

# Cost Estimating Spreadsheet Report

Conventional Alt. CS 4

Page 1

3/30/2012 8:54 AM

## Every Day Counts - Case Study 4

<b>Project name</b>	Conventional Alt. CS 4 Fla.
<b>Labor rate table</b>	Labor 2011
<b>Equipment rate table</b>	Equip 2011
<b>Notes</b>	<ol style="list-style-type: none"><li>1. Pricing is 2011 \$.</li><li>2. Construction Schedule of 30 mos.</li><li>3. Rates reflect majority of work performed evenings to minimize disruption.</li><li>4. 2 Bridges.</li><li>5. Labor Cost/Unit - This reflects the cost of Labor to put one unit of measure of work in place. This is comprised of a typical crew with associated productivity required to perform the activity. Labor is priced up to include base rate, fringes, taxes, insurance, etc.</li><li>6. Material Cost/Unit - This cost represents the final installed cost for all the materials associated with the item of work.</li><li>7. Sub Contract Cost/Unit - this represents the Sub Contract all in Cost to put one unit of work in place. This cost includes all costs necessary to reflect a total installed cost (incls. Labor, equipment and material).</li><li>8. Equipment Cost/Unit - This represents the cost of Construction Equipment necessary to put one unit of work in place. This cost includes equipment ownership and maintenance and operational costs.</li><li>9. Other Cost/Unit - This cost represents all other costs necessary to perform the item of work and not covered by the abovementioned costs.</li><li>10. Total cost/unit - This is the summation of all unit costs to arrive at a total cost per unit to put one one item of work in place.</li><li>11. Total Amount - Total cost to put the quantity of units specified in place.</li></ol>
<b>Report format</b>	Sorted by 'LOCATION/Pay Item/Group phase/Phase' 'Detail' summary Allocate addons

# Cost Estimating Spreadsheet Report

## Conventional Alt. CS 4

Page 2  
3/30/2012 8:54 AM

Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
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### Additional Cost Additional Cost Detour

\* unassigned \*

34-71-13.00 Vehicle Barriers

34-71-13.17 Security Vehicle Barriers

Maintain Detour on Local Roads	500.00 day	-	-	-	-	89.68	89.68	44,841
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Security Vehicle Barriers								44,841
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Vehicle Barriers								44,841
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* unassigned *								44,841
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<b>Additional Cost</b>								<b>44,841</b>
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<b>Additional Cost</b>								<b>44,841</b>
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<b>Detour</b>								<b>44,841</b>
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### General Conditions General Conditions

\* unassigned \*

01-31-00.00 Project Management And Coordination

01-31-13.20 Field Personnel

Field Personnel, clerk, average	125.00 week	472.96	-	-	-	-	472.96	59,120
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Field engineer, average	129.00 week	1,457.74	-	-	-	-	1,457.74	188,049
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Field Personnel, project manager, average	129.00 week	2,397.18	-	-	-	-	2,397.18	309,236
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Field Personnel, superintendent, average	125.00 week	2,202.81	-	-	-	-	2,202.81	275,351
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Field Personnel								831,756
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Project Management And Coordination								831,756
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01-32-33.00 Photographic Documentation								
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01-32-33.50 Photographs

Construction Photographs	128.00 set	-	567.99	-	-	-	567.99	72,703
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Photographs								72,703
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Photographic Documentation								72,703
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01-45-00.00 Quality Control

01-45-23.50 Testing

Field Testing	2.00 prjc	-	-	-	-	35,981.96	35,981.96	71,964
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Testing								71,964
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Quality Control								71,964
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01-52-13.00 Field Offices And Sheds								
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### Conventional Alt. CS 4

Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
01-52-13.20 Office And Storage Space								
Office Trailer, furnished, rent per month, 32' x 8', excl. hookups	30.00 ea	-	288.18	-	-	-	288.18	8,645
Storage Boxes, rent per month, 20' x 8'	60.00 ea	-	87.89	-	-	-	87.89	5,273
								13,919
01-52-13.40 Field Office Expense								
Field Office Expense, office equipment rental, average	30.00 mo	-	179.37	-	-	-	179.37	5,381
Field Office Expense, office supplies, average	30.00 mo	-	113.60	-	-	-	113.60	3,408
Field Office Expense, telephone bill; avg. bill/month, incl. long dist.	30.00 mo	-	251.11	-	-	-	251.11	7,533
Field Office Expense, field office lights & HVAC	30.00 mo	-	131.54	-	-	-	131.54	3,946
								20,268
Field Office Expense								34,187
01-56-26.00 Temporary Fencing								
01-56-26.50 Temporary Fencing								
Temporary Fencing, chain link, 6' high, 11 ga	2,000.00 lf	3.43	8.37	-	-	-	11.80	23,607
								23,607
Temporary Fencing								23,607
01-58-00.00 Project Identification								
01-58-13.50 Signs								
Project Signs	50.00 sf	-	21.40	-	-	-	21.40	1,070
								1,070
Signs								1,070
01-71-23.00 Field Engineering								
01-71-23.13 Construction Layout								
Survey Crew	95.00 day	2,057.23	-	-	90.63	-	2,147.86	204,047
								204,047
Construction Layout								204,047
Field Engineering								204,047
* unassigned *								1,239,334
General Conditions								1,239,334
General Conditions								

# Cost Estimating Spreadsheet Report

## Conventional Alt. CS 4

Page 4  
3/30/2012 8:54 AM

Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
<b>Permanent Walls Permanent Walls</b>								
<b>400-2-10 Concrete Class II</b>								
03-30-00.00 Cast-In-Place Concrete								
03-30-53.40 Concrete In Place								
Approach Slab	262.60 cy	154.57	173.39	-	20.87	-	348.83	91,602
Concrete In Place								91,602
Cast-In-Place Concrete								91,602
<b>400-2-10 Concrete Class II</b>								<b>91,602</b>
<b>415-1-9 Reinforcing Steel</b>								
03-21-05.00 Reinforcing Steel Accessories								
03-21-10.60 Reinforcing In Place								
Reinforcing Steel Approach Slabs	53,832.00 lb	0.40	0.06	-	0.08	-	0.54	28,865
Reinforcing In Place								28,865
Reinforcing Steel								28,865
Accessories								
<b>415-1-9 Reinforcing Steel</b>								<b>28,865</b>
<b>521-8-1 Concrete Traffic Railing</b>								
34-71-13.00 Vehicle Barriers								
34-71-13.26 Vehicle Guide Rails								
Concrete Traffic Railing	220.00 lf	13.96	49.03	-	4.44	-	67.43	14,834
Barrier Retaining Wall								
Vehicle Guide Rails								14,834
Vehicle Barriers								14,834
<b>521-8-1 Concrete Traffic Railing</b>								<b>14,834</b>
<b>548-12 Retainig Wall System</b>								
32-32-23.00 Retaining Walls								
32-32-23.13 Retaining Walls								
Retaining Wall System	22,144.00 sf	8.28	14.05	-	4.24	-	26.58	588,489
Retaining Walls								588,489
Retaining Walls								588,489
<b>548-12 Retainig Wall System</b>								<b>588,489</b>
<b>Permanent Walls</b>								<b>723,790</b>
<b>Permanent Walls</b>								

**Substructure-End Substructure-End Bents**

**Cost Estimating Spreadsheet Report**  
**Conventional Alt. CS 4**

**Page 5**  
**3/30/2012 8:54 AM**

Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
<b>400-4-5 Concrete Class IV (Substructure)</b>								
03-30-00.00 Cast-In-Place Concrete								
03-30-53.40 Concrete In Place								
Concrete Class IV	144.00 cy	309.15	197.30	-	41.73	-	548.18	78,938
Concrete In Place								78,938
Cast-In-Place Concrete								78,938
<b>400-4-5 Concrete Class IV</b>								<b>78,938</b>
<b>(Substructure)</b>								
<b>415-1-5 Reinforcing Steel Substructure</b>								
03-21-05.00 Reinforcing Steel Accessories								
03-21-10.60 Reinforcing In Place								
Reinforcing Steel	19,440.00 lb	0.53	0.50	-	0.11	-	1.13	21,996
Reinforcing In Place								21,996
Reinforcing Steel								21,996
Accessories								
<b>415-1-5 Reinforcing Steel</b>								<b>21,996</b>
<b>Substructure</b>								
<b>455-143-5 Test Piles</b>								
31-62-00.00 Driven Piles								
31-62-13.23 Prestressed Concrete Piles								
Prestressed concrete piles,	380.00 vlf	32.18	65.77	-	18.54	-	116.48	44,263
24" square, Test Pile								
Prestressed Concrete								44,263
Piles								
Driven Piles								44,263
<b>455-143-5 Test Piles</b>								<b>44,263</b>
<b>455-34-5 Concrete Piling Prestressed</b>								
31-62-00.00 Driven Piles								
31-62-13.23 Prestressed Concrete Piles								
Prestressed concrete piles,	2,240.00 vlf	11.70	65.77	-	6.74	-	84.21	188,628
24" square,								
Prestressed Concrete								188,628
Piles								
Driven Piles								188,628
<b>455-34-5 Concrete Piling</b>								<b>188,628</b>
<b>Prestressed</b>								
<b>Substructure-End</b>								<b>333,825</b>
<b>Substructure-End</b>								
<b>Bents</b>								

# Cost Estimating Spreadsheet Report

## Conventional Alt. CS 4

Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
<b>Substructure-Piers Substructure-Piers</b>								
<b>400-4-5 Concrete Class IV (Substructure)</b>								
03-30-00.00 Cast-In-Place Concrete								
03-30-53.40 Concrete In Place								
Concrete Class IV	306.00 cy	309.15	197.30	-	41.73	-	548.18	167,743
Concrete In Place								167,743
Cast-In-Place Concrete								167,743
<b>400-4-5 Concrete Class IV (Substructure)</b>								<b>167,743</b>
<b>415-1-5 Reinforcing Steel Substructure</b>								
03-21-05.00 Reinforcing Steel Accessories								
03-21-10.60 Reinforcing In Place								
Reinforcing Steel	45,900.00 lb	0.53	0.50	-	0.11	-	1.13	51,935
Reinforcing In Place								51,935
Reinforcing Steel								51,935
Accessories								
<b>415-1-5 Reinforcing Steel Substructure</b>								<b>51,935</b>
<b>455-143-5 Test Piles</b>								
31-62-00.00 Driven Piles								
31-62-13.23 Prestressed Concrete Piles								
Prestressed concrete piles, 24" square, Test Pile	170.00 vlf	32.18	65.77	-	18.54	-	116.48	19,802
Prestressed Concrete Piles								19,802
Driven Piles								19,802
<b>455-143-5 Test Piles</b>								<b>19,802</b>
<b>455-34-5 Concrete Piling Prestressed</b>								
31-62-00.00 Driven Piles								
31-62-13.23 Prestressed Concrete Piles								
Prestressed concrete piles, 24" square, Prestressed Concrete Piles	1,960.00 vlf	11.70	65.77	-	6.74	-	84.21	165,050
Prestressed Concrete Piles								165,050
Driven Piles								165,050
<b>455-34-5 Concrete Piling Prestressed</b>								<b>165,050</b>
<b>Substructure-Piers</b>								<b>404,529</b>
<b>Substructure-Piers</b>								

**Cost Estimating Spreadsheet Report**  
**Conventional Alt. CS 4**

**Page 7**  
**3/30/2012 8:54 AM**

Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
<b>Superstructure Superstructure</b>								
<b>110-3 Structure Removal of Existing</b>								
02-41-16.00 Structure Demolition								
02-41-16.33 Bridge Demolition								
Bridge demolition	21,048.00 sf	15.31	-	-	9.18	-	24.49	515,552
Bridge Demolition								515,552
Structure Demolition								515,552
<b>110-3 Structure Removal of Existing</b>								<b>515,552</b>
<b>400-147 Composite Neoprene Pads</b>								
05-05-23.00 Metal Fastenings								
05-05-23.80 Vibration & Bearing Pads								
Bearing Pads	37.80 cf	85.05	717.46	-	-	-	802.51	30,335
Vibration & Bearing Pads								30,335
Metal Fastenings								30,335
<b>400-147 Composite Neoprene Pads</b>								<b>30,335</b>
<b>400-2-4 Concrete Class II</b>								
03-30-00.00 Cast-In-Place Concrete								
03-30-53.40 Concrete In Place								
Concrete Class II	905.20 cy	154.57	173.39	-	20.87	-	348.83	315,757
Concrete In Place								315,757
Cast-In-Place Concrete								315,757
<b>400-2-4 Concrete Class II</b>								<b>315,757</b>
<b>400-9 Bridge Floor Grooving</b>								
32-13-13.00 Concrete Paving								
32-13-13.23 Concrete Paving Surface Treatment								
Concrete grooving	4,158.00 sy	2.51	-	-	5.20	-	7.71	32,061
Concrete Paving Surface Treatment								32,061
Concrete Paving								32,061
<b>400-9 Bridge Floor Grooving</b>								<b>32,061</b>
<b>415-1-4 Reinforcing Steel</b>								
03-21-05.00 Reinforcing Steel Accessories								
03-21-10.60 Reinforcing In Place								
Reinforcing Steel	185,566.00 lb	0.40	0.06	-	0.08	-	0.54	99,503
Superstructure								

**Cost Estimating Spreadsheet Report**  
**Conventional Alt. CS 4**

**Page 8**  
**3/30/2012 8:54 AM**

Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
Reinforcing In Place								99,503
Reinforcing Steel								99,503
Accessories								
<b>415-1-4 Reinforcing Steel</b>								<b>99,503</b>
<b>450-2-54 Prestressed Beams</b>								
32-34-00.00 Fabricated Bridges								
32-34-10.10 Bridges, Highway								
Fabricated highway bridges, precast, prestressed concrete, I beams	4,224.00 lf	-	-	-	-	191.32	191.32	808,150
Bridges, Highway								808,150
Fabricated Bridges								808,150
<b>450-2-54 Prestressed Beams</b>								<b>808,150</b>
<b>458-1-12 Bridge Deck Expansion Joint</b>								
32-34-00.00 Fabricated Bridges								
32-34-10.10 Bridges, Highway								
Bridge Deck Expansion Joint	274.00 lf	114.21	326.45	-	3.69	-	444.34	121,750
Bridges, Highway								121,750
Fabricated Bridges								121,750
<b>458-1-12 Bridge Deck Expansion Joint</b>								<b>121,750</b>
<b>521-5-1 Concrete Traffic Railing</b>								
34-71-13.00 Vehicle Barriers								
34-71-13.26 Vehicle Guide Rails								
Concrete Traffic Railing Barrier Bridge	1,296.00 lf	13.96	49.03	-	4.44	-	67.43	87,387
Vehicle Guide Rails								87,387
Vehicle Barriers								87,387
<b>521-5-1 Concrete Traffic Railing</b>								<b>87,387</b>
<b>Superstructure</b>								<b>2,010,494</b>
<b>Superstructure</b>								



Cost Estimating Spreadsheet Report  
Conventional Alt. CS 4

Page 9  
3/30/2012 8:54 AM

Estimate Totals

Description	Amount	Cuts/Adds	Net Amount	Totals	Hours	Rate	Cost Basis	Percent of Total	
Labor	2,121,538		2,121,538		22,949.165	ch		44.60%	
Material	1,277,122		1,277,122					26.85%	
Subcontract									
Equipment	433,198		433,198		2,560.709	ch		9.11%	
Other	924,956		924,956					19.44%	
	<b>4,756,814</b>			<b>4,756,814</b>				<b>100.00</b>	<b>100.00%</b>
<b>Total</b>				<b>4,756,814</b>					