

FAC 1371 Ship Navigation Building

RUC: \$296.89 SF

Source: USACE PAX Newsletter 3.2.2 of 20 Mar 09
CatCode 13120
Deflated to FY-09 using Appendix C
In V12, Tri-Service and USACE PAX Newsletter values were updated while all other values were inflated only

SUC: \$3.61 SF

Source: Cost Works model in \$FY-08, 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 relative annual sustainment requirements follows:

FAC 1371 Ship Navigation Building
CostWorks 2008 Quarter 2

Design Life= 50
Average S.F= 4,743

C.S.F=100 S.F; MSF=1000 S.F
Sq=100 S.F; M.L.F=1000 L.F

This spreadsheet was exported from
R.S. Means CostWorks

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 In-House	Total Incl. O&P	Release	Occurrences In Design Life	Adjusted Occurrences	Terminal Cutoff
Repair brick wall - 1st floor	25	1 Bric	116.500	S.F.	4,310.50	5,237.84	2008 Qtr 2	2	1 \$	5,237.84
Replace brick wall - 2nd floor	75	2 Bric	11.600	C.S.F.	23,728.84	28,473.24	2008 Qtr 2	0	0 \$	-
Repair painted brick wall - 1st floor	25	1 Bric	233.800	S.F.	8,746.46	10,626.21	2008 Qtr 2	2	1 \$	10,626.21
Replace brick wall - 2nd floor	75	1 Bric	21.100	C.S.F.	44,024.31	52,804.23	2008 Qtr 2	0	0 \$	-
Replace glass - 1st floor (1% of glass)	1	1 Carp	4.300	S.F.	38.92	45.67	2008 Qtr 2	50	50 \$	2,283.30
Repair 2'-0" x 3'-0" aluminum window - 1st floor	20	1 Carp	7.200	Ea.	827.71	980.64	2008 Qtr 2	2	2 \$	1,961.28
Replace 2'-0" x 3'-0" aluminum window - 1st floor	50	1 Carp	72.000	Ea.	31,579.20	36,935.28	2008 Qtr 2	1	0 \$	-
Replace glass - 2nd floor (1% of glass)	1	1 Carp	4.600	S.F.	402.04	492.43	2008 Qtr 2	50	50 \$	24,621.50
Repair 2'-0" x 3'-0" aluminum window - 2nd floor	20	1 Carp	7.800	Ea.	1,198.86	1,438.48	2008 Qtr 2	2	2 \$	2,876.95
Replace 2'-0" x 3'-0" aluminum window - 2nd floor	50	1 Carp	78.000	Ea.	37,233.30	43,774.38	2008 Qtr 2	1	0 \$	-
Replace 3'-0" x 7'-0" steel, w/ wire glass, ptd. door	45	1 Carp	1.000	Ea.	939.96	1,095.60	2008 Qtr 2	1	1 \$	1,095.60
Prepare and refinish 3'-0" x 7'-0" steel ptd. door	12	1 Pord	1.000	Ea.	65.21	80.74	2008 Qtr 2	4	3 \$	242.22
Refinish 3'-0" x 7'-0" steel, painted, door	12	1 Pord	1.000	Ea.	32.91	40.31	2008 Qtr 2	4	3 \$	120.93
Repair steel, painted, door	14	1 Carp	1.000	Ea.	582.44	686.36	2008 Qtr 2	3	3 \$	2,059.08
Replace 3'-0" x 7'-0" steel, painted, door	45	1 Carp	1.000	Ea.	532.08	620.04	2008 Qtr 2	1	1 \$	620.04
Debris removal and visual inspection built-up roofing	1	2 Rofc	2.300	M.S.F.	67.48	81.31	2008 Qtr 2	50	50 \$	4,065.25
Non-destructive moisture inspection built-up roofing	5	2 Rofc	2.300	M.S.F.	208.79	252.54	2008 Qtr 2	10	10 \$	2,525.40
Minor membrane repairs - (2% of roof area) built-up roofing	5	G5	0.400	Sq.	137.81	162.82	2008 Qtr 2	10	10 \$	1,628.16
Flashing repairs - (2 S.F. per sq. repaired) built-up roofing	5	2 Rofc	0.900	S.F.	3.02	3.60	2008 Qtr 2	10	10 \$	36.00
Minor membrane replacement - (25% of roof area) built-up roofing	20	G5	5.900	Sq.	3,507.14	4,183.57	2008 Qtr 2	2	2 \$	8,367.14
Total roof replacement built-up roofing	28	G1	23.700	Sq.	13,527.49	16,020.02	2008 Qtr 2	1	1 \$	16,020.02
Debris removal by hand & visual inspection,modified bitum/thermoplstc	1	2 Rofc	1.100	M.S.F.	32.27	38.89	2008 Qtr 2	50	50 \$	1,944.25
Non-destructive moisture inspection,modified bitum/thermoplastic	5	2 Rofc	1.100	M.S.F.	99.86	120.78	2008 Qtr 2	10	10 \$	1,207.80
Minor membrane repairs-(2% of roof area),modified bitum/thermoplastic	1	G5	0.200	Sq.	53.36	62.95	2008 Qtr 2	50	50 \$	3,147.40
Flashing repairs-(2 S.F. per sq. repaired),modified bitum/thermoplstc	5	2 Rofc	592.000	S.F.	1,965.44	2,314.72	2008 Qtr 2	10	10 \$	23,147.20
Membrane replacement-(25% of roof area),modified bitum/thermoplastic	20	G5	2.900	Sq.	1,846.58	2,189.21	2008 Qtr 2	2	2 \$	4,378.42
Total roof replacement,modified bituminous / thermoplastic	25	G1	2.900	Sq.	1,411.84	1,668.98	2008 Qtr 2	2	1 \$	1,668.98
Repair steel painted interior door	14	1 Carp	3.000	Ea.	503.25	594.42	2008 Qtr 2	3	3 \$	1,783.26
Refinish 3'-0" x 7'-0" steel painted interior door	12	1 Pord	3.000	Ea.	148.20	182.46	2008 Qtr 2	4	3 \$	547.38
Replace 3'-0" x 7'-0" steel painted interior door	60	1 Carp	3.000	Ea.	2,812.62	3,269.88	2008 Qtr 2	0	0 \$	-
Repair solid core wood door interior	11	1 Carp	20.000	Ea.	3,355.00	3,962.80	2008 Qtr 2	4	4 \$	15,851.20
Refinish 3'-0" x 7'-0" solid core wood door interior	12	1 Pord	20.000	Ea.	844.40	1,039.60	2008 Qtr 2	4	3 \$	3,118.80
Replace 3'-0" x 7'-0" solid core wood door interior	40	1 Carp	20.000	Ea.	7,334.00	8,502.40	2008 Qtr 2	1	1 \$	8,502.40
Repair concrete steps	15	1 Cefi	1.700	S.F.	28.88	33.63	2008 Qtr 2	3	3 \$	100.88
Replace concrete steps	100	2 Cefi	17.000	S.F.	841.67	1,021.53	2008 Qtr 2	0	0 \$	-
Replace metal stair railing interior	45	2 Sswk	27.000	L.F.	968.49	1,118.88	2008 Qtr 2	1	1 \$	1,118.88
Refinish metal stair railing interior	12	1 Pord	27.000	S.F.	36.99	45.90	2008 Qtr 2	4	3 \$	137.70
Repair 8" concrete block wall - (2% of walls) painted	25	1 Bric	1.300	C.S.F.	1,314.57	1,578.23	2008 Qtr 2	2	1 \$	1,578.23

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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 In-House	Total Incl. O&P	Release	Occurrences In Design Life	Adjusted Occurrences	Terminal Cutoff
Refinish concrete block wall painted	4	1 Pord	6.600	C.S.F.	641.32	779.66	2008 Qtr 2	12	12	\$ 9,355.90
Replace 8" concrete block wall painted	75	2 Bric	66.600	C.S.F.	71,782.15	86,326.25	2008 Qtr 2	0	0	\$ -
Repair fabric wall finish fabric interior	9	1 Pord	24.900	S.Y.	627.23	759.70	2008 Qtr 2	5	5	\$ 3,798.50
Replace fabric wall finish fabric interior	50	1 Pord	249.400	S.Y.	35,048.18	42,762.12	2008 Qtr 2	1	0	\$ -
Repair 5/8" drywall - (2% of walls)	20	1 Carp	160.000	S.F.	254.40	305.60	2008 Qtr 2	2	2	\$ 611.20
Refinish drywall	8	1 Pord	8,000.000	S.F.	4,800.00	5,920.00	2008 Qtr 2	6	6	\$ 35,520.00
Replace 5/8" drywall	75	2 Carp	8,000.000	S.F.	17,840.00	21,520.00	2008 Qtr 2	0	0	\$ -
Replace carpet	12	2 Tilf	218.600	S.Y.	9,865.42	11,397.80	2008 Qtr 2	4	3	\$ 34,193.41
Refinish concrete floor finished	25	2 Cefi	23.000	C.S.F.	8,037.12	9,675.87	2008 Qtr 2	2	1	\$ 9,675.87
Terrazzo floor repairs - (2% of floors)	15	1 Mstz	6.400	S.F.	96.13	114.82	2008 Qtr 2	3	3	\$ 344.45
Replace terrazzo floor	75	2 Mstz	3.200	C.S.F.	4,607.81	5,456.86	2008 Qtr 2	0	0	\$ -
Replace vinyl floor	18	1 Tilf	16.400	S.Y.	783.10	956.12	2008 Qtr 2	2	2	\$ 1,912.24
Acoustic tile repairs - (2% of ceilings)	9	1 Carp	0.400	C.S.F.	178.67	212.67	2008 Qtr 2	5	5	\$ 1,063.34
Replace acoustic tile ceiling, non fire-rated	20	1 Carp	23.400	C.S.F.	7,612.96	9,115.70	2008 Qtr 2	2	2	\$ 18,231.41
Refinish acoustical tile ceiling and grid (unoccupied area)	5	2 Pord	2.300	M.S.F.	1,246.76	1,518.60	2008 Qtr 2	10	10	\$ 15,185.98
Replace acoustic tile ceiling, fire-rated	20	1 Carp	23.400	C.S.F.	9,433.71	11,208.60	2008 Qtr 2	2	2	\$ 22,417.20
Repair sheetrock ceiling - (2% of ceilings)	20	1 Carp	0.060	C.S.F.	20.96	25.58	2008 Qtr 2	2	2	\$ 51.15
Refinish sheetrock ceiling	20	1 Pord	3.020	C.S.F.	379.52	468.98	2008 Qtr 2	2	2	\$ 937.95
Replace sheetrock ceiling	40	2 Carp	3.020	C.S.F.	1,082.16	1,321.28	2008 Qtr 2	1	1	\$ 1,321.28
Check / minor repairs drinking fountain	1	1 Plum	2.000	Ea.	75.16	94.68	2008 Qtr 2	50	50	\$ 4,734.00
Repair internal leaks drinking fountain	4	1 Plum	2.000	Ea.	70.28	86.86	2008 Qtr 2	12	12	\$ 1,042.32
Correct water pressure drinking fountain	2	1 Plum	2.000	Ea.	64.42	81.00	2008 Qtr 2	25	25	\$ 2,025.00
Replace refrigerant drinking fountain	2	1 Plum	2.000	Ea.	31.68	37.72	2008 Qtr 2	25	25	\$ 943.00
Repair drain leak drinking fountain	4	1 Plum	2.000	Ea.	45.26	54.06	2008 Qtr 2	12	12	\$ 648.72
Replace fountain drinking fountain	10	2 Plum	2.000	Ea.	2,011.68	2,387.14	2008 Qtr 2	5	5	\$ 11,935.70
Replace washer in spud connection lavatory, vitreous china	7	1 Plum	10.000	Ea.	240.10	283.30	2008 Qtr 2	7	7	\$ 1,983.10
Replace washer in faucet lavatory, vitreous china	2	1 Plum	10.000	Ea.	98.50	122.90	2008 Qtr 2	25	25	\$ 3,072.50
Replace faucets lavatory, vitreous china	10	1 Plum	10.000	Ea.	1,234.90	1,490.60	2008 Qtr 2	5	5	\$ 7,453.00
Clean out strainer and P trap lavatory, vitreous china	2	1 Plum	10.000	Ea.	270.40	335.70	2008 Qtr 2	25	25	\$ 8,392.50
Replace lavatory, vitreous china	35	2 Plum	10.000	Ea.	5,301.90	6,357.00	2008 Qtr 2	1	1	\$ 6,357.00
Replace faucet washer sink, iron enamel	2	1 Plum	1.000	Ea.	9.79	12.19	2008 Qtr 2	25	25	\$ 304.75
Clean trap sink, iron enamel	3	1 Plum	1.000	Ea.	6.60	8.25	2008 Qtr 2	16	16	\$ 132.00
Replace faucets sink, iron enamel	10	1 Plum	1.000	Ea.	123.49	149.06	2008 Qtr 2	5	5	\$ 745.30
Unstop sink sink, iron enamel	2	1 Plum	1.000	Ea.	32.21	40.50	2008 Qtr 2	25	25	\$ 1,012.50
Replace sink, P.E.C.I. sink, iron enamel	35	2 Plum	1.000	Ea.	552.72	657.69	2008 Qtr 2	1	1	\$ 657.69
Replace flush valve diaphragm tankless water closet	10	1 Plum	9.000	Ea.	636.66	747.54	2008 Qtr 2	5	5	\$ 3,737.70
Rebuild flush valve tankless water closet	20	1 Plum	9.000	Ea.	1,187.82	1,440.09	2008 Qtr 2	2	2	\$ 2,880.18
Unplug clogged line tankless water closet	5	1 Plum	9.000	Ea.	1,514.34	1,891.62	2008 Qtr 2	10	10	\$ 18,916.20
Replace tankless water closet	35	2 Plum	9.000	Ea.	4,932.00	5,835.24	2008 Qtr 2	1	1	\$ 5,835.24

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Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences In Design Life	Adjusted Occurrences	Terminal Cutoff
Replace tankless flush valve	25	1 Plum	9.000	Ea.	1,885.50	2,208.33	2008 Qtr 2	2	1	\$ 2,208.33
Replace wax ring gasket tankless water closet	5	1 Plum	9.000	Ea.	986.13	1,234.80	2008 Qtr 2	10	10	\$ 12,348.00
Replace flush valve diaphragm urinal	7	1 Plum	3.000	Ea.	212.22	249.18	2008 Qtr 2	7	7	\$ 1,744.26
Rebuild flush valve urinal	20	1 Plum	3.000	Ea.	395.94	480.03	2008 Qtr 2	2	2	\$ 960.06
Unplug line urinal	5	1 Plum	3.000	Ea.	336.42	419.73	2008 Qtr 2	10	10	\$ 4,197.30
Replace wall-hung urinal	35	2 Plum	3.000	Ea.	2,524.89	3,019.71	2008 Qtr 2	1	1	\$ 3,019.71
Inspect / check pump / motor operation, lub. circulation pump, 1/12 HP	0.5	1 Plum	1.000	Ea.	6.19	7.72	2008 Qtr 2	100	100	\$ 772.00
Replace pump / motor assembly circulation pump, 1/12 HP	10	2 Plum	1.000	Ea.	736.33	863.29	2008 Qtr 2	5	5	\$ 4,316.45
Replace pipe and fittings, copper 2"	25	2 Plum	16.000	L.F.	652.96	785.76	2008 Qtr 2	2	1	\$ 785.76
Replace pipe and fittings, copper 3/4"	20	2 Plum	32.000	L.F.	567.04	687.36	2008 Qtr 2	2	2	\$ 1,374.72
Remove old insulation & replace with new, pipe 3/4", wall 1"	15	1 Plum	32.000	L.F.	224.32	273.28	2008 Qtr 2	3	3	\$ 819.84
Drain and flush water heater, electric, 120 gallon	7	1 Plum	1.000	Ea.	226.43	283.04	2008 Qtr 2	7	7	\$ 1,981.28
Check operation water heater, electric, 120 gallon	3	1 Plum	1.000	Ea.	1.98	2.48	2008 Qtr 2	16	16	\$ 39.68
Replace water heater, electric, 120 gallon	15	2 Plum	1.000	Ea.	9,192.45	10,543.79	2008 Qtr 2	3	3	\$ 31,631.37
Replace pipe, 4" pipe and fittings, PVC	30	2 Plum	300.000	L.F.	17,760.00	21,957.00	2008 Qtr 2	1	1	\$ 21,957.00
General maintenance & repair drain: roof, scupper, area	1	1 Plum	2.000	Ea.	56.70	71.34	2008 Qtr 2	50	50	\$ 3,567.00
Replace drain: roof, scupper, area	40	1 Plum	2.000	Ea.	796.68	936.28	2008 Qtr 2	1	1	\$ 936.28
Repair single zone rt. unit, 5 ton	10	2 Stpi	1.000	Ea.	1,929.71	2,314.56	2008 Qtr 2	5	5	\$ 11,572.80
Replace single zone rt. unit, 5 ton	15	Q5	1.000	Ea.	7,276.88	8,588.60	2008 Qtr 2	3	3	\$ 25,765.80
Replace sprinkler head	20	1 Plum	37.000	Ea.	2,356.16	2,903.02	2008 Qtr 2	2	2	\$ 5,806.04
Replace fire alarm bell, 6"	20	1 Elec	2.000	Ea.	284.56	343.02	2008 Qtr 2	2	2	\$ 686.04
Repair failed breaker, 3 pole circuit breaker	4	1 Elec	1.000	Ea.	525.04	607.28	2008 Qtr 2	12	12	\$ 7,287.36
Maintenance and inspection C.B., 3 pole circuit breaker	0.33	1 Elec	1.000	Ea.	22.91	28.50	2008 Qtr 2	151	151	\$ 4,303.50
Replace C.B. enclosed, 600 V, 3 pole circuit breaker	12	1 Elec	1.000	Ea.	993.60	1,158.09	2008 Qtr 2	4	3	\$ 3,474.27
Maintenance and repair motor starter, up to 600 V	5	1 Elec	2.000	Ea.	341.50	415.00	2008 Qtr 2	10	10	\$ 4,150.00
Maintenance and inspection motor starter, up to 600 V	0.5	1 Elec	2.000	Ea.	76.34	95.70	2008 Qtr 2	100	100	\$ 9,570.00
Replace starter motor starter, up to 600 V	18	1 Elec	2.000	Ea.	1,056.36	1,260.82	2008 Qtr 2	2	2	\$ 2,521.64
Repair switchgear 1200 A mainframe	5	1 Elec	1.000	Ea.	1,694.09	1,975.10	2008 Qtr 2	10	10	\$ 19,751.00
Maintenance and inspection switchgear, mainframe	1	1 Elec	1.000	Ea.	45.81	57.01	2008 Qtr 2	50	50	\$ 2,850.50
Replace switchgear 1200 A mainframe	20	3 Elec	1.000	Ea.	4,052.28	4,808.24	2008 Qtr 2	2	2	\$ 9,616.48
Replace fluor. ballast for fluorescent lighting fixture, 80 W	10	1 Elec	102.000	Ea.	10,157.16	12,248.16	2008 Qtr 2	5	5	\$ 61,240.80
Replace lamps (2 lamps) fluorescent lighting fixture, 80 W	10	1 Elec	102.000	Ea.	2,594.88	3,180.36	2008 Qtr 2	5	5	\$ 15,901.80
Maintenance and repair receptacles and plugs	20	1 Elec	324.000	Ea.	10,073.16	12,548.52	2008 Qtr 2	2	2	\$ 25,097.04
Replace receptacle/plug receptacles and plugs	20	1 Elec	324.000	Ea.	17,094.24	20,872.08	2008 Qtr 2	2	2	\$ 41,744.16
Maintenance and repair wiring devices, switches	10	1 Elec	123.000	Ea.	3,824.07	4,763.79	2008 Qtr 2	5	5	\$ 23,818.95
Replace switch wiring devices, switches	15	1 Elec	123.000	Ea.	6,298.83	7,669.05	2008 Qtr 2	3	3	\$ 23,007.15
Check and repair manual pull station	10	1 Elec	2.000	Ea.	138.42	169.74	2008 Qtr 2	5	5	\$ 848.70
Replace manual pull station	15	1 Elec	2.000	Ea.	251.48	303.78	2008 Qtr 2	3	3	\$ 911.34
Repair smoke detector	10	1 Elec	10.000	Ea.	381.90	470.00	2008 Qtr 2	5	5	\$ 2,350.00

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Check operation smoke detector	1	1 Elec	10.000	Ea.	114.00	143.00	2008 Qtr 2	50	50	\$ 7,150.00
Replace smoke detector	15	1 Elec	10.000	Ea.	1,895.50	2,269.90	2008 Qtr 2	3	3	\$ 6,809.70
					\$498,110.44	\$596,956.33				
									MR Subtotal	\$ 798,942.08
									MR Per Year	\$ 15,978.84
									PM Per Year	\$ 1,715.73
									Subtotal	\$ 17,694.57
									Total Per Unit	\$ 3.73

CostWorks 2009 Quarter 1 - FAC 1371 Ship Navigation Building

Qty	Assembly Number	Description	Total In-House	Total Incl. O&P	Zip Code	Prefix	Type	Release
2.000	D3045 160 1950	VAV Boxes, annualized	122.62	152.00	200		FMR	2008 Qtr 2
4.000	B2035 225 1950	Door, emergency egress, swinging, annualized	198.04	230.04	200		FMR	2008 Qtr 2
23.000	C1025 110 1950	Fire doors, swinging, annualized	572.47	686.78	200		FMR	2008 Qtr 2
10.000	D2015 100 4950	Lavatories, annualized	246.80	300.80	200		FMR	2008 Qtr 2
2.000	D2015 800 1950	Drink fountain, annualized	99.00	118.72	200		FMR	2008 Qtr 2
9.000	D2015 100 2950	Toilet (vacuum breaker type), annualized	116.37	145.35	200		FMR	2008 Qtr 2
3.000	D2015 100 1950	Urinals, annualized	38.79	48.45	200		FMR	2008 Qtr 2
1.000	D5015 220 1950	Circuit breaker, high voltage air, annualized	26.98	33.59	200		FMR	2008 Qtr 2
			\$1,421.07	\$1,715.73				

FAC 1371 Sustainment by Year - Terminal Cutoff Applied

