

Appendix M: Bridge 183N and 179N Replacement Cost

Bridge Replacement Cost Estimate

056B00183N - I-65 over S Brook, E Kentucky St. - Option 1

| <u>Item</u> | <u>Quantity</u> | <u>Unit</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|-------------------------------|-----------------|-------------|------------------|-------------------|
| Removal of Existing Structure | 53660 | SQFT | \$25 | \$1,341,500 |
| I-65 Mainline - Steel Bridge | 41108 | SQFT | \$245 | \$10,071,460 |
| Ramp G - PSIB Bridge | 12893 | SQFT | \$150 | \$1,933,950 |
| PT Integral Straddle Piers | 2 | EA | \$300,000 | <u>\$600,000</u> |

Subtotal of Replacement Cost \$13,946,910

MOT, Mobilization, Demobilization, Clean/Repair Drainage, etc. = \$810,271

Contingency @ 10% = \$1,475,718

APPROXIMATE TOTAL CONTRACT = \$16,200,000

Bridge Replacement Cost Estimate

056B00183N - I-65 over S Brook, E Kentucky St. - Option 2

| <u>Item</u> | <u>Quantity</u> | <u>Unit</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|-------------------------------|-----------------|-------------|------------------|-------------------|
| Removal of Existing Structure | 53660 | Sqft | \$25 | \$1,341,500 |
| I-65 Mainline - Steel Bridge | 44575 | Sqft | \$250 | \$11,143,750 |
| Ramp G - PSIB Bridge | 12893 | Sqft | \$150 | \$1,933,950 |
| PT Integral Straddle Piers | 2 | EA | \$300,000 | <u>\$600,000</u> |

Subtotal of Replacement Cost \$15,019,200

MOT, Mobilization, Demobilization, Clean/Repair Drainage, etc. = \$863,885

Contingency @ 10% = \$1,588,309

APPROXIMATE TOTAL CONTRACT = \$17,400,000

Bridge Replacement Cost Estimate

056B00179N - I-65 over CSX Railroad, Burnett, Hill St. - Full Replacement

| <u>Item</u> | <u>Quantity</u> | <u>Unit</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|-------------------------------|-----------------|-------------|------------------|--------------------|
| Removal of Existing Structure | 39245 | Sqft | \$25 | \$981,125 |
| I-65 Mainline - PSIB Bridge | 40628 | Sqft | \$135 | <u>\$5,484,780</u> |

Subtotal of Replacement Cost \$6,465,905

MOT, Mobilization, Demobilization, Clean/Repair Drainage, etc. = \$454,239

Contingency @ 10% = \$692,014

APPROXIMATE TOTAL CONTRACT = \$7,600,000

Bridge Replacement Cost Estimate

056B00179N - I-65 over CSX Railroad, Burnett, Hill St. - Superstructure Replacement

| <u>Item</u> | <u>Quantity</u> | <u>Unit</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|-------------------------------|-----------------|-------------|------------------|-------------------|
| Removal of Existing Structure | 39245 | Sqft | \$15 | \$588,675 |
| PSIB Super | 40628 | Sqft | \$75 | \$3,047,100 |
| Intergal Endbent | 117 | LF | \$2,300 | \$269,100 |
| Concrete Patching Repair | 2347 | SQFT | \$147 | \$345,058 |
| Concrete Epoxy Injection | 300 | LF | \$107 | \$32,100 |
| Concrete Sealing | 8297 | SQFT | \$4.09 | \$33,935 |
| Reinf Conc Slope Wall | 16 | SQYD | \$240 | \$3,840 |
| Structure Granular Backfill | 6 | CUYD | \$62 | \$372 |
| Miscellaneous | 2000 | LS | \$1 | \$2,000 |
| Galvanci Protection - 30yr | 619 | LF | \$265 | <u>\$164,035</u> |

Subtotal of Superstructure Replacement Cost \$4,486,215

MOT, Mobilization, Demobilization, Clean/Repair Drainage, etc. = \$374,877

Contingency @ 10% = \$486,109

APPROXIMATE TOTAL CONTRACT = \$5,300,000

Bridge Construction Costs (2017 Dollars)

| Bridge Description | Avg. Cost (S.F. Deck Area) |
|--|----------------------------|
| Single Span PCI Beams on End Bents | \$225.00 |
| Single Span Spread Box Beams on End Bents | \$182.00 |
| Single Span Side By Side Box Beams on End Bents | \$220.00 |
| Single Span PCI Beams on Breastwall Abutments | \$290.00 |
| Single Span Spread Box Beams on Breastwall Abutments | \$240.00 |
| Single Span Side By Side Box Beams on Breastwall Abutments | \$270.00 |
| Single Span Slab Bridge on Breastwall Abutments | \$285.00 |
| Multi-Span Bridge Costs are appropriate for Bridges with Lengths Greater than 200ft. A multi-span bridge with Lengths less than 200ft should use an average between the single span and multi span prices. | |
| Multi-Span PCI Beams on End Bents | \$130.00 |
| Multi-Span Spread Box Beams on End Bents | \$160.00 |
| Multi-Span Side By Side Box Beams on End Bents | \$200.00 |
| Multi-Span Spread Box Beams on Breastwall Abutments | \$200.00 |
| Multi-Span Side By Side Box Beams on Breastwall Abutments | \$220.00 |
| Welded Steel Plate Girders | \$250.00 |
| Cost Data Using 2017 Dollars. | |
| Increase cost by 5% every year if using Turner Building Cost Index. | |
| Increase cost by 13% per year if using Avg. Increase of 2014-2017 | |