



WEST DAVIS
CORRIDOR

TM-20 Cost Estimates for WDC Alternatives in the DEIS

in support of the
Environmental Impact Statement

West Davis Corridor Project

Federal Highway Administration
Utah Department of Transportation



UDOT Project No. S-0067(14)0

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1.0 WDC DEIS Cost Estimate Methodology

1.1 Items included in DEIS Cost Estimates

The cost estimates for the West Davis Corridor (WDC) action alternatives evaluated in the Draft EIS (DEIS) included the following items:

- Demolition and removal costs
- Earthwork and grading costs
- Drainage costs
- Pavement costs
- Structure costs
- Geotechnical costs
- Interstate utility relocation costs
- General utility relocation costs
- Traffic control costs
 - Lighting
 - Striping
 - Signals
 - ATMS
- Other contingency costs
 - Trails
 - Sidewalks
 - Curb and gutter
 - Barriers
 - Right of way fence
- Environmental mitigation costs
 - Wetlands
 - Historic property and archaeological resources
- Contractor mobilization costs
- Traffic control costs
- Preliminary Engineering and Construction Engineering costs

- Final design
- Inspection, reviews, and approvals
- Right-of-way costs
 - Property acquisition costs
 - Relocation costs

1.2 Quantity/Unit Estimation

The quantities of each item listed in Section 1.1 were estimated based off of the preliminary design that had been completed for each WDC action alternative at the time of the DEIS.

1.3 Unit Costs

The unit costs for the items listed above were determined based on the best available cost information for recently completed, similar projects in Utah. The unit costs were then reviewed by UDOT Central Preconstruction’s Estimating staff and resources and an independent private consultant in 2013. The unit costs were calculated in 2012 dollars. The actual cost of construction will likely be higher because of inflation between 2012 and the year of construction, but would be expected to increase proportionally among the various alternatives.

2.0 Differences from Screening and DEIS Cost Estimates

As shown below in Table 2-1. Cost Comparison, the cost estimates of the alternatives evaluated in the DEIS increased by about \$141 to \$225 million, or 32% to 47% compared to the Level 2 screening cost estimates for the alternatives.

Table 2-1. Cost Comparison

Alternative	Level 2 Screening Cost	DEIS Cost	Cost Difference (Percent Difference)
A1	\$482 million	\$674 million	\$192 million (40%)
A2	\$478 million	\$665 million	\$187 million (39%)
A3	\$483 million	\$708 million	\$225 million (47%)
A4	\$476 million	\$700 million	\$224 million (47%)
B1	\$446 million	\$587 million	\$141 million (32%)
B2	\$441 million	\$605 million	\$164 million (37%)
B3	\$444 million	\$622 million	\$178 million (40%)
B4	\$439 million	\$640 million	\$201 million (46%)

Technical Memorandum 16: Level 2 Screening Alternatives Cost Estimate (December 2011) provides the details on how the cost estimates were developed during the screening process. The cost estimates during the screening process were based on a cost per mile since no engineering was performed during the screening process.

The increase in cost between the screening level estimates and the DEIS estimates were largely due to the following factors:

- More detailed engineering quantities
 - Screening cost estimates were based off of roadway length,
 - DEIS cost estimates were calculated by using calculated quantities for each of the items listed above
- Current UDOT quantity cost estimates
 - the screening cost estimates did not use quantities
 - DEIS cost estimates used current unit cost estimates for each calculated item listed above
- More detailed property value information for right-of-way costs
 - screening cost estimates used average county property values for relocated properties
 - DEIS cost estimates used 2011 county assessor values to estimate the acquisition costs for relocated properties
- Preliminary Engineering costs were not included in the screening cost estimates, and were included in the DEIS cost estimates

It is important to note that the changes to the costs between the screening process and DEIS would not have changed the screening decision for any of the alternatives evaluated in the WDC alternatives screening process. It also important to note that cost was only one of many factors used to screen alternatives. The alternatives that were eliminated in level 2 screening were also eliminated because of substantially higher impacts to the built environment, farmlands, and natural resources.

If any of the alternatives eliminated during the screening process would have had their costs estimated based on the increased level of engineering design and calculated quantities, the cost of these alternatives would have also increased by at least 32% to 47%. For example, engineering, survey, and construction design, which were not included in the level 2 screening estimate, accounts for 12.5% of the total project cost and would be required for each alternative. Therefore, the decision to screen out an alternative during level 2 screening based on cost differences would remain valid, since the cost differences between the alternatives evaluated in the screening process would have remained the same or increased



proportionately had more detailed engineering and cost estimates been completed for all of the alternatives.



Appendix A– DEIS Cost Estimates



Summary of Costs

Segment Name	2012 Costs	2013 Costs
Segment 01	\$ 174,786,902	\$ 181,000,000
Segment 02	\$ 209,473,516	\$ 217,000,000
Segment 03	\$ 161,654,181	\$ 167,000,000
Segment 04	\$ 245,800,060	\$ 254,000,000
Segment 05	\$ 130,674,269	\$ 135,000,000
Segment 06	\$ 82,935,439	\$ 86,000,000
Segment 07	\$ 91,268,614	\$ 94,000,000
Segment 08	\$ 137,822,335	\$ 143,000,000
Segment 09	\$ 120,050,950	\$ 124,000,000

Alternative		Rounded to nearest \$1 million
A1	\$ 673,509,757	\$674 million
A2	\$ 665,176,582	\$665 million
A3	\$ 708,196,371	\$708 million
A4	\$ 699,863,196	\$700 million
B1	\$ 587,166,303	\$587 million
B2	\$ 604,937,687	\$605 million
B3	\$ 621,852,917	\$622 million
B4	\$ 639,624,301	\$640 million



Segment Name: Segment 01
 Project Segment: Grovers Lane Interchange to Central Davis Sewer Plant (Kaysville)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost	
Demolition and Removal	1	Clearing and Grubbing	289	Acres	\$1,500.00	\$433,500		\$556,050	
	2	Demolition of Buildings	4	Each	\$18,000.00	\$72,000			
	3	Demolition of Bridges	0	Ft ²	\$12.00	\$0			
	4	Demolition and Removal Contingency					\$50,550		10%
Earthwork and Grading	5	Roadway Excavation	52,500	Yd ³	\$6.00	\$315,000		\$28,928,906	
	6	Roadway Borrow	1,450,000	Yd ³	\$14.82	\$20,788,755			
	7	Embankment for Bridge	240,000	Yd ³	\$21.00	\$5,040,000			
	8	Pond Excavation	20,700	Yd ³	\$7.50	\$155,250			
	9	Earthwork and Grading Contingency					\$2,629,901		10%
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	23,850	Ft	\$100.00	\$2,385,000	Includes major drainage components	\$7,923,750	
	11	Box Culverts, Small(<10' span)	1,350	Ft	\$850.00	\$1,147,500			
	12	Box Culverts, Medium(10' span)	540	Ft	\$1,500.00	\$810,000			
	13	Box Culverts, Large(12' span)	470	Ft	\$2,000.00	\$940,000			
	14	Canals (earth)	0	Ft	\$35.00	\$0			
	15	Canals (concrete)	0	Ft	\$500.00	\$0			
	16	Canal Pipeline Relocation	0	Ft	\$220.00	\$0			
	17	Stream Relocation	0	Ft	\$525.00	\$0			
	18	Drainage Contingency					\$2,641,250		50%
	Pavement (Mainline, Ramps, and CDs)	19	Pavement and Base	2,555,000	Ft ²	\$8.12	\$20,746,600		
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	212,000	Ft ²	\$9.52	\$2,018,240			
21	Paving Contingency					\$2,276,484	10%		
Structures	22	Bridge (2nd Level Concrete)	32,500	Ft ²	\$205.00	\$6,662,500		\$47,468,487	
	23	Bridge (2nd Level Steel)	96,900	Ft ²	\$265.00	\$25,678,500			
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0			
	25	Bridge (3rd Level Steel)	0	Ft ²	\$265.00	\$0			
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0			
	27	Crossing Structures trails	18,160	Ft ²	\$210.00	\$3,813,600			
	28	Retaining Walls	120,665	Ft ²	\$58.00	\$6,998,570			
	29	Noise Walls	0	Ft	\$360.00	\$0			
30	Structure Contingency					\$4,315,317	10%		
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		\$0	
32	Geotechnical Treatments Contingency					\$0	20%		
Interstate Utility Relocations	33	RR Relocation	0	Miles	\$1,000,000.00	\$0		\$8,120,000	
	34	Power Pole Relocation	8	Each	\$400,000.00	\$3,200,000			
	35	Pacificorp 138kV	6,500	FT	\$400.00	\$2,600,000			
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0			
37	Interstate Utility Relocation Contingency					\$2,320,000	40%		
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$2,110,375.50	\$2,110,376	Assumed to be 10% of earthwork and grading	\$2,426,932	
39	General Utility Adjustment / Relocation Contingency					\$316,556	15%		
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	48,330	Ft	\$15.00	\$724,950		\$1,175,000	
	41	Signing (Arterials)	5,000	Ft	\$15.00	\$75,000			
	42	Signing (Service Interchange)	0	Each	\$150,000.00	\$0			
	43	Signing (System Interchange)	1	Each	\$175,000.00	\$175,000			
	44	Striping (Mainline and CDs)	288,000	Ft	\$0.16	\$46,080			
	45	Striping (Arterials, Local Streets and Frontage)	5,000	Ft	\$0.20	\$1,000			
	46	Lighting (Mainline and CDs)	20	Each	\$50,000.00	\$1,000,000	Assume 4 highmasts per deceleration lane at interchange locations only		
	47	Lighting (Arterials)	5,000	Ft	\$30.00	\$150,000			
	48	Lighting and Signals (SPUI Interchange)		Each	\$160,000.00	\$0			



Segment Name: Segment 01
 Project Segment: Grovers Lane Interchange to Central Davis Sewer Plant (Kaysville)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
	49	Lighting and Signals (Diamond Interchange)	0	Each	\$140,000.00	\$0		
	50	ATMS (Mainline)	48,330	Ft	\$45.00	\$2,174,850		
	51	ATMS (Arterials)		Ft	\$20.00	\$0		
	52	ATMS (Connection to existing backbone)	0	Lump	\$1,000,000.00	\$0		
	53	ATMS HUB Buildings	0	Each	\$75,000.00	\$0		
	54	ATMS CCTV	10	Each	\$20,000.00	\$200,000		
	55	ATMS VMS	0	Each	\$250,000.00	\$0		
	56	Traffic Control/ ATMS Contingency				\$454,688	10%	\$5,001,568
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	4,400	Ft	\$14.50	\$63,800		
	58	Sidewalk	367	Ft	\$4.00	\$1,467		
	59	Concrete Barrier	8,640	Ft	\$60.00	\$518,400		
	60	ROW Fence	64,300	Ft	\$5.00	\$321,500		
	61	Landscaping Interchanges	1	Each	\$350,000.00	\$350,000		
	62	Landscaping	51,150	Ft	\$1.80	\$92,070		
	63	Trail	5,133	SY	\$8.00	\$41,067		
	64	General Other Contingency				\$138,830	10%	\$1,527,134
Mitigation and Remediation	65	Wetland	9	Acres	\$75,000.00	\$1,410,000		
	66	Historic Buildings	0	Each	\$10,000.00	\$0		
	67	Archaeological	1	Each	\$30,000.00	\$30,000		
	68	Hazmat	0	Each	\$50,000.00	\$0		
	69	xxx	0	Lump	2.00%	\$0		
	70	Environmental Remediation/Mitigation Contingency				\$216,000	15%	\$1,656,000
	71	Subtotal				\$128,650,150		\$128,650,150
	72	5.25%	Mobilization		\$6,754,133			
	73	Contractor Mobilization Contingency				\$337,707	5%	
	74	5.00%	Traffic Control		\$6,432,508		Includes flagging for work near railroad	
	75	Traffic Control Contingency				\$643,251	10%	
	76	0.50%	Survey		\$643,251			
	77	Subtotal				\$143,460,999		
	78	6.00%	Design Egr.		\$8,607,660			
	79	PE Contingency				\$688,613	8%	
	80	6.00%	Const. Egr.		\$8,607,660			
	81	CE Contingency				\$860,766	10%	
SUBTOTAL	82	Subtotal				\$162,225,697		
Right-of-Way	83	Administration	0	Parcel	\$2,500	\$0	See Appendix B for details	
	84	Homes	0	Lump	\$221,370	\$0		
	85	Relocation (Homes)	0	Each	\$30,000	\$0		
	86	Commercial	1	Lump	\$1,374,351	\$1,374,351	1 commercial business, 2 agricultural properties/businesses with impacted buildings. Used 2011 assessed value.	
	87	Relocation (Commercial)	1	Each	\$100,000	\$100,000	Commercial	
	88	Land (vacant)	1	Lump	\$9,418,436	\$9,418,436	Assumed costs from land use costs/sqft.	
	89	Platted Relocations	1	Lump	\$30,000	\$30,000	One plat owned by Davis School District. Had \$0 for 2011 assessed value. Estimated \$30,000 for plat.	
	90	Relocation (Special Use)	0	Lump		\$0	Special Use	
	91	R/W Contingency				\$1,638,418	15%	
	92	Total Roadway Elements--2012 USD				\$174,786,902		
	93	Total Roadway Elements--2013 USD				\$180,904,444		



Segment Name: Segment 02
 Project Segment: Shepard Lane Interchange to Central Davis Sewer Plant (Kaysville)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
Demolition and Removal	1	Cleaning and Grubbing	177	Acres	\$1,500.00	\$265,500		\$866,250
	2	Demolition of Buildings	16	Each	\$18,000.00	\$288,000	Includes 10 houses and 6 buildings on Mink Farm property.	
	3	Demolition of Bridges	19,500	Ft ²	\$12.00	\$234,000		
	4	Demolition and Removal Contingency					\$78,750	
Earthwork and Grading	5	Roadway Excavation	120,000	Yd ³	\$6.00	\$720,000		\$19,746,157
	6	Roadway Borrow	841,600	Yd ³	\$14.82	\$10,871,952		
	7	Embankment for Bridge	298,600	Yd ³	\$21.00	\$6,270,600		
	8	Pond Excavation	11,800	Yd ³	\$7.50	\$88,500		
	9	Earthwork and Grading Contingency					\$1,795,105	
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	24,950	Ft	\$100.00	\$2,495,000	Includes major drainage components	\$3,998,225
	11	Box Culverts, Small (<10' span)	260	Ft	\$850.00	\$221,000		
	12	Box Culverts, Medium (10' span)	0	Ft	\$1,500.00	\$0		
	13	Box Culverts, Large (12' span)	0	Ft	\$2,000.00	\$0		
	14	Canals (earth)	0	Ft	\$35.00	\$0		
	15	Canals (concrete)	0	Ft	\$500.00	\$0		
	16	Canal Pipeline Relocation	0	Ft	\$220.00	\$0		
	17	Stream Relocation	1,750	Ft	\$525.00	\$918,750	Assume exc @ 46cy per lf, revegetation on entire surface, rock check dams @ 300ft	
	18	Drainage Contingency					\$363,475	
Pavement (Mainline, Ramps, and CDs)	19	Pavement and Base	2,440,550	Ft ²	\$8.12	\$19,817,266		\$25,741,962
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	376,525	Ft ²	\$9.52	\$3,584,518		
21	Paving Contingency					\$2,340,178	10%	
Structures	22	Bridge (2nd Level Concrete)	55,950	Ft ²	\$205.00	\$11,469,750		\$68,956,470
	23	Bridge (2nd Level Steel)	52,470	Ft ²	\$265.00	\$13,904,550		
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0		
	25	Bridge (3rd Level Steel)	80,300	Ft ²	\$265.00	\$21,279,500		
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0		
	27	Crossing Structures trails	3,700	Ft ²	\$210.00	\$777,000		
	28	Retaining Walls	263,050	Ft ²	\$58.00	\$15,256,900		
	29	Noise Walls	0	Ft	\$360.00	\$0		
30	Structure Contingency					\$6,268,770	10%	
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		\$0
32	Geotechnical Treatments Contingency					\$0	20%	
Interstate Utility Relocations	33	RR Relocation	5	Miles	\$1,000,000.00	\$5,000,000		\$11,760,000
	34	Power Pole Relocation	0	Each	\$400,000.00	\$0		
	35	Pacificorp 138kV	8,500	FT	\$400.00	\$3,400,000		
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0		
37	Interstate Utility Relocation Contingency					\$3,360,000	40%	
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$1,159,195.20	\$1,159,195	Assumed to be 10% of earthwork and grading	\$1,333,074
39	General Utility Adjustment / Relocation Contingency					\$173,879	15%	
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	40,000	Ft	\$15.00	\$600,000		\$1,333,074
	41	Signing (Arterials)	5,000	Ft	\$15.00	\$75,000		
	42	Signing (Service Interchange)	1	Each	\$150,000.00	\$150,000		
	43	Signing (System Interchange)	1	Each	\$175,000.00	\$175,000		
	44	Striping (Mainline and CDs)	203,000	Ft	\$0.16	\$32,480		
	45	Striping (Arterials, Local Streets and Frontage)	5,000	Ft	\$0.20	\$1,000		
	46	Lighting (Mainline and CDs)	40	Each	\$50,000.00	\$2,000,000	Assume 4 highmasts per deceleration lane at interchange locations only	
	47	Lighting (Arterials)	5,000	Ft	\$30.00	\$150,000		
	48	Lighting and Signals (SPUI Interchange)		Each	\$160,000.00	\$0		



Segment Name: Segment 02
 Project Segment: Shepard Lane Interchange to Central Davis Sewer Plant (Kaysville)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
	49	Lighting and Signals (Diamond Interchange)	1	Each	\$140,000.00	\$140,000		
	50	ATMS (Mainline)	40,000	Ft	\$45.00	\$1,800,000		
	51	ATMS (Arterials)		Ft	\$20.00	\$0		
	52	ATMS (Connection to existing backbone)	0	Lump	\$1,000,000.00	\$0		
	53	ATMS HUB Buildings	0	Each	\$75,000.00	\$0		
	54	ATMS CCTV	4	Each	\$20,000.00	\$80,000		
	55	ATMS VMS	0	Each	\$250,000.00	\$0		
	56	Traffic Control/ ATMS Contingency				\$520,348	10%	\$5,723,828
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	20,000	Ft	\$14.50	\$290,000		
	58	Sidewalk	18,000	Ft	\$4.00	\$72,000		
	59	Concrete Barrier	70,000	Ft	\$60.00	\$4,200,000		
	60	ROW Fence	30,000	Ft	\$5.00	\$150,000		
	61	Landscaping Interchanges	2	Each	\$350,000.00	\$700,000		
	62	Landscaping	20,000	Ft	\$1.80	\$36,000		
	63	Trail	6,033	Ft ²	\$8.00	\$48,267		
	64	General Other Contingency				\$549,627	10%	\$6,045,893
Mitigation and Remediation	65	Wetland	8	Acres	\$75,000.00	\$1,170,000		
	66	Historic Buildings	0	Each	\$10,000.00	\$0		
	67	Archaeological	3	Each	\$30,000.00	\$90,000		
	68	Hazmat	0	Each	\$50,000.00	\$0		
	69	xxx	0	Lump	2.00%	\$0		
	70	Environmental Remediation/Mitigation Contingency				\$189,000	15%	\$1,449,000
	71	Subtotal				\$145,620,860		\$145,620,860
	72	5.25%	Mobilization		\$7,645,095			
	73	Contractor Mobilization Contingency				\$382,255	5%	
	74	5.00%	Traffic Control		\$7,281,043		Includes flagging for work near railroad	
	75	Traffic Control Contingency				\$728,104	10%	
	76	0.50%	Survey		\$728,104			
	77	Subtotal				\$161,657,358		
	78	6.00%	Design Egr.		\$9,699,441			
	79	PE Contingency				\$775,955	8%	
	80	6.00%	Const. Egr.		\$9,699,441			
	81	CE Contingency				\$969,944	10%	
	82	Subtotal				\$182,802,140		
Right-of-Way	83	Administration	0	Parcel	\$2,500	\$0	See Appendix B for details	
	84	Homes	1	Lump	\$3,188,010	\$3,188,010	10 homes. Used 2011 assessed values.	
	85	Relocation (Homes)	10	Each	\$30,000	\$300,000	Residential Relocations	
	86	Commercial	1	Lump	\$5,289,090	\$5,289,090	Used 2011 assessed values for 3 direct business impacts, and \$3,000,000 for partial impacts to Oak Ridge GC.	
	87	Relocation (Commercial)	3	Each	\$100,000	\$300,000	Commercial	
	88	Land (vacant)	1	Lump	\$14,115,401	\$14,115,401	Assumed costs from land use costs/sqft.	
	89	Platted Relocations	0	Lump	\$10,428,000	\$0		
	90	Relocation (Special Use)	0	Lump		\$0	Special Use	
		91	R/W Contingency				\$3,478,875	
	92	Total Roadway Elements--2012 USD				\$209,473,516		
	93	Total Roadway Elements--2013 USD				\$216,805,089		



Segment Name: Segment 03
 Project Segment: Central Davis Sewer Plant (Kaysville) to Gentile Street

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost	
Demolition and Removal	1	Clearing and Grubbing	281	Acres	\$1,500.00	\$421,500		\$523,050	
	2	Demolition of Buildings	3	Each	\$18,000.00	\$54,000			
	3	Demolition of Bridges	0	Ft ²	\$12.00	\$0			
	4	Demolition and Removal Contingency					\$47,550		10%
Earthwork and Grading	5	Roadway Excavation	700	Yd ³	\$6.00	\$4,200		\$55,752,481	
	6	Roadway Borrow	2,796,195	Yd ³	\$14.82	\$41,430,273			
	7	Embankment for Bridge	426,725	Yd ³	\$21.00	\$8,961,225			
	8	Pond Excavation	38,450	Yd ³	\$7.50	\$288,375			
	9	Earthwork and Grading Contingency					\$5,068,407		10%
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	13,070	Ft	\$100.00	\$1,307,000	Includes major drainage components	\$4,320,800	
	11	Box Culverts, Small (<10' span)	1,860	Ft	\$850.00	\$1,581,000			
	12	Box Culverts, Medium (10' span)	0	Ft	\$1,500.00	\$0			
	13	Box Culverts, Large (12' span)	520	Ft	\$2,000.00	\$1,040,000			
	14	Canals (earth)	0	Ft	\$35.00	\$0			
	15	Canals (concrete)	0	Ft	\$500.00	\$0			
	16	Canal Pipeline Relocation	0	Ft	\$220.00	\$0			
	17	Stream Relocation	0	Ft	\$525.00	\$0			
	18	Drainage Contingency					\$392,800		10%
	Pavement (Mainline, Ramps, and CDs)	19	Pavement and Base	3,124,790	Ft ²	\$8.12	\$25,373,295		
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	87,605	Ft ²	\$9.52	\$834,000			
21	Paving Contingency					\$2,620,729	10%		
Structures	22	Bridge (2nd Level Concrete)	50,550	Ft ²	\$205.00	\$10,362,750		\$18,152,255	
	23	Bridge (2nd Level Steel)	0	Ft ²	\$265.00	\$0			
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0			
	25	Bridge (3rd Level Steel)	0	Ft ²	\$265.00	\$0			
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0			
	27	Crossing Structures trails	0	Ft ²	\$210.00	\$0			
	28	Retaining Walls	105,850	Ft ²	\$58.00	\$6,139,300			
	29	Noise Walls	0	Ft	\$360.00	\$0			
	30	Structure Contingency					\$1,650,205		10%
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		\$0	
32	Geotechnical Treatments Contingency					\$0	20%		
Interstate Utility Relocations	33	RR Relocation	0	Miles	\$1,000,000.00	\$0		\$4,480,000	
	34	Power Pole Relocation	8	Each	\$400,000.00	\$3,200,000			
	35	Pacificorp 138kV	0	FT	\$400.00	\$0			
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0			
	37	Interstate Utility Relocation Contingency					\$1,280,000		40%
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$4,143,447.33	\$4,143,447	Assumed to be 10% of earthwork and grading	\$4,764,964	
39	General Utility Adjustment / Relocation Contingency					\$621,517	15%		
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	35,370	Ft	\$15.00	\$530,550		\$1,160,000	
	41	Signing (Arterials)	0	Ft	\$15.00	\$0			
	42	Signing (Service Interchange)	2	Each	\$150,000.00	\$300,000			
	43	Signing (System Interchange)	0	Each	\$175,000.00	\$0			
	44	Striping (Mainline and CDs)	212,220	Ft	\$0.16	\$33,955			
	45	Striping (Arterials, Local Streets and Frontage)		Ft	\$0.20	\$0			
	46	Lighting (Mainline and CDs)	16	Each	\$50,000.00	\$800,000	Assume 4 highmasts per deceleration lane at interchange locations only		
	47	Lighting (Arterials)	0	Ft	\$30.00	\$0			
	48	Lighting and Signals (SPUI Interchange)		Each	\$160,000.00	\$0			



Segment Name: Segment 03
 Project Segment: Central Davis Sewer Plant (Kaysville) to Gentile Street

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
	49	Lighting and Signals (Diamond Interchange)		2 Each	\$140,000.00	\$280,000		
	50	ATMS (Mainline)	35,370	Ft	\$45.00	\$1,591,650		
	51	ATMS (Arterials)		Ft	\$20.00	\$0		
	52	ATMS (Connection to existing backbone)		1 Lump	\$1,000,000.00	\$1,000,000		
	53	ATMS HUB Buildings		0 Each	\$75,000.00	\$0		
	54	ATMS CCTV		7 Each	\$20,000.00	\$140,000		
	55	ATMS VMS		0 Each	\$250,000.00	\$0		
	56	Traffic Control/ ATMS Contingency				\$467,616	10%	\$5,143,771
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	3,365	Ft	\$14.50	\$48,793		
	58	Sidewalk	20,190	Ft	\$4.00	\$80,760		
	59	Concrete Barrier		0 Ft	\$60.00	\$0		
	60	ROW Fence	70,740	Ft	\$5.00	\$353,700		
	61	Landscaping Interchanges		2 Each	\$350,000.00	\$700,000		
	62	Landscaping	35,370	Ft	\$1.80	\$63,666		
	63	Trail	25,439	Ft ²	\$8.00	\$203,511		
	64	General Other Contingency				\$145,043	10%	\$1,595,473
Mitigation and Remediation	65	Wetland		9 Acres	\$75,000.00	\$1,320,000		
	66	Historic Buildings		1 Each	\$10,000.00	\$10,000		
	67	Archaeological		0 Each	\$30,000.00	\$0		
	68	Hazmat		0 Each	\$50,000.00	\$0		
	69	xxx		0 Lump	2.00%	\$0		
	70	Environmental Remediation/Mitigation Contingency				\$199,500	15%	\$1,529,500
	71	Subtotal				\$125,090,317		\$125,090,317
	72	5.25%	Mobilization		\$6,567,242			
	73	Contractor Mobilization Contingency				\$328,362	5%	
	74	2.25%	Traffic Control		\$2,814,532			
	75	Traffic Control Contingency				\$281,453	10%	
	76	0.50%	Survey		\$625,452			
	77	Subtotal				\$135,081,906		
	78	6.00%	Design Egr.		\$8,104,914			
	79	PE Contingency				\$648,393	8%	
	80	6.00%	Const. Egr.		\$8,104,914			
	81	CE Contingency				\$810,491	10%	
	82	Subtotal				\$152,750,620		
Right-of-Way	83	Administration		0 Parcel	\$2,500	\$0	See Appendix B for details	
	84	Homes		1 Lump	\$50,000	\$50,000	2 vacant homes impacted. Cost of \$50,000 assumed based on assessor data.	
	85	Relocation (Homes)		0 Each	\$30,000	\$0		
	86	Commercial		1 Lump	\$605,501	\$605,501	Used 2011 Assessed values.	
	87	Relocation (Commercial)		1 Each	\$100,000	\$100,000	Commercial	
	88	Land (vacant)		1 Lump	\$6,806,726	\$6,806,726	Assumed costs from land use costs/sqft.	
	89	Platted Relocations		3 Each	\$60,000	\$180,000	\$60,000/plat was based on information provided in meeting with developers in Kaysville.	
	90	Relocation (Special Use)		0 Lump		\$0	Special Use	
		91	R/W Contingency				\$1,161,334	
	92	Total Roadway Elements--2012 USD				\$161,654,181		
	93	Total Roadway Elements--2013 USD				\$167,312,077		



Segment Name: Segment 04
 Project Segment: Gentile Street to 5500 S / 5300 W (Hooper)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost	
Demolition and Removal	1	Cleaning and Grubbing	311	Acres	\$1,500.00	\$466,770		\$790,647	
	2	Demolition of Buildings	14	Each	\$18,000.00	\$252,000			
	3	Demolition of Bridges	0	Ft ²	\$12.00	\$0			
	4	Demolition and Removal Contingency					\$71,877	10%	
Earthwork and Grading	5	Roadway Excavation	103,515	Yd ³	\$6.00	\$621,090		\$57,113,116	
	6	Roadway Borrow	2,967,683	Yd ³	\$16.82	\$46,667,418			
	7	Embankment for Bridge	202,667	Yd ³	\$21.00	\$4,256,007			
	8	Pond Excavation	50,200	Yd ³	\$7.50	\$376,500			
	9	Earthwork and Grading Contingency					\$5,192,101	10%	
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	11,210	Ft	\$100.00	\$732,400	Includes major drainage components	\$3,251,985	
	11	Box Culverts, Small(<10' span)	260	Ft	\$850.00	\$749,700			
	12	Box Culverts, Medium(10' span)	1,400	Ft	\$1,500.00	\$1,171,500			
	13	Box Culverts, Large(12' span)	0	Ft	\$2,000.00	\$0			
	14	Canals(earth)	8,650	Ft	\$35.00	\$302,750			
	15	Canals(concrete)	0	Ft	\$500.00	\$0			
	16	Canal Pipeline Relocation	0	Ft	\$220.00	\$0	Assume 8 blow-offs , 6 ea turnouts with Gate valves & dissipation treatment		
	17	Stream Relocation	0	Ft	\$525.00	\$0	Assume exc @ 46cy per lf, revegetation on entire surface, rock check dams @ 300ft		
	18	Drainage Contingency					\$295,635	10%	
Pavement (Mainline, Ramps, and CDs)	19	Pavement and Base	4,452,126	Ft ²	\$8.12	\$36,151,263		\$42,613,873	
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	271,914	Ft ²	\$9.52	\$2,588,621			
	21	Paving Contingency					\$3,873,988		10%
Structures	22	Bridge (2nd Level Concrete)	137,450	Ft ²	\$205.00	\$28,177,250		\$60,853,375	
	23	Bridge (2nd Level Steel)	0	Ft ²	\$265.00	\$0			
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0			
	25	Bridge (3rd Level Steel)	0	Ft ²	\$265.00	\$0			
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0			
	27	Crossing Structures trails	0	Ft ²	\$210.00	\$0			
	28	Retaining Walls	468,000	Ft ²	\$58.00	\$27,144,000			
	29	Noise Walls	0	Ft	\$360.00	\$0			
	30	Structure Contingency					\$5,532,125	10%	
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		\$0	
	32	Geotechnical Treatments Contingency					\$0		20%
Interstate Utility Relocations	33	RR Relocation	0	Miles	\$1,000,000.00	\$0		\$0	
	34	Power Pole Relocation	0	Each	\$400,000.00	\$0			
	35	Pacificorp 138kV	0	FT	\$400.00	\$0			
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0			
	37	Interstate Utility Relocation Contingency					\$0	40%	
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$4,766,500.80	\$4,766,501	Assumed to be 10% of earthwork and grading	\$5,481,476	
	39	General Utility Adjustment / Relocation Contingency					\$714,975		15%
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	54,220	Ft	\$30.00	\$1,626,600		\$5,481,476	
	41	Signing (Arterials)	0	Ft	\$15.00	\$0			
	42	Signing (Service Interchange)	3	Each	\$150,000.00	\$450,000			
	43	Signing (System Interchange)	0	Each	\$175,000.00	\$0			
	44	Striping (Mainline and CDs)	199,198	Ft	\$0.16	\$31,872			
	45	Striping (Arterials, Local Streets and Frontage)	22,133	Ft	\$0.20	\$4,427			
	46	Lighting (Mainline and CDs)	12	Each	\$50,000.00	\$600,000	Assume 4 highmasts per deceleration lane at interchange locations only		
	47	Lighting (Arterials)	0	Ft	\$30.00	\$0			
48	Lighting and Signals (SPUI Interchange)	0	Each	\$160,000.00	\$0				



Segment Name: Segment 04
 Project Segment: Gentile Street to 5500 S / 5300 W (Hooper)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost	
	49	Lighting and Signals (Diamond Interchange)	3	Each	\$140,000.00	\$420,000			
	50	ATMS (Mainline)	54,220	Ft	\$20.00	\$1,084,400			
	51	ATMS (Arterials)	0	Ft	\$20.00	\$0			
	52	ATMS (Connection to existing backbone)	0	Lump	\$1,000,000.00	\$0			
	53	ATMS HUB Buildings	0	Each	\$75,000.00	\$0			
	54	ATMS CCTV	0	Each	\$20,000.00	\$0			
	55	ATMS VMS	0	Each	\$250,000.00	\$0			
	56	Traffic Control/ ATMS Contingency					\$421,730	10%	\$4,639,028
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	3,200	Ft	\$13.50	\$43,200			
	58	Sidewalk	3,200	Ft	\$20.00	\$64,000			
	59	Concrete Barrier	30,000	Ft	\$35.00	\$1,050,000			
	60	ROW Fence	119,284	Ft	\$5.00	\$596,420			
	61	Landscaping Interchanges	3	Each	\$350,000.00	\$1,050,000			
	62	Landscaping	51,325	Ft	\$1.20	\$61,590			
	63	Trail	285,333	Ft ²	\$0.70	\$199,733			
	64	General Other Contingency					\$306,494	10%	\$3,371,437
Mitigation and Remediation	65	Wetland	5	Acres	\$75,000.00	\$810,000			
	66	Historic Buildings	0	Each	\$10,000.00	\$0			
	67	Archaeological	0	Each	\$30,000.00	\$0			
	68	Hazmat	0	Each	\$50,000.00	\$0			
	69	xxx	0	Lump	2.00%	\$0			
	70	Environmental Remediation/Mitigation Contingency					\$121,500	15%	\$931,500
	71	Subtotal					\$179,046,438		\$179,046,438
	72	5.25%	Mobilization			\$9,399,938			
	73	Contractor Mobilization Contingency					\$469,997	5%	
	74	2.25%	Traffic Control			\$4,028,545			
	75	Traffic Control Contingency					\$402,854	10%	
	76	0.50%	Survey			\$895,232			
	77	Subtotal					\$194,243,004		
	78	6.00%	Design Egr.			\$11,654,580			
	79	PE Contingency					\$932,366	8%	
	80	6.00%	Const. Egr.			\$11,654,580			
	81	CE Contingency					\$1,165,458	10%	
	82	Subtotal					\$219,649,989		
Right-of-Way	83	Administration	0	Parcel	\$2,500	\$0	See Appendix B for details		
	84	Homes	1	Lump	\$3,514,659	\$3,514,659	2011 property values for 14 directly impacted homes. \$250,000 was assumed for two residences that were platted in 2011 and constructed in 2012.		
	85	Relocation (Homes)	14	Each	\$30,000	\$420,000			
	86	Commercial	0	Lump	\$4,423,000	\$0			
	87	Relocation (Commercial)	0	Each	\$100,000	\$0	Commercial		
	88	Land (vacant)	1	Lump	\$17,154,533	\$17,154,533	Assumed costs from land use costs/sqft.		
	89	Platted Relocations	33	Each	\$50,000	\$1,650,000	Used plat values (\$50,000) that were average of those in Bridgeway for sale on MLS.		
	90	Relocation (Special Use)	0	Lump		\$0	Special Use		
	91	R/W Contingency					\$3,410,879	15%	
	92	Total Roadway Elements--2012 USD					\$245,800,060		
	93	Total Roadway Elements--2013 USD					\$254,403,062		



Segment Name:
 Project Segment:

Segment 05
 Gentile Street to 700 S

Category	Line Number	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
Demolition and Removal	1	Clearing and Grubbing	134	Acres	\$1,500.00	\$200,508		
	2	Demolition of Buildings	16	Each	\$18,000.00	\$288,000	13 houses and 3 outbuildings/agricultural buildings.	
	3	Demolition of Bridges	0	Ft ²	\$12.00	\$0		
	4	Demolition and Removal Contingency				\$48,851	10%	\$537,359
Earthwork and Grading	5	Roadway Excavation	46,573	Yd ³	\$6.00	\$279,438		
	6	Roadway Borrow	1,145,102	Yd ³	\$16.82	\$18,555,594		
	7	Embankment for Bridge	84,444	Yd ³	\$21.00	\$1,773,324		
	8	Pond Excavation	28,300	Yd ³	\$7.50	\$212,250		
	9	Earthwork and Grading Contingency				\$2,082,061	10%	\$22,902,666
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	6,320	Ft	\$100.00	\$632,000	Includes major drainage components	
	11	Box Culverts, Small (<10' span)	0	Ft	\$850.00	\$0		
	12	Box Culverts, Medium (10' span)	360	Ft	\$1,500.00	\$540,000		
	13	Box Culverts, Large (12' span)	0	Ft	\$2,000.00	\$0		
	14	Canals (earth)	3,600	Ft	\$35.00	\$126,000		
	15	Canals (concrete)	0	Ft	\$500.00	\$0		
	16	Canal Pipeline Relocation	11,400	Ft	\$220.00	\$2,508,000	Assume 8 blow-offs, 6 ea turnouts with Gate valves & dissipation treatment	
	17	Stream Relocation	0	Ft	\$525.00	\$0	Assume exc @ 46cy per ft, revegetation on entire surface, rock check dams @ 300ft	
	18	Drainage Contingency				\$380,600	10%	\$4,186,600
Pavement (Mainline, Ramps, and CDs)	19	Pavement and Base	2,079,773	Ft ²	\$8.12	\$16,887,757		
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	875,662	Ft ²	\$9.52	\$8,336,302		
	21	Paving Contingency				\$2,522,406	10%	\$27,746,465
Structures	22	Bridge (2nd Level Concrete)	66,219	Ft ²	\$205.00	\$13,574,895		
	23	Bridge (2nd Level Steel)	0	Ft ²	\$265.00	\$0		
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0		
	25	Bridge (3rd Level Steel)	0	Ft ²	\$265.00	\$0		
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0		
	27	Crossing Structures trails	0	Ft ²	\$210.00	\$0		
	28	Retaining Walls	144,000	Ft ²	\$58.00	\$8,352,000		
	29	Noise Walls	0	Ft	\$360.00	\$0		
	30	Structure Contingency				\$2,192,690	10%	\$24,119,585
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		
	32	Geotechnical Treatments Contingency				\$0	20%	\$0
Interstate Utility Relocations	33	RR Relocation	0	Miles	\$1,000,000.00	\$0		
	34	Power Pole Relocation	0	Each	\$400,000.00	\$0		
	35	Pacificorp 138kV	0	FT	\$400.00	\$0		
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0		
	37	Interstate Utility Relocation Contingency				\$0	40%	\$0
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$1,883,503.16	\$1,883,503	Assumed to be 10% of earthwork and grading	
	39	General Utility Adjustment / Relocation Contingency				\$282,525	15%	\$2,166,029
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	23,291	Ft	\$30.00	\$698,730		
	41	Signing (Arterials)	0	Ft	\$15.00	\$0		
	42	Signing (Service Interchange)	2	Each	\$150,000.00	\$300,000		
	43	Signing (System Interchange)	0	Each	\$175,000.00	\$0		
	44	Striping (Mainline and CDs)	96,050	Ft	\$0.16	\$15,368		
	45	Striping (Arterials, Local Streets and Frontage)	10,672	Ft	\$0.20	\$2,134		
	46	Lighting (Mainline and CDs)	8	Each	\$50,000.00	\$400,000	Assume 4 highmasts per deceleration lane at interchange locations only	
	47	Lighting (Arterials)	0	Ft	\$30.00	\$0		
	48	Lighting and Signals (SPUI Interchange)	0	Each	\$160,000.00	\$0		
49	Lighting and Signals (Diamond Interchange)	2	Each	\$140,000.00	\$280,000			



Segment Name:
 Project Segment:

Segment 05
 Gentile Street to 700 S

Category	Line Number	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost	
	50	ATMS (Mainline)	23,291	Ft	\$20.00	\$465,820			
	51	ATMS (Arterials)	0	Ft	\$20.00	\$0			
	52	ATMS (Connection to existing backbone)	0	Lump	\$1,000,000.00	\$0			
	53	ATMS HUB Buildings	0	Each	\$75,000.00	\$0			
	54	ATMS CCTV	0	Each	\$20,000.00	\$0			
	55	ATMS VMS	0	Each	\$250,000.00	\$0			
	56	Traffic Control/ ATMS Contingency					\$216,205	10%	\$2,378,258
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	32,185	Ft	\$13.50	\$434,498			
	58	Sidewalk	32,185	Ft	\$20.00	\$643,700			
	59	Concrete Barrier	12,500	Ft	\$35.00	\$437,500			
	60	ROW Fence	51,240	Ft	\$5.00	\$256,201			
	61	Landscaping Interchanges	2	Each	\$350,000.00	\$700,000			
	62	Landscaping	31,095	Ft	\$1.20	\$37,314			
	63	Trail	309,222	Ft ²	\$0.70	\$216,455			
	64	General Other Contingency					\$272,567	10%	\$2,998,235
Mitigation and Remediation	65	Wetland	21	Acres	\$75,000.00	\$3,090,000			
	66	Historic Buildings	2	Each	\$10,000.00	\$20,000			
	67	Archaeological	0	Each	\$30,000.00	\$0			
	68	Hazmat	0	Each	\$50,000.00	\$0			
	69	xxx	0	Lump	2.00%	\$0			
	70	Environmental Remediation/Mitigation Contingency					\$466,500	15%	\$3,576,500
	71	Subtotal					\$90,611,695		\$90,611,695
	72	5.25%		Mobilization		\$4,757,114			
	73	Contractor Mobilization Contingency					\$237,856	5%	
	74	2.25%		Traffic Control		\$2,038,763			
	75	Traffic Control Contingency					\$203,876	10%	
	76	0.50%		Survey		\$453,058			
	77	Subtotal					\$97,849,304		
	78	6.00%		Design Egr.		\$5,870,958			
	79	PE Contingency					\$469,677	8%	
	80	6.00%		Const. Egr.		\$5,870,958			
	81	CE Contingency					\$587,096	10%	
SUBTOTAL	82	Subtotal					\$110,647,993		
Right-of-Way	83	Administration	0	Parcel	\$2,500	\$0	See Appendix B for details		
	84	Homes	1	Lump	\$3,395,179	\$3,395,179	13 houses + \$250,000 for 1/2 of Steed agricultural property. Used 2011 assessed values.		
	85	Relocation (Homes)	13	Each	\$30,000	\$390,000			
	86	Commercial	0	Lump	\$250,000	\$0	Steed property costs (which include agricultural buildings) were included with residential lump sum.		
	87	Relocation (Commercial)	0	Each	\$100,000	\$0	Commercial		
	88	Land (vacant)	1	Lump	\$12,378,974	\$12,378,974	Assumed costs from land use costs/sqft.		
	89	Platted Relocations	25	Lump	\$50,000	\$1,250,000	Used plat values (\$50,000) that were average of those in Bridgeway Island for sale on Utah MLS. Others in Syracuse and West Point were \$45,000 to \$60,000.		
	90	Relocation (Special Use)	0	Lump		\$0	Special Use		
	91	R/W Contingency					\$2,612,123	15%	
	92	Total Roadway Elements--2012 USD					\$130,674,269		
	93	Total Roadway Elements--2013 USD					\$135,247,869		



Segment Name: Segment 06
 Project Segment: 5500 S / 5300 W (Hooper) to 5100 W / 4000 S (West Haven)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost	
Demolition and Removal	1	Clearing and Grubbing	42	Acres	\$1,500.00	\$62,887		\$801,776	
	2	Demolition of Buildings	37	Each	\$18,000.00	\$666,000	27 residences (including one owned by UDOT), and 10 outbuildings on properties.		
	3	Demolition of Bridges	0	Ft ²	\$12.00	\$0			
	4	Demolition and Removal Contingency					\$72,889		10%
Earthwork and Grading	5	Roadway Excavation	29,699	Yd ³	\$6.00	\$178,194		\$13,785,565	
	6	Roadway Borrow	694,439	Yd ³	\$16.82	\$11,230,881			
	7	Embankment for Bridge	50,667	Yd ³	\$21.00	\$1,064,007			
	8	Pond Excavation	7,900	Yd ³	\$7.50	\$59,250			
	9	Earthwork and Grading Contingency					\$1,253,233		10%
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	4,030	Ft	\$100.00	\$403,000	Includes major drainage components	\$1,257,850	
	11	Box Culverts, Small (<10' span)	430	Ft	\$850.00	\$365,500			
	12	Box Culverts, Medium (10' span)	250	Ft	\$1,500.00	\$375,000			
	13	Box Culverts, Large (12' span)	0	Ft	\$2,000.00	\$0			
	14	Canals (earth)	0	Ft	\$35.00	\$0			
	15	Canals (concrete)	0	Ft	\$500.00	\$0			
	16	Canal Pipeline Relocation	0	Ft	\$220.00	\$0			
	17	Stream Relocation	0	Ft	\$525.00	\$0			
	18	Drainage Contingency					\$114,350		10%
	19	Pavement (Mainline, Ramps, and CDs)							
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	1,244,095	Ft ²	\$8.12	\$10,102,051		\$13,486,039	
	21	Paving Contingency					\$1,226,004		10%
	22	Bridge (2nd Level Concrete)	50,245	Ft ²	\$205.00	\$10,300,225			
Structures	23	Bridge (2nd Level Steel)	0	Ft ²	\$265.00	\$0		\$18,220,648	
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0			
	25	Bridge (3rd Level Steel)	0	Ft ²	\$265.00	\$0			
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0			
	27	Crossing Structures trails	0	Ft ²	\$210.00	\$0			
	28	Retaining Walls	108,000	Ft ²	\$58.00	\$6,264,000			
	29	Noise Walls	0	Ft	\$360.00	\$0			
	30	Structure Contingency					\$1,656,423		10%
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		\$0	
	32	Geotechnical Treatments Contingency					\$0		20%
Interstate Utility Relocations	33	RR Relocation	0	Miles	\$1,000,000.00	\$0		\$0	
	34	Power Pole Relocation	0	Each	\$400,000.00	\$0			
	35	Pacificorp 138kV	0	FT	\$400.00	\$0			
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0			
	37	Interstate Utility Relocation Contingency					\$0		40%
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$1,140,907.45	\$1,140,907	Assumed to be 10% of earthwork and grading	\$1,312,044	
	39	General Utility Adjustment / Relocation Contingency					\$171,136		15%
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	7,305	Ft	\$30.00	\$219,150		\$1,312,044	
	41	Signing (Arterials)	4,215	Ft	\$15.00	\$63,225			
	42	Signing (Service Interchange)	1	Each	\$150,000.00	\$150,000			
	43	Signing (System Interchange)	0	Each	\$175,000.00	\$0			
	44	Striping (Mainline and CDs)	25,507	Ft	\$0.16	\$4,081			
	45	Striping (Arterials, Local Streets and Frontage)	17,004	Ft	\$0.20	\$3,401			
	46	Lighting (Mainline and CDs)	4	Each	\$50,000.00	\$200,000	Assume 4 highmasts per deceleration lane at interchange locations only		
	47	Lighting (Arterials)	4,174	Ft	\$30.00	\$125,220			
	48	Lighting and Signals (SPUI Interchange)	0	Each	\$160,000.00	\$0			



Segment Name: Segment 06
 Project Segment: 5500 S / 5300 W (Hooper) to 5100 W / 4000 S (West Haven)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
	49	Lighting and Signals (Diamond Interchange)	1	Each	\$140,000.00	\$140,000		
	50	ATMS (Mainline)	7,305	Ft	\$20.00	\$146,100		
	51	ATMS (Arterials)	4,215	Ft	\$20.00	\$84,300		
	52	ATMS (Connection to existing backbone)	0	Lump	\$1,000,000.00	\$0		
	53	ATMS HUB Buildings	0	Each	\$75,000.00	\$0		
	54	ATMS CCTV	0	Each	\$20,000.00	\$0		
	55	ATMS VMS	0	Each	\$250,000.00	\$0		
	56	Traffic Control/ ATMS Contingency				\$113,548	10%	\$1,249,025
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	20,555	Ft	\$13.50	\$277,493		
	58	Sidewalk	20,555	Ft	\$20.00	\$411,100		
	59	Concrete Barrier	7,500	Ft	\$35.00	\$262,500		
	60	ROW Fence	16,071	Ft	\$5.00	\$80,355		
	61	Landscaping Interchanges	1	Each	\$350,000.00	\$350,000		
	62	Landscaping	13,840	Ft	\$1.20	\$16,608		
	63	Trail	0	Ft ²	\$0.70	\$0		
	64	General Other Contingency				\$139,806	10%	\$1,537,861
Mitigation and Remediation	65	Wetland	0	Acres	\$75,000.00	\$30,000		
	66	Historic Buildings	6	Each	\$10,000.00	\$60,000		
	67	Archaeological	0	Each	\$30,000.00	\$0		
	68	Hazmat	0	Each	\$50,000.00	\$0		
	69	xxx	0	Lump	2.00%	\$0		
	70	Environmental Remediation/Mitigation Contingency				\$13,500	15%	\$103,500
	71	Subtotal				\$51,754,307		\$51,754,307
	72	5.25%	Mobilization			\$2,717,101		
	73	Contractor Mobilization Contingency				\$135,855	5%	
	74	2.25%	Traffic Control			\$1,164,472		
	75	Traffic Control Contingency				\$116,447	10%	
	76	0.50%	Survey			\$258,772		
	77	Subtotal				\$55,888,182		
	78	6.00%	Design Egr.			\$3,353,291		
	79	PE Contingency				\$268,263	8%	
	80	6.00%	Const. Egr.			\$3,353,291		
	81	CE Contingency				\$335,329	10%	
SUBTOTAL	82					\$63,198,356		
Right-of-Way	83	Administration	0	Parcel	\$2,500	\$0	See Appendix B for details	
	84	Homes	1	Lump	\$6,151,407	\$6,151,407	26 homes directly impacted. Potentials were not included. Used 2011 assessed values.	
	85	Relocation (Homes)	26	Each	\$30,000	\$780,000	Residential Relocations	
	86	Commercial	0	Lump	\$0	\$0		
	87	Relocation (Commercial)	0	Each	\$100,000	\$0	Commercial	
	88	Land (vacant)	1	Lump	\$9,221,274	\$9,221,274	Assumed costs from land use costs/sqft.	
	89	Platted Relocations	13	Lump	\$70,000	\$910,000	\$70,000/plat was based off of 2011 assessed values for plats in West Haven.	
	90	Relocation (Special Use)	1	Lump	\$100,000	\$100,000	Hooper Park relocation.	
	91	R/W Contingency				\$2,574,402	15%	
	92	Total Roadway Elements--2012 USD				\$82,935,439		
	93	Total Roadway Elements--2013 USD				\$85,838,180		



Segment Name: Segment 07
 Project Segment: 5500 S / 5300 W (Hooper) to 4700 W / 4000 S (West Haven)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
Demolition and Removal	1	Cleaning and Grubbing	53	Acres	\$1,500.00	\$79,390		\$562,530
	2	Demolition of Buildings	24	Each	\$18,000.00	\$432,000	17 residences and 7 outbuildings.	
	3	Demolition of Bridges	0	Ft ²	\$12.00	\$0		
	4	Demolition and Removal Contingency				\$51,139	10%	
Earthwork and Grading	5	Roadway Excavation	37,352	Yd ³	\$6.00	\$224,112		\$14,933,481
	6	Roadway Borrow	761,353	Yd ³	\$16.82	\$12,240,523		
	7	Embankment for Bridge	50,667	Yd ³	\$21.00	\$1,064,007		
	8	Pond Excavation	6,300	Yd ³	\$7.50	\$47,250		
	9	Earthwork and Grading Contingency				\$1,357,589	10%	
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	3,450	Ft	\$100.00	\$345,000	Includes major drainage components	\$5,430,700
	11	Box Culverts, Small (<10' span)	460	Ft	\$850.00	\$391,000		
	12	Box Culverts, Medium (10' span)	1,880	Ft	\$1,500.00	\$2,820,000		
	13	Box Culverts, Large (12' span)	0	Ft	\$2,000.00	\$0		
	14	Canals (earth)	1,600	Ft	\$35.00	\$56,000		
	15	Canals (concrete)	2,650	Ft	\$500.00	\$1,325,000		
	16	Canal Pipeline Relocation	0	Ft	\$220.00	\$0		
	17	Stream Relocation	0	Ft	\$525.00	\$0		
	18	Drainage Contingency				\$493,700	10%	
Pavement (Mainline, Ramps, and CDs)	19	Pavement and Base	1,355,781	Ft ²	\$8.12	\$11,008,942		\$16,345,215
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	404,448	Ft ²	\$9.52	\$3,850,345		
	21	Paving Contingency				\$1,485,929	10%	
Structures	22	Bridge (2nd Level Concrete)	47,312	Ft ²	\$205.00	\$9,698,960		\$17,559,256
	23	Bridge (2nd Level Steel)	0	Ft ²	\$265.00	\$0		
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0		
	25	Bridge (3rd Level Steel)	0	Ft ²	\$265.00	\$0		
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0		
	27	Crossing Structures trails	0	Ft ²	\$210.00	\$0		
	28	Retaining Walls	108,000	Ft ²	\$58.00	\$6,264,000		
	29	Noise Walls	0	Ft	\$360.00	\$0		
	30	Structure Contingency				\$1,596,296	10%	
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		\$0
	32	Geotechnical Treatments Contingency				\$0	20%	
Interstate Utility Relocations	33	RR Relocation	0	Miles	\$1,000,000.00	\$0		\$0
	34	Power Pole Relocation	0	Each	\$400,000.00	\$0		
	35	Pacificorp 138kV	0	FT	\$400.00	\$0		
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0		
	37	Interstate Utility Relocation Contingency				\$0	40%	
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$1,246,463.49	\$1,246,463	Assumed to be 10% of earthwork and grading	\$1,433,433
	39	General Utility Adjustment / Relocation Contingency				\$186,970	15%	
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	9,222	Ft	\$30.00	\$276,660		
	41	Signing (Arterials)	3,842	Ft	\$15.00	\$57,630		
	42	Signing (Service Interchange)	1	Each	\$150,000.00	\$150,000		
	43	Signing (System Interchange)	0	Each	\$175,000.00	\$0		
	44	Striping (Mainline and CDs)	38,205	Ft	\$0.16	\$6,113		
	45	Striping (Arterials, Local Streets and Frontage)	25,470	Ft	\$0.20	\$5,094		
	46	Lighting (Mainline and CDs)	4	Each	\$50,000.00	\$200,000	Assume 4 highmasts per deceleration lane at interchange locations only	
	47	Lighting (Arterials)	4,093	Ft	\$30.00	\$122,790		
48	Lighting and Signals (SPUI Interchange)	0	Each	\$160,000.00	\$0			



Segment Name: Segment 07
 Project Segment: 5500 S / 5300 W (Hooper) to 4700 W / 4000 S (West Haven)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
	49	Lighting and Signals (Diamond Interchange)	1	Each	\$140,000.00	\$140,000		
	50	ATMS (Mainline)	9,222	Ft	\$20.00	\$184,440		
	51	ATMS (Arterials)	3,842	Ft	\$20.00	\$76,840		
	52	ATMS (Connection to existing backbone)	0	Lump	\$1,000,000.00	\$0		
	53	ATMS HUB Buildings	0	Each	\$75,000.00	\$0		
	54	ATMS CCTV	0	Each	\$20,000.00	\$0		
	55	ATMS VMS	0	Each	\$250,000.00	\$0		
	56	Traffic Control/ ATMS Contingency				\$121,957	10%	\$1,341,523
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	36,400	Ft	\$13.50	\$491,400		
	58	Sidewalk	36,400	Ft	\$20.00	\$728,000		
	59	Concrete Barrier	7,500	Ft	\$35.00	\$262,500		
	60	ROW Fence	20,288	Ft	\$5.00	\$101,442		
	61	Landscaping Interchanges	1	Each	\$350,000.00	\$350,000		
	62	Landscaping	15,683	Ft	\$1.20	\$18,820		
	63	Trail	0	Ft ²	\$0.70	\$0		
	64	General Other Contingency				\$195,216	10%	\$2,147,378
Mitigation and Remediation	65	Wetland	0	Acres	\$75,000.00	\$45,000		
	66	Historic Buildings	0	Each	\$10,000.00	\$0		
	67	Archaeological	1	Each	\$30,000.00	\$30,000		
	68	Hazmat	0	Each	\$50,000.00	\$0		
	69	xxx	0	Lump	2.00%	\$0		
	70	Environmental Remediation/Mitigation Contingency				\$11,250	15%	\$86,250
	71	Subtotal				\$59,839,766		\$59,277,237
	72	5.25%	Mobilization			\$3,141,588		
	73	Contractor Mobilization Contingency				\$157,079	5%	
	74	2.25%	Traffic Control			\$1,346,395		
	75	Traffic Control Contingency				\$134,639	10%	
	76	0.50%	Survey			\$299,199		
	77	Subtotal				\$64,619,468		
	78	6.00%	Design Egr.			\$3,877,168		
	79	PE Contingency				\$310,173	8%	
	80	6.00%	Const. Egr.			\$3,877,168		
	81	CE Contingency				\$387,717	10%	
SUBTOTAL	82					\$73,071,694		
Right-of-Way	83	Administration	0	Parcel	\$2,500	\$0	See Appendix B for details	
	84	Homes	1	Lump	\$3,676,738	\$3,676,738	17 directly impacted houses. Used 2011 assessed values.	
	85	Relocation (Homes)	17	Each	\$30,000	\$510,000	Residential Relocations	
	86	Commercial	0	Lump	\$0	\$0		
	87	Relocation (Commercial)	0	Each	\$100,000	\$0	Commercial	
	88	Land (vacant)	1	Lump	\$11,296,671	\$11,296,671	Assumed costs from land use costs/sqft.	
	89	Platted Relocations	2	Lump	\$70,000	\$140,000	\$70,000/plat was based off of 2011 assessed values for plats in West Haven.	
	90	Relocation (Special Use)	1	Lump	\$200,000	\$200,000	2 park relocations in West Haven.	
	91	R/W Contingency				\$2,373,511	15%	
	92	Total Roadway Elements--2012 USD				\$91,268,614		
	93	Total Roadway Elements--2013 USD				\$94,463,016		



Segment Name: Segment 08
 Project Segment: 700 S to 5500 S / 5100 W (Hooper)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
Demolition and Removal	1	Cleaning and Grubbing	134	Acres	\$1,500.00	\$200,508		
	2	Demolition of Buildings	16	Each	\$18,000.00	\$288,000	10 houses and six outbuildings/agricultural structures.	
	3	Demolition of Bridges	0	Ft ²	\$12.00	\$0		
	4	Demolition and Removal Contingency				\$48,851	10%	\$537,359
Earthwork and Grading	5	Roadway Excavation	56,522	Yd ³	\$6.00	\$339,132		
	6	Roadway Borrow	1,690,954	Yd ³	\$16.82	\$27,586,216		
	7	Embankment for Bridge	101,333	Yd ³	\$21.00	\$2,127,993		
	8	Pond Excavation	15,700	Yd ³	\$7.50	\$117,750		
	9	Earthwork and Grading Contingency				\$3,017,109	10%	\$33,188,200
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	5,950	Ft	\$100.00	\$595,000	Includes major drainage components	
	11	Box Culverts, Small (<10' span)	0	Ft	\$850.00	\$0		
	12	Box Culverts, Medium (10' span)	1,720	Ft	\$1,500.00	\$2,580,000		
	13	Box Culverts, Large (12' span)	0	Ft	\$2,000.00	\$0		
	14	Canals (earth)	0	Ft	\$35.00	\$0		
	15	Canals (concrete)	1,850	Ft	\$500.00	\$925,000		
	16	Canal Pipeline Relocation	0	Ft	\$220.00	\$0		
	17	Stream Relocation	0	Ft	\$525.00	\$0		
	18	Drainage Contingency				\$410,000	10%	\$4,510,000
Pavement (Mainline, Ramps, and CDs)	19	Pavement and Base	2,290,207	Ft ²	\$8.12	\$18,596,481		
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	93,891	Ft ²	\$9.52	\$893,842		
	21	Paving Contingency				\$1,949,032	10%	
Structures	22	Bridge (2nd Level Concrete)	66,531	Ft ²	\$205.00	\$13,638,855		
	23	Bridge (2nd Level Steel)	0	Ft ²	\$265.00	\$0		
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0		
	25	Bridge (3rd Level Steel)	0	Ft ²	\$265.00	\$0		
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0		
	27	Crossing Structures trails	0	Ft ²	\$210.00	\$0		
	28	Retaining Walls	252,000	Ft ²	\$58.00	\$14,616,000		
	29	Noise Walls	0	Ft	\$360.00	\$0		
	30	Structure Contingency				\$2,825,486	10%	\$31,080,341
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		
	32	Geotechnical Treatments Contingency				\$0	20%	
Interstate Utility Relocations	33	RR Relocation	0	Miles	\$1,000,000.00	\$0		
	34	Power Pole Relocation	0	Each	\$400,000.00	\$0		
	35	Pacificorp 138kV	0	FT	\$400.00	\$0		
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0		
	37	Interstate Utility Relocation Contingency				\$0	40%	\$0
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$2,792,534.82	\$2,792,535	Assumed to be 10% of earthwork and grading	
	39	General Utility Adjustment / Relocation Contingency				\$418,880	15%	
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	23,291	Ft	\$30.00	\$698,730		
	41	Signing (Arterials)	4,292	Ft	\$15.00	\$64,380		
	42	Signing (Service Interchange)	1	Each	\$150,000.00	\$150,000		
	43	Signing (System Interchange)	0	Each	\$175,000.00	\$0		
	44	Striping (Mainline and CDs)	78,122	Ft	\$0.16	\$12,500		
	45	Striping (Arterials, Local Streets and Frontage)	52,081	Ft	\$0.20	\$10,416		
	46	Lighting (Mainline and CDs)	4	Each	\$50,000.00	\$200,000	Assume 4 highmasts per deceleration lane at interchange locations only	
	47	Lighting (Arterials)	4,355	Ft	\$30.00	\$130,650		
48	Lighting and Signals (SPUI Interchange)	0	Each	\$160,000.00	\$0			



Segment Name: Segment 08
 Project Segment: 700 S to 5500 S / 5100 W (Hooper)

Category	Line Number ¹	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
	49	Lighting and Signals (Diamond Interchange)	1	Each	\$140,000.00	\$140,000		
	50	ATMS (Mainline)	23,291	Ft	\$20.00	\$465,820		
	51	ATMS (Arterials)	4,292	Ft	\$20.00	\$85,840		
	52	ATMS (Connection to existing backbone)	0	Lump	\$1,000,000.00	\$0		
	53	ATMS HUB Buildings	0	Each	\$75,000.00	\$0		
	54	ATMS CCTV	0	Each	\$20,000.00	\$0		
	55	ATMS VMS	0	Each	\$250,000.00	\$0		
	56	Traffic Control/ ATMS Contingency				\$195,834	10%	\$2,154,169
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	8,750	Ft	\$13.50	\$118,125		
	58	Sidewalk	8,750	Ft	\$20.00	\$175,000		
	59	Concrete Barrier	20,000	Ft	\$35.00	\$700,000		
	60	ROW Fence	51,240	Ft	\$5.00	\$256,201		
	61	Landscaping Interchanges	1	Each	\$350,000.00	\$350,000		
	62	Landscaping	20,455	Ft	\$1.20	\$24,546		
	63	Trail	0	Ft ²	\$0.70	\$0		
	64	General Other Contingency				\$162,387	10%	\$1,786,259
Mitigation and Remediation	65	Wetland	10	Acres	\$75,000.00	\$1,560,000		
	66	Historic Buildings	0	Each	\$10,000.00	\$0		
	67	Archaeological	1	Each	\$30,000.00	\$30,000		
	68	Hazmat	0	Each	\$50,000.00	\$0		
	69	xxx	0	Lump	2.00%	\$0		
	70	Environmental Remediation/Mitigation Contingency				\$238,500	15%	\$1,828,500
	71	Subtotal				\$99,735,599		\$99,198,240
	72	5.25%	Mobilization			\$5,236,119		
	73	Contractor Mobilization Contingency				\$261,806	5%	
	74	2.25%	Traffic Control			\$2,244,051		
	75	Traffic Control Contingency				\$224,405	10%	
	76	0.50%	Survey			\$498,678		
	77	Subtotal				\$107,701,980		
	78	6.00%	Design Egr.			\$6,462,119		
	79	PE Contingency				\$516,970	8%	
	80	6.00%	Const. Egr.			\$6,462,119		
	81	CE Contingency				\$646,212	10%	
SUBTOTAL	82					\$121,789,398		
Right-of-Way	83	Administration	0	Parcel	\$2,500	\$0	See Appendix B for details	
	84	Homes	1	Lump	\$2,236,114	\$2,236,114	10 homes directly impacted. Used 2011 assessed values.	
	85	Relocation (Homes)	10	Each	\$30,000	\$300,000	Residential Relocations	
	86	Commercial	0	Lump	\$0	\$0		
	87	Relocation (Commercial)	0	Each	\$100,000	\$0	Commercial	
	88	Land (vacant)	1	Lump	\$10,305,570	\$10,305,570	Assumed costs from land use costs/sqft.	
	89	Platted Relocations	22	Lump	\$50,000	\$1,100,000	Used average West Point plat values.	
	90	Relocation (Special Use)	0	Lump		\$0	Special Use	
	91	R/W Contingency				\$2,091,253	15%	
	92	Total Roadway Elements--2012 USD				\$137,822,335		
	93	Total Roadway Elements--2013 USD				\$142,646,117		



Segment Name:
 Project Segment:

Segment 09
 700 S to 5500 S / 5100 W (Hooper)

Category	Line Number	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost	
Demolition and Removal	1	Clearing and Grubbing	119	Acres	\$1,500.00	\$178,994		\$691,894	
	2	Demolition of Buildings	25	Each	\$18,000.00	\$450,000	13 houses and 12 outbuildings or agricultural structures.		
	3	Demolition of Bridges	0	Ft ²	\$12.00	\$0			
	4	Demolition and Removal Contingency					\$62,899	10%	
Earthwork and Grading	5	Roadway Excavation	50,597	Yd ³	\$6.00	\$303,582		\$27,628,440	
	6	Roadway Borrow	1,429,411	Yd ³	\$16.82	\$23,276,756			
	7	Embankment for Bridge	67,556	Yd ³	\$21.00	\$1,418,676			
	8	Pond Excavation	15,700	Yd ³	\$7.50	\$117,750			
	9	Earthwork and Grading Contingency					\$2,511,676	10%	
General Drainage	10	Pipe Culverts, Catch Basins, etc. 18" to 60"	2,590	Ft	\$100.00	\$259,000	Includes major drainage components	\$2,512,400	
	11	Box Culverts, Small (<10' span)	0	Ft	\$850.00	\$0			
	12	Box Culverts, Medium (10' span)	1,050	Ft	\$1,500.00	\$1,575,000			
	13	Box Culverts, Large (12' span)	0	Ft	\$2,000.00	\$0			
	14	Canals (earth)	0	Ft	\$35.00	\$0			
	15	Canals (concrete)	900	Ft	\$500.00	\$450,000			
	16	Canal Pipeline Relocation	0	Ft	\$220.00	\$0			
	17	Stream Relocation	0	Ft	\$525.00	\$0			
	18	Drainage Contingency					\$228,400	10%	
Pavement (Mainline, Ramps, and CDs)	19	Pavement and Base	2,105,599	Ft ²	\$8.12	\$17,097,464		\$19,823,612	
Pavement (Arterials, Local Streets and Frontage Roads)	20	Pavement and Base	97,059	Ft ²	\$9.52	\$924,002			
	21	Paving Contingency					\$1,802,147		10%
Structures	22	Bridge (2nd Level Concrete)	50,033	Ft ²	\$205.00	\$10,256,765		\$22,766,442	
	23	Bridge (2nd Level Steel)	0	Ft ²	\$265.00	\$0			
	24	Shoofly for Railroad Bridge	0	Each	\$700,000.00	\$0			
	25	Bridge (3rd Level Steel)	0	Ft ²	\$265.00	\$0			
	26	Bridge (Railroad)	0	Ft ²	\$540.00	\$0			
	27	Crossing Structures trails	0	Ft ²	\$210.00	\$0			
	28	Retaining Walls	180,000	Ft ²	\$58.00	\$10,440,000			
	29	Noise Walls	0	Ft	\$360.00	\$0			
	30	Structure Contingency					\$2,069,677	10%	
Geotechnical Treatments	31	Geotextile Material/Wick Drains	0	Ft ²	\$5.00	\$0		\$0	
	32	Geotechnical Treatments Contingency					\$0		20%
Interstate Utility Relocations	33	RR Relocation	0	Miles	\$1,000,000.00	\$0		\$0	
	34	Power Pole Relocaion	0	Each	\$400,000.00	\$0			
	35	Pacificorp 138kV	0	FT	\$400.00	\$0			
	36	Pacificorp 345kV	0	Ft	\$680.00	\$0			
	37	Interstate Utility Relocation Contingency					\$0	40%	
General Utility Adjustments/Relocations	38	Adjust / Relocate Utility	1	Lump	\$2,358,033.76	\$2,358,034	Assumed to be 10% of earthwork and grading	\$2,711,739	
	39	General Utility Adjustment / Relocation Contingency					\$353,705		15%
Signing, Striping, Lighting, Signals, and ATMS	40	Signing (Mainline and CDs)	20,792	Ft	\$30.00	\$623,760		\$2,711,739	
	41	Signing (Arterials)	4,416	Ft	\$15.00	\$66,240			
	42	Signing (Service Interchange)	1	Each	\$150,000.00	\$150,000			
	43	Signing (System Interchange)	0	Each	\$175,000.00	\$0			
	44	Striping (Mainline and CDs)	78,122	Ft	\$0.16	\$12,500			
	45	Striping (Arterials, Local Streets and Frontage)	52,081	Ft	\$0.20	\$10,416			
	46	Lighting (Mainline and CDs)	4	Each	\$50,000.00	\$200,000	Assume 4 highmasts per deceleration lane at interchange locations only		
	47	Lighting (Arterials)	4,417	Ft	\$30.00	\$132,510			
	48	Lighting and Signals (SPUI Interchange)	0	Each	\$160,000.00	\$0			
49	Lighting and Signals (Diamond Interchange)	1	Each	\$140,000.00	\$140,000				



Segment Name:
 Project Segment:

Segment 09
 700 S to 5500 S / 5100 W (Hooper)

Category	Line Number	Item Description	Quantity	Units	Unit Cost	Extended Cost	Notes	Category Cost
	50	ATMS (Mainline)	20,792	Ft	\$20.00	\$415,840		
	51	ATMS (Arterials)	4,416	Ft	\$20.00	\$88,320		
	52	ATMS (Connection to existing backbone)	0	Lump	\$1,000,000.00	\$0		
	53	ATMS HUB Buildings	0	Each	\$75,000.00	\$0		
	54	ATMS CCTV	0	Each	\$20,000.00	\$0		
	55	ATMS VMS	0	Each	\$250,000.00	\$0		
	56	Traffic Control/ ATMS Contingency				\$183,959	10%	\$2,023,544
General Other	57	Concrete Curb & Gutter (Local Streets and Frontage Roads)	8,850	Ft	\$13.50	\$119,475		
	58	Sidewalk	8,850	Ft	\$20.00	\$177,000		
	59	Concrete Barrier	10,000	Ft	\$35.00	\$350,000		
	60	ROW Fence	45,742	Ft	\$5.00	\$228,712		
	61	Landscaping Interchanges	1	Each	\$350,000.00	\$350,000		
	62	Landscaping	18,443	Ft	\$1.20	\$22,132		
	63	Trail	0	Ft ²	\$0.70	\$0		
	64	General Other Contingency				\$124,732	10%	\$1,372,050
Mitigation and Remediation	65	Wetland	15	Acres	\$75,000.00	\$2,205,000		
	66	Historic Buildings	0	Each	\$10,000.00	\$0		
	67	Archaeological	1	Each	\$30,000.00	\$30,000		
	68	Hazmat	0	Each	\$50,000.00	\$0		
	69	xxx	0	Lump	2.00%	\$0		
	70	Environmental Remediation/Mitigation Contingency				\$335,250	15%	\$2,570,250
	71	Subtotal				\$82,100,371		\$81,408,477
	72	5.25% Mobilization				\$4,310,269		
	73	Contractor Mobilization Contingency				\$215,513	5%	
	74	2.25% Traffic Control				\$1,847,258		
	75	Traffic Control Contingency				\$184,726	10%	
	76	0.50% Survey				\$410,502		
	77	Subtotal				\$88,658,138		
	78	6.00% Design Egr.				\$5,319,488		
	79	PE Contingency				\$425,559	8%	
	80	6.00% Const. Egr.				\$5,319,488		
	81	CE Contingency				\$531,949	10%	
SUBTOTAL	82	Subtotal				\$100,254,623		
Right-of-Way	83	Administration	0	Parcel	\$2,500	\$0	See Appendix B for details	
	84	Homes	1	Lump	\$2,947,964	\$2,947,964	13 homes. Used 2011 assessed values.	
	85	Relocation (Homes)	13	Each	\$30,000	\$390,000	Residential Relocations	
	86	Commercial	1	Lump	\$400,000	\$400,000	Partial impact to Crane Field Golf Course. Used value of \$200,000/acre to assume the relocation of 2 holes of the golf course.	
	87	Relocation (Commercial)	0	Each	\$100,000	\$0	Commercial	
	88	Land (vacant)	1	Lump	\$12,426,234	\$12,426,234	Assumed costs from land use costs/sqft.	
	89	Platted Relocations	21	Lump	\$50,000	\$1,050,000	Used average West Point plat cost from 2011.	
	90	Relocation (Special Use)	0	Lump		\$0	Special Use	
		91	R/W Contingency				\$2,582,130	
	92	Total Roadway Elements--2012 USD				\$120,050,950		
	93	Total Roadway Elements--2013 USD				\$124,252,734		