

**Atlantic Coast of Long Island
Fire Island Inlet to Montauk Point (FIMP)
Long Island, New York**

GENERAL REEVALUATION REPORT

**Appendix C:
Cost Engineering**



**U.S. Army Corps of Engineers
New York District**

July 2016

Appendix C – Cost Engineering

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Introduction

On June 14, 2013 the State of New York indicated support of the modified TSP that included changes to address the Hurricane Sandy impacts. Analyses are underway to validate and also optimize the Modified TSP. Below is a summary of the initial construction features modified TSP:

- A. Dredging – Continuous beach and dune fill along the developed shorefront areas fronting Great South Bay and Moriches Bay. All dredging assumed to be done by large hopper. There are 23 areas totaling roughly 6.4 million CY of initial placement.
- B. Groin Modification Plan – Shortening of Ocean Beach groins and Westhampton groins (1-15) between 70 — 100 ft.
- C. Road raisings – 4 locations, totaling 5.91 miles in length, directly protects 1,020 houses. This effort is included in a separate contract from the non-structural treatments.
- D. Non-Structural – 100-year level of protection for structures inside 10-year flood plain. Building retrofit measures are proposed for roughly 4,200 structures, include limited relocation or buyouts, based upon structure type and condition. Repair type determined by flowchart (included in backup).
- E. Adaptive Management – Breach Response Plan. Consists of Proactive and Conditional Breach Closure Plan (BCP in the documentation below) in Fire Island undeveloped areas, with threshold details currently under development.
- F. Monitoring Costs – developed by NY District personnel for monitoring during construction.
- G. Restoration Measures – Restoration measures were identified that contribute to the restoration of the coastal processes consistent with the reformulation objectives. These costs are included in the dredging contracts that are closest to the restoration areas.

The manner in which these portions of the TSP are organized in the cost estimating documentation are as follows.

- Contract 1 - Dredging (Inlet Management & beach fill) at Fire Island Inlet
- Contract 2 - Dredging (Inlet Management, Proactive BCP & beach fill) at Moriches/Shinnecock Inlet
- Contract 3 - Dredging (Inlet Management, Proactive BCP & Sediment Mgmt) at Tiana Beach, Downtown Montauk, and Potato Rd; Restoration of NBF area
- Contract 4 - Dredging (beach fill) at Smith's Point; Restoration of NBF area
- Contract 5 - Dredging (beach fill) at Fire Island (Developed Areas); Restoration of NBF area
- Contract 6 - Groin Modification at Ocean Beach
- Contract 7 - Groin Modification at Westhampton
- Contract 8 - Road Raisings
- Contract 9 - Year 1 Non-Structural Inventory (250 structures)
- Contract 10 - Year 2 Non-Structural Inventory (750 structures)
- Contract 11 - Year 3 Non-Structural Inventory (1125 structures)
- Contract 12 - Year 4 Non-Structural Inventory (1250 structures)
- Contract 13 - Year 5 Non-Structural Inventory (763 structures)

Separate – No contracts planned/required: Adaptive Management and Monitoring.

Dredging/beachfill costs have been estimated in CEDEP and the unit costs for mob/demob and dredging have been transferred to MII in a typical fashion for dredging work. The NBF features that correspond to the dredging contracts 3-5 have been included in typical labor/eq/material setup. Same with the groin work and road raising contracts (6-8). The non-structural estimates for contracts 9-13, though founded in MII, are based on Microsoft Excel since that is the export program used by the algorithm to determine the N-S pricing.

Monitoring costs were developed by NY District environmental PDT members. The adaptive management/breach closure costs were developed by AECOM. The output from their monte carlo simulation provided an annualized cost number for the breach closure plan; this number was assumed for every year in the 50 year project life. For TPCS purposes, it was broken down into 5 year increments and escalated to the midpoint of those 5 years in order to show a concise listing.

There is also continuing construction costs, for periodic renourishment for the beachfill. The cycle is every 4 years, for 28 years, for a total of 7 renourishment cycles. The areas to receive renourishment are mainly in contracts 4 & 5. Sponsors (NY and Nat'l Park) wanted 30 years of nourishment and 20 years of breach closure plan. Similarly, the monitoring costs are estimated for 30 years.

Lands and Damages (01 Account) costs were received from Real Estate Division. Contracts 1, 3 and 4, as well as the non-structural contracts (10-14) are the only ones with RE costs. In addition, some PM costs have been estimated for the non-structural jobs; these costs (~\$1.8m) have been added to the PM costs for contract 10 on the TPCS.

The periodic renourishment volumes at each location are to be placed at 4-year cycles subsequent to commencement of construction and throughout the 30-year economic life. For contracts 1 and 2, the renourishment volumes are to be placed every 2 years. As such, the cost for these two reaches have been doubled in the calculation of renourishment costs. The renourishment beach fill is assumed to be placed in the same manner as the beach fill for the main contracts; with a large hopper dredge pumping the fill onto the shore, and a shore crew placing the material. Annualized renourishment costs are shown in Table C-2.

Major rehabilitation costs are for restoring the design profile due to significant storm events beyond those that were designed for in the renourishment cycle. The threshold at which major rehabilitation costs are incurred is based on the storm event that causes the erosion volume to exceed 15 cy/lf along the beach front. This is the average nourishment volume anticipated to be available at the midpoint of the renourishment cycle because the significant storm event has a 50% chance of occurring earlier or later than the cycle midpoint. Annualized major rehab costs are shown in Table C-3.

Monitoring Costs are shown in Table C-4; additional information on these costs can be found in the Monitoring Appendix (Appendix I).

The Cost Apportionment for this project can be found in table C-5. The initial construction cost is 100% Federally-Funded; however, the continuing construction costs are shared by the Federal Government and the local sponsor. The cost share for coastal restoration projects is 65%/35%.

Table C-1 – Project First Cost

FIRE ISLAND INLET TO MONTAUK POINT, NY
 Tentative Selected Plan with Post Sandy Amendments
 Summary of Components

	ITEMS	NOTES	Cost	Duration (Mo.)	Contract Start (NTP)	PRICE LEVEL
1	Inlet Dredging: Fire Island	First Cost	\$ 28,336,487	7.00	12-Feb-18	Oct-15
2	Inlet Dredging: Moriches, Shinnecock	First Cost	\$ 17,887,580	6.00	7-Sep-18	Oct-15
3	Tiana Beach, Downtown Montauk and Potato Road Beachfill	First Cost	\$ 33,432,959	8.00	12-Feb-18	Oct-15
4	Smith's Point/Westhampton Beachfill	First Cost	\$ 16,284,279	9.00	7-Sep-18	Oct-15
5	Fire Island @ Developed Locations (Communities, minor Federal Tracts)	First Cost	\$ 16,404,828	9.00	5-Feb-19	Oct-15
	Groin Modification					
	Relocations	First Cost				
6	Ocean Beach	First Cost	\$ 3,736,210	7.00	11-Oct-18	Oct-15
7	Westhampton	First Cost	\$ 12,022,450	13.00	14-Oct-19	Oct-15
	Mainland Non Structural					
8	Road Raising (Classified as Relocations)	First Cost	\$ 23,531,164	14.00	10-Sep-19	Oct-15
9	Year 1 Non-Structural Inventory	First Cost	\$ 28,179,314	15.00	13-Dec-19	Oct-15
10	Year 2 Non-Structural Inventory	First Cost	\$ 84,537,941	15.00	11-Dec-20	Oct-15
11	Year 3 Non-Structural Inventory	First Cost	\$ 126,806,912	14.00	10-Dec-21	Oct-15
12	Year 4 Non-Structural Inventory	First Cost	\$ 140,896,568	14.00	5-Dec-22	Oct-15
13	Year 5 Non-Structural Inventory	First Cost	\$ 86,003,265	14.00	7-Dec-23	Oct-15
	Monitoring Costs	First Cost; Included in 30 Acct	\$ -	n/a		Oct-15
	Integration of Adaptive Management (aka Breach Closure)	First Cost; Included elsewhere		n/a		Oct-15
Total:			\$ 618,059,958			

Table C-2 – Annualized Cost

Table C-2: Annualized Cost Summary		
	Formulation Summary	
		TSP
Initial Cost	02 Relocations	\$30,439,900
	10 Breakwater & Seawalls	\$20,385,400
	17 Beach Replenishment	\$145,331,000
	19 Buildings, Grounds & Utilities	\$603,366,100
	<i>Construction Estimate Totals</i>	\$799,522,400
	01 Land and Damages	\$67,160,400
	30 Planning, Engineering & Design	\$161,959,300
	31 Construction Management	\$78,457,400
	<i>Project Cost Totals</i>	\$1,107,099,500
	IDC	\$111,733,000
Investment Cost	\$1,218,832,500	
Annualized Cost	Investment Cost	\$48,501,000
	Renourishment / Sediment Management	\$11,136,000
	Inlet Bypassing	\$3,752,000
	Proactive Breach Closure	\$86,000
	Breach Closure Costs	\$676,000
	Coastal Monitoring	\$952,300
	O&M	\$828,600
	Major Rehab	\$1,402,000
	SLC Adaptation	\$0
	Total Annual Cost	\$67,333,900

Table C-3 – Renourishment Cost

Fire Island to Montauk Point, NY

FIMP Periodic Nourishment Costs

Recommended Plan (Oct 15 PL)

<u>Inlet Management Costs (Per 4-yr Renourishment Cycle)</u>		\$	14,216,000
	Mob & Demob	\$	-
	Subtotal	\$	14,216,000
Contingency	29.36%	\$	4,174,000
	E&D	\$	1,471,200
Construction Management		\$	1,522,500
Total Cost Per Operation		\$	21,383,700
<u>Renourishment/Sediment Management</u>		\$	41,987,000
<u>Costs (Per 4-yr Renourishment Cycle; Yr 4 Only)</u>	Mob & Demob	\$	2,633,000
	Subtotal	\$	44,620,000
Contingency	29.36%	\$	13,101,000
	E&D	\$	4,617,600
Construction Management		\$	4,176,600
Total Cost Per Operation		\$	66,515,200
<u>Renourishment/Sediment Management</u>		\$	39,414,000
<u>Costs (Per 4-yr Renourishment Cycle; Yrs 8-30 Only)</u>	Mob & Demob	\$	2,633,000
	Subtotal	\$	42,047,000
Contingency	29.36%	\$	12,345,000
	E&D	\$	4,351,400
Construction Management		\$	3,965,300
Total Cost Per Operation		\$	62,708,700

Table C-3 – Renourishment Cost (Cont.)

Inlet Management (Only Inlet Continuing Costs)

YEAR	FUTURE WORK	PRESENT WORTH FACTOR	PRESENT WORTH
0	\$0	1.00000	\$0
4	\$21,383,700	0.88419	\$18,907,191
8	\$21,383,700	0.78179	\$16,717,493
12	\$21,383,700	0.69125	\$14,781,391
16	\$21,383,700	0.61119	\$13,069,515
20	\$21,383,700	0.54041	\$11,555,896
24	\$21,383,700	0.47782	\$10,217,574
28	\$21,383,700	0.42248	\$9,034,246
SUM OF PRESENT WORTHS	\$149,685,900		\$94,283,306
TOTAL ANNUAL COST			\$3,752,000

Interest Rate 3.125%
n=50 years 50

Renourishment Only (No Inlet Costs)

YEAR	FUTURE WORK	PRESENT WORTH FACTOR	PRESENT WORTH
0	\$0	1.00000	\$0
4	\$66,515,200	0.88419	\$58,811,879
8	\$62,708,700	0.78179	\$49,024,831
12	\$62,708,700	0.69125	\$43,347,121
16	\$62,708,700	0.61119	\$38,326,963
20	\$62,708,700	0.54041	\$33,888,205
24	\$62,708,700	0.47782	\$29,963,512
28	\$62,708,700	0.42248	\$26,493,350
SUM OF PRESENT WORTHS	\$442,767,400		\$279,855,862
TOTAL ANNUAL COST			\$11,136,000

Interest Rate 3.125%
n=50 years 50

Table C-4 – Major Rehab Cost

Fire Island to Montauk Point, NY

FIMP Major Rehabilitation Costs

MINIMUM REAL ESTATE BASLINE, MEDIUM DESIGN TEMPLATE									
GSB-2A-2D, GSB-3A, GSB-3C, GSB-3E, GSB-3G, MB-1A-1B, MB-2A (Fire Island)									
Return Period	Frequency	Frequency Interval	Permanent Loss Factor	Erosion Volume	Emergency Fill	Average Emergency Fill	Average Emergency Fill	Annual Emergency Fill	Annual Emergency Fill
(yr)	(events/yr)		(%)	(cy/ft)	(cy/ft)	(cy)	(\$)	(\$)	(cy/yr)
10	0.1	0.05	16%	18.50	2.96				
20	0.05	0.03	22%	20.69	4.55	233,050	\$8,156,744	\$ 407,837	11,652
50	0.02	0.01	27%	22.21	6.00	327,262	\$11,454,168	\$ 343,625	6,545
100	0.01	0.005	33%	22.98	7.58	421,316	\$14,746,053	\$ 147,461	4,213
200	0.005		38%	23.74	9.02	515,149	\$18,030,229	\$ 90,151	2,576
Total Fill Length (ft):		62,049	63,095						
TOTAL REHABILITATION VOLUME:						1,496,777			24,987

MINIMUM REAL ESTATE BASLINE, MEDIUM DESIGN TEMPLATE									
MB-2C-2E (Westhampton)									
Return Period	Frequency	Frequency Interval	Permanent Loss Factor	Erosion Volume	Emergency Fill	Average Emergency Fill	Average Emergency Fill	Annual Emergency Fill	Annual Emergency Fill
(yr)	(events/yr)		(%)	(cy/ft)	(cy/ft)	(cy)	(\$)	(\$)	(cy/yr)
10	0.1	0.05	16%	15.25	2.44				
20	0.05	0.03	22%	17.07	3.76	76,941	\$2,692,924	\$ 134,646	3,847
50	0.02	0.01	27%	18.56	5.01	108,872	\$3,810,534	\$ 114,316	2,177
100	0.01	0.005	33%	19.30	6.37	141,331	\$4,946,575	\$ 49,466	1,413
200	0.005		38%	20.09	7.63	173,906	\$6,086,701	\$ 30,434	870
Total Fill Length (ft):		24,838	26,872						
TOTAL REHABILITATION VOLUME:						501,050			8,307

Subtotal Annualized Emergency Fill Cost	\$1,318,000	\$15.17
Subtotal Emergency Fill (every 4 year total):	\$5,272,000	
Construction Contingency:	\$1,548,000	
E&D (Incl. Contingency):	\$546,000	
S&A (Incl. Contingency):	\$626,000	
Total Emergency Fill Cost (every 4 year total):	\$7,992,000	
Total Emergency Fill for Project (7 Cycles):	\$55,944,000	
Total Annualized Emergency Fill Cost:	\$1,402,000	

Notes:
 Loss Factor: This is the percent of eroded volume permanently lost to the profile. The factors are based on experience at Ocean City, Md.
 Erosion Volume: Maximum erosion volume landward of a given profile position computed from SBEACH (50,100 and 200 year storms extrapolated from northeasters)
 Emergency Fill Cost: Based on for trucked sand (cy) = \$35

Full Cost (With E&D/S&A and Contingency)

YEAR	FUTURE WORK	PRESENT WORTH FACTOR	PRESENT WORTH
0	\$0	1.00000	\$0
4	\$7,992,000	0.88419	\$7,066,423
8	\$7,992,000	0.78179	\$6,248,040
12	\$7,992,000	0.69125	\$5,524,436
16	\$7,992,000	0.61119	\$4,884,635
20	\$7,992,000	0.54041	\$4,318,931
24	\$7,992,000	0.47782	\$3,818,743
28	\$7,992,000	0.42248	\$3,376,483
SUM OF PRESENT WORTHS	\$55,944,000		\$35,237,690
TOTAL ANNUAL COST			\$1,402,000

Interest Rate 3.125%
 n=50 years 50

Table C-5 – Monitoring Cost

TABLE C-5			
ANNUAL ENGINEERING MONITORING COST ESTIMATE			
		PRESENT	
	FUTURE	WORTH	PRESENT
YEAR	WORTH	FACTOR	WORTH
Pre- and post-construction	\$ 4,897,111	1.00000	\$ 4,897,111
1	\$ 3,251,883	0.96970	\$ 3,153,341
2	\$ 3,630,227	0.94031	\$ 3,413,547
3	\$ 3,058,252	0.91182	\$ 2,788,569
4	\$ 2,936,747	0.88419	\$ 2,596,634
5	\$ 44,724	0.85739	\$ 38,346
6	\$ 93,196	0.83141	\$ 77,484
7	\$ 44,724	0.80622	\$ 36,057
8	\$ 1,217,481	0.78179	\$ 951,811
9	\$ 44,724	0.75810	\$ 33,905
10	\$ 1,195,108	0.73512	\$ 878,552
11	\$ 44,724	0.71285	\$ 31,881
12	\$ 1,217,481	0.69125	\$ 841,579
13	\$ 44,724	0.67030	\$ 29,978
14	\$ 93,196	0.64999	\$ 60,576
15	\$ 44,724	0.63029	\$ 28,189
16	\$ 1,217,481	0.61119	\$ 744,113
17	\$ 44,724	0.59267	\$ 26,507
18	\$ 93,196	0.57471	\$ 53,561
19	\$ 44,724	0.55729	\$ 24,924
20	\$ 2,319,392	0.54041	\$ 1,253,415
21	\$ 44,724	0.52403	\$ 23,437
22	\$ 93,196	0.50815	\$ 47,358
23	\$ 44,724	0.49275	\$ 22,038
24	\$ 1,217,481	0.47782	\$ 581,738
25	\$ 491,964	0.46334	\$ 227,947
26	\$ 93,196	0.44930	\$ 41,873
27	\$ 44,724	0.43569	\$ 19,486
28	\$ 1,217,481	0.42248	\$ 514,365
29	\$ 44,724	0.40968	\$ 18,323
30	\$ 1,195,108	0.39727	\$ 474,776
SUM OF PRESENT WORTHS	\$ 30,065,865		\$ 23,931,419
TOTAL ANNUAL COST			\$ 952,300
NOTES:		INTEREST RATE =	3.125%
		PROECT LIFE =	50.00
		CAPITAL RECOVERY FACTOR =	0.03979295485

Table C-5 – Coastal Monitoring Costs (Cont.)

ANNUAL PHYSICAL MONITORING ACTIVITIES AND FIRST COST																
FIRE ISLAND TO MONTAUK POINT, NY																
(October 2015 Price Level)																
PROJECT YEAR	NOURISHMENT CYCLE	SITE VISIT/ STRUCTURE	LONG RANGE BEACH	SEDIMENT SAMPLES	LIDAR TOPOGRAPHY	INLET BATHY METRY	WAVE GAGES	WATER LEVELS GAGES	OVERWASH/ BREACH BAY	POSTSTORM LIDAR TOPOGRAPHY	BORROW AREA MONITOR	WEB SERVER	INNER-SHELF SEDIMENT TRANSPORT	DATA ANALYSIS (REPORT)	TOTAL	TOTAL W/ Contingency
		INSPECTION	PROFILES						PROFILES				MODELING			(from CSRA)
Pre-con.		4,800	608,979	195,000	395,795	536,000	526,000	279,000	75,000			25,000	1,143,000		3,788,574	\$ 4,897,111
1	1	19,200	608,979		791,591		378,000	132,000				25,000	489,000	72,000	2,515,769	\$ 3,251,883
2		14,400	608,979	37,500	791,591		378,000	132,000				25,000	785,000	36,000	2,808,469	\$ 3,630,227
3		14,400	608,979		791,591		378,000	132,000				25,000	380,000	36,000	2,365,969	\$ 3,058,252
4		14,400	608,979	135,000	791,591		396,000	132,000				25,000	133,000	36,000	2,271,969	\$ 2,936,747
5	2	9,600										25,000			34,600	\$ 44,724
6		9,600		37,500								25,000			72,100	\$ 93,196
7		9,600										25,000			34,600	\$ 44,724
8		9,600	304,489	135,000	395,795							25,000		72,000	941,885	\$ 1,217,481
9	3	9,600										25,000			34,600	\$ 44,724
10		9,600		37,500		536,000			75,000	241,477		25,000		924,577	\$ 1,195,108	
11		9,600										25,000			34,600	\$ 44,724
12		9,600	304,489	135,000	395,795							25,000		72,000	941,885	\$ 1,217,481
13	4	9,600										25,000			34,600	\$ 44,724
14		9,600		37,500								25,000			72,100	\$ 93,196
15		9,600										25,000			34,600	\$ 44,724
16		9,600	304,489	135,000	395,795							25,000		72,000	941,885	\$ 1,217,481
17	5	9,600										25,000			34,600	\$ 44,724
18		9,600		37,500								25,000			72,100	\$ 93,196
19		9,600										25,000			34,600	\$ 44,724
20		9,600	304,489	135,000	395,795	536,000			75,000	241,477		25,000		72,000	1,794,362	\$ 2,319,392
21	6	9,600										25,000			34,600	\$ 44,724
22		9,600		37,500								25,000			72,100	\$ 93,196
23		9,600										25,000			34,600	\$ 44,724
24		9,600	304,489	135,000	395,795							25,000		72,000	941,885	\$ 1,217,481
25	7	9,600									346,000	25,000			380,600	\$ 491,964
26		9,600		37,500								25,000			72,100	\$ 93,196
27		9,600										25,000			34,600	\$ 44,724
28		9,600	304,489	135,000	395,795							25,000		72,000	941,885	\$ 1,217,481
29	8	9,600										25,000			34,600	\$ 44,724
30		9,600		37,500		536,000			75,000	241,477		25,000		924,577	\$ 1,195,108	
Totals		316,800	4,871,828	1,440,000	5,936,932	2,144,000	2,056,000	807,000	300,000	724,432	346,000	775,000	2,930,000	612,000	23,259,991	\$ 30,065,865
Notes:																
1. Length of nourishment cycle assumed to be 4 years.																
2. Borrow Area monitoring includes one hydrographic survey of 12 borrow areas plus 30 line miles of seismic profiling and 30 20-ft. long cores in project year 25																
3. Monitoring Costs only assumed for 30 years, per sponsor																

Table C-6 – Cost Apportionment

FIMP, Fire Island Inlet to Montauk Point, NY

Cost Apportionment*

Cost-Sharing	Federal Share	Non-Federal Share	Total
Project First Costs			
Cash Contribution	\$ 1,039,940,000	\$ -	\$ 1,039,940,000
Real Estate Lands & Damages	\$ 67,160,000	\$ -	\$ 67,160,000
TOTAL FIRST COST	\$ 1,107,100,000	\$ -	\$ 1,107,100,000
Continuing Construction First Cost			
Scheduled Beach Renourishment ^(a)	\$ 385,095,000	\$ 207,359,000	\$ 592,454,000
Emergency Beach Fill ^(b)	\$ 36,364,000	\$ 19,580,000	\$ 55,944,000
Coastal Monitoring ^(c)	\$ 19,558,000	\$ 10,531,000	\$ 30,089,000
Breach Closure ^(d)	\$ 38,277,000	\$ 20,610,000	\$ 58,887,000
SUBTOTAL CONTINUING CONSTRUCTION COST	\$ 479,294,000	\$ 258,080,000	\$ 737,374,000
TOTAL CUMULATIVE CONSTRUCTION COST (e)	\$ 1,586,394,000	\$ 258,080,000	\$ 1,844,474,000
Annual Beach & Groin Maintenance Cost	\$ -	\$ 829,000	\$ 829,000
TOTAL ANNUAL O&M COSTS	\$ -	\$ 829,000	\$ 829,000

* October 2015 Price Level

** Shared based on 65% Federal and 35% non-Federal for construction and renourishment

(a) Beach Renourishment = every 4-year cycle for 7 cycles

(b) Emergency Beach Fill = every 4-year cycle for 7 cycles

(c) Coastal Monitoring Varies yearly and is broken down in the Coastal Monitoring Cost Table

(d) Both Proactive and Reactive breach closure costs

(e) Cumulative Costs include Total First Cost and Cumulative Construction

Total Project Cost Summary

PROJECT: FIMP, General Reevaluation Report DISTRICT: New York District PREPARED: 7/19/2016
 PROJECT NO: 0 POC: CHIEF, COST ENGINEERING, Mukesh Kumar
 LOCATION: Fire Island to Montauk Point, NY
 This Estimate reflects the scope and schedule in report; FIMP GRR

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)					TOTAL PROJECT COST (FULLY FUNDED)					
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	2016 Program Year (Budget EC): Effective Price Level Date:		TOTAL FIRST COST (\$K)	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
										Spent Thru:	10/1/2015					
A	B	C	D	E	F	G	H	I	J	(SK)	K	L	M	N	O	
02	RELOCATIONS	\$23,531	\$6,909	29.36%	\$30,440	0.0%	\$23,531	\$6,909	\$30,440	\$0	\$30,440	8.9%	\$25,624	\$7,523	\$33,147	
10	BREAKWATER & SEAWALLS	\$15,759	\$4,627	29.36%	\$20,385	0.0%	\$15,759	\$4,627	\$20,385	\$0	\$20,385	8.3%	\$17,061	\$5,009	\$22,069	
17	BEACH REPLENISHMENT	\$112,346	\$32,985	29.36%	\$145,331	0.0%	\$112,346	\$32,985	\$145,331	\$0	\$145,331	5.3%	\$118,275	\$34,726	\$153,000	
19	BUILDINGS, GROUNDS & UTILITIES	\$466,424	\$136,942	29.36%	\$603,366	0.0%	\$466,424	\$136,942	\$603,366	\$0	\$603,366	14.4%	\$533,777	\$156,717	\$690,494	
CONSTRUCTION ESTIMATE TOTALS:		\$618,060	\$181,462		\$799,522	0.0%	\$618,060	\$181,462	\$799,522	\$0	\$799,522	12.4%	\$694,736	\$203,975	\$898,711	
01	LANDS AND DAMAGES	\$51,917	\$15,243	29.36%	\$67,160	0.0%	\$51,917	\$15,243	\$67,160	\$0	\$67,160	0.0%	\$51,919	\$15,243	\$67,162	
30	PLANNING, ENGINEERING & DESIGN	\$125,200	\$36,759	29.36%	\$161,959	0.0%	\$125,200	\$36,759	\$161,959	\$0	\$161,959	13.6%	\$142,207	\$41,752	\$183,960	
31	CONSTRUCTION MANAGEMENT	\$60,650	\$17,807	29.36%	\$78,457	0.0%	\$60,650	\$17,807	\$78,457	\$0	\$78,457	25.7%	\$76,232	\$22,382	\$98,614	
PROJECT COST TOTALS:		\$855,828	\$251,271	29.36%	\$1,107,100		\$855,828	\$251,271	\$1,107,100	\$0	\$1,107,100	12.8%	\$965,095	\$283,352	\$1,248,447	
Renourishment and Breach Closure Costs																
17	BEACH REPLENISHMENT	\$330,787	\$97,119	29.36%	\$427,906	0.0%	\$330,787	\$97,119	\$427,906	\$0	\$427,906	47.6%	\$488,141	\$143,318	\$631,459	
E&D and S&A (includes Monitoring)																
30	PLANNING, ENGINEERING & DESIGN	\$50,484	\$14,822	29.36%	\$65,306	0.0%	\$50,484	\$14,822	\$65,306	\$0	\$65,306	122.9%	\$112,542	\$33,042	\$145,585	
31	CONSTRUCTION MANAGEMENT	\$24,940	\$7,322	29.36%	\$32,262	0.0%	\$24,940	\$7,322	\$32,262	\$0	\$32,262	166.1%	\$66,375	\$19,488	\$85,863	
RENOURISHMENT COST TOTALS:		\$406,211	\$119,264	29.36%	\$525,475		\$406,211	\$119,264	\$525,475	\$0	\$525,475	64.2%	\$667,058	\$195,848	\$862,907	

 CHIEF, COST ENGINEERING, Mukesh Kumar

 PROJECT MANAGER, Lynn Bocamazo

 CHIEF, REAL ESTATE, Noreen Dresser

g4edcjpg:
 Required Signatures
 by Regulations

ESTIMATED FEDERAL COST: 100% \$1,248,447
 ESTIMATED NON-FEDERAL COST: 0% \$0
 ESTIMATED TOTAL PROJECT COST: \$1,248,447
 ESTIMATED FEDERAL COST: 65% \$560,889
 ESTIMATED NON-FEDERAL COST: 35% \$302,017
 ESTIMATED RENOURISHMENT TOTAL PROJECT COST: \$862,907

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report				DISTRICT: New York District				PREPARED: 7/19/2016						
LOCATION: Fire Island to Montauk Point, NY				POC: CHIEF, COST ENGINEERING, Mukesh Kumar										
This Estimate reflects the scope and schedule in report: FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Nov-15		Effective Price Level: 1-Oct-15		Program Year (Budget EC): 2016		Effective Price Level Date: 1 OCT 15						
		RISK BASED												
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
17	BEACH REPLENISHMENT	\$28,336	\$8,320	29.4%	\$36,656	0.0%	\$28,336	\$8,320	\$36,656	2018Q3	4.7%	\$29,655	\$8,707	\$38,362
CONSTRUCTION ESTIMATE TOTALS:		\$28,336	\$8,320	29.4%	\$36,656		\$28,336	\$8,320	\$36,656			\$29,655	\$8,707	\$38,362
01	LANDS AND DAMAGES	\$34	\$10	29.4%	\$43	0.0%	\$34	\$10	\$43	2017Q4	3.1%	\$35	\$10	\$45
30	PLANNING, ENGINEERING & DESIGN													
0.0%	Project Management	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning & Environmental Compliance	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
16.0%	Engineering & Design	\$4,534	\$1,331	29.4%	\$5,865	0.0%	\$4,534	\$1,331	\$5,865	2017Q4	6.7%	\$4,838	\$1,420	\$6,258
0.0%	Reviews, ATRs, IEPRs, VE	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	risks)	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Contracting & Reprographics	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Engineering During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Project Operations	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
31	CONSTRUCTION MANAGEMENT													
7.7%	Construction Management	\$2,168	\$636	29.4%	\$2,804	0.0%	\$2,168	\$636	\$2,804	2018Q3	9.9%	\$2,382	\$699	\$3,081
2.0%	Project Operation:	\$567	\$166	29.4%	\$733	0.0%	\$567	\$166	\$733	2018Q3	9.9%	\$623	\$183	\$806
2.5%	Project Management	\$708	\$208	29.4%	\$916	0.0%	\$708	\$208	\$916	2018Q3	9.9%	\$778	\$228	\$1,006
CONTRACT COST TOTALS:		\$36,347	\$10,671		\$47,018		\$36,347	\$10,671	\$47,018			\$38,311	\$11,248	\$49,559

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report					DISTRICT: New York District					PREPARED: 7/19/2016				
LOCATION: Fire Island to Montauk Point, NY					POC: CHIEF, COST ENGINEERING, Mukesh Kumar									
This Estimate reflects the scope and schedule in report: FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	Estimate Prepared: Effective Price Level:		1-Nov-15 1-Oct-15	Program Year (Budget EC): Effective Price Level Date:		2016 1 OCT 15		Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O	
		COST (\$K) C	CNTG (\$K) D	CNTG (%) E	TOTAL (\$K) F	ESC (%) G	COST (\$K) H	CNTG (\$K) I						TOTAL (\$K) J
17	BEACH REPLENISHMENT	\$17,888	\$5,252	29.4%	\$23,139	0.0%	\$17,888	\$5,252	\$23,139	2019Q1	5.7%	\$18,906	\$5,551	\$24,457
CONSTRUCTION ESTIMATE TOTALS:		\$17,888	\$5,252	29.4%	\$23,139		\$17,888	\$5,252	\$23,139			\$18,906	\$5,551	\$24,457
01	LANDS AND DAMAGES	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
30	PLANNING, ENGINEERING & DESIGN													
0.0%	Project Management	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning & Environmental Compliance	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
16.0%	Engineering & Design	\$2,862	\$840	29.4%	\$3,702	0.0%	\$2,862	\$840	\$3,702	2018Q1	7.8%	\$3,084	\$905	\$3,989
0.0%	Reviews, ATRs, IEPRs, VE	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	risks)	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Contracting & Reprographics	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Engineering During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Project Operations	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
31	CONSTRUCTION MANAGEMENT													
8.1%	Construction Management	\$1,443	\$424	29.4%	\$1,867	0.0%	\$1,443	\$424	\$1,867	2019Q1	12.1%	\$1,618	\$475	\$2,092
2.0%	Project Operation:	\$358	\$105	29.4%	\$463	0.0%	\$358	\$105	\$463	2019Q1	12.1%	\$401	\$118	\$519
2.5%	Project Management	\$447	\$131	29.4%	\$578	0.0%	\$447	\$131	\$578	2019Q1	12.1%	\$501	\$147	\$648
CONTRACT COST TOTALS:		\$22,998	\$6,752		\$29,750		\$22,998	\$6,752	\$29,750			\$24,510	\$7,196	\$31,706

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****															
PROJECT: FIMP, General Reevaluation Report				DISTRICT: New York District				PREPARED: 7/19/2016							
LOCATION: Fire Island to Montauk Point, NY				POC: CHIEF, COST ENGINEERING, Mukesh Kumar											
This Estimate reflects the scope and schedule in report: FIMP GRR															
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)					
		Estimate Prepared: Effective Price Level:		1-Nov-15 1-Oct-15		Program Year (Budget EC): Effective Price Level Date:		2016 1 OCT 15							
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	CNTG (%) E	TOTAL (\$K) F	ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O	
17	BEACH REPLENISHMENT	\$33,433	\$9,816	29.4%	\$43,249	0.0%	\$33,433	\$9,816	\$43,249	2018Q3	4.7%	\$34,989	\$10,273	\$45,261	
CONSTRUCTION ESTIMATE TOTALS:		\$33,433	\$9,816	29.4%	\$43,249		\$33,433	\$9,816	\$43,249			\$34,989	\$10,273	\$45,261	
01	LANDS AND DAMAGES	\$6,082	\$1,786	29.4%	\$7,867	0.0%	\$6,082	\$1,786	\$7,867	2016Q1	0.0%	\$6,082	\$1,786	\$7,867	
30	PLANNING, ENGINEERING & DESIGN														
0.0%	Project Management	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0	
0.0%	Planning & Environmental Compliance	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0	
16.0%	Engineering & Design	\$5,349	\$1,570	29.4%	\$6,919	0.0%	\$5,349	\$1,570	\$6,919	2018Q2	8.8%	\$5,820	\$1,709	\$7,528	
0.0%	Reviews, ATRs, IEPRs, VE	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0	
0.0%	risks)	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0	
0.0%	Contracting & Reprographics	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0	
0.0%	Engineering During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0	
0.0%	Planning During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0	
0.0%	Project Operations	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0	
31	CONSTRUCTION MANAGEMENT														
7.5%	Construction Management	\$2,507	\$736	29.4%	\$3,243	0.0%	\$2,507	\$736	\$3,243	2018Q3	9.9%	\$2,755	\$809	\$3,564	
2.0%	Project Operation:	\$669	\$196	29.4%	\$865	0.0%	\$669	\$196	\$865	2018Q3	9.9%	\$735	\$216	\$951	
2.5%	Project Management	\$836	\$245	29.4%	\$1,081	0.0%	\$836	\$245	\$1,081	2018Q3	9.9%	\$919	\$270	\$1,188	
CONTRACT COST TOTALS:		\$48,876	\$14,350		\$63,226		\$48,876	\$14,350	\$63,226			\$51,299	\$15,061	\$66,360	

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****

PROJECT: FIMP, General Reevaluation Report
 LOCATION: Fire Island to Montauk Point, NY
 This Estimate reflects the scope and schedule in report:

FIMP GRR

DISTRICT: New York District
 POC: CHIEF, COST ENGINEERING, Mukesh Kumar

PREPARED: 7/19/2016

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	Estimate Prepared: Effective Price Level:		1-Nov-15 1-Oct-15	TOTAL (\$K) F	Program Year (Budget EC): Effective Price Level Date:		2016 1 OCT 15	TOTAL (\$K) J	FULLY FUNDED PROJECT ESTIMATE				
		COST (\$K) C	CNTG (\$K) D	CNTG (%) E		ESC (%) G	COST (\$K) H	CNTG (\$K) I		Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
17	BEACH REPLENISHMENT	\$16,284	\$4,781	29.4%	\$21,065	0.0%	\$16,284	\$4,781	\$21,065	2019Q1	5.7%	\$17,212	\$5,053	\$22,265
CONSTRUCTION ESTIMATE TOTALS:		\$16,284	\$4,781	29.4%	\$21,065		\$16,284	\$4,781	\$21,065			\$17,212	\$5,053	\$22,265
01	LANDS AND DAMAGES	\$3,354	\$985	29.4%	\$4,338	0.0%	\$3,354	\$985	\$4,338	2016Q1	0.0%	\$3,354	\$985	\$4,338
30	PLANNING, ENGINEERING & DESIGN													
0.0%	Project Management	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning & Environmental Compliance	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
16.0%	Engineering & Design	\$2,605	\$765	29.4%	\$3,370	0.0%	\$2,605	\$765	\$3,370	2017Q4	6.7%	\$2,780	\$816	\$3,596
0.0%	Reviews, ATRs, IEPRs, VE	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	risks)	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Contracting & Reprographics	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Engineering During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Project Operations	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
31	CONSTRUCTION MANAGEMENT													
8.2%	Construction Management	\$1,328	\$390	29.4%	\$1,718	0.0%	\$1,328	\$390	\$1,718	2019Q1	12.1%	\$1,488	\$437	\$1,925
2.0%	Project Operation:	\$326	\$96	29.4%	\$422	0.0%	\$326	\$96	\$422	2019Q1	12.1%	\$365	\$107	\$473
2.5%	Project Management	\$407	\$119	29.4%	\$526	0.0%	\$407	\$119	\$526	2019Q1	12.1%	\$456	\$134	\$590
CONTRACT COST TOTALS:		\$24,304	\$7,136		\$31,440		\$24,304	\$7,136	\$31,440			\$25,654	\$7,532	\$33,187

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****

PROJECT: FIMP, General Reevaluation Report
 LOCATION: Fire Island to Montauk Point, NY
 This Estimate reflects the scope and schedule in report;

FIMP GRR

DISTRICT: New York District
 POC: CHIEF, COST ENGINEERING, Mukesh Kumar

PREPARED: 7/19/2016

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: Effective Price Level:		1-Nov-15 1-Oct-15	Program Year (Budget EC): 2016 Effective Price Level Date: 1 OCT 15				FULLY FUNDED PROJECT ESTIMATE					
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	COST (\$K) C	CNTG (\$K) D	CNTG (%) E	TOTAL (\$K) F	ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
		17	BEACH REPLENISHMENT	\$16,405	\$4,816	29.4%	\$21,221	0.0%	\$16,405	\$4,816	\$21,221	2019Q3	6.8%	\$17,514
CONSTRUCTION ESTIMATE TOTALS:		\$16,405	\$4,816	29.4%	\$21,221		\$16,405	\$4,816	\$21,221			\$17,514	\$5,142	\$22,656
01	LANDS AND DAMAGES	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
30	PLANNING, ENGINEERING & DESIGN													
0.0%	Project Management	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning & Environmental Compliance	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
16.0%	Engineering & Design	\$2,625	\$771	29.4%	\$3,396	0.0%	\$2,625	\$771	\$3,396	2018Q2	8.8%	\$2,856	\$839	\$3,694
0.0%	Reviews, ATRs, IEPRs, VE	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	risks)	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Contracting & Reprographics	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Engineering During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Project Operations	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
31	CONSTRUCTION MANAGEMENT													
8.1%	Construction Management	\$1,337	\$392	29.4%	\$1,729	0.0%	\$1,337	\$392	\$1,729	2019Q3	14.3%	\$1,528	\$449	\$1,976
2.0%	Project Operation:	\$328	\$96	29.4%	\$424	0.0%	\$328	\$96	\$424	2019Q3	14.3%	\$375	\$110	\$485
2.5%	Project Management	\$410	\$120	29.4%	\$530	0.0%	\$410	\$120	\$530	2019Q3	14.3%	\$469	\$138	\$606
CONTRACT COST TOTALS:		\$21,105	\$6,196		\$27,301		\$21,105	\$6,196	\$27,301			\$22,741	\$6,677	\$29,417

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****

PROJECT: FIMP, General Reevaluation Report
 LOCATION: Fire Island to Montauk Point, NY
 This Estimate reflects the scope and schedule in report:

FIMP GRR

DISTRICT: New York District
 POC: CHIEF, COST ENGINEERING, Mukesh Kumar

PREPARED: 7/19/2016

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	Estimate Prepared: Effective Price Level:		1-Nov-15 1-Oct-15	TOTAL (\$K) F	Program Year (Budget EC): Effective Price Level Date:		2016 1 OCT 15	TOTAL (\$K) J	FULLY FUNDED PROJECT ESTIMATE				
		COST (\$K) C	CNTG (\$K) D	CNTG (%) E		ESC (%) G	COST (\$K) H	CNTG (\$K) I		Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
10	BREAKWATER & SEAWALLS	\$3,736	\$1,097	29.4%	\$4,833	0.0%	\$3,736	\$1,097	\$4,833	2019Q2	6.2%	\$3,969	\$1,165	\$5,134
CONSTRUCTION ESTIMATE TOTALS:		\$3,736	\$1,097	29.4%	\$4,833		\$3,736	\$1,097	\$4,833			\$3,969	\$1,165	\$5,134
01	LANDS AND DAMAGES	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
30	PLANNING, ENGINEERING & DESIGN													
0.0%	Project Management	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning & Environmental Compliance	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
16.0%	Engineering & Design	\$598	\$176	29.4%	\$774	0.0%	\$598	\$176	\$774	2017Q2	4.6%	\$626	\$184	\$809
0.0%	Reviews, ATRs, IEPRs, VE	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	risks	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Contracting & Reprographics	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Engineering During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Project Operations	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
31	CONSTRUCTION MANAGEMENT													
9.5%	Construction Management	\$355	\$104	29.4%	\$459	0.0%	\$355	\$104	\$459	2019Q2	13.1%	\$402	\$118	\$519
2.0%	Project Operation:	\$75	\$22	29.4%	\$97	0.0%	\$75	\$22	\$97	2019Q2	13.1%	\$85	\$25	\$110
2.5%	Project Management	\$93	\$27	29.4%	\$120	0.0%	\$93	\$27	\$120	2019Q2	13.1%	\$105	\$31	\$136
CONTRACT COST TOTALS:		\$4,857	\$1,426		\$6,283		\$4,857	\$1,426	\$6,283			\$5,186	\$1,523	\$6,709

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****

PROJECT: FIMP, General Reevaluation Report
 LOCATION: Fire Island to Montauk Point, NY
 This Estimate reflects the scope and schedule in report:

FIMP GRR

DISTRICT: New York District
 POC: CHIEF, COST ENGINEERING, Mukesh Kumar

PREPARED: 7/19/2016

Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	Estimate Prepared: Effective Price Level:		1-Nov-15 1-Oct-15	TOTAL (\$K) F	Program Year (Budget EC): Effective Price Level Date:		2016 1 OCT 15	TOTAL (\$K) J	FULLY FUNDED PROJECT ESTIMATE				
		COST (\$K) C	CNTG (\$K) D	CNTG (%) E		ESC (%) G	COST (\$K) H	CNTG (\$K) I		Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O
10	BREAKWATER & SEAWALLS	\$12,022	\$3,530	29.4%	\$15,552	0.0%	\$12,022	\$3,530	\$15,552	2020Q3	8.9%	\$13,092	\$3,844	\$16,935
CONSTRUCTION ESTIMATE TOTALS:		\$12,022	\$3,530	29.4%	\$15,552		\$12,022	\$3,530	\$15,552			\$13,092	\$3,844	\$16,935
01	LANDS AND DAMAGES	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
30	PLANNING, ENGINEERING & DESIGN													
0.0%	Project Management	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning & Environmental Compliance	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
16.0%	Engineering & Design	\$1,924	\$565	29.4%	\$2,489	0.0%	\$1,924	\$565	\$2,489	2018Q3	9.9%	\$2,114	\$621	\$2,735
0.0%	Reviews, ATRs, IEPRs, VE	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	risks	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Contracting & Reprographics	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Engineering During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Planning During Construction	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
0.0%	Project Operations	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
31	CONSTRUCTION MANAGEMENT													
8.4%	Construction Management	\$1,014	\$298	29.4%	\$1,311	0.0%	\$1,014	\$298	\$1,311	2020Q3	18.9%	\$1,205	\$354	\$1,559
2.0%	Project Operation:	\$240	\$70	29.4%	\$310	0.0%	\$240	\$70	\$310	2020Q3	18.9%	\$285	\$84	\$369
2.5%	Project Management	\$301	\$88	29.4%	\$389	0.0%	\$301	\$88	\$389	2020Q3	18.9%	\$358	\$105	\$463
CONTRACT COST TOTALS:		\$15,501	\$4,551		\$20,052		\$15,501	\$4,551	\$20,052			\$17,054	\$5,007	\$22,061

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report					DISTRICT: New York District					PREPARED: 7/19/2016				
LOCATION: Fire Island to Montauk Point, NY					POC: CHIEF, COST ENGINEERING, Mukesh Kumar									
This Estimate reflects the scope and schedule in report; FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Nov-15		Effective Price Level: 1-Oct-15		Program Year (Budget EC): 2016		Effective Price Level Date: 1 OCT 15		FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
02	RELOCATIONS	\$23,531	\$6,909	29.4%	\$30,440	0.0%	\$23,531	\$6,909	\$30,440	2020Q3	8.9%	\$25,624	\$7,523	\$33,147
CONSTRUCTION ESTIMATE TOTALS:		\$23,531	\$6,909	29.4%	\$30,440		\$23,531	\$6,909	\$30,440			\$25,624	\$7,523	\$33,147
01	LANDS AND DAMAGES	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	\$471	\$138	29.4%	\$609	0.0%	\$471	\$138	\$609	2018Q4	11.0%	\$523	\$153	\$676
1.0%	Planning & Environmental Compliance	\$235	\$69	29.4%	\$304	0.0%	\$235	\$69	\$304	2018Q4	11.0%	\$261	\$77	\$337
10.0%	Engineering & Design	\$2,353	\$691	29.4%	\$3,044	0.0%	\$2,353	\$691	\$3,044	2018Q4	11.0%	\$2,611	\$767	\$3,378
1.0%	Reviews, ATRs, IEPs, VE	\$235	\$69	29.4%	\$304	0.0%	\$235	\$69	\$304	2018Q4	11.0%	\$261	\$77	\$337
1.0%	risks)	\$235	\$69	29.4%	\$304	0.0%	\$235	\$69	\$304	2018Q4	11.0%	\$261	\$77	\$337
1.0%	Contracting & Reprographics	\$235	\$69	29.4%	\$304	0.0%	\$235	\$69	\$304	2018Q4	11.0%	\$261	\$77	\$337
2.0%	Engineering During Construction	\$471	\$138	29.4%	\$609	0.0%	\$471	\$138	\$609	2020Q3	18.9%	\$560	\$164	\$724
2.0%	Planning During Construction	\$471	\$138	29.4%	\$609	0.0%	\$471	\$138	\$609	2020Q3	18.9%	\$560	\$164	\$724
1.0%	Project Operations	\$235	\$69	29.4%	\$304	0.0%	\$235	\$69	\$304	2018Q4	11.0%	\$261	\$77	\$337
31	CONSTRUCTION MANAGEMENT													
7.8%	Construction Management	\$1,840	\$540	29.4%	\$2,380	0.0%	\$1,840	\$540	\$2,380	2020Q3	18.9%	\$2,187	\$642	\$2,829
2.0%	Project Operation:	\$471	\$138	29.4%	\$609	0.0%	\$471	\$138	\$609	2020Q3	18.9%	\$560	\$164	\$724
2.5%	Project Management	\$588	\$173	29.4%	\$761	0.0%	\$588	\$173	\$761	2020Q3	18.9%	\$699	\$205	\$904
CONTRACT COST TOTALS:		\$31,371	\$9,211		\$40,582		\$31,371	\$9,211	\$40,582			\$34,627	\$10,166	\$44,793

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report				DISTRICT: New York District				PREPARED: 7/19/2016						
LOCATION: Fire Island to Montauk Point, NY				POC: CHIEF, COST ENGINEERING, Mukesh Kumar										
This Estimate reflects the scope and schedule in report: FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Nov-15		1-Oct-15		Program Year (Budget EC): 2016		Effective Price Level Date: 1 OCT 15		FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
19	BUILDINGS, GROUNDS & UTILITIES	\$28,179	\$8,273	29.4%	\$36,453	0.0%	\$28,179	\$8,273	\$36,453	2020Q4	9.4%	\$30,839	\$9,054	\$39,893
						\$0								
CONSTRUCTION ESTIMATE TOTALS:		\$28,179	\$8,273	29.4%	\$36,453		\$28,179	\$8,273	\$36,453			\$30,839	\$9,054	\$39,893
01	LANDS AND DAMAGES	\$2,565	\$753	29.4%	\$3,317	0.0%	\$2,565	\$753	\$3,317	2016Q1	0.0%	\$2,565	\$753	\$3,317
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	\$2,376	\$698	29.4%	\$3,074	0.0%	\$2,376	\$698	\$3,074	2018Q4	11.0%	\$2,637	\$774	\$3,412
1.0%	Planning & Environmental Compliance	\$282	\$83	29.4%	\$365	0.0%	\$282	\$83	\$365	2018Q4	11.0%	\$313	\$92	\$405
10.0%	Engineering & Design	\$2,818	\$827	29.4%	\$3,645	0.0%	\$2,818	\$827	\$3,645	2018Q4	11.0%	\$3,127	\$918	\$4,045
1.0%	Reviews, ATRs, IEPRs, VE	\$282	\$83	29.4%	\$365	0.0%	\$282	\$83	\$365	2018Q4	11.0%	\$313	\$92	\$405
	Life Cycle Updates (cost, schedule,													
1.0%	risks)	\$282	\$83	29.4%	\$365	0.0%	\$282	\$83	\$365	2018Q4	11.0%	\$313	\$92	\$405
1.0%	Contracting & Reprographics	\$282	\$83	29.4%	\$365	0.0%	\$282	\$83	\$365	2018Q4	11.0%	\$313	\$92	\$405
2.0%	Engineering During Construction	\$564	\$166	29.4%	\$730	0.0%	\$564	\$166	\$730	2020Q4	20.0%	\$677	\$199	\$876
2.0%	Planning During Construction	\$564	\$166	29.4%	\$730	0.0%	\$564	\$166	\$730	2020Q4	20.0%	\$677	\$199	\$876
1.0%	Project Operations	\$282	\$83	29.4%	\$365	0.0%	\$282	\$83	\$365	2018Q4	11.0%	\$313	\$92	\$405
31	CONSTRUCTION MANAGEMENT													
7.7%	Construction Management	\$2,157	\$633	29.4%	\$2,791	0.0%	\$2,157	\$633	\$2,791	2020Q4	20.0%	\$2,589	\$760	\$3,349
0.0%	Project Operation:	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
2.5%	Project Management	\$704	\$207	29.4%	\$911	0.0%	\$704	\$207	\$911	2020Q4	20.0%	\$845	\$248	\$1,093
CONTRACT COST TOTALS:		\$41,337	\$12,137		\$53,474		\$41,337	\$12,137	\$53,474			\$45,521	\$13,365	\$58,885

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report					DISTRICT: New York District					PREPARED: 7/19/2016				
LOCATION: Fire Island to Montauk Point, NY					POC: CHIEF, COST ENGINEERING, Mukesh Kumar									
This Estimate reflects the scope and schedule in report: FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared:		1-Nov-15		Program Year (Budget EC):		2016		FULLY FUNDED PROJECT ESTIMATE				
		Effective Price Level:		1-Oct-15		Effective Price Level Date:		1 OCT 15						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
19	BUILDINGS, GROUNDS & UTILITIES	\$84,538	\$24,820	29.4%	\$109,358	0.0%	\$84,538	\$24,820	\$109,358	2021Q4	11.6%	\$94,366	\$27,706	\$122,072
CONSTRUCTION ESTIMATE TOTALS:		\$84,538	\$24,820	29.4%	\$109,358		\$84,538	\$24,820	\$109,358			\$94,366	\$27,706	\$122,072
01	LANDS AND DAMAGES	\$7,694	\$2,259	29.4%	\$9,952	0.0%	\$7,694	\$2,259	\$9,952	2016Q1	0.0%	\$7,694	\$2,259	\$9,952
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	\$1,691	\$496	29.4%	\$2,187	0.0%	\$1,691	\$496	\$2,187	2018Q4	11.0%	\$1,877	\$551	\$2,428
1.0%	Planning & Environmental Compliance	\$845	\$248	29.4%	\$1,093	0.0%	\$845	\$248	\$1,093	2018Q4	11.0%	\$938	\$275	\$1,213
10.0%	Engineering & Design	\$8,454	\$2,482	29.4%	\$10,936	0.0%	\$8,454	\$2,482	\$10,936	2018Q4	11.0%	\$9,382	\$2,754	\$12,136
1.0%	Reviews, ATRs, IEPRs, VE	\$845	\$248	29.4%	\$1,093	0.0%	\$845	\$248	\$1,093	2018Q4	11.0%	\$938	\$275	\$1,213
1.0%	Life Cycle Updates (cost, schedule, risks)	\$845	\$248	29.4%	\$1,093	0.0%	\$845	\$248	\$1,093	2018Q4	11.0%	\$938	\$275	\$1,213
1.0%	Contracting & Reprographics	\$845	\$248	29.4%	\$1,093	0.0%	\$845	\$248	\$1,093	2018Q4	11.0%	\$938	\$275	\$1,213
2.0%	Engineering During Construction	\$1,691	\$496	29.4%	\$2,187	0.0%	\$1,691	\$496	\$2,187	2021Q4	24.9%	\$2,112	\$620	\$2,732
2.0%	Planning During Construction	\$1,691	\$496	29.4%	\$2,187	0.0%	\$1,691	\$496	\$2,187	2021Q4	24.9%	\$2,112	\$620	\$2,732
1.0%	Project Operations	\$845	\$248	29.4%	\$1,093	0.0%	\$845	\$248	\$1,093	2018Q4	11.0%	\$938	\$275	\$1,213
31	CONSTRUCTION MANAGEMENT													
6.7%	Construction Management	\$5,624	\$1,651	29.4%	\$7,276	0.0%	\$5,624	\$1,651	\$7,276	2021Q4	24.9%	\$7,024	\$2,062	\$9,087
0.0%	Project Operation:	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
2.5%	Project Management	\$2,113	\$620	29.4%	\$2,733	0.0%	\$2,113	\$620	\$2,733	2021Q4	24.9%	\$2,639	\$775	\$3,414
CONTRACT COST TOTALS:		\$117,721	\$34,563		\$152,284		\$117,721	\$34,563	\$152,284			\$131,894	\$38,724	\$170,618

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report					DISTRICT: New York District					PREPARED: 7/19/2016				
LOCATION: Fire Island to Montauk Point, NY					POC: CHIEF, COST ENGINEERING, Mukesh Kumar									
This Estimate reflects the scope and schedule in report: FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared:		1-Nov-15		Program Year (Budget EC):		2016		FULLY FUNDED PROJECT ESTIMATE				
		Effective Price Level:		1-Oct-15		Effective Price Level Date:		1 OCT 15						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
19	BUILDINGS, GROUNDS & UTILITIES	\$126,807	\$37,231	29.4%	\$164,037	0.0%	\$126,807	\$37,231	\$164,037	2022Q4	13.9%	\$144,380	\$42,390	\$186,770
CONSTRUCTION ESTIMATE TOTALS:		\$126,807	\$37,231	29.4%	\$164,037		\$126,807	\$37,231	\$164,037			\$144,380	\$42,390	\$186,770
01	LANDS AND DAMAGES	\$11,540	\$3,388	29.4%	\$14,929	0.0%	\$11,540	\$3,388	\$14,929	2016Q1	0.0%	\$11,540	\$3,388	\$14,929
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	\$2,536	\$745	29.4%	\$3,281	0.0%	\$2,536	\$745	\$3,281	2018Q4	11.0%	\$2,814	\$826	\$3,641
1.0%	Planning & Environmental Compliance	\$1,268	\$372	29.4%	\$1,640	0.0%	\$1,268	\$372	\$1,640	2018Q4	11.0%	\$1,407	\$413	\$1,820
10.0%	Engineering & Design	\$12,681	\$3,723	29.4%	\$16,404	0.0%	\$12,681	\$3,723	\$16,404	2018Q4	11.0%	\$14,073	\$4,132	\$18,204
1.0%	Reviews, ATRs, IEPRs, VE	\$1,268	\$372	29.4%	\$1,640	0.0%	\$1,268	\$372	\$1,640	2018Q4	11.0%	\$1,407	\$413	\$1,820
1.0%	Life Cycle Updates (cost, schedule, risks)	\$1,268	\$372	29.4%	\$1,640	0.0%	\$1,268	\$372	\$1,640	2018Q4	11.0%	\$1,407	\$413	\$1,820
1.0%	Contracting & Reprographics	\$1,268	\$372	29.4%	\$1,640	0.0%	\$1,268	\$372	\$1,640	2018Q4	11.0%	\$1,407	\$413	\$1,820
2.0%	Engineering During Construction	\$2,536	\$745	29.4%	\$3,281	0.0%	\$2,536	\$745	\$3,281	2022Q4	30.0%	\$3,297	\$968	\$4,265
2.0%	Planning During Construction	\$2,536	\$745	29.4%	\$3,281	0.0%	\$2,536	\$745	\$3,281	2022Q4	30.0%	\$3,297	\$968	\$4,265
1.0%	Project Operations	\$1,268	\$372	29.4%	\$1,640	0.0%	\$1,268	\$372	\$1,640	2018Q4	11.0%	\$1,407	\$413	\$1,820
31	CONSTRUCTION MANAGEMENT													
6.3%	Construction Management	\$7,968	\$2,339	29.4%	\$10,307	0.0%	\$7,968	\$2,339	\$10,307	2022Q4	30.0%	\$10,359	\$3,041	\$13,400
0.0%	Project Operation:	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
2.5%	Project Management	\$3,170	\$931	29.4%	\$4,101	0.0%	\$3,170	\$931	\$4,101	2022Q4	30.0%	\$4,121	\$1,210	\$5,331
CONTRACT COST TOTALS:		\$176,114	\$51,707		\$227,821		\$176,114	\$51,707	\$227,821			\$200,918	\$58,989	\$259,907

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report					DISTRICT: New York District					PREPARED: 7/19/2016				
LOCATION: Fire Island to Montauk Point, NY					POC: CHIEF, COST ENGINEERING, Mukesh Kumar									
This Estimate reflects the scope and schedule in report: FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Nov-15		1-Oct-15		Program Year (Budget EC): 2016		Effective Price Level Date: 1 OCT 15		FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
19	BUILDINGS, GROUNDS & UTILITIES	\$140,897	\$41,367	29.4%	\$182,264	0.0%	\$140,897	\$41,367	\$182,264	2023Q3	15.6%	\$162,820	\$47,804	\$210,624
CONSTRUCTION ESTIMATE TOTALS:		\$140,897	\$41,367	29.4%	\$182,264		\$140,897	\$41,367	\$182,264			\$162,820	\$47,804	\$210,624
01	LANDS AND DAMAGES	\$12,823	\$3,765	29.4%	\$16,587	0.0%	\$12,823	\$3,765	\$16,587	2016Q1	0.0%	\$12,823	\$3,765	\$16,587
30	PLANNING, ENGINEERING & DESIGN													
2.0%	Project Management	\$2,818	\$827	29.4%	\$3,645	0.0%	\$2,818	\$827	\$3,645	2018Q4	11.0%	\$3,127	\$918	\$4,045
1.0%	Planning & Environmental Compliance	\$1,409	\$414	29.4%	\$1,823	0.0%	\$1,409	\$414	\$1,823	2018Q4	11.0%	\$1,564	\$459	\$2,023
10.0%	Engineering & Design	\$14,090	\$4,137	29.4%	\$18,227	0.0%	\$14,090	\$4,137	\$18,227	2018Q4	11.0%	\$15,636	\$4,591	\$20,227
1.0%	Reviews, ATRs, IEPRs, VE	\$1,409	\$414	29.4%	\$1,823	0.0%	\$1,409	\$414	\$1,823	2018Q4	11.0%	\$1,564	\$459	\$2,023
	Life Cycle Updates (cost, schedule,													
1.0%	risks)	\$1,409	\$414	29.4%	\$1,823	0.0%	\$1,409	\$414	\$1,823	2018Q4	11.0%	\$1,564	\$459	\$2,023
1.0%	Contracting & Reprographics	\$1,409	\$414	29.4%	\$1,823	0.0%	\$1,409	\$414	\$1,823	2018Q4	11.0%	\$1,564	\$459	\$2,023
2.0%	Engineering During Construction	\$2,818	\$827	29.4%	\$3,645	0.0%	\$2,818	\$827	\$3,645	2023Q3	34.0%	\$3,777	\$1,109	\$4,885
2.0%	Planning During Construction	\$2,818	\$827	29.4%	\$3,645	0.0%	\$2,818	\$827	\$3,645	2023Q3	34.0%	\$3,777	\$1,109	\$4,885
1.0%	Project Operations	\$1,409	\$414	29.4%	\$1,823	0.0%	\$1,409	\$414	\$1,823	2018Q4	11.0%	\$1,564	\$459	\$2,023
31	CONSTRUCTION MANAGEMENT													
6.2%	Construction Management	\$8,718	\$2,560	29.4%	\$11,277	0.0%	\$8,718	\$2,560	\$11,277	2023Q3	34.0%	\$11,683	\$3,430	\$15,113
0.0%	Project Operation:	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0
2.5%	Project Management	\$3,522	\$1,034	29.4%	\$4,556	0.0%	\$3,522	\$1,034	\$4,556	2023Q3	34.0%	\$4,720	\$1,386	\$6,106
CONTRACT COST TOTALS:		\$195,548	\$57,413		\$252,961		\$195,548	\$57,413	\$252,961			\$226,180	\$66,407	\$292,587

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****																
PROJECT: FIMP, General Reevaluation Report					DISTRICT: New York District					PREPARED: 7/19/2016						
LOCATION: Fire Island to Montauk Point, NY					POC: CHIEF, COST ENGINEERING, Mukesh Kumar											
This Estimate reflects the scope and schedule in report: FIMP GRR																
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)						
WBS NUMBER A	Civil Works Feature & Sub-Feature Description B	Estimate Prepared:		1-Nov-15	Program Year (Budget EC):		2016	Effective Price Level:		1-Oct-15	Effective Price Level Date:		1 OCT 15	FULLY FUNDED PROJECT ESTIMATE		
		COST (\$K) C	CNTG (\$K) D	CNTG (%) E	TOTAL (\$K) F	ESC (%) G	COST (\$K) H	CNTG (\$K) I	TOTAL (\$K) J	Mid-Point Date P	INFLATED (%) L	COST (\$K) M	CNTG (\$K) N	FULL (\$K) O		
19	BUILDINGS, GROUNDS & UTILITIES	\$86,003	\$25,251	29.4%	\$111,254	0.0%	\$86,003	\$25,251	\$111,254	2024Q3	17.9%	\$101,372	\$29,763	\$131,135		
CONSTRUCTION ESTIMATE TOTALS:		\$86,003	\$25,251	29.4%	\$111,254		\$86,003	\$25,251	\$111,254			\$101,372	\$29,763	\$131,135		
01	LANDS AND DAMAGES	\$7,827	\$2,298	29.4%	\$10,125	0.0%	\$7,827	\$2,298	\$10,125	2016Q1	0.0%	\$7,827	\$2,298	\$10,125		
30	PLANNING, ENGINEERING & DESIGN															
2.0%	Project Management	\$1,720	\$505	29.4%	\$2,225	0.0%	\$1,720	\$505	\$2,225	2018Q4	11.0%	\$1,909	\$560	\$2,469		
1.0%	Planning & Environmental Compliance	\$860	\$252	29.4%	\$1,112	0.0%	\$860	\$252	\$1,112	2018Q4	11.0%	\$954	\$280	\$1,235		
10.0%	Engineering & Design	\$8,600	\$2,525	29.4%	\$11,125	0.0%	\$8,600	\$2,525	\$11,125	2018Q4	11.0%	\$9,544	\$2,802	\$12,346		
1.0%	Reviews, ATRs, IEPRs, VE Life Cycle Updates (cost, schedule, 1.0% risks)	\$860	\$252	29.4%	\$1,112	0.0%	\$860	\$252	\$1,112	2018Q4	11.0%	\$954	\$280	\$1,235		
1.0%	Contracting & Reprographics	\$860	\$252	29.4%	\$1,112	0.0%	\$860	\$252	\$1,112	2018Q4	11.0%	\$954	\$280	\$1,235		
2.0%	Engineering During Construction	\$1,720	\$505	29.4%	\$2,225	0.0%	\$1,720	\$505	\$2,225	2024Q3	39.6%	\$2,402	\$705	\$3,107		
2.0%	Planning During Construction	\$1,720	\$505	29.4%	\$2,225	0.0%	\$1,720	\$505	\$2,225	2024Q3	39.6%	\$2,402	\$705	\$3,107		
1.0%	Project Operations	\$860	\$252	29.4%	\$1,112	0.0%	\$860	\$252	\$1,112	2018Q4	11.0%	\$954	\$280	\$1,235		
31	CONSTRUCTION MANAGEMENT															
6.6%	Construction Management	\$5,708	\$1,676	29.4%	\$7,384	0.0%	\$5,708	\$1,676	\$7,384	2024Q3	39.6%	\$7,972	\$2,340	\$10,312		
0.0%	Project Operation:	\$0	\$0	29.4%	\$0	0.0%	\$0	\$0	\$0	0	0.0%	\$0	\$0	\$0		
2.5%	Project Management	\$2,150	\$631	29.4%	\$2,781	0.0%	\$2,150	\$631	\$2,781	2024Q3	39.6%	\$3,002	\$881	\$3,884		
CONTRACT COST TOTALS:		\$119,749	\$35,158		\$154,907		\$119,749	\$35,158	\$154,907			\$141,201	\$41,457	\$182,658		

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report LOCATION: Fire Island to Montauk Point, NY This Estimate reflects the scope and schedule in report; FIMP GRR					DISTRICT: New York District POC: CHIEF, COST ENGINEERING, Mukesh Kumar					PREPARED: 7/19/2016				
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Nov-15 Effective Price Level: 1-Oct-15				Program Year (Budget EC): 2016 Effective Price Level Date: 1 OCT 15				FULLY FUNDED PROJECT ESTIMATE				
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
Renourishment Costs (every 4 yrs)														
17	BEACH REPLENISHMENT Cycle 1	\$56,203	\$16,501	29.4%	\$ 72,704	0.0%	\$56,203	\$16,501	\$72,704	2022Q2	12.7%	\$63,357	\$18,601	\$81,958
17	BEACH REPLENISHMENT Cycle 2	\$39,414	\$11,572	29.4%	\$ 50,986	0.0%	\$39,414	\$11,572	\$50,986	2026Q2	22.0%	\$48,094	\$14,120	\$62,214
17	BEACH REPLENISHMENT Cycle 3	\$39,414	\$11,572	29.4%	\$ 50,986	0.0%	\$39,414	\$11,572	\$50,986	2030Q2	32.1%	\$52,058	\$15,284	\$67,342
17	BEACH REPLENISHMENT Cycle 4	\$39,414	\$11,572	29.4%	\$ 50,986	0.0%	\$39,414	\$11,572	\$50,986	2034Q2	43.0%	\$56,349	\$16,544	\$72,893
17	BEACH REPLENISHMENT Cycle 5	\$39,414	\$11,572	29.4%	\$ 50,986	0.0%	\$39,414	\$11,572	\$50,986	2038Q2	54.8%	\$60,994	\$17,908	\$78,902
17	BEACH REPLENISHMENT Cycle 6	\$39,414	\$11,572	29.4%	\$ 50,986	0.0%	\$39,414	\$11,572	\$50,986	2042Q2	67.5%	\$66,022	\$19,384	\$85,406
17	BEACH REPLENISHMENT Cycle 7	\$39,414	\$11,572	29.4%	\$ 50,986	0.0%	\$39,414	\$11,572	\$50,986	2046Q2	81.3%	\$71,464	\$20,982	\$92,446
CONSTRUCTION ESTIMATE TOTALS:		\$292,687	\$85,933		\$ 378,620		\$292,687	\$85,933	\$378,620			\$418,337	\$122,824	\$541,160
30	PLANNING, ENGINEERING & DESIGN	\$4,496	\$1,320	29.4%	5,816	0.0%	\$4,496	\$1,320	\$5,816	2021Q2	22.4%	\$5,502	\$1,615	\$7,118
30	PLANNING, ENGINEERING & DESIGN	\$3,153	\$926	29.4%	4,079	0.0%	\$3,153	\$926	\$4,079	2025Q2	44.0%	\$4,540	\$1,333	\$5,873
30	PLANNING, ENGINEERING & DESIGN	\$3,153	\$926	29.4%	4,079	0.0%	\$3,153	\$926	\$4,079	2029Q2	71.6%	\$5,409	\$1,588	\$6,997
30	PLANNING, ENGINEERING & DESIGN	\$3,153	\$926	29.4%	4,079	0.0%	\$3,153	\$926	\$4,079	2033Q2	107.1%	\$6,531	\$1,918	\$8,449
30	PLANNING, ENGINEERING & DESIGN	\$3,153	\$926	29.4%	4,079	0.0%	\$3,153	\$926	\$4,079	2037Q2	152.7%	\$7,969	\$2,340	\$10,309
30	PLANNING, ENGINEERING & DESIGN	\$3,153	\$926	29.4%	\$4,079	0.0%	\$3,153	\$926	\$4,079	2041Q2	208.4%	\$9,723	\$2,855	\$12,578
30	PLANNING, ENGINEERING & DESIGN	\$3,153	\$926	29.4%	4,079	0.0%	\$3,153	\$926	\$4,079	2045Q2	276.3%	\$11,864	\$3,483	\$15,347
PLANNING, ENGINEERING & DESIGN TOTALS:		\$23,414	\$6,874		\$30,288		\$23,414	\$6,874	\$30,288			\$51,539	\$15,132	\$66,670
31	CONSTRUCTION MANAGEMENT	\$3,949	\$1,159	29.4%	\$5,108	0.0%	\$3,949	\$1,159	\$5,108	2022Q2	27.4%	\$5,030	\$1,477	\$6,507
31	CONSTRUCTION MANAGEMENT	\$2,897	\$850	29.4%	\$3,747	0.0%	\$2,897	\$850	\$3,747	2026Q2	50.3%	\$4,355	\$1,278	\$5,633
31	CONSTRUCTION MANAGEMENT	\$2,897	\$850	29.4%	\$3,747	0.0%	\$2,897	\$850	\$3,747	2030Q2	79.6%	\$5,203	\$1,528	\$6,730
31	CONSTRUCTION MANAGEMENT	\$2,897	\$850	29.4%	\$3,747	0.0%	\$2,897	\$850	\$3,747	2034Q2	117.7%	\$6,306	\$1,851	\$8,157
31	CONSTRUCTION MANAGEMENT	\$2,897	\$850	29.4%	\$3,747	0.0%	\$2,897	\$850	\$3,747	2038Q2	165.6%	\$7,694	\$2,259	\$9,953
31	CONSTRUCTION MANAGEMENT	\$2,897	\$850	29.4%	\$3,747	0.0%	\$2,897	\$850	\$3,747	2042Q2	224.1%	\$9,388	\$2,756	\$12,144
31	CONSTRUCTION MANAGEMENT	\$2,897	\$850	29.4%	\$3,747	0.0%	\$2,897	\$850	\$3,747	2046Q2	295.5%	\$11,455	\$3,363	\$14,818
CONSTRUCTION MANAGEMENT TOTALS:		\$21,328	\$6,262		\$27,590		\$21,328	\$6,262	\$27,590			\$49,431	\$14,513	\$63,944

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report					DISTRICT: New York District					PREPARED: 7/19/2016				
LOCATION: Fire Island to Montauk Point, NY					POC: CHIEF, COST ENGINEERING, Mukesh Kumar									
This Estimate reflects the scope and schedule in report: FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared:		1-Nov-15		Program Year (Budget EC):		2016		FULLY FUNDED PROJECT ESTIMATE				
		Effective Price Level:		1-Oct-15		Effective Price Level Date:		1 OCT 15						
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
30	Monitoring Costs - Precon Planning, Engineering & Design - Precon	\$3,789	\$1,112	29.4%	\$ 4,901	0.0%	\$3,789	\$1,112	\$4,901	2017Q4	6.7%	\$4,043	\$1,187	\$5,230
CONSTRUCTION ESTIMATE TOTALS:		\$3,789	\$1,112		\$ 4,901		\$3,789	\$1,112	\$4,901			\$4,043	\$1,187	\$5,230
Monitoring Costs (every 4 yrs)														
30	Planning, Engineering & Design - Cycle 1	\$9,962	\$2,925	29.4%	12,887	0.0%	\$9,962	\$2,925	\$12,887	2022Q2	27.4%	\$12,692	\$3,726	\$16,418
30	Planning, Engineering & Design - Cycle 2	\$1,083	\$318	29.4%	1,401	0.0%	\$1,083	\$318	\$1,401	2026Q2	50.3%	\$1,628	\$478	\$2,106
30	Planning, Engineering & Design - Cycle 3	\$1,936	\$568	29.4%	2,504	0.0%	\$1,936	\$568	\$2,504	2030Q2	79.6%	\$3,477	\$1,021	\$4,498
30	Planning, Engineering & Design - Cycle 4	\$1,083	\$318	29.4%	1,401	0.0%	\$1,083	\$318	\$1,401	2034Q2	117.7%	\$2,358	\$692	\$3,050
30	Planning, Engineering & Design - Cycle 5	\$1,936	\$568	29.4%	2,504	0.0%	\$1,936	\$568	\$2,504	2038Q2	165.6%	\$5,142	\$1,510	\$6,651
30	Planning, Engineering & Design - Cycle 6	\$1,083	\$318	29.4%	1,401	0.0%	\$1,083	\$318	\$1,401	2042Q2	224.1%	\$3,511	\$1,031	\$4,541
30	Planning, Engineering & Design - Cycle 7	\$1,429	\$420	29.4%	1,849	0.0%	\$1,429	\$420	\$1,849	2046Q2	295.5%	\$5,652	\$1,659	\$7,311
30	Planning, Engineering & Design - Cycle 8	\$959	\$282	29.4%	1,241	0.0%	\$959	\$282	\$1,241	2050Q2	382.5%	\$4,628	\$1,359	\$5,987
Monitoring Cost Totals:		\$23,260	\$6,829		\$30,089		\$23,260	\$6,829	\$30,089			\$43,130	\$12,663	\$55,793

Total Project Cost Summary (cont.)

**** CONTRACT COST SUMMARY ****														
PROJECT: FIMP, General Reevaluation Report					DISTRICT: New York District					PREPARED: 7/19/2016				
LOCATION: Fire Island to Montauk Point, NY					POC: CHIEF, COST ENGINEERING, Mukesh Kumar									
This Estimate reflects the scope and schedule in report: FIMP GRR														
Civil Works Work Breakdown Structure		ESTIMATED COST				PROJECT FIRST COST (Constant Dollar Basis)				TOTAL PROJECT COST (FULLY FUNDED)				
		Estimate Prepared: 1-Nov-15		Program Year (Budget EC): 2016		FULLY FUNDED PROJECT ESTIMATE								
		Effective Price Level: 1-Oct-15		Effective Price Level Date: 1 OCT 15										
WBS NUMBER	Civil Works Feature & Sub-Feature Description	COST (\$K)	CNTG (\$K)	CNTG (%)	TOTAL (\$K)	ESC (%)	COST (\$K)	CNTG (\$K)	TOTAL (\$K)	Mid-Point Date	INFLATED (%)	COST (\$K)	CNTG (\$K)	FULL (\$K)
A	B	C	D	E	F	G	H	I	J	P	L	M	N	O
Breach Closure														
17	Breach Closure - Cycle 1	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2022Q2	12.7%	\$4,295	\$1,261	\$5,556
17	Breach Closure - Cycle 2	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2027Q2	24.5%	\$4,742	\$1,392	\$6,134
17	Breach Closure - Cycle 3	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2032Q2	37.4%	\$5,236	\$1,537	\$6,773
17	Breach Closure - Cycle 4	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2037Q2	51.7%	\$5,780	\$1,697	\$7,478
17	Breach Closure - Cycle 5	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2042Q2	67.5%	\$6,382	\$1,874	\$8,256
17	Breach Closure - Cycle 6	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2047Q2	84.9%	\$7,046	\$2,069	\$9,115
17	Breach Closure - Cycle 7	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2052Q2	104.2%	\$7,780	\$2,284	\$10,064
17	Breach Closure - Cycle 8	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2057Q2	125.4%	\$8,589	\$2,522	\$11,111
17	Breach Closure - Cycle 9	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2062Q2	148.9%	\$9,483	\$2,784	\$12,268
17	Breach Closure - Cycle 10	\$3,810	\$1,119	29.4%	\$ 4,929	0.0%	\$3,810	\$1,119	\$4,929	2067Q2	174.8%	\$10,470	\$3,074	\$13,545
CONSTRUCTION ESTIMATE TOTALS:		\$38,100	\$11,186	29.4%	\$49,286		\$38,100	\$11,186	\$49,286			\$69,804	\$20,495	\$90,299
30 PLANNING, ENGINEERING & DESIGN														
30	Planning, Engineering & Design - Cycle 1	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2022Q2	27.4%	\$485	\$143	\$628
30	Planning, Engineering & Design - Cycle 2	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2027Q2	56.9%	\$598	\$176	\$774
30	Planning, Engineering & Design - Cycle 3	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2032Q2	97.5%	\$752	\$221	\$973
30	Planning, Engineering & Design - Cycle 4	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2037Q2	152.7%	\$963	\$283	\$1,246
30	Planning, Engineering & Design - Cycle 5	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2042Q2	224.1%	\$1,235	\$363	\$1,597
30	Planning, Engineering & Design - Cycle 6	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2047Q2	315.6%	\$1,584	\$465	\$2,048
30	Planning, Engineering & Design - Cycle 7	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2052Q2	433.0%	\$2,031	\$596	\$2,627
30	Planning, Engineering & Design - Cycle 8	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2057Q2	583.5%	\$2,604	\$765	\$3,369
30	Planning, Engineering & Design - Cycle 9	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2062Q2	776.5%	\$3,339	\$980	\$4,320
30	Planning, Engineering & Design - Cycle 10	\$381	\$112	29.4%	\$ 493	0.0%	\$381	\$112	\$493	2067Q2	1024.0%	\$4,282	\$1,257	\$5,540
31 CONSTRUCTION MANAGEMENT														
9.5%	Construction Management - Cycle 1	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2022Q2	27.4%	\$460	\$135	\$595
9.5%	Construction Management - Cycle 2	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2027Q2	56.9%	\$567	\$166	\$733
9.5%	Construction Management - Cycle 3	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2032Q2	97.5%	\$713	\$209	\$923
9.5%	Construction Management - Cycle 4	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2037Q2	152.7%	\$913	\$268	\$1,181
9.5%	Construction Management - Cycle 5	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2042Q2	224.1%	\$1,171	\$344	\$1,514
9.5%	Construction Management - Cycle 6	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2047Q2	315.6%	\$1,501	\$441	\$1,942
9.5%	Construction Management - Cycle 7	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2052Q2	433.0%	\$1,925	\$565	\$2,490
9.5%	Construction Management - Cycle 8	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2057Q2	583.5%	\$2,469	\$725	\$3,193
9.5%	Construction Management - Cycle 9	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2062Q2	776.5%	\$3,166	\$929	\$4,095
9.5%	Construction Management - Cycle 10	\$361	\$106	29.4%	\$ 467	0.0%	\$361	\$106	\$467	2067Q2	1024.0%	\$4,060	\$1,192	\$5,252
CONTRACT COST TOTALS:		\$45,522	\$13,365		\$58,887		\$45,522	\$13,365	\$58,887			\$104,622	\$30,717	\$135,339

Cost & Schedule Risk Analysis (CSRA) Results

Fire Island Inlet to Montauk Point (FIMP), NY - Cost & Schedule Risk Analysis

Contingency on Base Estimate		80% Confidence Project Cost
Baseline Estimate Cost (Most Likely) ->		\$898,194,245
Baseline Estimate Cost Contingency Amount ->		\$208,434,239
Baseline Estimate Construction Cost (80% Confidence) ->		\$1,106,628,483

Contingency on Schedule		80% Confidence Project Schedule
Project Schedule Duration (Most Likely) ->		61.0 Months
Schedule Contingency Duration ->		39.2 Months
Project Schedule Duration (80% Confidence) ->		100.2 Months
Project Schedule Contingency Amount (80% Confidence) ->		\$55,279,306

Project Contingency		80% Confidence Project Cost
Project Contingency Amount (80% Confidence) ->		\$263,713,545
Project Contingency Percentage (80% Confidence) ->		29.36%

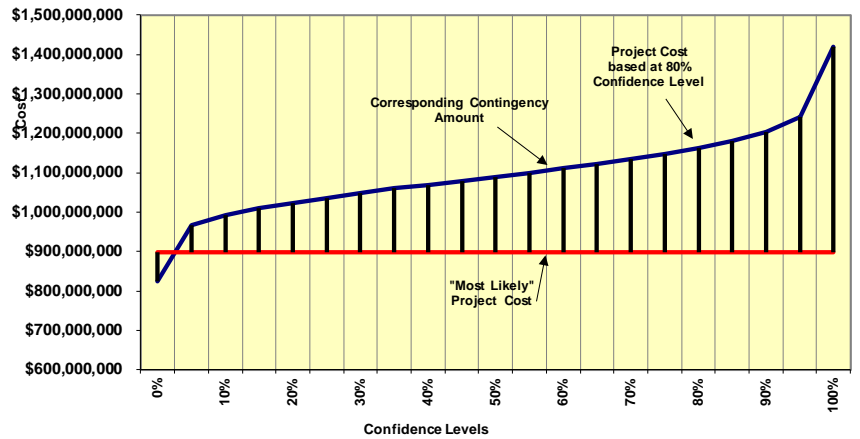
Project Cost (80% Confidence) ->	\$1,161,907,790
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- PROJECT CONTINGENCY DEVELOPMENT -

Contingency Analysis

Most Likely Cost Estimate	\$898,194,245	
Confidence Level	Value	Contingency
0%	\$824,561,577	-8.20%
5%	\$966,232,729	7.58%
10%	\$991,344,185	10.37%
15%	\$1,009,061,735	12.34%
20%	\$1,023,207,039	13.92%
25%	\$1,035,039,988	15.24%
30%	\$1,049,180,795	16.81%
35%	\$1,059,789,095	17.99%
40%	\$1,069,284,438	19.05%
45%	\$1,079,822,556	20.22%
50%	\$1,089,182,906	21.26%
55%	\$1,099,349,697	22.40%
60%	\$1,111,061,698	23.70%
65%	\$1,121,800,036	24.90%
70%	\$1,133,797,638	26.23%
75%	\$1,147,705,925	27.78%
80%	\$1,161,907,790	29.36%
85%	\$1,180,679,582	31.45%
90%	\$1,204,385,330	34.09%
95%	\$1,241,089,480	38.18%
100%	\$1,419,251,919	58.01%

Project Cost Contingency Analysis



Schedule

(double-click to open in Adobe)

