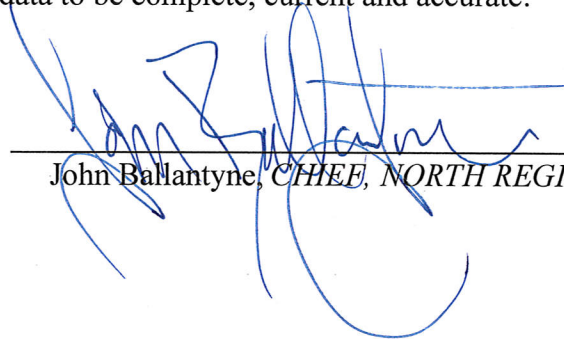

Supplemental Project Scope Summary Report (For Project Approval)

On Route 50
Between Interstate 5
And Watt Avenue

I have reviewed the right-of-way information contained in this report and the right-of-way data sheet attached hereto, and find the data to be complete, current and accurate:



John Ballantyne, *CHIEF, NORTH REGION RIGHT OF WAY*

APPROVAL RECOMMENDED:



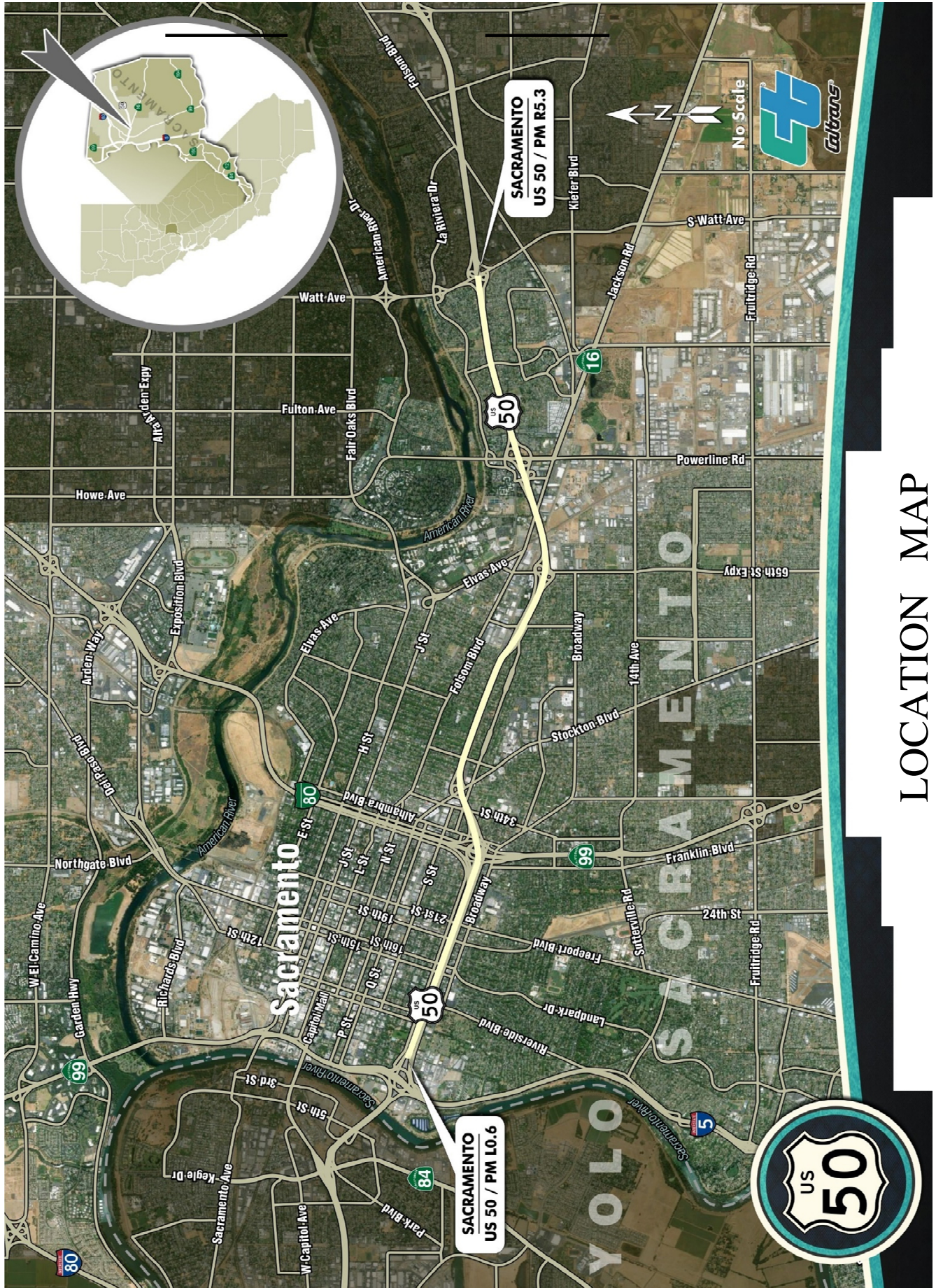
Nadarajah Suthahar, *PROJECT MANAGER*

PROJECT APPROVED:



Amarjeet S. Benipal, *DISTRICT DIRECTOR*

8-16-18
DATE



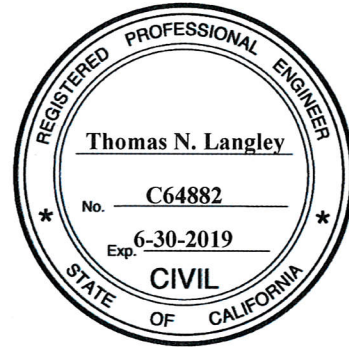
LOCATION MAP

This Supplemental Project Scope Summary Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Tom Langley August 14, 2018

Tom Langley
Registered Civil Engineer

Date



1. INTRODUCTION

The purpose of this project is to restore the freeway to a state of good repair so that the roadway will require minimal maintenance expenditures by the Department. This project is proposed as a Resurfacing, Restoration, and Rehabilitation (3R) Project.

This report updates the Supplemental Project Scope Summary Report dated June 2017.

Project Limits	03-Sac-50 L0.6/R5.3
Capital Outlay Support	\$47,708,000
Capital Outlay Construction	\$260,000,000
Capital Outlay Right-of-Way	\$117,000
Funding Source	20.XX.201.120
Funding Year	FY 2019/2020 (See note below)
Type of Facility	Freeway
SHOPP Project Output	56 lane miles (53.6 mainline lane miles + 2.4 auxiliary lane miles)
Environmental Determination	Categorical Exemption / Categorical Exclusion
Legal Description	In Sacramento County in Sacramento on Route 50 from 0.1 mile east of Route 5 to 0.1 mile west of Watt Avenue
Project Development Category	5

Note: A Project Change Request (PCR) has been submitted to move the funding year from FY 2019/2020 to FY 2018/2019.

2. RECOMMENDATION

It is recommended that the project described in this Supplemental Project Scope Summary Report be approved and that the project proceed to the design phase.

3. PROJECT BACKGROUND

The Project Scope Summary Report (PSSR) for this roadway rehabilitation project was approved on 11/7/2014. No environmental documentation or determination was completed with the report.

A Supplemental Project Scope Summary Report was approved on 6/21/2017. The project scope modifications from the 2014 report included (1) increasing freeway vertical clearance at 7 structures by raising the structures; and (2) widen freeway between Oak Park interchange and Watt Avenue interchange with retaining walls and outside widening at 6 structures. It was also proposed to construct this project concurrent with the Sac-50 HOV project (project ID 0312000216 / 03-3F360) resulting a potential cost savings benefit.

The 2017 Supplemental PSSR proposed to rehabilitate the existing concrete pavement with continuously reinforced concrete pavement (CRCP) with an overall construction cost estimate of \$216M (2020). The preliminary environmental analysis anticipated that the environmental documentation would be an Initial Study (CEQA) and Routine Environmental Assessment (NEPA). No environmental documentation or determination was completed with the report.

The Department identified a need to modify the project scope to accelerate the delivery of this project. The recommended changes modify or eliminate activities requiring significant amounts of time to coordinate, analyze, or otherwise delay project delivery. The significant project scope modifications include:

- (1) Increasing the freeway vertical clearance at 7 structures by lowering the freeway (not raising the structures); and
- (2) Reducing the limits of the freeway widening from Alhambra Blvd OC / Watt Ave OC to 39th St UC / 65th St UC (not widening 6 structures).

These scope changes accelerate project delivery because:

- (1) Eliminates the need to analyze mobility impacts and identify mitigation strategies associated with closing 7 overcrossing structures for extended time periods for structure raising.
- (2) Eliminates utility relocation, railroad coordination and flagging requirements, and additional coordination with the City of Sacramento associated with outside widening of 6 structures.
- (3) Reduces environmental analysis by eliminating roadway widening between 65th St and Watt Avenue.

4. PURPOSE AND NEED

Purpose: The purpose of this project is to restore the freeway to a state of good repair so that the roadway will be in a condition that only requires minimal maintenance expenditures by the Department.

Need: This project is needed because the existing freeway pavement was constructed between 1967 and 1971 and has reached the end of its service life. The existing PCC pavement has deteriorated resulting in a poor ride quality that requires increasing annual maintenance to repair and maintain. Other freeway appurtenances and facilities within the project limits are failing, worn out, or functionally obsolete and require replacement.

5. DEFICIENCIES, EXISTING FACILITY AND TRAFFIC DATA

5A. Condition of Existing Facility

The pavement condition survey conveys that there is severe slab cracking and faulting in the no. 3 and 4 lanes in both directions and minor slab cracking in the no. 1 and 2 lanes in both directions. Roadside maintenance forces routinely repair concrete spalls and PCC slabs. Some slab repairs have been reported to begin showing distress after one year in operation due to the less than ideal work conditions and the use of rapid set concrete.

Approximately 90% of the existing PCC pavement is characterized in poor or fair condition. Truck traffic and most likely failed edge drains that were constructed with the original PCC pavement are factors in the pavement distress. The original structural section includes a pavement layer of cement treated base that is impervious in nature, potentially contributing to trapped moisture that breaks down and transports fines beneath the failed slabs.

Medium and low distress pavement sections on the corridor occur in the no. 1 & 2 lanes that primarily carry passenger car traffic. The asphalt concrete (AC) shoulders and auxiliary lanes show much lower distress since the shoulders do not carry vehicular traffic and the auxiliary lanes have newer pavement sections and/or have been recently rehabilitated.

5B. General Roadway Information

Existing Facility

The existing facility within the project limits is an 8-lane urban freeway with auxiliary lanes at various locations. The posted speed limit is 65 mph. The Oak Park I/C (PM L2.478/R0.0) provides freeway-to-freeway connections between US 50 and SR 99 to the South and SR 51/Bus 80 to the North (Capital City Freeway).

There is an existing bottleneck in the westbound direction where the four westbound lanes reduce to three lanes around 21st St in downtown Sacramento, prior to the connectors from northbound SR 99 and Southbound SR 51. US 50 between I-5 and the Oak Park Interchange (W-X section) experiences heavy congestion due to the weaving occurring between mainline, ramps and connectors.

Existing Features

The through lanes are concrete pavement while the shoulders, transitions, and auxiliary lanes are asphalt pavement. Existing lane widths are 12 feet except westbound between 39th St and the westbound on-ramp from 59th St where the westbound auxiliary lane and No. 3 and 4 mixed flow lanes are 11 feet wide. The freeway is elevated through the section between the Sacramento River Viaduct to 26th St and 34th to 39th St. The freeway is also elevated to clear the railroad between 65th St and Howe Avenue. The freeway is depressed through the Oak Park Interchange and between 42nd and 61st Streets. Through the remaining project limits, the freeway is at grade, with overcrossings at local streets and interchanges.

Between downtown and Watt Ave, the median is a 36 feet wide asphalt concrete paved section with a continuous concrete median barrier. The inside shoulders are 17 feet and the outside shoulders are 10 feet, except between 9th Street and Riverside Boulevard and eastbound between Occidental Drive and Watt Avenue, where the outside shoulder width is 8 feet. Between the I-5 Interchange and Oak Park Interchange (W-X section) there are up to six lanes in each direction, composed of concrete pavement.

There are ramp metering facilities on all the on-ramps within the project limits, except for the freeway-to-freeway connectors. Seven of the sixteen on-ramps have HOV bypass lanes and there are several existing auxiliary lanes in the project limits.

5C. Structure Information

Existing Structures List

<u>Bridge #</u>	<u>Bridge Name</u>	<u>Post Mile</u>
24-0004R/L	Sacramento River Viaduct*	L0.20
24-0243R/L	Southside Park Viaduct	L0.66
24-0244R/L	9 th St UC	L0.89
24-0245R/L	10 th St UC	L0.96
24-0246R/L	Riverside Blvd UC	L1.06
24-0247R/L	15 th -16 th St Separation	L1.36
24-0248R/L	Camellia City Viaduct	L1.59
24-0223R/L	26 th St UC	L2.20
24-0233F	S51-E50 Connector	L2.41
24-0234F	W50-S99 Connector	L2.34
24-0231R/L	Oak Park Separation	L2.47
24-0235G	N99-W50 Connector	L2.40
24-0225G	E50-N51 Connector	L2.33
24-0229	Alhambra Blvd OC	R0.13

24-0228R/L	Elmhurst Viaduct	R0.38
24-0313	39 th St UC	R0.85
24-0314	48 th St OC	R1.41
24-0315	51 st St OC	R1.63
24-0316	59 th St Ramp OC	R2.01
24-0317	59 th St OC	R2.13
24-0318	65 th St UC	R2.63
24-0289R/L	Brighton OH	R2.88
24-0288R/L	Folsom Blvd UC	R3.13
24-0286R/L	Hornet Dr UC	R3.47
24-0186	Howe Ave OC	R3.67
24-0294	Occidental OC	R4.54
24-0034	Watt Ave OC*	R5.34

*Outside project limits – for reference only

The existing structure decks are generally in fair to poor condition throughout the project limits. The Sacramento River Viaduct and the Camellia City Viaduct have had deck rehabilitations since this project was initiated. In May 2016 the Bridge Maintenance Division recommended a 0.1 ft polyester overlay for all the bridge decks in the corridor except for the Camellia City Viaduct and the Brighton OH (recently rehabilitated). This work is included in the programmed HOV Lanes project scope since these structures will be widened to the inside as part of the HOV lanes project.

Structure bridge deck maintenance work has been identified for bridge decks at (1) E50-N51 Connector (24-0225G) and (2) Camellia City Viaduct (24-0248L).

The existing structure bridge rails are generally in fair condition throughout the project limits. The bridge rails on the Camellia City Viaduct were recently upgraded. The bridge rails at 39th St UC are in poor condition but scheduled to be replaced with sound wall construction as part of the HOV lanes project.

The existing structure approach slabs are generally in good to fair condition throughout the project limits. Some bridge approach rails were included for replacement as part of the HOV lanes project when bridge approach slabs were added as part of the bridge median widening.

Vertical clearance deficiencies have been identified for 10 structures for the list above by the District 3 Goods Movement Study dated February 2015. Three structures are located on freeway to freeway connectors and 7 are structure overcrossings.

5D. Pump Plant Information

Existing Pump Plants

<u>Pump Plant Number</u>	<u>Pump Plant Name</u>	<u>Post Mile</u>
24-0231W	Oak Park Separation PP	R0.11
24-0322W	45 th St OC PP	R1.20
24-0323W	59 th St OC PP	R2.10

There are three pump plants within the project limits. The existing pumps and controllers at the 3 pumping plants have been identified by the Caltrans Office of Electrical, Mechanical, Water and Wastewater as requiring rehabilitation.

5E. Traffic Data

Design Designation

ADT (2024) = 287,000 D = 54%
 ADT (2064) = 422,200 T = 2.0%
 V = 70 mph

20-year ESAL (Lane 3-5) = 21,980,000 TI₂₀ = 13.0 (Lane 1-2) TI₂₀ = 11.0
 40-year ESAL (Lane 3-5) = 40,972,000 TI₄₀ = 14.0 (Lane 1-2) TI₄₀ = 12.0

Collision Rate Data

Collision rate data for Sac-50 was updated using the three-year period (2014-01-01 to 2016-12-31) for freeway direction and location.

Direction Limits (PM)	----- Number -----				----- Accident Rate (mvm) -----					
	Total	Fatal	Injury	F+I	Actual		Average			
	Total	Fatal	Injury	F+I	Fatal	F+I	Total	Fatal	F+I	Total
Eastbound L0.6/L2.2	291	1	101	102	0.005	0.47	1.35	0.003	0.29	0.94
Westbound L0.6/L2.2	340	1	106	107	0.005	0.50	1.58	0.003	0.29	0.94
Eastbound L2.2/R1.0	133	0	43	43	0.000	0.27	0.84	0.003	0.30	0.97
Westbound L2.2/R1.0	244	2	66	68	0.013	0.43	1.54	0.003	0.30	0.97
Eastbound R1.0/R2.1	126	1	36	37	0.008	0.29	0.98	0.003	0.30	0.97
Westbound R1.0/R2.1	152	0	59	59	0.000	0.46	1.18	0.003	0.30	0.97
Eastbound R2.1/R5.3	198	1	45	46	0.003	0.13	0.58	0.003	0.29	0.94
Westbound R2.1/R5.3	324	1	112	113	0.003	0.33	0.95	0.003	0.29	0.94

Safety Analysis

The eastbound direction has an overall total collision rate that is lower than average and the majority of collisions are congestion related rear-ends and sideswipes. If the HOV Lane project was constructed concurrently, it would reduce these types of collisions. There are spot locations at some of the on and off-ramps, and connectors that have received open graded A/C overlays and/or high friction surface treatments to reduce wet pavement collisions. The OGAC and/or HFST at these locations should be replaced or maintained.

The westbound direction has an overall total collision rate that is a little higher than average and the majority of collisions are congestion related rear-ends and sideswipes. It is also observed that these type collisions would be reduced with concurrent construction of the HOV Lane project. There are spot locations at some of the on and off-ramps, and connectors that have received open graded A/C overlays and/or high friction surface treatments to reduce wet pavement collisions. The OGAC and/or HFST at these locations should be replaced or maintained.

5F. Materials

The long-life Continuously Reinforced Concrete Pavement (CRCP) pavement recommendation prepared by Caltrans Headquarters Pavement Program recommends:

Thickness (D): 1.25 ft
 Steel Bar Size: #7 (0.875 in)
 Longitudinal Bar Spacing: 0.8%
 Percent Steel: 0.8%
 0.25 ft HMA-A
 0.25 ft Crushed stone

Additional Structural Section Recommendations are at Attachment J, including guidance for using Continuously Reinforced Concrete Pavement (CRCP) with a 40-year life.

The existing freeway and associated connector structural sections in and around the Oak Park Interchange includes permeable material blankets and perforated pipe underdrains. For preliminary design purposes, the existing permeable material blanket will be replaced in kind at those locations with freeway lowering. The existing perforated pipe underdrains are included in the cost estimate for replacement, but will be re-evaluated during the design phase.

The existing high friction surface treatment applied to the following ramps and connectors will be perpetuated:

- (1) EB50 to NB51 connector
- (2) NB99 to WB50 connector
- (3) Stockton Blvd WB slip on ramp
- (4) 65th St WB loop on ramp

6. CORRIDOR AND SYSTEM COORDINATION

6A. Identify Systems

US 50 is a primary transportation facility for Sacramento County as well as regional traffic between the San Francisco Bay area and the South Lake Tahoe area. US 50 within the project limits is part of the Interstate System, the National Highway System, the Freeway & Expressway System, the Interregional Road System, Primary Freight Network (PFN), and the STAA & SHELL Route System. US 50 between I-5 and Business I-80 is also designated as I-305. This freeway segment is not part of the Strategic Highway Network or designated as a Scenic Highway.

6B. State Planning

The Transportation Concept Report and Corridor System Management Plan for this route was prepared in June 2014. This facility is discussed as part of segment # 2 and #3. The ultimate facility is identified as an 8-lane freeway + 2 HOV lanes + Auxillary Lanes + Intelligent Transportation Systems + Integrated Corridor Management.

The District 3 Goods Movement Study completed in February 2015 identified 8 structures within the project limits that have both a deficient vertical clearance and that the bridge work directly impacts goods movement. The existing vertical clearance deficiency ranges from 0.25 feet to 1.30 feet less than standard.

6C. Regional and Local Planning

This project is anticipated to have minimal impact on regional and local planning documents.

7. ALTERNATIVES

7A. Preferred Alternative: Long-Life Continuously Reinforced Concrete Pavement (CRCP)

The June 2017 Supplemental Project Scope Summary Report recommended that long-life CRCP Rehabilitation (Alternative #3 below) be developed as the preferred alternative. This report recommends that long-life CRCP Rehabilitation remains the preferred alternative. The 2017 Supplemental Project Scope Summary Report considered 4 build alternatives and a no-build alternative summarized as follows:

- (1) **Partial JPCP Rehabilitation** would replace the no. 3 & 4 lanes in each direction with new PCC pavement. The #1 & 2 lanes would be rehabilitated by performing slab replacements as required. The slab replacement cost component used for this estimate is 15% of a full replacement cost. The #1 & #2 lanes would require a ¼ in surface grinding. The inside shoulder (future HOV lane) and the outside auxiliary lanes, transition lanes, and shoulder would require cold planning to match the #1 & #2 lanes profile grade. No outside widening is proposed with this alternative. (400 working days, \$41.4M)
- (2) **JPCP Rehabilitation (100 yr life)** would replace all existing PCC pavement in each direction with new PCC pavement. To accommodate traffic during construction, the pavement from the Oakpark I/C to Watt Ave would be widened for standard lane widths. (750 working days, \$177.6M)
- (3) **CRCP Rehabilitation (100 yr life)** would have the same design features as alternative 2 except the new PCC pavement would be continuously reinforced for a longer life pavement. (800 working days, \$198.0M)
- (4) **HMA Pavement Rehabilitation (40 yr life)** would have the same design features as alternative 2 except the new pavement would be HMA pavement. (740 working days, \$178.8M)
- (5) **No Build** makes no improvements to the freeway.

The four build alternatives differ primarily by PCC structural section replacement strategy and construction cost. Options considered were Jointed Plain Concrete Pavement (JPCP), Continuously Reinforced Concrete Pavement (CRCP), and long-life Hot Mix Asphalt (HMA). These alternatives may be considered as design variations since all four alternatives have similar environmental impacts.

With the decision to accelerate delivery of this project proposal, the design features of the CRCP alternative require modification to meet the accelerated project delivery schedule. However, two significant assumptions from the June 2017 Supplemental Project Scope Summary Report are perpetuated. These assumptions are:

- (1) Proceed as a Resurfacing, Restoration, and Rehabilitation (3R) Project. Safety Screening was conducted and considered in this recommendation.
- (2) Assume that this project will be constructed concurrently with the Sac-50 HOV project.

7B. Design Features

- (1) Remove and replace freeway pavement (travelled way and shoulders).
 - Recommend long-life Continuously Reinforced Concrete Pavement (CRCP)
 - Assume concurrent HOV lane construction for pavement joints
- (2) Mill and pave 0.25' on existing asphalt concrete ramps and connectors.
- (3) Improve vertical clearance at 7 structure locations.

- Alhambra Blvd OC, 48th St OC, 51st OC, 59th St Off-Ramp OC, 59th St OC, Howe Ave OC, and Occidental Dr OC
- Assume lowering freeway to increase vertical clearance
- Add or modify retaining walls along structure abutment slopes as needed
- (4) Widen freeway with retaining walls between 39th St UC and 65th St UC.
 - Soil nail (or soldier pile) retaining walls recommended
- (5) Widen selected on-ramps for ramp metered lanes
 - 59th St Slip On-Ramp to WB-50 (R 1.934) add mixed flow lane (1+1 to 2+1)
 - SB 65th St Slip On-Ramp to WB-50 (R 2.426) add HOV lane (1+0 to 1+1)
 - NB 65th St Loop On-Ramp to WB-50 (R 2.680) add HOV lane (1+0 to 1+1)
- (6) Upgrade existing HOV by-pass lanes to HOV metered lanes
- (7) Remove and replace existing lighting and sign illumination.
- (8) Remove and replace existing overhead signs and sign panels.
- (9) Remove and replace impacted traffic monitoring stations, extinguishable message signs, changeable message signs, highway advisory radio and closed circuit camera systems.
- (10) Upgrade existing pump plants (pumps and controllers)
 - Oak Park Sep Pumping Plant
 - 45th St Pumping Plant
 - 59th St Pumping Plant
- (11) Modify the 59th St Pumping Plant Water Storage Vaults
 - Lower the top of the water storage boxes up to 1.5' due to lowering freeway
 - Add additional water storage boxes to compensate for loss of capacity
- (12) Replace or clean deteriorated drainage systems
 - Replace or clean deteriorated drainage systems in poor condition
 - Modify drainage systems impacted by lowering and widening freeway
 - Remove failed edge drains
 - Replace the Oak Park Interchange underdrain system
- (13) Remove and replace metal beam guard railing and crash cushions
- (14) Remove and replace concrete barriers (median / shoulders)
- (15) Remove and replace gore area contrasting surface treatment
- (16) Remove and replace nonstandard curb ramps and adjacent sidewalk
- (17) Perform maintenance on selected bridge decks
 - Bridge 24-0248L (Camellia City Viaduct – Left) treat bridge deck with methacrylate resin.
 - Bridge 24-0225G (E50 – N51&S99 Connector OC) – remove and replace AC overlay and waterproof membrane on the bridge deck over the bridge joint (X3) line.
- (18) Remove and replace bridge rail
 - (a) Southside Park Viaduct (24-0243 R/L); (b) 9th St UC (24-0244 R/L); (c) 10th St UC (24-0245 R/L); (d) Riverside Blvd UC (24-0246 R/L); (e) 15th-16th St Separation (24-0247 R/L); (f) 26th St UC (24-0223 R/L); (g) E50-N51&S99 Connector (24-0223G); (h) E50-N51&S99 Connector OC (24-0225G)
- (19) Widen northside of 65th St UC (24-0318)
 - To accommodate widening of NB 65th St Loop On-Ramp to WB-50 for ramp metering
- (20) Remove and replace structure approach slabs
 - (a) Riverside Blvd UC (24-0246 R/L); (b) Elmhurst Viaduct (24-0228 R/L); (c) Brighton OH (24-24-0289); (d) Folsom Blvd UC (24-0288 R/L)
 - To minimize constructability issues arising from shifting of longitudinal joints for skewed approach slabs after PCC pavement reconstruction

7C. Nonstandard Design Features

No design exception approvals have been obtained for this project to date. The preliminary design has identified several nonstandard design features that will require further analysis and consideration for approval in the design phase:

<u>Description</u>	<u>HDM Section</u>	<u>Standard</u>	<u>Comment</u>
Stopping Sight Distance (SSD) on Vertical Curves	Table 201.1	750 ft (70 mph)	There are 9 existing vertical curves with SSD less than standard.
Stopping Sight Distance (SSD) on Horizontal Curves	203.1	750 ft (70 mph)	There are 4 existing horizontal curves with SSD less than standard.
Superelevation	202.2	Varies	Five of 6 existing horizontal curves have a maximum superelevation rate less than standard. The existing superelevation transitions do not follow current HDM design criteria.
Minimum Grade	204.3	0.30%	The existing freeway has several segments where the existing grade is less than standard.
Maximum Grade	204.3	3%	The freeway at the Oak Park Interchange has existing grades exceeding 3%.
Lane Width	301.1	12 ft	The preliminary design proposes that non-truck/bus lanes located in the non-widened segments have 11 ft widths.
Shoulder Width	302.1	10 ft	The preliminary design proposes that existing non-standard shoulder widths located in the non-widened segments not be widened.
Weaving Length	504.7	2000 ft	The existing WB Stockton on-ramp to the NB 51 connector ramp weaving section is less than standard.

7D. Right of Way

See Attachment E for the Right of Way Data Sheet. The previously identified right of way requirements have changed because of the modified scope.

All proposed work is within the State right of way. No construction easements or encroachment permits are needed. Note that this project assumes that the Sac-50 HOV project (03- 3F360) will be constructed concurrently and the HOV project does have right of way requirements.

7E. Utilities

This project includes excavation and is not exempt from utility locating and depicting requirements.

The identification and location of utilities within the project limits is being prepared under contract for the Department. The need for positive location with potential utility relocation was tentatively identified for 5 locations within the project and will be completed in the design phase. The potential for utility relocation was included in the cost estimate.

7F. Railroad Involvement

There currently is no railroad involvement associated with the revised project scope at the two railroad crossings. The previously identified railroad involvement was a result of outside bridge widening at the Brighton OH. Note that this project assumes that the Sac-50 HOV project (03-3F360) will be constructed concurrently. The Sac-50 HOV project does have railroad involvement.

7G. Life Cycle Cost Analysis

A life cycle cost analysis was not prepared or updated for this report.

The current freeway pavement replacement strategy uses long-life CRCP with an estimated 99-year life and the pavement design life for ramp widening is estimated at 20-year life. HDM Topic 612.5 directs that the minimum pavement design life for roadway rehabilitation shall be either 20 or 40 years depending on which design life has the lowest life-cycle costs.

7H. Value Analysis

The National Highway System Designation Act of 1995, Title 23 United States Code, Section 106 requires state departments of transportation to carry out a VA study for all projects on the National Highway System (NHS) costing \$50M or more.

A Value Analysis Study was not conducted for this project during PA&ED. A Value Analysis Study for this project is being scheduled for Fall 2018. A Value Analysis Study that was completed in 2015 for the Sac-50 HOV can be used to help focus the efforts to improve project quality. Value Analysis areas of special emphasis will include stage construction and traffic handling.

7I. Local and Regional Agencies

No long-term lane closures, ramp closures and detours are anticipated.

7J. Material / Disposal Site

Removed structural section materials (travelled way, shoulders and ramps) will become property of the contractor and require disposal. Contract specifications will ensure that excavated material will be handled and disposed of in accordance with local, state, and federal laws and regulations. Surplus material may be recycled in accordance with contract specifications.

7K. Highway Planting, Irrigation and Roadside Safety Improvements

See Attachment H for the North Region Landscape Architecture Assessment Sheet. This document includes discussion for replacement planting, aesthetic retaining wall treatment, vegetation control for guardrail, and erosion control. The following items are included in the landscape cost estimate:

- (1) Replacement Planting (\$6.5M Lump Sum)
- (2) Recommended Roadside Safety Improvements
 - (a) Vegetation Control (\$670,800) (for new guard railing systems)
 - (b) 6 New Maintenance Vehicle Pullouts (\$120,000)

- (c) Worker and Equipment Access (\$185,000)
- (d) Other Misc Items (\$28,700)
- (3) Permanent Erosion Control (\$100,000 Lump Sum))

7L. Roadside Design and Management

Roadside design and management items have been added to the project scope with strategy of updating freeway appurtenances and facilities within the project limits are failing, worn out, or functionally obsolete and require replacement. This includes lighting and sign illumination and other existing transportation management systems.

7M. Storm Water Compliance

Roadway widening will add new impervious area along some parts of the project and expose pervious sub-grade in other parts, thereby adding net new impervious (NNI) and replaced impervious surface (RIS) areas that will trigger NPDES water quality treatment requirements. The sum of NNI and RIS is the New Impervious Surface (NIS). It is assumed that pervious sub-grade will not be exposed in areas where finished grades will not change. Also, areas that drain to the City of Sacramento Combined Sewer System (CSS) are not subject to NPDES requirements. Only the areas that drain to the Municipal Separate Storm Sewer System (MS4) are subject to NPDES requirements.

The June 2017 Supplemental PSSR anticipated that 80 acres where existing PCC pavement would be replaced and 12 acres of added impermeable surface would require treatment to meet NPDES requirements. The updated estimate for NIS is 33.4 acres based on NNI of 3.6 acres and RIS of 29.8 acres. This is the planning level estimate for impervious surface within the MS4 area for which treatment will be required. This quantity is subject to revision as it is highly dependent on the determination of the final structural section relative to existing section. Significantly more or less subbase may be exposed. It is anticipated that runoff from some additional impervious area will end up being treated in order to meet the treatment requirement based on topography and drainage system configurations.

There are no existing post-construction treatment BMPs in the project area based on a review of the Storm Water Maintenance BMP Database in May of 2018. Therefore, existing features that may already, or be modified to, provide treatment can be used to limit costs for NPDES treatment compliance. Existing roadside swales and interchange loops can provide treatment opportunities.

Three locations within the Caltrans right-of-way were identified as candidates for siting post-construction treatment BMPs. One of the locations is within the northeast loop at the 65th Street interchange; the other two locations are within the northeast and southeast loops of the Howe Avenue interchange. These locations were selected based on topography and available space. Some roadside swales could potentially also provide treatment, but would need to be evaluated on a case-by-case basis. Some existing roadside swales may be eliminated as a result of roadway widening.

The interior loop areas on the east side of the Howe Avenue interchange would be ideal locations to provide storm water quality treatment measures because significant infiltration into the native soils in this area would be expected. A cursory review of potential groundwater contamination issues using GeoTracker (<https://geotracker.waterboards.ca.gov/map/>) did not reveal any obvious constraints on implementation of storm water infiltration within these two loop locations.

Approximately 16.2 acres of impervious area (9.8 to the northeast and 6.4 to the southeast) drains to the interior loop areas on the east side of the Howe Avenue interchange. A limited amount of additional area that is west of the Howe Avenue interchange could be directed to the loops on the east side with moderate drainage systems improvements. These loop areas could be modified to promote infiltration by modifying the existing outlets to force temporary ponding and possibly by adding a gravel layer for some underground storage and spreading.

There is room within the northeast loop at the 65th Street intersection to provide a significant amount of detention storage. The existing impervious contributing drainage area to this location is approximately 8.6 acres. Consideration was given to using the available storage within the 59th Street Pumping Plant storage vault for detention storage. However, there is not sufficient storage to meet both water quality and highway drainage requirements. The total area tributary to the 59th Street Pumping Plant is approximately 26.1 acres of which 19.4 acres is impervious. A new pump at the 59th Street Pumping Plant with a capacity of 1,160 gallons per minute (and a dedicated discharge to the northeast loop) could be added and used to convey low flows to a water quality biofiltration or detention basin at the 65th Street intersection. This may be a cost effective means to meet the project water quality requirements that cannot be met at the Howe Avenue interchange.

By providing a means to deliver water quality flows from the 59th Street Pumping Plant location to the northeast loop at the 65th Street interchange plus the runoff that drains by gravity to this loop and the two eastern loops at the Howe Avenue interchange, treatment can be provided for runoff from at least 44.2 acres of impervious area.

7N. Salvage Materials

District maintenance will be queried prior to construction if salvaging of any existing roadside replacement items is required. Possible salvage items may include guardrail, crash cushion assemblies, or electrical items such as luminaries.

7O. Recycled Materials

No mandatory reuse of contract work items has been identified.

Use of Rubberized Hot Mix Asphalt will be considered during the design phase for the recommended pavement rehabilitation of the asphalt on and off ramps.

7P. Asset Management

See Attachment I for the Asset Management Summary.

7Q. Reject Alternatives

This project has been in preliminary design since 2014 and has considered numerous strategies to replace the existing concrete pavement. Strategies considered have include Hot Mix Asphalt (HMA) options, crack, seat and overlay, continuously reinforced concrete pavement (CRCP), jointed plain concrete pavement (JPCP), and precast jointed concrete pavement.

The design process has determined that the using continuously reinforced concrete pavement (CRCP) is the best preferred overall rehabilitation strategy with a high probability of providing the best cost/benefit ratio. However, the other concrete pavement rehabilitation strategies will be considered during design at select locations should specific design condition warrant.

7R. Hazardous Waste

A hazardous waste initial site assessment was completed in June 2018. The assessment identified concerns regarding lead-contaminated soil, asbestos associated with bridge expansion joints, high levels of lead and chromium in yellow color traffic stripes, and guardrail wood posts. A hazardous waste site investigation has been initiated with a completion target date of November 2018.

7R. Nonmotorized and Pedestrian Features

The proposed pavement rehabilitation work is located on the freeway and ramps where bicycle and pedestrian access is prohibited. Consideration of pedestrian facilities is limited to the ramp termini.

Preliminary design identified 4 candidate locations at the Stockton Blvd Interchange where ADA upgrades to curb ramps and adjacent sidewalk are recommended to meet current guidelines for pedestrian facility accessibility.

7S. Geotechnical

A preliminary geotechnical report was completed in June 2018. No subsurface investigation was performed for the report. Preparation of a geotechnical design report with boring data is recommended.

The preliminary recommendation for the retaining walls was soil nail, soldier pile, or Type 1 Standard Plan Walls. It is anticipated that drilled holes for soldier pile walls, overhead signs or excavation for standard plan walls may encounter groundwater.

7T. Drainage

The drainage system will require modifications to accommodate roadway lowering and widening. It is anticipated that CMP culverts will be replaced with RCP to extend service life. Additional highway drainage improvements will be required to direct runoff to different locations in order to meet NPDES post-construction storm water quality treatment requirements. Furthermore, Caltrans culvert inspections were performed that identified locations where maintenance would be required. Therefore, costs for debris removal is included for pipes with maintenance deficiencies that are not included in the quantities for replacement.

One surface drainage deficiency was identified. Caltrans reported an issue with sheet flow from the right side of the superelevated pavement to the center divider just west of the 28th Street onramp from X Street. This issue is related to inadequate collection of runoff that accumulates along the right shoulder west of the superelevated section. During periods of intense rain, there is an excessive amount of water on the travel way. New inlets along the shoulder and associated piping improvements will be required to address this deficiency.

Roadway lowering will require grade adjustments to inlets. Some of the system may require reconfiguration due to reduction in cover. It is anticipated that the height of the existing 59th Street Pumping Plant storage vault will need to be reduced and a new box will need to be added in parallel with the existing boxes to accommodate roadway lowering at this location.

Roadway widening will require some existing inlets to be removed or capped, some existing pipes to be extended and some new inlets to be placed. In some cases, other changes to pipe configurations may be required to accommodate changes to the roadway configuration. A review of locations where widening will reduce the area available surface drainage concluded that surface ditches could be modified to provide the required conveyance and no pipes will be required to replace conveyance in drainage ditches along the shoulders.

The June 2017 Supplemental PSSR identified that failed edge drains constructed with the original PCC pavement factor into pavement distress. New sub-grade drainage systems will be required as part of the pavement design. It is anticipated that these sub-grade drainage systems will connect to the pipe system designed to intercept surface runoff.

8. TRANSPORTATION MANAGEMENT

8A. Transportation Management Plan (TMP)

See Attachment F for the updated PA&ED Transportation Management Plan (TMP) Data Sheet and Checklist.

Recommended strategies:

- (1) Public Information: Brochures and Mailers, Media Releases, Paid Advertising, Notification to impacted Groups, Project Web Page
- (2) Traveler Information Strategies: Changeable Message Signs
- (3) Incident Management: Construction Zone Enhanced Enforcement Patrol (COZEEP), Freeway Service Patrol, Traffic Control Inspector
- (4) Construction Strategies: Delay Damage Clause, Night Work

The Transportation Management Center (TMC) will monitor traffic conditions during construction using existing closed-circuit television and real-time traffic monitoring stations. A traffic control inspector will make random inspections to monitor traffic conditions. The contract documents will require the contractor to prepare contingency plans to address emergency detours, emergency notifications, and late closure reopening. Incentives /Disincentives clauses and delay damage clauses will likely be included in the contract documents.

8B. Traffic Staging

See Attachment G for the updated Stage Construction Typical Cross Sections.

The corridor was divided to four segments for staging review. The staging analysis was limited to a review of possible cross sections for each of four segments using a fatal flaw level of detail. The lowering of the pavement at the 7 structures was not modeled at a level of detail necessary to verify constructability. Consequently, it is recommended to prioritize the development of the new roadway profile early in the design phase to verify constructability.

Staging Segment 1: I-5 to 26th St (PM L0.6 to L2.2)

The segment has no proposed outside pavement widening. It is assumed that the HOV (03-3F360) project that precedes or is combined with this project will create additional roadway pavement in the median available for staging.

Staging Segment 2: 26th St to 39th St (PM L2.2 to R1.0)

This segment is located at the Oak Park Interchange where no pavement widening is proposed. Since the existing median bridge columns of the interchange will constrain any staging plan, using a barrier separated contra flow lane strategy is the probable staging strategy. This segment includes lowering the freeway at the Alhambra OC that will necessitate significant roadway reconstruction.

Staging Segment 3: 39th St to 65th St (PM R1.0 to R2.3)

This segment will include outside widening with retaining walls and includes median shoulder pavement available for staging. This segment also includes the stage construction challenges for reconstruction of the 59th St Pumping Plant water storage vaults and freeway lowering at 4 structures.

Staging Segment 4: 65th St to Watt Ave (PM R2.3 to R5.3)

This segment is separated from previous staging proposals because outside widening has been eliminated from the project scope. Similar to segment 1, it is assumed that the HOV (03-3F360) project that precedes or is combined with this project will create additional roadway pavement in the median available for staging.

9. ENVIRONMENTAL COMPLIANCE

See Attachment D for the categorical exemption/categorical exclusion determination form approved on 8/13/2018.

No permits are required.

Work window restrictions (avoidance):

- (1) Migratory birds (September 30th to February 1st)
- (2) Bats (October 1st to January 31st)
- (3) Removal and trimming woody vegetation (October 1st to January 31st)

10. FUNDING, PROGRAMMING AND ESTIMATE

This project is eligible for federal-aid funding and is considered to be state authorized under the current FHWA-Caltrans Stewardship Agreement. No FHWA action is required.

See Attachment M for the Programming Sheet.

Project Estimate:

Fund Source	Fiscal Year Estimate								Programmed Amount
	Prior	2018/19	2019/20	2020/21	2021/22	2022/23	Future	Total	
20.XX.201.120									
Component	In thousands of dollars (\$1,000)								
PA&ED Support	1,682	5,542						7,224	7,800
PS&E Support		8,351	6,456	187				14,994	17,000 [See note 2]
Right-of-Way Support	8	244	258	166	173	180	391	1,422	1,800
Construction Support				4,474	5,071	5,284	9,239	24,068	31,800 [See note 1, 2]
Right-of-Way			117					117	3,900
Construction			270,300					270,300	216,000 [See note 1, 2]
Total	1,690	14,137	277,131	4,827	5,244	5,464	9,630	318,125	30,500

Note 1. This is a contingency project and construction components have not been programmed yet.

Note 2. A Project Change Request (PCR) has been submitted to move \$13.6 million from PS&E support and \$9.5 million from construction support to construction capital in support of Design-Build method of delivery of this project. The PCR was approved by the executive PCR committee in July 2018 and is going to the October 2018 CTC meeting for approval.

Support Cost Ratio: 18 %

Project Schedule:

	<u>Milestone</u>	<u>Date</u>
PA&ED	M200	08/15/2018
BSS TO DES	M221	11/15/2018
R/W REQUIREMENTS	M224	09/01/2018
CIRC PLANS IN DISTRICT	M300	08/02/2019
PS&E TO DOE	M377	12/02/2019
DRAFT STRUCT PS&E	M378	08/01/2019
R/W CERT	M410	02/03/2020
RTL	M460	02/14/2020
FUND ALLOCATION	M470	05/15/2020
HQ ADVERTISE	M480	03/15/2020
AWARD	M495	07/15/2020
APPROVE CONTRACT	M500	08/15/2020
CONTRACT ACCEPT	M600	12/01/2024
FINAL REPORT	M700	12/01/2025
END PROJ EXPENDITURES	M800	12/01/2026
FINAL PROJECT CLOSEOUT	M900	12/01/2026

11. RISKS

See Attachment L for the Risk Register.

There is a high observed inflow rate (400 gpm) to the Oak Park Water Storage Vaults of unknown origin. The uncertainty of subsurface conditions at the Oak Park Interchange add risk to the rehabilitation strategy of the existing concrete pavement (currently using drainage blankets and underdrains). The adequacy of hydraulic capacity of the Oak Park Pumping Plant after roadway modifications is assumed. (Risk 004)

Accelerating the PA&ED milestone results in an incomplete analysis of the impacts resulting from lowering the freeway. There was not sufficient time during PA&ED to develop a proposed roadway profile. The depth of cover over the existing median bridge footings was estimated for adequacy from as-built plans and not verified by field measurements. The proposed modifications to the 59th St water storage vaults resulting from the lowered freeway are also assumed without depth of cover data, profile data or hydraulic calculations. (Risk 005)

The condition of the drainage blankets under the existing concrete structural sections at the Oak Park Interchange freeway and connectors is unknown. The associated underdrains are assumed to have exceeded their design service life and have been included in the cost estimate for replacement. A geotechnical design report will be requested in the design phase to determine the best course of action regarding the need to rehabilitate the existing drainage blankets. (Risk 006)

The project is anticipated to be built using a design-build contract. Should the design change (such as raising the bridges instead of lowering the freeway), a higher-level environmental document may be required causing schedule changes and construction cost increases. (Risk 007)

Accelerating the PA&ED milestone results in insufficient time to quantify the impact on existing utilities resulting from lowering the freeway. The process of positive location has begun with an anticipated start date of September 2018. Due to the possible lack of lead time to relocate utilities, right of way certification and/or construction may be delayed which may have an impact on schedule and cost. (Risk 008)

Project stage construction assumes that the Sac-50 HOV project median widening of existing structures is the first stage in the staging plan. If construction of the HOV project is delayed, the staging plan will require modifications that may impact construction cost and delivery schedule. For example, expanded use of precast jointed concrete pavement or widening of selected structures using rehabilitation funding sources. (Risk 009)

12. PROJECT PERSONNEL

Project Manager	Sutha Suthahar	(530) 741-5408
Design Engineer	Sam Vandell	(530) 741-4593
Project Engineer	Tom Langley	(530) 741-4545
Environmental Coordinator	Masum Patwary	(530) 741-4588
Right of Way Coordinator	Wendy Ratajczak	(530) 741-5136
Freeway Operations	Bojana Gutierrez	(916) 859-7940
Traffic	Joyce Loftus	(530) 741-5411
Landscape	Jeff Pietrzak	(530) 741-4436
Electrical	Steve Block	(530) 634-7619

13. ATTACHMENTS (PAGES)

Attachment A	Typical Cross Sections (2)
Attachment B	Layouts (34)
Attachment C	Cost Estimate (10)
Attachment D	Environmental Documentation (3)
Attachment E	Right of Way Data Sheet (4)
Attachment F	TMP Data Sheet (5)
Attachment G	Stage Construction Typical Cross Sections (12)
Attachment H	Landscape Architecture Assessment Sheet (11)
Attachment I	Asset Management Summary (1)
Attachment J	Structural Section Recommendation (5)
Attachment K	Storm Water Data Report (1)
Attachment L	Risk Register (3)
Attachment M	Programming Sheet (2)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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PRELIMINARY					
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PLANS APPROVAL DATE					
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NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. EXACT LOCATIONS AND TYPES OF DIKES, CURBS, CONCRETE BARRIERS AND GUARDRAIL ARE SHOWN ON THE LAYOUTS AND IN THE SUMMARY OF QUANTITIES SHEETS.

ABBREVIATIONS:

FBAR FACE OF BARRIER
HMA-A HOT MIX ASPHALT (TYPE A)
LL LANE LINE
RAC (TYPE O) RUBBERIZED ASPHALT CONCRETE (TYPE O)
SUPER SUPERELEVATION

DESIGN DESIGNATION (L0.6/R0.0)

ADT (2016)	260,000	D	54%
ADT (2064)	422,200	T	2%
DHV	31,200	V	70 mph
ESAL	40,972,000	TI ₄₀	14.0

PAVEMENT CLIMATE REGION: INLAND VALLEY

DESIGN DESIGNATION (R0.0/R2.6)

ADT (2016)	225,500	D	54%
ADT (2064)	420,300	T	2%
DHV	35,700	V	70 mph
ESAL	40,972,000	TI ₄₀	14.0

PAVEMENT CLIMATE REGION: INLAND VALLEY

DESIGN DESIGNATION (R2.6/R5.3)

ADT (2016)	211,000	D	54%
ADT (2064)	393,300	T	3%
DHV	39,300	V	70 mph
ESAL	40,972,000	TI ₄₀	14.0

PAVEMENT CLIMATE REGION: INLAND VALLEY

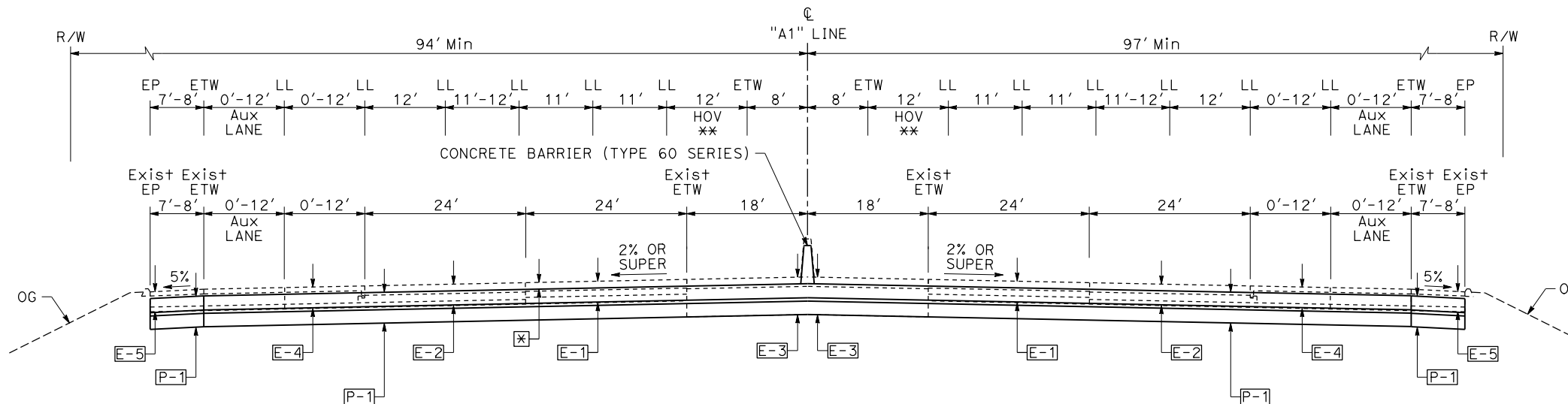
PROPOSED STRUCTURAL SECTION

- P-1 1.25' CRCP
- 0.25' HMA-A
- 0.25' AB (CLASS 2)***

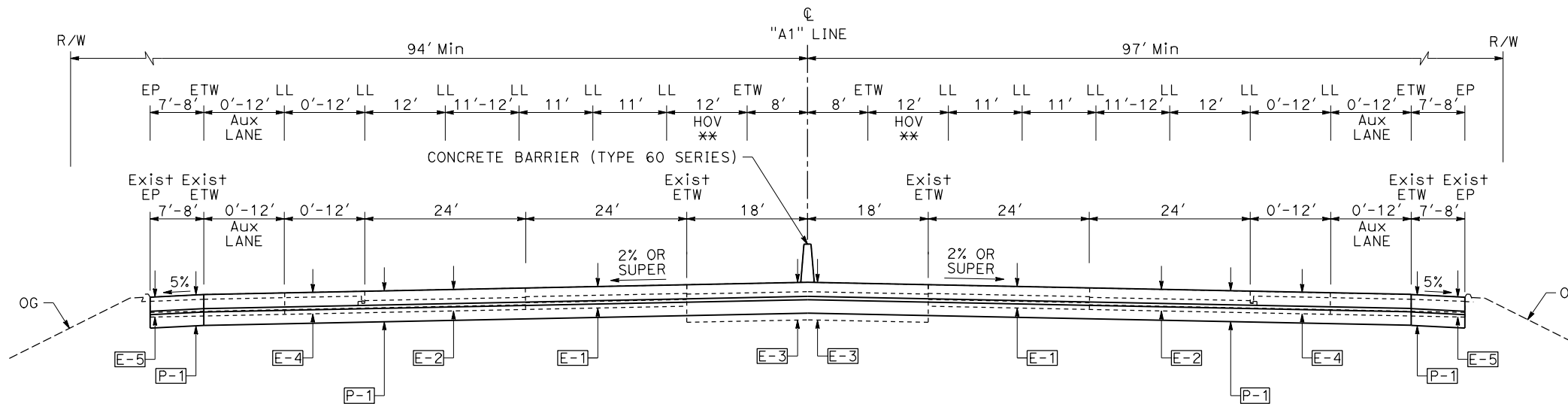
EXISTING STRUCTURAL SECTIONS

- E-1 STA "A1" 126+92 TO 152+90
Exist
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0.33' CTB CLASS B
1.00' AS
- E-1 STA "A1" 152+90 TO 455+00
Exist
0.65' PCC
0.45' CTB CLASS A
0.50' AS
- E-2 STA "A1" 126+92 TO 152+90
Exist
0.75' PCC
0.50' CTB CLASS A
0.75' AS
- E-2 STA "A1" 152+90 TO 455+00
Exist
0.70' PCC
0.45' CTB CLASS A
0.50' AS
- E-3 Exist
0.10' RAC (TYPE O)
0.70' AC
2.10' AB
- E-4 Exist
0.35' AC
0.90' CTB CLASS A
0.75' AS
- E-5 Exist
0.25 TO 0.35' AC
0.75 TO 0.90' AB
0.75' AS

* DEPTH VARIES FROM 0' TO 1.5'
** PROPOSED BY 03-3F360
*** DIMENSION IS APPROXIMATE PENDING ADDITIONAL ANALYSIS



ROUTE 50
PM R0.0 TO R0.25



ROUTE 50
PM L0.6 TO R0.0
PM R0.25 TO R1.1
PM R2.3 TO R5.3

TYPICAL CROSS SECTIONS
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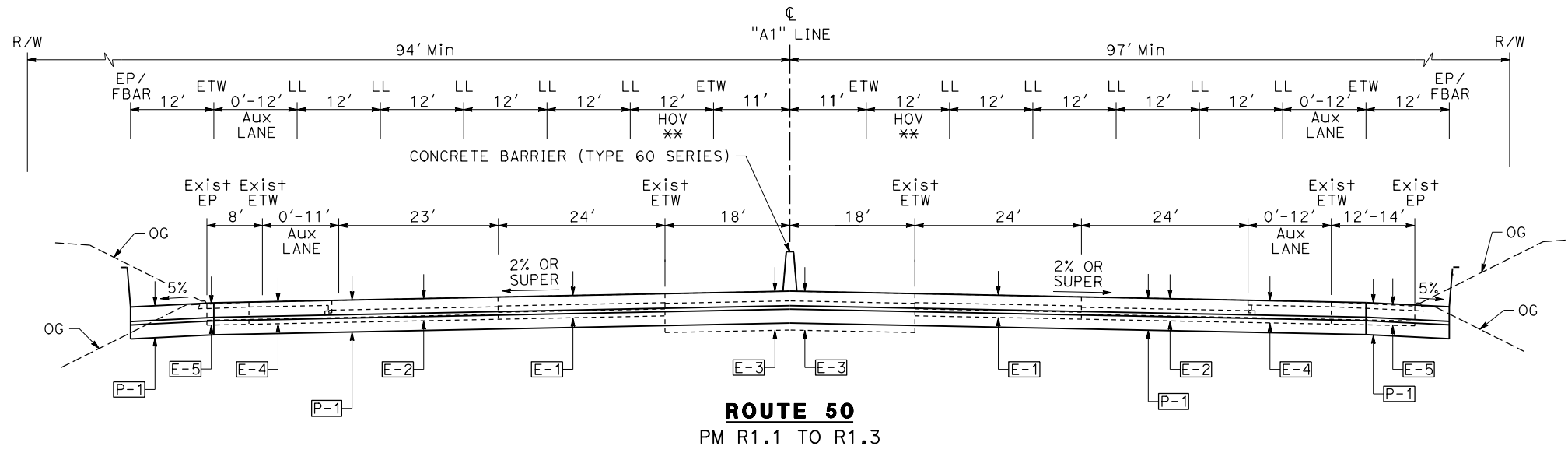
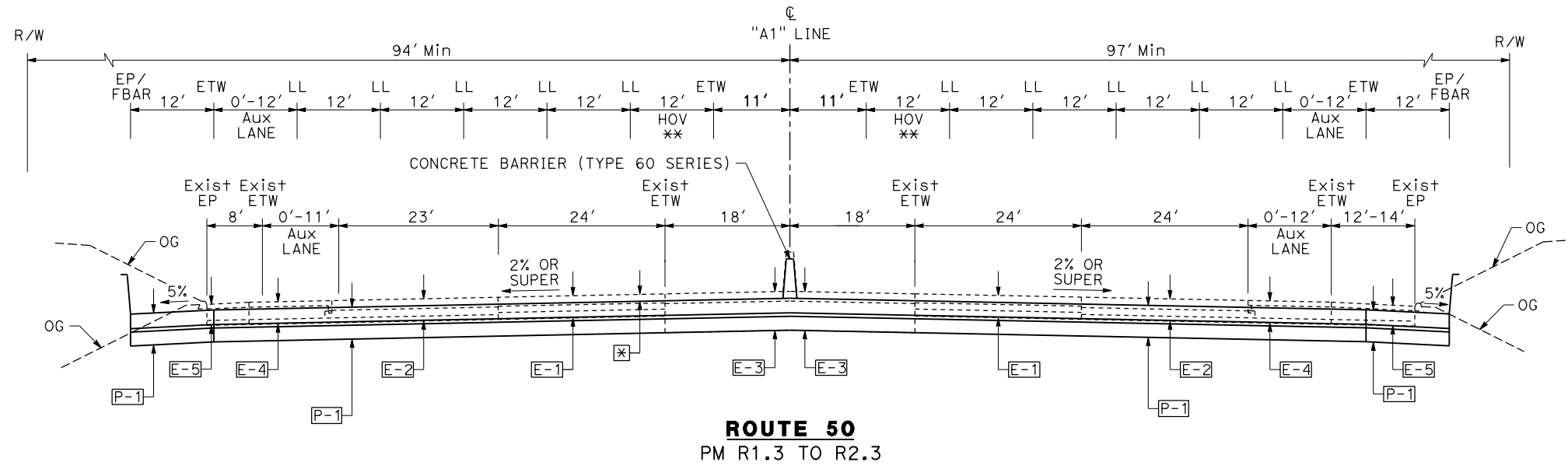
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FUNCTIONAL SUPERVISOR: SAM VANDELL
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* DEPTH VARIES FROM 0' TO 1.5'
** PROPOSED BY 03-3F360

TYPICAL CROSS SECTIONS
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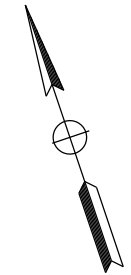
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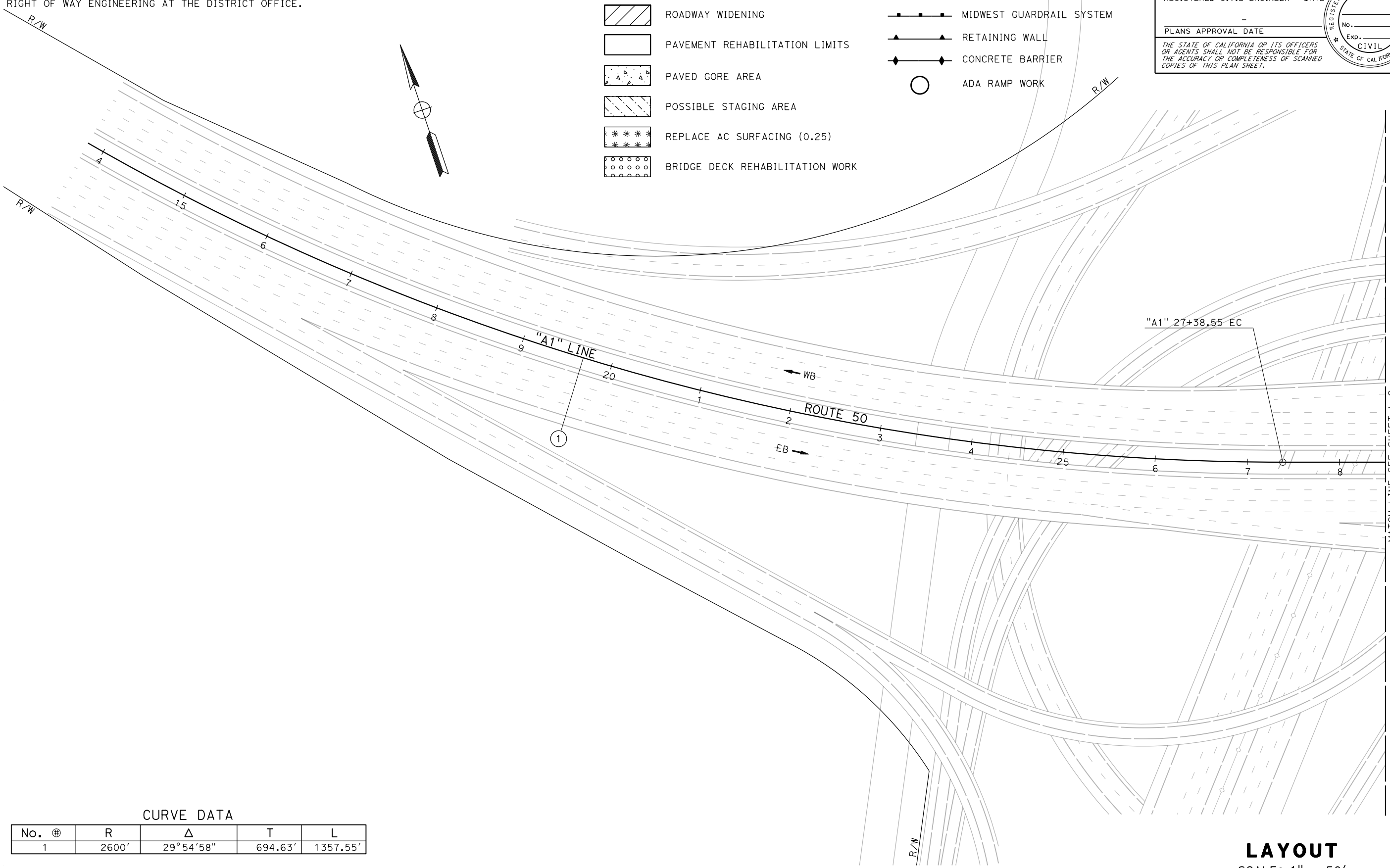
ABBREVIATIONS:



LEGEND:

- ROADWAY WIDENING
- PAVEMENT REHABILITATION LIMITS
- PAVED GORE AREA
- POSSIBLE STAGING AREA
- REPLACE AC SURFACING (0.25)
- BRIDGE DECK REHABILITATION WORK
- MIDWEST GUARDRAIL SYSTEM
- RETAINING WALL
- CONCRETE BARRIER
- ADA RAMP WORK

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DESIGNED BY: THOMAS LANGLEY
CHECKED BY: XX
REVISOR: THOMAS LANGLEY
DATE REVISED:



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 REVISED BY THOMAS LANGLEY
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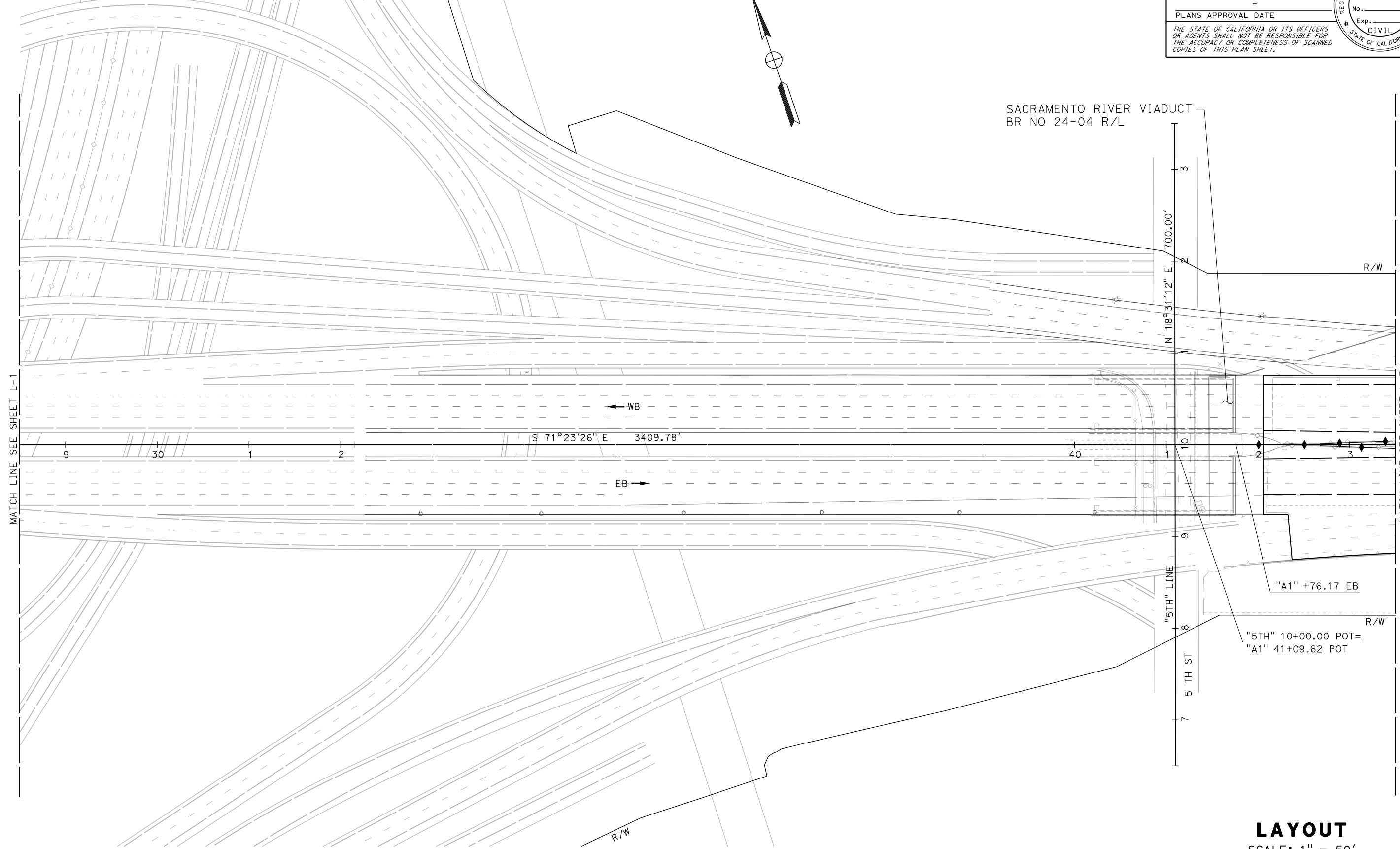
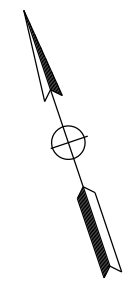
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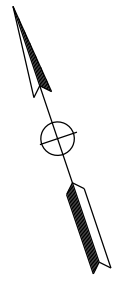
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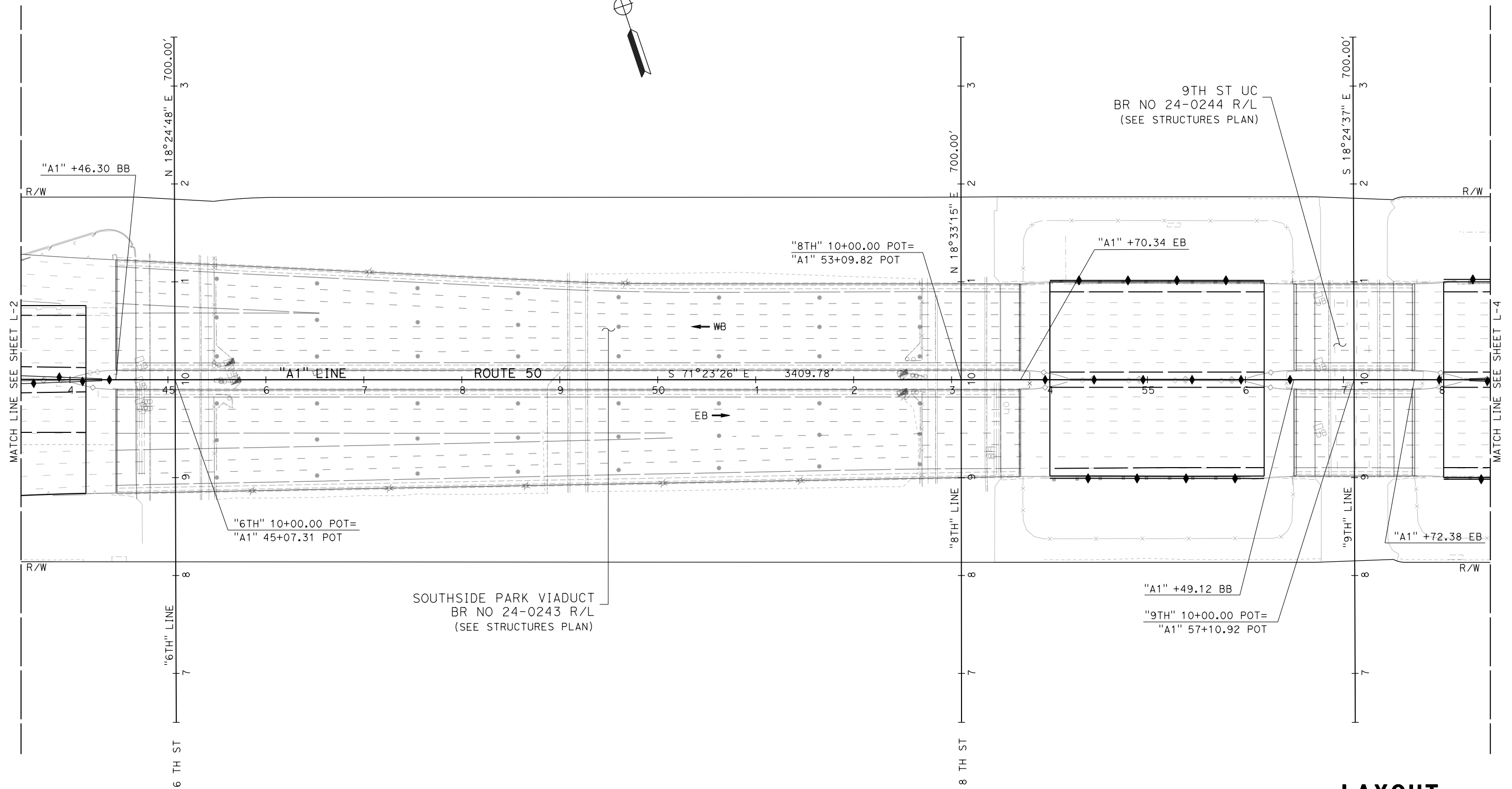
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	SAM VANDELL		THOMAS LANGLEY	DATE
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	SAM VANDELL		THOMAS LANGLEY	

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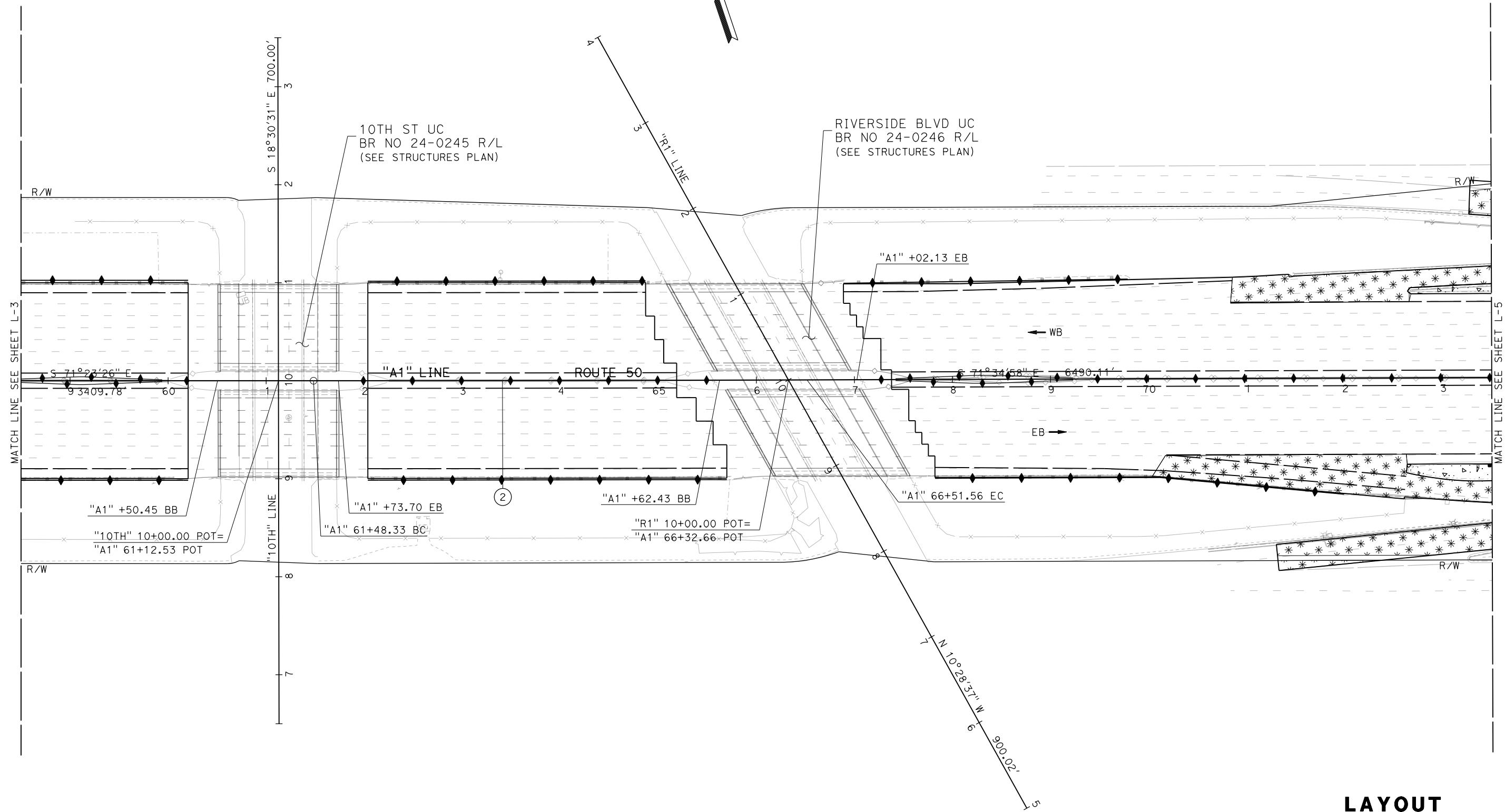
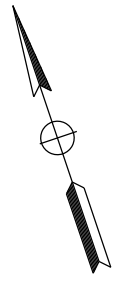
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Caltrans
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 CHECKED BY: THOMAS LANGLEY
 DESIGNED BY: THOMAS LANGLEY
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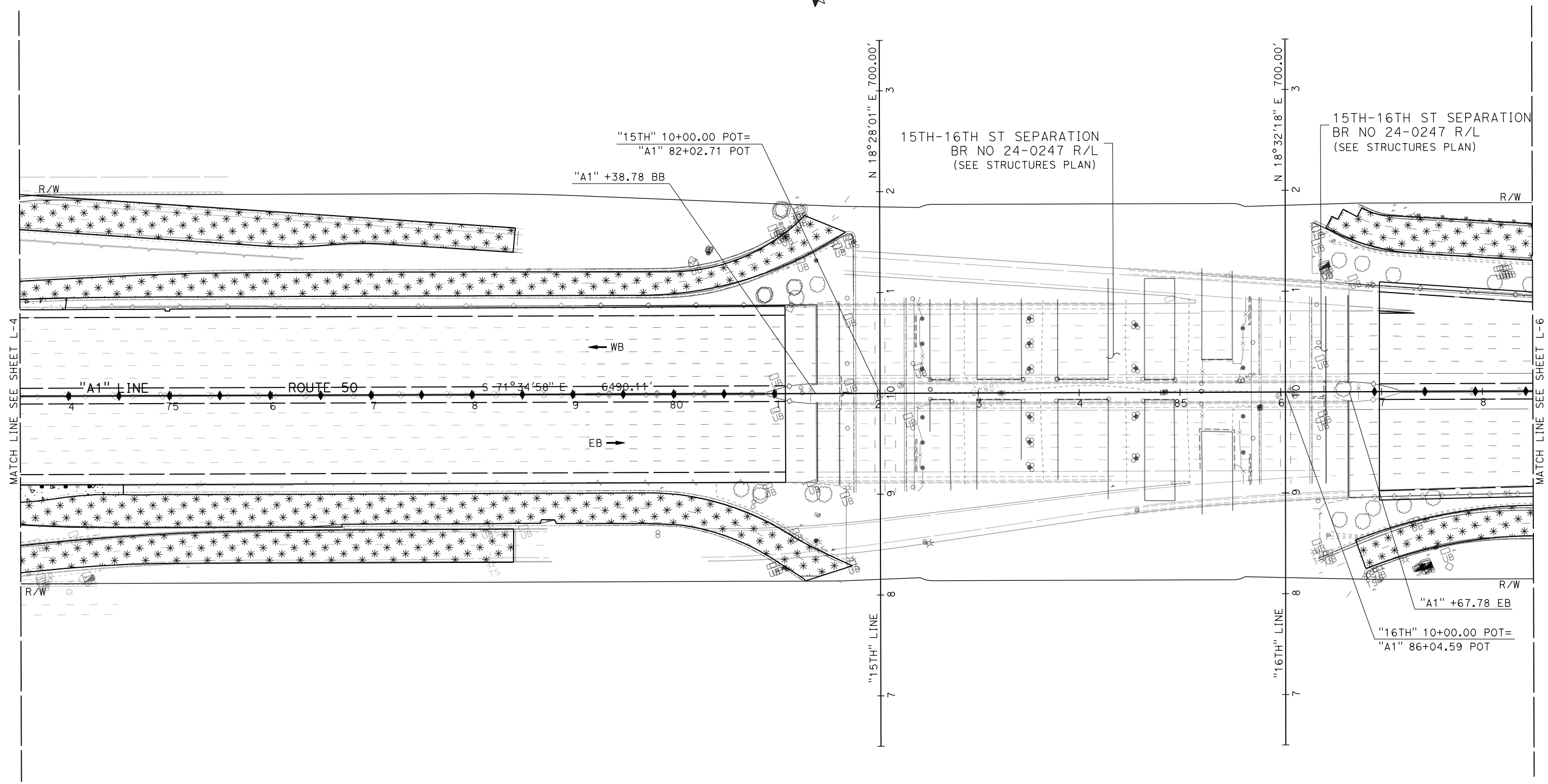
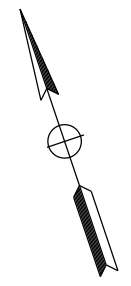
REVISIONS:

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN
 FUNCTIONAL SUPERVISOR
 SAM VANDELL
 CHECKED BY
 THOMAS LANGLEY
 REVISIONS BY
 DATE
 REVISIONS BY
 DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LAYOUT
 SCALE: 1" = 50'
L-5

LAST REVISION 04-17-18
 DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:17

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DESIGN

FUNCTIONAL SUPERVISOR

SAM VANDELL

CALCULATED-DESIGNED BY

CHECKED BY

THOMAS LANGLEY

XX

REVISED BY

DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

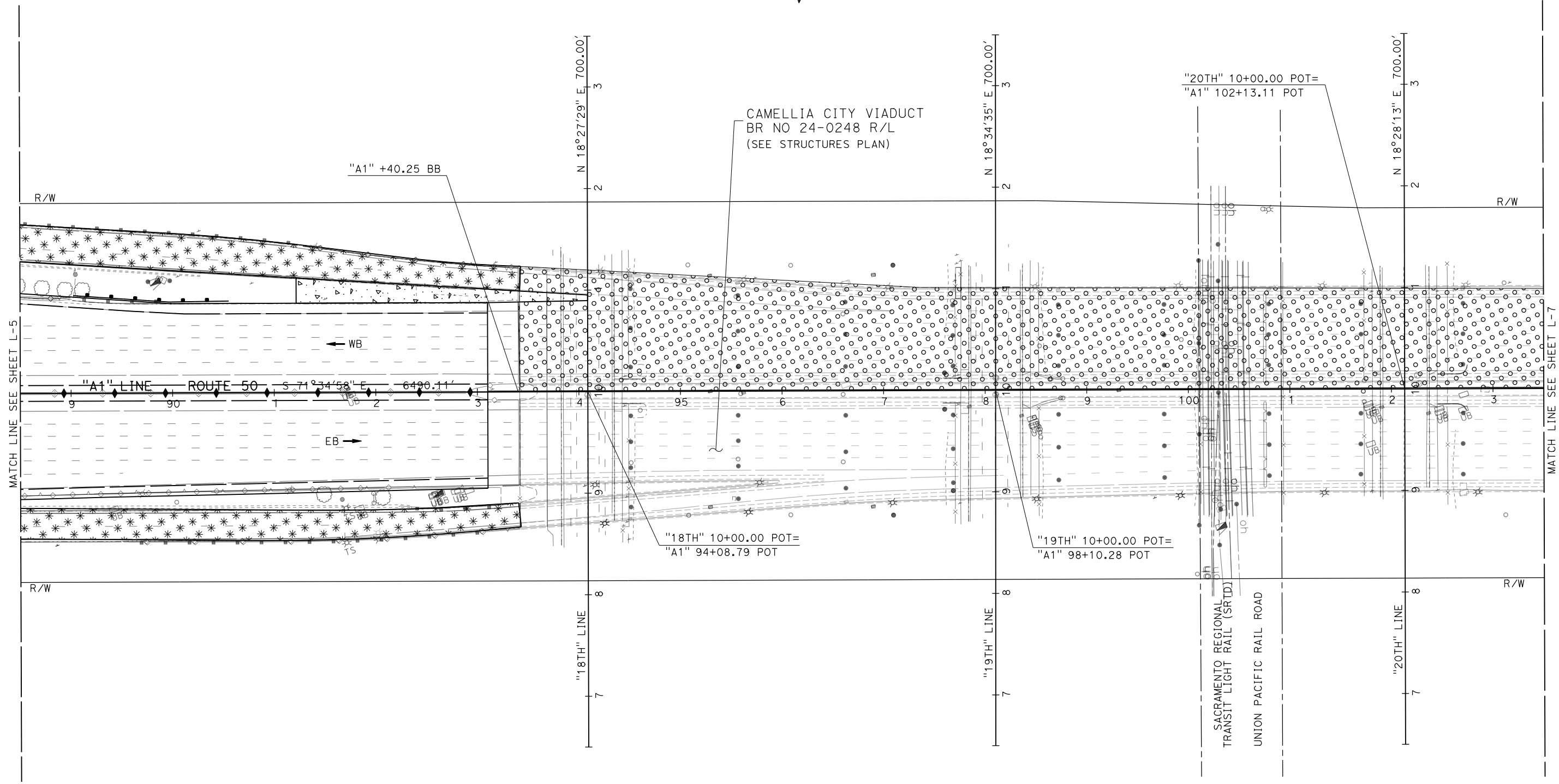
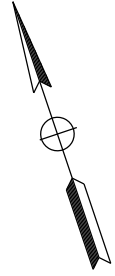
PRELIMINARY

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



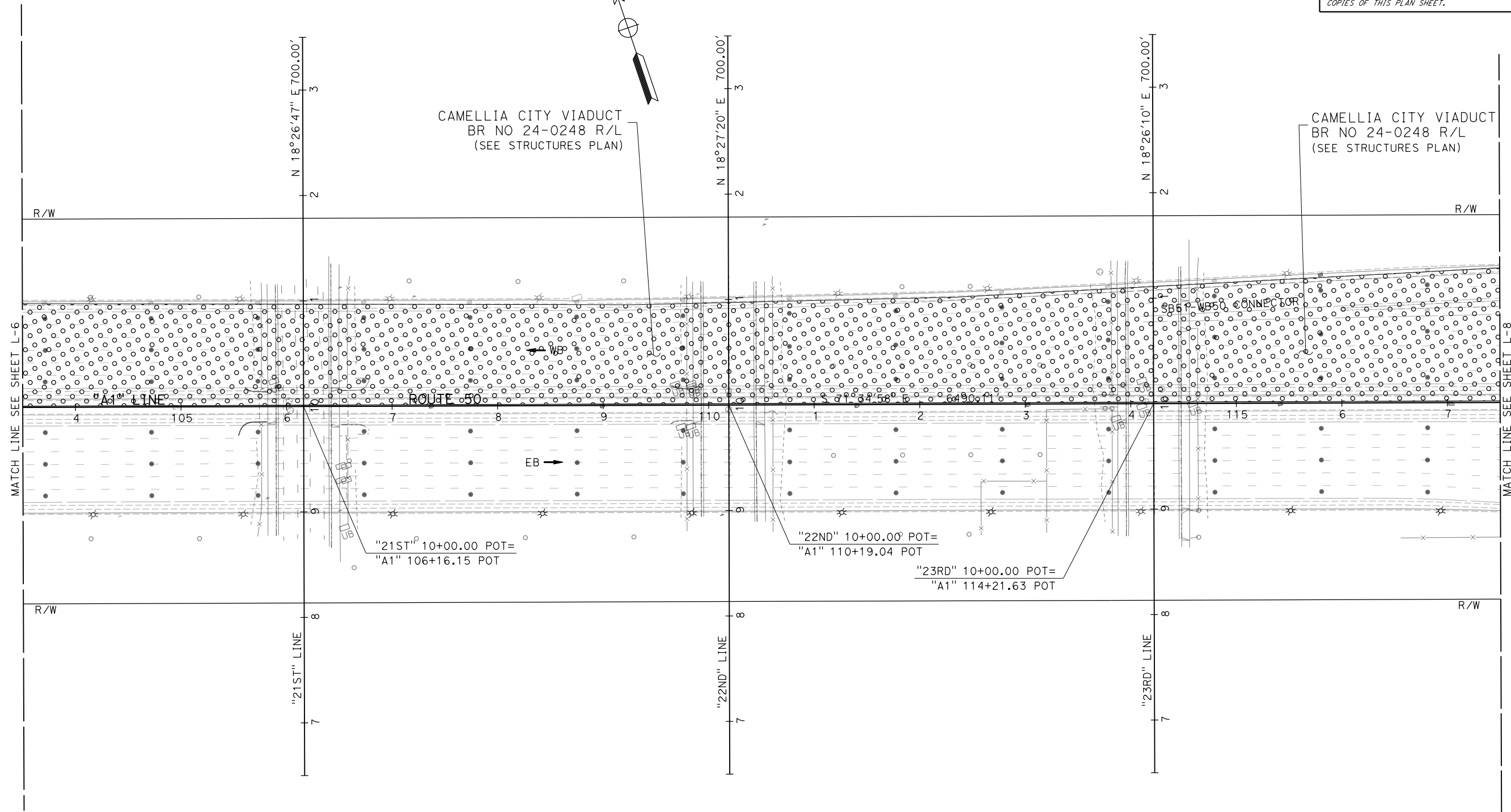
LAYOUT
SCALE: 1" = 50'
L-6

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FUNCTIONAL SUPERVISOR	CHECKED BY	THOMAS LANGLEY	REVISOR BY
SAM VANDELL	DESIGNED BY	XX	DATE
			REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CAMELLIA CITY VIADUCT
 BR NO 24-0248 R/L
 (SEE STRUCTURES PLAN)

CAMELLIA CITY VIADUCT
 BR NO 24-0248 R/L
 (SEE STRUCTURES PLAN)

"21ST" 10+00.00 POT=
 "A1" 106+16.15 POT

"22ND" 10+00.00 POT=
 "A1" 110+19.04 POT

"23RD" 10+00.00 POT=
 "A1" 114+21.63 POT

LAYOUT
 SCALE: 1" = 50'

L-7

P:\proj\15\03\0h080\des\ign\pssr\suppl\ Aug 2018\plans\0315000074e0008.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans DESIGN
 FUNCTIONAL SUPERVISOR
 SAM VANDELL
 CALCULATED BY
 CHECKED BY
 THOMAS LANGLEY
 REVISOR BY
 DATE REVISOR
 DATE REVISOR

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY
 REGISTERED CIVIL ENGINEER DATE
 PLANS APPROVAL DATE

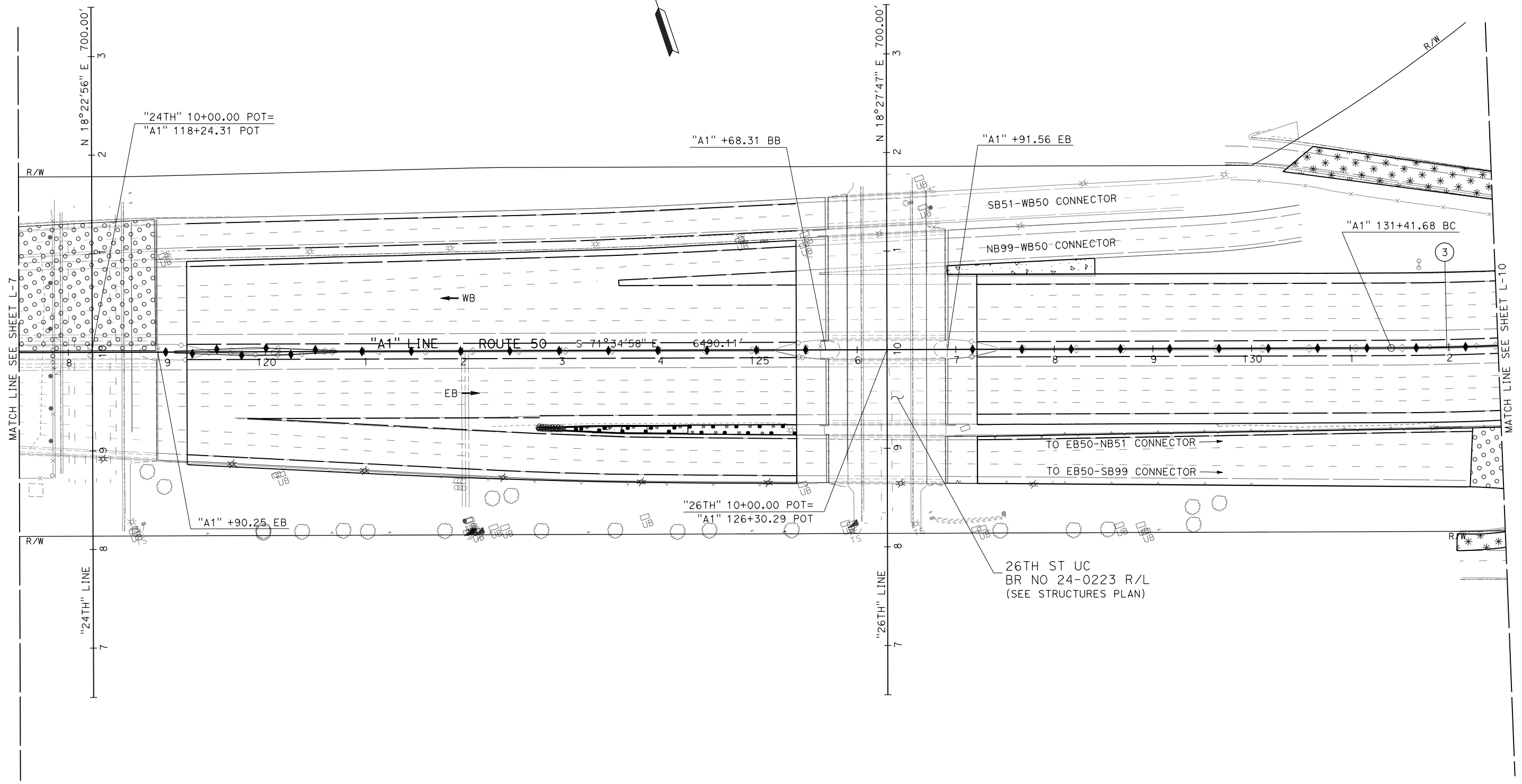
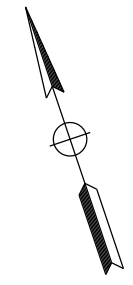
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REG. NO. _____
 EXP. DATE _____
 CIVIL ENGINEER
 STATE OF CALIFORNIA

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. @	R	Δ	T	L
3	3000'	36°22'10"	985.46'	1904.30'



LAYOUT
 SCALE: 1" = 50'

L-8

DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:17
 LAST REVISION
 04-17-18

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DESIGN

FUNCTIONAL SUPERVISOR

SAM VANDELL

CALCULATED-DESIGNED BY

CHECKED BY

THOMAS LANGLEY

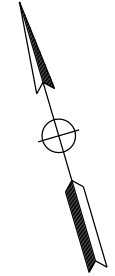
XX

REVISED BY

DATE REVISED

NOTE:

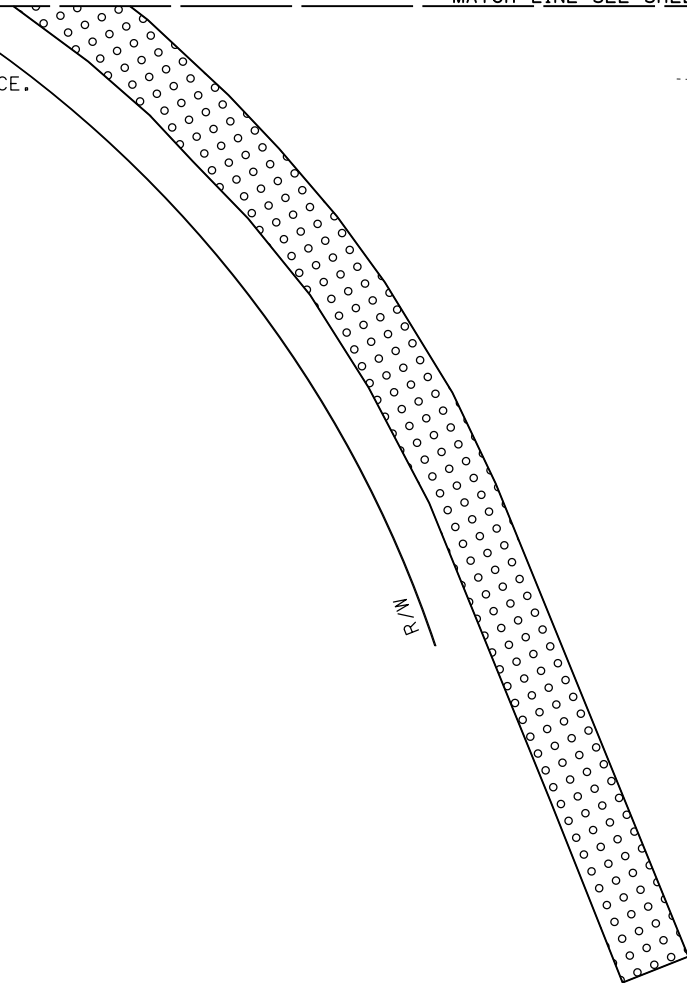
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



N/R

R/W

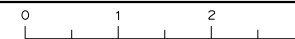
MATCH LINE SEE SHEET L-10



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

LAYOUT
SCALE: 1" = 50'

L-9



P:\p\031503\0h060\des\ign\PSR_Suppl_Aug_2018\18\Plans\0315000074e0010.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans DESIGN

FUNCTIONAL SUPERVISOR	SAM VANDELL
CALCULATED-DESIGNED BY	THOMAS LANGLEY
CHECKED BY	XX
REVISOR	DATE

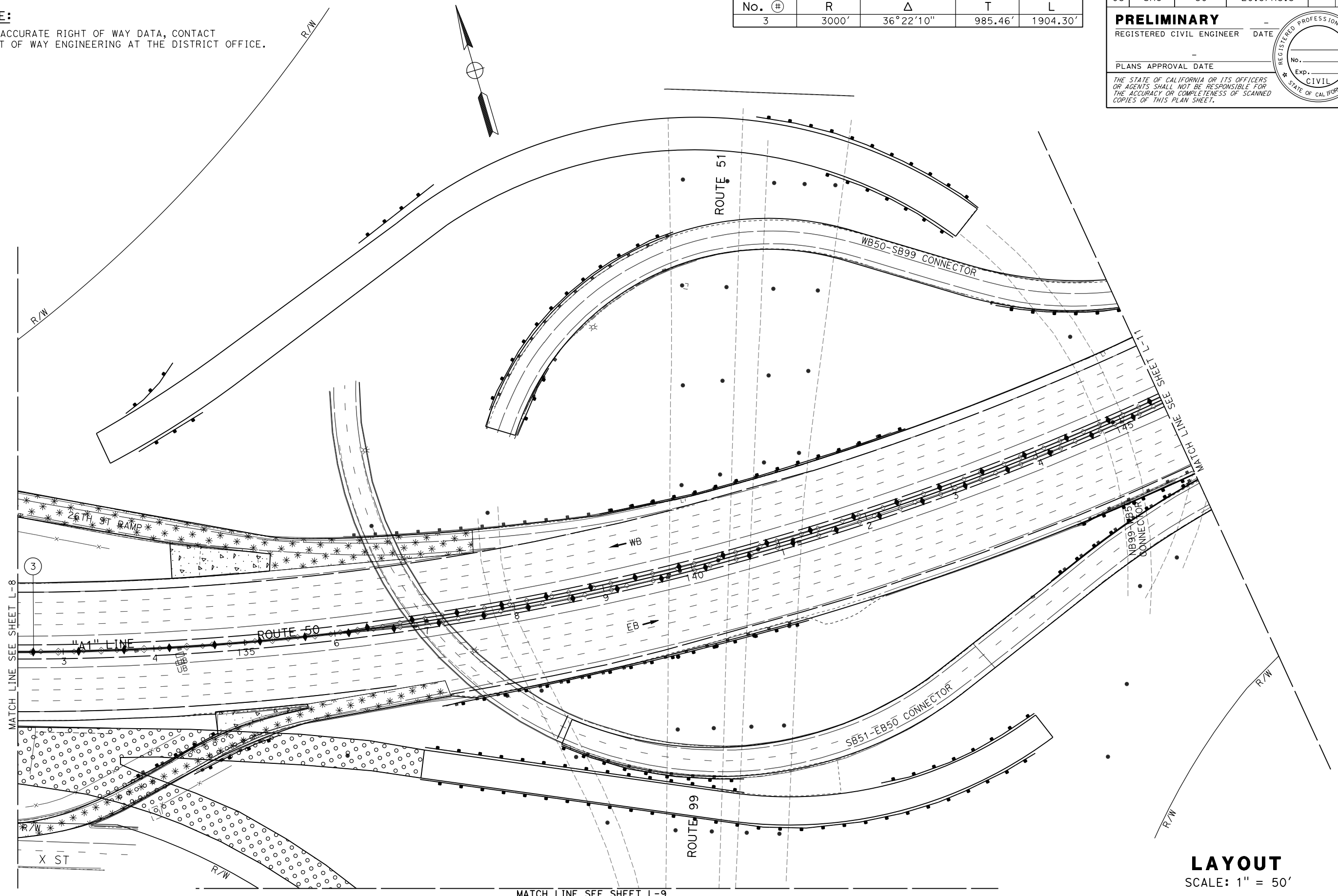
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

No. (+)	R	Δ	T	L
3	3000'	36°22'10"	985.46'	1904.30'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY
 REGISTERED CIVIL ENGINEER DATE -
 PLANS APPROVAL DATE -

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



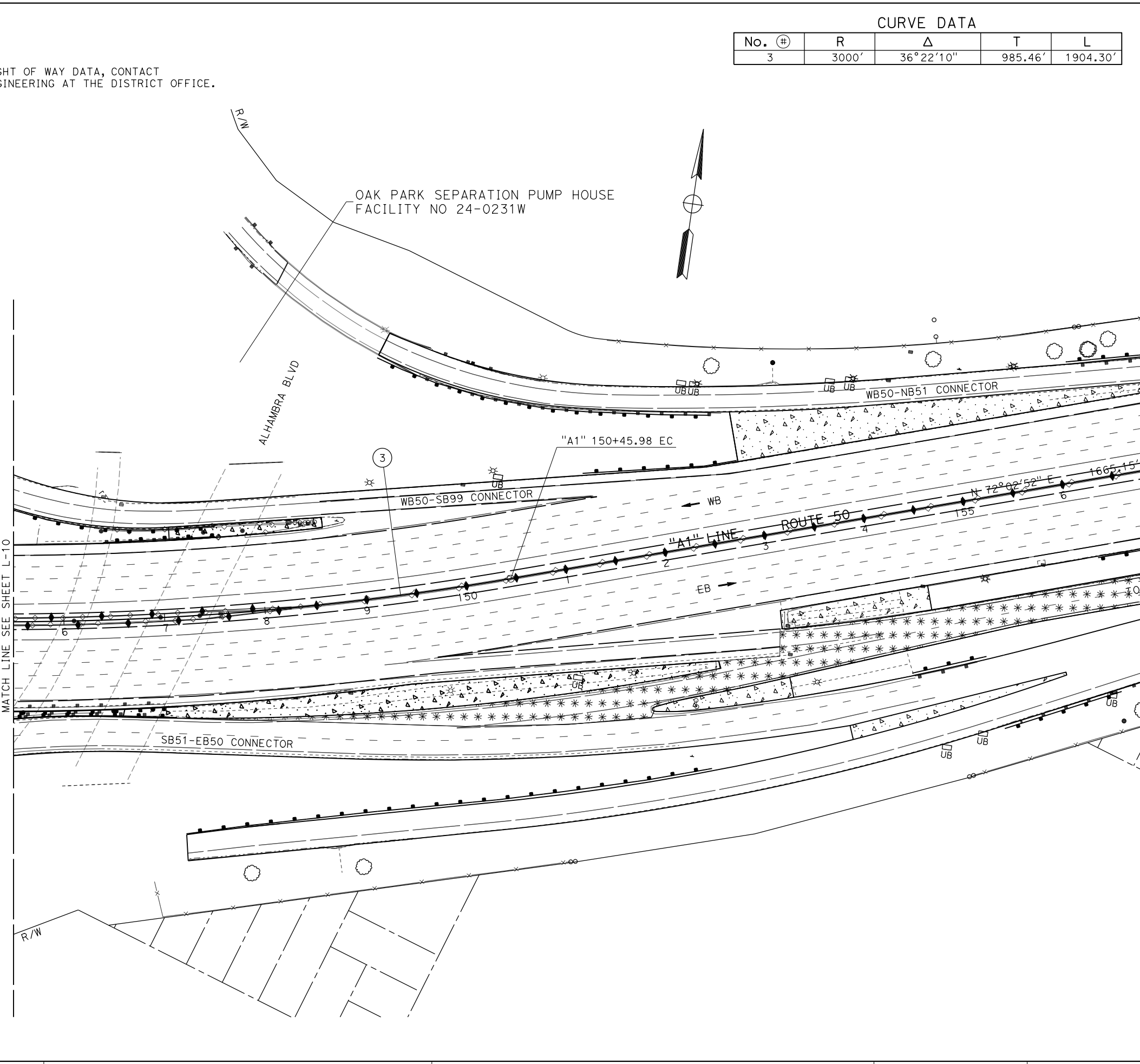
LAYOUT
 SCALE: 1" = 50'

L-10

DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:17

P:\proj\15\03\0h060\des\ign\PSR_Suppl_Aug_2018\Plans\0315000074e0011.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR SAM VANDELL	REVISOR THOMAS LANGLEY
CHECKED BY	DATE REVISOR XX
DESIGNED BY	DATE REVISOR



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 No. _____
 Exp. _____
 CIVIL
 STATE OF CALIFORNIA

CURVE DATA				
No. #	R	Δ	T	L
3	3000'	36°22'10"	985.46'	1904.30'

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LAYOUT
 SCALE: 1" = 50'

L-11

P:\proj\15\03\0h080\des\ign\pssr\suppl\aug_2018\plans\0315000074e0012.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
 FUNCTIONAL SUPERVISOR
 SAM VANDELL
 CHECKED BY
 THOMAS LANGLEY
 REVISIONS
 REVISED BY
 DATE REVISED
 XX

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

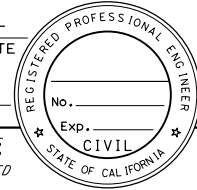
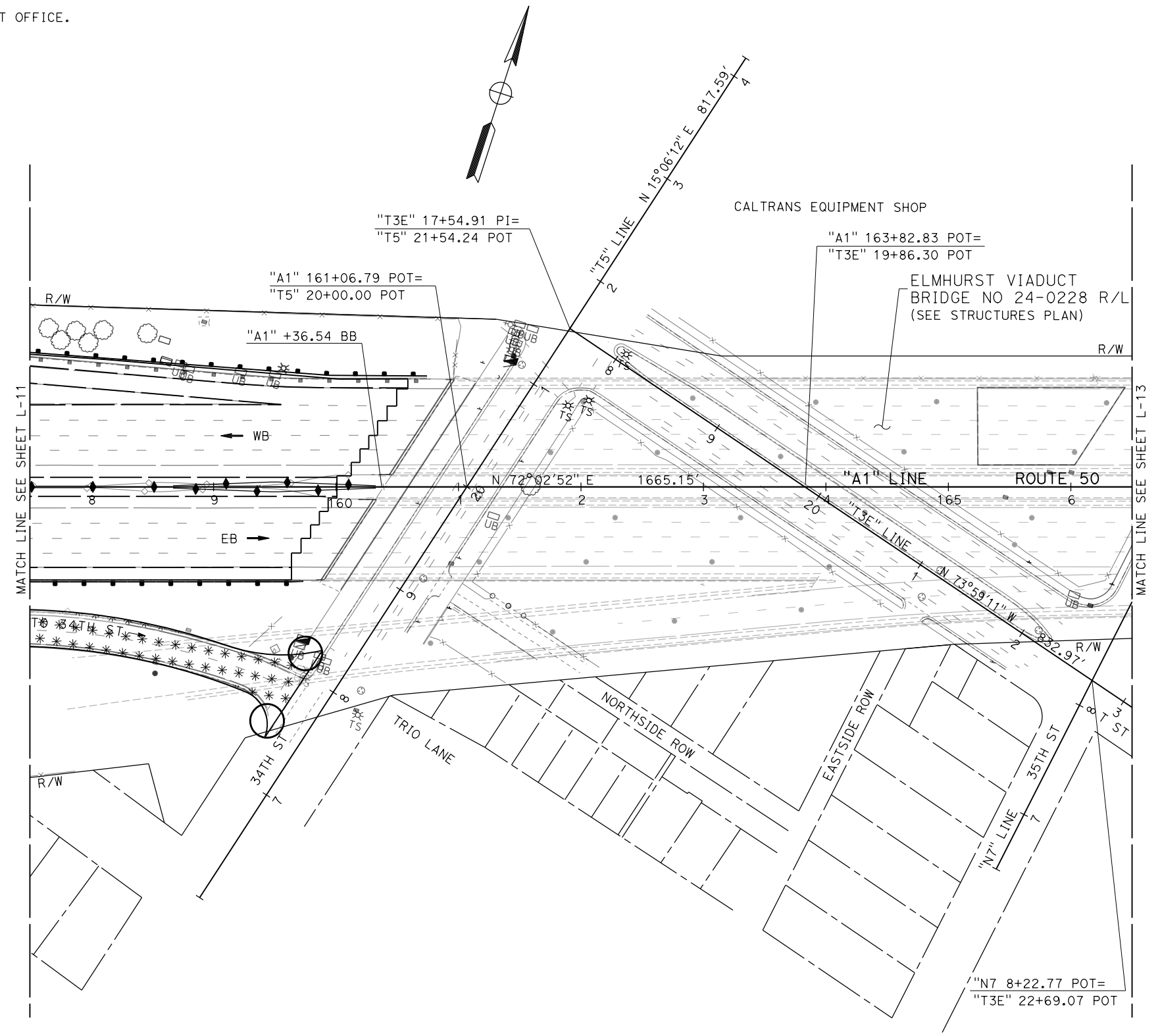
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LAYOUT
 SCALE: 1" = 50'

L-12

P:\proj\15\03\0h080\des\ign\p55R_Suppl_1_Aug_2018\Plans\0315000074e0013.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CHECKED BY: THOMAS LANGLEY
 DESIGNED BY: THOMAS LANGLEY
 REVISIONS: XX
 DATE REVISED:

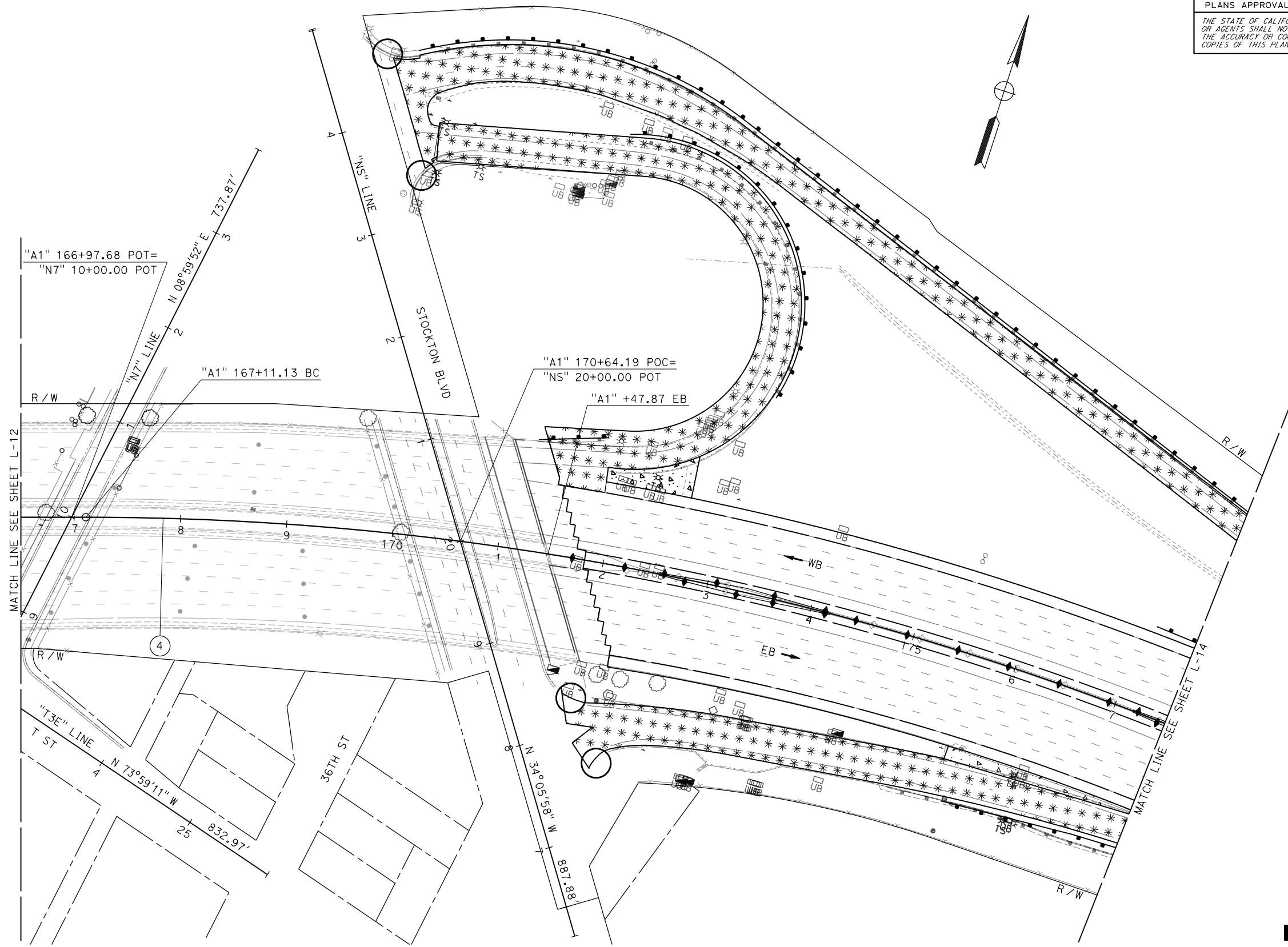
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA				
No. #	R	Δ	T	L
4	2750'	36°54'29"	917.68'	1771.46'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY
 REGISTERED CIVIL ENGINEER DATE
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LAYOUT
 SCALE: 1" = 50'

L-13

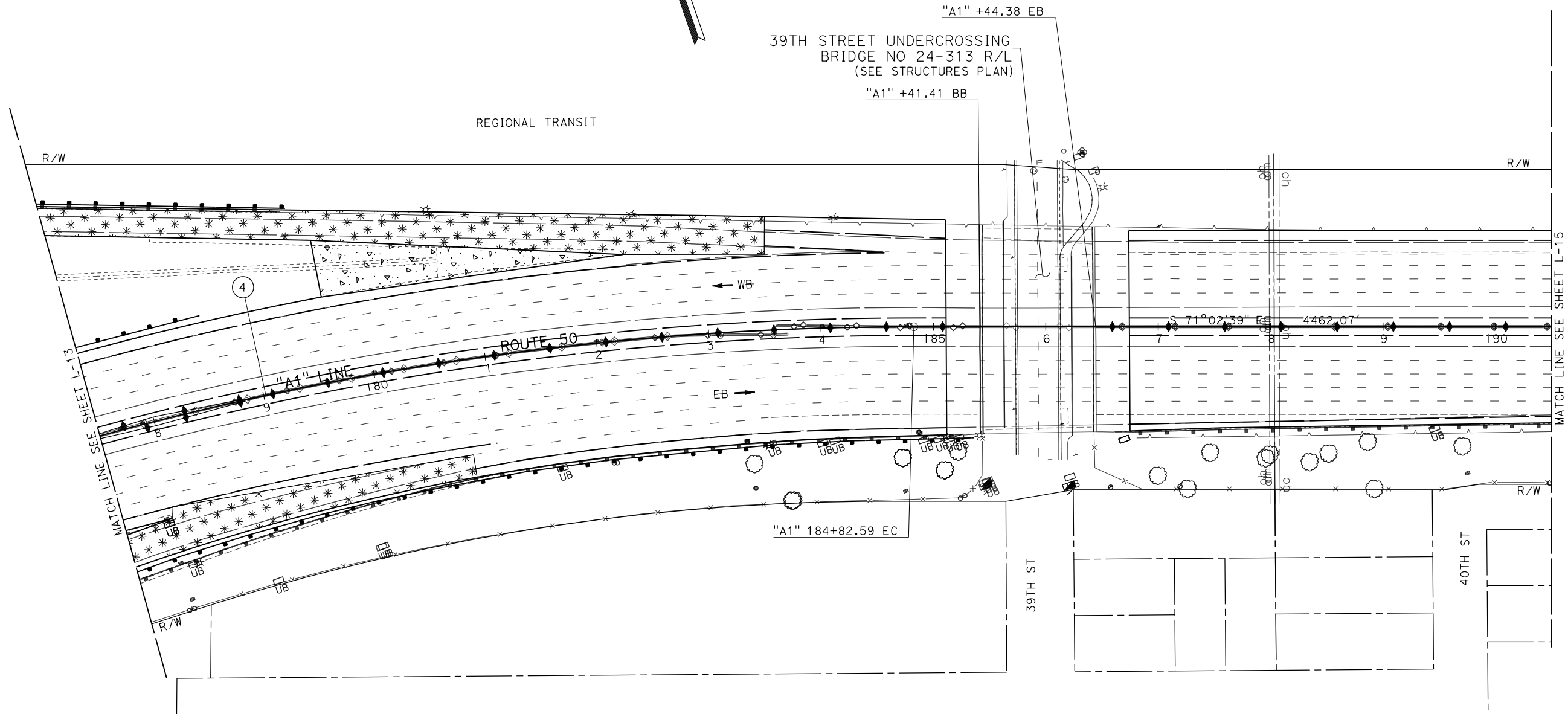
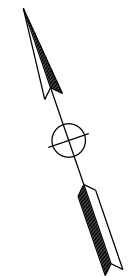
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY			-		
REGISTERED CIVIL ENGINEER			DATE		
-			-		
PLANS APPROVAL DATE			-		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



CURVE DATA

No. (+)	R	Δ	T	L
4	2750'	36°54'29"	917.68'	1771.46'

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR: SAM VANDELL
 CHECKED BY: [blank]
 DESIGNED BY: [blank]
 THOMAS LANGLEY
 REVISOR: [blank]
 DATE REVISED: [blank]

MATCH LINE SEE SHEET L-13
 MATCH LINE SEE SHEET L-15

R/W
 R/W
 R/W
 R/W

ROUTE 50
 "A1" LINE
 REGIONAL TRANSIT
 39TH STREET UNDERCROSSING
 BRIDGE NO 24-313 R/L
 (SEE STRUCTURES PLAN)

"A1" +44.38 EB
 "A1" +41.41 BB
 "A1" 184+82.59 EC

WB
 EB

39TH ST
 40TH ST

180
 185
 190

71°02'39" E
 4462.07'

U0
 U0

LAYOUT
SCALE: 1" = 50'

L-14

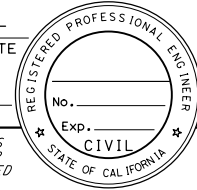
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

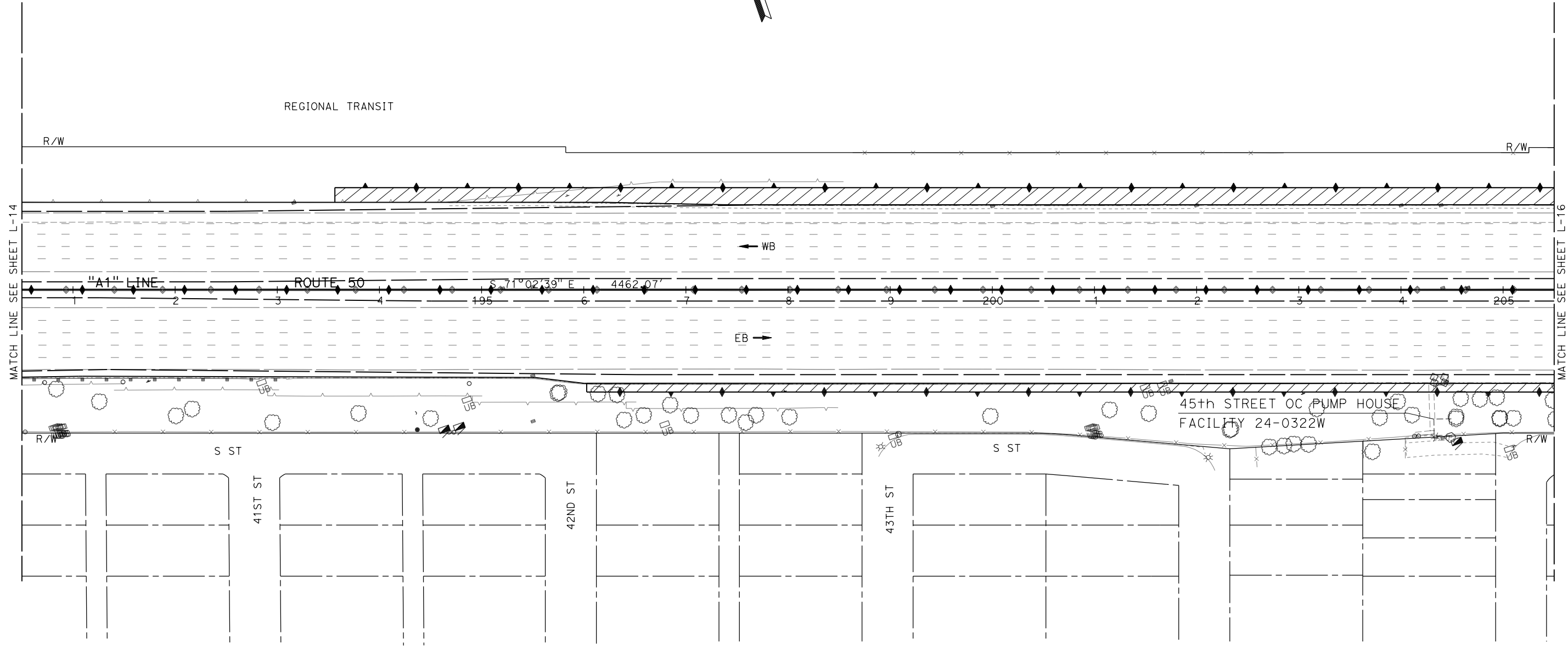
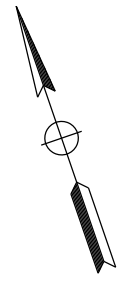
REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED/DESIGNED BY: THOMAS LANGLEY
 CHECKED BY: XX
 REVISED BY: _____
 DATE REVISED: _____

LAYOUT
SCALE: 1" = 50'
L-15

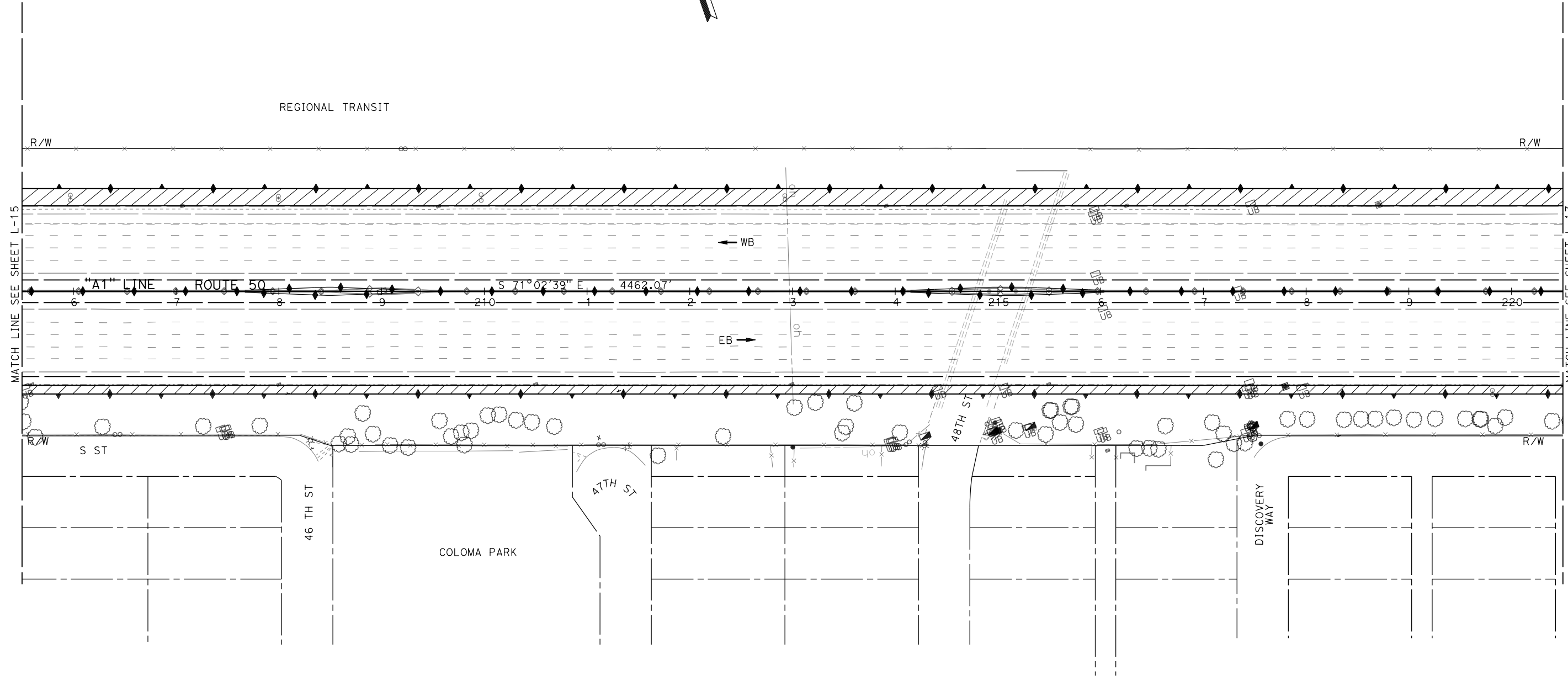
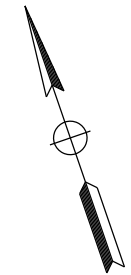
LAST REVISION: 04-17-18
 DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY
REGISTERED CIVIL ENGINEER DATE _____
PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
FUNCTIONAL SUPERVISOR
SAM VANDELL
CALCULATED BY
DESIGNED BY
CHECKED BY
THOMAS LANGLEY
XX
REVISED BY
DATE REVISED

LAYOUT
SCALE: 1" = 50'

L-16

P:\proj\5\03\0h080\des\ign\pssr\suppl\ Aug 2018\Plans\0315000074e0017.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans DESIGN

FUNCTIONAL SUPERVISOR: SAM VANDELL
 CHECKED BY: []
 DESIGNED BY: []
 REVISIONS: THOMAS LANGLEY (XX)
 REVISOR: []
 DATE: []

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



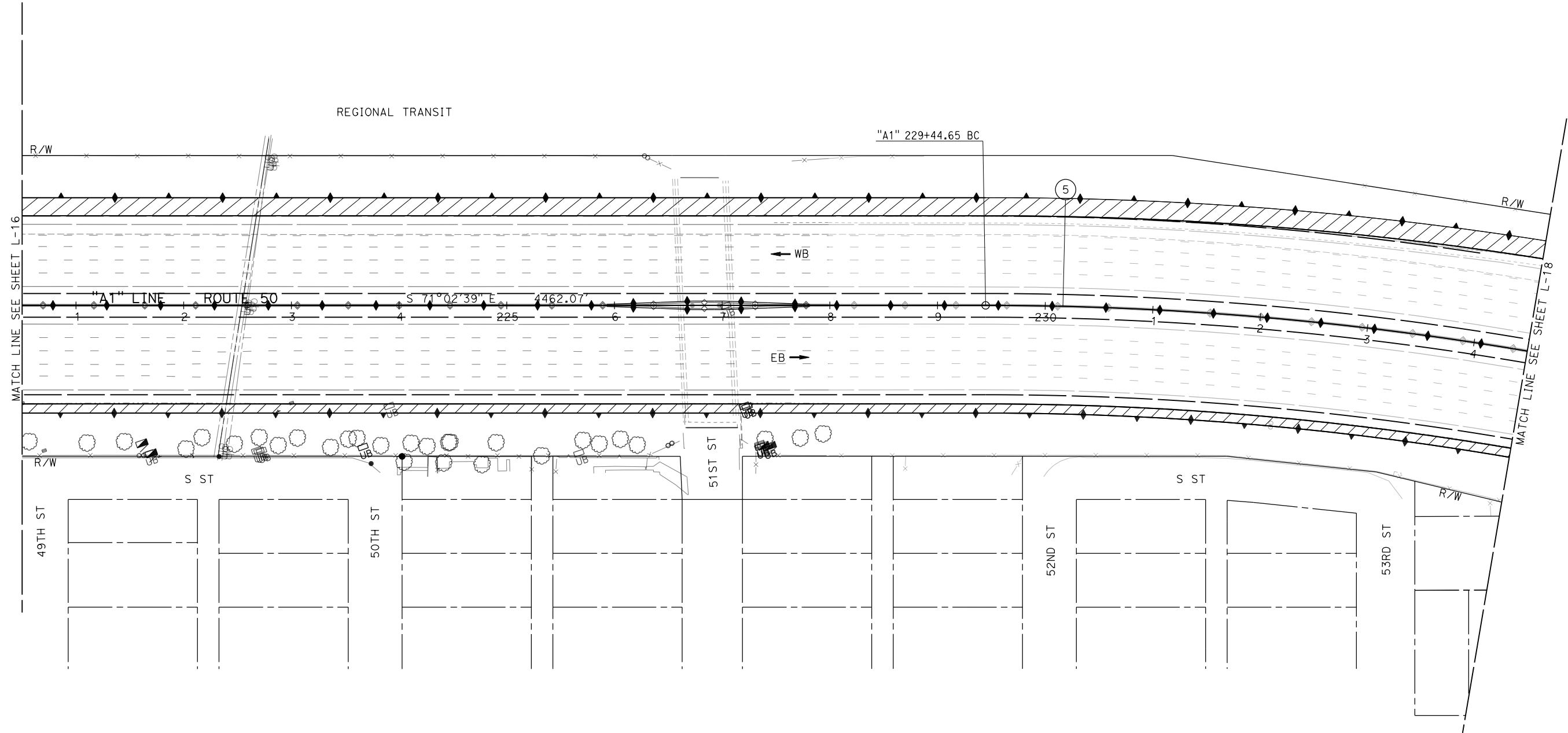
CURVE DATA

No. (⊕)	R	Δ	T	L
5	3000'	15° 43' 46"	414.40'	823.59'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY
 REGISTERED CIVIL ENGINEER DATE -
 PLANS APPROVAL DATE -

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LAYOUT
 SCALE: 1" = 50'

L-17

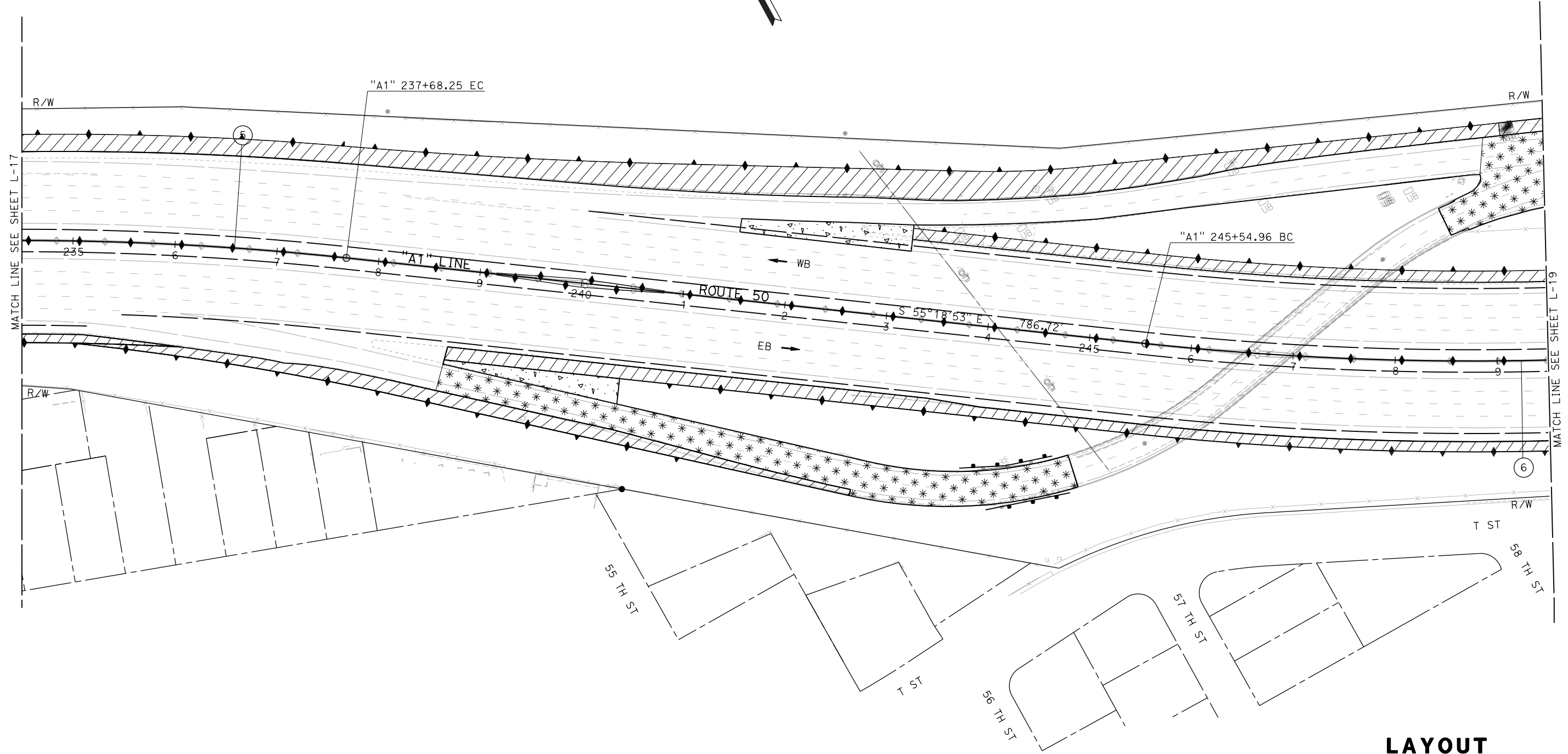
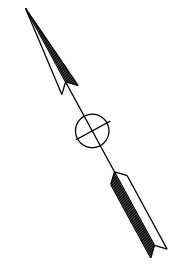
DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

No. (#)	R	Δ	T	L
5	3000'	15°43'46"	414.40'	823.59'
6	3000'	11°02'51"	290.12'	578.44'



LAYOUT
SCALE: 1" = 50'

L-18

P:\proj\15\03\0h080\des\ign\pssr\suppl\ Aug 2018\Plans\0315000074e0018.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR: SAM VANDELL
 CHECKED BY: THOMAS LANGLEY
 REVISIONS: XX
 REVISOR: THOMAS LANGLEY
 DATE: XX

P:\p\031503\0h080\des\ign\pssr\suppl\ Aug 2018\Plans\0315000074e0019.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
DESIGN
 FUNCTIONAL SUPERVISOR
 SAM VANDELL
 CHECKED BY
 THOMAS LANGLEY
 REVISOR BY
 DATE REVISED
 XX

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. #	R	Δ	T	L
6	3000'	11°02'51"	290.12'	578.44'

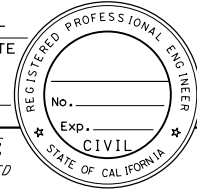
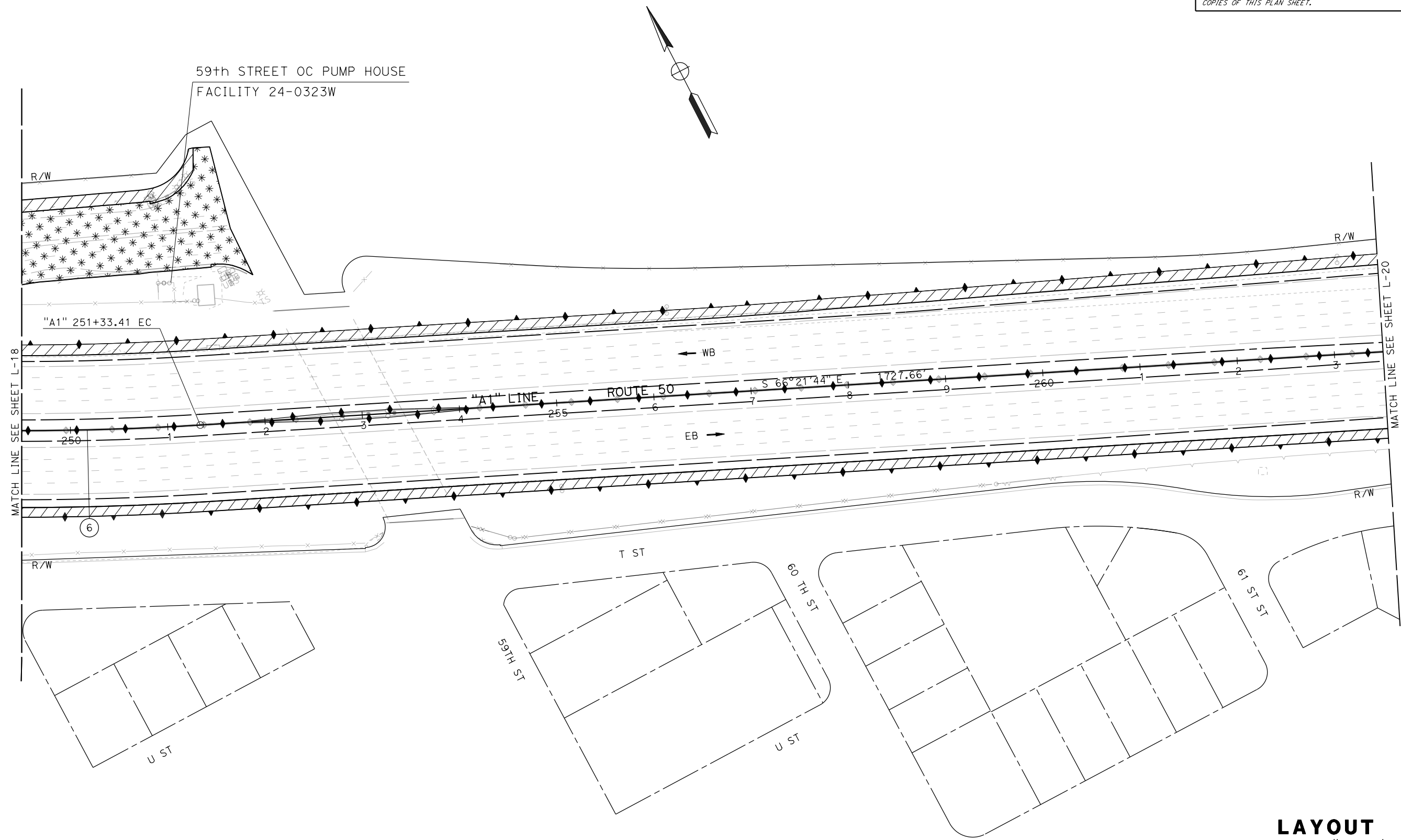
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LAYOUT
 SCALE: 1" = 50'

L-19

P:\proj\15\03\0h080\des\ign\pssr\suppl\ Aug 2018\Plans\0315000074e020.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
 FUNCTIONAL SUPERVISOR
 SAM VANDELL
 CALCULATED BY
 THOMAS LANGLEY
 CHECKED BY
 XX
 REVISED BY
 DATE REVISED

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. #	R	Δ	T	L
7	4200'	40°03'14"	1530.91'	2936.10'

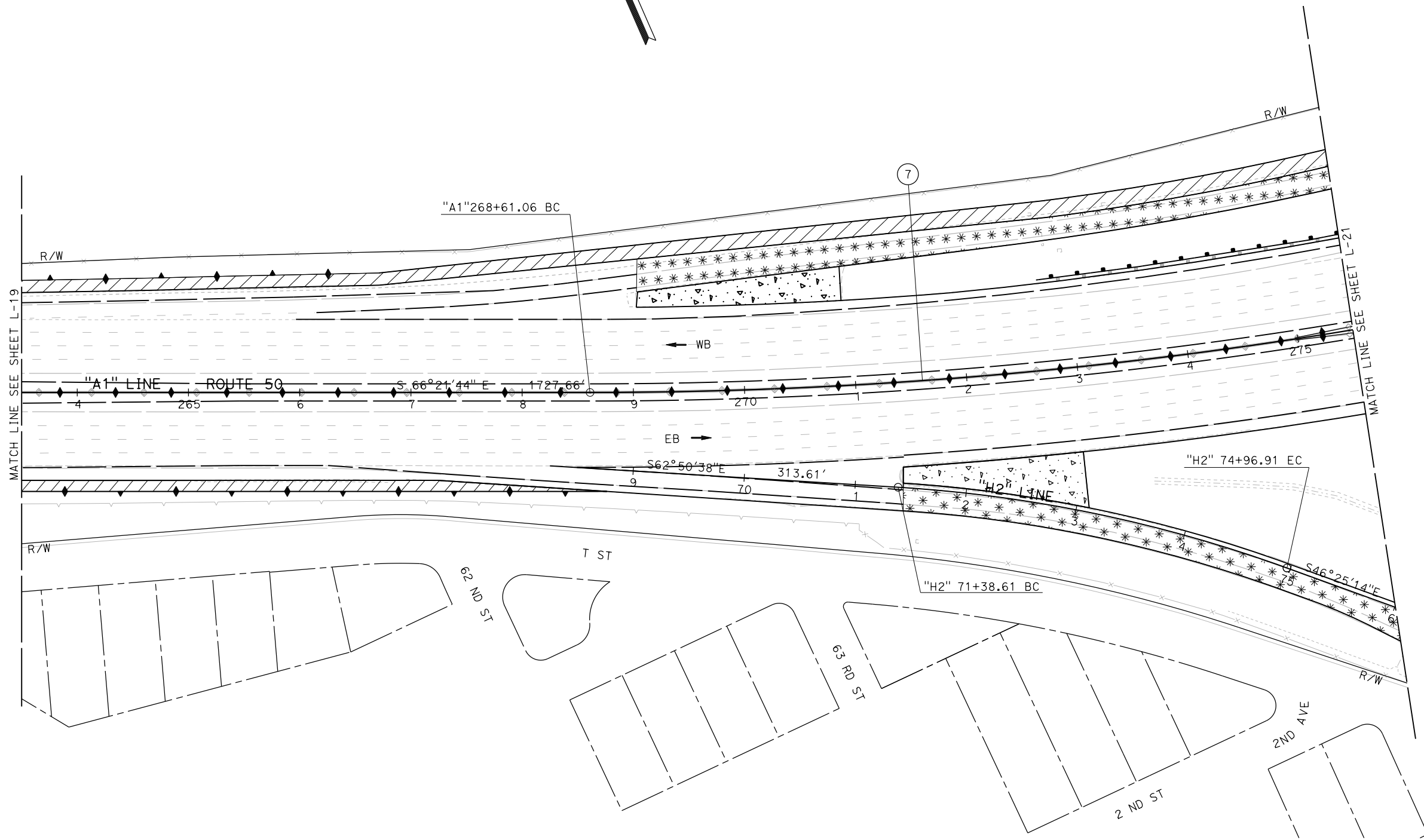
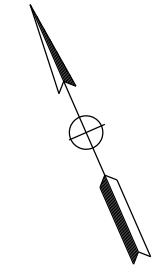
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



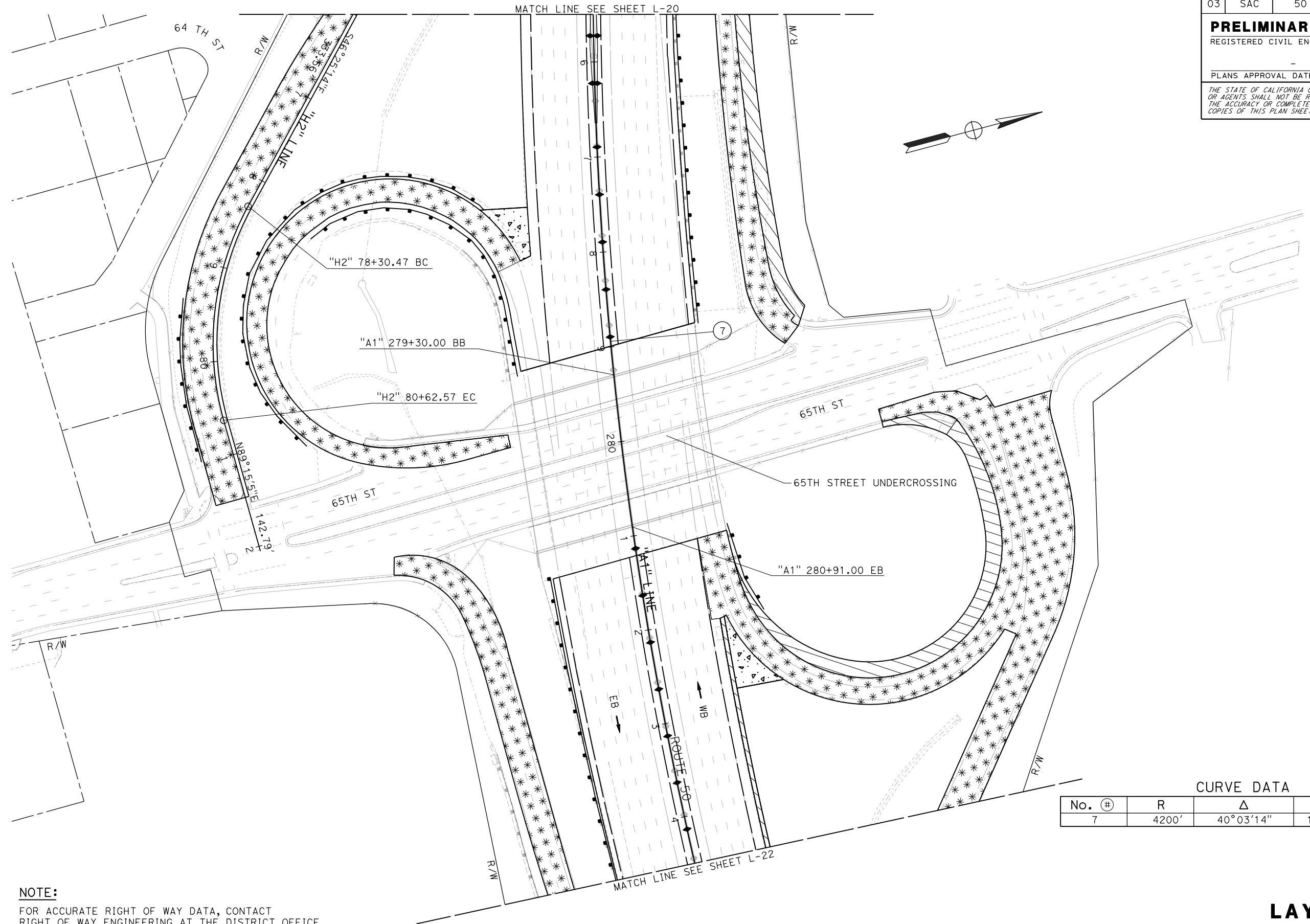
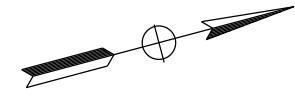
LAYOUT
 SCALE: 1" = 50'

L-20

DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:17
 LAST REVISION
 04-18-18

FUNCTIONAL SUPERVISOR	CHECKED BY	DESIGNED BY	REVISOR
SAM VANDELL		THOMAS LANGLEY	XX
			DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



CURVE DATA

No. #	R	Δ	T	L
7	4200'	40°03'14"	1530.91'	2936.10'

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LAYOUT
 SCALE: 1" = 50'

L-21

DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:17
 LAST REVISION 04-18-18

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR
 SAM VANDELL

CALCULATED BY
 DESIGNED BY

THOMAS LANGLEY
 XX

REVISED BY
 DATE REVISED

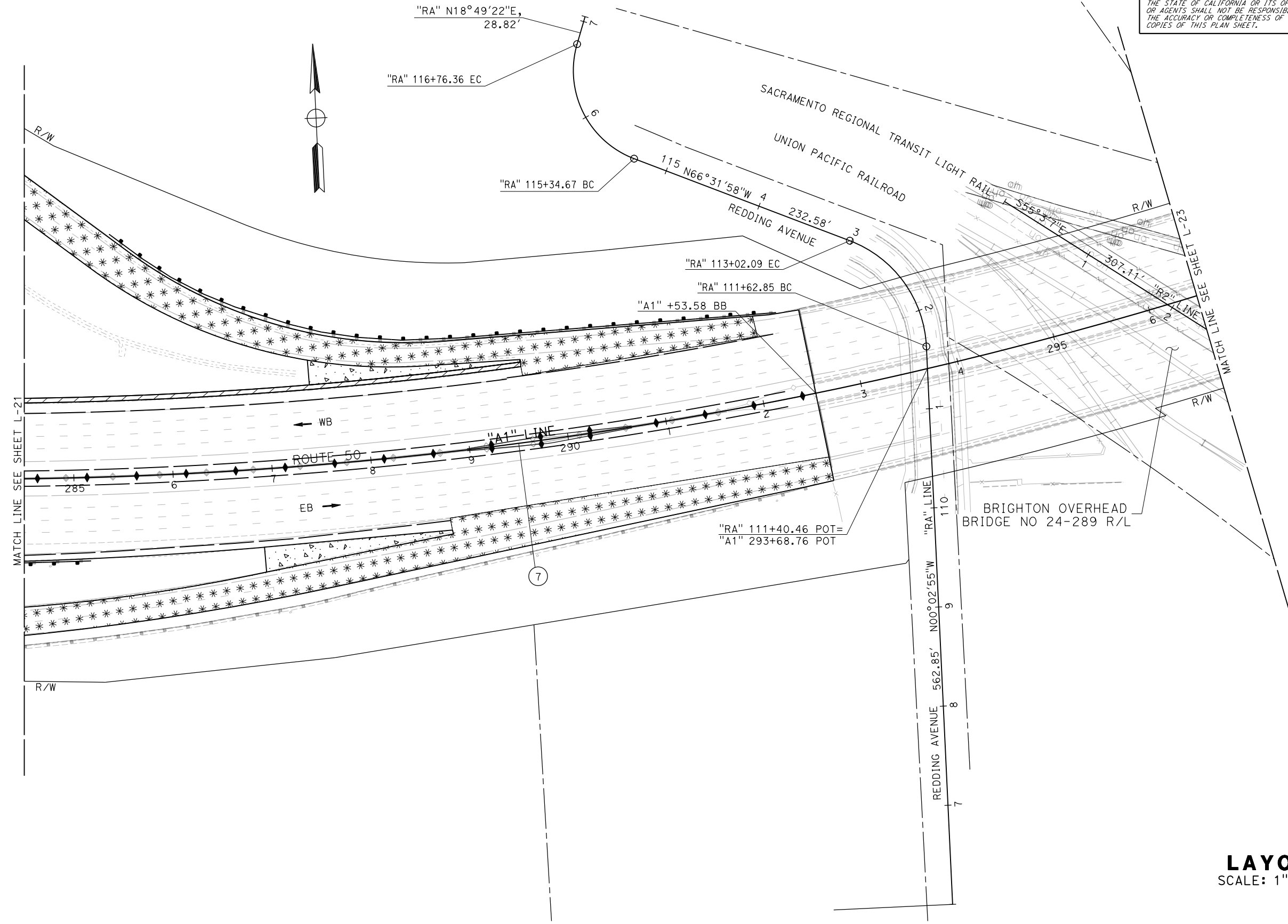
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA				
No. (#)	R	Δ	T	L
7	4200'	40°03'14"	1530.91'	2936.10'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3	-	-

PRELIMINARY
 REGISTERED CIVIL ENGINEER DATE -
 PLANS APPROVAL DATE -

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LAYOUT
 SCALE: 1" = 50'

L-22

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

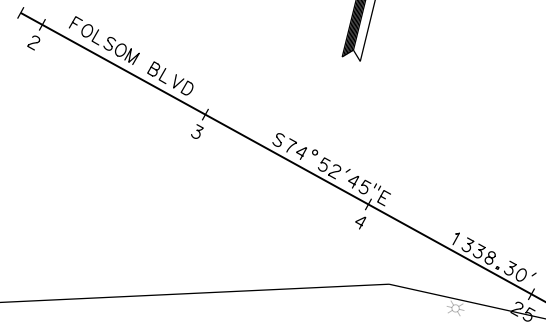
PRELIMINARY
REGISTERED CIVIL ENGINEER DATE _____
PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

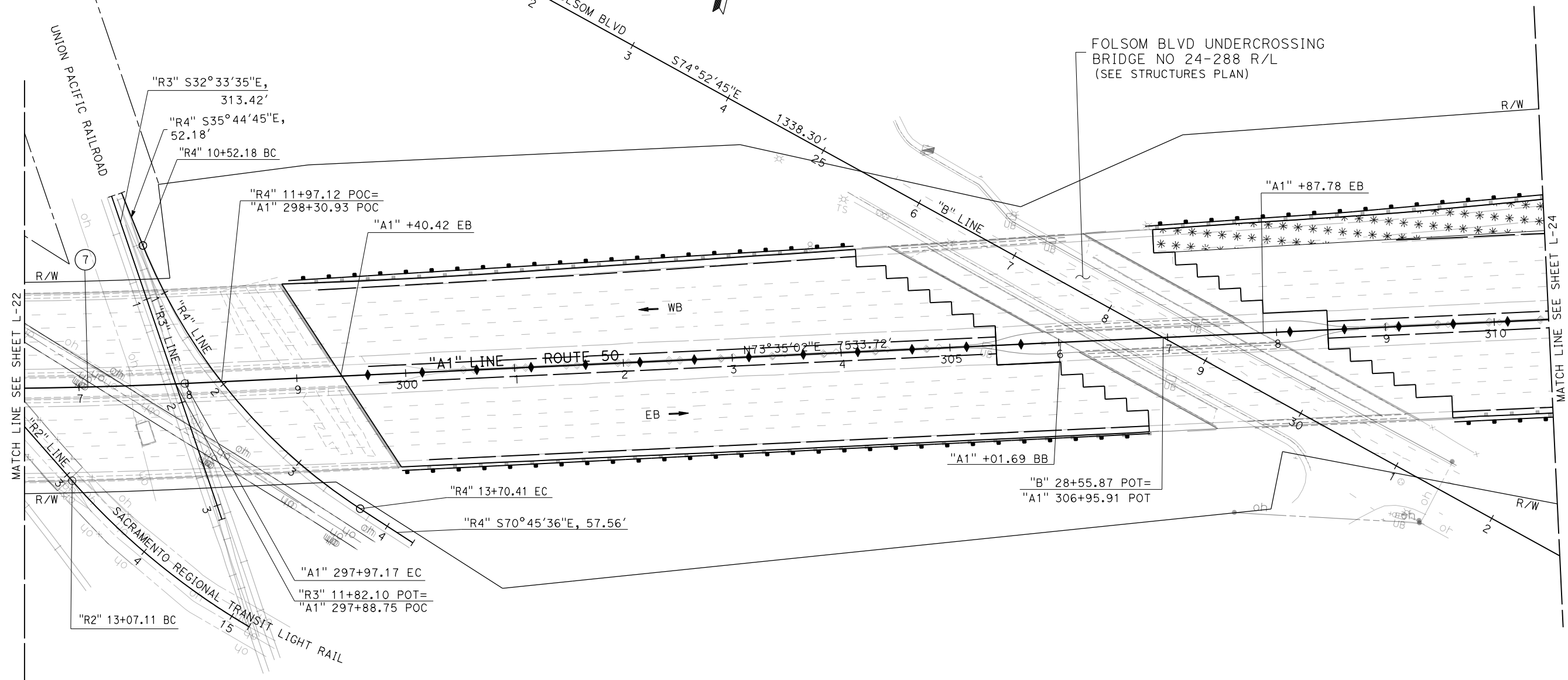
CURVE DATA

No. (⊕)	R	Δ	T	L
7	4200'	40°03'14"	1530.91'	2936.10'

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOLSOM BLVD UNDERCROSSING
BRIDGE NO 24-288 R/L
(SEE STRUCTURES PLAN)



MATCH LINE SEE SHEET L-22

MATCH LINE SEE SHEET L-24

LAYOUT
SCALE: 1" = 50'

L-23

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: SAM VANDELL
CHECKED BY: THOMAS LANGLEY
DESIGNED BY: THOMAS LANGLEY
REVISOR: THOMAS LANGLEY
DATE REVISED: XX

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LAST REVISION: 04-18-18 DATE PLOTTED => 14-AUG-2018 TIME PLOTTED => 12:18

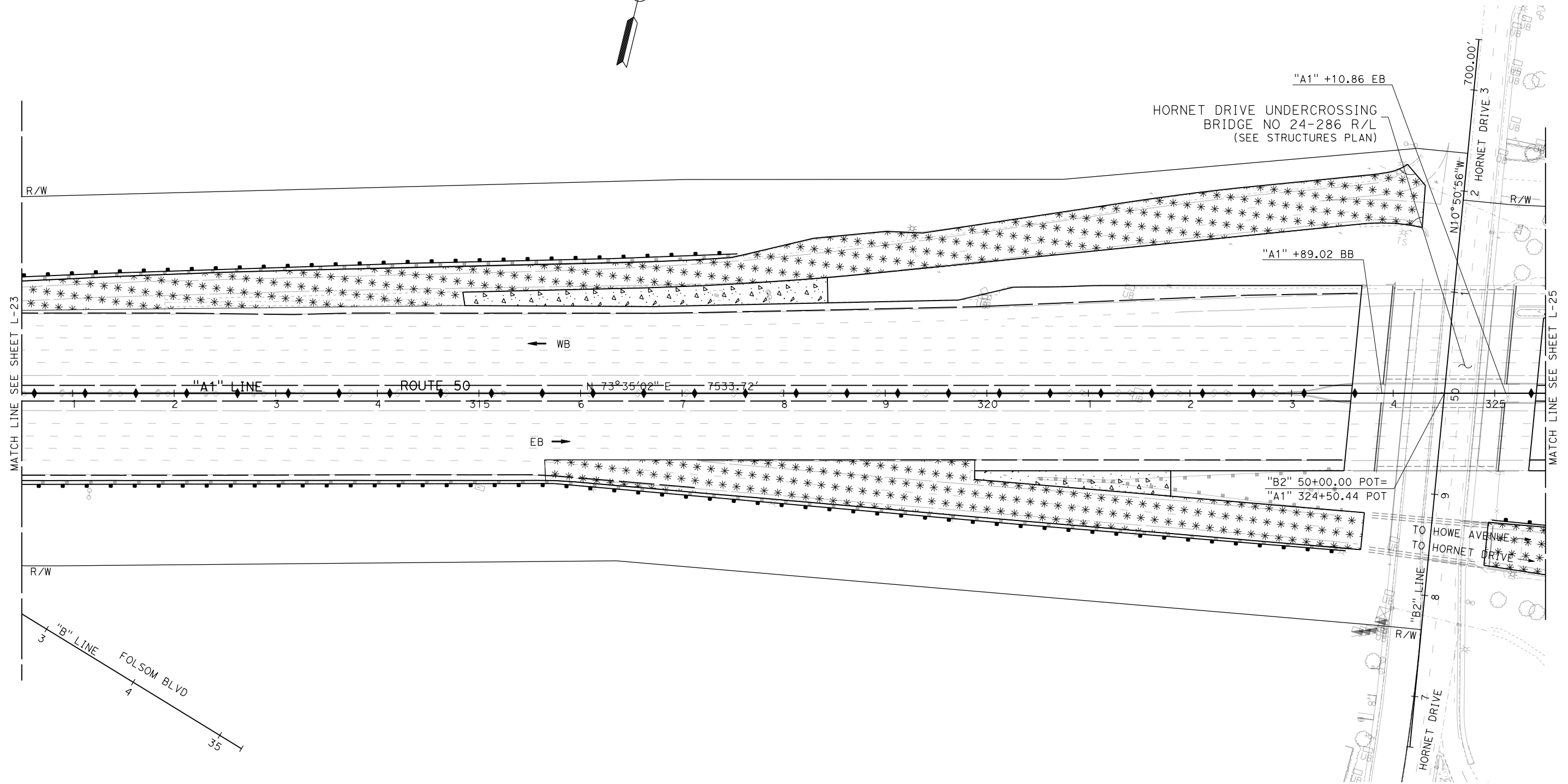
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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN
 FUNCTIONAL SUPERVISOR SAM VANDELL
 CHECKED BY
 CALCULATED-DESIGNED BY THOMAS LANGLEY
 REVISOR BY DATE REVISED
 XX

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY
 REGISTERED CIVIL ENGINEER DATE
 PLANS APPROVAL DATE

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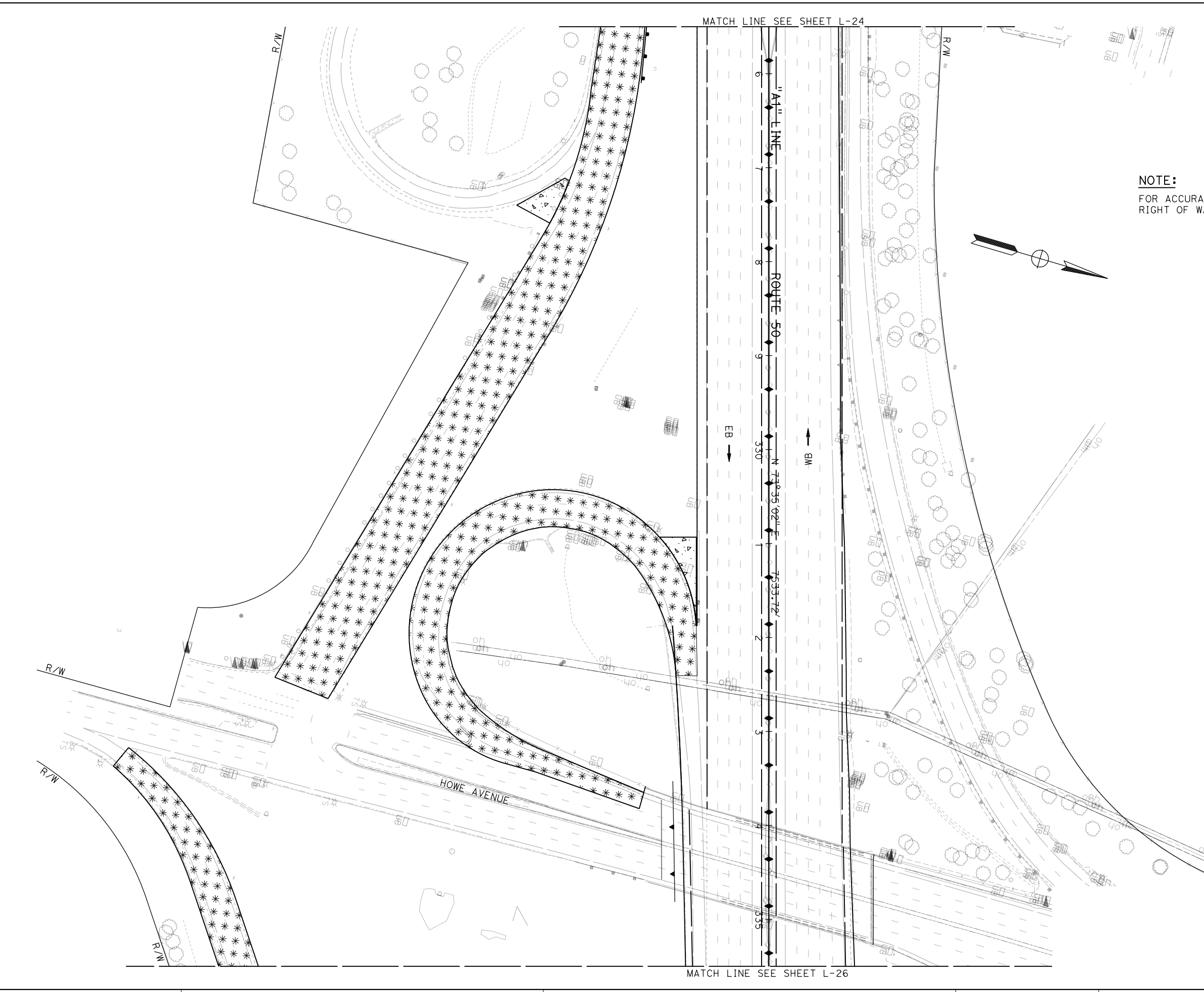


LAYOUT
 SCALE: 1" = 50'

L-24

DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:18

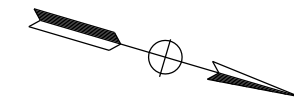
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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED/DESIGNED BY: THOMAS LANGLEY
 CHECKED BY: XX
 REVISED BY: DATE REVISED:



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY
 REGISTERED CIVIL ENGINEER DATE
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LAYOUT
 SCALE: 1" = 50'

L-25

LAST REVISION DATE PLOTTED => 14-AUG-2018
 04-18-18 TIME PLOTTED => 12:18

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		FUNCTIONAL SUPERVISOR		DESIGNED BY		REVISOR	
St. Gobans		SAM VANDELL		CHECKED BY		DATE	
DESIGN				THOMAS LANGLEY		XX	
				REVISOR		DATE	

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

MATCH LINE SEE SHEET L-25



MATCH LINE SEE SHEET L-27

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



LAYOUT
SCALE: 1" = 50'

L-26

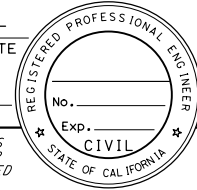
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

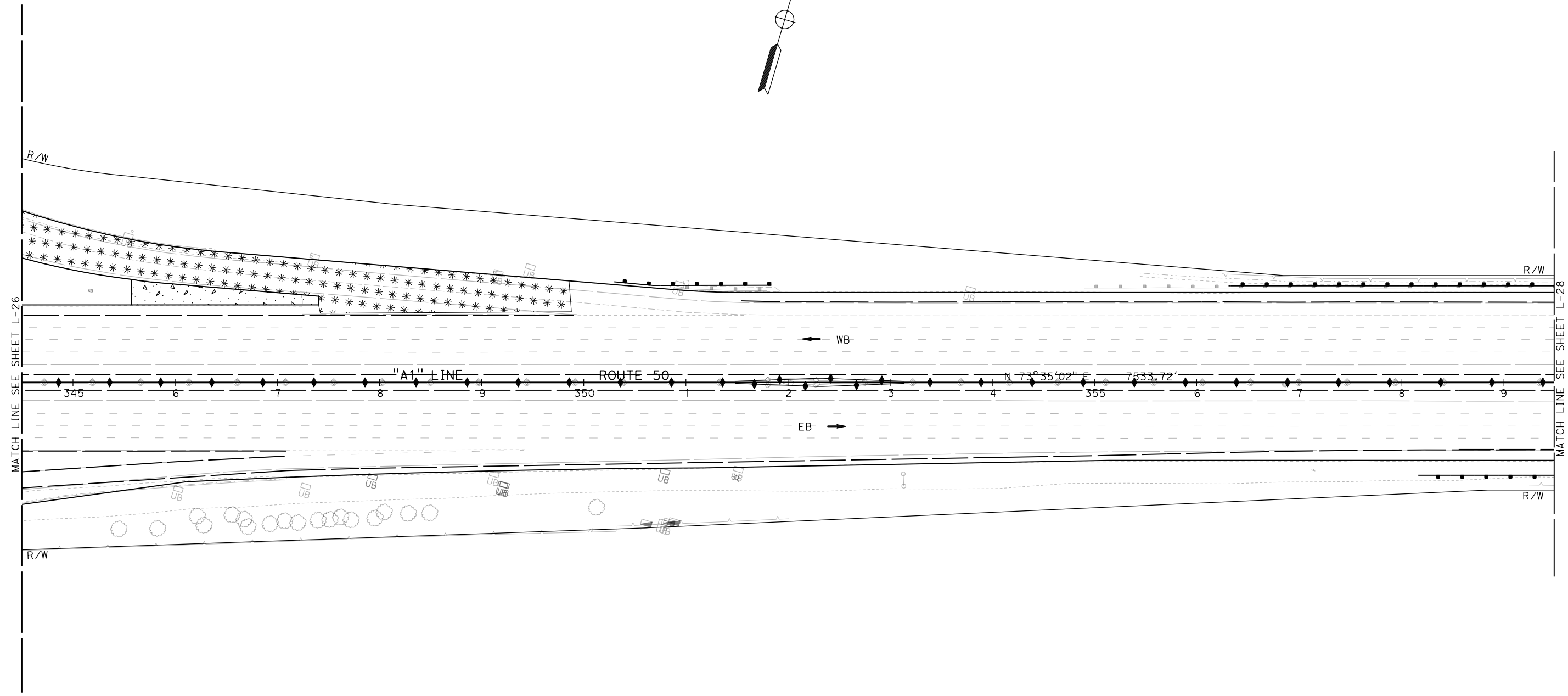
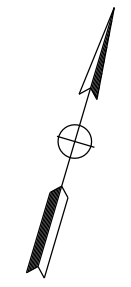
REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LAYOUT
SCALE: 1" = 50'

L-27

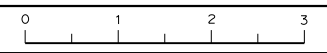
DESIGNED BY	THOMAS LANGLEY
CHECKED BY	XX
FUNCTIONAL SUPERVISOR	SAM VANDELL
REVISIONS	
REVISOR	
DATE	
BY	
DATE	

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

BORDER LAST REVISED 7/2/2010

USERNAME => s109681
DGN FILE => 0315000074e0027.dgn

RELATIVE BORDER SCALE IS IN INCHES



UNIT 0337

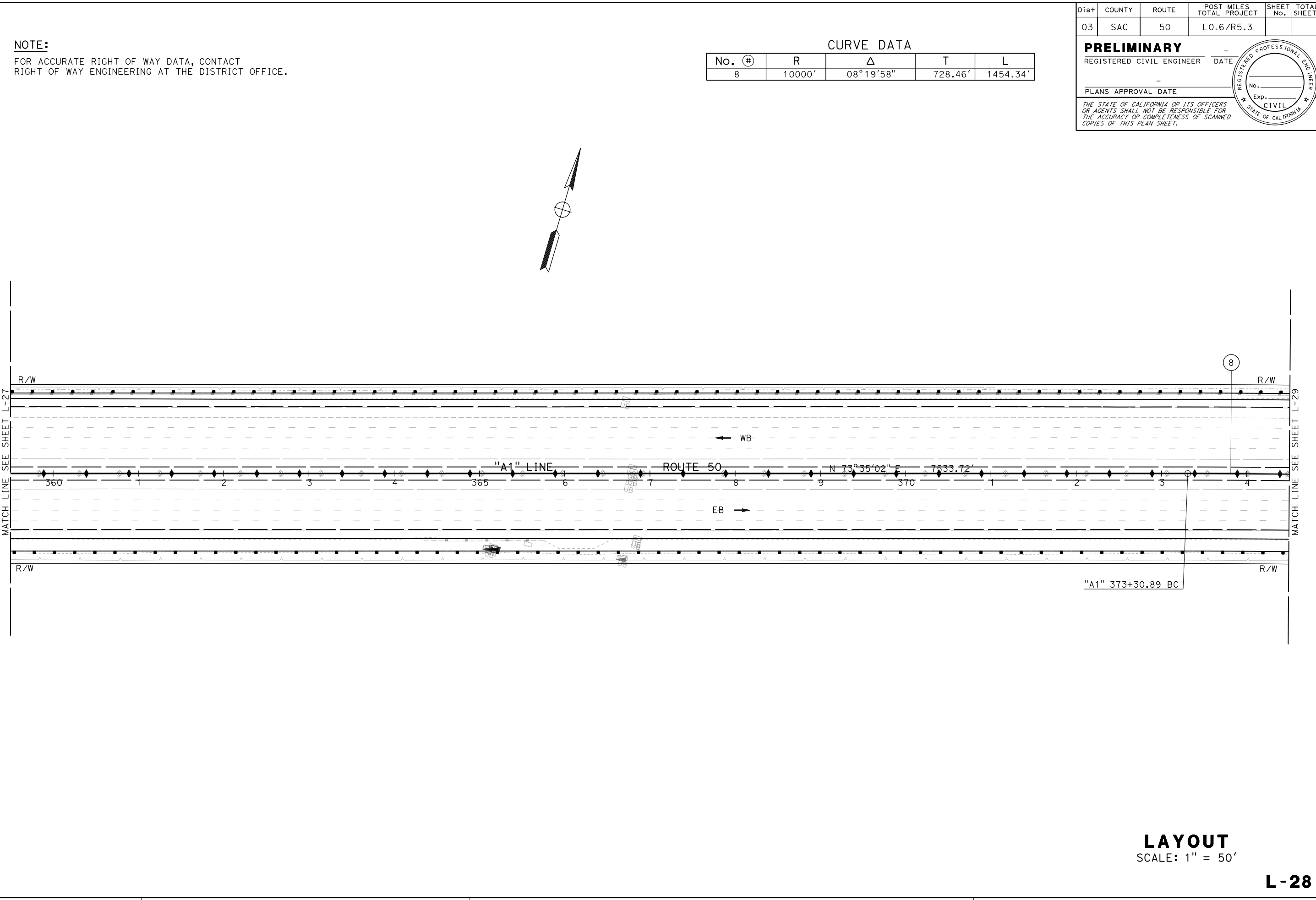
PROJECT NUMBER & PHASE

03150000741

DATE PLOTTED => 14-AUG-2018
TIME PLOTTED => 12:18
LAST REVISION
04-18-18

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
DESIGN

FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED/DESIGNED BY: THOMAS LANGLEY
 CHECKED BY: XX
 REVISED BY: _____
 DATE REVISED: _____



NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA				
No. (⊕)	R	Δ	T	L
8	10000'	08°19'58"	728.46'	1454.34'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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LAYOUT
 SCALE: 1" = 50'

L-28

LAST REVISION: 04-18-18
 DATE PLOTTED => 14-AUG-2018
 TIME PLOTTED => 12:18

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED/DESIGNED BY: THOMAS LANGLEY
 CHECKED BY: XX
 REVISOR: THOMAS LANGLEY
 DATE REVISOR: XX

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. #	R	Δ	T	L
8	10000'	08°19'58"	728.46'	1454.34'

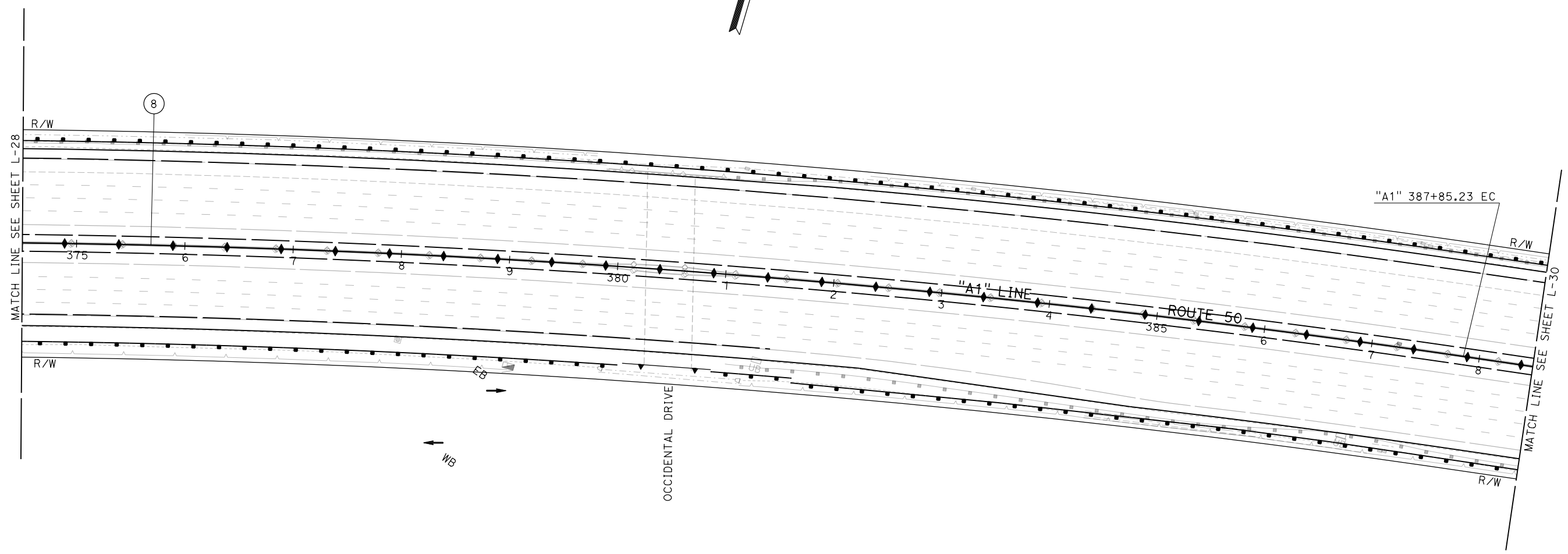
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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LAYOUT
 SCALE: 1" = 50'

L-29

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DESIGN

FUNCTIONAL SUPERVISOR

SAM VANDELL

CALCULATED-DESIGNED BY

CHECKED BY

THOMAS LANGLEY

XX

REVISED BY

DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

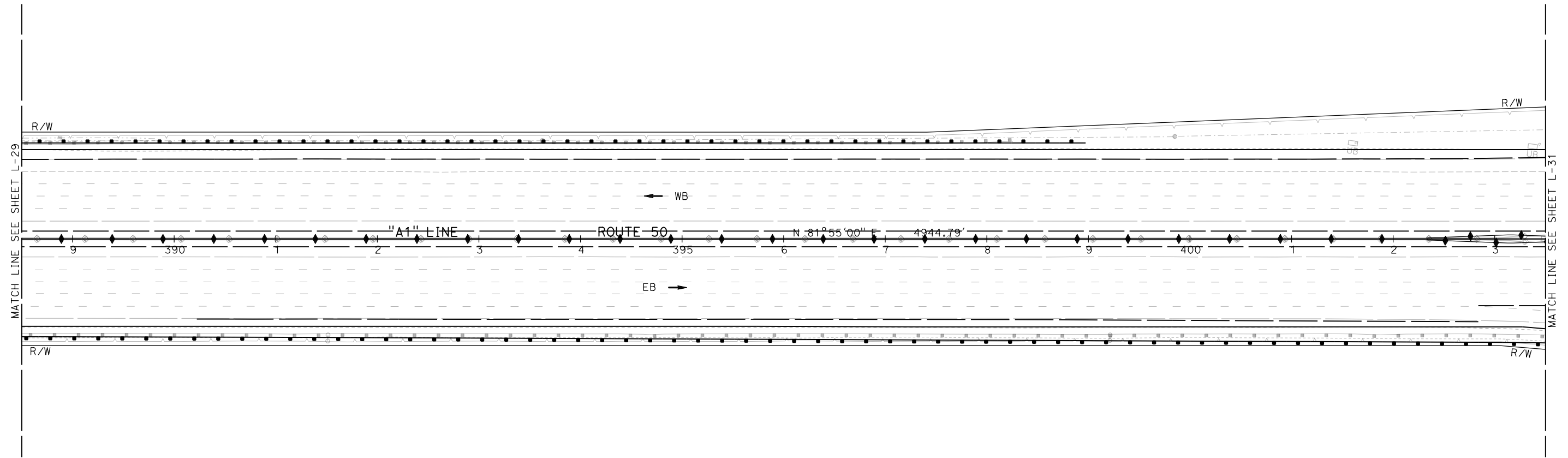
PRELIMINARY

REGISTERED CIVIL ENGINEER DATE _____

PLANS APPROVAL DATE _____

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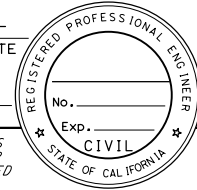


LAYOUT
SCALE: 1" = 50'

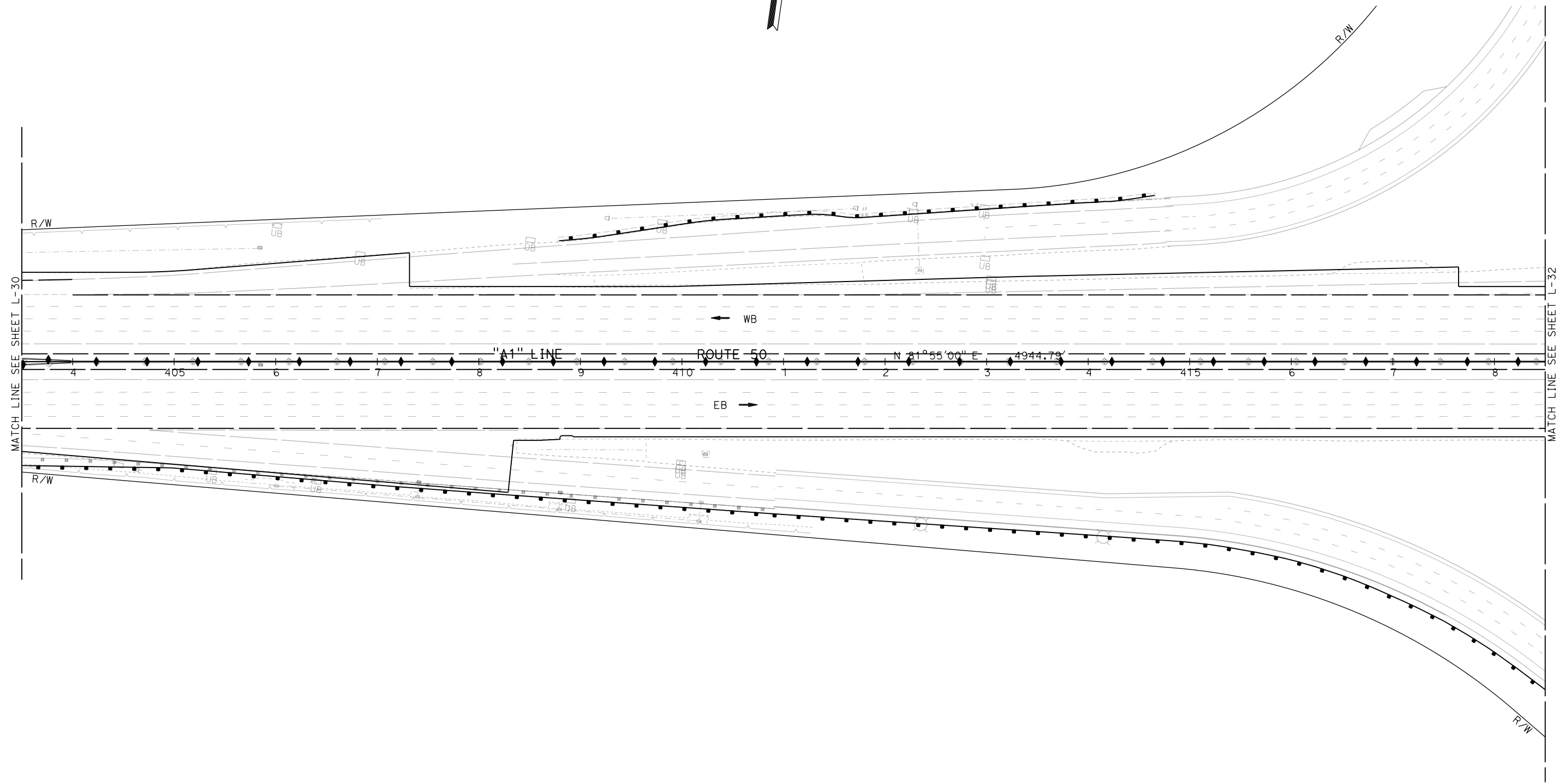
L-30

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR SAM VANDELL	CALCULATED-DESIGNED BY	THOMAS LANGLEY	REVISOR BY	
	CHECKED BY	XX	DATE REVISED	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LAYOUT
 SCALE: 1" = 50'

L-31

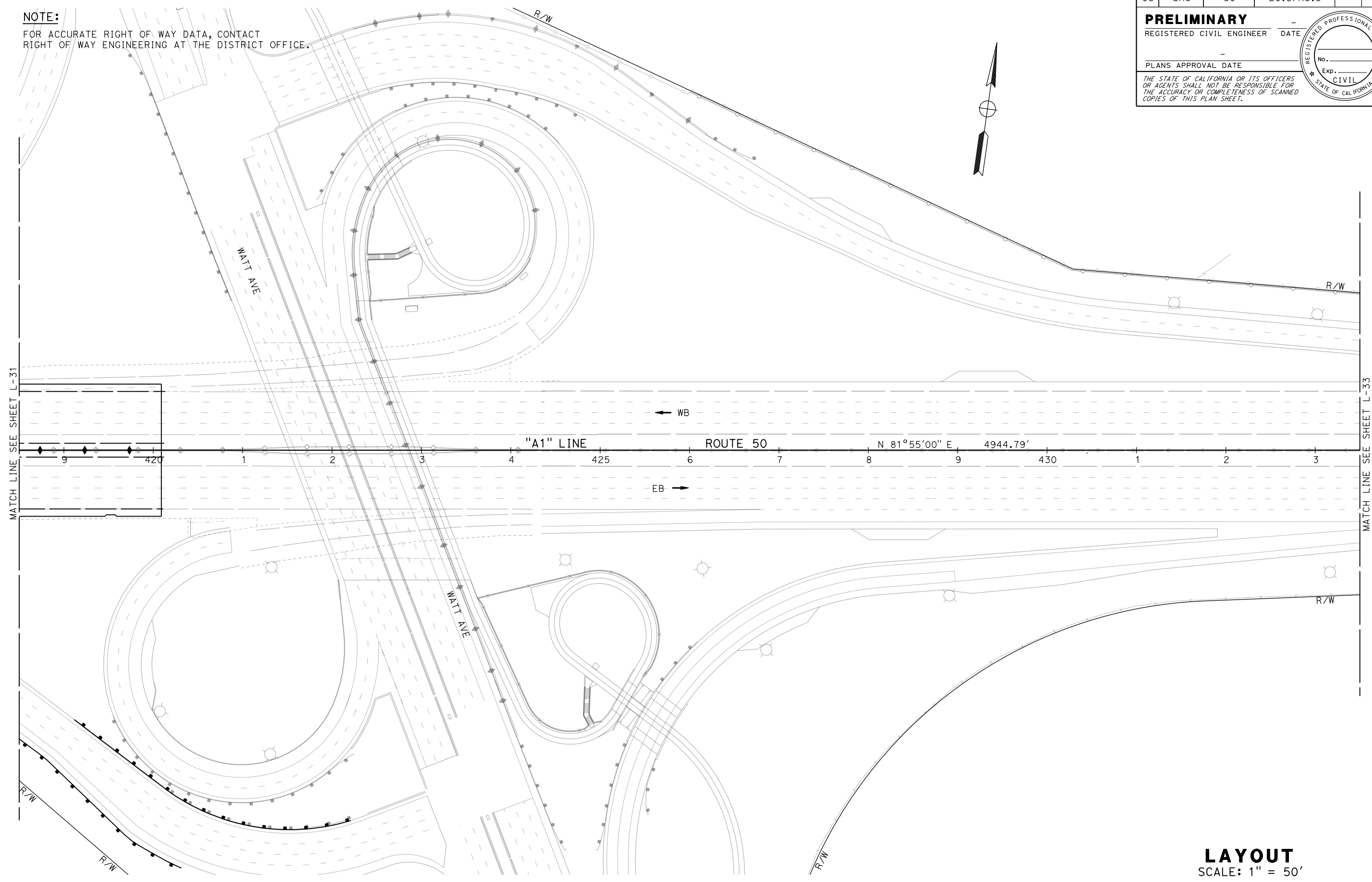
LAST REVISION DATE PLOTTED => 14-AUG-2018
 04-18-18 TIME PLOTTED => 12:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		

PRELIMINARY
REGISTERED CIVIL ENGINEER DATE _____
PLANS APPROVAL DATE _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

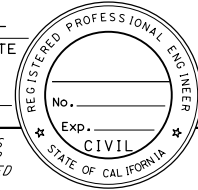
NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



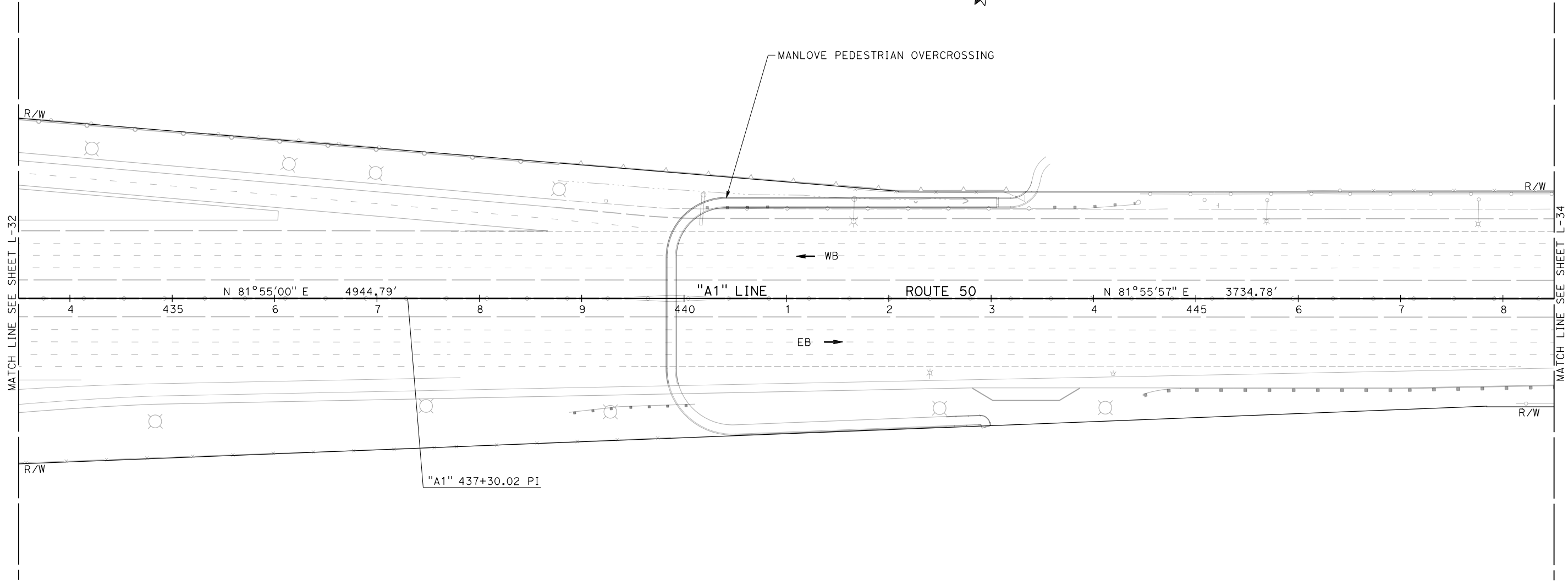
LAYOUT
SCALE: 1" = 50'

L-32

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans DESIGN
FUNCTIONAL SUPERVISOR: SAM VANDELL
DESIGNED BY: THOMAS LANGLEY
CHECKED BY: XX
REVISOR: _____
DATE REVISED: _____

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

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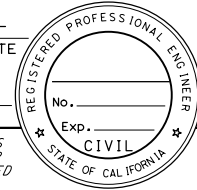


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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED BY: DESIGNED BY: CHECKED BY:
 THOMAS LANGLEY
 REVISOR: XX
 DATE REVISED:

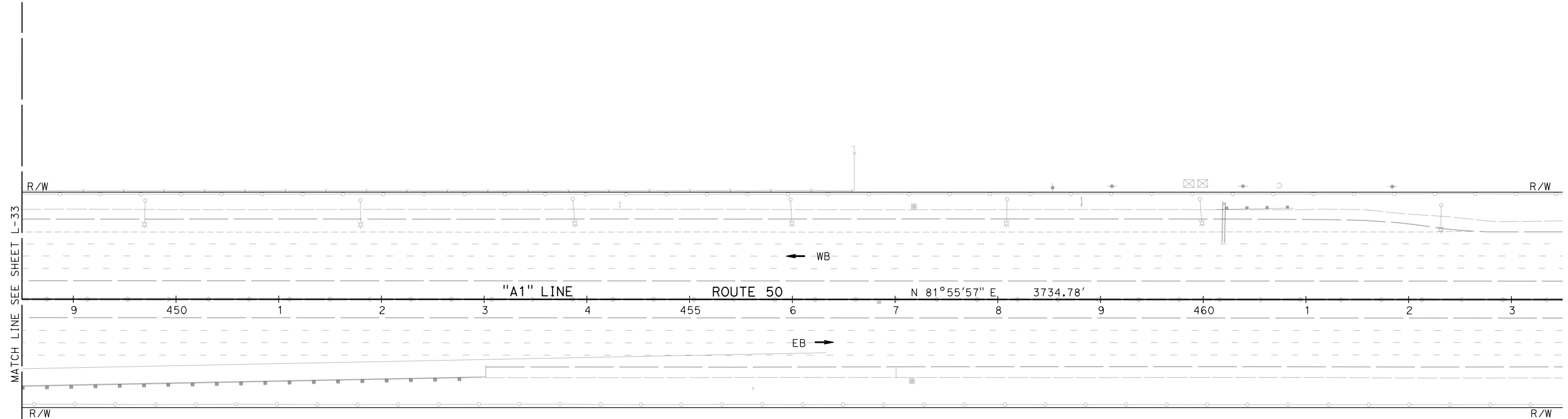
LAYOUT
SCALE: 1" = 50'

L-33

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
 FUNCTIONAL SUPERVISOR
 SAM VANDELL
 CALCULATED BY
 THOMAS LANGLEY
 CHECKED BY
 XX
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

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 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LAYOUT
 SCALE: 1" = 50'

L-34

**PROJECT
PLANNING COST ESTIMATE**

EA: 03-0H080

EA: 03-0H080 PID:

PID:

District-County-Route: 03-SAC-050

PM: L0.6 - R5.3

Type of Estimate : PA&ED

Program Code : 201.120

Project Limits : I-5 to Watt Ave OC

Project Description: Pavement Rehabilitation

Scope : Replace existing freeway PCC pavement

Alternative : #3 Long-Life CRCP

SUMMARY OF PROJECT COST ESTIMATE

	<u>Current Year Cost</u>
TOTAL ROADWAY COST	\$ 237,960,200
TOTAL STRUCTURES COST	\$ 21,334,125
SUBTOTAL CONSTRUCTION COST	\$ 259,294,325
TOTAL RIGHT OF WAY COST	\$ 117,000
TOTAL CAPITAL OUTLAY COSTS	\$ 259,412,000
PA/ED SUPPORT	\$ -
PS&E SUPPORT	\$ -
RIGHT OF WAY SUPPORT	\$ -
CONSTRUCTION SUPPORT	\$ -
TOTAL SUPPORT COST	\$ -

TOTAL PROJECT COST	\$ 260,000,000
---------------------------	-----------------------

If Project has been programmed enter Programmed Amount

	<u>Month</u> / <u>Year</u>
Date of Estimate (Month/Year) _____	8 / 2018
Estimated Construction Start (Month/Year) _____	8 / 2020
Number of Working Days = 800	
Estimated Mid-Point of Construction (Month/Year) _____	10 / 2022
Estimated Construction End (Month/Year) _____	12 / 2024
Number of Plant Establishment Days 261	

Estimated Project Schedule

PID Approval	October-14
PA/ED Approval	August-18
PS&E	December-19
RTL	February-20
Begin Construction	August-20

Reviewed by District O.E. or
Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier	Date	Phone
---	------	-------

Approved by Project Manager

Project Manager	Date	Phone
-----------------	------	-------

PROJECT COST ESTIMATE

EA: 03-0H080 PID:

I. ROADWAY ITEMS SUMMARY

	Section	Cost
1	Earthwork	<u>\$ 3,070,000</u>
2	Pavement Structural Section	<u>\$ 87,601,900</u>
3	Drainage	<u>\$ 6,456,000</u>
4	Specialty Items	<u>\$ 33,392,400</u>
5	Environmental	<u>\$ 10,251,500</u>
6	Traffic Items	<u>\$ 32,057,800</u>
7	Detours	<u>\$ 2,000,000</u>
8	Minor Items	<u>\$ 8,776,500</u>
9	Roadway Mobilization	<u>\$ 5,508,200</u>
10	Supplemental Work	<u>\$ 3,532,100</u>
11	State Furnished	<u>\$ 6,141,100.00</u>
12	Time-Related Overhead	<u>\$ 8,134,400.00</u>
13	Roadway Contingency	<u>\$ 31,038,300.00</u>

TOTAL ROADWAY ITEMS	\$ 237,960,200
----------------------------	-----------------------

Estimate Prepared By : _____
Name and Title Date Phone

Estimate Reviewed By : _____
Name and Title Date Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price (\$)		Cost
190101	Roadway Excavation	CY	280,000	x	10.00	= \$	2,800,000
19010X	Roadway Excavation (Type X) ADL	CY		x		= \$	-
194001	Ditch Excavation	CY		x		= \$	-
19801X	Imported Borrow	CY/TON		x		= \$	-
192037	Structure Excavation (Retaining Wall)	CY		x		= \$	-
193013	Structure Backfill (Retaining Wall)	CY		x		= \$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		= \$	-
16010X	Clearing & Grubbing	LS/ACRE	1	x	20,000.00	= \$	20,000
170101	Develop Water Supply	LS	1	x	250,000.00	= \$	250,000
19801X	Imported Borrow	CY/TON		x		= \$	-
210130	Duff	ACRE		x		= \$	-
XXXXXX	Some Item	Unit				= \$	-

TOTAL EARTHWORK SECTION ITEMS	\$	3,070,000
--------------------------------------	-----------	------------------

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price (\$)		Cost
401050	Jointed Plain Concrete Pavement	CY		x	161.00	= \$	-
400050	Continuously Reinforced Concrete Pavement	CY	258,201	x	240.00	= \$	61,968,240
404092	Seal Pavement Joint	LF		x	4.00	= \$	-
404093	Seal Isolation Joint	LF		x	8.00	= \$	-
413117	Seal Concrete Pavement Joint (Silicone)	LF		x		= \$	-
413118	Seal Pavement Joint (Asphalt Rubber)	LF		x		= \$	-
280010	Rapid Strength Concrete Base	CY		x	704.50	= \$	-
410095	Dowel Bar (Drill and Bond)	EA		x	14.00	= \$	-
390132	Hot Mix Asphalt (Type A)	TON	123,222	x	90.00	= \$	11,089,980
370002A	High Friction Surface Treatment (HFST)	SQYD	18,000	x	28.00	= \$	504,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON		x	97.00	= \$	-
39300X	Geosynthetic Pavement Interlayer (Type X)	SQYD		x		= \$	-
26020X	Class 2 Aggregate Base	CY	59,000	x	40.00	= \$	2,360,000
290201	Asphalt Treated Permeable Base	CY		x		= \$	-
250401	Class 4 Aggregate Subbase	CY		x	107.00	= \$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x	1,114.00	= \$	-
397005	Tack Coat	TON		x	531.80	= \$	-
377501	Slurry Seal	TON		x	175.00	= \$	-
3750XX	Screenings (Type XX)	TON		x	70.00	= \$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		= \$	-
370001	Sand Cover (Seal)	TON		x	95.00	= \$	-
731530	Minor Concrete (Textured Gore Paving)	CY	1,562	x	950.00	= \$	1,483,900
731502	Minor Concrete (Miscellaneous Construction)	CY		x	504.00	= \$	-
39407X	Place Hot Mix Asphalt Dike (Type X)	LF	20,000	x	2.50	= \$	50,000
	Curb and Gutter	CY	1,100	x	550.00	= \$	605,000
150771	Remove Asphalt Concrete Dike	LF	20,000	x	2.00	= \$	40,000
420201	Grind Existing Concrete Pavement	SQYD		x	5.00	= \$	-
150860	Remove Base and Surfacing	CY		x	19.00	= \$	-
390095	Replace Asphalt Concrete Surfacing	CY		x	283.00	= \$	-
15312X	Remove Concrete Pavement and Base	CY	137,500	x	60.00	= \$	8,250,000
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x	33.00	= \$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD	80,000	x	3.00	= \$	240,000
39405X	Shoulder Rumble Strip (HMA, X-In Indentations)	STA		x		= \$	-
413113	Repair Spalled Joints, Polyester Grout	SQYD		x		= \$	-
420102	Groove Existing Concrete Pavement	SQYD		x	2.50	= \$	-
390136	Minor Hot Mix Asphalt	TON		x	169.00	= \$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x	130.00	= \$	-
682042	Class 2 Permeable Material (Blanket)	CY	8,000	x	120.00	= \$	960,000
XXXXXX	Subgrade Enhancement Geotextile (Class B2)	SQYD	14,500	x	3.50	= \$	50,750

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	\$	87,601,900
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SECTION 3: DRAINAGE

Item code	Unit	Quantity		Unit Price (\$)		Cost
707117	36" Precast Concrete Pipe Inlet	LF	300	x	700.00	= \$ 210,000
150820	Remove Inlet	EA	50	x	800.00	= \$ 40,000
15020X	Abandon Culvert	LF	4,000	x	75.00	= \$ 300,000
152430	Adjust Inlet	LF	50	x	1,700.00	= \$ 85,000
650010	12" Reinforced Concrete Pipe	LF	1,000	x	280.00	= \$ 280,000
650012	15" Reinforced Concrete Pipe	LF	200	x	300.00	= \$ 60,000
650014	18" Reinforced Concrete Pipe	LF	4,900	x	320.00	= \$ 1,568,000
650018	24" Reinforced Concrete Pipe	LF	3,500	x	370.00	= \$ 1,295,000
650022	30" Reinforced Concrete Pipe	LF	700	x	420.00	= \$ 294,000
650026	36" Reinforced Concrete Pipe	LF	800	x	470.00	= \$ 376,000
650034	48" Reinforced Concrete Pipe	LF	900	x	520.00	= \$ 468,000
690112	12" Corrugated Steel Pipe Downdrain	LF	1,000	x	150.00	= \$ 150,000
	Post-construction water quality treatment	LS	1	x	600,000.00	= \$ 600,000
155213	Cleaning, Inspecting, and Preparing Culvert (LF)	LF	600	x	50.00	= \$ 30,000
	Peak Flow Mitigation Storage	LS	1	x	400,000.00	= \$ 400,000
XXXXXX	Oak Park Underdrains	LS	1	x	300,000.00	= \$ 300,000

TOTAL DRAINAGE ITEMS	\$ 6,456,000
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SECTION 4: SPECIALTY ITEMS

Item code	Unit	Quantity		Unit Price (\$)		Cost
080050	Progress Schedule (Critical Path Method)	LS	1	x	15,000.00	= \$ 15,000
582001	Sound Wall (Masonry Block)	SQFT		x		= \$ -
510530	Minor Concrete (Wall)	CY		x		= \$ -
15325X	Remove Sound Wall	LF/LS		x		= \$ -
070030	Lead Compliance Plan	LS	1	x	5,000.00	= \$ 5,000
	Asbestos Compliance Plan	LS	1	x	15,000.00	= \$ 15,000
141120	Treated Wood Waste	LB	500,000	x	0.35	= \$ 175,000
153221	Remove Concrete Barrier	LF	43,300	x	20.00	= \$ 866,000
150662	Remove Metal Beam Guard Railing	LF	31,093	x	7.00	= \$ 217,651
150668	Remove Flared End Section	EA		x		= \$ -
8000XX	Chain Link Fence (Type XX)	LF		x		= \$ -
80XXXX	XX" Chain Link Gate (Type CL-6)	EA		x		= \$ -
832005	MGS	LF	26,458	x	40.00	= \$ 1,058,320
839301	Single Thrie Beam Barrier	LF		x		= \$ -
839310	Double Thrie Beam Barrier	LF		x		= \$ -
839521	Cable Railing	LF		x		= \$ -
8395XX	Terminal System (Type CAT)	EA		x		= \$ -
839585	Alternative Flared Terminal System	EA		x		= \$ -
839584	Alternative In-line Terminal System	EA		x		= \$ -
4906XX	CIDH Concrete Piling (Insert Diameter)	LF		x		= \$ -
839XXX	Crash Cushion (Insert Type)	EA	7	x	15,000.00	= \$ 105,000
83XXXX	Concrete Barrier (Type 60) - Median	LF	35,147	x	160.00	= \$ 5,623,520
	Concrete Barrier (Type 842) - Outside Shld	LF	1,853	x	160.00	= \$ 296,480
	Ground Anchor Retaining Walls	SQFT	100,000	x	250.00	= \$ 25,000,000
520103	Bar Reinforced Steel (Retaining Wall)	LB		x		= \$ -
510060	Structural Concrete, Retaining Wall	CY		x		= \$ -
513553	Retaining Wall (Masonry Wall)	SQFT		x		= \$ -
511035	Architectural Treatment	SQFT		x		= \$ -
598001	Anti-Graffiti Coating	SQFT		x		= \$ -
203070	Rock Stain	SQFT		x		= \$ -
5136XX	Reinforced Concrete Crib Wall (Type X)	SQFT		x		= \$ -
83954X	Transition Railing (Type X)	EA		x		= \$ -
597601	Prepare and Stain Concrete	SQFT		x		= \$ -
839561	Rail Tensioning Assembly	EA		x		= \$ -
83958X	End Anchor Assembly (Type X)	EA		x		= \$ -
XXXXXX	Concrete Anchor Block	EA	14	x	1,100.00	= \$ 15,400

TOTAL SPECIALTY ITEMS	\$ 33,392,400
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SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation	LS	x	= \$	-
130670 Temporary Reinforced Silt Fence	LF	x	= \$	-
141000 Temporary Fence (Type ESA)	LF	x	= \$	-
<i>Subtotal Environmental Mitigation</i>				\$ -

5B - LANDSCAPE AND IRRIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
20XXXX Highway Planting	LS	1 x	6,500,000.00 = \$	6,500,000
Relocate Irrigation Equipment	EA	1 x	2,500.00 = \$	2,500
Relocate Electrical Box	EA	1 x	1,200.00 = \$	1,200
Maintenance Vehicle Pullout (MVP)	EA	6 x	19,500.00 = \$	117,000
Vegetation Control	SQYD	15,600 x	43.00 = \$	670,800
Worker and Equipment Access	SF	37,000 x	5.00 = \$	185,000
Prune Existing Plants	LS	1 x	25,000.00 = \$	25,000
20XXXX Irrigation System	LS	x	= \$	-
204099 Plant Establishment Work	LS	x	= \$	-
204101 Extend Plant Establishment Work	LS	x	= \$	-
20XXXX Follow-up Landscape Project	LS	x	= \$	-
150685 Remove Irrigation Facility	LS	x	= \$	-
20XXXX Maintain Existing (Irrigation or Planted Areas)	LS	x	= \$	-
206400 Check and Test Existing Irrigation Facilities	LS	x	= \$	-
21011X Imported Topsoil (X)	CY/TON	x	= \$	-
20XXXX Rock Blanket, Rock Mulch, DG, Gravel Mulch	QFT/SQYD	x	= \$	-
200122 Weed Germination	SQYD	x	= \$	-
208304 Water Meter	EA	x	= \$	-
2087XX XX" Conduit (Use for Irrigation x-overs)	LF	x	= \$	-
20890X Extend X" Conduit (Use for Extension of Irrigation	LF	x	= \$	-
<i>Subtotal Landscape and Irrigation</i>				\$ 7,501,500

5C - EROSION CONTROL

Item code	Unit	Quantity	Unit Price (\$)	Cost
210010 Move In/Move Out (Erosion Control)	EA	x	= \$	-
Permanent Erosion Control	LS	1 x	100000 = \$	100,000
210350 Fiber Rolls	LF	x	= \$	-
210360 Compost Sock	LF	x	= \$	-
2102XX Rolled Erosion Control Product (X)	SQFT	x	= \$	-
21025X Bonded Fiber Matrix	QFT/ACRE	x	= \$	-
210300 Hydromulch	SQFT	x	= \$	-
210420 Straw	SQFT	x	= \$	-
210430 Hydroseed	SQFT	x	= \$	-
210600 Compost	SQFT	x	= \$	-
210630 Incorporate Materials	SQFT	x	= \$	-
<i>Subtotal Erosion Control</i>				\$ 100,000

5D - NPDES

Item code	Unit	Quantity	Unit Price (\$)	Cost
SWPPP and Implementation	LS	1 x	150,000.00 = \$	150,000
Temporary Erosion Control	LS	1 x	2,500,000.00 = \$	2,500,000
130100 Job Site Management	LS	x	= \$	-
130330 Storm Water Annual Report	EA	x	= \$	-
130310 Rain Event Action Plan (REAP)	EA	x	= \$	-
130320 Storm Water Sampling and Analysis Day	EA	x	= \$	-
130520 Temporary Hydraulic Mulch	SQYD	x	= \$	-
130550 Temporary Hydroseed	SQYD	x	= \$	-
130505 Move-In/Move-Out (Temporary Erosion Control)	EA	x	= \$	-
130640 Temporary Fiber Roll	LF	x	= \$	-
130900 Temporary Concrete Washout	LS	x	= \$	-
130710 Temporary Construction Entrance	EA	x	= \$	-
130610 Temporary Check Dam	LF	x	= \$	-
130620 Temporary Drainage Inlet Protection	EA	x	= \$	-
XXXXXX Street Sweeping	LS	x	= \$	-
<i>Subtotal NPDES</i>				\$ 2,650,000

TOTAL ENVIRONMENTAL	\$ 10,251,500
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Supplemental Work for NPDES

066595 Water Pollution Control Maintenance Sharing*	LS	x	= \$	-
066596 Additional Water Pollution Control**	LS	x	= \$	-
066597 Storm Water Sampling and Analysis***	LS	x	= \$	-
XXXXXX PPDG PE Estimate	LS	x	= \$	-
<i>Subtotal Supplemental Work for NDPS</i>				\$ -

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
860460	LS	1	x 4,000,000.00 = \$	4,000,000
860201	LS		x = \$	-
860990	LS	1	x 500,000.00 = \$	500,000
86110X	LS	1	x 3,000,000.00 = \$	3,000,000
86070X	LF/LS		x = \$	-
5602XX	LB	29	x 140,000.00 = \$	4,060,000
5602XX	LB	9	x 320,000.00 = \$	2,880,000
5602XX	LB		x = \$	-
498040	LF		x = \$	-
86080X	EA/LS		x = \$	-
8609XX	LS	1	x 400,000.00 = \$	400,000
15075X	EA/LS	38	x 5,000.00 = \$	190,000
151581	EA		x = \$	-
152641	EA		x = \$	-
860090	LS	1	x 500,000.00 = \$	500,000
86XXXX	LS	1	x 1,000,000.00 = \$	1,000,000
	LS	1	x 100,000.00 = \$	100,000
	LS	1	x 100,000.00 = \$	100,000
	LS	1	x 1,000,000.00 = \$	1,000,000
	LS	1	x 200,000.00 = \$	200,000
	LS	1	x 1,000,000.00 = \$	1,000,000
	LS	1	x 50,000.00 = \$	50,000
	LS	1	x 1,000,000.00 = \$	1,000,000
	LS	1	x 100,000.00 = \$	100,000
<i>Subtotal Traffic Electrical</i>				\$ 19,980,000

6B - Traffic Signing and Striping

Item code	Unit	Quantity	Unit Price (\$)	Cost
	LS	1	x 350,000.00 = \$	350,000
566012	EA		x = \$	-
	LS	1	x 500,000.00 = \$	500,000
568016	SQFT		x = \$	-
	LF	162,800	x 4.70 = \$	765,160
	EA	10,100	x 1.00 = \$	10,100
150712	SQFT		x = \$	-
150742	EA		x = \$	-
152320	EA		x = \$	-
152390	EA		x = \$	-
82010X	EA		x = \$	-
840502	LF		x = \$	-
846012	SQFT		x = \$	-
120090	LS		x = \$	-
84XXXX	LS	1	x 252,500.00 = \$	252,500
<i>Subtotal Traffic Signing and Striping</i>				\$ 1,877,760

6C - Traffic Management Plan

Item code	Unit	Quantity	Unit Price (\$)	Cost
12865X	EA/LS	1	x \$ 750,000 = \$	750,000
<i>Subtotal Traffic Management Plan</i>				\$ 750,000

6C - Stage Construction and Traffic Handling

Item code	Unit	Quantity	Unit Price (\$)	Cost
120199	EA		x = \$	-
12016X	EA		x = \$	-
120120	EA		x = \$	-
129100	EA		x = \$	-
120100	LS	1	x 2,000,000.00 = \$	2,000,000
129110	EA		x = \$	-
129000	LF	850,000	x 7.00 = \$	5,950,000
120149	LF	1,000,000	x 1.50 = \$	1,500,000
82010X	EA		x = \$	-
XXXXXX	Unit		x = \$	-
<i>Subtotal Stage Construction and Traffic Handling</i>				\$ 9,450,000

TOTAL TRAFFIC ITEMS	\$ 32,057,800
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SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
190101 Roadway Excavation	CY		x = \$	-
19801X Imported Borrow	CY/TON		x = \$	-
390132 Hot Mix Asphalt (Type A)	TON		x = \$	-
26020X Class 2 Aggregate Base	TON/CY		x = \$	-
250401 Class 4 Aggregate Subbase	CY		x = \$	-
130620 Temporary Drainage Inlet Protection	EA		x = \$	-
129000 Temporary Railing (Type K)	LF		x = \$	-
128601 Temporary Signal System	LS	1	x 2,000,000.00 = \$	2,000,000
120149 Temporary Pavement Marking (Paint)	SQFT		x = \$	-
80010X Temporary Fence (Type X)	LF		x = \$	-
TOTAL DETOURS				\$ 2,000,000

SUBTOTAL SECTIONS 1 through 7 \$ 174,829,600

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items	Unit	Quantity	Unit Price (\$)	Cost
ADA Items - Rehab 4 Curb Ramps	LS	1	x 35,000.00 = \$	35,000
8B - Bike Path Items				
Bike Path Items			0.0% = \$	-
8C - Other Minor Items				
Other Minor Items			0.0% = \$	-
Total of Section 1-7		\$ 174,829,600	x 5.0% = \$	8,741,480
TOTAL MINOR ITEMS				\$ 8,776,500

SECTIONS 9: MOBILIZATION

Item code 999990	Total Section 1-8	\$ 183,606,100	x 3% = \$	5,508,183
TOTAL MOBILIZATION				\$ 5,508,200

SECTION 10: SUPPLEMENTAL WORK

Item code	Unit	Quantity	Unit Price (\$)	Cost
066670 Payment Adjustments For Price Index Fluctuations	LS		x = \$	-
066094 Value Analysis	LS	1	x 40,000.00 = \$	40,000
066070 Maintain Traffic	LS	1	x 1,536,000.00 = \$	1,536,000
066919 Dispute Resolution Board	LS	1	x 30,000.00 = \$	30,000
066921 Dispute Resolution Advisor	LS		x = \$	-
066015 Federal Trainee Program	LS		x = \$	-
066610 Partnering	LS	1	x 90,000.00 = \$	90,000
066204 Remove Rock and Debris	LS		x = \$	-
066222 Locate Existing Crossover	LS		x = \$	-
XXXXXX Some Item	Unit		x = \$	-
Cost of NPDES Supplemental Work specified in Section 5D = \$				-
Total Section 1-8		\$ 183,606,100	1% = \$	1,836,061
TOTAL SUPPLEMENTAL WORK				\$ 3,532,100

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
066105	Resident Engineers Office	LS	1	x	805,000.00	=	\$805,000
066063	Traffic Management Plan - Public Information	LS	1	x	1,000,000.00	=	\$1,000,000
066901	Water Expenses	LS		x		=	\$0
8609XX	Traffic Monitoring Station (X)	LS		x		=	\$0
066841	Traffic Controller Assembly	LS		x		=	\$0
066840	Traffic Signal Controller Assembly	LS		x		=	\$0
066062	COZEEP Contract	LS	1	x	2,000,000.00	=	\$2,000,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	\$0
066065	Tow Truck Service Patrol	LS	1	x	500,000.00	=	\$500,000
066916	Annual Construction General Permit Fee	LS		x		=	\$0
XXXXXX	Some Item	Unit		x		=	\$0
Total Section 1-8			\$ 183,606,100		1%	=	\$ 1,836,061

TOTAL STATE FURNISHED	\$6,141,100
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SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization \$203,359,920 (used to calculate TRO)
 Total Construction Cost (excluding TRO and Contingency) \$220,121,625 (used to check if project is greater than \$5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **4%**

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
070018	Time-Related Overhead	WD	800	X	\$10,168	=	\$8,134,400

TOTAL TIME-RELATED OVERHEAD	\$8,134,400
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Note: If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.

SECTION 13: ROADWAY CONTINGENCY

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-12 \$ 206,921,900 x **15%** = \$31,038,285

TOTAL CONTINGENCY	\$31,038,300
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II. STRUCTURE ITEMS

<u>Name</u>	<u>Number</u>	<u>Work Item</u>	
1 Southside Park Viaduct R	24-0243 R	Bridge Rail	\$409,600
Southside Park Viaduct L	24-0243 L	Bridge Rail	\$409,600
2 9th St UC R	24-0244 R	Bridge Rail	\$76,000
9th St UC L	24-0244 R	Bridge Rail	\$76,000
3 10th St UC R	24-0245 R	Bridge Rail	\$76,000
10th St UC L	24-0245 L	Bridge Rail	\$76,000
4 Riverside Blvd UC R	24-0246 R	Bridge Rail	\$82,400
Riverside Blvd UC L	24-0246 L	Bridge Rail	\$82,400
Riverside Blvd UC R&L	24-0246 R&L	Approach Slab	\$743,210
5 15th - 16th Street Separation R	24-0247 R	Bridge Rail	\$734,000
15th - 16th Street Separation L	24-0247 L	Bridge Rail	\$734,000
6 26th Street UC R	24-0223 R	Bridge Rail	\$76,000
26th Street UC L	24-0223 R	Bridge Rail	\$76,000
7 Camellia City Viaduct L	24-0248 L	Bridge Deck Treatment	\$316,128
8 E50 - E51&S99 Connector UC	24-0223 G	Bridge Rail	\$116,800
9 E50 - N51&S99 Connector OC	24-0225G	Bridge Deck Treatment	\$274,564
10 Elmburst Viaduct	24-0228 R/L	Approach Slab	\$658,970
11 65th ST UC	24-0318	Bridge Widening	\$738,990
12 Brighton OH	24-0229 R/L	Approach Slab	\$631,930
13 Howe Avenue OC	24-0186	Ground Anchor Wall	\$308,000
14 Occidental Drive OC	24-0294	Ground Anchor Wall	\$179,200
15 Folsom Blvd	24-0288 R/L	Approach Slab	\$1,269,320
16 Westbound Sta 41+75 to 89+00		Barrier Replacement - Type 1 Retaining Walls	\$714,720
17 Eastbound Sta 41+70 to 125+70		Barrier Replacement - Type 1 Retaining Walls	\$1,643,224
18 Oak Park Sep Pumping Plant	24-231W	Pumps, piping, cabinets, controls	\$600,000
19 45th St Pumping Plant	24-322W	Pumps, piping, cabinets, controls	\$600,000
20 59th St Pumping Plant	24-323W	Pumps, piping, cabinets, controls	\$600,000
	24-323W	Lower height 1.5' and add cell	\$3,500,000

TOTAL COST	\$15,803,056
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TOTAL COST OF BUILDINGS	\$0
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Structures Mobilization Percentage 10%	\$1,580,306
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Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Structures Contingency Percentage 25%	\$3,950,764
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TOTAL COST OF STRUCTURES	\$21,334,125
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Estimate Prepared By: _____
XXXXXXXXXXXXXXXXXXXXX ----- Division of Structures

_____ Date

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way data sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	\$	0
	A2)	SB-1210	\$	0
B)		Acquisition of Offsite Mitigation	\$	0
C)	C1)	Utility Relocation (State Share)	\$	117,000
	C2)	Potholing (Design Phase)	\$	0
D)		Railroad Acquisition	\$	0
E)		Clearance / Demolition	\$	0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	\$	0
G)		Title and Escrow	\$	0
H)		Environmental Review	\$	0
I)		Condemnation Settlements <u>0%</u>	\$	0
J)		Design Appreciation Factor <u>0%</u>	\$	0
K)		Utility Relocation (Construction Cost)	\$	0

L)

TOTAL RIGHT OF WAY ESTIMATE	\$117,000
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M)

TOTAL R/W ESTIMATE: Escalated	\$117,000
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N)

RIGHT OF WAY SUPPORT	\$0
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Support Cost Estimate
Prepared By _____ Project Coordinator¹ _____ Phone _____

Utility Estimate Prepared
By _____ Utility Coordinator² _____ Phone _____

R/W Acquisition Estimate
Prepared By _____ Right of Way Estimator³ _____ Phone _____



Note: Items G & H applied to items A + B

¹ When estimate has Support Costs only

² When estimate has Utility Relocation

³ When R/W Acquisition is required

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM

03/SAC/050	L0.6/R5.3	03-0H080/0315000074	
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No.	Federal-Aid Project No. (Local Project)/Project No.
PROJECT DESCRIPTION: (Briefly describe project including need, purpose, location, limits, right-of-way requirements, and activities involved in this box. Use Continuation Sheet, if necessary.)			
This CE/CE reflects ESR submittal updates and clarifies the current scope of work (and changes since the Sep 2017 ESR).			
Project Description: Rehabilitate pavement and other highway assets on US 50 from I-5 to Watt Avenue.			
(1) Remove and replace mainline roadway pavement (travelled way and shoulders). (2) Mill and pave 3" existing ramp pavement (asphalt concrete ramps only). (3) Improve vertical clearance on freeway at 7 locations by lowering freeway at Alhambra Blvd OC, 48th St OC, 51st OC, 59th St Off-Ramp OC, 59th St OC, Howe Ave OC, and Occidental Dr OC. (4) Widen freeway with retaining walls between 39th St UC and Brighton OH. (5) Widen the northside of 65th St Undercrossing by 18' in order to widen the NB 65th St to WB-50 loop ramp to add HOV metered lane. (6) Upgrade all existing HOV by-pass lanes to HOV metered lanes and upgrade associated signage. (7) Remove and replace existing freeway and ramp luminaires. (8) Remove and replace existing drainage systems (culverts, inlets and over side drains) located within project limits. (9) Upgrade existing pump plants (pumps and pump controllers) at Oak Park Sep Pumping Plant and 45th St Pumping Plant. Lower the top of the existing 59th St water storage boxes that extend across the WB-50 lanes approximately 1.5'. Add one additional water storage box (~90' L x 10' H x 10' W) adjacent to the existing 5 storage boxes. (10) Remove and replace (upgrade) all existing metal beam guard railing. (11) Remove and replace gore area contrasting surface treatment. (12) Treat Camellia City Viaduct – Left (Bridge 24-0248L) bridge deck with methacrylate resin. (13) Remove and replace AC overlay and waterproof membrane on the bridge deck at eastbound US 50 to northbound 51 and southbound SR 99 Connector OC (Bridge 24-0225G). (14) Remove and replace nonstandard curb ramps (and up to 15' of adjacent sidewalk) at ramp entrances and terminus with scheduled 3" mill and pave. (15) Remove and replace approach slabs at: (a) Southside Park Viaduct (24-0243 R/L); (b) 9th St UC (24-0244 R/L); (c) 10th St UC (24-0245 R/L); (d) Riverside Blvd UC (24-0246 R/L); (e) 15th-16th St Separation (24-0247 R/L); (f) Camellia City Viaduct (24-0248); (g) 26th St UC (24-0223 R/L); (h) E50-N51&S99 Connector (24-0223G); (i) E50-N51&S99 Connector OC (24-0225G); (j) Elmhurst Viaduct (24-0228 R/L); (k) 39th ST UC (24-0313); (l) 65th ST UC (24-0318); (m) Brighton OH (24-24-0289); (n) Folsom Blvd UC (24-0288 R/L); (o) Hornet Dr UC (24-0286 R/L). (16) Replace existing landscaping impacted by construction activities. (17) Remove and replace (upgrade) bridge rail at: (a) Southside Park Viaduct (24-0243 R/L); (b) 9th St UC (24-0244 R/L); (c) 10th St UC (24-0245 R/L); (d) Riverside Blvd UC (24-0246 R/L); (e) 15th-16th St Separation (24-0247 R/L); (f) 26th St UC (24-0223 R/L); (g) E50-N51&S99 Connector (24-0223G); (h) E50-N51&S99 Connector OC (24-0225G); (i) Folsom Blvd UC (24-0288 R/L); (j) Hornet Dr UC (24-0286 R/L); Howe Ave OC NB (24-0186)			
CALTRANS CEQA DETERMINATION (Check one)			
<input type="checkbox"/> Not Applicable – Caltrans is not the CEQA Lead Agency		<input type="checkbox"/> Not Applicable – Caltrans has prepared an Initial Study or Environmental Impact Report under CEQA	
Based on an examination of this proposal, supporting information, and the above statements, the project is:			
<input type="checkbox"/> Exempt by Statute. (PRC 21080[b]; 14 CCR 15260 et seq.)			
<input checked="" type="checkbox"/> Categorically Exempt. Class 1d. (PRC 21084; 14 CCR 15300 et seq.)			
Based on an examination of this proposal and supporting information, the following statements are true and exceptions do not apply:			
<ul style="list-style-type: none"> • If this project falls within exempt class 3, 4, 5, 6 or 11, it does not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law. • There will not be a significant cumulative effect by this project and successive projects of the same type in the same place, over time. • There is not a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances. • This project does not damage a scenic resource within an officially designated state scenic highway. • This project is not located on a site included on any list compiled pursuant to Govt. Code § 65962.5 ("Cortese List"). • This project does not cause a substantial adverse change in the significance of a historical resource. 			
<input type="checkbox"/> Exempt by General Rule. [This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (14 CCR 15061[b][3].)]			
Julia K. Green		Sutha Suthahar	
Print Name: Senior Environmental Planner or Environmental Branch Chief		Print Name: Project Manager	
			
8/13/18		8/13/18	
Signature		Signature	
Date		Date	

**CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM
Continuation Sheet**

03/SAC/050	L0.6/R5.3	03-0H080/0315000074
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No. Federal-Aid Project No. (Local Project)/Project No.

NEPA COMPLIANCE

In accordance with 23 CFR 771.117, and based on an examination of this proposal and supporting information, the State has determined that this project:

- does not individually or cumulatively have a significant impact on the environment as defined by NEPA, and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
- has considered unusual circumstances pursuant to 23 CFR 771.117(b).

CALTRANS NEPA DETERMINATION (Check one)

23 USC 326: The State has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an EA or EIS under the National Environmental Policy Act. The State has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to Chapter 3 of Title 23, United States Code, Section 326 and a Memorandum of Understanding dated May 31, 2016, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:

- 23 CFR 771.117(c): activity (c)(22)**
- 23 CFR 771.117(d): activity (d)(___)**
- Activity ___ listed in Appendix A of the MOU between FHWA and the State**

23 USC 327: Based on an examination of this proposal and supporting information, the State has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Julia K. Green

Print Name: Senior Environmental Planner or
Environmental Branch Chief

Julia K Green 8/13/18
Signature Date

Sutha Suthahar

Print Name: Project Manager/DLA Engineer

Sutha 8/13/18
Signature Date

Date of Categorical Exclusion Checklist completion:

Date of ECR or equivalent :

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., CE checklist, additional studies and design conditions).

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM

Continuation Sheet

03/SAC/050	L0.6/R5.3	03-0H080/0315000074	
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No.	Federal-Aid Project No. (Local Project)/Project No.

Continued from page 1:

Staging

- All staging would occur within the Caltrans right-of-way on existing pullouts.

Disposal/Borrow

- No borrow is required. Yards of earthwork from ditch excavation will be disposed of appropriately by the contractor.

Right-of-Way

- All work would occur within the Caltrans right-of-way.

Consultation/Coordination

- No consultation/coordination are needed.

Permits

- No Permits are required.

Biology

- **Migratory Birds:** The work window to avoid birds is September 30th to February 1st.
- **Bats:** The work window to avoid bats is October 1st to January 31st.
- **Woody Vegetation:** Removal and trimming of woody vegetation between October 1st to January 31st.

MEMORANDUM

*Making Conservation
a California Way of Life.*

To: SAM VANDELL
Design Engineer
Department of Transportation

Date: July 20, 2018

File: 03-SAC-50-PM L0.6/R5.3
EFIS No.: 03 1500 0074
EA: 0H080

Attention: TOM LANGLEY
Project Engineer

From: JANEL D. WILSON
Assistant Chief
North Region Right of Way
Marysville

Subject: CURRENT ESTIMATED RIGHT OF WAY COSTS

Project Description: Rehabilitate roadway structural section of mainline, ramps and freeway connectors. Improve vertical clearance at seven bridge structures by lowering freeway.

We have completed an estimate of the right of way costs for the above referenced project based on information received from you on May 17, 2018.

Right of Way Lead Time will require a minimum of 24 months after receipt of appraisals maps, utility conflict maps, environmental clearances (HMDD) and Certificate of Sufficiency (COS) to complete the Right of Way Certification. Shorter lead times may require additional support resources and may adversely affect delivery of Right of Way Certification.

*****Right of Way Certification is at risk. The current project schedule does not provide Right of Way with sufficient lead time.*****

Attachment:
Right of Way Data Sheet

cc. Sutha Suthahar

California State Transportation Agency
RIGHT OF WAY DATASHEET



EA: 0H080
PROJECT NO.: 03 1500 0074
LOCATION: 03-SAC-50-PM L0.6/R5.3
DESCRIPTION: Rehabilitate roadway structural section of mainline, ramps and freeway connectors. Improve vertical clearance at seven bridge structures by lowering freeway.

DATE: 7/20/2018
DATASHEET TYPE: Revision

1. Right of Way Cost Estimate:

	Current Value Future Use	Escalation Rate	Escalated Value
A. Total Acquisition Cost	\$0		\$0
B. Appraisal Fees Estimate	\$0	N/A	\$0
C. Mitigation Acquisition & Credits	\$0		\$0
D. Project Development Permit Fees	\$0		\$0
Subtotal	\$0		N/A
E. Utility Relocation (State's Share) (Owner's Share: \$63,200)	\$108,200	5%	\$116,657
F. Relocation Assistance (RAP)	\$0		\$0
G. Clearance/Demolition	\$0		\$0
H. Title & Escrow	\$0		\$0
I. Total Estimated Right of Way Cost	\$108,200		Rounded \$117,000 *
J. Phase 4 estimated expenses			
Railroad	\$0		
Construction Contract Work	\$0		

2. Current Date of Project Approval (PA&ED) August 15, 2018
Current Date of Right of Way Certification February 3, 2020

3. Parcel Data:

Type	Dual/Appr	Utilities	Railroad
X	0	U4 - 1	C&M Agreement
A	0	- 2	Service Contract
B	0	- 3	Easements
C	0	- 4	Rights of Entry
D	0	U5 - 7	Clauses
RR	0	- 8	
Total	0	- 9	
Excess	0		

Areas:	Mitigation	Misc. R/W Work
R/W	Impacts	RAP Displaces
TCE	Parcels	Clear/Demo
Excess	Credits	PTE Construct
Mitigation	Lump Sum	Condemnation
	Env PTE	USA Involvement

4. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.).

All work will be performed within the existing RW.

5. Are any properties acquired for this project expected to be rented, leased, or sold?

Yes _____ No X

6. Are RAP displacements required?

Yes _____ No X

No. of single family N/A

No. of business/nonprofit N/A

No. of multi-family N/A

No. of farms N/A

Based on Draft/Final Relocation Impact Statement/Study dated _____ N/A

N/A Sufficient replacement housing will be available without last resort housing.

N/A Sufficient replacement housing will not be available without last resort housing.

7. Is there an effect on assessed valuation?

Yes _____ No X Not Significant _____

8. Are there any items of Construction Contract Work?

Yes _____ No X

There is no Construction Contract Work associated with the project.

9. Are utility facilities or rights of way affected?

Yes X No _____

Names of Utility Companies requiring verification only.

Comcast, Consolidated Communications Inc., Sacramento County, City of Sacramento (sewer/water/lighting), AT&T, Kinder Morgan, Level 3, PGE (gas), SMUD (gas and electrical), Qwest Communications, XO Communication, Integra, Sacramento Area Sewer District, CA Water, Sacramento Suburban Water District.

Names of Utility Companies requiring involvements.

SMUD (120kV ug electrical), Consolidated (fiber optics/ communication), PG&E (1-4" gas line and 1-8" gas line), City of Sacramento (1-24" water line and 1-8" water line; sewer), and Kinder Morgan (oil carrier pipeline - abandoned).

Additional information concerning Utility Involvement on this project.

Conflict maps have already been created for EA 3F360 which is within the project's scope. Relocation costs for the relocations are estimated as follows: SMUD and Consolidated relocation liability is anticipated to be utility owners paying 100%; Per Freeway Master Contract it is anticipated that PG&E's relocation costs will be 50/50 with the State; City of Sacramento's relocation liability is anticipated to be 50/50 by the City and the State through a JUA; and Kinder Morgan's capped and removed abandoned line is anticipated as being paid 100% by the State. Soundwalls will be placed on both sides for 5.5 miles therefore positive location monies will be requested not for relocation but to design around the footing/piles.

10. Are railroad facilities or rights of way affected?

Yes X No _____ Phase 4 Capital \$0

11. Are USA Lands or Rights Affected?

Yes _____ No X Phase 4 Capital \$0

Agencies Involved:

US Forest Service _____

BLM _____

Army Corps of Engineers _____

National Parks _____

BIA _____

Veterans Administration _____

US Fish & Wildlife _____

GSA _____

Rights or Permissions to acquire:

Easement _____

Special Use Permit _____ Courtesy Letter _____

Right of Way Grant _____

Cooperative Work Agreement _____ Cost Recovery _____

Mineral Agreement _____

Letter of Concurrence _____ Timber Sale _____

12. Is an RE Office required for the project?

Yes X No _____

13. Were any previously unidentified sites with hazardous waste and/or material found?

Yes _____ None Evident X

14. Are there material borrow and/or disposal sites required?

No X Optional _____ Mandatory _____

15. Are there potential relinquishments and/or abandonments?

Yes _____ No X

16. Are there any existing and/or potential airspace sites?

Yes X No _____

17. What type of mitigation is required for the project?

Mitigation is not anticipated.

18. Is it anticipated that Caltrans will perform all Right of Way work?

Yes X No _____

19. Indicate the anticipated Right of Way schedule and lead time requirements.

Right of Way Lead Time will require a minimum of **24** months after we receive final appraisal maps, utility conflict maps, necessary environmental clearances, and freeway agreements have been approved and obtained, to complete the Right of Way Certification process.

20. Assumptions and limiting Conditions: (Check boxes that apply.)

- Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.
- Design will secure necessary encroachment permits from local agencies, Reclamation Districts, Central Valley Flood Protection Board, etc. in advance of construction.
- Project permits are not required for the project.
- Utility lead time begins after PA&ED is met and we have received conflict maps.
- Right of Way Certification is at risk. The current project schedule does not provide Right of Way with sufficient lead time.
- All work and access will be within the State's current Right of Way.
- If the contractor requires a staging area, Standard Specifications (Sections 5-1.32) indicates that the contractor will be responsible for securing locations for staging and storage.

Evaluation Prepared By:

Right of Way:

Patrick Rego

Date

7/20/2018

PATRICK REGO
Right of Way Agent

Recommended:

Douglas Bortz

Date

7/23/18

DOUGLAS BORTZ
Senior Right of Way Agent
Project Coordination Branch
Marysville

I have personally reviewed this Right of Way Data Sheet and all supporting information. I certify that the probable Highest and Best Use, estimated values, escalation rates and assumptions are reasonable and proper, subject to the limiting conditions set forth, and I find this Data Sheet to be complete and current.

Janel D. Wilson

Date

7-23-18

JANEL D. WILSON
Assistant Chief
North Region Right of Way
Marysville

Reviewed By

RW Planning & Management:

Paul SLOULIN
for PAUL SLOULIN

Date

7/23/18

Memorandum

*Serious drought.
Help Save Water!*

To: Langley Thomas
Project Engineer

Date: May 31, 2018

File: 03-0H080
03-Sac-50-PM-
L0.6/R5.3

From: Nhan Bui
TMP Coordinator
D3-Transportation Management Planning Office

Subject: Transportation Management Plan (TMP) Data Sheet

Background

This project is located on a multi-lane highway, with a daily peak-hour volume (in both directions) of 21,000 vph. The project proposes to extend the service life of the pavement and reduce maintenance expenditures by resurfacing, restoration and rehabilitation.

- For traffic volumes refer to Table-1.

Table-1: Traffic Volumes (2016 Traffic Volumes on California State Highways)			
Location Description	Type of Roadway	Peak-Hour (both directions combined) (vph)	AADT (vpd)
03-Sac-50 PM L0.6/R5.3	Multi-lane	21,000 vph	211,000

- Average truck traffic percentage of the total AADT is as shown in **Table-2**.

Table-2: Truck Volumes (2016 Annual Average Daily Truck Traffic on California State Highways)	
Location Description	% Trucks of the total AADT
03-Sac-50-PM R2.6	4.2

Recommendations

- On US 50, no lane, ramp or connector closures will be allowed during daytime and peak commutes hours on weekdays.

- On multilane roadway, a minimum of one paved traffic lane, not less than 11 feet wide, shall be open in each direction of travel.
- Lane closures on multilane roadways will be performed in accordance with Standard Plan Sheet T10, “Traffic Control System for Lane Closure on Freeways and Expressways”.
- Ramp closures will be performed in accordance with Standard Plan Sheet T14, “Traffic Control System for Ramp Closure”.
- The maximum length of any lane closure shall be limited to 1 mile
- Due to high traffic volumes within the project limit, lane closure during weekday daytime hours and peak commute hours will require the approval of the District Lane Closure Review Committee (DLCRC) approval.
- Delay damage clauses will be used with this project.
- During ramp and connector closures, traffic will be detoured in accordance with detour traffic handling plans prepared by the Project Engineer in Coordination with Traffic Operations.
- Detour route should be checked to ensure that it meets all Highway Design Manual requirements, including truck turning radii and vertical/horizontal clearances.
- Ramps adjacent to the closed freeway lanes may be closed.
- When K-rail is used as a separation barrier between the work zone and the traveled way, there is no closure time restriction.
- In area where the work zone is less than 6 feet away from the traveled way and the work is expected to continue for an extended period of time, K-rail should be considered.
- K-rail along with gawk screen should be utilized during construction.
- Portable changeable message signs (PCMS) will be required in direction of traffic during construction for each lane or shoulder closure.
- No lane closures, shoulder closures, or other traffic restrictions will be allowed on Special Days, designated legal holidays and the day preceding designated legal holidays, and when construction operations are not actively in progress.
- Work at this location will require the assistance of COZEEP with a full time presence. Expect to use at least two units during the day and three units at night.
- The assistance of Freeway Service Patrol (FSP) is recommended during construction.
- Coordination with projects within, or nearby the project limits will be required to avoid conflicts.
- Lane closure charts will have to be developed prior to P&E

Cost

- For estimating purposes, use \$3,400 per working day that requires traffic control, to estimate the costs for the Traffic Management Plan (TMP) items. These items include:
 - Traffic Control System and Maintain Traffic: \$2,400/ traffic control day
 - Portable Changeable Message Signs: \$1,000/ traffic control day
- The cost for Public Information Office (PIO) is estimated at \$200,000 (lump sum) for this project. The PIO funds are paid for public outreach in the form of fliers, mailers, brochures and other uses as determined by the Public Information Officer.
- COZEEP is estimated at \$2,300 per working day and \$6,900 per working night whenever CHP involvement is needed during construction. COZEEP estimate should include 2 officers per vehicle when performing night work.

- The cost for FSP is estimated at \$150,000 (lump sum).
- If there is a change in the scope of the project or the order of work (schedule), please advise the TMP unit, as this may affect the TMP estimate.

P & E Requirement

To complete a TMP for this project, please provide the following to the Office of Traffic Management Planning at least three months prior to P&E: project description, title sheet, typical cross sections, layout sheets, stage construction and traffic handling plans, detour plans, construction cost estimates, number of traffic controlling days, project schedule, and a contact person.

List of Attachments:

- TMP Checklist

D-3 TRANSPORTATION MANAGEMENT PLAN CHECKLIST

District / EA: 03-0H080
 Date Prepared: May 31, 2018
 Prepared By: Nhan Bui

Co.Rte.-PM. Sac-50-PM L0.6/R5.3
 Location Sacramento County

Stage of Project (X box) PID PSR PR PS&E

Description: Sac-50 Pavement Rehabilitation

REQUIRED	RECOMMENDED	NOT APPLICABLE	BEES Item No.	COMMENTS	UNIT COST	REQUIRED IN SPEC.
----------	-------------	----------------	------------------	----------	--------------	----------------------

1.0 Public Information Strategies

- 1.1 Brochures and Mailers
- 1.2 Media Releases (& minority media sources)
- 1.3 Paid Advertising
- 1.4 Public Information Center
- 1.5 Public Meetings/Speakers Bureau
- 1.6 Project Telephone Hotline
- 1.7 Internet, E-Mail
- 1.8 Local cable TV and News
- 1.9 Notification to Impacted groups
(i.e. bicycle users, pedestrians with disabilities, others)
- 1.10 Project Web Page
- 1.11 Caltrans Public Information Office
- 1.12 Consultant Public Information Office
- 1.13 Other items

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	066063			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	066063			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

2.0 Traveler Information Strategies

- 2.1 Changeable Message Signs (permanent)
- 2.2 Changeable Message Signs (portable)
- 2.3 Special Construction Signs
- 2.4 Traveler Information Systems (CHIN/Internet)
- 2.5 Highway Advisory Radio "HAR" (fixed or mobile)
- 2.6 Radar Speed Sign
- 2.8 Revised Transit Schedules/ Maps
- 2.9 Bicycle community information
- 2.10 Other item

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	128652			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	120690			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	861985			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	860520			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	066064			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

3.0 Incident Management

- 3.1 COZEEP
- 3.2 Freeway Service Patrol (tow truck service patrol)
- 3.3 Traffic Surveillance Stations (loops or CCTV)
- 3.4 Transportation Management Center
- 3.5 Traffic Control Inspector (Caltrans)
- 3.6 Traffic Management Team
- 3.7 On-site Traffic Advisor (contractor)
- 3.8 Other Items

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	066062			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	066065			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	066876			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

4.0 Construction Strategies

- 4.1 Delay damage clause
- 4.2 Night work
- 4.3 Weekend Work
- 4.4 Extended Weekend Closures
- 4.5 Planned Lane Closures
- 4.6 Planned Ramp/Connector Closures
- 4.7 Total Facility Closure
- 4.8 Project Phasing
- 4.9 Truck Traffic Restrictions
- 4.10 Reduced Lane Widths

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
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<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

4.0 Construction Strategies (Continued)

- 4.11 Temporary K-Rail
- 4.12 Temporary Traffic Screens
- 4.13 Reduced Speed Zones
- 4.14 Traffic Control Improvements
- 4.15 Contingency Plans
 - 4.15.1 Material Plant on standby
 - 4.15.2 Extra Critical Equipment on site
 - 4.15.3 Material Testing Plan
 - 4.15.4 Alternate Material on site
(In case of failure or major delays)
 - 4.15.5 Emergency Detour Plan
 - 4.15.6 Emergency Notification Plan
 - 4.15.7 Weather Conditions Plan
 - 4.15.8 Delay Timing and Documentation Plan
 - 4.15.9 Late Closure Reopening Notification
- 4.16 Signal timing modification
- 4.17 Coordination with adjacent construction
- 4.18 Right of Way Delay
- 4.19 Other Items

REQUIRED	RECOMMENDED	NOT APPLICABLE	BEES Item No.	COMMENTS	UNIT COST	REQUIRED IN SPEC.
	X		129000			
	X		129150			
		X				
		X				
X						
		X				
	X					
	X					
		X				
	X					
X						
		X				
		X				
		X				
		X	066022			
		X				

5.0 Demand Management

- 5.1 HOV Lanes/Ramps
- 5.2 Ramp metering
- 5.3 Park-and-Ride Lots
- 5.4 Parking Management/Pricing
- 5.5 Rideshare Incentives
- 5.6 Rideshare Marketing
- 5.7 Transit, Train, or Light-Rail Incentives
- 5.8 Transit Service Modification
- 5.9 Variable Work Hours
- 5.10 Telecommute
- 5.11 Other Items

		X				
		X				
		X				
		X				
		X				
		X	066069			
		X	066066			
		X				
		X				
		X				
		X				

6.0 Alternate Route Strategies

- 6.1 Ramp Closures
- 6.2 Street Improvements
- 6.3 Reversible Lanes
- 6.4 Temporary Lanes or Shoulders Use
- 6.5 Freeway to freeway connector closures
- 6.6 Encroachment Permit from City/County

		X				
		X				
		X				
		X				
		X				
		X				

7.0 Other Strategies

- 7.1 Application of new technology
- 7.2 Other Items

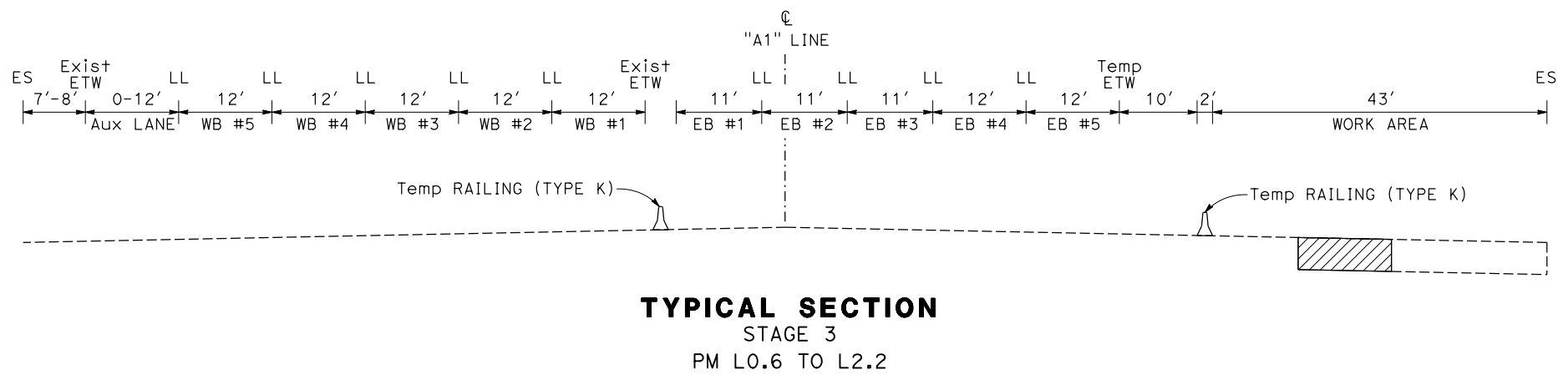
		X				
		X				

Comments:

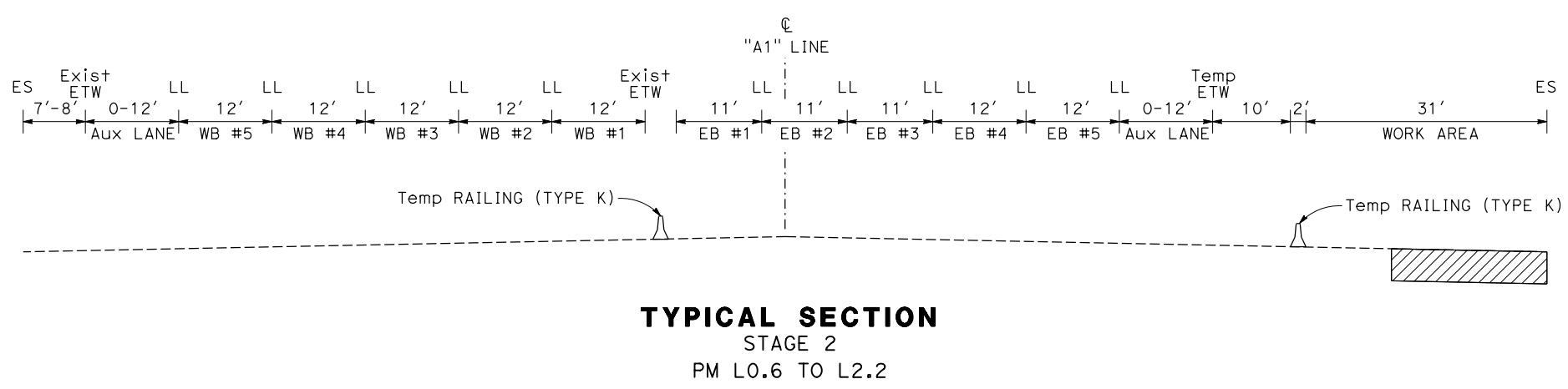
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PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



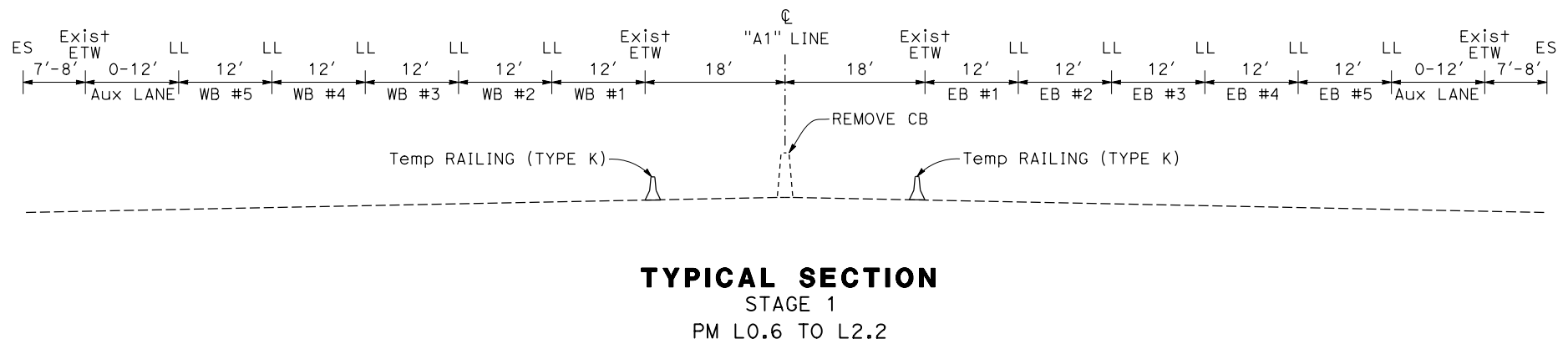
ABBREVIATIONS:
LL LANE LINE



INTENT:
1. CONSTRUCT EB STRUCTURAL SECTION.



INTENT:
1. CONSTRUCT EB STRUCTURAL SECTION.



INTENT:
1. REMOVE MEDIAN CONCRETE BARRIER.

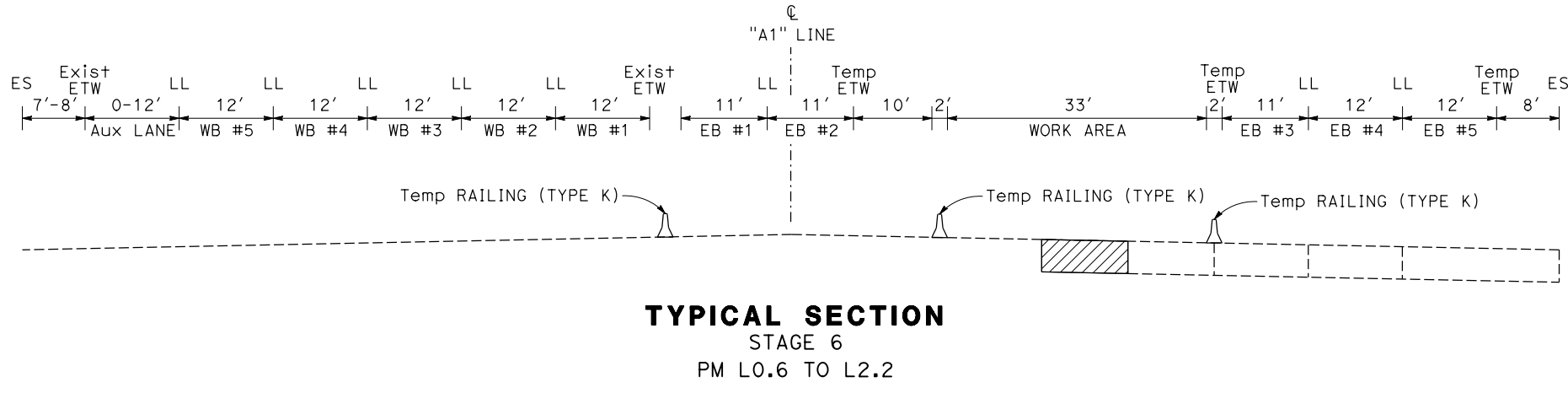
STAGE CONSTRUCTION
SCALE: 1" = 50'
SC-1

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 FUNCTIONAL SUPERVISOR
 SAM VANDELL
 CALCULATED-DESIGNED BY
 CHECKED BY
 REVISED BY
 DATE REVISED
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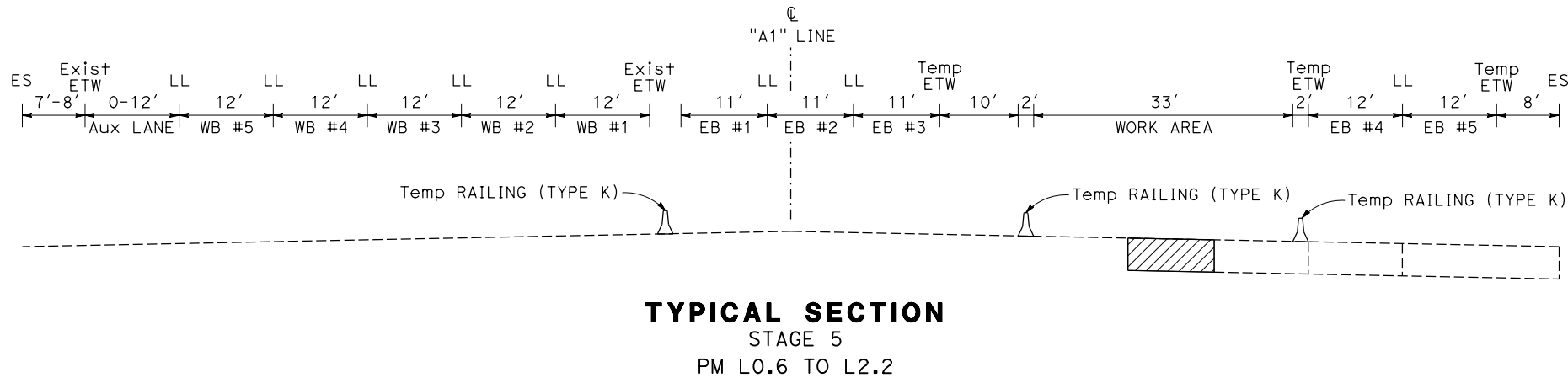
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PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



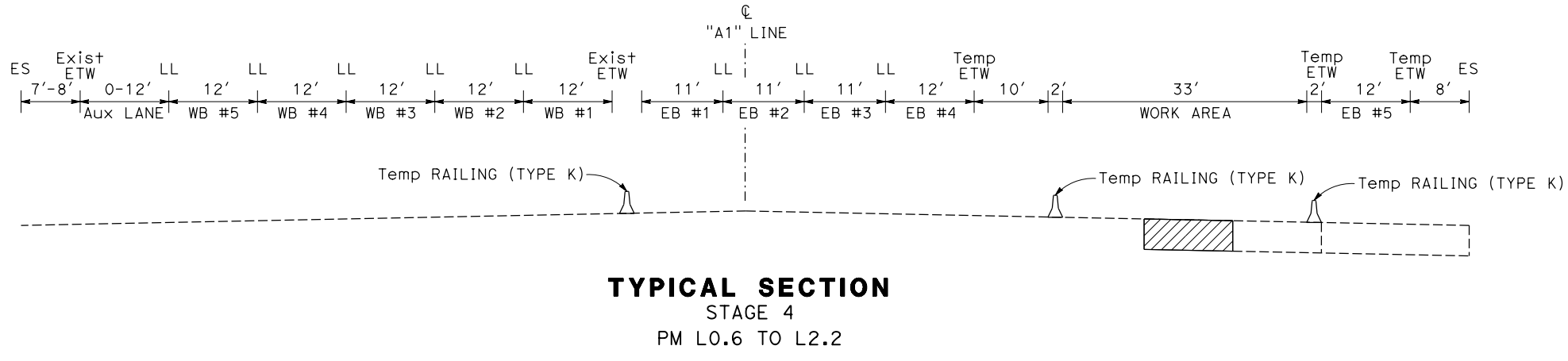
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 FUNCTIONAL SUPERVISOR
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 REVISOR BY
 DATE REVISOR



INTENT:
1. CONSTRUCT EB STRUCTURAL SECTION.



INTENT:
1. CONSTRUCT EB STRUCTURAL SECTION.



INTENT:
1. CONSTRUCT EB STRUCTURAL SECTION.

STAGE CONSTRUCTION
SCALE: 1" = 50'
SC-2

DATE PLOTTED => 23-JUL-2018
 TIME PLOTTED => 09:52

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
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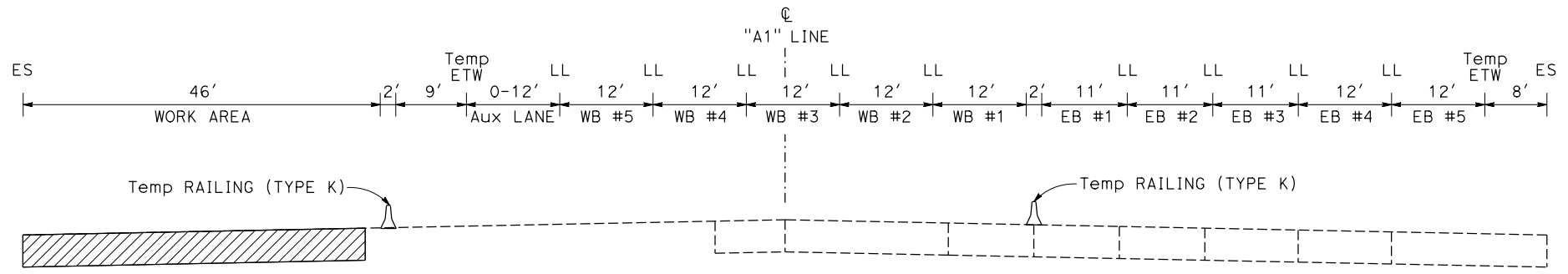


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 CALIFORNIA HIGHWAYS

REVISED BY
DATE

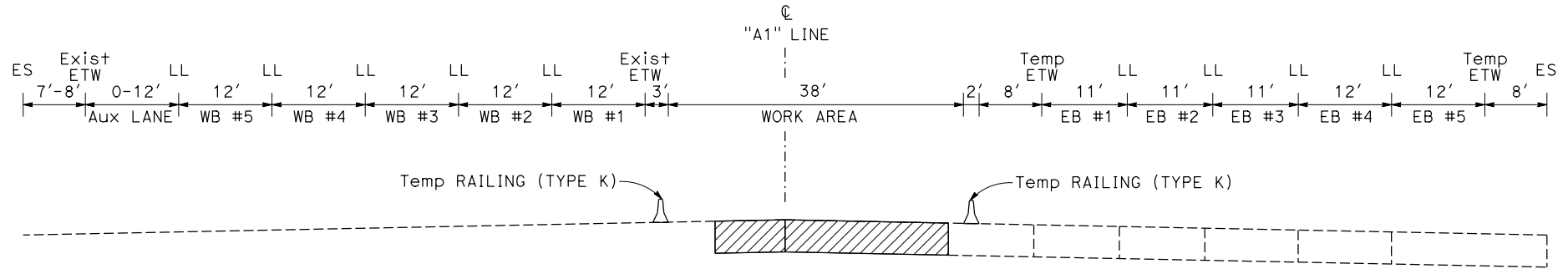
CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
SAM VANDELL



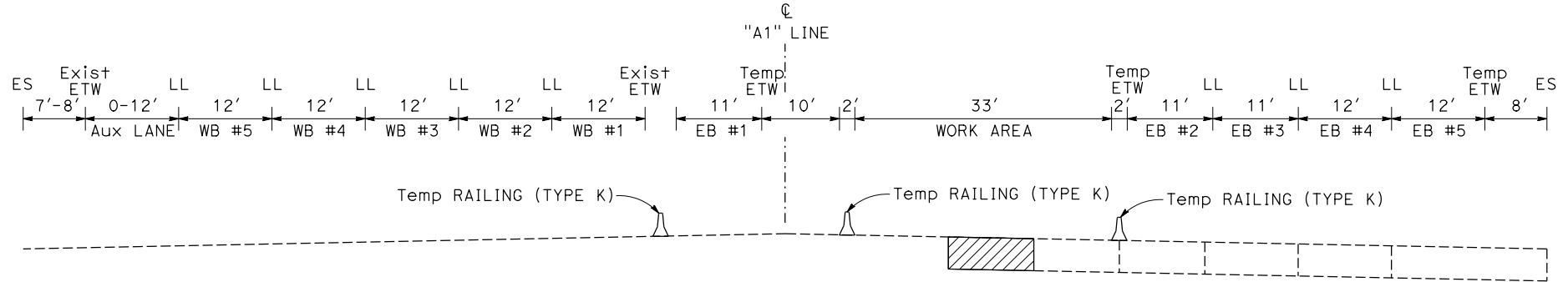
TYPICAL SECTION
STAGE 9
PM L0.6 TO L2.2

INTENT:
1. CONSTRUCT WB STRUCTURAL SECTION.



TYPICAL SECTION
STAGE 8
PM L0.6 TO L2.2

INTENT:
1. CONSTRUCT EB & WB STRUCTURAL SECTION.



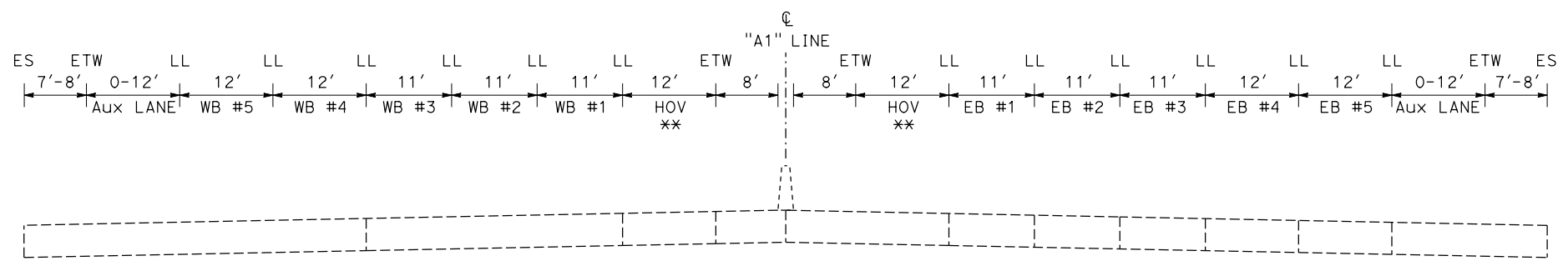
TYPICAL SECTION
STAGE 7
PM L0.6 TO L2.2

INTENT:
1. CONSTRUCT EB STRUCTURAL SECTION.

STAGE CONSTRUCTION

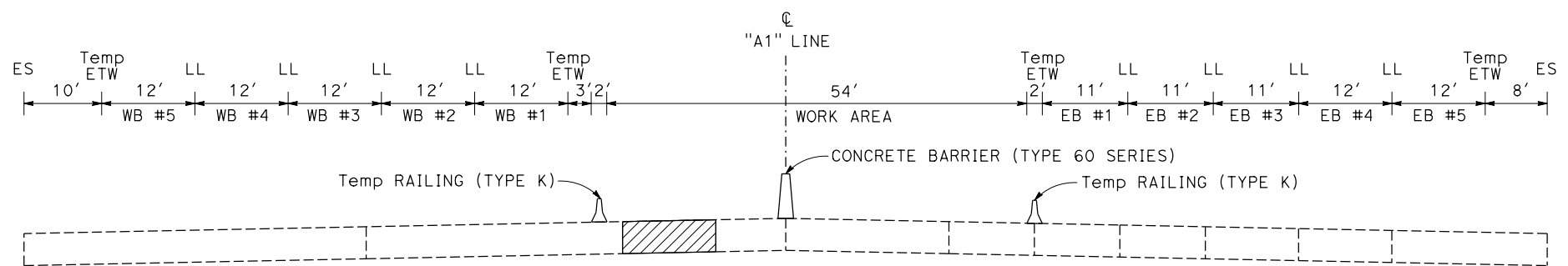
SCALE: 1" = 50'
SC-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



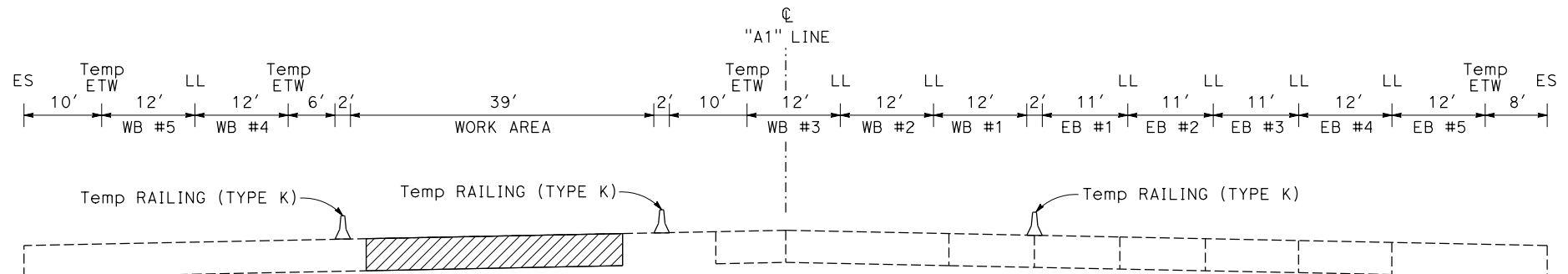
**TYPICAL SECTION
FINAL
PM L0.6 TO L2.2**

** PROPOSED BY 03-3F360



**TYPICAL SECTION
STAGE 11
PM L0.6 TO L2.2**

INTENT:
1. CONSTRUCT WB STRUCTURAL SECTION.
2. CONSTRUCT MEDIAN CONCRETE BARRIER.



**TYPICAL SECTION
STAGE 10
PM L0.6 TO L2.2**

INTENT:
1. CONSTRUCT WB STRUCTURAL SECTION.

STAGE CONSTRUCTION

SCALE: 1" = 50'

SC-4

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 REVISION
 DESIGNED BY
 CHECKED BY
 FUNCTIONAL SUPERVISOR
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 DEPARTMENT OF TRANSPORTATION
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR
 SAM VANDELL

REVISOR BY
 DATE REVISOR

CALCULATED BY
 CHECKED BY

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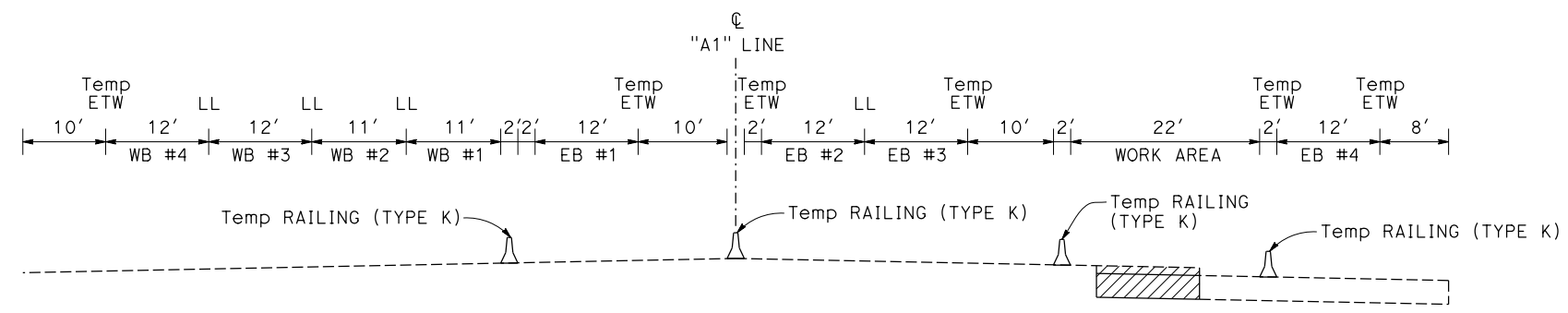
DATE

DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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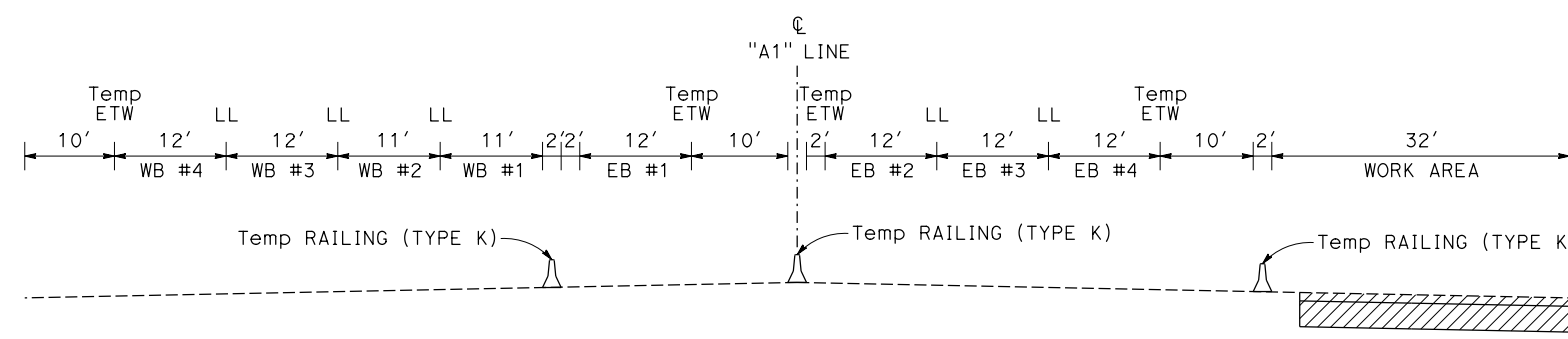
PRELIMINARY
 REGISTERED CIVIL ENGINEER DATE
 PLANS APPROVAL DATE

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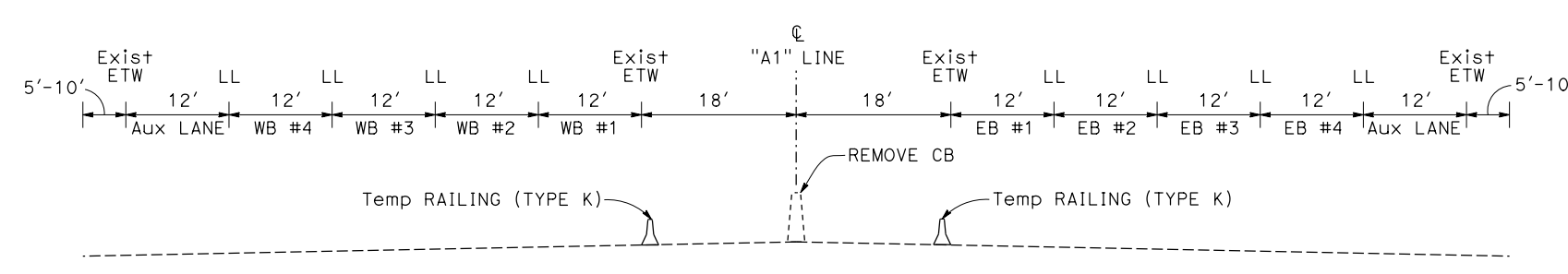
TYPICAL SECTION
 STAGE 3
 PM L2.2 TO R1.0
 PM R2.3 TO R5.3

INTENT:
 1. CONSTRUCT EB STRUCTURAL SECTION.



TYPICAL SECTION
 STAGE 2
 PM L2.2 TO R1.0
 PM R2.3 TO R5.3

INTENT:
 1. CONSTRUCT EB STRUCTURAL SECTION.



TYPICAL SECTION
 STAGE 1
 PM L2.2 TO R1.0
 PM R2.3 TO R5.3

INTENT:
 1. REMOVE MEDIAN CONCRETE BARRIER.

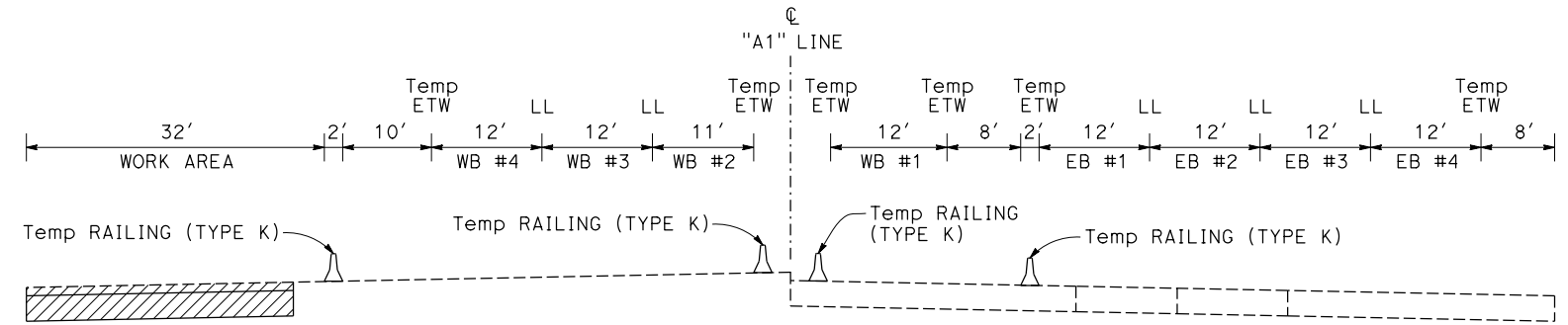
STAGE CONSTRUCTION
 SCALE: 1" = 50'
SC-5

DATE PLOTTED => 23-JUL-2018
 TIME PLOTTED => 09:52

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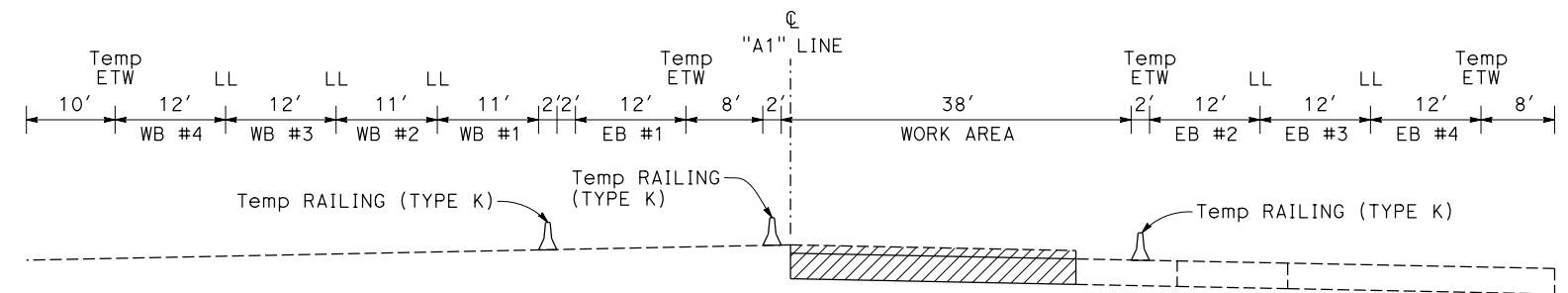
PRELIMINARY	
REGISTERED CIVIL ENGINEER	DATE
-	
PLANS APPROVAL DATE	
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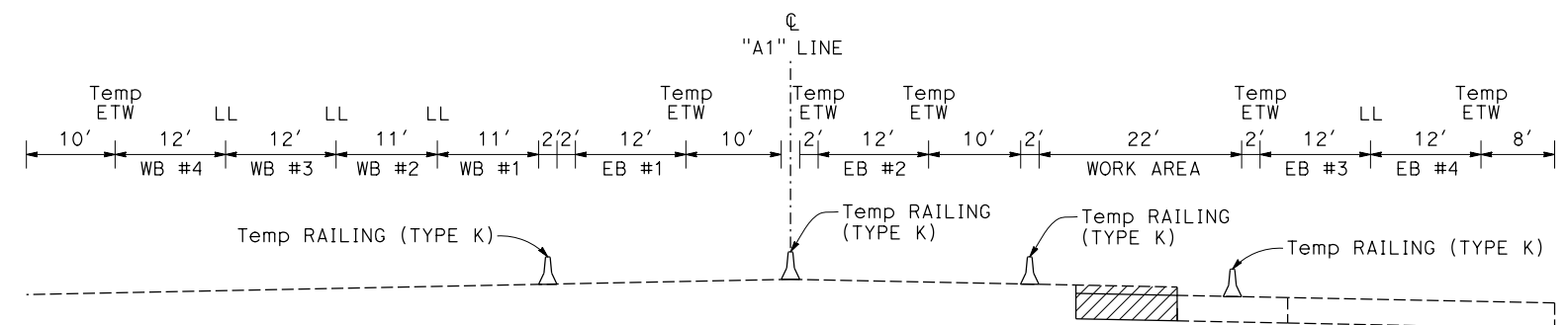
TYPICAL SECTION
 STAGE 6
 PM L2.2 TO R1.0
 PM R2.3 TO R5.3

INTENT:
 1. CONSTRUCT WB STRUCTURAL SECTION.



TYPICAL SECTION
 STAGE 5
 PM L2.2 TO R1.0
 PM R2.3 TO R5.3

INTENT:
 1. CONSTRUCT EB STRUCTURAL SECTION.



TYPICAL SECTION
 STAGE 4
 PM L2.2 TO R1.0
 PM R2.3 TO R5.3

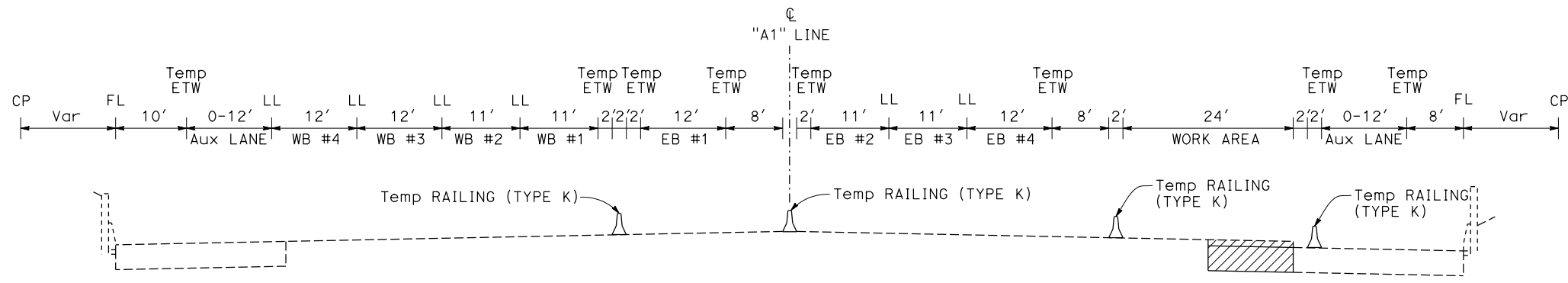
INTENT:
 1. CONSTRUCT EB STRUCTURAL SECTION.

STAGE CONSTRUCTION

SCALE: 1" = 50' **SC-6**

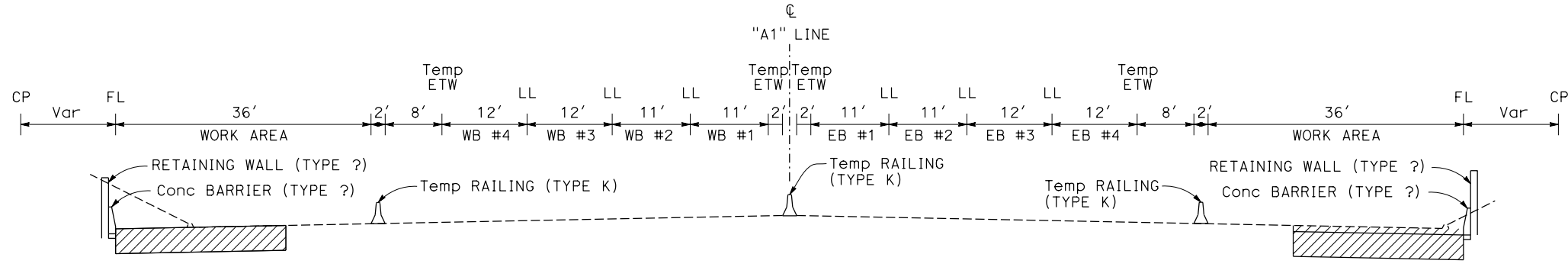
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 FUNCTIONAL SUPERVISOR
 SAM VANDELL
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



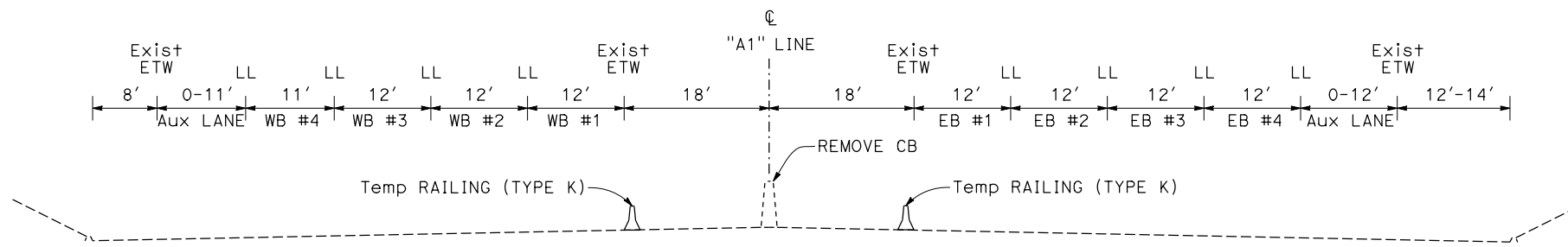
TYPICAL SECTION
STAGE 3
PM R1.0 TO R2.3

INTENT:
1. CONSTRUCT EB STRUCTURAL SECTION.



TYPICAL SECTION
STAGE 2
PM R1.0 TO R2.3

INTENT:
1. CONSTRUCT RETAINING WALL AND CONCRETE BARRIER ON EB AND WB.
2. CONSTRUCT Temp SHOULDER ON WB.
3. CONSTRUCT PERMANENT SHOULDER ON EB.



TYPICAL SECTION
STAGE 1
PM R1.0 TO R2.3

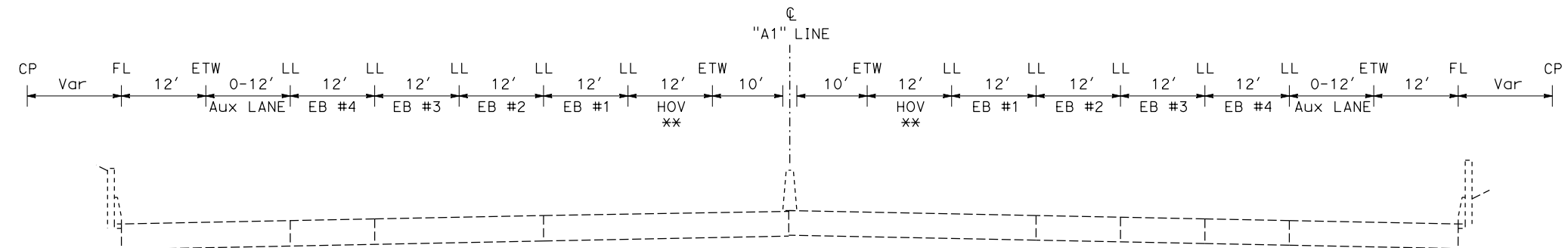
INTENT:
1. REMOVE MEDIAN CONCRETE BARRIER.

STAGE CONSTRUCTION

SCALE: 1" = 50' **SC-9**

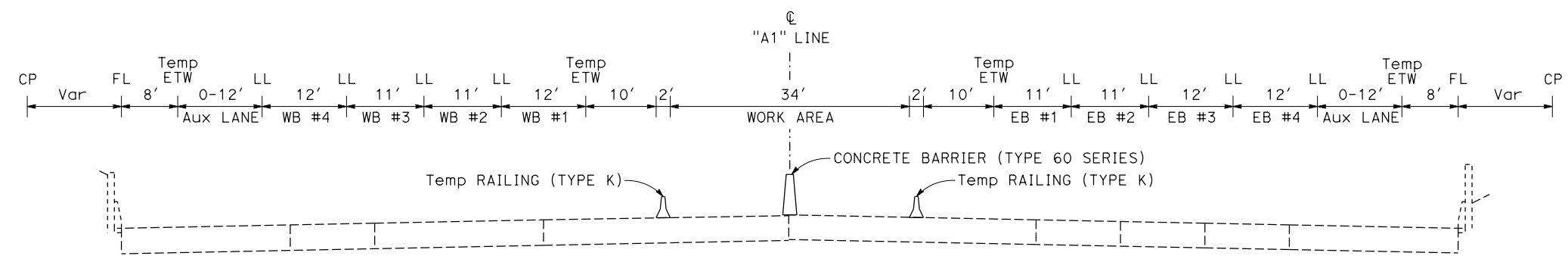
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 FUNCTIONAL SUPERVISOR
 SAM VANDELL
 CHECKED BY
 CALCULATED-DESIGNED BY
 REVISOR BY
 DATE REVISOR

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	SAC	50	L0.6/R5.3		
PRELIMINARY					
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



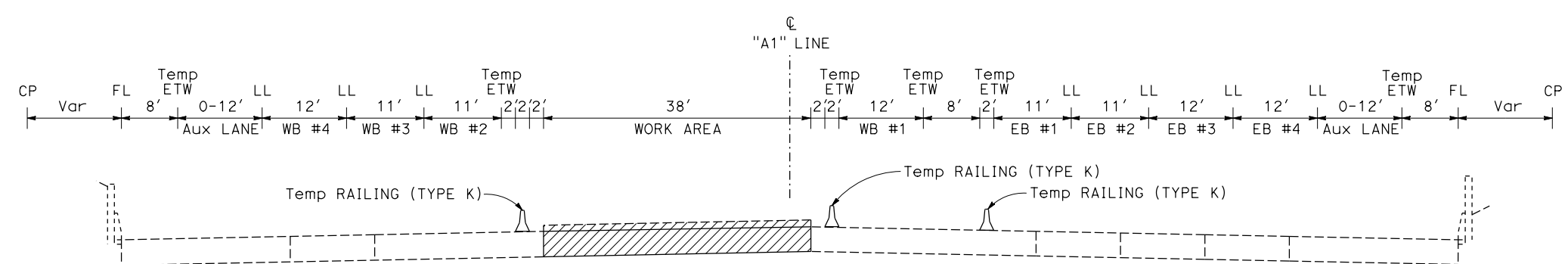
TYPICAL SECTION
FINAL
PM R1.0 TO R2.3

** PROPOSED BY 03-3F360



TYPICAL SECTION
STAGE 11
PM R1.0 TO R2.3

INTENT:
1. CONSRTUCT MEDIAN CONCRETE BARRIER.



TYPICAL SECTION
STAGE 10
PM R1.0 TO R2.3

INTENT:
1. CONSTRUCT WB STRUCTURAL SECTION.

STAGE CONSTRUCTION

SCALE: 1" = 50' **SC-12**

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 FUNCTIONAL SUPERVISOR: SAM VANDELL
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 DESIGNED BY: [blank]
 REVISOR: [blank]
 DATE REVISOR: [blank]



TO: Tom Langley FROM: Jeff Juarez/Daniel Tillson-Rodriguez Unit/Senior: Isam Tabshouri Project Manager: Sutha H. Suthahar PM Assistant: Kayla Giese	DISTRICT: 03 DATE: 07/25/2018 EA: 03-0H080 ID: 0315000074	CO: SAC	RTE: 50	PM: L0.6/R5.3																
CONTRACT SEPARATION: <input checked="" type="checkbox"/> Roadside work as part of roadway work EA <input type="checkbox"/> Roadside work for roadway project to follow under separate EA	PROJECT: SAC 50 Rehab Pavement FUNDING SOURCE: SHOPP PROJECT MILESTONE: <input type="checkbox"/> PID <input checked="" type="checkbox"/> PA&ED <input type="checkbox"/> PS&E PROJECT COST (In thousands): <ul style="list-style-type: none"> • See Cost Estimate Information 																			
PROJECT DESCRIPTION The Sac 50 Rehab Pavement Project will: <ul style="list-style-type: none"> • replace the existing PCC pavement traffic (mainline) lanes and rehabilitate the existing AC shoulders, auxiliary lanes, and transition lanes; • improve vertical clearance at seven structures by lowering the highway profile; • construct retaining walls along both sides of the highway between 39th and 65th Streets; • install new signing and striping and mainline electrical systems; • install highway planting and irrigation systems. 																				
SCENIC HIGHWAY STATUS <input type="checkbox"/> Officially Designated <input type="checkbox"/> Eligible <input checked="" type="checkbox"/> Not Designated																				
HIGHWAY PLANTING/IRRIGATION BACKGROUND INFORMATION <table style="width:100%; border: none;"> <tr> <td style="width:45%;">LANDSCAPE FREEWAY STATUS</td> <td><input checked="" type="checkbox"/> Yes (throughout majority of project corridor)</td> </tr> <tr> <td>WARRANTED HIGHWAY PLANTING</td> <td><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td>(E) H2O & POWER AVAILABLE</td> <td><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td colspan="2">Where: <u>various locations within Hwy 50 ROW</u></td> </tr> <tr> <td>(E) IRRIGATION IMPACTED</td> <td><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td colspan="2">Where: <u>adjacent to new retaining walls</u></td> </tr> <tr> <td>COOP. MAINT. AGREEMENTS</td> <td><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> </tr> <tr> <td>ADJ. TO OUTDOOR ADVERTISING</td> <td><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> </tr> </table>					LANDSCAPE FREEWAY STATUS	<input checked="" type="checkbox"/> Yes (throughout majority of project corridor)	WARRANTED HIGHWAY PLANTING	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(E) H2O & POWER AVAILABLE	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Where: <u>various locations within Hwy 50 ROW</u>		(E) IRRIGATION IMPACTED	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Where: <u>adjacent to new retaining walls</u>		COOP. MAINT. AGREEMENTS	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	ADJ. TO OUTDOOR ADVERTISING	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
LANDSCAPE FREEWAY STATUS	<input checked="" type="checkbox"/> Yes (throughout majority of project corridor)																			
WARRANTED HIGHWAY PLANTING	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																			
(E) H2O & POWER AVAILABLE	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																			
Where: <u>various locations within Hwy 50 ROW</u>																				
(E) IRRIGATION IMPACTED	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																			
Where: <u>adjacent to new retaining walls</u>																				
COOP. MAINT. AGREEMENTS	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																			
ADJ. TO OUTDOOR ADVERTISING	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																			
HIGHWAY PLANTING: <ul style="list-style-type: none"> • Refer to Attachment A, Project Action Items and Goals for highway planting requirements. • Refer to Attachment B, Cost Estimate for highway planting cost estimate information. • The Replacement Planting cost estimate includes the cost for trees, shrubs, groundcover, mulch, irrigation, and three years of plant establishment. In addition, the estimate includes water assessment fees. 																				



EROSION CONTROL BACKGROUND INFORMATION

- | | | |
|--------------------------------|---|--|
| SOIL DISTURBANCE | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| CONCENTRATED FLOW AREAS | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| SLOPE LOCATIONS | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| SLOPES > 2:1 | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

AREA (FT²/ACRE) FOR EROSION CONTROL:

- Refer to Attachment A, Project Action Items and Goals for erosion control requirements.
- Refer to Attachment B, Cost Estimate for erosion control cost estimate information.

MITIGATION BACKGROUND INFORMATION – Julia Green, Env. Coordinator

- | | | |
|------------------------------------|---|--|
| PROJECT BIOLOGIST | Michele Lukkarila | |
| BIOLOGICAL REVEG. REQUIRED | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| VISUAL IMPACT MIT. REQUIRED | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| UNIT TASKED w/ BIO. REVEG. | <input type="checkbox"/> Landscape Architecture | <input type="checkbox"/> Stewardship |

VISUAL IMPACT MITIGATION:

- This project will result in adverse visual impacts to the surrounding environment. Attachment A references the Avoidance and Minimization Measures required by the project's Visual Impact Assessment to address those impacts.

ROADSIDE SAFETY IMPROVEMENTS

- The LAAS includes a cost estimate for Roadside Safety Improvements. This is based on the current condition and needs of roadside safety facilities that will be impacted by the road widening and construction of retaining walls between 39th and 65th Streets.

CONTEXT SENSITIVITY

- It is determined that the project may involve consideration of community and local involvement.
- No foreseen issues with community and local involvement

PROVIDE ADDITIONAL AESTHETIC TREATMENT FOR:

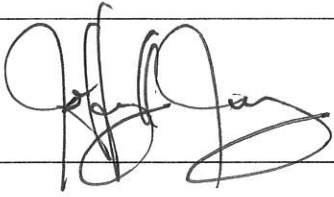
- Retaining Wall
 - Refer to Attachment A, Project Action Items and Goals aesthetic treatment requirements.
 - Cost estimates for aesthetic treatment retaining walls per the Project Engineer.

COST ESTIMATE

- Refer to Attachment B for cost estimate information.



NORTH REGION
LANDSCAPE ARCHITECTURE ASSESSMENT SHEET
03-LAND-0002 (Rev. x/xx)

PREPARED BY: 

DATE: 7/23/18.

CONCURRED BY: for 
(Project Manager)

DATE: 7/24/2018

APPROVED BY: 
(Landscape Architecture or Engineering Services Branch Chief)

DATE: 7/23/18

ATTACHMENT A

Project Action Items and Goals

SAC 50 – Rehab Pavement

EA: 03-OH080

EFIS: 0315000074

DEFINITIONS

Highway Planting

Per Chapter 29, Section 2 of the Project Development Procedures Manual (PDPM), highway planting includes new highway planting, replacement highway planting, roadside rehabilitation, highway planting revegetation, required mitigation planting, and irrigation system upgrade work. Highway planting addresses safety requirements, provides compliance with environmental commitments, and assists in the visual integration of the transportation facility within the existing environs (PDPM, p. 29-12).

Landscaped Freeways

Per the California Outdoor Advertising Act, a Landscaped Freeway is generally defined as a section of freeway containing ornamental vegetation planting that meets the provisions and criteria established by the California Code of Regulations, Title 4, Business Regulations, Division 6. The majority of Sac 50 within the project limits is classified as Landscaped Freeway, except for PM R2.90 to R2.99 and PM R4.60 to R5.3.

Warranted Highway Planting

Per Chapter 29 Section 2 of the Project Development Procedures Manual (PDPM), Highway planting is warranted on freeways, controlled access highways, and expressways under any of the following conditions:

- On new freeways, controlled access highways, and expressways - areas impacted by new highway construction where adjacent properties are developed at the time of highway construction contract acceptance;
- On existing freeways, controlled access highways, and expressways - areas impacted by major modifications to the existing highway where adjacent properties are developed at the time of highway construction contract acceptance;
- Where adjacent properties were developed on or before June 30, 1987;
- To satisfy memorandum of understanding (MOU) or memorandum of agreement (MOA) between Caltrans and another governmental agency;
- To mitigate for environmental impacts in compliance with environmental commitments, agreed to, for example, as a part of project development, resource agency permit requirement, or court order; and
- To provide planting necessary for revegetation, erosion control, stormwater pollution prevention or traffic safety improvements (headlight glare screening, delineation of roadway, fire suppression, and wind breaks).

HIGHWAY PLANTING IMPACTS

Replacement Highway Planting Policy

Replacement highway planting replaces vegetation installed by Caltrans or others that has been damaged or removed due to transportation project construction. This may also include irrigation modifications and/or replacement. Caltrans will replace vegetation damaged or removed by State transportation construction activity at a rate and size determined by the district landscape architect (PDPM, pp. 29-16, 29-17).

The PDPM also stipulates that new Highway Planting is warranted under any of several conditions (PDPM, p. 29-13). The following conditions apply to this project:

- On existing freeways, controlled access highways, and expressways – areas impacted by major modifications to the existing highway where adjacent properties are developed at the time of highway construction contract acceptance.
- Where adjacent properties were developed on or before June 30, 1987.

In addition, the 2017 State Highway System Management Plan indicates that Roadside Rehabilitation includes improvements for water conservation, worker safety, and aesthetics:

- Upgrade to more water efficient irrigation systems to achieve a reduction in water consumption.
- Improvements for water conservation.
- Erosion control to comply with Caltrans National Pollution Discharge Elimination System permit requirements.
- Implement strategies to improve worker and traveler safety by reducing the frequency and duration of maintenance workers' exposure to traffic.
- Improve roadside appearance and coordination with community character.

ACTION:

The Sac 50 Rehabilitation Pavement Project proposes major modifications to Sac 50. The highway will be lowered and widened to accommodate vertical clearance improvements at seven structures. Retaining walls will also be constructed along the north and south sides of the road. The construction of the project will result in removal of existing highway planting along the slopes lining Sac 50 between 39th and 65th Streets. The slopes contain trees, shrubs, groundcover, vines, and irrigation systems.

In addition, the Visual Impact Assessment prepared for this project identified potential adverse impacts due to construction of the retaining walls and vegetation removal.

Replacement Highway Planting (including trees, shrubs, groundcovers, mulch, and irrigation) is warranted in the areas specified below due to the construction impacts created by major modifications to Sac 50:

- North and south sides of Sac 50 between 39th and 65th Streets

Replacement Highway Planting must follow the Avoidance and Minimization Measures included in the Final Environmental Document - Visual Impact Assessment prepared for this project.

Replacement Highway Planting must follow guidance outlined in:

- *Caltrans Highway Design Manual, Chapter 900 – Landscape Architecture, Topics 901 and 902, and Chapter 700 – Miscellaneous Standards, Topics 701 and 706*
- *Caltrans Policy Development Procedures Manual, Chapter 29*
- *Caltrans Plans Preparation Manual, applicable sections*

AESTHETIC IMPACTS

Per the PDPM, landscape architects provide expertise to protect and improve scenic views both towards and away from transportation improvements. Community and Caltrans aesthetic values may be incorporated into transportation projects by providing aesthetic reviews, visual impact assessments, comprehensive corridor plans, and aesthetic design guidance (PDPM, p. 29-7).

Landscape architects assist in integrating transportation needs with existing community goals and values by providing expertise in comprehensive corridor planning, urban design, historic preservation, and community involvement. They also assist in facilitating timely project delivery and building community consensus by implementing principles of community involvement and context-sensitive design, including (PDPM, pp. 29-8, 29-9):

- harmonizing the roadway with existing topography and land uses
- preserving and enhancing community character
- meeting the needs of nonmotorized travelers
- preserving historic resources such as historic landscapes
- supporting the incorporation of transportation art, gateway monuments, and community identification

In addition, the Visual Impact Assessment prepared for this project identified potential adverse impacts due to construction of the retaining walls and vegetation removal.

ACTION:

To better integrate the project modifications with existing community goals and harmonize the roadway with the adjacent residential and commercial land uses, the following aesthetic enhancements and/or treatment must be incorporated into the project:

- *The retaining walls must be aesthetically enhanced with architectural textures, patterns, and/or colors to ensure their visual compatibility with the project corridor and surrounding environment, in accordance with Caltrans Design Information Bulletin (DIB) 88 Wall Structure Aesthetic Guidelines.*

The retaining wall design must follow the Avoidance and Minimization Measures included in the Final Environmental Document - Visual Impact Assessment prepared for this project.

EROSION CONTROL

Per the Caltrans Website: "Controlling erosion and keeping stormwater clean is a primary function of highway planting. Landscape architects work with the Project Development Team (PDT) to develop strategies to implement permanent and temporary erosion control treatments into all construction projects.

Permanent erosion control techniques remain in place after completion of construction and are used to provide long-term soil stabilization for disturbed areas caused by grading operations, slope failure repairs, stream bank rehabilitation, or wildfires and function to improve stormwater quality in compliance with the National Pollutant Discharge Elimination System (NPDES) permit."

ACTION:

This project must address all disturbed soil areas and coordinate permanent stormwater treatment solutions with erosion control strategies.

Caltrans has established a "Toolbox" website with detailed explanations of erosion control strategies. These include:

- Compost incorporated into the topsoil to improve infiltration, increase water holding capacity, improve soil health, and increase rooting depth for plants.
- Collecting duff and re-spreading it following grading activities to add microbes, organic matter, nutrients and water storage capacity to the soil.
- Stepping slopes to reduce slope steepness, reduce stormwater runoff volume and velocity, increase infiltration, trap sediment, and create a niche for seed retention and plant establishment.
- Placing mulch or compost blankets to reduce raindrop erosion, improve infiltration, conserve soil moisture, provide nutrients, reduce runoff and the transport of sediment, reduce competition from invasive annual weed species and improve the potential for vigorous long-term vegetation coverage.
- Using biofiltration strips and swales to filter pollutants from stormwater and reduce runoff.
- Planting trees, shrubs, and ground covers or brush layering to reduce raindrop erosion and hold soil in place.
- Seeding with deep-rooting California native grasses, wildflowers and perennials to reduce raindrop erosion and hold soil in place.
- Placing fiber rolls and compost socks to shorten slope length, intercept runoff, reduce runoff velocity, and remove sediment.
- Placing rolled erosion control products such as straw blankets, jute mesh, or coir (coconut) netting to provide immediate protection from surface erosion, retain soil moisture, and improve seed germination and vegetation establishment.

PROJECT DESIGN GOALS

Goal: Establish Theme/Pattern

Purpose: The current landscape is not based on a single vision or master plan. New planting solutions shall establish themes and patterns while integrating any existing landscape to remain.

Method:

- *Plant palette – Plants are to be adapted to local climate and require low to moderate water use. The plant palette should include a mix of varied-sized evergreen and deciduous trees and shrubs, evergreen ground covers, and perennials. All selections are to be pest and disease free, not require extensive pruning, must not drop fruit, or require maintenance strategies not typically associated with Caltrans roadside maintenance practices.*
- *Repetition – Placement of plants and other landscape elements should directly reflect their role in the landscape and be applied consistently throughout the project limits. For example, flowering/accent trees or shrubs can signal off or on ramps, tall evergreen trees can be used to indicate interchanges, longer stretches of roadway to have basic/minimal plantings, or colored or patterned ground treatments used only in areas of slower traffic speeds.*
- *Continuity in ground plane treatment – Create a unified corridor with ground plane treatment selection. This will be especially obvious immediately after construction and for some years afterwards. Selections shall be easy to maintain/replace, not interfere with public or worker safety, not require extensive amounts of water, and support other goals such as theme, repetition, and community identification.*

Goal: Community Identification

Purpose: Numerous communities are located adjacent to the project limits. These include, but are not limited to, Land Park, East Sacramento, Tahoe Park and the College/Glenn areas. Opportunities may exist to highlight the unique qualities of these communities.

Method:

- *Identify opportunities to highlight local communities.*
 - *Identifiers: "... graphics and/or text that conveys information about a region, community, or area. Community identification usually represents the identity, history, resources or defining characteristics of the area." Consider if appropriate and in accordance with Caltrans policy.*
 - *Planting accents – Designated plant material can be used to identify specific communities or neighborhood entrances.*
 - *Inert material condition – wall and fence aesthetics, ground treatment color and texture and pilasters are examples of using landscape elements to identify communities.*
- *Conduct public outreach to determine community interests and similarities between communities.*

Goal: Retain Classified Landscape Freeway Status

Purpose: The current roadside within the project limits is Classified Landscape Freeway. This designation limits outdoor advertising that may occur adjacent to the state right-of-way. The preservation of this status will help ensure that the landscape continues to be an asset to the traveling public and adjacent property users.

Method:

- *Provide continuous ornamental highway planting, minimum 1000' lengths on at least one side of freeway within State right-of-way.*

- *If gaps in planting needed due to space constraints, limit break length to 150'.*
- *Infill rehabilitated landscapes to meet length requirements and break restrictions.*

Goal: Maintenance and Safety Considerations

Purpose: Limit frequency and duration of workers operating near traveled way with strategic placement of planting and irrigation elements.

Method:

- *Mass plantings to concentrate specific maintenance needs.*
- *Plant selection to consist of plants native or adapted to area.*
- *Use controllers and other equipment compatible with existing irrigation system.*
- *Place irrigation controllers at the most accessible, safe locations. (e.g., at Maintenance Vehicle Pull-outs or at access gates.)*
- *Provide access gates from local roads through right-of-way fencing/soundwalls to access landscape off mainline.*
- *Provide access for workers and equipment to drainage/stormwater facilities for inspecting and cleaning.*

Goal: Water Conservation/Management

Purpose: California is coming out of a major drought and future water availability is uncertain. Goal is to conserve water while establishing and maintaining landscapes.

Method:

- *Separate irrigation facilities so that each side of the highway operates independently. No waterline or electrical service shall cross the freeway. Install new water meters, backflow preventers, controllers, mainline, and all other components to accommodate and integrate with the existing and operational points of connection.*
- *Follow current California drought restrictions and guidelines, including use of smart irrigation controllers.*
- *Plants are to be native or adapted to the area, requiring low water application.*
- *High water use plants are not allowed.*
- *Plants with medium water needs are acceptable to help achieve other planting goals, but plants must be massed, irrigated by separate valve, and limited to 20 percent of overall plant selection.*

Goal: Protect Existing Landscape Assets

Purpose: To preserve landscape elements of importance and maintain as much canopy coverage to protect the landscape from sun and erosion.

Method:

- *Retain all trees and significant plant massing if they do not impact construction, maintenance operations, clear recovery zones, and public and worker safety.*

Goal: Place permanent erosion control to address all disturbed soil areas and to support permanent storm water treatment BMPs.

Purpose: To comply with all permit requirements, maintain landscape health, and reduce water waste.

Method:

- *Identify existing and new drainage patterns and apply appropriate erosion control water treatment measures accordingly.*
- *Apply appropriate support to slopes.*

REFERENCES

2018. California Department of Transportation. *Plans Preparation Manual*.
2017. California Department of Transportation. *Highway Design Manual*.
2017. California Department of Transportation. *State Highway System Management Plan*.
2016. California Department of Transportation. *Project Development Procedures Manual*.
2016. California Department of Transportation. *Caltrans Design Information Bulletin (DIB) 88 Wall Structure Aesthetic Guidelines*.
2016. <http://www.dot.ca.gov/design/lap/landscape-design/erosion-control/index.html>
2016. <http://www.dot.ca.gov/design/lap/landscape-design/erosion-control/toolbox.html>

ATTACHMENT B - COST INFORMATION

Landscape Architecture - LAAS

Sac 50 Rehab Pavement

03-OH080

0315000074

HIGHWAY PLANTING

	Unit	Quantity	Cost (\$)
Replacement Planting	LS	1	<u>6,500,000</u>

HIGHWAY PLANTING SUBTOTAL 6,500,000

ROADSIDE SAFETY IMPROVEMENTS

Relocate Irrigation Equipment	EA	1	2,500
Relocate Electrical Box	EA	1	1,200
Maintenance Vehicle Pullout (MVP)	EA	6	117,000
Vegetation Control	SQYD	15,600	670,800
Worker and Equipment Access	SF	37,000	185,000
Prune Existing Plants	LS	1	<u>25,000</u>

ROADSIDE SAFETY IMPROVEMENTS SUBTOTAL 1,001,500

EROSION CONTROL

Erosion Control	LS	1	<u>100,000</u>
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EROSION CONTROL SUBTOTAL 100,000

TOTAL (\$) 7,601,500

SHOPP Project - Accomplishment - Performance Measures - Benefits									
District: 03 Tool ID: 13648 Project ID: 0315000074 EA: OH080 Co-Rte-PM: SAC-050-LO.6/R5.3 (Primary Location)									
Res in PID WP: 11/07/14 Project Manger: Nadarajah Suthahar HQ PM Conc TYP: 06/05/15 HQ PM Conc PID: 03/04/17 HQ PM Conc PRG: 12/04/17 HQ PM Conc PCR: 08/16/17									
<input checked="" type="checkbox"/> Bridge <input checked="" type="checkbox"/> Pavement <input checked="" type="checkbox"/> Drainage <input type="checkbox"/> Facilities <input checked="" type="checkbox"/> Safety <input checked="" type="checkbox"/> Mobility <input checked="" type="checkbox"/> Roadside <input checked="" type="checkbox"/> Complete Streets <input type="checkbox"/> Sustainability /Climate Change <input type="checkbox"/> Advance Mitigation <input type="checkbox"/> Other <input type="checkbox"/> Major Damage <input checked="" type="checkbox"/> Green-house Gases									
Performance & Accomplishments (PRG)									
	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
1	Bridge Preservation (201.119)	Bridge Health	SF	304339.0	48341.0	255998.0			
2	Bridge Rail (201.112)	Bridge Rail Replacement and Upgrade	LF	6536.0		6536.0			
3	Bridge Widening (201.110, .111, .113, .322)	No Performance Objective in the SHSMP	SF	2898.0				2898.0	
4	Bridge Approach Slabs (201.110, .111, .113, .322)	No Performance Objective in the SHSMP	SF	69245.0			69245.0		
5	Fish Passage	No Performance Objective in the SHSMP	Yes/No	No					
6	Number of Bridges	No Performance Objective in the SHSMP	EA	20.0					
7	Mainline existing Concrete Pavement Rehabilitation (e.g. Lane Replace, Conc overlay, CSOL, etc...) (201.122, 120)	Pavement Class I	lane-miles	53.6	5.3	47.6	0.7		Paving Limits: L0.6 to R5.3; SE=27.74%; RE=15.32%
8	Existing Ramps & Connectors (201.121, .122, .120)	Pavement Class I	lane-miles	0.1			0.1		
9	Replace/Install Culverts (201.151)	Drainage System Restoration	EA	3.0		3.0			
10	Replace Install/Culverts (201.151)	Drainage System Restoration	LF	60.0			60.0		
11	Cure in place line Culvert (201.151)	Drainage System Restoration	EA	35.0			35.0		
12	Cure in place line Culvert (201.151)	Drainage System Restoration	LF	1976.0			1976.0		Flush Sediment Only: NO CIP Liner
13	Pump Plants (201.151)	Drainage Pump Plants	EA	3.0			3.0		
14	Median Barrier (201.010, .015)	No Performance Objective in the SHSMP	LF	31000.0	31000.0				
15	Guard Rail (201.010, .015)	No Performance Objective in the SHSMP	LF	38643.0			37390.0	1253.0	Removing old and replacing with new
16	Lighting - Rehabilitation (201.170)	Lighting Rehabilitation	EA	173.0			173.0		
17	Overhead Sign Structures Rehabilitation (201.170)	Sign Panel Replacement	EA	41.0			41.0		Remv & repl due to bridge & rdwy work - upgrade panels
18	Changeable Message Sign (201.315)	Transportation Management Systems	EA	2.0	1.0		1.0		
19	ADA - Repair/upgrade curb ramp (201.361)	ADA Pedestrian Infrastructure	EA	4.0			4.0		
20	Highway Advisory Radio (201.315)	Transportation Management Systems	EA	1.0			1.0		
21	Retaining Wall	Roadside Rehabilitation	SF	99392.0				99392.0	
22	Complete Streets Not Applicable (3)	No Performance Objective in the SHSMP	3						Not suitable for proj scope
23	Is any location within the project limits Ped/Bike accessible?	No Performance Objective in the SHSMP	Yes/No						Yes UC and OC
24	Quantitative - Proposed Mitigated	No Performance Objective in the SHSMP	MTCO2e	347.0					4%
25	Quantitative - Unmitigated	No Performance Objective in the SHSMP	MTCO2e	363.0					

Memorandum

*Serious drought.
Help Save Water!*

To: MR. THOMAS LANGLEY, PE
MR. NOOR ALZIREENI
Design Branch
North Region Project Development

Date: July 17, 2018
File: 03-SAC-50
PM 0.6/5.3
03-OH080

From: STEVE CULLEY, District 3 Materials Engineer
ADDISU WORKINEH, Assistant DME
North Region – Materials Laboratory

Subject: Preliminary Structural Section Recommendation

As requested in your email to Steve Culley, dated June 25, 2018 the following preliminary structural section recommendation is made for the above referenced project. The following assumptions have been made:

Subgrade R-Value = 10 (Historical Value)
TI = Varies (Traffic Data)

STRUCTURAL SECTION RECOMMENDATIONS

Mainline and Shoulder:

TI₄₀ = 14.0

Option 1:

1.05' JPCP
0.35' LCB
1.00' AB (Class II)
2.40' Total

Option 2:

1.05' JPCP
0.25' HMA-A
1.00' AB (Class II)
2.30' Total

Option 3:

0.95' CRCP
0.25' HMA-A
1.00' AB (Class II)
2.20' Total

Note: - Place a Bond Breaker between JPCP and LCB.

New Structure for Shoulders:

TI₂₀ = 9.0

Option 1:

0.20' RHMA - G
0.30' HMA-A
1.25' AB (Class II)
SEG (Class B2 or B3)
1.75' Total

Option 2:

0.50' HMA-A
1.25' AB (Class II)
SEG (Class B2 or B3)
1.75' Total

Option 3:

0.20' RHMA - G
0.40' HMA - A
1.00' AB (Class 2)
SEG (Class B2 or B3)
1.60' Total

Option 4:

0.60' HMA - A
1.00' AB (Class 2)
SEG (Class B2 or B3)
1.80' Total

RAMPS: - Main Line and Shoulder Widening

TI₂₀ = 10.0

For main line and shoulder widening or full depth reconstruction use one of the following:

Option 1:

0.20' RHMA - G
0.30' HMA-A
1.50' AB (Class II)
SEG (Class B2 or B3)
2.00' Total

Option 2:

0.50' HMA-A
1.50' AB (Class II)
SEG (Class B2 or B3)
2.00' Total

Option 3:

0.20' RHMA - G
0.40' HMA – A
1.30' AB (Class 2)
SEG (Class B2 or B3)
1.90' Total

Option 4:

0.60' HMA – A
1.30' AB (Class 2)
SEG (Class B2 or B3)
1.90' Total

MATERIALS SPECIFICATIONS

Hot Mix Asphalt (HMA) Type A – Shall conform to section 39 of the Standard Specifications and the Special Provisions.

Hot Mix Asphalt (HMA) Type O – Shall conform to section 39 of the Standard Specifications and the Special Provisions.

Rubberized Hot Mix Asphalt (RHMA) Type O – Shall conform to section 39 of the Standard Specifications and the Special Provisions.

Aggregate Base (AB) – Class 2 – shall conform to section 26 of the Standard Specifications and the Special Provisions.

Aggregate Subbase (AS) – Class 2 – shall conform to section 25 of Standard Specifications and the Special Provisions.

Asphalt Binder – Asphalt binder used for HMA-A shall be grade PG 64-16 or as specified and shall conform to sections 39 and 92 of the Standard Specifications and Special Provisions.

Paint Binder – shall conform to sections 39, 92 and 94 of the Standard Specifications and the Special Provisions.

Subgrade Enhancement Geosynthetic (SEG) – shall conform to section 96 of the Standard Specifications and the Special Provisions.

Lime Stabilized Soil (LSS) – shall conform to section 24 of the Standard Specifications and the Special Provisions.

Jointed Plain Concrete Pavement (JPCP) – shall conform to sections 40 and 90 of the Standard Specifications and the Special Provisions.

Continuously Reinforced Concrete Pavement (CRCP) – shall conform to sections 40 and 90 of the Standard Specifications and the Special Provisions.

Lean Concrete Base (LCB) – shall conform to section 28.2 of the Standard Specifications and Special Provisions.

If you have any questions or concerns, please contact Addisu Workineh at (530) 741-5176 or myself at (530) 741-5378.

c: File



Dist-County-Route: 03-SAC-050
Post Mile Limits: PM L 0.6 to PM R5.3
Type of Work: Pavement Rehabilitation
Project ID (EA): 0315000074 (03-OH080)
Program Identification: SHOPP
Phase: PID PA/ED PS&E

Regional Water Quality Control Board(s): Central Valley Region
Total Disturbed Soil Area: _____ PCTA: _____
Alternative Compliance (acres): _____ ATA 2 (50% Rule)? Yes No
Estimated Const. Start Date: 8/15/20 Estimated Const. Completion Date: 12/1/24
Risk Level: RL 1 RL 2 RL 3 WPCP Other: _____
Is MWELO applicable? Yes No
Is the Project within a TMDL watershed? Yes No
TMDL Compliance Units (acres): _____
Notification of ADL reuse (if yes, provide date): Yes Date: _____ No

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E only.

Harvey Oslick, Registered Project Engineer Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Nadarajah Suthahar, Project Manager Date

Sameh Hegazi, Designated Maintenance Representative Date

Jeff L. Pietrzak, Designated Landscape Architect
Representative Date

[Stamp Required at PS&E
only]

Wesley J. Faubel, Regional Design SW Coordinator Date

EA 03-0H080 03-0H080 SAC 050 Rehabilitate Pavement - ACTIVE RISK REGISTER

Risk 004 Water Inflow Rate RBS: Design Owner: Sam Vandell Updated: 8-14-2018

Description The subsurface water inflow rate into the Oak Park Water storage boxes is estimated at ~400 gpm. Investigations have not identified the inflow source. It is assumed that the existing water storage vault at the Oak Park Interchange has adequate storage capacity for the design storm events.

Status

Response Options A geotechnical design report and drainage report will be requested in the design phase to confirm current proposed strategy is adequate.

Impacts

Probability	Cost Impact		Delay Impact		Risk Zone			
	Cap	Sup	Dev	Con	Cap	Sup	Dev	Con
	Low	Moderate	High	Low	Low	M	H	L

Assessment Notes

Risk 005 Vertical Clearance RBS: Design Owner: Sam Vandell Updated: 8-14-2018

Description Improving vertical clearance at 7 structures by lowering the freeway assumes adequate depth of cover over median spread footings.

Status A review of as-built top of footing elevations suggests strategy is possible. However, If the actual cover is determined to be significantly less than what is suggested by the as-builts plans during lowering the freeway, project may be delayed to identify solutions. Possible consequence is increased construction cost and expanded lane closures / inconvenience to the public.

Response Options Perform positive identification during design phase to determine actual cover.

Impacts

Probability	Cost Impact		Delay Impact		Risk Zone			
	Cap	Sup	Dev	Con	Cap	Sup	Dev	Con
	Low	Moderate	Moderate	Moderate	High	M	M	M

Assessment Notes

Risk 006 Drainage RBS: Design Owner: Sam Vandell Updated: 8-14-2018

Description The existing condition of the drainage blankets and associated underdrains under the freeway and connectors at the Oak Park Interchange is unknown.

Status Replacement of the underdrains is included in project scope.

Response Options A geotechnical design report will be requested in the design phase to determine best course of action regarding the need to rehabilitate the existing drainage blankets

Impacts	Cost Impact			Delay Impact		Risk Zone			
	Probability	Cap	Sup	Dev	Con	Cap	Sup	Dev	Con
	Moderate	Moderate	Low	Low	Moderate	M	L	L	M

Assessment Notes

Risk 007 Design Changes during Design-Build Contract RBS: Design Owner: N. Sutha Suthahar Updated: 8-14-2018

Description As a result of design changes during Design-Build Contract (like raising bridges instead of lowering the freeway), a higher level Environmental Document may be required causing schedule delays and cost increase.

Status

Response Options PDT to work with Design-Build contractor to keep the design within the current Environmental Clearance.

Impacts	Cost Impact			Delay Impact		Risk Zone			
	Probability	Cap	Sup	Dev	Con	Cap	Sup	Dev	Con
	Low	Low	Moderate	None	Moderate	L	M		M

Assessment Notes

Risk 008 RW Certification RBS: R/W Owner: Wendy Ratajczak Updated: 8-14-2018

Description Due to the lack of lead time to relocate utilities, RW Certification and/or construction may be delayed which may have an impact on schedule and cost.

Status Utility work had already begun with the positive location tentative start date of 9/4/18.

Response Options Accept. RW Utility Coordinator to work closely with Design, UEW, and utility companies on obtaining desired deliverables on schedule.

Impacts	Cost Impact			Delay Impact		Risk Zone			
	Probability	Cap	Sup	Dev	Con	Cap	Sup	Dev	Con
	Low	Low	Low	Low	Low	L	L	L	L

Assessment Notes Requested 24 months lead time. PA&ED date of 8/15/18 just allows 17.5 months to RW Certification of 2/3/20.

Risk 009 Rehabilitation Project Combined with HOV Lanes Project RBS: Design Owner: Sam Vandell Updated: 8-14-2018

Description The stage construction strategy for the rehabilitation project assumes that the HOV project (EA 03-3F360) is Stage 1. The HOV project provides additional pavement width that can be used for shifting traffic for constructing the new concrete pavement. If the HOV project is not constructed concurrently with the rehabilitation project, additional pavement width will not be available. Alternative construction materials and strategies (such as

using precast pavement panels) will need to be considered. This may impact construction cost and project delivery schedule.

Status

Response Options Consider alternative materials and strategies.

Impacts

Probability	Cost Impact		Delay Impact		Risk Zone			
	Cap	Sup	Dev	Con	Cap	Sup	Dev	Con
Low	Low	Low	Low	Moderate	L	L	L	M

Assessment Notes

Prepared by Kayla Giese

Programming Sheet



AMS ID: 0315000074 EA: 03-0H080 COUNTY: ROUTE: 050 POSTMILE: L.6/R5.3

Project Manager: SUTHAHAR, NADARAJAH	PM Assistant: GIESE, KAYLA R	Project Nickname: Sac 50 - Rehab Pavement
Project Description - Long: In Sacramento from I-5 to Watt Ave OC (Br# 24-34).		
Work Description - Long: Rehab Pavement		
PPNO: 6177	Program: shopp	RPT: No
Open for Time: Yes	Subprogram: Roadway Rehabilitation	Funding: No
10 Yr SHOPP: Yes	AADD: Yes	PROGRAM YR: 2020
		Working Days: 800
		CT Status: APL
		RMP: RMP Date:
		Dist Category: SHOPP MAJOR
		FED Aid Eligible: YES

MS	MS Description	MS Date	
M000	ID NEED	11/03/2014	(A)
M010	APPROVE PID	05/21/2017	(A)
M015	PROG PROJ	08/16/2017	(A)
M020	BEGIN ENVIRO	09/08/2017	(A)
M040	BEGIN PROJ	08/23/2017	(A)
M200	PA & ED	08/15/2018	(T)
M221	RECEIVE COMPLETE	11/15/2018	(T)
M224	R/W REQTS	09/01/2018	(T)
M225	REGULAR R/W	11/30/2018	(T)
M265	FINAL R/W REQTS	03/01/2019	(T)
M275	GENERAL PLANS	01/02/2019	(T)
M300	CIRC PLANS IN DIST	08/02/2019	(T)
M377	PS&E TO DOE	12/02/2019	(T)
M378	DRAFT STRUC PS&E	08/01/2019	(T)
M410	R/W CERT	02/03/2020	(T)
M430	DCR	01/29/2020	(T)
M460	RTL	02/14/2020	(T)
M470	FUND ALLOCATION	05/15/2020	(T)
M480	HQ ADVERT	03/15/2020	(T)
M490	BIDS OPEN	06/15/2020	(T)
M495	AWARD	07/15/2020	(T)
M500	APPROVE CONTRACT	08/15/2020	(T)
M600	CONTRACT ACCEPT	12/01/2024	(T)
M700	FINAL REPORT	12/01/2025	(T)
M800	END PROJ EXP	12/01/2026	(T)
M900	FINAL PROJ	12/01/2026	(T)

	Amount \$k	EST Date
Roadway	238000	08/09/18
Structures	21400	08/09/18
Const Total	259400	
ROW	117	07/20/18
Total	259517	

Env Doc: EA, IS

Fund Source	PA&ED	PS&E	ROW	CON	ROW Cap	CON CAP
4050201.120	0	0	0	0	0	0
2010201.120	7800	17000	1800	0	0	0
2020201.120	0	0	0	0	3900	0
Grand Total:	7,800	17,000	1,800	0	3,900	0

2020
CC Escalation %: 4.20%
CC Escalated \$: 270,295
ROW CAPITAL: 117
TOTAL: 270,412

Phase Escalation	PRIOR ACT \$	2019 ETC	2020 (4.20%)	2021 (4.20%)	2022 (4.20%)	2023 (4.20%)	Future (4.20%)	Total	Sup/Cap%
0	1,682	5,542	0	0	0	0	0	7,224	2.67%
1	0	8,351	6,456	187	0	0	0	14,994	5.54%
2	8	244	258	166	173	180	391	1,422	0.53%
3	0	0	0	4,474	5,071	5,284	9,239	24,068	8.9%
TOTAL SUPPORT COSTS:								47,708	17.64%
TOTAL PROJECT COSTS:								318,120	

Division	PRIOR ACT PYS	2018 ETC PYs	2019 ETC PYs	2020 ETC PYs	2021 ETC PYs	2022 ETC PYs	Future ETC PYs	Total ETC PYs
03 ENV	0.03	0.01	0.02	0.00	0.00	0.00	0.00	0.07
03 ESR	0.01	1.32	0.76	0.03	0.03	0.03	0.12	2.31
03 ADMN	0.02	0.21	0.00	0.35	0.35	0.35	1.20	2.48
03 CONS	0.03	0.36	0.25	13.86	15.15	15.15	25.00	69.81
03 ENVM	0.28	10.73	1.44	0.14	0.15	0.15	0.29	13.19
03 ESRV	0.21	2.62	2.53	0.29	0.25	0.25	0.41	6.57
03 MTCE	1.32	0.08	0.02	0.07	0.08	0.08	0.11	1.76
03 PPM	0.95	2.96	2.59	1.23	0.96	0.96	2.53	12.19
03 PRJD	3.04	25.05	13.02	0.37	0.21	0.21	0.34	42.24
03 RWLS	0.29	0.48	0.43	0.06	0.06	0.06	0.20	1.59
03 SURV	1.61	3.68	1.34	1.15	1.24	1.24	2.04	12.30
03 TO20	0.10	0.02	0.00	0.00	0.00	0.00	0.00	0.12
03 TPLN	0.04	0.02	0.01	0.00	0.00	0.00	0.03	0.11
03 TROP	0.22	3.97	2.60	0.20	0.22	0.22	0.36	7.78
03 TOTALS :	8.15	51.51	25.01	17.75	18.70	18.70	32.63	172.52
56 MTCE	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.24
56 TOTALS :	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.24

Programming Sheet



AMS ID: 0315000074 EA: 03-0H080 COUNTY: ROUTE: 050 POSTMILE: L.6/R5.3

Division	PRIOR ACT PYS	2018 ETC PYs	2019 ETC PYs	2020 ETC PYs	2021 ETC PYs	2022 ETC PYs	Future ETC PYs	Total ETC PYs
59 GS	0.03	2.14	0.90	0.39	0.42	0.42	0.62	4.92
59 METS	0.00	0.15	0.03	0.95	1.04	1.04	1.49	4.70
59 PPM	0.11	0.16	0.33	0.12	0.02	0.02	0.08	0.84
59 SCON	0.00	0.11	0.14	4.16	4.55	4.55	7.08	20.60
59 SDSN	0.24	3.07	3.31	0.67	0.58	0.58	1.07	9.52
59 SP&I	0.00	0.29	0.22	0.05	0.05	0.05	0.08	0.74
59 TOTALS :	0.38	5.92	4.93	6.34	6.66	6.66	10.42	41.32
Division	PRIOR ACT PYS	2018 ETC PYs	2019 ETC PYs	2020 ETC PYs	2021 ETC PYs	2022 ETC PYs	Future ETC PYs	Total ETC PYs
	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.48
TOTALS :	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.48
PROJECT TOTALS:	9.01	57.67	29.94	24.09	25.36	25.36	43.05	214.56

Comments: