study Session to Review the Grade Separation Alternatives (April 2024) 	<ul style="list-style-type: none"> • Stakeholder Outreach and Review of Underpass Alternative (July – Nov 2022) • Reviewed and Refined underpass alternatives (Dec 2022 -May 2023) • Reviewed and updated Council Adopted criteria (March-April 2023) • Conducted Review of Preliminary Geotechnical Analysis (August 2023) • Reviewed Matrix with updated Council Adopted Evaluation Criteria (Feb 2024) 	<ul style="list-style-type: none"> • Service Agreement with Caltrain (December 2022 - June 2023) • Technical Review and Comments from Caltrain (November 2023 – January 2024) • Four Tracking Review and Comments from Caltrain (November 2023) • Caltrain Technical Review Results (January – April 2024)

Project Planning - Rail Grade Separation Design and Approval Process



Project Planning

Mar	Apr	May	June	Jul	Aug	Sept
Review and selection of alternatives to advance into next phase						
	Develop and Execute Funding agreement with FRA				Begin PE & Environmental	
	Develop Service Agreement and/or Cooperative Agreement with VTA, Caltrain, City for PE & Env Phase					
	City Council Review Alternatives for Selection of Preferred Alternative(s)					

Technical Review – Council Adopted Evaluation Criteria

Elements included in the Evaluation Criteria are as follows

- A. Facilitate movement across the corridor for all modes of transportation
- B. Reduce delay and congestion for vehicular traffic at rail crossings
- C. Provide clear, safe routes for pedestrians and cyclists crossing the rail corridor, separate from vehicles
- D. Support continued rail operations and Caltrain service improvements
- E. Finance with feasible funding sources (order of magnitude cost)
- F. Minimize right-of-way acquisition (Private property only)
- G. Environmental Factors such as, Reduce rail noise and vibration, Sea Level Rise Susceptibility, Heat Island Effect, Stormwater Treatment
- H. Maintain access to neighborhoods, parks, and schools along the corridor, while reducing regional traffic on neighborhood streets
- I. Minimize visual changes along the corridor
- J. Minimize disruption and duration of construction
- K. Order of Magnitude cost

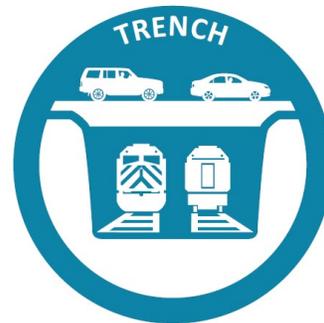
Technical Review - Alternatives Under Council Consideration

- Churchill Avenue Alternatives

- **Partial Underpass Alternative (Local Preferred Alternative)**
- Closure with Mitigations (Backup)
 - Option 1 and 2

- Meadow – Charleston Alternatives (Council)

- Trench
 - Hybrid
 - Underpass Alternative
- * Viaduct Alternative was considered by Rail Committee for additional review*



Refined to incorporate feedback from stakeholders

- Added Buffer Zones between vehicular and bicycle/pedestrian facilities
- Reduced vehicular lane widths
- Improved bicycle and pedestrian facilities
- Improved maneuverability and turning radius

Technical Review - *Caltrain Engagement & Technical Review*

Engagement with Caltrain

- Grade Separation Projects Service Agreement
- Caltrain Corridor Crossing Strategy Meetings
- City & County Staff Coordination Group (CSCG) Meetings
- Local Policy Makers Group (LPMG) Meetings

Technical Review - Four Tracking Segments

Four tracking segments at the following three locations were evaluated:

- Palo Alto Avenue Station (*Four tracking between Palo Alto Avenue and Churchill Avenue*)
- ✓ ▪ California Avenue Station (*Four tracking between Churchill Avenue and Meadow Drive*)
- San Antonio Station (*Four tracking between Rengstorff and Charleston Road*)

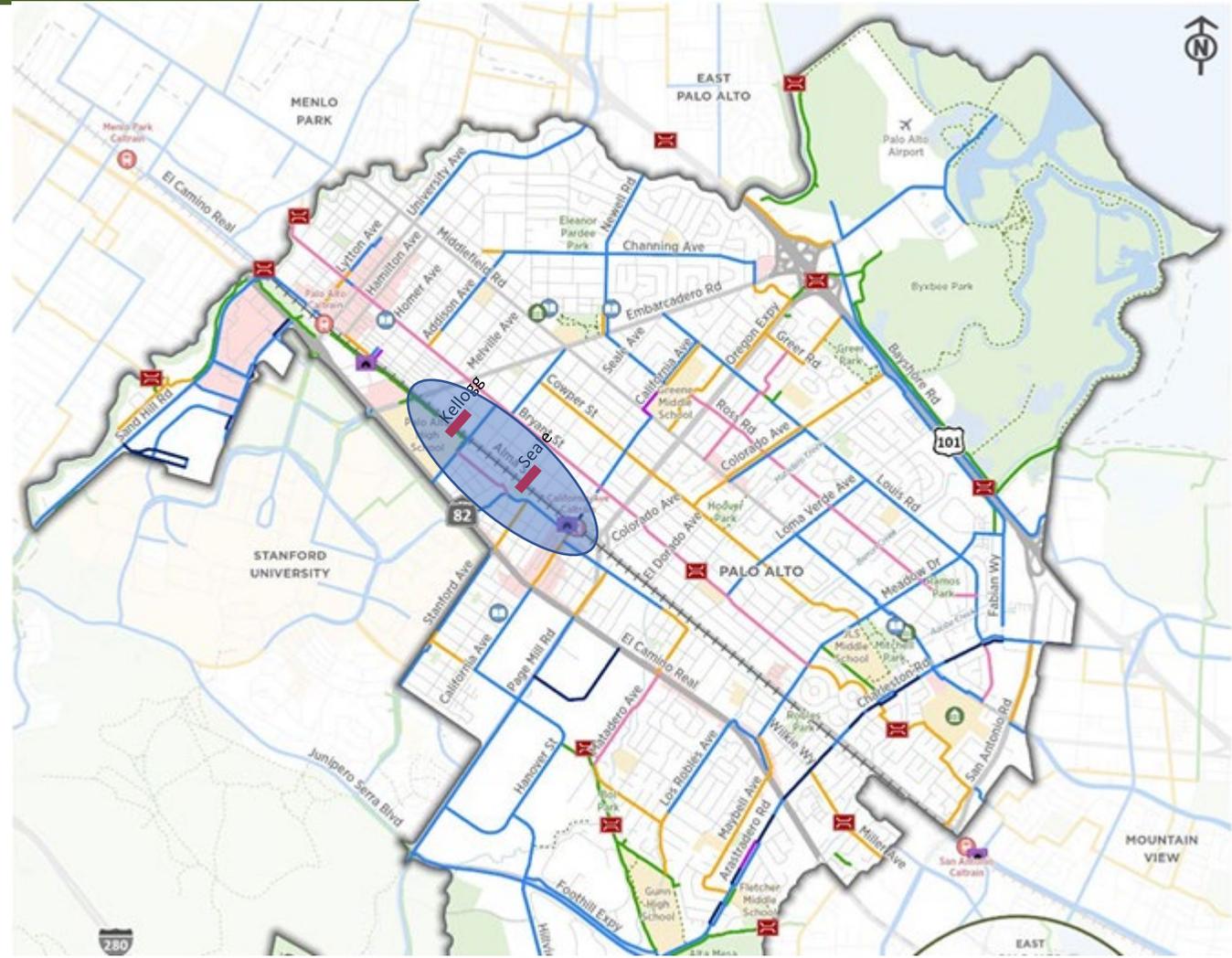
Technical Review - *Caltrain Engagement & Technical Review*

Major Elements from Technical Review

- Addressed updated vertical clearance requirements
- Improved horizontal alignments to address Caltrain standards
- Reduced Right of Way Encroachments
- Considered Four Tracking Segment Design
- Updated plans to reflect new operation and maintenance requirements to address overhead contact system.

Technical Review - *Kellogg Avenue Vs Seale Avenue Crossing*

- Prior analyses and plans
- Proximity to alternative routes
- Landing location
- Network connectivity
- Community input



Technical Review – *Conceptual Phase Property Impact Assessment*

- Project is currently in conceptual phase (about 5% level of design)
- At this early phase, the project is identifying the potential properties that may tentatively be impacted, though further design and engineering is needed in the next phase
- Rail Committee directed to reduce impacts to properties through refinements to the design during the Preliminary Engineering Phase
- The Rail Committee/City Council will have an opportunity to review and determine property impacts after the Preliminary Engineering Phase and before advancing to Final Design.

Technical Review – *Real Estate Regulations*

- **Federal and State Regulations:** The Federal and State Regulations has specific requirements for property impacts assessment and acquisitions.
 - Federal: U.S. Constitution, the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) (49 CFR Part 24)
 - State: California Constitution, California Government Code, California Relocation and Real Property Acquisition Guidelines (CCR Title 25, Chapter 26), and the California Code of Civil Procedure
- **Grade Separation Projects:** The grade separation project involves State and Federal funding and therefore will be subject to these requirements.

Technical Review – *Real Estate Regulations*

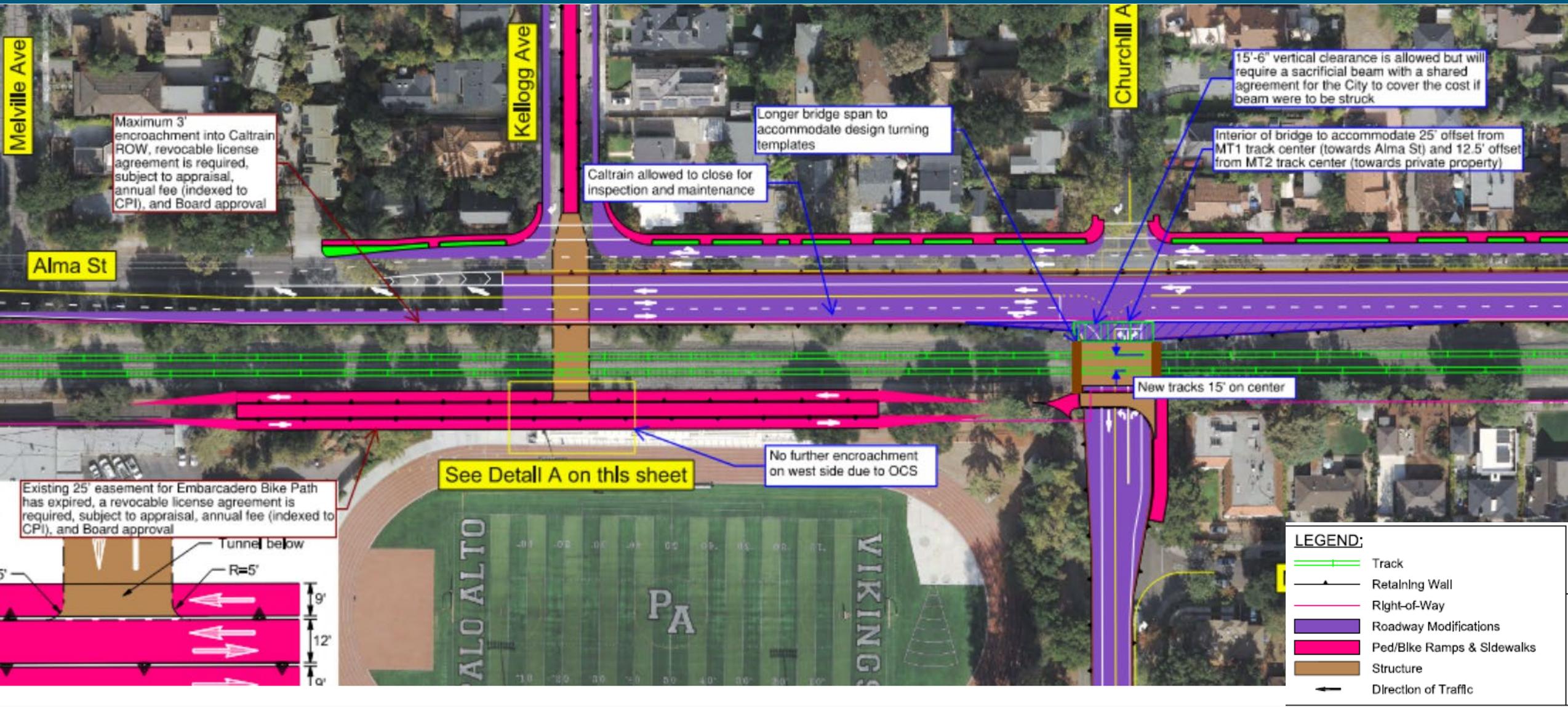
- **Example of Community Information:** The VTA has developed a set of Frequently Asked Questions (FAQs) and provided information to the community on the applicable processes and regulations.
 - *Find detailed information on the VTA's website for the BART Project at the following link:*
<https://www.vta.org/projects/bart-sv/phase-ii/real-estate>
 - *Link to FAQ:* <https://www.vta.org/sites/default/files/2023-06/Real-AcquisitionVTA-Projects.pdf>
 - *Link to Document: Your Property... Your Transportation Project:*
<https://www.vta.org/sites/default/files/2022-11/your-property-your-rights-information.pdf>



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Churchill Partial Underpass

Churchill Partial Underpass with Kellogg Undercrossing Summary



Churchill Partial Underpass w/ Kellogg Undercrossing

Churchill Ave

Maximum 3' encroachment into Caltrain, revocable license agreement is required, subject to appraisal, annual fee (indexed to CPI), and Board approval

Interior of bridge to accommodate:
25' offset from MT1 track center (towards Alma St) and
12.5' offset from MT2 track center (towards private property)

New tracks must be 15' on center

Widen railroad bridge to accommodate
12.5' offset from MT 2

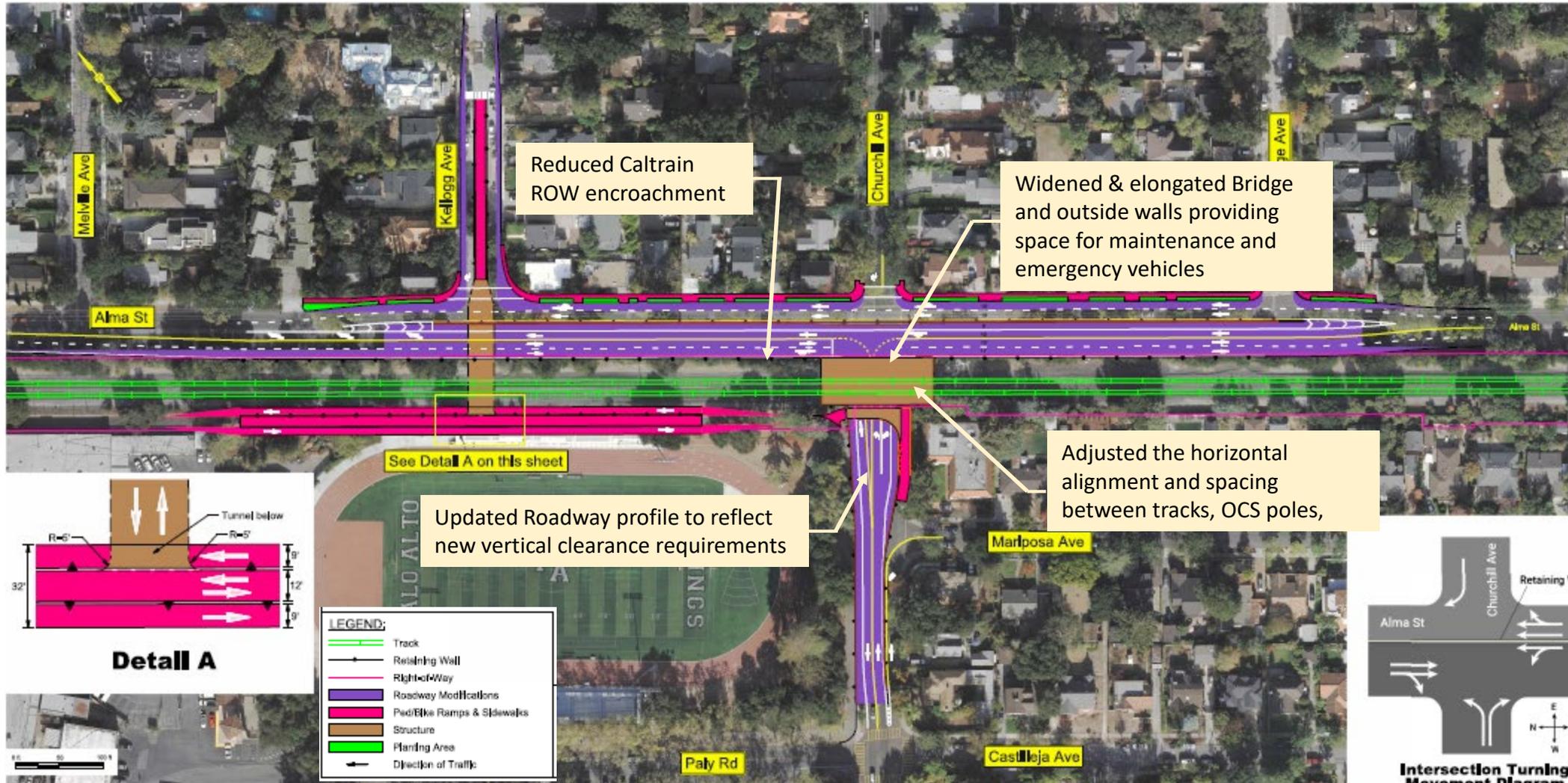
No further encroachment into Caltrain ROW

Remain in existing **25' easement** (expired) or widen to west

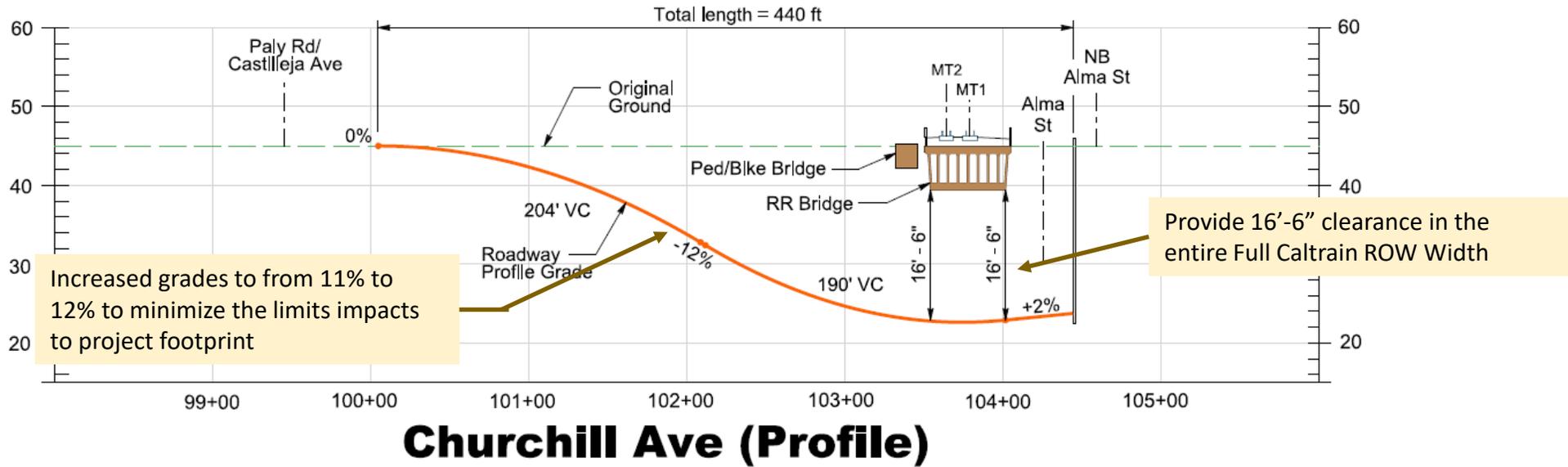
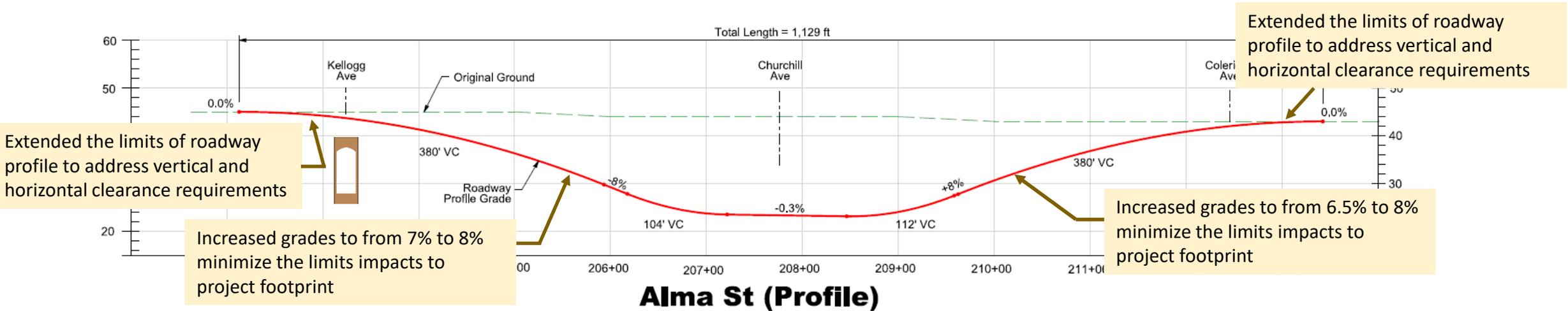
Existing 25' easement for Embarcadero Bike Path has expired, a revocable license agreement is required, subject to appraisal, annual fee (indexed to CPI), and Board approval

Alma St

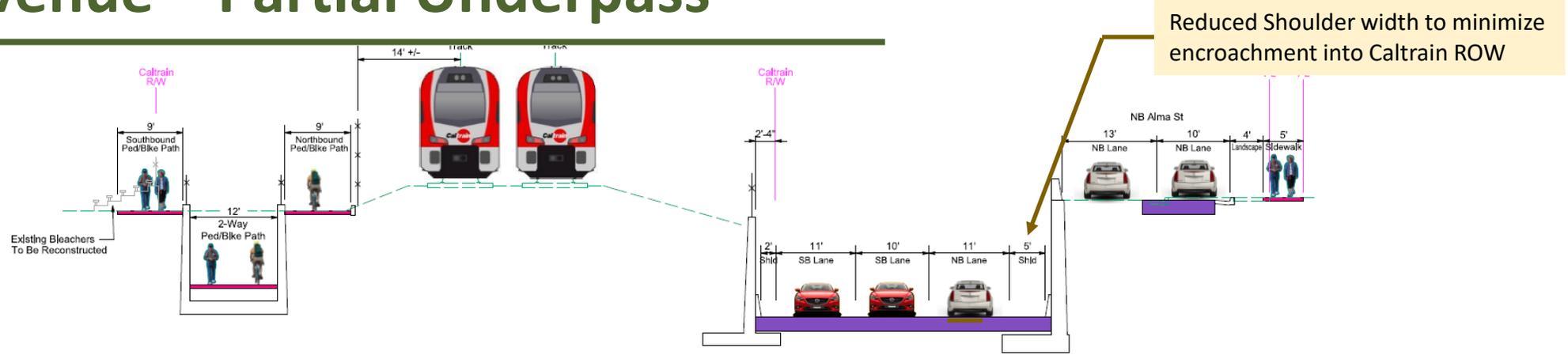
Churchill Avenue – Partial Underpass



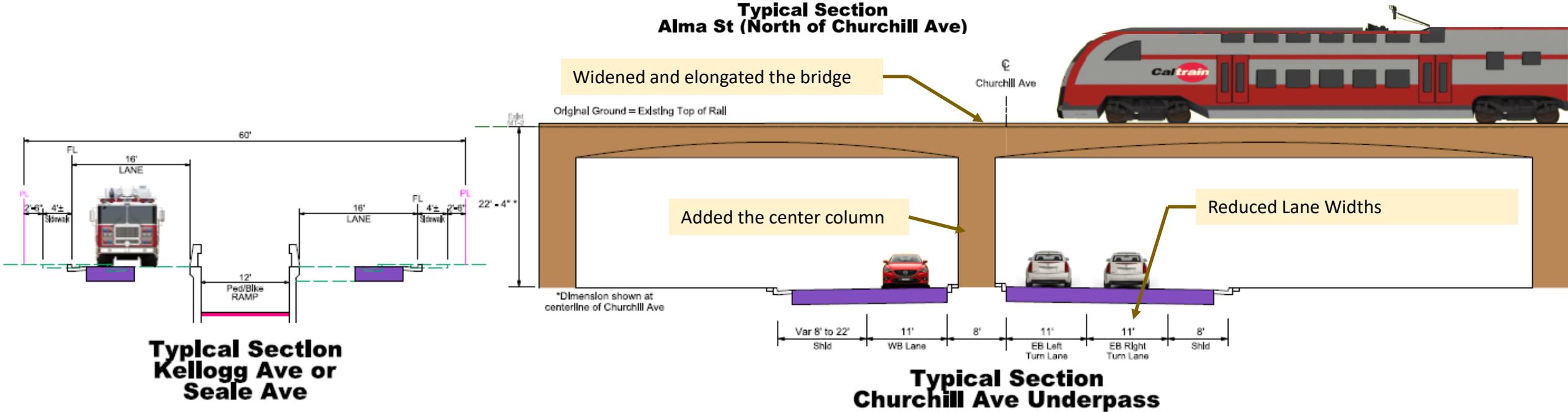
Churchill Avenue – Partial Underpass



Churchill Avenue – Partial Underpass



**Typical Section
Alma St (North of Churchill Ave)**



**Typical Section
Kellogg Ave or
Seale Ave**

**Typical Section
Churchill Ave Underpass**

Churchill Avenue – Partial Underpass



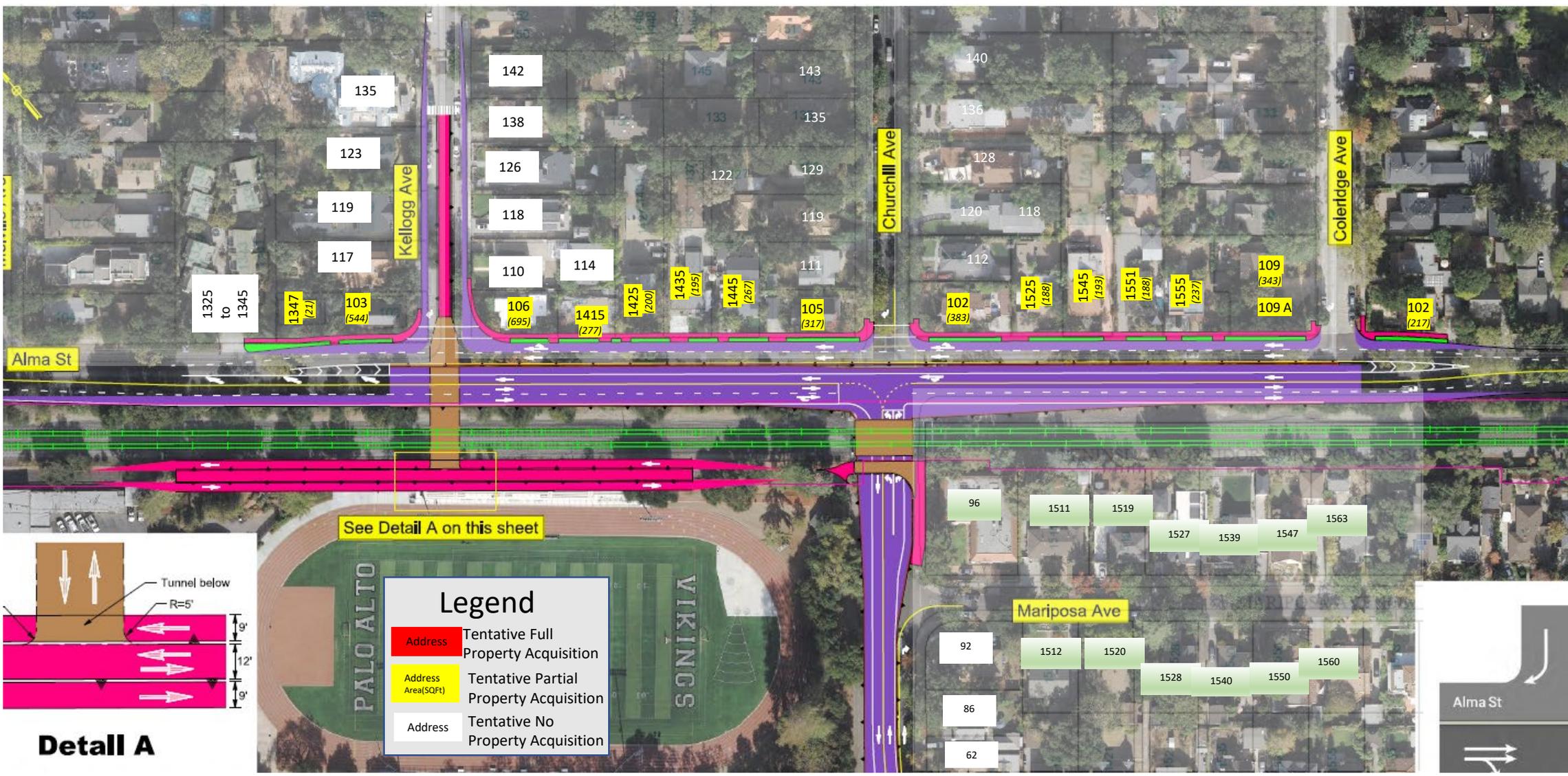
Churchill Avenue – Partial Underpass



Churchill Avenue – Partial Underpass



Churchill Av Partial Underpass Alternative



Tentative Property impacts based on current conceptual phase. To be refined in future phases



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Meadow Drive Underpass

Meadow Underpass Summary



Meadow Underpass

Will require revocable license agreement

Maintenance vehicle crossing

Interior of bridge extend **25'** from MT1 (towards Alma Street) and **12.5'** from MT2 (towards private property)

Pedestrian bridges typically have additional vertical clearance due to vulnerable users

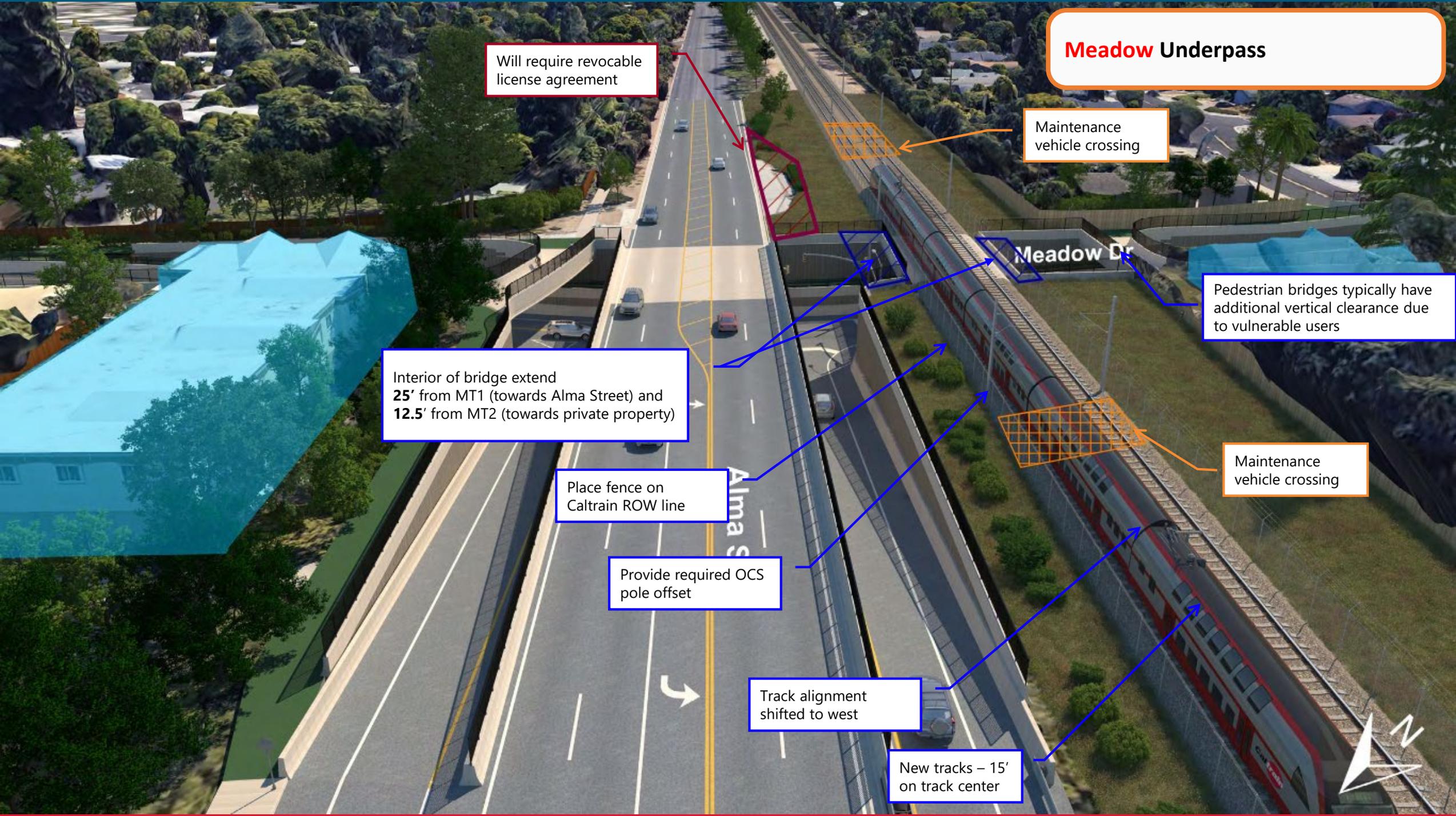
Place fence on Caltrain ROW line

Maintenance vehicle crossing

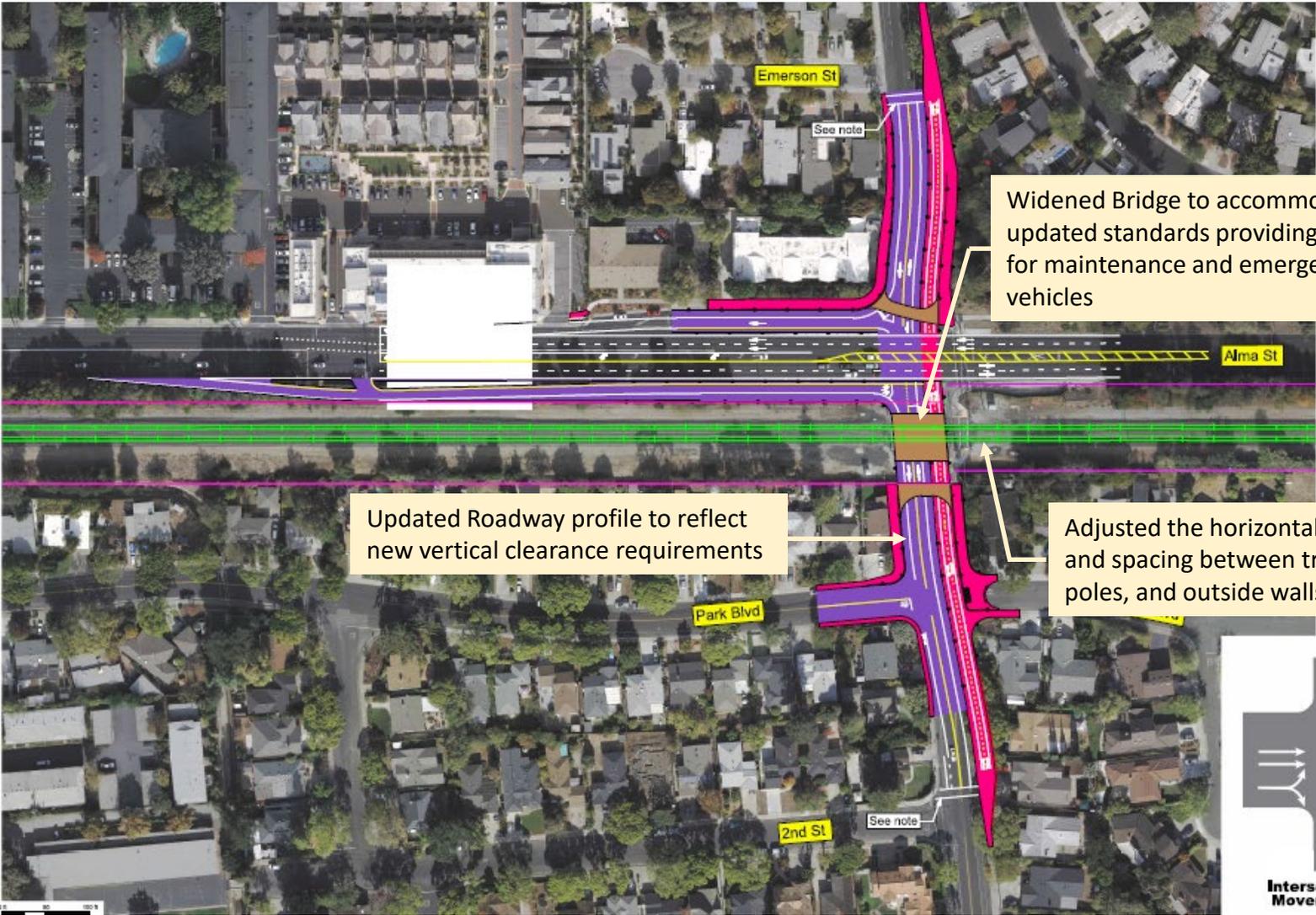
Provide required OCS pole offset

Track alignment shifted to west

New tracks – 15' on track center

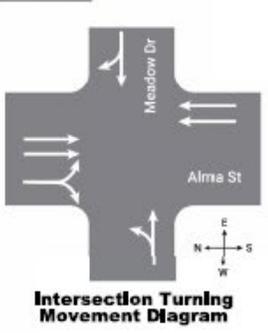


Meadow Drive - Underpass

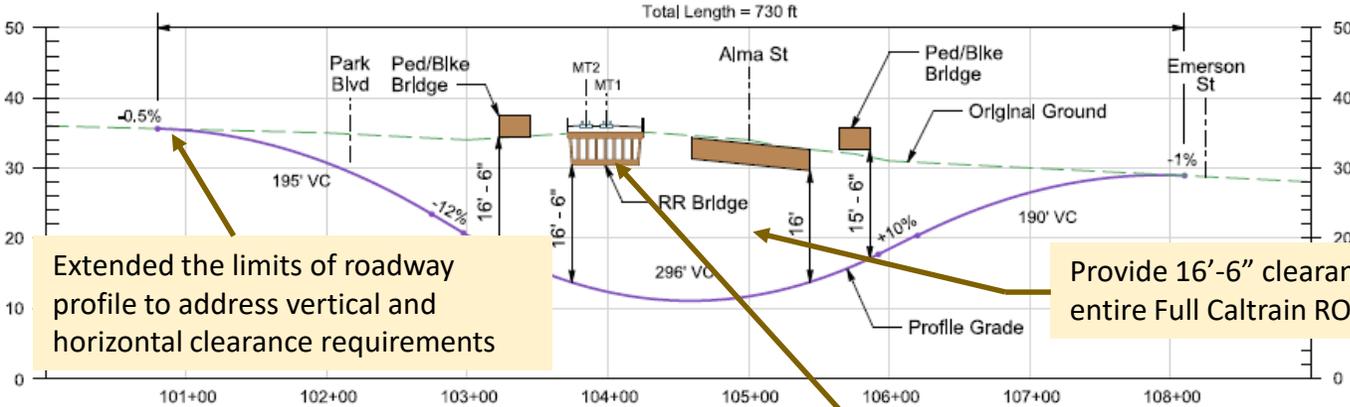


LEGEND:

- Track
- Retaining Wall
- Right-of-Way
- Roadway Modifications
- Ped/Bike Ramps & Sidewalks
- Structure
- Planting Area
- Direction of Traffic



Meadow Drive - Underpass



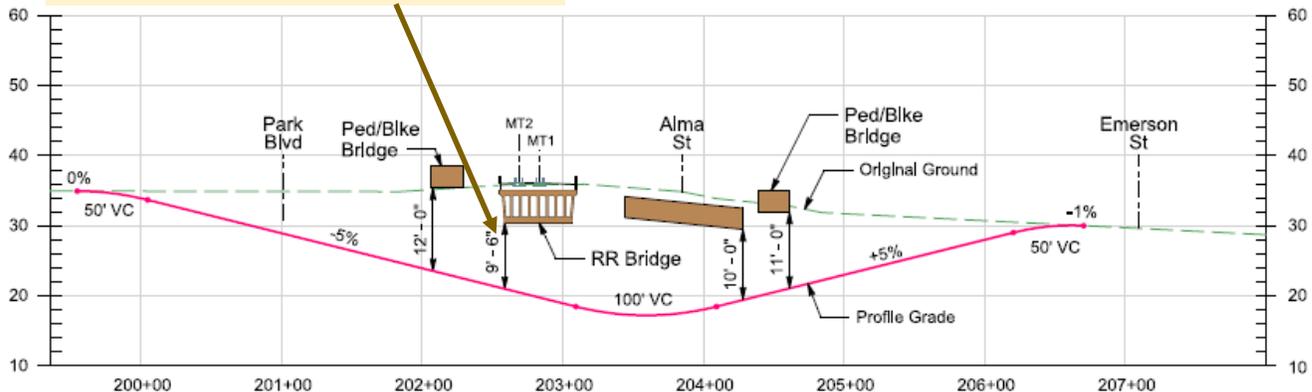
Extended the limits of roadway profile to address vertical and horizontal clearance requirements

Provide 16'-6" clearance in the entire Full Caltrain ROW Width

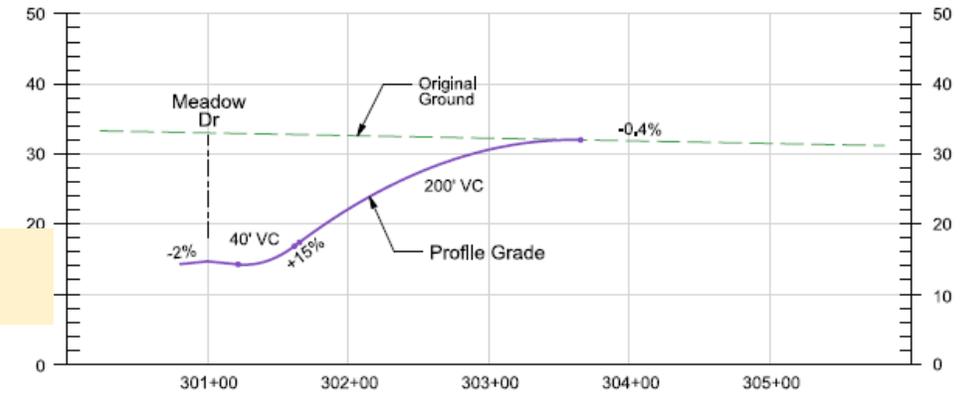
Meadow Dr Profile

Widened Bridge to accommodate updated standards providing space for maintenance and emergency vehicles

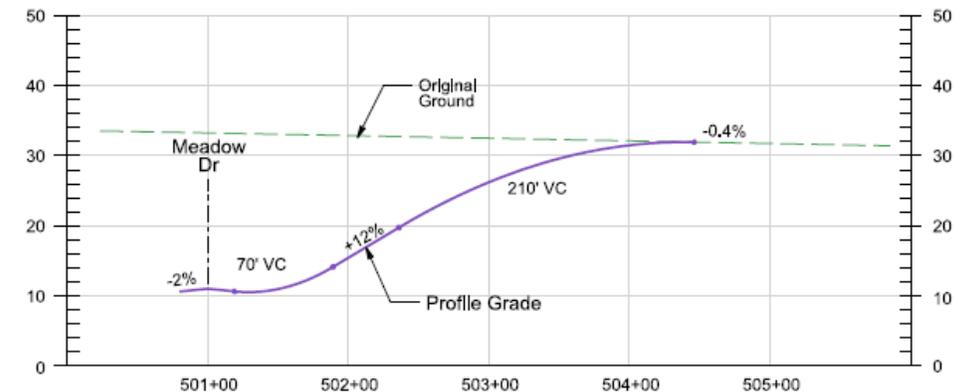
Increased vertical clearance for Pedestrian crossing from 8.0' to 9'-6"



Ped/Bike Profile from Park Blvd to Emerson St

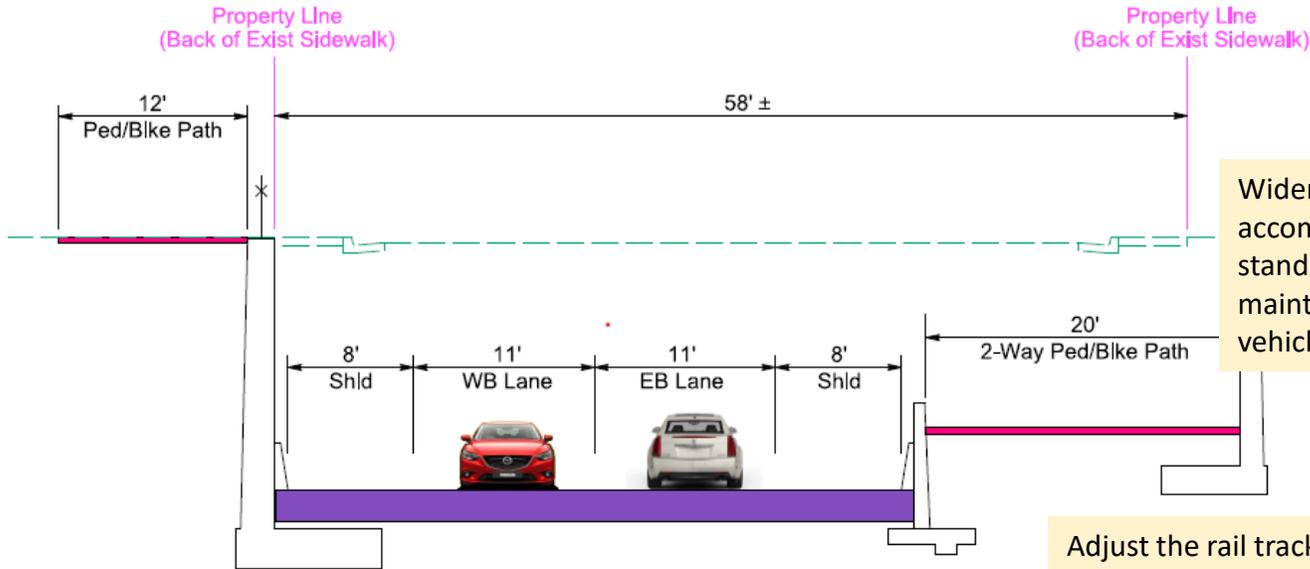


Ramp Profile Meadow Dr to NB Alma St



Ramp Profile SB Alma St to Meadow Dr

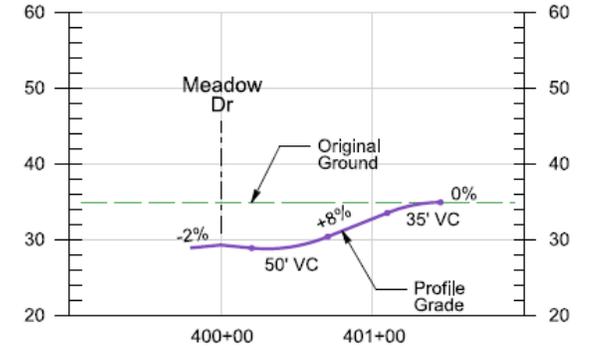
Meadow Drive - Underpass



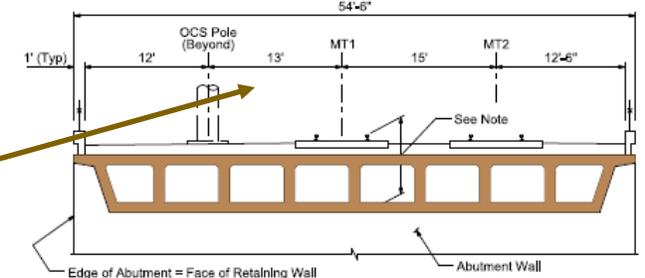
Typical Section Meadow Dr Underpass

Widened Bridge to accommodate updated standards providing space for maintenance and emergency vehicles

Adjust the rail track offsets and bridge width to meet Caltrain updated standards



Park Blvd Profile (North Side of Meadow Dr)



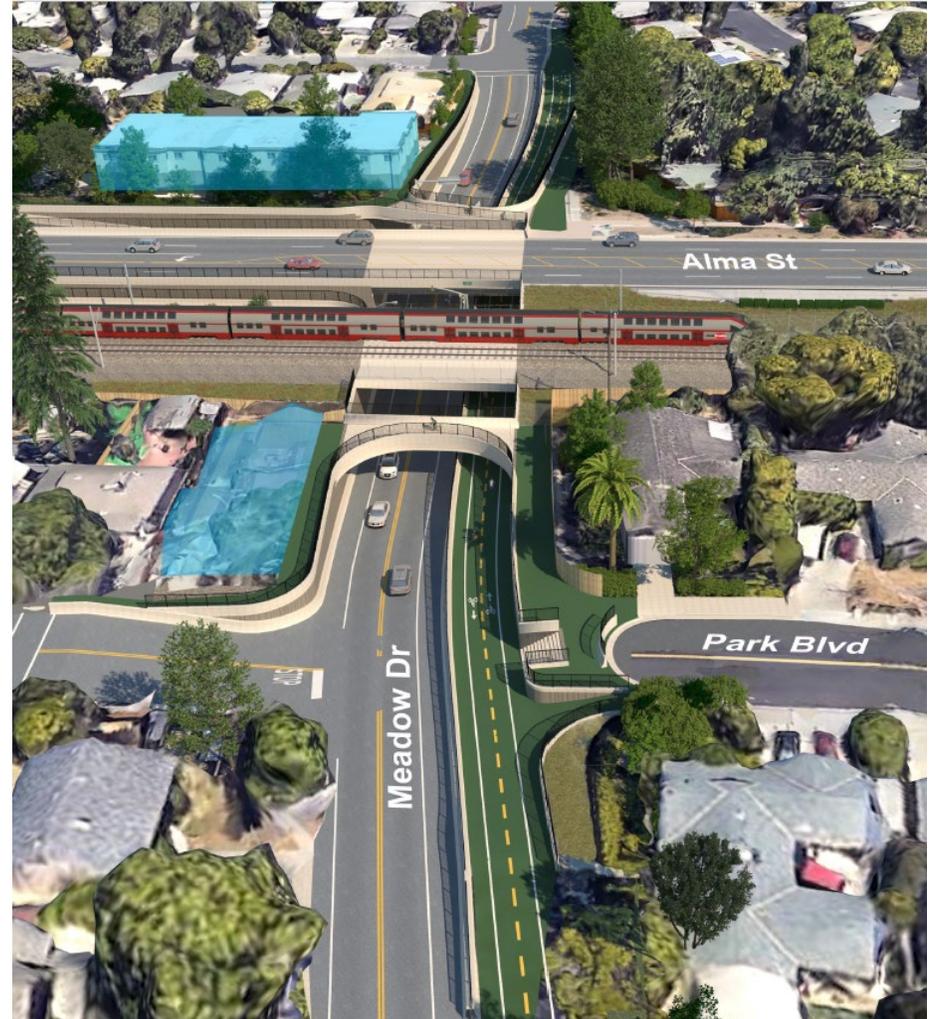
Note: Top of Rail to Soffit = 6'-7"
(Based on a 2-span structure with a maximum span length of 60 ft)

Bridge Typical Section at Meadow (Looking South)

Meadow Drive - Underpass



Meadow Drive - Underpass

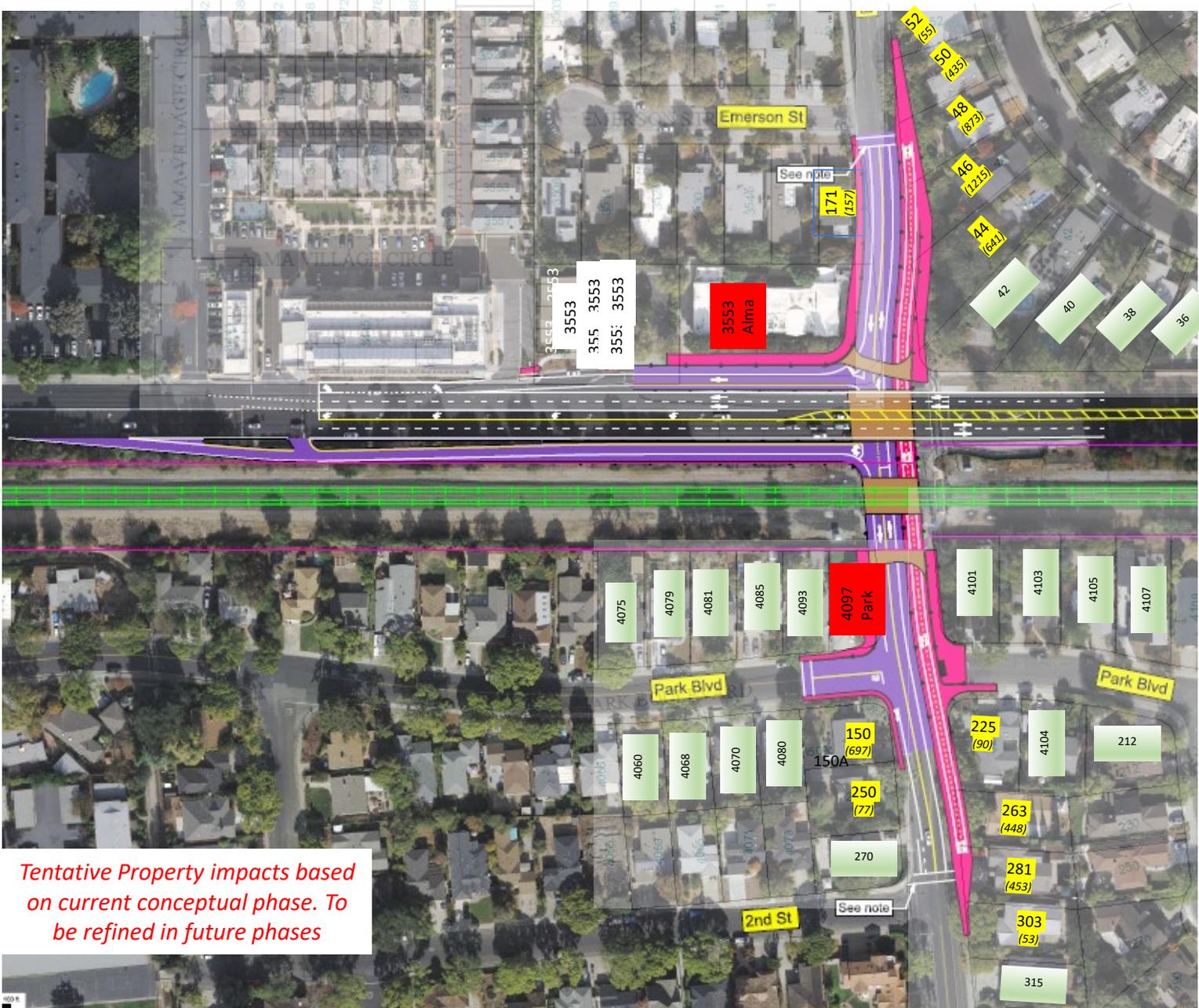


Meadow Drive - Underpass



Meadow Drive Underpass Alternative

Legend	
Address	Tentative Full Property Acquisition
Address Area(SQFT)	Tentative Partial Property Acquisition
Address	Tentative No Property Acquisition



Tentative Property impacts based on current conceptual phase. To be refined in future phases

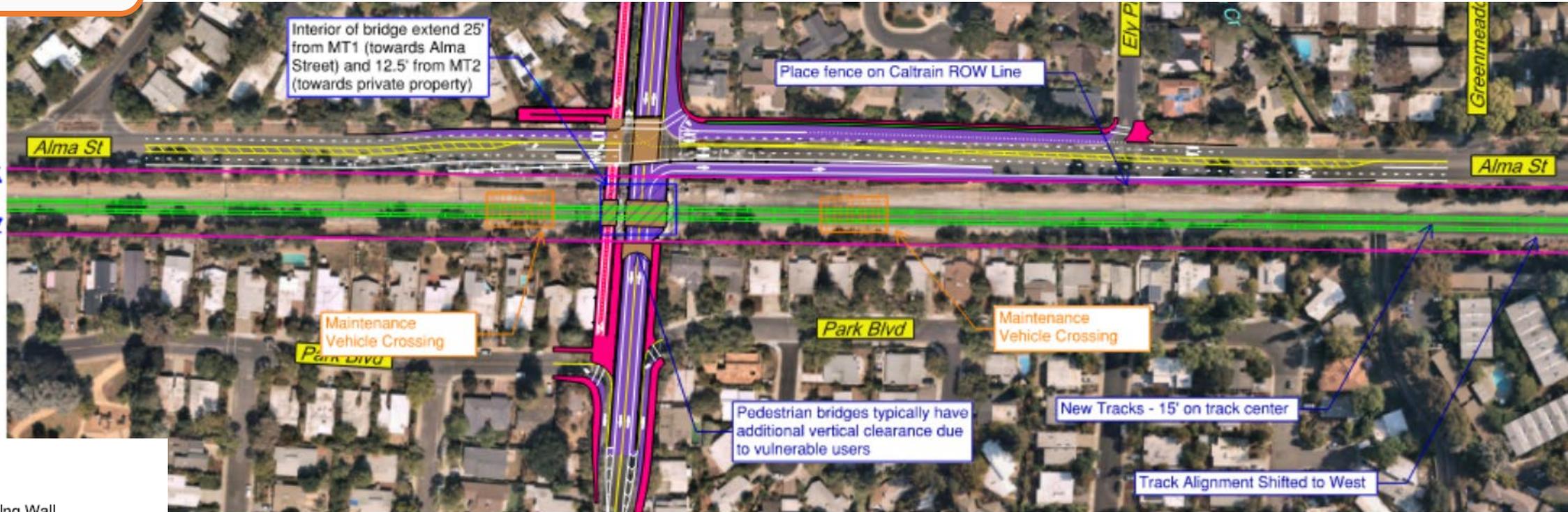


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Charleston Road Underpass

Charleston Underpass Summary

Plan View Charleston Road



LEGEND:

-  Track
-  Retaining Wall
-  Right-of-Way
-  Roadway Modifications
-  Ped/Bike Ramps & Sidewalks
-  Structure
-  Planting Area
-  Direction of Traffic

Charleston Underpass

Track alignment shifted to west

New tracks - 15' on track center

Provide required OCS pole offset

Maintenance vehicle crossing

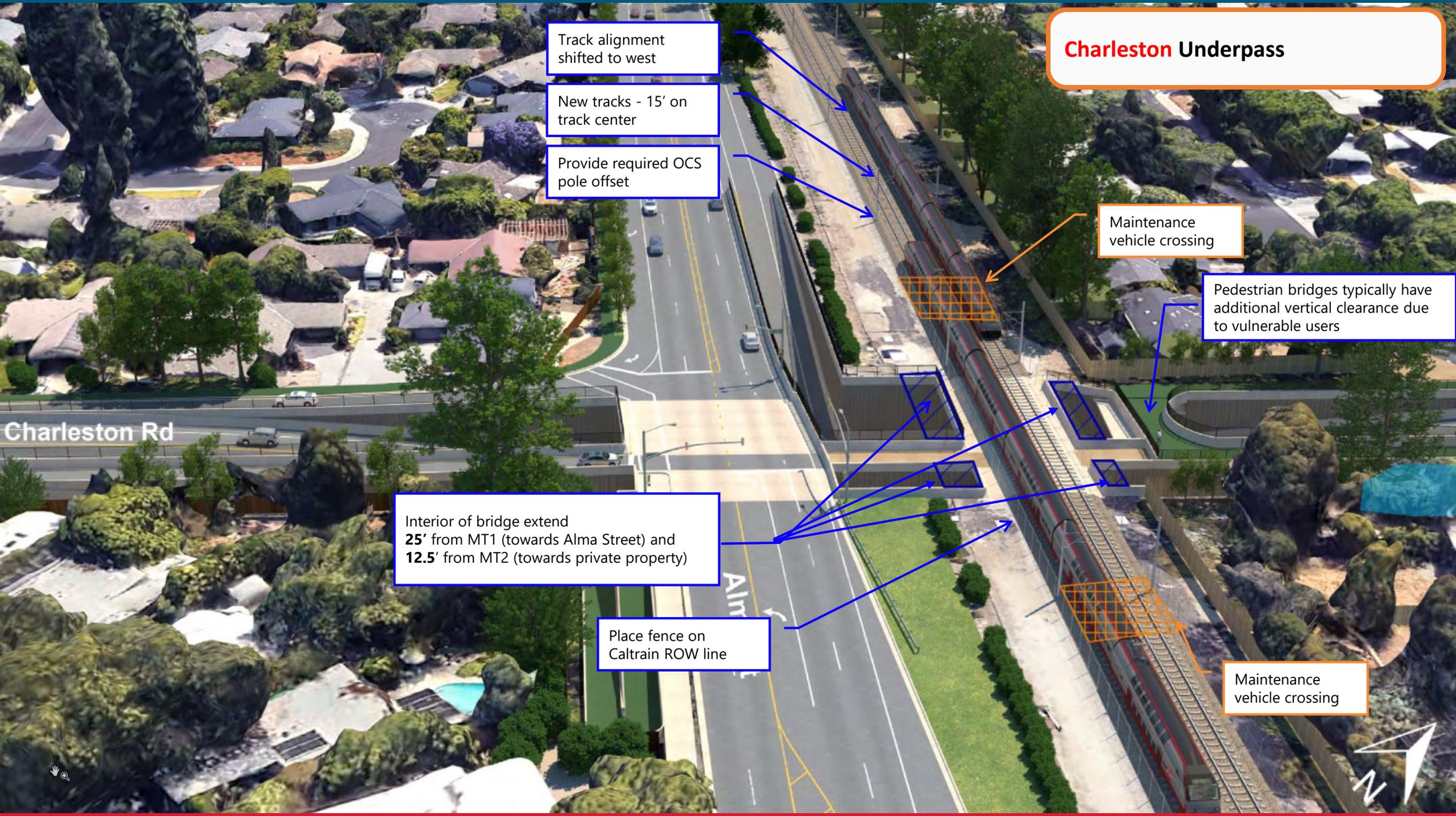
Pedestrian bridges typically have additional vertical clearance due to vulnerable users

Charleston Rd

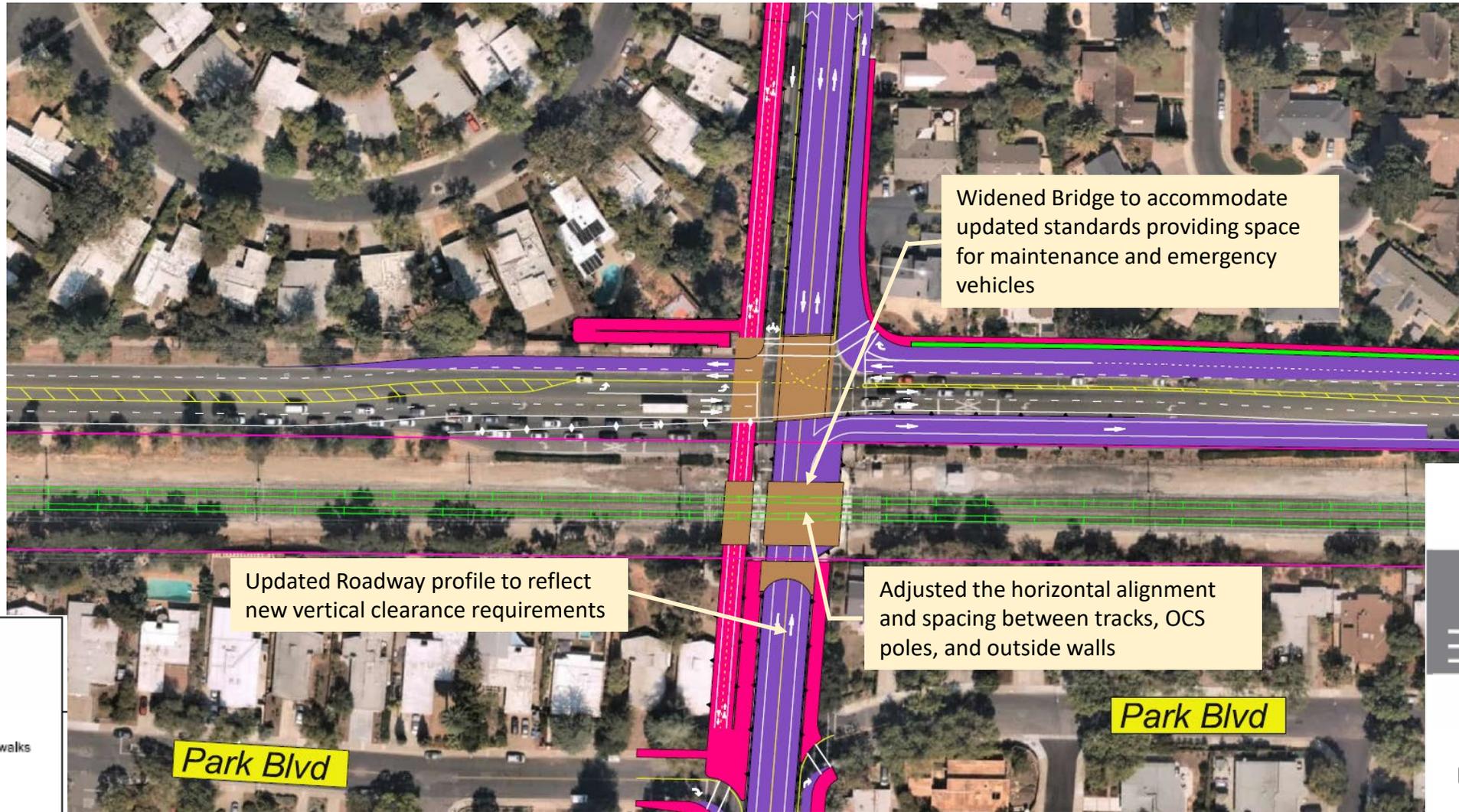
Interior of bridge extend 25' from MT1 (towards Alma Street) and 12.5' from MT2 (towards private property)

Place fence on Caltrain ROW line

Maintenance vehicle crossing

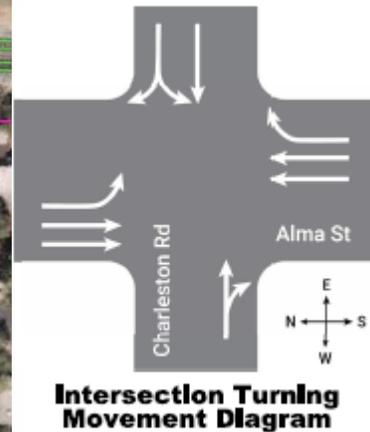


Charleston Road- Underpass

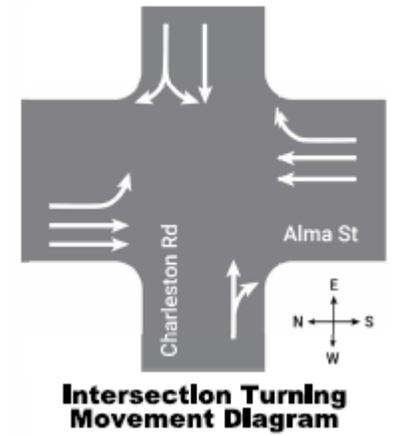
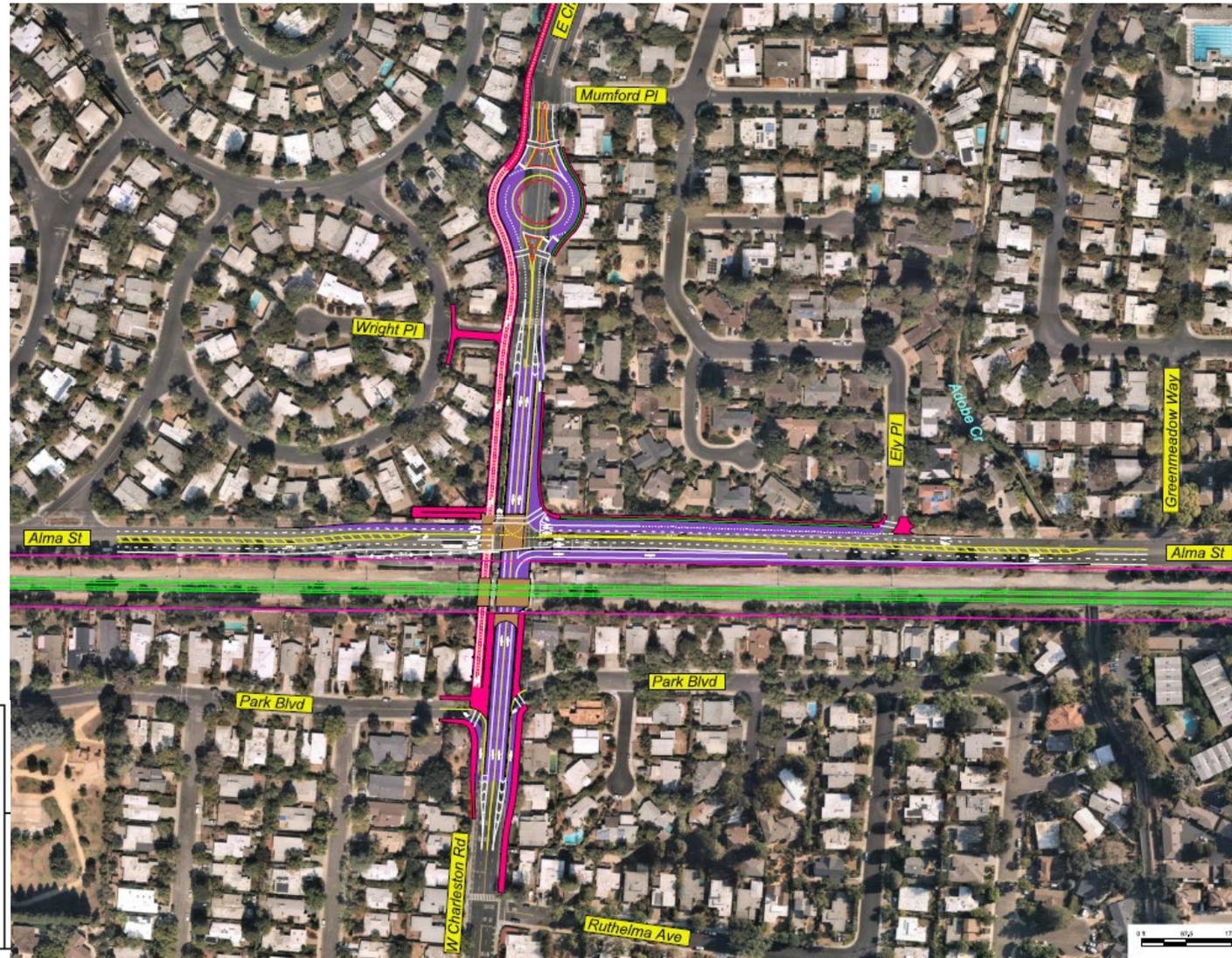


LEGEND:

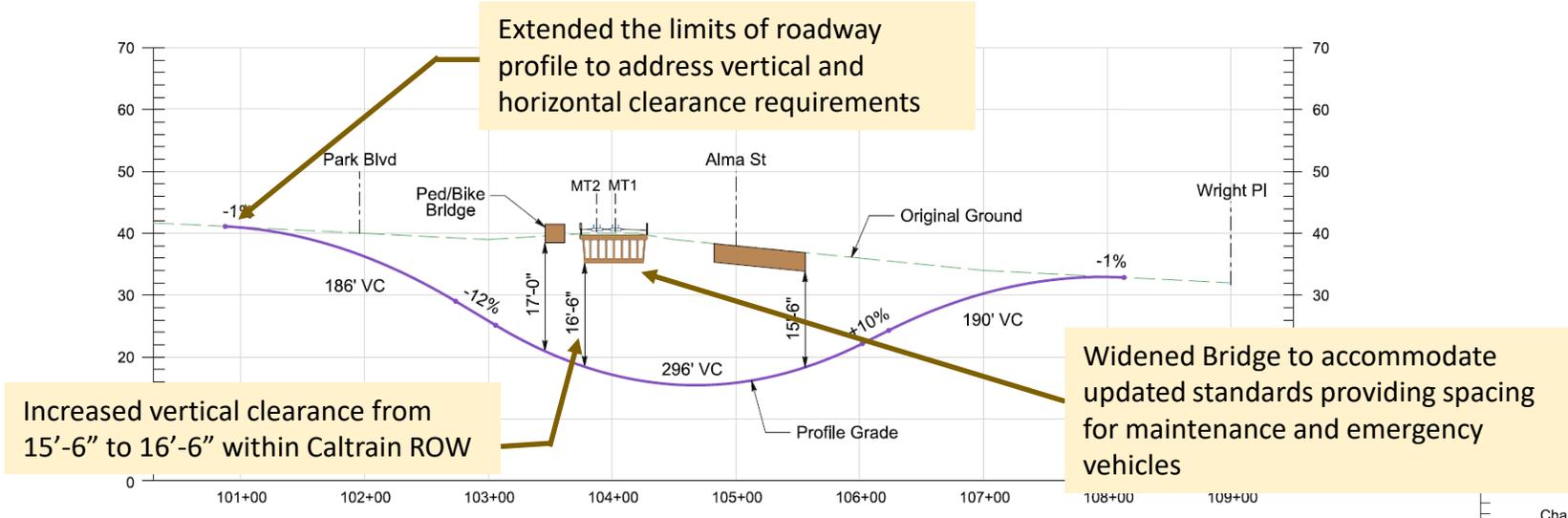
	Track
	Retaining Wall
	Right-of-Way
	Roadway Modifications
	Ped/Bike Ramps & Sidewalks
	Structure
	Planting Area
	Direction of Traffic



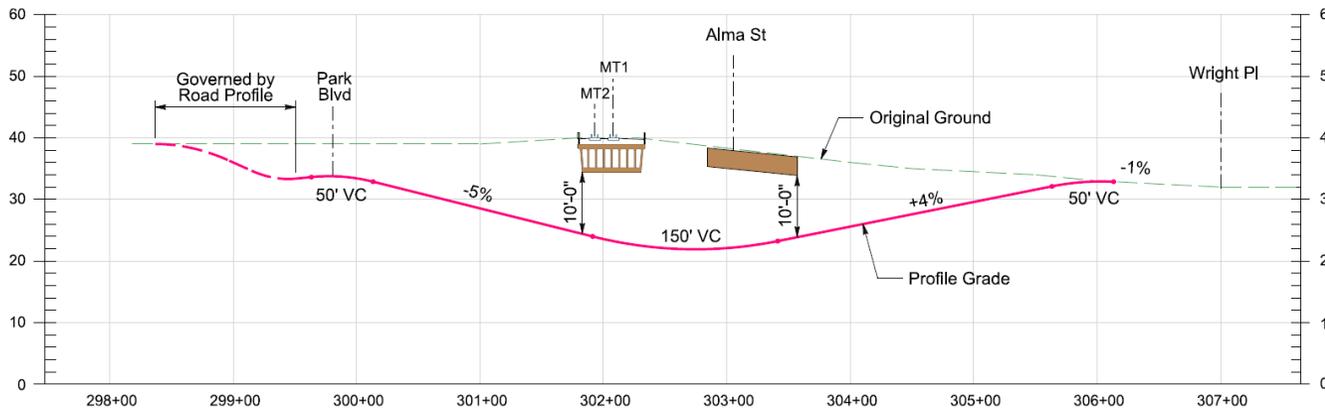
Charleston Road- Underpass



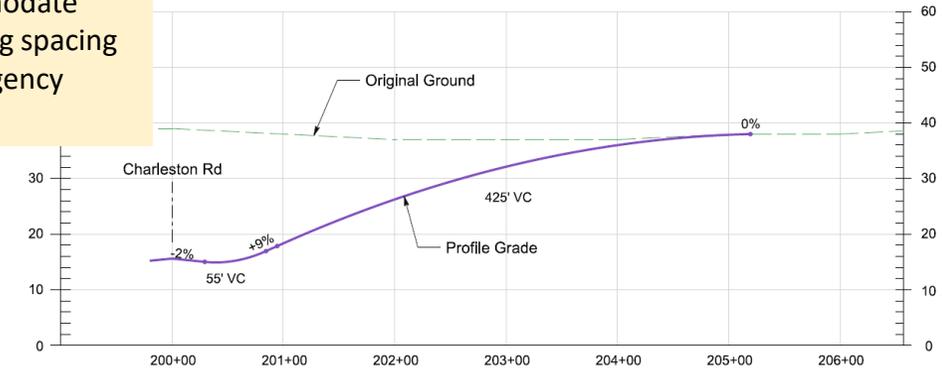
Charleston Road- Underpass



Charleston Rd Profile

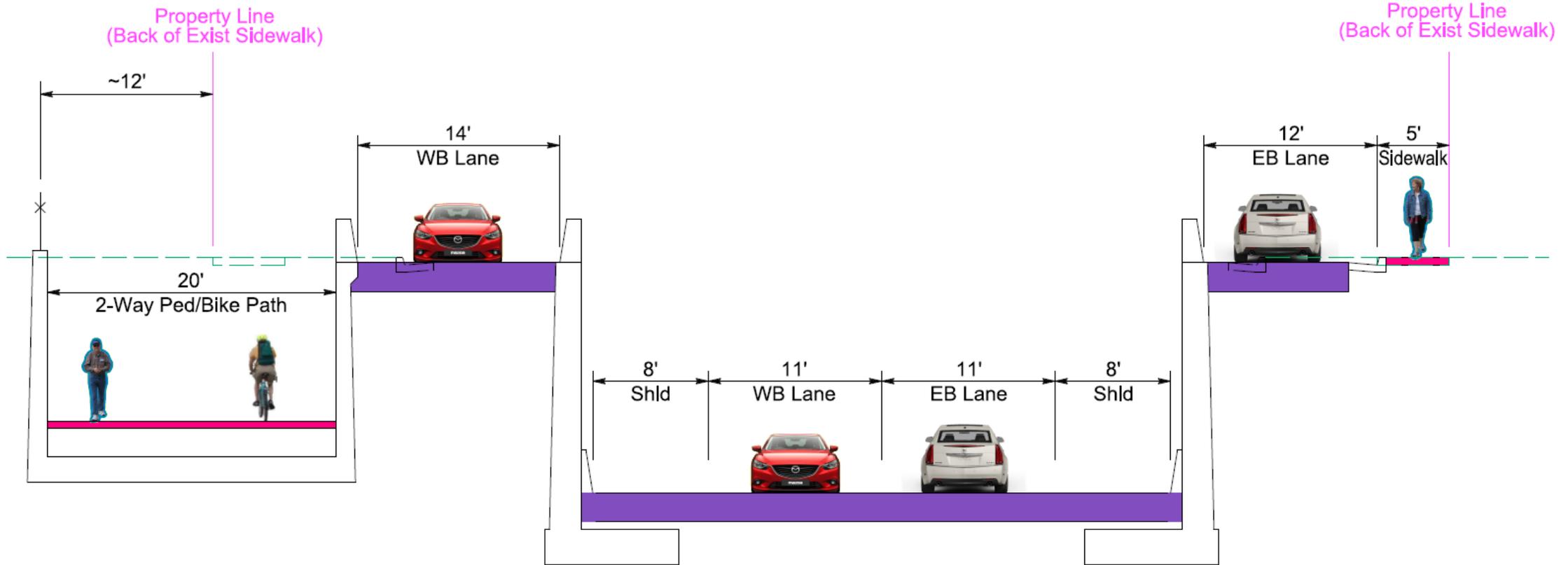


Ped/Bike Profile from Park Blvd to Wright PI



**Ramp Profile
EB Charleston Rd to SB Alma St**

Charleston Road- Underpass



Typical Section - Charleston Rd Underpass

Charleston Road- Underpass



Charleston Road- Underpass



Charleston Road- Underpass



Charleston Rd Underpass Alternative (west side)



Charleston Rd Underpass Alternative (east side)

Legend

Address	Tentative Full Property Acquisition
Address Area(SQFT)	Tentative Partial Property Acquisition
Address	Tentative No Property Acquisition

Tentative Property impacts based on current conceptual phase. To be refined in future phases





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Meadow/Charleston Hybrid

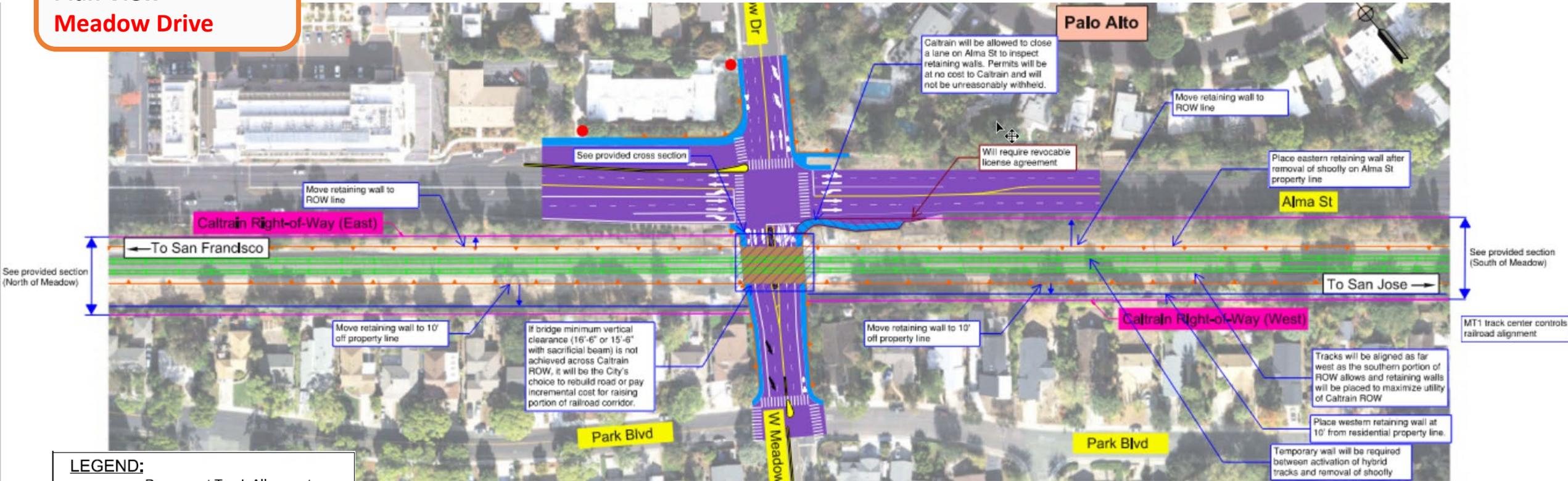
Meadow/Charleston Hybrid

Implications of ROW Offset
at Meadow Drive



Meadow/Charleston Hybrid Summary

Plan View Meadow Drive



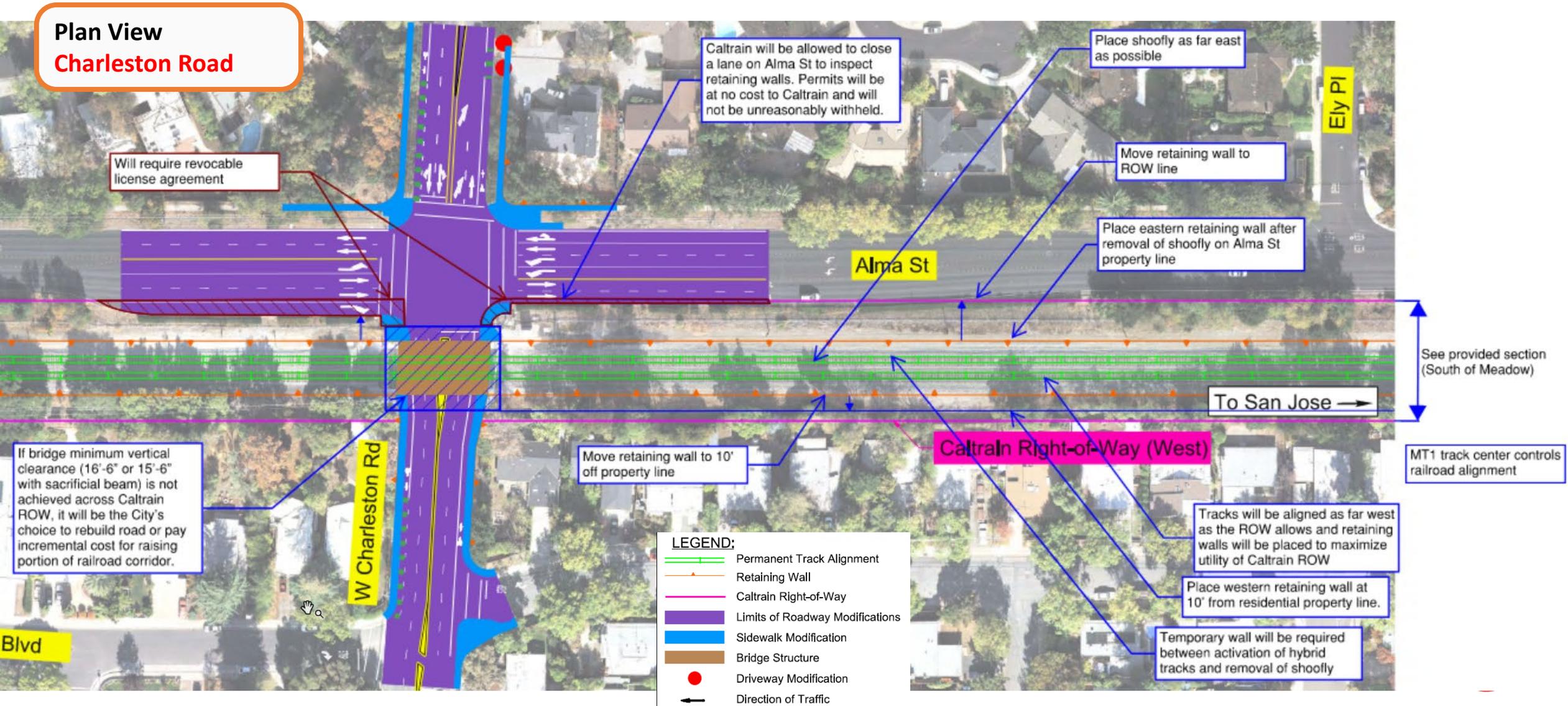
LEGEND:

-  Permanent Track Alignment
-  Retaining Wall
-  Caltrain Right-of-Way
-  Limits of Roadway Modifications
-  Sidewalk Modification
-  Bridge Structure
-  Driveway Modification
-  Direction of Traffic

Meadow/Charleston Hybrid Summary

Plan View

Charleston Road



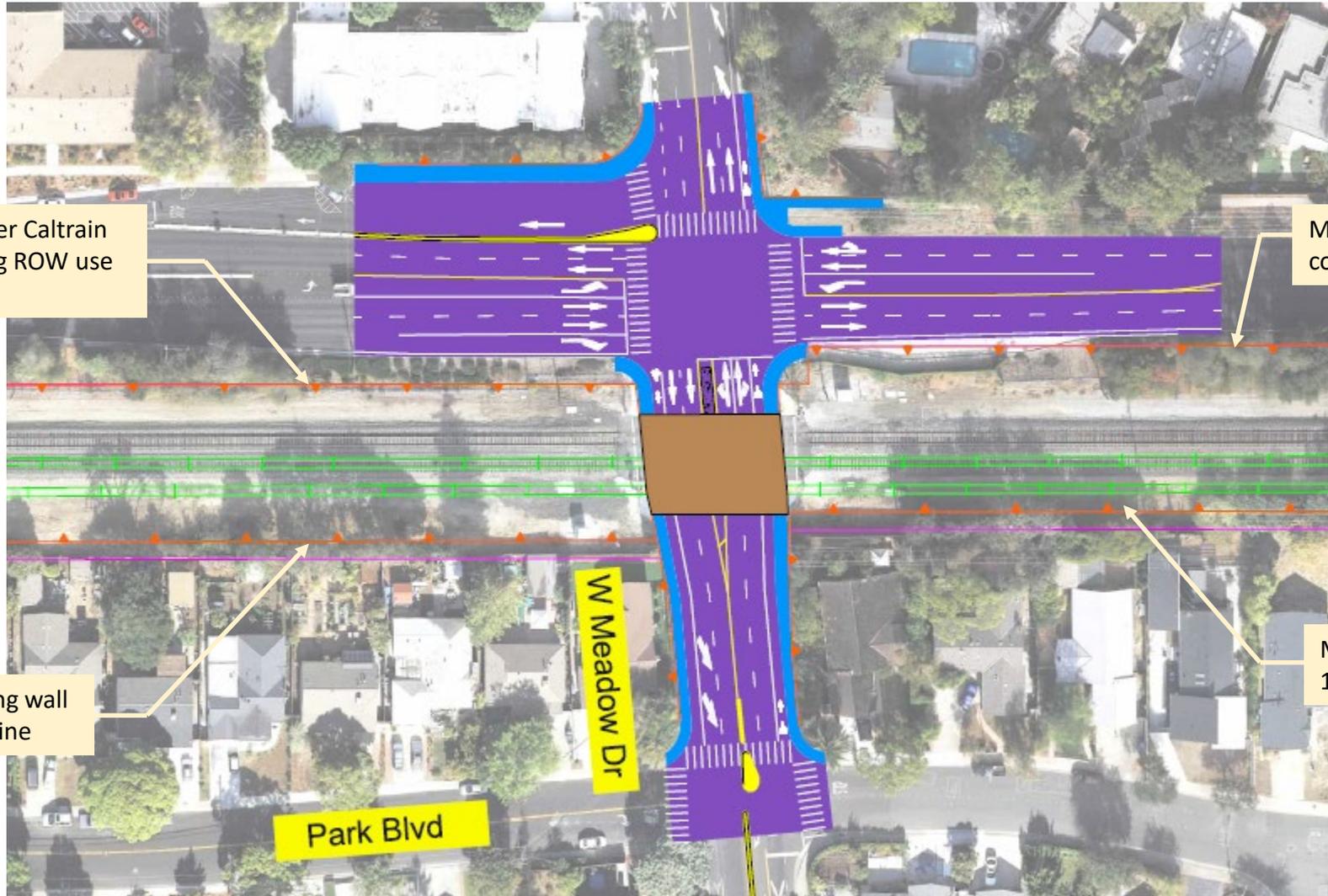
Meadow Drive - Hybrid

Moved Retaining Walls per Caltrain comments for maximizing ROW use by Caltrain

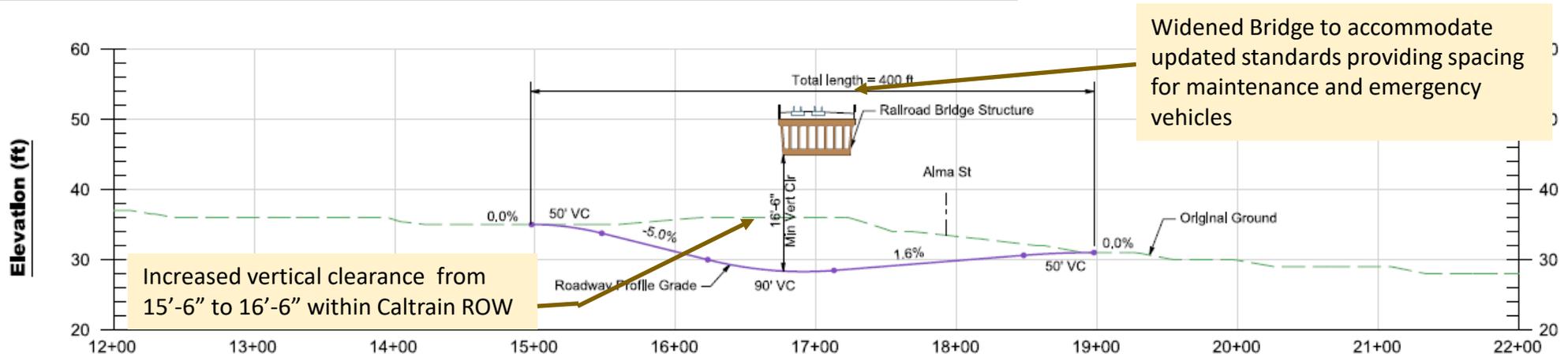
Moved Retaining Walls per Caltrain comments for full ROW use

Moved the Retaining wall 10' from property line

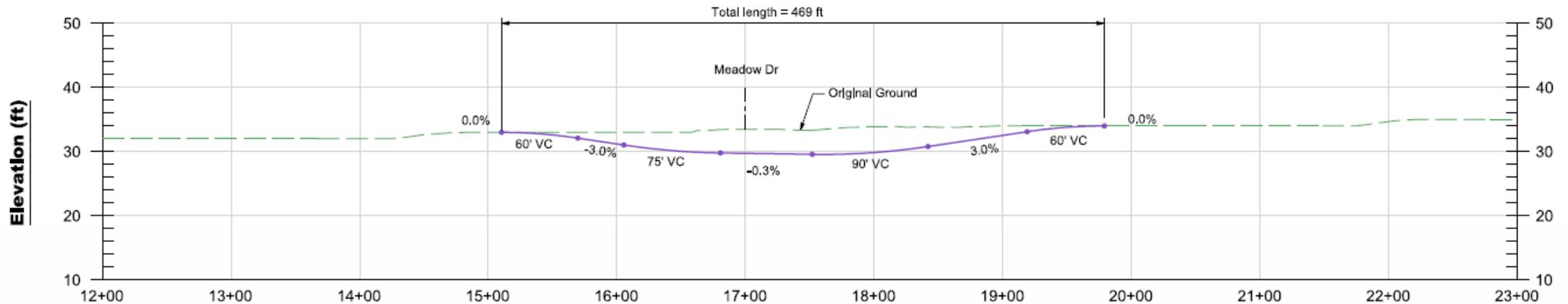
Moved the Retaining wall 10' from property line



Meadow Drive - Hybrid



Meadow Dr (Profile)



Alma St (Profile)

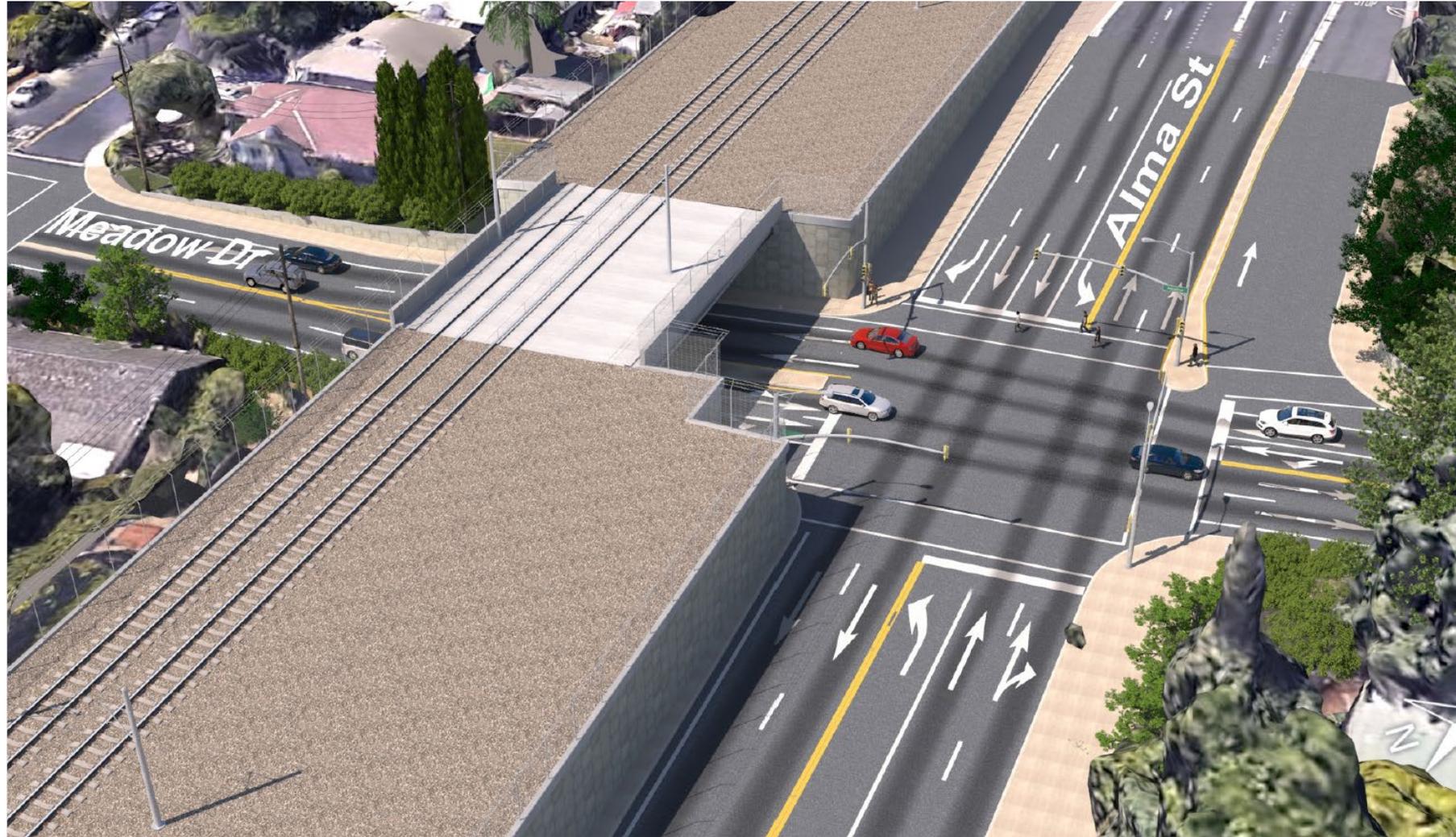
Meadow Drive - Hybrid



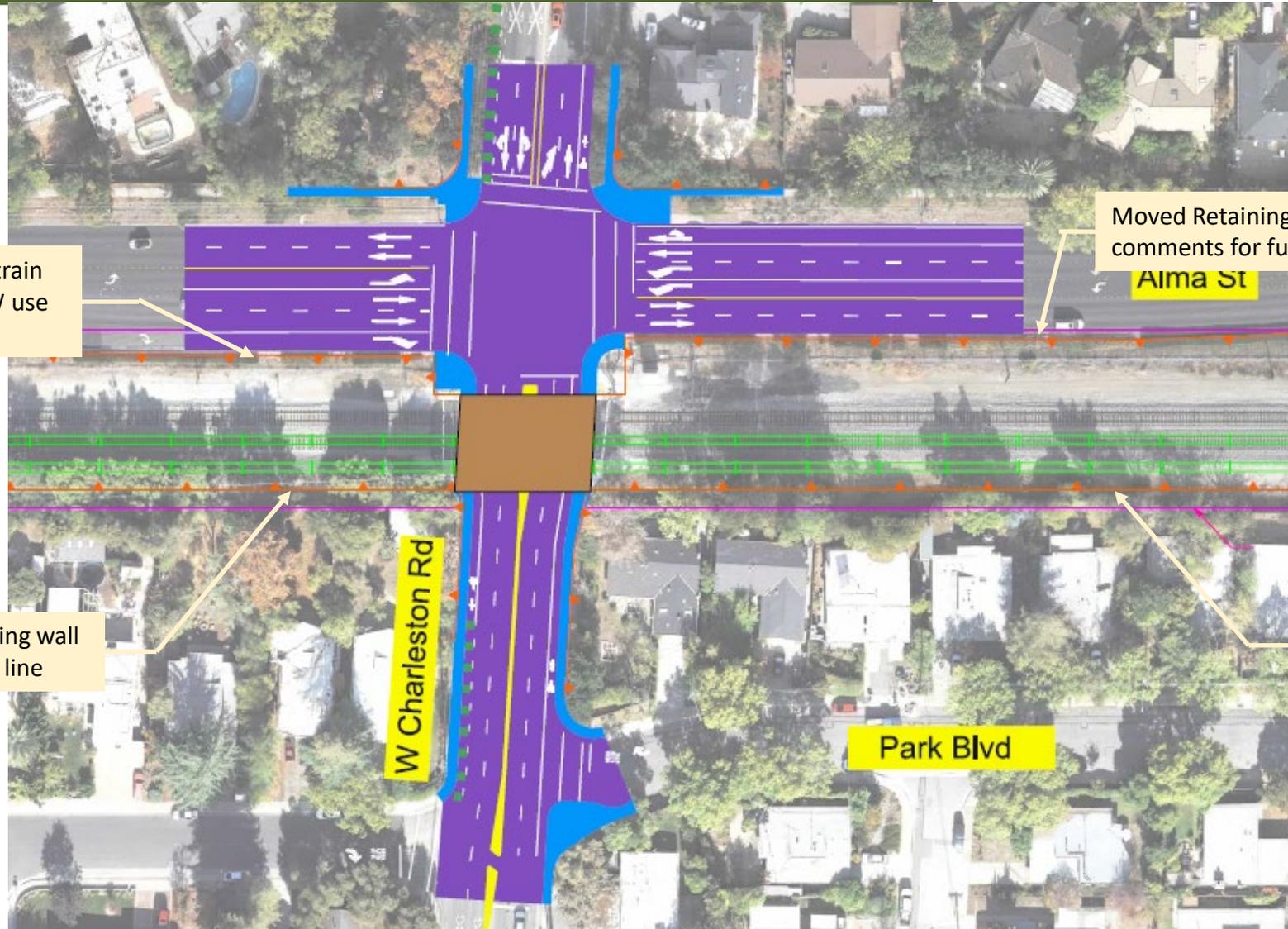
Meadow Drive - Hybrid



Meadow Drive - Hybrid



Charleston Road- Hybrid



Moved Retaining Walls per Caltrain comments for maximizing ROW use by Caltrain

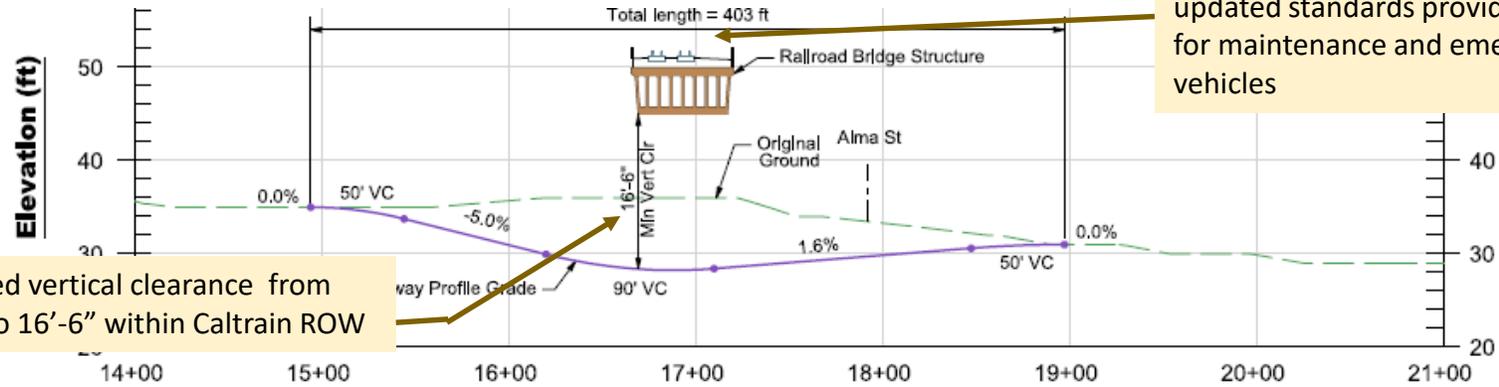
Moved Retaining Walls per Caltrain comments for full ROW use

Moved the Retaining wall 10' from property line

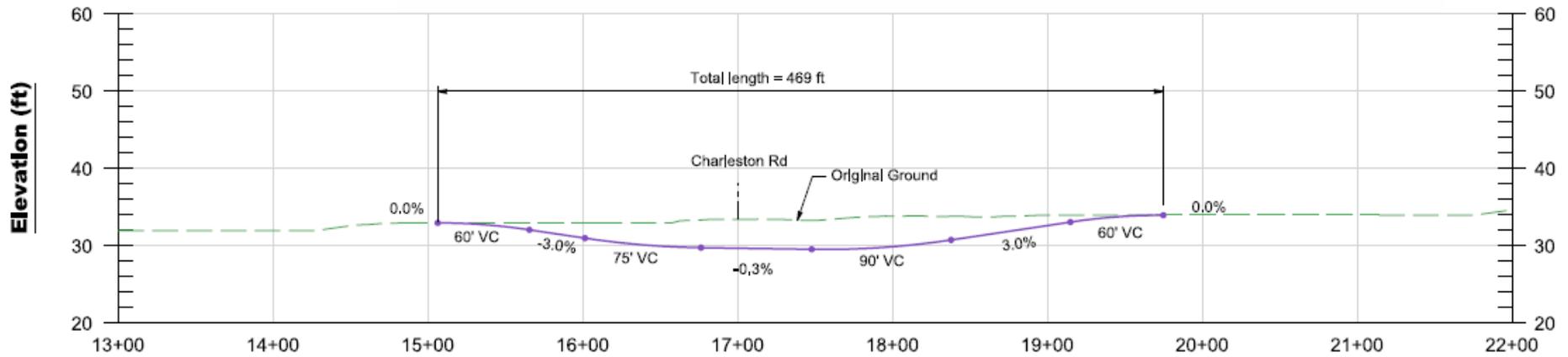
Moved the Retaining wall 10' from property line



Charleston Road- Hybrid



Charleston Rd (Profile)



Alma St (Profile)

NOTE:

Design Speed = 25 MPH for Charleston Rd
Design Speed = 35 MPH for Alma St

Charleston Road- Hybrid



Charleston Road- Hybrid



Charleston Road- Hybrid



Estimated Costs

Alternative	Previous Estimate	Previous range	2024	2025	2026	2027	2028	2029	2030	2031	Increase by %	2031 Range
Meadow/ Charleston Hybrid	210	190-230	331	344	358	372	387	403	419	436	102%	390-480
Meadow/ Charleston Underpass	380	340-420	582	605	629	655	681	708	736	766	107%	690-850
Meadow/ Charleston Viaduct	450	400-500	679	706	734	764	794	826	859	894	99%	790-970
Churchill Partial Underpass	180	160-200	220	229	238	247	257	268	278	290	61%	260-320

Notes

- Estimated Costs is Million Dollars
- Previous cost estimates are from 2018 escalated to 2025 with 3% inflation
- New estimates are based on current costs with 4% inflation up to 2031

Charleston/Meadow Rail Committee Recommendations

The Rail Committee Recommendations



- Recommended **Seale Avenue** for Bicycle and Pedestrian crossing location at for the **Partial Underpass Alternative at Churchill Avenue** Crossing to advance into the Preliminary Engineering and Environmental Documentation Phase.
- Recommended the **Underpass Alternative and Hybrid Alternative at Meadow Drive and Charleston Road** as the preferred options to the City Council for advancement into the Preliminary Engineering review
 - Seek ways to reduce property impacts
 - Optimize bike/pedestrian crossings and where feasible, improve connections to bike infrastructure beyond the study area to improve the network
 - Further refine the traffic circle on Charleston Road to reduce the property impacts
 - Refine construction impacts to better understand possible mutations needed during the lengthy construction process.

Next Steps



June 10 Council consideration of key decisions:

Selection of Bicycle and Pedestrian crossing location at Kellogg Avenue or Seale Avenue for the Partial Underpass Alternative at Churchill Avenue Crossing to advance into the Preliminary Engineering and Environmental Documentation Phase.

Selection of Preferred Alternative(s) at Meadow Drive and Charleston Road for advancing grade separation alternatives into the Preliminary Engineering and Environmental Documentation Phase.

Future Council Action

Execute Funding Agreement with Federal Railroad Administration to perform Preliminary Engineering and prepare Environmental Documentation for the project.



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