

FAC 2183 RAILROAD EQUIPMENT SHOP

FY22 SUC: \$4.00 / SF
Source: Calculated using R.S. Means CostWorks 2021 Qtr 3 component prices

FAC 2183 RAILROAD EQUIPMENT SHOP

SUC \$4.00

Release 2021 Qtr 3
Zip Code Prefix 222
Type MR

UM SF
Design Life 50
Average Size 7853.486000000001

Adjusted Occurences 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
Refinish concrete floor finished	25	50.00 C.S.F.	\$21,091.36	\$25,334.01	2.0000	2	2	\$50,668.03	\$50,668.03
Total metal roof panel replacement	30	78.31 Sq.	\$66,180.02	\$78,385.54	1.6667	1	1	\$78,385.54	\$78,385.54
Replace fountain drinking fountain	10	1.00 Ea.	\$1,281.16	\$1,514.56	5.0000	5	5	\$7,572.79	\$7,572.79
Debris removal, by hand and visual inspection, metal panel roofing	1	7.83 M.S.F.	\$178.41	\$217.61	50.0000	50	50	\$10,880.52	\$10,880.52
Repair central station A.H.U., 16,000 CFM	10	1.00 Ea.	\$1,502.82	\$1,746.04	5.0000	5	4	\$8,730.18	\$6,984.14
Replace 3'-0" x 7'-0" steel, painted, door	45	8.00 Ea.	\$5,640.51	\$6,557.85	1.1111	1	1	\$6,557.85	\$6,557.85
Replace wax ring gasket for tankless water closet	5	4.00 Ea.	\$566.08	\$707.31	10.0000	10	10	\$7,073.06	\$7,073.06
Replace shower and fittings, fiberglass	20	2.00 Ea.	\$1,933.28	\$2,312.32	2.5000	2	2	\$4,624.64	\$4,624.64
Repair 8" concrete block wall, 1st floor	25	120.47 S.F.	\$2,917.18	\$3,568.73	2.0000	2	2	\$7,137.46	\$7,137.46
Replace 3'-0" x 7'-0" fully glazed aluminum door	50	2.00 Ea.	\$3,951.48	\$4,668.79	1.0000	1	1	\$4,668.79	\$4,668.79
Check and adjust 10 H.P. compressor	1	1.00 Ea.	\$84.66	\$105.88	50.0000	50	50	\$5,294.08	\$5,294.08
Maintenance and inspection fire alarm control panel	0.5	1.00 Ea.	\$43.18	\$54.10	100.0000	100	100	\$5,410.41	\$5,410.41
Safety glass replacement, (3% of glass) steel painted interior door	1	3.96 S.F.	\$71.35	\$85.05	50.0000	50	50	\$4,252.49	\$4,252.49
Minor metal roof finish repairs, 2% of roof area, metal panel roofing	5	156.61 S.F.	\$547.06	\$656.35	10.0000	10	10	\$6,563.55	\$6,563.55
Replace sprinkler head	20	28.00 Ea.	\$2,394.64	\$2,945.31	2.5000	2	2	\$5,890.61	\$5,890.61
Refinish 3'-0" x 7'-0" steel, painted, door	4	8.00 Ea.	\$331.20	\$406.93	12.5000	12	12	\$4,883.16	\$4,883.16
General maintenance & repair drain: roof, scupper, area	1	2.00 Ea.	\$73.98	\$92.51	50.0000	50	50	\$4,625.70	\$4,625.70
Clean out strainer and P trap lavatory, vitreous china	2	4.00 Ea.	\$139.48	\$174.43	25.0000	25	25	\$4,360.79	\$4,360.79
Replace lamps (2 lamps), 4', 34 W energy saver	10	24.09 Ea.	\$607.51	\$760.87	5.0000	5	5	\$3,804.34	\$3,804.34
Replace tankless water closet	35	4.00 Ea.	\$5,144.88	\$5,953.98	1.4286	1	1	\$5,953.98	\$5,953.98
Minor metal roof panel replacement, 2.5% of roof area	20	195.16 S.F.	\$2,230.24	\$2,648.76	2.5000	2	2	\$5,297.52	\$5,297.52
Repair 8" concrete block wall - (2% of walls) painted	25	1.35 C.S.F.	\$1,471.03	\$1,766.28	2.0000	2	2	\$3,532.56	\$3,532.56
Replace lavatory, vitreous china	35	4.00 Ea.	\$2,690.30	\$3,232.88	1.4286	1	1	\$3,232.88	\$3,232.88
Replace manual pull station	15	4.00 Ea.	\$813.87	\$979.76	3.3333	3	3	\$2,939.29	\$2,939.29
Check / minor repairs drinking fountain	1	1.00 Ea.	\$48.88	\$61.13	50.0000	50	50	\$3,056.63	\$3,056.63
Metal roof flashing replacement, 2 SF/sq repaired, metal panel roofing	1	3.61 S.F.	\$66.14	\$80.13	50.0000	50	50	\$4,006.70	\$4,006.70
Replace tankless flush valve	25	4.00 Ea.	\$1,008.86	\$1,184.44	2.0000	2	2	\$2,368.88	\$2,368.88

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Replace eye wash station, emergency eye wash	25	1.00 Ea.	\$1,114.34	\$1,325.00	2.0000	2	2	\$2,649.99	\$2,649.99
Check and repair manual pull station	10	4.00 Ea.	\$350.79	\$431.32	5.0000	5	4	\$2,156.61	\$1,725.28
Replace insulating glass (3% of glass) fully glazed aluminum door	1	7.20 S.F.	\$407.43	\$473.64	50.0000	50	50	\$23,682.00	\$23,682.00
Inspect sprinkler system	1	1.00 Ea.	\$34.33	\$42.93	50.0000	50	50	\$2,146.43	\$2,146.43
Repair 3'-0" x 7'-0" fully glazed aluminum door	12	2.00 Ea.	\$586.90	\$683.13	4.1667	4	4	\$2,732.51	\$2,732.51
Overhaul water heater, gas / oil, 70 gallon	5	1.00 Ea.	\$163.70	\$204.73	10.0000	10	10	\$2,047.26	\$2,047.26
Inspect / clean shower head fiberglass	3	2.00 Ea.	\$98.79	\$123.54	16.6667	16	16	\$1,976.67	\$1,976.67
Minor repairs to fire alarm control panel	5	1.00 Ea.	\$149.71	\$182.27	10.0000	10	10	\$1,822.75	\$1,822.75
Rebuild flush valve tankless water closet	20	4.00 Ea.	\$721.74	\$869.83	2.5000	2	2	\$1,739.66	\$1,739.66
Unplug line urinal	5	1.00 Ea.	\$145.07	\$181.43	10.0000	10	10	\$1,814.28	\$1,814.28
Replace sink, P.E.C.I. service/utility	35	1.00 Ea.	\$1,567.25	\$1,832.96	1.4286	1	1	\$1,832.96	\$1,832.96
Replace washer in faucet lavatory, vitreous china	2	4.00 Ea.	\$51.54	\$64.21	25.0000	25	25	\$1,605.18	\$1,605.18
Maintenance and inspection lighting panel, indoor	3	2.41 Ea.	\$97.93	\$122.69	16.6667	16	16	\$1,963.05	\$1,963.05
Replace drain: roof, scupper, area	40	2.00 Ea.	\$1,573.86	\$1,824.72	1.2500	1	1	\$1,824.72	\$1,824.72
Replace rainwater sump pump / motor assembly	20	1.00 Ea.	\$632.43	\$747.09	2.5000	2	2	\$1,494.18	\$1,494.18
Replace metal stair railing, interior	45	24.00 L.F.	\$1,030.94	\$1,206.72	1.1111	1	1	\$1,206.72	\$1,206.72
Unstop sink	2	1.00 Ea.	\$41.82	\$52.30	25.0000	25	25	\$1,307.56	\$1,307.56
Correct water pressure drinking fountain	2	1.00 Ea.	\$41.82	\$52.30	25.0000	25	25	\$1,307.56	\$1,307.56
Replace wall-hung urinal	35	1.00 Ea.	\$968.86	\$1,169.11	1.4286	1	1	\$1,169.11	\$1,169.11
Repair circulator pump, 1/12 - 3/4 H.P.	5	1.00 Ea.	\$98.13	\$115.73	10.0000	10	7	\$1,157.31	\$810.12
Replace faucets sink, service/utility	10	1.00 Ea.	\$181.73	\$218.76	5.0000	5	5	\$1,093.78	\$1,093.78
Replace fire alarm bell, 6"	20	2.00 Ea.	\$389.92	\$470.55	2.5000	2	2	\$941.10	\$941.10
Repair terminal reheat, 36" x 36" coil	10	1.00 Ea.	\$162.94	\$203.78	5.0000	5	5	\$1,018.88	\$1,018.88
Inspect and clean spray heads, emergency eye wash	3	1.00 Ea.	\$49.39	\$61.77	16.6667	16	16	\$988.34	\$988.34
Replace refrigerant drinking fountain	2	1.00 Ea.	\$32.68	\$38.27	25.0000	25	25	\$956.73	\$956.73
Insp/chk pump/mtr oper, lub, chk align, rainwater sump pump	1	1.00 Ea.	\$11.95	\$14.94	50.0000	50	50	\$747.18	\$747.18
Replace flush valve diaphragm tankless water closet	10	4.00 Ea.	\$104.88	\$130.14	5.0000	5	5	\$650.72	\$650.72
Repair internal leaks drinking fountain	4	1.00 Ea.	\$45.08	\$56.38	12.5000	12	12	\$676.53	\$676.53
Replace washer in spud connection lavatory, vitreous china	7	4.00 Ea.	\$65.85	\$80.32	7.1429	7	7	\$562.24	\$562.24
Repair drain leak drinking fountain	4	1.00 Ea.	\$33.92	\$40.53	12.5000	12	10	\$486.42	\$405.35
Rebuild flush valve for a urinal	20	1.00 Ea.	\$180.43	\$217.46	2.5000	2	2	\$434.91	\$434.91
Replace faucet washer sink, service/utility	2	1.00 Ea.	\$12.78	\$15.92	25.0000	25	25	\$397.90	\$397.90

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Refinish metal stair railing, interior	7	24.00 S.F.	\$35.08	\$43.25	7.1429	7	7	\$302.74	\$302.74
Repair concrete steps	15	4.00 S.F.	\$91.40	\$105.80	3.3333	3	3	\$317.41	\$317.41
Unclog main drain pipe & fittings, cast iron	10	1.00 Ea.	\$46.17	\$57.74	5.0000	5	5	\$288.68	\$288.68
Unclog 4" - 12" diameter PVC main drain per L.F.	10	1.00 L.F.	\$3.79	\$4.74	5.0000	5	5	\$23.71	\$23.71
Replace flush valve diaphragm for a urinal	7	1.00 Ea.	\$26.22	\$32.54	7.1429	7	7	\$227.75	\$227.75
Clean trap	3	1.00 Ea.	\$8.57	\$10.72	16.6667	16	16	\$171.50	\$171.50
Unclog floor drain, PVC	20	1.00 Ea.	\$47.80	\$59.77	2.5000	2	2	\$119.55	\$119.55
Replace 3'-0" x 7'-0" steel painted interior door	60	11.00 Ea.	\$13,398.38	\$15,532.91	0.8333	0	0	\$0.00	\$0.00
Replace 3'-9" x 5'-5" steel frame window - 2nd floor.	45	19.00 Ea.	\$32,365.38	\$37,346.74	1.1111	1	1	\$37,346.74	\$37,346.74
Maintenance and inspection motor starter, up to 600 V	0.5	6.00 Ea.	\$323.88	\$405.78	100.0000	100	100	\$40,578.05	\$40,578.05
Replace 12' x 24' steel double roll-up door	35	4.00 Ea.	\$21,628.66	\$25,670.94	1.4286	1	1	\$25,670.94	\$25,670.94
Replace fan & motor, propeller exhaust, 4700 CFM exhaust fan	15	4.00 Ea.	\$8,159.43	\$9,502.58	3.3333	3	3	\$28,507.74	\$28,507.74
Replace 10 H.P. compressor	25	1.00 Ea.	\$10,426.70	\$12,245.64	2.0000	2	2	\$24,491.29	\$24,491.29
Refinish 3'-9" x 5'-5" steel frame window - 2nd floor.	5	19.00 Ea.	\$2,816.06	\$3,497.31	10.0000	10	10	\$34,973.06	\$34,973.06
Repair steel, painted, door	14	8.00 Ea.	\$5,000.59	\$5,952.05	3.5714	3	3	\$17,856.14	\$17,856.14
Refinish 12' x 24' steel double roll-up door	5	4.00 Ea.	\$1,631.44	\$1,998.31	10.0000	10	10	\$19,983.06	\$19,983.06
Repair boiler, gas, 250 MBH	7	1.00 Ea.	\$2,031.05	\$2,390.45	7.1429	7	7	\$16,733.15	\$16,733.15
Repair 3'-9" x 5'-5" steel frame window - 2nd floor.	20	19.00 Ea.	\$6,552.84	\$7,757.04	2.5000	2	2	\$15,514.07	\$15,514.07
Replace metal halide ballast, 175 W	10	12.05 Ea.	\$1,788.80	\$2,148.00	5.0000	5	5	\$10,740.02	\$10,740.02
Replace circulator pump, 1/12 - 3/4 H.P.	15	1.00 Ea.	\$3,822.30	\$4,402.23	3.3333	3	3	\$13,206.68	\$13,206.68
Replace mixing valve barrel shower, fiberglass	2	2.00 Ea.	\$565.18	\$664.64	25.0000	25	25	\$16,615.97	\$16,615.97
Replace water heater, gas / oil, 70 gallon	12	1.00 Ea.	\$3,315.17	\$3,847.40	4.1667	4	4	\$15,389.62	\$15,389.62
Clean & service water heater, gas / oil, 70 gallon	1	1.00 Ea.	\$196.62	\$245.89	50.0000	50	50	\$12,294.44	\$12,294.44
Replace glass - 2nd floor (1% of glass) - steel frame window	1	2.00 S.F.	\$212.39	\$262.14	50.0000	50	50	\$13,107.06	\$13,107.06
Replace metal halide fixture lamp, 175 W	5	12.05 Ea.	\$602.20	\$736.72	10.0000	10	10	\$7,367.23	\$7,367.23
Replace boiler, gas, 250 MBH	30	1.00 Ea.	\$9,398.04	\$11,210.13	1.6667	1	1	\$11,210.13	\$11,210.13
Unplug clogged line tankless water closet	5	4.00 Ea.	\$873.58	\$1,092.51	10.0000	10	10	\$10,925.07	\$10,925.07
Replace starter motor starter, up to 600 V	18	6.00 Ea.	\$4,831.87	\$5,748.45	2.7778	2	2	\$11,496.89	\$11,496.89
Replace terminal reheat, 36" x 36" coil	15	1.00 Ea.	\$3,442.47	\$4,000.25	3.3333	3	3	\$12,000.76	\$12,000.76
Refinish 3'-0" x 7'-0" steel painted interior door	4	11.00 Ea.	\$578.44	\$712.65	12.5000	12	12	\$8,551.80	\$8,551.80
Office painting, 10' x 12', 10' high walls	5	3.61 Ea.	\$798.67	\$979.66	10.0000	10	10	\$9,796.55	\$9,796.55
Replace fire alarm control panel	15	1.00 Ea.	\$1,953.46	\$2,391.92	3.3333	3	3	\$7,175.76	\$7,175.76
Repair steel painted interior door	14	11.00 Ea.	\$3,227.97	\$3,757.20	3.5714	3	3	\$11,271.61	\$11,271.61

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost	
Replace single zone variable volume, 20 ton	10	1.00 Ea.	\$37,050.96	\$43,205.69	5.0000	5	5	\$216,028.47	\$216,028.47	
Replace central station A.H.U., 16,000 CFM	15	1.00 Ea.	\$66,939.65	\$77,045.08	3.3333	3	3	\$231,135.23	\$231,135.23	
Refinish concrete block wall painted	4	25.00 C.S.F.	\$2,522.97	\$3,072.20	12.5000	12	12	\$36,866.46	\$36,866.46	
			\$380,872.68	\$447,593.09				MR Subtotal	\$1,244,043.38	
									MR Per Year	\$24,833.06
									PM Total	\$6,585.57
									Subtotal	\$31,418.63
									Total Per Unit	\$4.00

FAC 2183 RAILROAD EQUIPMENT SHOP

SUC \$4.00

Release 2021 Qtr 3

UM SF

Zip Code Prefix 222

Design Life 50

Type PM

Average Size 7853.486000000001

Description	Qty	Labor Hours	Bare Mat	Bare Labor	Bare Equip	Bare Total	Total In-House	Total Incl OP
Door, overhead, manual, up to 24' high x 25' wide, annualized	4.00	8.78	\$47.51	\$363.36	\$0.00	\$410.87	\$524.63	\$640.77
Door, emergency egress, swinging, annualized	4.00	1.04	\$58.37	\$43.00	\$0.00	\$101.37	\$120.10	\$141.76
Drink fountain, annualized	1.00	0.62	\$20.73	\$31.28	\$0.00	\$52.00	\$63.46	\$75.95
Urinals, annualized	1.00	0.23	\$6.32	\$11.45	\$0.00	\$17.77	\$21.84	\$26.22
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
Showers, annualized	2.00	0.46	\$25.78	\$27.22	\$0.00	\$53.00	\$63.75	\$75.78
Centrifugal, w/ reduction gear, over 1 H.P., annualized	1.00	1.28	\$11.73	\$63.87	\$0.00	\$75.60	\$95.93	\$116.86
Air conditioning, split system, DX air cooled, over 10 tons, annualized	2.00	7.14	\$353.85	\$431.69	\$0.00	\$785.54	\$950.43	\$1,133.02
Air compressor, reciprocating, 5 to 40 H.P., annualized	1.00	4.86	\$97.06	\$290.73	\$0.00	\$387.79	\$484.71	\$586.49
Extinguishing system, dry pipe, annualized	1.00	13.02	\$122.33	\$775.28	\$0.00	\$897.61	\$1,142.43	\$1,393.36
Switch, interrupt, high voltage, fused air, annualized	4.00	1.46	\$60.62	\$95.31	\$0.00	\$155.93	\$190.59	\$228.28
Security, intrusion alarm system, annualized	1.00	3.83	\$162.90	\$226.88	\$0.00	\$389.78	\$474.14	\$566.64
Fire alarm annunciator system, annualized	1.00	11.05	\$179.39	\$652.68	\$0.00	\$832.07	\$1,045.82	\$1,268.53
Motor control center, over 400 A, annualized	1.00	0.39	\$23.20	\$25.90	\$0.00	\$49.10	\$59.19	\$70.44
						\$4,384.47	\$5,454.33	\$6,585.57

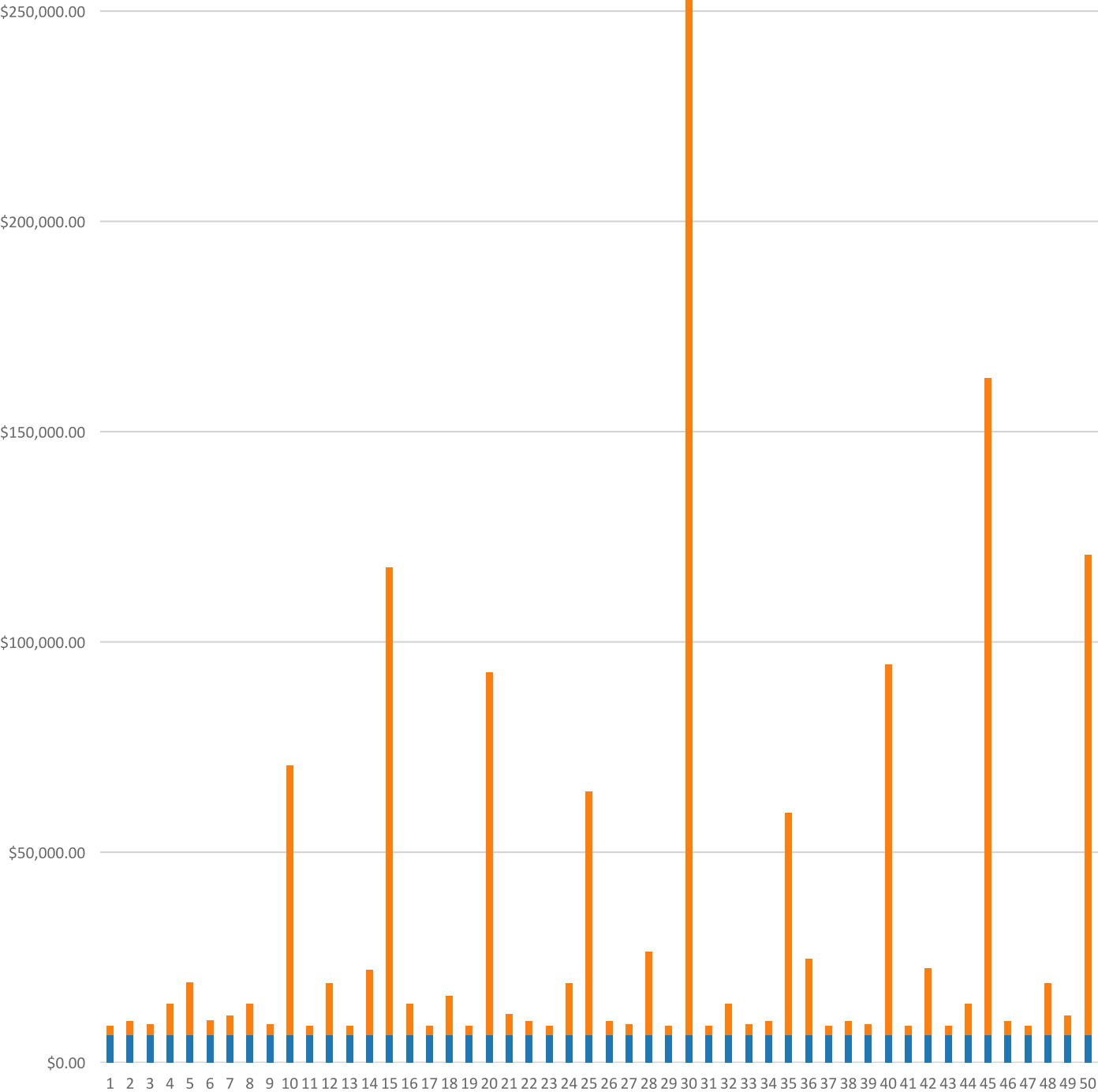
FAC 2183 RAILROAD EQUIPMENT SHOP

Modeled Component List

CostWorks Release 2021 Qtr 3

C30 Interior Finishes		
Concrete, Finished		50.0 C.S.F.
B30 Roofing		
Metal Steep Roofing	78.30596563890168 Sq.	
D20 Plumbing		
Drinking Fountain		1.0 Ea.
Shower, Fiberglass		2.0 Ea.
Tankless Water Closet		4.0 Ea.
Lavatory, Vitreous China		4.0 Ea.
Emergency Eye Wash		1.0 Ea.
Service/Utility Sink		1.0 Ea.
Drain: Roof, Scupper, Area		2.0 Ea.
Rainwater Sump Pump		1.0 Ea.
Urinal		1.0 Ea.
Compressed Air Systems, Compressors, 10 H.P.		1.0 Ea.
Water Heater, Gas / Oil, 70 Gallon		1.0 Ea.
B20 Exterior Enclosure		
Steel, Painted		8.0 Ea.
Steel Frame, Operating, 2nd floor		19.0 Ea.
Steel Double, Roll-Up		4.0 Ea.
C10 Interior Construction		
Fully Glazed Aluminum Doors		2.0 Ea.
Steel Painted Interior Doors		11.0 Ea.
Concrete Block, Painted		25.0 C.S.F.
D40 Fire Protection		
Sprinkler System, Fire Supression, sprinkler head		28.0 Ea.
Extinguishing system, dry pipe, annualized		1.0 Each
D50 Electrical		
Manual Pull Station		4.0 Ea.
Load Center, 100 A, maintenance & inspection	2.409414327350821 Ea.	
Fire Alarm Bell		2.0 Ea.
Motor Starter, Up To 600 V		6.0 Ea.
Fire Alarm Control Panel		1.0 Ea.
C20 Stairs		
Metal Interior Stair Railing		24.0 L.F.
D30 HVAC		
Exhaust Fan, propeller exh., 4700 CFM		4.0 Ea.
Circulator Pump, 1/12 - 3/4 H.P.		1.0 Ea.
Boiler, Gas, 250 MBH		1.0 Ea.
Terminal Reheat Coil, 36" x 36"		1.0 Ea.
Single Zone Variable Volume		1.0 Ea.
Central Station Air Conditioning Air Handling Unit, 16,000 CFM		1.0 Ea.

FAC 2183 RAILROAD EQUIPMENT SHOP
Sustainment by Year
CostWorks Release 2021 Qtr 3



PM Cost
MR Cost