

**FAC 7242 SERVICE ACADEMY UPH**

FY24 SUC: \$4.83 / SF  
Source: Calculated using R.S. Means CostWorks 2023 Qtr 4 component prices

FAC 7242 SERVICE ACADEMY UPH

SUC \$4.83

Release 2023 Qtr 4  
Zip Code Prefix 222  
Type MR

UM SF  
Design Life 55  
Average Size 56793.363636

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  |
|---|-----------|-----------------|----------------|----------------|-----------------------|----------------------------|----------------------|----------------|----------------|
| Repair concrete stairs  | 30        | 980.00 S.F.     | \$32,090.54    | \$37,106.17    | 1.8333                | 1                          | 1                    | \$37,106.17    | \$37,106.17    |
| Replace concrete stairs   | 75        | 90.00 S.F.      | \$7,647.55     | \$9,409.10     | 0.7333                | 0                          | 0                    | \$0.00         | \$0.00         |
| Repair clay brick wall, 1st floor                                 | 25        | 10,362.00 S.F.  | \$468,871.51   | \$576,318.26   | 2.2000                | 2                          | 2                    | \$1,152,636.53 | \$1,152,636.53 |
| Point clay brick wall, 1st floor                                  | 25        | 1,038.00 C.S.F. | \$886,495.00   | \$1,096,067.06 | 2.2000                | 2                          | 2                    | \$2,192,134.13 | \$2,192,134.13 |
| Point clay brick wall, 2nd floor                                  | 25        | 1,038.00 C.S.F. | \$930,893.80   | \$1,151,161.47 | 2.2000                | 2                          | 2                    | \$2,302,322.94 | \$2,302,322.94 |
| Replace glass - 1st floor. (1% of glass) - alum. window           | 1         | 3.80 S.F.       | \$49.97        | \$58.67        | 55.0000               | 55                         | 55                   | \$3,227.07     | \$3,227.07     |
| Repair 3' x 4' aluminum window - 1st floor                        | 20        | 164.00 Ea.      | \$46,563.59    | \$54,778.50    | 2.7500                | 2                          | 2                    | \$109,557.00   | \$109,557.00   |
| Replace 3' x 4' aluminum window - 1st floor                       | 50        | 164.00 Ea.      | \$196,317.73   | \$227,249.14   | 1.1000                | 1                          | 1                    | \$227,249.14   | \$227,249.14   |
| Replace glass - 2nd floor. (1% of glass) - alum. window           | 1         | 3.80 S.F.       | \$69.00        | \$82.32        | 55.0000               | 55                         | 55                   | \$4,527.44     | \$4,527.44     |
| Repair 3' x 4' aluminum window - 2nd floor                        | 20        | 164.00 Ea.      | \$54,776.80    | \$64,982.40    | 2.7500                | 2                          | 2                    | \$129,964.79   | \$129,964.79   |
| Replace 3' x 4' aluminum window - 2nd floor                       | 50        | 164.00 Ea.      | \$204,530.94   | \$237,453.04   | 1.1000                | 1                          | 1                    | \$237,453.04   | \$237,453.04   |
| Replace glass - 1st floor (1% of glass) - alum. window fixed      | 1         | 2.50 S.F.       | \$32.87        | \$38.60        | 55.0000               | 55                         | 55                   | \$2,123.07     | \$2,123.07     |
| Repair 2'-0" x 3'-0" aluminum window - 1st floor                  | 20        | 138.00 Ea.      | \$21,571.22    | \$25,705.46    | 2.7500                | 2                          | 2                    | \$51,410.91    | \$51,410.91    |
| Replace 2'-0" x 3'-0" aluminum window - 1st floor                 | 50        | 138.00 Ea.      | \$93,500.57    | \$109,751.82   | 1.1000                | 1                          | 1                    | \$109,751.82   | \$109,751.82   |
| Repair aluminum storefront door                                   | 12        | 8.00 Ea.        | \$4,081.81     | \$4,877.48     | 4.5833                | 4                          | 4                    | \$19,509.91    | \$19,509.91    |
| Replace 3'-0" x 7'-0" aluminum storefront doors                   | 50        | 8.00 Ea.        | \$19,273.56    | \$22,706.49    | 1.1000                | 1                          | 1                    | \$22,706.49    | \$22,706.49    |
| Replace insulating glass - (3% of glass) aluminum storefront door | 1         | 1.40 S.F.       | \$77.82        | \$91.00        | 55.0000               | 55                         | 55                   | \$5,005.27     | \$5,005.27     |
| Repair steel, painted, door                                       | 14        | 4.00 Ea.        | \$2,809.34     | \$3,336.77     | 3.9286                | 3                          | 3                    | \$10,010.31    | \$10,010.31    |
| Refinish 3'-0" x 7'-0" steel, painted, door                       | 4         | 4.00 Ea.        | \$184.22       | \$225.58       | 13.7500               | 13                         | 13                   | \$2,932.60     | \$2,932.60     |
| Replace 3'-0" x 7'-0" steel, painted, door                        | 45        | 4.00 Ea.        | \$3,668.44     | \$4,247.70     | 1.2222                | 1                          | 1                    | \$4,247.70     | \$4,247.70     |
| Replace tempered glass - (3% of glass) steel painted door         | 1         | 1.40 S.F.       | \$44.43        | \$52.45        | 55.0000               | 55                         | 55                   | \$2,884.70     | \$2,884.70     |
| Non - destructive moisture inspection, thermosetting              | 5         | 0.06 M.S.F.     | \$7.57         | \$9.24         | 11.0000               | 11                         | 11                   | \$101.63       | \$101.63       |
| Flashing repairs, 2 S.F. per sq. repaired, thermoset              | 1         | 124.50 S.F.     | \$330.44       | \$401.77       | 55.0000               | 55                         | 55                   | \$22,097.61    | \$22,097.61    |
| Total EPDM roof replacement                                       | 25        | 568.00 Sq.      | \$415,255.26   | \$490,386.57   | 2.2000                | 2                          | 2                    | \$980,773.15   | \$980,773.15   |
| Minor tile replacement, 2.5% of roof area, slate tile roofing     | 20        | 120.00 S.F.     | \$6,963.12     | \$8,386.72     | 2.7500                | 2                          | 2                    | \$16,773.43    | \$16,773.43    |
| Replace copper downspouts, 2" x 3", 16 oz.                        | 40        | 160.00 L.F.     | \$3,119.21     | \$3,627.03     | 1.3750                | 1                          | 1                    | \$3,627.03     | \$3,627.03     |
| Replace roof hatch and structure single unit                      | 40        | 4.00 Ea.        | \$6,539.29     | \$7,534.78     | 1.3750                | 1                          | 1                    | \$7,534.78     | \$7,534.78     |
| Repair solid core wood door, interior                             | 11        | 64.00 Ea.       | \$17,855.25    | \$20,843.66    | 5.0000                | 5                          | 5                    | \$104,218.30   | \$104,218.30   |
| Replace 3'-0" x 7'-0" solid core wood door, interior              | 40        | 64.00 Ea.       | \$36,259.21    | \$41,862.26    | 1.3750                | 1                          | 1                    | \$41,862.26    | \$41,862.26    |
| Repair masonry steps, painted                                     | 20        | 264.00 S.F.     | \$7,543.72     | \$8,955.81     | 2.7500                | 2                          | 2                    | \$17,911.61    | \$17,911.61    |
| Replace masonry steps, painted                                    | 50        | 264.00 S.F.     | \$56,461.16    | \$69,613.45    | 1.1000                | 1                          | 1                    | \$69,613.45    | \$69,613.45    |

| Description   | Frequency | Qty Unit       | Total In-House | Total Incl OP | Design Life/Frequency | Occurrences in Design Life | Adjusted Occurrences | Life Cost    | Adjusted Cost |
|---|-----------|----------------|----------------|---------------|-----------------------|----------------------------|----------------------|--------------|---------------|
| Replace metal stair railing, interior                           | 45        | 96.00 L.F.     | \$4,477.55     | \$5,239.73    | 1.2222                | 1                          | 1                    | \$5,239.73   | \$5,239.73    |
| Repair medium weight vinyl wall covering - (2% of walls)        | 1         | 0.60 C.S.F.    | \$264.67       | \$310.21      | 55.0000               | 55                         | 55                   | \$17,061.55  | \$17,061.55   |
| Replace medium weight vinyl wall covering                       | 15        | 32.00 C.S.F.   | \$16,422.72    | \$19,413.50   | 3.6667                | 3                          | 3                    | \$58,240.49  | \$58,240.49   |
| Repair 5/8" drywall - (2% of walls)                             | 20        | 373.40 S.F.    | \$623.92       | \$762.48      | 2.7500                | 2                          | 2                    | \$1,524.96   | \$1,524.96    |
| Refinish drywall  | 4         | 18,670.00 S.F. | \$12,651.53    | \$15,542.38   | 13.7500               | 13                         | 13                   | \$202,050.90 | \$202,050.90  |
| Repair 4" x 4" thin set ceramic tile - (2% of walls)            | 10        | 0.90 C.S.F.    | \$724.43       | \$877.19      | 5.5000                | 5                          | 5                    | \$4,385.95   | \$4,385.95    |
| Refinish concrete floor finished                                | 25        | 1.40 C.S.F.    | \$583.21       | \$703.67      | 2.2000                | 2                          | 2                    | \$1,407.33   | \$1,407.33    |
| Replace vinyl tile flooring                                     | 18        | 3,300.00 S.Y.  | \$168,594.37   | \$207,476.56  | 3.0556                | 3                          | 3                    | \$622,429.67 | \$622,429.67  |
| Ceramic tile floor repairs - (2% of floors)                     | 15        | 8.20 C.S.F.    | \$5,526.96     | \$6,891.68    | 3.6667                | 3                          | 3                    | \$20,675.03  | \$20,675.03   |
| Replace 2" x 2" thin set ceramic tile floor                     | 50        | 18.20 C.S.F.   | \$24,307.01    | \$29,298.07   | 1.1000                | 1                          | 1                    | \$29,298.07  | \$29,298.07   |
| Replace carpet  | 8         | 1,929.00 S.Y.  | \$104,159.38   | \$120,451.53  | 6.8750                | 6                          | 6                    | \$722,709.21 | \$722,709.21  |
| Repair gypsum board ceiling - (2% of ceilings)                  | 20        | 1.10 C.S.F.    | \$422.65       | \$518.99      | 2.7500                | 2                          | 2                    | \$1,037.98   | \$1,037.98    |
| Refinish gypsum board ceiling, up to 12' high                   | 20        | 154.00 C.S.F.  | \$22,346.95    | \$27,493.27   | 2.7500                | 2                          | 1                    | \$54,986.54  | \$27,493.27   |
| Replace gypsum board ceiling, up to 12' high                    | 40        | 154.00 C.S.F.  | \$60,692.72    | \$74,549.65   | 1.3750                | 1                          | 1                    | \$74,549.65  | \$74,549.65   |
| Unplug clogged line flush-tank water closet                     | 5         | 48.00 Ea.      | \$11,036.60    | \$13,815.92   | 11.0000               | 11                         | 11                   | \$151,975.13 | \$151,975.13  |
| Replace washer / diaphragm in ball cock flush-tank water closet | 5         | 48.00 Ea.      | \$942.50       | \$1,162.82    | 11.0000               | 11                         | 11                   | \$12,791.06  | \$12,791.06   |
| Replace valve and ball cock assembly flush-tank water closet    | 15        | 48.00 Ea.      | \$4,670.25     | \$5,772.93    | 3.6667                | 3                          | 3                    | \$17,318.78  | \$17,318.78   |
| Install gasket between tank and bowl flush-tank water closet    | 20        | 48.00 Ea.      | \$2,089.10     | \$2,595.94    | 2.7500                | 2                          | 2                    | \$5,191.89   | \$5,191.89    |
| Replace two piece water closet flush-tank                       | 35        | 48.00 Ea.      | \$26,399.17    | \$31,603.51   | 1.5714                | 1                          | 1                    | \$31,603.51  | \$31,603.51   |
| Replace one piece water closet flush-tank                       | 35        | 48.00 Ea.      | \$61,451.61    | \$71,435.83   | 1.5714                | 1                          | 1                    | \$71,435.83  | \$71,435.83   |
| Replace flush valve diaphragm for a urinal                      | 7         | 28.00 Ea.      | \$763.39       | \$947.97      | 7.8571                | 7                          | 7                    | \$6,635.79   | \$6,635.79    |
| Replace wall-hung urinal  | 35        | 28.00 Ea.      | \$30,450.57    | \$36,625.30   | 1.5714                | 1                          | 1                    | \$36,625.30  | \$36,625.30   |
| Replace washer in spud connection lavatory, vitreous china      | 7         | 32.00 Ea.      | \$554.28       | \$676.51      | 7.8571                | 7                          | 7                    | \$4,735.54   | \$4,735.54    |
| Replace washer in faucet lavatory, vitreous china               | 2         | 32.00 Ea.      | \$434.16       | \$541.35      | 27.5000               | 27                         | 27                   | \$14,616.46  | \$14,616.46   |
| Replace faucets lavatory, vitreous china                        | 10        | 32.00 Ea.      | \$6,255.10     | \$7,523.89    | 5.5000                | 5                          | 5                    | \$37,619.43  | \$37,619.43   |
| Clean out strainer and P trap lavatory, vitreous china          | 2         | 32.00 Ea.      | \$1,178.20     | \$1,474.90    | 27.5000               | 27                         | 27                   | \$39,822.36  | \$39,822.36   |
| Replace lavatory, vitreous china                                | 35        | 32.00 Ea.      | \$22,999.13    | \$27,628.99   | 1.5714                | 1                          | 1                    | \$27,628.99  | \$27,628.99   |
| Replace faucet washer sink, iron enamel                         | 2         | 8.00 Ea.       | \$107.59       | \$134.16      | 27.5000               | 27                         | 27                   | \$3,622.19   | \$3,622.19    |
| Clean trap sink, iron enamel                                    | 3         | 8.00 Ea.       | \$72.05        | \$90.19       | 18.3333               | 18                         | 18                   | \$1,623.47   | \$1,623.47    |
| Replace faucets sink, iron enamel                               | 10        | 8.00 Ea.       | \$1,563.78     | \$1,880.97    | 5.5000                | 5                          | 5                    | \$9,404.86   | \$9,404.86    |
| Unstop sink, iron enamel  | 2         | 8.00 Ea.       | \$352.09       | \$440.75      | 27.5000               | 27                         | 27                   | \$11,900.27  | \$11,900.27   |
| Replace sink, P.E.C.I. sink, iron enamel kitchen                | 10        | 8.00 Ea.       | \$9,667.44     | \$11,274.21   | 5.5000                | 5                          | 5                    | \$56,371.05  | \$56,371.05   |

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| Inspect / clean shower head shower, terrazzo                                | 3         | 62.00 Ea.     | \$3,195.20     | \$3,999.84    | 18.3333               | 18                         | 18                   | \$71,997.10  | \$71,997.10   |
| Replace terrazzo shower surface   | 30        | 62.00 Ea.     | \$86,531.68    | \$104,129.00  | 1.8333                | 1                          | 1                    | \$104,129.00 | \$104,129.00  |
| Replace shower and fittings, aluminum                                       | 25        | 62.00 Ea.     | \$68,143.01    | \$81,239.05   | 2.2000                | 2                          | 2                    | \$162,478.10 | \$162,478.10  |
| Check / minor repairs drinking fountain                                     | 1         | 8.00 Ea.      | \$412.20       | \$516.00      | 55.0000               | 55                         | 55                   | \$28,380.04  | \$28,380.04   |
| Repair internal leaks drinking fountain                                     | 4         | 8.00 Ea.      | \$382.14       | \$478.38      | 13.7500               | 13                         | 13                   | \$6,218.88   | \$6,218.88    |
| Correct water pressure drinking fountain                                    | 2         | 8.00 Ea.      | \$352.09       | \$440.75      | 27.5000               | 27                         | 27                   | \$11,900.27  | \$11,900.27   |
| Replace refrigerant drinking fountain                                       | 2         | 8.00 Ea.      | \$283.24       | \$331.44      | 27.5000               | 27                         | 27                   | \$8,948.82   | \$8,948.82    |
| Repair drain leak drinking fountain   | 4         | 8.00 Ea.      | \$232.77       | \$281.51      | 13.7500               | 13                         | 11                   | \$3,659.69   | \$3,096.66    |
| Replace fountain drinking fountain  | 10        | 8.00 Ea.      | \$12,966.51    | \$15,234.41   | 5.5000                | 5                          | 5                    | \$76,172.04  | \$76,172.04   |
| Resolder joint pipe & fittings, copper                                      | 10        | 156.00 Ea.    | \$7,820.68     | \$9,647.77    | 5.5000                | 5                          | 5                    | \$48,238.87  | \$48,238.87   |
| Replace pipe and fittings, copper 3/4"                                      | 20        | 2,360.00 L.F. | \$58,993.25    | \$71,498.48   | 2.7500                | 2                          | 2                    | \$142,996.97 | \$142,996.97  |
| Replace pipe and fittings, copper 2"  | 25        | 1,180.00 L.F. | \$61,864.38    | \$74,410.13   | 2.2000                | 2                          | 2                    | \$148,820.26 | \$148,820.26  |
| Remove old insulation & replace with new, pipe 3/4", wall 1"                | 15        | 4,500.00 L.F. | \$44,418.72    | \$54,424.64   | 3.6667                | 3                          | 3                    | \$163,273.92 | \$163,273.92  |
| Minor repairs, adjustments water heater, gas / oil, 1150 GPH                | 2         | 1.00 Ea.      | \$103.05       | \$129.00      | 27.5000               | 27                         | 25                   | \$3,483.01   | \$3,225.00    |
| Replace water heater, gas / oil, 1150 GPH                                   | 20        | 1.00 Ea.      | \$40,152.67    | \$46,253.95   | 2.7500                | 2                          | 2                    | \$92,507.90  | \$92,507.90   |
| Inspect / check pump / motor operation, lubricate circulation pump, 1/12 HP | 0.5       | 1.00 Ea.      | \$8.44         | \$10.56       | 110.0000              | 110                        | 110                  | \$1,161.81   | \$1,161.81    |
| Replace pump / motor assembly circulation pump, 1/12 HP                     | 10        | 1.00 Ea.      | \$1,218.91     | \$1,426.89    | 5.5000                | 5                          | 5                    | \$7,134.47   | \$7,134.47    |
| Insp./chk. pump/mtr. oper., lub., chk. align. circulation pump, 1/2 HP      | 1         | 1.00 Ea.      | \$12.56        | \$15.72       | 55.0000               | 55                         | 55                   | \$864.70     | \$864.70      |
| Replace pump / motor assembly, partial circulation pump, 1/2 HP             | 20        | 1.00 Ea.      | \$4,075.42     | \$4,693.63    | 2.7500                | 2                          | 2                    | \$9,387.25   | \$9,387.25    |
| Remove old meter, install new water meter 4"                                | 25        | 1.00 Ea.      | \$5,094.86     | \$5,956.94    | 2.2000                | 2                          | 2                    | \$11,913.88  | \$11,913.88   |
| Unclog main drain pipe & fittings, cast iron                                | 10        | 1.00 Ea.      | \$48.84        | \$61.14       | 5.5000                | 5                          | 5                    | \$305.70     | \$305.70      |
| Replace pipe & fittings, cast iron, 4"                                      | 40        | 900.00 L.F.   | \$52,084.88    | \$63,286.77   | 1.3750                | 1                          | 1                    | \$63,286.77  | \$63,286.77   |
| Unclog floor drain, PVC   | 20        | 1.00 Ea.      | \$50.45        | \$63.16       | 2.7500                | 2                          | 2                    | \$126.31     | \$126.31      |
| Unclog 4" - 12" diameter PVC main drain per L.F.                            | 10        | 0.40 L.F.     | \$1.60         | \$2.00        | 5.5000                | 5                          | 5                    | \$10.00      | \$10.00       |
| Repair joint pipe and fittings, PVC   | 10        | 1.00 Ea.      | \$168.16       | \$208.23      | 5.5000                | 5                          | 5                    | \$1,041.14   | \$1,041.14    |
| Replace pipe, 4" pipe and fittings, PVC                                     | 30        | 400.00 L.F.   | \$33,177.05    | \$40,950.98   | 1.8333                | 1                          | 1                    | \$40,950.98  | \$40,950.98   |
| General maintenance & repair drain: roof, scupper, area                     | 1         | 2.00 Ea.      | \$78.36        | \$98.09       | 55.0000               | 55                         | 55                   | \$5,395.16   | \$5,395.16    |
| Replace drain: roof, scupper, area  | 40        | 2.00 Ea.      | \$2,260.75     | \$2,607.70    | 1.3750                | 1                          | 1                    | \$2,607.70   | \$2,607.70    |
| Repair boiler, gas/oil, 2000 MBH  | 7         | 1.00 Ea.      | \$6,297.34     | \$7,354.97    | 7.8571                | 7                          | 7                    | \$51,484.77  | \$51,484.77   |
| Replace boiler, gas/oil, 2000 MBH   | 30        | 1.00 Ea.      | \$59,497.43    | \$69,094.93   | 1.8333                | 1                          | 1                    | \$69,094.93  | \$69,094.93   |

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| Replace metal flue, all fuel SS, 6" diameter metal flue / chimney  | 15        | 1.00 L.F.  | \$165.38       | \$190.91      | 3.6667                | 3                          | 3                    | \$572.74     | \$572.74      |
| Repair reciprocating chiller, air cooled, 50 ton                   | 10        | 1.00 Ea.   | \$65,382.68    | \$76,404.48   | 5.5000                | 5                          | 5                    | \$382,022.40 | \$382,022.40  |
| Replace chiller, air cooled, 50 ton                                | 20        | 2.00 Ea.   | \$136,774.18   | \$159,186.87  | 2.7500                | 2                          | 2                    | \$318,373.75 | \$318,373.75  |
| Repair fan coil unit, 5 ton  | 10        | 14.00 Ea.  | \$8,950.65     | \$10,592.84   | 5.5000                | 5                          | 4                    | \$52,964.22  | \$42,371.38   |
| Replace fan coil unit, 5 ton                                       | 15        | 14.00 Ea.  | \$40,677.92    | \$47,142.83   | 3.6667                | 3                          | 3                    | \$141,428.48 | \$141,428.48  |
| Inspect sprinkler system   | 1         | 1.00 Ea.   | \$36.17        | \$45.28       | 55.0000               | 55                         | 55                   | \$2,490.64   | \$2,490.64    |
| Replace sprinkler head   | 20        | 104.00 Ea. | \$9,115.38     | \$11,247.80   | 2.7500                | 2                          | 2                    | \$22,495.59  | \$22,495.59   |
| Rebuild double check 3" backflow preventer sprinkler system        | 1         | 1.00 Ea.   | \$748.17       | \$896.73      | 55.0000               | 55                         | 55                   | \$49,320.09  | \$49,320.09   |
| Repair 500 kva transformer, primary, liquid filled                 | 10        | 2.00 Ea.   | \$5,220.12     | \$6,010.73    | 5.5000                | 5                          | 5                    | \$30,053.67  | \$30,053.67   |
| Replace transformer 500 KVA, liquid filled                         | 30        | 2.00 Ea.   | \$133,654.00   | \$153,097.54  | 1.8333                | 1                          | 1                    | \$153,097.54 | \$153,097.54  |
| Repair switchgear 1200 A mainframe                                 | 5         | 2.00 Ea.   | \$3,607.11     | \$4,231.50    | 11.0000               | 11                         | 9                    | \$46,546.55  | \$38,083.54   |
| Maintenance and inspection switchgear, mainframe                   | 1         | 2.00 Ea.   | \$136.51       | \$171.03      | 55.0000               | 55                         | 55                   | \$9,406.68   | \$9,406.68    |
| Replace switchgear 1200 A mainframe                                | 20        | 2.00 Ea.   | \$8,501.85     | \$10,254.60   | 2.7500                | 2                          | 2                    | \$20,509.19  | \$20,509.19   |
| Maintenance and repair motor starter, up to 600 V                  | 5         | 2.00 Ea.   | \$525.64       | \$638.99      | 11.0000               | 11                         | 11                   | \$7,028.87   | \$7,028.87    |
| Maintenance and inspection motor starter, up to 600 V              | 0.5       | 2.00 Ea.   | \$113.76       | \$142.53      | 110.0000              | 110                        | 110                  | \$15,677.80  | \$15,677.80   |
| Replace starter motor starter, up to 600 V                         | 18        | 2.00 Ea.   | \$1,682.04     | \$2,001.49    | 3.0556                | 3                          | 3                    | \$6,004.48   | \$6,004.48    |
| Maintenance and repair safety switch general, 2 pole               | 8         | 1.00 Ea.   | \$42.34        | \$53.05       | 6.8750                | 6                          | 6                    | \$318.31     | \$318.31      |
| Maintenance and inspection safety switch, 2 pole                   | 1         | 1.00 Ea.   | \$42.34        | \$53.05       | 55.0000               | 55                         | 55                   | \$2,917.81   | \$2,917.81    |
| Replace safety switch, 240 V, 2 pole                               | 25        | 1.00 Ea.   | \$448.31       | \$543.60      | 2.2000                | 2                          | 2                    | \$1,087.20   | \$1,087.20    |
| Replace low voltage cartridge safety switch                        | 50        | 1.00 Ea.   | \$56.96        | \$68.66       | 1.1000                | 1                          | 1                    | \$68.66      | \$68.66       |
| Replace plug fuse safety switch                                    | 25        | 1.00 Ea.   | \$25.47        | \$31.32       | 2.2000                | 2                          | 2                    | \$62.65      | \$62.65       |
| Maintenance and repair receptacles and plugs                       | 20        | 164.00 Ea. | \$7,223.09     | \$9,017.02    | 2.7500                | 2                          | 2                    | \$18,034.04  | \$18,034.04   |
| Replace receptacle/plug receptacles and plugs                      | 20        | 164.00 Ea. | \$12,272.22    | \$15,131.86   | 2.7500                | 2                          | 2                    | \$30,263.73  | \$30,263.73   |
| Maintenance and repair wiring devices, switches                    | 10        | 80.00 Ea.  | \$3,523.46     | \$4,398.55    | 5.5000                | 5                          | 5                    | \$21,992.73  | \$21,992.73   |
| Replace wiring devices, switches                                   | 15        | 80.00 Ea.  | \$5,334.50     | \$6,640.55    | 3.6667                | 3                          | 3                    | \$19,921.64  | \$19,921.64   |
| Maintenance and repair incandescent lighting fixtures              | 10        | 178.00 Ea. | \$11,985.48    | \$14,319.66   | 5.5000                | 5                          | 3                    | \$71,598.32  | \$42,958.99   |
| Replace incandescent lighting fixture lamp                         | 5         | 178.00 Ea. | \$2,285.52     | \$2,750.77    | 11.0000               | 11                         | 11                   | \$30,258.42  | \$30,258.42   |
| Replace incandescent lighting fixture                              | 20        | 178.00 Ea. | \$24,868.92    | \$30,163.75   | 2.7500                | 2                          | 2                    | \$60,327.50  | \$60,327.50   |
| Replace fluorescent light fixture ballast, 80 W                    | 10        | 178.00 Ea. | \$18,619.89    | \$22,960.36   | 5.5000                | 5                          | 3                    | \$114,801.81 | \$68,881.09   |
| Replace lamps (2 lamps), 4', 34 W energy saver                     | 10        | 178.00 Ea. | \$4,714.45     | \$5,904.07    | 5.5000                | 5                          | 5                    | \$29,520.35  | \$29,520.35   |
| Replace fluorescent fixture, lay-in, recess mtd, 2' x 4', two 40 W | 20        | 178.00 Ea. | \$44,077.10    | \$53,645.05   | 2.7500                | 2                          | 2                    | \$107,290.11 | \$107,290.11  |
| Replace metal halide ballast, 175 W                                | 10        | 16.00 Ea.  | \$2,670.19     | \$3,196.23    | 5.5000                | 5                          | 3                    | \$15,981.15  | \$9,588.69    |

| Description   | Frequency | Qty Unit  | Total In-House | Total Incl OP  | Design Life/Frequency | Occurrences in Design Life | Adjusted Occurrences | Life Cost   | Adjusted Cost   |              |
|---|-----------|-----------|----------------|----------------|-----------------------|----------------------------|----------------------|-------------|-----------------|--------------|
| Replace metal halide fixture lamp, 175 W            | 5         | 16.00 Ea. | \$913.55       | \$1,111.86     | 11.0000               | 11                         | 11                   | \$12,230.51 | \$12,230.51     |              |
| Replace metal halide fixture, 175 W                 | 20        | 16.00 Ea. | \$11,819.66    | \$13,933.79    | 2.7500                | 2                          | 2                    | \$27,867.58 | \$27,867.58     |              |
| Repair smoke detector                               | 10        | 36.00 Ea. | \$2,088.37     | \$2,585.97     | 5.5000                | 5                          | 4                    | \$12,929.86 | \$10,343.89     |              |
| Check operation smoke detector                      | 1         | 36.00 Ea. | \$612.03       | \$766.79       | 55.0000               | 55                         | 55                   | \$42,173.28 | \$42,173.28     |              |
| Replace smoke detector                              | 15        | 36.00 Ea. | \$10,891.89    | \$13,003.86    | 3.6667                | 3                          | 3                    | \$39,011.59 | \$39,011.59     |              |
| Check and repair manual pull station                | 10        | 16.00 Ea. | \$1,438.14     | \$1,771.95     | 5.5000                | 5                          | 4                    | \$8,859.75  | \$7,087.80      |              |
| Replace manual pull station                         | 15        | 16.00 Ea. | \$3,340.13     | \$4,028.21     | 3.6667                | 3                          | 3                    | \$12,084.62 | \$12,084.62     |              |
| Minor repairs to fire alarm control panel           | 5         | 1.00 Ea.  | \$149.42       | \$182.60       | 11.0000               | 11                         | 11                   | \$2,008.55  | \$2,008.55      |              |
| Maintenance and inspection fire alarm control panel | 0.5       | 1.00 Ea.  | \$45.50        | \$57.01        | 110.0000              | 110                        | 110                  | \$6,271.12  | \$6,271.12      |              |
| Replace fire alarm control panel                    | 15        | 1.00 Ea.  | \$2,196.12     | \$2,675.47     | 3.6667                | 3                          | 3                    | \$8,026.42  | \$8,026.42      |              |
| Replace fire alarm bell, 6"                         | 20        | 4.00 Ea.  | \$722.42       | \$879.09       | 2.7500                | 2                          | 2                    | \$1,758.17  | \$1,758.17      |              |
| Replace lamp emergency lighting fixture             | 2         | 14.00 Ea. | \$762.90       | \$921.97       | 27.5000               | 27                         | 27                   | \$24,893.21 | \$24,893.21     |              |
| Replace emergency lighting fixture                  | 20        | 14.00 Ea. | \$8,047.28     | \$9,518.23     | 2.7500                | 2                          | 2                    | \$19,036.46 | \$19,036.46     |              |
| Maintenance and repair exit light                   | 20        | 14.00 Ea. | \$538.87       | \$667.39       | 2.7500                | 2                          | 2                    | \$1,334.78  | \$1,334.78      |              |
| Replace lamp exit light                             | 5         | 14.00 Ea. | \$228.85       | \$272.14       | 11.0000               | 11                         | 11                   | \$2,993.55  | \$2,993.55      |              |
| Replace lighting fixture exit light                 | 20        | 14.00 Ea. | \$2,464.91     | \$2,989.10     | 2.7500                | 2                          | 2                    | \$5,978.20  | \$5,978.20      |              |
|   |           |           | \$5,276,338.48 | \$6,367,821.03 |                       |                            |                      | MR Subtotal | \$13,462,977.86 |              |
|   |           |           |                |                |                       |                            |                      |             | MR Per Year     | \$244,781.42 |
|   |           |           |                |                |                       |                            |                      |             | PM Total        | \$29,569.08  |
|   |           |           |                |                |                       |                            |                      |             | Subtotal        | \$274,350.50 |
|   |           |           |                |                |                       |                            |                      |             | Total Per Unit  | \$4.83       |

FAC 7242 SERVICE ACADEMY UPH

SUC \$4.83

Release 2023 Qtr 4

UM SF

Zip Code Prefix 222

Design Life 55

Type PM

Average Size 56793.363636

| Description  | Qty   | Labor Hours | Bare Mat | Bare Labor | Bare Equip | Bare Total  | Total In-House | Total Incl OP |
|--|-------|-------------|----------|------------|------------|-------------|----------------|---------------|
| Door, emergency egress, swinging, annualized                           | 4.00  | 1.04        | \$67.05  | \$45.93    | \$0.00     | \$112.99    | \$133.47       | \$157.31      |
| Urinals, annually  | 28.00 | 1.60        | \$185.60 | \$85.46    | \$0.00     | \$271.06    | \$315.25       | \$368.73      |
| Toilet (vacuum breaker type), annualized                               | 48.00 | 8.50        | \$425.04 | \$454.14   | \$0.00     | \$879.18    | \$1,057.92     | \$1,257.92    |
| Lavatories, annually   | 32.00 | 2.78        | \$249.36 | \$174.40   | \$0.00     | \$423.76    | \$501.01       | \$590.74      |
| Showers, annually  | 62.00 | 3.53        | \$837.63 | \$221.66   | \$0.00     | \$1,059.29  | \$1,209.56     | \$1,401.70    |
| Drink fountain, annualized   | 4.00  | 2.48        | \$149.78 | \$132.54   | \$0.00     | \$282.32    | \$337.06       | \$399.29      |
| Valve, check, above 4", annualized                                     | 16.00 | 4.11        | \$66.23  | \$219.74   | \$0.00     | \$285.97    | \$358.52       | \$434.37      |
| Valve, gate, above 4", annualized                                      | 2.00  | 0.32        | \$8.28   | \$17.00    | \$0.00     | \$25.28     | \$31.21        | \$37.55       |
| Water heater, steam 2500 gal., annualized                              | 1.00  | 1.55        | \$149.78 | \$82.84    | \$0.00     | \$232.62    | \$272.45       | \$319.76      |
| Boiler, hot water, oil, gas, or comb. fired, over 1000 MBH, annualized | 2.00  | 39.40       | \$177.10 | \$2,485.20 | \$0.00     | \$2,662.30  | \$3,425.57     | \$4,197.69    |
| Chiller, centrif., water cooled, up to 100 tons, annualized            | 2.00  | 53.54       | \$244.90 | \$3,400.80 | \$0.00     | \$3,645.70  | \$4,690.43     | \$5,747.41    |
| VAV Boxes, annualized  | 12.00 | 11.21       | \$130.55 | \$706.32   | \$0.00     | \$836.87    | \$1,061.82     | \$1,293.30    |
| Fire dampers, annualized   | 2.00  | 2.31        | \$18.01  | \$146.50   | \$0.00     | \$164.51    | \$210.26       | \$256.91      |
| Extinguishing system, wet pipe, annualized                             | 1.00  | 11.34       | \$49.59  | \$710.68   | \$0.00     | \$760.27    | \$978.43       | \$1,199.07    |
| Light, emergency, hardwired system, annualized                         | 1.00  | 0.25        | \$8.98   | \$15.77    | \$0.00     | \$24.75     | \$30.38        | \$36.46       |
| Disposal, garbage, electric, annualized                                | 26.00 | 39.62       | \$407.72 | \$1,424.20 | \$0.00     | \$1,831.92  | \$2,299.96     | \$2,788.38    |
| Oven, convection, gas / electric, annualized                           | 12.00 | 134.90      | \$605.90 | \$4,876.92 | \$0.00     | \$5,482.82  | \$7,006.49     | \$8,560.45    |
| Refrigerator, domestic, annualized                                     | 26.00 | 6.08        | \$136.33 | \$219.76   | \$0.00     | \$356.08    | \$435.64       | \$522.02      |
|  |       |             |          |            |            | \$19,337.70 | \$24,355.44    | \$29,569.08   |



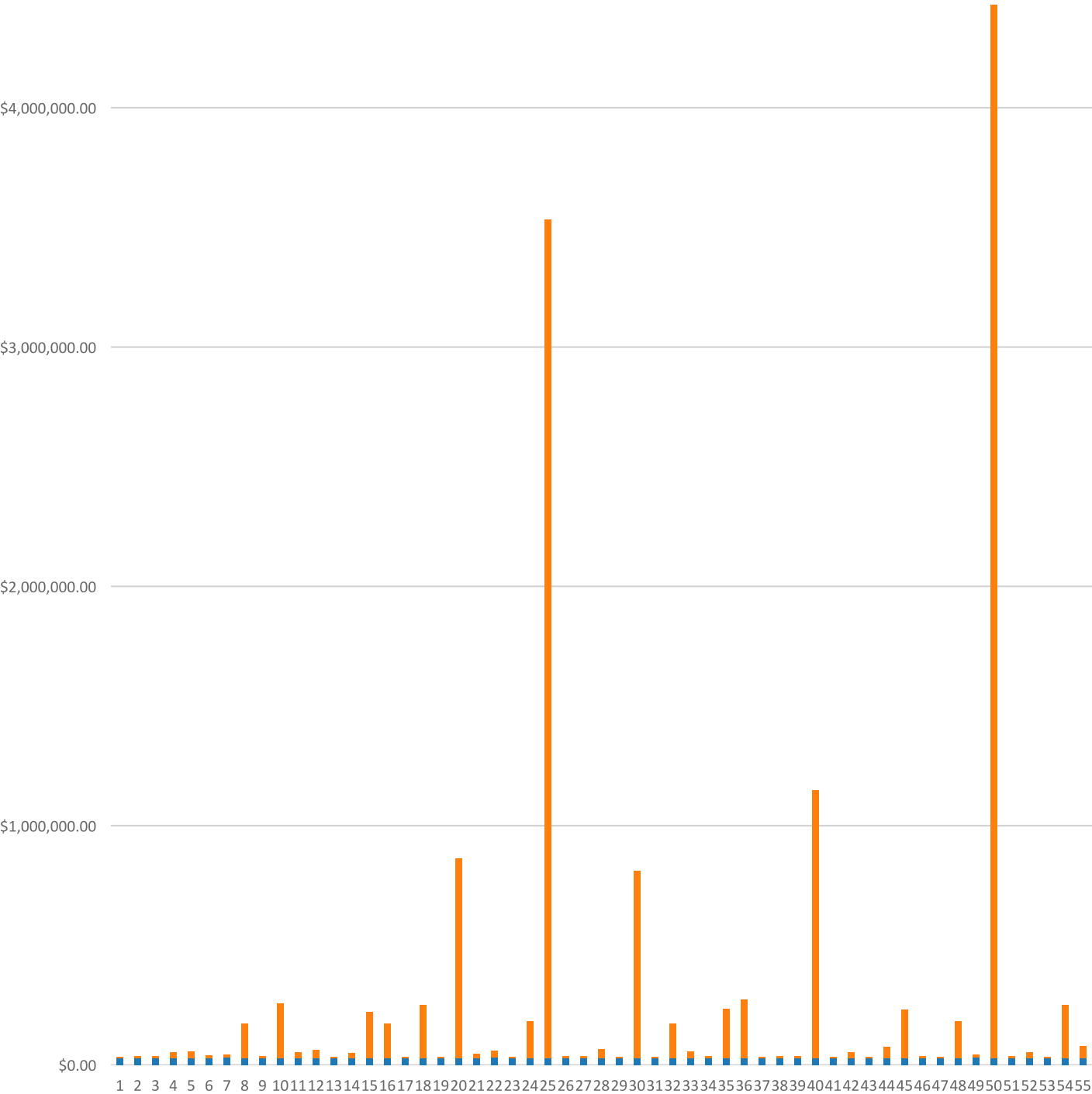


**FAC 7242 SERVICE ACADEMY UPH**  
**Modeled Component List**  
**CostWorks Release 2023 Qtr 4**

|   |              |
|---|--------------|
| B10 Superstructure  |              |
| Concrete Stairs   | 90.0 S.F.    |
| B20 Exterior Enclosure                                    |              |
| Aluminum Window, Operating, 1st floor                     | 164.0 Ea.    |
| Aluminum Window, Operating, 2nd floor                     | 164.0 Ea.    |
| Aluminum Window, Fixed, 1st floor                         | 138.0 Ea.    |
| Glazed Aluminum   | 8.0 Ea.      |
| Steel, Painted  | 4.0 Ea.      |
| B30 Roofing   |              |
| EPDM Roof   | 568.0 Sq.    |
| Aluminum Roof Hatch                                       | 4.0 Ea.      |
| C10 Interior Construction                                 |              |
| Solid Core Interior Doors                                 | 64.0 Ea.     |
| C20 Stairs  |              |
| Masonry Steps, Painted                                    | 264.0 S.F.   |
| Metal Interior Stair Railing                              | 96.0 L.F.    |
| C30 Interior Finishes                                     |              |
| Vinyl Wall Covering                                       | 32.0 C.S.F.  |
| Concrete, Finished  | 1.4 C.S.F.   |
| Vinyl   | 3300.0 S.Y.  |
| Carpet  | 1929.0 S.Y.  |
| Gypsum Wall Board   | 154.0 C.S.F. |
| D20 Plumbing  |              |
| Flush-Tank Water Closet                                   | 48.0 Ea.     |
| Flush-Tank Water Closet                                   | 48.0 Ea.     |
| Urinal  | 28.0 Ea.     |
| Lavatory, Vitreous China                                  | 32.0 Ea.     |
| Sink, Iron Enamel   | 8.0 Ea.      |
| Shower, Terrazzo  | 62.0 Ea.     |
| Drinking Fountain   | 8.0 Ea.      |
| Water Heater, Gas / Oil, 1150 GPH                         | 1.0 Ea.      |
| Circulation Pump, 1/12 HP                                 | 1.0 Ea.      |
| Circulation Pump, 1/2 HP                                  | 1.0 Ea.      |
| Drain: Roof, Scupper, Area                                | 2.0 Ea.      |
| Valve Gate  | 2.0 Each     |
| D30 HVAC  |              |
| Boiler, Gas/Oil, 2000 MBH                                 | 1.0 Ea.      |
| Metal Flue / Chimney, 6" diameter                         | 1.0 L.F.     |
| Chiller, Air Cooled, Reciprocating, 50 ton                | 2.0 Ea.      |
| Fan Coil, 5 ton   | 14.0 Ea.     |
| VAV Box   | 12.0 Each    |
| D40 Fire Protection                                       |              |
| Sprinkler System, Fire Supression, sprinkler head         | 104.0 Ea.    |
| Sprinkler System, Fire Supression , 3" backflow preventer | 1.0 Ea.      |
| D50 Electrical  |              |
| Switchgear, Mainframe                                     | 2.0 Ea.      |
| Motor Starter, Up To 600 V                                | 2.0 Ea.      |
| Safety Switch, General Duty, 240 V, 2 pole                | 1.0 Ea.      |
| Incandescent Lighting Fixtures                            | 178.0 Ea.    |
| Fluorescent Lighting Fixture                              | 178.0 Ea.    |
| Metal Halide Fixture                                      | 16.0 Ea.     |
| Smoke Detector  | 36.0 Ea.     |

|                              |           |
|------------------------------|-----------|
| Manual Pull Station          | 16.0 Ea.  |
| Fire Alarm Control Panel     | 1.0 Ea.   |
| Fire Alarm Bell              | 4.0 Ea.   |
| Emergency Lighting Fixture   | 14.0 Ea.  |
| Exit Light                   | 14.0 Ea.  |
| E10 Equipment                |           |
| Garbage Disposal, annualized | 26.0 Each |

FAC 7242 SERVICE ACADEMY UPH  
Sustainment by Year  
CostWorks Release 2023 Qtr 4



PM Cost  
MR Cost