

# **Appendix F**

## **Cost Estimates**



**Mack Drive Extension  
Estimated Alternative Costs**

	Alternative A Mack alignment	Alternative B1 Clapp Alignment southern route	Alternative B2 Clapp Alignment northern route	Fairview Loop Reconstruction
Right of Way	\$2,265,018.00	\$911,272.00	\$799,285.00	\$771,644.00
Utilities	\$635,880.00	\$732,580.00	\$732,580.00	\$112,000.00
Design & Const. Engineering	\$2,164,248.48	\$2,477,442.88	\$2,412,382.94	\$778,246.96
Construction & Contingency	\$6,578,281.60	\$7,525,562.90	\$7,308,696.46	\$2,482,156.51
Wetland	\$32,000.00	\$26,400.00	\$26,400.00	\$0.00
Subtotal	\$11,675,428.08	\$11,673,257.78	\$11,279,344.40	\$4,144,047.47
Fairview Loop	\$4,144,047.47	\$4,144,047.47	\$4,144,047.47	
<b>TOTAL</b>	<b>\$15,819,475.55</b>	<b>\$15,817,305.25</b>	<b>\$15,423,391.87</b>	



**Mack Drive Extension  
Alternative A**

**ALTERNATIVE A STA 10+49 TO 78+50 = 6801 LF**

Item Number	Item Description	Pay Unit	Quantity	Unit Price	Amount
201 (3A)	Clearing and Grubbing	Acre	19	\$4,000.00	\$76,000.00
202 (2)	Removal of Pavement	Square Yard	1,548	\$4.00	\$6,192.00
203 (3)	Unclassified Excavation	Cubic Yard	185,034	\$6.00	\$1,110,204.00
203 (6A)	Borrow, Type A	Ton	104,950	\$13.00	\$1,364,350.00
203(6C)	Dispose of unusable excavation	Cubic Yard	83,846	\$4.00	\$335,384.00
301 (1)	Aggregate Base Course, Grading D-1	Ton	10,644	\$20.00	\$212,880.00
401 (1A)	Hot Mix Asphalt, Type II, Class A	Ton	3,667	\$90.00	\$330,030.00
401 (1A)	Hot Mix Asphalt, Type II, Class B (pathway)	Ton	1,060	\$90.00	\$95,400.00
401 (2)	Asphalt Cement, Grade PG 52-28	Ton	202	\$600.00	\$121,200.00
401 (2)	Asphalt Cement, Grade PG 52-28 (pathway)	Ton	58	\$600.00	\$34,800.00
602(144)	Structural Plate Pipe 144" Diameter	Lump Sum	All Required	\$233,500.00	\$233,500.00
606(1)	W-Beam Guardrail	Linear Foot	1,832	\$45.00	\$82,440.00
615 (1)	Standard Sign	Square Foot	180	\$90.00	\$16,200.00
618 (2)	Seeding	Pound	2,336	\$50.00	\$116,800.00
618 (3)	Water For Seeding	M Gal.	584	\$30.00	\$17,520.00
620 (1)	Topsoil	Square Yard	64,899	\$1.50	\$97,348.50
640 (1)	Mobilization And Demobilization	Lump Sum	All Required	\$237,872.63	\$237,872.63
641 (1)	Erosion And Pollution Control	Lump Sum	All Required	\$95,149.05	\$95,149.05
642 (1)	Construction Surveying	Lump Sum	All Required	\$95,149.05	\$95,149.05
643 (25)	Traffic Control	Lump Sum	All Required	\$190,298.10	\$190,298.10
670 (10)	Pavement Markings	Lump Sum	All Required	\$32,204.00	\$32,204.00
900(xx)	Intersection Signalization & Illumination Complete	Lump Sum	All Required	\$475,000.00	\$475,000.00
	Relocate UG Telephone	Linear Foot	7,310	\$20.00	\$146,200.00
	Relocate UG Fiber Optic	Linear Foot	400	\$100.00	\$40,000.00
	Relocate CATV	Linear Foot	2,200	\$20.00	\$44,000.00
	Relocate UG Gas	Linear Foot	4,828	\$30.00	\$144,840.00
	Relocate UG Electrical	Linear Foot	3,828	\$30.00	\$114,840.00
	Relocate 1-phase Electric Pole	Each	5	\$7,000.00	\$35,000.00
	Relocate 3-phase Electric Pole	Each	3	\$12,000.00	\$36,000.00
	Relocate 115KV Electric Transmission Pole	Each	1	\$75,000.00	\$75,000.00
	Utility Relocate subtotal				<b>\$635,880.00</b>
					\$6,011,801.33
	Contingency			20.00%	\$1,202,360.27
					=====
					\$7,214,161.60
	Construction Engineering			15.00%	\$1,082,124.24
	Design Engineering			15.00%	\$1,082,124.24
					=====
					\$9,378,410.08
	<b>WETLAND MITGATION</b>	Acre	1.6	\$20,000.00	\$32,000.00
	<b>ROW</b>				
	Acquire full parcel (5 parcels)	Acre	18		\$2,095,950.00
	Acquire partial parcel (24 parcels)	Acre	10		\$169,068.00
	<b>SUBTOTAL- ALTERNATIVE A</b>				<b>\$11,675,428.08</b>
	<b>FAIRVIEW LOOP RECONSTRUCTION</b>	Lump Sum	All Required		<b>\$4,144,047.47</b>
	<b>TOTAL</b>				<b>\$15,819,475.55</b>

**Mack Drive Extension  
Alternative B1**

**ALTERNATIVE B1 STA 56+39.7 TO 14+464 = 8,824 LF**

Item Number	Item Description	Pay Unit	Quantity	Unit Price	Amount
201 (3A)	Clearing and Grubbing	Acre	27	\$4,000.00	\$108,000.00
202 (2)	Removal of Pavement	Square Yard	3,542	\$4.00	\$14,168.00
203 (3)	Unclassified Excavation	Cubic Yard	240,344	\$6.00	\$1,442,064.00
203 (6A)	Borrow, Type A	Ton	136,467	\$13.00	\$1,774,071.00
203(6C)	Dispose of unusable excavation	Cubic Yard	86,374	\$4.00	\$345,496.00
301 (1)	Aggregate Base Course, Grading D-1	Ton	13,278	\$20.00	\$265,560.00
401 (1A)	Hot Mix Asphalt, Type II, Class A	Ton	4,575	\$90.00	\$411,750.00
401 (1A)	Hot Mix Asphalt, Type II, Class B (pathway)	Ton	1,369	\$90.00	\$123,210.00
401 (2)	Asphalt Cement, Grade PG 52-28	Ton	252	\$600.00	\$151,200.00
401 (2)	Asphalt Cement, Grade PG 52-28 (pathway)	Ton	75	\$600.00	\$45,000.00
602(144)	Structural Plate Pipe 144" Diameter	Lump Sum	All Required	\$299,500.00	\$299,500.00
606(1)	W-Beam Guardrail	Linear Foot	2,167	\$45.00	\$97,515.00
615 (1)	Standard Sign	Square Foot	270	\$90.00	\$24,300.00
618 (2)	Seeding	Pound	3,022	\$50.00	\$151,100.00
618 (3)	Water For Seeding	M Gal.	755	\$30.00	\$22,650.00
620 (1)	Topsoil	Square Yard	83,930	\$1.50	\$125,895.00
640 (1)	Mobilization And Demobilization	Lump Sum	All Required	\$272,088.75	\$272,088.75
641 (1)	Erosion And Pollution Control	Lump Sum	All Required	\$108,835.50	\$108,835.50
642 (1)	Construction Surveying	Lump Sum	All Required	\$108,835.50	\$108,835.50
643 (25)	Traffic Control	Lump Sum	All Required	\$217,671.00	\$217,671.00
670 (10)	Pavement Markings	Lump Sum	All Required	\$40,296.00	\$40,296.00
900(xx)	Intersection Signalization & Illumination Complete	Lump Sum	0	\$475,000.00	\$0.00
	Relocate UG Telephone	Linear Foot	5,540	\$20.00	\$110,800.00
	Relocate UG Fiber Optic	Linear Foot	0	\$100.00	\$0.00
	Relocate CATV	Linear Foot	1,950	\$20.00	\$39,000.00
	Relocate UG Gas	Linear Foot	1,726	\$30.00	\$51,780.00
	Relocate UG Electrical	Linear Foot	0	\$30.00	\$0.00
	Relocate 1-phase Electric Pole	Each	0	\$7,000.00	\$0.00
	Relocate 3-phase Electric Pole	Each	13	\$12,000.00	\$156,000.00
	Relocate 115KV Electric Transmission Pole	Each	5	\$75,000.00	\$375,000.00
	Utility Relocate subtotal				<b>\$732,580.00</b>
					\$6,881,785.75
	Contingency			20.00%	\$1,376,357.15
					=====
					\$8,258,142.90
	Construction Engineering			15.00%	\$1,238,721.44
	Design Engineering			15.00%	\$1,238,721.44
					=====
					\$10,735,585.78
	<b>WETLAND MITGATION</b>	Acre	1.32	\$20,000.00	\$26,400.00
	<b>ROW</b>				
	Acquire full parcel (3 parcels)	Acre	6		\$712,200.00
	Acquire partial parcel (22 parcels)	Acre	17		\$199,072.00
	<b>SUBTOTAL- ALTERNATIVE B1</b>				<b>\$11,673,257.78</b>
	<b>FAIRVIEW LOOP RECONSTRUCTION</b>	Lump Sum	All Required		<b>\$4,144,047.47</b>
	<b>TOTAL</b>				<b>\$15,817,305.25</b>

**Mack Drive Extension  
Alternative B2**

**ALTERNATIVE B2 STA 56+39.7 TO 149+79 = 9,339 LF**

Item Number	Item Description	Pay Unit	Quantity	Unit Price	Amount
201 (3A)	Clearing and Grubbing	Acre	29	\$4,000.00	\$116,000.00
202 (2)	Removal of Pavement	Square Yard	3,542	\$4.00	\$14,168.00
203 (3)	Unclassified Excavation	Cubic Yard	199,898	\$6.00	\$1,199,388.00
203 (6A)	Borrow, Type A	Ton	144,557	\$13.00	\$1,879,241.00
203(6C)	Dispose of unusable excavation	Ton	20,235	\$4.00	\$80,940.00
301 (1)	Aggregate Base Course, Grading D-1	Ton	14,051	\$20.00	\$281,020.00
401 (1A)	Hot Mix Asphalt, Type II, Class A	Ton	4,841	\$90.00	\$435,690.00
401 (1A)	Hot Mix Asphalt, Type II, Class B (pathway)	Ton	1,449	\$90.00	\$130,410.00
401 (2)	Asphalt Cement, Grade PG 52-28	Ton	266	\$600.00	\$159,600.00
401 (2)	Asphalt Cement, Grade PG 52-28 (pathway)	Ton	80	\$600.00	\$48,000.00
602(144)	Structural Plate Pipe 144" Diameter	Lump Sum	All Required	\$396,800.00	\$396,800.00
606(1)	W-Beam Guardrail	Linear Foot	3,260	\$45.00	\$146,700.00
615 (1)	Standard Sign	Square Foot	270	\$90.00	\$24,300.00
618 (2)	Seeding	Pound	3,300	\$50.00	\$165,000.00
618 (3)	Water For Seeding	M Gal.	825	\$30.00	\$24,750.00
620 (1)	Topsoil	Square Yard	91,654	\$1.50	\$137,481.00
640 (1)	Mobilization And Demobilization	Lump Sum	All Required	\$264,092.20	\$264,092.20
641 (1)	Erosion And Pollution Control	Lump Sum	All Required	\$105,636.88	\$105,636.88
642 (1)	Construction Surveying	Lump Sum	All Required	\$105,636.88	\$105,636.88
643 (25)	Traffic Control	Lump Sum	All Required	\$211,273.76	\$211,273.76
670 (10)	Pavement Markings	Lump Sum	All Required	\$42,356.00	\$42,356.00
900(xx)	Intersection Signalization & Illumination Complete	Lump Sum	0	\$475,000.00	\$0.00
	Relocate UG Telephone	Linear Foot	5,540	\$20.00	\$110,800.00
	Relocate UG Fiber Optic	Linear Foot	0	\$100.00	\$0.00
	Relocate CATV	Linear Foot	1,950	\$20.00	\$39,000.00
	Relocate UG Gas	Linear Foot	1,726	\$30.00	\$51,780.00
	Relocate UG Electrical	Linear Foot	0	\$30.00	\$0.00
	Relocate 1-phase Electric Pole	Each	0	\$7,000.00	\$0.00
	Relocate 3-phase Electric Pole	Each	13	\$12,000.00	\$156,000.00
	Relocate 115KV Electric Transmission Pole	Each	5	\$75,000.00	\$375,000.00
	Utility Relocate subtotal				<b>\$732,580.00</b>
	Contingency			20.00%	\$6,701,063.72 \$1,340,212.74
	Construction Engineering			15.00%	\$8,041,276.46 \$1,206,191.47
	Design Engineering			15.00%	\$1,206,191.47
					<b>\$10,453,659.40</b>
	<b>WETLAND MITGATION</b>	Acre	1.32	\$20,000.00	\$26,400.00
	<b>ROW</b>				
	Acquire full parcel (3 parcels)	Acre	6		\$712,200.00
	Acquire partial parcel (23 parcels)	Acre	13		\$87,085.00
	<b>SUBTOTAL- ALTERNATIVE B2</b>				<b>\$11,279,344.40</b>
	<b>FAIRVIEW LOOP RECONSTRUCTION</b>	Lump Sum	All Required		<b>\$4,144,047.47</b>
	<b>TOTAL</b>				<b>\$15,423,391.87</b>

**Mack Drive Extension  
Fairview Loop Reconstruction**

**ALTERNATIVE FVL STA 30+33 TO 56+39.7 = 2607 LF**

Item Number	Item Description	Pay Unit	Quantity	Unit Price	Amount
201 (3A)	Clearing and Grubbing	Acre	8	\$4,000.00	\$32,000.00
202 (2)	Removal of Pavement	Square Yard	3,898	\$4.00	\$15,592.00
203 (3)	Unclassified Excavation	Cubic Yard	33,506	\$6.00	\$201,036.00
203 (6A)	Borrow, Type A	Ton	39,305	\$13.00	\$510,965.00
203(6C)	Borrow, Type C	Ton	29,685	\$10.00	\$296,850.00
301 (1)	Aggregate Base Course, Grading D-1	Ton	3,976	\$20.00	\$79,520.00
401 (1A)	Hot Mix Asphalt, Type II, Class A	Ton	1,388	\$90.00	\$124,920.00
401 (1A)	Hot Mix Asphalt, Type II, Class B (pathway)	Ton	397	\$90.00	\$35,730.00
401 (2)	Asphalt Cement, Grade PG 52-28	Ton	76	\$600.00	\$45,600.00
401 (2)	Asphalt Cement, Grade PG 52-28 (pathway)	Ton	22	\$600.00	\$13,200.00
606(1)	W-Beam Guardrail	Linear Foot	1,805	\$45.00	\$81,225.00
615 (1)	Standard Sign	Square Foot	180	\$90.00	\$16,200.00
618 (2)	Seeding	Pound	809	\$50.00	\$40,450.00
618 (3)	Water For Seeding	M Gal.	202	\$30.00	\$6,060.00
620 (1)	Topsoil	Square Yard	22,478	\$1.50	\$33,717.00
640 (1)	Mobilization And Demobilization	Lump Sum	All Required	\$77,424.65	\$77,424.65
641 (1)	Erosion And Pollution Control	Lump Sum	All Required	\$30,969.86	\$30,969.86
642 (1)	Construction Surveying	Lump Sum	All Required	\$30,969.86	\$30,969.86
643 (25)	Traffic Control	Lump Sum	All Required	\$61,939.72	\$61,939.72
670 (10)	Pavement Markings	Lump Sum	All Required	\$15,428.00	\$15,428.00
900(xx)	Intersection Signalization & Illumination Complete	Lump Sum	All Required	\$300,000.00	\$300,000.00
	Relocate UG Telephone	Linear Foot	400	\$20.00	\$8,000.00
	Relocate UG Fiber Optic	Linear Foot	400	\$100.00	\$40,000.00
	Relocate CATV	Linear Foot	400	\$20.00	\$8,000.00
	Relocate UG Gas	Linear Foot	400	\$50.00	\$20,000.00
	Relocate UG Electrical	Linear Foot	0	\$30.00	\$0.00
	Relocate 1-phase Electric Pole	Each	0	\$7,000.00	\$0.00
	Relocate 3-phase Electric Pole	Each	3	\$12,000.00	\$36,000.00
	Relocate 115KV Electric Transmission Pole	Each	0	\$75,000.00	\$0.00
	Utility Relocate subtotal				<b>\$112,000.00</b>
					\$2,161,797.09
	Contingency			20.00%	\$432,359.42
					=====
					\$2,594,156.51
	Construction Engineering			15.00%	\$389,123.48
	Design Engineering			15.00%	\$389,123.48
					=====
					\$3,372,403.47
	<b>WETLAND MITIGATION</b>	Acre	0.0	\$20,000.00	\$0.00
	<b>ROW</b>				
	Acquire full parcel (3 parcels)	Acre	8		\$697,950.00
	Acquire partial parcel (10 parcels)	Acre	3		\$73,694.00
	<b>FAIRVIEW LOOP TOTAL</b>				<b>\$4,144,047.47</b>