COWI

OPINION OF PROBABLE COSTS

A102560 CITY OF MILFORD PELHAM STREET - STAIR AND ABUTMENT REPAIR	
CITY OF MILFORD MILFORD, CT	
JOBA 28-Aug-2018 EMCZ	
WORK ITEM DESCRIPTION	OPC PRICE (LUMP SUM)
MOBILIZATION AND DEMOBILIZATION	\$15,000.00
REPAIR CRACKS & SPALLS IN CONCRETE STAIRS	\$3,000.00
REPLACE RAILING	\$113,000.00
FILL LOWER FLIGHT OF STAIRS WITH CONCRETE	\$20,000.00
FILL VOID BENEATH LOWER PORTION OF STAIRS (EAST SIDE)	\$20,000.00
REPAIR OF EXISTING ABUTMENT/BULKHEAD STRUCTURE (FRP SHEET PILES)	\$81,000.00
REMOVE EXISTING CONCRETE LANDING AND REPLACE WITH STAIR EXTENSION	\$36,000.00
REMOVE AND REPLACE EXISTING TOP CONCRETE LANDING	\$10,000.00
TOTAL	\$298,000.00
REPAIR OF EXISTING ABUTMENT/BULKHEAD STRUCTURE (STEEL SHEET PILES)	\$89,000.00
	CITY OF MILFORD PELHAM STREET - STAIR AND ABUTMENT REPAIR CITY OF MILFORD MILFORD, CT JOBA 28-Aug-2018 EMCZ MOBILIZATION AND DEMOBILIZATION MOBILIZATION AND DEMOBILIZATION REPAIR CRACKS & SPALLS IN CONCRETE STAIRS REPLACE RAILING FILL LOWER FLIGHT OF STAIRS WITH CONCRETE FILL LOWER FLIGHT OF STAIRS WITH CONCRETE FILL VOID BENEATH LOWER PORTION OF STAIRS (EAST SIDE) REPAIR OF EXISTING ABUTMENT/BULKHEAD STRUCTURE (FRP SHEET PILES) REMOVE EXISTING CONCRETE LANDING AND REPLACE WITH STAIR EXTENSION REMOVE AND REPLACE EXISTING TOP CONCRETE LANDING TOTAL

NOTE:

COWI HAS NO CONTROL OVER THE COST OF LABOR, MATERIALS, EQUIPMENT, OR SERVICES FURNISHED BY OTHERS, OR OVER THE CONTRACTOR'S METHODS OF DETERMINING PRICES, OR OVER COMPETITIVE BIDDING OR MARKET CONDITIONS. COWI'S OPINIONS OF PROBABLE PROJECT COST AND CONSTRUCTION COST PROVIDED FOR HEREIN, ARE MADE ON THE BASIS OF COWI'S BEST JUDGEMENT AS EXPERIENCED AND QUALIFIED PROFESSIONAL ENGINEERS, FAMILIAR WITH THE CONSTRUCTION INDUSTRY; BUT COWI CANNOT AND DOES NOT GUARANTEE THAT PROPOSALS, BIDS OR ACTUAL PROJECT OR CONSTRUCTION COST S WILL NOT VARY FROM OPINIONS OF PROBABLE COST PREPARED BY COWI.

REFERENCES:

THIS OPINION OF PROBABLE COST IS BASED UPON THE FOLLOWING DRAWINGS

PREPARED BY	DRAWING NAME	DRAWING NO.	REV.	DATE	COPY ATTACHED?
COWI	EXISTING PARTIAL SITE PLAN	1		8-9-18	YES
COWI	PROPOSED PARTIAL SITE PLAN	2		8-9-18	YES
COWI	EXISTING PARTIAL STAIR PLAN	3		8-9-18	YES
COWI	EXISTING SECTION A THROUGH CONCRETE STAIR	4		8-9-18	YES
COWI	EXISTING PARTIAL PLAN OF STAIR AT TOP LANDING	5		8-9-18	YES
COWI	PROPOSED PARTIAL STAIR REPAIR PLAN	6		8-9-18	YES
COWI	PROPOSED PARTIAL STAIR REPAIR SECTION B	7		8-9-18	YES
COWI	PROPOSED CONCRETE STAIR EXTENSION ELEVATION	8		8-9-18	YES
COWI	PROPOSED CONCRETE SPALL REPAIR DETAIL	9		8-9-18	YES
COWI	PROPOSED REPAIR PLAN AT TOP LANDING	10		8-9-18	YES
COWI	PROPOSED REPAIR SECTION AT TOP LANDING	11		8-9-18	YES
COWI	PROPOSED REPAIR DETAIL 1 AT TOP LANDING	12		8-9-18	YES
COWI	PROPOSED CRACK REPAIR DETAIL	13		8-9-18	YES
COWI	PROPOSED PARTIAL TREAD REPAIR PLAN	14		8-9-18	YES
COWI	PROPOSED STAIR TREAD REPAIR DETAIL	15		8-9-18	YES

ASSUMPTIONS:

- 1 CURRENCY IN U.S. DOLLARS
- 2 COSTS ARE BASED ON FY 2018\$
- 3 OPC IS BASED ON MATERIAL PRICING AND AVAILABILITY AS OF THE DATE OF THE OPC. MATERIAL PRICING AND AVAILABILITY AT TIME OF CONSTRUCTION MAY VARY.
- 4 RESOURCES USED FOR PRICING:
 - a PREVAILING WAGE RATES FOR MILFORD CONNECTICUT
 - b R.S.MEANS HEAVY CONSTRUCTION COST DATA
- 5 EXCLUDED ITEMS:
 - a DREDGING
 - b CONTAMINATED MATERIALS HANDLING AND DISPOSAL
 - c ELECTRICAL WORK
 - d MECHANICAL WORK
 - e ITEMS NOT SPECIFICALLY LISTED IN "REFERENCES" SECTION OF THIS OPC.
 - f ENGINEERING AND CONSTRUCTION OVERSIGHT
 - g CONSTRUCTION MANAGEMENT FEES
 - h PERMIT ACQUISITION AND PERMIT FEES
 - i ARCHITECTURAL FINISHES
- 6 ACCESS FOR WORK IS FROM UPLAND-BASED EQUIPMENT WITH UPLAND STAGING ADJACENT TO THE WORK AREA. ASSUME THAT A HYDRAULIC EXCAVATOR WILL BE USED AND CAN ACCESS THE SITE BY TRAVELING ALONG THE BEACH FROM AN ACCESS POINT ON PLATT STREET ROUGHLY 600 FEET TO THE EAST OF THE SITE (SEE AERIAL MARK-UP).
- 7 IT IS ASSUMED THAT THERE WILL BE UNRESTRICTED ACCESS FOR THE WORK WITH NO DISRUPTIONS.



QUANTITIES

REPAIR ITEM	QUANTITY	UNITS	NOTES
RAILING	101.3	LF	both sides
CRACKS	6.0	LF	diagnal cracks on east and west sides of lower flight
CONCRETE FILL BENEATH LOWER FLIGHT OF STAIRS	3.6	CY	lower flight of stairs are hollow
CONCRETE FILL -VOID UNDER LANDING	3.4	CY	void under large landing
CONCRETE FILL BULKHEAD REPAIR	17.7	CY	voids behind bulkhead/abutment, and between old and new sheets
AREA OF CONCRETE FOR LARGE SPALL REPAIR	1.50	SF	size of spall at bottom of stairway
TOTAL AREA OF CONCRETE FOR 3 SMALL SPALL REPAIRS	1.50	SF	spall on stair tread and 2 spalls on landing at railing posts

MOBILIZATION AND DEMOBILIZATION

MATERIALS	QUANTITY	UNITS	UNIT \$	EXTENDED \$		COMMENTS
MISC. CONSUMABLES	1.1	0 LS	750.00	750.00 0.00 0.00		
TOTAL MATERIALS					750.00	
LABOR & EQUIPMENT	QUANTITY	UNITS	UNIT \$	EXTENDED \$		COMMENTS
COORDINATION MOBILIZATION SET-UP ON SITE DEMOBILIZATION	0.50 0.50	0 MH 0 SHIFT 0 SHIFT 0 SHIFT	75.00 4836.43 4836.43 4836.43	2418.22 2418.22 0.00		PROJECT MANAGER
TOTAL LABOR & EQUIPMENT					7854.65	
SUBCONTRACTORS	QUANTITY	UNITS	UNIT \$	EXTENDED \$		COMMENTS
				0.00 0.00 0.00		
TOTAL SUBCONTRACTORS					0.00	
SUBTOTAL PROJECT					8604.65	
ESCALATION GENERAL CONDITIONS OVERHEAD PROFIT SALES TAX DESIGN AND RESIDENT ENGINEERING CONSTRUCTION MANAGEMENT DESIGN CONTINGENCY CONSTRUCTION CONTINGENCY OVERALL PROJECT CONTINGENCY		5% 10% 5% 0.000% 0% 0% 10% 25%	6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT		0.00 430.23 903.49 496.92 0.00 0.00 0.00 1043.53 2869.70 0.00	
TOTAL OPC					\$14,348.52	

REPAIR CRACKS & SPALLS IN CONCRETE STAIRS

MATERIALS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
				0.00 0.00 0.00	
TOTAL MATERIALS					0.00
LABOR & EQUIPMENT	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
				0.00 0.00 0.00	
TOTAL LABOR & EQUIPMENT					0.00
SUBCONTRACTORS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
SPALL REPAIR CRACK REPAIR		0 SF 6 LF	479.75 21.82		
TOTAL SUBCONTRACTORS					1570.16
SUBTOTAL PROJECT					1570.16
ESCALATION GENERAL CONDITIONS OVERHEAD PROFIT SALES TAX DESIGN AND RESIDENT ENGINEERING CONSTRUCTION MANAGEMENT DESIGN CONTINGENCY CONSTRUCTION CONTINGENCY OVERALL PROJECT CONTINGENCY		5% 10% 5% 0.000% 0% 0% 10% 25%	 PERCENT 		0.00 78.51 164.87 90.68 0.00 0.00 0.00 190.42 523.66 0.00
TOTAL OPC					\$2,618.30

REPLACE RAILING

MATERIALS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
				0.00 0.00 0.00	
TOTAL MATERIALS					0.00
LABOR & EQUIPMENT	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
REMOVE & DISPOSE OF EXISTING RAILING	0.4	5 SHIFT	4836.43	2418.22 0.00 0.00	
TOTAL LABOR & EQUIPMENT					2418.22
SUBCONTRACTORS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
RAILING	101.30	0 LF	643.36	65169.50 0.00 0.00	
TOTAL SUBCONTRACTORS					65169.50
SUBTOTAL PROJECT					67587.72
ESCALATION GENERAL CONDITIONS OVERHEAD PROFIT SALES TAX DESIGN AND RESIDENT ENGINEERING CONSTRUCTION MANAGEMENT DESIGN CONTINGENCY CONSTRUCTION CONTINGENCY OVERALL PROJECT CONTINGENCY		5% 10% 5% 0.000% 0% 0% 10% 25%	6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT		0.00 3379.39 7096.71 3903.19 0.00 0.00 0.00 8196.70 22540.93 0.00
TOTAL OPC					\$112,704.63

FILL LOWER FLIGHT OF STAIRS WITH CONCRETE

MATERIALS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
FORMWORK CONCRETE		0 LS 0 CY	250.00 150.00		
TOTAL MATERIALS					850.00
LABOR & EQUIPMENT	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
FORM & POUR CONC FILL	2.	0 SHIFT	4836.43	9672.86 0.00 0.00	
TOTAL LABOR & EQUIPMENT					9672.86
SUBCONTRACTORS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
CONCRETE PUMP	0.5	0 SHIFT	2000.00	1000.00 0.00 0.00	
TOTAL SUBCONTRACTORS					1000.00
SUBTOTAL PROJECT					11522.86
ESCALATION GENERAL CONDITIONS OVERHEAD PROFIT SALES TAX DESIGN AND RESIDENT ENGINEERING CONSTRUCTION MANAGEMENT DESIGN CONTINGENCY CONSTRUCTION CONTINGENCY OVERALL PROJECT CONTINGENCY		50 100 50 0.0000 00 00 100 250	% PERCENT % PERCENT % PERCENT % PERCENT % PERCENT % PERCENT % PERCENT % PERCENT % PERCENT		$\begin{array}{c} 0.00\\ 576.14\\ 1209.90\\ 665.45\\ 0.00\\ 0.00\\ 0.00\\ 1397.44\\ 3842.95\\ 0.00\\ \end{array}$
TOTAL OPC					\$19,214.73

FILL VOID BENEATH LOWER PORTION OF STAIRS (EAST SIDE)

MATERIALS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
FORMWORK CONCRETE		0 LS 0 CY	250.00 150.00		
TOTAL MATERIALS					850.00
LABOR & EQUIPMENT	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
FORM & POUR CONC FILL	2.	0 SHIFT	4836.43	9672.86 0.00 0.00	
TOTAL LABOR & EQUIPMENT					9672.86
SUBCONTRACTORS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS
CONCRETE PUMP	0.5	0 SHIFT	2000.00	1000.00 0.00 0.00	
TOTAL SUBCONTRACTORS					1000.00
SUBTOTAL PROJECT					11522.86
ESCALATION GENERAL CONDITIONS OVERHEAD PROFIT SALES TAX DESIGN AND RESIDENT ENGINEERING CONSTRUCTION MANAGEMENT DESIGN CONTINGENCY CONSTRUCTION CONTINGENCY OVERALL PROJECT CONTINGENCY		59 109 59 0.0009 09 109 259	% PERCENT % PERCENT % PERCENT % PERCENT % PERCENT % PERCENT % PERCENT % PERCENT % PERCENT		0.00 576.14 1209.90 665.45 0.00 0.00 1397.44 3842.95 0.00
TOTAL OPC					\$19,214.73

REPAIR OF EXISTING ABUTMENT/BULKHEAD STRUCTURE (FRP SHEET PILES)

MATERIALS	QUANTITY	UNITS	UNIT \$	EXTENDED \$		COMMENTS
FRP SHEET PILES ANCHOR BOLT ASSEMBLIES CONCRETE FILL) SF) EA) CY	25.00 35.00 150.00	420.00		ASSUME 10' L
TOTAL MATERIALS					14620.00	
LABOR & EQUIPMENT	QUANTITY	UNITS	UNIT \$	EXTENDED \$		COMMENTS
EXCAVATE, SET & INSTALL SHEETS, BACKFILL ANCHOR TOPS OF SHEETS PLACE CONCRETE FILL	1.0) SHIFT) SHIFT) SHIFT	6575.02 6575.02 6575.02	6575.02		
TOTAL LABOR & EQUIPMENT					32875.11	
SUBCONTRACTORS	QUANTITY	UNITS	UNIT \$	EXTENDED \$		COMMENTS
SUBCONTRACTORS		UNITS	UNIT \$ 2000.00	·		COMMENTS
			- •	1000.00	1000.00	COMMENTS
CONCRETE PUMP			- •	1000.00		COMMENTS
CONCRETE PUMP TOTAL SUBCONTRACTORS		0 SHIFT 0 SHIFT 0 9 59 109 59 0.0009 09 09 09 109 259	- •	1000.00	1000.00	COMMENTS

REMOVE EXISTING CONCRETE LANDING AND REPLACE WITH STAIR EXTENSION

MATERIALS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS	
CONCRETE FORMS	58.	7 SFCA	5.00	293.63		
REINFORCING STEEL	400.0		2.25			
CONCRETE	2.0) CY	150.00			
				0.00 0.00		
				0.00		
				0.00		
TOTAL MATERIALS					1493.63	
LABOR & EQUIPMENT	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS	
DEMOLISH & DISPOSE OF EXISTING CONCRETE PAD	1 /) SHIFT	4836.43	4836.43		
EXCAVATION		5 SHIFT	4836.43			
F, R, P NEW EXTENSION		5 SHIFT	4836.43			
STRIP FORMS & BACKFILL) SHIFT	4836.43			
				0.00		
				0.00		
				0.00		
TOTAL LABOR & EQUIPMENT					19345.73	
SUBCONTRACTORS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	COMMENTS	
CONCRETE PUMP	0.2	5 SHIFT	2000.00	500.00		
				0.00		
				0.00		
					E00.00	
TOTAL SUBCONTRACTORS					500.00	
SUBTOTAL PROJECT					21339.35	
ESCALATION		0	% PERCENT		0.00	
GENERAL CONDITIONS			% PERCENT		1066.97	
OVERHEAD		10	% PERCENT		2240.63	
PROFIT		5	% PERCENT		1232.35	
SALES TAX			% PERCENT		0.00	
DESIGN AND RESIDENT ENGINEERING			% PERCENT		0.00	
CONSTRUCTION MANAGEMENT			% PERCENT		0.00	
DESIGN CONTINGENCY			% PERCENT		2587.93	
CONSTRUCTION CONTINGENCY OVERALL PROJECT CONTINGENCY			% PERCENT % PERCENT		7116.81 0.00	
OVERALE PROJECT CONTINUENCE		0	/0 I'ERGENT		0.00	
TOTAL OPC					\$35,584.04	

REMOVE AND REPLACE EXISTING TOP CONCRETE LANDING

MATERIALS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	с	OMMENTS
CONCRETE FORMS REINFORCING STEEL CONCRETE	200.0	5 SFCA) LB) CY	5.00 2.25 150.00	450.00		
TOTAL MATERIALS					652.50	
LABOR & EQUIPMENT	QUANTITY	UNITS	UNIT \$	EXTENDED \$	с	OMMENTS
DEMOLISH & DISPOSE OF EXISTING CONCRETE PAD F, R, P NEW EXTENSION STRIP FORMS	0.50	5 SHIFT) SHIFT 5 SHIFT	4836.43 4836.43 4836.43	2418.22		
TOTAL LABOR & EQUIPMENT					4836.43	
SUBCONTRACTORS	QUANTITY	UNITS	UNIT \$	EXTENDED \$	с	OMMENTS
CONCRETE PUMP	0.25	5 SHIFT	2000.00	500.00 0.00 0.00		
TOTAL SUBCONTRACTORS						
					500.00	
SUBTOTAL PROJECT					500.00 5988.93	
SUBTOTAL PROJECT ESCALATION GENERAL CONDITIONS OVERHEAD PROFIT SALES TAX DESIGN AND RESIDENT ENGINEERING CONSTRUCTION MANAGEMENT DESIGN CONTINGENCY CONSTRUCTION CONTINGENCY OVERALL PROJECT CONTINGENCY		59 109 59 0.0009 09 09 109 259	6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT 6 PERCENT			

REPAIR OF EXISTING ABUTMENT/BULKHEAD STRUCTURE (STEEL SHEET PILES)

MATERIALS	QUANTITY UNITS	UNIT \$ E	XTENDED \$	С	OMMENTS
STEEL SHEET PILES SSP COATING ANCHOR BOLT ASSEMBLIES CONCRETE FILL	10299.4 LB 611.8 SF 12.0 EA 18.0 CY	1.00 4.00 35.00 150.00	10299.40 2447.20 420.00 2700.00 0.00 0.00 0.00		SSUME AZ 18-700 0' L
TOTAL MATERIALS				15866.60	
LABOR & EQUIPMENT	QUANTITY UNITS	UNIT \$ E	XTENDED \$	c	OMMENTS
EXCAVATE, SET & INSTALL SHEETS, BACKFILL ANCHOR TOPS OF SHEETS PLACE CONCRETE FILL	3.5 SHIFT 1.0 SHIFT 1.0 SHIFT	6575.02 6575.02 6575.02	23012.58 6575.02 6575.02 0.00 0.00 0.00		
TOTAL LABOR & EQUIPMENT				36162.62	
SUBCONTRACTORS	QUANTITY UNITS	UNIT\$E	XTENDED \$	c	OMMENTS
CONCRETE PUMP	0.50 SHIFT	2000.00	1000.00 0.00 0.00		
TOTAL SUBCONTRACTORS				1000.00	
SUBTOTAL PROJECT				53029.22	
ESCALATION GENERAL CONDITIONS OVERHEAD PROFIT SALES TAX DESIGN AND RESIDENT ENGINEERING CONSTRUCTION MANAGEMENT DESIGN CONTINGENCY CONSTRUCTION CONTINGENCY	5% 10% 5% 0.000% 0% 0% 10%	 PERCENT PERCENT PERCENT PERCENT PERCENT PERCENT PERCENT PERCENT PERCENT 		0.00 2651.46 5568.07 3062.44 0.00 0.00 0.00 6431.12	
OVERALL PROJECT CONTINGENCY				17685.58 0.00	

LABOR AND EQUIPMENT RATE BREAKDOWN

CREW 1

		FULL COST		B	A+B
LABOR		W / BURDEN	DIRECT WAGES*	FRINGES	
	DOCKBUILDER FOREMAN	98.41	39.12	25.34	64.46
	DOCKBUILDER	86.23	32.60	25.34	57.94
	DOCKBUILDER	86.23	32.60	25.34	57.94
	DOCKBUILDER	86.23	32.60	25.34	57.94
	LABORER	76.23	30.05	20.10	50.15
	LABORER	76.23	30.05	20.10	50.15
		0.00			0.00

20.00 25.00 50.00

EQUIPMENT

COMPRESSOR	
UTILITY TRUCK	
MISC	

TOTAL HOURLY RATE TOTAL SHIFT RATE 604.55 4836.43 BASED ON EIGHT (8) HOUR SHIFT

LABOR AND EQUIPMENT RATE BREAKDOWN

CREW 2 (WITH EXCAVATOR)

		FULL COST	A	В	A+B
		W / BURDEN	DIRECT WAGES*	FRINGES	
LABOR					
	DOCKBUILDER FOREMAN	98.41	39.12	25.34	64.46
	DOCKBUILDER	86.23	32.60	25.34	57.94
	DOCKBUILDER	86.23	32.60	25.34	57.94
	DOCKBUILDER	86.23	32.60	25.34	57.94
	LABORER	76.23	30.05	20.10	50.15
	LABORER	76.23	30.05	20.10	50.15
	OPERATOR - EXCAVATOR	97.32	39.23	24.05	63.28
EQUIPMENT					
	EXCAVATOR	120.00			
	COMPRESSOR	20.00			
	UTILITY TRUCK	25.00			
	MISC	50.00			

TOTAL HOURLY RATE

821.88 6575.02 BASED ON EIGHT (8) HOUR SHIFT