

Appendix D

Estimated Construction Cost Process Area Breakdown

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**FULL SCALE FACILITY
City Of San Diego
Opinion of Probable Construction Cost- Feb 2012**

| | |
|-----------------------------|--|
| Project name | 2012-02-001-IPR-Full |
| Labor rate table | RS CA LA 2011 |
| Equipment rate table | 00 12 Equip BOF |
| Notes | <p>This is an Opinion of Probable Construction Cost only, as defined by the documents provided at the level of design for a preliminary design report. CDM Smith has no control over the cost of labor, materials, equipment, or services furnished, over schedules, over contractor's methods of determining prices, competitive bidding (at least 3 each - both prime bidders and major subcontractors), market conditions or negotiating terms. CDM Smith does not guarantee that this opinion will not vary from actual cost, or contractor's bids. There are not any costs provided for: Change Orders, Finance or Funding Costs, Legal Fees, Land Acquisition or temporary/permanent Easements, Operations, or any other costs associated with this project that are not specifically part of the bidding contractor's proposed scope.</p> <p>Assumptions:</p> <p>Site is assumed as relatively flat and 5 foot of over excavation & backfill is included for site prep. Construction duration is assumed to be 30 months based on the concept design provided. Escalation is excused and the owner is to add this cost to the overall capitol budget for a complet project budget for project funding No rock excavation is required. Only nominal dewatering is needed. No consideration for contaminated soils or hazardous materials (e.g. asbestos, lead) Based on a 40 hour work week with no overtime. Electric Utility line extensions/service drops not estimated.</p> |
| Report format | Sorted by 'Area/95CSI Sctn/Element' 'Detail' summary Combine items |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|------------------|------------------|---------------|-----------------|---------------|------------|-------------------|------------------|
| 0010.0010 AWPFL INFLUENT PUMP STATION | | | | | | | | |
| 11210 Water Supply & Treatment Pumps | | | | | | | | |
| 11210.2670 Influent Pumps | 4.00 ea | 433.201 | 29,853 | 510,000 | 11,960 | | 555,205 | 869,913 |
| 11210 Water Supply & Treatment Pumps | | 433.201 | 29,853 | 510,000 | 11,960 | | 555,205 | 869,913 |
| 15060 Hangers & Supports | | | | | | | | |
| 15220.2670 Pump Discharge Piping | 64.00 lf | 25.200 | 1,716 | 1,600 | | | 3,316 | 5,077 |
| 15060 Hangers & Supports | | 25.200 | 1,716 | 1,600 | | | 3,316 | 5,077 |
| 15110 Valves | | | | | | | | |
| 15220.2670 Pump Discharge Piping | 64.00 lf | 74.284 | 5,059 | 166,844 | | | 171,903 | 269,667 |
| 15110 Valves | | 74.284 | 5,059 | 166,844 | | | 171,903 | 269,667 |
| 15220 Steel Pipe | | | | | | | | |
| 15220.2670 Pump Discharge Piping | 64.00 lf | 398.114 | 27,096 | 47,066 | 2,185 | | 76,387 | 117,904 |
| 15220.2671 Pump Discharge Piping Header | 72.00 lf | 73.694 | 4,761 | 39,051 | 1,451 | 149 | 45,456 | 71,030 |
| 15220 Steel Pipe | | 471.808 | 31,857 | 86,117 | 3,636 | 149 | 121,843 | 188,935 |
| 0010.0010 AWPFL INFLUENT PUMP STATION | 1.00 LS | 1,004.492 | 68,485 | 764,561 | 15,596 | 149 | 852,266 | 1,333,591 |
| 0010.0010A AWPFL INFLUENT PUMP STATION STRUCTURE ONLY | | | | | | | | |
| 02250 Excavation Support & Protection | | | | | | | | |
| 02250.2605 Shoring | 5,940.00 sf | 1,379.811 | 80,576 | 76,329 | 48,106 | 8,250 | 213,261 | 328,149 |
| 02250 Excavation Support & Protection | | 1,379.811 | 80,576 | 76,329 | 48,106 | 8,250 | 213,261 | 328,149 |
| 02300 Earthwork | | | | | | | | |
| 02300.2600 Structural Excavation & Backfill | 3,706.60 cy | 449.815 | 23,925 | 1,185 | 32,665 | 442 | 58,217 | 89,571 |
| 02300 Earthwork | | 449.815 | 23,925 | 1,185 | 32,665 | 442 | 58,217 | 89,571 |
| 03212 Concrete Walls | | | | | | | | |
| 03212.2670 Concrete Walls @ Pump Wet Well | 207.00 cy | 1,748.291 | 108,302 | 70,080 | 3,120 | 3,381 | 185,286 | 282,430 |
| 03212 Concrete Walls | | 1,748.291 | 108,302 | 70,080 | 3,120 | 3,381 | 185,286 | 282,430 |
| 03310 Concrete Slab on Grade | | | | | | | | |
| 03310.2670 Concrete Slab On Grade Base Pump Vault Slab | 168.00 cy | 563.617 | 35,969 | 38,569 | 311 | 659 | 75,835 | 116,298 |
| 03310 Concrete Slab on Grade | | 563.617 | 35,969 | 38,569 | 311 | 659 | 75,835 | 116,298 |
| 03314 Concrete Elevated Slabs | | | | | | | | |
| 03314.2670 Concrete Elevated Deck over pump Vault | 80.00 cy | 885.222 | 53,472 | 28,599 | 2,115 | 560 | 84,902 | 129,194 |
| 03314 Concrete Elevated Slabs | | 885.222 | 53,472 | 28,599 | 2,115 | 560 | 84,902 | 129,194 |
| 03410 Precast Concrete | | | | | | | | |
| 03410.2670 Exterior Walls | 111.50 cy | 428.127 | 27,740 | 29,544 | 130 | 781 | 58,412 | 89,556 |
| 03410 Precast Concrete | | 428.127 | 27,740 | 29,544 | 130 | 781 | 58,412 | 89,556 |
| 03412 Concrete Equipment Pabs/Curbs/Fill | | | | | | | | |
| 03412.2670 Pump Pads | 5.33 cy | 89.384 | 5,673 | 2,006 | 18 | 105 | 7,811 | 11,824 |
| 03412.2671 MCC/ VFD Equipment Pads | 10.67 cy | 136.817 | 8,641 | 3,809 | 35 | 209 | 12,715 | 19,289 |
| 03412 Concrete Equipment Pabs/Curbs/Fill | | 226.200 | 14,313 | 5,815 | 53 | 314 | 20,526 | 31,113 |
| 03470 Walls | | | | | | | | |
| 03410.2670 Exterior Walls | 111.50 cy | 428.127 | 27,740 | 29,544 | 130 | 781 | 58,412 | 89,556 |
| 03470.2606 Wall Texture | 3,696.00 sf | | | 31,416 | | | 31,416 | 49,355 |
| 03470 Walls | | 428.127 | 27,740 | 60,960 | 130 | 781 | 89,828 | 138,910 |
| 04000 Masonry | | | | | | | | |
| 04000.2610 Interior Partition Walls | 1,012.00 sf | | | | | 28,336 | 28,336 | 42,320 |
| 04000 Masonry | | | | | | 28,336 | 28,336 | 42,320 |
| 05210 Steel Joist | | | | | | | | |
| 05210.2605 Building Roof Framing | 2,160.00 sf | 8.280 | 572 | 3,630 | 247 | | 4,448 | 6,944 |
| 05210 Steel Joist | | 8.280 | 572 | 3,630 | 247 | | 4,448 | 6,944 |
| 05300 Steel Deck | | | | | | | | |
| 05300.2605 Roof Deck | 2,160.00 sf | 64.800 | 4,473 | 12,960 | 1,930 | | 19,363 | 30,073 |
| 05300 Steel Deck | | 64.800 | 4,473 | 12,960 | 1,930 | | 19,363 | 30,073 |
| 07000 Thermal & Moisture Protection | | | | | | | | |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|--------------------|-------------------|------------------|------------------|----------------|----------------|-------------------|------------------|
| 07000.2605 EPDM Roofing | 22.00 sq | 95.040 | 6,423 | 9,720 | | | 16,143 | 24,862 |
| 07000 Thermal & Moisture Protection | | 95.040 | 6,423 | 9,720 | | | 16,143 | 24,862 |
| 08000 Doors & Windows | | | | | | | | |
| 08000.2605 Exterior Doors & Windows | 1.00 ls | 63.132 | 3,585 | 10,792 | | 17,280 | 31,658 | 48,117 |
| 08000 Doors & Windows | | 63.132 | 3,585 | 10,792 | | 17,280 | 31,658 | 48,117 |
| 15300 Fire Protection | | | | | | | | |
| 15300.2605 Fire Protection Allowance | 1.00 allw | | | | | 20,520 | 20,520 | 30,647 |
| 15300 Fire Protection | | | | | | 20,520 | 20,520 | 30,647 |
| 15400 Plumbing | | | | | | | | |
| 15400.2605 Plumbing Allowance | 1.00 allw | | | | | 14,040 | 14,040 | 20,969 |
| 15400 Plumbing | | | | | | 14,040 | 14,040 | 20,969 |
| 15500 HVAC | | | | | | | | |
| 15500.2605 HVAC Allowance | 1.00 allw | | | | | 54,000 | 54,000 | 80,649 |
| 15500 HVAC | | | | | | 54,000 | 54,000 | 80,649 |
| 0010.0010A AWPFL INFLUENT PUMP STATION STRUCTURE ONLY | 2,160.00 SF | 6,340.462 | 387,090 | 348,184 | 88,806 | 149,343 | 974,776 | 1,489,800 |
| 0010.0020 SITE CIVIL/ YARD PIPING | | | | | | | | |
| 02300 Earthwork | | | | | | | | |
| 02300.2620 Mass Excavation & Grading | 45,510.00 c y | 3,753.782 | 226,992 | | 243,134 | | 470,126 | 720,977 |
| 02300 Earthwork | | 3,753.782 | 226,992 | | 243,134 | | 470,126 | 720,977 |
| 02510 Water Distribution | | | | | | | | |
| 02510.2600 Open Cut Tunnel For Road Crossing | 240.00 lf | 918.112 | 51,561 | 264,547 | 39,989 | 12,100 | 368,197 | 573,503 |
| 02510.2605 MFB Piping | 3,500.00 lf | 3,891.029 | 258,810 | 181,155 | 32,943 | 4,260 | 477,168 | 729,243 |
| 02510.2610 TE Piping | 2,500.00 lf | 3,713.482 | 248,151 | 206,862 | 16,396 | 3,038 | 474,447 | 725,890 |
| 02510.2615 ROC Piping | 3,100.00 lf | 3,620.171 | 241,083 | 205,376 | 29,105 | 3,764 | 479,328 | 734,048 |
| 02510.2620 MFP Piping | 120.00 lf | 202.731 | 13,624 | 87,617 | 839 | 178 | 102,308 | 159,655 |
| 02510.2625 ROF Piping | 20.00 lf | 72.628 | 4,901 | 41,593 | 361 | 74 | 46,978 | 73,417 |
| 02510.2630 ROP Piping | 30.00 lf | 74.696 | 5,027 | 44,764 | 210 | 46 | 50,047 | 78,230 |
| 02510.2635 FW Piping from AOP to FW Pump Station | 72.00 lf | 93.914 | 6,273 | 16,261 | 538 | 107 | 23,254 | 36,038 |
| 02510.2640 FW Piping to Outside of Plant | 960.00 lf | 852.399 | 55,688 | 181,185 | 7,952 | 1,425 | 246,587 | 382,962 |
| 02510.2645 Small Bore Piping Allowance | 4,500.00 lf | | 157,500 | 112,500 | 67,500 | | 337,500 | 518,006 |
| 02510 Water Distribution | | 13,439.163 | 1,042,618 | 1,341,861 | 195,832 | 24,992 | 2,605,813 | 4,010,993 |
| 02600 Drainage & Containment | | | | | | | | |
| 02600.2605 Storm Drainage Measures Allowance | 1.00 allw | 798.788 | 47,532 | 73,574 | 11,892 | 1,271 | 135,115 | 208,484 |
| 02600 Drainage & Containment | | 798.788 | 47,532 | 73,574 | 11,892 | 1,271 | 135,115 | 208,484 |
| 02700 Pavements & Surfaces | | | | | | | | |
| 02700.2605 Paving & Surface Allowances | 1.00 allw | 233.176 | 13,087 | 201,655 | 8,904 | 19,937 | 243,583 | 380,109 |
| 02700 Pavements & Surfaces | | 233.176 | 13,087 | 201,655 | 8,904 | 19,937 | 243,583 | 380,109 |
| 02800 Site Improvements | | | | | | | | |
| 02800.2600 Landscaping Allowance | 1.00 allw | | | | | 350,000 | 350,000 | 522,725 |
| 02800 Site Improvements | | | | | | 350,000 | 350,000 | 522,725 |
| 0010.0020 SITE CIVIL/ YARD PIPING | 1.00 LS | 18,224.909 | 1,330,230 | 1,617,090 | 459,763 | 396,200 | 3,804,637 | 5,843,287 |
| 0020.0010 OPERATIONS, MAINTENANCE & ADMINISTRATION BLDG | | | | | | | | |
| A Conceptual Buildings | | | | | | | | |
| A-01111 Admin Building Allowance | 1.00 allw | 10,789.701 | 752,974 | 307,025 | | | 1,059,999 | 1,606,902 |
| A Conceptual Buildings | | 10,789.701 | 752,974 | 307,025 | | | 1,059,999 | 1,606,902 |
| 0020.0010 OPERATIONS, MAINTENANCE & ADMINISTRATION BLDG | 5,300.00 SF | 10,789.701 | 752,974 | 307,025 | | | 1,059,999 | 1,606,902 |
| 0080.0005 MEMBRANE FILTRATION BREAK TANK & RO TRANSFER PUMP STATION | | | | | | | | |
| 11200 Water Treatment Equipment | | | | | | | | |
| 11200.2630 RO Transfer Pumps | 5.00 ea | 269.000 | 18,594 | 930,394 | 4,157 | | 953,144 | 1,495,949 |
| 11200 Water Treatment Equipment | | 269.000 | 18,594 | 930,394 | 4,157 | | 953,144 | 1,495,949 |
| 11228 Filter Membrane Systems | | | | | | | | |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|------------------|------------------|---------------|------------------|---------------|------------|-------------------|------------------|
| 11228.2620 Cartridge Filter Pre RO | 8.00 ea | 189.000 | 12,893 | 302,209 | 2,771 | | 317,874 | 498,381 |
| 11228 Filter Membrane Systems | | 189.000 | 12,893 | 302,209 | 2,771 | | 317,874 | 498,381 |
| 15110 Valves | | | | | | | | |
| 15220.26101 Break Tank Feed Piping | 36.00 lf | 19.700 | 1,335 | 3,651 | | | 4,986 | 7,729 |
| 15220.26102 Break Tank Discharge Piping | 65.00 lf | 19.700 | 1,335 | 3,651 | | | 4,986 | 7,729 |
| 15220.26107 24" Pump Discharge Header | 65.00 lf | 75.020 | 5,109 | 38,430 | | | 43,539 | 68,003 |
| 15221.2619 14" Filter Connections | 28.00 lf | 59.680 | 4,064 | 13,724 | | | 17,788 | 27,630 |
| 15110 Valves | | 174.101 | 11,842 | 59,456 | | | 71,298 | 111,091 |
| 15120 Pipe Specialties | | | | | | | | |
| 15220.26101 Break Tank Feed Piping | 36.00 lf | 6.811 | 464 | 573 | | | 1,037 | 1,593 |
| 15220.26102 Break Tank Discharge Piping | 65.00 lf | 6.811 | 464 | 573 | | | 1,037 | 1,593 |
| 15120 Pipe Specialties | | 13.622 | 928 | 1,146 | | | 2,074 | 3,186 |
| 15220 Steel Pipe | | | | | | | | |
| 15220.26101 Break Tank Feed Piping | 36.00 lf | 69.342 | 4,722 | 11,775 | 881 | | 17,398 | 26,967 |
| 15220.26102 Break Tank Discharge Piping | 65.00 lf | 84.395 | 5,753 | 10,115 | 1,573 | | 17,461 | 26,985 |
| 15220.26105 14" Pump Branch Connections to Pump Cans | 30.00 lf | 35.800 | 2,438 | 6,767 | | | 9,205 | 14,272 |
| 15220.26106 14" Pump Discharge Piping | 60.00 lf | 120.750 | 8,269 | 20,947 | 4,249 | | 33,522 | 52,022 |
| 15220.26107 24" Pump Discharge Header | 65.00 lf | 56.590 | 3,880 | 20,683 | 2,126 | | 26,728 | 41,689 |
| 15220 Steel Pipe | | 366.877 | 25,062 | 70,286 | 8,830 | | 104,314 | 161,935 |
| 15221 Stainless Steel Pipe | | | | | | | | |
| 15221.2619 14" Filter Connections | 54.00 lf | 64.996 | 4,426 | 36,894 | | | 41,320 | 64,571 |
| 15221.2650 16" Filter Discharge Connections | 96.00 lf | 137.840 | 9,402 | 105,264 | 2,080 | | 116,961 | 183,016 |
| 15221.2651 24" Discharge Header | 65.00 lf | 72.750 | 4,970 | 89,065 | 2,080 | | 96,437 | 151,117 |
| 15221 Stainless Steel Pipe | | 275.586 | 18,797 | 231,223 | 4,160 | | 254,718 | 398,705 |
| 0080.0005 MEMBRANE FILTRATION BREAK TANK & RO TRANSFER PUMP STATION | 21.20 MGD | 1,288.185 | 88,117 | 1,594,713 | 19,917 | | 1,703,422 | 2,669,246 |
| 0080.0005A MEMBRANE FILTRATION BREAK TANK & RO TRANSFER PUMP STATION STRUCTURE ON | | | | | | | | |
| 02300 Earthwork | | | | | | | | |
| 02300.2610 Structural Excavation & backfill | 2,652.00 cy | 299.752 | 16,139 | 4,507 | 21,050 | 1,682 | 43,378 | 66,766 |
| 02300 Earthwork | | 299.752 | 16,139 | 4,507 | 21,050 | 1,682 | 43,378 | 66,766 |
| 03212 Concrete Walls | | | | | | | | |
| 03212.2620 Concrete Walls Break Tank | 260.67 cy | 1,990.262 | 123,368 | 85,903 | 3,788 | 6,940 | 220,611 | 336,481 |
| 03212 Concrete Walls | | 1,990.262 | 123,368 | 85,903 | 3,788 | 6,940 | 220,611 | 336,481 |
| 03310 Concrete Slab on Grade | | | | | | | | |
| 03310.226344 Strainer Pad | 12.50 cy | 61.875 | 3,899 | 2,192 | 41 | 2,046 | 8,428 | 12,779 |
| 03310.2605 Building Base Slab | 79.19 cy | 280.167 | 17,630 | 18,853 | 131 | 925 | 37,737 | 57,847 |
| 03310.2650 Concrete Slab On Grade Break Tank | 138.89 cy | 482.802 | 30,676 | 32,837 | 259 | 880 | 64,923 | 99,548 |
| 03310 Concrete Slab on Grade | | 824.845 | 52,205 | 53,882 | 432 | 3,851 | 111,087 | 170,174 |
| 03314 Concrete Elevated Slabs | | | | | | | | |
| 03314.2605 Concrete Elevated Deck @ Break Tank | 100.15 cy | 1,103.105 | 66,787 | 36,851 | 2,599 | 571 | 107,043 | 162,944 |
| 03314 Concrete Elevated Slabs | | 1,103.105 | 66,787 | 36,851 | 2,599 | 571 | 107,043 | 162,944 |
| 03412 Concrete Equipment Pabs/Curbs/Fill | | | | | | | | |
| 03412.226008 Pipe Supports-Spread Footing | 12.80 cy | 143.191 | 8,551 | 2,685 | 79 | | 11,315 | 17,114 |
| 03412.226020 Pipe Supports | 8.00 cy | 82.601 | 5,013 | 2,113 | 43 | 1,877 | 9,045 | 13,676 |
| 03412 Concrete Equipment Pabs/Curbs/Fill | | 225.792 | 13,564 | 4,798 | 122 | 1,877 | 20,361 | 30,790 |
| 03470 Walls | | | | | | | | |
| 03470.2605 Exterior Walls | 87.04 cy | 270.530 | 17,397 | 20,216 | 29 | 497 | 38,343 | 58,850 |
| 03470.2606 Wall Texture | | | | 50,036 | | | 50,036 | 78,606 |
| 03470 Walls | | 270.530 | 17,397 | 70,252 | 29 | 497 | 88,379 | 137,456 |
| 05210 Steel Joist | | | | | | | | |
| 05210.2605 Building Roof Framing | 4,500.00 sf | 51.960 | 3,587 | 22,051 | 1,548 | | 27,186 | 42,431 |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|--------------------|------------------|----------------|-----------------|---------------|----------------|-------------------|------------------|
| 05210 Steel Joist | | 51.960 | 3,587 | 22,051 | 1,548 | | 27,186 | 42,431 |
| 05300 Steel Deck | | | | | | | | |
| 05300.2605 Roof Deck | 4,500.00 sf | 134.730 | 9,300 | 26,957 | 4,014 | | 40,270 | 62,544 |
| 05300 Steel Deck | | 134.730 | 9,300 | 26,957 | 4,014 | | 40,270 | 62,544 |
| 07000 Thermal & Moisture Protection | | | | | | | | |
| 07000.2605 EPDM Roofing | 45.00 sq | 197.730 | 13,362 | 20,217 | | | 33,580 | 51,718 |
| 07000 Thermal & Moisture Protection | | 197.730 | 13,362 | 20,217 | | | 33,580 | 51,718 |
| 08000 Doors & Windows | | | | | | | | |
| 08000.2605 Exterior Doors & Windows | 1.00 ls | 57.808 | 3,226 | 11,023 | | 8,626 | 22,875 | 35,018 |
| 08000 Doors & Windows | | 57.808 | 3,226 | 11,023 | | 8,626 | 22,875 | 35,018 |
| 15300 Fire Protection | | | | | | | | |
| 15300.2605 Fire Protection Allowance | 1.00 allw | | | | | 42,681 | 42,681 | 63,745 |
| 15300 Fire Protection | | | | | | 42,681 | 42,681 | 63,745 |
| 15400 Plumbing | | | | | | | | |
| 15400.2605 Plumbing Allowance | 1.00 allw | | | | | 29,203 | 29,203 | 43,615 |
| 15400 Plumbing | | | | | | 29,203 | 29,203 | 43,615 |
| 15500 HVAC | | | | | | | | |
| 15500.2605 HVAC Allowance | 1.00 allw | | | | | 112,319 | 112,319 | 167,749 |
| 15500 HVAC | | | | | | 112,319 | 112,319 | 167,749 |
| 0080.0005A MEMBRANE FILTRATION BREAK TANK & RO TRANSFER PUMP STATION STRUCTURE ON | 4,500.00 SF | 5,156.513 | 318,936 | 336,439 | 33,581 | 208,248 | 898,973 | 1,371,430 |
| 0080.0006 CHEMICAL STORAGE AREA #1 (PRETREATMENT) | | | | | | | | |
| 11210 Water Supply & Treatment Pumps | | | | | | | | |
| 60 Chem System Sodium Bisulfite | 2.00 ea | 11.250 | 745 | 15,723 | 208 | | 16,676 | 26,140 |
| 61 Chem System Ammonium Hydroxide | 4.00 ea | 25.663 | 1,680 | 38,758 | 261 | | 40,699 | 63,807 |
| 62 Chem System Antiscalent | 4.00 ea | 20.530 | 1,350 | 31,978 | 261 | | 33,588 | 52,663 |
| 64 Chem System Sufuric Acid | 4.00 ea | 30.330 | 1,958 | 40,723 | 261 | | 42,941 | 67,309 |
| 65 Chem System Sodium Hypochlorite | 4.00 ea | 27.663 | 1,803 | 63,466 | 261 | | 65,529 | 102,807 |
| 11210 Water Supply & Treatment Pumps | | 115.437 | 7,535 | 190,648 | 1,251 | | 199,434 | 312,726 |
| 11240 Chemical/Disinfection Equipment | | | | | | | | |
| 41 Water Softener | 1.00 ea | 19.000 | 1,276 | 17,232 | 79 | 950 | 19,537 | 30,521 |
| 11240 Chemical/Disinfection Equipment | | 19.000 | 1,276 | 17,232 | 79 | 950 | 19,537 | 30,521 |
| 13200 Tanks | | | | | | | | |
| 61 Chem System Ammonium Hydroxide | 2.00 ea | 97.714 | 6,616 | 44,088 | 1,583 | | 52,288 | 81,631 |
| 62 Chem System Antiscalent | 2.00 ea | 97.714 | 6,616 | 15,170 | 1,583 | | 23,369 | 36,200 |
| 64 Chem System Sufuric Acid | 3.00 ea | 188.286 | 12,750 | 181,732 | 4,453 | | 198,935 | 311,539 |
| 65 Chem System Sodium Hypochlorite | 2.00 ea | 120.571 | 8,173 | 26,088 | 1,583 | | 35,844 | 55,678 |
| 13200 Tanks | | 504.285 | 34,155 | 267,078 | 9,204 | | 310,436 | 485,048 |
| 15060 Hangers & Supports | | | | | | | | |
| CPVC80 Sch 80 CPVC Pipe & Fittings | 780.00 lf | 68.266 | 4,649 | 9,185 | | | 13,834 | 21,373 |
| PVC80 Sch 80 PVC Pipe & Fittings | 320.00 lf | 13.333 | 908 | 2,200 | | | 3,108 | 4,812 |
| 15060 Hangers & Supports | | 81.600 | 5,557 | 11,385 | | | 16,942 | 26,185 |
| 15110 Valves | | | | | | | | |
| ALOYBV Alloy 20 Ball Valves | 8.00 ea | 21.059 | 1,682 | 20,000 | | | 21,682 | 33,933 |
| CPVCBFV CPVC Butterfly Valves | 6.00 ea | 8.206 | 656 | 2,688 | | | 3,343 | 5,202 |
| CPVCBV CPVC Ball Valves | 15.00 ea | 13.257 | 1,059 | 854 | | | 1,913 | 2,923 |
| CPVCDV CPVC Diaphragm Valves | 4.00 ea | 5.228 | 418 | 3,680 | | | 4,098 | 6,405 |
| PVCBFV PVC Butterfly Valves | 6.00 ea | 15.206 | 1,215 | 2,405 | | | 3,619 | 5,592 |
| PVCCV PVC Check Valves | 2.00 ea | 1.074 | 86 | 1,104 | | | 1,190 | 1,862 |
| 15110 Valves | | 64.029 | 5,115 | 30,730 | | | 35,845 | 55,916 |
| 15120 Pipe Specialties | | | | | | | | |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|--------------------|------------------|----------------|-----------------|---------------|----------------|-------------------|------------------|
| CPVC80 Sch 80 CPVC Pipe & Fittings | 780.00 lf | 8.307 | 570 | 1,350 | | | 1,920 | 2,972 |
| PVC80 Sch 80 PVC Pipe & Fittings | 320.00 lf | 6.487 | 442 | 1,452 | | | 1,894 | 2,941 |
| 15120 Pipe Specialties | | 14.793 | 1,011 | 2,802 | | | 3,813 | 5,912 |
| 15240 Plastic Pipe | | | | | | | | |
| CPVC80 Sch 80 CPVC Pipe & Fittings | 780.00 lf | 93.204 | 6,347 | 23,078 | 3 | | 29,428 | 45,739 |
| PVC80 Sch 80 PVC Pipe & Fittings | 320.00 lf | 62.637 | 4,265 | 6,718 | 1 | | 10,985 | 16,926 |
| 15240 Plastic Pipe | | 155.841 | 10,612 | 29,796 | 4 | | 40,413 | 62,666 |
| 0080.0006 CHEMICAL STORAGE AREA #1 (PRETREATMENT) | 1.00 LS | 954.985 | 65,262 | 549,670 | 10,538 | 950 | 626,420 | 978,974 |
| 0080.0006a CHEMICAL STORAGE AREA #1 (PRETREATMENT) STRUCTURE ONLY | | | | | | | | |
| 02300 Earthwork | | | | | | | | |
| 02310.100 Site Earthwork | 1,134.00 cy | | | | | 39,690 | 39,690 | 59,277 |
| 02300 Earthwork | | | | | | 39,690 | 39,690 | 59,277 |
| 02600 Drainage & Containment | | | | | | | | |
| CT Chemical Trench | 1.00 ls | 23.993 | 1,512 | | 1,575 | | 3,086 | 4,732 |
| CT - MH Chemical Trench - Manholes | 4.00 ea | 10.332 | 619 | 6,000 | 676 | | 7,295 | 11,413 |
| 02600 Drainage & Containment | | 34.326 | 2,131 | 6,000 | 2,251 | | 10,382 | 16,144 |
| 03000 Concrete | | | | | | | | |
| 03210.100 Reinforcing Steel | 77.60 tn | 1,254.830 | 91,002 | 70,667 | 960 | | 162,629 | 248,437 |
| 03300.2602 Chemical Building Slabs/Walls/Foundations | 664.68 cy | 3,350.435 | 201,452 | 109,949 | 1,260 | 9,643 | 322,304 | 489,979 |
| 03000 Concrete | | 4,605.265 | 292,454 | 180,617 | 2,219 | 9,643 | 484,933 | 738,417 |
| 04000 Masonry | | | | | | | | |
| 04400.2600 Chemical Partition Walls | 1,088.00 sf | | | | | 34,816 | 34,816 | 51,998 |
| 04000 Masonry | | | | | | 34,816 | 34,816 | 51,998 |
| 06000 Wood | | | | | | | | |
| FRP - Rail FRP Railing | 578.00 lf | 72.013 | 4,595 | 43,350 | 106 | | 48,051 | 75,132 |
| FRP Stairs FRP Stairs | 312.00 sf | 52.633 | 3,359 | 35,040 | 175 | | 38,573 | 60,339 |
| 06000 Wood | | 124.646 | 7,954 | 78,390 | 280 | | 86,624 | 135,470 |
| 10000 Specialties | | | | | | | | |
| 10520.000 Fire Protection Specialty | 6.00 ea | 9.000 | 612 | 2,100 | | | 2,712 | 4,212 |
| 10000 Specialties | | 9.000 | 612 | 2,100 | | | 2,712 | 4,212 |
| 13000 Special Construction | | | | | | | | |
| MC Metal Canopy | 5,550.00 sf | | | | | 249,750 | 249,750 | 373,002 |
| 13000 Special Construction | | | | | | 249,750 | 249,750 | 373,002 |
| 0080.0006a CHEMICAL STORAGE AREA #1 (PRETREATMENT) STRUCTURE ONLY | 5,550.00 SF | 4,773.236 | 303,150 | 267,107 | 4,751 | 333,899 | 908,906 | 1,378,520 |
| 0080.0010 MEMBRANE FILTRATION FACILITY | | | | | | | | |
| 01190 Manufacture Spare Parts & start-up Services | | | | | | | | |
| 01190.2600 Start-up Services & Spare Parts | 1.00 ls | | | 9,150 | | | 9,150 | 14,374 |
| 01190 Manufacture Spare Parts & start-up Services | | | | 9,150 | | | 9,150 | 14,374 |
| 11210 Water Supply & Treatment Pumps | | | | | | | | |
| 11228.2612 MF CIP Pumps | 2.00 ea | 73.006 | 5,061 | | | | 5,061 | 7,559 |
| 11228.2630 MF Citric Acid Transfer Pump | 1.00 ea | 41.669 | 2,868 | 12,559 | | | 15,427 | 24,014 |
| 11228.2631 MF Sodium Hydroxide Transfer Pump | 1.00 ea | 41.669 | 2,868 | 12,559 | | | 15,427 | 24,014 |
| 11228.2632 Sodium Hypochlorite Transfer Pump | 1.00 ea | 41.669 | 2,868 | 12,559 | | | 15,427 | 24,014 |
| 11210 Water Supply & Treatment Pumps | | 198.013 | 13,666 | 37,677 | | | 51,343 | 79,601 |
| 11228 Filter Membrane Systems | | | | | | | | |
| 11228.2600 Pall Membrane System | 21.20 mgd | 4,592.067 | 313,458 | 9,384,000 | 54,692 | | 9,752,149 | 15,296,333 |
| 11228.2603 MF Plant Air Equipment | 1.00 ea | 233.057 | 16,191 | | | | 16,191 | 24,181 |
| 11228.2604 MF Reverse Flush Pumps | 4.00 ea | 146.012 | 10,123 | | | | 10,123 | 15,118 |
| 11228.2606 MF Feed Pumps | 4.00 ea | 1,111.938 | 77,531 | 1,143,904 | | | 1,221,435 | 1,912,866 |
| 11228.2610 MF EFM Pumps | 2.00 ea | 73.006 | 5,061 | | | | 5,061 | 7,559 |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|------------------|------------------|----------------|-------------------|---------------|----------------|-------------------|-------------------|
| 11228 Filter Membrane Systems | | 6,156.080 | 422,363 | 10,527,904 | 54,692 | | 11,004,959 | 17,256,057 |
| 11300 Fluid Waste Treatment & Disposal | | | | | | | | |
| 11300.2600 Submersable Pump Discharge | 2.00 ea | 81.430 | 5,581 | 15,984 | 7,781 | | 29,345 | 45,669 |
| 11300.2601 Submersable Pump Circulation | 2.00 ea | 81.430 | 5,581 | 8,884 | 7,781 | | 22,245 | 34,515 |
| 11300 Fluid Waste Treatment & Disposal | | 162.860 | 11,161 | 24,868 | 15,561 | | 51,591 | 80,184 |
| 13200 Tanks | | | | | | | | |
| 13200.2600 MF Reverse Filtration Tank | 2.00 ea | 70.857 | 4,812 | | 1,237 | | 6,049 | 9,131 |
| 13200.2601 MF CIP Tank | 2.00 ea | 70.857 | 4,812 | 36,614 | 1,237 | | 42,663 | 66,651 |
| 13200.2603 MF EFM Tank | 1.00 ea | 26.179 | 1,788 | 16,599 | 619 | | 19,005 | 29,719 |
| 13200.2604 Citric Acid Dedicated Tote | 2.00 ea | 8.000 | 547 | 16,000 | 173 | | 16,720 | 26,225 |
| 13200.2605 Sodium Hydroxide Dedicated Tote | 2.00 ea | 8.000 | 547 | 16,000 | 173 | | 16,720 | 26,225 |
| 13200.2606 Sodium Hypochlorite Storage Tank | 2.00 ea | 70.857 | 4,812 | 29,828 | 1,237 | | 35,878 | 55,991 |
| 13200 Tanks | | 254.750 | 17,318 | 115,041 | 4,676 | | 137,036 | 213,941 |
| 15051 Mechanical Welding | | | | | | | | |
| 15051.2600 Weld Rig For Make-up Joints | 1.00 ls | | | | | 177,600 | 177,600 | 265,246 |
| 15051 Mechanical Welding | | | | | | 177,600 | 177,600 | 265,246 |
| 15060 Hangers & Supports | | | | | | | | |
| 15220.26001 42" Manifold For Strainer Feed | 100.00 lf | 60.000 | 4,086 | 7,700 | | | 11,786 | 18,199 |
| 15220.2612 24" MFF Supply Piping | 210.00 lf | 12.000 | 817 | 7,500 | | | 8,317 | 13,003 |
| 15220.2613 14" MFF Suction Piping | 100.00 lf | 18.000 | 1,226 | 4,200 | | | 5,426 | 8,429 |
| 15220.2614 MF Feed Pump Discharge | 50.00 lf | 36.000 | 2,451 | 4,200 | | | 6,651 | 10,259 |
| 15220.2616 24" MFE Manifold Piping | 120.00 lf | 96.000 | 6,537 | 53,292 | | | 59,829 | 93,484 |
| 15220.2618 MFF Piping @Strainers | 40.00 lf | 66.150 | 4,505 | 3,150 | | | 7,655 | 11,676 |
| 15240.2610 6" MCR/EFMR Piping From MF to CIP Area | 120.00 lf | 2.667 | 182 | 560 | | | 742 | 1,151 |
| 15240.2611 MCF/EFMF Feed Piping From MF area to CIP area | 120.00 lf | 2.500 | 170 | 560 | | | 730 | 1,134 |
| 15240.2615 10" PVC RF Feed Pipe from MF System to CIP Area | 70.00 lf | 30.000 | 2,043 | 2,224 | | | 4,267 | 6,545 |
| 15240.2618 16" MFBWW Piping | 330.00 lf | 24.000 | 1,634 | 14,880 | | | 16,514 | 25,817 |
| 15240.2625 RF Tank Feed to RF Pumps | 90.00 lf | 27.000 | 1,839 | 1,230 | | | 3,069 | 4,678 |
| 15240.2626 RF Pump Discharge Piping | 70.00 lf | 24.000 | 1,634 | 980 | | | 2,614 | 3,980 |
| 15240.2627 ROP Piping Acid CIP Tank | 60.00 lf | 5.000 | 340 | 1,315 | | | 1,656 | 2,575 |
| 15240.2631 ROP Piping Caustic | 60.00 lf | 5.000 | 340 | 1,315 | | | 1,656 | 2,575 |
| 15240.2633 SCH Piping To Caustic Tank | 120.00 lf | 10.000 | 681 | 2,458 | | | 3,139 | 4,879 |
| 15240.2634 SH Piping to Caustic Tank | 120.00 lf | 10.000 | 681 | 2,458 | | | 3,139 | 4,879 |
| 15240.2638 Citric Acid Feed to Acid Tank | 120.00 lf | 10.000 | 681 | 2,458 | | | 3,139 | 4,879 |
| 15240.2639 NaOCL Feed to EFM tank | 120.00 lf | 10.000 | 681 | 2,458 | | | 3,139 | 4,879 |
| 15240.2640 ROP Piping to EFM Tank | 60.00 lf | 5.000 | 340 | 1,315 | | | 1,656 | 2,575 |
| 15240.2644 MCR/EFMR Pump Feed/ Discharge | 80.00 lf | 19.775 | 1,347 | 800 | | | 2,147 | 3,268 |
| 15240.2645 Citric Acid From Tote to Transfer Pump | 40.00 lf | 2.400 | 163 | 125 | | | 288 | 440 |
| 15240.2646 Citric Acid transfer Pump Discharge | 40.00 lf | 1.680 | 114 | 175 | | | 289 | 446 |
| 15240.2647 Sodium Hydroxide From Tote to Transfer Pump | 40.00 lf | 2.400 | 163 | 125 | | | 288 | 440 |
| 15240.2648 Sodium Hydroxide From Transfer Pump | 80.00 lf | 1.680 | 114 | 175 | | | 289 | 446 |
| 15240.2649 Sodium Hypochlorite Storage From tank to Pump | 40.00 lf | 2.400 | 163 | 125 | | | 288 | 440 |
| 15240.2650 3" Tank Feed Piping | 60.00 lf | 2.400 | 163 | 1,315 | | | 1,479 | 2,310 |
| 15240.2651 m Hypochlorite From transfer Pump | 40.00 lf | 1.680 | 114 | 175 | | | 289 | 446 |
| 15240.2652 Citric Acid Waste Tank Discharge | 30.00 lf | 10.150 | 691 | 318 | | | 1,010 | 1,532 |
| 15240.2653 SH Dosing Influent | 20.00 lf | 10.150 | 691 | 318 | | | 1,010 | 1,532 |
| 15240.2654 Circ Pump Piping | 20.00 lf | 8.960 | 610 | 287 | | | 897 | 1,361 |
| 15060 Hangers & Supports | | 516.992 | 35,206 | 118,192 | | | 153,397 | 238,259 |
| 15110 Valves | | | | | | | | |
| 15220.2612 24" MFF Supply Piping | 210.00 lf | 87.360 | 5,949 | 31,882 | | | 37,831 | 58,971 |
| 15220.2613 14" MFF Suction Piping | 72.00 lf | 68.400 | 4,658 | 64,800 | | | 69,458 | 108,757 |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|------------------|------------------|---------------|-----------------|--------------|------------|-------------------|----------------|
| 15220.2614 MF Feed Pump Discharge | 36.00 lf | 106.800 | 7,273 | 55,057 | | | 62,330 | 97,357 |
| 15220.2617 6" MFE Piping to RF tank | 30.00 lf | 5.520 | 376 | 9,400 | | | 9,776 | 15,329 |
| 15220.2618 MFF Piping @Strainers | 40.00 lf | 137.480 | 9,362 | 39,640 | | | 49,002 | 76,256 |
| 15221.2600 EF Suction Piping | 40.00 lf | 70.080 | 4,772 | 35,926 | | | 40,698 | 63,567 |
| 15224.2605 PA Piping | 270.00 lf | 74.820 | 5,095 | 6,482 | | | 11,577 | 17,793 |
| 15224.2606 1" Control Air Piping | 270.00 lf | 10.660 | 726 | 4,503 | | | 5,229 | 8,158 |
| 15224.2607 PA Piping Tank & Compressor Piping | 70.00 lf | 41.680 | 2,838 | 8,226 | | | 11,064 | 17,162 |
| 15240.2611 MCF/EFMF Feed Piping From MF area to CIP area | 120.00 lf | 14.220 | 968 | 13,440 | | | 14,408 | 22,560 |
| 15240.2619 MFE/OF Piping | 40.00 lf | 5.520 | 376 | 356 | | | 732 | 1,121 |
| 15240.2620 LI Tank Pipe Reverse Filtration Tank | 20.00 lf | 2.660 | 181 | 133 | | | 314 | 479 |
| 15240.2621 LI tank Piping Acid CIP tank | 20.00 lf | 2.660 | 181 | 133 | | | 314 | 479 |
| 15240.2622 LI tank Piping Caustic CIP Tank | 20.00 lf | 2.660 | 181 | 133 | | | 314 | 479 |
| 15240.2623 LI Piping MF EFM Tank | 20.00 lf | 2.660 | 181 | 133 | | | 314 | 479 |
| 15240.2624 LI Piping NaOCL Tank | 20.00 lf | 2.660 | 181 | 964 | | | 1,145 | 1,785 |
| 15240.2625 RF Tank Feed to RF Pumps | 60.00 lf | 43.080 | 2,934 | 8,284 | | | 11,218 | 17,396 |
| 15240.2626 RF Pump Discharge Piping | 70.00 lf | 52.691 | 3,588 | 32,580 | | | 36,168 | 56,542 |
| 15240.2627 ROP Piping Acid CIP Tank | 60.00 lf | 5.824 | 397 | 5,172 | | | 5,569 | 8,718 |
| 15240.2628 MCW/OF Piping From Acid CIP | 50.00 lf | 4.634 | 316 | 700 | | | 1,016 | 1,571 |
| 15240.2629 MCR Piping From Acid Tank | 120.00 lf | 41.664 | 2,837 | 18,848 | | | 21,685 | 33,848 |
| 15240.2630 MCF Piping From Acid feed Pump | 100.00 lf | 43.204 | 2,942 | 16,944 | | | 19,886 | 31,013 |
| 15240.2631 ROP Piping Caustic | 60.00 lf | 5.824 | 397 | 5,172 | | | 5,569 | 8,718 |
| 15240.2633 SCH Piping To Caustic Tank | 120.00 lf | 2.618 | 178 | 1,560 | | | 1,738 | 2,717 |
| 15240.2634 SH Piping to Caustic Tank | 120.00 lf | 2.618 | 178 | 1,560 | | | 1,738 | 2,717 |
| 15240.2635 MCR Piping From Caustic Tank | 40.00 lf | 5.208 | 355 | 2,356 | | | 2,711 | 4,231 |
| 15240.2636 MCF Piping From Caustic Tank to Feed Pump | 60.00 lf | 10.416 | 709 | 5,424 | | | 6,133 | 9,580 |
| 15240.2637 MCF Piping From caustic Feed Pump to System | 60.00 lf | 6.748 | 460 | 2,452 | | | 2,912 | 4,538 |
| 15240.2638 Citric Acid Feed to Acid Tank | 120.00 lf | 2.618 | 178 | 1,560 | | | 1,738 | 2,717 |
| 15240.2639 NaOCL Feed to EFM tank | 120.00 lf | 2.618 | 178 | 1,560 | | | 1,738 | 2,717 |
| 15240.2640 ROP Piping to EFM Tank | 60.00 lf | 5.824 | 397 | 5,928 | | | 6,325 | 9,905 |
| 15240.2641 MCW/OF Piping EFM Tank | 40.00 lf | 4.634 | 316 | 700 | | | 1,016 | 1,571 |
| 15240.2642 EFMF Piping From Tank Through Pumps | 160.00 lf | 29.120 | 1,983 | 7,972 | | | 9,955 | 15,486 |
| 15240.2643 EFMF Piping From EFM tank | 40.00 lf | 5.208 | 355 | 2,356 | | | 2,711 | 4,231 |
| 15240.2644 MCR/EFMR Pump Feed/ Discharge | 80.00 lf | 11.956 | 814 | 3,344 | | | 4,158 | 6,470 |
| 15240.2645 Citric Acid From Tote to Transfer Pump | 40.00 lf | 8.988 | 612 | 2,570 | | | 3,182 | 4,952 |
| 15240.2646 Citric Acid transfer Pump Discharge | 40.00 lf | 6.252 | 426 | 2,000 | | | 2,426 | 3,778 |
| 15240.2647 Sodium Hydroxide From Tote to Transfer Pump | 40.00 lf | 31.066 | 2,116 | 7,540 | | | 9,656 | 15,006 |
| 15240.2648 Sodium Hydroxide From Transfer Pump | 80.00 lf | 8.052 | 548 | 4,650 | | | 5,198 | 8,124 |
| 15240.2649 Sodium Hypochlorite Storage From tank to Pump | 40.00 lf | 10.472 | 713 | 3,000 | | | 3,713 | 5,778 |
| 15240.2650 3" Tank Feed Piping | 60.00 lf | 20.818 | 1,418 | 14,540 | | | 15,958 | 24,960 |
| 15240.2651 m Hypochlorite From transfer Pump | 40.00 lf | 3.852 | 262 | 1,300 | | | 1,562 | 2,434 |
| 15240.2652 Citric Acid Waste Tank Discharge | 30.00 lf | 3.766 | 256 | 217 | | | 473 | 724 |
| 15240.2653 SH Dosing Influent | 20.00 lf | 1.498 | 102 | 149 | | | 251 | 386 |
| 15240.2654 Circ Pump Piping | 20.00 lf | 5.698 | 388 | 441 | | | 829 | 1,272 |
| 15240.2655 3" BW Discharge | 40.00 lf | 7.154 | 487 | 1,658 | | | 2,145 | 3,332 |
| 15110 Valves | | 1,029.963 | 70,137 | 433,743 | | | 503,881 | 786,161 |
| 15120 Pipe Specialties | | | | | | | | |
| 15120.2001 Instrument Valves | 93.00 ea | 31.568 | 2,150 | 6,636 | | | 8,785 | 13,635 |
| 15120.2600 24" Static Mixer MF Influent | 2.00 ea | 44.927 | 3,059 | 37,204 | | | 40,263 | 63,017 |
| 15120.2601 Strainers | 8.00 ea | 20.000 | 1,362 | 20,580 | | | 21,942 | 34,365 |
| 15120.2602 Auto Strainers MF System | 8.00 ea | 116.661 | 7,927 | 627,442 | 4,157 | | 639,525 | 1,004,080 |
| 15120.2620 Flex Couplings for Plastic Pipe | 41.00 ea | | | 2,379 | | | 2,379 | 3,738 |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|------------------|----------------|---------------|-----------------|--------------|------------|-------------------|------------------|
| 15220.2612 24" MFF Supply Piping | 210.00 lf | 39.000 | 2,656 | 7,035 | | | 9,691 | 15,018 |
| 15220.2613 14" MFF Suction Piping | 72.00 lf | 19.320 | 1,316 | 2,347 | | | 3,663 | 5,652 |
| 15220.2614 MF Feed Pump Discharge | 36.00 lf | 19.320 | 1,316 | 2,347 | | | 3,663 | 5,652 |
| 15220.2616 24" MFE Manifold Piping | 120.00 lf | 23.352 | 1,590 | 4,690 | | | 6,280 | 9,743 |
| 15220.2618 MFF Piping @Strainers | 40.00 lf | 81.732 | 5,566 | 10,201 | | | 15,767 | 24,339 |
| 15240.2625 RF Tank Feed to RF Pumps | 60.00 lf | 11.000 | 749 | 1,370 | | | 2,119 | 3,271 |
| 15240.2626 RF Pump Discharge Piping | 70.00 lf | 10.490 | 714 | 1,250 | | | 1,964 | 3,031 |
| 15240.2645 Citric Acid From Tote to Transfer Pump | 40.00 lf | 5.808 | 396 | 2,120 | | | 2,516 | 3,921 |
| 15240.2647 Sodium Hydroxide From Tote to Transfer Pump | 40.00 lf | 5.808 | 396 | 2,120 | | | 2,516 | 3,921 |
| 15120 Pipe Specialties | | 428.986 | 29,195 | 727,721 | 4,157 | | 761,072 | 1,193,382 |
| 15220 Steel Pipe | | | | | | | | |
| 15220.26001 42" Manifold For Strainer Feed | 100.00 lf | 56.100 | 3,820 | 57,889 | | | 61,710 | 96,650 |
| 15220.2612 24" MFF Supply Piping | 210.00 lf | 261.300 | 17,794 | 91,975 | | | 109,768 | 171,067 |
| 15220.2613 14" MFF Suction Piping | 72.00 lf | 78.280 | 5,331 | 25,402 | | | 30,733 | 47,868 |
| 15220.2614 MF Feed Pump Discharge | 36.00 lf | 54.300 | 3,698 | 24,307 | | | 28,005 | 43,709 |
| 15220.2615 12" MFE Piping to Manifold | 36.00 lf | 51.000 | 3,473 | 14,324 | | | 17,797 | 27,690 |
| 15220.2616 24" MFE Manifold Piping | 120.00 lf | 66.000 | 4,494 | 38,839 | | | 43,333 | 67,728 |
| 15220.2617 6" MFE Piping to RF tank | 30.00 lf | 12.560 | 855 | 2,366 | | | 3,221 | 4,995 |
| 15220.2618 MFF Piping @Strainers | 40.00 lf | 289.800 | 19,735 | 86,533 | | | 106,268 | 165,417 |
| 15220 Steel Pipe | | 869.340 | 59,199 | 341,635 | | | 400,835 | 625,123 |
| 15221 Stainless Steel Pipe | | | | | | | | |
| 15221.2600 EF Suction Piping | 40.00 lf | 24.480 | 1,667 | 4,865 | | | 6,532 | 10,133 |
| 15221.2601 EF Discharge Pipe | 80.00 lf | 65.040 | 4,429 | 12,803 | | | 17,232 | 26,728 |
| 15221 Stainless Steel Pipe | | 89.520 | 6,096 | 17,668 | | | 23,764 | 36,861 |
| 15224 Copper Pipe | | | | | | | | |
| 15224.2605 PA Piping | 270.00 lf | 178.489 | 12,155 | 24,496 | | | 36,651 | 56,637 |
| 15224.2606 1" Control Air Piping | 270.00 lf | 86.973 | 5,923 | 2,714 | | | 8,637 | 13,109 |
| 15224.2607 PA Piping Tank & Compressor Piping | 70.00 lf | 92.174 | 6,277 | 8,137 | | | 14,414 | 22,158 |
| 15224 Copper Pipe | | 357.635 | 24,354 | 35,348 | | | 59,702 | 91,904 |
| 15240 Plastic Pipe | | | | | | | | |
| 15240.2610 6" MCR/EFMR Piping From MF to CIP Area | 120.00 lf | 19.600 | 1,335 | 4,031 | | | 5,366 | 8,326 |
| 15240.2611 MCF/EFMF Feed Piping From MF area to CIP area | 120.00 lf | 23.940 | 1,630 | 4,239 | | | 5,869 | 9,094 |
| 15240.2615 10" PVC RF Feed Pipe from MF System to CIP Area | 70.00 lf | 33.977 | 2,314 | 6,627 | | | 8,941 | 13,867 |
| 15240.2616 4" MF BWW Piping From MF to Backwash Main | 120.00 lf | 28.392 | 1,933 | 1,112 | | | 3,045 | 4,634 |
| 15240.2617 4" MFBWW Piping | 100.00 lf | 23.296 | 1,586 | 960 | | | 2,546 | 3,877 |
| 15240.2618 16" MFBWW Piping | 220.00 lf | 114.162 | 7,774 | 16,949 | | | 24,723 | 38,237 |
| 15240.2619 MFE/OF Piping | 40.00 lf | 19.894 | 1,355 | 1,430 | | | 2,784 | 4,269 |
| 15240.2620 LI Tank Pipe Reverse Filtration Tank | 20.00 lf | 4.293 | 292 | 92 | | | 384 | 581 |
| 15240.2621 LI tank Piping Acid CIP tank | 20.00 lf | 4.293 | 292 | 92 | | | 384 | 581 |
| 15240.2622 LI tank Piping Caustic CIP Tank | 20.00 lf | 4.293 | 292 | 92 | | | 384 | 581 |
| 15240.2623 LI Piping MF EFM Tank | 20.00 lf | 4.293 | 292 | 92 | | | 384 | 581 |
| 15240.2624 LI Piping NaOCL Tank | 20.00 lf | 4.293 | 292 | 92 | | | 384 | 581 |
| 15240.2625 RF Tank Feed to RF Pumps | 60.00 lf | 48.757 | 3,320 | 8,673 | | | 11,993 | 18,584 |
| 15240.2626 RF Pump Discharge Piping | 70.00 lf | 68.228 | 4,646 | 10,207 | | | 14,853 | 22,974 |
| 15240.2627 ROP Piping Acid CIP Tank | 60.00 lf | 13.644 | 929 | 507 | | | 1,436 | 2,184 |
| 15240.2628 MCW/OF Piping From Acid CIP | 50.00 lf | 17.547 | 1,195 | 830 | | | 2,025 | 3,088 |
| 15240.2629 MCR Piping From Acid Tank | 120.00 lf | 55.029 | 3,747 | 4,949 | | | 8,696 | 13,371 |
| 15240.2630 MCF Piping From Acid feed Pump | 100.00 lf | 44.310 | 3,017 | 4,445 | | | 7,462 | 11,489 |
| 15240.2631 ROP Piping Caustic | 60.00 lf | 15.350 | 1,045 | 507 | | | 1,552 | 2,357 |
| 15240.2633 SCH Piping To Caustic Tank | 120.00 lf | 18.144 | 1,236 | 208 | | | 1,443 | 2,172 |
| 15240.2634 SH Piping to Caustic Tank | 120.00 lf | 9.072 | 618 | 208 | | | 826 | 1,249 |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|---|------------------|-------------------|----------------|-------------------|---------------|----------------|-------------------|-------------------|
| 15240.2635 MCR Piping From Caustic Tank | 40.00 lf | 17.024 | 1,159 | 921 | | | 2,080 | 3,178 |
| 15240.2636 MCF Piping From Caustic Tank to Feed Pump | 60.00 lf | 23.240 | 1,583 | 1,481 | | | 3,064 | 4,690 |
| 15240.2637 MCF Piping From caustic Feed Pump to System | 60.00 lf | 31.209 | 2,125 | 2,497 | | | 4,623 | 7,097 |
| 15240.2638 Citric Acid Feed to Acid Tank | 120.00 lf | 9.072 | 618 | 208 | | | 826 | 1,249 |
| 15240.2639 NaOCL Feed to EFM tank | 120.00 lf | 9.072 | 618 | 208 | | | 826 | 1,249 |
| 15240.2640 ROP Piping to EFM Tank | 60.00 lf | 12.280 | 836 | 507 | | | 1,343 | 2,045 |
| 15240.2641 MCW/OF Piping EFM Tank | 40.00 lf | 15.512 | 1,056 | 819 | | | 1,876 | 2,865 |
| 15240.2642 EFMF Piping From Tank Through Pumps | 160.00 lf | 63.541 | 4,327 | 5,508 | | | 9,835 | 15,116 |
| 15240.2643 EFMF Piping From EFM tank | 40.00 lf | 15.232 | 1,037 | 781 | | | 1,818 | 2,776 |
| 15240.2644 MCR/EFMR Pump Feed/ Discharge | 80.00 lf | 18.113 | 1,233 | 1,570 | | | 2,804 | 4,309 |
| 15240.2645 Citric Acid From Tote to Transfer Pump | 40.00 lf | 4.396 | 299 | 95 | | | 394 | 596 |
| 15240.2646 Citric Acid transfer Pump Discharge | 40.00 lf | 6.370 | 434 | 171 | | | 605 | 917 |
| 15240.2647 Sodium Hydroxide From Tote to Transfer Pump | 40.00 lf | 4.396 | 299 | 94 | | | 394 | 596 |
| 15240.2648 Sodium Hydroxide From Transfer Pump | 80.00 lf | 8.442 | 575 | 230 | | | 805 | 1,221 |
| 15240.2649 Sodium Hypochlorite Storage From tank to Pump | 40.00 lf | 4.396 | 299 | 94 | | | 394 | 596 |
| 15240.2650 3" Tank Feed Piping | 60.00 lf | 22.724 | 1,547 | 1,105 | | | 2,652 | 4,047 |
| 15240.2651 m Hypochlorite From transfer Pump | 40.00 lf | 6.370 | 434 | 171 | | | 605 | 917 |
| 15240.2652 Citric Acid Waste Tank Discharge | 30.00 lf | 2.982 | 203 | 163 | | | 366 | 560 |
| 15240.2653 SH Dosing Influent | 20.00 lf | 2.562 | 174 | 138 | | | 313 | 478 |
| 15240.2654 Circ Pump Piping | 20.00 lf | 3.878 | 264 | 320 | | | 584 | 897 |
| 15240.2655 3" BW Discharge | 40.00 lf | 6.440 | 439 | 565 | | | 1,004 | 1,543 |
| 15240 Plastic Pipe | | 862.059 | 58,704 | 83,986 | | | 142,690 | 219,616 |
| 0080.0010 MEMBRANE FILTRATION FACILITY | 22.80 MGD | 10,926.197 | 747,400 | 12,472,933 | 79,086 | 177,600 | 13,477,019 | 21,100,709 |
| 0080.0010A MEMBRANE FILTRATION FACILITY STRUCTURE ONLY | | | | | | | | |
| 02300 Earthwork | | | | | | | | |
| 02300.2605 Structural Excavation & Backfill | 4,307.10 cy | 441.470 | 23,885 | | 31,022 | | 54,907 | 84,407 |
| 02300 Earthwork | | 441.470 | 23,885 | | 31,022 | | 54,907 | 84,407 |
| 03212 Concrete Walls | | | | | | | | |
| 03212.226001 Containment Curbs 18" high | 12.13 cy | 241.174 | 14,583 | 5,959 | 111 | 1,471 | 22,124 | 33,513 |
| 03212.226002 Pipe Trench Walls | 62.79 cy | 491.687 | 29,372 | 12,675 | 193 | 10,299 | 52,538 | 79,463 |
| 03212 Concrete Walls | | 732.861 | 43,955 | 18,634 | 304 | 11,770 | 74,663 | 112,976 |
| 03310 Concrete Slab on Grade | | | | | | | | |
| 03310.226004 Pipe Trench Floor | 25.22 cy | 115.409 | 6,996 | 5,036 | 128 | 5,738 | 18,602 | 28,237 |
| 03310.226006 Air Supply Pad | 19.40 cy | 73.967 | 4,382 | 3,369 | 63 | 4,904 | 13,224 | 20,055 |
| 03310.2605 Building Base Slab | 847.81 cy | 3,013.841 | 189,653 | 202,835 | 1,410 | 9,953 | 405,977 | 622,320 |
| 03310 Concrete Slab on Grade | | 3,203.217 | 201,032 | 211,239 | 1,600 | 20,595 | 437,803 | 670,612 |
| 03412 Concrete Equipment Pabs/Curbs/Fill | | | | | | | | |
| 03412.226002 Housekeeping pads - tanks/pumps | 24.00 cy | 136.429 | 7,951 | 3,502 | 57 | 3,961 | 15,953 | 24,139 |
| 03412.226006 Pipe Supports on MF Pad | 8.00 cy | 83.001 | 5,037 | 2,123 | 43 | 1,886 | 9,089 | 13,743 |
| 03412.226008 Pipe Supports-Spread Footing | 12.80 cy | 118.211 | 7,121 | 2,699 | 79 | | 9,899 | 14,999 |
| 03412.226302 Strainer pad | 16.00 cy | 147.760 | 8,901 | 3,373 | 99 | | 12,373 | 18,749 |
| 03412.226306 Pipe Supports - Strainer Header | 40.00 cy | 340.026 | 20,609 | 9,266 | 171 | 7,545 | 37,591 | 56,873 |
| 03412.226308 Pipe Supports - Strainer Feed Line | 10.00 cy | 85.008 | 5,152 | 2,317 | 43 | 1,886 | 9,398 | 14,218 |
| 03412 Concrete Equipment Pabs/Curbs/Fill | | 910.435 | 54,771 | 23,280 | 493 | 15,278 | 94,303 | 142,721 |
| 03470 Walls | | | | | | | | |
| 03470.2605 Exterior Walls | 512.00 cy | 1,599.159 | 102,836 | 119,500 | 174 | 2,936 | 226,653 | 347,874 |
| 03470.2606 Wall Texture | 13,340.00 sf | | | 113,765 | | | 113,765 | 178,724 |
| 03470 Walls | | 1,599.159 | 102,836 | 233,265 | 174 | 2,936 | 340,417 | 526,598 |
| 05210 Steel Joist | | | | | | | | |
| 05210.2605 Building Roof Framing | 20,800.00 sf | 203.523 | 14,049 | 97,449 | 6,063 | | 117,561 | 183,599 |
| 05210 Steel Joist | | 203.523 | 14,049 | 97,449 | 6,063 | | 117,561 | 183,599 |
| 05300 Steel Deck | | | | | | | | |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|---|---------------------|------------------|----------------|-----------------|---------------|------------------|-------------------|------------------|
| 05300.2605 Roof Deck | 20,800.00 sf | 625.248 | 43,159 | 125,212 | 18,626 | | 186,998 | 290,428 |
| 05300 Steel Deck | | 625.248 | 43,159 | 125,212 | 18,626 | | 186,998 | 290,428 |
| 07000 Thermal & Moisture Protection | | | | | | | | |
| 07000.2605 EPDM Roofing | 208.00 sq | 918.320 | 62,058 | 93,909 | | | 155,967 | 240,215 |
| 07000 Thermal & Moisture Protection | | 918.320 | 62,058 | 93,909 | | | 155,967 | 240,215 |
| 08000 Doors & Windows | | | | | | | | |
| 08000.2605 Exterior Doors & Windows | 1.00 ls | 215.607 | 12,382 | 37,099 | | 52,011 | 101,493 | 154,454 |
| 08000 Doors & Windows | | 215.607 | 12,382 | 37,099 | | 52,011 | 101,493 | 154,454 |
| 15300 Fire Protection | | | | | | | | |
| 15300.2605 Fire Protection Allowance | 1.00 allw | | | | | 260,859 | 260,859 | 389,593 |
| 15300 Fire Protection | | | | | | 260,859 | 260,859 | 389,593 |
| 15400 Plumbing | | | | | | | | |
| 15400.2605 Plumbing Allowance | 1.00 allw | | | | | 313,031 | 313,031 | 467,511 |
| 15400 Plumbing | | | | | | 313,031 | 313,031 | 467,511 |
| 15500 HVAC | | | | | | | | |
| 15500.2605 HVAC Allowance | 1.00 allw | | | | | 626,061 | 626,061 | 935,023 |
| 15500 HVAC | | | | | | 626,061 | 626,061 | 935,023 |
| 0080.0010A MEMBRANE FILTRATION FACILITY STRUCTURE ONLY | 20,800.00 SF | 8,849.841 | 558,127 | 840,087 | 58,282 | 1,302,541 | 2,764,061 | 4,198,139 |
| 0080.0030 REVERSE OSMOSIS FACILITY | | | | | | | | |
| 11200 Water Treatment Equipment | | | | | | | | |
| 11200.2610 RO Train Feed Pumps | 5.00 ea | 269.000 | 18,594 | 1,130,394 | 4,157 | | 1,153,144 | 1,810,149 |
| 11200 Water Treatment Equipment | | 269.000 | 18,594 | 1,130,394 | 4,157 | | 1,153,144 | 1,810,149 |
| 11201 Process Equipment N.O.C. | | | | | | | | |
| 11201.2605 Energy Recovery Turbines | 5.00 ea | 128.000 | 8,877 | 197,500 | | | 206,919 | 324,382 |
| 11201 Process Equipment N.O.C. | | 128.000 | 8,877 | 197,500 | | | 206,919 | 324,382 |
| 11210 Water Supply & Treatment Pumps | | | | | | | | |
| 11210.2610 RO Flush Pumps | 3.00 ea | 238.500 | 16,647 | 77,575 | 2,078 | | 96,847 | 150,856 |
| 11210 Water Supply & Treatment Pumps | | 238.500 | 16,647 | 77,575 | 2,078 | | 96,847 | 150,856 |
| 11228 Filter Membrane Systems | | | | | | | | |
| 11228.2650 RO Train 1 | 882.00 ea | 601.700 | 41,881 | 1,490,715 | | | 1,532,596 | 2,404,462 |
| 11228.2651 RO Train 2 | 882.00 ea | 601.700 | 41,881 | 1,490,715 | | | 1,532,596 | 2,404,462 |
| 11228.2652 RO Train 3 | 882.00 ea | 601.700 | 41,881 | 1,490,715 | | | 1,532,596 | 2,404,462 |
| 11228.2653 RO Train 4 | 882.00 ea | 601.700 | 41,881 | 1,490,715 | | | 1,532,596 | 2,404,462 |
| 11228.2654 RO Train 5 | 882.00 ea | 601.700 | 41,881 | 1,490,715 | | | 1,532,596 | 2,404,462 |
| 11228 Filter Membrane Systems | | 3,008.500 | 209,403 | 7,453,575 | | | 7,662,978 | 12,022,309 |
| 13200 Tanks | | | | | | | | |
| 13200.2650 RO Flush Tanks | 2.00 ea | 70.857 | 4,812 | 105,676 | 1,237 | | 111,725 | 175,148 |
| 13200.2655 CIP Tanks | 2.00 ea | 70.857 | 4,812 | 73,742 | 1,237 | | 79,792 | 124,980 |
| 13200 Tanks | | 141.714 | 9,625 | 179,418 | 2,474 | | 191,517 | 300,128 |
| 15060 Hangers & Supports | | | | | | | | |
| 15221.2621 RO Feed Pump Discharge Piping Train 1 Through 3 | 57.00 lf | 16.380 | 1,115 | 4,977 | | | 6,093 | 9,485 |
| 15221.2622 RO Feed Pump Discharge Piping Train 4 & 5 | 38.00 lf | 10.920 | 744 | 3,318 | | | 4,062 | 6,323 |
| 15221.2623 6" ROF Piping train 1 Through 3 | 24.00 lf | 7.896 | 538 | 1,920 | | | 2,458 | 3,819 |
| 15221.2624 6" ROF Piping train 4 & 5 | 16.00 lf | 5.264 | 358 | 1,280 | | | 1,638 | 2,546 |
| 15221.2625 8" ROF Piping train 1 Through 3 | 52.50 lf | 7.896 | 538 | 1,920 | | | 2,458 | 3,819 |
| 15221.2626 8" ROF Piping train 4 & 5 | 35.00 lf | 5.264 | 358 | 1,280 | | | 1,638 | 2,546 |
| 15221.2627 6" ROC Piping train 1 Through 3 | 57.00 lf | 7.896 | 538 | 1,920 | | | 2,458 | 3,819 |
| 15221.2628 6" ROC Piping train 4 & 5 | 38.00 lf | 5.264 | 358 | 1,280 | | | 1,638 | 2,546 |
| 15240.2659 1-1/2" D Line | 190.00 lf | 20.300 | 1,382 | 637 | | | 2,019 | 3,065 |
| 15240.2661 10" CF/CR Piping | 720.00 lf | 369.600 | 25,169 | 22,241 | | | 47,409 | 72,530 |
| 15240.2665 10" PVC ROP Header | 216.00 lf | 36.960 | 2,517 | 2,224 | | | 4,741 | 7,253 |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|------------------|----------------|---------------|-----------------|--------------|------------|-------------------|----------------|
| 15240.2670 4" ROP Drains | 60.00 lf | 25.725 | 1,752 | 820 | | | 2,572 | 3,904 |
| 15240.2671 12" PVC ROP | 150.00 lf | 85.680 | 5,835 | 3,825 | | | 9,660 | 14,723 |
| 15240.2672 4" PCR Piping | 495.00 lf | 58.800 | 4,004 | 1,874 | | | 5,878 | 8,924 |
| 15248.2600 16" FRP Pipe Header | 350.00 lf | 84.231 | 5,736 | 13,800 | | | 19,536 | 30,246 |
| 15248.2601 12" FRP Pipe to RO Feed Pump Header | 140.00 lf | 33.600 | 2,288 | 1,500 | | | 3,788 | 5,774 |
| 15248.2602 12" FRP Pipe to RO Feed Pump Branch Piping | 440.00 lf | 33.600 | 2,288 | 1,500 | | | 3,788 | 5,774 |
| 15248.2603 20" FRP ROP | 75.00 lf | 54.000 | 3,677 | 2,400 | | | 6,077 | 9,262 |
| 15060 Hangers & Supports | | 869.276 | 59,195 | 68,715 | | | 127,910 | 196,359 |
| 15110 Valves | | | | | | | | |
| 15221.2621 RO Feed Pump Discharge Piping Train 1 Through 3 | 57.00 lf | 59.100 | 4,025 | 40,679 | | | 44,703 | 69,917 |
| 15221.2622 RO Feed Pump Discharge Piping Train 4 & 5 | 38.00 lf | 39.400 | 2,683 | 27,119 | | | 29,802 | 46,611 |
| 15221.2627 6" ROC Piping train 1 Through 3 | 57.00 lf | 17.400 | 1,185 | 58,150 | | | 59,335 | 93,123 |
| 15221.2628 6" ROC Piping train 4 & 5 | 38.00 lf | 11.600 | 790 | 38,767 | | | 39,557 | 62,082 |
| 15240.2659 1-1/2" D Line | 190.00 lf | 11.340 | 772 | 342 | | | 1,114 | 1,690 |
| 15240.2661 10" CF/CR Piping | 720.00 lf | 15.480 | 1,054 | 3,433 | | | 4,487 | 6,968 |
| 15240.2662 6" CF/CR Piping | 18.00 lf | 18.780 | 1,279 | 74,254 | | | 75,533 | 118,564 |
| 15240.2663 6" CR Piping | 18.00 lf | 18.780 | 1,279 | 74,254 | | | 75,533 | 118,564 |
| 15240.2664 8" CR/CF Piping | 18.00 lf | 20.820 | 1,418 | 77,293 | | | 78,711 | 123,545 |
| 15240.2670 4" ROP Drains | 60.00 lf | 30.480 | 2,076 | 69,035 | | | 71,111 | 111,554 |
| 15240.2671 12" PVC ROP | 150.00 lf | 118.200 | 8,049 | 82,799 | | | 90,848 | 142,098 |
| 15240.2672 4" PCR Piping | 495.00 lf | 36.060 | 2,456 | 9,909 | | | 12,365 | 19,235 |
| 15248.2601 12" FRP Pipe to RO Feed Pump Header | 140.00 lf | 59.311 | 4,039 | 21,622 | | | 25,661 | 40,001 |
| 15248.2602 12" FRP Pipe to RO Feed Pump Branch Piping | 440.00 lf | 59.311 | 4,039 | 21,622 | | | 25,661 | 40,001 |
| 15110 Valves | | 516.063 | 35,142 | 599,280 | | | 634,422 | 993,954 |
| 15221 Stainless Steel Pipe | | | | | | | | |
| 15221.2621 RO Feed Pump Discharge Piping Train 1 Through 3 | 57.00 lf | 71.881 | 4,895 | 107,967 | | | 112,862 | 176,926 |
| 15221.2622 RO Feed Pump Discharge Piping Train 4 & 5 | 38.00 lf | 47.920 | 3,263 | 71,978 | | | 75,241 | 117,951 |
| 15221.2623 6" ROF Piping train 1 Through 3 | 24.00 lf | 7.056 | 481 | 19,800 | | | 20,281 | 31,824 |
| 15221.2624 6" ROF Piping train 4 & 5 | 16.00 lf | 4.704 | 320 | 13,200 | | | 13,521 | 21,216 |
| 15221.2625 8" ROF Piping train 1 Through 3 | 52.50 lf | 19.268 | 1,312 | 15,966 | | | 17,278 | 27,043 |
| 15221.2626 8" ROF Piping train 4 & 5 | 35.00 lf | 12.845 | 875 | 10,644 | | | 11,519 | 18,028 |
| 15221.2627 6" ROC Piping train 1 Through 3 | 57.00 lf | 13.230 | 901 | 23,284 | | | 24,185 | 37,925 |
| 15221.2628 6" ROC Piping train 4 & 5 | 38.00 lf | 8.820 | 601 | 15,523 | | | 16,123 | 25,283 |
| 15221 Stainless Steel Pipe | | 185.724 | 12,647 | 278,363 | | | 291,010 | 456,197 |
| 15240 Plastic Pipe | | | | | | | | |
| 15240.2659 1-1/2" D Line | 190.00 lf | 27.790 | 1,892 | 546 | | | 2,438 | 3,684 |
| 15240.2661 10" CF/CR Piping | 720.00 lf | 179.574 | 12,228 | 29,116 | | | 41,344 | 64,004 |
| 15240.2662 6" CF/CR Piping | 18.00 lf | 7.140 | 486 | 536 | | | 1,022 | 1,567 |
| 15240.2663 6" CR Piping | 18.00 lf | 7.140 | 486 | 1,136 | | | 1,622 | 2,510 |
| 15240.2664 8" CR/CF Piping | 18.00 lf | 20.280 | 1,381 | 1,034 | | | 2,415 | 3,687 |
| 15240.2665 10" PVC ROP Header | 216.00 lf | 151.803 | 10,337 | 26,347 | | | 36,685 | 56,831 |
| 15240.2666 6" PVC ROP Drops | 36.00 lf | 3.528 | 240 | 186 | | | 426 | 651 |
| 15240.2667 4" PVC ROP Drops | 36.00 lf | 2.520 | 172 | 101 | | | 272 | 414 |
| 15240.2668 6" PVC ROP Header | 90.00 lf | 29.783 | 2,028 | 2,190 | | | 4,218 | 6,469 |
| 15240.2669 3" ROP Header | 90.00 lf | 16.032 | 1,092 | 597 | | | 1,689 | 2,568 |
| 15240.2670 4" ROP Drains | 60.00 lf | 28.476 | 1,939 | 1,351 | | | 3,290 | 5,018 |
| 15240.2671 12" PVC ROP | 150.00 lf | 89.734 | 6,111 | 15,239 | | | 21,349 | 33,066 |
| 15240.2672 4" PCR Piping | 495.00 lf | 47.970 | 3,267 | 2,812 | | | 6,078 | 9,296 |
| 15240.2673 6" FW Piping | 495.00 lf | 75.296 | 5,127 | 4,677 | | | 9,804 | 15,005 |
| 15240 Plastic Pipe | | 687.066 | 46,787 | 85,865 | | | 132,652 | 204,771 |
| 15248 FRP Pipe | | | | | | | | |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|---|---------------------|------------------|----------------|-------------------|---------------|------------------|-------------------|-------------------|
| 15248.2600 16" FRP Pipe Header | 350.00 lf | 503.113 | 34,260 | 95,829 | | | 130,090 | 201,716 |
| 15248.2601 12" FRP Pipe to RO Feed Pump Header | 140.00 lf | 395.877 | 26,958 | 108,706 | | | 135,664 | 211,039 |
| 15248.2602 12" FRP Pipe to RO Feed Pump Branch Piping | 440.00 lf | 578.799 | 39,415 | 158,498 | | | 197,912 | 307,866 |
| 15248.2603 20" FRP ROP | 75.00 lf | 105.692 | 7,197 | 59,158 | | | 66,356 | 103,687 |
| 15248 FRP Pipe | | 1,583.481 | 107,830 | 422,191 | | | 530,022 | 824,307 |
| 0080.0030 REVERSE OSMOSIS FACILITY | 21.20 MGD | 7,627.323 | 524,749 | 10,492,875 | 8,709 | | 11,027,421 | 17,283,411 |
| 0080.0030A RO FACILITY STRUCTURE ONLY | | | | | | | | |
| 02300 Earthwork | | | | | | | | |
| 02300.2605 Structural Excavation & Backfill | 4,307.00 cy | 439.984 | 23,804 | | 30,918 | | 54,722 | 84,123 |
| 02300 Earthwork | | 439.984 | 23,804 | | 30,918 | | 54,722 | 84,123 |
| 03212 Concrete Walls | | | | | | | | |
| 03212.228102 Walls w/ 18" x 18" columns | 216.00 cy | 1,720.300 | 103,450 | 75,577 | 1,035 | 50,383 | 234,765 | 356,893 |
| 03212 Concrete Walls | | 1,720.300 | 103,450 | 75,577 | 1,035 | 50,383 | 234,765 | 356,893 |
| 03310 Concrete Slab on Grade | | | | | | | | |
| 03310.228102 Pipe Trench Base Slab | 128.00 cy | 269.885 | 16,245 | 16,782 | 253 | 36,095 | 71,936 | 108,955 |
| 03310.228104 RO Equipment Slabs @ TOW | 128.00 cy | 200.175 | 11,838 | 14,751 | 148 | 30,080 | 59,376 | 90,032 |
| 03310.2605 Building Base Slab | 465.63 cy | 1,650.620 | 103,868 | 111,079 | 772 | 5,451 | 222,335 | 340,816 |
| 03310 Concrete Slab on Grade | | 2,120.680 | 131,951 | 142,612 | 1,174 | 71,626 | 353,647 | 539,803 |
| 03470 Walls | | | | | | | | |
| 03470.2605 Exterior Walls | 512.00 cy | 1,593.858 | 102,495 | 119,105 | 173 | 2,926 | 225,902 | 346,721 |
| 03470.2606 Wall Texture | 13,340.00 sf | | | 113,388 | | | 113,388 | 178,133 |
| 03470 Walls | | 1,593.858 | 102,495 | 232,493 | 173 | 2,926 | 339,290 | 524,854 |
| 05210 Steel Joist | | | | | | | | |
| 05210.2605 Building Roof Framing | 20,800.00 sf | 202.867 | 14,003 | 97,126 | 6,043 | | 117,173 | 182,994 |
| 05210 Steel Joist | | 202.867 | 14,003 | 97,126 | 6,043 | | 117,173 | 182,994 |
| 05300 Steel Deck | | | | | | | | |
| 05300.2605 Roof Deck | 20,800.00 sf | 624.000 | 43,073 | 124,798 | 18,589 | | 186,460 | 289,591 |
| 05300 Steel Deck | | 624.000 | 43,073 | 124,798 | 18,589 | | 186,460 | 289,591 |
| 05505 Metal Fabrications | | | | | | | | |
| 05505.2710 Aluminum Grating | 20,800.00 sf | 1,176.661 | 81,049 | 158,372 | 18,799 | | 258,220 | 399,382 |
| 05505 Metal Fabrications | | 1,176.661 | 81,049 | 158,372 | 18,799 | | 258,220 | 399,382 |
| 07000 Thermal & Moisture Protection | | | | | | | | |
| 07000.2605 EPDM Roofing | 208.00 sq | 915.408 | 61,861 | 93,599 | | | 155,460 | 239,433 |
| 07000 Thermal & Moisture Protection | | 915.408 | 61,861 | 93,599 | | | 155,460 | 239,433 |
| 08000 Doors & Windows | | | | | | | | |
| 08000.2605 Exterior Doors & Windows | 1.00 ls | 214.889 | 12,341 | 36,977 | | 51,839 | 101,157 | 153,943 |
| 08000 Doors & Windows | | 214.889 | 12,341 | 36,977 | | 51,839 | 101,157 | 153,943 |
| 15300 Fire Protection | | | | | | | | |
| 15300.2605 Fire Protection Allowance | 1.00 allw | | | | | 197,597 | 197,597 | 295,111 |
| 15300 Fire Protection | | | | | | 197,597 | 197,597 | 295,111 |
| 15400 Plumbing | | | | | | | | |
| 15400.2605 Plumbing Allowance | 1.00 allw | | | | | 135,198 | 135,198 | 201,918 |
| 15400 Plumbing | | | | | | 135,198 | 135,198 | 201,918 |
| 15500 HVAC | | | | | | | | |
| 15500.2605 HVAC Allowance | 1.00 allw | | | | | 519,992 | 519,992 | 776,607 |
| 15500 HVAC | | | | | | 519,992 | 519,992 | 776,607 |
| 0080.0030A RO FACILITY STRUCTURE ONLY | 20,800.00 SF | 9,008.647 | 574,028 | 961,554 | 76,730 | 1,029,560 | 2,653,680 | 4,044,653 |
| 0090.0010 UV AOP FACILITY | | | | | | | | |
| 11240 Chemical/Disinfection Equipment | | | | | | | | |
| 11240.2620 UV System Trojan UVPhox | 4.00 ea | 279.000 | 18,466 | 4,374,080 | 3,117 | | 4,395,664 | 6,904,157 |
| 11240 Chemical/Disinfection Equipment | | 279.000 | 18,466 | 4,374,080 | 3,117 | | 4,395,664 | 6,904,157 |
| 13200 Tanks | | | | | | | | |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|------------------|------------------|----------------|------------------|---------------|------------|-------------------|------------------|
| 13200.2660 Hydrogen Peroxide Storage | 1.00 ea | 32.000 | 2,187 | | 2,771 | | 4,958 | 7,619 |
| 13200 Tanks | | 32.000 | 2,187 | | 2,771 | | 4,958 | 7,619 |
| 15060 Hangers & Supports | | | | | | | | |
| 15221.2632 UV Reactor Outlet Piping | 417.00 lf | 121.500 | 8,274 | 22,950 | | | 31,224 | 48,411 |
| 15221.2633 UV Reactor Inlet Piping | 117.00 lf | 36.000 | 2,451 | 5,850 | | | 8,301 | 12,852 |
| 15221.2660 UV Reactor Inlet Header | 110.00 lf | 36.000 | 2,451 | 11,250 | | | 13,701 | 21,335 |
| 15240.26600 Hydrogen Peroxide Piping | 120.00 lf | 10.000 | 681 | 2,458 | | | 3,139 | 4,879 |
| 15060 Hangers & Supports | | 203.500 | 13,858 | 42,508 | | | 56,366 | 87,477 |
| 15110 Valves | | | | | | | | |
| 15221.2632 UV Reactor Outlet Piping | 417.00 lf | 82.710 | 5,632 | 89,262 | | | 94,894 | 148,642 |
| 15221.2633 UV Reactor Inlet Piping | 117.00 lf | 342.900 | 23,350 | 189,378 | | | 212,728 | 332,387 |
| 15240.26600 Hydrogen Peroxide Piping | 120.00 lf | 2.618 | 178 | 1,560 | | | 1,738 | 2,717 |
| 15110 Valves | | 428.228 | 29,161 | 280,200 | | | 309,361 | 483,746 |
| 15221 Stainless Steel Pipe | | | | | | | | |
| 15221.2632 UV Reactor Outlet Piping | 417.00 lf | 363.308 | 24,740 | 289,989 | | | 314,729 | 492,522 |
| 15221.2633 UV Reactor Inlet Piping | 117.00 lf | 396.351 | 26,990 | 343,888 | | | 370,878 | 580,558 |
| 15221.2660 UV Reactor Inlet Header | 110.00 lf | 201.354 | 13,743 | 288,224 | 4,160 | | 306,126 | 479,859 |
| 15221 Stainless Steel Pipe | | 961.013 | 65,473 | 922,101 | 4,160 | | 991,734 | 1,552,939 |
| 15240 Plastic Pipe | | | | | | | | |
| 15240.26600 Hydrogen Peroxide Piping | 120.00 lf | 9.072 | 618 | 208 | | | 826 | 1,249 |
| 15240 Plastic Pipe | | 9.072 | 618 | 208 | | | 826 | 1,249 |
| 0090.0010 UV AOP FACILITY | 18.00 MGD | 1,912.813 | 129,762 | 5,619,097 | 10,048 | | 5,758,908 | 9,037,187 |
| 0090.0010A UV AOP SYSTEM STRUCTURE ONLY | | | | | | | | |
| 02300 Earthwork | | | | | | | | |
| 02310.100 Site Earthwork | 1,995.00 cy | | | | | 69,815 | 69,815 | 104,269 |
| 02300 Earthwork | | | | | | 69,815 | 69,815 | 104,269 |
| 03310 Concrete Slab on Grade | | | | | | | | |
| 03310.2605 Building Base Slab | 107.41 cy | 380.584 | 23,949 | 25,612 | 178 | 1,257 | 51,264 | 78,582 |
| 03310 Concrete Slab on Grade | | 380.584 | 23,949 | 25,612 | 178 | 1,257 | 51,264 | 78,582 |
| 03470 Walls | | | | | | | | |
| 03470.2605 Exterior Walls | 113.28 cy | 352.659 | 22,678 | 26,353 | 38 | 647 | 49,983 | 76,715 |
| 03470.2606 Wall Texture | 6,329.00 sf | | | 53,797 | | | 53,797 | 84,515 |
| 03470 Walls | | 352.659 | 22,678 | 80,149 | 38 | 647 | 103,779 | 161,230 |
| 05210 Steel Joist | | | | | | | | |
| 05210.2605 Building Roof Framing | 4,800.00 sf | 59.850 | 4,131 | 26,823 | 1,783 | | 32,737 | 51,110 |
| 05210 Steel Joist | | 59.850 | 4,131 | 26,823 | 1,783 | | 32,737 | 51,110 |
| 05300 Steel Deck | | | | | | | | |
| 05300.2605 Roof Deck | 4,800.00 sf | 144.000 | 9,940 | 28,800 | 4,290 | | 43,030 | 66,829 |
| 05300 Steel Deck | | 144.000 | 9,940 | 28,800 | 4,290 | | 43,030 | 66,829 |
| 07000 Thermal & Moisture Protection | | | | | | | | |
| 07000.2605 EPDM Roofing | 48.00 sq | 211.200 | 14,272 | 21,600 | | | 35,873 | 55,250 |
| 07000 Thermal & Moisture Protection | | 211.200 | 14,272 | 21,600 | | | 35,873 | 55,250 |
| 08000 Doors & Windows | | | | | | | | |
| 08000.2605 Exterior Doors & Windows | 1.00 ls | 63.133 | 3,585 | 10,792 | | 17,280 | 31,658 | 48,117 |
| 08000 Doors & Windows | | 63.133 | 3,585 | 10,792 | | 17,280 | 31,658 | 48,117 |
| 15300 Fire Protection | | | | | | | | |
| 15300.2605 Fire Protection Allowance | 1.00 allw | | | | | 45,600 | 45,600 | 68,104 |
| 15300 Fire Protection | | | | | | 45,600 | 45,600 | 68,104 |
| 15400 Plumbing | | | | | | | | |
| 15400.2605 Plumbing Allowance | 1.00 allw | | | | | 31,200 | 31,200 | 46,597 |
| 15400 Plumbing | | | | | | 31,200 | 31,200 | 46,597 |
| 15500 HVAC | | | | | | | | |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|--|--------------------|------------------|---------------|-----------------|--------------|----------------|-------------------|----------------|
| 15500.2605 HVAC Allowance | 1.00 allw | | | | | 120,000 | 120,000 | 179,220 |
| 15500 HVAC | | | | | | 120,000 | 120,000 | 179,220 |
| 0090.0010A UV AOP SYSTEM STRUCTURE ONLY | 4,800.00 SF | 1,211.426 | 78,556 | 193,777 | 6,289 | 285,800 | 564,957 | 859,309 |
| 0090.0020 CHEMICAL STORAGE AREA #2 (POST TREATMENT) | | | | | | | | |
| 11210 Water Supply & Treatment Pumps | | | | | | | | |
| 70 Chem System-Calcium Chloride | 4.00 ea | 25.663 | 1,680 | 51,395 | 261 | | 53,336 | 83,660 |
| 71 Chem System- Sodium Hydroxide | 4.00 ea | 21.667 | 1,425 | 38,758 | 208 | | 40,391 | 63,343 |
| 11210 Water Supply & Treatment Pumps | | 47.330 | 3,104 | 90,153 | 469 | | 93,726 | 147,003 |
| 13200 Tanks | | | | | | | | |
| 70 Chem System-Calcium Chloride | 4.00 ea | 195.428 | 13,232 | 100,176 | 3,167 | | 116,575 | 182,114 |
| 71 Chem System- Sodium Hydroxide | 3.00 ea | 146.572 | 9,924 | 49,332 | 2,375 | | 61,631 | 96,054 |
| 13200 Tanks | | 342.000 | 23,156 | 149,508 | 5,542 | | 178,206 | 278,168 |
| 15060 Hangers & Supports | | | | | | | | |
| CPVC80 Sch 80 CPVC Pipe & Fittings | 797.00 lf | 53.800 | 3,664 | 7,062 | | | 10,726 | 16,566 |
| PVC80 Sch 80 PVC Pipe & Fittings | 265.00 lf | 10.667 | 726 | 1,760 | | | 2,486 | 3,850 |
| 15060 Hangers & Supports | | 64.466 | 4,390 | 8,822 | | | 13,212 | 20,416 |
| 15110 Valves | | | | | | | | |
| CPVCBFV CPVC Butterfly Valves | 10.00 ea | 13.677 | 1,093 | 5,088 | | | 6,180 | 9,625 |
| CPVCBV CPVC Ball Valves | 14.00 ea | 12.191 | 974 | 774 | | | 1,748 | 2,670 |
| CPVCDV CPVC Diaphragm Valves | 4.00 ea | 5.228 | 418 | 3,680 | | | 4,098 | 6,405 |
| PVCBFV PVC Butterfly Valves | 6.00 ea | 15.206 | 1,215 | 2,405 | | | 3,619 | 5,592 |
| PVCCV PVC Check Valves | 2.00 ea | 1.074 | 86 | 1,104 | | | 1,190 | 1,862 |
| 15110 Valves | | 47.375 | 3,785 | 13,050 | | | 16,835 | 26,154 |
| 15120 Pipe Specialties | | | | | | | | |
| CPVC80 Sch 80 CPVC Pipe & Fittings | 797.00 lf | 6.895 | 473 | 1,121 | | | 1,593 | 2,467 |
| PVC80 Sch 80 PVC Pipe & Fittings | 265.00 lf | 5.384 | 367 | 1,205 | | | 1,572 | 2,441 |
| 15120 Pipe Specialties | | 12.278 | 839 | 2,326 | | | 3,165 | 4,907 |
| 15240 Plastic Pipe | | | | | | | | |
| CPVC80 Sch 80 CPVC Pipe & Fittings | 797.00 lf | 77.360 | 5,268 | 19,155 | 2 | | 24,425 | 37,964 |
| PVC80 Sch 80 PVC Pipe & Fittings | 265.00 lf | 51.989 | 3,540 | 5,576 | 1 | | 9,117 | 14,049 |
| 15240 Plastic Pipe | | 129.348 | 8,808 | 24,731 | 3 | | 33,542 | 52,013 |
| 0090.0020 CHEMICAL STORAGE AREA #2 (POST TREATMENT) | 1.00 LS | 642.798 | 44,083 | 288,590 | 6,014 | | 338,687 | 528,660 |
| 0090.0020A CHEMICAL STORAGE AREA #2 (POST TREATMENT) STRUCTURE ONLY | | | | | | | | |
| 02300 Earthwork | | | | | | | | |
| 02310.100 Site Earthwork | 1,394.82 cy | | | | | 48,819 | 48,819 | 72,911 |
| 02300 Earthwork | | | | | | 48,819 | 48,819 | 72,911 |
| 02600 Drainage & Containment | | | | | | | | |
| CT Chemical Trench | 1.00 ls | 29.511 | 1,859 | | 1,937 | | 3,796 | 5,820 |
| CT - MH Chemical Trench - Manholes | 5.00 ea | 12.815 | 767 | 7,500 | 839 | | 9,106 | 14,246 |
| 02600 Drainage & Containment | | 42.327 | 2,627 | 7,500 | 2,776 | | 12,902 | 20,066 |
| 03000 Concrete | | | | | | | | |
| 03210.100 Reinforcing Steel | 197.63 tn | 1,543.423 | 111,931 | 86,920 | 1,180 | | 200,031 | 305,574 |
| 03300.2602 Chemical Building Slabs/Walls/Foundations | 817.56 cy | 4,121.036 | 247,786 | 135,238 | 1,549 | 11,861 | 396,434 | 602,675 |
| 03000 Concrete | | 5,664.460 | 359,717 | 222,158 | 2,730 | 11,861 | 596,465 | 908,250 |
| 06000 Wood | | | | | | | | |
| FRP - Rail FRP Railing | 710.00 lf | 88.576 | 5,652 | 53,321 | 130 | | 59,102 | 92,412 |
| FRP Stairs FRP Stairs | 383.76 sf | 64.739 | 4,132 | 43,099 | 215 | | 47,445 | 74,217 |
| 06000 Wood | | 153.315 | 9,783 | 96,420 | 345 | | 106,548 | 166,628 |
| 10000 Specialties | | | | | | | | |
| 10520.000 Fire Protection Specialty | 6.00 ea | 9.000 | 612 | 2,100 | | | 2,712 | 4,213 |
| 10000 Specialties | | 9.000 | 612 | 2,100 | | | 2,712 | 4,213 |
| 13000 Special Construction | | | | | | | | |

| Spreadsheet Level | Takeoff Quantity | Labor Man Hrs | Labor Amount | Material Amount | Equip Amount | Sub Amount | Direct Cost Total | Capital Cost |
|---|------------------|---------------|--------------|-----------------|--------------|------------|-------------------|--------------|
| MC Metal Canopy | 5,250.00 sf | | | | | 236,250 | 236,250 | 352,839 |
| 13000 Special Construction | | | | | | 236,250 | 236,250 | 352,839 |
| 0090.0020A CHEMICAL STORAGE AREA #2 (POST TREATMENT) STRUCTURE ONLY | 5,250.00 SF | 5,869.102 | 372,739 | 328,177 | 5,850 | 296,929 | 1,003,696 | 1,524,906 |

Estimate Totals

| Description | Amount | Totals | Hours | Rate | |
|--------------------------------------|-------------------|--------------------|--------------|-------------|-------|
| Labor | 6,343,686 | | 94,581 hrs | | |
| Material | 36,981,879 | | | | |
| Subcontract | 4,181,218 | | | | |
| Equipment | 883,961 | | 13,139 hrs | | |
| Other | 27,082 | | | | |
| | <u>48,417,826</u> | 48,417,826 | | | |
| MOT Allowance | 2,420,891 | | | 5.00 % | |
| Misc Metals Allowance | 968,357 | | | 2.00 % | |
| Painting Allowance | 968,357 | | | 2.00 % | |
| I&C Allowance | 3,873,426 | | | 8.00 % | |
| Electrical Allowance | 8,715,209 | | | 18.00 % | |
| Subtotal Allowance Cost | 16,946,240 | 65,364,066 | | | |
| ----- | | | | | |
| Client Permits | 653,641 | | | 1.00 % | |
| GC General Conditions | 6,294,317 | | | 13.00 % | 5.70% |
| Sales Tax (MEO) | 2,936,701 | | | 7.75 % | |
| Subtotal Capital Cost | 9,884,659 | 75,248,725 | | | |
| Construction Contingency | 22,574,618 | | | 30.00 % | |
| Subtotal Contingency | 22,574,618 | 97,823,343 | | | |
| Contractor Total OH&P | 9,782,334 | | | 10.00 % | |
| Subtotal OH&P | 9,782,334 | 107,605,677 | | | |
| Bldr's Risk Insurance | 215,211 | | | 0.20 % | |
| Gen Liab Insurance | 1,076,057 | | | 1.00 % | |
| GC Bonds | 1,614,085 | | | 1.50 % | |
| Subtotal Insurance & Bond | 2,905,353 | 110,511,030 | | | |
| Engineering & Pre-Construction | | | | | |
| Environmental Documentation | | | | | |
| Construction Management | | | | | |
| Escalation to Mid Point Constr | | | | | |
| Escalation NOT INCLUDED | | | | | |
| Subtotal Escalation | | 110,511,030 | | | |
| Total | | 110,511,030 | | | |

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