

4th Street Bridge over the Arkansas River
SH96A Pueblo Colorado
Project Number BR-0961-008 (13141)

**PRELIMINARY COST ESTIMATE
STRUCTURE EVALUATION**

**Match Existing With Modified River Spans
Option: Precast Spliced Bulb-T**

| <u>ITEM</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>UNIT COST</u> | <u>TOTAL COST</u> | |
|-----------------------------|--|-----------------|------------------|-------------------|-----------------------|
| Substructure | | | | | |
| 206 | Structure Excavation | CY | 2,770 | \$15.00 | \$41,550.00 |
| 206 | Structure Backfill (Class 1) | CY | 630 | \$18.00 | \$11,340.00 |
| 206 | Structure Backfill (MSE) | CY | 2,221 | \$30.00 | \$66,630.00 |
| 206 | Shoring | LS | 1 | \$100,000.00 | \$100,000.00 |
| 503 | Drilled Caisson (54" Diameter) | LF | 925 | \$280.00 | \$259,000.00 |
| 503 | Drilled Caisson (36" Diameter) | LF | 520 | \$200.00 | \$104,000.00 |
| 507 | Concrete Slope Paving | CY | 70 | \$250.00 | \$17,500.00 |
| 512 | Bridge Bearing Device (Type I) | EA | 74 | \$500.00 | \$37,000.00 |
| 512 | Bridge Bearing Device (Type II) | EA | 44 | \$1,000.00 | \$44,000.00 |
| 601 | Concrete (Class D - Footings) | CY | 300 | \$300.00 | \$90,000.00 |
| 601 | Concrete (Class D - Abutments) | CY | 400 | \$325.00 | \$130,000.00 |
| 601 | Concrete (Class D - Piers & Pier Caps) | CY | 1,430 | \$375.00 | \$536,250.00 |
| 601 | Structural Concrete Coating | SF | 28,850 | \$0.50 | \$14,425.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 705,920 | \$0.55 | \$388,256.00 |
| Substructure Total | | | | | \$1,839,951.00 |
| Superstructure | | | | | |
| 403 | Hot Bituminous Pavement (Asphalt) | TON | 1,567 | \$35.00 | \$54,845.00 |
| 515 | Waterproofing (Membrane) | SY | 10,166 | \$10.00 | \$101,660.00 |
| 518 | Expansion Joint (0" to 9" Capacity) | LF | 202 | \$700.00 | \$141,400.00 |
| 518 | Expansion Joint (0" to 4" Capacity) | LF | 101 | \$150.00 | \$15,150.00 |
| 601 | Concrete (Class D - Deck) | CY | 3,522 | \$325.00 | \$1,144,650.00 |
| 601 | Concrete (Class D - Approach Slab) | CY | 196 | \$260.00 | \$50,960.00 |
| 601 | Concrete (Class D - Sidewalk) | CY | 420 | \$100.00 | \$42,000.00 |
| 601 | Structural Concrete Coating | SF | 110,200 | \$0.50 | \$55,100.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 1,280,000 | \$0.55 | \$704,000.00 |
| 606 | Bridge Railing (Median - Traffic) | LF | 1,178 | \$60.00 | \$70,680.00 |
| 606 | Bridge Railing (Exterior - Traffic) | LF | 2,356 | \$60.00 | \$141,360.00 |
| 606 | Bridge Railing (Pedestrian) | LF | 2,356 | \$100.00 | \$235,600.00 |
| 618 | Prestressed Concrete I (BT84) | LF | 8,822 | \$160.00 | \$1,411,520.00 |
| 618 | Prestressed Concrete I (BT84 - Post-Tensioned) | LF | 4,863 | \$230.00 | \$1,118,490.00 |
| 618 | Post-Tensioning Strand (Longitudinal) | LB | 72,820 | \$1.50 | \$109,230.00 |
| Superstructure Total | | | | | \$5,396,645.00 |
| Total | | | | | \$7,236,596.00 |
| Contingency (15%) | | | | | \$1,085,489.40 |
| Mobilization | | | | | \$1,500,000.00 |
| Grand Total | | | | | \$9,822,085.40 |
| Cost/SF (118,352 SF) | | | | | \$83 |



4th Street Bridge over the Arkansas River
SH96A Pueblo Colorado
Project Number BR-0961-008 (13141)

**PRELIMINARY COST ESTIMATE
STRUCTURE EVALUATION**

**Match Existing With Modified River Spans
Option: Precast Spliced U-Girder**

| <u>ITEM</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>UNIT COST</u> | <u>TOTAL COST</u> | |
|-----------------------------|--|-----------------|------------------|-------------------|------------------------|
| Substructure | | | | | |
| 206 | Structure Excavation | CY | 2,770 | \$15.00 | \$41,550.00 |
| 206 | Structure Backfill (Class 1) | CY | 630 | \$18.00 | \$11,340.00 |
| 206 | Structure Backfill (MSE) | CY | 2,221 | \$30.00 | \$66,630.00 |
| 206 | Shoring | LS | 1 | \$100,000.00 | \$100,000.00 |
| 503 | Drilled Caisson (54" Diameter) | LF | 925 | \$280.00 | \$259,000.00 |
| 503 | Drilled Caisson (36" Diameter) | LF | 520 | \$200.00 | \$104,000.00 |
| 507 | Concrete Slope Paving | CY | 70 | \$250.00 | \$17,500.00 |
| 512 | Bridge Bearing Device (Type I) | EA | 72 | \$500.00 | \$36,000.00 |
| 512 | Bridge Bearing Device (Type II) | EA | 72 | \$3,000.00 | \$216,000.00 |
| 601 | Concrete (Class D - Footings) | CY | 360 | \$300.00 | \$108,000.00 |
| 601 | Concrete (Class D - Abutments) | CY | 400 | \$325.00 | \$130,000.00 |
| 601 | Concrete (Class D - Piers & Pier Caps) | CY | 1,430 | \$375.00 | \$536,250.00 |
| 601 | Structural Concrete Coating | SF | 28,850 | \$0.50 | \$14,425.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 705,920 | \$0.55 | \$388,256.00 |
| Substructure Total | | | | | \$2,028,951.00 |
| Superstructure | | | | | |
| 403 | Hot Bituminous Pavement (Asphalt) | TON | 1,567 | \$35.00 | \$54,845.00 |
| 515 | Waterproofing (Membrane) | SY | 10,166 | \$10.00 | \$101,660.00 |
| 518 | Expansion Joint (0" to 12" Capacity) | LF | 202 | \$1,000.00 | \$202,000.00 |
| 601 | Concrete (Class D - Deck) | CY | 3,390 | \$325.00 | \$1,101,750.00 |
| 601 | Concrete (Class D - Approach Slab) | CY | 196 | \$260.00 | \$50,960.00 |
| 601 | Concrete (Class D - Sidewalk) | CY | 420 | \$100.00 | \$42,000.00 |
| 601 | Structural Concrete Coating | SF | 213,000 | \$0.50 | \$106,500.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 1,280,000 | \$0.55 | \$704,000.00 |
| 606 | Bridge Railing (Median - Traffic) | LF | 1,178 | \$60.00 | \$70,680.00 |
| 606 | Bridge Railing (Exterior - Traffic) | LF | 2,356 | \$60.00 | \$141,360.00 |
| 606 | Bridge Railing (Pedestrian) | LF | 2,356 | \$100.00 | \$235,600.00 |
| 618 | Prestressed Concrete U-Girder (Pretensioned) | LF | 4,161 | \$410.00 | \$1,706,010.00 |
| 618 | Prestressed Concrete U-Girder (Post-tensioned) | LF | 2,655 | \$500.00 | \$1,327,500.00 |
| 618 | Post-Tensioning Strand (Longitudinal) | LB | 52,960 | \$1.50 | \$79,440.00 |
| Superstructure Total | | | | | \$5,924,305.00 |
| Total | | | | | \$7,953,256.00 |
| Contingency (15%) | | | | | \$1,192,988.40 |
| Mobilization | | | | | \$1,500,000.00 |
| Grand Total | | | | | \$10,646,244.40 |
| Cost/SF (118,352 SF) | | | | | \$90 |



4th Street Bridge over the Arkansas River
 SH96A Pueblo Colorado
 Project Number BR-0961-008 (13141)

**PRELIMINARY COST ESTIMATE
 STRUCTURE EVALUATION**

**Moderate Span Layout 2
 Option: Steel Plate Girder**

| <u>ITEM</u> | <u>UNIT</u> | <u>QUANTITY</u> | <u>UNIT COST</u> | <u>TOTAL COST</u> | |
|-----------------------------|--|-----------------|------------------|-------------------|------------------------|
| Substructure | | | | | |
| 206 | Structure Excavation | CY | 2,750 | \$15.00 | \$41,250.00 |
| 206 | Structure Backfill (Class 1) | CY | 510 | \$18.00 | \$9,180.00 |
| 206 | Structure Backfill (MSE) | CY | 2,345 | \$30.00 | \$70,350.00 |
| 206 | Shoring | LS | 1 | \$80,000.00 | \$80,000.00 |
| 503 | Drilled Caisson (54" Diameter) | LF | 790 | \$280.00 | \$221,200.00 |
| 503 | Drilled Caisson (36" Diameter) | LF | 520 | \$200.00 | \$104,000.00 |
| 507 | Concrete Slope Paving | CY | 70 | \$250.00 | \$17,500.00 |
| 512 | Bridge Bearing Device (Type I) | EA | 30 | \$500.00 | \$15,000.00 |
| 601 | Concrete (Class D - Footings) | CY | 280 | \$300.00 | \$84,000.00 |
| 601 | Concrete (Class D - Abutments) | CY | 400 | \$325.00 | \$130,000.00 |
| 601 | Concrete (Class D - Piers & Pier Caps) | CY | 1,030 | \$375.00 | \$386,250.00 |
| 601 | Structural Concrete Coating | SF | 20,700 | \$0.50 | \$10,350.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 617,000 | \$0.55 | \$339,350.00 |
| Substructure Total | | | | | \$1,508,430.00 |
| Superstructure | | | | | |
| 403 | Hot Bituminous Pavement (Asphalt) | TON | 1,567 | \$35.00 | \$54,845.00 |
| 509 | Structural Steel (Plate Girders) | LB | 5,605,028 | \$1.10 | \$6,165,530.80 |
| 515 | Waterproofing (Membrane) | SY | 10,166 | \$10.00 | \$101,660.00 |
| 518 | Expansion Joint (0" to 9" Capacity) | LF | 202 | \$700.00 | \$141,400.00 |
| 601 | Concrete (Class D - Deck) | CY | 3,358 | \$325.00 | \$1,091,350.00 |
| 601 | Concrete (Class D - Approach Slab) | CY | 196 | \$260.00 | \$50,960.00 |
| 601 | Concrete (Class D - Sidewalk) | CY | 420 | \$100.00 | \$42,000.00 |
| 601 | Structural Concrete Coating | SF | 52,920 | \$0.50 | \$26,460.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 1,050,000 | \$0.55 | \$577,500.00 |
| 606 | Bridge Railing (Median - Traffic) | LF | 1,178 | \$60.00 | \$70,680.00 |
| 606 | Bridge Railing (Exterior - Traffic) | LF | 2,356 | \$60.00 | \$141,360.00 |
| 606 | Bridge Railing (Pedestrian) | LF | 2,356 | \$100.00 | \$235,600.00 |
| Superstructure Total | | | | | \$8,699,345.80 |
| Total | | | | | \$10,207,775.80 |
| Contingency (15%) | | | | | \$1,531,166.37 |
| Mobilization | | | | | \$1,500,000.00 |
| Grand Total | | | | | \$13,238,942.17 |
| Cost/SF (118,352 SF) | | | | | \$112 |



4th Street Bridge over the Arkansas River
SH96A Pueblo Colorado
Project Number BR-0961-008 (13141)

**PRELIMINARY COST ESTIMATE
STRUCTURE EVALUATION**

Moderate Span Layout 2
Option: Steel Box Girder

| <u>ITEM</u> | | <u>UNIT</u> | <u>QUANTITY</u> | <u>UNIT COST</u> | <u>TOTAL COST</u> |
|-----------------------------|--|-------------|-----------------|------------------|------------------------|
| Substructure | | | | | |
| 206 | Structure Excavation | CY | 2,750 | \$15.00 | \$41,250.00 |
| 206 | Structure Backfill (Class 1) | CY | 510 | \$18.00 | \$9,180.00 |
| 206 | Structure Backfill (MSE) | CY | 2,345 | \$30.00 | \$70,350.00 |
| 206 | Shoring | LS | 1 | \$80,000.00 | \$80,000.00 |
| 503 | Drilled Caisson (54" Diameter) | LF | 790 | \$280.00 | \$221,200.00 |
| 503 | Drilled Caisson (36" Diameter) | LF | 520 | \$200.00 | \$104,000.00 |
| 507 | Concrete Slope Paving | CY | 70 | \$250.00 | \$17,500.00 |
| 512 | Bridge Bearing Device (Type I) | EA | 30 | \$500.00 | \$15,000.00 |
| 601 | Concrete (Class D - Footings) | CY | 280 | \$300.00 | \$84,000.00 |
| 601 | Concrete (Class D - Abutments) | CY | 400 | \$325.00 | \$130,000.00 |
| 601 | Concrete (Class D - Piers & Pier Caps) | CY | 1,030 | \$375.00 | \$386,250.00 |
| 601 | Structural Concrete Coating | SF | 20,700 | \$0.50 | \$10,350.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 617,000 | \$0.55 | \$339,350.00 |
| Substructure Total | | | | | \$1,508,430.00 |
| Superstructure | | | | | |
| 403 | Hot Bituminous Pavement (Asphalt) | TON | 1,567 | \$35.00 | \$54,845.00 |
| 509 | Structural Steel (Plate Girders) | LB | 6,071,381 | \$1.25 | \$7,589,226.25 |
| 515 | Waterproofing (Membrane) | SY | 10,166 | \$10.00 | \$101,660.00 |
| 518 | Expansion Joint (0" to 9" Capacity) | LF | 202 | \$700.00 | \$141,400.00 |
| 601 | Concrete (Class D - Deck) | CY | 3,358 | \$325.00 | \$1,091,350.00 |
| 601 | Concrete (Class D - Approach Slab) | CY | 196 | \$260.00 | \$50,960.00 |
| 601 | Concrete (Class D - Sidewalk) | CY | 420 | \$100.00 | \$42,000.00 |
| 601 | Structural Concrete Coating | SF | 52,920 | \$0.50 | \$26,460.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 1,050,000 | \$0.55 | \$577,500.00 |
| 606 | Bridge Railing (Median - Traffic) | LF | 1,178 | \$60.00 | \$70,680.00 |
| 606 | Bridge Railing (Exterior - Traffic) | LF | 2,356 | \$60.00 | \$141,360.00 |
| 606 | Bridge Railing (Pedestrian) | LF | 2,356 | \$100.00 | \$235,600.00 |
| Superstructure Total | | | | | \$10,123,041.25 |
| Total | | | | | \$11,631,471.25 |
| Contingency (15%) | | | | | \$1,744,720.69 |
| Mobilization | | | | | \$1,500,000.00 |
| Grand Total | | | | | \$14,876,191.94 |
| Cost/SF (118,352 SF) | | | | | \$126 |



4th Street Bridge over the Arkansas River
SH96A Pueblo Colorado
Project Number BR-0961-008 (13141)

**PRELIMINARY COST ESTIMATE
STRUCTURE EVALUATION**

Long Span Layout 3
Cast-In-Place w/ Form Travelers

| <u>ITEM</u> | | <u>UNIT</u> | <u>QUANTITY</u> | <u>UNIT COST</u> | <u>TOTAL COST</u> |
|-----------------------------|---|-------------|-----------------|------------------|------------------------|
| Substructure | | | | | |
| 206 | Structure Excavation | CY | 3,802 | \$15.00 | \$57,030.00 |
| 206 | Structure Backfill (Class 1) | CY | 582 | \$18.00 | \$10,476.00 |
| 206 | Structure Backfill (MSE) | CY | 2,221 | \$30.00 | \$66,630.00 |
| 206 | Shoring | LS | 1 | \$80,000.00 | \$80,000.00 |
| 503 | Drilled Caisson (96" Diameter) | LF | 383 | \$650.00 | \$248,950.00 |
| 503 | Drilled Caisson (60" Diameter) | LF | 311 | \$320.00 | \$99,520.00 |
| 503 | Drilled Caisson (36" Diameter) | LF | 520 | \$200.00 | \$104,000.00 |
| 507 | Concrete Slope Paving | CY | 70 | \$250.00 | \$17,500.00 |
| 512 | Bridge Bearing Device (Type III) | EA | 8 | \$3,000.00 | \$24,000.00 |
| 601 | Concrete (Class D - Footings) | CY | 517 | \$300.00 | \$155,100.00 |
| 601 | Concrete (Class D - Piers & Abutments) | CY | 1,259 | \$325.00 | \$409,175.00 |
| 601 | Structural Concrete Coating | SF | 12,861 | \$0.50 | \$6,430.50 |
| 602 | Reinforcing (Epoxy Coated) | LB | 541,710 | \$0.55 | \$297,940.50 |
| Substructure Total | | | | | \$1,576,752.00 |
| Superstructure | | | | | |
| 403 | Hot Bituminous Pavement (Asphalt) | TON | 1,567 | \$35.00 | \$54,845.00 |
| 515 | Waterproofing (Membrane) | SY | 10,166 | \$10.00 | \$101,660.00 |
| 518 | Expansion Joint (0" to 12" Capacity) | LF | 204 | \$1,000.00 | \$204,000.00 |
| 601 | Concrete (Class S - Superstr. CIP) | CY | 8,259 | \$600.00 | \$4,955,400.00 |
| 601 | Concrete (Class D - Sidewalk) | CY | 420 | \$100.00 | \$42,000.00 |
| 601 | Concrete (Class D - Approach Slab) | CY | 196 | \$260.00 | \$50,960.00 |
| 601 | Structural Concrete Coating | SF | 199,592 | \$0.50 | \$99,796.00 |
| 602 | Reinforcing (Epoxy Coated) | LB | 1,582,450 | \$0.55 | \$870,347.50 |
| 606 | Bridge Railing (Exterior Traffic) | LF | 4,706 | \$60.00 | \$282,360.00 |
| 606 | Bridge Railing (Pedestrian) | LF | 2,353 | \$100.00 | \$235,300.00 |
| 607 | Fence Chain Link (Special - 60") | LF | 2,273 | \$30.00 | \$68,190.00 |
| 618 | Post-Tensioning Strand (Longitudinal) | LB | 680,221 | \$1.50 | \$1,020,331.50 |
| 618 | Post-Tensioning Strand (Transverse) | LB | 169,172 | \$1.75 | \$296,051.00 |
| 618 | Post-Tensioning Strand (Diaphragms) | LB | 8,048 | \$1.75 | \$14,084.00 |
| 618 | Post-Tensioning Strand (Bars - Diaphragm) | LB | 9,210 | \$5.00 | \$46,050.00 |
| 618 | Construction Equipment (Form Travelers) | LS | 1 | \$800,000.00 | \$800,000.00 |
| Superstructure Total | | | | | \$9,141,375.00 |
| Total | | | | | \$10,718,127.00 |
| Contingency (15%) | | | | | \$1,607,719.05 |
| Mobilization | | | | | \$1,500,000.00 |
| Grand Total | | | | | \$13,825,846.05 |
| Cost/SF (115923 SF) | | | | | \$119 |

