

FAC 4421 COVERED STORAGE BUILDING, INSTALLATION

FY22 SUC: \$2.96 / SF
Source: Calculated using R.S. Means CostWorks 2021 Qtr 3 component prices

FAC 4421 COVERED STORAGE BUILDING, INSTALLATION

SUC \$2.96

Release 2021 Qtr 3
Zip Code Prefix 222
Type MR

UM SF
Design Life 45
Average Size 7365.0

Adjusted Occurrences are the occurrences remaining after subtracting Repair/Replacement Overlaps. Overlap reduction removes a repair when it occurs the same year as a replacement.

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Minor repairs to concrete floor unfinished	15	250.00 S.F.	\$9,847.11	\$11,943.44	3.0000	3	3	\$35,830.31	\$35,830.31
Replace steel decking	30	58.00 S.F.	\$426.26	\$493.07	1.5000	1	1	\$493.07	\$493.07
Replace aluminum siding, 1st floor	35	46.00 C.S.F.	\$26,879.90	\$32,368.95	1.2857	1	1	\$32,368.95	\$32,368.95
Refinish aluminum siding, 1st floor	20	46.00 C.S.F.	\$8,327.72	\$10,277.95	2.2500	2	2	\$20,555.91	\$20,555.91
Replace aluminum louver, 1st floor	60	4.00 Ea.	\$1,941.26	\$2,282.40	0.7500	0	0	\$0.00	\$0.00
Repair steel, painted, door	14	1.00 Ea.	\$625.07	\$744.01	3.2143	3	3	\$2,232.02	\$2,232.02
Refinish 3'-0" x 7'-0" steel, painted, door	4	1.00 Ea.	\$41.40	\$50.87	11.2500	11	11	\$559.53	\$559.53
Replace 3'-0" x 7'-0" steel, painted, door	45	1.00 Ea.	\$705.06	\$819.73	1.0000	1	1	\$819.73	\$819.73
Repair 12' x 24' aluminum double roll-up door	10	3.00 Ea.	\$7,265.86	\$8,417.06	4.5000	4	4	\$33,668.25	\$33,668.25
Replace 12' x 24' aluminum double roll-up door	35	3.00 Ea.	\$29,063.43	\$33,668.25	1.2857	1	1	\$33,668.25	\$33,668.25
Debris removal, by hand and visual inspection, metal panel roofing	1	9.04 M.S.F.	\$205.92	\$251.16	45.0000	45	45	\$11,302.37	\$11,302.37
Minor metal roof finish repairs, 2% of roof area, metal panel roofing	5	147.00 S.F.	\$513.48	\$616.07	9.0000	9	9	\$5,544.65	\$5,544.65
Metal roof flashing replacement, 2 SF/sq repaired, metal panel roofing	1	3.62 S.F.	\$66.15	\$80.15	45.0000	45	45	\$3,606.91	\$3,606.91
Minor metal roof panel replacement, 2.5% of roof area	20	184.00 S.F.	\$2,102.68	\$2,497.26	2.2500	2	2	\$4,994.53	\$4,994.53
Total metal roof panel replacement	30	72.00 Sq.	\$60,850.56	\$72,073.17	1.5000	1	1	\$72,073.17	\$72,073.17
Repair steel painted interior door	14	3.00 Ea.	\$880.36	\$1,024.69	3.2143	3	3	\$3,074.08	\$3,074.08
Refinish 3'-0" x 7'-0" steel painted interior door	4	3.00 Ea.	\$157.76	\$194.36	11.2500	11	11	\$2,137.95	\$2,137.95
Replace 3'-0" x 7'-0" steel painted interior door	60	3.00 Ea.	\$3,654.10	\$4,236.25	0.7500	0	0	\$0.00	\$0.00
Repair solid core wood door, interior	11	2.00 Ea.	\$586.90	\$683.13	4.0909	4	4	\$2,732.51	\$2,732.51
Replace 3'-0" x 7'-0" solid core wood door, interior	40	2.00 Ea.	\$978.85	\$1,131.62	1.1250	1	1	\$1,131.62	\$1,131.62
Refinish concrete floor finished	25	15.00 C.S.F.	\$6,327.41	\$7,600.20	1.8000	1	1	\$7,600.20	\$7,600.20
Replace vinyl tile flooring	18	37.60 S.Y.	\$1,857.57	\$2,281.19	2.5000	2	2	\$4,562.39	\$4,562.39
Replace rubber tile floor	18	4.00 S.Y.	\$776.10	\$915.87	2.5000	2	2	\$1,831.73	\$1,831.73
Replace acoustic tile ceiling, fire-rated	20	4.00 C.S.F.	\$2,096.91	\$2,471.54	2.2500	2	2	\$4,943.09	\$4,943.09
Replace flush valve diaphragm tankless water closet	10	6.00 Ea.	\$157.32	\$195.22	4.5000	4	4	\$780.86	\$780.86
Rebuild flush valve tankless water closet	20	6.00 Ea.	\$1,082.60	\$1,304.74	2.2500	2	2	\$2,609.49	\$2,609.49
Unplug clogged line tankless water closet	5	6.00 Ea.	\$1,310.37	\$1,638.76	9.0000	9	9	\$14,748.85	\$14,748.85
Replace tankless water closet	35	6.00 Ea.	\$7,717.33	\$8,930.97	1.2857	1	1	\$8,930.97	\$8,930.97

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Replace tankless flush valve	25	6.00 Ea.	\$1,513.29	\$1,776.66	1.8000	1	1	\$1,776.66	\$1,776.66
Replace wax ring gasket for tankless water closet	5	6.00 Ea.	\$849.12	\$1,060.96	9.0000	9	9	\$9,548.63	\$9,548.63
Replace flush valve diaphragm for a urinal	7	2.00 Ea.	\$52.44	\$65.07	6.4286	6	6	\$390.43	\$390.43
Rebuild flush valve for a urinal	20	2.00 Ea.	\$360.87	\$434.91	2.2500	2	2	\$869.83	\$869.83
Unplug line urinal	5	2.00 Ea.	\$290.14	\$362.86	9.0000	9	9	\$3,265.70	\$3,265.70
Replace wall-hung urinal	35	2.00 Ea.	\$1,937.73	\$2,338.21	1.2857	1	1	\$2,338.21	\$2,338.21
Replace washer in spud connection lavatory, vitreous china	7	4.00 Ea.	\$65.85	\$80.32	6.4286	6	6	\$481.92	\$481.92
Replace washer in faucet lavatory, vitreous china	2	4.00 Ea.	\$51.54	\$64.21	22.5000	22	22	\$1,412.56	\$1,412.56
Replace faucets lavatory, vitreous china	10	4.00 Ea.	\$726.90	\$875.02	4.5000	4	4	\$3,500.09	\$3,500.09
Clean out strainer and P trap lavatory, vitreous china	2	4.00 Ea.	\$139.48	\$174.43	22.5000	22	22	\$3,837.50	\$3,837.50
Replace lavatory, vitreous china	35	4.00 Ea.	\$2,690.30	\$3,232.88	1.2857	1	1	\$3,232.88	\$3,232.88
Replace faucet washer sink, service/utility	2	1.00 Ea.	\$12.78	\$15.92	22.5000	22	22	\$350.15	\$350.15
Clean trap	3	1.00 Ea.	\$8.57	\$10.72	15.0000	15	15	\$160.78	\$160.78
Replace faucets sink, service/utility	10	1.00 Ea.	\$181.73	\$218.76	4.5000	4	4	\$875.02	\$875.02
Unstop sink	2	1.00 Ea.	\$41.82	\$52.30	22.5000	22	22	\$1,150.65	\$1,150.65
Replace sink, P.E.C.I. service/utility	35	1.00 Ea.	\$1,567.25	\$1,832.96	1.2857	1	1	\$1,832.96	\$1,832.96
Check / minor repairs drinking fountain	1	2.00 Ea.	\$97.76	\$122.27	45.0000	45	45	\$5,501.93	\$5,501.93
Repair internal leaks drinking fountain	4	2.00 Ea.	\$90.16	\$112.76	11.2500	11	11	\$1,240.31	\$1,240.31
Replace refrigerant drinking fountain	2	2.00 Ea.	\$65.37	\$76.54	22.5000	22	22	\$1,683.85	\$1,683.85
Repair drain leak drinking fountain	4	2.00 Ea.	\$67.83	\$81.07	11.2500	11	9	\$891.76	\$729.62
Replace fountain drinking fountain	10	2.00 Ea.	\$2,562.31	\$3,029.12	4.5000	4	4	\$12,116.47	\$12,116.47
Replace pipe and fittings, copper 3/4"	20	16.00 L.F.	\$416.86	\$502.12	2.2500	2	2	\$1,004.24	\$1,004.24
Remove old insulation & replace with new, pipe 3/4", wall 1"	15	16.00 L.F.	\$133.73	\$165.15	3.0000	3	3	\$495.46	\$495.46
Overhaul water heater, gas / oil, 70 gallon	5	1.00 Ea.	\$163.70	\$204.73	9.0000	9	9	\$1,842.54	\$1,842.54
Clean & service water heater, gas / oil, 70 gallon	1	1.00 Ea.	\$196.62	\$245.89	45.0000	45	45	\$11,065.00	\$11,065.00
Replace water heater, gas / oil, 70 gallon	12	1.00 Ea.	\$3,315.17	\$3,847.40	3.7500	3	3	\$11,542.21	\$11,542.21
Unclog main drain pipe & fittings, cast iron	10	1.00 Ea.	\$46.17	\$57.74	4.5000	4	4	\$230.95	\$230.95
Replace pipe & fittings, cast iron, 4"	40	8.00 L.F.	\$535.58	\$642.86	1.1250	1	1	\$642.86	\$642.86
Unclog floor drain, PVC	20	4.00 Ea.	\$191.18	\$239.10	2.2500	2	2	\$478.19	\$478.19
Unclog 4" - 12" diameter PVC main drain per L.F.	10	2.00 L.F.	\$7.58	\$9.48	4.5000	4	4	\$37.93	\$37.93
Replace pipe, 4" pipe and fittings, PVC	30	8.00 L.F.	\$652.71	\$803.07	1.5000	1	1	\$803.07	\$803.07
General maintenance & repair drain: roof, scupper, area	1	1.00 Ea.	\$36.99	\$46.26	45.0000	45	45	\$2,081.56	\$2,081.56
Replace drain: roof, scupper, area	40	3.00 Ea.	\$2,360.80	\$2,737.08	1.1250	1	1	\$2,737.08	\$2,737.08

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Replace roof mounted exhaust fan, 2000 CFM exhaust fan	20	2.00 Ea.	\$5,341.44	\$6,214.50	2.2500	2	2	\$12,429.01	\$12,429.01
Maintenance and repair explosionproof industrial heater	2	2.00 Ea.	\$405.39	\$473.69	22.5000	22	22	\$10,421.13	\$10,421.13
Maintenance and inspection explosionproof industrial heater	0.5	4.00 Ea.	\$315.39	\$395.14	90.0000	90	90	\$35,562.52	\$35,562.52
Repair single zone rooftop unit, 5 ton	10	1.00 Ea.	\$2,372.90	\$2,849.79	4.5000	4	4	\$11,399.16	\$11,399.16
Replace single zone rooftop unit, 5 ton	15	1.00 Ea.	\$8,500.58	\$10,094.10	3.0000	3	3	\$30,282.30	\$30,282.30
Repair central station A.H.U., 1300 CFM	10	1.00 Ea.	\$498.49	\$594.57	4.5000	4	3	\$2,378.29	\$1,783.72
Replace central station A.H.U., 1300 CFM	15	1.00 Ea.	\$9,533.60	\$11,033.44	3.0000	3	3	\$33,100.31	\$33,100.31
Inspect sprinkler system	1	1.00 Ea.	\$34.33	\$42.93	45.0000	45	45	\$1,931.79	\$1,931.79
Replace sprinkler head	20	90.00 Ea.	\$7,697.05	\$9,467.06	2.2500	2	2	\$18,934.11	\$18,934.11
Maintenance and inspection motor starter, up to 600 V	0.5	2.00 Ea.	\$107.96	\$135.26	90.0000	90	90	\$12,173.41	\$12,173.41
Replace starter motor starter, up to 600 V	18	2.00 Ea.	\$1,610.62	\$1,916.15	2.5000	2	2	\$3,832.30	\$3,832.30
Maintenance and inspection lighting panel, indoor	3	1.00 Ea.	\$40.64	\$50.92	15.0000	15	15	\$763.82	\$763.82
Maintenance and repair breaker, molded case, 480 V, 1 pole	20	14.00 Ea.	\$1,004.68	\$1,258.72	2.2500	2	2	\$2,517.43	\$2,517.43
Maintenance and repair breaker, enclosed, 240 V, 2 pole	25	4.00 Ea.	\$287.05	\$359.63	1.8000	1	1	\$359.63	\$359.63
Maintenance and repair safety switch, 3 pole safety switch, heavy duty	8	2.00 Ea.	\$81.29	\$101.84	5.6250	5	5	\$509.21	\$509.21
Maintenance and repair receptacles and plugs	20	28.00 Ea.	\$1,182.82	\$1,476.68	2.2500	2	2	\$2,953.36	\$2,953.36
Replace receptacle/plug receptacles and plugs	20	28.00 Ea.	\$2,014.76	\$2,483.51	2.2500	2	2	\$4,967.01	\$4,967.01
Maintenance and repair wiring devices, switches	10	14.00 Ea.	\$591.41	\$738.34	4.5000	4	4	\$2,953.36	\$2,953.36
Replace wiring devices, switches	15	14.00 Ea.	\$915.29	\$1,137.11	3.0000	3	3	\$3,411.32	\$3,411.32
Replace fluorescent light fixture ballast, 80 W	10	15.00 Ea.	\$1,870.03	\$2,268.56	4.5000	4	2	\$9,074.23	\$4,537.12
Replace lamps (2 lamps), 4', 34 W energy saver	10	15.00 Ea.	\$378.21	\$473.68	4.5000	4	4	\$1,894.74	\$1,894.74
Replace fluorescent fixture, lay-in, recess mtd, 2' x 4', two 40 W	20	15.00 Ea.	\$3,411.56	\$4,161.23	2.2500	2	2	\$8,322.45	\$8,322.45
Replace high pressure sodium ballast, 250 W	10	12.00 Ea.	\$2,326.18	\$2,758.21	4.5000	4	4	\$11,032.85	\$11,032.85
Replace high pressure sodium fixture lamp, 250 W	10	12.00 Ea.	\$667.89	\$811.17	4.5000	4	4	\$3,244.68	\$3,244.68
Check operation smoke detector	1	18.00 Ea.	\$291.50	\$365.20	45.0000	45	45	\$16,434.11	\$16,434.11
Replace smoke detector	15	18.00 Ea.	\$5,116.27	\$6,110.31	3.0000	3	3	\$18,330.94	\$18,330.94
Check and repair manual pull station	10	5.00 Ea.	\$438.48	\$539.15	4.5000	4	3	\$2,156.61	\$1,617.45
Replace manual pull station	15	5.00 Ea.	\$1,017.34	\$1,224.71	3.0000	3	3	\$3,674.12	\$3,674.12
Minor repairs to annunciation panel	5	1.00 Ea.	\$149.71	\$182.27	9.0000	9	9	\$1,640.47	\$1,640.47
Maintenance and inspection annunciation panel	0.5	1.00 Ea.	\$43.18	\$54.10	90.0000	90	90	\$4,869.37	\$4,869.37
Replace annunciation panel	15	1.00 Ea.	\$1,126.52	\$1,354.55	3.0000	3	3	\$4,063.66	\$4,063.66
Replace fire alarm bell, 6"	20	1.00 Ea.	\$194.96	\$235.28	2.2500	2	2	\$470.55	\$470.55

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost	
Maintenance and repair electrical service ground	25	1.40 M.L.F.	\$123.04	\$153.70	1.8000	1	1	\$153.70	\$153.70	
Maintenance and repair lightning ground rod	1	2.00 Ea.	\$175.78	\$219.57	45.0000	45	45	\$9,880.84	\$9,880.84	
Remove and replace hydraulic dock leveler lift cylinder	15	1.00 Ea.	\$8,493.80	\$9,670.61	3.0000	3	3	\$29,011.82	\$29,011.82	
Remove and replace hydraulic dock leveler hydraulic pump	20	2.00 Ea.	\$3,482.91	\$3,986.51	2.2500	2	2	\$7,973.02	\$7,973.02	
Minor chain link fence repairs, per 10 LF	1	4.00 Ea.	\$107.90	\$132.73	45.0000	45	45	\$5,972.97	\$5,972.97	
			\$269,826.73	\$320,235.85				MR Subtotal	\$725,468.41	
									MR Per Year	\$16,121.52
									PM Total	\$5,645.54
									Subtotal	\$21,767.06
									Total Per Unit	\$2.96

FAC 4421 COVERED STORAGE BUILDING, INSTALLATION

SUC \$2.96

Release 2021 Qtr 3

UM SF

Zip Code Prefix 222

Design Life 45

Type PM

Average Size 7365.0

Description	Qty	Labor Hours	Bare Mat	Bare Labor	Bare Equip	Bare Total	Total In-House	Total Incl OP
Door, emergency egress, swinging, annualized	1.00	0.26	\$14.59	\$10.75	\$0.00	\$25.34	\$30.03	\$35.44
Door, overhead, electric, roll up, to 24' high x 25' wide, annualized	3.00	12.21	\$122.88	\$506.43	\$0.00	\$629.31	\$793.53	\$963.89
Fire doors, swinging, annualized	4.00	1.57	\$57.28	\$58.23	\$0.00	\$115.52	\$138.71	\$164.77
Urinals, annualized	2.00	0.46	\$12.64	\$22.91	\$0.00	\$35.54	\$43.68	\$52.45
Toilet (vacuum breaker type), annualized	4.00	0.71	\$33.77	\$35.59	\$0.00	\$69.36	\$83.41	\$99.16
Lavatories, annualized	4.00	1.39	\$23.86	\$82.81	\$0.00	\$106.67	\$133.90	\$162.33
Drink fountain, annualized	2.00	1.24	\$41.45	\$62.55	\$0.00	\$104.00	\$126.91	\$151.90
Duplex sump, annualized	1.00	1.65	\$23.25	\$83.25	\$0.00	\$106.51	\$133.81	\$162.27
Fan coil unit, annualized	1.00	3.34	\$113.23	\$168.27	\$0.00	\$281.50	\$343.31	\$410.77
Unit heater, gas radiant, annualized	4.00	4.04	\$5.86	\$202.63	\$0.00	\$208.49	\$269.87	\$331.54
Package unit, air cooled, 3 thru 24 ton, annualized	1.00	2.40	\$176.92	\$144.48	\$0.00	\$321.41	\$382.45	\$452.33
Backflow prevention device, over 4", annualized	1.00	0.49	\$13.40	\$29.51	\$0.00	\$42.91	\$53.10	\$63.97
Extinguishing system, wet pipe, annually	1.00	3.82	\$54.09	\$227.30	\$0.00	\$281.39	\$354.98	\$431.29
Switchboard, annualized	2.00	1.40	\$7.98	\$92.20	\$0.00	\$100.18	\$128.64	\$157.50
Panelboard, 225 A and above, annually	4.00	1.76	\$92.79	\$116.03	\$0.00	\$208.82	\$252.91	\$301.64
Fire alarm annunciator system, annualized	1.00	11.05	\$179.39	\$652.68	\$0.00	\$832.07	\$1,045.82	\$1,268.53
Light, emergency, wet cell, annualized	4.00	1.56	\$136.09	\$91.17	\$0.00	\$227.26	\$268.22	\$315.98
Hydraulic lift, loading dock, annualized	1.00	1.63	\$24.64	\$55.61	\$0.00	\$80.25	\$99.40	\$119.78
						\$3,776.55	\$4,682.69	\$5,645.54

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Modeled Component List CostWorks Release 2021 Qtr 3

B10 Superstructure	
Steel Decking	58.0 S.F.
B20 Exterior Enclosure	
Aluminum Siding, 1st floor	46.0 C.S.F.
Steel, Painted	1.0 Ea.
Aluminum Double, Roll-Up	3.0 Ea.
B30 Roofing	
Metal Steep Roofing	72.0 Sq.
C10 Interior Construction	
Steel Painted Interior Doors	3.0 Ea.
Solid Core Interior Doors	2.0 Ea.
Fire Doors, Swinging, annualized	4.0 Each
C30 Interior Finishes	
Concrete, Finished	15.0 C.S.F.
Vinyl	37.6 S.Y.
Rubber Tile	4.0 S.Y.
Acoustic Tile, fire-rated	4.0 C.S.F.
D20 Plumbing	
Tankless Water Closet	6.0 Ea.
Urinal	2.0 Ea.
Lavatory, Vitreous China	4.0 Ea.
Service/Utility Sink	1.0 Ea.
Drinking Fountain	2.0 Ea.
Water Heater, Gas / Oil, 70 Gallon	1.0 Ea.
Drain: Roof, Scupper, Area	3.0 Ea.
D30 HVAC	
Exhaust Fan, roof mounted exhaust fan, 2000 CFM exhaust	2.0 Ea.
Single Zone Air Conditioner, 5 ton	1.0 Ea.
Central Station Air Conditioning Air Handling Unit, 1300 CFM	1.0 Ea.
D40 Fire Protection	
Sprinkler System, Fire Supression, sprinkler head	90.0 Ea.
D50 Electrical	
Motor Starter, Up To 600 V	2.0 Ea.
Load Center, 100 A, maintenance & inspection	1.0 Ea.
Fluorescent Lighting Fixture	15.0 Ea.
Smoke Detector	18.0 Ea.
Manual Pull Station	5.0 Ea.
Annunciation Panel	1.0 Ea.
Fire Alarm Bell	1.0 Ea.
E10 Equipment	
Hydraulic Lift, Loading Dock, annualized	1.0 Each

FAC 4421 COVERED STORAGE BUILDING, INSTALLATION
Sustainment by Year
CostWorks Release 2021 Qtr 3

