

Appendix F

Sacramento Extension Capitol Cost Basis Report

Sacramento Extension Capital Cost Basis Report

March 2020

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Table of Contents

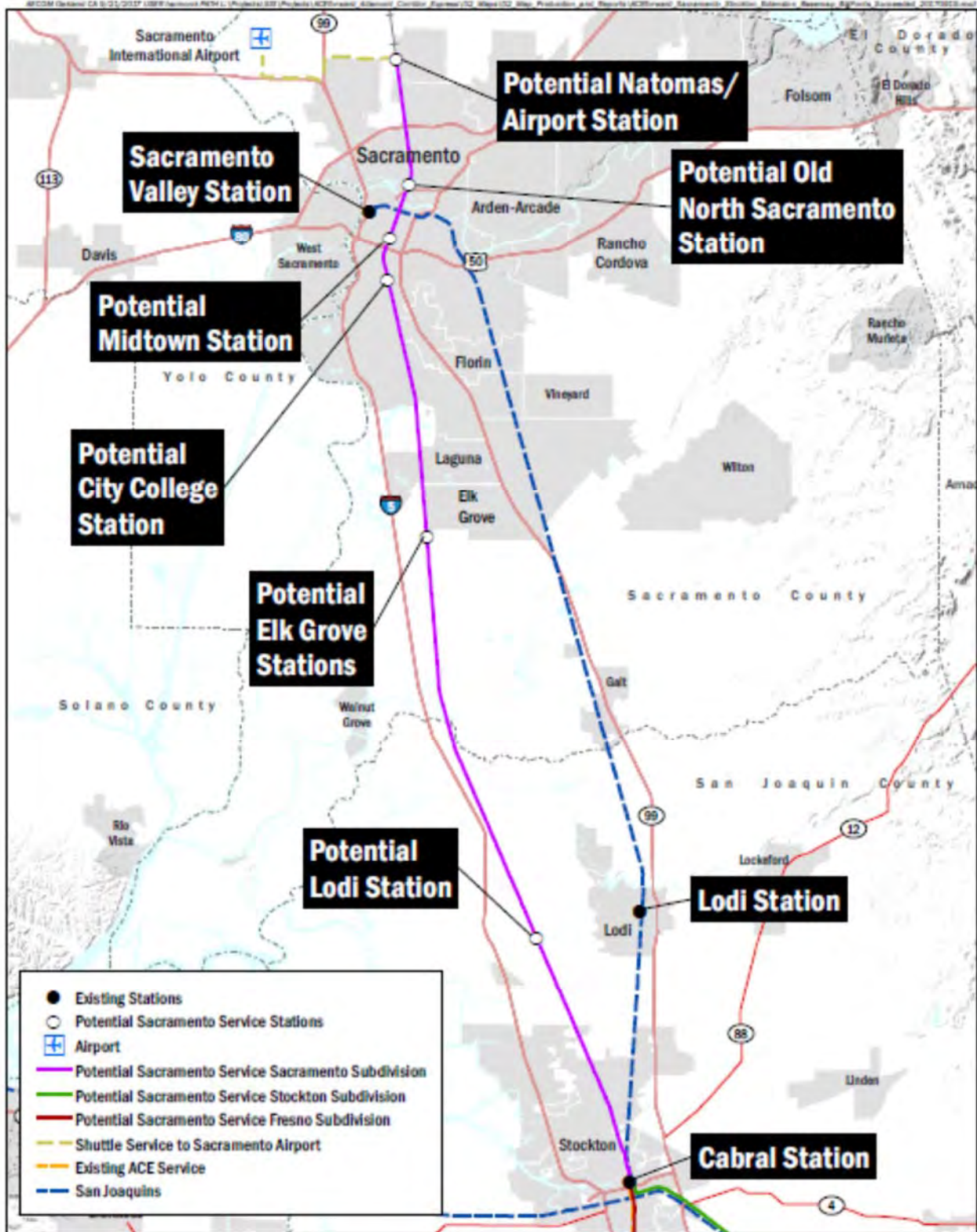
- Section 1: Introduction to the Estimate..... 5**
 - 1.1 General Introduction..... 5
 - 1.2 Overview of the Scope of Work..... 5
- Section 2: Scope of the Estimate..... 5**
 - 2.1 Sacramento Subdivision 5
- Section 3: Development of Cost Estimate 6**
 - 3.1 Estimate Summary 6
 - 3.2 Work Breakdown Structure (WBS)..... 6
 - 3.3 Work Categories (WC) 6
 - 3.4 Estimate of Quantities 6
 - 3.5 Estimate of Pricing 6
 - 3.6 Contractor Markups..... 7
- Section 4: Estimate Methodology Reference Data 8**
 - 4.1 Opinion of Cost 8
 - 4.2 Cost Resources..... 8
 - 4.3 Labor Costs..... 8
 - 4.4 Materials and Equipment 11
 - 4.5 Escalation..... 11
- Section 5: Assumptions, Inclusions, and Exclusions..... 11**
 - 5.1 General Assumptions and Inclusions 11
 - 5.2 Major Assumptions..... 11
 - 5.2.1 Geotechnical 12
 - 5.2.2 Civil..... 12
 - 5.2.3 Structural..... 12
 - 5.2.4 Architectural 12
 - 5.2.5 Railroad Signaling..... 12
 - 5.3 Excluded Costs 12

Appendix A: Cost Summary
 Appendix B: Station Sections
 Appendix C: Signal Type Photos

List of Acronyms and Abbreviations

AC	Acres
ACE	Altamont Corridor Express
BART	Bay Area Rapid Transit
BCY	Bank Cubic Yard
CER	Conceptual Engineering Report
CY	Cubic Yard
Dog House	Signal house
EPC	engineer-procure-construct
FCY	Fill Cubic Yard
HVAC	heating, ventilation, and air conditioning
I&C	instrumentation and controls
kV	kilovolt(s)
LED	light-emitting diode
LF	Lineal Feet
LS	Lump Sum
mW	megawatt(s)
SF	Square Feet
SJRRC	San Joaquin Regional Rail Commission
TF	Track Feet
V	volt(s)
WBS	Work Breakdown Structure
WC	Work Category

General Map of the Project



Section 1: Introduction to the Estimate

1.1 General Introduction

The AECOM team prepared a comprehensive cost estimate for the Sacramento Extension Rail Project.

This document is to summarize the costs from the 2020 15% preliminary engineering design for the improvements associated with the Sacramento Extension. The projects include rail improvements and stations.

A master work breakdown structure (WBS) has been developed collectively by the AECOM team to provide a tracking framework for design, planning, scheduling, funding, and partnering as the Projects move forward. Work items are introduced with reference to the CSI coding system.

1.2 Overview of the Scope of Work

The Sacramento Extension is proposed by the San Joaquin Regional Rail Commission (SJRRRC) to provide one element of the foundation for SJRRRC's long-term vision of intercity passenger rail services.

The Sacramento Extension includes improvements to UPRR's Sacramento Subdivision in order to increase passenger rail service between Stockton and Sacramento. The existing service on the Fresno Subdivision is not capable of expansion therefore new service must be implemented on the Sacramento Subdivision. In order to provide service there is a need for rail improvements and stations.

Section 2: Scope of the Estimate

2.1 Sacramento Subdivision

The Sacramento Extension project is divided into station improvements and rail improvements. There are six stations planned for this segment, Lodi, Elk Grove, City College, Midtown, Old North Sacramento and Natomas. The track improvements include four curve locations that reduce the speed locally, with these improvements the train will not have to slow down for these curves. There is also a combination of two new sidings, three siding upgrades and three siding upgrade and extensions. There is also a crossover needed in the vicinity of 26th Avenue.

Section 3: Development of Cost Estimate

The development of this estimate was an integrated process within the AECOM team to collaborate in the development and review process of the design and costing. The steps to produce a complete package of reliable cost and budget to support the design are outlined below.

3.1 Estimate Summary

The Estimate Summary Sheet uses the WBS for the Project and cost segments to produce the cost summary sheets. This is the list of the key activities that make up the Project. It summarizes the line item cost for each key element of work that makes up the Project. Each key element has a related design and plans, take-off and unit rates work sheet showing the detailed cost development work included in each segment. These Estimate Summary Sheets are included in Appendix A.

3.2 Work Breakdown Structure (WBS)

The WBS was set up to develop a line item identifier for each key element of work on the Project. It is intended to develop integrated cost and schedule for each key element that can be used as a future individual construction contract or combined with other key elements to produce a construction package in the future.

3.3 Work Categories (WC)

The WC for the Project was developed to provide a systematic framework to develop and track the cost and schedule for the project. It focuses on the key elements for railroad construction. The estimate work sheets (tabs on the Summary Estimate) integrate the descriptions of work elements with the estimate of quantities take-off to develop the cost for each segment of the design.

3.4 Estimate of Quantities

The quantities used to develop the cost for this estimate were produced from designs developed by the AECOM design team. AECOM produced work activity quantities from this design and produced quantity summary sheets for each work activity. Specific track items such as track hardware, switches, and signals were quantified for pricing. Quantities from design sheets were back checked by AECOM to ensure that all quantities were accounted for throughout the estimate.

3.5 Estimate of Pricing

To develop the pricing for the cost estimate, the quantities developed in Section 3.4 were integrated with a standardized pricing sheet (tabs within the Microsoft Excel spreadsheets) listing all of the possible work activities that would be encountered in

each work area of each of the Projects. Each item is assigned a consistent unit rate for each of the activities to be used throughout the estimate. A factor was provided to adjust the standard cost rate for the work activities depending upon any differences from the standard rates, allowing for efficiency, markup, and difficulty of the work. This is a judgment based upon a review of the design documents and minimal field review of the work sites. Costs developed here are automatically transferred from the Estimate Summary Sheet into the Major Work Activity.

3.6 Contractor Markups

This section describes the basis of the cost estimate Scope of Work.

This Opinion of Probable Cost is classified as a Class 4 estimate as defined by the Association for the Advancement of Cost Engineers (AACE international). Class 4 estimates are prepared based on information where the preliminary engineering is from 15 percent complete, such as used for detailed strategic planning, business development, project screening, alternative scheme analysis, confirmation of economic and/or technical feasibility, and preliminary budget approval.

The Class 4 estimating methodology is parametric using equipment and/or system process factors, budgetary vendor quotes, scale-up factors, and parametric and modeling techniques. The expected accuracy ranges for this class of estimate are -15 percent to -30 percent on the low end and +20 percent to +50 percent on the high end.

Table 3-1 lists the probable cost markup to address the specific items listed in the table. The markups are indirect costs incurred by the contractor in the execution of the project.

Table 3-1. CER Opinion of Probable Cost Markup	
Cost Description	Markup (%)
Inter-Agency Fees	0.80
Environmental Mitigation	3.00
Preliminary Engineering	0.00
Design 35%	3.00
Design 65%	3.00
Design 90%	2.00
Design Bid Set	2.00
Construction Management	10.00
Program Management	2.00
Agency Administration	4.00

Table 3-1. CER Opinion of Probable Cost Markup

Cost Description	Markup (%)
Design Services During Construction	0.00
Railroad Flagging	2.00
Escalation allowance ^a	0.00
Add for whole unit factor	1.000
Total markup factor	1.318
Financing Costs	0.00

^a Escalation is based on 0% per year compounded annually, to midpoint of construction. Escalation will be added when a construction schedule can be finalized.

Section 4: Estimate Methodology Reference Data

4.1 Opinion of Cost

This Opinion of Probable Cost has been prepared from the information available at the time of the estimate. The final construction costs and the total cost of implementation will depend on actual labor and material costs, competitive market conditions, implementation schedule, and other variable factors. As a result, the final costs could vary from the estimate presented in this document. Because of this variance, to help ensure proper evaluation and adequate funding, feasibility and funding needs must be carefully reviewed prior to making specific financial decisions.

4.2 Cost Resources

The following is a list of the various cost resources used in the development of this cost estimate:

- R.S. Means cost data manuals, 2015
- Recent bids and costs for local projects
- 50 plus years of construction experience
- Historical data from the design teams' similar completed projects
- Vendor and/or supplier quotes on equipment and materials where appropriate
- Estimator judgement

4.3 Labor Costs

The estimate reflects local area labor rates. The published prevailing trade labor rates are used for the counties that are included in the local area and other California involved counties.

Prevailing labor prices are a burdened rate, including employer payments such as worker's compensation, state taxes, fringe benefits, health and welfare, pensions, vacations/holidays, and training.

A 5 percent allowance for incidental overtime has been included. This calculation has been blended in with the unit rates of line items of work. Pricing includes local hire and SBE participation meeting current standards.

Labor Wage Rate Recap

The base wage and total fringe of 29 select trades are sourced from the Department of Industrial Relations' Prevailing Wage Determinates. Total wage accounts for various federal and state taxes, payroll, supervision, workers' compensation, and overhead and profit rates, as paid by the employer. Inside the main Current Construction Costs section of this book, this total wage rate is multiplied by column Labor Hours to obtain column Labor Cost.

Trade	Base Wage \$	Total Fringe \$	Payroll Tax \$	Supervisor \$	Workers' Comp %	Workers' Comp \$	Subtotal \$	Overhead Profit %	Overhead Profit \$	Total Wage Rate \$
Asbestos Worker	59.48	19.84	5.86	2.97	11.59%	6.89	95.04	22%	20.91	115.95
Bricklayer	36.58	28.44	3.76	1.83	14.55%	5.32	75.91	27%	20.49	96.40
Carpenter, Drywall/Lather	40.25	28.50	4.11	2.02	13.71%	5.53	80.51	33%	26.57	107.07
Carpenter, General	40.20	27.87	4.09	2.01	26.81%	10.78	84.95	27%	22.94	107.89
Carpenter, Hardwood Floorer	40.35	27.72	4.11	2.02	26.81%	10.82	85.01	27%	22.95	107.96
Cement Mason	30.00	23.66	3.16	1.50	14.55%	4.37	62.68	27%	16.92	79.61
Electrician	49.56	31.05	4.95	2.48	10.29%	5.06	93.09	20%	18.62	111.71
Elevator Constructor	59.19	30.64	5.83	2.96	5.77%	3.42	102.03	33%	33.67	135.71
Glazier	41.63	22.72	4.24	2.09	18.55%	7.76	78.64	24%	18.87	97.52
Hook Carrier	32.84	19.69	3.42	1.64	14.55%	4.78	62.37	27%	16.84	79.21
Laborer, Demolition	28.14	20.13	2.99	1.41	12.72%	3.58	56.25	15%	8.44	64.68
Laborer, General	29.09	20.13	3.08	1.45	28.28%	8.23	61.98	15%	9.30	71.27
Operating Engineer, General	38.43	28.38	3.93	1.92	17.80%	6.84	79.50	15%	11.93	91.43
Operating Engineer, Oilier	34.07	28.28	3.53	1.70	17.80%	6.06	73.65	15%	11.05	84.70
Painter, Drywall (Taper)	40.32	20.41	4.10	2.02	18.12%	7.31	74.64	25%	18.66	93.29
Painter, General	38.45	21.17	3.93	1.92	18.12%	6.97	72.44	25%	18.11	90.55
Pile Driver	39.59	28.38	4.04	1.98	17.83%	7.06	81.04	15%	12.16	93.20
Plasterer	37.48	25.11	3.84	1.87	19.29%	7.23	75.54	33%	24.93	100.48
Plumber	54.40	35.80	5.39	2.72	13.43%	7.31	105.62	15%	15.84	121.46
Resilient Floorer	29.55	18.37	3.12	1.48	10.99%	3.25	53.96	27%	14.57	68.53
Roofer	31.66	17.76	3.31	1.58	54.51%	17.26	71.57	22%	15.75	87.32
Sheet Metal Worker, Deck & Siding	33.86	31.83	3.51	1.69	14.44%	4.89	75.78	15%	11.37	87.15
Sheet Metal Worker, Mechanical	54.85	36.79	5.43	2.74	14.44%	7.92	102.74	22%	23.70	126.44
Sprinkler Fitter	52.42	25.77	5.21	2.62	8.19%	4.82	90.84	15%	13.63	104.48
Structural Iron Worker	33.50	28.20	3.48	1.68	32.87%	11.01	77.87	21%	16.35	94.22
Teamster, 4 yard	27.96	24.81	2.97	1.40	28.28%	7.91	65.05	15%	9.76	74.80
Teamster, 9.5 yard	28.91	24.81	3.06	1.45	28.28%	8.18	66.40	15%	9.96	76.36
Terrazzo Mechanic	40.42	25.58	4.11	2.02	7.74%	3.13	75.26	27%	20.32	95.58
Tile Setter	38.24	17.62	3.91	1.91	11.24%	4.30	66.18	25%	16.55	82.73

Cost Indices

MATERIAL COST INDEX

23 Selected Materials	\$/Unit	2008	2009	2010	2011	2012	2013	2014	YOY Change
Aluminum Sheet 48"x96"	CWT	190.73	189.00	183.00	175.00	202.25	193.26	201.19	4.10%
Asphalt Felt, 4 squares	ROLL	21.12	21.51	21.00	23.85	24.90	24.68	24.07	-2.47%
Block, Concrete 8x8x16	EA	1.43	1.42	1.47	1.47	1.55	1.57	1.62	3.18%
Brick, Standard Modular	M	348.97	351.00	368.00	348.00	356.00	362.21	367.50	1.46%
Cement, Portland	TON	101.76	102.00	98.95	98.09	101.24	102.99	107.34	4.22%
Concrete, Readymix 3000 PSI	CY	92.26	93.80	85.00	84.15	85.46	90.37	94.00	4.02%
Copper Pipe, 1/2" type L	MLF	2,130.62	2,217.00	1,638.00	1,766.00	1,799.00	1,760.00	1,677.89	-4.67%
Glass, 1/4"	SF	5.15	5.31	5.09	5.25	5.52	5.58	5.75	3.05%
Gypsum Wall Board, 1/2" 4x8	MSF	253.03	238.34	234.37	251.03	255.00	265.85	290.96	9.45%
Insulation, Fiberglass batts, r13	MSF	274.80	279.80	307.00	312.50	351.00	363.90	354.28	-2.64%
Insulation, rigid, 1", poly Iso	MSF	303.98	310.72	461.23	478.75	481.00	495.91	532.54	7.39%
Lath, Metal, 3.44, Galvanized	CSY	210.13	215.74	208.80	222.23	236.00	232.85	263.74	13.26%
Lumber, framing, 2x4, 2x6	MBF	427.74	411.13	388.75	341.90	444.00	457.20	469.23	2.63%
Mason's Lime, 50# bags	TON	205.46	203.36	215.00	210.53	219.00	229.00	233.04	1.76%
PG 64 liquid bulk shipped	TON	274.79	286.04	477.50	557.00	570.00	570.00	558.59	-2.00%
Pipe, 8" c-900 PVC water	LF	8.85	8.82	8.93	9.55	9.26	9.15	9.30	1.59%
Pipe, Reinforced Concrete, 24"	LF	24.96	26.60	22.00	22.99	24.70	25.82	26.95	4.37%
Plywood 19/32" 4x8 CD exterior T+G	MSF	597.32	578.65	499.90	504.28	643.38	610.00	628.75	3.07%
Steel sheets, Stainless, 304, 4x8	CWT	198.17	179.74	176.00	183.95	144.50	157.25	159.95	1.72%
Steel, Reinforcing	CWT	40.90	40.36	40.30	42.06	36.20	35.80	36.79	2.77%
Steel, Structural Shapes	CWT	44.67	43.21	42.10	43.39	42.55	42.50	44.71	5.21%
Coal Tar Pitch, modified	TON	643.50	644.29	445.00	488.54	486.22	480.25	483.56	0.69%
Titanium Dioxide pigment	CWT	126.09	126.09	137.00	154.21	162.50	162.24	168.75	4.01%
Total Average Change (Non-weighted)									2.88%

Cost Indices

LABOR COST INDEX

9 Selected Trades, \$/hour	2008	2009	2010	2011	2012	2013	2014	YoY Change
Carpenters	47.13	50.89	52.87	53.75	55.08	56.77	58.39	2.85%
Bricklayers	47.66	51.17	53.27	54.10	55.07	56.18	57.93	3.11%
Iron Workers (Structural)	51.97	55.75	58.81	59.68	60.80	61.41	62.76	2.19%
Laborers (Building)	37.84	41.85	43.64	44.49	44.99	47.02	49.68	5.67%
Operating Engineers (Crane Operators)	51.06	54.92	57.01	57.85	58.89	60.27	64.55	7.10%
Plasterers	44.18	48.15	50.10	50.83	51.26	52.85	54.68	3.47%
Plumbers	53.78	59.14	61.09	62.16	62.97	64.65	67.66	4.65%
Electricians	54.89	57.21	59.29	59.68	61.00	62.07	64.50	3.91%
Teamsters	40.89	41.51	43.02	43.76	44.97	45.80	48.00	4.80%
Total Average Wage (Non-weighted)	47.71	51.18	53.23	54.03	55.00	56.34	58.68	4.20%

SUBCONTRACTS COST INDEX

21 Basic In-Place Materials	\$/Minimum Quantity	Unit	2010	2011	2012	2013	2014	Change
Acoustic Ceiling, Incl grid, tiles	20,000 & up	SF	3.31	3.46	3.62	3.75	3.92	4.53%
Brick veneer, common, commercial	2,000 & up	SF	14.61	14.87	15.15	15.29	15.44	1.00%
Ceramic Tile 4x4, Mortar set	1,000 & up	SF	10.89	11.02	11.31	11.52	11.81	2.52%
Copper pipe, 1/2" Type L	2,000 & up	LF	12.15	11.89	12.31	12.55	12.79	1.91%
Ductwork, Galvanized Iron, 16 ga	10,000 & up	#	8.27	8.31	8.79	8.89	8.93	0.45%
Flooring, Terrazzo, Cementitious	3,000 & up	SF	15.75	16.15	16.79	17.01	17.26	1.47%
Glass, Float, 1/4"	1,000 & up	SF	9.87	9.97	10.15	10.40	10.71	2.98%
Glue Laminated beams, Installed	10,000 & up	MBF	2,880.00	2,895.00	3,355.00	3,489.00	3,583.20	2.70%
Gypsum Wall Board, 5/8" 4x8	20,000 & up	SF	2.12	2.16	2.29	2.36	2.43	3.10%
Insulation, 1 1/2" rigid, poly Iso	5,000 & up	SF	1.55	1.60	1.67	1.85	2.01	8.50%
Metal Roof Deck 1 1/2", 20 Ga., painted	10,000 & up	SF	3.15	3.16	3.35	3.45	3.58	3.77%
Paint, Interior, 3 coat over GWB, roll	10,000 & up	SF	0.71	0.78	0.81	0.82	0.83	1.10%
Piles, concrete, precast, 12"	2,000 & up	LF	43.59	43.15	43.41	44.56	45.91	3.03%
Plywood 19/32", 4x8, cd exterior, T&G, floor	10,000 & up	SF	2.25	2.19	2.28	2.45	2.63	7.35%
Roofing, 4 ply, built up, 20 year	5,000 & up	SF	3.89	4.16	4.24	4.14	4.20	1.45%
Steel, Reinforcing	20,000 & up	#	0.82	0.80	0.82	0.84	0.87	3.57%
Steel, Structural Shapes	250,000 & up	#	1.54	1.49	1.41	1.55	1.68	8.39%
Stucco, Exterior, Production Residential	2,000 & up	SY	36.51	36.12	36.27	36.49	36.87	1.04%
Vinyl Composition Tile, 3/32"	10,000 & up	SF	2.89	3.05	3.09	3.15	3.22	2.22%
Wire #12, THHN, Pulled in conduit	10,000 & up	LF	0.94	0.92	0.88	0.89	0.91	2.25%
Wood Stud walls, 2x4	10,000 & up	BF	2.85	2.82	2.98	3.15	3.34	6.00%
Total Average Change (Non-weighted)								3.30%

4.4 Materials and Equipment

Materials and equipment costs include the California state sales tax rate of 9.38 percent on materials, both temporary and permanent, and purchased equipment and/or subcontracted services that are deemed taxable.

4.5 Escalation

The cost estimate unit costs are based on \$2017. A yearly escalation rate of 3.2% is applied to the construction total to provide a final construction total in \$2020.

Section 5: Assumptions, Inclusions, and Exclusions

5.1 General Assumptions and Inclusions

The following general assumptions were used in the development of the estimate:

- The estimate is based on the information contained in the 2020 15% preliminary engineering design drawing packet.
- The existing operating facility will remain functional during construction.
- Adequate staging areas for office trailers, workforce parking, and staging of materials and laydown areas will be available.
- Contractor's temporary facilities and consumables are included as part of general requirements, including water, wash water, and electricity.
- Storm Water Pollution and Prevention Plan installation and management is included in the site estimate.
- The required road closures and site access points will be provided during construction according to the construction schedule.

5.2 Major Assumptions

The estimate is based on the assumptions that the work will be done on a multi-fragmented general contractor basis, and the contractor will have a reasonable amount of time to complete the work.

It is assumed that the fabricated equipment will be manufactured in the United States. Manufacturing facilities for the track and rail hardware are assumed to be from a U.S. supplier.

The assumed method of procurement is General Contractor. A project of this nature and extent will likely be bid by several specialty major engineer-procure-construct (EPC) contractors qualified to execute a project of this size. Therefore, it will be critical to keep informed of bidding backlog and other market conditions to ensure competitive bids.

The timing of the advertisement of the bids and subsequent execution of the successful EPC contractor should be a major priority of the development team.

5.2.1 Geotechnical

Geotechnical assumptions used in the development of the estimate are presented below:

- Class 1 contaminated excavated material, not yet identified, will be hauled to a licensed hazardous waste disposal facility; cost not specifically calculated but included in the “rate” for excavation.
- Asphalt, demolition, and new paving are included.
- Embankment will be from a local borrow source near the construction fill site.

5.2.2 Civil

Civil assumptions used in the development of the estimate include site clearing and grading, temporary work for access to structures are included in the rates for the work items. Site improvements will include roads, storm water management, lighting, fencing, station amenities, and landscaping where shown on the plans or as required.

5.2.3 Structural

Cost for the bridges and stations will be in accordance with good engineering practices or designs where available.

5.2.4 Architectural

Architectural assumptions used in the development of the estimate are pricing for architectural finishes for building exterior walls, cladding, and roofs. Pricing allowances for streetscape landscaping and irrigation systems have been included based on a concept landscape. Allowances for landscaping are based on an allowance per square foot of surface area.

5.2.5 Railroad Signaling

Signal and signage are included as generally required by operating railroads. Signal control buildings, “dog houses,” are included as well as local power for the signal operation. Some of the signals have been located on the design but additional signals or signage has been provided as necessary. The location of these signals is based on reasonable assumptions of their need. However, the Union Pacific Railroad will have the final say as to the required signal layout.

5.3 Excluded Costs

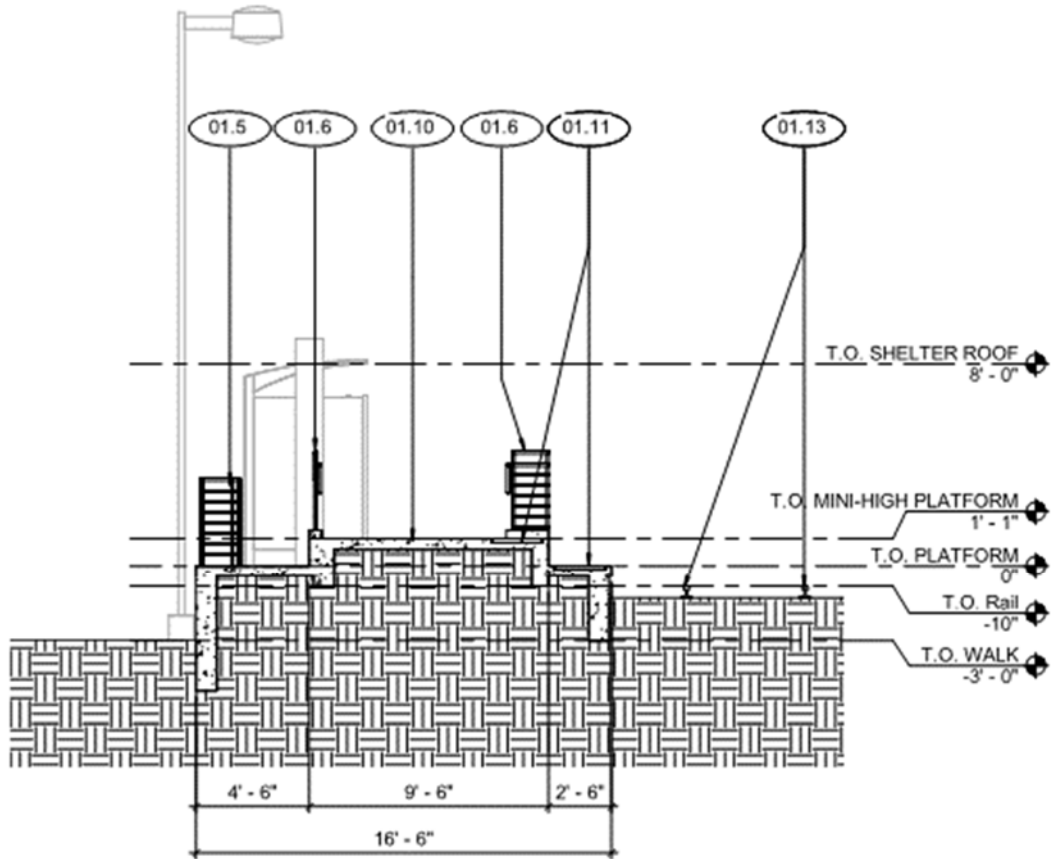
The cost estimate excludes the following costs:

- Remediation and/or mitigation of hazardous waste, unless specifically noted otherwise
- Land acquisition, other than for specific off-site facilities that will require land for those facilities
- Material adjustment allowances above and beyond what is included at the time of the cost estimate

Appendix A: Cost Summaries

SACRAMENTO SUBDIVISION COST SUMMARY				
SEGMENT NUMBER	SEGMENT TITLE	PROJECT CONSTRUCTION COST	PROJECT ADD-ON PERCENTAGE	PROJECT TOTAL COST
<i>Sacramento Extension</i>				
SE-T1	CURVE CORRECTION BETWEEN EAST MARCH LANE AND EAST SWAIN ROAD	\$214,503	1.318	\$282,715
SE-T2	HAMMER LANE SIDING UPGRADE	\$6,751,816	1.318	\$8,898,894
SE-T3	LODI SIDING VARIANTS	\$20,380,900	1.318	\$26,862,026
SE-T4	THORNTON SIDING UPGRADE/EXTENSION	\$10,059,422	1.318	\$13,258,318
SE-T5	CURVE CORRECTION NORTH OF NEW HOPE ROAD	\$249,649	1.318	\$329,037
SE-T6	CURVE CORRECTION SOUTH OF DESMOND ROAD	\$260,793	1.318	\$343,725
SE-T7	PHILLIPS SIDING UPGRADE/EXTENSION	\$9,560,970	1.318	\$12,601,359
SE-T8a	ELK GROVE SIDING VARIANT 1	\$13,451,540	1.318	\$17,729,130
SE-T8b	ELK GROVE SIDING VARIANT 2	\$15,165,980	1.318	\$19,988,762
SE-T9	CURVE CORRECTION NORTH OF ELK GROVE STATION	\$228,075	1.318	\$300,603
SE-T10	POLLOCK SIDING UPGRADE	\$4,021,900	1.318	\$5,300,865
SE-T11	SOUTH SACRAMENTO SIDING UPGRADE	\$10,234,767	1.318	\$13,489,423
SE-T12	NEW CROSSOVER TRACK	\$2,379,115	1.318	\$3,135,674
SE-T13	DEL PASO SIDING UPGRADE/EXTENSION	\$30,152,714	1.318	\$39,741,276
SE-S1a	LODI STATION	\$23,294,715	1.318	\$30,702,435
SE-S1b	LODI STATION SOUTH ALTERNATIVE	\$24,394,230	1.318	\$32,151,595
SE-S2a	ELK GROVE STATION PLATFORM VARIANT 1 WITH PARKING	\$25,161,324	1.318	\$33,162,625
SE-S2b	ELK GROVE STATION PLATFORM VARIANT 2 WITH PARKING	\$25,875,674	1.318	\$34,104,139
SE-S2c	ELK GROVE STATION ACCESS VARIANT 1	\$4,210,467	1.318	\$5,549,395
SE-S2d	ELK GROVE STATION ACCESS VARIANT 2	\$7,462,628	1.318	\$9,835,743
SE-S3	CITY COLLEGE STATION	\$13,464,786	1.318	\$17,746,588
SE-S3	MIDTOWN STATION	\$19,525,780	1.318	\$25,734,978
SE-S5	OLD NORTH SACRAMENTO STATION	\$23,683,243	1.318	\$31,214,515
SE-S6	NATOMAS / AIRPORT STATION	\$24,993,552	1.318	\$32,941,502
SE-ML	NATOMAS/AIRPORT LAYOVER & MAINTENANCE	\$290,361,279	1.318	\$382,696,165

Appendix B: Station Sections

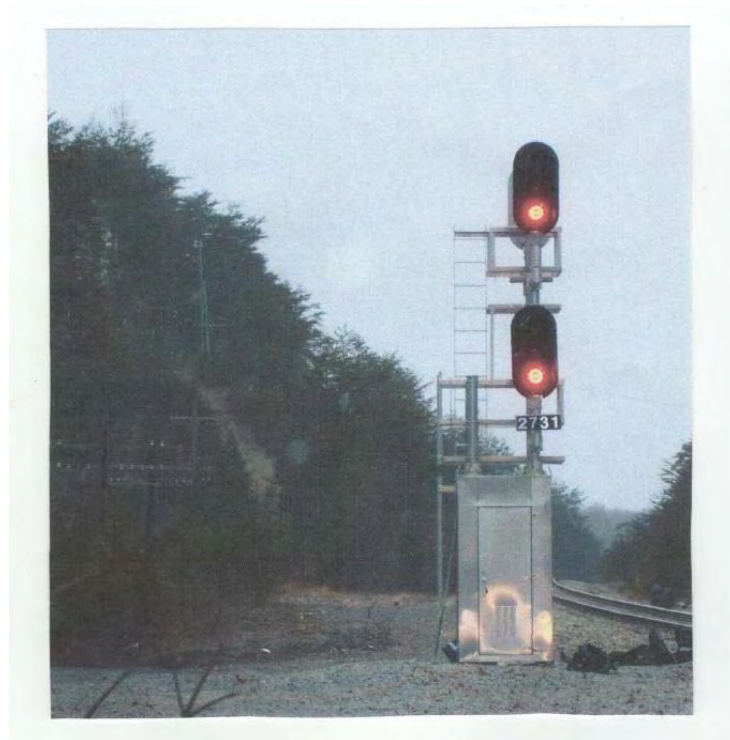


TYPICAL MINI-HIGH PLATFORM

Appendix C: Signal Type Photos



CANTILEVER SIGNAL



CROSSOVER SIGNAL (ONE END)



GRADE CROSSING SIGNALS AND GATE



INTERMEDIATE SIGNALS (DOUBLE TRACK)



INTERMEDIATE SIGNALS (SINGLE TRACK)



PEDESTRIAN SIGNALS AND GATE

Sacramento Extension

Cost Estimate Back-up Tables

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T1 CURVE CORRECTION BETWEEN EAST MARCH LANE AND EAST SWAIN ROAD

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$71,580
	CLEAR & GRUB LIGHT	AC	\$2,500	\$0	40.00%	\$0	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
	EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
600	EMBANKMENT	FCY	\$10	\$6,000	30.00%	\$7,800	
600	BORROW	FCY	\$25	\$15,000	30.00%	\$19,500	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
2460	SILT FENCE and ORANGE FENCE	LF	\$15	\$36,900	20.00%	\$44,280	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$123,600
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
1030	SHIFT EXISTING TRACK	TF	\$100	\$103,000	20.00%	\$123,600	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$0
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$195,180**

Escalation from 2017 to 2020 (9.9%) **\$214,503**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T2 HAMMER LANE SIDING UPGRADE

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$28,800
	CLEAR & GRUB LIGHT	AC	\$2,500	\$0	40.00%	\$0	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
	EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
	BORROW	FCY	\$25	\$0	30.00%	\$0	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
1600	SILT FENCE and ORANGE FENCE	LF	\$15	\$24,000	20.00%	\$28,800	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$5,334,800
600	REMOVE EXISTING TRACK	TF	\$40	\$24,000	20.00%	\$28,800	
2	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$50,000	10.00%	\$55,000	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
11100	UPGRADE EXISTING TRACK	TF	\$300	\$3,330,000	20.00%	\$3,996,000	
600	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$300,000	25.00%	\$375,000	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$780,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$6,143,600**

Escalation from 2017 to 2020 (9.9%) **\$6,751,816**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T3 LODI SIDING VARIANTS

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$2,105,500
12.4	CLEAR & GRUB LIGHT	AC	\$2,500	\$31,000	40.00%	\$43,400	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
3400	EARTHWORK COMMON	BCY	\$25	\$85,000	30.00%	\$110,500	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
40000	BORROW	FCY	\$25	\$1,000,000	30.00%	\$1,300,000	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
36200	SILT FENCE and ORANGE FENCE	LF	\$15	\$543,000	20.00%	\$651,600	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$11,972,450
400	REMOVE EXISTING TRACK	TF	\$40	\$16,000	20.00%	\$19,200	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
17350	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$8,675,000	25.00%	\$10,843,750	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
255	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$191,250	20.00%	\$229,500	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$4,392,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
1	CANTILEVER SIGNAL	EACH	\$200,000	\$200,000	20.00%	\$240,000	
3	DOG HOUSE (Signal House)	EACH	\$250,000	\$750,000	20.00%	\$900,000	
3	NEW ELECTRIC SERVICE	EACH	\$20,000	\$60,000	20.00%	\$72,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
5 NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$2,000,000	20.00%	\$2,400,000
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$75,000

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
20 WIDEN CULVERT	LF	\$3,000	\$60,000	25.00%	\$75,000
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$18,544,950**

Escalation from 2017 to 2020 (9.9%) **\$20,380,900**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T4 THORNTON SIDING UPGRADE/EXTENSION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$940,800
4.8	CLEAR & GRUB LIGHT	AC	\$2,500	\$12,000	40.00%	\$16,800	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
1300	EARTHWORK COMMON	BCY	\$25	\$32,500	30.00%	\$42,250	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
15500	BORROW	FCY	\$25	\$387,500	30.00%	\$503,750	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
21000	SILT FENCE and ORANGE FENCE	LF	\$15	\$315,000	20.00%	\$378,000	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$6,553,450
400	REMOVE EXISTING TRACK	TF	\$40	\$16,000	20.00%	\$19,200	
2	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$50,000	10.00%	\$55,000	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
3400	UPGRADE EXISTING TRACK	TF	\$300	\$1,020,000	20.00%	\$1,224,000	
6950	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$3,475,000	25.00%	\$4,343,750	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
35	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$26,250	20.00%	\$31,500	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$1,584,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
1	DOG HOUSE (Signal House)	EACH	\$250,000	\$250,000	20.00%	\$300,000	
1	NEW ELECTRIC SERVICE	EACH	\$20,000	\$20,000	20.00%	\$24,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
1 NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$400,000	20.00%	\$480,000
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$75,000

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
20 WIDEN CULVERT	LF	\$3,000	\$60,000	25.00%	\$75,000
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$9,153,250**

Escalation from 2017 to 2020 (9.9%) **\$10,059,422**

SACRAMENTO SUBDIVISION

DATE

Rev1
3/2/2020

Rev 2

Rev 3

Rev 4

SE-T5 CURVE CORRECTION NORTH OF NEW HOPE ROAD

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$93,960
	CLEAR & GRUB LIGHT	AC	\$2,500	\$0	40.00%	\$0	
0.2	CLEAR & GRUB HEAVY	AC	\$5,000	\$1,000	30.00%	\$1,300	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
	EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
1000	EMBANKMENT	FCY	\$10	\$10,000	30.00%	\$13,000	
1000	BORROW	FCY	\$25	\$25,000	30.00%	\$32,500	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
2620	SILT FENCE and ORANGE FENCE	LF	\$15	\$39,300	20.00%	\$47,160	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$133,200
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
1110	SHIFT EXISTING TRACK	TF	\$100	\$111,000	20.00%	\$133,200	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$0
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0	
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0	
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0	
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0	
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0	
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0	
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0	

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0	
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0	0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0	0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0	0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0	0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0	0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0	0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0	0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0	0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0	0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0	
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0	
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0	
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0	
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0	
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0	
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0	
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0	
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0	

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0	
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0	
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0	
STATION CANOPY	SF	\$75	\$0	20.00%	\$0	
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0	
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0	
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0	
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0	
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0	
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0	
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0	
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0	
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0	
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0	

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0	
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0	
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0	
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0	
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0	
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0	
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0	
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0	

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0	
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0	
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0	
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0	

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0	
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0	

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0	
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TOTAL CONSTRUCTION COST **\$227,160**

Escalation from 2017 to 2020 (9.9%) **\$249,649**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T6 CURVE CORRECTION SOUTH OF DESMOND ROAD

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$78,300
	CLEAR & GRUB LIGHT	AC	\$2,500	\$0	40.00%	\$0	
0.1	CLEAR & GRUB HEAVY	AC	\$5,000	\$500	30.00%	\$650	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
	EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
500	EMBANKMENT	FCY	\$10	\$5,000	30.00%	\$6,500	
500	BORROW	FCY	\$25	\$12,500	30.00%	\$16,250	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
3050	SILT FENCE and ORANGE FENCE	LF	\$15	\$45,750	20.00%	\$54,900	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$159,000
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
1325	SHIFT EXISTING TRACK	TF	\$100	\$132,500	20.00%	\$159,000	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$0
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST

\$237,300

Escalation from 2017 to 2020 (9.9%)

\$260,793

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T7 PHILLIPS SIDING UPGRADE/EXTENSION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$828,500
3.5	CLEAR & GRUB LIGHT	AC	\$2,500	\$8,750	40.00%	\$12,250	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
950	EARTHWORK COMMON	BCY	\$25	\$23,750	30.00%	\$30,875	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
11150	BORROW	FCY	\$25	\$278,750	30.00%	\$362,375	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
23500	SILT FENCE and ORANGE FENCE	LF	\$15	\$352,500	20.00%	\$423,000	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$6,287,200
400	REMOVE EXISTING TRACK	TF	\$40	\$16,000	20.00%	\$19,200	
2	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$50,000	10.00%	\$55,000	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
6400	UPGRADE EXISTING TRACK	TF	\$300	\$1,920,000	20.00%	\$2,304,000	
4760	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$2,380,000	25.00%	\$2,975,000	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
60	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$45,000	20.00%	\$54,000	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$1,584,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
1	DOG HOUSE (Signal House)	EACH	\$250,000	\$250,000	20.00%	\$300,000	
1	NEW ELECTRIC SERVICE	EACH	\$20,000	\$20,000	20.00%	\$24,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
1 NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$400,000	20.00%	\$480,000
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
WIDEN CULVERT	LF	\$3,000	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$8,699,700**

Escalation from 2017 to 2020 (9.9%) \$9,560,970

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T8a ELK GROVE SIDING VARIANT 1

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$1,215,350
7.1	CLEAR & GRUB LIGHT	AC	\$2,500	\$17,750	40.00%	\$24,850	
	CLEAR & GRUB HEAVY DEMOLITION	AC	\$5,000	\$0	30.00%	\$0	
		SF	\$8	\$0	30.00%	\$0	
2000	EARTHWORK COMMON	BCY	\$25	\$50,000	30.00%	\$65,000	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
23000	BORROW	FCY	\$25	\$575,000	30.00%	\$747,500	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
21000	SILT FENCE and ORANGE FENCE	LF	\$15	\$315,000	20.00%	\$378,000	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$7,036,450
400	REMOVE EXISTING TRACK	TF	\$40	\$16,000	20.00%	\$19,200	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
9850	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$4,925,000	25.00%	\$6,156,250	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
40	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$30,000	20.00%	\$36,000	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
1	TURNOUT (#15)	EACH	\$350,000	\$350,000	10.00%	\$385,000	
1	TURNOUT (#20)	EACH	\$400,000	\$400,000	10.00%	\$440,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$1,908,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
2	DOG HOUSE (Signal House)	EACH	\$250,000	\$500,000	20.00%	\$600,000	
2	NEW ELECTRIC SERVICE	EACH	\$20,000	\$40,000	20.00%	\$48,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
1 NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$400,000	20.00%	\$480,000
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$2,080,000

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
3200 RAILROAD BRIDGE STEEL	SF	\$500	\$1,600,000	30.00%	\$2,080,000
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
WIDEN CULVERT	LF	\$3,000	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$12,239,800**

Escalation from 2017 to 2020 (9.9%) **\$13,451,540**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T8b ELK GROVE SIDING VARIANT 2

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$1,215,350
7.1	CLEAR & GRUB LIGHT	AC	\$2,500	\$17,750	40.00%	\$24,850	
	CLEAR & GRUB HEAVY DEMOLITION	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
2000	EARTHWORK COMMON	BCY	\$25	\$50,000	30.00%	\$65,000	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
23000	BORROW	FCY	\$25	\$575,000	30.00%	\$747,500	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
21000	SILT FENCE and ORANGE FENCE	LF	\$15	\$315,000	20.00%	\$378,000	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$7,036,450
400	REMOVE EXISTING TRACK	TF	\$40	\$16,000	20.00%	\$19,200	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
9850	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$4,925,000	25.00%	\$6,156,250	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
40	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$30,000	20.00%	\$36,000	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
1	TURNOUT (#15)	EACH	\$350,000	\$350,000	10.00%	\$385,000	
1	TURNOUT (#20)	EACH	\$400,000	\$400,000	10.00%	\$440,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$1,908,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
2	DOG HOUSE (Signal House)	EACH	\$250,000	\$500,000	20.00%	\$600,000	
2	NEW ELECTRIC SERVICE	EACH	\$20,000	\$40,000	20.00%	\$48,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
1 NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$400,000	20.00%	\$480,000
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$3,640,000

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
5600 RAILROAD BRIDGE STEEL	SF	\$500	\$2,800,000	30.00%	\$3,640,000
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
WIDEN CULVERT	LF	\$3,000	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$13,799,800**

Escalation from 2017 to 2020 (9.9%) **\$15,165,980**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T9 CURVE CORRECTION NORTH OF ELK GROVE STATION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$71,930
	CLEAR & GRUB LIGHT	AC	\$2,500	\$0	40.00%	\$0	
0.2	CLEAR & GRUB HEAVY	AC	\$5,000	\$1,000	30.00%	\$1,300	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
	EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
500	EMBANKMENT	FCY	\$10	\$5,000	30.00%	\$6,500	
500	BORROW	FCY	\$25	\$12,500	30.00%	\$16,250	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
2660	SILT FENCE and ORANGE FENCE	LF	\$15	\$39,900	20.00%	\$47,880	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$135,600
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
1130	SHIFT EXISTING TRACK	TF	\$100	\$113,000	20.00%	\$135,600	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$0
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST

\$207,530

Escalation from 2017 to 2020 (9.9%)

\$228,075

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T10 POLLOCK SIDING UPGRADE

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$28,800
	CLEAR & GRUB LIGHT	AC	\$2,500	\$0	40.00%	\$0	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
	EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
	BORROW	FCY	\$25	\$0	30.00%	\$0	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
1600	SILT FENCE and ORANGE FENCE	LF	\$15	\$24,000	20.00%	\$28,800	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$2,850,800
600	REMOVE EXISTING TRACK	TF	\$40	\$24,000	20.00%	\$28,800	
2	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$50,000	10.00%	\$55,000	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
4200	UPGRADE EXISTING TRACK	TF	\$300	\$1,260,000	20.00%	\$1,512,000	
600	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$300,000	25.00%	\$375,000	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$780,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$3,659,600**

Escalation from 2017 to 2020 (9.9%) **\$4,021,900**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T11 SOUTH SACRAMENTO SIDING UPGRADE

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$21,600
	CLEAR & GRUB LIGHT	AC	\$2,500	\$0	40.00%	\$0	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
	EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
	BORROW	FCY	\$25	\$0	30.00%	\$0	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
1200	SILT FENCE and ORANGE FENCE	LF	\$15	\$18,000	20.00%	\$21,600	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$8,511,200
400	REMOVE EXISTING TRACK	TF	\$40	\$16,000	20.00%	\$19,200	
2	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$50,000	10.00%	\$55,000	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
19950	UPGRADE EXISTING TRACK	TF	\$300	\$5,985,000	20.00%	\$7,182,000	
600	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$300,000	25.00%	\$375,000	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$780,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$9,312,800**

Escalation from 2017 to 2020 (9.9%) **\$10,234,767**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T12 NEW CROSSOVER TRACK

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$21,600
	CLEAR & GRUB LIGHT	AC	\$2,500	\$0	40.00%	\$0	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
	EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
	BORROW	FCY	\$25	\$0	30.00%	\$0	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
1200	SILT FENCE and ORANGE FENCE	LF	\$15	\$18,000	20.00%	\$21,600	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$1,219,200
400	REMOVE EXISTING TRACK	TF	\$40	\$16,000	20.00%	\$19,200	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
1	CROSSOVER No.20	EACH	\$1,000,000	\$1,000,000	20.00%	\$1,200,000	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$924,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
1	DOG HOUSE (Signal House)	EACH	\$250,000	\$250,000	20.00%	\$300,000	
1	NEW ELECTRIC SERVICE	EACH	\$20,000	\$20,000	20.00%	\$24,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
1 NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$500,000	20.00%	\$600,000
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0
BRIDGE STRUCTURES					
\$0					
BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
WIDEN CULVERT	LF	\$3,000	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0
TRAIN CONTROL					
\$0					
POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0
STATIONS					
\$0					
TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0
RIGHT OF WAY					
\$0					
ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0
TUNNEL CONSTRUCTION					
\$0					
TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0
GENERAL SUPPORT ITEMS					
\$0					
BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0
ROLLING STOCK & CAPITAL INVESTMENTS					
\$0					
ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0

TOTAL CONSTRUCTION COST **\$2,164,800**

Escalation from 2017 to 2020 (9.9%) **\$2,379,115**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-T13 DEL PASO SIDING UPGRADE/EXTENSION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$7,849,500
9	CLEAR & GRUB LIGHT	AC	\$2,500	\$22,500	40.00%	\$31,500	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
50000	EARTHWORK COMMON	BCY	\$25	\$1,250,000	30.00%	\$1,625,000	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
100000	BORROW	FCY	\$25	\$2,500,000	30.00%	\$3,250,000	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
60000	RETAINING WALLS (1 TO 10 FEET TALL)	SF	\$35	\$2,100,000	20.00%	\$2,520,000	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
23500	SILT FENCE and ORANGE FENCE	LF	\$15	\$352,500	20.00%	\$423,000	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$14,240,000
1000	REMOVE EXISTING TRACK	TF	\$40	\$40,000	20.00%	\$48,000	
2	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$50,000	10.00%	\$55,000	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
6100	UPGRADE EXISTING TRACK	TF	\$300	\$1,830,000	20.00%	\$2,196,000	
13800	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$6,900,000	25.00%	\$8,625,000	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
40	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$30,000	20.00%	\$36,000	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
2	CROSSOVER No.20	EACH	\$1,000,000	\$2,000,000	20.00%	\$2,400,000	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$3,432,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
3	DOG HOUSE (Signal House)	EACH	\$250,000	\$750,000	20.00%	\$900,000	
3	NEW ELECTRIC SERVICE	EACH	\$20,000	\$60,000	20.00%	\$72,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
2 NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$1,000,000	20.00%	\$1,200,000
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
1 NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$400,000	20.00%	\$480,000
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0
BRIDGE STRUCTURES					
\$1,915,000					
BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
1600 RAILROAD BRIDGE STEEL	SF	\$500	\$800,000	30.00%	\$1,040,000
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
2 FLOOD GATE	EA	\$350,000	\$700,000	25.00%	\$875,000
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0
TRAIN CONTROL					
\$0					
POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0
STATIONS					
\$0					
TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0
RIGHT OF WAY					
\$0					
ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0
TUNNEL CONSTRUCTION					
\$0					
TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF	\$0	\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF	\$0	\$0	30.00%	\$0
GENERAL SUPPORT ITEMS					
\$0					
BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0
ROLLING STOCK & CAPITAL INVESTMENTS					
\$0					
ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0

TOTAL CONSTRUCTION COST

\$27,436,500

Escalation from 2017 to 2020 (9.9%)

\$30,152,714

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S1a LODI STATION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$2,582,203
9	CLEAR & GRUB LIGHT	AC	\$2,500	\$22,500	40.00%	\$31,500	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
5500	EARTHWORK COMMON	BCY	\$25	\$137,500	30.00%	\$178,750	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
	BORROW	FCY	\$25	\$0	30.00%	\$0	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
26463	DRAINAGE (DIA-INCH-FOOT) - Including Storm Water Management	LF	\$12	\$317,552	40.00%	\$444,573	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
40000	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$1,000,000	25.00%	\$1,250,000	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
1	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$300,000	20.00%	\$360,000	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
1200	PERMANENT FENCING	LF	\$35	\$42,000	20.00%	\$50,400	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
7610	SILT FENCE and ORANGE FENCE	LF	\$15	\$114,150	20.00%	\$136,980	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
1	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$100,000	30.00%	\$130,000	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$1,200,000
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
1	CROSSOVER No.20	EACH	\$1,000,000	\$1,000,000	20.00%	\$1,200,000	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$1,044,000
1	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$100,000	20.00%	\$120,000	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
1	DOG HOUSE (Signal House)	EACH	\$250,000	\$250,000	20.00%	\$300,000	
1	NEW ELECTRIC SERVICE	EACH	\$20,000	\$20,000	20.00%	\$24,000	
	NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
1 NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$500,000	20.00%	\$600,000
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$2,812,500

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
1 PEDESTRIAN TUNNEL ACCESS STRUCTURE	EA	\$2,250,000	\$2,250,000	25.00%	\$2,812,500
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$10,731,643

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
27150 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$5,430,000	20.00%	\$6,516,000
800 STATION CANOPY	SF	\$75	\$60,000	20.00%	\$72,000
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000
27150 STATION AMENITIES	SF	\$65	\$1,764,750	30.00%	\$2,294,175
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
278 PARKING LOTS	SPACES	\$3,000	\$834,000	25.00%	\$1,042,500
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
21750 BUS LANE AND UNLOADING	SF	\$25	\$543,750	25.00%	\$679,688
278 PARKING LOT LIGHTING	SPACES	\$200	\$55,600	30.00%	\$72,280
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$2,825,938

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
452150 ROW AGRICULTURAL	SF	\$5	\$2,260,750	25.00%	\$2,825,938
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF	\$0	\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF	\$0	\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$21,196,283**

Escalation from 2017 to 2020 (9.9%) **\$23,294,715**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S1b LODI STATION SOUTH ALTERNATIVE

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$3,800,242
13	CLEAR & GRUB LIGHT	AC	\$2,500	\$32,500	40.00%	\$45,500	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
16000	EARTHWORK COMMON	BCY	\$25	\$400,000	30.00%	\$520,000	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
	BORROW	FCY	\$25	\$0	30.00%	\$0	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
38224	DRAINAGE (DIA-INCH-FOOT) - Including Storm Water Management	LF	\$12	\$458,687	40.00%	\$642,162	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
72000	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$1,800,000	25.00%	\$2,250,000	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
1800	PERMANENT FENCING	LF	\$35	\$63,000	20.00%	\$75,600	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
7610	SILT FENCE and ORANGE FENCE	LF	\$15	\$114,150	20.00%	\$136,980	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
1	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$100,000	30.00%	\$130,000	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$1,209,600
200	REMOVE EXISTING TRACK	TF	\$40	\$8,000	20.00%	\$9,600	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
1	CROSSOVER No.20	EACH	\$1,000,000	\$1,000,000	20.00%	\$1,200,000	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$1,044,000
1	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$100,000	20.00%	\$120,000	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
1	DOG HOUSE (Signal House)	EACH	\$250,000	\$250,000	20.00%	\$300,000	
1	NEW ELECTRIC SERVICE	EACH	\$20,000	\$20,000	20.00%	\$24,000	
	NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
1 NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$500,000	20.00%	\$600,000
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$2,812,500

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
1 PEDESTRIAN TUNNEL ACCESS STRUCTURE	EA	\$2,250,000	\$2,250,000	25.00%	\$2,812,500
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$10,646,035

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
27150 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$5,430,000	20.00%	\$6,516,000
800 STATION CANOPY	SF	\$75	\$60,000	20.00%	\$72,000
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000
27150 STATION AMENITIES	SF	\$65	\$1,764,750	30.00%	\$2,294,175
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
236 PARKING LOTS	SPACES	\$3,000	\$708,000	25.00%	\$885,000
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
24400 BUS LANE AND UNLOADING	SF	\$25	\$610,000	25.00%	\$762,500
236 PARKING LOT LIGHTING	SPACES	\$200	\$47,200	30.00%	\$61,360
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$2,684,375

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
429500 ROW AGRICULTURAL	SF	\$5	\$2,147,500	25.00%	\$2,684,375
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF	\$0	\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF	\$0	\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$22,196,752**

Escalation from 2017 to 2020 (9.9%) **\$24,394,230**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S2a ELK GROVE STATION PLATFORM VARIANT 1 WITH PARKING

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$2,214,319
12	CLEAR & GRUB LIGHT	AC	\$2,500	\$30,000	40.00%	\$42,000	
	CLEAR & GRUB HEAVY DEMOLITION	AC SF	\$5,000 \$8	\$0 \$0	30.00% 30.00%	\$0 \$0	
5000	EARTHWORK COMMON	BCY	\$25	\$125,000	30.00%	\$162,500	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
15000	EMBANKMENT	FCY	\$10	\$150,000	30.00%	\$195,000	
15000	BORROW	FCY	\$25	\$375,000	30.00%	\$487,500	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
35284	DRAINAGE (DIA-INCH-FOOT) - Including Storm Water Management	LF	\$12	\$423,403	40.00%	\$592,764	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
10700	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$267,500	25.00%	\$334,375	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
3750	PERMANENT FENCING	LF	\$35	\$131,250	20.00%	\$157,500	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
6260	SILT FENCE and ORANGE FENCE	LF	\$15	\$93,900	20.00%	\$112,680	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
1	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$100,000	30.00%	\$130,000	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$0
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$0
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0	
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0	
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0	
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0	
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0	
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0	
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0	
BRIDGE STRUCTURES						\$2,925,000
BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0	
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0	0.00
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0	0.00
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0	0.00
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0	0.00
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0	0.00
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0	0.00
1 PEDESTRIAN BRIDGE WITH ACCESS STRUCTURES	EA	\$2,250,000	\$2,250,000	30.00%	\$2,925,000	
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0	
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0	0.00
TRAIN CONTROL						\$0
POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0	
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0	
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0	
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0	
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0	
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0	
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0	
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0	
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0	
STATIONS						\$14,525,425
TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0	
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0	
27150 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$5,430,000	20.00%	\$6,516,000	
800 STATION CANOPY	SF	\$75	\$60,000	20.00%	\$72,000	
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0	
1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000	
27150 STATION AMENITIES	SF	\$65	\$1,764,750	30.00%	\$2,294,175	
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0	
700 PARKING LOTS	SPACES	\$3,000	\$2,100,000	25.00%	\$2,625,000	
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0	
17000 BUS LANE AND UNLOADING	SF	\$25	\$425,000	25.00%	\$531,250	
700 PARKING LOT LIGHTING	SPACES	\$200	\$140,000	30.00%	\$182,000	
4 ELEVATORS	EACH	\$450,000	\$1,800,000	25.00%	\$2,250,000	
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0	
RIGHT OF WAY						\$3,230,000
646000 ROW LAND ONLY	SF	\$4	\$2,584,000	25.00%	\$3,230,000	
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0	
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0	
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0	
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0	
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0	
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0	
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0	
TUNNEL CONSTRUCTION						\$0
TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0	
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0	
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0	
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0	
GENERAL SUPPORT ITEMS						\$0
BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0	
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0	
ROLLING STOCK & CAPITAL INVESTMENTS						\$0
ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0	
TOTAL CONSTRUCTION COST						\$22,894,744
Escalation from 2017 to 2020 (9.9%)						\$25,161,324

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S2b ELK GROVE STATION PLATFORM VARIANT 2 WITH PARKING

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$2,864,319
12	CLEAR & GRUB LIGHT	AC	\$2,500	\$30,000	40.00%	\$42,000	
	CLEAR & GRUB HEAVY DEMOLITION	AC	\$5,000	\$0	30.00%	\$0	
		SF	\$8	\$0	30.00%	\$0	
5000	EARTHWORK COMMON	BCY	\$25	\$125,000	30.00%	\$162,500	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
15000	EMBANKMENT	FCY	\$10	\$150,000	30.00%	\$195,000	
15000	BORROW	FCY	\$25	\$375,000	30.00%	\$487,500	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
35284	DRAINAGE (DIA-INCH-FOOT) - Including Storm Water Management	LF	\$12	\$423,403	40.00%	\$592,764	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
10700	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$267,500	25.00%	\$334,375	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
3750	PERMANENT FENCING	LF	\$35	\$131,250	20.00%	\$157,500	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
6260	SILT FENCE and ORANGE FENCE	LF	\$15	\$93,900	20.00%	\$112,680	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
1	ELECTRICAL TRANSMISSION LINE RELOCATION	LS	\$500,000	\$500,000	30.00%	\$650,000	
1	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$100,000	30.00%	\$130,000	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$0
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$0
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0		
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0		
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0		
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0		
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0		
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0		
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0		
BRIDGE STRUCTURES							\$2,925,000
BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0		
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0	0.00	
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0	0.00	
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0	0.00	
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0	0.00	
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0	0.00	
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0	0.00	
1 PEDESTRIAN BRIDGE WITH ACCESS STRUCTURES	EA	\$2,250,000	\$2,250,000	30.00%	\$2,925,000		
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0		
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0	0.00	
TRAIN CONTROL							\$0
POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0		
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0		
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0		
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0		
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0		
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0		
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0		
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0		
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0		
STATIONS							\$14,525,425
TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0		
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0		
27150 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$5,430,000	20.00%	\$6,516,000		
800 STATION CANOPY	SF	\$75	\$60,000	20.00%	\$72,000		
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0		
1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000		
27150 STATION AMENITIES	SF	\$65	\$1,764,750	30.00%	\$2,294,175		
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0		
700 PARKING LOTS	SPACES	\$3,000	\$2,100,000	25.00%	\$2,625,000		
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0		
17000 BUS LANE AND UNLOADING	SF	\$25	\$425,000	25.00%	\$531,250		
700 PARKING LOT LIGHTING	SPACES	\$200	\$140,000	30.00%	\$182,000		
4 ELEVATORS	EACH	\$450,000	\$1,800,000	25.00%	\$2,250,000		
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0		
RIGHT OF WAY							\$3,230,000
646000 ROW LAND ONLY	SF	\$4	\$2,584,000	25.00%	\$3,230,000		
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0		
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0		
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0		
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0		
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0		
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0		
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0		
TUNNEL CONSTRUCTION							\$0
TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0		
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0		
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0		
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0		
GENERAL SUPPORT ITEMS							\$0
BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0		
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0		
ROLLING STOCK & CAPITAL INVESTMENTS							\$0
ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0		
TOTAL CONSTRUCTION COST						\$23,544,744	
Escalation from 2017 to 2020 (9.9%)						\$25,875,674	

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S2c ELK GROVE STATION ACCESS VARIANT 1

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$3,626,450
2	CLEAR & GRUB LIGHT	AC	\$2,500	\$5,000	40.00%	\$7,000	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
3000	DEMOLITION	SF	\$8	\$24,000	30.00%	\$31,200	
3000	EARTHWORK COMMON	BCY	\$25	\$75,000	30.00%	\$97,500	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
4000	EMBANKMENT	FCY	\$10	\$40,000	30.00%	\$52,000	
4000	BORROW	FCY	\$25	\$100,000	30.00%	\$130,000	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
7500	DRAINAGE (DIA-INCH-FOOT) - Including Storm Water Management	LF	\$12	\$90,000	40.00%	\$126,000	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
47000	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$1,175,000	25.00%	\$1,468,750	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
1	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$300,000	20.00%	\$360,000	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
3000	SILT FENCE and ORANGE FENCE	LF	\$15	\$45,000	20.00%	\$54,000	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
1000	OVERHEAD ELECTRIC LINE RELOCATION	LF	\$1,000	\$1,000,000	30.00%	\$1,300,000	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$0
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$0
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE WITH ACCESS STRUCTURES	EA	\$2,000,000	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

0.00

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	10.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$204,730

40946 ROW LAND ONLY	SF	\$4	\$163,784	25.00%	\$204,730
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$3,831,180**

Escalation from 2017 to 2020 (9.9%) **\$4,210,467**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S2d ELK GROVE STATION ACCESS VARIANT 2

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$6,585,650
4	CLEAR & GRUB LIGHT	AC	\$2,500	\$10,000	40.00%	\$14,000	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
1000	DEMOLITION	SF	\$8	\$8,000	30.00%	\$10,400	
6000	EARTHWORK COMMON	BCY	\$25	\$150,000	30.00%	\$195,000	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
10000	EMBANKMENT	FCY	\$10	\$100,000	30.00%	\$130,000	
10000	BORROW	FCY	\$25	\$250,000	30.00%	\$325,000	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
15000	DRAINAGE (DIA-INCH-FOOT) - Including Storm Water Management	LF	\$12	\$180,000	40.00%	\$252,000	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
101000	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$2,525,000	25.00%	\$3,156,250	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
1	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$100,000	20.00%	\$120,000	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
6000	SILT FENCE and ORANGE FENCE	LF	\$15	\$90,000	20.00%	\$108,000	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
1750	OVERHEAD ELECTRIC LINE RELOCATION	LF	\$1,000	\$1,750,000	30.00%	\$2,275,000	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$0
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$0
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE WITH ACCESS STRUCTURES	EA	\$2,000,000	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

0.00

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
STATION CANOPY	SF	\$75	\$0	20.00%	\$0
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	10.00%	\$0
STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$204,730

40946 ROW LAND ONLY	SF	\$4	\$163,784	25.00%	\$204,730
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$6,790,380**

Escalation from 2017 to 2020 (9.9%) **\$7,462,628**

SACRAMENTO SUBDIVISION

DATE

Rev1
3/2/2020

Rev 2

Rev 3

Rev 4

SE-S3 CITY COLLEGE STATION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$3,583,800
1	CLEAR & GRUB LIGHT	AC	\$2,500	\$2,500	40.00%	\$3,500	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
	DEMOLITION	SF	\$8	\$0	30.00%	\$0	
2200	EARTHWORK COMMON	BCY	\$25	\$55,000	30.00%	\$71,500	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
	BORROW	FCY	\$25	\$0	30.00%	\$0	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
1	STATION AREA MITIGATION	LS	\$3,451,890	\$3,451,890	0.00%	\$3,451,890	
1355	PERMANENT FENCING	LF	\$35	\$47,425	20.00%	\$56,910	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
	SILT FENCE and ORANGE FENCE	LF	\$15	\$0	20.00%	\$0	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$1,721,790
1730	REMOVE EXISTING TRACK	TF	\$40	\$69,200	20.00%	\$83,040	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
1390	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$695,000	25.00%	\$868,750	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
2	TURNOUT (#15)	EACH	\$350,000	\$700,000	10.00%	\$770,000	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$1,428,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
2	DOG HOUSE (Signal House)	EACH	\$250,000	\$500,000	20.00%	\$600,000	
2	NEW ELECTRIC SERVICE	EACH	\$20,000	\$40,000	20.00%	\$48,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$5,518,263

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
16725 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$3,345,000	20.00%	\$4,014,000
400 STATION CANOPY	SF	\$75	\$30,000	20.00%	\$36,000
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000
16725 STATION AMENITIES	SF	\$65	\$1,087,125	30.00%	\$1,413,263
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$0

ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$12,251,853**

Escalation from 2017 to 2020 (9.9%) **\$13,464,786**

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S3 MIDTOWN STATION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$9,051,268
2	CLEAR & GRUB LIGHT	AC	\$2,500	\$5,000	40.00%	\$7,000	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
8500	DEMOLITION	SF	\$8	\$68,000	30.00%	\$88,400	
4000	EARTHWORK COMMON	BCY	\$25	\$100,000	30.00%	\$130,000	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
	EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
	BORROW	FCY	\$25	\$0	30.00%	\$0	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$200,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
1	IN UPRR BIKE PATH	LS	\$3,266,000	\$3,266,000	40.00%	\$4,572,400	
1	STATION AREA MITIGATION	LS	\$4,142,268	\$4,142,268	0.00%	\$4,142,268	
1100	PERMANENT FENCING	LF	\$35	\$38,500	20.00%	\$46,200	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
	SILT FENCE and ORANGE FENCE	LF	\$15	\$0	20.00%	\$0	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
1	DEVELOP PERMANENT WATER SUPPLY	LS	\$50,000	\$50,000	30.00%	\$65,000	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$2,060,255
485	REMOVE EXISTING TRACK	TF	\$40	\$19,400	20.00%	\$23,280	
3	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$75,000	10.00%	\$82,500	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
485	UPGRADE EXISTING TRACK	TF	\$300	\$145,500	20.00%	\$174,600	
755	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$377,500	25.00%	\$471,875	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
170	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$127,500	20.00%	\$153,000	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
1	TURNOUT (#10)	EACH	\$250,000	\$250,000	10.00%	\$275,000	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$1,428,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
2	DOG HOUSE (Signal House)	EACH	\$250,000	\$500,000	20.00%	\$600,000	
2	NEW ELECTRIC SERVICE	EACH	\$20,000	\$40,000	20.00%	\$48,000	

NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0
BRIDGE STRUCTURES					
\$0					
BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0
TRAIN CONTROL					
\$0					
POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0
STATIONS					
\$4,027,338					
TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
12075 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$2,415,000	20.00%	\$2,898,000
600 STATION CANOPY	SF	\$75	\$45,000	20.00%	\$54,000
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000
12075 STATION AMENITIES	SF	\$65	\$784,875	30.00%	\$1,020,338
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
PARKING LOT LIGHTING	SPACES	\$200	\$0	30.00%	\$0
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0
RIGHT OF WAY					
\$1,200,000					
ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
120000 LEASE PURCHASE FOR BIKE PATH IN UPRR ROW	SF	\$8	\$960,000	25.00%	\$1,200,000
ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0
TUNNEL CONSTRUCTION					
\$0					
TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0
GENERAL SUPPORT ITEMS					
\$0					
BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0
ROLLING STOCK & CAPITAL INVESTMENTS					
\$0					
ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
TOTAL CONSTRUCTION COST					\$17,766,861
Escalation from 2017 to 2020 (9.9%)					\$19,525,780

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S5 OLD NORTH SACRAMENTO STATION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$4,030,492
1	CLEAR & GRUB LIGHT	AC	\$2,500	\$2,500	40.00%	\$3,500	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
155000	DEMOLITION	SF	\$8	\$1,240,000	30.00%	\$1,612,000	
7850	EARTHWORK COMMON	BCY	\$25	\$196,250	30.00%	\$255,125	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
23500	EMBANKMENT	FCY	\$10	\$235,000	30.00%	\$305,500	
15650	BORROW	FCY	\$25	\$391,250	30.00%	\$508,625	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
16800	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$588,000	20.00%	\$705,600	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
2940	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$35,284	40.00%	\$49,397	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
13500	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$337,500	25.00%	\$421,875	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
1355	PERMANENT FENCING	LF	\$35	\$47,425	20.00%	\$56,910	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
6220	SILT FENCE and ORANGE FENCE	LF	\$15	\$93,300	20.00%	\$111,960	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$0
	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$0	25.00%	\$0	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$0	20.00%	\$0	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$240,000
2	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$200,000	20.00%	\$240,000	
	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0	
	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0	
	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0	
	NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0
BRIDGE STRUCTURES					
					\$1,950,000
BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
1 PEDESTRIAN TUNNEL ACCESS STRUCTURE	EA	\$1,500,000	\$1,500,000	30.00%	\$1,950,000
BARRIER RAIL PERMANENT UNDERPASS STRUCTURE	LF	\$100	\$0	25.00%	\$0
	CY	\$750	\$0	25.00%	\$0
TRAIN CONTROL					
					\$0
POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0
STATIONS					
					\$10,635,195
TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
27150 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$5,430,000	20.00%	\$6,516,000
800 STATION CANOPY	SF	\$75	\$60,000	20.00%	\$72,000
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000
27150 STATION AMENITIES	SF	\$65	\$1,764,750	30.00%	\$2,294,175
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
252 PARKING LOTS	SPACES	\$3,000	\$756,000	25.00%	\$945,000
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
22000 BUS LANE AND UNLOADING	SF	\$25	\$550,000	25.00%	\$687,500
252 PARKING LOT LIGHTING	SPACES	\$200	\$50,400	30.00%	\$65,520
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0
RIGHT OF WAY					
					\$4,694,125
53700 ROW LAND ONLY	SF	\$4	\$214,800	25.00%	\$268,500
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
142760 ROW PAVED AREAS	SF	\$8	\$1,142,080	25.00%	\$1,427,600
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
57030 ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$798,420	25.00%	\$998,025
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
2000000 BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$2,000,000	0.00%	\$2,000,000
TUNNEL CONSTRUCTION					
					\$0
TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF	\$0	\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF	\$0	\$0	30.00%	\$0
GENERAL SUPPORT ITEMS					
					\$0
BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0
ROLLING STOCK & CAPITAL INVESTMENTS					
					\$0
ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
TOTAL CONSTRUCTION COST					\$21,549,812
Escalation from 2017 to 2020 (9.9%)					\$23,683,243

SACRAMENTO SUBDIVISION

DATE

Rev1 3/2/2020 Rev 2 Rev 3 Rev 4

SE-S6 NATOMAS / AIRPORT STATION

Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS							\$2,659,048
4	CLEAR & GRUB LIGHT	AC	\$2,500	\$10,000	40.00%	\$14,000	
	CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
180000	DEMOLITION	SF	\$8	\$1,440,000	30.00%	\$1,872,000	
1000	EARTHWORK COMMON	BCY	\$25	\$25,000	30.00%	\$32,500	
	EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
9000	EMBANKMENT	FCY	\$10	\$90,000	30.00%	\$117,000	
8000	BORROW	FCY	\$25	\$200,000	30.00%	\$260,000	
	REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
	RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
	STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
	RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
	RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
	SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
	MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
	SOUND WALL	LF	\$90	\$0	50.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
	BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
11761	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$141,134	40.00%	\$197,588	
	DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
	IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHES)	SF	\$25	\$0	25.00%	\$0	
	AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
	ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
	CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
	GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
	ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
	STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
	SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
	MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
	STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	STRIPPING	LF	\$1	\$0	20.00%	\$0	
1200	PERMANENT FENCING	LF	\$35	\$42,000	20.00%	\$50,400	
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
6420	SILT FENCE and ORANGE FENCE	LF	\$15	\$96,300	20.00%	\$115,560	
	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0	
	LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0	
	UTILITY RELOCATIONS	LF	\$30	\$0	30.00%	\$0	
	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0	
	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0	
TRACK WORK							\$6,739,200
400	REMOVE EXISTING TRACK	TF	\$40	\$16,000	20.00%	\$19,200	
	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0	
	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0	
	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0	
6680	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & SUBBALLAST)	TF	\$500	\$3,340,000	25.00%	\$4,175,000	
	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBBALLAST)	TF	\$450	\$0	25.00%	\$0	
50	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+P+AC+TC)	TF	\$750	\$37,500	20.00%	\$45,000	
	TRACK PANELS	SF	\$75	\$0	30.00%	\$0	
1	CROSSOVER No.15	EACH	\$800,000	\$800,000	20.00%	\$960,000	
	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0	
	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0	
	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0	
	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0	
	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0	
	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0	
4	TURNOUT (#15)	EACH	\$350,000	\$1,400,000	10.00%	\$1,540,000	
	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0	
	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0	
	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0	
	DERAIL	EACH	\$100,000	\$0	10.00%	\$0	
	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0	
	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0	
SIGNAL WORK							\$3,528,000
	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0	
1	CANTILEVER SIGNAL	EACH	\$200,000	\$200,000	20.00%	\$240,000	
2	DOG HOUSE (Signal House)	EACH	\$250,000	\$500,000	20.00%	\$600,000	
2	NEW ELECTRIC SERVICE	EACH	\$20,000	\$40,000	20.00%	\$48,000	
	NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0	

NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
4 NEW TURNOUT SIGNAL	EACH	\$325,000	\$1,300,000	20.00%	\$1,560,000
1 NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$500,000	20.00%	\$600,000
NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
1 NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$400,000	20.00%	\$480,000
UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
LINE UTILITIES FIBER OPTIC PARALLEL TO TRACKS	LF	\$50	\$0	30.00%	\$0

STATIONS

\$6,342,513

TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
14325 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$2,865,000	20.00%	\$3,438,000
600 STATION CANOPY	SF	\$75	\$45,000	20.00%	\$54,000
STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000
14325 STATION AMENITIES	SF	\$65	\$931,125	30.00%	\$1,210,463
INSPECTION PIT	SF	\$90	\$0	30.00%	\$0
255 PARKING LOTS	SPACES	\$3,000	\$765,000	25.00%	\$956,250
PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
18000 BUS LANE AND UNLOADING	SF	\$25	\$450,000	25.00%	\$562,500
255 PARKING LOT LIGHTING	SPACES	\$200	\$51,000	30.00%	\$66,300
ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$3,473,325

64340 ROW LAND ONLY	SF	\$4	\$257,360	25.00%	\$321,700
ROW AGRICULTURAL	SF	\$5	\$0	25.00%	\$0
ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
59950 ROW PAVED AREAS	SF	\$8	\$479,600	25.00%	\$599,500
ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
31550 ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$441,700	25.00%	\$552,125
ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
2000000 BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$2,000,000	0.00%	\$2,000,000

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SINGLE BORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TWIN BORE (DIA)	LF	\$0	\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF	\$0	\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

\$0

BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

\$0

ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
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TOTAL CONSTRUCTION COST **\$22,742,086**

Escalation from 2017 to 2020 (9.9%) **\$24,993,552**