

MEMORANDUM

DATE: October 13, 2020

To: Southern California Association of Governments, Transportation Conformity Working Group

FROM: Michael Slavick, Senior Air Quality Specialist, LSA

SUBJECT: Final Design and Environmental Revalidation of SR-241/SR-91 Express Lanes Connector Project (ORA111207)

A PM Hot-spot Interagency Review Form was prepared for the State Route 241 (SR-241)/State Route 91 (SR-91) Express Lanes Connector Project (Proposed Project) (ORA111207) for Interagency Consultation (IAC) on April 28, 2015. The Transportation Conformity Working Group (TCWG) determined that the proposed project was not a project of air quality concern (POAQC). The April 2015 analysis included one build alternative and one no build alternative.

The purpose of this memorandum is to:

- inform the TCWG of the environmental revalidation being prepared for the final design phase for the build alternative for ORA111207;
- reaffirm the revisions to the build alternative for final design will not require further conformity review; and
- reaffirm the TCWG finding that ORA 111027 continues to be not-POAQC.

2020 Final Supplemental EIR/EIS

The Proposed Project as analyzed in the 2020 Final Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was proposed as a tolled facility with a total length of approximately 8.7 miles (mi), with 5.9 mi of improvements and 2.8 mi of advanced signage. The Proposed Project is included in the 2019 Federal Transportation Improvement Program (FTIP) Amendment #19-13 and is programmed for construction through Fiscal Year 2024/2025. The Final Supplemental EIR/EIS was certified in January 2020 and the NEPA Record of Decision signed in March 2020.

Post Mile Changes

The original limits of the Proposed Project encompass 12-ORA-241 (PM 36.1/39.1), 12-ORA-91 (R14.7/R18.9), and 08-RIV-91 (PM R0.0/R1.5). The revised limits for the Final Design of the Proposed

Project encompass **12-ORA-241 (PM 33.1/39.1)**, 12-ORA-91 (PM R14.7/R18.9), and **08-RIV-91 (PM R0.0/R1.8)**. Note: the changes in the post mile are bolded and underlined. Refer to Figure 1.

Revalidation of the 2020 Final Supplemental EIR/EIS

A CEQA/NEPA Revalidation Form is being prepared as part of the Final Design Phase in order for Caltrans as the lead agency to confirm the Final Supplemental EIR/EIS remains valid considering Final Design refinements. The Final Design of the Proposed Project would result in a total of 12.0 mi, with 9.6 mi of improvements and 2.4 mi of advanced signage (or a net increase of approximately 3.7 mi of improvements and a net decrease of 0.4 mi of advanced signage). The changes in the advance signage would include the 0.5 mi of advanced signage south of the Project improvements on SR 241, 1.2 mi of advanced signage west of the Project improvements on SR-91, and 0.7 mi of advanced signage east of the Project improvements on SR-91.

South SR 241 Area

In southern portion of the SR 241, an additional lane and shoulder would be provided by widening into the existing median and improving the highway median for approximately 4.3 miles (a net increase of 3.36 mi).

East SR-91 Area

In the eastern portion of the SR-91, the design of the Proposed Project would be the same, except for the proposed graded slopes. For the Final Design of the Proposed Project, a soil nail wall would be constructed to accommodate the realigned eastbound SR-91 lanes. The soil nail wall would span approximately 1,200 ft along eastbound SR-91. With the soil nail wall, the Final Design of the Proposed Project would no longer require approximately 10 acres of grading along eastbound SR-91.

Lane Addition on SR-241 - New Impervious Pavement

The number of lanes provided south of Santiago Creek Bridge and at the SR 241/SR-91 express connector structure is the same as that included in the PA/ED Design and therefore no additional capacity or vehicle throughput would be provided by the design refinements. The Final Design would also reduce queueing on SR 241 and mitigate queue jumping within the Project limits. The addition of the five-lane cross section between Santiago Creek Bridge and the diverge point will provide traffic operational improvements providing additional signage and distance for vehicles to be aligned into the correct lanes.

While the Final Design of the Build Alternative would extend the fifth lane to begin at a location just north of the Santiago Creek Bridge on SR 241, providing an additional 3 mi as compared to the PA/ED design, the number of through lanes south of this point (three northbound lanes across Santiago Creek Bridge), and the lanes provided at the express lanes connector, and through lanes on SR-91 remains the same as that analyzed in the Final Supplemental EIR/EIS, which approved four existing general purposes lanes and one new express connector lane.

As described above, these design refinements do not constitute a capacity-increasing project. Refer to Figure 2.

Finding

The changes to the project description as a result of the Final Design refinements described above would not affect the traffic volumes that were included in the April 2015 PM Hot-spot Interagency Review Form. Therefore, it is requested that the TCWG confirm that the Revalidation to the Final Supplemental EIR/EIS do not change the April 28, 2015, determination that the proposed SR-241/SR-91 Express Lanes Direct Connector Project (ORA111207) is not a POAQC.

Attachments: PM Conformity Hot Spot Analysis
Figure 1 - Project Location
Figure 2 - Lane Addition on SR-241

RTIP ID# *(required)* ORA111207

TCWG Consideration Date October 27, 2020

Project Description *(clearly describe project)*

The Foothill/Eastern Transportation Corridor Agency (F/ETCA), in cooperation with the California Department of Transportation (Caltrans), proposes to construct direct connectors between State Route 241 (SR-241) and the State Route 91 (SR-91) Express Lanes. SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The SR-91 Express Lanes is a two-lane tolled facility located within the median of SR-91, from State Route 55 (SR-55), to the Orange/Riverside County line (east of the SR-241 interchange). Currently, there is no direct connection between the SR-241 toll lanes and the SR-91 Express Lanes.

A California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) Revalidation Form is being prepared as part of the Final Design Phase in order to revalidate the Final Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS) certified in January 2020 and the NEPA Record of Decision signed in March 2020. Caltrans is the CEQA/NEPA Lead Agency.

The State Route 241/State Route 91 (SR 241/SR-91) Express Connector Project (Project), is located on 12-ORA-241 (Post Miles (PM) 33.1/39.1), 12-ORA-91 (PM R14.7/R18.9), and 08-RIV-91 (R0.0/R1.8). The Project is located in the cities of Anaheim, Yorba Linda, and Corona, and in unincorporated Orange and Riverside counties. The Project is proposed to construct a median-to-median connector between SR 241 and the tolled lanes in the median of SR-91 (*91 Express Lanes*). SR 241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The Orange County Transportation Authority (OCTA) *91 Express Lanes* is a tolled facility, two lanes in each direction, located in the median of SR-91, from State Route 55 (SR-55), to the Orange/Riverside County Line (east of the SR 241 interchange). The existing junction of SR 241 and SR-91 connects all lanes of northbound SR 241 to the nontolled, general-purpose lanes of eastbound and westbound SR-91 and the eastbound and westbound SR-91 to southbound SR 241. There is currently no direct connection between the SR 241 and the *91 Express Lanes*. The Project is included in the 2019 Federal Transportation Improvement Program (FTIP) Amendment #19-13 and is programmed for construction through Fiscal Year 2024/2025.

The Proposed Project as analyzed in the 2020 Final Supplemental EIR/EIS was proposed as a tolled facility with a total length of approximately 8.7 miles (mi), with 5.9 mi of improvements and 2.8 mi of advanced signage. The Final Design of the Proposed Project was proposed as a total of 12.0 mi, with 9.6 mi of improvements and 2.4 mi of advanced signage (or a net increase of approximately 3.7 mi of improvements and a net decrease of 0.4 mi of advanced signage).

The original limits of the Proposed Project encompass 12-ORA-241 (PM 36.1/39.1), 12-ORA-91 (R14.7/R18.9), and 08-RIV-91 (PM R0.0/R1.5). The revised limits for the Final Design of the Proposed Project encompass 12-ORA-241 (PM 33.1/39.1), 12-ORA-91 (PM R14.7/R18.9), and 08-RIV-91 (PM R0.0/R1.8).

The improvements for Final Design of the Proposed Project now include 9.6 mi (as compared to 5.9 mi analyzed in the Final Supplemental EIR/EIS) in the cities of Anaheim and Yorba Linda and in unincorporated areas of Orange and Riverside counties, from just north of Santiago Creek bridge (Bridge PM 34.3) on SR 241 to Coal Canyon Wildlife Undercrossing on SR-91 (Bridge PM R18.1). The Project Approval/Environmental Documentation (PA/ED) Design included 2.8 mi of signage improvements (advance signage) in the cities of Anaheim (1.2 mi), Yorba Linda (0.1 mi), and Corona (1.5 mi), and in unincorporated Orange and Riverside counties. For the Final Design, approximately 2.4 mi of advanced signage would be provided, a net decrease in 0.4 mi of advanced signage, with 0.5 mi of advanced signage south of the Project improvements on SR 241, 1.2 mi of advanced signage west of the Project improvements on SR-91, and 0.7 mi of advanced signage east of the Project improvements on SR-91.

Type of Project <i>(use Table 1 on instruction sheet)</i>				
Reconfigure existing interchange				
County Orange	Narrative Location/Route & Postmiles 12-ORA-241 PM 33.1/39.1, 12-ORA-91 PM R14.7/R18.9 08-RIV-91 PM R0.0/R1.8 Caltrans Projects – EA# 0K9700			
Lead Agency: Caltrans District 12				
Contact Person Rabindra Bade	Phone# (657) 328-6573	Fax#	Email Rabindra.Bade@dot.ca.gov	
Hot Spot Pollutant of Concern <i>(check one or both)</i> PM2.5 x PM10 x				
Federal Action for which Project-Level PM Conformity is Needed <i>(check appropriate box)</i>				
Categorical Exclusion (NEPA)	EA or Draft EIS	FONSI or Final EIS	x PS&E or Construction	Other
Scheduled Date of Federal Action: 2021				
NEPA Assignment – Project Type <i>(check appropriate box)</i>				
Exempt	Section 326 –Categorical Exemption		x Section 327 – Non- Categorical Exemption	
Current Programming Dates <i>(as appropriate)</i>				
	PE/Environmental	ENG	ROW	CON
Start	2013	2013		2024
End	2020	2021		2025
Project Purpose and Need (Summary): <i>(attach additional sheets as necessary)</i> The purpose of the proposed project is to implement the build out of the F/ETCA, as approved in 1994, and attain compatibility with the SR-241 and SR-91 Corridor Improvement Projects (CIP), while minimizing environmental and financial impacts. In addition to the originally intended objectives of the Eastern Transportation Corridor (ETC), changed circumstances at the junction of SR 241 and SR-91 have led to the following objectives for the Proposed Project: <ol style="list-style-type: none"> 1. Implement the build out of the ETC, as approved in 1994 2. Attain compatibility with the SR-91 mainline and SR-91 Express Lanes 3. Improve traffic flow and operations by reducing weaving across multiple general-purpose lanes between the SR-91 Express Lanes and the SR 241 general-purpose lane connectors 4. Enhance the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on SR-91 				
Need There is a need for improved access between SR 241 and SR-91. Roadway deficiencies are described below: <ol style="list-style-type: none"> 1. Demand exceeds capacity on the northbound SR 241 connector to the eastbound SR-91 and on the westbound SR-91 connector to southbound SR 241. 2. Northbound vehicles on SR 241 cannot access the eastbound SR-91 Express Lanes. 3. Westbound SR-91 Express Lanes motorists cannot access southbound SR 241. 4. The weaving between the general-purpose connectors and the median lanes is an issue because it degrades the level of service due to increased vehicle density. In addition, the weaving operations contribute to sideswipe accidents. 				

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*

Residential developments, a commercial development, a recreational vehicle park, and open spaces account for the majority of the land uses within the vicinity of the SR-241/SR-91 Interchange.

Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

The section is based on the *Traffic Analysis Report* (CH2M Hill, July 2015) and the *Traffic Analysis Report Errata Sheet* (CH2M Hill, July 2016) prepared for the Proposed Project. Although the revised opening year may occur in 2025, all of the tables and analysis for the Opening Year still refer to 2017, as this is the year for which the traffic modeling was completed. The year 2040 was chosen to represent the long-term horizon year.

2017 SR-91

No Build: ADT = 303,200, Truck ADT = 14,550 (4.8%), LOS = F

Build: ADT = 311,000, Truck ADT = 14,683 (4.7%), LOS = F

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

2040 SR-91

No Build: ADT = 345,400, Truck ADT = 16,580 (4.8%), LOS = F

Build: ADT = 348,800, Truck ADT = 16,638 (4.8%), LOS = F

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

2017 SR-241

No Build: ADT = 52,200, Truck ADT = 887 (1.7%), LOS = A

Build: ADT = 60,000, Truck ADT = 1,020 (1.7%), LOS = A

RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

2040 SR-241

No Build: ADT = 58,600, Truck ADT = 996 (1.7%), LOS = A

Build: ADT = 62,000, Truck ADT = 1,054 (1.7%), LOS = A

Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*

See attached analysis.

Comments/Explanation/Details *(attach additional sheets as necessary)*

PM_{2.5}/PM₁₀ Hot-Spot Analysis

The SR-241/91 Express Connector project is located within a nonattainment area for federal PM_{2.5} standards and within an attainment/maintenance area for the federal PM₁₀ standards. Therefore, per 40 CFR Part 93 hot-spot analyses are required for conformity purposes. However, the EPA does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in section 93.123(b)(1) as an air quality concern.

According to 40 CFR Part 93.123(b)(1), the following are Projects of Air Quality Concern (POAQC) :

- i. New highway projects have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles;
- ii. Projects affecting intersections that are at a Level of Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level of Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
- iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
- iv. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
- v. Projects in or affecting locations, areas or categories of sites which are identified in the PM_{2.5} and PM₁₀ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project does not qualify as a Project of Air Quality Concern (POAQC) because of the following reasons:

- i. The proposed project is a highway expansion project. The proposed project would build a new tolled connection between State Route 241 (SR-241) and the State Route 91 (SR-91) toll lanes. Based on the Traffic Analysis Report (Caltrans July 24, 2015), the proposed project would increase the traffic volumes along SR-241 and SR-91. The average truck percentages along the project segments of SR-91 and SR-241 are 4.8 and 1.7 percent, respectively. Tables 1 and 2 list the average daily traffic (ADT) and truck ADT volumes along SR-91 and SR-241 for the 2017 and 2040 conditions, respectively. The largest increase in ADT due to the proposed project is 7,800 vehicles per day. However, due to the very low truck percentage on SR-241, the largest increase in truck ADT due to the proposed project is 133 vehicles per day. These increases would not exceed the 125,000 average daily trips or 10,000 truck trip criteria for a POAQC.
- ii. The proposed Project does not affect intersections that are at LOS D, E, or F with a significant number of diesel vehicles.
- iii. The proposed Project does not include the construction of a new bus or rail terminal.
- iv. The proposed Project does not expand an existing bus or rail terminal.
- v. The proposed Project are not in or affecting locations, areas, or categories of sites that are identified in the PM₁₀ or PM_{2.5} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Therefore, the proposed Project meets the CAA requirements and 40 CFR 93.116 without any explicit hot-spot analysis. The proposed Project would not create a new, or worsen an existing, PM₁₀ or PM_{2.5} violation.

Table 1: 2017 Traffic Volumes

Freeway	No Build		Build		Project Increase	
	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
SR-91	303,200	14,550	311,000	14,683	7,800	133
SR-241	52,200	887	60,000	1,020	7,800	133

Source: Caltrans Traffic Analysis Report (July 2015).

Table 2: 2040 Traffic Volumes

Freeway	No Build		Build		Project Increase	
	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
SR-91	345,400	16,580	348,800	16,638	3,400	58
SR-241	58,600	996	62,000	1,054	3,400	58

Source: Caltrans Traffic Analysis Report (July 2015).

In the build scenario, the overall findings of the traffic analysis are as follows:

- The overall throughput on SR-91 increases.
- On the eastbound SR-91 GP lanes, more vehicles must exit the OCTA Express Lanes and enter the GP lanes and fewer cars can leave the GP lanes and enter the RCTC Express Lanes. More vehicles are in the Express Lanes in the mixing bowl area because the northbound SR-241 to eastbound SR-91 Express Lane Connector adds more traffic to the mixing bowl. More vehicles will exit, increasing friction, because the downstream constraint remains the same (3,200 vehicles/hour in the RCTC Express Lanes).
- However, there is also a reduction in friction due to fewer vehicles weaving from the northbound SR-241 to eastbound SR-91 GP ramp to the RCTC Express lanes with the project (i.e., most of these vehicles will now use the SR-241 to SR-91 Express Lane Connector.).
- The result is an overall net zero effect on the eastbound SR-91 GP lanes in the PM peak period. The overall average difference in vehicle throughput (Build minus No-Build) in the 2017 PM peak period is -0.3% and 0.6% in the 2040 PM peak period.

Table 3 Summary of Overall Traffic Operational Benefits of the Proposed Project

Measure	Year	Results
Increase in Throughput in Mixing Bowl	2017	2,586 vehicles in the peak direction (+7%)
	2040	1,239 vehicles in the peak direction (+3%)
Increase in Corridor Vehicle Miles Traveled (VMT)	2017	34,301 VMT (+4%)
	2040	17,403 VMT (+2%)
Change in Speed	2017	+1.9 mph (+6%)
	2040	+2.7 mph (+7%)
Change in Delay	2017	-0.6 minutes/vehicle (-12%)
	2040	-0.8 minutes/vehicle (-17%)

Based on seven hours of results for the combined AM peak (three hours) and PM peak (four hours).

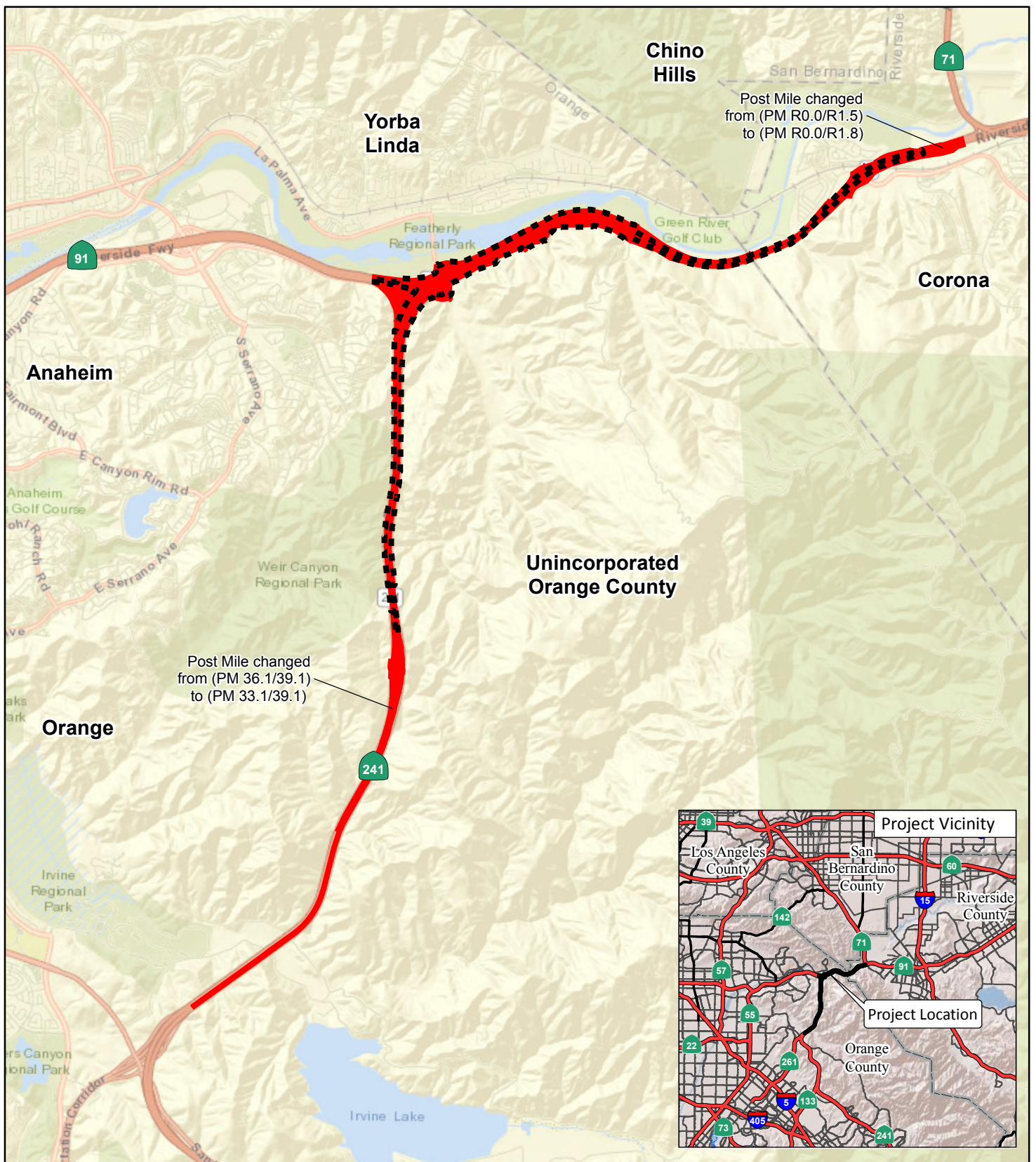


FIGURE 1

LSA

LEGEND

- Project Limits from PA/ED
- Revised Project Limits for Final Design



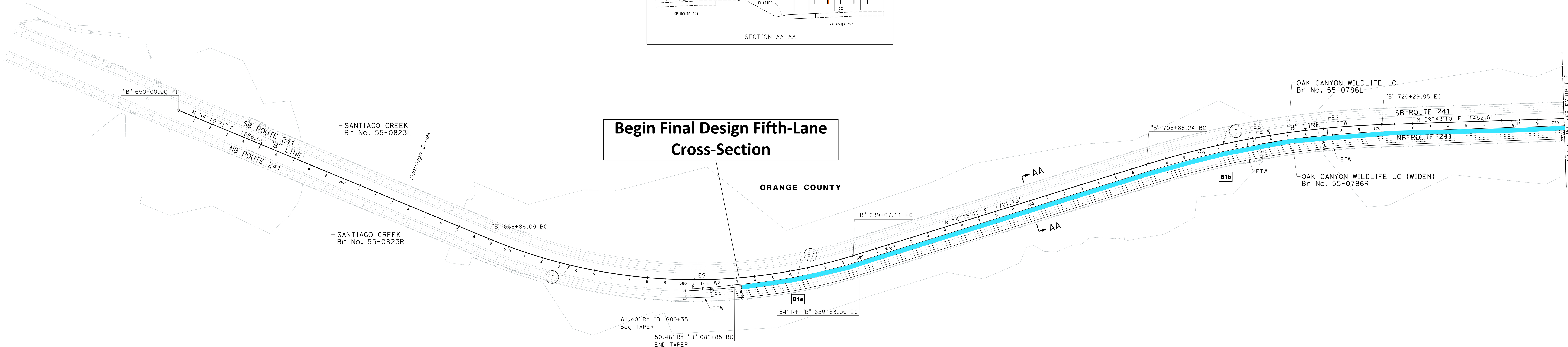
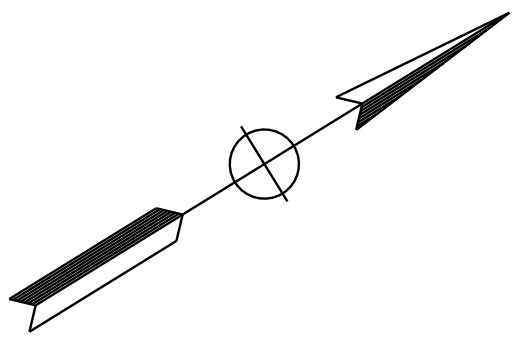
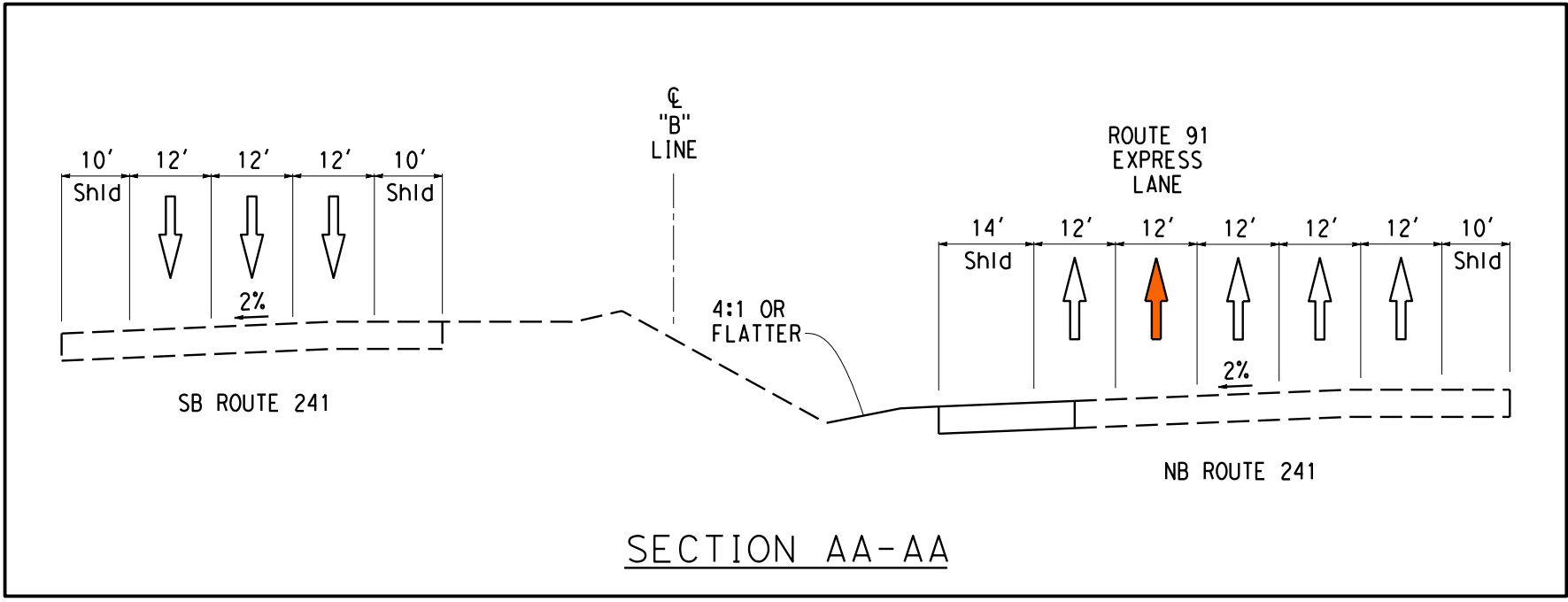
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MILES

SOURCE: Esri Street Map (2019); TCA (8/12/2020)

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SR-241/SR-91 Express Lanes Connector
Project Location

CURVE DATA				
No.	R	Δ	T	L
1	3000.00'	39°44'41"	1084.35'	2081.03'
2	5000.00'	15°22'29"	674.91'	1341.70'
67	3066.00'	13°17'01"	357.02'	710.83'

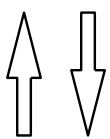


Begin Final Design Fifth-Lane
Cross-Section

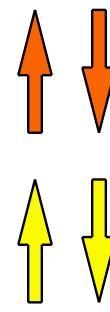
ORANGE COUNTY

LEGEND:

EB/WB 91 GENERAL PURPOSE LANES
NB/SB 241 GENERAL PURPOSE LANES



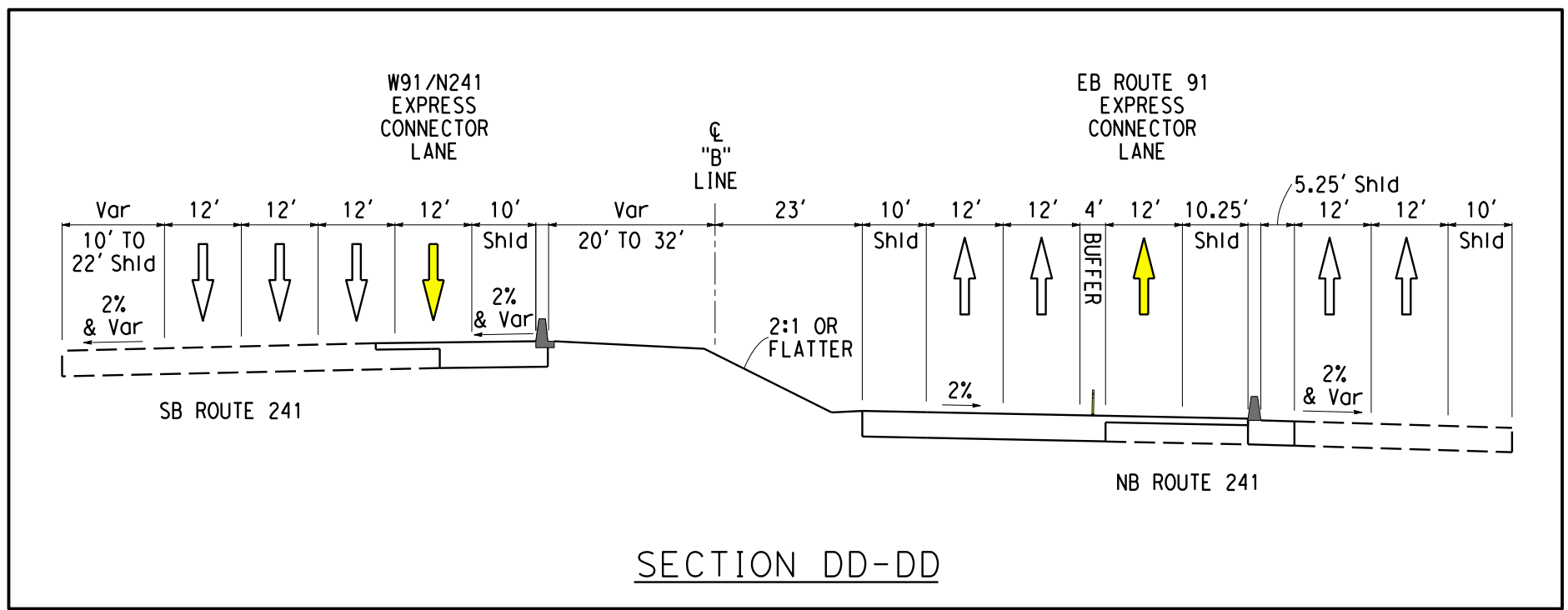
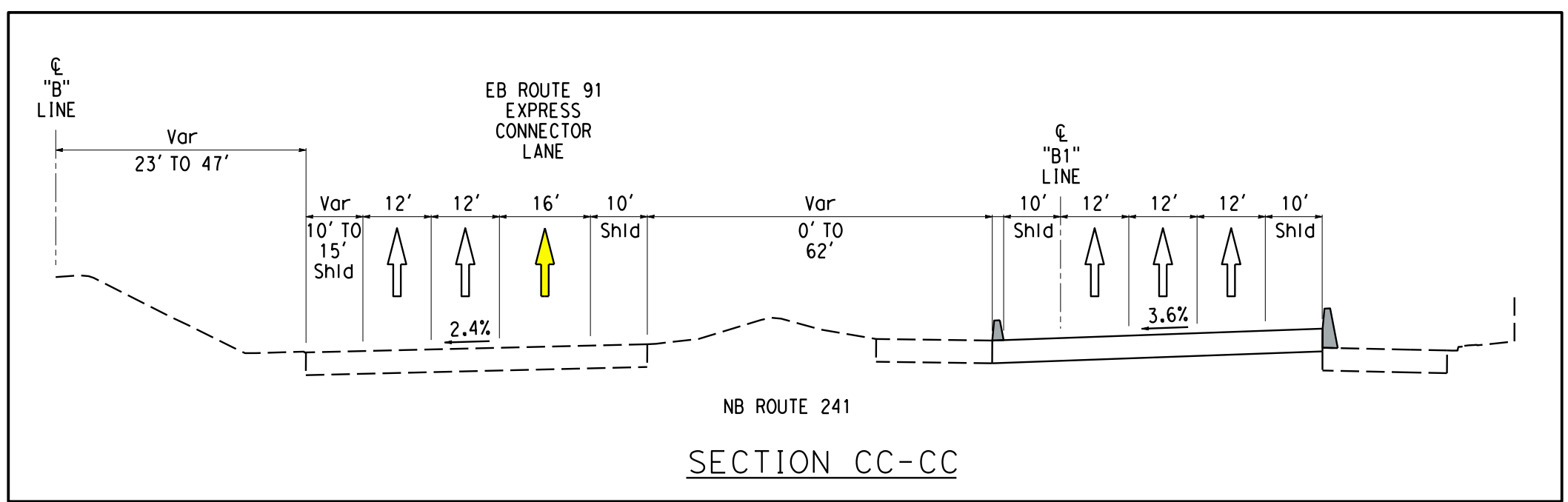
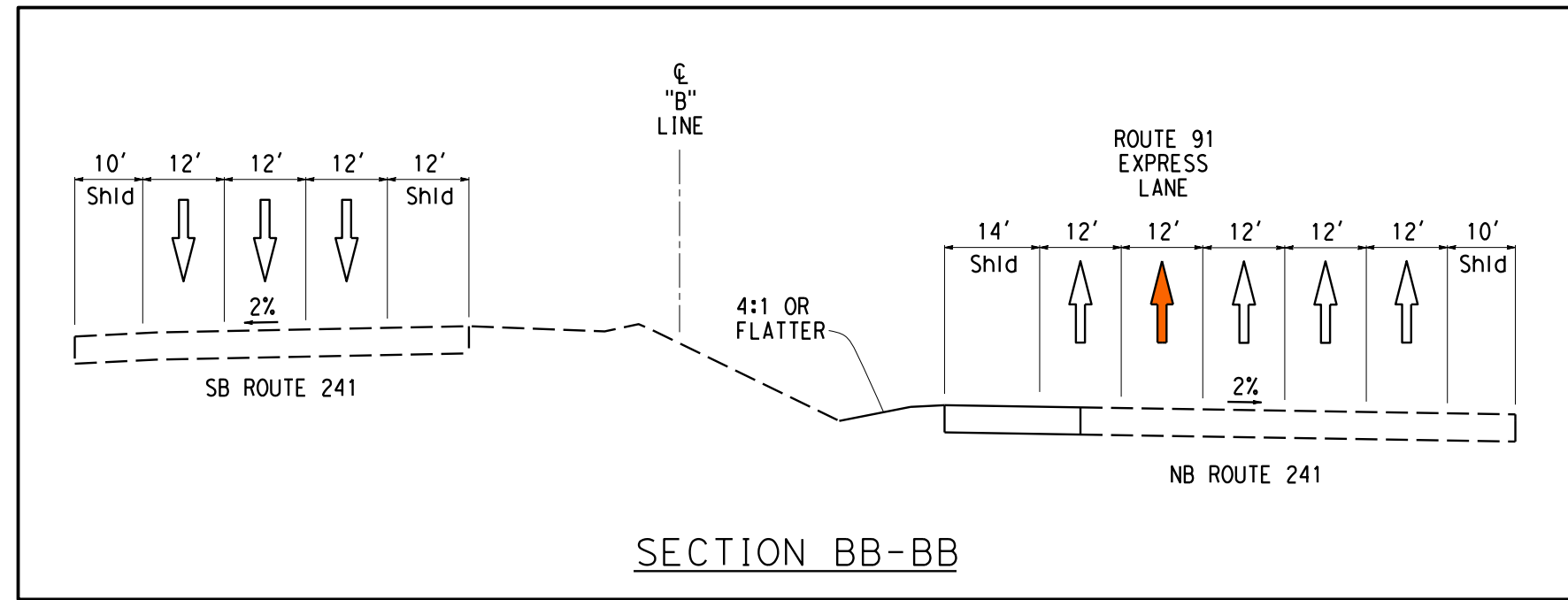
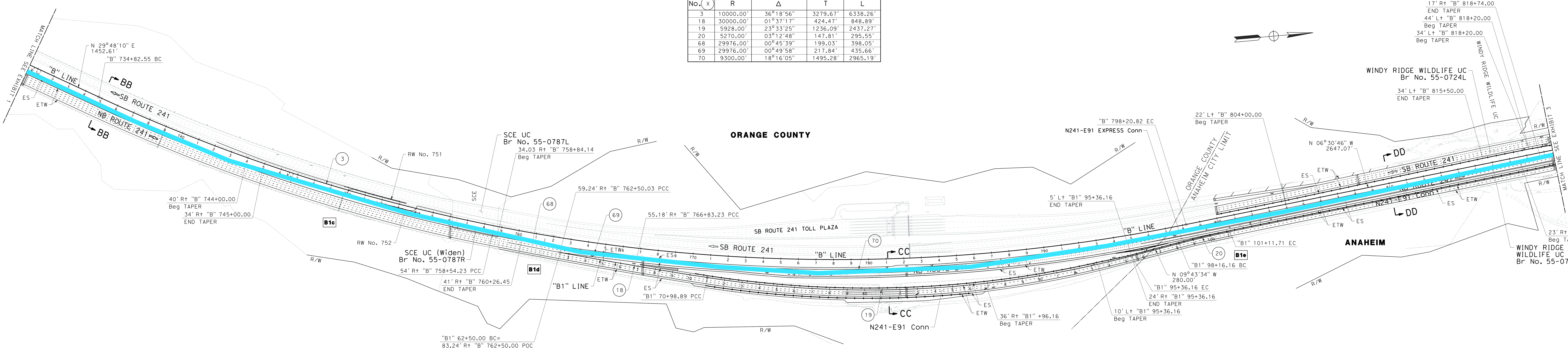
EB/WB 91 EXPRESS LANES
N241-E91 EXPRESS Conn LANE
W91-S241 EXPRESS Conn LANE



PREPARED BY:
WKE
1851 E. FIRST STREET, SUITE 1400
SANTA ANA, CA 92705

0 100 200
SCALE: 1"=100'

Table with 5 columns: No., R, Δ, T, L. It contains 10 rows of curve data for the project.



LEGEND:

EB/WB 91 GENERAL PURPOSE LANES
NB/SB 241 GENERAL PURPOSE LANES

EB/WB 91 EXPRESS LANES
N241-E91 EXPRESS Conn LANE
W91-S241 EXPRESS Conn LANE

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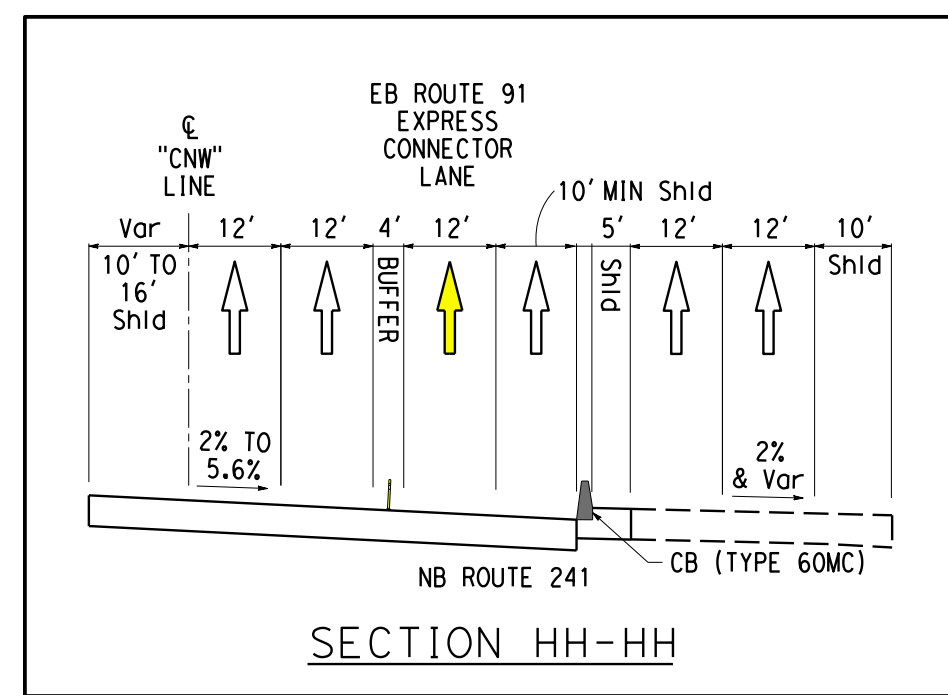
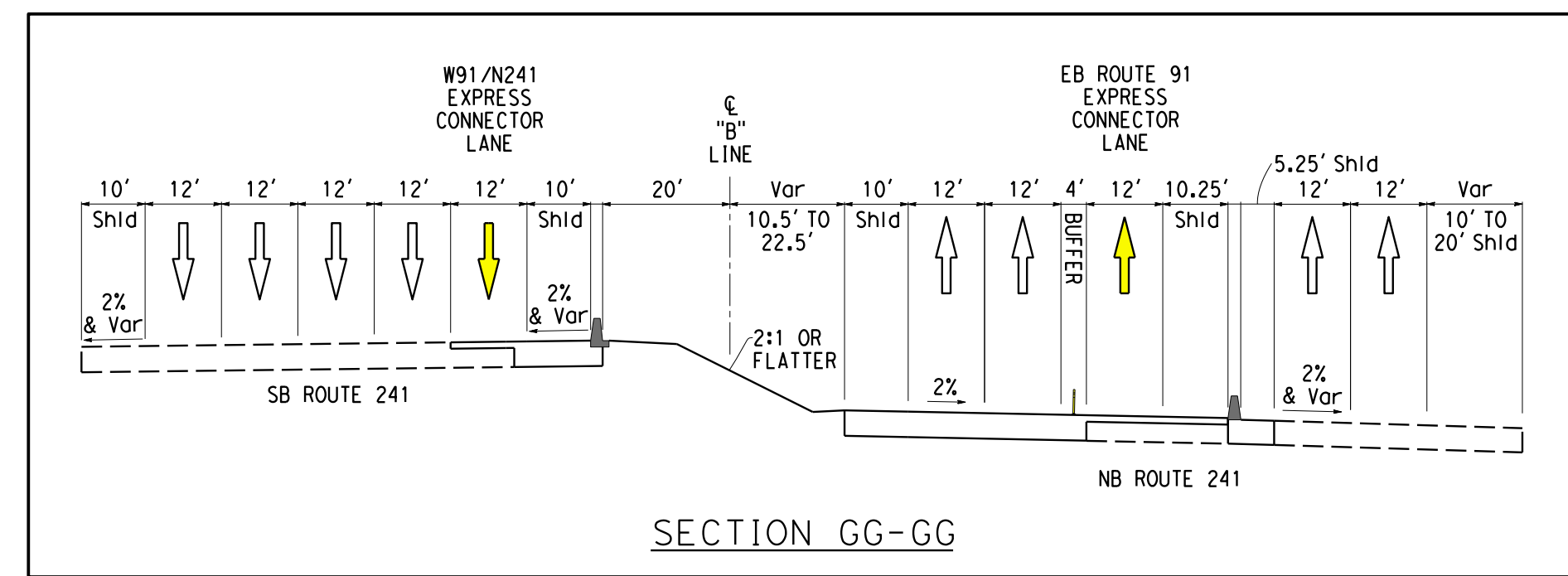
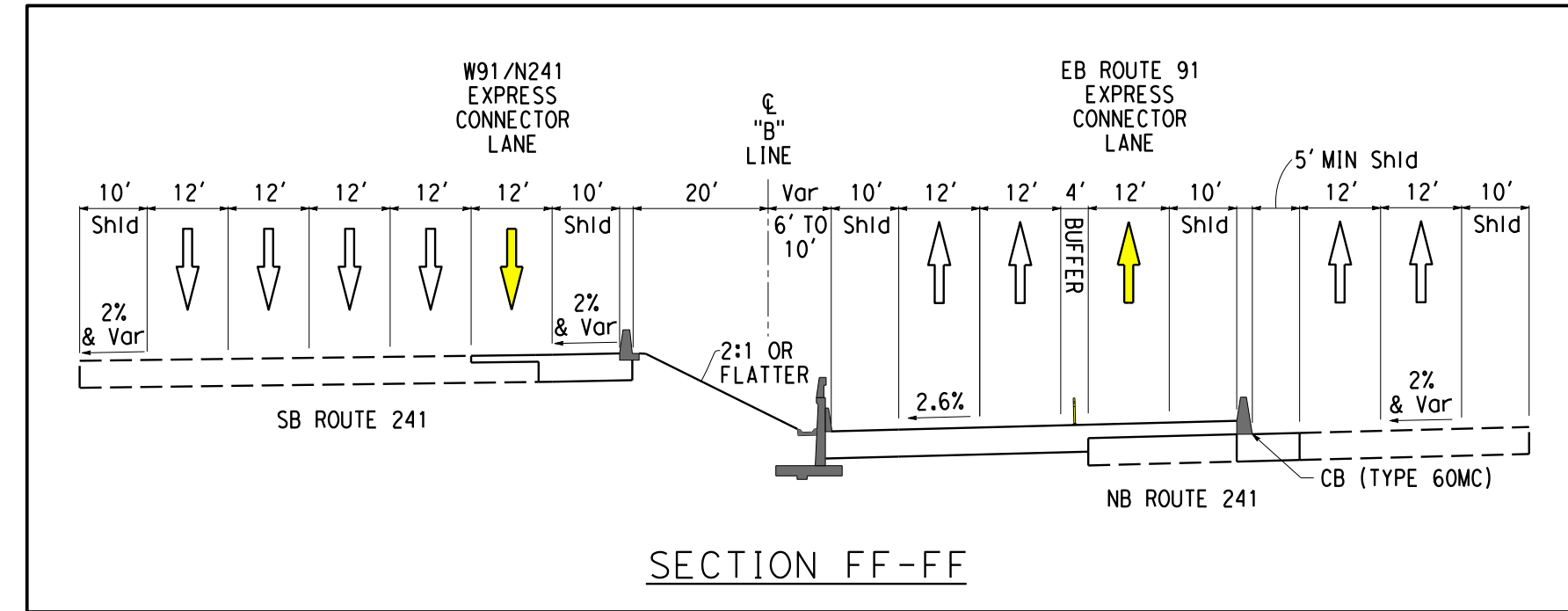
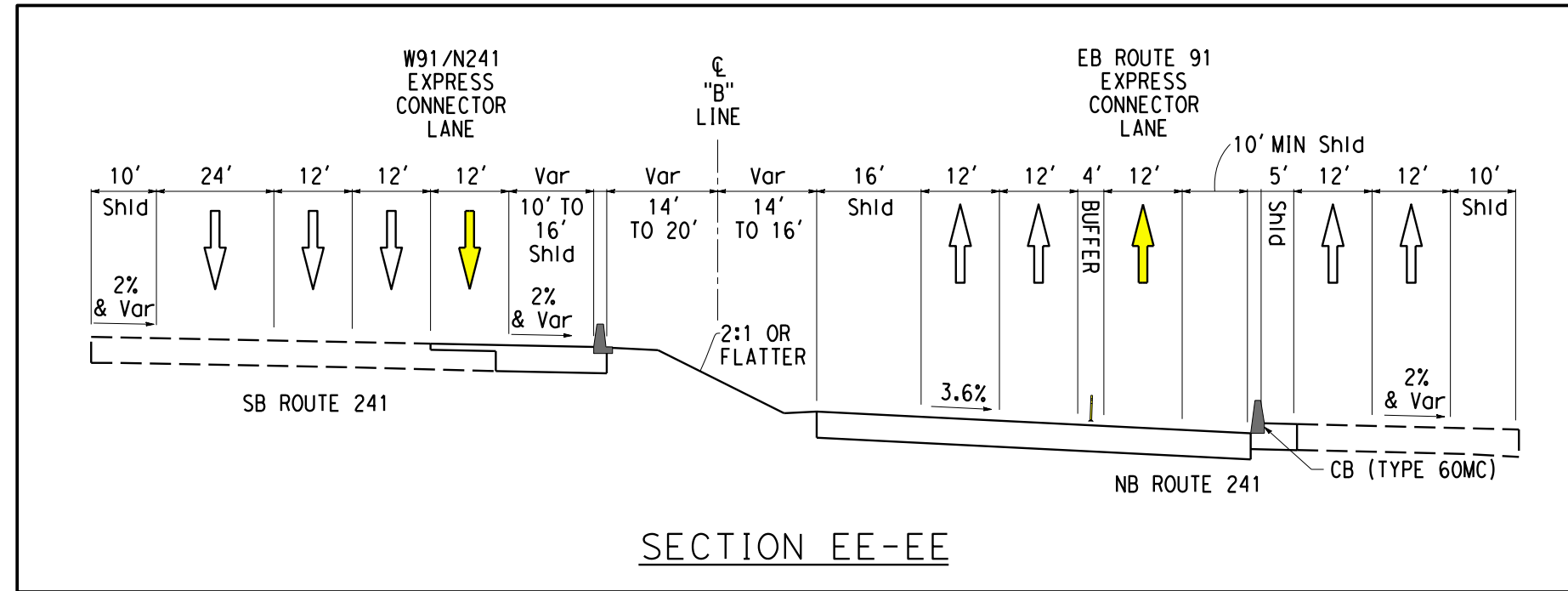
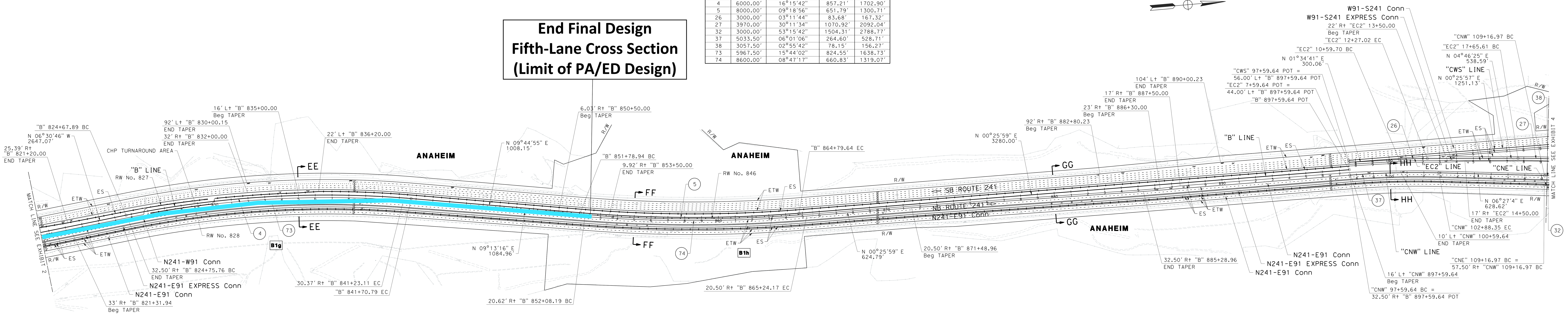
SR 241/SR 91 EXPRESS CONNECTOR PROJECT

EXHIBIT 2 - GEOMETRIC APPROVAL DRAWING

SEPTEMBER 2020

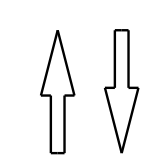
End Final Design
Fifth-Lane Cross Section
(Limit of PA/ED Design)

No.	X	R	Δ	T	L
4		6000.00'	16°15'42"	857.21'	1702.90'
5		8000.00'	09°18'56"	651.79'	1300.71'
26		3000.00'	03°11'44"	83.68'	167.32'
27		3970.00'	30°11'34"	1070.92'	2092.04'
32		3000.00'	53°15'42"	1504.31'	2788.77'
37		5033.50'	06°01'06"	264.60'	528.71'
38		3057.50'	02°55'42"	78.15'	156.27'
73		5967.50'	15°44'02"	824.55'	1638.73'
74		8600.00'	08°47'17"	660.83'	1319.07'

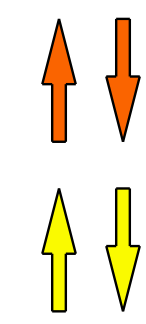


LEGEND:

EB/WB 91 GENERAL PURPOSE LANES
NB/SB 241 GENERAL PURPOSE LANES



EB/WB 91 EXPRESS LANES
N241-E91 EXPRESS Conn LANE
W91-S241 EXPRESS Conn LANE



PREPARED BY:

WKE
1851 E. FIRST STREET, SUITE 1400
SANTA ANA, CA 92705

0 100 200
SCALE: 1"=100'

SR 241/SR 91 EXPRESS CONNECTOR PROJECT

EXHIBIT 3 - GEOMETRIC APPROVAL DRAWING

SEPTEMBER 2020