

FAC 4421 Covered Storage Building, Installation

RUC: \$106.00 SF

Source: Tri-Service FAC 4211 from *Tri-Service Facility Unit Costs for Military Construction*
version prepared November 13, 2009

SUC: \$2.17 SF

Source: Cost Works model, inflated to FY-09 using Green Book Table 5-6 (O&M less DHP)
In V12, values were inflated only.

Model follows:

Chart: A chart showing the relative annual sustainment requirements appears below:

FAC 4421-Combined Covered Storage Building
CostWorks 2008 Quarter 2 -

Design Life= 45
Average S.F= 9,038

Terminal Cutoff is the removal of a single task occurrence if that task occurs within 10% of the end of the design life and if the frequency of the task exceeds 20% of the design life. This prevents scheduling major work near the end of the design life

Description	Frequency	Crew	Qty	Unit	Total Incl. O&P	Zip Code Prefix	Type	Release	Adjusted Occurrences	lifecost	Terminal Cutoff
Refinish aluminum siding - 1st floor	20	1 Pord	45.6	C.S.F.	8,504.56	200	FMR	2008 Qtr 2	2	17009.12	\$ 17,009.12
Refinish aluminum siding - 2nd floor	20	1 Pord	42.3	C.S.F.	12,192.28	200	FMR	2008 Qtr 2	2	24384.57	\$ 24,384.57
Repair steel, painted, door	14	1 Carp	1.0	Ea.	686.36	200	FMR	2008 Qtr 2	2	2059.08	\$ 1,372.72
Refinish 3'-0" x 7'-0" steel, painted, door	4	1 Pord	1.0	Ea.	40.31	200	FMR	2008 Qtr 2	11	443.41	\$ 443.41
Replace 3'-0" x 7'-0" steel, painted, door	45	1 Carp	1.0	Ea.	620.04	200	FMR	2008 Qtr 2	0	620.04	\$ -
Repair 12' x 24' aluminum double roll-up door	10	1 Carp	2.0	Ea.	3,866.70	200	FMR	2008 Qtr 2	4	15466.8	\$ 15,466.80
Refinish 12' x 24' aluminum double roll-up door	5	1 Pord	2.0	Ea.	824.04	200	FMR	2008 Qtr 2	9	7416.36	\$ 7,416.36
Replace 12' x 24' aluminum double roll-up door	35	2 Carp	2.0	Ea.	15,552.92	200	FMR	2008 Qtr 2	1	15552.92	\$ 15,552.92
Debris removal by hand & visual inspection metal steep roofing	1	2 Rofc	9.0	M.S.F.	193.41	200	FMR	2008 Qtr 2	45	8703.594	\$ 8,703.59
Minor finish repairs - (2% of roof area) metal steep roofing	5	2 Rofc	180.8	S.F.	582.05	200	FMR	2008 Qtr 2	9	5238.425	\$ 5,238.42
Flashing replacement - (2 S.F. per sq. repaired) metal steep roof	1	2 Rofc	3.6	S.F.	62.65	200	FMR	2008 Qtr 2	45	2819.158	\$ 2,819.16
Minor replacement - (2.5% of roof area) metal steep roofing	20	2 Rofc	226.0	S.F.	2,399.59	200	FMR	2008 Qtr 2	2	4799.178	\$ 4,799.18
Total metal panel replacement metal steep roofing	30	2 Rofc	90.4	Sq.	71,175.15	200	FMR	2008 Qtr 2	1	71175.15	\$ 71,175.15
Repair steel painted interior door	14	1 Carp	3.0	Ea.	594.42	200	FMR	2008 Qtr 2	2	1783.26	\$ 1,188.84
Refinish 3'-0" x 7'-0" steel painted interior door	4	1 Pord	3.0	Ea.	182.46	200	FMR	2008 Qtr 2	11	2007.06	\$ 2,007.06
Replace 3'-0" x 7'-0" steel painted interior door	60	1 Carp	3.0	Ea.	3,269.88	200	FMR	2008 Qtr 2	0	0	\$ -
Repair solid core wood door interior	11	1 Carp	7.0	Ea.	1,386.98	200	FMR	2008 Qtr 2	3	5547.92	\$ 4,160.94
Refinish 3'-0" x 7'-0" solid core wood door interior	4	1 Pord	7.0	Ea.	363.86	200	FMR	2008 Qtr 2	11	4002.46	\$ 4,002.46
Replace 3'-0" x 7'-0" solid core wood door interior	40	1 Carp	7.0	Ea.	2,975.84	200	FMR	2008 Qtr 2	1	2975.84	\$ 2,975.84
Replace vinyl floor	18	1 Tilf	37.6	S.Y.	2,192.08	200	FMR	2008 Qtr 2	2	4384.16	\$ 4,384.16
Replace acoustic tile ceiling, fire-rated	20	1 Carp	4.0	C.S.F.	1,916.00	200	FMR	2008 Qtr 2	2	3832	\$ 3,832.00
Replace flush valve diaphragm tankless water closet	10	1 Plum	6.0	Ea.	498.36	200	FMR	2008 Qtr 2	4	1993.44	\$ 1,993.44
Rebuild flush valve tankless water closet	20	1 Plum	6.0	Ea.	960.06	200	FMR	2008 Qtr 2	2	1920.12	\$ 1,920.12
Unplug clogged line tankless water closet	5	1 Plum	6.0	Ea.	1,261.08	200	FMR	2008 Qtr 2	9	11349.72	\$ 11,349.72
Replace tankless water closet	35	2 Plum	6.0	Ea.	3,890.16	200	FMR	2008 Qtr 2	1	3890.16	\$ 3,890.16
Replace tankless flush valve	25	1 Plum	6.0	Ea.	1,472.22	200	FMR	2008 Qtr 2	1	1472.22	\$ 1,472.22
Replace wax ring gasket tankless water closet	5	1 Plum	6.0	Ea.	823.20	200	FMR	2008 Qtr 2	9	7408.8	\$ 7,408.80
Replace flush valve diaphragm urinal	7	1 Plum	2.0	Ea.	166.12	200	FMR	2008 Qtr 2	6	996.72	\$ 996.72
Rebuild flush valve urinal	20	1 Plum	2.0	Ea.	320.02	200	FMR	2008 Qtr 2	2	640.04	\$ 640.04
Unplug line urinal	5	1 Plum	2.0	Ea.	279.82	200	FMR	2008 Qtr 2	9	2518.38	\$ 2,518.38
Replace wall-hung urinal	35	2 Plum	2.0	Ea.	2,013.14	200	FMR	2008 Qtr 2	1	2013.14	\$ 2,013.14
Replace washer in spud connection lavatory, vitreous china	7	1 Plum	4.0	Ea.	113.32	200	FMR	2008 Qtr 2	6	679.92	\$ 679.92
Replace washer in faucet lavatory, vitreous china	2	1 Plum	4.0	Ea.	49.16	200	FMR	2008 Qtr 2	22	1081.52	\$ 1,081.52
Replace faucets lavatory, vitreous china	10	1 Plum	4.0	Ea.	596.24	200	FMR	2008 Qtr 2	4	2384.96	\$ 2,384.96
Clean out strainer and P trap lavatory, vitreous china	2	1 Plum	4.0	Ea.	134.28	200	FMR	2008 Qtr 2	22	2954.16	\$ 2,954.16
Replace lavatory, vitreous china	35	2 Plum	4.0	Ea.	2,542.80	200	FMR	2008 Qtr 2	1	2542.8	\$ 2,542.80
Replace faucet washer	2	1 Plum	1.0	Ea.	12.19	200	FMR	2008 Qtr 2	22	268.18	\$ 268.18
Clean trap	3	1 Plum	1.0	Ea.	8.25	200	FMR	2008 Qtr 2	15	123.75	\$ 123.75
Replace faucets	10	1 Plum	1.0	Ea.	149.06	200	FMR	2008 Qtr 2	4	596.24	\$ 596.24
Unstop sink	2	1 Plum	1.0	Ea.	40.50	200	FMR	2008 Qtr 2	22	891	\$ 891.00
Replace sink, P.E.C.I.	35	1 Plum	1.0	Ea.	1,090.57	200	FMR	2008 Qtr 2	1	1090.57	\$ 1,090.57
Check / minor repairs drinking fountain	1	1 Plum	2.0	Ea.	94.68	200	FMR	2008 Qtr 2	45	4260.6	\$ 4,260.60
Repair internal leaks drinking fountain	4	1 Plum	2.0	Ea.	86.86	200	FMR	2008 Qtr 2	11	955.46	\$ 955.46
Correct water pressure drinking fountain	2	1 Plum	2.0	Ea.	81.00	200	FMR	2008 Qtr 2	22	1782	\$ 1,782.00
Replace refrigerant drinking fountain	2	1 Plum	2.0	Ea.	37.72	200	FMR	2008 Qtr 2	22	829.84	\$ 829.84
Repair drain leak drinking fountain	4	1 Plum	2.0	Ea.	54.06	200	FMR	2008 Qtr 2	11	594.66	\$ 594.66

FAC 4421-Combined Covered Storage Building
CostWorks 2008 Quarter 2 -

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Terminal Cutoff is the removal of a single task occurrence if that task occurs within 10% of the end of the design life and if the frequency of the task exceeds 20% of the design life. This prevents scheduling major work near the end of the design life

Description	Frequency	Crew	Qty	Unit	Total Incl. O&P	Zip Code Prefix	Type	Release	Adjusted Occurrences	lifecost	Terminal Cutoff
Replace fountain drinking fountain	10	2 Plum	2.0	Ea.	8,504.56	200	FMR	2008 Qtr 2	2	17009.12	\$ 17,009.12
Replace pipe and fittings, copper 3/4"	20	2 Plum	16.0	L.F.	12,192.28	200	FMR	2008 Qtr 2	2	24384.57	\$ 24,384.57
Remove old insulation & replace with new, pipe 3/4", wall 1"	15	1 Plum	16.0	L.F.	686.36	200	FMR	2008 Qtr 2	2	2059.08	\$ 1,372.72
Overhaul water heater, gas / oil, 70 gallon	5	1 Plum	1.0	Ea.	40.31	200	FMR	2008 Qtr 2	11	443.41	\$ 443.41
Clean & service water heater, gas / oil, 70 gallon	1	1 Plum	1.0	Ea.	620.04	200	FMR	2008 Qtr 2	0	620.04	\$ -
Replace water heater, gas / oil, 70 gallon	12	2 Plum	1.0	Ea.	3,866.70	200	FMR	2008 Qtr 2	4	15466.8	\$ 15,466.80
Unclog main drain pipe & fittings, cast iron	10	1 Plum	1.0	Ea.	824.04	200	FMR	2008 Qtr 2	9	7416.36	\$ 7,416.36
Replace pipe & fittings, cast iron	40	2 Plum	8.0	L.F.	15,552.92	200	FMR	2008 Qtr 2	1	15552.92	\$ 15,552.92
Unclog floor drain, PVC	20	1 Plum	4.0	Ea.	193.41	200	FMR	2008 Qtr 2	45	8703.594	\$ 8,703.59
Unclog main drain pipe, PVC	10	1 Plum	2.0	M.L.F.	582.05	200	FMR	2008 Qtr 2	9	5238.425	\$ 5,238.42
Replace pipe, 4" pipe and fittings, PVC	30	2 Plum	8.0	L.F.	62.65	200	FMR	2008 Qtr 2	45	2819.158	\$ 2,819.16
General maintenance & repair drain: roof, scupper, area	1	1 Plum	1.0	Ea.	2,399.59	200	FMR	2008 Qtr 2	2	4799.178	\$ 4,799.18
Replace drain: roof, scupper, area	40	1 Plum	3.0	Ea.	71,175.15	200	FMR	2008 Qtr 2	1	71175.15	\$ 71,175.15
Replace roof mounted exhaust fan, 2000 CFM exhaust fan	20	Q20	4.0	Ea.	594.42	200	FMR	2008 Qtr 2	2	1783.26	\$ 1,188.84
Maintenance and repair explosionproof industrial heater	2	1 Elec	4.0	Ea.	182.46	200	FMR	2008 Qtr 2	11	2007.06	\$ 2,007.06
Maintenance and inspection explosionproof industrial heater	0.5	1 Elec	4.0	Ea.	3,269.88	200	FMR	2008 Qtr 2	0	0	\$ -
Repair single zone rt. unit, 5 ton	10	2 Stpi	1.0	Ea.	1,386.98	200	FMR	2008 Qtr 2	3	5547.92	\$ 4,160.94
Replace single zone rt. unit, 5 ton	15	Q5	1.0	Ea.	363.86	200	FMR	2008 Qtr 2	11	4002.46	\$ 4,002.46
Repair central station A.H.U., 1300 CFM	10	1 Stpi	2.0	Ea.	2,975.84	200	FMR	2008 Qtr 2	1	2975.84	\$ 2,975.84
Replace central station A.H.U., 1300 CFM	15	Q5	2.0	Ea.	2,192.08	200	FMR	2008 Qtr 2	2	4384.16	\$ 4,384.16
Inspect sprinkler system	1	1 Plum	1.0	Ea.	1,916.00	200	FMR	2008 Qtr 2	2	3832	\$ 3,832.00
Replace sprinkler head	20	1 Plum	90.0	Ea.	498.36	200	FMR	2008 Qtr 2	4	1993.44	\$ 1,993.44
Rebuild double check 3" backflow preventer sprinkler system	1	1 Plum	1.0	Ea.	960.06	200	FMR	2008 Qtr 2	2	1920.12	\$ 1,920.12
Repair switchgear, - (5% of total C.B.), indoor, less than 600 V	10	1 Elec	1.0	Ea.	1,261.08	200	FMR	2008 Qtr 2	9	11349.72	\$ 11,349.72
Maintenance and inspection switchgear, indoor, less than 600 V	3	1 Elec	1.0	Ea.	3,890.16	200	FMR	2008 Qtr 2	1	3890.16	\$ 3,890.16
Replace switchgear, indoor, less than 600 V	30	1 Elec	1.0	Ea.	1,472.22	200	FMR	2008 Qtr 2	1	1472.22	\$ 1,472.22
Maintenance and repair motor starter, up to 600 V	5	1 Elec	4.0	Ea.	823.20	200	FMR	2008 Qtr 2	9	7408.8	\$ 7,408.80
Maintenance and inspection motor starter, up to 600 V	0.5	1 Elec	4.0	Ea.	166.12	200	FMR	2008 Qtr 2	6	996.72	\$ 996.72
Replace starter motor starter, up to 600 V	18	1 Elec	4.0	Ea.	320.02	200	FMR	2008 Qtr 2	2	640.04	\$ 640.04
Maintenance and inspection lighting panel, indoor	3	1 Elec	1.0	Ea.	279.82	200	FMR	2008 Qtr 2	9	2518.38	\$ 2,518.38
Maintenance and repair receptacles and plugs	20	1 Elec	8.0	Ea.	2,013.14	200	FMR	2008 Qtr 2	1	2013.14	\$ 2,013.14
Replace receptacle/plug receptacles and plugs	20	1 Elec	8.0	Ea.	113.32	200	FMR	2008 Qtr 2	6	679.92	\$ 679.92
Maintenance and repair wiring devices, switches	10	1 Elec	2.0	Ea.	49.16	200	FMR	2008 Qtr 2	22	1081.52	\$ 1,081.52
Replace switch wiring devices, switches	15	1 Elec	2.0	Ea.	596.24	200	FMR	2008 Qtr 2	4	2384.96	\$ 2,384.96
Replace fluor. ballast for fluorescent lighting fixture, 80 W	10	1 Elec	15.0	Ea.	134.28	200	FMR	2008 Qtr 2	22	2954.16	\$ 2,954.16
Replace lamps (2 lamps) fluorescent lighting fixture, 80 W	10	1 Elec	15.0	Ea.	2,542.80	200	FMR	2008 Qtr 2	1	2542.8	\$ 2,542.80
Replace fixture fluorescent lighting fixture, 80 W	10	1 Elec	15.0	Ea.	12.19	200	FMR	2008 Qtr 2	22	268.18	\$ 268.18
Replace H.P. sodium ballast H.P. sodium fixture, 250 W	10	2 Elec	15.0	Ea.	8.25	200	FMR	2008 Qtr 2	15	123.75	\$ 123.75
Replace lamp H.P. sodium fixture, 250 W	10	2 Elec	15.0	Ea.	149.06	200	FMR	2008 Qtr 2	4	596.24	\$ 596.24
Replace fixture H.P. sodium fixture, 250 W	10	2 Elec	15.0	Ea.	40.50	200	FMR	2008 Qtr 2	22	891	\$ 891.00
Repair smoke detector	5	1 Elec	24.0	Ea.	1,090.57	200	FMR	2008 Qtr 2	1	1090.57	\$ 1,090.57
Check operation smoke detector	1	1 Elec	24.0	Ea.	94.68	200	FMR	2008 Qtr 2	45	4260.6	\$ 4,260.60
Replace smoke detector	15	1 Elec	24.0	Ea.	86.86	200	FMR	2008 Qtr 2	11	955.46	\$ 955.46
Check and repair manual pull station	10	1 Elec	6.0	Ea.	81.00	200	FMR	2008 Qtr 2	22	1782	\$ 1,782.00
Replace manual pull station	15	1 Elec	6.0	Ea.	37.72	200	FMR	2008 Qtr 2	22	829.84	\$ 829.84
Minor repairs to annunciation panel	5	1 Elec	1.0	Ea.	54.06	200	FMR	2008 Qtr 2	11	594.66	\$ 594.66

FAC 4421-Combined Covered Storage Building
CostWorks 2008 Quarter 2 -

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Description	Frequency	Crew	Qty	Unit	Total Incl. O&P	Zip Code Prefix	Type	Release	Adjusted Occurrences	lifecost	Terminal Cutoff
Maintenance and inspection annunciation panel	0.5	1 Elec	1.0	Ea.	8,598.56	200	FMR	2008 Qtr 2	92	17093.52	\$ 13,499.30
Replace annunciation panel	15	1 Elec	1.0	Ea.	12,092.28	200	FMR	2008 Qtr 2	2	23824.54	\$ 22,088.56
Replace fire alarm bell, 6"	20	1 Elec	1.0	Ea.	686.56	200	FMR	2008 Qtr 2	2	2889.02	\$ 1,342.72
					\$241,666.88	200	FMR	2008 Qtr 2	11	443.41	\$ 443.41
					620.04	200	FMR	2008 Qtr 2	MR Subtotal	620.04	\$ 645,015.74
					3,866.70	200	FMR	2008 Qtr 2	4	15466.8	\$ 15,466.80
					824.04	200	FMR	2008 Qtr 2	MR Per Year	7416.36	\$ 74,163.38
					15,552.92	200	FMR	2008 Qtr 2	1	15552.92	\$ 15,552.92
					193.41	200	FMR	2008 Qtr 2	PM Per Year	456703.594	\$ 8,873.83
					582.05	200	FMR	2008 Qtr 2	9	5238.425	\$ 5,238.42
					62.65	200	FMR	2008 Qtr 2	Subtotal	2819.158	\$ 28,191.13
					2,399.59	200	FMR	2008 Qtr 2	2	4799.178	\$ 4,799.18
					71,175.15	200	FMR	2008 Qtr 2	Total Per Unit	1175.15	\$ 71,175.28
					594.42	200	FMR	2008 Qtr 2	2	1783.26	\$ 1,188.84
					182.46	200	FMR	2008 Qtr 2	11	2007.06	\$ 2,007.06
					3,269.88	200	FMR	2008 Qtr 2	0	0	\$ -
					1,386.98	200	FMR	2008 Qtr 2	3	5547.92	\$ 4,160.94
					363.86	200	FMR	2008 Qtr 2	11	4002.46	\$ 4,002.46
					2,975.84	200	FMR	2008 Qtr 2	1	2975.84	\$ 2,975.84
					2,192.08	200	FMR	2008 Qtr 2	2	4384.16	\$ 4,384.16
					1,916.00	200	FMR	2008 Qtr 2	2	3832	\$ 3,832.00
					498.36	200	FMR	2008 Qtr 2	4	1993.44	\$ 1,993.44
					960.06	200	FMR	2008 Qtr 2	2	1920.12	\$ 1,920.12
					1,261.08	200	FMR	2008 Qtr 2	9	11349.72	\$ 11,349.72
					3,890.16	200	FMR	2008 Qtr 2	1	3890.16	\$ 3,890.16
					1,472.22	200	FMR	2008 Qtr 2	1	1472.22	\$ 1,472.22
					823.20	200	FMR	2008 Qtr 2	9	7408.8	\$ 7,408.80
					166.12	200	FMR	2008 Qtr 2	6	996.72	\$ 996.72
					320.02	200	FMR	2008 Qtr 2	2	640.04	\$ 640.04
					279.82	200	FMR	2008 Qtr 2	9	2518.38	\$ 2,518.38
					2,013.14	200	FMR	2008 Qtr 2	1	2013.14	\$ 2,013.14
					113.32	200	FMR	2008 Qtr 2	6	679.92	\$ 679.92
					49.16	200	FMR	2008 Qtr 2	22	1081.52	\$ 1,081.52
					596.24	200	FMR	2008 Qtr 2	4	2384.96	\$ 2,384.96
					134.28	200	FMR	2008 Qtr 2	22	2954.16	\$ 2,954.16
					2,542.80	200	FMR	2008 Qtr 2	1	2542.8	\$ 2,542.80
					12.19	200	FMR	2008 Qtr 2	22	268.18	\$ 268.18
					8.25	200	FMR	2008 Qtr 2	15	123.75	\$ 123.75
					149.06	200	FMR	2008 Qtr 2	4	596.24	\$ 596.24
					40.50	200	FMR	2008 Qtr 2	22	891	\$ 891.00
					1,090.57	200	FMR	2008 Qtr 2	1	1090.57	\$ 1,090.57
					94.68	200	FMR	2008 Qtr 2	45	4260.6	\$ 4,260.60
					86.86	200	FMR	2008 Qtr 2	11	955.46	\$ 955.46
					81.00	200	FMR	2008 Qtr 2	22	1782	\$ 1,782.00
					37.72	200	FMR	2008 Qtr 2	22	829.84	\$ 829.84
					54.06	200	FMR	2008 Qtr 2	11	594.66	\$ 594.66

CostWorks 2008 Quarter 2 - FAC 4421

Qty	Assembly Number	Description	Total Incl. O&P	Zip Code Prefix	Type	Release
1.000	B2035 225 1950	Door, emergency egress, swinging, annualized	57.51	200	FMR	2008 Qtr 2
2.000	B2035 410 1950	Door, overhead, electric, roll up, to 24' high x 25' w	580.24	200	FMR	2008 Qtr 2
10.000	C1025 110 1950	Fire doors, swinging, annualized	298.60	200	FMR	2008 Qtr 2
2.000	D2015 100 1950	Urinals, annualized	32.30	200	FMR	2008 Qtr 2
4.000	D2015 100 2950	Toilet (vacuum breaker type), annualized	64.60	200	FMR	2008 Qtr 2
4.000	D2015 100 4950	Lavatories, annualized	120.32	200	FMR	2008 Qtr 2
2.000	D2015 800 1950	Drink fountain, annualized	118.72	200	FMR	2008 Qtr 2
1.000	D2095 905 1950	Duplex sump, annualized	153.68	200	FMR	2008 Qtr 2
4.000	D3055 110 1950	Unit heater, gas radiant, annualized	301.12	200	FMR	2008 Qtr 2
1.000	D3055 210 1950	Package unit, air cooled, 3 thru 24 ton, annualized	251.03	200	FMR	2008 Qtr 2
1.000	D4015 100 2950	Backflow prevention device, over 4", annualized	35.14	200	FMR	2008 Qtr 2
1.000	D4015 310 1950	Extinguishing system, dry pipe, annualized	1,156.15	200	FMR	2008 Qtr 2
1.000	D5015 214 1950	Switchboard, with air circuit breaker, annualized	987.99	200	FMR	2008 Qtr 2
1.000	D5015 260 1950	Panelboard, 225 A and above, annualized	67.71	200	FMR	2008 Qtr 2
1.000	D5015 280 1950	Motor control center, over 400 A, annualized	64.15	200	FMR	2008 Qtr 2
1.000	D5035 710 1950	Fire alarm annunciator system, annualized	990.03	200	FMR	2008 Qtr 2
1.000	D5035 810 1950	Security, intrusion alarm system, annualized	326.54	200	FMR	2008 Qtr 2
1.000	D3045 120 1950	Fan coil unit, annualized	266.60	200	FMR	2008 Qtr 2
			\$5,872.43			

FAC 4421 Sustainment by Year - Terminal Cutoff Applied

