



**APPENDIX D:  
DETAILED COST ESTIMATES**

## Appendix D DETAILED COST ESTIMATES

### Practical Alternative Cost Estimates

| Practical Alternative:<br>Bridge Option:                  | #1        |          | #2        |          | #3        |          | #5        |          | #7        |          | #9        |          | #11       |          | #14       |          | #16       |          |
|---|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
|   | 4         | 7        | 4         | 7        | 4         | 7        | 4         | 7        | 9         | 10       | 9         | 10       | 9         | 10       | 4         | 7        | 4         | 7        |
| Cost Detail   | (million) |          |
| <b>Construction Costs <sup>1</sup></b>                    |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |
| Detroit River Bridge (to come)                            | \$ 282    | \$ 344   | \$ 282    | \$ 344   | \$ 282    | \$ 344   | \$ 282    | \$ 344   | \$ 243    | \$ 309   | \$ 243    | \$ 309   | \$ 243    | \$ 309   | \$ 282    | \$ 344   | \$ 282    | \$ 344   |
| Toll and Inspection Plaza                                 | \$ 150    | \$ 150   | \$ 150    | \$ 150   | \$ 150    | \$ 150   | \$ 150    | \$ 150   | \$ 190    | \$ 190   | \$ 190    | \$ 190   | \$ 190    | \$ 190   | \$ 150    | \$ 150   | \$ 150    | \$ 150   |
| Connecting Roadways                                       | \$ 185    | \$ 185   | \$ 199    | \$ 199   | \$ 179    | \$ 179   | \$ 177    | \$ 177   | \$ 187    | \$ 187   | \$ 202    | \$ 202   | \$ 180    | \$ 180   | \$ 167    | \$ 167   | \$ 204    | \$ 204   |
| <i>Subtotal - Construction</i>                            | \$ 616    | \$ 679   | \$ 631    | \$ 693   | \$ 611    | \$ 673   | \$ 609    | \$ 671   | \$ 621    | \$ 686   | \$ 635    | \$ 701   | \$ 613    | \$ 679   | \$ 599    | \$ 661   | \$ 636    | \$ 698   |
| <b>Property Acquisition/Remediation</b>                   | \$ 179    | \$ 179   | \$ 174    | \$ 174   | \$ 183    | \$ 183   | \$ 194    | \$ 194   | \$ 172    | \$ 172   | \$ 167    | \$ 167   | \$ 176    | \$ 176   | \$ 171    | \$ 171   | \$ 183    | \$ 183   |
| <b>Utilities (to come)<sup>2</sup></b>                    | \$ 174    | \$ 174   | \$ 173    | \$ 173   | \$ 153    | \$ 153   | \$ 169    | \$ 169   | \$ 166    | \$ 166   | \$ 166    | \$ 166   | \$ 168    | \$ 168   | \$ 145    | \$ 145   | \$ 183    | \$ 183   |
| <b>Management Contingency (5%)</b>                        | \$ 40     | \$ 43    | \$ 40     | \$ 43    | \$ 38     | \$ 41    | \$ 39     | \$ 42    | \$ 39     | \$ 43    | \$ 40     | \$ 43    | \$ 39     | \$ 42    | \$ 37     | \$ 40    | \$ 41     | \$ 44    |
| <b>Grand Total - Construction &amp; Acquisition Costs</b> | \$ 1,009  | \$ 1,074 | \$ 1,018  | \$ 1,083 | \$ 985    | \$ 1,050 | \$ 1,011  | \$ 1,076 | \$ 998    | \$ 1,067 | \$ 1,008  | \$ 1,077 | \$ 996    | \$ 1,066 | \$ 952    | \$ 1,018 | \$ 1,043  | \$ 1,108 |
| <b>Soft Costs<sup>3</sup></b>                             |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |
| Final Design & Permits (7.5%)                             | \$ 59     | \$ 64    | \$ 60     | \$ 65    | \$ 57     | \$ 62    | \$ 58     | \$ 63    | \$ 59     | \$ 64    | \$ 60     | \$ 65    | \$ 59     | \$ 64    | \$ 56     | \$ 60    | \$ 61     | \$ 66    |
| Construction Engineering (7.5%)                           | \$ 59     | \$ 64    | \$ 60     | \$ 65    | \$ 57     | \$ 62    | \$ 58     | \$ 63    | \$ 59     | \$ 64    | \$ 60     | \$ 65    | \$ 59     | \$ 64    | \$ 56     | \$ 60    | \$ 61     | \$ 66    |
| <b>Grand Total - Soft Costs</b>                           | \$ 119    | \$ 128   | \$ 121    | \$ 130   | \$ 115    | \$ 124   | \$ 117    | \$ 126   | \$ 118    | \$ 128   | \$ 120    | \$ 130   | \$ 117    | \$ 127   | \$ 112    | \$ 121   | \$ 123    | \$ 132   |
| <b>Grand Total Alternative Cost (rounded)</b>             | \$ 1,128  | \$ 1,202 | \$ 1,139  | \$ 1,213 | \$ 1,100  | \$ 1,174 | \$ 1,127  | \$ 1,202 | \$ 1,116  | \$ 1,195 | \$ 1,128  | \$ 1,207 | \$ 1,113  | \$ 1,193 | \$ 1,064  | \$ 1,138 | \$ 1,166  | \$ 1,241 |
| <b>Inflation (rounded) - 20%<sup>4</sup></b>              | \$ 226    | \$ 240   | \$ 228    | \$ 243   | \$ 220    | \$ 235   | \$ 225    | \$ 240   | \$ 223    | \$ 239   | \$ 226    | \$ 241   | \$ 223    | \$ 239   | \$ 213    | \$ 228   | \$ 233    | \$ 248   |
| <b>Grand Total Cost (rounded)</b>                         | \$ 1,353  | \$ 1,443 | \$ 1,366  | \$ 1,456 | \$ 1,320  | \$ 1,409 | \$ 1,353  | \$ 1,442 | \$ 1,339  | \$ 1,434 | \$ 1,353  | \$ 1,448 | \$ 1,336  | \$ 1,431 | \$ 1,277  | \$ 1,366 | \$ 1,399  | \$ 1,489 |

*General Notes:*

Grand Total Cost in year of expenditure dollars.  
Bridge Options: 4 & 9 - Cable-Stay, 7 & 10 - Suspension

*Notes:*

- 1 Construction Costs include design & construction contingencies, Maintenance of Traffic (MOT) and mobilization in 2006\$.
- 2 Utility costs include both public and private relocation costs.
- 3 Final Design & Construction Engineering soft costs are 7.5% of Construction Subtotal and utilities each.
- 4 Inflation costs weighted using cash flow year of expenditure for a typical alternative.

INTERCHANGE DETAILED COST ESTIMATES

**PARSONS**

26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing Study

By: D. Greenwood  
Checked By: L. Nguyen

Date: 10/04/07  
Date: 10/10/2007

Job No.: 646294

Subject: Refined Practical Alternative Cost Estimates

**US Roadway/Bridge Cost Estimate  
Alternative Cost Summary**

| Items  | Unit           | Unit Cost (US\$) | Alternative 1 Quantity | Total (US\$)  | Alternative 2 Quantity | Total (US\$)  | Alternative 3 Quantity | Total (US\$)  | Alternative 5 Quantity | Total (US\$)  | Alternative 7 Quantity | Total (US\$)  | Alternative 9 Quantity | Total (US\$) | Alternative 11 Quantity | Total (US\$) | Alternative 14 Quantity | Total (US\$) | Alternative 16 Quantity | Total (US\$) |
|--|----------------|------------------|------------------------|---------------|------------------------|---------------|------------------------|---------------|------------------------|---------------|------------------------|---------------|------------------------|--------------|-------------------------|--------------|-------------------------|--------------|-------------------------|--------------|
| <b>Roadways &amp; Ramps</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| <b>Freeway Lanes</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| Reconstructed 8-lane freeway with concrete median barrier                | m              | \$3,000          | 0                      | \$0           | 0                      | \$0           | 1,620                  | \$4,860,000   | 0                      | \$0           | 0                      | \$0           | 0                      | \$0          | 1,620                   | \$4,860,000  | 0                       | \$0          | 0                       | \$0          |
| <b>Plaza Ramps</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| Entrance Ramps G-210 Case 1 Urban 2 Lanes                                | m              | \$770            | 1,260                  | \$965,600     | 1,240                  | \$954,800     | 960                    | \$739,200     | 1,100                  | \$847,000     | 1,270                  | \$977,900     | 1,240                  | \$954,800    | 960                     | \$739,200    | 1,950                   | \$1,501,500  | 850                     | \$654,500    |
| Exit Ramps G-240 Case 2 Urban 2 Lanes                                    | m              | \$770            | 490                    | \$377,300     | 590                    | \$446,600     | 640                    | \$492,800     | 590                    | \$454,300     | 490                    | \$377,300     | 590                    | \$446,600    | 640                     | \$492,800    | 1,810                   | \$1,393,700  | 490                     | \$377,300    |
| <b>Service Drive Ramps</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| Entrance Ramps G-201 Case 1 Urban 1 Lanes                                | m              | \$670            | 1,900                  | \$1,273,000   | 1,690                  | \$1,132,300   | 1,850                  | \$1,239,500   | 1,810                  | \$1,212,700   | 1,860                  | \$1,246,200   | 1,770                  | \$1,185,900  | 1,940                   | \$1,299,800  | 0                       | \$0          | 2,600                   | \$1,742,000  |
| Exit Ramps G-205 Urban 1 Lanes   | m              | \$670            | 1,930                  | \$1,293,100   | 1,870                  | \$1,252,900   | 2,160                  | \$1,447,200   | 2,190                  | \$1,467,300   | 1,870                  | \$1,252,900   | 1,810                  | \$1,212,700  | 2,040                   | \$1,366,800  | 0                       | \$0          | 2,190                   | \$1,467,300  |
| Removal of existing ramps  | m              | \$35             | 2,070                  | \$72,450      | 2,070                  | \$72,450      | 2,070                  | \$72,450      | 2,070                  | \$72,450      | 2,070                  | \$72,450      | 2,070                  | \$72,450     | 2,070                   | \$72,450     | 870                     | \$30,465     | 2,430                   | \$85,005     |
| <b>Service Drives</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| Constructing 10 m wide Service drive                                     | m              | \$770            | 5,280                  | \$4,065,600   | 5,280                  | \$4,065,600   | 4,720                  | \$3,634,400   | 4,800                  | \$3,696,000   | 5,280                  | \$4,065,600   | 5,280                  | \$4,065,600  | 4,720                   | \$3,634,400  | 820                     | \$631,400    | 5,320                   | \$4,096,400  |
| Removing existing 10 m service drive                                     | m              | \$84             | 5,280                  | \$442,400     | 5,280                  | \$442,400     | 4,720                  | \$377,600     | 4,800                  | \$364,000     | 5,280                  | \$442,400     | 5,280                  | \$442,400    | 4,720                   | \$377,600    | 820                     | \$68,560     | 5,320                   | \$442,560    |
| <b>Local Roads</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| New construction per 3.6 m lane  | m              | \$290            | 2,790                  | \$809,100     | 2,870                  | \$832,200     | 440                    | \$127,600     | 1,150                  | \$333,500     | 2,790                  | \$809,100     | 2,600                  | \$754,000    | 460                     | \$133,400    | 2,410                   | \$698,900    | 2,690                   | \$780,100    |
| Remove existing local road per 3.6 m lane w/ curb and gutter             | m              | \$35             | 4,680                  | \$163,800     | 4,760                  | \$166,600     | 2,330                  | \$81,050      | 3,840                  | \$1,344,000   | 4,620                  | \$161,700     | 4,630                  | \$162,050    | 2,490                   | \$86,150     | 4,140                   | \$144,900    | 4,580                   | \$160,300    |
| Gateway Corridor   | m              | \$290            | 3,780                  | \$1,096,200   | 3,780                  | \$1,096,200   | 3,780                  | \$1,096,200   | 3,780                  | \$1,096,200   | 4,060                  | \$1,177,400   | 4,060                  | \$1,177,400  | 4,060                   | \$1,177,400  | 3,780                   | \$1,096,200  | 3,780                   | \$1,096,200  |
| <b>Local Access to Plaza</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| Intersection Signalization   | ea             | \$80,000         | 10                     | \$800,000     | 11                     | \$880,000     | 13                     | \$1,040,000   | 9                      | \$720,000     | 10                     | \$800,000     | 11                     | \$880,000    | 13                      | \$1,040,000  | 4                       | \$320,000    | 14                      | \$1,120,000  |
| <b>subtotal (rounded to 10,000's)</b>                                    |                |                  |                        | \$11,880,000  | \$11,820,000           | \$15,720,000  | \$10,890,000           | \$11,940,000  | \$11,910,000           | \$15,870,000  | \$6,330,000            | \$12,510,000  |                        |              |                         |              |                         |              |                         |              |
| <b>Sound Abatement Walls</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m              | \$1778 to \$1815 | 1,970                  | \$3,506,600   | 2,130                  | \$3,791,400   | 1,940                  | \$3,453,200   | 2,020                  | \$3,676,400   | 1,970                  | \$3,506,600   | 2,130                  | \$3,791,400  | 1,940                   | \$3,453,200  | 2,030                   | \$3,613,400  | 2,130                   | \$3,791,400  |
| <b>subtotal (rounded to 10,000's)</b>                                    |                |                  |                        | \$3,510,000   | \$3,790,000            | \$3,450,000   | \$3,680,000            | \$3,510,000   | \$3,790,000            | \$3,450,000   | \$3,790,000            | \$3,450,000   | \$3,790,000            |              |                         |              |                         |              |                         |              |
| <b>Bridges</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| <b>Plaza Ramp Bridges</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m <sup>2</sup> | \$2,400          | 31,750                 | \$76,200,000  | 36,270                 | \$87,048,000  | 29,340                 | \$70,416,000  | 30,750                 | \$73,800,000  | 32,550                 | \$78,120,000  | 36,900                 | \$88,560,000 | 29,320                  | \$70,368,000 | 29,070                  | \$69,768,000 | 33,730                  | \$80,952,000 |
| <b>Crossing Bridges</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m <sup>2</sup> | \$2,400          | 6,200                  | \$15,072,000  | 7,510                  | \$18,024,000  | 4,600                  | \$11,024,000  | 4,600                  | \$11,024,000  | 6,200                  | \$15,072,000  | 7,510                  | \$18,024,000 | 4,600                   | \$11,024,000 | 4,600                   | \$11,024,000 | 9,500                   | \$22,944,000 |
| <b>Threesided Underpass</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m <sup>2</sup> | \$2,400          | 350                    | \$840,000     | 0                      | \$0           | 1,350                  | \$3,240,000   | 1,490                  | \$3,576,000   | 350                    | \$840,000     | 0                      | \$0          | 1,350                   | \$3,240,000  | 0                       | \$0          | 0                       | \$0          |
| <b>Pedestrian Bridges (same locations as existing bridges)</b>           |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | ea             | \$300,000        | 5                      | \$1,500,000   | 5                      | \$1,500,000   | 5                      | \$1,500,000   | 5                      | \$1,500,000   | 5                      | \$1,500,000   | 5                      | \$1,500,000  | 5                       | \$1,500,000  | 5                       | \$1,500,000  | 5                       | \$1,500,000  |
| <b>subtotal (rounded to 10,000's)</b>                                    |                |                  |                        | \$9,610,000   | \$10,670,000           | \$8,630,000   | \$9,110,000            | \$9,630,000   | \$10,080,000           | \$8,630,000   | \$9,630,000            | \$10,670,000  | \$8,630,000            |              |                         |              |                         |              |                         |              |
| <b>Retaining Walls</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| <b>Gravity Walls</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m <sup>2</sup> | \$540            | 20                     | \$10,800      | 120                    | \$64,800      | 230                    | \$124,200     | 140                    | \$75,600      | 20                     | \$10,800      | 120                    | \$64,800     | 230                     | \$124,200    | 0                       | \$0          | 0                       | \$0          |
| <b>MSE/Gravity Concrete Walls</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m <sup>2</sup> | \$1,100          | 4,240                  | \$4,664,000   | 2,990                  | \$3,288,900   | 4,480                  | \$4,928,000   | 5,980                  | \$6,578,000   | 4,240                  | \$4,664,000   | 2,990                  | \$3,288,900  | 4,480                   | \$4,928,000  | 4,050                   | \$4,455,000  | 3,550                   | \$3,905,000  |
| <b>Driven Walls</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m <sup>2</sup> | \$2,700          | 680                    | \$1,836,000   | 0                      | \$0           | 0                      | \$0           | 0                      | \$0           | 680                    | \$1,836,000   | 0                      | \$0          | 0                       | \$0          | 0                       | \$0          | 680                     | \$1,836,000  |
| <b>subtotal (rounded to 10,000's)</b>                                    |                |                  |                        | \$5,020,000   | \$2,310,000            | \$3,480,000   | \$4,560,000            | \$4,560,000   | \$5,020,000            | \$4,560,000   | \$5,020,000            | \$2,310,000   | \$3,480,000            |              |                         |              |                         |              |                         |              |
| <b>Bridge Demolition</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| Entire bridge, grade separation  | m <sup>2</sup> | \$270            | 8,590                  | \$2,319,300   | 8,590                  | \$2,319,300   | 6,950                  | \$1,876,500   | 6,950                  | \$1,876,500   | 8,590                  | \$2,319,300   | 8,590                  | \$2,319,300  | 8,590                   | \$2,319,300  | 4,430                   | \$1,196,100  | 12,160                  | \$3,283,200  |
| <b>subtotal (rounded to 10,000's)</b>                                    |                |                  |                        | \$2,320,000   | \$2,320,000            | \$1,880,000   | \$1,880,000            | \$2,320,000   | \$2,320,000            | \$2,320,000   | \$2,320,000            | \$2,320,000   | \$1,200,000            | \$3,280,000  |                         |              |                         |              |                         |              |
| <b>Roadway Storm Drainage</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
| <b>Freeway drainage</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m              | \$860            | 0                      | \$0           | 0                      | \$0           | 1,620                  | \$1,393,200   | 0                      | \$0           | 0                      | \$0           | 0                      | \$0          | 1,620                   | \$1,393,200  | 0                       | \$0          | 0                       | \$0          |
| <b>Ramp drainage</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m              | \$160            | 5,600                  | \$896,000     | 5,380                  | \$860,800     | 5,610                  | \$897,600     | 5,690                  | \$910,400     | 5,490                  | \$878,400     | 5,400                  | \$864,000    | 5,580                   | \$892,800    | 3,760                   | \$601,600    | 6,130                   | \$980,800    |
| <b>Local road drainage</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m              | \$160            | 1,400                  | \$224,000     | 1,440                  | \$230,400     | 440                    | \$70,400      | 575                    | \$92,000      | 1,400                  | \$224,000     | 1,300                  | \$208,000    | 230                     | \$36,800     | 1,960                   | \$313,600    | 1,350                   | \$216,000    |
| <b>Service drive drainage</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m              | \$160            | 5,280                  | \$844,800     | 5,280                  | \$844,800     | 4,720                  | \$755,200     | 4,800                  | \$768,000     | 5,280                  | \$844,800     | 5,280                  | \$844,800    | 4,720                   | \$755,200    | 820                     | \$131,200    | 5,320                   | \$851,200    |
| <b>Remove exist storm drainage system (per side)</b>                     |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m              | \$46             | 6,680                  | \$309,280     | 6,720                  | \$309,120     | 11,640                 | \$534,240     | 5,380                  | \$247,480     | 6,680                  | \$309,280     | 6,680                  | \$309,280    | 11,430                  | \$525,780    | 8,500                   | \$393,000    | 6,670                   | \$308,820    |
| <b>Pump station</b>  |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | LS             | \$1,500,000      | 1                      | \$1,500,000   | 1                      | \$1,500,000   | 1                      | \$1,500,000   | 1                      | \$1,500,000   | 1                      | \$1,500,000   | 1                      | \$1,500,000  | 1                       | \$1,500,000  | 1                       | \$1,500,000  | 1                       | \$1,500,000  |
| <b>subtotal (rounded to 10,000's)</b>                                    |                |                  |                        | \$3,800,000   | \$3,770,000            | \$5,200,000   | \$3,540,000            | \$3,780,000   | \$3,750,000            | \$5,150,000   | \$3,800,000            | \$3,800,000   |                        |              |                         |              |                         |              |                         |              |
| <b>Railroad Spur</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | m              |                  | 1                      | \$9,090,750   | 0                      | \$0           | 1                      | \$9,090,750   | 1                      | \$9,090,750   | 1                      | \$9,090,750   | 1                      | \$9,090,750  | 1                       | \$9,090,750  | 1                       | \$9,090,750  | 1                       | \$9,090,750  |
| <b>subtotal (rounded to 10,000's)</b>                                    |                |                  |                        | \$9,090,000   | \$9,090,000            | \$9,090,000   | \$9,090,000            | \$9,090,000   | \$9,090,000            | \$9,090,000   | \$9,090,000            | \$9,090,000   | \$9,090,000            |              |                         |              |                         |              |                         |              |
| <b>Subtotal:</b>   |                |                  | \$129,230,000          | \$139,670,000 | \$125,210,000          | \$123,750,000 | \$131,190,000          | \$141,250,000 | \$125,700,000          | \$94,470,000  | \$142,980,000          |               |                        |              |                         |              |                         |              |                         |              |
| <b>Design Contingencies (20%)</b>  |                |                  | \$25,846,000           | \$27,934,000  | \$25,042,000           | \$24,750,000  | \$26,238,000           | \$26,250,000  | \$25,140,000           | \$18,894,000  | \$28,596,000           |               |                        |              |                         |              |                         |              |                         |              |
| <b>Subtotal:</b>   |                |                  |                        | \$155,080,000 | \$167,600,000          | \$150,250,000 | \$148,500,000          | \$157,430,000 | \$169,500,000          | \$150,840,000 | \$171,580,000          |               |                        |              |                         |              |                         |              |                         |              |
| <b>Maintenance of Traffic (excluding Plaza Ramps - 5%)</b>               |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | LS             |                  | 1                      | \$3,100,226   | 1                      | \$3,073,036   | 1                      | \$3,213,620   | 1                      | \$2,918,922   | 1                      | \$3,102,988   | 1                      | \$3,077,316  | 1                       | \$3,246,000  | 1                       | \$1,308,208  | 1                       | \$3,659,972  |
| <b>Maintenance of Traffic (Plaza Ramps - 2%)</b>                         |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | LS             |                  | 1                      | \$1,861,510   | 1                      | \$2,122,786   | 1                      | \$1,719,552   | 1                      | \$1,802,431   | 1                      | \$1,907,405   | 1                      | \$2,159,074  | 1                       | \$1,718,400  | 1                       | \$1,743,917  | 1                       | \$1,967,611  |
| <b>Mobilization (5%)</b>   |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | LS             |                  | 1                      | \$7,754,000   | 1                      | \$8,380,000   | 1                      | \$7,512,500   | 1                      | \$7,425,000   | 1                      | \$7,871,500   | 1                      | \$8,475,000  | 1                       | \$7,542,000  | 1                       | \$5,688,000  | 1                       | \$8,579,000  |
| <b>SUBTOTAL A - CONSTRUCTION (rounded to 10,000's)</b>                   |                |                  |                        | \$167,800,000 | \$181,180,000          | \$162,700,000 | \$160,650,000          | \$170,310,000 | \$183,210,000          | \$163,350,000 | \$122,080,000          | \$185,790,000 |                        |              |                         |              |                         |              |                         |              |
| <b>SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%) (rounded to 10,000's)</b> |                |                  |                        | \$16,780,000  | \$18,118,000           | \$16,270,000  | \$16,065,000           | \$17,030,000  | \$18,321,000           | \$16,335,000  | \$12,208,000           | \$18,580,000  |                        |              |                         |              |                         |              |                         |              |
| <b>SUBTOTAL C - MANAGEMENT CONTINGENCY (5%) (rounded to 10,000's)</b>    |                |                  |                        | \$8,390,000   | \$9,059,000            | \$8,135,000   | \$8,032,500            | \$8,520,000   | \$9,160,500            | \$8,167,500   | \$6,104,000            | \$9,290,000   |                        |              |                         |              |                         |              |                         |              |
| <b>Utilities (To be determined)</b>                                      |                |                  |                        |               |                        |               |                        |               |                        |               |                        |               |                        |              |                         |              |                         |              |                         |              |
|  | LS             |                  | 1                      | \$0           | 1                      | \$0           | \$0                    | \$0           | \$0                    | \$0           | \$0                    | \$0           | \$0                    | \$0          | \$0                     | \$0          | \$0                     | \$0          | \$0                     |              |
| <b>SUBTOTAL D -</b>  |                |                  |                        | \$0           | \$0                    | \$0           | \$0                    | \$0           | \$0                    | \$0           | \$0                    |               |                        |              |                         |              |                         |              |                         |              |
| <b>TOTAL (A,B,C,D)</b>   |                |                  |                        | \$192,970,000 | \$208,360,000          | \$187,110,000 | \$184,750,000          | \$195,860,000 | \$210,690,000          | \$187,850,000 | \$140,390,000          | \$213,660,000 |                        |              |                         |              |                         |              |                         |              |
| <b>Rounded Total (Millions of Dollars)</b>                               |                |                  |                        | \$193         | \$208                  | \$187         | \$185                  | \$196         | \$211                  | \$188         | \$140                  | \$214         |                        |              |                         |              |                         |              |                         |              |





26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing Study

By: D. Greenwood

Checked By: L. Nguyen

Date: 10/04/07

Date: 10/16/2007

Job No.: 646294

Subject: Refined Practical Alternative Cost Estimates

**US Roadway/Bridge Cost Estimate  
Alternative 2: Interchange B, Plaza P-a, and Crossing X-10**

| Items  | Unit           | Unit Cost (US\$) | Quantity | Total (US\$)  | Comment                  |
|--|----------------|------------------|----------|---------------|--------------------------|
| <b>Roadways &amp; Ramps</b>                                  |                |                  |          |               |                          |
| Freeway Lanes  |                |                  |          |               |                          |
| Reconstructed 8-lane freeway with concrete median barrier    | m              | \$3,000          | 0        | \$0           | N/A for this alternative |
| <b>Plaza Ramps</b>   |                |                  |          |               |                          |
| Entrance Ramps G-210 Case 1 Urban 2 Lanes                    | m              | \$770            | 1,240    | \$954,800     |                          |
| Exit Ramps G-240 Case 2 Urban 2 Lanes                        | m              | \$770            | 580      | \$446,600     |                          |
| <b>Service Drive Ramps</b>                                   |                |                  |          |               |                          |
| Entrance Ramps G-201 Case 1 Urban 1 Lanes                    | m              | \$670            | 1,690    | \$1,132,300   |                          |
| Exit Ramps G-205 Urban 1 Lanes                               | m              | \$670            | 1,870    | \$1,252,900   |                          |
| Removal of existing ramps                                    | m              | \$40             | 2,070    | \$82,800      |                          |
| <b>Service Drives</b>  |                |                  |          |               |                          |
| Constructing 10 m wide Service drive                         | m              | \$770            | 5,280    | \$4,065,600   |                          |
| Removing existing 10 m service drive                         | m              | \$80             | 5,280    | \$422,400     |                          |
| <b>Local Roads</b>   |                |                  |          |               |                          |
| New construction per 3.6 m lane                              | m              | \$290            | 2,870    | \$832,300     |                          |
| Remove existing local road per 3.6 m lane w/ curb and gutter | m              | \$35             | 4,760    | \$166,600     |                          |
| Gateway Corridor   | m              | \$290            | 3,780    | \$1,096,200   |                          |
| Local Access to Plaza  | m              | \$670            | 730      | \$489,100     |                          |
| Intersection Signalization                                   | ea             | \$80,000         | 11       | \$880,000     |                          |
| <b>subtotal (rounded to 10,000's)</b>                        |                |                  |          | \$11,820,000  |                          |
| <b>Sound Abatement Walls</b>                                 |                |                  |          |               |                          |
|  | m              | \$1,780          | 2,130    | \$3,791,400   |                          |
| <b>subtotal (rounded to 10,000's)</b>                        |                |                  |          | \$3,790,000   |                          |
| <b>Bridges</b>   |                |                  |          |               |                          |
| Plaza Ramp Bridges   | m <sup>2</sup> | \$2,400          | 36,270   | \$87,048,000  |                          |
| Crossing Bridges   | m <sup>2</sup> | \$2,400          | 7,510    | \$18,024,000  |                          |
| Three-sided Underpass  | m <sup>2</sup> | \$2,400          | 0        | \$0           | N/A for this alternative |
| Pedestrian Bridges (same locations as existing bridges)      | ea             | \$300,000        | 5        | \$1,500,000   |                          |
| <b>subtotal (rounded to 10,000's)</b>                        |                |                  |          | \$106,570,000 |                          |
| <b>Retaining Walls</b>                                       |                |                  |          |               |                          |
| Gravity Walls  | m <sup>2</sup> | \$540            | 120      | \$64,800      |                          |
| MSE/Gravity Concrete Walls                                   | m <sup>2</sup> | \$750            | 2,990    | \$2,242,500   |                          |
| Driven Walls   | m <sup>2</sup> | \$2,690          | 0        | \$0           | N/A for this alternative |
| <b>subtotal (rounded to 10,000's)</b>                        |                |                  |          | \$2,310,000   |                          |
| <b>Bridge Demolition</b>                                     |                |                  |          |               |                          |
| Entire bridge, grade separation                              | m <sup>2</sup> | \$270            | 8,590    | \$2,319,300   |                          |
| <b>subtotal (rounded to 10,000's)</b>                        |                |                  |          | \$2,320,000   |                          |
| <b>Roadway Storm Drainage</b>                                |                |                  |          |               |                          |
| Freeway Drainage   | m              | \$960            | 0        | \$0           | N/A for this alternative |
| Ramp drainage  | m              | \$160            | 5,380    | \$860,800     |                          |
| Local road drainage  | m              | \$160            | 1,440    | \$230,400     |                          |
| Service drive drainage                                       | m              | \$160            | 5,280    | \$844,800     |                          |
| Remove exist storm drain system (per side)                   | m              | \$50             | 6,720    | \$336,000     |                          |
| Pump station   | LS             | \$1,500,000      | 1        | \$1,500,000   |                          |
| <b>subtotal (rounded to 10,000's)</b>                        |                |                  |          | \$3,770,000   |                          |
| <b>Railroad Spur</b>   |                |                  |          |               |                          |
|  | LS             |                  | 1        | \$9,090,750   |                          |
| <b>subtotal (rounded to 10,000's)</b>                        |                |                  |          | \$9,090,000   |                          |
| <b>Design Contingencies (20%)</b>                            |                |                  |          |               |                          |
|  | LS             |                  | 1        | \$27,834,000  |                          |
| <b>Subtotal:</b>   |                |                  |          | \$167,600,000 |                          |
| <b>Maintenance of Traffic (excluding Plaza Ramps - 5%)</b>   |                |                  |          |               |                          |
|  | LS             |                  | 1        | \$3,073,036   |                          |
| <b>Maintenance of Traffic (Plaza Ramps - 2%)</b>             |                |                  |          |               |                          |
|  | LS             |                  | 1        | \$2,122,786   |                          |
| <b>Mobilization (5%)</b>                                     |                |                  |          |               |                          |
|  | LS             |                  | 1        | \$8,380,000   |                          |
| <b>SUBTOTAL A - CONSTRUCTION</b>                             |                |                  |          | \$181,180,000 |                          |
| <b>SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)</b>           |                |                  |          | \$18,118,000  |                          |
| <b>SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)</b>              |                |                  |          | \$9,059,000   |                          |
| <b>Utilities (To be determined)</b>                          |                |                  |          | \$0           |                          |
| <b>SUBTOTAL D -</b>  |                |                  |          | \$0           |                          |
| <b>TOTAL (A,B,C,D)</b>                                       |                |                  |          | \$208,360,000 |                          |
| <b>Rounded Total (Millions of Dollars)</b>                   |                |                  |          | \$208         |                          |



26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing Study

By: D. Greenwood

Checked By: L. Nguyen

Date: 10/04/07

Date: 10/16/2007

Job No.: 646294

Subject: Refined Practical Alternative Cost Estimates

**US Roadway/Bridge Cost Estimate  
Alternative 3: Interchange C, Plaza P-a, and Crossing X-10**

| Items  | Unit           | Unit Cost (US\$) | Quantity | Total (US\$)  | Comment   |
|--|----------------|------------------|----------|---------------|---|
| <b>Roadways &amp; Ramps</b>                                  |                |                  |          |               |   |
| Freeway Lanes  |                |                  |          |               |   |
| Reconstructed 8-lane freeway with concrete median barrier    | m              | \$3,000          | 1,620    | \$4,860,000   |   |
| <b>Plaza Ramps</b>   |                |                  |          |               |   |
| Entrance Ramps G-210 Case 1 Urban 2 Lanes                    | m              | \$770            | 960      | \$739,200     |   |
| Exit Ramps G-240 Case 2 Urban 2 Lanes                        | m              | \$770            | 640      | \$492,800     |   |
| <b>Service Drive Ramps</b>                                   |                |                  |          |               |   |
| Entrance Ramps G-201 Case 1 Urban 1 Lanes                    | m              | \$670            | 1,850    | \$1,239,500   |   |
| Exit Ramps G-205 Urban 1 Lanes                               | m              | \$670            | 2,160    | \$1,447,200   |   |
| Removal of existing ramps                                    | m              | \$40             | 2,070    | \$82,800      |   |
| <b>Service Drives</b>  |                |                  |          |               |   |
| Constructing 10 m wide Service drive                         | m              | \$770            | 4,720    | \$3,634,400   |   |
| Removing existing 10 m service drive                         | m              | \$80             | 4,720    | \$377,600     |   |
| <b>Local Roads</b>   |                |                  |          |               |   |
| New construction per 3.6 m lane                              | m              | \$290            | 440      | \$127,600     |   |
| Remove existing local road per 3.6 m lane w/ curb and gutter | m              | \$40             | 2,330    | \$93,200      |   |
| Gateway Corridor   | m              | \$290            | 3,780    | \$1,096,200   |   |
| Local Access to Plaza  | m              | \$670            | 730      | \$489,100     |   |
| Intersection Signalization                                   | ea             | \$60,000         | 13       | \$1,040,000   |   |
|  |                |                  |          | \$15,720,000  |   |
|  |                |                  |          |               | subtotal (rounded to 10,000's)                      |
| <b>Sound Abatement Walls</b>                                 |                |                  |          |               |   |
|  | m              | \$1,780          | 1,940    | \$3,453,200   |   |
|  |                |                  |          | \$3,450,000   |   |
|  |                |                  |          |               | subtotal (rounded to 10,000's)                      |
| <b>Bridges</b>   |                |                  |          |               |   |
| Plaza Ramp Bridges   | m <sup>2</sup> | \$2,400          | 29,340   | \$70,416,000  |   |
| Crossing Bridges   | m <sup>2</sup> | \$2,400          | 4,680    | \$11,232,000  |   |
| Three-sided Underpass  | m <sup>3</sup> | \$2,400          | 1,350    | \$3,240,000   |   |
| Pedestrian Bridges (same locations as existing bridges)      | ea             | \$300,000        | 5        | \$1,500,000   |   |
|  |                |                  |          | \$86,390,000  |   |
|  |                |                  |          |               | subtotal (rounded to 10,000's)                      |
| <b>Retaining Walls</b>                                       |                |                  |          |               |   |
| Gravity Walls  | m <sup>2</sup> | \$540            | 230      | \$124,200     |   |
| MSE/Gravity Concrete Walls                                   | m <sup>2</sup> | \$750            | 4,480    | \$3,360,000   |   |
| Driven Walls   | m <sup>2</sup> | \$2,690          | 0        | \$0           |   |
|  |                |                  |          | \$3,480,000   |   |
|  |                |                  |          |               | subtotal (rounded to 10,000's)                      |
| <b>Bridge Demolition</b>                                     |                |                  |          |               |   |
| Entire bridge, grade separation                              | m <sup>2</sup> | \$270            | 6,950    | \$1,876,500   |   |
|  |                |                  |          | \$1,880,000   |   |
|  |                |                  |          |               | subtotal (rounded to 10,000's)                      |
| <b>Roadway Storm Drainage</b>                                |                |                  |          |               |   |
| Freeway drainage   | m              | \$860            | 1,620    | \$1,393,200   |   |
| Ramp drainage  | m              | \$160            | 5,610    | \$897,600     |   |
| Local road drainage  | m              | \$160            | 440      | \$70,400      |   |
| Service drive drainage                                       | m              | \$160            | 4,720    | \$755,200     |   |
| Remove exist storm drainage system (per side)                | m              | \$50             | 11,640   | \$582,000     |   |
| Pump station   | LS             | \$1,500,000      | 1        | \$1,500,000   |   |
|  |                |                  |          | \$5,200,000   |   |
|  |                |                  |          |               | subtotal (rounded to 10,000's)                      |
| <b>Railroad Spur</b>   |                |                  |          |               |   |
|  | LS             |                  | 1        | \$9,090,750   |   |
|  |                |                  |          | \$9,090,000   |   |
|  |                |                  |          |               | subtotal (rounded to 10,000's)                      |
|  |                |                  |          | \$125,210,000 |   |
|  |                |                  |          |               | Design Contingencies (20%)                          |
|  | LS             |                  | 1        | \$25,042,000  |   |
|  |                |                  |          | \$150,250,000 |   |
|  |                |                  |          |               | subtotal (rounded to 10,000's)                      |
|  |                |                  |          |               | Maintenance of Traffic (excluding Plaza Ramps - 5%) |
|  | LS             |                  | 1        | \$3,213,620   |   |
|  |                |                  |          | \$1,719,552   |   |
|  | LS             |                  | 1        | \$1,719,552   |   |
|  |                |                  |          | \$7,512,500   |   |
|  | LS             |                  | 1        | \$7,512,500   |   |
|  |                |                  |          |               | Mobilization (5%)                                   |
| <b>SUBTOTAL A - CONSTRUCTION</b>                             |                |                  |          | \$162,700,000 |   |
| <b>SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)</b>           |                |                  |          | \$16,270,000  |   |
| <b>SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)</b>              |                |                  |          | \$8,135,000   |   |
| Utilities (To be determined)                                 | LS             |                  | 1        | \$0           |   |
| <b>SUBTOTAL D -</b>  |                |                  |          | \$0           |   |
| <b>TOTAL (A,B,C,D)</b>                                       |                |                  |          | \$187,110,000 |   |
| <b>Rounded Total (Millions of Dollars)</b>                   |                |                  |          | \$187         |   |



26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing Study

By: D. Greenwood

Checked By: L. Nguyen

Date: 10/04/07

Date: 10/16/2007

Job No.: 646294

Subject: Refined Practical Alternative Cost Estimates

**US Roadway/Bridge Cost Estimate**  
**Alternative 5: Interchange E, Plaza P-a Mod, and Crossing X-10**

| Items  | Unit           | Unit Cost (US\$) | Quantity | Total (US\$)  | Comment                  |
|--|----------------|------------------|----------|---------------|--------------------------|
| <b>Roadways &amp; Ramps</b>                                  |                |                  |          |               |                          |
| Freeway Lanes  |                |                  |          |               |                          |
| Reconstructed 8-lane freeway with concrete median barrier    | m              | \$3,000          | 0        | \$0           | N/A for this alternative |
| <b>Plaza Ramps</b>   |                |                  |          |               |                          |
| Entrance Ramps G-210 Case 1 Urban 2 Lanes                    | m              | \$770            | 1,100    | \$847,000     |                          |
| Exit Ramps G-240 Case 2 Urban 2 Lanes                        | m              | \$770            | 590      | \$454,300     |                          |
| <b>Service Drive Ramps</b>                                   |                |                  |          |               |                          |
| Entrance Ramps G-201 Case 1 Urban 1 Lanes                    | m              | \$670            | 1,810    | \$1,212,700   |                          |
| Exit Ramps G-205 Urban 1 Lanes                               | m              | \$670            | 2,190    | \$1,467,300   |                          |
| Removal of existing ramps                                    | m              | \$40             | 2,010    | \$80,400      |                          |
| <b>Service Drives</b>  |                |                  |          |               |                          |
| Constructing 10 m wide Service drive                         | m              | \$770            | 4,800    | \$3,696,000   |                          |
| Removing existing 10 m service drive                         | m              | \$80             | 4,800    | \$384,000     |                          |
| <b>Local Roads</b>   |                |                  |          |               |                          |
| New construction per 3.6 m lane                              | m              | \$290            | 1,150    | \$333,500     |                          |
| Remove existing local road per 3.6 m lane w/ curb and gutter | m              | \$40             | 3,040    | \$121,600     |                          |
| Gateway Corridor   | m              | \$290            | 3,780    | \$1,096,200   |                          |
| Local Access to Plaza  | m              | \$670            | 710      | \$475,700     |                          |
| Intersection Signalization                                   | ea             | \$80,000         | 9        | \$720,000     |                          |
|  |                |                  |          | \$10,890,000  |                          |
| <b>Sound Abatement Walls</b>                                 |                |                  |          |               |                          |
|  | m              | \$1,820          | 2,020    | \$3,676,400   |                          |
|  |                |                  |          | \$3,680,000   |                          |
| <b>Bridges</b>   |                |                  |          |               |                          |
| Plaza Ramp Bridges   | m <sup>2</sup> | \$2,400          | 30,750   | \$73,800,000  |                          |
| Crossing Bridges   | m <sup>2</sup> | \$2,400          | 4,680    | \$11,232,000  |                          |
| Three-sided Underpass  | m <sup>2</sup> | \$2,400          | 1,480    | \$3,576,000   |                          |
| Pedestrian Bridges (same locations as existing bridges)      | ea             | \$300,000        | 5        | \$90,000,000  |                          |
|  |                |                  |          | \$90,110,000  |                          |
| <b>Retaining Walls</b>                                       |                |                  |          |               |                          |
| Gravity Walls  | m <sup>2</sup> | \$540            | 140      | \$75,600      |                          |
| MSE/Gravity Concrete Walls                                   | m <sup>2</sup> | \$750            | 5,980    | \$4,485,000   |                          |
| Driven Walls   | m <sup>2</sup> | \$2,690          | 0        | \$0           |                          |
|  |                |                  |          | \$4,560,000   | N/A for this alternative |
| <b>Bridge Demolition</b>                                     |                |                  |          |               |                          |
| Entire bridge, grade separation                              | m <sup>2</sup> | \$270            | 6,950    | \$1,876,500   |                          |
|  |                |                  |          | \$1,880,000   |                          |
| <b>Roadway Storm Drainage</b>                                |                |                  |          |               |                          |
| Freeway drainage   | m              | \$960            | 0        | \$0           |                          |
| Ramp drainage  | m              | \$160            | 5,690    | \$910,400     |                          |
| Local road drainage  | m              | \$160            | 575      | \$92,000      |                          |
| Service drive drainage                                       | m              | \$160            | 4,800    | \$768,000     |                          |
| Remove exist storm drainage system (per side)                | m              | \$50             | 5,380    | \$269,000     |                          |
| Pump station   | LS             | \$1,500,000      | 1        | \$1,500,000   |                          |
|  |                |                  |          | \$3,540,000   |                          |
| <b>Railroad Spur</b>   |                |                  |          |               |                          |
|  | LS             |                  | 1        | \$9,090,750   |                          |
|  |                |                  |          | \$9,090,000   |                          |
|  |                |                  |          | \$123,750,000 |                          |
|  |                |                  |          | \$123,750,000 |                          |
|  |                |                  |          | \$24,750,000  |                          |
|  |                |                  |          | \$148,500,000 |                          |
|  |                |                  |          | \$2,918,922   |                          |
|  |                |                  |          | \$1,802,431   |                          |
|  |                |                  |          | \$7,425,000   |                          |
| <b>SUBTOTAL A - CONSTRUCTION</b>                             |                |                  |          | \$160,650,000 |                          |
| <b>SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)</b>           |                |                  |          | \$16,065,000  |                          |
| <b>SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)</b>              |                |                  |          | \$8,032,500   |                          |
| Utilities (To be determined)                                 | LS             |                  | 1        | \$0           |                          |
| <b>SUBTOTAL D -</b>  |                |                  |          | \$0           |                          |
| <b>TOTAL (A,B,C,D)</b>                                       |                |                  |          | \$184,750,000 |                          |
| <b>Rounded Total (Millions of Dollars)</b>                   |                |                  |          | \$185         |                          |





26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing Study

Date: 10/04/07

Job No.: 646294

By: D. Greenwood

Date: 10/16/2007

Subject: Refined Practical Alternative Cost Estimates

Checked By: L. Nguyen

**US Roadway/Bridge Cost Estimate  
Alternative 9: Interchange B, Plaza P-c, and Crossing X-11**

| Items  | Unit           | Unit Cost (US\$) | Quantity | Total (US\$)  | Comment                  |
|--|----------------|------------------|----------|---------------|--------------------------|
| <b>Roadways &amp; Ramps</b>                                  |                |                  |          |               |                          |
| Freeway Lanes  |                |                  |          |               |                          |
| Reconstructed 8-lane freeway with concrete median barrier    | m              | \$3,000          | 0        | \$0           | N/A for this alternative |
| <b>Plaza Ramps</b>   |                |                  |          |               |                          |
| Entrance Ramps G-210 Case 1 Urban 2 Lanes                    | m              | \$770            | 1,240    | \$954,800     |                          |
| Exit Ramps G-240 Case 2 Urban 2 Lanes                        | m              | \$770            | 580      | \$446,600     |                          |
| <b>Service Drive Ramps</b>                                   |                |                  |          |               |                          |
| Entrance Ramps G-201 Case 1 Urban 1 Lanes                    | m              | \$670            | 1,770    | \$1,185,900   |                          |
| Exit Ramps G-205 Urban 1 Lanes                               | m              | \$670            | 1,810    | \$1,212,700   |                          |
| Removal of existing ramps                                    | m              | \$40             | 2,070    | \$82,800      |                          |
| <b>Service Drives</b>  |                |                  |          |               |                          |
| Constructing 10 m wide Service drive                         | m              | \$770            | 5,280    | \$4,065,600   |                          |
| Removing existing 10 m service drive                         | m              | \$80             | 5,280    | \$422,400     |                          |
| <b>Local Roads</b>   |                |                  |          |               |                          |
| New construction per 3.6 m lane                              | m              | \$290            | 2,600    | \$754,000     |                          |
| Remove existing local road per 3.6 m lane w/ curb and gutter | m              | \$35             | 4,630    | \$162,050     |                          |
| Gateway Corridor   | m              | \$290            | 4,060    | \$1,177,400   |                          |
| Local Access to Plaza  | m              | \$670            | 840      | \$562,800     |                          |
| Intersection Signalization                                   | ea             | \$80,000         | 11       | \$880,000     |                          |
|  |                |                  |          | \$11,810,000  |                          |
| <b>Sound Abatement Walls</b>                                 |                |                  |          |               |                          |
|  | m              | \$1,780          | 2,130    | \$3,791,400   |                          |
|  |                |                  |          | \$3,790,000   |                          |
| <b>Bridges</b>   |                |                  |          |               |                          |
| Plaza Ramp Bridges   | m <sup>2</sup> | \$2,400          | 36,900   | \$88,560,000  |                          |
| Crossing Bridges   | m <sup>2</sup> | \$2,400          | 7,510    | \$18,024,000  |                          |
| Three-sided Underpass  | m <sup>2</sup> | \$2,400          | 0        | \$0           | N/A for this alternative |
| Pedestrian Bridges (same locations as existing bridges)      | ea             | \$300,000        | 5        | \$1,500,000   |                          |
|  |                |                  |          | \$108,084,000 |                          |
| <b>Retaining Walls</b>                                       |                |                  |          |               |                          |
| Gravity Walls  | m <sup>2</sup> | \$540            | 120      | \$64,800      |                          |
| MSE/Gravity Concrete Walls                                   | m <sup>2</sup> | \$750            | 2,990    | \$2,242,500   |                          |
| Driven Walls   | m <sup>2</sup> | \$2,690          | 0        | \$0           | N/A for this alternative |
|  |                |                  |          | \$2,310,000   |                          |
| <b>Bridge Demolition</b>                                     |                |                  |          |               |                          |
| Entire bridge, grade separation                              | m <sup>2</sup> | \$270            | 8,590    | \$2,319,300   |                          |
|  |                |                  |          | \$2,320,000   |                          |
| <b>Roadway Storm Drainage</b>                                |                |                  |          |               |                          |
| Freeway Drainage   | m              | \$960            | 0        | \$0           | N/A for this alternative |
| Ramp drainage  | m              | \$160            | 5,400    | \$864,000     |                          |
| Local road drainage  | m              | \$160            | 1,300    | \$208,000     |                          |
| Service drive drainage                                       | m              | \$160            | 5,280    | \$844,800     |                          |
| Remove exist storm drain system (per side)                   | m              | \$50             | 6,590    | \$329,500     |                          |
| Pump station   | LS             | \$1,500,000      | 1        | \$1,500,000   |                          |
|  |                |                  |          | \$3,750,000   |                          |
| <b>Railroad Spur</b>   |                |                  |          |               |                          |
|  | LS             |                  | 1        | \$9,090,750   |                          |
|  |                |                  |          | \$9,090,000   |                          |
|  |                |                  |          | \$141,250,000 |                          |
|  | LS             |                  | 1        | \$28,250,000  |                          |
|  |                |                  |          | \$169,500,000 |                          |
|  |                |                  |          | \$18,321,000  |                          |
|  |                |                  |          | \$9,160,500   |                          |
|  |                |                  |          | \$0           |                          |
|  |                |                  |          | \$0           |                          |
|  |                |                  |          | \$210,690,000 |                          |
|  |                |                  |          | \$211         |                          |
| <b>SUBTOTAL A - CONSTRUCTION</b>                             |                |                  |          | \$163,210,000 |                          |
| <b>SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)</b>           |                |                  |          | \$18,321,000  |                          |
| <b>SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)</b>              |                |                  |          | \$9,160,500   |                          |
| Utilities (To be determined)                                 | LS             |                  | 1        | \$0           |                          |
| <b>SUBTOTAL D -</b>  |                |                  |          | \$0           |                          |
| <b>TOTAL (A,B,C,D)</b>                                       |                |                  |          | \$210,690,000 |                          |
| <b>Rounded Total (Millions of Dollars)</b>                   |                |                  |          | \$211         |                          |



26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing Study

By: D. Greenwood

Checked By: L. Nguyen

Date: 10/04/07

Date: 10/16/2007

Job No.: 646294

Subject: Refined Practical Alternative Cost Estimates

**US Roadway/Bridge Cost Estimate**  
**Alternative 11: Interchange C, Plaza P-c, and Crossing X-11**

| Items  | Unit           | Unit Cost (US\$) | Quantity | Total (US\$)  | Comment                  |
|--|----------------|------------------|----------|---------------|--------------------------|
| <b>Roadways &amp; Ramps</b>                                  |                |                  |          |               |                          |
| Freeway Lanes  |                |                  |          |               |                          |
| Reconstructed 8-lane freeway with concrete median barrier    | m              | \$3,000          | 1,620    | \$4,860,000   |                          |
| <b>Plaza Ramps</b>   |                |                  |          |               |                          |
| Entrance Ramps G-210 Case 1 Urban 2 Lanes                    | m              | \$770            | 960      | \$739,200     |                          |
| Exit Ramps G-240 Case 2 Urban 2 Lanes                        | m              | \$770            | 640      | \$492,800     |                          |
| <b>Service Drive Ramps</b>                                   |                |                  |          |               |                          |
| Entrance Ramps G-201 Case 1 Urban 1 Lanes                    | m              | \$670            | 1,940    | \$1,299,800   |                          |
| Exit Ramps G-205 Urban 1 Lanes                               | m              | \$670            | 2,040    | \$1,366,800   |                          |
| Removal of existing ramps                                    | m              | \$40             | 2,070    | \$82,800      |                          |
| <b>Service Drives</b>  |                |                  |          |               |                          |
| Constructing 10 m wide Service drive                         | m              | \$770            | 4,720    | \$3,634,400   |                          |
| Removing existing 10 m service drive                         | m              | \$80             | 4,720    | \$377,600     |                          |
| <b>Local Roads</b>   |                |                  |          |               |                          |
| New construction per 3.6 m lane                              | m              | \$290            | 460      | \$133,400     |                          |
| Remove existing local road per 3.6 m lane w/ curb and gutter | m              | \$40             | 2,490    | \$99,600      |                          |
| Gateway Corridor   | m              | \$290            | 4,060    | \$1,177,400   |                          |
| Local Access to Plaza  | m              | \$670            | 840      | \$562,800     |                          |
| Intersection Signalization                                   | ea             | \$80,000         | 13       | \$1,040,000   |                          |
| <i>subtotal (rounded to 10,000's)</i>                        |                |                  |          | \$15,870,000  |                          |
| <b>Sound Abatement Walls</b>                                 |                |                  |          |               |                          |
|  | m              | \$1,780          | 1,940    | \$3,453,200   |                          |
| <i>subtotal (rounded to 10,000's)</i>                        |                |                  |          | \$3,450,000   |                          |
| <b>Bridges</b>   |                |                  |          |               |                          |
| Plaza Ramp Bridges   | m <sup>2</sup> | \$2,400          | 29,320   | \$70,368,000  |                          |
| Crossing Bridges   | m <sup>2</sup> | \$2,400          | 4,680    | \$11,232,000  |                          |
| Three-sided Underpass  | m <sup>2</sup> | \$2,400          | 1,350    | \$3,240,000   |                          |
| Pedestrian Bridges (same locations as existing bridges)      | ea             | \$300,000        | 5        | \$1,500,000   |                          |
| <i>subtotal (rounded to 10,000's)</i>                        |                |                  |          | \$86,340,000  |                          |
| <b>Retaining Walls</b>                                       |                |                  |          |               |                          |
| Gravity Walls  | m <sup>2</sup> | \$540            | 230      | \$124,200     |                          |
| MSE/Gravity Concrete Walls                                   | m <sup>2</sup> | \$750            | 4,480    | \$3,360,000   |                          |
| Driven Walls   | m <sup>2</sup> | \$2,690          | 0        | \$0           | N/A for this alternative |
| <i>subtotal (rounded to 10,000's)</i>                        |                |                  |          | \$3,480,000   |                          |
| <b>Bridge Demolition</b>                                     |                |                  |          |               |                          |
| Entire bridge, grade separation                              | m <sup>2</sup> | \$270            | 8,590    | \$2,319,300   |                          |
| <i>subtotal (rounded to 10,000's)</i>                        |                |                  |          | \$2,320,000   |                          |
| <b>Roadway Storm Drainage</b>                                |                |                  |          |               |                          |
| Freeway drainage   | m              | \$960            | 1,620    | \$1,393,200   |                          |
| Ramp drainage  | m              | \$160            | 5,580    | \$892,800     |                          |
| Local road drainage  | m              | \$160            | 230      | \$36,800      |                          |
| Service drive drainage                                       | m              | \$160            | 4,720    | \$755,200     |                          |
| Remove exist storm drainage system (per side)                | m              | \$50             | 11,430   | \$571,500     |                          |
| Pump station   | LS             | \$1,500,000      | 1        | \$1,500,000   |                          |
| <i>subtotal (rounded to 10,000's)</i>                        |                |                  |          | \$5,150,000   |                          |
| <b>Railroad Spur</b>   |                |                  |          |               |                          |
| Entire bridge, grade separation                              | LS             | \$9,090,750      | 1        | \$9,090,750   |                          |
| <i>subtotal (rounded to 10,000's)</i>                        |                |                  |          | \$9,090,000   |                          |
| <i>Subtotal:</i>   |                |                  |          | \$125,700,000 |                          |
| <i>Design Contingencies (20%)</i>                            | LS             |                  | 1        | \$25,140,000  |                          |
| <i>Subtotal:</i>   |                |                  |          | \$150,840,000 |                          |
| <i>Maintenance of Traffic (excluding Plaza Ramps - 5%)</i>   | LS             |                  | 1        | \$3,246,000   |                          |
| <i>Maintenance of Traffic (Plaza Ramps - 2%)</i>             | LS             |                  | 1        | \$1,718,400   |                          |
| <i>Mobilization (5%)</i>                                     | LS             |                  | 1        | \$7,542,000   |                          |
| <b>SUBTOTAL A - CONSTRUCTION</b>                             |                |                  |          | \$163,350,000 |                          |
| <b>SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)</b>           |                |                  |          | \$16,335,000  |                          |
| <b>SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)</b>              |                |                  |          | \$8,167,500   |                          |
| Utilities (To be determined)                                 | LS             |                  | 1        | \$0           |                          |
| <b>SUBTOTAL D -</b>  |                |                  |          | \$0           |                          |
| <b>TOTAL (A,B,C,D)</b>                                       |                |                  |          | \$187,850,000 |                          |
| <b>Rounded Total (Millions of Dollars)</b>                   |                |                  |          | \$188         |                          |





26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing Study

By: D. Greenwood

Checked By: L. Nguyen

Date: 10/04/07

Date: 10/16/2007

Job No.: 646294

Subject: Refined Practical Alternative Cost Estimates

**US Roadway/Bridge Cost Estimate  
Alternative 16: Interchange I, Plaza P-a, and Crossing X-10**

| Items   | Unit           | Unit Cost (US\$) | Quantity | Total (US\$)  | Comment                  |
|---|----------------|------------------|----------|---------------|--------------------------|
| <b>Roadways &amp; Ramps</b>   |                |                  |          |               |                          |
| Freeway Lanes   |                |                  |          |               |                          |
| Reconstructed 8-lane freeway with concrete median barrier                   | m              | \$3,000          | 0        | \$0           | N/A for this alternative |
| <b>Plaza Ramps</b>  |                |                  |          |               |                          |
| Entrance Ramps G-210 Case 1 Urban 2 Lanes                                   | m              | \$770            | 850      | \$654,500     |                          |
| Exit Ramps G-240 Case 2 Urban 2 Lanes                                       | m              | \$770            | 480      | \$377,300     |                          |
| <b>Service Drive Ramps</b>  |                |                  |          |               |                          |
| Entrance Ramps G-201 Case 1 Urban 1 Lanes                                   | m              | \$670            | 2,600    | \$1,742,000   |                          |
| Exit Ramps G-205 Urban 1 Lanes  | m              | \$670            | 2,190    | \$1,467,300   |                          |
| Removal of existing ramps   | m              | \$40             | 2,430    | \$97,200      |                          |
| <b>Service Drives</b>   |                |                  |          |               |                          |
| Constructing 10 m wide Service drive  | m              | \$770            | 5,320    | \$4,096,400   |                          |
| Removing existing 10 m service drive  | m              | \$80             | 5,320    | \$425,600     |                          |
| <b>Local Roads</b>  |                |                  |          |               |                          |
| New construction per 3.6 m lane   | m              | \$290            | 2,690    | \$780,100     |                          |
| Remove existing local road per 3.6 m lane w/ curb and gutter                | m              | \$35             | 4,580    | \$160,300     |                          |
| Gateway Corridor  | m              | \$290            | 3,780    | \$1,096,200   |                          |
| Local Access to Plaza   | m              | \$670            | 730      | \$489,100     |                          |
| Intersection Signalization  | ea             | \$80,000         | 14       | \$1,120,000   |                          |
|   |                |                  |          | \$12,510,000  |                          |
|   |                |                  |          | \$3,791,400   |                          |
|   |                |                  |          | \$3,790,000   |                          |
| <b>Sound Abatement Walls</b>  |                |                  |          |               |                          |
|   | m              | \$1,780          | 2,130    | \$3,791,400   |                          |
|   |                |                  |          | \$3,790,000   |                          |
| <b>Bridges</b>  |                |                  |          |               |                          |
| Plaza Ramp Bridges  | m <sup>2</sup> | \$2,400          | 33,730   | \$80,952,000  |                          |
| Crossing Bridges  | m <sup>2</sup> | \$2,400          | 9,560    | \$22,944,000  |                          |
| Three-sided Underpass   | m <sup>2</sup> | \$2,400          | 0        | \$0           | N/A for this alternative |
| Pedestrian Bridges (same locations as existing bridges)                     | ea             | \$300,000        | 5        | \$1,500,000   |                          |
|   |                |                  |          | \$105,400,000 |                          |
| <b>Retaining Walls</b>  |                |                  |          |               |                          |
| Gravity Walls   | m <sup>2</sup> | \$540            | 0        | \$0           | N/A for this alternative |
| MSE/Gravity Concrete Walls  | m <sup>2</sup> | \$750            | 3,550    | \$2,662,500   |                          |
| Driven Walls  | m <sup>2</sup> | \$2,690          | 860      | \$2,367,200   |                          |
|   |                |                  |          | \$5,030,000   |                          |
| <b>Bridge Demolition</b>  |                |                  |          |               |                          |
| Entire bridge, grade separation   | m <sup>2</sup> | \$270            | 12,160   | \$3,283,200   |                          |
|   |                |                  |          | \$3,280,000   |                          |
| <b>Roadway Storm Drainage</b>   |                |                  |          |               |                          |
| Freeway drainage  | m              | \$860            | 0        | \$0           | N/A for this alternative |
| Ramp drainage   | m              | \$160            | 6,130    | \$980,800     |                          |
| Local road drainage   | m              | \$160            | 1,350    | \$216,000     |                          |
| Service drive drainage  | m              | \$160            | 5,320    | \$851,200     |                          |
| Remove exist storm drainage system (per side)                               | m              | \$50             | 6,670    | \$333,500     |                          |
| Pump station  | LS             | \$1,500,000      | 1        | \$1,500,000   |                          |
|   |                |                  |          | \$3,880,000   |                          |
| <b>Railroad Spur</b>  |                |                  |          |               |                          |
|   | LS             |                  | 1        | \$9,090,750   |                          |
|   |                |                  |          | \$9,090,000   |                          |
|   |                |                  |          | \$142,980,000 |                          |
|   |                |                  |          | \$142,980,000 |                          |
|   |                |                  |          | \$28,596,000  |                          |
|   |                |                  |          | \$171,580,000 |                          |
|   |                |                  |          | \$171,580,000 |                          |
|   |                |                  |          | \$3,659,972   |                          |
|   |                |                  |          | \$1,967,611   |                          |
|   |                |                  |          | \$8,579,000   |                          |
| <b>SUBTOTAL A - CONSTRUCTION</b><br>(rounded to 10,000's)                   |                |                  |          | \$185,790,000 |                          |
| <b>SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)</b><br>(rounded to 10,000's) |                |                  |          | \$18,580,000  |                          |
| <b>SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)</b><br>(rounded to 10,000's)    |                |                  |          | \$9,290,000   |                          |
| Utilities (To be determined)  | LS             |                  | 1        | \$0           |                          |
| <b>SUBTOTAL D -</b>   |                |                  |          | \$0           |                          |
| <b>TOTAL (A,B,C,D)</b>  |                |                  |          | \$213,660,000 |                          |
| <b>Rounded Total (Millions of Dollars)</b>                                  |                |                  |          | \$214         |                          |

**Noise Barrier Descriptions<sup>1</sup>**

| Alternative | Total Length <sup>2</sup> |        | Cost <sup>3</sup> |
|-------------|---------------------------|--------|-------------------|
| 1           | 6,452                     | feet   | \$3,496,591       |
|             | 1,967                     | meters |                   |
| 2           | 6,986                     | feet   | \$3,794,256       |
|             | 2,130                     | meters |                   |
| 3           | 6,366                     | feet   | \$3,463,717       |
|             | 1,941                     | meters |                   |
| 5           | 6,639                     | feet   | \$3,674,378       |
|             | 2,024                     | meters |                   |
| 7           | 6,452                     | feet   | \$3,496,591       |
|             | 1,967                     | meters |                   |
| 9           | 6,986                     | feet   | \$3,794,256       |
|             | 2,130                     | meters |                   |
| 11          | 6,366                     | feet   | \$3,463,717       |
|             | 1,941                     | meters |                   |
| 14          | 6,668                     | feet   | \$3,615,614       |
|             | 2,033                     | meters |                   |
| 16          | 6,986                     | feet   | \$3,794,256       |
|             | 2,130                     | meters |                   |

<sup>1</sup> Barriers specifically intended to mitigate noise. Other barriers, such as median barriers, are not included.

<sup>2</sup> Combined length of multiple noise barriers associated with each alternative.

<sup>3</sup> The noise wall cost is estimated at \$250 per linear foot for foundations and drainage plus \$250 per square foot of wall construction. With a generic 12' high wall the cost would be \$550/ft.

**PARSONS**

26777 Central Park Boulevard - Suite 275 - Southfield, Michigan 48076 - (248) 262-0013 - Fax: (248) 262-0888 - www.parsons.com  
 Project: Detroit River International Crossing  
 By: Lam Nguyen Date: 12/20/06  
 Check: RH/RS/DG Date: 12/22/06

Job No.: 646294  
 Subject: Practical/Alternative  
 Cost Estimates

**I-75 Freeway Removal & Construction Cost for Option 3, Alternate 3, 10, 11 only**

| Conversion factors:   | 1 ft = 0.3048 m                                 | 1 yd <sup>2</sup> = 0.8361 m <sup>2</sup>         |
|---|---|---|
|   | 1 ft <sup>2</sup> = 0.092903 m <sup>2</sup>     | 1 yd <sup>3</sup> = 0.7646 m <sup>3</sup>         |
|   |   | Unit Price Used:<br>Adjusted for Metro Region     |
|   | Statewide Unit Prices<br>Converted Metric Price | Unit Price Used:<br>Adjusted for Metro Region     |
| <b>1. Non-reinforced concrete pavement</b>  |   | 31 \$/m <sup>2</sup>                              |
| Total for Item - 6020106 10 16,050.10 149,434.00 \$3,390,177.38 \$22.69   |   |   |
| Conc Pavt. Nonreinf. 9 inch UNITS: Syd  |   |   |
| 8 lanes x 3.6 m x 1000 m x \$31/m <sup>2</sup>  | = \$ 892,800                                    |   |
| <b>2. Non-reinforced concrete shoulder (left)</b>   |   | 29 \$/m <sup>2</sup>                              |
| Total for Item - 6020222 9 8,914.75 56,780.00 \$1,157,318.72 \$20.38  |   |   |
| Shoulder, Nonreinf Conc UNITS: Syd  |   |   |
| 3.6 m x 2 x 1000 m x \$29/m <sup>2</sup>  | = \$ 208,800                                    |   |
| <b>3. Non-reinforced concrete shoulder (right)</b>  |   | 29 \$/m <sup>2</sup>                              |
| Nonreinf conc shoulder varies from 7" to 10" thick  |   |   |
| 2.4 m x 2 x 1000 m x \$29/m <sup>2</sup>  | = \$ 139,200                                    |   |
| <b>4. Open graded drainage layer (100 mm depth)</b>   |   | 6.90 \$/m <sup>2</sup>                            |
| Total for Item - 3030001 4 2,859.50 11,438.00 \$59,324.67 \$5.19  |   |   |
| Open-Graded Dr Cse. 4 Inch UNITS: Syd   |   |   |
| 22 m x 2 x 1000 m x \$1.40/m <sup>2</sup>   | = \$ 303,600                                    |   |
| <b>5. Geotextile separator</b>  |   | 1.40 \$/m <sup>2</sup>                            |
| Total for Item - 3030020 47 34,147.53 1,985,442.00 \$2,029,020.39 \$1.02  |   |   |
| Geotextile Separator UNITS: Syd   |   |   |
| 22 m x 2 x 1000 m x \$1.40/m <sup>2</sup>   | = \$ 61,600                                     |   |
| <b>6. Subbase (300 mm depth)</b>  |   | 12 \$/m <sup>3</sup>                              |
| Total for Item - 3010002 252 7,845.54 1,959,885.00 \$15,177,681.23 \$7.74   |   |   |
| Subbase, CIP UNITS: Syd   |   |   |
| 44 m x 0.3 m x 1000 m x \$12/m <sup>3</sup>   | = \$ 158,400                                    |   |
| <b>7. Underdrain pipe</b>   |   | 47 \$/m   |
| Total for Item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88  |   |   |
| Underdrain, Pipe, Open-Graded, 6 inch UNITS: Ft   |   |   |
| 4 (runs) x 1000 m x \$15/m  | = \$ 60,000                                     |   |
| <b>8. Double-faced concrete median barrier</b>  |   | 160 \$/m  |
| Total for Item - 8040005 8 810.50 8,420.00 \$369,682.54 \$43.91   |   |   |
| Conc Barrier, Double Face, Type A UNITS: Ft   |   |   |
| 1000 m x \$160/m  | = \$ 160,000                                    |   |
| <b>9. Concrete glare screen</b>   |   | 47 \$/m   |
| Total for Item - 8040015 9 1,182.07 12,440.00 \$152,974.24 \$12.30  |   |   |
| Glare Screen, Conc UNITS: Ft  |   |   |
| 1000 m x \$47/m   | = \$ 47,000                                     |   |
| <b>10. Concrete valley gutter</b>   |   | 58 \$/m   |
| Total for Item - 8020060 17 1,389.52 22,158.00 \$353,815.07 \$15.97   |   |   |
| Valley Gutter, Conc UNITS: Ft   |   |   |
| 4 (runs) x 1000 m x \$58/m  | = \$ 232,000                                    |   |
| <b>11. Pavement removal</b>   |   | 5.30 \$/m <sup>2</sup>                            |
| Total for Item - 2040011 302 10,164.38 3,345,535.00 \$12,472,897.01 \$3.73  |   |   |
| Pavt. Rem UNITS: Syd  |   |   |
| 44 m x 1000 m x \$5.30/m <sup>2</sup>   | = \$ 233,200                                    |   |
| <b>12. Curb and gutter removal</b>  |   | 17 \$/ft  |
| Total for Item - 2040006 286 1,557.59 427,782.00 \$1,921,238.91 \$4.49  |   |   |
| Curb and Gutter, Rem UNITS: Ft  |   |   |
| 4 (runs) x 1000 m x \$17/m  | = \$ 68,000                                     |   |
| <b>13. Concrete barrier removal</b>   |   | 62 \$/m   |
| 2040012 Ft Conc Barrier, Rem  |   |   |
| Indiana DOT price used, ODOT similar  |   |   |
| Note: Concrete barrier are also used as retaining walls on both sides of the  |   |   |
| 3000 m x \$62/m   | = \$ 186,000                                    |   |
| <b>14. Drainage removal</b>   |   | 22 existing structures in 1000 m (@ 150' spacing) |
| Total for Item - 2030011 201 12.59 3,216.00 \$824,085.12 \$256.25   |   | 290 \$/ea   |
| Dr Structure, Rem UNITS: Ea   |   |   |
| Total for Item - 2030016 44 431.28 19,944.00 \$248,761.76 \$12.47   |   |   |
| Sewer, Rem, 24 inch to 48 inch UNITS: Ft  |   |   |
| 3000 m x \$46/m + 4 * 22 structures x \$290   | = \$ 163,520                                    |   |
| Note: Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. |   |   |
| <b>15. Earthwork</b>  |   | 46 \$/m   |
| Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling                             |   |   |
| Total for Item - 2050016 301 13,775.63 4,339,525.00 \$15,387,931.46 \$3.55  |   |   |
| Excavation, Earth UNITS: Syd  |   |   |
| Assume an excavation area of 144 m <sup>2</sup>   |   |   |
| 3.6 \$/cyd  |   |   |
| 4,709 \$/m <sup>3</sup>   |   |   |
| Total for Item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04  |   |   |
| Embankment, CIP UNITS: Syd  |   |   |
| Note: Embankment not used at this time. Will be determined by Geopak modeling in the future.                        |   |   |
| 3.1 \$/cyd  |   |   |
| 4,055 \$/m <sup>3</sup>   |   |   |
| <b>Total</b>  | <b>= \$ 3,033,765 / km</b>                      | <b>= \$ 3,034,000 / km</b>                        |
|   | <b>= \$ 3,034 / m</b>                           | <b>= \$ 3,000 / m</b>                             |
|   | <b>= \$ 4,882,372 / mile</b>                    | <b>= \$ 4,882,000 / mile</b>                      |

Preliminary earthwork calculations  
by Jen on Jan 8, 2007



26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing

By: Lam Nguyen

Date: 12/20/06

Check: RH/RS/DG

Job No.: 646294

Subject: Practical Alternative

Cost Estimates

**1-lane Ramp**

Conversion factors: 1 ft = 0.3048 m  
1 ft<sup>2</sup> = 0.0929 m<sup>2</sup>

1 yd<sup>2</sup> = 0.8361 m<sup>2</sup>  
1 yd<sup>3</sup> = 0.7646 m<sup>3</sup>

**G-201 and G-205 Series 1-lane ramps at full 4.8 m width**

Statewide Unit Prices  
Converted Metric Price

Unit Price Used:  
Adjusted for Metro Region

**1. Non-reinforced concrete pavement**  
Total for item - 6020106 10 16,050.10 149,434.00 \$3,390,177.38 \$22.69  
Conc Pavt, Nonreinf, 9 inch UNITS: Syd  
4.8 m x 1000 m x \$31/m<sup>2</sup> = \$ **148,800 /km**  
23 \$ / syd  
27,508 \$ / m<sup>2</sup> 31 \$ / m<sup>2</sup>

**2. Non-reinforced concrete shoulder (left)**  
Total for item - 6020222 9 8,914.75 56,780.00 \$1,157,318.72 \$20.38  
Shoulder, Nonreinf Conc UNITS: Syd  
1.8 m x 1000 m x \$29/m<sup>2</sup> = \$ **52,200 /km**  
22 \$ / syd  
26,312 \$ / m<sup>2</sup> 29 \$ / m<sup>2</sup>

**3. Non-reinforced concrete shoulder (right)**  
Total for item - 6020222 9 8,914.75 56,780.00 \$1,157,318.72 \$20.38  
Shoulder, Nonreinf Conc UNITS: Syd  
2.4 m x 1000 m x \$29/m<sup>2</sup> = \$ **69,600 /km**  
22 \$ / syd  
26,312 \$ / m<sup>2</sup> 29 \$ / m<sup>2</sup>

**4. Open graded drainage layer (100 mm depth)**  
Total for item - 3030001 4 2,859.50 11,438.00 \$59,324.67 \$5.19  
Open-Graded Dr Cse, 4 inch UNITS: Syd  
11.5 m x 1000 m x \$6.90/m<sup>2</sup> = \$ **79,350 /km**  
5.2 \$ / syd  
6,219 \$ / m<sup>2</sup> 6.90 \$ / m<sup>2</sup>

**5. Geotextile separator**  
Total for item - 3030020 47 34,147.53 1,985,442.00 \$2,029,020.39 \$1.02  
Geotextile Separator UNITS: Syd  
11.5 m x 1000 m x \$1.40/m<sup>2</sup> = \$ **16,100 /km**  
1 \$ / syd  
1,196 \$ / m<sup>2</sup> 1.40 \$ / m<sup>2</sup>

**6. Subbase (300 mm depth)**  
Total for item - 3010002 252 7,845.54 1,959,885.00 \$15,177,681.23 \$7.74  
Subbase, CIP UNITS: Cyd  
13.5 m x 0.3 m x 1000 m x \$12/m<sup>3</sup> = \$ **48,600 /km**  
8 \$ / cyd  
10,464 \$ / m<sup>3</sup> 12 \$ / m<sup>3</sup>

**7. Underdrain pipe**  
Total for item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88  
Underdrain, Pipe, Open-Graded, 6 inch UNITS: Ft  
2 (runs) x 1000 m x \$15/m = \$ **30,000 /km**  
4 \$ / ft  
13,123 \$ / m 15 \$ / m

**8. Urban freeway curb**  
Total for item - 8020032 2 300.50 601.00 \$9,490.00 \$15.79  
Curb and Gutter, Conc, Det D3 UNITS: Ft  
2 (runs) x 1000 m x \$58/m = \$ **116,000 /km**  
16 \$ / ft  
52,493 \$ / m 58 \$ / m

**9. Earthwork**  
Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling.  
Total for item - 2050016 301 13,775.63 4,339,525.00 \$15,387,931.46 \$3.55  
Excavation, Earth UNITS: Cyd  
Assume an excavation area of 20 m<sup>2</sup> = \$ **104,000 /km**  
3.6 \$ / cyd  
4,709 \$ / m<sup>3</sup> 5.20 \$ / m<sup>3</sup>

Total for item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04  
Embankment, CIP UNITS: Cyd  
Note: Embankment not used at this time. Will be determined by Geopak modeling in the future.  
3.1 \$ / cyd  
4,055 \$ / m<sup>3</sup> 4.50 \$ / m<sup>3</sup>

Total = \$ **664,650 / km** Rounded: = \$ **665,000 / km**  
= \$ **665 / m** = \$ **670 / m**  
= \$ **1,069,650 / mile** = \$ **1,070,000 / mile**

Note: See reference documentation for detail on ramp quantity calculation



26777 Central Park Boulevard - Suite 275 - Southfield, Michigan 48076 - (248) 262-0013 - Fax: (248) 262-0988 - www.parsons.com  
 Project: Detroit River International Crossing  
 By: Lam Nguyen Date: 12/20/06  
 Check: RH/RS/DG Date: 12/22/06  
 Job No.: 646294  
 Subject: Practical Alternative  
 Cost Estimates

**2-lane ramp**

Conversion factors: 1 ft = 0.3048 m  
 1 ft<sup>2</sup> = 0.0929 m<sup>2</sup>  
 1 yd<sup>2</sup> = 0.8361 m<sup>2</sup>  
 1 yd<sup>3</sup> = 0.7646 m<sup>3</sup>

**G-210 and G-240 Series 2-lane ramps at full 7.2 m width**

**1. Non-reinforced concrete pavement**

Total for Item - 6020106 10 16,050.10 149,434.00 \$3,390,177.38 \$22.69  
 Conc Pavt, Nonreinf, 9 inch UNITS: Syd  
 7.2 m x 1000 m x \$31/m<sup>2</sup> = \$ **223,200** /km  
 Statewide Unit Prices: 23 \$ / syd  
 Converted Metric Price: 27,508 \$ / m<sup>2</sup>  
 Unit Price Used: 31 \$ / m<sup>2</sup>  
 Adjusted for Metro Region

**2. Non-reinforced concrete shoulder (left)**

Total for Item - 6020222 9 8,914.75 56,780.00 \$1,157,318.72 \$20.38  
 Shoulder, Nonreinf Conc UNITS: Syd  
 1.8 m x 1000 m x \$29/m<sup>2</sup> = \$ **52,200** /km  
 Statewide Unit Prices: 22 \$ / syd  
 Converted Metric Price: 26,312 \$ / m<sup>2</sup>  
 Unit Price Used: 29 \$ / m<sup>2</sup>  
 Adjusted for Metro Region

**3. Non-reinforced concrete shoulder (right)**

2.4 m x 1000 m x \$29/m<sup>2</sup> = \$ **69,600** /km  
 Statewide Unit Prices: 22 \$ / syd  
 Converted Metric Price: 26,312 \$ / m<sup>2</sup>  
 Unit Price Used: 29 \$ / m<sup>2</sup>  
 Adjusted for Metro Region

**4. Open graded drainage layer (100 mm depth)**

Total for Item - 3030001 4 2,859.50 11,438.00 \$59,324.67 \$5.19  
 Open-Graded Dr Cse, 4 inch UNITS: Syd  
 14 m x 1000 m x \$6.90/m<sup>2</sup> = \$ **96,600** /km  
 Assume 0.5 m beyond back of curb  
 Statewide Unit Prices: 5.2 \$ / syd  
 Converted Metric Price: 6,219 \$ / m<sup>2</sup>  
 Unit Price Used: 6.90 \$ / m<sup>2</sup>  
 Adjusted for Metro Region

**5. Geotextile separator**

Total for Item - 3030020 47 34,147.53 1,985,442.00 \$2,029,020.39 \$1.02  
 Geotextile Separator UNITS: Syd  
 14 m x 1000 m x \$1.40/m<sup>2</sup> = \$ **19,600** /km  
 Assume 0.5 m beyond back of curb  
 Statewide Unit Prices: 1 \$ / syd  
 Converted Metric Price: 1,196 \$ / m<sup>2</sup>  
 Unit Price Used: 1.40 \$ / m<sup>2</sup>  
 Adjusted for Metro Region

**6. Subbase (300 mm depth)**

Total for Item - 3010002 252 7,845.54 1,959,885.00 \$15,177,681.23 \$7.74  
 Subbase, CIP UNITS: Cyd  
 16 m x 0.3 m x 1000 m x \$12/m<sup>3</sup> = \$ **57,600** /km  
 Assume 1.5 m beyond back of curb  
 Statewide Unit Prices: 8 \$ / cyd  
 Converted Metric Price: 10,464 \$ / m<sup>3</sup>  
 Unit Price Used: 12 \$ / m<sup>3</sup>  
 Adjusted for Metro Region

**7. Underdrain pipe**

Total for Item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88  
 Underdrain, Pipe, Open-Graded, 6 inch UNITS: Ft  
 2 (runs) x 1000 m x \$15/m = \$ **30,000** /km  
 Statewide Unit Prices: 4 \$ / ft  
 Converted Metric Price: 13,123 \$ / m  
 Unit Price Used: 15 \$ / m  
 Adjusted for Metro Region

**8. Urban freeway curb**

Total for Item - 8020032 2 300.50 601.00 \$9,490.00 \$15.79  
 Curb and Gutter, Conc, Det D3 UNITS: Ft  
 2 (runs) x 1000 m x \$58/m = \$ **116,000** /km  
 Statewide Unit Prices: 16 \$ / ft  
 Converted Metric Price: 52,493 \$ / m  
 Unit Price Used: 58 \$ / m  
 Adjusted for Metro Region

**9. Earthwork**

Rough quantity estimated. Earthwork will need to come from actual Geopak modeling.  
 Total for Item - 2050016 301 13,775.63 4,339,525.00 \$15,387,931.46 \$3.55  
 Excavation, Earth UNITS: Cyd  
 Assume an excavation area of 20 m<sup>2</sup> = \$ **104,000** /km  
 Statewide Unit Prices: 3.6 \$ / cyd  
 Converted Metric Price: 4,709 \$ / m<sup>3</sup>  
 Unit Price Used: 5.20 \$ / m<sup>3</sup>  
 Adjusted for Metro Region  
 Total for Item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04  
 Embankment, CIP UNITS: Cyd  
 Statewide Unit Prices: 3.1 \$ / cyd  
 Converted Metric Price: 4,055 \$ / m<sup>3</sup>  
 Unit Price Used: 4.50 \$ / m<sup>3</sup>  
 Adjusted for Metro Region  
 Note: Embankment not used at this time. Will be determined by Geopak modeling in the future.

|       |      |                         |          |      |                         |
|-------|------|-------------------------|----------|------|-------------------------|
| Total | = \$ | <b>768,800 / km</b>     | Rounded: | = \$ | <b>769,000 / km</b>     |
|       | = \$ | <b>769 / m</b>          |          | = \$ | <b>770 / m</b>          |
|       | = \$ | <b>1,237,264 / mile</b> |          | = \$ | <b>1,237,000 / mile</b> |

Note: See reference documentation for detail on ramp quantity calculation

# PARSONS

26777 Central Park Boulevard - Suite 275 - Southfield, Michigan 48076 - (248) 262-0013 - Fax: (248) 262-0988 - www.parsons.com

Project: Detroit River International Crossing  
By: Lam Nguyen Date: 12/20/06  
Check: RH/RS/JDG Date: 12/28/06

Job No.: 646294  
Subject: Practical Alternative  
Cost Estimates

## Construct 10 m Wide Service Drive

Conversion factors: 1 ft = 0.3048 m 1 yd<sup>2</sup> = 0.8361 m<sup>2</sup>  
1 ft<sup>2</sup> = 0.0929 m<sup>2</sup> 1 yd<sup>3</sup> = 0.7646 m<sup>3</sup>

**Statewide Unit Prices**      **Unit Price Used:**  
**Converted Metric Price**      **Adjusted for Metro Region**

**1. Bituminous pavement**  
Total for item - 5020057 78 7,571.12 547,071.00 \$24,852,037.33 \$45.43  
HMA, SE3 UNITS: Ton 46 \$ / ton 130 \$ / m<sup>3</sup>  
10 m x 0.254 m x 1000 m x \$130 / m<sup>3</sup> = \$ 330,200 /km 121,900 \$ / m<sup>3</sup>

150 lb/ft<sup>3</sup> x 1 ton/2000 lb x (1 ft/0.3048m)<sup>3</sup> = 2.65 ton/m<sup>3</sup>  
Note: use 10" bituminous pavement

**2. Open graded drainage layer (100 mm depth)**  
Total for item - 3030001 4 2,859.50 11,438.00 \$59,324.67 \$5.19  
Open-Graded Dr Cse, 4 inch UNITS: Syd 5.2 \$ / syd 6.90 \$ / m<sup>2</sup>

10 m x 1000 m x \$6.90/m<sup>2</sup> = \$ 69,000 /km

**3. Geotextile separator**  
Total for item - 3030020 47 34,147.53 1,985,442.00 \$2,029,020.39 \$1.02  
Geotextile Separator UNITS: Syd 1 \$ / syd 1.40 \$ / m<sup>2</sup>

11.2 x 1000 m x \$1.40/m<sup>2</sup> = \$ 15,680 /km  
1.196 \$ / m<sup>2</sup>

**4. Subbase (300 mm depth)**  
Total for item - 3010002 252 7,845.54 1,959,885.00 \$15,177,681.23 \$7.74  
Subbase, CIP UNITS: Cyd 8 \$ / cyd 12 \$ / m<sup>3</sup>

16 m x 0.3 m x 1000 m x \$12/m<sup>3</sup> = \$ 57,600 /km  
10,464 \$ / m<sup>3</sup>

**5. Underdrain pipe**  
Total for item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88  
Underdrain, Pipe, Open-Graded, 6 inch UNITS: Ft 4 \$ / ft 15 \$ / m

2 (runs) x 1000 m x \$15/m = \$ 30,000 /km  
13,123 \$ / m

**6. Curb and Gutter, Detail B2**  
Total for item - 8020016 134 1,506.98 200,681.00 \$2,937,914.81 \$14.64  
Curb and Gutter, Conc, Det B2 UNITS: Ft 15 \$ / ft 55 \$ / m

2 (runs) x 1000 m x \$55/m = \$ 110,000 /km  
49,213 \$ / m

**7. Earthwork**  
Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling.  
Total for item - 2050016 301 13,775.63 4,339,525.00 \$15,387,931.46 \$3.55  
Excavation, Earth UNITS: Cyd 3.6 \$ / cyd 5.20 \$ / m<sup>3</sup>

Assume an excavation area of 30 m<sup>2</sup> = \$ 156,000 /km  
4,709 \$ / m<sup>3</sup>

Total for item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04  
Embankment, CIP UNITS: Cyd 3.1 \$ / cyd 4.50 \$ / m<sup>3</sup>

Note: Embankment not used at this time. Will be determined by Geopak modeling in the future.  
4,055 \$ / m<sup>3</sup>

Total = \$ 768,480 / km      Rounded: = \$ 769,000 / km  
= \$ 768 / m      = \$ 770 / m  
= \$ 1,236,749 / mile      = \$ 1,237,000 / mile

# PARSONS

26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing

Job No.: 646294

By: Lam Nguyen

Date: 12/20/06

Subject: Practical Alternative

Check: RH/RS/DG

Date: 12/22/06

Cost Estimates

## Remove Existing 10m Wide Service Drive

Remove existing road per lane, assuming curb and gutter with drainage system removal on one side only

Conversion factors: 1 ft = 0.3048 m      1 yd<sup>2</sup> = 0.8361274 m<sup>2</sup>  
 1 ft<sup>2</sup> = 0.0929 m<sup>2</sup>

### 1. Pavement removal

Total for item - 2040011 302 10,164.38 3,345,535.00 \$12,472,897.01 \$3.73

Pavt, Rem UNITS: Syd

10 m x 1000 m x \$5/m<sup>2</sup>

= \$ 50,000 /km

Statewide Unit Prices

Converted Metric Price

3.8 \$ / syd

4.545 \$ / m<sup>2</sup>

Unit Price Used:

Adjusted for Metro Region

5.00 \$ / m<sup>2</sup>

### 2. Curb and gutter removal

Total for item - 2040006 286 1,557.59 427,782.00 \$1,921,238.91 \$4.49

Curb and Gutter, Rem UNITS: Ft

2 (runs) x 1000 m x \$17/m

4.5 \$ / ft

14.764 \$ / m

17 \$ / m

|       |      |                |          |      |                |
|-------|------|----------------|----------|------|----------------|
| Total | = \$ | 84,000 / km    | Rounded: | = \$ | 84,000 / km    |
|       | = \$ | 84 / m         |          | = \$ | 84 / m         |
|       | = \$ | 135,185 / mile |          | = \$ | 135,000 / mile |





26777 Central Park Boulevard - Suite 275 - Southfield, Michigan 48076 - (248) 262-0013 - Fax: (248) 262-0988 - www.parsons.com

Project Detroit River International Crossing  
By: D. Greenwood Date 10/10/07  
Checked By: L. Nguyen Date 10/10/07

Job No.: 646294  
Subject: Refined Practical Alternative Cost Estima

**Construct Boulevard per longitudinal meter: four lanes with 8.5m avg median width**

Start with base cost for travel lanes  
four lanes 1160 \$ / m (figure from Construct Local Road)  
Add cost for grass median  
median

Conversion factor: 1 ft = 0.3048 m 1 yd<sup>2</sup> = 0.8361 m<sup>2</sup>  
1 ft<sup>2</sup> = 0.0929 m<sup>2</sup> 1 yd<sup>3</sup> = 0.7646 m<sup>3</sup>

**Statewide Unit Prices**  
**Converted Metric Price**  
**Unit Price Used:**  
**Adjusted for Metro Region**

**1. Bituminous pavement**  
Total for item - 5020057 78 7,571.12 547,071.00 \$24,852,037.33 \$45.43  
HMA, 5E3 UNITS: Ton 46 \$ / ton 121,900 \$ / m<sup>3</sup> 130 \$ / m<sup>3</sup>

3.6 m x 0.254 m x 1000 m x \$130 / m<sup>3</sup> = \$ 118,872 /km  
150 lb/ft<sup>2</sup> x 1 ton/2000 lb x (1 ft/0.3048m)<sup>3</sup> = 2.65 ton/m<sup>3</sup>

Note: use 10" bituminous pavement

**2. Open graded drainage layer (100 mm depth)**  
Total for item - 3030001 4 2,859.50 11,438.00 \$59,324.67 \$5.19  
Open-Graded Dr Cse, 4 inch UNITS: Syd 5.2 \$ / syd 6.219 \$ / m<sup>2</sup> 6.90 \$ / m<sup>2</sup>

3.6 m x 1000 m x \$6.90/m<sup>2</sup> = \$ 24,840 /km

**3. Geotextile separator**

Total for item - 3030020 47 34,147.53 1,985,442.00 \$2,029,020.39 \$1.02  
Geotextile Separator UNITS: Syd 1 \$ / syd 1.196 \$ / m<sup>2</sup> 1.40 \$ / m<sup>2</sup>

4 x 1000 m x \$1.40/m<sup>2</sup> = \$ 5,600 /km

**4. Subbase (300 mm depth)**

Total for item - 3010002 252 7,845.54 1,959,885.00 \$15,177,681.23 \$7.74  
Subbase, CIP UNITS: Cyd 8 \$ / cyd 10.464 \$ / m<sup>3</sup> 12 \$ / m<sup>3</sup>

4.8 m x 0.3 m x 1000 m x \$12/m<sup>3</sup> = \$ 17,280 /km

**5. Underdrain pipe**

Total for item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88  
Underdrain, Pipe, Open-Graded, 6 inch UNITS: Ft 4 \$ / ft 13.123 \$ / m 15 \$ / m

1 (runs) x 1000 m x \$15/m = \$ 15,000 /km

**6. Curb and Gutter, Detail B2**

Total for item - 8020016 134 1,506.98 200,681.00 \$2,937,914.81 \$14.64  
Curb and Gutter, Conc, Det B2 UNITS: Ft 15 \$ / ft 49.213 \$ / m 55 \$ / m

1 (runs) x 1000 m x \$55/m = \$ 55,000 /km

**7. Earthwork**

Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling

Total for item - 2050016 301 13,775.63 4,339,525.00 \$15,387,931.46 \$3.55  
Excavation, Earth UNITS: Cyd 3.6 \$ / cyd 4.709 \$ / m<sup>3</sup> 5.2 \$ / m<sup>3</sup>

Assume an excavation area of 10 m<sup>2</sup> = \$ 52,000 /km

Total for item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04  
Embankment, CIP UNITS: Cyd 3.1 \$ / cyd 4.055 \$ / m<sup>3</sup> 4.5 \$ / m<sup>3</sup>

Note: Embankment not used at this time. Will be determined by Geopak modeling in the future.

|       |      |                |          |      |                |
|-------|------|----------------|----------|------|----------------|
| Total | = \$ | 288,592 / km   | Rounded: | = \$ | 289,000 / km   |
|       | = \$ | 289 / m        |          | = \$ | 290 / m        |
|       | = \$ | 464,444 / mile |          | = \$ | 464,000 / mile |



26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing  
 By: Lam Nguyen Date: 12/20/06  
 Check: RH/RS/JDG Date: 12/22/06  
 Job No.: 646294  
 Subject: Practical Alternative Cost Estimates

**Remove Existing Road per lane**

Remove existing road per lane, assuming curb and gutter with drainage system removal on one side only

Conversion factor: 1 ft = 0.3048 m      1 yd<sup>2</sup> = 0.8361 m<sup>2</sup>  
 1 ft<sup>2</sup> = 0.0929 m<sup>2</sup>

**1. Pavement removal**

Total for item - 2040011 302 10,164.38 3,345,535.00 \$12,472,897.01 \$3.73  
 Pavt, Rem UNITS: Syd

3.6 m x 1000 m x \$5/m<sup>2</sup> = \$ 18,000 /km

**2. Curb and gutter removal**

Total for item - 2040006 286 1,557.59 427,782.00 \$1,921,238.91 \$4.49

Curb and Gutter, Rem UNITS: Ft

1 (run) x 1000 m x \$17/m = \$ 17,000 / km

**Statewide Unit Prices**      **Unit Price Used:**  
**Converted Metric Price**      **Adjusted for Metro Region**

3.8 \$ / syd      5 \$ / m<sup>2</sup>  
 4,5448 \$ / m<sup>2</sup>

4.5 \$ / ft      17 \$ / m  
 14,764 \$ / m

|       |      |               |          |      |               |
|-------|------|---------------|----------|------|---------------|
| Total | = \$ | 35,000 / km   | Rounded: | = \$ | 35,000 / km   |
|       | = \$ | 35 / m        |          | = \$ | 35 / m        |
|       | = \$ | 56,327 / mile |          | = \$ | 56,000 / mile |



26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing  
 By: Lam Nguyen Date: 12/20/06  
 Check: RH/RS/JDG Date: 12/22/06  
 Job No.: 646294  
 Subject: Practical Alternative  
 Cost Estimates

**Remove Existing 1-Lane Ramp**

Remove existing road per lane, assuming curb and gutter with drainage system removal on one side only

Conversion factor: 1 ft = 0.3048 m      1 yd<sup>2</sup> = 0.8361 m<sup>2</sup>  
 1 ft<sup>2</sup> = 0.0929 m<sup>2</sup>

**1. Pavement removal**

Total for item - 2040011 302 10,164.38 3,345,535.00 \$12,472,897.01 \$3.73  
 Pavt, Rem UNITS: Syd  
 4.8 m x 1000 m x \$5/m<sup>2</sup> = \$ 24,000 /km

**2. Curb and gutter removal**

Total for item - 2040006 286 1,557.59 427,782.00 \$1,921,238.91 \$4.49  
 Curb and Gutter, Rem UNITS: Ft  
 1 (run) x 1000 m x \$17/m = \$ 17,000 / km

**Statewide Unit Prices**  
**Converted Metric Price**      **Unit Price Used:**  
 3.8 \$ / syd      **Adjusted for Metro Region**  
 4,5448 \$ / m<sup>2</sup>      5 \$ / m<sup>2</sup>

|       |      |               |          |      |               |
|-------|------|---------------|----------|------|---------------|
| Total | = \$ | 41,000 / km   | Rounded: | = \$ | 41,000 / km   |
|       | = \$ | 41 / m        |          | = \$ | 41 / m        |
|       | = \$ | 65,983 / mile |          | = \$ | 66,000 / mile |



26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com

Project: Detroit River International Crossing  
 By: Lam Nguyen  
 Check: RH/RS/DG  
 Date: 12/22/06  
 Date: 12/28/06  
 Job No.: 646294  
 Subject: Practical Alternative  
 Cost Estimates

**Storm Drainage**

|   |                              | Statewide Unit Prices<br>Converted Metric Price<br>2300 \$ / EA |                              |
|---|------------------------------|---|------------------------------|
| <b>1. Freeway storm sewer</b>                                     |                              |   |                              |
| Total for Item - 4030010 73.3.28.245.00 \$514,342.72 \$2,099.36   |                              |   |                              |
| Dr Structure, 60 inch dia UNITS: Ea                               |                              | 59 \$ / ft  | 220 \$ / m                   |
| Total for Item - 4020993 21.388.28.11.143.00 \$648,900.18 \$58.23 |                              | 193.570 \$ / m  |                              |
| Sewer, C I V, 24 inch, Tr Det B UNITS: Ft                         |                              |   |                              |
| 3000 m x \$220/m + 4 * 22 structures x \$2300                     |                              | = \$ 862,400 / km   |                              |
| <b>Total</b>  | <b>= \$ 862,400 / km</b>     | <b>Rounded:</b>   | <b>= \$ 862,000 / km</b>     |
|   | <b>= \$ 862 / m</b>          |   | <b>= \$ 860 / m</b>          |
|   | <b>= \$ 1,387,898 / mile</b> |   | <b>= \$ 1,388,000 / mile</b> |

Note: Assume proposed drainage structures on both sides of each direction and only one storm drain pipe in the middle.

|   |                            |                            |                            |
|---|----------------------------|----------------------------|----------------------------|
| <b>2. Local road storm sewer</b>                                      |                            |                            |                            |
| Total for Item - 4030005 249.12.67.3.974.00 \$4,759,356.85 \$1,197.62 |                            | 1350 \$ / EA               |                            |
| Dr Structure, 48 inch dia UNITS: Ea                                   |                            | 22 @ 150' SPACING PER SIDE |                            |
| Total for Item - 4020602 22.596.56.12.686.00 \$442,118.04 \$34.85     |                            | 35 \$ / ft                 | 130 \$ / m                 |
| Sewer, C I E, 18 inch, Tr Det B UNITS: Ft                             |                            | 114.829 \$ / m             |                            |
| 1000 m x \$130/m + 22 structures x \$1350                             |                            | = \$ 159,700 / km          |                            |
| <b>Total</b>  | <b>= \$ 159,700 / km</b>   | <b>Rounded:</b>            | <b>= \$ 160,000 / km</b>   |
|   | <b>= \$ 160 / m</b>        |                            | <b>= \$ 160 / m</b>        |
|   | <b>= \$ 257,012 / mile</b> |                            | <b>= \$ 257,000 / mile</b> |

|   |                           |                            |                           |
|---|---------------------------|----------------------------|---------------------------|
| <b>3. Freeway and local road drainage system removal</b>              |                           |                            |                           |
| Total for Item - 2030011 201.12.59.3.216.00 \$824,085.12 \$256.25     |                           | 290 \$ / EA                |                           |
| Dr Structure, Rem UNITS: Ea   |                           | 22 @ 150' SPACING PER SIDE |                           |
| Total for Item - 2030015 169.714.93.153.149.00 \$1,571,659.66 \$10.26 |                           | 11 \$ / ft                 | 40 \$ / m                 |
| Sewer, Rem, Less than 24 inch UNITS: Ft                               |                           | 36.089 \$ / m              |                           |
| 1000 m x \$40/m + 22 structures x \$290                               |                           | = \$ 46,380 / km           |                           |
| <b>Total</b>  | <b>= \$ 46,380 / km</b>   | <b>Rounded:</b>            | <b>= \$ 46,000 / km</b>   |
|   | <b>= \$ 46 / m</b>        |                            | <b>= \$ 46 / m</b>        |
|   | <b>= \$ 74,541 / mile</b> |                            | <b>= \$ 75,000 / mile</b> |



28777 Central Park Boulevard, Suite 275, Southfield, Michigan 48076 (248) 262-0013 Fax: (248) 262-0988 www.parsons.com

Project: Detroit River International Crossing  
 By: Lam Nguyen  
 Check: RH/RS/DG  
 Job No.: 646294  
 Subject: Practical Alternative  
 Cost Estimates

**Interchange Ramp Bridge & Retaining Wall Cost Basis**

|                    |      |        |                                 |          |      |         |
|--------------------|------|--------|---------------------------------|----------|------|---------|
| Conversion factors | ft/m | 0.3048 | ft <sup>2</sup> /m <sup>2</sup> | 0.092903 | m/ft | 3.28084 |
|--------------------|------|--------|---------------------------------|----------|------|---------|

References:  
 MDOT Design Guide 6.05.04  
 MDOT Design Guide Appendix 2.02.19

**Cross Sections**

Single Lane Urban Ramp

|           |       |       |
|-----------|-------|-------|
| Lt. Shldr | 1.2 m | 4 ft  |
| Lane      | 4.8 m | 16 ft |
| Rt. Shldr | 2.4 m | 8 ft  |
| Total     | 8.4 m | 28 ft |

2-Lane Urban Ramp

|           |        |       |
|-----------|--------|-------|
| Lt. Shldr | 1.2 m  | 4 ft  |
| Lane      | 7.2 m  | 24 ft |
| Rt. Shldr | 2.4 m  | 8 ft  |
| Total     | 10.8 m | 35 ft |

1-Lane Slip Ramp

|           |       |       |
|-----------|-------|-------|
| Lt. Shldr | 1.2 m | 4 ft  |
| Lane      | 3.6 m | 12 ft |
| Rt. Shldr | 2.0 m | 7 ft  |
| Total     | 6.8 m | 22 ft |

**Unit Costs**

Notes:

Structure unit costs do not include MOT or contingency.

Ramp Structure under 10m

|            |                    |                   |
|------------|--------------------|-------------------|
|            | \$/ft <sup>2</sup> | \$/m <sup>2</sup> |
| New Bridge | \$ 110             | \$ 1,184          |

With 6% inflation factor in 2 years:  
**\$1,260**

Ramp Structure over 10m

|            |                    |                   |
|------------|--------------------|-------------------|
|            | \$/ft <sup>2</sup> | \$/m <sup>2</sup> |
| New Bridge | \$ 145             | \$ 1,561          |

With 6% inflation factor in 2 years:  
**\$1,650**

Demolition Cost:

|                                 |                    |                   |
|---------------------------------|--------------------|-------------------|
| Entire bridge, grade separation | \$/ft <sup>2</sup> | \$/m <sup>2</sup> |
|                                 | \$ 24              | \$ 258            |
| Entire bridge, over water       | \$                 | \$ 301            |

With 6% inflation factor in 2 years:  
**\$270**

**\$320**

**Retaining Wall Cost Basis**

References:  
 ?

**Unit Costs**

Notes:

Structure unit costs do not include MOT or contingency.

Retaining Walls 1.2m height or less

|      |                    |                   |
|------|--------------------|-------------------|
| Wall | \$/ft <sup>2</sup> | \$/m <sup>2</sup> |
|      | \$ 50              | \$ 538            |

With 6% inflation factor in 2 years:  
**\$570**

MSE Retaining Walls greater than 1.2m height

|      |                    |                   |
|------|--------------------|-------------------|
| Wall | \$/ft <sup>2</sup> | \$/m <sup>2</sup> |
|      | \$ 70              | \$ 753            |

With 6% inflation factor in 2 years:  
**\$800**

|                   |                  |                         |
|-------------------|------------------|-------------------------|
| Gravity wall      | 50 \$ / sq ft    | Retaining Wall Quantiti |
| MSE wall          | 538.1955 \$ / m2 | computed by Structure   |
| Soldier Pile wall | 753.4737 \$ / m2 |                         |
|                   | 250 \$ / sq ft   |                         |
|                   | 2690.978 \$ / m2 |                         |

MAIN RIVER BRIDGE DETAILED COST ESTIMATES

CONCEPTUAL BRIDGE COST ESTIMATE TO COME

MISCELLANEOUS COST ESTIMATE DETAIL

**Total Estimate Parcel Acquisitions**

Summary of SEV Acquisitions

|                           | Alt. 1      | Alt. 2      | Alt. 3      | Alt. 5      | Alt. 7      | Alt. 9      | Alt. 11     | Alt. 14     | Alt. 16     |
|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Commercial</b>         |             |             |             |             |             |             |             |             |             |
| SEV Value                 | \$1,373,209 | \$1,362,459 | \$1,488,109 | \$2,325,888 | \$1,376,359 | \$1,365,609 | \$1,491,259 | \$1,458,809 | \$1,697,009 |
| No. of Parcels            | 30          | 30          | 30          | 58          | 31          | 31          | 31          | 28          | 33          |
| <b>Commercial Vacant</b>  |             |             |             |             |             |             |             |             |             |
| SEV Value                 | \$964,004   | \$617,254   | \$1,130,404 | \$689,304   | \$963,608   | \$616,858   | \$1,130,008 | \$619,554   | \$653,354   |
| No. of Parcels            | 47          | 53          | 53          | 58          | 47          | 53          | 53          | 46          | 53          |
| <b>Industrial</b>         |             |             |             |             |             |             |             |             |             |
| SEV Value*                | \$4,287,128 | \$4,287,128 | \$4,340,028 | \$4,396,039 | \$3,393,195 | \$3,393,195 | \$3,446,095 | \$4,301,678 | \$4,301,678 |
| No. of Parcels            | 66          | 66          | 67          | 85          | 81          | 81          | 82          | 67          | 67          |
| <b>Industrial Vacant</b>  |             |             |             |             |             |             |             |             |             |
| SEV Value                 | \$3,288,835 | \$3,288,835 | \$3,294,435 | \$3,030,235 | \$3,755,079 | \$3,755,079 | \$3,760,679 | \$3,288,835 | \$3,377,635 |
| No. of Parcels            | 86          | 86          | 86          | 86          | 93          | 93          | 93          | 86          | 89          |
| <b>Residential</b>        |             |             |             |             |             |             |             |             |             |
| SEV Value                 | \$1,904,007 | \$1,900,057 | \$1,831,107 | \$2,571,607 | \$1,779,127 | \$1,775,177 | \$1,706,227 | \$1,500,357 | \$1,952,857 |
| No. of Parcels            | 231         | 231         | 231         | 297         | 232         | 232         | 232         | 191         | 239         |
| <b>Residential Vacant</b> |             |             |             |             |             |             |             |             |             |
| SEV Value                 | \$687,286   | \$674,436   | \$695,986   | \$769,886   | \$768,623   | \$755,773   | \$777,323   | \$617,736   | \$672,636   |
| No. of Parcels            | 484         | 418         | 480         | 508         | 482         | 416         | 478         | 450         | 479         |
| <b>Miscellaneous</b>      |             |             |             |             |             |             |             |             |             |
| SEV Value                 | \$120,000   | \$120,000   | \$100,000   | \$111,050   | \$40,000    | \$40,000    | \$20,000    | \$100,000   | \$191,700   |
| No. of Parcels            | 3           | 3           | 1           | 2           | 2           | 2           | 0           | 1           | 3           |

**Totals**

| SEV Value      | \$12,624,469 | \$12,250,169 | \$12,880,069 | \$13,894,009 | \$12,075,991 | \$11,701,691 | \$12,331,591 | \$11,886,969 | \$12,846,869 |
|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| No. of Parcels | 947          | 887          | 948          | 1094         | 968          | 908          | 969          | 869          | 963          |

|                 |              |             |              |              |             |             |             |             |              |
|-----------------|--------------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|--------------|
| Residential SEV | \$2,591,293  | \$2,574,493 | \$2,527,093  | \$3,341,493  | \$2,547,750 | \$2,530,950 | \$2,483,550 | \$2,118,093 | \$2,625,493  |
| Commercial SEV  | \$10,033,176 | \$9,675,676 | \$10,352,976 | \$10,552,516 | \$9,528,241 | \$9,170,741 | \$9,848,041 | \$9,768,876 | \$10,221,376 |

|                             |              |              |              |              |              |              |              |              |              |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Residential FMV = (SEV x 2) | \$5,182,586  | \$5,148,986  | \$5,054,186  | \$6,682,986  | \$5,095,500  | \$5,061,900  | \$4,967,100  | \$4,236,186  | \$5,250,986  |
| Commercial FMV = (SEV x 2)  | \$20,066,352 | \$19,351,352 | \$20,705,952 | \$21,105,032 | \$19,056,482 | \$18,341,482 | \$19,696,082 | \$19,537,752 | \$20,442,752 |

|   |               |               |               |               |               |               |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Residential relocation cost contingency = (FMV x 4) | \$20,730,344  | \$20,595,944  | \$20,216,744  | \$26,731,944  | \$20,382,000  | \$20,247,600  | \$19,868,400  | \$16,944,744  | \$21,003,944  |
| Commercial relocation cost contingency = (FMV x 6)  | \$120,398,112 | \$116,108,112 | \$124,235,712 | \$126,630,192 | \$114,338,892 | \$110,048,892 | \$118,176,492 | \$117,226,512 | \$122,656,512 |

|                        |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Subtotal</b>        | <b>\$141,128,456</b> | <b>\$136,704,056</b> | <b>\$144,452,456</b> | <b>\$153,362,136</b> | <b>\$134,720,892</b> | <b>\$130,296,492</b> | <b>\$138,044,892</b> | <b>\$134,171,256</b> | <b>\$143,660,456</b> |
| Additional Contingency | 20%                  | \$28,225,691         | \$27,340,811         | \$28,890,491         | \$30,672,427         | \$26,944,178         | \$26,059,298         | \$27,608,978         | \$26,834,251         |

**Special Cost Considerations**

|   |             |             |             |             |             |             |             |             |             |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Industrial & Commercial Area (Acre)           | 96          | 97          | 101         | 103         | 108         | 109         | 113         | 97          | 103         |
| Environmental Cleanup Complexity (hi/med/low) | med         |
| Environmental Remediation **                  | \$6,572,727 | \$6,634,091 | \$6,906,818 | \$7,009,091 | \$7,390,909 | \$7,452,273 | \$7,725,000 | \$6,613,636 | \$7,022,727 |
| Demolition                                    | \$2,800,000 | \$3,000,000 | \$3,000,000 | \$3,000,000 | \$3,000,000 | \$3,000,000 | \$3,000,000 | \$3,500,000 | \$3,500,000 |

|   |               |               |               |               |               |               |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total (FMV Contingency + Special Cost Considerations) | \$178,726,874 | \$173,678,958 | \$183,249,765 | \$194,043,654 | \$172,055,979 | \$166,808,063 | \$176,378,870 | \$171,119,144 | \$182,915,274 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|

|                               |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|-------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Total Acquisition Cost</b> | <b>\$179,000,000</b> | <b>\$173,700,000</b> | <b>\$183,200,000</b> | <b>\$194,000,000</b> | <b>\$172,100,000</b> | <b>\$166,800,000</b> | <b>\$176,379,000</b> | <b>\$171,119,000</b> | <b>\$182,915,000</b> |
|-------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

Notes:

\*\* Remediation Cost Basis

Hi remediation (\$60 Million/220 acres)

\$272,727 acre

Med remediation (\$30 Million/220 acres)

\$136,364 acre

Low remediation (\$1 Million/220 acres)

\$4,545 acre

UTILITY COST ESTIMATES

# NCI NORTHWEST CONSULTANTS, INC.

## OPINION OF PROBABLE CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 1  
 BASIS FOR ESTIMATE:  CONCEPTUAL  PRELIMINARY  FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. TOTAL | UNIT | UNIT PRICE       | COST                     |
|-----------------|---|-------------|------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 21700       | Ft   | \$ 300.00        | \$ 6,510,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 1000        | Ft   | \$ 400.00        | \$ 400,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 2000        | Ft   | \$ 500.00        | \$ 1,000,000.00          |
| DTE             | Underground Cable   | 83500       | Ft   | \$ 150.00        | \$ 12,525,000.00         |
|                 | Substation  | 1           | LS   | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 20420       | Ft   | \$ 250.00        | \$ 5,105,000.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 15500       | Ft   | \$ 500.00        | \$ 7,750,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 8950        | Ft   | \$ 1,000.00      | \$ 8,950,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 4450        | Ft   | \$ 1,500.00      | \$ 6,675,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 3550        | Ft   | \$ 2,500.00      | \$ 8,875,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 2700        | Ft   | \$ 5,000.00      | \$ 13,500,000.00         |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 21988       | Ft   | \$ 250.00        | \$ 5,497,000.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 21612       | Ft   | \$ 25.00         | \$ 540,300.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 18399       | Ft   | \$ 500.00        | \$ 9,199,500.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 900         | Ft   | \$ 1,000.00      | \$ 900,000.00            |
| ITC             | 120kV & Control Line  | 4.1         | Mi   | \$ 7,000,000.00  | \$ 28,700,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32        | Mi   | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 3700        | Ft   | \$ 500.00        | \$ 1,850,000.00          |
| Lightcore       | Cable   | 700         | Ft   | \$ 500.00        | \$ 350,000.00            |
| MCI             | Conduit   | 12200       | Ft   | \$ 500.00        | \$ 6,100,000.00          |
|                 | Metallic Conduit  | 1500        | Ft   | \$ 500.00        | \$ 750,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 29135       | Ft   | \$ 150.00        | \$ 4,370,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 28265       | Ft   | \$ 15.00         | \$ 423,975.00            |
|                 | High Pressure Gas Main  | 0.85        | Mi   | \$ 2,000,000.00  | \$ 1,700,000.00          |
| Nextel          | Fiber Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 23700       | Ft   | \$ 200.00        | \$ 4,740,000.00          |
|                 | 24 kV (underground)   | 8000        | Ft   | \$ 1,500.00      | \$ 12,000,000.00         |
|                 | 28/48 kV (underground)  | 1000        | Ft   | \$ 500.00        | \$ 500,000.00            |
| Qwest           | Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| SBC             | Cable in Ducts  | 20628       | Ft   | \$ 300.00        | \$ 6,188,400.00          |
|                 | Fiber Cable in Ducts  | 4500        | Ft   | \$ 500.00        | \$ 2,250,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1400        | Ft   | \$ 500.00        | \$ 700,000.00            |
|                 | <b>Subtotal</b>   |             |      |                  | <b>\$ 173,869,425.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |             |      |                  | <b>\$ 174,000,000.00</b> |

**NCI** NORTHWEST CONSULTANTS, INC.

OPINION OF PROBABLE  
CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 2  
 BASIS FOR ESTIMATE: [X] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. TOTAL | UNIT | UNIT PRICE       | COST                     |
|-----------------|---|-------------|------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 23500       | Ft   | \$ 300.00        | \$ 7,050,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 1000        | Ft   | \$ 400.00        | \$ 400,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 2000        | Ft   | \$ 500.00        | \$ 1,000,000.00          |
| DTE             | Underground Cable   | 86600       | Ft   | \$ 150.00        | \$ 12,990,000.00         |
|                 | Substation  | 1           | LS   | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 19020       | Ft   | \$ 250.00        | \$ 4,755,000.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 14750       | Ft   | \$ 500.00        | \$ 7,375,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 8650        | Ft   | \$ 1,000.00      | \$ 8,650,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 4950        | Ft   | \$ 1,500.00      | \$ 7,425,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 3020        | Ft   | \$ 2,500.00      | \$ 7,550,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 2700        | Ft   | \$ 5,000.00      | \$ 13,500,000.00         |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 19888       | Ft   | \$ 250.00        | \$ 4,972,000.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 21612       | Ft   | \$ 25.00         | \$ 540,300.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 18249       | Ft   | \$ 500.00        | \$ 9,124,500.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 850         | Ft   | \$ 1,000.00      | \$ 850,000.00            |
| ITC             | 120kV & Control Line  | 4.1         | Mi   | \$ 7,000,000.00  | \$ 28,700,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32        | Mi   | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 3700        | Ft   | \$ 500.00        | \$ 1,850,000.00          |
| Lightcore       | Cable   | 700         | Ft   | \$ 500.00        | \$ 350,000.00            |
| MCI             | Conduit   | 12000       | Ft   | \$ 500.00        | \$ 6,000,000.00          |
|                 | Metallic Conduit  | 1500        | Ft   | \$ 500.00        | \$ 750,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 29135       | Ft   | \$ 150.00        | \$ 4,370,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 28265       | Ft   | \$ 15.00         | \$ 423,975.00            |
|                 | High Pressure Gas Main  | 1.14        | Mi   | \$ 2,000,000.00  | \$ 2,280,000.00          |
| Nextel          | Fiber Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 21500       | Ft   | \$ 200.00        | \$ 4,300,000.00          |
|                 | 24 kV (underground)   | 6600        | Ft   | \$ 1,500.00      | \$ 9,900,000.00          |
|                 | 28/48 kV (underground)  | 1000        | Ft   | \$ 500.00        | \$ 500,000.00            |
| Qwest           | Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| SBC             | Cable in Ducts  | 25596       | Ft   | \$ 300.00        | \$ 7,678,800.00          |
|                 | Fiber Cable in Ducts  | 4700        | Ft   | \$ 500.00        | \$ 2,350,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1400        | Ft   | \$ 500.00        | \$ 700,000.00            |
|                 | <b>Subtotal</b>   |             |      |                  | <b>\$ 172,154,825.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |             |      |                  | <b>\$ 173,000,000.00</b> |

**NCI** NORTHWEST CONSULTANTS, INC.

OPINION OF PROBABLE  
CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 3  
 BASIS FOR ESTIMATE: [X] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. TOTAL | UNIT | UNIT PRICE       | COST                     |
|-----------------|---|-------------|------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 21700       | Ft   | \$ 300.00        | \$ 6,510,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 1000        | Ft   | \$ 400.00        | \$ 400,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 2000        | Ft   | \$ 500.00        | \$ 1,000,000.00          |
| DTE             | Underground Cable   | 80600       | Ft   | \$ 150.00        | \$ 12,090,000.00         |
|                 | Substation  | 1           | LS   | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 19020       | Ft   | \$ 250.00        | \$ 4,755,000.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 14750       | Ft   | \$ 500.00        | \$ 7,375,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 8650        | Ft   | \$ 1,000.00      | \$ 8,650,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 4950        | Ft   | \$ 1,500.00      | \$ 7,425,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 3020        | Ft   | \$ 2,500.00      | \$ 7,550,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 2700        | Ft   | \$ 5,000.00      | \$ 13,500,000.00         |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 14988       | Ft   | \$ 250.00        | \$ 3,747,000.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 21612       | Ft   | \$ 25.00         | \$ 540,300.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 17549       | Ft   | \$ 500.00        | \$ 8,774,500.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 850         | Ft   | \$ 1,000.00      | \$ 850,000.00            |
| ITC             | 120kV & Control Line  | 3.41        | Mi   | \$ 7,000,000.00  | \$ 23,870,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32        | Mi   | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 2000        | Ft   | \$ 500.00        | \$ 1,000,000.00          |
| Lightcore       | Cable   | 700         | Ft   | \$ 500.00        | \$ 350,000.00            |
| MCI             | Conduit   | 9300        | Ft   | \$ 500.00        | \$ 4,650,000.00          |
|                 | Metallic Conduit  | 1700        | Ft   | \$ 500.00        | \$ 850,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 10835       | Ft   | \$ 150.00        | \$ 1,625,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 28265       | Ft   | \$ 15.00         | \$ 423,975.00            |
|                 | High Pressure Gas Main  | 0.81        | Mi   | \$ 2,000,000.00  | \$ 1,620,000.00          |
| Nextel          | Fiber Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 17200       | Ft   | \$ 200.00        | \$ 3,440,000.00          |
|                 | 24 kV (underground)   | 6900        | Ft   | \$ 1,500.00      | \$ 10,350,000.00         |
|                 | 28/48 kV (underground)  | 1000        | Ft   | \$ 500.00        | \$ 500,000.00            |
| Qwest           | Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| SBC             | Cable in Ducts  | 10889       | Ft   | \$ 300.00        | \$ 3,266,700.00          |
|                 | Fiber Cable in Ducts  | 2500        | Ft   | \$ 500.00        | \$ 1,250,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1400        | Ft   | \$ 500.00        | \$ 700,000.00            |
|                 | <b>Subtotal</b>   |             |      |                  | <b>\$ 152,882,725.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |             |      |                  | <b>\$ 153,000,000.00</b> |

**NCI** NORTHWEST CONSULTANTS, INC.

OPINION OF PROBABLE  
CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 5  
 BASIS FOR ESTIMATE: [X] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. UNIT TOTAL | UNIT PRICE       | COST                     |
|-----------------|---|------------------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 22300            | \$ 300.00        | \$ 6,690,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 1000             | \$ 400.00        | \$ 400,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 2000             | \$ 500.00        | \$ 1,000,000.00          |
| DTE             | Underground Cable   | 86600            | \$ 150.00        | \$ 12,990,000.00         |
|                 | Substation  | 1                | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 19020            | \$ 250.00        | \$ 4,755,000.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 14750            | \$ 500.00        | \$ 7,375,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 8650             | \$ 1,000.00      | \$ 8,650,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 4950             | \$ 1,500.00      | \$ 7,425,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 3020             | \$ 2,500.00      | \$ 7,550,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 2700             | \$ 5,000.00      | \$ 13,500,000.00         |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 18688            | \$ 250.00        | \$ 4,672,000.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 21612            | \$ 25.00         | \$ 540,300.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 17949            | \$ 500.00        | \$ 8,974,500.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 900              | \$ 1,000.00      | \$ 900,000.00            |
| ITC             | 120kV & Control Line  | 3.9              | \$ 7,000,000.00  | \$ 27,300,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32             | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 3600             | \$ 500.00        | \$ 1,800,000.00          |
| Lightcore       | Cable   | 600              | \$ 500.00        | \$ 300,000.00            |
| MCI             | Conduit   | 10600            | \$ 500.00        | \$ 5,300,000.00          |
|                 | Metallic Conduit  | 1500             | \$ 500.00        | \$ 750,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 29535            | \$ 150.00        | \$ 4,430,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 28265            | \$ 15.00         | \$ 423,975.00            |
|                 | High Pressure Gas Main  | 1.14             | \$ 2,000,000.00  | \$ 2,280,000.00          |
| Nextel          | Fiber Cable   | 500              | \$ 500.00        | \$ 250,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 21500            | \$ 200.00        | \$ 4,300,000.00          |
|                 | 24 kV (underground)   | 7700             | \$ 1,500.00      | \$ 11,550,000.00         |
|                 | 28/48 kV (underground)  | 1000             | \$ 500.00        | \$ 500,000.00            |
| Qwest           | Cable   | 500              | \$ 500.00        | \$ 250,000.00            |
| SBC             | Cable in Ducts  | 20062            | \$ 300.00        | \$ 6,018,600.00          |
|                 | Fiber Cable in Ducts  | 4200             | \$ 500.00        | \$ 2,100,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1200             | \$ 500.00        | \$ 600,000.00            |
|                 | <b>Subtotal</b>   |                  |                  | <b>\$ 168,894,625.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |                  |                  | <b>\$ 169,000,000.00</b> |

**NCI** NORTHWEST CONSULTANTS, INC.

OPINION OF PROBABLE  
CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 7  
 BASIS FOR ESTIMATE: [X] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. TOTAL | UNIT | UNIT PRICE       | COST                     |
|-----------------|---|-------------|------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 21700       | Ft   | \$ 300.00        | \$ 6,510,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 1000        | Ft   | \$ 400.00        | \$ 400,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 2000        | Ft   | \$ 500.00        | \$ 1,000,000.00          |
| DTE             | Underground Cable   | 93100       | Ft   | \$ 150.00        | \$ 13,965,000.00         |
|                 | Substation  | 1           | LS   | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 24600       | Ft   | \$ 250.00        | \$ 6,150,000.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 11750       | Ft   | \$ 500.00        | \$ 5,875,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 8500        | Ft   | \$ 1,000.00      | \$ 8,500,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 4850        | Ft   | \$ 1,500.00      | \$ 7,275,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 2850        | Ft   | \$ 2,500.00      | \$ 7,125,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 1000        | Ft   | \$ 5,000.00      | \$ 5,000,000.00          |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 14951       | Ft   | \$ 250.00        | \$ 3,737,750.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 22399       | Ft   | \$ 25.00         | \$ 559,975.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 16778       | Ft   | \$ 500.00        | \$ 8,389,000.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 3000        | Ft   | \$ 1,000.00      | \$ 3,000,000.00          |
| ITC             | 120kV & Control Line  | 4.26        | Mi   | \$ 7,000,000.00  | \$ 29,820,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32        | Mi   | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 3700        | Ft   | \$ 500.00        | \$ 1,850,000.00          |
| Lightcore       | Cable   | 700         | Ft   | \$ 500.00        | \$ 350,000.00            |
| MCI             | Conduit   | 12200       | Ft   | \$ 500.00        | \$ 6,100,000.00          |
|                 | Metallic Conduit  | 1500        | Ft   | \$ 500.00        | \$ 750,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 28235       | Ft   | \$ 150.00        | \$ 4,235,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 28265       | Ft   | \$ 15.00         | \$ 423,975.00            |
|                 | High Pressure Gas Main  | 1.1         | Mi   | \$ 2,000,000.00  | \$ 2,200,000.00          |
| Nextel          | Fiber Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 23700       | Ft   | \$ 200.00        | \$ 4,740,000.00          |
|                 | 24 kV (underground)   | 8000        | Ft   | \$ 1,500.00      | \$ 12,000,000.00         |
|                 | 28/48 kV (underground)  | 1000        | Ft   | \$ 500.00        | \$ 500,000.00            |
| Qwest           | Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| SBC             | Cable in Ducts  | 22581       | Ft   | \$ 300.00        | \$ 6,774,300.00          |
|                 | Fiber Cable in Ducts  | 4300        | Ft   | \$ 500.00        | \$ 2,150,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1400        | Ft   | \$ 500.00        | \$ 700,000.00            |
|                 | <b>Subtotal</b>   |             |      |                  | <b>\$ 165,900,250.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |             |      |                  | <b>\$ 166,000,000.00</b> |

**NCI** NORTHWEST CONSULTANTS, INC.

OPINION OF PROBABLE  
CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 9  
 BASIS FOR ESTIMATE: [X] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. TOTAL | UNIT | UNIT PRICE       | COST                     |
|-----------------|---|-------------|------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 21700       | Ft   | \$ 300.00        | \$ 6,510,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 1000        | Ft   | \$ 400.00        | \$ 400,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 2000        | Ft   | \$ 500.00        | \$ 1,000,000.00          |
| DTE             | Underground Cable   | 92400       | Ft   | \$ 150.00        | \$ 13,860,000.00         |
|                 | Substation  | 1           | LS   | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 24600       | Ft   | \$ 250.00        | \$ 6,150,000.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 11750       | Ft   | \$ 500.00        | \$ 5,875,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 8500        | Ft   | \$ 1,000.00      | \$ 8,500,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 4850        | Ft   | \$ 1,500.00      | \$ 7,275,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 2850        | Ft   | \$ 2,500.00      | \$ 7,125,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 1000        | Ft   | \$ 5,000.00      | \$ 5,000,000.00          |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 14951       | Ft   | \$ 250.00        | \$ 3,737,750.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 22399       | Ft   | \$ 25.00         | \$ 559,975.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 16778       | Ft   | \$ 500.00        | \$ 8,389,000.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 3000        | Ft   | \$ 1,000.00      | \$ 3,000,000.00          |
| ITC             | 120kV & Control Line  | 4.26        | Mi   | \$ 7,000,000.00  | \$ 29,820,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32        | Mi   | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 3700        | Ft   | \$ 500.00        | \$ 1,850,000.00          |
| Lightcore       | Cable   | 700         | Ft   | \$ 500.00        | \$ 350,000.00            |
| MCI             | Conduit   | 12200       | Ft   | \$ 500.00        | \$ 6,100,000.00          |
|                 | Metallic Conduit  | 1500        | Ft   | \$ 500.00        | \$ 750,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 28235       | Ft   | \$ 150.00        | \$ 4,235,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 28265       | Ft   | \$ 15.00         | \$ 423,975.00            |
|                 | High Pressure Gas Main  | 1.1         | Mi   | \$ 2,000,000.00  | \$ 2,200,000.00          |
| Nextel          | Fiber Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 23700       | Ft   | \$ 200.00        | \$ 4,740,000.00          |
|                 | 24 kV (underground)   | 8000        | Ft   | \$ 1,500.00      | \$ 12,000,000.00         |
|                 | 28/48 kV (underground)  | 1000        | Ft   | \$ 500.00        | \$ 500,000.00            |
| Qwest           | Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| SBC             | Cable in Ducts  | 21699       | Ft   | \$ 300.00        | \$ 6,509,700.00          |
|                 | Fiber Cable in Ducts  | 4200        | Ft   | \$ 500.00        | \$ 2,100,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1400        | Ft   | \$ 500.00        | \$ 700,000.00            |
|                 | <b>Subtotal</b>   |             |      |                  | <b>\$ 165,480,650.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |             |      |                  | <b>\$ 166,000,000.00</b> |

**NCI** NORTHWEST CONSULTANTS, INC.

OPINION OF PROBABLE  
CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 11  
 BASIS FOR ESTIMATE: [X] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. TOTAL | UNIT | UNIT PRICE       | COST                     |
|-----------------|---|-------------|------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 20200       | Ft   | \$ 300.00        | \$ 6,060,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 700         | Ft   | \$ 400.00        | \$ 280,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 1900        | Ft   | \$ 500.00        | \$ 950,000.00            |
| DTE             | Underground Cable   | 88700       | Ft   | \$ 150.00        | \$ 13,305,000.00         |
|                 | Substation  | 1           | LS   | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 24720       | Ft   | \$ 250.00        | \$ 6,180,000.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 14750       | Ft   | \$ 500.00        | \$ 7,375,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 9000        | Ft   | \$ 1,000.00      | \$ 9,000,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 5400        | Ft   | \$ 1,500.00      | \$ 8,100,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 3020        | Ft   | \$ 2,500.00      | \$ 7,550,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 2700        | Ft   | \$ 5,000.00      | \$ 13,500,000.00         |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 11201       | Ft   | \$ 250.00        | \$ 2,800,250.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 22399       | Ft   | \$ 25.00         | \$ 559,975.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 17228       | Ft   | \$ 500.00        | \$ 8,614,000.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 3000        | Ft   | \$ 1,000.00      | \$ 3,000,000.00          |
| ITC             | 120kV & Control Line  | 4.16        | Mi   | \$ 7,000,000.00  | \$ 29,120,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32        | Mi   | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 2100        | Ft   | \$ 500.00        | \$ 1,050,000.00          |
| Lightcore       | Cable   | 800         | Ft   | \$ 500.00        | \$ 400,000.00            |
| MCI             | Conduit   | 10600       | Ft   | \$ 500.00        | \$ 5,300,000.00          |
|                 | Metallic Conduit  | 1700        | Ft   | \$ 500.00        | \$ 850,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 22235       | Ft   | \$ 150.00        | \$ 3,335,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 26265       | Ft   | \$ 15.00         | \$ 423,975.00            |
|                 | High Pressure Gas Main  | 0.99        | Mi   | \$ 2,000,000.00  | \$ 1,980,000.00          |
| Nextel          | Fiber Cable   | 800         | Ft   | \$ 500.00        | \$ 400,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 18000       | Ft   | \$ 200.00        | \$ 3,600,000.00          |
|                 | 24 kV (underground)   | 8100        | Ft   | \$ 1,500.00      | \$ 12,150,000.00         |
|                 | 28/48 kV (underground)  | 700         | Ft   | \$ 500.00        | \$ 350,000.00            |
| Qwest           | Cable   | 500         | Ft   | \$ 500.00        | \$ 250,000.00            |
| SBC             | Cable in Ducts  | 13807       | Ft   | \$ 300.00        | \$ 4,142,100.00          |
|                 | Fiber Cable in Ducts  | 2400        | Ft   | \$ 500.00        | \$ 1,200,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1600        | Ft   | \$ 500.00        | \$ 800,000.00            |
|                 | <b>Subtotal</b>   |             |      |                  | <b>\$ 167,945,550.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |             |      |                  | <b>\$ 168,000,000.00</b> |

**NCI** NORTHWEST CONSULTANTS, INC.

OPINION OF PROBABLE  
CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 14  
 BASIS FOR ESTIMATE: [X] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. TOTAL | UNIT | UNIT PRICE       | COST                     |
|-----------------|---|-------------|------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 21000       | Ft   | \$ 300.00        | \$ 6,300,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 1000        | Ft   | \$ 400.00        | \$ 400,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 2000        | Ft   | \$ 500.00        | \$ 1,000,000.00          |
| DTE             | Underground Cable   | 76500       | Ft   | \$ 150.00        | \$ 11,475,000.00         |
|                 | Substation  | 1           | LS   | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 16550       | Ft   | \$ 250.00        | \$ 4,137,500.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 12750       | Ft   | \$ 500.00        | \$ 6,375,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 8750        | Ft   | \$ 1,000.00      | \$ 8,750,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 3850        | Ft   | \$ 1,500.00      | \$ 5,775,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 3050        | Ft   | \$ 2,500.00      | \$ 7,625,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 2700        | Ft   | \$ 5,000.00      | \$ 13,500,000.00         |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 14288       | Ft   | \$ 250.00        | \$ 3,572,000.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 21612       | Ft   | \$ 25.00         | \$ 540,300.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 15849       | Ft   | \$ 500.00        | \$ 7,924,500.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 650         | Ft   | \$ 1,000.00      | \$ 650,000.00            |
| ITC             | 120kV & Control Line  | 3.07        | Mi   | \$ 7,000,000.00  | \$ 21,490,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32        | Mi   | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 1850        | Ft   | \$ 500.00        | \$ 925,000.00            |
| Lightcore       | Cable   | 700         | Ft   | \$ 500.00        | \$ 350,000.00            |
| MCI             | Conduit   | 9300        | Ft   | \$ 500.00        | \$ 4,650,000.00          |
|                 | Metallic Conduit  | 1900        | Ft   | \$ 500.00        | \$ 950,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 23035       | Ft   | \$ 150.00        | \$ 3,455,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 28365       | Ft   | \$ 15.00         | \$ 425,475.00            |
|                 | High Pressure Gas Main  | 0.72        | Mi   | \$ 2,000,000.00  | \$ 1,440,000.00          |
| Nextel          | Fiber Cable   | 200         | Ft   | \$ 500.00        | \$ 100,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 10500       | Ft   | \$ 200.00        | \$ 2,100,000.00          |
|                 | 24 kV (underground)   | 6000        | Ft   | \$ 1,500.00      | \$ 9,000,000.00          |
|                 | 28/48 kV (underground)  | 1000        | Ft   | \$ 500.00        | \$ 500,000.00            |
| Qwest           | Cable   | 400         | Ft   | \$ 500.00        | \$ 200,000.00            |
| SBC             | Cable in Ducts  | 11336       | Ft   | \$ 300.00        | \$ 3,400,800.00          |
|                 | Fiber Cable in Ducts  | 2000        | Ft   | \$ 500.00        | \$ 1,000,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1400        | Ft   | \$ 500.00        | \$ 700,000.00            |
|                 | <b>Subtotal</b>   |             |      |                  | <b>\$ 144,030,825.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |             |      |                  | <b>\$ 145,000,000.00</b> |

**NCI** NORTHWEST CONSULTANTS, INC.

OPINION OF PROBABLE  
CONSTRUCTION COST

PROJECT: Corradino - DRIC  
 LOCATION: Alternative 16  
 BASIS FOR ESTIMATE: [X] CONCEPTUAL [ ] PRELIMINARY [ ] FINAL  
 WORK: Utility Relocation

DATE: January 28, 2008  
 PROJECT NO.:  
 ESTIMATOR: AM  
 CHECKED BY: AK  
 CURRENT ENR:

| Utility Company | Description   | PROJ. UNIT TOTAL | UNIT PRICE       | COST                     |
|-----------------|---|------------------|------------------|--------------------------|
| Comcast         | Overhead Coaxial Cable, (including pole reloc)                  | 22500            | \$ 300.00        | \$ 6,750,000.00          |
|                 | Overhead Fiber Cable (including pole reloc)                     | 1000             | \$ 400.00        | \$ 400,000.00            |
|                 | Underground Fiber Cable (including trenching)                   | 2000             | \$ 500.00        | \$ 1,000,000.00          |
| DTE             | Underground Cable   | 96000            | \$ 150.00        | \$ 14,400,000.00         |
|                 | Substation  | 1                | \$ 15,000,000.00 | \$ 15,000,000.00         |
| DWSD-Sewer      | Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)        | 19020            | \$ 250.00        | \$ 4,755,000.00          |
|                 | Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)  | 17450            | \$ 500.00        | \$ 8,725,000.00          |
|                 | Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)          | 8950             | \$ 1,000.00      | \$ 8,950,000.00          |
|                 | Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)           | 5450             | \$ 1,500.00      | \$ 8,175,000.00          |
|                 | Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc) | 3020             | \$ 2,500.00      | \$ 7,550,000.00          |
|                 | Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)   | 2700             | \$ 5,000.00      | \$ 13,500,000.00         |
| DWSD-Water      | Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)   | 20988            | \$ 250.00        | \$ 5,247,000.00          |
|                 | Water Main, 6 inch to 12 inch (removal only)                    | 21612            | \$ 25.00         | \$ 540,300.00            |
|                 | Water Main, 16 inch (incl trenching, manholes, etc)             | 17149            | \$ 500.00        | \$ 8,574,500.00          |
|                 | Water Main, 42 inch or Greater (incl trenching, manholes, etc)  | 850              | \$ 1,000.00      | \$ 850,000.00            |
| ITC             | 120kV & Control Line  | 4.22             | \$ 7,000,000.00  | \$ 29,540,000.00         |
|                 | 120kV & 230kV Line and Transmission Towers                      | 0.32             | \$ 1,000,000.00  | \$ 320,000.00            |
| Level3          | Fiber Cable   | 3600             | \$ 500.00        | \$ 1,800,000.00          |
| Lightcore       | Cable   | 700              | \$ 500.00        | \$ 350,000.00            |
| MCI             | Conduit   | 14600            | \$ 500.00        | \$ 7,300,000.00          |
|                 | Metallic Conduit  | 1600             | \$ 500.00        | \$ 800,000.00            |
| Michcon         | Gas Main, 2 inch to 16 inch                                     | 29535            | \$ 150.00        | \$ 4,430,250.00          |
|                 | Gas Main, 2 inch to 16 inch (removal only)                      | 26265            | \$ 15.00         | \$ 423,975.00            |
|                 | High Pressure Gas Main  | 1.14             | \$ 2,000,000.00  | \$ 2,280,000.00          |
| Nextel          | Fiber Cable   | 500              | \$ 500.00        | \$ 250,000.00            |
| PLD             | Street Lighting (including pole reloc)                          | 29000            | \$ 200.00        | \$ 5,800,000.00          |
|                 | 24 kV (underground)   | 9200             | \$ 1,500.00      | \$ 13,800,000.00         |
|                 | 28/48 kV (underground)  | 1000             | \$ 500.00        | \$ 500,000.00            |
| Qwest           | Cable   | 1400             | \$ 500.00        | \$ 700,000.00            |
| SBC             | Cable in Ducts  | 23910            | \$ 300.00        | \$ 7,173,000.00          |
|                 | Fiber Cable in Ducts  | 4800             | \$ 500.00        | \$ 2,400,000.00          |
| Telecom/AT&T    | Fiber Cable   | 1400             | \$ 500.00        | \$ 700,000.00            |
|                 | <b>Subtotal</b>   |                  |                  | <b>\$ 182,984,025.00</b> |
|                 | <b>ROUNDED TOTAL OPINION OF PROBABLE COST =</b>                 |                  |                  | <b>\$ 183,000,000.00</b> |