

Every Day Counts - Case Study 1

Project name	Conventional Alt. CS 1 Fla.
Labor rate table	Labor 2011
Equipment rate table	Equip 2011
Notes	<ol style="list-style-type: none">1. Pricing is 2011 \$.2. Construction Schedule of 28 mos.3. Rates reflect majority of work performed evenings to minimize disruption.4. 2 Bridges.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.6. Material Cost/Unit - This cost represents the final installed cost for all the materials associated with the item of work.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).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.9. Other Cost/Unit - This cost represents all other costs necessary to perform the item of work and not covered by the abovementioned costs.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.11. Total Amount - Total cost to put the quantity of units specified in place.
Report format	Sorted by 'LOCATION/Pay Item/Group phase/Phase' 'Detail' summary Allocate addons

Cost Estimating Spreadsheet Report
Conventional Alt. CS 1

Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
Additional Cost Additional Cost Detour								
* unassigned *								
<i>01-54-36.00 Equipment Mobilization</i>								
<i>01-54-36.50 Mobilization Or Demob.</i>								
Transport Bridge to Site	4.00 ea	517.79	-	-	817.10	-	1,334.89	5,340
Transport Bridge back to	4.00 ea	517.79	-	-	817.11	-	1,334.90	5,340
FDOT								
<i>Mobilization Or Demob.</i>								10,679
<i>Equipment Mobilization</i>								10,679
<i>01-55-00.00 Vehicular Access And Parking</i>								
<i>01-55-23.50 Roads And Sidewalks</i>								
Temporary, roads	2,000.00 lf			-		956.62	956.62	1,913,234
Temporary, roads Remove	2,000.00 lf			-		119.58	119.58	239,154
<i>Roads And Sidewalks</i>								2,152,389
<i>Vehicular Access And Parking</i>								2,152,389
<i>32-34-00.00 Fabricated Bridges</i>								
<i>32-34-10.10 Bridges, Highway</i>								
Fabricated highway bridges, Install	330.00 lf	50.64	0.00	-	13.97	-	64.61	21,320
Fabricated highway bridges, Remove	330.00 lf	50.64		-	13.97	-	64.61	21,322
Fabricated highway bridges, concrete in place, abutment	350.00 cy	293.61	198.50	-	19.01	-	511.12	178,891
Fabricated highway bridges, concrete in place, abutment Remove	350.00 cy		0.00	-		149.47	149.47	52,315
<i>Bridges, Highway Fabricated Bridges</i>								273,848
								273,848
<i>34-71-13.00 Vehicle Barriers</i>								
<i>34-71-13.17 Security Vehicle Barriers</i>								
Maintain Detour	500.00 day	-	-	-	-	89.68	89.68	44,841
<i>Security Vehicle Barriers</i>								44,841
<i>Vehicle Barriers</i>								44,841
* unassigned *								2,481,758
Additional Cost								2,481,758
Additional Cost								
Detour								

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Spreadsheet Level	Takeoff Quantity	Labor Cost/Unit	Material Cost/Unit	Sub Cost/Unit	Equip Cost/Unit	Other Cost/Unit	Total Cost/Unit	Total Amount
General Conditions General Conditions								
* unassigned *								
<i>01-31-00.00 Project Management And Coordination</i>								
<i>01-31-13.20 Field Personnel</i>								
Field Personnel, clerk, average	117.00 week	472.96	-	-	-	-	472.96	55,336
Field engineer, average	121.00 week	1,457.74	-	-	-	-	1,457.74	176,387
Field Personnel, project manager, average	121.00 week	2,397.18	-	-	-	-	2,397.18	290,059
Field Personnel, superintendent, average	117.00 week	2,202.81	-	-	-	-	2,202.81	257,729
								<u>779,511</u>
<i>Field Personnel</i>								779,511
<i>Project Management And Coordination</i>								779,511
 <i>01-32-33.00 Photographic Documentation</i>								
<i>01-32-33.50 Photographs</i>								
Construction Photographs	120.00 set	-	567.99	-	-	-	567.99	68,159
								<u>68,159</u>
<i>Photographs</i>								68,159
<i>Photographic Documentation</i>								68,159
 <i>01-45-00.00 Quality Control</i>								
<i>01-45-23.50 Testing</i>								
Field Testing	2.00 prjc	-	-	-	-	35,981.96	35,981.96	71,964
								<u>71,964</u>
<i>Testing</i>								71,964
<i>Quality Control</i>								71,964
 <i>01-52-13.00 Field Offices And Sheds</i>								
<i>01-52-13.20 Office And Storage Space</i>								
Office Trailer, furnished, rent per month, 32' x 8', excl. hookups	28.00 ea	-	288.18	-	-	-	288.18	8,069
Storage Boxes, rent per month, 20' x 8'	56.00 ea	-	87.89	-	-	-	87.89	4,922
								<u>12,991</u>
<i>Office And Storage Space</i>								12,991
 <i>01-52-13.40 Field Office Expense</i>								
Field Office Expense, office equipment rental, average	28.00 mo	-	179.37	-	-	-	179.37	5,022
Field Office Expense, office supplies, average	28.00 mo	-	113.60	-	-	-	113.60	3,181

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<i>01-52-13.40 Field Office Expense</i>								
Field Office Expense, telephone bill; avg. bill/month, incl. long dist.	28.00 mo	-	251.11	-	-	-	251.11	7,031
Field Office Expense, field office lights & HVAC	28.00 mo	-	131.54	-	-	-	131.54	3,683
								<u>18,917</u>
<i>Field Offices And Sheds</i>								31,908
<i>01-56-26.00 Temporary Fencing</i>								
<i>01-56-26.50 Temporary Fencing</i>								
Temporary Fencing, chain link, 6' high, 11 ga	2,000.00 lf	3.43	8.37	-	-	-	11.80	23,607
								<u>23,607</u>
<i>Temporary Fencing</i>								23,607
<i>01-58-00.00 Project Identification</i>								
<i>01-58-13.50 Signs</i>								
Project Signs	50.00 sf	-	21.40	-	-	-	21.40	1,070
								<u>1,070</u>
<i>Signs</i>								1,070
<i>Project Identification</i>								1,070
<i>01-71-23.00 Field Engineering</i>								
<i>01-71-23.13 Construction Layout</i>								
Survey Crew	90.00 day	2,057.22	-	-	90.63	-	2,147.85	193,306
								<u>193,306</u>
<i>Construction Layout</i>								193,306
<i>Field Engineering</i>								193,306
* unassigned *								1,169,525
General Conditions								1,169,525
General Conditions								
Permanent Walls Permanent Walls								
400-2-10 Concrete Class II								
<i>03-30-00.00 Cast-In-Place Concrete</i>								
<i>03-30-53.40 Concrete In Place</i>								
Approach Slab	262.60 cy	154.57	173.39	-	20.87	-	348.83	91,602
								<u>91,602</u>
<i>Concrete In Place</i>								91,602
<i>Cast-In-Place Concrete</i>								91,602
400-2-10 Concrete Class II								91,602

415-1-9 Reinforcing Steel

03-21-05.00 Reinforcing Steel Accessories

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<i>03-21-10.60 Reinforcing In Place</i>								
Reinforcing Steel Approach Slabs	53,832.00 lb	0.40	0.06	-	0.08	-	0.54	28,866
								<hr/>
<i>Reinforcing In Place</i>								28,866
<i>Reinforcing Steel</i>								28,866
<i>Accessories</i>								
415-1-9 Reinforcing Steel								28,866
521-8-1 Concret Traffic Railing								
<i>34-71-13.00 Vehicle Barriers</i>								
<i>34-71-13.26 Vehicle Guide Rails</i>								
Concrete Traffic Railing Barrier Retaining Wall	100.00 lf	13.96	49.03	-	4.44	-	67.43	6,743
								<hr/>
<i>Vehicle Guide Rails</i>								6,743
<i>Vehicle Barriers</i>								6,743
521-8-1 Concret Traffic Railing								6,743
548-12 Retainig Wall System								
<i>32-32-23.00 Retaining Walls</i>								
<i>32-32-23.13 Retaining Walls</i>								
Retaining Wall System	13,826.00 sf	8.28	14.05	-	4.24	-	26.58	367,434
								<hr/>
<i>Retaining Walls</i>								367,434
<i>Retaining Walls</i>								367,434
548-12 Retainig Wall System								367,434
Permanent Walls								494,644
Substructure-End Substructure-End Bents								
400-4-5 Concrete Class IV (Substructure)								
<i>03-30-00.00 Cast-In-Place Concrete</i>								
<i>03-30-53.40 Concrete In Place</i>								
Concrete Class IV	144.00 cy	309.15	197.30	-	41.73	-	548.18	78,938
								<hr/>
<i>Concrete In Place</i>								78,938
<i>Cast-In-Place Concrete</i>								78,938
400-4-5 Concrete Class IV (Substructure)								78,938
415-1-5 Reinforcing Steel Substructure								
<i>03-21-05.00 Reinforcing Steel Accessories</i>								
<i>03-21-10.60 Reinforcing In Place</i>								

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415-1-5 Reinforcing Steel Substructure								
<i>03-21-05.00 Reinforcing Steel Accessories</i>								
<i>03-21-10.60 Reinforcing In Place</i>								
Reinforcing Steel	42,510.00 lb	0.53	0.50	-	0.11	-	1.13	48,100
								<u>48,100</u>
<i>Reinforcing In Place</i>								48,100
<i>Reinforcing Steel</i>								48,100
<i>Accessories</i>								
415-1-5 Reinforcing Steel								48,100
Substructure								
455-143-5 Test Piles								
<i>31-62-00.00 Driven Piles</i>								
<i>31-62-13.23 Prestressed Concrete Piles</i>								
Prestressed concrete piles,	170.00 vlf	32.18	65.77	-	18.54	-	116.48	19,802
								<u>19,802</u>
<i>24" square, Test Pile</i>								
<i>Prestressed Concrete</i>								19,802
<i>Piles</i>								
<i>Driven Piles</i>								19,802
455-143-5 Test Piles								19,802
455-34-5 Concrete Piling Prestressed								
<i>31-62-00.00 Driven Piles</i>								
<i>31-62-13.23 Prestressed Concrete Piles</i>								
Prestressed concrete piles,	1,960.00 vlf	11.70	65.77	-	6.74	-	84.21	165,050
								<u>165,050</u>
<i>24" square,</i>								
<i>Prestressed Concrete</i>								165,050
<i>Piles</i>								
<i>Driven Piles</i>								165,050
455-34-5 Concrete Piling								165,050
Prestressed								
Substructure-Piers								388,305
Substructure-Piers								
Superstructure Superstructure								
110-3 Structure Removal of Existing								
<i>02-41-16.00 Structure Demolition</i>								
<i>02-41-16.33 Bridge Demolition</i>								
Bridge demolition	21,048.00 sf	15.31	-	-	9.18	-	24.49	515,552
								<u>515,552</u>
<i>Bridge Demolition</i>								515,552
<i>Structure Demolition</i>								515,552

Estimate Totals

Description	Amount Cuts/Adds	Net Amount	Totals	Hours	Rate	Cost Basis	Percent of Total
Labor	2,119,985	2,119,985		21,670.339	ch		30.82%
Material	1,210,878	1,210,878					17.60%
Subcontract							
Equipment	418,030	418,030		2,561.883	ch		6.08%
Other	3,129,659	3,129,659					45.50%
	6,878,552		6,878,552				100.00
Total			6,878,552				100.00%