



Town of Truro - DPW Facility

Feasibility Study

August 2, 2023



PROJECT SCOPE

Project Description

The project is a new DPW facility in the Town of Truro. Estimate based on feasibility study report on 5 sites.

DPW Building

Conventional concrete foundations and slab on grade, steel framed structure

Salt Shed

pre-cast concrete block walls, geosynthetic reinforced soil pad, truss arch framing, tensioned fabric roof assembly

Building structure demolition and hazardous material abatement

Sitework including bulk earth moving, paving and surfacing, exterior improvements, site utilities

Project Particulars

Pricing based on Feasibility study report dated May 1st, 2023 prepared by Weston & Sampson

Design Team clarifications and supplemental information during estimating production period

Detailed quantity takeoffs where possible from design package documents

CHA Companies, Inc. site visit to discover existing conditions

CHA Companies, Inc. experience with similar projects of this nature

Project Schedule

Project Start - anticipated start of construction Q2, 2024 for a duration of 19 months

Escalation and Market Contingency allowance from now to anticipated construction starts has been carried in the Main

Cost Estimate Information

Cost Estimate has been prepared by CHA Consulting, Inc.

Project Team Leader is; Bruce Jensen ph.: (518) 453-3970, email: bjensen@chacompanies.com

MAIN SUMMARY

ELEMENT				340 Rt 6	Town Hall Rd (Snow Field)	Town Hall Rd (Conservation Trust)	Walsh Property	Sandpit Road
				33,783 GSF	27,226 GSF	27,226 GSF	35,416 GSF	32,696 GSF
New DPW Building				\$16,215,840	\$13,068,480	\$13,068,480	\$16,999,680	\$15,694,080
Salt Shed				\$556,800	\$522,000	\$522,000	\$478,500	\$576,288
Sitework				\$3,104,643	\$5,235,533	\$4,004,533	\$3,575,477	\$3,602,849
Direct Trade Details SubTotal				\$19,877,283	\$18,826,013	\$17,595,013	\$21,053,657	\$19,873,217
Design and Pricing Contingency				10.00%	\$1,988,000	\$1,883,000	\$1,760,000	\$2,106,000
Direct Trade Cost Total					\$21,865,283	\$20,709,013	\$19,355,013	\$23,159,657
Burdens and Markups								
General Conditions, Project Requirements, Overhead				16 MTH \$81,000	\$1,296,000	\$1,296,000	\$1,296,000	\$1,296,000
General Conditions - prior to mobilization, project closeout				3 MTH \$20,250	\$61,000	\$61,000	\$61,000	\$61,000
General Liability Insurance				1.25%	\$291,000	\$276,000	\$259,000	\$291,000
Performance and Payment Bonds				1.50%	\$353,000	\$336,000	\$315,000	\$353,000
Profit				6.00%	\$1,432,000	\$1,361,000	\$1,278,000	\$1,432,000
Estimated Construction Cost Total					\$25,298,283	\$24,039,013	\$22,564,013	\$26,708,657
Escalation and Current Market Volatility								
Contingency from now to anticipated Start of Construction				4.33%	\$1,095,000	\$1,041,000	\$977,000	\$1,156,000
Estimated Construction Cost Total Including Escalation					\$26,393,283	\$25,080,013	\$23,541,013	\$27,864,657
Stretch Code ADD (5%-9%)				7.00%	\$1,770,880	\$1,682,731	\$1,579,481	\$1,869,606
Estimated Construction Cost Total Including Stretch Code					\$28,164,163	\$26,762,744	\$25,120,494	\$29,734,263

CLARIFICATIONS

Project Assumptions

Conventional Design/Bid/Build process.

The project will be procured in accordance with the requirements of Massachusetts General Laws Chapter 149, including trade sub-bids.

Our costs assume that there will be at least three subcontractors submitting unrestricted bids in each trade bid.

The Total Estimated Construction Cost reflects the fair construction value of this project in a competitive bidding market and includes cost escalation to cover the construction duration.

Direct trade unit rates include prevailing wage labor rates and escalation to mid-point of construction duration. These unit rates continue to be updated during the design phase.

Construction during normal working hours.

Noise and vibration disturbances are anticipated and will be minimized or avoided during normal business hours.

Lay-down/storage area, jobsite shed and trailers, and construction site entrance will be located adjacent to Project area.

Temporary electrical and water site utility connections will be available. General Conditions value includes utility connections and consumption costs.

Existing water pressure is adequate.

Subcontractors' markups are included in each unit rate. These markups cover field and home office overhead and subcontractors' profit.

Design and Pricing Contingency markup is an allowance for unforeseen design issues, design detail development and specification clarifications during the design period. This allowance typically reduces during the design period, to more accurately reflect the designed scope of work progress.

General Conditions covers supervision, general facilities to support Project, and site office overheads that are not attributable to the direct trade costs.

Project Requirements value covers staging and access, temporary protection, and cleaning.

Construction Cost Estimate Exclusions

Unforeseen Conditions Contingency.

Work beyond the boundary of the site.

Site or existing condition surveys and investigations.

Architectural/Engineering; Designer and other Professional fees, testing, printing, surveying.

Owner's administration; legal fees, advertising, permitting, Owner's insurance, administration, interest expense.

Owner's site representation and project administration.

Project costs; utility company back charges, construction of swing space and temporary facilities, program related phasing, relocation.

Owner furnished and installed products, A/V equipment, computer networking, desks, chairs, furnishings, equipment, artwork, loose case goods and other similar items.

LEED Certification and Commissioning process.

Third Party testing and commissioning.

Environmental permitting.

Building permit fees.

Police details and street/sidewalk permits.

SITWORK DIRECT TRADE COST DETAILS

			340/344 Route 6		24 Town Hall (Snow field)		24 Town Hall (Conservation Trust)		Walsh Property		2 Sandpit Road	
ELEMENT	UNIT RATE	UNIT	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST
02 DEMOLITION												
02 41 16 Demolition												
Existing building demolition	\$20.00	SF			16,300	\$326,000	16,300	\$326,000				
Misc. Demo allowance	\$25,000.00	AL	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000
02 41 16 Demolition Total				\$25,000	\$351,000		\$351,000		\$25,000		\$25,000	
02 82 33 Asbestos Abatement												
Misc. Haz Removals Allowance					1	\$25,000	1	\$25,000			1	\$5,000
02 82 33 Asbestos Abatement Total					\$25,000		\$25,000				\$5,000	
31 EARTHWORK												
31 00 00 Mobilization & Erosion												
Clearing												
Clearing & grubbing	\$12,500.00	ACRE	3.0	\$37,305	3.7	\$45,914	3.7	\$45,914	3.9	\$48,783	4.8	\$60,296
R & D trees (Included stump); assumed				INC ABOVE	INC ABOVE		INC ABOVE		INC ABOVE		INC ABOVE	
Mobilization Operations												
Mobilization	\$25,000.00	LS	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000
Construction fence installation and maintenance	\$16.00	LF	1,800	\$28,800	2,000	\$32,000	2,000	\$32,000	2,500	\$40,000	2,388	\$38,208
Double construction gate	\$2,500.00	EA	1	\$2,500	1	\$2,500	1	\$2,500	1	\$2,500	1	\$2,500
Temporary construction entrance	\$7,500.00	LS	1	\$7,500	1	\$7,500	1	\$7,500	1	\$7,500	1	\$7,500
Temporary signs	\$5,000.00	LS	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000
Wash down/re-fueling/parking areas	\$5,000.00	EA	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000
Tree to protect	\$5,000.00	AL	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000
Erosion and Sedimentation Controls												
Erosion control barrier; install and maintenance	\$14.00	LF	1,800	\$25,200	2,000	\$28,000	2,000	\$28,000	2,500	\$35,000	2,388	\$33,432
Erosion control barrier at temp construction period soil stockpile	\$5,000.00	AL	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000
Silt sacks in all ex. drainage structures	\$8,500.00	AL	1	\$8,500	1	\$8,500	1	\$8,500	1	\$8,500	1	\$8,500
Misc. Environmental Protections	\$10,000.00	AL	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000
31 00 00 Mobilization & Erosion Total				\$164,805	\$179,414		\$179,414		\$197,283		\$205,436	
31 00 00 Earthwork												
Strip and stockpile topsoil in existing areas	\$11.00	CY	5,216	\$57,377	2,963	\$32,593	2,963	\$32,593	6,296	\$69,259	3,891	\$42,802
Export of existing topsoil	\$15.00	CY	5,086	\$76,296	2,843	\$42,639	2,843	\$42,639	6,167	\$92,500	3,826	\$57,395
Cut and Fill												
Cut/Fill; assumed 2' avg	\$35.00	CY	10,593	\$370,741	15,309	\$535,802	15,309	\$535,802	13,852	\$484,815	17,121	\$599,234
Cut soil for Fuel pit	\$45.00	CY	444	\$20,000	444	\$20,000	444	\$20,000	444	\$20,000	330	\$14,840
Export of existing				INC ABOVE	INC ABOVE		INC ABOVE		INC ABOVE		INC ABOVE	
Rough and fine grading	\$0.75	SF	130,000	\$97,500	160,000	\$120,000	160,000	\$120,000	170,000	\$127,500	210,121	\$157,591
Dewatering	\$5,000.00	MO	4	\$20,000	4	\$20,000	4	\$20,000	4	\$20,000	4	\$20,000
31 00 00 Earthwork Total				\$641,914	\$771,034		\$771,034		\$814,074		\$891,862	
32 EXTERIOR IMPROVEMENTS												
32 10 00 Paving and Surfacing												
Vehicular Paving												
New Heavy Duty asphalt vehicular driveway; 5" thick	\$5.45	SF	68,000	\$315,010	73,000	\$338,173	73,000	\$338,173	82,000	\$379,865	116,256	\$538,556
Gravel base; 16" thick	\$38.00	CY	2,854	\$108,452	3,064	\$116,432	3,064	\$116,432	3,442	\$130,796	4,880	\$185,440
New Light Duty Bituminous Pavement, 3.5" thick	\$4.00	SF	10,200	\$40,800	10,950	\$43,800	10,950	\$43,800	12,300	\$49,200	17,438	\$69,754
Gravel base; 12" thick	\$25.00	CY	378	\$9,450	406	\$10,150	406	\$10,150	456	\$11,400	646	\$16,150
Restore main entrances	\$10,000.00	LOC	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000

SITework DIRECT TRADE COST DETAILS

			340/344 Route 6		24 Town Hall (Snow field)		24 Town Hall (Conservation Trust)		Walsh Property		2 Sandpit Road	
ELEMENT	UNIT RATE	UNIT	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST
62 Pavement Markings & Signage												
63 Parking stall painting	\$45.00	SPACE	21	\$945	22	\$990	22	\$990	22	\$990	36	\$1,620
64 HC parking stall painting, signage, stop bar	\$550.00	SPACE	2	\$1,100	2	\$1,100	2	\$1,100	2	\$1,100	2	\$1,100
65 Misc. pavement marking	\$15,000.00	AL	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000
66 Traffic signage	\$5,000.00	AL	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000	1	\$5,000
67 Curbing												
68 Monolithic curbing	\$40.00	LF	1,000	\$40,000	1,000	\$40,000	1,000	\$40,000	1,000	\$40,000	1,082	\$43,280
69 HMA berm; assumed	\$11.00	LF	250	\$2,750	250	\$2,750	250	\$2,750	250	\$2,750	250	\$2,750
70 Pedestrian Paving												
71 Concrete sidewalk; broom swept	\$11.50	SF	1,250	\$14,375	1,250	\$14,375	1,250	\$14,375	1,000	\$11,500	1,800	\$20,700
72 Gravel base; 8"	\$32.00	CY	34	\$1,088	34	\$1,088	34	\$1,088	27	\$864	49	\$1,568
73 Curb Stops	\$500.00	EA	3	\$1,500	3	\$1,500	3	\$1,500	3	\$1,500	3	\$1,500
74 Curb cuts	\$850.00	EA	3	\$2,550	3	\$2,550	3	\$2,550	3	\$2,550	3	\$2,550
75 Equipment Paving												
76 Concrete Pavement - Utility pads	\$35.00	SF	500	\$17,500	500	\$17,500	500	\$17,500	500	\$17,500	500	\$17,500
77 Gravel base; 8" thick	\$32.00	CY	14	\$448	14	\$448	14	\$448	14	\$448	14	\$448
78 32 10 00 Paving and Surfacing Total				\$585,968		\$620,856		\$620,856		\$680,463		\$932,916
81 32 20 00 Site Furnishings												
82 Site Furnishings												
83 F&I Exterior Wayfinding Signage	\$15,000.00	EA	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000
84 F&I Info Board; assumed	\$10,000.00	EA	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000
85 Bollards; assumed	\$900.00	EA	25	\$22,500	25	\$22,500	25	\$22,500	25	\$22,500	25	\$22,500
86 Retaining Walls												
87 Segmental Retaining Wall; Varying Heights	\$65.00	SF	5,250	\$341,250	9,410	\$611,650	9,410	\$611,650	3,540	\$230,100		
88 Storage Bin Compartment Walls, 8' high	\$45.00	SF	1,040	\$46,800	600	\$27,000	800	\$36,000	800	\$36,000		
89 Fencing & Gates												
90 Dumpster Enclosure	\$14,500.00	LS	1	\$14,500	1	\$14,500	1	\$14,500	1	\$14,500	1	\$14,500
91 6' Chain Link Fence; assumed	\$65.00	LF	250	\$16,250	250	\$16,250	250	\$16,250	250	\$16,250	250	\$16,250
92 Flag pole and foundations	\$10,000.00	EA	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000
93 Misc. site improvement other than above	\$10,000.00	LS	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000
94 32 20 00 Site Furnishings Total				\$486,300		\$736,900		\$745,900		\$364,350		\$98,250
97 32 90 00 Landscaping												
98 Landscaping Soils												
99 Screen & Respread top soil	\$25.00	CY	130	\$3,241	120	\$3,009	120	\$3,009	130	\$3,241	65	\$1,620
100 Soil amendment; assumed 10%	\$65.00	CY	13	\$843	12	\$782	12	\$782	13	\$843	6	\$421
101 Import topsoil for planting beds	\$65.00	CY	15	\$963	15	\$963	15	\$963	15	\$963	15	\$963
102 Plantings - assumed quantities												
103 Trees; assumed	\$2,150.00	EA	5	\$10,750	5	\$10,750	5	\$10,750	5	\$10,750	5	\$10,750
104 Shrubs; assumed	\$85.00	EA	85	\$7,225	85	\$7,225	85	\$7,225	85	\$7,225	50	\$4,250
105 Perennials & Grasses; assumed	\$15.00	EA	120	\$1,800	120	\$1,800	120	\$1,800	120	\$1,800	80	\$1,200
106 Seeding & Turf												
107 Lawn Areas	\$1.25	SF	7,000	\$8,750	6,500	\$8,125	6,500	\$8,125	7,000	\$8,750	3,500	\$4,375
108 Planting Areas	\$2.50	SF	200	\$500	200	\$500	200	\$500	200	\$500	200	\$500
109 32 90 00 Landscaping Total				\$34,071		\$33,155		\$33,155		\$34,071		\$24,080

SITWORK DIRECT TRADE COST DETAILS

			340/344 Route 6		24 Town Hall (Snow field)		24 Town Hall (Conservation Trust)		Walsh Property		2 Sandpit Road	
ELEMENT	UNIT RATE	UNIT	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST
33 SITE UTILITIES												
33 10 00 Water												
6" DI Water Main; incoming service	\$195.00	LF	250	\$48,750	2,500	\$487,500	500	\$97,500	1,000	\$195,000	250	\$48,750
6" DI Water Main; building loop	\$125.00	LF	500	\$62,500	500	\$62,500	500	\$62,500	500	\$62,500	500	\$62,500
Snow field modifications incl restoration	\$950,000.00	LS			1	\$850,000						
Gate valve; 6"	\$2,100.00	EA	2	\$4,200	2	\$4,200	2	\$4,200	2	\$4,200	2	\$4,200
Hydrant and 6" gate valve	\$4,200.00	EA	2	\$8,400	2	\$8,400	2	\$8,400	2	\$8,400	2	\$8,400
Firepump	\$25,000.00	EA	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000
Cistern	\$35,000.00	EA			1	\$35,000	1	\$35,000	1	\$35,000	1	\$35,000
Connection To Existing	\$7,500.00	EA	1	\$7,500	1	\$7,500	1	\$7,500	1	\$7,500	1	\$7,500
33 10 00 Water Total				\$156,350		\$1,480,100		\$240,100		\$337,600		\$191,350
33 30 00 Sanitary Sewer												
4" SCH 80 PVC Sanitary line	\$75.00	LF	300	\$22,500	300	\$22,500	300	\$22,500	300	\$22,500	300	\$22,500
6" SCH PVC Sanitary Waste line	\$85.00	LF	25	\$2,125	25	\$2,125	25	\$2,125	25	\$2,125	25	\$2,125
Oil Water Separator	\$25,000.00	EA	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000
4000 Gal Septic Tank	\$20,000.00	EA	1	\$20,000	1	\$20,000	1	\$20,000	1	\$20,000	1	\$20,000
15000 Gal Tight Tank	\$45,000.00	EA	1	\$45,000	1	\$45,000	1	\$45,000	1	\$45,000	1	\$45,000
Leaching Trench (Primary and Reserve)	\$60.00	CY	125	\$7,500	125	\$7,500	125	\$7,500	125	\$7,500	125	\$7,500
Connection To Existing	\$7,500.00	EA	1	\$7,500	1	\$7,500	1	\$7,500	1	\$7,500	1	\$7,500
33 30 00 Sanitary Sewer Total				\$129,625		\$129,625		\$129,625		\$129,625		\$129,625
33 40 00 Storm Sewer												
Stormwater Systems	\$2.65	GSF	130,000	\$344,500	160,000	\$424,000	160,000	\$424,000	170,000	\$450,500	210,121	\$556,821
33 40 00 Storm Sewer Total				\$344,500		\$424,000		\$424,000		\$450,500		\$556,821
33 60 00 Fuel Distribution												
Gas line: trench & backfill only; assumed (line by utility)	\$45.00	LF	400	\$18,000	300	\$13,500	300	\$13,500	400	\$18,000	400	\$18,000
Fuel Pump	\$75,000.00	LS	1	\$75,000	1	\$75,000	1	\$75,000	1	\$75,000	1	\$75,000
Connection To Existing	\$1,850.00	EA	1	\$1,850	1	\$1,850	1	\$1,850	1	\$1,850	1	\$1,850
33 60 00 Fuel Distribution Total				\$94,850		\$90,350		\$90,350		\$94,850		\$94,850
33 71 00 * Site Electrical												
<i>Electrical Distribution</i>												
Primary pole riser 3-4" GRC	\$6,500.00	EA	1	\$6,500	1	\$6,500	1	\$6,500	1	\$6,500	1	\$6,500
Primary service 3x 4" PVC duct bank only (Conduit & Feeders by Utility)	\$90.00	LF	500	\$45,000	350	\$31,500	350	\$31,500	500	\$45,000	500	\$45,000
Transformer pad (transformer by utility)	\$5,500.00	EA	1	\$5,500	1	\$5,500	1	\$5,500	1	\$5,500	1	\$5,500
Transformer pad grounding	\$2,000.00	EA	1	\$2,000	1	\$2,000	1	\$2,000	1	\$2,000	1	\$2,000
Secondary service (4) 4" PVC with 12 400 MCM cable	\$160.00	LF	100	\$16,000	100	\$16,000	100	\$16,000	140	\$22,400	140	\$22,400
Underground Electrical Ductbank	\$155.00	LF	500	\$77,500	350	\$54,250	350	\$54,250	500	\$77,500	500	\$77,500
<i>Emergency power with conduit and wire</i>												
Emergency diesel generator 250KW w/ 2 ATS and emergency load bank	\$145,000.00	LS	1	\$145,000	1	\$145,000	1	\$145,000	1	\$145,000	1	\$145,000
Emergency distribution conduit & wire from emergency generator to building- 2sets of 4 inch PVC Conduit with 8 600MCM cable	\$612.00	LF	80	\$48,960	80	\$48,960	80	\$48,960	80	\$48,960	80	\$48,960
Excavation & backfill	\$55.00	LF	500	\$27,500	350	\$19,250	350	\$19,250	500	\$27,500	500	\$27,500
Electrical charging station; wiring	\$6,500.00	EA	2	\$13,000	2	\$13,000	2	\$13,000	2	\$13,000	2	\$13,000

SITWORK DIRECT TRADE COST DETAILS

			340/344 Route 6		24 Town Hall (Snow field)		24 Town Hall (Conservation Trust)		Walsh Property		2 Sandpit Road	
ELEMENT	UNIT RATE	UNIT	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST
<i>165 Site Communications Systems</i>												
<i>166</i> Communication pole riser 4-4" GRC	\$2,000.00	EA	1	\$2,000	1	\$2,000	1	\$2,000	1	\$2,000	1	\$2,000
<i>167</i> Communication service	\$30.00	LF	150	\$4,500	120	\$3,600	120	\$3,600	150	\$4,500	150	\$4,500
<i>168</i> Excavation & backfill	\$42.00	LF	150	\$6,300	120	\$5,040	120	\$5,040	150	\$6,300	150	\$6,300
<i>169 Site Circuitry</i>												
<i>171</i> Site Power; Conduit & Wire; assumption	\$15,000.00	AL	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000
<i>172 Site Lighting</i>												
<i>173</i> Pedestrian Site Lighting	\$15,000.00	AL	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000
<i>174</i> Vehicular Site Lighting	\$10,000.00	AL	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000	1	\$10,000
<i>175</i> Flag Pole Lighting	\$1,500.00	AL	1	\$1,500	1	\$1,500	1	\$1,500	1	\$1,500	1	\$1,500
<i>176</i> 33 71 00 * Site Electrical Total				\$441,260		\$394,100		\$394,100		\$447,660		\$447,660

Responsibly Improving the World We Live In

