

Attachment C
Engineer's Opinion of Probable Costs

Resilient St. Vrain Project
City Reach 3 - Engineer's Opinion of Probable Costs if Split Flow Options are Constructed Separately

| DESCRIPTION | UNIT | \$/UNIT | Option 1A | | Option 1B | | Option 2A | | Option 2B | | Option 3A | | Option 3B | | Option 4A | | Option 4B | |
|---|------|----------------|-----------|---------------------|-----------|---------------------|-----------|---------------------|-----------|---------------------|-----------|---------------------|-----------|---------------------|-----------|---------------------|-----------|---------------------|
| | | | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL |
| CONSTRUCTION COMPONENTS | | | | | | | | | | | | | | | | | | |
| <i>Earthwork:</i> | | | | | | | | | | | | | | | | | | |
| Excavate Earthen Material, Haul, Place, and Compact On-Site | CY | \$12.50 | 15,802 | \$197,528 | 26,870 | \$335,877 | 18,823 | \$235,285 | 29,891 | \$373,633 | 73,246 | \$915,575 | 73,246 | \$915,575 | 91,244 | \$1,140,553 | 91,244 | \$1,140,553 |
| Excavate, Earthen Material, and Haul Off-Site | CY | \$18.00 | 356,809 | \$6,422,568 | 254,642 | \$4,583,550 | 264,749 | \$4,765,477 | 162,581 | \$2,926,459 | 0 | \$0 | 0 | \$0 | 71,031 | \$1,278,561 | 71,031 | \$1,278,561 |
| Import Fill Material, Place, and Compact On-Site | CY | \$30.00 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 145,148 | \$4,354,440 | 145,148 | \$4,354,440 | 0 | \$0 | 0 | \$0 |
| Topsoil or Subsoil, Excavate, Stockpile, Amendment, and Replace | CY | \$18.00 | 31,801 | \$572,415 | 28,805 | \$518,491 | 15,044 | \$270,792 | 14,038 | \$252,690 | 9,522 | \$171,404 | 9,753 | \$175,548 | 4,078 | \$73,402 | 5,053 | \$90,947 |
| <i>Riprap:</i> | | | | | | | | | | | | | | | | | | |
| Void Filled Riprap, Type M | CY | \$80.00 | 10,430 | \$834,400 | 10,430 | \$834,400 | 1,067 | \$85,333 | 1,067 | \$85,333 | 427 | \$34,133 | 427 | \$34,133 | 2,811 | \$224,889 | 2,811 | \$224,889 |
| Soil Riprap, Type M | CY | \$60.00 | 0 | \$0 | 0 | \$0 | 5,965 | \$357,900 | 5,965 | \$357,900 | 3,580 | \$214,800 | 3,580 | \$214,800 | 3,641 | \$218,460 | 3,641 | \$218,460 |
| <i>Bridges:</i> | | | | | | | | | | | | | | | | | | |
| Bridge Remove and Replace at Hover St. | EA | \$3,867,500.00 | 1 | \$3,867,500 | 1 | \$3,867,500 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| New Roadway Bridge at Hover St. | EA | \$2,762,500.00 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 1 | \$2,762,500 | 1 | \$2,762,500 | 0 | \$0 | 0 | \$0 |
| New Pedestrian Bridge Upstream of Sunset St. | EA | \$1,170,000.00 | 1 | \$1,170,000 | 1 | \$1,170,000 | 1 | \$1,170,000 | 1 | \$1,170,000 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| New Pedestrian Bridge at Fairgrounds Pond | EA | \$975,000.00 | 0 | \$0 | 0 | \$0 | 1 | \$975,000 | 1 | \$975,000 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| <i>Water Main and Irrigation Removals/Additions:</i> | | | | | | | | | | | | | | | | | | |
| Remove Water 18" DIP (along Hover St.) | LF | \$61.00 | 500 | \$30,500 | 500 | \$30,500 | 0 | \$0 | 0 | \$0 | 400 | \$24,400 | 400 | \$24,400 | 0 | \$0 | 0 | \$0 |
| Install Water 18" DIP (along Hover St.) | LF | \$200.00 | 500 | \$100,000 | 500 | \$100,000 | 0 | \$0 | 0 | \$0 | 400 | \$80,000 | 400 | \$80,000 | 0 | \$0 | 0 | \$0 |
| Aerial Irrigation Crossing | EA | \$285,000.00 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 1 | \$285,000 | 1 | \$285,000 |
| <i>Trails:</i> | | | | | | | | | | | | | | | | | | |
| St. Vrain Greenway Trail, 10' wide concrete | LF | \$55.00 | 2,550 | \$140,250 | 2,550 | \$140,250 | 0 | \$0 | 0 | \$0 | 1,300 | \$71,500 | 1,300 | \$71,500 | 1,500 | \$82,500 | 1,500 | \$82,500 |
| St. Vrain Greenway Trail, 3' wide crusher fines | LF | \$5.00 | 2,550 | \$12,750 | 2,550 | \$12,750 | 0 | \$0 | 0 | \$0 | 1,300 | \$6,500 | 1,300 | \$6,500 | 1,500 | \$7,500 | 1,500 | \$7,500 |
| <i>Landscaping:</i> | | | | | | | | | | | | | | | | | | |
| Wetland Plants | LF | \$270.00 | 9,600 | \$2,592,000 | 9,600 | \$2,592,000 | 600 | \$162,000 | 600 | \$162,000 | 3,000 | \$810,000 | 3,000 | \$810,000 | 6,800 | \$1,836,000 | 6,800 | \$1,836,000 |
| Native Grasses | AC | \$2,500.00 | 19 | \$47,500 | 19 | \$47,500 | 3 | \$6,635 | 3 | \$6,635 | 13 | \$33,173 | 13 | \$33,173 | 30 | \$75,192 | 30 | \$75,192 |
| Shrubs | EA | \$40.00 | 640 | \$25,600 | 640 | \$25,600 | 40 | \$1,600 | 40 | \$1,600 | 200 | \$8,000 | 200 | \$8,000 | 460 | \$18,400 | 460 | \$18,400 |
| Trees | EA | \$450.00 | 640 | \$288,000 | 640 | \$288,000 | 40 | \$18,000 | 40 | \$18,000 | 200 | \$90,000 | 200 | \$90,000 | 460 | \$207,000 | 460 | \$207,000 |
| Park Improvements (turf grass, irrigation, landscaping)* | AC | \$30,000.00 | 20 | \$600,000 | 20 | \$600,000 | 0 | \$0 | 0 | \$0 | 7 | \$210,000 | 7 | \$210,000 | 0 | \$0 | 0 | \$0 |
| Tree Removal | LS | Varies | 1 | \$315,500 | 1 | \$315,500 | 1 | \$87,500 | 1 | \$87,500 | 1 | \$49,500 | 1 | \$49,500 | 1 | \$28,500 | 1 | \$28,500 |
| Subtotal | | | | \$17,216,511 | | \$15,461,917 | | \$8,135,521 | | \$6,416,750 | | \$9,835,925 | | \$9,840,070 | | \$5,475,957 | | \$5,493,502 |
| ALLOWANCES: | | | | | | | | | | | | | | | | | | |
| Water Control | | | 5.00% | \$860,826 | 5.00% | \$773,096 | 5.00% | \$406,776 | 5.00% | \$320,837 | 6.00% | \$590,155 | 6.00% | \$590,404 | 10.00% | \$547,596 | 10.00% | \$549,350 |
| Site Survey | | | 1.00% | \$172,165 | 1.00% | \$154,619 | 1.00% | \$81,355 | 1.00% | \$64,167 | 1.00% | \$98,359 | 1.00% | \$98,401 | 1.00% | \$54,760 | 1.00% | \$54,935 |
| Clearing and Grubbing | | | 0.50% | \$86,083 | 0.50% | \$77,310 | 0.50% | \$40,678 | 0.50% | \$32,084 | 0.50% | \$49,180 | 0.50% | \$49,200 | 0.50% | \$27,380 | 0.50% | \$27,468 |
| Utility Coordination and Relocation | | | 2.00% | \$344,330 | 2.00% | \$309,238 | 2.00% | \$162,710 | 2.00% | \$128,335 | 2.00% | \$196,718 | 2.00% | \$196,801 | 2.00% | \$109,519 | 2.00% | \$109,870 |
| Traffic Control | | | 2.00% | \$344,330 | 2.00% | \$309,238 | 2.00% | \$162,710 | 2.00% | \$128,335 | 2.00% | \$196,718 | 2.00% | \$196,801 | 2.00% | \$109,519 | 2.00% | \$109,870 |
| Permitting | | | 1.00% | \$172,165 | 1.00% | \$154,619 | 1.00% | \$81,355 | 1.00% | \$64,167 | 1.00% | \$98,359 | 1.00% | \$98,401 | 1.00% | \$54,760 | 1.00% | \$54,935 |
| Mob/Bonds/Insurance | | | 5.00% | \$860,826 | 5.00% | \$773,096 | 5.00% | \$406,776 | 5.00% | \$320,837 | 5.00% | \$491,796 | 5.00% | \$492,003 | 5.00% | \$273,798 | 5.00% | \$274,675 |
| Accumulative Subtotal | | | | \$20,057,236 | | \$18,013,134 | | \$9,477,883 | | \$7,475,513 | | \$11,557,212 | | \$11,562,082 | | \$6,653,287 | | \$6,674,605 |
| ENGINEERING, ADMINISTRATION, AND SDC | | | | | | | | | | | | | | | | | | |
| | | | 18.00% | \$3,610,302 | 18.00% | \$3,242,364 | 18.00% | \$1,706,019 | 18.00% | \$1,345,592 | 18.00% | \$2,080,298 | 18.00% | \$2,081,175 | 18.00% | \$1,197,592 | 18.00% | \$1,201,429 |
| Accumulative Subtotal | | | | \$23,667,538 | | \$21,255,498 | | \$11,183,901 | | \$8,821,106 | | \$13,637,510 | | \$13,643,257 | | \$7,850,879 | | \$7,876,034 |
| LAND COSTS (based on County Assessor data) | | | | | | | | | | | | | | | | | | |
| | | | | \$272,600 | | \$272,600 | | \$272,600 | | \$272,600 | | \$0 | | \$0 | | \$675,000 | | \$675,000 |
| Accumulative Subtotal | | | | \$23,940,138 | | \$21,528,098 | | \$11,456,501 | | \$9,093,706 | | \$13,637,510 | | \$13,643,257 | | \$8,525,879 | | \$8,551,034 |
| CONTINGENCY | | | | | | | | | | | | | | | | | | |
| | | | 30% | \$7,182,041 | 30% | \$6,458,429 | 30% | \$3,436,950 | 30% | \$2,728,112 | 30% | \$4,091,253 | 30% | \$4,092,977 | 30% | \$2,557,764 | 30% | \$2,565,310 |
| TOTAL COST | | | | \$31,122,180 | | \$27,986,527 | | \$14,893,452 | | \$11,821,817 | | \$17,728,763 | | \$17,736,234 | | \$11,083,643 | | \$11,116,345 |

*Note: Unit price for park improvements only includes basic park improvements (does not include trails, amenities, or any specialty items)

**Note: It is assumed that all excavated materials will be used as fill on-site where gravel ponds will be filled.

Resilient St. Vrain Project
City Reach 3 - Engineer's Opinion of Probable Costs if Split Flow Options are Constructed Together

| DESCRIPTION | UNIT | \$/UNIT | Option 1A | | Option 1B | | Option 2A | | Option 2B | | Options 2A + 3A | | Options 2B + 3B | | Options 2A + 3A + 4A | | Options 2B + 3B + 4B | |
|---|------|----------------|-----------|---------------------|-----------|---------------------|-----------|---------------------|-----------|---------------------|-----------------|---------------------|-----------------|---------------------|----------------------|---------------------|----------------------|---------------------|
| | | | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL | QTY | TOTAL |
| CONSTRUCTION COMPONENTS | | | | | | | | | | | | | | | | | | |
| <i>Earthwork:</i> | | | | | | | | | | | | | | | | | | |
| Excavate Earthen Material, Haul, Place, and Compact On-Site | CY | \$12.50 | 15,802 | \$197,528 | 26,870 | \$335,877 | 18,823 | \$235,285 | 29,891 | \$373,633 | 237,217 | \$2,965,209 | 248,285 | \$3,103,557 | 328,461 | \$4,105,762 | 339,529 | \$4,244,111 |
| Excavate, Earthen Material, and Haul Off-Site | CY | \$18.00 | 356,809 | \$6,422,568 | 254,642 | \$4,583,550 | 264,749 | \$4,765,477 | 162,581 | \$2,926,459 | 119,600 | \$2,152,808 | 17,433 | \$313,790 | 190,632 | \$3,431,369 | 88,464 | \$1,592,350 |
| Topsail or Subsoil, Excavate, Stockpile, Amendment, and Replace | CY | \$18.00 | 31,801 | \$572,415 | 28,805 | \$518,491 | 15,044 | \$270,792 | 14,038 | \$252,690 | 24,566 | \$442,195 | 23,791 | \$428,238 | 28,644 | \$515,597 | 28,844 | \$519,185 |
| <i>Riprap:</i> | | | | | | | | | | | | | | | | | | |
| Void Filled Riprap, Type M | CY | \$80.00 | 10,430 | \$834,400 | 10,430 | \$834,400 | 1,067 | \$85,333 | 1,067 | \$85,333 | 1,493 | \$119,467 | 1,493 | \$119,467 | 4,304 | \$344,355 | 4,304 | \$344,355 |
| Soil Riprap, Type M | CY | \$60.00 | 0 | \$0 | 0 | \$0 | 5,965 | \$357,900 | 5,965 | \$357,900 | 9,545 | \$572,700 | 9,545 | \$572,700 | 13,186 | \$791,160 | 13,186 | \$791,160 |
| <i>Bridges:</i> | | | | | | | | | | | | | | | | | | |
| Bridge Remove and Replace at Hover St. | EA | \$3,867,500.00 | 1 | \$3,867,500 | 1 | \$3,867,500 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 |
| New Roadway Bridge at Hover St. | EA | \$2,762,500.00 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 1 | \$2,762,500 | 1 | \$2,762,500 | 1 | \$2,762,500 | 1 | \$2,762,500 |
| New Pedestrian Bridge Upstream of Sunset St. | EA | \$1,170,000.00 | 1 | \$1,170,000 | 1 | \$1,170,000 | 1 | \$1,170,000 | 1 | \$1,170,000 | 1 | \$1,170,000 | 1 | \$1,170,000 | 1 | \$1,170,000 | 1 | \$1,170,000 |
| New Pedestrian Bridge at Fairgrounds Pond | EA | \$975,000.00 | 0 | \$0 | 0 | \$0 | 1 | \$975,000 | 1 | \$975,000 | 1 | \$975,000 | 1 | \$975,000 | 1 | \$975,000 | 1 | \$975,000 |
| <i>Water Main and Irrigation Removals/Additions:</i> | | | | | | | | | | | | | | | | | | |
| Remove Water 18" DIP (along Hover St.) | LF | \$61.00 | 500 | \$30,500 | 500 | \$30,500 | 0 | \$0 | 0 | \$0 | 400 | \$24,400 | 400 | \$24,400 | 400 | \$24,400 | 400 | \$24,400 |
| Install Water 18" DIP (along Hover St.) | LF | \$200.00 | 500 | \$100,000 | 500 | \$100,000 | 0 | \$0 | 0 | \$0 | 400 | \$80,000 | 400 | \$80,000 | 400 | \$80,000 | 400 | \$80,000 |
| Aerial Irrigation Crossing | EA | \$285,000.00 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 1 | \$285,000 | 1 | \$285,000 |
| <i>Trails:</i> | | | | | | | | | | | | | | | | | | |
| St. Vrain Greenway Trail, 10' wide concrete | LF | \$55.00 | 2,550 | \$140,250 | 2,550 | \$140,250 | 0 | \$0 | 0 | \$0 | 1,300 | \$71,500 | 1,300 | \$71,500 | 2,800 | \$154,000 | 2,800 | \$154,000 |
| St. Vrain Greenway Trail, 3' wide crusher fines | LF | \$5.00 | 2,550 | \$12,750 | 2,550 | \$12,750 | 0 | \$0 | 0 | \$0 | 1,300 | \$6,500 | 1,300 | \$6,500 | 2,800 | \$14,000 | 2,800 | \$14,000 |
| <i>Landscaping:</i> | | | | | | | | | | | | | | | | | | |
| Wetland Plants | LF | \$270.00 | 9,600 | \$2,592,000 | 9,600 | \$2,592,000 | 600 | \$162,000 | 600 | \$162,000 | 3,600 | \$972,000 | 3,600 | \$972,000 | 10,400 | \$2,808,000 | 10,400 | \$2,808,000 |
| Native Grasses | AC | \$2,500.00 | 19 | \$47,500 | 19 | \$47,500 | 3 | \$6,635 | 3 | \$6,635 | 16 | \$39,808 | 16 | \$39,808 | 46 | \$115,000 | 46 | \$115,000 |
| Shrubs | EA | \$40.00 | 640 | \$25,600 | 640 | \$25,600 | 40 | \$1,600 | 40 | \$1,600 | 240 | \$9,600 | 240 | \$9,600 | 700 | \$28,000 | 700 | \$28,000 |
| Trees | EA | \$450.00 | 640 | \$288,000 | 640 | \$288,000 | 40 | \$18,000 | 40 | \$18,000 | 240 | \$108,000 | 240 | \$108,000 | 700 | \$315,000 | 700 | \$315,000 |
| Park Improvements (turf grass, irrigation, landscaping)* | AC | \$30,000.00 | 20 | \$600,000 | 20 | \$600,000 | 0 | \$0 | 0 | \$0 | 7 | \$210,000 | 7 | \$210,000 | 7 | \$210,000 | 7 | \$210,000 |
| Tree Removal | LS | Varies | 1 | \$315,500 | 1 | \$315,500 | 1 | \$87,500 | 1 | \$87,500 | 1 | \$137,000 | 1 | \$137,000 | 1 | \$165,500 | 1 | \$165,500 |
| Subtotal | | | | \$17,216,511 | | \$15,461,917 | | \$8,135,521 | | \$6,416,750 | | \$12,818,686 | | \$11,104,059 | | \$18,294,643 | | \$16,597,561 |
| ALLOWANCES: | | | | | | | | | | | | | | | | | | |
| Water Control | | | 5.00% | \$860,826 | 5.00% | \$773,096 | 5.00% | \$406,776 | 5.00% | \$320,837 | 5.50% | \$705,028 | 5.50% | \$610,723 | 7.00% | \$1,280,625 | 7.00% | \$1,161,829 |
| Site Survey | | | 1.00% | \$172,165 | 1.00% | \$154,619 | 1.00% | \$81,355 | 1.00% | \$64,167 | 1.00% | \$128,187 | 1.00% | \$111,041 | 1.00% | \$182,946 | 1.00% | \$165,976 |
| Clearing and Grubbing | | | 0.50% | \$86,083 | 0.50% | \$77,310 | 0.50% | \$40,678 | 0.50% | \$32,084 | 0.50% | \$64,093 | 0.50% | \$55,520 | 0.50% | \$91,473 | 0.50% | \$82,988 |
| Utility Coordination and Relocation | | | 2.00% | \$344,330 | 2.00% | \$309,238 | 2.00% | \$162,710 | 2.00% | \$128,335 | 2.00% | \$256,374 | 2.00% | \$222,081 | 2.00% | \$365,893 | 2.00% | \$331,951 |
| Traffic Control | | | 2.00% | \$344,330 | 2.00% | \$309,238 | 2.00% | \$162,710 | 2.00% | \$128,335 | 2.00% | \$256,374 | 2.00% | \$222,081 | 2.00% | \$365,893 | 2.00% | \$331,951 |
| Permitting | | | 1.00% | \$172,165 | 1.00% | \$154,619 | 1.00% | \$81,355 | 1.00% | \$64,167 | 1.00% | \$128,187 | 1.00% | \$111,041 | 1.00% | \$182,946 | 1.00% | \$165,976 |
| Mob/Bonds/Insurance | | | 5.00% | \$860,826 | 5.00% | \$773,096 | 5.00% | \$406,776 | 5.00% | \$320,837 | 5.00% | \$640,934 | 5.00% | \$555,203 | 5.00% | \$914,732 | 5.00% | \$829,878 |
| Accumulative Subtotal | | | | \$20,057,236 | | \$18,013,134 | | \$9,477,883 | | \$7,475,513 | | \$14,997,863 | | \$12,991,749 | | \$21,679,152 | | \$19,668,110 |
| ENGINEERING, ADMINISTRATION, AND SDC | | | | | | | | | | | | | | | | | | |
| | | | 18.00% | \$3,610,302 | 18.00% | \$3,242,364 | 18.00% | \$1,706,019 | 18.00% | \$1,345,592 | 18.00% | \$2,699,615 | 18.00% | \$2,338,515 | 18.00% | \$3,902,247 | 18.00% | \$3,540,260 |
| Accumulative Subtotal | | | | \$23,667,538 | | \$21,255,498 | | \$11,183,901 | | \$8,821,106 | | \$17,697,478 | | \$15,330,264 | | \$25,581,399 | | \$23,208,370 |
| LAND COSTS (based on County Assessor data) | | | | | | | | | | | | | | | | | | |
| | | | | \$272,600 | | \$272,600 | | \$272,600 | | \$272,600 | | \$272,600 | | \$272,600 | | \$947,600 | | \$947,600 |
| Accumulative Subtotal | | | | \$23,940,138 | | \$21,528,098 | | \$11,456,501 | | \$9,093,706 | | \$17,970,078 | | \$15,602,864 | | \$26,528,999 | | \$24,155,970 |
| CONTINGENCY | | | | | | | | | | | | | | | | | | |
| | | | 30% | \$7,182,041 | 30% | \$6,458,429 | 30% | \$3,436,950 | 30% | \$2,728,112 | 30% | \$5,391,023 | 30% | \$4,680,859 | 30% | \$7,958,700 | 30% | \$7,246,791 |
| TOTAL COST | | | | \$31,122,180 | | \$27,986,527 | | \$14,893,452 | | \$11,821,817 | | \$23,361,102 | | \$20,283,723 | | \$34,487,699 | | \$31,402,761 |

*Note: Unit price for park improvements only includes basic park improvements (does not include trails, amenities, or any specialty items)

**Note: It is assumed that all excavated materials will be used as fill on-site where gravel ponds will be filled.

Attachment D
DVD of Referenced Documents