

Appendix F:

Cost Estimate

Roadway Cost Estimate Sheet, By Sabra, Wang & Associates, Inc.						
Date:	10-Oct-14	Contract No.:				
Route:	MD 108	County:	Howard			
Job Description:	Pedestrian and Bike Improvements	Project Area (SF):	-			
Improvement Type:	sidewalk/sidepath	District:	4			
		Prepared By:	SWA			
		Engineer:	BJW			
	Categ. Code No.		Quant.	Unit	Unit Price (\$)	Total (\$)
Category 1:		Preliminary	15% of Categ. (2,4,5,6)			\$101,493.00
Category 2:	20000	Grading				
Removal of Existing Combination Curb and Gutter	210011		120	LF	\$ 8.50	\$1,020.00
						Subtotal, Categ 2: \$1,020.00
Category 3:	30000	Drainage				
						Subtotal, Categ 3 : \$0.00
			10% of Categ. (2,4,5,6)			\$67,662.00
Category 4:	40000	Structures				
						Subtotal, Categ 4 : \$0.00
Category 5:	50000	Paving				
12 Inch White Lead Free Reflective Thermoplastic Pavement Marking	585405		1,400	LF	\$ 5.00	\$7,000.00
						Subtotal, Categ. 5: \$7,000.00
Category 6:	60000	Shoulder				
Standard Type A Combination Curb and Gutter	634300		120	LF	\$ 30.00	\$3,600.00
5 Inch Mix No. 2 Concrete Sidewalk	655105		-	SF	\$ 8.00	\$0.00
10 feet wide asphalt path	655105		5,000	LF	\$ 125.00	\$625,000.00
ADA pedestrian ramps	600000		40	EA	\$ 1,000.00	\$40,000.00
						Subtotal, Categ. 6: \$668,600.00
Category 7:	70000	Landscaping	10% of Category 2,4,5,6			\$67,662.00
Category 8:	80000	Traffic				
Pedestrian CPS/APS Pole & Button	811001		4	EA	\$ 1,250.00	\$5,000.00
Aluminum Sheet Signs	816001		40	SF	\$ 35.00	\$1,400.00
						Subtotal, Categ 8 : \$6,400.00
Category 9:	90000	Utilities	0% of Category 2,4,5,6			\$0.00
						Subtotal \$676,620
						Subtotal \$919,837
						Subtotal \$91,984
						\$1,011,821
						\$101,182
						Total Cost Range (\$)
						\$1,021,019 to \$1,113,003

Remarks: (Cost doesn't include Right-of-Way and Underground Utilities--but maybe covered under Contingency)

Area of Base Widening (Length X Width) in feet x 1/9= Square Yard (SY) = 9,200

RCCP Area (Length X Width) in Feet x 1/9= Square Yard (SY)

Graded Aggregate Sub-base (Under Roadway, Sidewalk, and CC & G)--in Square Yard (SY)

Roadway Cost Estimate Sheet, By Sabra, Wang & Associates, Inc.					
Date:	10-Oct-14		Contract No.:		
Route:	MD 108		County:		Howard
Job Description:	Pedestrian and Bike Improvements and Spot Widening		Project Area (SF):		-
Improvement Type:	sidewalk/sidepath		District:		4
			Prepared By:		SWA
			Engineer:		BJW
	Categ. Code No.	Quant.	Unit	Unit Price (\$)	Total (\$)
Category 1:		Preliminary		15% of Categ. (2,4,5,6)	\$172,821.30
Category 2:	20000	Grading			
Removal of Existing Combination Curb and Gutter	210011	120	LF	\$ 8.50	\$1,020.00
Removal of Existing Pavement	210025	250	CY	\$ 18.00	\$4,500.00
		Subtotal, Categ 2:			\$5,520.00
Category 3:	30000	Drainage			
		Subtotal, Categ 3:			\$0.00
		20% of Categ. (2,4,5,6)			\$230,428.40
Category 4:	40000	Structures			
variable height retaining wall		1,560	SF	\$125.00	\$195,000.00
		Subtotal, Categ 4:			\$195,000.00
Category 5:	50000	Paving			
1.5" Hot mix Asphalt Superpave (12.5mm) for surface	504206	80	TONS	92	\$7,360.00
HMA Base	504210	250	TONS	73	\$18,250.00
12 Inch White Lead Free Reflective Thermoplastic Pavement Marking		3,100	LF	\$ 5.00	\$15,500.00
Green Bike Box asphalt surface treatment		900	SF	\$ 5.00	\$4,500.00
stamped asphalt crosswalk treatment		4,500	SF	\$ 16.00	\$72,000.00
thermoplastic bike markings		2	EA	\$ 250.00	\$500.00
12 Inch White Lead Free Reflective Thermoplastic Pavement Marking		64	LF	\$ 8.00	\$512.00
		Subtotal, Categ. 5:			\$118,622.00
Category 6:	60000	Shoulder			
Standard Type A Combination Curb and Gutter	634300	700	LF	\$ 30.00	\$21,000.00
5 Inch Mix No. 2 Concrete Sidewalk	655105	14,500	SF	\$ 8.00	\$116,000.00
10 feet wide asphalt path	655105	5,000	LF	\$ 125.00	\$625,000.00
ADA pedestrian ramps	600000	71	EA	\$ 1,000.00	\$71,000.00
		Subtotal, Categ. 6:			\$833,000.00
Category 7:	70000	Landscaping		10% of Category 2,4,5,6	\$115,214.20
Category 8:	80000	Traffic			
Pedestrian CPS/APS Pole & Button	811001	4	EA	\$ 1,250.00	\$5,000.00
Aluminum Sheet Signs	816001	20	SF	\$ 35.00	\$700.00
New pedestrian crossing signal		1	EA	\$ 150,000.00	\$150,000.00
4-Leg Intersection Fully Actuated Traffic Signal		1	EA	\$ 250,000.00	\$250,000.00
		Subtotal, Categ 8:			\$405,700.00
Category 9:	90000	Utilities		0% of Category 2,4,5,6	\$0.00
Relocate water line and fire hydrant		1	EA	10000	\$10,000.00
		Subtotal, Categ 9:			\$10,000.00
		Sub-Total Categories 2,4,5,6			\$1,152,142
		Sub-Total All Categories			\$2,076,306
		Contingency (20%)			\$415,261
		Net Roadway Cost (\$)			\$2,491,567
		P.E. Cost at 20%			\$498,313
		Total Cost Range (\$)			\$2,574,619 to \$2,989,880

Remarks: (Cost doesn't include Right-of-Way and Underground Utilities--but maybe covered under Contingency)

Area of Base Widening (Length X Width) in feet x 1/9= Square Yard (SY) = 9,200

RCCP Area (Length X Width) in Feet x 1/9= Square Yard (SY)

Graded Aggregate Sub-base (Under Roadway, Sidewalk, and CC & G)--in Square Yard (SY)

Roadway Cost Estimate Sheet, By Sabra, Wang & Associates, Inc.					Date: 10-Oct-14		Contract No.:	
Route: MD 108					County: Howard		Project Area (SF): -	
Job Description: Ultimate Roadway Widening sidewalk/sidepath					District: 4		Prepared By: SWA	
Improvement Type:					Engineer: BJW			
	Categ. Code No.		Quant.	Unit	Unit Price (\$)	Total (\$)		
Category 1:			Preliminary		15% of Categ. (2,4,5,6)		\$228,154.80	
Category 2:			Grading					
Removal of Existing Combination Curb and Gutter	210011		120	LF	\$ 8.50	\$1,020.00		
Removal of Existing Pavement	210025		250	CY	\$ 18.00	\$4,500.00		
Class I Excavation	201030		1,400	CY	\$ 15.00	\$21,000.00		
Select Borrow	202050		1,100	CY	\$ 20.00	\$22,000.00		
						Subtotal, Categ 2:	\$48,520.00	
Category 3:			Drainage					
						Subtotal, Categ 3:	\$0.00	
Category 4:			Structures		20% of Categ. (2,4,5,6)		\$304,206.40	
variable height retaining wall	40000		1,560	SF	\$125.00	\$195,000.00		
						Subtotal, Categ 4:	\$195,000.00	
Category 5:			Paving					
1.5" Hot mix Asphalt Superpave (12.5mm) for surface	504206		500	TONS	\$ 92.00	\$46,000.00		
HMA Base	504210		1,500	TONS	\$ 73.00	\$109,500.00		
GASB and compaction/rolling			3,400	SY	\$ 40.00	\$136,000.00		
12 Inch White Lead Free Reflective Thermoplastic Pavement Marking			3,100	LF	\$ 5.00	\$15,500.00		
Green Bike Box asphalt surface treatment			900	SF	\$ 5.00	\$4,500.00		
Stamped asphalt crosswalk treatment			4,500	SF	\$ 16.00	\$72,000.00		
Thermoplastic bike markings			2	EA	\$ 250.00	\$500.00		
12 Inch White Lead Free Reflective Thermoplastic Pavement Marking			64	LF	\$ 8.00	\$512.00		
						Subtotal, Categ. 5:	\$384,512.00	
Category 6:			Shoulder					
Standard Type A Combination Curb and Gutter	634300		2,700	LF	\$ 30.00	\$81,000.00		
5 Inch Mix No. 2 Concrete Sidewalk	655105		14,500	SF	\$ 8.00	\$116,000.00		
10 feet wide asphalt path	655105		5,000	LF	\$ 125.00	\$625,000.00		
ADA pedestrian ramps	600000		71	EA	\$ 1,000.00	\$71,000.00		
						Subtotal, Categ. 6:	\$893,000.00	
Category 7:			Landscaping		10% of Category 2,4,5,6		\$152,103.20	
Category 8:			Traffic					
Pedestrian CPS/APS Pole & Button	811001		4	EA	\$ 1,250.00	\$5,000.00		
Aluminum Sheet Signs	816001		20	SF	\$ 35.00	\$700.00		
New pedestrian crossing signal			1	EA	\$ 150,000.00	\$150,000.00		
signal rebuild			2	EA	\$ 150,000.00	\$300,000.00		
4-Leg Intersection Fully Actuated Traffic Signal			1	EA	\$ 250,000.00	\$250,000.00		
						Subtotal, Categ 8:	\$705,700.00	
Category 9:			Utilities		15% of Category 2,4,5,6		\$228,154.80	
Relocate water line and fire hydrant	90000		1	EA	10000	\$10,000.00		
						Subtotal, Categ 8:	\$238,154.80	
Sub-Total Categories 2,4,5,6						Subtotal	\$1,521,032	
Sub-Total All Categories						Subtotal	\$3,139,351	
Contingency (30%)						Subtotal	\$941,805	
Net Roadway Cost (\$)							\$4,081,157	
P.E. Cost at 20%							\$816,231	
Maintenance of Traffic (10%)							\$408,116	
Total Cost Range (\$)						\$4,363,698	to	\$5,305,504

Remarks: (Cost doesn't include Right-of-Way and Underground Utilities--but maybe covered under Contingency)

Area of Base Widening (Length X Width) in feet x 1/9= Square Yard (SY) = 9,200

RCCP Area (Length X Width) in Feet x 1/9= Square Yard (SY)

Graded Aggregate Sub-base (Under Roadway, Sidewalk, and CC & G)--in Square Yard (SY)