



# HAFFERMAN ENGINEERING, INC.

Client Name: Timbrshor HOA

HEI Job File No.: T.58.2

Project Type: Water System Design

Date: 12-Jun-20

Subject: Three System Water Development Costs

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Well #4		Units = 20		MDEQ Peak Flow Rate 60		
Item	Unit	Quantity	\$/Unit	Cost	Comment	
Trench and Backfill	LF	1150	\$ 5.10	\$ 5,865	Excavation and Backfill	
Bedding Sand	CY	127	\$ 48.00	\$ 6,096	In place PolyCor pipe bedding	
Rock Excavation	CY	147	\$ 67.50	\$ 9,898	Rock excavation at pump house, at storage tanks and across east ridge	
2" PolyCor Piping	LF	1150	\$ 29.50	\$ 33,925	Water Distribution Pipe Connections and Welding	
3/4" Water Service	EA	20	\$ 675.00	\$ 13,500	Corpstop at each connect,, installed	
1" water service	EA	1	\$ 875.00	\$ 875	Corpstop at well for frost free hydrant	
Pressure Relief valve	EA	2	\$ 1,250.00	\$ 2,500	As Installed	
Frost Free Hydrant	EA	3	\$ 900.00	\$ 2,700	Line End Blow off	
Well Pump, pipe, pump controls and Installation	EA	1	\$ 24,580.00	\$ 24,580	25 gpm pump installed at 200 ft. btc with controls, wiring and plumbing	
Pump House	EA	1	\$ 14,700.00	\$ 14,700	Exterior Pump House 13 ft. x 11 ft. Finished, with asphalt roof	
Well X-Troll 350 Tanks	EA	4	\$ 1,250.00	\$ 5,000	Pressure tanks installed inside of pump house	
1800 gal Storage Tanks with plumbing, valves and bulkhead connections	EA	3	\$ 5,500.00	\$ 16,500	Tanks, piping, controls, floats alarms, Excavation backfill and 2-pumps	
Storage Tank Pumps and Controls (2)	EA	2	\$ 12,500.00	\$ 25,000	Pumps in storage tanks 30 gpm each.	
14-inch borehole with 12-inch oversized with 8-inch casing and 6-inch PVC liner well developed in bedrock to 400 ft, bgs	EA	1	\$ 38,000.00	\$ 38,000	14-inch bore hole with 8-inch casing with 6-inch PVC liner	
		Subtotal		\$ 199,139		
		10% Contingency		\$ 19,914		
		Total Project Costs		\$ 219,053		
		Cost Per User		\$ 10,953		



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## Well #5 and Well 9 System

Units = 23

MDEQ Peak Flow Rate 69

Item	Unit	Quantity	\$/Unit	Cost	Comment
Trench and Backfill	LF	1660	\$ 5.10	\$ 8,466	Excavation and Backfill
Bedding Sand	CY	184	\$ 48.00	\$ 8,832	In place PolyCor pipe bedding 1 ft. deep
2" PolyCor Piping	LF	1660	\$ 29.50	\$ 48,970	Water Distribution Pipe
Rock Excavation	CY	52	\$ 67.50	\$ 3,510	Rock excavation below Peterson
3/4" Water Service	EA	21	\$ 675.00	\$ 14,175	Corpstop at each connect
1" water service	EA	2	\$ 875.00	\$ 1,750	Corpstop at well for frost free hydrant and at 4-plex
Pressure Relief valve	EA	1	\$ 1,250.00	\$ 1,250	Installed
Frost Free Hydrant	EA	3	\$ 900.00	\$ 2,700	One as a Blow off one at pump house for water service/testing
Well Pump, pump controls and Installation	EA	2	\$ 24,580.00	\$ 49,160	25 gpm pump installed at 200 ft. btc with controls, wiring and plumbing
Well X-Troll 350 tank installed	EA	4	\$ 1,250.00	\$ 5,000	Pressure tanks
Pump House	EA	1	\$ 14,700.00	\$ 14,700	Exterior Pump House 13 ft. x 11 ft. Finished, with asphalt roof
1800 gal Storage Tanks with plumbing, valves and bulkhead connections 2 (ea)	EA	4	\$ 5,500.00	\$ 22,000	Tanks, piping, controls, floats alarms, Excavation backfill
Storage Tank Pumps and Controls (2)		2	\$ 12,500.00	\$ 25,000	Pumps in storage tanks 35 gpm each.
14-inch borehole with 12-inch oversized with 8-inch casing and 6-inch PVC liner well developed in bedrock to 400 ft, bgs	EA	1	\$ 38,000.00	\$ 38,000	14-inch bore hole with 8-inch casing with 6-inch PVC liner
		Subtotal		\$ 243,513	
		10% Contingency		\$ 24,351	
		Total Project Costs		\$ 267,864	
		Cost Per User		\$ 11,646	



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<b>McCarthy well</b>		<b>Units = 4</b>		<b>MDEQ Peak Flow Rate 12</b>		
Item	Unit	Quantity	\$/Unit	Cost	Comment	
Trench and Backfill	LF	350	\$ 5.10	\$ 1,785.00	Excavation and Backfill	
Bedding Sand	CY	40	\$ 48.00	\$ 1,920.00	In place PolyCor pipe bedding	
2" PolyCor Piping	LF	350	\$ 29.50	\$ 10,325.00	Water Distribution Pipe	
3/4" Water Service	EA	3	\$ 675.00	\$ 2,025.00	Corpstop at each connect	
Frost Free Hydrant	EA	1	\$ 375.00	\$ 375.00	Well water supply and testing	
Existing Well Modifications	EA	1	\$ 5,500.00	\$ 5,500.00	Inspect pitless install superior bentonite seal	
Pump, pump controls relocation	EA	1	\$ 2,500.00	\$ 2,500.00	Assumes 15 gpm pump will not be replaced, new controls, wiring and plumbing	
Well X-Troll 350 tank installed	EA	2	\$ 950.00	\$ 1,900.00	Pressure tanks	
Pump House	EA	1	\$ 8,500.00	\$ 8,500.00	Exterior Pump House attached to existing structure, 10 ft. x 8 ft. Finished, with asphalt roof	
			Subtotal	\$ 34,830.00		
			10% Contingency	\$ 3,483.00		
			Total Project Costs	\$ 38,313.00		
			Cost Per Unit	\$ 9,578.25		



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Total Project Costs Summary		Units Served	Cost/Unit
Total Costs Well #4	\$ 219,053	20	\$ 10,953
Total Costs Well #5 and #9	\$ 267,864	15	\$ 17,858
Total Costs McCarty	\$ 38,313	4	\$ 9,578
Total Unit Connections		39	
Total Project Costs	\$		525,231
Average Cost Per User	\$		11,175
Individual Connections Cost Estimate	\$		2,214
Installed Cistern Cost Estimate	\$		5,808