



# Maryland Transportation Authority

CAPITAL COMMITTEE MEETING

THURSDAY, NOVEMBER 3, 2022

2310 BROENING HIGHWAY  
BALTIMORE, MARYLAND 21224

**CAPITAL COMMITTEE MONTHLY MEETING  
November 3, 2022 – 9:00 AM**

**This meeting will be livestreamed on the [MDTA Capital Committee Page](#)**

**NOTE:** This is an Open Meeting being conducted via livestreaming. The public is welcomed to watch the meeting at the link listed above. *If you wish to comment on an agenda item please email your name, affiliation, and the agenda item to [cthompson@mdta.state.md.us](mailto:cthompson@mdta.state.md.us) no later than 5:00 p.m. on Monday, October 31, 2022. You MUST pre-register in order to comment.* Once you have pre-registered you will receive an email with all pertinent information.

**AGENDA**

**OPEN SESSION – 9:00 a.m.**

Call Meeting to Order

- |   |                 |         |
|---|-----------------|---------|
| 1. <b><u>Approval</u></b> - Open Session Meeting Minutes of October 6, 2022   | Chairman        | 5 mins  |
| 2. <b><u>Approval</u></b> – HT-2709-0000 – Envelope and Switchgear Replacements at Baltimore Harbor Tunnel Vent Buildings | Robert Michael  | 5 mins  |
| 3. <b><u>Approval</u></b> – KH-3031-0000 – Noisewall along I-95 Southbound South of Calvary Road                          | James Harkness  | 5 mins  |
| 4. <b><u>Approval</u></b> – FY 2023-2028 Final Consolidated Transportation Program (CTP)                                  | Jeanne Marriott | 10 mins |

Vote to Adjourn Meeting

**MARYLAND TRANSPORTATION AUTHORITY  
CAPITAL COMMITTEE MEETING  
THURSDAY, OCTOBER 6, 2022  
OPEN MEETING VIA LIVESTREAMING**

**OPEN SESSION**

**MEMBERS ATTENDING:** Mario J. Gangemi – Chairman  
William C. Ensor, III – via telephone  
William H. Cox, Jr.  
W. Lee Gaines

**STAFF ATTENDING:** Will Pines  
Joseph Sagal  
James Harkness  
Meryle Dunlap, Esq.  
Sushmita Mitra  
Tekeste Amare  
Lillian Sidrak  
Ruel Sabellano  
Selena McKissick  
Jennifer Stump  
Mary O’Keeffe  
Natalie Henson  
John Wedemeyer  
Jeanne Marriott  
Donna DiCerbo  
Jeff Davis  
Timothy Sheets  
Jullian Johns  
Bethany Howard  
Tia Rattini  
Ganine Steffe

**OTHERS ATTENDING:** Liz Zito-Lynch - Stantec

At 9:00 a.m. Member Gangemi called the meeting of the Maryland Transportation Authority (MDTA) Capital Committee to order. The meeting was held via video conference and livestreamed on the MDTA Board Meeting web page.

**APPROVAL – OPEN SESSION MEETING MINUTES OF SEPTEMBER 1, 2022**

Upon motion by Member Cox and seconded by Member Gaines, the Open Session meeting minutes of the Capital Committee’s meeting held on September 1, 2022, were unanimously approved.

**APPROVAL – BB-3017-0000 – EASTBOUND WILLIAM PRESTON LANE, JR.  
MEMORIAL (BAY) BRIDGE DECK REPLACEMENT**

Mr. Amare presented this request to seek a recommended approval from the Capital Committee for BB-3017-0000 – Eastbound William Preston Lane, Jr. Memorial (Bay) Bridge Deck Replacement to the full MDTA Board for award at its next scheduled meeting.

Construction, services of this project include the deck floor system replacement & up to 4'-0" widening for deck truss Spans T14-T22, MASH TL-4 barrier upgrade, truss strengthening at selected members, pin and hanger structural steel retrofits and signal gantry replacement. The scope also includes utility relocations and off-site storm water management work.

Upon motion by Member Cox and seconded by Member Gaines, the Members unanimously recommended contingent approval of Contract No. BB-3017-0000 – Eastbound William Preston Lane, Jr. Memorial (Bay) Bridge Deck Replacement to Kokosing/McLean JV. to the full MDTA Board for award at its next scheduled meeting.

**APPROVAL – CONVEYANCE-HEAT CENTER – MC#22-7046**

Mr. Wedemeyer presented this request to seek a recommended approval from the Capital Committee for Conveyance-Heat Center – MC#22-7046 to the full MDTA Board for award at its next scheduled meeting.

MDTA plans to convey Parcel 1-A containing 14,196 sq. ft. or 0.326 acres, plus or minus. Parcel B containing 37,970 sq. ft. or 0.872 acres, plus or minus. And Parcel 2 containing 13,688 sq. ft. or 0.314 acres, plus or minus. MDTA is requesting to convey fee simple of Parcel 1 –A to the City of Aberdeen under a 2001 unrecorded agreement between MDTA and City of Aberdeen to construct a water tower. The remainder of the property, Parcel 1-B & Parcel 2, will be convey fee simple to Harford County. Harford County 2014 lease will be terminated. The lease did not contain any consideration.

No consideration will be obtained from either fee simple conveyances.

A request was made to the other divisions within MDTA to determine if there were any current or future needs for the subject property. It was determined and confirmed that there were no needs for this property.

The recommended course of action would be to seek the approval of the Authority Board to convey the land. Should the Authority Members approve, RES will proceed through MDOT's Modal Clearance process for approval and recommendation to the Maryland Board of Public Works.

Upon motion by Member Cox and seconded by Member Gaines, the Members unanimously recommended contingent approval of Conveyance-Heat Center – MC#22-7046 to the full MDTA Board for award at its next scheduled meeting.

**APPROVAL – LAND SWAP-ALLIED(CAPSA) 3510 HAWKINS POINT ROAD – MC#22-7047**

Mr. Wedemeyer presented this request to seek a recommended approval from the Capital Committee for Land Swap-Allied (CAPSA) 3510 Hawkins Point Road – MC#22-7046 to the full MDTA Board for award at its next scheduled meeting.

In 2018, SHA conveyed Hawkins Point Road parcel (Ward -25 Section – 09 Block – 7005 Lot – 17) to the MDTA for the use of a transportation purpose or other public purposes. MDTA is now planning to build a new MDTA Police Academy at that location. During planning efforts, it has been proposed to swap land with Allied Contractors, Inc. (CAPSA) in order to facilitate MDTA design issues for the future Police Academy. This would be beneficial to both MDTA and Allied (CAPSA).

A request was made to the other divisions within MDTA to determine if there were any current or future needs for the subject property. It was determined and confirmed that there were no needs for this property.

The recommended course of action would be to seek the approval of the Authority Board to swap the land. Should the Authority Members approve, RES will proceed through MDOT's Modal Clearance process for approval and recommendation to the Maryland Board of Public Works.

Upon motion by Member Gaines and seconded by Member Ensor, the Members unanimously recommended contingent approval of Land Swap-Allied (CAPSA) 3510 Hawkins Point Road – MC#22-7047 to the full MDTA Board for award at its next scheduled meeting.

**UPDATE – FACILITY CONDITION INSPECTIONS (ANNUAL)**

Ms. Sidrak provided the MDTA Capital Committee with an overview of the Facility Condition Inspections (Annual).

**UPDATE – CTP PROCESS/ADDITIONS**

Mrs. Marriott provided the MDTA Capital Committee with an overview of the CTP process/additions.

There being no further business, the meeting of the MDTA Capital Committee was adjourned by consensus at 10:04 a.m. following a motion by Member Cox and seconded by Member Gaines.

The next meeting of the MDTA Capital Committee is scheduled for Thursday, November 3, 2022, at 9:00 a.m. at Point Breeze Headquarters, 2310 Broening Highway, Baltimore, Maryland.

APPROVED AND CONCURRED IN:

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Mario J. Gangemi, Chairman



Maryland  
Transportation  
Authority

## CAPITAL COMMITTEE PROJECT SUMMARY

**HT-2709-0000 ENVELOPE AND SWITCHGEAR REPLACEMENTS AT BALTIMORE HARBOR TUNNEL VENT BUILDINGS**

**PIN NUMBER** 2306  
**CONTRACT NUMBER** HT-2709-0000  
**CONTRACT TITLE** Envelope and Switchgear Replacements at Baltimore Harbor Tunnel Vent Buildings

**PROJECT SUMMARY** The work to be performed under this Contract is located at the Fairfield and Canton Vent buildings of the BHT facility. The scope of work includes the complete removal of the existing building facades, intake louvers, and roofs with the installation of new architectural precast concrete wall panels, storm proof louvers, and new roofing systems implementing phased construction practices at each building. Complete removal and replacement of the existing end of service life primary Switchgear/MCC lineups that support all tunnel operations (ventilation, life safety, lane use, traffic signing, lighting, and pumps). These primary units will be removed and new installed applying detailed phased construction to maintain all safe tunnel operations during the construction duration. A single story building addition is required at the Canton building to accommodate new switchgear and other new electrical components. Existing deficient elevators will be removed and replaced with new modern code compliant systems and construction of additional safety egress stairways. New code compliant fire pumps will be installed to complete the fire safety systems. All new systems will be integrated into the SCADA controls system and tested.

**SCHEDULE**

**ADVERTISEMENT DATE** 11/5/2021  
**ANTICIPATED NOTICE TO PROCEED DATE** Dec-22  
**DURATION (COMPLETION DATE)** 1,460 CD

	(\$)	
	Advertised GOAL (%)	Proposed GOAL (%)
<b>MBE PARTICIPATION</b>		
<b>OVERALL MBE</b>	20.00%	20.47%
<b>AFRICAN AMERICAN</b>	0.00%	2.87%
<b>ASIAN AMERICAN</b>	0.00%	2.73%
<b>HISPANIC AMERICAN</b>	0.00%	1.47%
<b>WOMEN</b>	0.00%	13.40%
<b>NATIVE AMERICAN</b>	0.00%	0.00%
<b>VSBE</b>	1.00%	1.00%

**ENGINEER'S ESTIMATE (EE)** \$54,550,357.12

BID RESULTS	BID AMOUNT (\$)	% VARIANCE TO EE
<b>Cianbro Corporation (Non-Responsive)</b>	\$66,524,800.00	22%
<b>W.M. Schlosser Company, Inc.</b>	\$67,877,000.00	24%
<b>Grunley Construction, Company, Inc.</b>	\$68,169,998.00	25%
<b>Kiewit, Infrastructure Co.</b>	\$84,496,000.00	55%

**BID PROTEST** YES  NO   
 Protest Decision Letter issued 9/30/2022

**FUNDING SOURCE** 100.00% TOLL REVENUE



elements of the façade. These items account for \$10.4 M difference from the EE. Since these items are bid as lump sums, a detailed breakdown is not available for direct evaluation of these costs. These items have had price increases due to the recent market volatility in the current construction industry.

The following provides background assumptions used for the development of the EE, which is prepared months in advance of advertisement and actual bids due date. The EE provides some factors for cost fluctuations however, predicting the global economic impacts on materials and labor are challenging. The Engineer's Pre-construction Estimate of probable costs was developed in early 2021 and refined in August 2021. However, even with these adjustments industry experts could not forecast escalation and inflation observed in the current 2022 marketplace and beyond. The ENR Building Cost City Index (BCI), indicated an average annual increase over the 13-month period (EE date 4/2021 – Bid date 4/2022) of 17.11%. Utilizing this rate to the midpoint of construction translates to an additional cost of approximately \$6.5M. In addition the EE costs may not have effectively captured the complexity and risk of maintaining critical operations of the tunnel ventilation system during the reconstruction period.

The Baltimore Harbor Tunnel Ventilation Buildings are 65 years old and the work under this project is critical to maintain safe and reliable operation as well as protection of the newly installed supply and exhaust fans that provide fresh air throughout the tunnel during normal operations and smoke mitigation during a fire event. It should be noted that:

- The replacement of the electrical services and switchgears is vital to the continued safe operation of the tunnels. Replacement parts for the equipment are no longer available and equipment sizes have changed significantly precluding individual equipment replacement. The replacement of the switchgears is well overdue and further delays in replacing the equipment poses increased risks to the operations of the Baltimore Harbor Tunnel which could result in extended shutdowns tunnel and major impacts on traffic flow.
- The existing façade louvers allow the air to enter at high velocities with minimal to no means of preventing water infiltration. This infiltration of water has caused deterioration of the existing masonry walls and the concrete encasements of the steel frame that support the building as well as the electrical switchgear. Currently, there is an interior corrugated metal roof constructed over the electrical switchgear to divert water that is dripping from the level above due to rain intrusion. The recently replaced ventilation equipment will experience premature aging as a result of continued water intrusion. To preclude water intrusion and prevent further deterioration of the equipment and structure, the existing louvers are to be replaced with larger storm proof louvers which will slow the inflow of air and prevent water infiltration.
- There are price increases for all building construction projects in which material, equipment escalation and delivery delays have impacted contractor's costs. The difficulty to predict cost impacts on all the Bid Items caused by the current economic conditions and lead time issues justify the higher bid day costs observed with this bid.
- The number of bids received reflects a competitive bid environment. Additionally, three of the four bidders are within a 2.5% range of each other which confirms the quality of the documents and establishes the current market conditions.

W. M. Schlosser has recently completed the façade renovations to the BHT Administration Building ahead of schedule and under budget and has an excellent reputation for doing high quality, efficient work. They are currently under contract with the MDTA for the Nice/Middleton Bridge Campus Improvement Project.

**RECOMMENDATION:**

Based on our review, we recommend accepting W. M. Schlosser Company, Inc.'s lowest acceptable bid of \$67,877,000.00.

Approved:



Sushmita Mitra, P.E., PTOE

10/14/2022

Date

**ATTACHMENTS:** Bid Tabulations and comparisons  
Procurement Officer's Determination

Maryland Transportation Authority  
 Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel Vent Buildings  
 Contract Number: HT-2709-0000  
 Bid Date: April 21, 2022

**Bid Tabulation**

ITEM NO.	CAT CODE	DESCRIPTION	UNITS	QUANTITY	Engineer's Estimate		Cianbro Corporation	
					UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1001	110100	Clearing & Grubbing	LS	1	\$8,995.82	\$8,995.82	\$235,000.00	\$235,000.00
1002	110360	Type C Engineers Office	LS	1	\$179,916.00	\$179,916.00	\$140,000.00	\$140,000.00
1003	120784	Temporary Orange Construction Fence	LF	2400	\$7.19	\$17,256.00	\$10.00	\$24,000.00
1004	120786	Remove and Reset Temporary Orange Construction Fence	LF	2400	\$6.29	\$15,096.00	\$4.00	\$9,600.00
1005	130840	Construction Stakeout	LS	1	\$21,331.01	\$21,331.01	\$16,000.00	\$16,000.00
1006	130875	Mobilization and Demobilization	LS	1	\$467,782.70	\$467,782.70	\$7,000,000.00	\$7,000,000.00
1007	131010	Type B - Critical Path Method (CPM) Schedule for Typical Projects	LS	1	\$17,991.64	\$17,991.64	\$25,000.00	\$25,000.00
1008	100000	Partnering	AL	1	\$18,000.00	\$18,000.00	\$18,000.00	\$18,000.00
1009	100000	Operations & Maintenance and Warranty Manuals	LS	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
1010	100000	Escrow Bid Documentation	LS	1	\$10,000.00	\$10,000.00	\$22,000.00	\$22,000.00
2001	201030	Class 1 Excavation	CY	605	\$115.69	\$69,992.45	\$130.00	\$78,650.00
2002	200000	Site Concrete Removal	SF	2200	\$5.56	\$12,232.00	\$18.00	\$39,600.00
2003	210025	Removal of Existing Pavement	CY	150	\$1,474.00	\$221,100.00	\$200.00	\$30,000.00
3001		Item Deleted				\$0.00	\$0.00	\$0.00
3002	302415	15 Inch Reinforced Concrete Pipe, Class IV	LF	8	\$310.21	\$2,481.68	\$350.00	\$2,800.00
3003	302430	30 Inch Reinforced Concrete Pipe, Class IV	LF	66	\$590.34	\$38,962.44	\$415.00	\$27,390.00
3004	374021	Shallow 10 FT COG Inlet - Minimum Depth	EA	1	\$13,587.51	\$13,587.51	\$10,000.00	\$10,000.00
3005	380610	60 Inch Diameter Manhole for 27 Inch to 36 Inch Pipes - Minimum Depth	EA	2	\$12,095.12	\$24,190.24	\$12,500.00	\$25,000.00
3006	300000	Stormwater Management Pre-Engineered Biofiltration System	LS	1	\$43,449.81	\$43,449.81	\$160,000.00	\$160,000.00
3007	390665	Stormwater Management Facility As-Built Certification	LS	1	\$9,445.61	\$9,445.61	\$30,000.00	\$30,000.00
4001	400000	Structural Demolition Trench 2'x2.5'	EA	16	\$1,966.68	\$31,466.88	\$12,000.00	\$192,000.00
4002	400000	Structural Demolition Trench Walls	EA	16	\$578.44	\$9,255.04	\$14,000.00	\$224,000.00
4003	400000	New Pads for Equipment Supports	CF	1500	\$57.85	\$86,775.00	\$100.00	\$150,000.00
4004	400000	Steel Plates with Handles	EA	16	\$694.12	\$11,105.92	\$450.00	\$7,200.00
4005	400000	Steel Beams W4x13	LF	220	\$69.41	\$15,270.20	\$250.00	\$55,000.00
4006	400000	Steel Decking	LS	1	\$11,364.84	\$11,364.84	\$22,000.00	\$22,000.00
4007	400000	Fairfield Ventilation Building Envelope Replacement - New Fire Pump	LS	1	\$219,805.30	\$219,805.30	\$310,000.00	\$310,000.00
4008	400000	Canton Ventilation Building Envelope Replacement - New Fire Pump	LS	1	\$219,805.30	\$219,805.30	\$335,000.00	\$335,000.00
4009	400000	Canton Ventilation Building Envelope Replacement - New Building Addition	LS	1	\$677,278.54	\$677,278.54	\$780,000.00	\$780,000.00
4010	400000	Fairfield Ventilation Building Envelope Replacement - Precast Concrete Panels	LS	1	\$7,745,000.00	\$7,745,000.00	\$6,800,000.00	\$6,800,000.00
4011	400000	Canton Ventilation Building Envelope Replacement - Precast Concrete Panels	LS	1	\$8,645,000.00	\$8,645,000.00	\$7,000,000.00	\$7,000,000.00
4012	400000	Fairfield Ventilation Building Envelope Replacement - Architectural Louvers	LS	1	\$1,110,208.52	\$1,110,208.52	\$2,000,000.00	\$2,000,000.00
4013	400000	Canton Ventilation Building Envelope Replacement - Architectural Louvers	LS	1	\$1,110,208.52	\$1,110,208.52	\$2,105,000.00	\$2,105,000.00
4014	400000	Fairfield Ventilation Building Envelope Replacement - Roof Replacement	LS	1	\$437,243.58	\$437,243.58	\$1,000,000.00	\$1,000,000.00
4015	400000	Canton Ventilation Building Envelope Replacement - Roof Replacement	LS	1	\$437,243.58	\$437,243.58	\$1,000,000.00	\$1,000,000.00
4016	400000	Fairfield Ventilation Building Envelope Replacement - New Egress Stair	LS	1	\$167,465.57	\$167,465.57	\$110,000.00	\$110,000.00
4017	400000	Canton Ventilation Building Envelope Replacement - New Egress Stair	LS	1	\$199,762.26	\$199,762.26	\$210,000.00	\$210,000.00
4018	400000	Fairfield Ventilation Building Envelope Replacement - New Freight Elevator	LS	1	\$563,377.93	\$563,377.93	\$520,000.00	\$520,000.00
4019	400000	Canton Ventilation Building Envelope Replacement - New Freight Elevator	LS	1	\$574,567.33	\$574,567.33	\$520,000.00	\$520,000.00
4020	400000	Concrete Spall Repair	SF	1113	\$81.01	\$90,164.13	\$280.00	\$311,640.00
4021	400000	Concrete Crack Repair	LF	26	\$389.14	\$10,117.64	\$320.00	\$8,320.00
4022	400000	Cast-In-Place Concrete	LS	1	\$509,666.52	\$509,666.52	\$1,200,000.00	\$1,200,000.00
4023	400000	Concrete Masonry	LS	1	\$37,038.41	\$37,038.41	\$550,000.00	\$550,000.00
4024	400000	Structural Steel Framing	LS	1	\$1,253,791.08	\$1,253,791.08	\$2,097,000.00	\$2,097,000.00
4025	400000	Roof Drains	EA	32	\$1,606.15	\$51,396.80	\$4,500.00	\$144,000.00
4026	400000	4" Drainage Piping: Demolition and New	LF	1200	\$148.10	\$177,720.00	\$180.00	\$216,000.00
4027	400000	6" Drainage Piping: Demolition and New	LF	560	\$172.70	\$96,712.00	\$220.00	\$123,200.00
4028	400000	8" Drainage Piping: Demolition and New	LF	480	\$245.75	\$117,960.00	\$290.00	\$139,200.00
4029	400000	Steel Joist Framing	LS	1	\$5,820.82	\$5,820.82	\$9,000.00	\$9,000.00
4030	400000	Auger Cast Piles	LS	1	\$86,519.79	\$86,519.79	\$200,000.00	\$200,000.00
4031	400000	Fairfield Ventilation Building Envelope Replacement - Evase Stack Cladding	LS	1	\$255,986.10	\$255,986.10	\$1,800,000.00	\$1,800,000.00
4032	400000	Canton Ventilation Building Envelope Replacement - Evase Stack Cladding	LS	1	\$255,986.10	\$255,986.10	\$1,150,000.00	\$1,150,000.00
4033	400000	Fairfield Ventilation Building Envelope Replacement - Existing Quatermaster Building	LS	1	\$68,434.76	\$68,434.76	\$350,000.00	\$350,000.00
4034	400000	Fairfield Ventilation Building Envelope Replacement - Remove Existing Façade	LS	1	\$320,228.82	\$320,228.82	\$430,000.00	\$430,000.00
4035	400000	Canton Ventilation Building Envelope Replacement - Remove Existing Façade	LS	1	\$320,228.82	\$320,228.82	\$400,000.00	\$400,000.00
4036	400000	2" Drainage Piping: Demolition and New	LF	380	\$126.34	\$48,009.20	\$50.00	\$19,000.00
4037	400000	3" Drainage Piping: Demolition and New	LF	200	\$134.66	\$26,932.00	\$65.00	\$13,000.00
4038	400000	5" Drainage Piping: Demolition and New	LF	360	\$159.64	\$57,470.40	\$100.00	\$36,000.00
4039	400000	Demolition of 1" Thick Floor Finish Under New Pads	SF	2200	\$5.79	\$12,738.00	\$8.00	\$17,600.00
5001	504530	Superpave Asphalt Mix 12.5MM For Surface, PG 64S-22, Level 2	TON	64	\$166.24	\$10,639.36	\$190.00	\$12,160.00

Maryland Transportation Authority

Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel Vent Buildings

5002	504560	Superpave Asphalt Mix 19.0MM For Base, PG 64S-22, Level 2	TON	224	\$226.70	\$50,780.80	\$113.00	\$25,312.00
5003	520113	6 Inch Graded Aggregate Base Course	SY	570	\$37.79	\$21,540.30	\$6.00	\$3,420.00
5004	504564	Superpave Asphalt Mix 19.0MM For Full-Depth Patch, PG 64S-22, Level 2	TON	1	\$236.14	\$236.14	\$2,000.00	\$2,000.00
5005	508003	Standard Milling Asphalt Pavement Over 1 Inch To 2.5 Inch Depth	SY	6700	\$11.34	\$75,978.00	\$4.50	\$30,150.00
6001	600000	Bollards	EA	8	\$1,416.84	\$11,334.72	\$1,500.00	\$12,000.00
6002	634344	Standard Type D Combination Curb and Gutter 12 Inch Gutter Pan 8 Inch Minimum Depth	LF	650	\$22.67	\$14,735.50	\$100.00	\$65,000.00
6003	655105	5 Inch Concrete Sidewalk	SF	2110	\$18.89	\$39,857.90	\$30.00	\$63,300.00
6004	690126	8 Foot Galvanized Chain Link Fence	LF	820	\$40.62	\$33,308.40	\$55.00	\$45,100.00
6005	691286	Terminal Post for 8 Foot Galvanized Chain Link Fence	EA	82	\$415.60	\$34,079.20	\$65.00	\$5,330.00
7001	704345	Placing Furnished Topsoil 4 Inch Depth	SY	1000	\$18.89	\$18,890.00	\$185.00	\$185,000.00
7002		Item Deleted				\$0.00	\$0.00	\$0.00
7003	705565	Refertilizing	SY	200	\$0.95	\$190.00	\$22.00	\$4,400.00
7004	708220	Turfgrass Sod Establishment	SY	100	\$9.44	\$944.00	\$35.00	\$3,500.00
7005	709140	Type E Soil Stabilization Matting	SY	100	\$10.38	\$1,038.00	\$5.00	\$500.00
7006	700000	Permanent Seed	SY	1000	\$1.88	\$1,880.00	\$5.00	\$5,000.00
8001	800000	Demolition of switchgear line-ups, switchboards, transformers, cables, conduits, etc	LS	1	\$289,217.50	\$289,217.50	\$1,200,000.00	\$1,200,000.00
8002	800000	Hazardous Material Abatement and Lead Paint Treatment	LS	1	\$826,044.95	\$826,044.95	\$600,000.00	\$600,000.00
8003	800000	Temporary Power 400A Circuit Breaker at Available Feeder Breaker Unit	EA	2	\$6,623.08	\$13,246.16	\$5,500.00	\$11,000.00
8004	800000	Temporary Power Feeders in Flexible Metallic Conduit	LS	1	\$83,294.64	\$83,294.64	\$300,000.00	\$300,000.00
8005	800000	Temporary Power 400A MLO, 600V, 3 Ph, 4W Temporary Panelboard	EA	2	\$7,519.66	\$15,039.32	\$7,200.00	\$14,400.00
8006	800000	Temporary Power 225A MCB, 208V, 3 Ph, 4W Panelboard	EA	2	\$7,519.66	\$15,039.32	\$3,500.00	\$7,000.00
8007	800000	Unit Substation including MV Load Break Switches, Transformers, LV Sections	EA	4	\$1,850,992.00	\$7,403,968.00	\$1,500,000.00	\$6,000,000.00
8008	800000	600V 3000A Bus 30'	EA	8	\$69,412.20	\$555,297.60	\$35,000.00	\$280,000.00
8009	800000	600V Motor Control Center with NEMA 12 Enclosure	EA	8	\$155,483.33	\$1,243,866.64	\$150,000.00	\$1,200,000.00
8010	800000	75KVA Non-Ventilated Transformer	EA	8	\$13,535.38	\$108,283.04	\$30,000.00	\$240,000.00
8011	800000	208V Motor Control Center with NEMA 12 Enclosure	EA	4	\$56,426.34	\$225,705.36	\$70,000.00	\$280,000.00
8012	800000	Digital Power Meter	EA	8	\$6,362.79	\$50,902.32	\$8,500.00	\$68,000.00
8013	800000	Medium Voltage 15KV MV-105 3/C #1/0, 3/C #8 Ground	LF	600	\$12.32	\$7,392.00	\$120.00	\$72,000.00
8014	800000	Medium Voltage 15KV MV-105 3/C #2/0, 3/C #8 Ground	LF	230	\$13.88	\$3,192.40	\$85.00	\$19,550.00
8015	800000	#10 XHHW/XHHW-2	LF	9600	\$1.16	\$11,136.00	\$1.60	\$15,360.00
8016	800000	#8 XHHW/XHHW-2	LF	2400	\$1.39	\$3,336.00	\$2.40	\$5,760.00
8017	800000	#6 XHHW/XHHW-2	LF	7740	\$2.08	\$16,099.20	\$3.00	\$23,220.00
8018	800000	#4 XHHW/XHHW-2	LF	4800	\$2.43	\$11,664.00	\$4.00	\$19,200.00
8019	800000	#3 XHHW/XHHW-2	LF	1200	\$2.89	\$3,468.00	\$4.80	\$5,760.00
8020	800000	#1/0 XHHW/XHHW-2	LF	800	\$4.97	\$3,976.00	\$7.50	\$6,000.00
8021	800000	#3/0 XHHW/XHHW-2	LF	10380	\$6.94	\$72,037.20	\$11.00	\$114,180.00
8022	800000	#4/0 XHHW/XHHW-2	LF	355	\$8.38	\$2,974.90	\$13.00	\$4,615.00
8023	800000	400 KCMIL XHHW/XHHW-2	LF	20760	\$14.47	\$300,397.20	\$25.00	\$519,000.00
8024	800000	500 KCMIL XHHW/XHHW-2	LF	1000	\$16.19	\$16,190.00	\$30.00	\$30,000.00
8025	800000	350 KCMIL XHHW/XHHW-2	LF	1600	\$11.57	\$18,512.00	\$20.00	\$32,000.00
8026	800000	#2 Ground	LF	400	\$2.89	\$1,156.00	\$8.00	\$3,200.00
8027	800000	#10 Ground	LF	4780	\$0.92	\$4,397.60	\$1.60	\$7,648.00
8028	800000	#8 Ground	LF	400	\$1.28	\$512.00	\$2.30	\$920.00
8029	800000	#6 Ground	LF	3320	\$1.39	\$4,614.80	\$3.00	\$9,960.00
8030	800000	#1 Ground	LF	6630	\$3.48	\$23,072.40	\$6.00	\$39,780.00
8031	800000	#4/0 Ground	LF	500	\$8.10	\$4,050.00	\$14.00	\$7,000.00
8032	800000	Control Wires	LS	1	\$46,274.80	\$46,274.80	\$200,000.00	\$200,000.00
8033	800000	2" RGS Conduit	LF	1200	\$30.07	\$36,084.00	\$50.00	\$60,000.00
8034	800000	2-1/2" RGS Conduit	LF	355	\$40.49	\$14,373.95	\$75.00	\$26,625.00
8035	800000	4" RGS Conduit	LF	1900	\$69.41	\$131,879.00	\$110.00	\$209,000.00
8036	800000	1-1/2" RGS Conduit	LF	600	\$25.45	\$15,270.00	\$35.00	\$21,000.00
8037	800000	1-1/4" RGS Conduit	LF	1000	\$24.30	\$24,300.00	\$32.00	\$32,000.00
8038	800000	1" RGS Conduit	LF	500	\$21.98	\$10,990.00	\$25.00	\$12,500.00
8039	800000	3/4" RGS Conduit	LF	400	\$17.36	\$6,944.00	\$18.00	\$7,200.00
8040	800000	Medium Voltage Pull Box 48"x16"x10"	EA	17	\$1,110.59	\$18,880.03	\$6,000.00	\$102,000.00
8041	800000	3-1/2" RGS Conduit	LF	1000	\$63.62	\$63,620.00	\$105.00	\$105,000.00
8042	800000	Hangers and Supports	LS	1	\$34,706.10	\$34,706.10	\$110,000.00	\$110,000.00
8043	800000	Free-Standing, 4 Pole, 208V, 250A, Automatic Transfer Switch with NEMA 12 Enclosure	EA	4	\$45,117.93	\$180,471.72	\$110,000.00	\$44,000.00
8044	800000	208V, 250A, 3 Pole Heavy-Duty, NEMA 4X Stainless Steel, Fused Disconnect Switch	EA	8	\$28,921.75	\$231,374.00	\$8,500.00	\$68,000.00
8045	800000	2 Way Ductbank with 2 - 5" Schedule 40 PVC Conduits	LF	100	\$69.41	\$6,941.00	\$330.00	\$33,000.00
8046	800000	4 Way Ductbank with 4 - 5" Schedule 40 PVC Conduits	LF	45	\$100.65	\$4,529.25	\$700.00	\$31,500.00
8047	800000	#2/0 Ground	LF	1800	\$6.94	\$12,492.00	\$8.00	\$14,400.00
8048	800000	Fan Control Cabinet	EA	8	\$17,353.05	\$138,824.40	\$50,000.00	\$400,000.00
8049	800000	MV Switchgears w/ DC Battery Systems and MV Busways - Canton and Fairfield	LS	1	\$2,313,740.00	\$2,313,740.00	\$2,500,000.00	\$2,500,000.00
8050	800000	Cabinet for MCC Wiring	EA	8	\$2,313.74	\$18,509.92	\$12,000.00	\$96,000.00
8051	800000	Grounding System includes Ground Rods, Conductors and Ground Buses, Etc.	LS	1	\$57,843.50	\$57,843.50	\$165,000.00	\$165,000.00
8052	800000	Kapsch TrafficCom USA Inc. Integration, Testing and Updating DYNAC System	AL	1	\$350,000.00	\$350,000.00	\$350,000.00	\$350,000.00

Maryland Transportation Authority

Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel Vent Buildings

8053	800000	Testing and Commissioning All New and Interfaced Equipment	LS	1	\$57,843.50	\$57,843.50	\$650,000.00	\$650,000.00
8054	800000	Short Circuit, Coordination, Arc Flash Studies and Labels	LS	1	\$57,843.50	\$57,843.50	\$120,000.00	\$120,000.00
8055	800000	Miscellaneous Construction	AL	1	\$4,090,000.00	\$4,090,000.00	\$4,090,000.00	\$4,090,000.00
8056	800000	Two inch (2"), Schedule 40 PVC Pipe @ Thirty Foot (30') Height	LF	500	\$38.06	\$19,030.00	\$75.00	\$37,500.00
8057	800000	Two inch (2"), Schedule 80 High-Impact/Pressure PVC Pipe	LF	100	\$40.60	\$4,060.00	\$58.00	\$5,800.00
8058	800000	Sixteen Gauge (16-ga) Stainless Steel Drain Pan, Type 304, w/Reinforcement @ Thirty Foot (30') Height	SF	1360	\$179.31	\$243,861.60	\$110.00	\$149,600.00
8059	800000	Multi-Zone Leak-Detection System (6 zones, 1 monitoring panel, wiring & conduit)	EA	2	\$13,882.44	\$27,764.88	\$55,000.00	\$110,000.00
8060	800000	Fairfield Ventilation Building – CCTV	LS	1	\$70,012.70	\$70,012.70	\$600,000.00	\$600,000.00
8061	800000	Canton Ventilation Building – CCTV	LS	1	\$68,447.90	\$68,447.90	\$300,000.00	\$300,000.00
8062	800000	Fairfield Ventilation Building – Electrical Work Associated with Exterior Envelope Replacement	LS	1	\$2,299,183.19	\$2,299,183.19	\$95,000.00	\$95,000.00
8063	800000	Canton Ventilation Building – Electrical Work Associated with Exterior Envelope Replacement	LS	1	\$2,299,183.19	\$2,299,183.19	\$115,000.00	\$115,000.00
8064	800000	Fairfield Ventilation Building – Existing Plumbing Relocation	LS	1	\$28,702.22	\$28,702.22	\$190,000.00	\$190,000.00
8065	800000	Canton Ventilation Building – Existing Plumbing Relocation	LS	1	\$28,702.22	\$28,702.22	\$180,000.00	\$180,000.00
8066	800000	Fairfield Ventilation Building – 700MHz Equipment Relocation	AL	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
8067	800000	800MHz Equipment Relocation	AL	1	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00
8068	800000	Floor Penetration	EA	42	\$138.82	\$5,830.44	\$6,000.00	\$252,000.00
8069	800000	Fan Shutdown, Startup, and Re-commissioning Coordination	AL	1	\$300,000.00	\$300,000.00	\$300,000.00	\$300,000.00
8070	800000	Flood Sandbagging	AL	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
8071	800000	Rooftop Unistrut Support System	LS	1	\$111,059.52	\$111,059.52	\$450,000.00	\$450,000.00
8072	800000	Existing Switchgear Maintenance Prior to Replacement	AL	1	\$200,000.00	\$200,000.00	\$200,000.00	\$200,000.00
8073	800000	3 Way Duct Bank and Handhole with 1 - 4" and 2 - 1" Schedule 40 PVC Conduits	LF	50	\$86.77	\$4,338.50	\$375.00	\$18,750.00
8074	800000	Fire Alarm System for Canton and Fairfield Vent Buildings	LS	1	\$57,843.50	\$57,843.50	\$148,000.00	\$148,000.00
8075	800000	Fairfield Ventilation Building Envelope Replacement – Access Control	LS	1	\$20,823.66	\$20,823.66	\$49,000.00	\$49,000.00
8076	800000	Canton Ventilation Building Envelope Replacement – Access Control	LS	1	\$20,823.66	\$20,823.66	\$50,000.00	\$50,000.00
8077	800000	75KVA Temporary Transformers	EA	2	\$6,941.22	\$13,882.44	\$28,000.00	\$56,000.00
8078	800000	NEMA 7 FVNR Combination Starter with NEMA 12 Enclosure	EA	32	\$47,894.42	\$1,532,621.44	\$43,000.00	\$1,376,000.00
<b>TOTAL:</b>						<b>\$54,550,357.21</b>		<b>\$66,524,800.00</b>

Maryland Transportation Authority  
 Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel Vent Buildings  
 Contract Number: HT-2709-0000  
 Bid Date: April 21, 2022

**Bid Tabulation**

Engineer's Estimate  
 W.M. Schlosser Company, Inc.

ITEM NO.	CAT CODE	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1001	110100	Clearing & Grubbing	LS	1	\$8,995.82	\$8,995.82	\$200,000.00	\$200,000.00
1002	110360	Type C Engineers Office	LS	1	\$179,916.00	\$179,916.00	\$165,000.00	\$165,000.00
1003	120784	Temporary Orange Construction Fence	LF	2400	\$7.19	\$17,256.00	\$5.00	\$12,000.00
1004	120786	Remove and Reset Temporary Orange Construction Fence	LF	2400	\$6.29	\$15,096.00	\$4.00	\$9,600.00
1005	130840	Construction Stakeout	LS	1	\$21,331.01	\$21,331.01	\$35,000.00	\$35,000.00
1006	130875	Mobilization and Demobilization	LS	1	\$467,782.70	\$467,782.70	\$1,700,000.00	\$1,700,000.00
1007	131010	Type B - Critical Path Method (CPM) Schedule for Typical Projects	LS	1	\$17,991.64	\$17,991.64	\$75,000.00	\$75,000.00
1008	100000	Partnering	AL	1	\$18,000.00	\$18,000.00	\$18,000.00	\$18,000.00
1009	100000	Operations & Maintenance and Warranty Manuals	LS	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
1010	100000	Escrow Bid Documentation	LS	1	\$10,000.00	\$10,000.00	\$18,000.00	\$18,000.00
2001	201030	Class 1 Excavation	CY	605	\$115.69	\$69,992.45	\$70.00	\$42,350.00
2002	200000	Site Concrete Removal	SF	2200	\$5.56	\$12,232.00	\$15.00	\$33,000.00
2003	210025	Removal of Existing Pavement	CY	150	\$1,474.00	\$221,100.00	\$300.00	\$45,000.00
3001		Item Deleted				\$0.00	\$0.00	\$0.00
3002	302415	15 Inch Reinforced Concrete Pipe, Class IV	LF	8	\$310.21	\$2,481.68	\$250.00	\$2,000.00
3003	302430	30 Inch Reinforced Concrete Pipe, Class IV	LF	66	\$590.34	\$38,962.44	\$300.00	\$19,800.00
3004	374021	Shallow 10 FT COG Inlet - Minimum Depth	EA	1	\$13,587.51	\$13,587.51	\$8,000.00	\$8,000.00
3005	380610	60 Inch Diameter Manhole for 27 Inch to 36 Inch Pipes - Minimum Depth	EA	2	\$12,095.12	\$24,190.24	\$7,000.00	\$14,000.00
3006	300000	Stormwater Management Pre-Engineered Biofiltration System	LS	1	\$43,449.81	\$43,449.81	\$45,000.00	\$45,000.00
3007	390665	Stormwater Management Facility As-Built Certification	LS	1	\$9,445.61	\$9,445.61	\$10,000.00	\$10,000.00
4001	400000	Structural Demolition Trench 2'x2.5'	EA	16	\$1,966.68	\$31,466.88	\$810.00	\$13,360.00
4002	400000	Structural Demolition Trench Walls	EA	16	\$578.44	\$9,255.04	\$860.00	\$13,760.00
4003	400000	New Pads for Equipment Supports	CF	1500	\$57.85	\$86,775.00	\$94.00	\$141,000.00
4004	400000	Steel Plates with Handles	EA	16	\$694.12	\$11,105.92	\$5,000.00	\$80,000.00
4005	400000	Steel Beams W4x13	LF	220	\$69.41	\$15,270.20	\$100.00	\$22,000.00
4006	400000	Steel Decking	LS	1	\$11,364.84	\$11,364.84	\$125,000.00	\$125,000.00
4007	400000	Fairfield Ventilation Building Envelope Replacement - New Fire Pump	LS	1	\$219,805.30	\$219,805.30	\$365,000.00	\$365,000.00
4008	400000	Canton Ventilation Building Envelope Replacement - New Fire Pump	LS	1	\$219,805.30	\$219,805.30	\$350,000.00	\$350,000.00
4009	400000	Canton Ventilation Building Envelope Replacement - New Building Addition	LS	1	\$677,278.54	\$677,278.54	\$850,000.00	\$850,000.00
4010	400000	Fairfield Ventilation Building Envelope Replacement - Precast Concrete Panels	LS	1	\$7,745,000.00	\$7,745,000.00	\$10,000,000.00	\$10,000,000.00
4011	400000	Canton Ventilation Building Envelope Replacement - Precast Concrete Panels	LS	1	\$8,645,000.00	\$8,645,000.00	\$11,684,518.00	\$11,684,518.00
4012	400000	Fairfield Ventilation Building Envelope Replacement - Architectural Louvers	LS	1	\$1,110,208.52	\$1,110,208.52	\$1,086,000.00	\$1,086,000.00
4013	400000	Canton Ventilation Building Envelope Replacement - Architectural Louvers	LS	1	\$1,110,208.52	\$1,110,208.52	\$1,086,000.00	\$1,086,000.00
4014	400000	Fairfield Ventilation Building Envelope Replacement - Roof Replacement	LS	1	\$437,243.58	\$437,243.58	\$1,075,000.00	\$1,075,000.00
4015	400000	Canton Ventilation Building Envelope Replacement - Roof Replacement	LS	1	\$437,243.58	\$437,243.58	\$1,075,000.00	\$1,075,000.00
4016	400000	Fairfield Ventilation Building Envelope Replacement - New Egress Stair	LS	1	\$167,465.57	\$167,465.57	\$270,000.00	\$270,000.00
4017	400000	Canton Ventilation Building Envelope Replacement - New Egress Stair	LS	1	\$199,762.26	\$199,762.26	\$360,000.00	\$360,000.00
4018	400000	Fairfield Ventilation Building Envelope Replacement - New Freight Elevator	LS	1	\$563,377.93	\$563,377.93	\$975,000.00	\$975,000.00
4019	400000	Canton Ventilation Building Envelope Replacement - New Freight Elevator	LS	1	\$574,567.33	\$574,567.33	\$975,000.00	\$975,000.00
4020	400000	Concrete Spall Repair	SF	1113	\$81.01	\$90,164.13	\$300.00	\$333,900.00
4021	400000	Concrete Crack Repair	LF	26	\$389.14	\$10,117.64	\$300.00	\$7,800.00
4022	400000	Cast-In-Place Concrete	LS	1	\$509,666.52	\$509,666.52	\$115,000.00	\$115,000.00
4023	400000	Concrete Masonry	LS	1	\$37,038.41	\$37,038.41	\$55,000.00	\$55,000.00
4024	400000	Structural Steel Framing	LS	1	\$1,253,791.08	\$1,253,791.08	\$2,500,000.00	\$2,500,000.00
4025	400000	Roof Drains	EA	32	\$1,606.15	\$51,396.80	\$2,500.00	\$80,000.00
4026	400000	4" Drainage Piping: Demolition and New	LF	1200	\$148.10	\$177,720.00	\$200.00	\$240,000.00
4027	400000	6" Drainage Piping: Demolition and New	LF	560	\$172.70	\$96,712.00	\$100.00	\$56,000.00
4028	400000	8" Drainage Piping: Demolition and New	LF	480	\$245.75	\$117,960.00	\$138.00	\$66,240.00
4029	400000	Steel Joist Framing	LS	1	\$5,820.82	\$5,820.82	\$56,000.00	\$56,000.00
4030	400000	Auger Cast Piles	LS	1	\$86,519.79	\$86,519.79	\$162,000.00	\$162,000.00
4031	400000	Fairfield Ventilation Building Envelope Replacement - Evase Stack Cladding	LS	1	\$255,986.10	\$255,986.10	\$1,100,000.00	\$1,100,000.00
4032	400000	Canton Ventilation Building Envelope Replacement - Evase Stack Cladding	LS	1	\$255,986.10	\$255,986.10	\$1,200,000.00	\$1,200,000.00
4033	400000	Fairfield Ventilation Building Envelope Replacement - Existing Quatermaster Building	LS	1	\$68,434.76	\$68,434.76	\$850,000.00	\$850,000.00
4034	400000	Fairfield Ventilation Building Envelope Replacement - Remove Existing Façade	LS	1	\$320,228.82	\$320,228.82	\$675,000.00	\$675,000.00
4035	400000	Canton Ventilation Building Envelope Replacement - Remove Existing Façade	LS	1	\$320,228.82	\$320,228.82	\$675,000.00	\$675,000.00
4036	400000	2" Drainage Piping: Demolition and New	LF	380	\$126.34	\$48,009.20	\$66.00	\$25,080.00
4037	400000	3" Drainage Piping: Demolition and New	LF	200	\$134.66	\$26,932.00	\$180.00	\$36,000.00
4038	400000	5" Drainage Piping: Demolition and New	LF	360	\$159.64	\$57,470.40	\$123.00	\$44,280.00
4039	400000	Demolition of 1" Thick Floor Finish Under New Pads	SF	2200	\$5.79	\$12,738.00	\$8.00	\$17,600.00
5001	504530	Superpave Asphalt Mix 12.5MM For Surface, PG 64S-22, Level 2	TON	64	\$166.24	\$10,639.36	\$375.00	\$24,000.00

## Maryland Transportation Authority

Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel Vent Buildings

5002	504560	Superpave Asphalt Mix 19.0MM For Base, PG 64S-22, Level 2	TON	224	\$226.70	\$50,780.80	\$150.00	\$33,600.00
5003	520113	6 Inch Graded Aggregate Base Course	SY	570	\$37.79	\$21,540.30	\$22.00	\$12,540.00
5004	504564	Superpave Asphalt Mix 19.0MM For Full-Depth Patch, PG 64S-22, Level 2	TON	1	\$236.14	\$236.14	\$3,000.00	\$3,000.00
5005	508003	Standard Milling Asphalt Pavement Over 1 Inch To 2.5 Inch Depth	SY	6700	\$11.34	\$75,978.00	\$4.00	\$26,800.00
6001	600000	Bollards	EA	8	\$1,416.84	\$11,334.72	\$1,900.00	\$15,200.00
6002	634344	Standard Type D Combination Curb and Gutter 12 Inch Gutter Pan 8 Inch Minimum Depth	LF	650	\$22.67	\$14,735.50	\$81.00	\$52,650.00
6003	655105	5 Inch Concrete Sidewalk	SF	2110	\$18.89	\$39,857.90	\$19.00	\$40,090.00
6004	690126	8 Foot Galvanized Chain Link Fence	LF	820	\$40.62	\$33,308.40	\$80.00	\$65,600.00
6005	691286	Terminal Post for 8 Foot Galvanized Chain Link Fence	EA	82	\$415.60	\$34,079.20	\$275.00	\$22,550.00
7001	704345	Placing Furnished Topsoil 4 Inch Depth	SY	1000	\$18.89	\$18,890.00	\$28.00	\$28,000.00
7002		Item Deleted				\$0.00	\$0.00	\$0.00
7003	705565	Refertilizing	SY	200	\$0.95	\$190.00	\$5.00	\$1,000.00
7004	708220	Turfgrass Sod Establishment	SY	100	\$9.44	\$944.00	\$25.00	\$2,500.00
7005	709140	Type E Soil Stabilization Matting	SY	100	\$10.38	\$1,038.00	\$15.00	\$1,500.00
7006	700000	Permanent Seed	SY	1000	\$1.88	\$1,880.00	\$7.00	\$7,000.00
8001	800000	Demolition of switchgear line-ups, switchboards, transformers, cables, conduits, etc	LS	1	\$289,217.50	\$289,217.50	\$63,000.00	\$63,000.00
8002	800000	Hazardous Material Abatement and Lead Paint Treatment	LS	1	\$826,044.95	\$826,044.95	\$600,000.00	\$600,000.00
8003	800000	Temporary Power 400A Circuit Breaker at Available Feeder Breaker Unit	EA	2	\$6,623.08	\$13,246.16	\$6,000.00	\$12,000.00
8004	800000	Temporary Power Feeders in Flexible Metallic Conduit	LS	1	\$83,294.64	\$83,294.64	\$190,000.00	\$190,000.00
8005	800000	Temporary Power 400A MLO, 600V, 3 Ph, 4W Temporary Panelboard	EA	2	\$7,519.66	\$15,039.32	\$190,000.00	\$380,000.00
8006	800000	Temporary Power 225A MCB, 208V, 3 Ph, 4W Panelboard	EA	2	\$7,519.66	\$15,039.32	\$190,000.00	\$380,000.00
8007	800000	Unit Substation including MV Load Break Switches, Transformers, LV Sections	EA	4	\$1,850,992.00	\$7,403,968.00	\$1,400,000.00	\$5,600,000.00
8008	800000	600V 3000A Bus 30'	EA	8	\$69,412.20	\$555,297.60	\$65,000.00	\$520,000.00
8009	800000	600V Motor Control Center with NEMA 12 Enclosure	EA	8	\$155,483.33	\$1,243,866.64	\$185,000.00	\$1,480,000.00
8010	800000	75KVA Non-Ventilated Transformer	EA	8	\$13,535.38	\$108,283.04	\$35,000.00	\$280,000.00
8011	800000	208V Motor Control Center with NEMA 12 Enclosure	EA	4	\$56,426.34	\$225,705.36	\$40,000.00	\$160,000.00
8012	800000	Digital Power Meter	EA	8	\$6,362.79	\$50,902.32	\$15,000.00	\$120,000.00
8013	800000	Medium Voltage 15KV MV-105 3/C #1/0, 3/C #8 Ground	LF	600	\$12.32	\$7,392.00	\$110.00	\$66,000.00
8014	800000	Medium Voltage 15KV MV-105 3/C #2/0, 3/C #8 Ground	LF	230	\$13.88	\$3,192.40	\$209.00	\$48,070.00
8015	800000	#10 XHHW/XHHW-2	LF	9600	\$1.16	\$11,136.00	\$6.00	\$57,600.00
8016	800000	#8 XHHW/XHHW-2	LF	2400	\$1.39	\$3,336.00	\$8.00	\$19,200.00
8017	800000	#6 XHHW/XHHW-2	LF	7740	\$2.08	\$16,099.20	\$11.00	\$85,140.00
8018	800000	#4 XHHW/XHHW-2	LF	4800	\$2.43	\$11,664.00	\$15.00	\$72,000.00
8019	800000	#3 XHHW/XHHW-2	LF	1200	\$2.89	\$3,468.00	\$22.00	\$26,400.00
8020	800000	#1/0 XHHW/XHHW-2	LF	800	\$4.97	\$3,976.00	\$33.00	\$26,400.00
8021	800000	#3/0 XHHW/XHHW-2	LF	10380	\$6.94	\$72,037.20	\$45.00	\$467,100.00
8022	800000	#4/0 XHHW/XHHW-2	LF	355	\$8.38	\$2,974.90	\$52.00	\$18,460.00
8023	800000	400 KCMIL XHHW/XHHW-2	LF	20760	\$14.47	\$300,397.20	\$71.00	\$1,473,960.00
8024	800000	500 KCMIL XHHW/XHHW-2	LF	1000	\$16.19	\$16,190.00	\$172.00	\$172,000.00
8025	800000	350 KCMIL XHHW/XHHW-2	LF	1600	\$11.57	\$18,512.00	\$63.00	\$100,800.00
8026	800000	#2 Ground	LF	400	\$2.89	\$1,156.00	\$6.00	\$2,400.00
8027	800000	#10 Ground	LF	4780	\$0.92	\$4,397.60	\$2.00	\$9,560.00
8028	800000	#8 Ground	LF	400	\$1.28	\$512.00	\$3.00	\$1,200.00
8029	800000	#6 Ground	LF	3320	\$1.39	\$4,614.80	\$3.00	\$9,960.00
8030	800000	#1 Ground	LF	6630	\$3.48	\$23,072.40	\$6.00	\$39,780.00
8031	800000	#4/0 Ground	LF	500	\$8.10	\$4,050.00	\$25.00	\$12,500.00
8032	800000	Control Wires	LS	1	\$46,274.80	\$46,274.80	\$26,100.00	\$26,100.00
8033	800000	2" RGS Conduit	LF	1200	\$30.07	\$36,084.00	\$54.00	\$64,800.00
8034	800000	2-1/2" RGS Conduit	LF	355	\$40.49	\$14,373.95	\$77.00	\$27,335.00
8035	800000	4" RGS Conduit	LF	1900	\$69.41	\$131,879.00	\$11.00	\$20,900.00
8036	800000	1-1/2" RGS Conduit	LF	600	\$25.45	\$15,270.00	\$47.00	\$28,200.00
8037	800000	1-1/4" RGS Conduit	LF	1000	\$24.30	\$24,300.00	\$39.00	\$39,000.00
8038	800000	1" RGS Conduit	LF	500	\$21.98	\$10,990.00	\$31.00	\$15,500.00
8039	800000	3/4" RGS Conduit	LF	400	\$17.36	\$6,944.00	\$23.00	\$9,200.00
8040	800000	Medium Voltage Pull Box 48"x16"x10"	EA	17	\$1,110.59	\$18,880.03	\$109.00	\$1,853.00
8041	800000	3-1/2" RGS Conduit	LF	1000	\$63.62	\$63,620.00	\$165.00	\$165,000.00
8042	800000	Hangers and Supports	LS	1	\$34,706.10	\$34,706.10	\$43,214.00	\$43,214.00
8043	800000	Free-Standing, 4 Pole, 208V, 250A, Automatic Transfer Switch with NEMA 12 Enclosure	EA	4	\$45,117.93	\$180,471.72	\$9,000.00	\$36,000.00
8044	800000	208V, 250A, 3 Pole Heavy-Duty, NEMA 4X Stainless Steel, Fused Disconnect Switch	EA	8	\$28,921.75	\$231,374.00	\$9,000.00	\$72,000.00
8045	800000	2 Way Ductbank with 2 - 5" Schedule 40 PVC Conduits	LF	100	\$69.41	\$6,941.00	\$525.00	\$52,500.00
8046	800000	4 Way Ductbank with 4 - 5" Schedule 40 PVC Conduits	LF	45	\$100.65	\$4,529.25	\$800.00	\$36,000.00
8047	800000	#2/0 Ground	LF	1800	\$6.94	\$12,492.00	\$9.00	\$16,200.00
8048	800000	Fan Control Cabinet	EA	8	\$17,353.05	\$138,824.40	\$90,000.00	\$72,000.00
8049	800000	MV Switchgears w/ DC Battery Systems and MV Busways - Canton and Fairfield	LS	1	\$2,313,740.00	\$2,313,740.00	\$2,200,000.00	\$2,200,000.00
8050	800000	Cabinet for MCC Wiring	EA	8	\$2,313.74	\$18,509.92	\$57,000.00	\$456,000.00
8051	800000	Grounding System includes Ground Rods, Conductors and Ground Buses, Etc.	LS	1	\$57,843.50	\$57,843.50	\$10,000.00	\$10,000.00
8052	800000	Kapsch TrafficCom USA Inc. Integration, Testing and Updating DYNAC System	AL	1	\$350,000.00	\$350,000.00	\$350,000.00	\$350,000.00

Maryland Transportation Authority

Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel Vent Buildings

8053	800000	Testing and Commissioning All New and Interfaced Equipment	LS	1	\$57,843.50	\$57,843.50	\$456,000.00	\$456,000.00
8054	800000	Short Circuit, Coordination, Arc Flash Studies and Labels	LS	1	\$57,843.50	\$57,843.50	\$15,000.00	\$15,000.00
8055	800000	Miscellaneous Construction	AL	1	\$4,090,000.00	\$4,090,000.00	\$4,090,000.00	\$4,090,000.00
8056	800000	Two inch (2"), Schedule 40 PVC Pipe @ Thirty Foot (30') Height	LF	500	\$38.06	\$19,030.00	\$25.00	\$12,500.00
8057	800000	Two inch (2"), Schedule 80 High-Impact/Pressure PVC Pipe	LF	100	\$40.60	\$4,060.00	\$100.00	\$10,000.00
8058	800000	Sixteen Gauge (16-ga) Stainless Steel Drain Pan, Type 304, w/Reinforcement @ Thirty Foot (30') Height	SF	1360	\$179.31	\$243,861.60	\$130.00	\$176,800.00
8059	800000	Multi-Zone Leak-Detection System (6 zones, 1 monitoring panel, wiring & conduit)	EA	2	\$13,882.44	\$27,764.88	\$65,000.00	\$130,000.00
8060	800000	Fairfield Ventilation Building – CCTV	LS	1	\$70,012.70	\$70,012.70	\$125,000.00	\$125,000.00
8061	800000	Canton Ventilation Building – CCTV	LS	1	\$68,447.90	\$68,447.90	\$125,000.00	\$125,000.00
8062	800000	Fairfield Ventilation Building – Electrical Work Associated with Exterior Envelope Replacement	LS	1	\$2,299,183.19	\$2,299,183.19	\$581,000.00	\$581,000.00
8063	800000	Canton Ventilation Building – Electrical Work Associated with Exterior Envelope Replacement	LS	1	\$2,299,183.19	\$2,299,183.19	\$580,000.00	\$580,000.00
8064	800000	Fairfield Ventilation Building – Existing Plumbing Relocation	LS	1	\$28,702.22	\$28,702.22	\$80,000.00	\$80,000.00
8065	800000	Canton Ventilation Building – Existing Plumbing Relocation	LS	1	\$28,702.22	\$28,702.22	\$80,000.00	\$80,000.00
8066	800000	Fairfield Ventilation Building – 700MHz Equipment Relocation	AL	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
8067	800000	800MHz Equipment Relocation	AL	1	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00
8068	800000	Floor Penetration	EA	42	\$138.82	\$5,830.44	\$600.00	\$25,200.00
8069	800000	Fan Shutdown, Startup, and Re-commissioning Coordination	AL	1	\$300,000.00	\$300,000.00	\$300,000.00	\$300,000.00
8070	800000	Flood Sandbagging	AL	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
8071	800000	Rooftop Unistrut Support System	LS	1	\$111,059.52	\$111,059.52	\$300,000.00	\$300,000.00
8072	800000	Existing Switchgear Maintenance Prior to Replacement	AL	1	\$200,000.00	\$200,000.00	\$200,000.00	\$200,000.00
8073	800000	3 Way Duct Bank and Handhole with 1 - 4" and 2 - 1" Schedule 40 PVC Conduits	LF	50	\$86.77	\$4,338.50	\$525.00	\$26,250.00
8074	800000	Fire Alarm System for Canton and Fairfield Vent Buildings	LS	1	\$57,843.50	\$57,843.50	\$90,000.00	\$90,000.00
8075	800000	Fairfield Ventilation Building Envelope Replacement – Access Control	LS	1	\$20,823.66	\$20,823.66	\$250,000.00	\$250,000.00
8076	800000	Canton Ventilation Building Envelope Replacement – Access Control	LS	1	\$20,823.66	\$20,823.66	\$250,000.00	\$250,000.00
8077	800000	75KVA Temporary Transformers	EA	2	\$6,941.22	\$13,882.44	\$300,000.00	\$600,000.00
8078	800000	NEMA 7 FVNR Combination Starter with NEMA 12 Enclosure	EA	32	\$47,894.42	\$1,532,621.44	\$16,000.00	\$512,000.00
<b>TOTAL:</b>						<b>\$54,550,357.21</b>		<b>\$67,877,000.00</b>

Maryland Transportation Authority  
 Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel  
 Contract Number: HT-2709-0000  
 Bid Date: April 21, 2022

**Bid Tabulation**

Engineer's Estimate

Grunley Construction Company, Inc.

ITEM NO.	CAT CODE	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1001	110100	Clearing & Grubbing	LS	1	\$8,995.82	\$8,995.82	\$258,000.00	\$258,000.00
1002	110360	Type C Engineers Office	LS	1	\$179,916.00	\$179,916.00	\$167,000.00	\$167,000.00
1003	120784	Temporary Orange Construction Fence	LF	2400	\$7.19	\$17,256.00	\$5.00	\$12,000.00
1004	120786	Remove and Reset Temporary Orange Construction Fence	LF	2400	\$6.29	\$15,096.00	\$5.00	\$12,000.00
1005	130840	Construction Stakeout	LS	1	\$21,331.01	\$21,331.01	\$103,000.00	\$103,000.00
1006	130875	Mobilization and Demobilization	LS	1	\$467,782.70	\$467,782.70	\$792,000.00	\$792,000.00
1007	131010	Type B - Critical Path Method (CPM) Schedule for Typical Projects	LS	1	\$17,991.64	\$17,991.64	\$43,000.00	\$43,000.00
1008	100000	Partnering	AL	1	\$18,000.00	\$18,000.00	\$18,000.00	\$18,000.00
1009	100000	Operations & Maintenance and Warranty Manuals	LS	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
1010	100000	Escrow Bid Documentation	LS	1	\$10,000.00	\$10,000.00	\$11,000.00	\$11,000.00
2001	201030	Class 1 Excavation	CY	605	\$115.69	\$69,992.45	\$103.00	\$62,315.00
2002	200000	Site Concrete Removal	SF	2200	\$5.56	\$12,232.00	\$9.00	\$19,800.00
2003	210025	Removal of Existing Pavement	CY	150	\$1,474.00	\$221,100.00	\$144.00	\$21,600.00
3001		Item Deleted				\$0.00		\$0.00
3002	302415	15 Inch Reinforced Concrete Pipe, Class IV	LF	8	\$310.21	\$2,481.68	\$331.00	\$2,648.00
3003	302430	30 Inch Reinforced Concrete Pipe, Class IV	LF	66	\$590.34	\$38,962.44	\$461.00	\$30,426.00
3004	374021	Shallow 10 FT COG Inlet - Minimum Depth	EA	1	\$13,587.51	\$13,587.51	\$1,085.00	\$1,085.00
3005	380610	60 Inch Diameter Manhole for 27 Inch to 36 Inch Pipes - Minimum Depth	EA	2	\$12,000.00	\$24,190.24	\$18,993.00	\$37,986.00
3006	300000	Stormwater Management Pre-Engineered Biofiltration System	LS	1	\$43,449.81	\$43,449.81	\$139,000.00	\$139,000.00
3007	390665	Stormwater Management Facility As-Built Certification	LS	1	\$9,445.61	\$9,445.61	\$13,000.00	\$13,000.00
4001	400000	Structural Demolition Trench 2'x2.5'	EA	16	\$1,966.68	\$31,466.88	\$1,357.00	\$21,712.00
4002	400000	Structural Demolition Trench Walls	EA	16	\$578.44	\$9,255.04	\$1,357.00	\$21,712.00
4003	400000	New Pads for Equipment Supports	CF	1500	\$57.85	\$86,775.00	\$104.00	\$156,000.00
4004	400000	Steel Plates with Handles	EA	16	\$694.12	\$11,105.92	\$434.00	\$6,944.00
4005	400000	Steel Beams W4x13	LF	220	\$69.41	\$15,270.20	\$163.00	\$35,860.00
4006	400000	Steel Decking	LS	1	\$11,364.84	\$11,364.84	\$76,000.00	\$76,000.00
4007	400000	Fairfield Ventilation Building Envelope Replacement - New Fire Pump	LS	1	\$219,805.30	\$219,805.30	\$244,000.00	\$244,000.00
4008	400000	Canton Ventilation Building Envelope Replacement - New Fire Pump	LS	1	\$219,805.30	\$219,805.30	\$277,000.00	\$277,000.00
4009	400000	Canton Ventilation Building Envelope Replacement - New Building Addition	LS	1	\$677,278.54	\$677,278.54	\$1,844,000.00	\$1,844,000.00
4010	400000	Fairfield Ventilation Building Envelope Replacement - Precast Concrete Panels	LS	1	\$7,745,000.00	\$7,745,000.00	\$9,014,000.00	\$9,014,000.00
4011	400000	Canton Ventilation Building Envelope Replacement - Precast Concrete Panels	LS	1	\$8,645,000.00	\$8,645,000.00	\$9,060,000.00	\$9,060,000.00
4012	400000	Fairfield Ventilation Building Envelope Replacement - Architectural Louvers	LS	1	\$1,110,208.52	\$1,110,208.52	\$1,851,000.00	\$1,851,000.00
4013	400000	Canton Ventilation Building Envelope Replacement - Architectural Louvers	LS	1	\$1,110,208.52	\$1,110,208.52	\$1,852,000.00	\$1,852,000.00
4014	400000	Fairfield Ventilation Building Envelope Replacement - Roof Replacement	LS	1	\$437,243.58	\$437,243.58	\$1,289,000.00	\$1,289,000.00
4015	400000	Canton Ventilation Building Envelope Replacement - Roof Replacement	LS	1	\$437,243.58	\$437,243.58	\$1,271,000.00	\$1,271,000.00
4016	400000	Fairfield Ventilation Building Envelope Replacement - New Egress Stair	LS	1	\$167,465.57	\$167,465.57	\$421,000.00	\$421,000.00
4017	400000	Canton Ventilation Building Envelope Replacement - New Egress Stair	LS	1	\$199,762.26	\$199,762.26	\$413,000.00	\$413,000.00
4018	400000	Fairfield Ventilation Building Envelope Replacement - New Freight Elevator	LS	1	\$563,377.93	\$563,377.93	\$746,000.00	\$746,000.00
4019	400000	Canton Ventilation Building Envelope Replacement - New Freight Elevator	LS	1	\$574,567.33	\$574,567.33	\$699,000.00	\$699,000.00
4020	400000	Concrete Spall Repair	SF	1113	\$81.01	\$90,164.13	\$107.00	\$119,091.00
4021	400000	Concrete Crack Repair	LF	26	\$389.14	\$10,117.64	\$165.00	\$4,290.00
4022	400000	Cast-In-Place Concrete	LS	1	\$509,666.52	\$509,666.52	\$832,000.00	\$832,000.00
4023	400000	Concrete Masonry	LS	1	\$37,038.41	\$37,038.41	\$41,000.00	\$41,000.00
4024	400000	Structural Steel Framing	LS	1	\$1,253,791.08	\$1,253,791.08	\$1,701,000.00	\$1,701,000.00
4025	400000	Roof Drains	EA	32	\$1,606.15	\$51,396.80	\$1,040.00	\$33,280.00
4026	400000	4" Drainage Piping: Demolition and New	LF	1200	\$148.10	\$177,720.00	\$54.00	\$64,800.00
4027	400000	6" Drainage Piping: Demolition and New	LF	560	\$172.70	\$96,712.00	\$68.00	\$38,080.00
4028	400000	8" Drainage Piping: Demolition and New	LF	480	\$245.75	\$117,960.00	\$117.00	\$56,160.00
4029	400000	Steel Joist Framing	LS	1	\$5,820.82	\$5,820.82	\$2,000.00	\$2,000.00
4030	400000	Auger Cast Piles	LS	1	\$86,519.79	\$86,519.79	\$170,000.00	\$170,000.00
4031	400000	Fairfield Ventilation Building Envelope Replacement - Evase Stack Cladding	LS	1	\$255,986.10	\$255,986.10	\$1,479,000.00	\$1,479,000.00
4032	400000	Canton Ventilation Building Envelope Replacement - Evase Stack Cladding	LS	1	\$255,986.10	\$255,986.10	\$1,474,000.00	\$1,474,000.00
4033	400000	Fairfield Ventilation Building Envelope Replacement - Existing Quatermaster Building	LS	1	\$68,434.76	\$68,434.76	\$636,000.00	\$636,000.00
4034	400000	Fairfield Ventilation Building Envelope Replacement - Remove Existing Façade	LS	1	\$320,228.82	\$320,228.82	\$450,000.00	\$450,000.00
4035	400000	Canton Ventilation Building Envelope Replacement - Remove Existing Façade	LS	1	\$320,228.82	\$320,228.82	\$450,000.00	\$450,000.00
4036	400000	2" Drainage Piping: Demolition and New	LF	380	\$126.34	\$48,009.20	\$38.00	\$14,440.00
4037	400000	3" Drainage Piping: Demolition and New	LF	200	\$134.66	\$26,932.00	\$43.00	\$8,600.00
4038	400000	5" Drainage Piping: Demolition and New	LF	360	\$159.64	\$57,470.40	\$61.00	\$21,960.00
4039	400000	Demolition of 1" Thick Floor Finish Under New Pads	SF	2200	\$5.79	\$12,738.00	\$2.00	\$4,400.00
5001	504530	Superpave Asphalt Mix 12.5MM For Surface, PG 64S-22, Level 2	TON	64	\$166.24	\$10,639.36	\$228.00	\$14,592.00

Maryland Transportation Authority

Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel

5002	504560	Superpave Asphalt Mix 19.0MM For Base, PG 64S-22, Level 2	TON	224	\$226.70	\$50,780.80	\$195.00	\$43,680.00
5003	520113	6 Inch Graded Aggregate Base Course	SY	570	\$37.79	\$21,540.30	\$15.00	\$8,550.00
5004	504564	Superpave Asphalt Mix 19.0MM For Full-Depth Patch, PG 64S-22, Level 2	TON	1	\$236.14	\$236.14	\$244.00	\$244.00
5005	508003	Standard Milling Asphalt Pavement Over 1 Inch To 2.5 Inch Depth	SY	6700	\$11.34	\$75,978.00	\$3.00	\$20,100.00
6001	600000	Bollards	EA	8	\$1,416.84	\$11,334.72	\$1,549.00	\$12,392.00
6002	634344	Standard Type D Combination Curb and Gutter 12 Inch Gutter Pan 8 Inch Minimum Depth	LF	650	\$22.67	\$14,735.50	\$31.00	\$20,150.00
6003	655105	5 Inch Concrete Sidewalk	SF	2110	\$18.89	\$39,857.90	\$11.00	\$23,210.00
6004	690126	8 Foot Galvanized Chain Link Fence	LF	820	\$40.62	\$33,308.40	\$85.00	\$69,700.00
6005	691286	Terminal Post for 8 Foot Galvanized Chain Link Fence	EA	82	\$415.60	\$34,079.20	\$1,284.00	\$105,288.00
7001	704345	Placing Furnished Topsoil 4 Inch Depth	SY	1000	\$18.89	\$18,890.00	\$12.00	\$12,000.00
7002		Item Deleted				\$0.00	\$0.00	\$0.00
7003	705565	Refertilizing	SY	200	\$0.95	\$190.00	\$1.00	\$200.00
7004	708220	Turfgrass Sod Establishment	SY	100	\$9.44	\$944.00	\$17.00	\$1,700.00
7005	709140	Type E Soil Stabilization Matting	SY	100	\$10.38	\$1,038.00	\$7.00	\$700.00
7006	700000	Permanent Seed	SY	1000	\$1.88	\$1,880.00	\$3.00	\$3,000.00
8001	800000	Demolition of switchgear line-ups, switchboards, transformers, cables, conduits, etc	LS	1	\$289,217.50	\$289,217.50	\$644,000.00	\$644,000.00
8002	800000	Hazardous Material Abatement and Lead Paint Treatment	LS	1	\$826,044.95	\$826,044.95	\$446,000.00	\$446,000.00
8003	800000	Temporary Power 400A Circuit Breaker at Available Feeder Breaker Unit	EA	2	\$6,623.08	\$13,246.16	\$3,273.00	\$6,546.00
8004	800000	Temporary Power Feeders in Flexible Metallic Conduit	LS	1	\$83,294.64	\$83,294.64	\$67,000.00	\$67,000.00
8005	800000	Temporary Power 400A MLO, 600V, 3 Ph, 4W Temporary Panelboard	EA	2	\$7,519.66	\$15,039.32	\$15,039.00	\$3,010.00
8006	800000	Temporary Power 225A MCB, 208V, 3 Ph, 4W Panelboard	EA	2	\$7,519.66	\$15,039.32	\$1,100.00	\$2,200.00
8007	800000	Unit Substation including MV Load Break Switches, Transformers, LV Sections	EA	4	\$1,850,992.00	\$7,403,968.00	\$1,304,456.00	\$5,217,824.00
8008	800000	600V 3000A Bus 30'	EA	8	\$69,412.20	\$555,297.60	\$163,338.00	\$1,306,704.00
8009	800000	600V Motor Control Center with NEMA 12 Enclosure	EA	8	\$155,483.33	\$1,243,866.64	\$290,859.00	\$2,326,872.00
8010	800000	75KVA Non-Ventilated Transformer	EA	8	\$13,535.38	\$108,283.04	\$4,092.00	\$32,736.00
8011	800000	208V Motor Control Center with NEMA 12 Enclosure	EA	4	\$56,426.34	\$225,705.36	\$17,557.00	\$70,228.00
8012	800000	Digital Power Meter	EA	8	\$6,362.79	\$50,902.32	\$2,120.00	\$16,960.00
8013	800000	Medium Voltage 15KV MV-105 3/C #1/0, 3/C #8 Ground	LF	600	\$12.32	\$7,392.00	\$13.00	\$7,800.00
8014	800000	Medium Voltage 15KV MV-105 3/C #2/0, 3/C #8 Ground	LF	230	\$13.88	\$3,192.40	\$9.00	\$2,070.00
8015	800000	#10 XHHW/XHHW-2	LF	9600	\$1.16	\$11,136.00	\$2.00	\$19,200.00
8016	800000	#8 XHHW/XHHW-2	LF	2400	\$1.39	\$3,336.00	\$2.00	\$4,800.00
8017	800000	#6 XHHW/XHHW-2	LF	7740	\$2.08	\$16,099.20	\$2.00	\$15,480.00
8018	800000	#4 XHHW/XHHW-2	LF	4800	\$2.43	\$11,664.00	\$3.00	\$14,400.00
8019	800000	#3 XHHW/XHHW-2	LF	1200	\$2.89	\$3,468.00	\$3.00	\$3,600.00
8020	800000	#1/0 XHHW/XHHW-2	LF	800	\$4.97	\$3,976.00	\$5.00	\$4,000.00
8021	800000	#3/0 XHHW/XHHW-2	LF	10380	\$6.94	\$72,037.20	\$9.00	\$93,420.00
8022	800000	#4/0 XHHW/XHHW-2	LF	355	\$8.38	\$2,974.90	\$11.00	\$3,905.00
8023	800000	400 KCMIL XHHW/XHHW-2	LF	20760	\$14.47	\$300,397.20	\$18.00	\$373,680.00
8024	800000	500 KCMIL XHHW/XHHW-2	LF	1000	\$16.19	\$16,190.00	\$23.00	\$23,000.00
8025	800000	350 KCMIL XHHW/XHHW-2	LF	1600	\$11.57	\$18,512.00	\$16.00	\$25,600.00
8026	800000	#2 Ground	LF	400	\$2.89	\$1,156.00	\$3.00	\$1,200.00
8027	800000	#10 Ground	LF	4780	\$0.92	\$4,397.60	\$1.00	\$4,780.00
8028	800000	#8 Ground	LF	400	\$1.28	\$512.00	\$1.00	\$400.00
8029	800000	#6 Ground	LF	3320	\$1.39	\$4,614.80	\$1.00	\$3,320.00
8030	800000	#1 Ground	LF	6630	\$3.48	\$23,072.40	\$5.00	\$33,150.00
8031	800000	#4/0 Ground	LF	500	\$8.10	\$4,050.00	\$9.00	\$4,500.00
8032	800000	Control Wires	LS	1	\$46,274.80	\$46,274.80	\$67,000.00	\$67,000.00
8033	800000	2" RGS Conduit	LF	1200	\$30.07	\$36,084.00	\$29.00	\$34,800.00
8034	800000	2-1/2" RGS Conduit	LF	355	\$40.49	\$14,373.95	\$49.00	\$17,395.00
8035	800000	4" RGS Conduit	LF	1900	\$69.41	\$131,879.00	\$81.00	\$153,900.00
8036	800000	1-1/2" RGS Conduit	LF	600	\$25.45	\$15,270.00	\$24.00	\$14,400.00
8037	800000	1-1/4" RGS Conduit	LF	1000	\$24.30	\$24,300.00	\$24.00	\$24,000.00
8038	800000	1" RGS Conduit	LF	500	\$21.98	\$10,990.00	\$15.00	\$7,500.00
8039	800000	3/4" RGS Conduit	LF	400	\$17.36	\$6,944.00	\$10.00	\$4,000.00
8040	800000	Medium Voltage Pull Box 48"x16"x10"	EA	17	\$1,110.59	\$18,880.03	\$3,786.00	\$64,362.00
8041	800000	3-1/2" RGS Conduit	LF	1000	\$63.62	\$63,620.00	\$100.00	\$100,000.00
8042	800000	Hangers and Supports	LS	1	\$34,706.10	\$34,706.10	\$309,000.00	\$309,000.00
8043	800000	Free-Standing, 4 Pole, 208V, 250A, Automatic Transfer Switch with NEMA 12 Enclosure	EA	4	\$45,117.93	\$180,471.72	\$11,902.00	\$47,608.00
8044	800000	208V, 250A, 3 Pole Heavy-Duty, NEMA 4X Stainless Steel, Fused Disconnect Switch	EA	8	\$28,921.75	\$231,374.00	\$8,711.00	\$69,688.00
8045	800000	2 Way Ductbank with 2 - 5" Schedule 40 PVC Conduits	LF	100	\$69.41	\$6,941.00	\$242.00	\$24,200.00
8046	800000	4 Way Ductbank with 4 - 5" Schedule 40 PVC Conduits	LF	45	\$100.65	\$4,529.25	\$315.00	\$14,175.00
8047	800000	#2/0 Ground	LF	1800	\$6.94	\$12,492.00	\$1.00	\$1,800.00
8048	800000	Fan Control Cabinet	EA	8	\$17,353.05	\$138,824.40	\$37,421.00	\$299,368.00
8049	800000	MV Switchgears w/ DC Battery Systems and MV Busways - Canton and Fairfield	LS	1	\$2,313,740.00	\$2,313,740.00	\$3,112,000.00	\$3,112,000.00
8050	800000	Cabinet for MCC Wiring	EA	8	\$2,313.74	\$18,509.92	\$15,325.00	\$122,600.00
8051	800000	Grounding System includes Ground Rods, Conductors and Ground Buses, Etc.	LS	1	\$57,843.50	\$57,843.50	\$98,000.00	\$98,000.00
8052	800000	Kapsch TrafficCom USA Inc. Integration, Testing and Updating DYNAC System	AL	1	\$350,000.00	\$350,000.00	\$350,000.00	\$350,000.00

Maryland Transportation Authority

Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel

8053	800000	Testing and Commissioning All New and Interfaced Equipment	LS	1	\$57,843.50	\$57,843.50	\$479,000.00	\$479,000.00
8054	800000	Short Circuit, Coordination, Arc Flash Studies and Labels	LS	1	\$57,843.50	\$57,843.50	\$42,000.00	\$42,000.00
8055	800000	Miscellaneous Construction	AL	1	\$4,090,000.00	\$4,090,000.00	\$4,090,000.00	\$4,090,000.00
8056	800000	Two inch (2"), Schedule 40 PVC Pipe @ Thirty Foot (30') Height	LF	500	\$38.06	\$19,030.00	\$20.00	\$10,000.00
8057	800000	Two inch (2"), Schedule 80 High-Impact/Pressure PVC Pipe	LF	100	\$40.60	\$4,060.00	\$25.00	\$2,500.00
8058	800000	Sixteen Gauge (16-ga) Stainless Steel Drain Pan, Type 304, w/Reinforcement @ Thirty Foot (30') Height	SF	1360	\$179.31	\$243,861.60	\$109.00	\$148,240.00
8059	800000	Multi-Zone Leak-Detection System (6 zones, 1 monitoring panel, wiring & conduit)	EA	2	\$13,882.44	\$27,764.88	\$49,110.00	\$98,220.00
8060	800000	Fairfield Ventilation Building – CCTV	LS	1	\$70,012.70	\$70,012.70	\$31,000.00	\$31,000.00
8061	800000	Canton Ventilation Building – CCTV	LS	1	\$68,447.90	\$68,447.90	\$28,000.00	\$28,000.00
8062	800000	Fairfield Ventilation Building – Electrical Work Associated with Exterior Envelope Replacement	LS	1	\$2,299,183.19	\$2,299,183.19	\$3,067,000.00	\$3,067,000.00
8063	800000	Canton Ventilation Building – Electrical Work Associated with Exterior Envelope Replacement	LS	1	\$2,299,183.19	\$2,299,183.19	\$3,430,000.00	\$3,430,000.00
8064	800000	Fairfield Ventilation Building – Existing Plumbing Relocation	LS	1	\$28,702.22	\$28,702.22	\$254,000.00	\$254,000.00
8065	800000	Canton Ventilation Building – Existing Plumbing Relocation	LS	1	\$28,702.22	\$28,702.22	\$273,000.00	\$273,000.00
8066	800000	Fairfield Ventilation Building – 700MHz Equipment Relocation	AL	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
8067	800000	800MHz Equipment Relocation	AL	1	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00
8068	800000	Floor Penetration	EA	42	\$138.82	\$5,830.44	\$213.00	\$8,946.00
8069	800000	Fan Shutdown, Startup, and Re-commissioning Coordination	AL	1	\$300,000.00	\$300,000.00	\$300,000.00	\$300,000.00
8070	800000	Flood Sandbagging	AL	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
8071	800000	Rooftop Unistrut Support System	LS	1	\$111,059.52	\$111,059.52	\$17,000.00	\$17,000.00
8072	800000	Existing Switchgear Maintenance Prior to Replacement	AL	1	\$200,000.00	\$200,000.00	\$200,000.00	\$200,000.00
8073	800000	3 Way Duct Bank and Handhole with 1 - 4" and 2 - 1" Schedule 40 PVC Conduits	LF	50	\$86.77	\$4,338.50	\$247.00	\$12,350.00
8074	800000	Fire Alarm System for Canton and Fairfield Vent Buildings	LS	1	\$57,843.50	\$57,843.50	\$47,000.00	\$47,000.00
8075	800000	Fairfield Ventilation Building Envelope Replacement – Access Control	LS	1	\$20,823.66	\$20,823.66	\$41,000.00	\$41,000.00
8076	800000	Canton Ventilation Building Envelope Replacement – Access Control	LS	1	\$20,823.66	\$20,823.66	\$29,000.00	\$29,000.00
8077	800000	75KVA Temporary Transformers	EA	2	\$6,941.22	\$13,882.44	\$4,121.00	\$8,242.00
8078	800000	NEMA 7 FVNR Combination Starter with NEMA 12 Enclosure	EA	32	\$47,894.42	\$1,532,621.44	\$15,957.00	\$510,624.00
<b>TOTAL:</b>						<b>\$54,550,357.21</b>		<b>\$68,169,998.00</b>

Maryland Transportation Authority  
 Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel  
 Contract Number: HT-2709-0000  
 Bid Date: April 21, 2022

**Bid Tabulation**

ITEM NO.	CAT CODE	DESCRIPTION	UNITS	QUANTITY	Engineer's Estimate		Kiewit Infrastructure Company	
					UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1001	110100	Clearing & Grubbing	LS	1	\$8,995.82	\$8,995.82	\$400,000.00	\$400,000.00
1002	110360	Type C Engineers Office	LS	1	\$179,916.00	\$179,916.00	\$1,300,000.00	\$1,300,000.00
1003	120784	Temporary Orange Construction Fence	LF	2400	\$7.19	\$17,256.00	\$33.00	\$79,200.00
1004	120786	Remove and Reset Temporary Orange Construction Fence	LF	2400	\$6.29	\$15,096.00	\$28.00	\$67,200.00
1005	130840	Construction Stakeout	LS	1	\$21,331.01	\$21,331.01	\$250,000.00	\$250,000.00
1006	130875	Mobilization and Demobilization	LS	1	\$467,782.70	\$467,782.70	\$2,383,230.00	\$2,383,230.00
1007	131010	Type B - Critical Path Method (CPM) Schedule for Typical Projects	LS	1	\$17,991.64	\$17,991.64	\$185,000.00	\$185,000.00
1008	100000	Partnering	AL	1	\$18,000.00	\$18,000.00	\$18,000.00	\$18,000.00
1009	100000	Operations & Maintenance and Warranty Manuals	LS	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
1010	100000	Escrow Bid Documentation	LS	1	\$10,000.00	\$10,000.00	\$45,000.00	\$45,000.00
2001	201030	Class 1 Excavation	CY	605	\$115.69	\$69,992.45	\$155.00	\$93,775.00
2002	200000	Site Concrete Removal	SF	2200	\$5.56	\$12,232.00	\$20.00	\$44,000.00
2003	210025	Removal of Existing Pavement	CY	150	\$1,474.00	\$221,100.00	\$132.00	\$19,800.00
3001		Item Deleted				\$0.00	\$0.00	\$0.00
3002	302415	15 Inch Reinforced Concrete Pipe, Class IV	LF	8	\$310.21	\$2,481.68	\$2,750.00	\$22,000.00
3003	302430	30 Inch Reinforced Concrete Pipe, Class IV	LF	66	\$590.34	\$38,962.44	\$300.00	\$19,800.00
3004	374021	Shallow 10 FT COG Inlet - Minimum Depth	EA	1	\$13,587.51	\$13,587.51	\$10,000.00	\$10,000.00
3005	380610	60 Inch Diameter Manhole for 27 Inch to 36 Inch Pipes - Minimum Depth	EA	2	\$12,095.12	\$24,190.24	\$10,000.00	\$20,000.00
3006	300000	Stormwater Management Pre-Engineered Biofiltration System	LS	1	\$43,449.81	\$43,449.81	\$125,000.00	\$125,000.00
3007	390665	Stormwater Management Facility As-Built Certification	LS	1	\$9,445.61	\$9,445.61	\$25,000.00	\$25,000.00
4001	400000	Structural Demolition Trench 2'x2.5'	EA	16	\$1,966.68	\$31,466.88	\$950.00	\$15,200.00
4002	400000	Structural Demolition Trench Walls	EA	16	\$578.44	\$9,255.04	\$1,000.00	\$16,000.00
4003	400000	New Pads for Equipment Supports	CF	1500	\$57.85	\$86,775.00	\$94.00	\$141,000.00
4004	400000	Steel Plates with Handles	EA	16	\$694.12	\$11,105.92	\$1,250.00	\$20,000.00
4005	400000	Steel Beams W4x13	LF	220	\$69.41	\$15,270.20	\$75.00	\$16,500.00
4006	400000	Steel Decking	LS	1	\$11,364.84	\$11,364.84	\$60,000.00	\$60,000.00
4007	400000	Fairfield Ventilation Building Envelope Replacement - New Fire Pump	LS	1	\$219,805.30	\$219,805.30	\$160,000.00	\$160,000.00
4008	400000	Canton Ventilation Building Envelope Replacement - New Fire Pump	LS	1	\$219,805.30	\$219,805.30	\$650,000.00	\$650,000.00
4009	400000	Canton Ventilation Building Envelope Replacement - New Building Addition	LS	1	\$677,278.54	\$677,278.54	\$1,200,000.00	\$1,200,000.00
4010	400000	Fairfield Ventilation Building Envelope Replacement - Precast Concrete Panels	LS	1	\$7,745,000.00	\$7,745,000.00	\$10,500,000.00	\$10,500,000.00
4011	400000	Canton Ventilation Building Envelope Replacement - Precast Concrete Panels	LS	1	\$8,645,000.00	\$8,645,000.00	\$11,000,000.00	\$11,000,000.00
4012	400000	Fairfield Ventilation Building Envelope Replacement - Architectural Louvers	LS	1	\$1,110,208.52	\$1,110,208.52	\$2,000,000.00	\$2,000,000.00
4013	400000	Canton Ventilation Building Envelope Replacement - Architectural Louvers	LS	1	\$1,110,208.52	\$1,110,208.52	\$2,000,000.00	\$2,000,000.00
4014	400000	Fairfield Ventilation Building Envelope Replacement - Roof Replacement	LS	1	\$437,243.58	\$437,243.58	\$1,500,000.00	\$1,500,000.00
4015	400000	Canton Ventilation Building Envelope Replacement - Roof Replacement	LS	1	\$437,243.58	\$437,243.58	\$1,500,000.00	\$1,500,000.00
4016	400000	Fairfield Ventilation Building Envelope Replacement - New Egress Stair	LS	1	\$167,465.57	\$167,465.57	\$350,000.00	\$350,000.00
4017	400000	Canton Ventilation Building Envelope Replacement - New Egress Stair	LS	1	\$199,762.26	\$199,762.26	\$400,000.00	\$400,000.00
4018	400000	Fairfield Ventilation Building Envelope Replacement - New Freight Elevator	LS	1	\$563,377.93	\$563,377.93	\$1,350,000.00	\$1,350,000.00
4019	400000	Canton Ventilation Building Envelope Replacement - New Freight Elevator	LS	1	\$574,567.33	\$574,567.33	\$1,070,000.00	\$1,070,000.00
4020	400000	Concrete Spall Repair	SF	1113	\$81.01	\$90,164.13	\$425.00	\$473,025.00
4021	400000	Concrete Crack Repair	LF	26	\$389.14	\$10,117.64	\$195.00	\$5,070.00
4022	400000	Cast-In-Place Concrete	LS	1	\$509,666.52	\$509,666.52	\$650,000.00	\$650,000.00
4023	400000	Concrete Masonry	LS	1	\$37,038.41	\$37,038.41	\$750,000.00	\$750,000.00
4024	400000	Structural Steel Framing	LS	1	\$1,253,791.08	\$1,253,791.08	\$1,250,000.00	\$1,250,000.00
4025	400000	Roof Drains	EA	32	\$1,606.15	\$51,396.80	\$750.00	\$24,000.00
4026	400000	4" Drainage Piping: Demolition and New	LF	1200	\$148.10	\$177,720.00	\$50.00	\$60,000.00
4027	400000	6" Drainage Piping: Demolition and New	LF	560	\$172.70	\$96,712.00	\$45.00	\$25,200.00
4028	400000	8" Drainage Piping: Demolition and New	LF	480	\$245.75	\$117,960.00	\$74.00	\$35,520.00
4029	400000	Steel Joist Framing	LS	1	\$5,820.82	\$5,820.82	\$50,000.00	\$50,000.00
4030	400000	Auger Cast Piles	LS	1	\$86,519.79	\$86,519.79	\$800,000.00	\$800,000.00
4031	400000	Fairfield Ventilation Building Envelope Replacement - Evase Stack Cladding	LS	1	\$255,986.10	\$255,986.10	\$1,600,000.00	\$1,600,000.00
4032	400000	Canton Ventilation Building Envelope Replacement - Evase Stack Cladding	LS	1	\$255,986.10	\$255,986.10	\$1,600,000.00	\$1,600,000.00
4033	400000	Fairfield Ventilation Building Envelope Replacement - Existing Quartermaster Building	LS	1	\$68,434.76	\$68,434.76	\$725,000.00	\$725,000.00
4034	400000	Fairfield Ventilation Building Envelope Replacement - Remove Existing Façade	LS	1	\$320,228.82	\$320,228.82	\$1,400,000.00	\$1,400,000.00
4035	400000	Canton Ventilation Building Envelope Replacement - Remove Existing Façade	LS	1	\$320,228.82	\$320,228.82	\$1,500,000.00	\$1,500,000.00
4036	400000	2" Drainage Piping: Demolition and New	LF	380	\$126.34	\$48,009.20	\$84.00	\$31,920.00
4037	400000	3" Drainage Piping: Demolition and New	LF	200	\$134.66	\$26,932.00	\$47.00	\$9,400.00
4038	400000	5" Drainage Piping: Demolition and New	LF	360	\$159.64	\$57,470.40	\$50.00	\$18,000.00

Maryland Transportation Authority

Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel

4039	400000	Demolition of 1" Thick Floor Finish Under New Pads	SF	2200	\$5.79	\$12,738.00	\$11.00	\$24,200.00
5001	504530	Superpave Asphalt Mix 12.5MM For Surface, PG 64S-22, Level 2	TON	64	\$166.24	\$10,639.36	\$200.00	\$12,800.00
5002	504560	Standard Type D Combination Curb and Gutter 12 Inch Gutter Pan 8 Inch Minimum Depth	TON	224	\$226.70	\$50,780.80	\$200.00	\$44,800.00
5003	520113	6 Inch Graded Aggregate Base Course	SY	570	\$37.79	\$21,540.30	\$36.00	\$20,520.00
5004	504564	Superpave Asphalt Mix 19.0MM For Full-Depth Patch, PG 64S-22, Level 2	TON	1	\$236.14	\$236.14	\$253.00	\$253.00
5005	508003	Standard Milling Asphalt Pavement Over 1 Inch To 2.5 Inch Depth	SY	6700	\$11.34	\$75,978.00	\$45.00	\$301,500.00
6001	600000	Bollards	EA	8	\$1,416.84	\$11,334.72	\$1,750.00	\$14,000.00
6002	634344	Standard Type D Combination Curb and Gutter 12 Inch Gutter Pan 8 Inch Minimum Depth	LF	650	\$22.67	\$14,735.50	\$43.00	\$27,950.00
6003	655105	5 Inch Concrete Sidewalk	SF	2110	\$18.89	\$39,857.90	\$21.00	\$44,310.00
6004	690126	8 Foot Galvanized Chain Link Fence	LF	820	\$40.62	\$33,308.40	\$207.00	\$169,740.00
6005	691286	Terminal Post for 8 Foot Galvanized Chain Link Fence	EA	82	\$415.60	\$34,079.20	\$34.00	\$2,788.00
7001	704345	Placing Furnished Topsoil 4 Inch Depth	SY	1000	\$18.89	\$18,890.00	\$6.00	\$6,000.00
7002		Item Deleted				\$0.00	\$0.00	\$0.00
7003	705565	Refertilizing	SY	200	\$0.95	\$190.00	\$2.00	\$400.00
7004	708220	Turfgrass Sod Establishment	SY	100	\$9.44	\$944.00	\$10.00	\$1,000.00
7005	709140	Type E Soil Stabilization Matting	SY	100	\$10.38	\$1,038.00	\$7.50	\$750.00
7006	700000	Permanent Seed	SY	1000	\$1.88	\$1,880.00	\$150.00	\$150,000.00
8001	800000	Demolition of switchgear line-ups, switchboards, transformers, cables, conduits, etc	LS	1	\$289,217.50	\$289,217.50	\$700,000.00	\$700,000.00
8002	800000	Hazardous Material Abatement and Lead Paint Treatment	LS	1	\$826,044.95	\$826,044.95	\$675,000.00	\$675,000.00
8003	800000	Temporary Power 400A Circuit Breaker at Available Feeder Breaker Unit	EA	2	\$6,623.08	\$13,246.16	\$15,000.00	\$30,000.00
8004	800000	Temporary Power Feeders in Flexible Metallic Conduit	LS	1	\$83,294.64	\$83,294.64	\$2,000,000.00	\$2,000,000.00
8005	800000	Temporary Power 400A MLO, 600V, 3 Ph, 4W Temporary Panelboard	EA	2	\$7,519.66	\$15,039.32	\$15,000.00	\$30,000.00
8006	800000	Temporary Power 225A MCB, 208V, 3 Ph, 4W Panelboard	EA	2	\$7,519.66	\$15,039.32	\$5,000.00	\$10,000.00
8007	800000	Unit Substation including MV Load Break Switches, Transformers, LV Sections	EA	4	\$1,850,992.00	\$7,403,968.00	\$1,500,000.00	\$6,000,000.00
8008	800000	600V 3000A Bus 30'	EA	8	\$69,412.20	\$555,297.60	\$11,000.00	\$88,000.00
8009	800000	600V Motor Control Center with NEMA 12 Enclosure	EA	8	\$155,483.33	\$1,243,866.64	\$550,000.00	\$4,400,000.00
8010	800000	75KVA Non-Ventilated Transformer	EA	8	\$13,535.38	\$108,283.04	\$5,000.00	\$40,000.00
8011	800000	208V Motor Control Center with NEMA 12 Enclosure	EA	4	\$56,426.34	\$225,705.36	\$50,000.00	\$200,000.00
8012	800000	Digital Power Meter	EA	8	\$6,362.79	\$50,902.32	\$4,500.00	\$36,000.00
8013	800000	Medium Voltage 15KV MV-105 3/C #1/0, 3/C #8 Ground	LF	600	\$12.32	\$7,392.00	\$25.00	\$15,000.00
8014	800000	Medium Voltage 15KV MV-105 3/C #2/0, 3/C #8 Ground	LF	230	\$13.88	\$3,192.40	\$28.00	\$6,440.00
8015	800000	#10 XHHW/XHHW-2	LF	9600	\$1.16	\$11,136.00	\$1.65	\$15,840.00
8016	800000	#8 XHHW/XHHW-2	LF	2400	\$1.39	\$3,336.00	\$2.10	\$5,040.00
8017	800000	#6 XHHW/XHHW-2	LF	7740	\$2.08	\$16,099.20	\$2.45	\$18,963.00
8018	800000	#4 XHHW/XHHW-2	LF	4800	\$2.43	\$11,664.00	\$3.12	\$14,976.00
8019	800000	#3 XHHW/XHHW-2	LF	1200	\$2.89	\$3,468.00	\$3.65	\$4,380.00
8020	800000	#1/0 XHHW/XHHW-2	LF	800	\$4.97	\$3,976.00	\$7.00	\$5,600.00
8021	800000	#3/0 XHHW/XHHW-2	LF	10380	\$6.94	\$72,037.20	\$9.00	\$93,420.00
8022	800000	#4/0 XHHW/XHHW-2	LF	355	\$8.38	\$2,974.90	\$11.00	\$3,905.00
8023	800000	400 KCMIL XHHW/XHHW-2	LF	20760	\$14.47	\$300,397.20	\$16.50	\$342,540.00
8024	800000	500 KCMIL XHHW/XHHW-2	LF	1000	\$16.19	\$16,190.00	\$23.00	\$23,000.00
8025	800000	350 KCMIL XHHW/XHHW-2	LF	1600	\$11.57	\$18,512.00	\$15.50	\$24,800.00
8026	800000	#2 Ground	LF	400	\$2.89	\$1,156.00	\$3.25	\$1,300.00
8027	800000	#10 Ground	LF	4780	\$0.92	\$4,397.60	\$0.85	\$4,063.00
8028	800000	#8 Ground	LF	400	\$1.28	\$512.00	\$1.25	\$500.00
8029	800000	#6 Ground	LF	3320	\$1.39	\$4,614.80	\$1.55	\$5,146.00
8030	800000	#1 Ground	LF	6630	\$3.48	\$23,072.40	\$3.70	\$24,531.00
8031	800000	#4/0 Ground	LF	500	\$8.10	\$4,050.00	\$9.00	\$4,500.00
8032	800000	Control Wires	LS	1	\$46,274.80	\$46,274.80	\$1,125,000.00	\$1,125,000.00
8033	800000	2" RGS Conduit	LF	1200	\$30.07	\$36,084.00	\$52.00	\$62,400.00
8034	800000	2-1/2" RGS Conduit	LF	355	\$40.49	\$14,373.95	\$87.00	\$30,885.00
8035	800000	4" RGS Conduit	LF	1900	\$69.41	\$131,879.00	\$100.00	\$190,000.00
8036	800000	1-1/2" RGS Conduit	LF	600	\$25.45	\$15,270.00	\$50.00	\$30,000.00
8037	800000	1-1/4" RGS Conduit	LF	1000	\$24.30	\$24,300.00	\$50.00	\$50,000.00
8038	800000	1" RGS Conduit	LF	500	\$21.98	\$10,990.00	\$45.00	\$22,500.00
8039	800000	3/4" RGS Conduit	LF	400	\$17.36	\$6,944.00	\$42.00	\$16,800.00
8040	800000	Medium Voltage Pull Box 48"x16"x10"	EA	17	\$1,110.59	\$18,880.03	\$3,750.00	\$63,750.00
8041	800000	3-1/2" RGS Conduit	LF	1000	\$63.62	\$63,620.00	\$100.00	\$100,000.00
8042	800000	Hangers and Supports	LS	1	\$34,706.10	\$34,706.10	\$800,000.00	\$800,000.00
8043	800000	Free-Standing, 4 Pole, 208V, 250A, Automatic Transfer Switch with NEMA 12 Enclosure	EA	4	\$45,117.93	\$180,471.72	\$10,000.00	\$40,000.00
8044	800000	208V, 250A, 3 Pole Heavy-Duty, NEMA 4X Stainless Steel, Fused Disconnect Switch	EA	8	\$28,921.75	\$231,374.00	\$10,000.00	\$80,000.00
8045	800000	2 Way Ductbank with 2 - 5" Schedule 40 PVC Conduits	LF	100	\$69.41	\$6,941.00	\$158.00	\$15,800.00
8046	800000	4 Way Ductbank with 4 - 5" Schedule 40 PVC Conduits	LF	45	\$100.65	\$4,529.25	\$366.00	\$16,470.00
8047	800000	#2/0 Ground	LF	1800	\$6.94	\$12,492.00	\$6.00	\$10,800.00
8048	800000	Fan Control Cabinet	EA	8	\$17,353.05	\$138,824.40	\$5,000.00	\$40,000.00

Maryland Transportation Authority

Contract Name: Envelope and Switchgear Replacements at Baltimore Harbor Tunnel

8049	800000	MV Switchgears w/ DC Battery Systems and MV Busways - Canton and Fairfield	LS	1	\$2,313,740.00	\$2,313,740.00	\$6,000,000.00	\$6,000,000.00
8050	800000	Cabinet for MCC Wiring	EA	8	\$2,313.74	\$18,509.92	\$5,000.00	\$40,000.00
8051	800000	Grounding System includes Ground Rods, Conductors and Ground Buses, Etc.	LS	1	\$57,843.50	\$57,843.50	\$150,000.00	\$150,000.00
8052	800000	Kapsch TrafficCom USA Inc. Integration, Testing and Updating DYNAC System	AL	1	\$350,000.00	\$350,000.00	\$350,000.00	\$350,000.00
8053	800000	Testing and Commissioning All New and Interfaced Equipment	LS	1	\$57,843.50	\$57,843.50	\$500,000.00	\$500,000.00
8054	800000	Short Circuit, Coordination, Arc Flash Studies and Labels	LS	1	\$57,843.50	\$57,843.50	\$25,000.00	\$25,000.00
8055	800000	Miscellaneous Construction	AL	1	\$4,090,000.00	\$4,090,000.00	\$4,090,000.00	\$4,090,000.00
8056	800000	Two inch (2"), Schedule 40 PVC Pipe @ Thirty Foot (30') Height	LF	500	\$38.06	\$19,030.00	\$40.00	\$20,000.00
8057	800000	Two inch (2"), Schedule 80 High-Impact/Pressure PVC Pipe	LF	100	\$40.60	\$4,060.00	\$40.00	\$4,000.00
8058	800000	Sixteen Gauge (16-ga) Stainless Steel Drain Pan, Type 304, w/Reinforcement @ Thirty Foot (30') Height	SF	1360	\$179.31	\$243,861.60	\$175.00	\$238,000.00
8059	800000	Multi-Zone Leak-Detection System (6 zones, 1 monitoring panel, wiring & conduit)	EA	2	\$13,882.44	\$27,764.88	\$22,000.00	\$44,000.00
8060	800000	Fairfield Ventilation Building – CCTV	LS	1	\$70,012.70	\$70,012.70	\$85,000.00	\$85,000.00
8061	800000	Canton Ventilation Building – CCTV	LS	1	\$68,447.90	\$68,447.90	\$60,000.00	\$60,000.00
8062	800000	Fairfield Ventilation Building – Electrical Work Associated with Exterior Envelope Replacement	LS	1	\$2,299,183.19	\$2,299,183.19	\$1,200,000.00	\$1,200,000.00
8063	800000	Canton Ventilation Building – Electrical Work Associated with Exterior Envelope Replacement	LS	1	\$2,299,183.19	\$2,299,183.19	\$1,200,000.00	\$1,200,000.00
8064	800000	Fairfield Ventilation Building – Existing Plumbing Relocation	LS	1	\$28,702.22	\$28,702.22	\$10,000.00	\$10,000.00
8065	800000	Canton Ventilation Building – Existing Plumbing Relocation	LS	1	\$28,702.22	\$28,702.22	\$10,000.00	\$10,000.00
8066	800000	Fairfield Ventilation Building – 700MHz Equipment Relocation	AL	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
8067	800000	800MHz Equipment Relocation	AL	1	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00
8068	800000	Floor Penetration	EA	42	\$138.82	\$5,830.44	\$400.00	\$16,800.00
8069	800000	Fan Shutdown, Startup, and Re-commissioning Coordination	AL	1	\$300,000.00	\$300,000.00	\$300,000.00	\$300,000.00
8070	800000	Flood Sandbagging	AL	1	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
8071	800000	Rooftop Unistrut Support System	LS	1	\$111,059.52	\$111,059.52	\$225,000.00	\$225,000.00
8072	800000	Existing Switchgear Maintenance Prior to Replacement	AL	1	\$200,000.00	\$200,000.00	\$200,000.00	\$200,000.00
8073	800000	3 Way Duct Bank and Handhole with 1 - 4" and 2 - 1" Schedule 40 PVC Conduits	LF	50	\$86.77	\$4,338.50	\$300.00	\$15,000.00
8074	800000	Fire Alarm System for Canton and Fairfield Vent Buildings	LS	1	\$57,843.50	\$57,843.50	\$250,000.00	\$250,000.00
8075	800000	Fairfield Ventilation Building Envelope Replacement – Access Control	LS	1	\$20,823.66	\$20,823.66	\$250,000.00	\$250,000.00
8076	800000	Canton Ventilation Building Envelope Replacement – Access Control	LS	1	\$20,823.66	\$20,823.66	\$250,000.00	\$250,000.00
8077	800000	75KVA Temporary Transformers	EA	2	\$6,941.22	\$13,882.44	\$10,000.00	\$20,000.00
8078	800000	NEMA 7 FVNR Combination Starter with NEMA 12 Enclosure	EA	32	\$47,894.42	\$1,532,621.44	\$6,000.00	\$192,000.00
<b>TOTAL:</b>						<b>\$54,550,357.21</b>		<b>\$84,496,000.00</b>



Maryland  
Transportation  
Authority

## CAPITAL COMMITTEE PROJECT SUMMARY

**KH-3031-0000 NOISE WALL ALONG I-95 SOUTHBOUND SOUTH OF CALVARY ROAD**

**PIN NUMBER** 2526  
**CONTRACT NUMBER** KH-3031-0000  
**CONTRACT TITLE** Noisewall along I-95 Southbound South of Calvary Road

**PROJECT SUMMARY** The work to be performed under this Contract is located adjacent to I-95 (John F. Kennedy Memorial Highway) in Harford County. The scope of work includes constructing a noise barrier along I-95 southbound south of Calvary Road for approximately 0.7 miles. The noise barrier is needed to attenuate noise coming from vehicular traffic on the existing and planned future expansion of I-95.

**SCHEDULE**

**ADVERTISEMENT DATE** 8/1/2022  
**ANTICIPATED NOTICE TO PROCEED DATE** Feb-23  
**DURATION (COMPLETION DATE)** 9/1/2024

**MBE PARTICIPATION**

**OVERALL MBE**  
**AFRICAN AMERICAN**  
**ASIAN AMERICAN**  
**HISPANIC AMERICAN**  
**WOMEN**  
**NATIVE AMERICAN**

**VSBE**

(\$)	Advertised GOAL (%)	Proposed GOAL (%)
	20.00%	20.01%
	-	9.81%
	-	10.20%
	-	0.00%
	-	0.00%
	-	0.00%
	1.00%	1.00%

**ENGINEER'S ESTIMATE (EE)** **\$10,584,241.60**

**BID RESULTS**

**BID AMOUNT (\$)**      **% VARIANCE TO EE**

**BID PROTEST**      YES       NO

**FUNDING SOURCE**      100.00% **TOLL REVENUE**

<b>The Six-M Company, Inc.</b>	\$9,819,000.00	-7%
<b>Kibler Construction Co., Inc.</b>	\$10,499,427.44	-1%
<b>Allan Myers MD, Inc.</b>	\$10,837,777.00	2%
<b>Concrete General, Inc</b>	\$10,852,509.25	3%
<b>Brawner Builders Inc.</b>	\$11,110,750.20	5%
<b>Rustler Construction Inc.</b>	\$11,605,880.90	10%
<b>PKF-Mark III, Inc.</b>	\$11,717,436.00	11%
<b>Kokosing Construction Company, Inc.</b>	\$12,392,353.52	17%



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## MEMORANDUM

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**TO:** MDTA Capital Committee  
**FROM:** Capital Program Manager Jeanne Marriott  
**SUBJECT:** Final FY 2023-2028 Consolidated Transportation Program (CTP)  
**DATE:** November 3, 2022

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### PURPOSE OF MEMORANDUM

The purpose of this presentation is to seek your recommendation for approval of the proposed Final FY 2023-2028 Consolidated Transportation Program (CTP). The Final CTP will be presented to the Finance Committee for recommendation for approval on November 10, 2022, and will be presented to the full MDTA Board for final approval on November 17, 2022.

### SUMMARY

The six-year FY 2023-2028 budget in the proposed CTP is \$2.7 billion. The proposed CTP reflects a net increase in the six-year FY 2023-2028 budget of \$52.6 million (Attachment #1 – Line 6). The net FY 2023-2028 increase is the result of the following:

- Increase in the six-year CTP budget by \$15.8 million for the Nice/Middleton Bridge (Attachment #1 – Line 1).
- Increase in the six-year CTP budget by \$9.2 million for the I-95 ETL Northern Extension (Attachment #1 – Line 2).
- Increase in the six-year CTP budget by \$107.9 million for all projects except Nice/Middleton Bridge, I-95 ETL Northern Extension, and reserves (Attachment #1 – Line 3).
- Decrease in the Allocated and Unallocated Reserves by \$80.3 million (Attachment #1 – Line 4).

FY 2022 expenditures were \$496.2 million vs. \$548.6 million in the Draft FY 2023-2028 CTP (Attachment #1 – Line 6). FY 2022 underspending was \$52.4 million and has been rolled over into the Final FY 2023-2028 CTP.

Highlights of project and reserve changes incorporated in the proposed Final FY 2023-2028 CTP are shown in Attachment #2.

**Added New Projects**

Added three system preservation projects and one enhancement project for an increase of \$6.3 million in the FY 2023-2028 period.

**Modified Budgets to Reflect Bids Received**

Adjusted one project to reflect bids received that were lower than Engineer's Estimate and one project to reflect bids received that were higher than Engineer's Estimate for a net increase of \$15.9 million.

**Added Construction Phase**

The construction phase of two projects was funded for a total of \$45.7 million transferred from the reserves as design reached 60% level and cost estimates were developed on fully developed scopes.

**Modified Budgets to Reflect Completed Projects**

One project was completed and one project was deleted for a total decrease of \$15.0 million in the FY 2023-2028 period.

**Modified Active Projects Due to Cost Changes and Cash Flow Adjustments**

Adjusted cash flows and funded changes in engineering and/or construction budgets for 112 projects for a net budget increase of \$80.1 million.

**Reserve Changes**

The allocated reserves decreased by \$80.3 million, and the unallocated reserves remained the same at \$25.0 million.

**ATTACHMENTS**

- Attachment #1 – CTP Comparison Tables – Draft v Final FY 2023-2028 CTP
- Attachment #2 – Changes from Draft to Final FY 2023-2028 CTP
- Attachment #3 – Where are the Projects?
- Attachment #4 – What are the Categories of Projects?

CTP Comparison Tables - Final v Draft FY 2023-2028 CTP																
Line										Total	Total					Total
		2022	2023	2024	2025	2026	2027	2028	2022-2027	2023-2028	2029	2030	2031	2032	2023-2032	
1	Nice/Middleton Bridge	Draft 23-28	\$210,706	\$116,240	\$30,363	\$15,026	\$0	\$0	\$0	\$372,335	\$161,629	\$0	\$0	\$0	\$0	\$161,629
		Final 23-28	\$194,858	\$92,088	\$40,363	\$45,026	\$0	\$0	\$0	\$372,335	\$177,477	\$0	\$0	\$0	\$0	\$177,477
		Change	(\$15,848)	(\$24,152)	\$10,000	\$30,000	\$0	\$0	\$0	(\$0)	\$15,848	\$0	\$0	\$0	\$0	\$15,848
2	I-95 ETL Northern Extension (Including Reserves)	Draft 23-28	\$105,987	\$214,800	\$191,176	\$136,722	\$109,202	\$81,433	\$53,818	\$839,320	\$787,151	\$21,454	\$0	\$0	\$0	\$808,605
		Final 23-28	\$90,796	\$204,853	\$219,164	\$128,822	\$108,258	\$81,433	\$53,818	\$833,326	\$796,347	\$27,448	\$0	\$0	\$0	\$823,796
		Change	(\$15,191)	(\$9,947)	\$27,988	(\$7,900)	(\$944)	(\$0)	\$0	(\$5,994)	\$9,196	\$5,994	\$0	\$0	\$0	\$15,191
3	Remainder of CTP (Excluding Reserves)	Draft 23-28	\$231,899	\$215,628	\$283,356	\$191,812	\$61,426	\$18,888	\$2,003	\$1,003,009	\$773,113	\$0	\$0	\$0	\$0	\$773,113
		Final 23-28	\$210,516	\$237,490	\$339,493	\$184,410	\$78,570	\$37,925	\$3,113	\$1,088,403	\$881,000	\$0	\$0	\$0	\$0	\$881,000
		Change	(\$21,383)	\$21,862	\$56,137	(\$7,402)	\$17,144	\$19,037	\$1,110	\$85,394	\$107,887	\$0	\$0	\$0	\$0	\$107,887
4	Allocated and Unallocated Reserves	Draft 23-28	\$0	\$9,334	\$39,172	\$170,895	\$230,821	\$223,298	\$237,660	\$673,520	\$911,180	\$318,450	\$323,275	\$328,100	\$332,925	\$2,213,930
		Final 23-28	\$0	\$0	\$28,905	\$134,078	\$214,148	\$215,550	\$238,213	\$592,681	\$830,894	\$318,450	\$323,275	\$328,100	\$332,925	\$2,133,644
		Change	\$0	(\$9,334)	(\$10,267)	(\$36,817)	(\$16,673)	(\$7,748)	\$553	(\$80,839)	(\$80,286)	\$0	\$0	\$0	\$0	(\$80,286)
5	Remainder of CTP (3+4) (Including Reserves)	Draft 23-28	\$231,899	\$224,962	\$322,528	\$362,707	\$292,247	\$242,186	\$239,663	\$1,676,529	\$1,684,293	\$318,450	\$323,275	\$328,100	\$332,925	\$2,987,043
		Final 23-28	\$210,516	\$237,490	\$368,398	\$318,488	\$292,718	\$253,475	\$241,326	\$1,681,084	\$1,711,894	\$318,450	\$323,275	\$328,100	\$332,925	\$3,014,644
		Change	(\$21,383)	\$12,528	\$45,870	(\$44,219)	\$471	\$11,289	\$1,663	\$4,555	\$27,601	\$0	\$0	\$0	\$0	\$27,601
6	Total (1+2+5)	Draft 23-28	\$548,592	\$556,002	\$544,067	\$514,455	\$401,449	\$323,619	\$293,481	\$2,888,184	\$2,633,073	\$339,904	\$323,275	\$328,100	\$332,925	\$3,957,277
		Final 23-28	\$496,170	\$534,431	\$627,925	\$492,336	\$400,976	\$334,908	\$295,144	\$2,886,745	\$2,685,719	\$345,898	\$323,275	\$328,100	\$332,925	\$4,015,917
		\$ Change	(\$52,422)	(\$21,571)	\$83,858	(\$22,119)	(\$473)	\$11,289	\$1,663	(\$1,439)	\$52,646	\$5,994	\$0	\$0	\$0	\$58,640
		% Change	-10%	-4%	15%	-4%	0%	3%	1%	0%	2%	2%	0%	0%	0%	1%
Cumulative Change			(\$52,422)	(\$73,993)	\$9,865	(\$12,255)	(\$12,728)	(\$1,439)	\$223	(\$1,439)	\$52,646	\$6,218	\$6,218	\$6,218	\$6,218	

## Changes from Draft to Final FY 2023-2028 CTP

New Projects Added (\$000)				
Facility	Project Name	TEC Change	FY 2023-2028 Budget Change	
KH	2582 - MD 695 Ramps to I-95 Northbound Express Toll Lanes (Engineering only)	5,425	5,425	
HT	2587 - Baltimore Harbor Tunnel (BHT) Lane Use Signals (LUS) Extension (Engineering only)	400	400	
MA	2584 - Replace Dynamic Messaging Signs (DMS) and Toll Rate Signs (TRS) at Various Facilities (Engineering only)	300	300	
MA	2585 - Replace Closed Circuit Televisions (CCTVs) at Various Facilities (Engineering only)	150	150	
<b>Total - New Projects Added (4)</b>		<b>6,275</b>	<b>6,275</b>	

Projects Modified to Reflect Bids Received (\$000)				
Facility	Project Name	TEC Change	FY 2023-2028 Budget Change	
HT	2306 - Envelope Repair and Switchgear Replacements at BHT Vent Buildings	16,198	16,083	
HT	2506 - Baltimore Harbor Tunnel In-Tunnel Fiber Improvements	(320)	(218)	
<b>Total - Projects Modified to Reflect Bids Received (2)</b>		<b>15,878</b>	<b>15,865</b>	

Projects Modified to Add Construction Phase (\$000)				
Facility	Project Name	TEC Change	FY 2023-2028 Budget Change	
KH	0202 - I-95 Southbound Hard Shoulder Running	32,300	33,093	
HT	0240 - Resurfacing North and South of Baltimore Harbor Tunnel	12,533	12,566	
<b>Total - Projects Modified to Add Construction Phase (2)</b>		<b>44,833</b>	<b>45,660</b>	

Projects Completed (\$000)				
Facility	Project Name	TEC Change	FY 2023-2028 Budget Change	Notes
MA	2418 - On-Call Electrical and Intelligent Transportation Systems (ITS) - #3	20	27	Completed.
MA	2574 - On-Call Structural Repairs	(15,000)	(15,000)	Deleted, funds transferred to Project 2573 - On-Call Structural Repairs.
<b>Total - Projects Completed (2)</b>		<b>(14,980)</b>	<b>(14,973)</b>	

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments (\$000)				
Facility	Project Name	TEC Change	FY 2023-2028 Budget Change	Notes
MA	2573 - On-Call Structural Repairs	14,250	14,250	Increased CO to merge two on-call structural repair projects (funds transferred from Project 2574).
KB	0219 - Francis Scott Key (FSK) Bridge Deck Replacement (Engineering only)	5,600	6,021	Increased PE to advance from initial study into main design.
HT	2487 - All Electronic Tolling (AET) Conversion with Frankfurst Avenue Interchange Modifications	5,854	5,647	Increased PE for additional design activities.
KH	2570 - JFK Highway Wash Bay, Salt Barn, and Fueling Facilities at Perryville (Engineering only)	1,300	1,395	Increased PE to advance to full design.
FT	0200 - Rehabilitate Fort McHenry Tunnel (FMT) Area-Wide Lighting	1,172	1,130	Increased PE and CO for scope changes due to work added.
BB	2470 - Project Management Office and Maintenance Equipment Storage Building	1,160	1,596	Increased CO for revised cost based on final Procurement Review Group (PRG) estimate.
BB	2317 - Rehab Decks of Eastbound (EB) Span - Phase I Deck Widening & Replacement of Deck Truss Spans	901	1,250	Increased CO for Construction Management at Risk (CMAR) Construction Package 1.

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments - continued on Page 2

## Changes from Draft to Final FY 2023-2028 CTP

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments (\$000) - continued				
Facility	Project Name	TEC Change	FY 2023-2028 Budget Change	Notes
FT	2508 - Bridge Deck Rehabilitation and Miscellaneous Repairs to FMT South	900	18	Increased CO for additional Construction Management Inspection (CMI), Phase V services, and Maintenance and Police support.
HT	2437 - Mill and Overlay Bridge Decks (HOY013 and HOY014)	900	1,029	Increased CO for additional CMI, Phase V services, and Maintenance and Police support.
FT	2449 - Superstructure Repairs of Various Bridges North and South of Fort McHenry Tunnel	800	53	Increased CO for additional work, Phase 5 services, and CMI.
KH	2544 - Tydings Bridge Interim High Speed AET Conversion	621	63	Increased PE and CO for additional design project completion.
MA	2480 - On-Call Structural Repairs & Miscellaneous Modifications	601	421	Increased PE and CO for supplemental agreement.
KB	2521 - MDTA Police Training Academy	595	(17)	Increased PE for full Phase 2 design.
FT	2499 - MDTA Police Vehicle Storage Garage (Engineering only)	542	678	Increased PE for full design.
KH	2484 - JFK Substation and Electrical Equipment Replacement	517	121	Increased CO for Extra Work Authorization (EWA) and Phase V services.
BB	2369 - Deck Rehabilitation and Miscellaneous Modifications to BB WB Span	505	679	Increased CO for additional CMI.
KB	2304 - Convert Key Bridge to All Electronic Tolling (AET)	500	153	Increased CO for redlines.
BB	2459 - Rehabilitate Maintenance Access Facilities of EB and WB Spans of the Bay Bridge	480	1,056	Increased CO for additional CMI.
BB	2412 - Bay Bridge Priority Structural Repairs and Misc. Modifications	459	300	Increased CO for additional CMI costs.
KB	2450 - I-695 Subgrade Improvements at Bear Creek	452	382	Increased PE for design/scope change
KB	2438 - Police Headquarters Building Envelope Renovations	436	608	Increased CO based on latest cost estimate reflecting current market condition.
MA	2479 - On-Call Structural Repairs & Miscellaneous Modifications	408	903	Increased CO funds due to supplemental agreement
BB	2476 - Bay Bridge Crossover Automated Lane Closure System	400	1,748	Increased CO for additional CMI.
HT	2527 - Replace Bridges on I-895 over I-695 (Engineering only)	360	742	Increased PE to cover the revised design as well as the review of SHA.
HB	2512 - Cleaning and Painting of the Hatem Bridge (Engineering only)	360	(58)	Increased PE for scope change to include additional structural repairs.
HB	2273 - Convert Hatem Bridge to All Electronic Tolling (AET) and Rehabilitate Approach Roadways	300	140	Increased CO for redlines.
HT	2560 - BHT Maintenance/Auto Building HVAC and Roof Replacement (Engineering only)	250	284	Increased PE to advance from study to full design.
MA	2489 - Drainage Rehabilitation - Phase III - Outfalls	222	265	Increased PE for Extra Work Order (EWO) #6.
HT	2447 - Replace Baltimore Harbor Tunnel 15KV Feeders	176	44	Increased CO for time extension.
MA	2497 - Radio Rebroadcast and Radiax in BHT & FMT (Engineering only)	152	201	Increased PE to revise Request for Proposal (RFP) to new template.
HT	2454 - I-895 BHT TMDL Stream Restoration Upstream of BY052X01	150	41	Increased CO for resubmittal of Maryland Department of the Environment (MDE) as-builts.
BB	2469 - Miscellaneous Rehabilitation of the Bay Bridge Suspension Spans	116	0	Increased CO for revised estimate.
MA	2404 - Bay Total Maximum Daily Load (TMDL) Stormwater Retrofits - Phase IV	100	69	Increased CO for close out Phase V services.
MA	2083 - Evaluate Condition of Deck, Superstructure & Substructures - All Facilities (Engineering only)	94	0	Increased PE for additional work.
HT	2439 - Administration Building Roof Replacement and Envelope Rehabilitation	50	24	Increased CO for Phase V Services.
KH	2393 - Resurface Northbound I-95 from the Tydings Bridge to the Maryland/Delaware State Line	32	0	Increased CO for Phase V services.
MA	2524 - On-Call Building Systems Rehabilitation/Replacement	(1,848)	(1,312)	Decreased CO to revise capital/operating split to 70% capital/30% operating.
MA	2235 - Program Management Services for System Preservation (Engineering Only)	(3,000)	2,000	Decreased PE for expenses distributed to other projects.
NB	1024 - Replace Nice/Middleton Bridge	0	15,848	Cash flow adjustment.
KH	Various - I-95 Express Toll Lanes Northbound Extension	0	9,196	Cash flow adjustment.
BB	2516 - William Preston Lane Jr. Memorial Bridge AET Conversion	0	2,087	Cash flow adjustment.
MA	2498 - On-Call Electrical/Intelligent Transportation Systems (ITS)	0	2,083	Cash flow adjustment.

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments - continued on Page 3

## Changes from Draft to Final FY 2023-2028 CTP

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments (\$000) - continued				
Facility	Project Name	TEC Change	FY 2023-2028 Budget Change	Notes
MA	2538 - On-Call Structural Repairs & Miscellaneous Modifications	0	1,974	Cash flow adjustment.
FT	2458 - Rehabilitate Tunnel 13 KV Cable, Conduit, and Concrete Wall	0	1,339	Cash flow adjustment.
FT	2517 - Convert to Cashless Tolling at the Fort McHenry Tunnel	0	1,144	Cash flow adjustment.
MA	2496 - On-Call Drainage and Stormwater BMP Remediation III	0	1,060	Cash flow adjustment.
MA	2553 - DYNAC Maintenance Contract (BHT, FMT, and ICC)	0	1,036	Cash flow adjustment.
MA	2147 - Replace Electronic Toll Collection and Operating System - 3rd Generation	0	1,008	Cash flow adjustment.
BB	2501 - On-Call Structural Repairs & Miscellaneous Modifications for Bay Bridge	0	841	Cash flow adjustment.
FT	2543 - Replace Superstructure of Moravia Road Ramp Bridge to I-95 Southbound	0	789	Cash flow adjustment.
MA	2523 - On-Call Facility/Building Repairs	0	734	Cash flow adjustment.
KH	1116 - Kennedy Highway I-95 Improvements with Express Toll Lanes	0	568	Cash flow adjustment.
MA	2549 - On-Call Miscellaneous Paving Repair	0	513	Cash flow adjustment.
BB	2504 - Bay Bridge Queue Detection System	0	443	Cash flow adjustment.
KH	2436 - Replace I-95 Kennedy Highway Bridge over CSXT (Engineering only)	0	421	Cash flow adjustment.
FT	2513 - Structural Rehabilitation of Various Bridges on I-95	0	414	Cash flow adjustment.
MA	0231 - On-Call Signs, Sign Lights, and Sign Structures	0	361	Cash flow adjustment.
MA	2456 - Replace Police In Car Digital Video System	0	360	Cash flow adjustment.
HT	2529 - Rehabilitate BHT Tunnel Lighting System (Engineering only)	0	340	Cash flow adjustment.
FT	0237 - Rehabilitate Substructure of I-95 Bridges over Race Street (Engineering only)	0	326	Cash flow adjustment.
MA	2421 - Mainline Small Drainage System Preservation	0	160	Cash flow adjustment.
KH	2428 - Deck Replacement on I-95 Kennedy Highway Bridge over Little Northeast Creek	0	143	Cash flow adjustment.
KH	2500 - Raphael Road Maintenance Facility - Phase 1 (Engineering only)	0	112	Cash flow adjustment.
KH	2394 - Resurface Southbound I-95 from the Maryland/Delaware State Line to the Tydings Bridge	0	110	Cash flow adjustment.
MA	0228 - On-Call Electrical/ITS	0	100	Cash flow adjustment.
MA	2545 - Civil Rights Compliance Information Management System (PRISM)	0	100	Cash flow adjustment.
MA	2559 - On-Call Civil Repairs (Engineering only)	0	100	Cash flow adjustment.
KH	2569 - JFK MSP Building Remodeling (Engineering only)	0	100	Cash flow adjustment.
FT	0218 - FMT South Traffic Relief Improvements (Planning only)	0	96	Cash flow adjustment.
MA	2466 - Clean and Paint Bridges on BHT Thruway and JFK Memorial Highway	0	88	Cash flow adjustment.
MA	2444 - Bay TMDL Stormwater Retrofits - Phase VI	0	78	Cash flow adjustment.
MA	2360 - Furnish and Install License Plate Recognition Systems (LPR)	0	66	Cash flow adjustment.
HT	2263 - Replace Baltimore Harbor Tunnel (BHT) Vent Fans	0	61	Cash flow adjustment.
MA	2507 - On-Call Signs, Sign Lights, and Sign Structures	0	58	Cash flow adjustment.
MA	2502 - MDTA Enterprise Budget Planning and Management System (Software)	0	50	Cash flow adjustment.
MA	2551 - Environmental On-Call Phase IV	0	50	Cash flow adjustment.
ICC	2563 - Replace ICC Deck Over Lighting (Engineering only)	0	50	Cash flow adjustment.
FT	2571 - FMT Campus Fuel Oil Conversion (Engineering only)	0	50	Cash flow adjustment.
HT	2578 - BHT NB Overheight Vehicle Detection System (OHVDS) Improvements (Engineering Only)	0	48	Cash flow adjustment.
FT	2565 - FMT East Vent Building Facade and Roof Replacement (Engineering only)	0	47	Cash flow adjustment.

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments - continued on Page 4

## Changes from Draft to Final FY 2023-2028 CTP

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments (\$000) - continued				
Facility	Project Name	TEC Change	FY 2023-2028 Budget Change	Notes
MA	2583 - Generator Replacement at Various Facilities (Engineering Only)	0	41	Cash flow adjustment.
BB	2260 - Clean and Paint Structural Steel Westbound Span - Phase IV	0	41	Cash flow adjustment.
HT	2292 - Replace Deck and Superstructure of Bridge over Patapsco Flats	0	35	Cash flow adjustment.
BB	2342 - Rehabilitate Suspension Spans on Westbound Span	0	32	Cash flow adjustment.
FT	2580 - FMT Box Girder Preservation (Engineering only)	0	25	Cash flow adjustment.
MA	2411 - On-Call Facility/Building Repairs	0	25	Cash flow adjustment.
FT	0239 - Holding Tank Replacement at the S. FMT Vent Building (Engineering only)	0	25	Cash flow adjustment.
MA	2289 - Remove, Replace and Upgrade Sign Structures	0	21	Cash flow adjustment.
PB	2400 - On-Call Facility and Building Repairs	0	20	Cash flow adjustment.
FT	0217 - FMT Facility-wide Zone Paint Program	0	19	Cash flow adjustment.
FT	2414 - I-95 Moravia Road to Tunnel - Phases 1 & 2 NB/Phase 2 SB	0	15	Cash flow adjustment.
BB	2481 - Police and Automotive Maintenance Building Generator Replacement	0	12	Cash flow adjustment.
BB	2228 - BB Cable Rewrapping & Dehumidification of Cables and Anchorages	0	11	Cash flow adjustment.
FT	2269 - Replace FMT Tunnel Lighting Systems	0	9	Cash flow adjustment.
KB	2319 - Building Renovations at FSK Campus	0	8	Cash flow adjustment.
ICC	2482 - ICC Fiber Optic Utility Tracer Wire	0	6	Cash flow adjustment.
FT	2442 - Port Covington Access I-95	0	5	Cash flow adjustment.
MA	2433 - Update Phone System to NECSV9500	0	4	Cash flow adjustment.
KH	2440 - Kennedy Highway Maintenance Facility 2 Building Renovations	0	2	Cash flow adjustment.
HT	2423 - Replacement of Concrete Median Barrier along I-895	0	(5)	Cash flow adjustment.
MA	2471 - 10-Year Equipment Budget - FY 2018 through FY 2027	0	(10)	Cash flow adjustment.
MA	2483 - Small Drainage Rehabilitation	0	(31)	Cash flow adjustment.
HT	2380 - Repair Slopes and Drainage	0	(35)	Cash flow adjustment.
BB	2329 - Replace 5KV Feeder and Add Redundant Cable to EB & WB Spans	0	(43)	Cash flow adjustment.
ICC	1982 - Intercounty Connector (ICC)/MD 200	0	(103)	Cash flow adjustment.
MA	2546 - Purchase Card Information System (PCARD)	0	(197)	Cash flow adjustment.
KB	0199 - Maintenance and Repairs of the I-695 Curtis Creek Drawbridges at FSK	0	(276)	Cash flow adjustment.
HT	0280 - Baltimore Harbor Tunnel I-895 Bridge Replacement	0	(540)	Cash flow adjustment.
FT	2251 - Rehabilitate FMT Vent Fans	0	(794)	Cash flow adjustment.
KH	2509 - Structural Rehabilitation of the Millard E. Tydings Memorial Bridge	0	(1,301)	Cash flow adjustment.
MA	2537 - On-Call Structural Repairs & Miscellaneous Modifications	0	(1,352)	Cash flow adjustment.
KH	2477 - I-95/Belvidere Road Interchange	0	(2,040)	Cash flow adjustment.
<b>Total - Active Projects Modified Due to Cost Changes and Cash Flow Adjustments (112)</b>		<b>0</b>	<b>80,105</b>	

**Changes from Draft to Final FY 2023-2028 CTP**

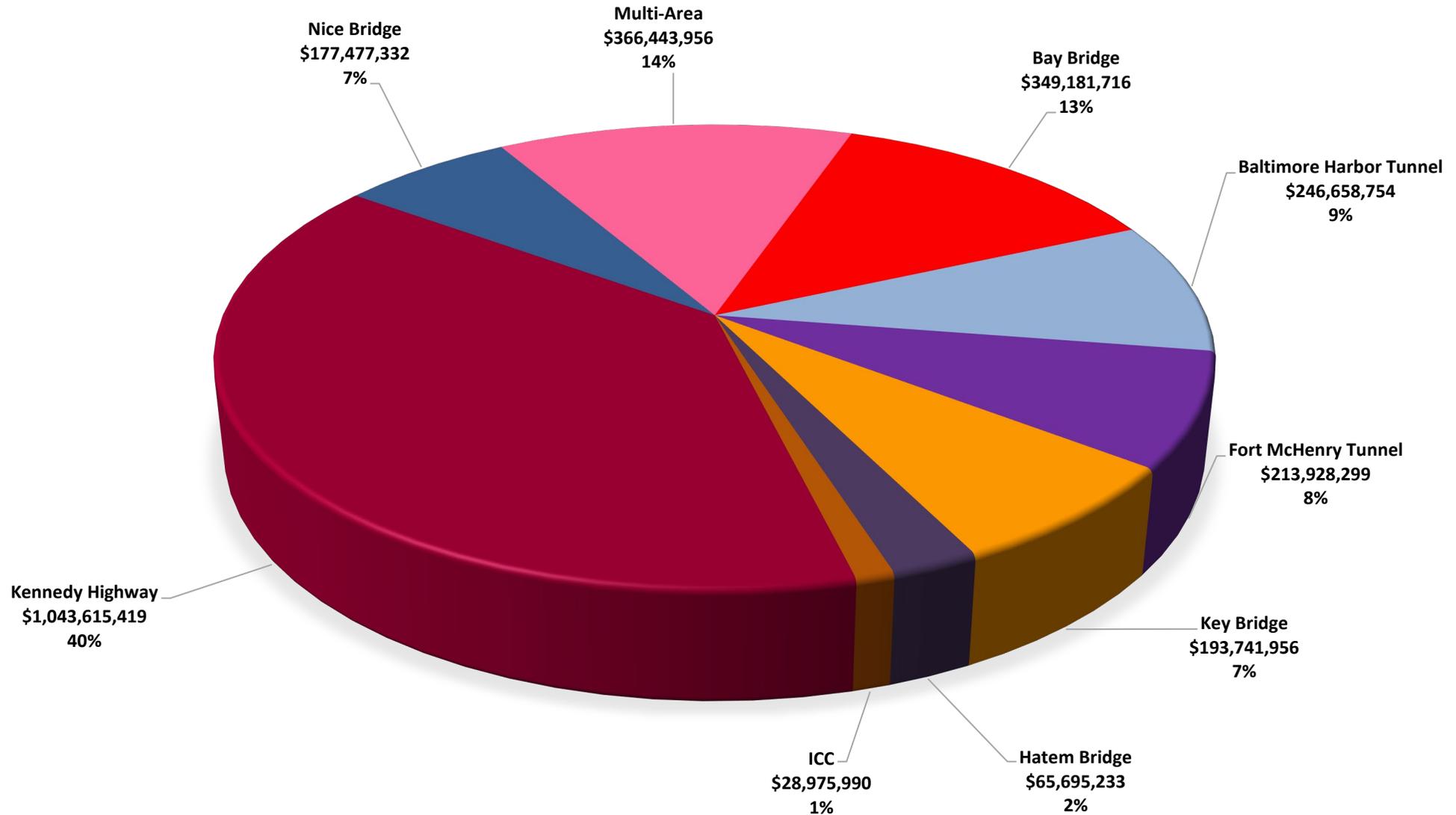
<b>Reserves (\$000)</b>		
	FY 2023-2028 Budget Change	
Allocated Reserve - Enhancement Projects	(51,482)	
Allocated Reserve - System Preservation Projects	(28,804)	
<b>Total Reserve Changes</b>	<b>(80,286)</b>	

<b>Changes from Draft to Final FY 2023-2028 CTP (\$000)</b>		
	FY 2023-2028 Budget Change	
Budget Changes - Projects	132,932	
Budget Changes - Reserves	(80,286)	
<b>Net Changes</b>	<b>52,646</b>	

# FY 2023-2028 Final Consolidated Transportation Program

## Where are the Projects?

FY 2023-2028 CTP = \$2.7 Billion



# FY 2023-2028 Final Consolidated Transportation Program

## What are the Categories of Projects?

FY 2023-2028 CTP = \$2.7 Billion

