



SHANNON ENTERPRISES of W.N.Y., Inc.

INSULTECH® Energy Survey Proposal - Infrared Measurements



Proposed By: *Shannon Enterprises of W.N.Y., Inc.*

Rep. By: *R. L. Stone Company*

Proposed For: **Bath VA Hospital**

Bath NY

Quote / WO#: 24582

Survey Date: 06/05/12

Fuel Cost (\$/mmBTU): **\$9.19**

Operating Hours per Year: 8760

Survey Completed By: Josh Murry

Insulation Thickness: 1.50

Design: LT450-SS

Amb. Temp: 80

Wind Speed: 0 MPH

QTY	Tag #	Description / Location	Meas. Surface Temp.	Area (Ea.) (Sq.ft.)	Bare Heat Loss (BTU/Hr)	Bare Heat Loss (\$/Year)	Insulated Heat Loss (BTU/Hr)	Insulated Oper. Cost (\$/Year)	Insultech Unit Cost	Insultech Total Cost
		Bld 31								
2	1	2" Regulating Valve, 150#	225	5.20	4,825.60	\$388.48	475.76	\$38.30		
2	2	2" Valve, Gate/Globe/CK, 150#	260	2.21	2,545.92	\$204.96	251.01	\$20.21		
1	3	2" Regulating Valve, 150#	310	5.20	3,827.20	\$308.11	377.33	\$30.38		
1	4	2" Strainer, 150#	310	2.21	1,626.56	\$130.95	160.37	\$12.91		
1	5	2" Valve, Gate/Globe/CK, 150#	270	2.21	1,343.68	\$108.17	132.48	\$10.66		
1	6	3" Valve, Gate/Globe, 150#	310	3.37	2,480.32	\$199.68	244.54	\$19.69		
1	7	6" Valve, Gate/Globe, 150#	330	7.03	5,624.00	\$452.76	554.48	\$44.64		
1	8	6" Flanges Pipe Spool 12" L	330	2.80	2,240.00	\$180.33	220.85	\$17.78		
1	9	6" Orifice Meter	320	12.70	9,753.60	\$785.21	961.62	\$77.41		
1	10	6" Flange, 150#	320	2.31	1,774.08	\$142.82	174.91	\$14.08		
1	11	2-1/2" Valve, Gate/Globe, 150#	320	2.97	2,280.96	\$183.63	224.88	\$18.10		
1	12	2-1/2" Strainer, 150#	320	2.97	2,280.96	\$183.63	224.88	\$18.10		
1	13	2-1/2" Regulating Valve, 150#	315	6.20	4,662.40	\$375.34	459.67	\$37.01		
1	14	2-1/2" Valve, Gate/Globe, 150#	315	2.97	2,233.44	\$179.80	220.20	\$17.73		
1	15	2-1/2" Valve, Gate/Globe, 150#	250	2.97	1,615.68	\$130.07	159.29	\$12.82		
1	16	2" Regulating Valve, 150#	265	5.20	3,078.40	\$247.82	303.50	\$24.43		
1	17	2" Strainer, 150#	315	2.21	1,661.92	\$133.79	163.85	\$13.19		
1	18	2" Valve, Gate/Globe/CK, 150#	315	2.21	1,661.92	\$133.79	163.85	\$13.19		
1	19	2" Pipe Spool	315	1.24	932.48	\$75.07	91.93	\$7.40		
1	20	2" Valve, Gate/Globe/CK, 150#	315	2.21	1,661.92	\$133.79	163.85	\$13.19		
1	21	8" Bonnet	325	5.40	4,233.60	\$340.82	417.40	\$33.60		
1	22	6" Bonnet	320	3.90	2,995.20	\$241.13	295.30	\$23.77		
1	23	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09		
1	24	3" Regulating Valve, 150#	280	7.10	4,544.00	\$365.81	448.00	\$36.07		
1	25	6" Bonnet	250	3.90	2,121.60	\$170.80	209.17	\$16.84		
1	26	6" Bonnet	330	3.90	3,120.00	\$251.17	307.61	\$24.76		
1	27	6" Bonnet	330	3.90	3,120.00	\$251.17	307.61	\$24.76		
1	28	6" Orifice Plate	320	2.09	1,605.12	\$129.22	158.25	\$12.74		
1	29	10" Bonnet	320	7.20	5,529.60	\$445.16	545.17	\$43.89		
1	30	10" Bonnet	320	7.20	5,529.60	\$445.16	545.17	\$43.89		
1	31	8" Bonnet	320	5.40	4,147.20	\$333.87	408.88	\$32.92		
1	32	1-1/2" Regulating Valve, 150#	330	4.60	3,680.00	\$296.26	362.82	\$29.21		
1	33	2-1/2" Regulating Valve, 150#	320	6.20	4,761.60	\$383.33	469.45	\$37.79		
1	34	2" Valve, Gate/Globe/CK, 150#	315	2.21	1,661.92	\$133.79	163.85	\$13.19		
1	35	6" Bonnet	250	3.90	2,121.60	\$170.80	209.17	\$16.84		
1	36	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09		
1	37	2" Valve, Gate/Globe/CK, 150#	190		777.92	\$62.63	76.70	\$6.17		

1	38	4" Valve,Gate/Globe,150#	190	4.68	1,647.36	\$132.62	162.42	\$13.08	
1		4" Valve,Gate/Globe,150#	190	4.68	1,647.36	\$132.62	162.42	\$13.08	
1	39	3" Valve,Gate/Globe,150#	190	3.37	1,186.24	\$95.50	116.95	\$9.42	
1		3" Valve,Gate/Globe,150#	190	3.37	1,186.24	\$95.50	116.95	\$9.42	
1	40	2-1/2" Valve,Gate/Globe,150#	190	2.97	1,045.44	\$84.16	103.07	\$8.30	
1		2-1/2" Valve,Gate/Globe,150#	190	2.97	1,045.44	\$84.16	103.07	\$8.30	
1	41	4" Strainer,150#	150	4.68	1,048.32	\$84.39	103.36	\$8.32	
1	42	4" Flg Fex Hose	150	1.30	291.20	\$23.44	28.71	\$2.31	
1	43	4" Flg Fex Hose	150	1.30	291.20	\$23.44	28.71	\$2.31	
1	44	6" Valve,Gate/Globe,150#	150	7.03	1,574.72	\$126.77	155.25	\$12.50	
1	45	10" Bonnet	300	7.20	5,068.80	\$408.06	499.74	\$40.23	
1	46	10" Bonnet	320	7.20	5,529.60	\$445.16	545.17	\$43.89	
1	47	3" Regulating Valve, 150#	320	7.10	5,452.80	\$438.97	537.60	\$43.28	
1	48	8" Bonnet	310	5.40	3,974.40	\$319.96	391.84	\$31.55	
1	49	6" Bonnet	315	3.90	2,932.80	\$236.10	289.15	\$23.28	
1	50	6" Bonnet	150	3.90	873.60	\$70.33	86.13	\$6.93	
1	51	4" Bonnet	275	2.80	1,747.20	\$140.66	172.26	\$13.87	
1	52	6" Regulating Valve, 150#	240	12.70	6,502.40	\$523.47	641.08	\$51.61	
1	53	6" Valve,Gate/Globe,150#	320	7.03	5,399.04	\$434.65	532.30	\$42.85	
1	54	6" Regulating Valve, 150#	320	12.70	9,753.60	\$785.21	961.62	\$77.41	
1	55	6" Valve,Gate/Globe,150#	320	7.03	5,399.04	\$434.65	532.30	\$42.85	
1	56	8" Bonnet	320	5.40	4,147.20	\$333.87	408.88	\$32.92	
1	57	8" Tee	320	9.30	7,142.40	\$574.99	704.18	\$56.69	
1	58	8" Valve,Gate/Globe,150#	320	10.30	7,910.40	\$636.82	779.90	\$62.79	
1	59	6" Bonnet	320	3.90	2,995.20	\$241.13	295.30	\$23.77	
1	60	8" Bonnet	320	5.40	4,147.20	\$333.87	408.88	\$32.92	
1	61	6" Vertex Meter	300	9.40	6,617.60	\$532.75	652.44	\$52.52	
1	62	6" Vertex Meter	300	9.40	6,617.60	\$532.75	652.44	\$52.52	
1	63	2" Regulating Valve, 150#	150	5.20	1,164.80	\$93.77	114.84	\$9.25	
1	64	2" Valve,Gate/Globe/CK,150#	150	2.21	495.04	\$39.85	48.81	\$3.93	
1	65	2" Valve,Gate/Globe/CK,150#	150	2.21	495.04	\$39.85	48.81	\$3.93	
1	66	2" Regulating Valve, 150#	290	5.20	3,494.40	\$281.31	344.52	\$27.74	
1	67	2" Strainer,150#	290	2.21	1,485.12	\$119.56	146.42	\$11.79	
1	68	6" Bonnet	290	3.90	2,620.80	\$210.99	258.39	\$20.80	
1	69	4" Tee	290	6.10	4,099.20	\$330.00	404.15	\$32.54	
74									
		Bld 30							
1	70	6" Bonnet	220	3.90	1,747.20	\$140.66	172.26	\$13.87	
1	71	4" Bonnet	200	2.80	1,075.20	\$86.56	106.01	\$8.53	
1	72	4" Regulating Valve, 150#	200	8.90	3,417.60	\$275.13	336.95	\$27.13	
1	73	4" Strainer,150#	200	4.68	1,797.12	\$144.68	177.18	\$14.26	
1	74	4" Bonnet	200	2.80	1,075.20	\$86.56	106.01	\$8.53	
5									
		Bld Hosp 7B							
1	75	6" Valve,Gate/Globe,150#	300	7.03	4,949.12	\$398.43	487.94	\$39.28	
1	76	3" Regulating Valve, 150#	300	7.10	4,998.40	\$402.39	492.80	\$39.67	
1	77	6" Valve,Gate/Globe,150#	300	7.03	4,949.12	\$398.43	487.94	\$39.28	
1	78	3" Valve,Gate/Globe,150#	300	3.37	2,372.48	\$191.00	233.91	\$18.83	
1	79	2" Valve,Gate/Globe/CK,150#	300	2.21	1,555.84	\$125.25	153.39	\$12.35	
1	80	2" Strainer,150#	300	2.21	1,555.84	\$125.25	153.39	\$12.35	

1	81	2" Regulating Valve, 150#	300	5.20	3,660.80	\$294.71	360.92	\$29.06	
1	82	2" Valve,Gate/Globe/CK,150#	300	2.21	1,555.84	\$125.25	153.39	\$12.35	
1	83	3" Valve,Gate/Globe,150#	230	3.37	1,617.60	\$130.22	159.48	\$12.84	
1	84	3" Strainer,150#	230	3.37	1,617.60	\$130.22	159.48	\$12.84	
1	85	2" Regulating Valve, 150#	210	5.20	2,163.20	\$174.15	213.27	\$17.17	
1	86	3" Valve,Gate/Globe,150#	310	3.37	2,480.32	\$199.68	244.54	\$19.69	
1	87	3" Strainer,150#	310	3.37	2,480.32	\$199.68	244.54	\$19.69	
1	88	2" Regulating Valve, 150#	310	5.20	3,827.20	\$308.11	377.33	\$30.38	
1	89	6" Valve,Gate/Globe,150#	280	7.03	4,499.20	\$362.21	443.58	\$35.71	
1	90	6" Flange, 150#	280	2.31	1,478.40	\$119.02	145.76	\$11.73	
1	91	1" Regulating Valve, 150#	230	3.40	1,632.00	\$131.38	160.90	\$12.95	
1	92	1-1/4" Regulating Valve, 150#	260	4.00	2,304.00	\$185.48	227.15	\$18.29	
18									
		<u>Hospital East Mech Basement</u>							
1	105	2" Valve,Gate/Globe/CK,150#	280	2.21	1,414.40	\$113.87	139.45	\$11.23	
1	106	2" Regulating Valve, 150#	280	5.20	3,328.00	\$267.92	328.11	\$26.41	
1	107	2" Strainer,150#	280	2.21	1,414.40	\$113.87	139.45	\$11.23	
1	108	2" Valve,Gate/Globe/CK,150#	280	2.21	1,414.40	\$113.87	139.45	\$11.23	
1	109	2" Valve,Gate/Globe/CK,150#	280	2.21	1,414.40	\$113.87	139.45	\$11.23	
1	110	2" Spool 5'-0"L	280	3.10	1,984.00	\$159.72	195.61	\$15.75	
1	111	1-1/2" Valve,Gate/Globe,150#	200	1.90	729.60	\$58.74	71.93	\$5.79	
1	112	1-1/2" Strainer,150#	200	1.90	729.60	\$58.74	71.93	\$5.79	
1	113	3" Tee	200	4.80	1,843.20	\$148.39	181.72	\$14.63	
1	114	3" Valve,Gate/Globe,150#	200	3.37	1,294.08	\$104.18	127.59	\$10.27	
1	115	3" Bonnet	270	2.30	1,398.40	\$112.58	137.87	\$11.10	
11									
		<u>Bld 92</u>							
1	116	4" Valve,Gate/Globe,150#	300	4.68	3,294.72	\$265.24	324.83	\$26.15	
1	117	1-1/4" Strainer,150#	300	1.70	1,196.80	\$96.35	117.99	\$9.50	
1	118	1-1/4" Regulating Valve, 150#	300	4.00	2,816.00	\$226.70	277.63	\$22.35	
1	119	4" Valve,Gate/Globe,150#	300	4.68	3,294.72	\$265.24	324.83	\$26.15	
1	120	1/2" Regulating Valve, 150#	210	3.00	1,248.00	\$100.47	123.04	\$9.91	
1	121	3/4" Strainer,150#	210	1.20	499.20	\$40.19	49.22	\$3.96	
6									
		<u>Bld 24</u>							
1	122	2" Strainer,150#	220	2.21	990.08	\$79.71	97.61	\$7.86	
1	123	3" Regulating Valve, 150#	220	7.10	3,180.80	\$256.07	313.60	\$25.25	
1	124	2" Flanged Spool 12" L	220	0.40	179.20	\$14.43	17.67	\$1.42	
1	125	3" Elbow, Flng, 150#	210	0.80	332.80	\$26.79	32.81	\$2.64	
4									
		<u>Bld 78</u>							
1	126	1" Regulating Valve, 150#	230	3.40	1,632.00	\$131.38	160.90	\$12.95	
1	127	4" Bonnet	230	2.80	1,344.00	\$108.20	132.51	\$10.67	
1	128	4" Regulating Valve, 150#	230	8.90	4,272.00	\$343.91	421.18	\$33.91	
1	129	4" Strainer,150#	230	4.68	2,246.40	\$180.85	221.48	\$17.83	
1	130	4" Valve,Gate/Globe,150#	230	4.68	2,246.40	\$180.85	221.48	\$17.83	
1	131	4" Bonnet	230	2.80	1,344.00	\$108.20	132.51	\$10.67	
1	132	4" Bonnet	230	2.80	1,344.00	\$108.20	132.51	\$10.67	

7											
		<u>Bld 41</u>									
1	93	1-1/4" Valve,Gate/Globe,150#	150	1.70	380.80	\$30.66	37.54	\$3.02			
1	94	1-1/4" Strainer,150#	150	1.70	380.80	\$30.66	37.54	\$3.02			
1	95	1-1/4" Regulating Valve, 150#	150	4.00	896.00	\$72.13	88.34	\$7.11			
1	96	1-1/4" Valve,Gate/Globe,150#	150	1.70	380.80	\$30.66	37.54	\$3.02			
1	97	2" Pipe 4'-0"L	150	2.48	555.52	\$44.72	54.77	\$4.41			
1	98	2" Valve,Gate/Globe/CK,150#	150	2.21	495.04	\$39.85	48.81	\$3.93			
1	99	1" Regulating Valve, 150#	210	3.40	1,414.40	\$113.87	139.45	\$11.23			
1	100	1-1/4" Regulating Valve, 150#	210	4.00	1,664.00	\$133.96	164.06	\$13.21			
1	101	1-1/4" Strainer,150#	210	1.70	707.20	\$56.93	69.72	\$5.61			
1	102	1" Strainer,1" 150#	210	1.40	582.40	\$46.89	57.42	\$4.62			
1	103	3" Valve,Gate/Globe,150#	250	3.37	1,833.28	\$147.59	180.75	\$14.55			
1	104	4" Flange, 150#	260	1.66	956.16	\$76.98	94.27	\$7.59			
12											
		<u>Bld 104</u>									
1	133	3" Bonnet	250	2.30	1,251.20	\$100.73	123.36	\$9.93			
1	134	3" Strainer,150#	250	3.37	1,833.28	\$147.59	180.75	\$14.55			
1	135	1-1/2" Regulating Valve, 150#	250	4.60	2,502.40	\$201.45	246.72	\$19.86			
1	136	3" Valve,Gate/Globe,150#	250	3.37	1,833.28	\$147.59	180.75	\$14.55			
1	137	3" Bonnet	250	2.30	1,251.20	\$100.73	123.36	\$9.93			
1	138	3" Strainer,150#	250	3.37	1,833.28	\$147.59	180.75	\$14.55			
1	139	1-1/2" Regulating Valve, 150#	250	4.60	2,502.40	\$201.45	246.72	\$19.86			
1	140	3" Valve,Gate/Globe,150#	250	3.37	1,833.28	\$147.59	180.75	\$14.55			
1	141	3" Bonnet	250	2.30	1,251.20	\$100.73	123.36	\$9.93			
1	142	3" Bonnet	250	2.30	1,251.20	\$100.73	123.36	\$9.93			
1	143	1-1/2" Regulating Valve, 150#	250	4.60	2,502.40	\$201.45	246.72	\$19.86			
1	144	1-1/2" Regulating Valve, 150#	250	4.60	2,502.40	\$201.45	246.72	\$19.86			
1	145	1-1/2" Strainer,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20			
1	146	1-1/2" Strainer,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20			
1	147	1-1/2" Strainer,150#	200	1.90	729.60	\$58.74	71.93	\$5.79			
1	148	1-1/2" Strainer,150#	200	1.90	729.60	\$58.74	71.93	\$5.79			
1	149	1-1/2" Valve,Gate/Globe,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20			
1	150	1 12" IPS 5'-0" L	200	2.50	960.00	\$77.28	94.65	\$7.62			
1	151	1" IPS 10'-0" L	200	3.40	1,305.60	\$105.11	128.72	\$10.36			
19											
		<u>Bld 17</u>									
1	152	2" Strainer,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54			
1	153	2" Valve,Gate/Globe/CK,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54			
1	154	2" Pipe, IPS	250	0.62	337.28	\$27.15	33.25	\$2.68			
1	155	2" Regulating Valve, 150#	250	5.20	2,828.80	\$227.73	278.90	\$22.45			
1	156	2" Valve,Gate/Globe/CK,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54			
5											
		<u>Bld 35</u>									
1	157	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09			
1	158	2" Regulating Valve, 150#	250	5.20	2,828.80	\$227.73	278.90	\$22.45			
1	159	2" Pipe, IPS	250	0.62	337.28	\$27.15	33.25	\$2.68			
1	160	2" Valve,Gate/Globe/CK,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54			

1	161	1-1/2" Valve,Gate/Globe,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20	
1	162	1-1/2" Valve,Gate/Globe,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20	
1	163	1-1/2" Strainer,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20	
1	164	1/2" Regulating Valve, 150#	250	3.00	1,632.00	\$131.38	160.90	\$12.95	
1	165	1-1/4" Valve,Gate/Globe,150#	250	1.70	924.80	\$74.45	91.18	\$7.34	
1	166	1 1/2" Pipe 25'-0" L	250	12.50	6,800.00	\$547.43	670.42	\$53.97	
1	167	2" Valve,Gate/Globe/CK,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54	
1	168	1-1/2" Valve,Gate/Globe,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20	
1	169	1-1/2" Strainer,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20	
1	170	1/2" Regulating Valve, 150#	250	3.00	1,632.00	\$131.38	160.90	\$12.95	
1	171	1-1/2" Valve,Gate/Globe,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20	
15									
		<u>Bld 34</u>							
1	172	3" Valve,Gate/Globe,150#	250	3.37	1,833.28	\$147.59	180.75	\$14.55	
1	173	1 1/2" Pipe 2'-0" L	250	1.00	544.00	\$43.79	53.63	\$4.32	
1	174	1-1/2" Regulating Valve, 150#	250	4.60	2,502.40	\$201.45	246.72	\$19.86	
1	175	1-1/2" Strainer,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20	
1	176	1-1/2" Valve,Gate/Globe,150#	250	1.90	1,033.60	\$83.21	101.90	\$8.20	
1	177	2" Valve,Gate/Globe/CK,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54	
1	178	2" Strainer,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54	
1	179	2" Pipe, IPS	250	0.62	337.28	\$27.15	33.25	\$2.68	
1	180	2" Valve,Gate/Globe/CK,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54	
1	181	2" Pipe, IPS	250	0.62	337.28	\$27.15	33.25	\$2.68	
1	182	2" Regulating Valve, 150#	250	5.20	2,828.80	\$227.73	278.90	\$22.45	
1	183	2" Valve,Gate/Globe/CK,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54	
1	184	2" Strainer,150#	250	2.21	1,202.24	\$96.79	118.53	\$9.54	
1	185	2" Regulating Valve, 150#	250	5.20	2,828.80	\$227.73	278.90	\$22.45	
1	186	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
15									
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1	187	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	188	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	189	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	190	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	191	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	192	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	193	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	194	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	195	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
1	196	4" Bonnet	250	2.80	1,523.20	\$122.62	150.17	\$12.09	
10									