

TO: Carlisle Police Station Building Renovation Committee
FROM: Justin Humphreys, TBA Architects
PROJECT: Carlisle Police Station Additions and Alterations
SUBJECT: Summary of Cost Estimates
DATE: May 6, 2024

Over the three-month period between January and April, TBA and its consulting engineers, worked with the Carlisle Police Station Building Renovation Committee to develop construction documents based on the schematic design presented to the Select Board in December of 2023. The design scope was generally understood and estimated in November of 2023. Schematic design was based on revised architectural layouts and assumed minor updates to the engineering done in the 2019 design. During the design development areas of additional scope were identified. A memo was provided to the PSBRC on April 5, 2024 describing seven areas identified with additional scope and the reasons for the increase. At that time, it was thought the additional costs would be in the range of \$200,000. Construction documents (drawings and specifications) to a 90% level of completion were provided for estimate, dated April 5, 2024, with the estimate being received May 1, 2024.

From the April 5th memorandum:

Two primary goals were expressed and worked towards in this round of design and development of renovations and additions to the Carlisle Police Station:

- 1. Develop a scheme that efficiently provides spaces that are safe, healthy, and code compliant to achieve accreditation.*
- 2. Create a police station that welcomes and engages the community with spaces that are safe, healthy, and a resource to the Town.*

What is contained in the documents prepared by TBA Architects, Landtech Consultants, BLW Engineers, and Vanderweil Engineers is an architectural, civil, and systems engineering design that achieves the goals stated and advances subsequently expressed progress toward achieving Town initiatives, such as eliminating the use of fossil fuels and preparation for future solar and charging stations.

We have compared and reconciled the two estimates (SD, November 2023 vs. CD, May 2024), parsed the numbers by checking against similar recent projects, discussions with the design team, and identifying areas where scope could be scaled back or included in potential bids as additive alternates.

Ultimately the latest estimated construction cost is over \$240,000 more than November, primarily attributable to the mechanical, electrical, and plumbing changes discussed previously and forward the goals of this project. Scopes of work identified for value management items can be included as alternates or we can work on some other options to include in the base bid.

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The side-by-side comparison and reconciliation is presented below in the format matching the December 2023 Select Board Presentation. Upon further review of the two estimates, we adjusted where the furniture allowance was carried, the percentages assumed for design contingency and escalation, added recommended construction contingency; and have included soft costs for both estimates to develop an estimated project cost. The values presented in the May 2024 Reconciled summary are with value management items deducted and HVAC, electrical, and plumbing numbers adjusted as discussed.

CARLISLE POLICE STATION - COMPARISON OF ESTIMATED COSTS SCHEMATIC DESIGN (NOV. '23) VS. CONSTRUCTION DOCUMENTS (MAY '24)					
Scope	NOV '23	Estimated Cost at Schematic Design	MAY '24	Estimated Cost at Construction Documents	Comments
BASE - SITE, RENO & SALLY PORT ADDITION		\$ 1,810,369		\$ 2,149,240	See division summary for detail
GARAGE/EVIDENCE STORAGE BLDG		\$ 331,523		\$ 339,174	See division summary for detail
TOTAL DIRECT COST		\$ 2,141,892		\$ 2,488,414	Note: furnishings & equipment above the line, corrected to below the line
GENERAL CONDITIONS	10%	\$ 214,189	10%	\$ 248,841	Materials & equipment required for construction
GENERAL ADMINISTRATIVE O&P	8%	\$ 188,486	8%	\$ 218,980	Paperwork, project tracking, office overhead & profit
P&P BOND	1.5%	\$ 38,169	1.5%	\$ 44,344	Performance & Payment Bonds - insurance for completion
DESIGN CONTINGENCY	5%	\$ 129,137	0%	\$ -	Closer to end of design, contingency not needed
ESCALATION (spring 2024)	4%	\$ 108,475	2%	\$ 60,012	CD closer to bid, part of original escalation in direct cost
TOTAL CONSTRUCTION COST / BID		\$ 2,820,348		\$ 3,060,591	Presented as \$2,919,105 in Dec. '23
CONSTRUCTION CONTINGENCY	0%	\$ -	8%	\$ 244,847	Recommended; at Owner's discretion for unforeseen or desired changes. None included at SD.
RECOMMENDED CONSTRUCTION BUDGET		\$ 2,820,348		\$ 3,305,438	
FURNISHINGS & EQUIPMENT ALLOWANCE		\$ 75,000		\$ 75,000	Discretionary by Owner, not part of bid, no contractor markup
ARCHITECT FEES		\$ 180,750		\$ 79,750	Proposed fees, remaining uncontracted at time of estimate
OWNER'S PROJECT MANAGER FEES		\$ -		\$ 90,000	Required by Ch149 for projects over \$1.5 million. None included at SD.
TOTAL ESTIMATED PROJECT COST		\$ 3,076,098		\$ 3,550,188	Hard and soft costs

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The estimate received from the independent estimator was reviewed by the design team. Adjustments were made to several of the values stated where they were felt to be high and were attributed to higher unit prices than seen on similar jobs, some scope that isn't intended to be part of the project, and some item quantities that can be decreased. The seven areas identified as adding costs are below with some commentary based on our comparison and reconciliation of estimates.

1. Replacement of all mechanical heating, air conditioning, and ventilation units.
 - a. HVAC systems replaced with all electric. All equipment is replaced to comply with current codes and address ventilation concerns throughout the building.
 - b. Ductwork saved for reuse.
 - c. Overall cost of HVAC adjusted to \$86/sf addressing MERV filters cost, electric unit heaters cost, heat pump stands cost, heat pump breakdown cost, total heat pump tonnage, fcu quantities, condensate pump cost, refrigerant piping length, condensate piping length, ductwork saved rather than replacement, aluminum ductwork requirement, motorized damper cost, louver cost, simplify integrate/test/graphic controls.
2. Plumbing – primarily replacement of the gas-fired water heater with an electric water heater.
 - a. Fixture costs carried are high for what is specified. Water closets and flush valves are about twice the cost.
 - b. Reduction of costs of each fixture by at least 30% if specified as manual operation.
 - c. Non-sensor and manually set mechanical mixing valves drop 30%.
 - d. Additional cost of floor drain, piping, and oil-water separator from the new sallyport.
3. Upgraded electrical service.
 - a. Additional cost due to connection of all electrical HVAC - SD did not account for split systems and ERVs.
 - b. Switchgear, Panelboards, and feeders - SD did not account for new service and panelboards required.
 - c. Increased quantities of lighting fixtures and exit signs.
 - d. Overall cost of HVAC adjusted to \$86/sf
4. Replacement of security equipment.
 - a. Defunct systems need replacing.
 - b. Camera systems are extended with replacement of cameras in existing spaces and reuse of cabling.
 - c. Electric door operation and monitoring.
5. Windows at the second floor.
 - a. Deleted from scope, saves framing, siding, finishes, and windows.
6. Miscellaneous finishes in the training/community room and exercise room.
 - a. All identified and itemized to allow for consideration of inclusion via other options to achieve the same intent or as bid alternates.
 - i. Flooring
 - ii. Mirrors
 - iii. Acoustic ceiling panels
7. Finishes replacement at the office areas not reconfigured.

- a. All identified and itemized to allow for consideration of inclusion via other options to achieve the same intent or as bid alternates.
 - i. Flooring
 - ii. Painting

A list of value management items has been provided for finishes, casework, and various specialty items to assist in deciding whether to include the work as bid alternates and/or via revised design in the base bid.

Attachments:

1. Comparison Of Estimated Costs Schematic Design (Nov. '23) Vs. Construction Documents (May '24)
2. Estimate Division Summary Comparison & Reconciliation, Schematic to 90% CD, 5/6/2024
3. 90% CD Value Management Items

END

**CARLISLE POLICE STATION - COMPARISON OF ESTIMATED COSTS
SCHEMATIC DESIGN (NOV. '23) VS. CONSTRUCTION DOCUMENTS (MAY '24)**

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TOTAL ESTIMATED PROJECT COST		\$ 3,076,098		\$ 3,550,188	Hard and soft costs

CARLISLE POLICE STATION COST ESTIMATE DIVISION SUMMARY									
COMPARISON & RECONCILIATION - SCHEMATIC TO 90% CD									
5/6/2024									
CSI DIVISION	November 2023			May 2024 Reconciled			DELTA (MAY-NOV)	NOTES	
	DIVISION TOTAL	% OF DIRECT	COST PER SF	DIVISION TOTAL	% OF DIRECT	COST PER SF			
DIVISION 02 - EXISTING CONDITIONS	\$ 40,931	2.3%	\$ 7.62	\$ 47,782	2.2%	\$ 7.88	\$ 6,851	see VM list	
DIVISION 03 - CONCRETE	\$ 42,654	2.4%	\$ 7.94	\$ 43,006	2.0%	\$ 7.10	\$ 352		
DIVISION 04 - MASONRY	\$ 40,565	2.2%	\$ 7.55	\$ 39,345	1.8%	\$ 6.49	\$ (1,220)	see VM list	
DIVISION 05 - METALS	\$ 6,375	0.4%	\$ 1.19	\$ 8,500	0.4%	\$ 1.40	\$ 2,125		
055000 METAL FABRICATIONS	\$ 7,112	0.4%	\$ 1.32	\$ 7,712	0.4%	\$ 1.27	\$ 600		
DIVISION 06 - WOOD, PLASTICS & COMPOSITES	\$ 77,516	4.3%	\$ 14.42	\$ 95,314	4.4%	\$ 15.73	\$ 17,798	see VM list	
DIVISION 07 - THERMAL & MOISTURE PROTECTION									
071000 DAMPPROOFING & SEALANTS	\$ 15,468	0.9%	\$ 2.88	\$ 17,071	0.8%	\$ 2.82	\$ 1,603		
072000 THERMAL PROTECTION	\$ 4,689	0.3%	\$ 0.87	\$ 9,702	0.5%	\$ 1.60	\$ 5,013		
075000 ROOFING & FLASHING	\$ 9,026	0.5%	\$ 1.68	\$ 11,798	0.5%	\$ 1.95	\$ 2,772		
078413 FIRESTOPPING	\$ 3,224	0.2%	\$ 0.60	\$ 4,048	0.2%	\$ 0.67	\$ 824		
DIVISION 08 - OPENINGS	\$ 103,855	5.7%	\$ 19.33	\$ 112,730	5.2%	\$ 18.60	\$ 8,875	see VM list	
085000 WINDOWS	\$ -	0.0%	\$ -	\$ -	0.0%	\$ -	\$ -		
088000 GLAZING	\$ -	0.0%	\$ -	\$ 3,325	0.2%	\$ 0.55	\$ 3,325	see VM list	
DIVISION 09 - FINISHES									
092000 GYPSUM BOARD	\$ 52,423	2.9%	\$ 9.75	\$ 42,814	2.0%	\$ 7.06	\$ (9,609)		
093000 TILING	\$ 70,701	3.9%	\$ 13.16	\$ 52,974	2.5%	\$ 8.74	\$ (17,727)		
095100 ACOUSTICAL TILE CEILINGS	\$ 17,337	1.0%	\$ 3.23	\$ 20,604	1.0%	\$ 3.40	\$ 3,267		
096500 RESILIENT FLOORING	\$ 21,321	1.2%	\$ 3.97	\$ 31,645	1.5%	\$ 5.22	\$ 10,324		
096800 TILE CARPETING	\$ 15,813	0.9%	\$ 2.94	\$ 24,181	1.1%	\$ 3.99	\$ 8,368		
098000 ACOUSTIC WALL TREATMENT	\$ -	0.0%	\$ -	\$ 18,060	0.8%	\$ 2.98	\$ 18,060		
099000 PAINTING	\$ 29,383	1.6%	\$ 5.47	\$ 37,607	1.7%	\$ 6.21	\$ 8,224		
DIVISION 10 - SPECIALTIES	\$ 25,972	1.4%	\$ 4.83	\$ 26,278	1.2%	\$ 4.34	\$ 306	see VM list	
DIVISION 11 - EQUIPMENT	\$ 10,000	0.6%	\$ 1.86	\$ 10,200	0.5%	\$ 1.68	\$ 200		
DIVISION 12 - FURNISHINGS	\$ 36,575	2.0%	\$ 6.81	\$ 19,600	0.9%	\$ 3.23	\$ (16,975)	see VM list	
DIVISION 13 - SPECIAL CONSTRUCTION	\$ -	0.0%	\$ -	\$ -	0.0%	\$ -	\$ -		
DIVISION 14 - CONVEYING EQUIPMENT	\$ -	0.0%	\$ -	\$ -	0.0%	\$ -	\$ -		
DIVISION 21 - FIRE SUPPRESSION	\$ -	0.0%	\$ -	\$ -	0.0%	\$ -	\$ -		
DIVISION 22 - PLUMBING	\$ 174,746	9.7%	\$ 32.52	\$ 255,848	11.9%	\$ 42.22	\$ 81,102	unit prices are higher than typical	
DIVISION 23 - HVAC	\$ 417,908	23.1%	\$ 77.76	\$ 519,519	24.2%	\$ 85.72	\$ 101,611	HVAC costs 75-80/sf	
DIVISION 26 - ELECTRICAL	\$ 404,228	22.3%	\$ 75.22	\$ 505,000	23.5%	\$ 83.33	\$ 100,772	unit prices are higher than typical	
DIVISION 31 - EARTHWORK	\$ 81,205	4.5%	\$ 15.11	\$ 83,025	3.9%	\$ 13.70	\$ 1,820		
DIVISION 32 - EXTERIOR IMPROVEMENTS	\$ 65,242	3.6%	\$ 12.14	\$ 66,202	3.1%	\$ 10.92	\$ 960		
DIVISION 33 - UTILITIES	\$ 36,100	2.0%	\$ 6.72	\$ 35,350	1.6%	\$ 5.83	\$ (750)		
RENOVATION & ADDITION DIRECT COST	\$ 1,810,369	100.0%	\$ 336.88	\$ 2,149,240	100.0%	\$ 354.63	\$ 338,871		
			5374			6061			
GARAGE/EVIDENCE STORAGE BLDG DIRECT COST	\$ 331,523		\$ 354.57	\$ 339,174		\$ 362.75	\$ 7,651		
			935			935			
TOTAL DIRECT COST	\$ 2,141,892			\$ 2,488,414			\$ 346,522		
GENERAL CONDITIONS	10%	\$ 214,189		\$ 248,841			\$ 34,652		
GENERAL ADMINISTRATIVE O&P	8%	\$ 188,486		\$ 218,980			\$ 30,494		
P&P BOND	1.5%	\$ 38,169		\$ 44,344			\$ 6,175		
DESIGN CONTINGENCY	5%	\$ 129,137	0%	\$ -			\$ (129,137)		
ESCALATION (spring 2024)	4%	\$ 108,475	2%	\$ 60,012			\$ (48,463)		
TOTAL ESTIMATED CONSTRUCTION COST / BID	\$ 2,820,348			\$ 3,060,591			\$ 240,243		
CONSTRUCTION CONTINGENCY	0%	\$ -	8%	\$ 244,847			\$ 244,847		
RECOMMENDED CONSTRUCTION BUDGET	\$ 2,820,348			\$ 3,305,438			\$ 485,090		
FFE	\$ 75,000			\$ 75,000			\$ -		
ARCHITECT FEES (bidding and contract administration)	\$ 180,750			\$ 79,750			\$ (101,000)		
OWNER'S PROJECT MANAGER FEES	\$ -			\$ 90,000			\$ 90,000		
TOTAL ESTIMATED PROJECT COST	\$ 3,076,098			\$ 3,550,188			\$ 474,090		

CARLISLE POLICE STATION COST ESTIMATE									
90% CD VALUE MANAGEMENT ITEMS									
	Quantity	Unit	Unit Cost	Total	Adjusted Unit Cost	Adjusted Total	Total Reduction		
Existing Conditions	1400	SF	\$ 3	\$ 4,200			\$ 4,200	\$ 4,200	Can reduce if the finishes are not updated
Masonry								\$ 11,530	
2" cmu sill (clad fnd 2 piece 3/A-5.1)	54	LF	\$ 65	\$ 3,510			\$ 3,510		
Low wall @ booking dest (2'10"H)	36	SF	\$ 45	\$ 1,620			\$ 1,620		
Cell door	2	LOC	\$ 2,000	\$ 4,000			\$ 4,000		
Cell plumb fix.	2	LOC	\$ 1,200	\$ 2,400			\$ 2,400		
Metals							\$ -		increase due to steel unit cost
Woods							\$ -	\$ 3,250	see the breakdown
New 2nd Floor Window Open:							\$ -		
Cut-in frame south gable open	1	LOC	\$ 500	\$ 500			\$ 500		
Cut-in frame north gable enlarged open	1	LOC	\$ 750	\$ 750			\$ 750		
South gable open	2	LOC	\$ 500	\$ 1,000			\$ 1,000		
North gable enlarged open	2	LOC	\$ 500	\$ 1,000			\$ 1,000		
Thermal							\$ -		Increase due to code changes
Openings							\$ -	\$ 76,270	
New Window(A-6.2):	18	SF	\$ 150	\$ 2,700			\$ 2,700	\$ 7,950	
South gable open (2 EA)	33	SF	\$ 150	\$ 4,950			\$ 4,950		
North gable open (2 EA)	2	PR	\$ 150	\$ 300			\$ 300		
Type L Prefinished Sallyport Dr (9'x8')	1	EA	\$ 15,000	\$ 15,000	\$ 5,000	\$ 5,000	\$ 10,000		
Type E Replace Swinging Cell Dr Complete	2	EA	\$ 18,500	\$ 37,000			\$ 37,000		
Fitness Rm Mirror(2 loc)	140	SF	\$ 88	\$ 12,320			\$ 12,320	\$ 21,320	
Temp Glass Wall Panel Main Lobby(A-4.5)	40	SF	\$ 200	\$ 8,000			\$ 8,000		
Int Custom Logo @ Glass DR(A-4.5)	2	LOC	\$ 500	\$ 1,000			\$ 1,000		
Finishes							\$ -	\$ 58,236	
Switch to wood studs	2	sf	\$ 2,700	\$ 5,400			\$ 5,400		
Exercise rm ACB-1 (btw joistA4.6)	380	SF	\$ 25	\$ 9,500			\$ 9,500		
Resilent Athletic flooring(096566)	377	SF	\$ 25	\$ 9,425	\$ 13	\$ 4,901	\$ 4,524		
Rubber Tile (0965190)	746	SF	\$ 22	\$ 16,412	\$ 10	\$ 7,460	\$ 8,952		
Acoustical Wall Tile:							\$ -		
2nd flr open office(A-4.5)	230	SF	\$ 45	\$ 10,350			\$ 10,350		
Comm./Train.(A-4.4)	120	SF	\$ 45	\$ 5,400			\$ 5,400		
Cork Wall Tile(12"x24"):							\$ -		
Main Lobby(A-4.5)	66	SF	\$ 35	\$ 2,310			\$ 2,310		
Delete finishes at unchanged rooms	1400	sf	\$ 7	\$ 9,800			\$ 9,800		
South gable @ window open.	1	LOC	\$ 500	\$ 500			\$ 500		
North gable @ window open.	2	LOC	\$ 750	\$ 1,500			\$ 1,500		
Specialties							\$ -	\$ 6,915	
Misc Toilet Accessories	1	LS	\$ 1,500	\$ 1,500			\$ 1,500		
105100 METAL LOCKERS							\$ -		
Mens & Womens Locker Rm:							\$ -		
Locker (15"w x18"d x5-6'h)	26	EA	\$ 390	\$ 10,140	\$ 21	\$ 8,190	\$ 1,950		
Custom attached 12" bench (A-4.3)	21	LF	\$ 165	\$ 3,465			\$ 3,465		
Casework							\$ -	\$ 39,060	
2nd Floor Open Office :							\$ -		
Solid surf. counter 30"D (nic cab)	36	LF	\$ 315	\$ 11,340			\$ 11,340		
Open base cab 30"D(nic ctr)	36	LF	\$ 350	\$ 12,600			\$ 12,600		
Solid Wd service counter lobby (1 loc)	5	LF	\$ 350	\$ 1,750			\$ 1,750		
Solid surf. lav ctr (2 loc)	10	LF	\$ 385	\$ 3,850			\$ 3,850		
P-lam counter instead of solid surface	68	lf	\$ 140	\$ 9,520			\$ 9,520		
							\$ 195,261	\$ 199,461	
Garage									
Masonry									
2" cmu sill (clad fnd 2 piece 3/A-5.1)	99	LF	\$ 65	\$ 6,435			\$ 6,435		
Openings									
Type L Vehicle Garage (9'x8')	2	EA	\$ 15,000	\$ 30,000	\$ 5,000	\$ 10,000	\$ 20,000		
Finishes									
Furr & 1 lyr 1/2" or 5/8 @ roof frame	935	SF	\$ 13	\$ 12,155			\$ 12,155		
RB Resilient wall base @ int part.	40	LF	\$ 4	\$ 154			\$ 154		
HVAC									
EF/ Louvers & Duct	1	LS	\$ 10,000	\$ 10,000			\$ 10,000		
							\$ 48,744		