

Water Treatment Plant

Site Construction

Sample

Prepared: 5/25/2007

Final Version 1.0

This takeoff has been prepared by *Walsh Estimating Service*, a division of Maracorp International:

Although we have been careful to assure that all items are correct, we make no guarantee beyond the cost of our work. The contractor has the final responsibility for completeness and accuracy in the preparation of his bid.

By acceptance of this takeoff, the purchaser agrees to the following statement:

"I do hereby release and hold harmless Walsh Estimating Service, Maracorp International, Ed Walsh, and his employees from any and all errors and omissions beyond the invoiced value of services rendered."

Prepared For:

Water Plant Constructors

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|-----------|--|------|-------|-------|--------|
| I. | EROSION AND SEDIMENT CONTROL | | | | |
| | General Items | | | | |
| | Construction Entrance Pad, 8" thick | CY | 25 | | |
| | Class 3 Filter Fabric for construction entrance pad | SY | 110 | | |
| | Inlet Filters, (type) | EA | 11 | | |
| | Silt Fence, 30" high with tie backs and reinforcing mesh if required | LF | 460 | | |
| | Super Silt Fence SF-30, 33" high with chain link fence, tension wire and mounted on 2-1/2" galvanized or aluminum posts set 30" deep | LF | 580 | | |
| | Temporary Diversion Channel with downslope berm, 2'-6" deep x 2' bottom width with 2H:1V slopes | LF | 350 | | |
| | Jute or Excelsior Lining for diversion channel | SY | 817 | | |
| | Temporary Rock Filter in swale | EA | 1 | | |
| | Temporary 15" HDPE | LF | 70 | | |
| | Temporary Riser, Perforated as required 24" CMP, 3'+/- high and set in 36" square x 18" thick concrete footing | LS | 1 | | |
| | Trash Rack and Anti Vortex Device, 36" diameter x 27" high with welded top closure | LS | 1 | | |
| | Temporary 18" CMP stub to riser | LF | 10 | | |
| | Pyramat for Sediment Basin Emergency Spillway, 8'-6" wide material (lose 5' per 30' run for key trench), incl 17% for overlap and key trench | SY | 275 | | |
| | High Performance Turf reinforcement Mat (Pyramat or equal) for steep slopes, 8'-6" wide material (lose 5' per 30' run for key trench), incl 17% for overlap and key trench | SY | 7,300 | | |
| | Temporary seeding as required | LS | 1 | | |
| | Sediment Trap | | | | |
| | Area, 12' x 70' | SF | 840 | | |
| | Assume Earth Berm required on 2 sides, 36"+/- high | LF | 82 | | |
| | R-3 Rock Berm, 5' crest width with 12" No.57 stone layer on face | LF | 12 | | |
| | Approximate R-3 Rock | CY | 16 | | |
| | Approximate No. 57 Rock | CY | 3 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|----------|---|-----------|--------------|-------|--------|
| | Temporary Level Spreader | | | | |
| | Length | LF | 25 | | |
| | Excavation, 3'+/- wide x 3' deep | CY | 8 | | |
| | Backfill | CY | 4 | | |
| | Excess (See Mass Earthwork Overall Summary) | CY | 4 | | |
| | Reinforced Concrete Footing, 1'-6" wide x 12" thick | CY | 1 | | |
| | Reinforced Concrete Wall, 2'-0" high x 6" thick | CY | 1 | | |
| | R-4 Rip Rap, 2'-0" wide x 12" thick | CY | 2 | | |
| | Geotextile | SY | 8 | | |
| | Trench Plugs | | | | |
| | Burlap filled sacks, 24" x 12'+/- total height (8" below finish surface) over 24" finished water and 6" force main sewer, approximate trench width 9'+/-, 3 each | CY | 25 | | |
| | Burlap filled sacks, 24" x 9'+/- total height (8" below finish surface) over 24" raw water and 24" waste water, approximate trench width 10'+/-, 3 each | CY | 20 | | |
| | Stream Crossing | | | | |
| | Temporary Cofferdam of earth filled sacks with Class 3 Geotextile lining for 15'+/- crossing and 12" freeboard, 2 uses NOTE: Alternate: Jersey Barrier with impermeable fabric or Portable Dam | LS | 1 | | |
| | Permanent Swale Length | | | | |
| | Swale No. 3, 4' wide | LF | 150 | | |
| | Swale No. 5, 4' wide | LF | 110 | | |
| | Swale No. 6, 6' wide | LF | 80 | | |
| | Swale No. 7, 6' wide | LF | 380 | | |
| | Swale No. 8, 6' wide | LF | 80 | | |
| | Swale No. 9, 6' wide | LF | 260 | | |
| | Swale No. 10, 19' wide | LF | 350 | | |
| | Total = | LF | 1,410 | | |
| | Swale Lining | | | | |
| | Pyramat, 8'-6" wide (lose 5' per 30' run for key trench), incl 17% for overlap and key trench | SY | 1,625 | | |
| | î | î | | | |
| Subtotal | | | | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|-------------|--|-----------|---------------|-------|--------|
| II. | SITE CLEARING AND DEMOLITION | | | | |
| | Clear, Grub and Dispose Trees and Stumps to 10' outside fence line | AC | 0.61 | | |
| | Saw Cut Pavement NOTE: This is included with pavement section below. | LF | | | |
| | Remove Curb NOTE: Contours do not indicate existing curb. | LF | | | |
| Subtotal | | | | | |
| III. | EXCAVATION (All volumes are "Raw" -- no assumptions for swell or compaction) | | | | |
| | DISTURBANCE AREA | SF | 224,913 | | |
| | Disturbance Area, Acres | Acre | 5.16 | | |
| | î | î | | | |
| | Strip Topsoil Areas, 12" thick | CY | 4,165 | | |
| | ***** | | | | |
| | SUBGRADE ASSUMPTIONS: | | | | |
| | Basin and Swale | 0.50' | | | |
| | Pavement Areas | 1.17' | | | |
| | Mass grade landscape and slope areas, excluding plant footprint | 0.50' | | | |
| | Structure Excavation with 4'-6' clearance and 1H:1V slopes | var. | | | |
| | Structure Backfill interior (820 cy is deep tank layback backfill, balance is layback under admin section of building and 3'+/- average fill under slab) | var. | | | |
| | Structure Backfill exterior under landscape | | | | |
| | Final grade around plant, landscape areas | 0.50' | | | |
| | Final grade around plant, pavement areas | 1.17' | | | |
| | ***** | | | | |
| | EARTH CUT: | | | | |
| | Basin and Swale | CY | 2,414 | | |
| | Pavement Areas | CY | 7,468 | | |
| | Mass grade landscape and slope areas, excluding plant footprint | CY | 12,053 | | |
| | Structure Excavation with 4'-6' clearance and 1H:1V slopes | CY | 31,921 | | |
| | Final grade around plant, landscape areas | CY | 1,368 | | |
| | TOTAL EARTH CUT = | CY | 55,224 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|----------|--|-----------|---------------|-------|--------|
| | ROCK CUT: | | | | |
| | Basin and Swale | CY | | | |
| | Pavement Areas | CY | 736 | | |
| | Mass grade landscape and slope areas, excluding plant footprint | CY | 799 | | |
| | Structure Excavation with 4'-6' clearance and 1H:1V slopes | CY | 5,815 | | |
| | TOTAL ROCK CUT = | CY | 7,350 | | |
| | UNCLASSIFIED FILL: | | | | |
| | Basin and Swale | CY | 2,211 | | |
| | Pavement Areas | CY | 144 | | |
| | Mass grade landscape and slope areas, excluding plant footprint | CY | 201 | | |
| | Structure Backfill interior (820 cy is deep tank layback backfill, balance is layback under admin section of building and 3'+/- average fill under slab) | CY | 6,012 | | |
| | Structure Backfill exterior under landscape | CY | 12,328 | | |
| | Final grade around plant, pavement areas | CY | 1,130 | | |
| | TOTAL FILL = | CY | 22,026 | | |
| | ***** | | | | |
| | UNCLASSIFIED EXCESS (BORROW) = | CY | 40,548 | | |
| | ***** | | | | |
| | OVERALL UNCLASSIFIED SUMMARY: | | | | |
| | <i>Unclassified Excess (Borrow)</i> | CY | 40,548 | | |
| | <i>Footing Excavation Excess</i> | CY | 111 | | |
| | <i>Pipe Trench Excess</i> | CY | 4,772 | | |
| | <i>Rip Rap Excess</i> | CY | 98 | | |
| | TOTAL EXCESS (BORROW) = | CY | 45,529 | | |
| | ↑ | ↑ | | | |
| | TOPSOIL SUMMARY: | | | | |
| | Strip Volume | CY | 4,165 | | |
| | Required Volume, 6" thick | CY | 2,717 | | |
| | EXCESS (BORROW) TOPSOIL = | CY | 1,448 | | |
| | ↑ | ↑ | | | |
| Subtotal | | | | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|------------------|--|-----------|---------------|-------|--------|
| III-1. | ROCK BLASTING (AND REMOVAL) - If Required (Unit Price) | | | | |
| | Mass Rock Blasting | CY | 7,350 | | |
| | Trench Rock Blasting (0'-6' deep) | LF | | | |
| | Trench Rock Blasting (6'-9' deep) | LF | | | |
| | Trench Rock Blasting (9'-12' deep) | LF | | | |
| | Trench Rock Blasting (12'-15' deep) | LF | | | |
| | î | î | | | |
| Subtotal | | | | | |
| IV. | ROUGH GRADING AREAS | | | | |
| Important | NOTE: Pavement and Landscape areas from Agtek printout are not to be used for exact quantities (e.g. curbed islands and sidewalks are usually included within pavement/landscape surface areas) | | | | |
| | Grading Areas | | | | |
| | Basin and Swale | SY | 5,868 | | |
| | Pavement Areas | SY | 4,675 | | |
| | Mass grade landscape and slope areas, excluding plant footprint | SY | 6,076 | | |
| | Structure Excavation with 4'-6' clearance and 1H:1V slopes | SY | 5,349 | | |
| | Structure Backfill interior (820 cy is deep tank layback backfill, balance is layback under admin section of building and 3'+/- average fill under slab) | SY | 1,959 | | |
| | Structure Backfill exterior under landscape | SY | 2,846 | | |
| | Final grade around plant, landscape areas | SY | 5,112 | | |
| | Final grade around plant, pavement areas | SY | 1,478 | | |
| | adjust for overlapping area | SY | (33,362) | | |
| | Disturbance Area | SY | 24,990 | | |
| | Total = | SY | 24,991 | | |
| | <i>check</i> | <i>SY</i> | <i>24,990</i> | | |
| Subtotal | | | | | |
| V. | TOPSOIL REDISTRIBUTION AREA | | | | |
| | Topsoil Redistribution | SY | 16,316 | | |
| | Seed and Mulch | SY | 16,316 | | |
| Subtotal | | | | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|-------------|--|------|--------|-------|--------|
| VI. | BUILDING EXCAVATION | | | | |
| | Area Reference | | | | |
| | Carbon Feed Building Area (for reference only) | SF | 600 | | |
| | Water Plant Area (for reference only) | SF | 33,125 | | |
| | Stone Under Slab | | | | |
| | Stone Under Slab, _" thick | SF | 33,125 | | |
| | Carbon Building and Chemical/Admin Building Footing Excavation and Backfill | | | | |
| | Excavation | CY | 339 | | |
| | Backfill | CY | 228 | | |
| | Excess (See Mass Earthwork Overall Summary) | CY | 111 | | |
| | ↑ | ↑ | | | |
| Subtotal | | | | | |
| | | | | | |
| VII. | SANITARY SEWER | | | | |
| | Pipe Excavation and Bedding | | | | |
| | Excavation | CY | 1,750 | | |
| | Bedding -- Assume 6" thick and 12" cover | CY | 320 | | |
| | Select Backfill | CY | 290 | | |
| | Common Backfill | CY | 1,129 | | |
| | Excess (See Mass Earthwork Overall Summary) | CY | 621 | | |
| | 12" thick Clay Cap in Roosevelt Street | CY | 11 | | |
| | Services | | | | |
| | 4" Cleanout Assembly with Neenah H20 Cast Iron Frame and Cover set on concrete slab, 6" thick | EA | 3 | | |
| | 4" PVC Lateral in pavement (0'-4' deep) | LF | 210 | | |
| | Pipe | | | | |
| | <i>NOTE: Install sewer force main prior to installation of remaining water pipelines.</i> | | | | |
| | 4" restrained joint DIP Force Main (6'-8' deep) | LF | 50 | | |
| | 6" restrained joint DIP Force Main (6'-8' deep) | LF | 300 | | |
| | 6" restrained joint DIP Force Main down stream banks (6'-8' deep) | LF | 45 | | |
| | 6" restrained joint DIP Force Main in existing paved driveway (6'-8' deep) | LF | 12 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|--|---|-----------|--------------|-------|--------|
| | 6" restrained joint DIP Force Main in Spring Creek (6'-8' deep) | LF | 15 | | |
| | 6" restrained joint DIP Force Main (8'-10' deep) | LF | 110 | | |
| | 6" restrained joint DIP Force Main (10'-12' deep) | LF | 478 | | |
| | 6" restrained joint DIP Force Main in Roosevelt Street pavement (12'-14' deep) | LF | 75 | | |
| | 6" restrained joint DIP Force Main (14'-16' deep) | LF | 100 | | |
| | 6" restrained joint DIP Force Main in pavement (12'-14' deep) | LF | 75 | | |
| | Total = | LF | 1,260 | | |
| | <i>pipe check</i> | | <i>1,260</i> | | |
| | Fittings and Valves | | | | |
| | 4" PVC 22-1/2 degree Bend vertical | EA | 2 | | |
| | 4" x 4" x 4" PVC Wye | EA | 3 | | |
| | 4" DIP 22-1/2 degree Bend vertical | EA | 1 | | |
| | 4" DIP 45 degree Bend horizontal | EA | 1 | | |
| | 6" DIP 45 degree Bend horizontal | EA | 7 | | |
| | 6" DIP 45 degree Bend vertical | EA | 4 | | |
| | 6" x 6" x 6" DIP Wye | EA | 1 | | |
| | 6" DIP 11-1/4 degree Bend horizontal | EA | 2 | | |
| | 6" DIP 22-1/2 degree Bend horizontal | EA | 2 | | |
| | 6" DIP 22-1/2 degree Bend vertical | EA | 1 | | |
| | 6" x 6" x 6" Tapping Sleeve and Valve | EA | 1 | | |
| | 6" Wet Tap | EA | 1 | | |
| | Total = | EA | 26 | | |
| | <i>structure check</i> | | <i>26</i> | | |
| | Meter Manhole | | | | |
| | 4'-0" diameter x 6'-6" deep Precast Concrete with flat slab top, Neenah R-1916-D manhole frame with bolted and gasketed cover and 4" concrete fill sloped to sump | EA | 1 | | |
| | 4" Flanged Adapter with anchor studs | EA | 2 | | |
| | 4" Mag Meter | EA | 1 | | |
| | Pump Station | | | | |
| | 6'-0" diameter x 10' deep Precast Concrete with flat slab top for H2O loading, 16"+/- riser, and Bilco J-4AL Double Door Access Hatch | LS | 1 | | |
| | Duplex Pumps and Controls with 2" discharge and check valves | EA | 2 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|--------------|--|------|-------|-------|--------|
| | Concrete Encasement | | | | |
| | Concrete Encasement | LF | 60 | | |
| | Hand Placed R-5 Volume, 36" thick in earth | CY | 20 | | |
| | ∑ | ∑ | | | |
| Subtotal | | | | | |
| | | | | | |
| VIII. | RAW WATER, FINISHED WATER, SERVICE WATER AND WASTEWATER | | | | |
| | Pipe Excavation and Bedding | | | | |
| | Excavation | CY | 7,410 | | |
| | Bedding -- Assume 6" thick and 12" cover | CY | 1,950 | | |
| | 2RC Select Backfill | CY | 1,200 | | |
| | Common Backfill | CY | 3,747 | | |
| | Excess (See Mass Earthwork Overall Summary) | CY | 3,663 | | |
| | 12" thick Clay Cap in Roosevelt Street | CY | 33 | | |
| | Raw Water Sample Pipe | | | | |
| | 3/4" Copper B-RWS laid in trench with 24" raw water | LF | 28 | | |
| | Plant Service Water | | | | |
| | 2" Service Water, assume copper (4'-6' deep) | LF | 85 | | |
| | 4" restrained joint DIP in pavement (4'-6' deep) | LF | 65 | | |
| | Water Supply | | | | |
| | 2-1/2" restrained joint DIP (6'-8' deep) | LF | 50 | | |
| | 4" restrained joint DIP (6'-8' deep) | LF | 35 | | |
| | 4" restrained joint DIP in existing gravel driveway (6'-8' deep) | LF | 170 | | |
| | 4" restrained joint DIP in existing paved driveway (6'-8' deep) | LF | 211 | | |
| | 4" DIP Drain (6'-8' deep) | LF | 45 | | |
| | Raw Water Pipe | | | | |
| | 16" restrained joint DIP in existing paved driveway (0'-6' deep) | LF | 37 | | |
| | 24" restrained joint DIP (0'-6' deep) | LF | 75 | | |
| | 24" restrained joint DIP (6'-8' deep) | LF | 360 | | |
| | 24" restrained joint DIP in existing paved driveway (6'-8' deep) | LF | 145 | | |
| | 24" restrained joint DIP in pavement (0'-6' deep) | LF | 175 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|--|--|-----------|--------------|-------|--------|
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (0'-6' deep) | LF | 325 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (6'-8' deep) | LF | 200 | | |
| | 24" restrained joint DIP in Roosevelt Street pavement (6'-8' deep) | LF | 100 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (8'-10' deep) | LF | 210 | | |
| | Total = | LF | 1,627 | | |
| | <i>pipe check</i> | | <i>1,627</i> | | |
| | Finished Water Pipe | | | | |
| | 6" restrained joint DIP (6'-8' deep) | LF | 10 | | |
| | 24" restrained joint DIP (6'-8' deep) | LF | 105 | | |
| | 24" restrained joint DIP in existing paved driveway (6'-8' deep) | LF | 32 | | |
| | 24" restrained joint DIP Force Main down stream banks (6'-8' deep) | LF | 50 | | |
| | 24" restrained joint DIP Force Main in Spring Creek (6'-8' deep) | LF | 15 | | |
| | 24" restrained joint DIP (8'-10' deep) | LF | 58 | | |
| | 24" restrained joint DIP (12'-14' deep) | LF | 42 | | |
| | 24" restrained joint DIP in pavement (0'-6' deep) | LF | 70 | | |
| | 24" restrained joint DIP in pavement (12'-14' deep) | LF | 35 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (0'-6' deep) | LF | 145 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (6'-8' deep) | LF | 265 | | |
| | 24" restrained joint DIP in common trench in Roosevelt Street (WMH No. 3 to WMH No.6) (6'-8' deep) | LF | 60 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (8'-10' deep) | LF | 260 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (10'-12' deep) | LF | 65 | | |
| | Total = | LF | 1,212 | | |
| | <i>pipe check</i> | | <i>1,212</i> | | |
| | Wastewater Pipe | | | | |
| | 24" restrained joint DIP (0'-6' deep) | LF | 38 | | |
| | 24" restrained joint DIP in existing paved driveway (0'-6' deep) | LF | 12 | | |
| | 24" restrained joint DIP (16'-18' deep) | LF | 65 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|--|--|-------------------|--------------|--------------|--------|
| | 24" restrained joint DIP (20'-22' deep) | LF | 65 | | |
| | 24" restrained joint DIP (24'-26' deep) | LF | 40 | | |
| | 24" restrained joint DIP in pavement (18'-20' deep) | LF | 140 | | |
| | 24" restrained joint DIP in common trench in existing paved driveway (WMH No. 3 to WMH No.6) (8'-10' deep) | LF | 40 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (8'-10' deep) | LF | 340 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (10'-12' deep) | LF | 89 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (12'-14' deep) | LF | 103 | | |
| | 24" restrained joint DIP in common trench in Roosevelt Street (WMH No. 3 to WMH No.6) (12'-14' deep) | LF | 65 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (14'-16' deep) | LF | 33 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (16'-18' deep) | LF | 33 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (18'-20' deep) | LF | 33 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (20' -22' deep) | LF | 33 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (22' 24' deep) | LF | 33 | | |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (24'-26' deep) | LF | 33 | | |
| | Total = | LF | 1,195 | | |
| | | <i>pipe check</i> | | <i>1,195</i> | |
| | ↑ | <i>check</i> | | <i>4,723</i> | |
| | Pipe Summary | | | | |
| | 3/4" Copper Sample Line | LF | 28 | | |
| | 2" (Assume) Copper Plant Service | LF | 85 | | |
| | 2-1/2" restrained joint DIP (6'-8' deep) | LF | 50 | | |
| | 4" restrained joint DIP Plant Service | LF | 526 | | |
| | 6" restrained joint DIP | LF | 10 | | |
| | 16" restrained joint DIP | LF | 37 | | |
| | 24" restrained joint DIP | LF | 3,987 | | |
| | | LF | 4,723 | | |
| | ↑ | <i>check</i> | | <i>4,723</i> | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|------------|--|------|-------|-------|--------|
| | Testing and Sterilization | | | | |
| gal per ft | NOTE: Assume all pipe is required to be tested and sterilized. | | | | |
| | Flushing and Testing, 3/4" | LF | 28 | | |
| 0.006 | Flushing and Testing, 2" | LF | 85 | | |
| 0.009 | Flushing and Testing, 2-1/2" | LF | 50 | | |
| 0.025 | Flushing and Testing, 4" | LF | 526 | | |
| 0.054 | Flushing and Testing, 6" | LF | 10 | | |
| 0.390 | Flushing and Testing, 16" | LF | 37 | | |
| 0.870 | Flushing and Testing, 24" | LF | 3,987 | | |
| | Gallons required to fill all pipe one time | GAL | 3,490 | | |
| | Concrete Encasement | | | | |
| | Concrete Encasement | LF | 60 | | |
| | R-5 Volume, 36" thick in earth | CY | 20 | | |
| | Fittings | | | | |
| | 3/4" Corporation Stop | EA | 1 | | |
| | 3/4" Curb Stop Valve and Box | EA | 1 | | |
| | 4" 45 degree Bend horizontal for drain | EA | 1 | | |
| | 4" Flap Valve for drain | EA | 1 | | |
| | 4" x 2" Reducer | EA | 1 | | |
| | 4" x 2-1/2" Reducer | EA | 1 | | |
| | 6" x 4" Reducer | EA | 1 | | |
| | 24" x 16" Reducer | EA | 2 | | |
| | 16" Solid Sleeve NOTE: This will be installed on existing pipeline near Pump Station No. 2. | EA | 1 | | |
| | 2" 45 degree Bend horizontal | EA | 2 | | |
| | 2" 90 degree Bend horizontal | EA | 1 | | |
| | 2-1/2" 90 degree Bend horizontal | EA | 1 | | |
| | 4" 22-1/2 degree Bend horizontal | EA | 2 | | |
| | 4" 45 degree Bend horizontal | EA | 2 | | |
| | 16" 11-1/4 degree Bend horizontal NOTE: One of these will be installed on existing effluent pipeline near Pump Station No. 2, which is part of cut and cap operation. | EA | 2 | | |
| | 16" 45 degree Bend vertical | EA | 1 | | |
| | 16" 90 degree Bend horizontal | EA | 1 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|--|---|-----------|-----------|-------|--------|
| | 24" 11-1/4 degree Bend horizontal | EA | 5 | | |
| | 24" 22-1/2 degree Bend horizontal | EA | 4 | | |
| | 24" 22-1/2 degree Bend vertical | EA | 2 | | |
| | 24" 45 degree Bend horizontal | EA | 12 | | |
| | 24" 45 degree Bend vertical | EA | 3 | | |
| | 24" 90 degree Bend horizontal | EA | 2 | | |
| | 4" x 4" x 2-1/2" Tee | EA | 1 | | |
| | 16" x 16" x 16" Tee NOTE: One of these will be installed on existing pipeline near Pump Station No. 2. | EA | 2 | | |
| | 24" x 24" x 6" Tee | EA | 2 | | |
| | 24" x 24" x 24" Tee | EA | 1 | | |
| | Total = | EA | 56 | | |
| | <i>structure check</i> | | <i>56</i> | | |
| | Structures | | | | |
| | Manholes, 4' diameter (10'-12' deep) | EA | 4 | | |
| | Manholes, 4' diameter (12'-14' deep) | EA | 1 | | |
| | Manholes, 4' diameter (16'-18' deep) | EA | 1 | | |
| | Manholes, 4' diameter (22'-24' deep) | EA | 1 | | |
| | Manholes, 4' diameter (24'-26' deep) | EA | 1 | | |
| | Outfall No. 1 for 24" Wastewater pipe, 6'-6" x 8'-0" with Baffle Wall, 3'-6" deep key wall and 3/4" steel bar barrier NOTE: See detail on plan C9 - assume quantified by Contractor (cast in place concrete) | EA | 1 | | |
| | Total = | EA | 9 | | |
| | <i>structure check</i> | | <i>9</i> | | |
| | Valves | | | | |
| | 2" Gate Valve and Box (for post hydrant - not scheduled, shown only in plan view and detail) | EA | 1 | | |
| | 2-1/2" Gate Valve and Box (for post hydrant - not scheduled, shown only in plan view and detail) | EA | 1 | | |
| | 6" Gate Valve and Box (for fire hydrant - not scheduled, shown only in plan view and detail) | EA | 1 | | |
| | 4" Gate Valve and Box Valve | EA | 1 | | |
| | 16" Butterfly Valve and Box | EA | 4 | | |
| | 16" x 16" x 16" Tapping Sleeve and Valve | EA | 1 | | |
| | 16" Wet Tap | EA | 1 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|--|---|------|-------|-------|--------|
| | Hydrants | | | | |
| | Post Hydrants with 2" Nozzle | EA | 1 | | |
| | Post Hydrants with 2-1/2" Nozzle | EA | 1 | | |
| | Fire Hydrants | EA | 1 | | |
| | Cut and Cap Existing 16" Pump Station No. 2 Effluent Line | | | | |
| | Shut Down and Drain existing 16" raw water line as needed | LS | 1 | | |
| | Cut existing 16" DIP main NOTE: One location is at tee and one is 25'+/- from the tee toward Spring Creek | EA | 2 | | |
| | Install short spool into bell end of existing main, cap with 16" cap, clamp with 4 3/4" tie rods and concrete encase cap and stub | LS | 1 | | |
| | Remove 16" DIP if required (assume 10'+/- deep) | LF | 25 | | |
| | Cut Existing 16" Raw Water Main to install New Connections at Raw Water Pump Station No. 2 | | | | |
| | NOTE: Fittings are included in the above tabulation. | | | | |
| | Shut Down and Drain existing 16" raw water line as needed | LS | 1 | | |
| | Cut existing 16" DIP main | EA | 2 | | |
| | Remove 16" DIP (assume 10'+/- deep) | LF | 20 | | |
| | Water Supply Meter Manhole | | | | |
| | 4'-0" diameter x 7'-0" deep Precast Concrete with flat slab top, Neenah R-1916-D manhole frame with bolted and gasketed cover and 4" concrete fill sloped to sump | EA | 1 | | |
| | 4" Flanged Adapter with anchor studs | EA | 2 | | |
| | 4" Turbine Meter | EA | 1 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|----------|---|------|-------|-------|--------|
| | Raw Water Meter Chamber | | | | |
| | 8'-0" x 14'-0" I.D. x 8'-0" deep Precast Concrete vault with steps and flat slab top for H2O loading, 3'-0" x 3'-0" Bilco J-4AL Double Door Access Hatch and 3" minimum concrete fill sloped to sump, set on 12" stone base | EA | 1 | | |
| | Precast Blockout, 26"+/- x 36"+/- in concrete chamber for 4" chemical feed containment lines | EA | 1 | | |
| | Precast Blockout, 26"+/- x 46"+/- in concrete chamber for 4" chemical feed containment lines | EA | 1 | | |
| | Concrete Fill and Modular Wall Seal for 4" pipe | EA | 12 | | |
| | Concrete Fill and Modular Wall Seal for 6" pipe | EA | 2 | | |
| | 1-1/2" Insulation on upper portion of interior walls and ceiling | SF | 288 | | |
| | 6" PVC Vent Riser set 2'-0" above ground with SS Insect Screen | EA | 1 | | |
| | High Level Probe for sump pump | EA | 1 | | |
| | Raw Water Flow Transmitter | EA | 1 | | |
| | Blended Raw Water Sample Pump | EA | 1 | | |
| | Chemical Feed connections, drilled and tapped into 24" pipe | EA | 6 | | |
| | Chemical Feed line supports | EA | 6 | | |
| | 2" Combination air vacuum/release valve, drilled and tapped into 24" pipe | EA | 1 | | |
| | Chemical Containment Pipe End Assembly, consisting of 4" pipe flange, 4" blind flange tapped for 1/4" plug and 1" IPS Appleton Liquid Cord Connector | EA | 12 | | |
| | Chemical Containment Pipe End Assembly, consisting of 6" pipe flange, 6" blind flange tapped for 1/4" plug and 1" IPS Appleton Liquid Cord Connector | EA | 2 | | |
| | 24" Raw Water Flow Meter | EA | 1 | | |
| | 24" Flanged Adapter with anchor studs | EA | 1 | | |
| | Spool Piece, 24" diameter x 7'-0" long, PE x flange | EA | 1 | | |
| | Spool Piece, 24" diameter x 3'-6" long, PE x flange | EA | 2 | | |
| | Concrete Support block for 24" pipe | EA | 1 | | |
| | Modular Wall Seal for 24" pipe | EA | 2 | | |
| | î | î | | | |
| Subtotal | | | | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|-----------------|--|------|-------|-------|--------|
| IX. | CHEMICAL LINES | | | | |
| | Pipe Excavation and Bedding | | | | |
| | Excavation | CY | 78 | | |
| Concrete | Concrete Encasement -- 6" thick and 6" cover | CY | 16 | | |
| | Select Backfill | CY | 61 | | |
| | Common Backfill | CY | | | |
| | Excess (See Mass Earthwork Overall Summary) | CY | 78 | | |
| | Reference Information | | | | |
| | <i>Conduit Bank A (8-4" PVC lines)</i> | | | | |
| | <i>Conduit Bank B (4-4" PVC lines and 2-6" PVC lines)</i> | | | | |
| | Chemical Conduits A and B | | | | |
| | Trenching for conduit bank | LF | 94 | | |
| | 4" PVC Containment Pipe | LF | 704 | | |
| | 6" PVC Containment Pipe | LF | 24 | | |
| | 1" Clear Reinforced Carrier Tubing inside chemical manhole NOTE: Does tubing go through containment pipes? - if so, add appropriate amount | LF | 40 | | |
| | Reinforced Concrete Encasement A, 26" x 46" | LF | 82 | | |
| | Reinforced Concrete Encasement B, 26" x 36" | LF | 12 | | |
| | Chemical Manhole | | | | |
| | 5'-0" x 5'-0" I.D. x 8'-0" deep Precast Concrete vault with steps and flat slab top for H2O loading, 2'-6" x 2'-6" Bilco J-2AL Double Door Access Hatch and 6" minimum concrete fill sloped to sump, set on 12" stone base | EA | 1 | | |
| | Precast Blockout, 26"+/- x 46"+/- in concrete chamber for 4" chemical feed containment lines | EA | 2 | | |
| | Modular Wall Seal for 4" pipe | EA | 16 | | |
| | Chemical Containment Pipe End Assembly, consisting of 4" pipe flange, 4" blind flange tapped for 1/4" plug and 1" IPS Appleton Liquid Cord Connector | EA | 16 | | |
| | Chemical Resistant Coating | SF | 160 | | |
| | ∑ | ∑ | | | |
| Subtotal | | | | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|-----------|---|-----------|--------------|-------|--------|
| X. | STORM SYSTEM | | | | |
| | <i>NOTE: Downspout connection count has not been included - unable to locate on plan.</i> | | | | |
| | Pipe Excavation and Bedding | | | | |
| | Excavation | CY | 620 | | |
| | Bedding -- Assume 6" thick and 12" cover | CY | 280 | | |
| | 2RC Select Backfill in pavement areas | CY | 80 | | |
| | Common Backfill | CY | 210 | | |
| | Excess (See Mass Earthwork Overall Summary) | CY | 410 | | |
| | Pipe | | | | |
| | 6" PVC (0'-4' deep) | LF | 77 | | |
| | 12" HDPE in pavement (0'-4' deep) | LF | 93 | | |
| | 12" HDPE (4'-6' deep) | LF | 161 | | |
| | 12" HDPE in pavement (6'-8' deep) | LF | 80 | | |
| | 12" HDPE (6'-8' deep) | LF | 13 | | |
| | 15" HDPE in pavement (0'-4' deep) | LF | 60 | | |
| | 15" HDPE (0'-4' deep) | LF | 45 | | |
| | 15" HDPE (4'-6' deep) | LF | 146 | | |
| | 18" RCP in pavement (0'-4' deep) | LF | 48 | | |
| | 18" HDPE in pavement (0'-4' deep) | LF | 25 | | |
| | 18" HDPE (0'-4' deep) | LF | 162 | | |
| | 18" HDPE (4'-6' deep) | LF | 100 | | |
| | Total = | LF | 1,010 | | |
| | <i>pipe check</i> | | <i>1,010</i> | | |
| | Structures | | | | |
| | End Section for Temporary 15" HDPE at Second Street entrance | EA | 1 | | |
| | End Section for 15" HDPE | EA | 1 | | |
| | End Section for 18" HDPE | EA | 2 | | |
| | 6" Cleanout Assembly with Neenah H20 Cast Iron Frame and Cover set on concrete slab, 6" thick | EA | 1 | | |
| | 2'-6" x 4'-0" Inlet with Neenah R-3401 Frame and Grate (0'-4' deep), 3" minimum concrete fill | EA | 5 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|--|--|-----------|-----------|-------|--------|
| | 2'-6" x 4'-0" Inlet with Neenah R-3401 Frame and Grate (4'-6" deep including 3'-0" sump required for oil debris hood), 3" minimum concrete fill | EA | 2 | | |
| | 2'-6" x 4'-0" Inlet with Neenah R-3401 Frame and Grate (4'-6" deep), 3" minimum concrete fill | EA | 2 | | |
| | 2'-6" x 4'-0" Inlet with Neenah R-3401 Frame and Grate (6'-8" deep), 3" minimum concrete fill | EA | 2 | | |
| | 6" PVC Downspout Connection Assembly with (2) 45 degree Bends and PVC Boot Cleanout "T" Branch | EA | | | |
| | Manholes, 4' diameter (3' deep) | EA | 1 | | |
| | Manholes, 4' diameter (15' deep) | EA | 1 | | |
| | Outlet Structure, 2'-6" x 5'-0" x 6'+/- deep with 3" minimum concrete fill, 2'-0" x 6'-0" x 1/4" steel orifice plate and watertight vault lid with handle | EA | 1 | | |
| | Total = | EA | 19 | | |
| | <i>structure check</i> | | <i>19</i> | | |
| | Oil Debris Hood | | | | |
| | Plastic Composite Oil Debris Hood for 15" pipe | EA | 1 | | |
| | Plastic Composite Oil Debris Hood for 18" pipe | EA | 1 | | |
| | Trench Drain | | | | |
| | Concrete Flow Chamber, 4'-0" wide I.D., sloped 4'-6" to 5'-6" deep with 8" walls | LF | 48 | | |
| | Neenah Frame and Grate, R-4990-OX (Type A) | LF | 48 | | |
| | Chemical Resistant Coating | SF | 712 | | |
| | Spill Containment Chamber | | | | |
| | 4'-0" x 4'-0" I.D. x 7'-0" deep Precast Concrete vault with steps and flat slab top for H2O loading, 2'-6" x 2'-6" Bilco J-2AL Double Door Access Hatch and 3" minimum concrete fill sloped to sump, set on 12" stone base | EA | 1 | | |
| | Precast or Core Bore concrete chamber for (2) 1/4" copper air lines | EA | 1 | | |
| | Modular Wall Seal for 2-1/4" pipe | EA | 1 | | |
| | Precast or Core Bore concrete chamber for 6" PVC line | EA | 1 | | |
| | Modular Wall Seal for 6" pipe | EA | 1 | | |
| | 6" PVC Ball Valve (Pneumatic operated) with Control Panel | EA | 1 | | |
| | Double 1/4" Copper Air Line | LF | 190 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|----------|--|------|-------|-------|--------|
| | Underdrain | | | | |
| | 6" Perforated PVC Underdrain | LF | 265 | | |
| | Excavation, 2'-0" wide x 8'+/- deep | CY | 157 | | |
| | Clean Stone | CY | 155 | | |
| | Geotextile Wrap | SY | 648 | | |
| | <u>RIP RAP</u> | | | | |
| | R-3 Rip Rap for Storm Pond Emergency Spillway | | | | |
| | Area | SY | 140 | | |
| | Excavation for Rip Rap | CY | 46 | | |
| | R-3 Volume, 12" thick | CY | 46 | | |
| | Type II Geotextile | SY | 146 | | |
| | R-4 Rip Rap | | | | |
| | Rip Rap Area | SY | 11 | | |
| | Excavation for Rip Rap | CY | 6 | | |
| | R-4 Volume, 18" thick | CY | 6 | | |
| | Filter Fabric | SY | 11 | | |
| | R-5 Rip Rap | | | | |
| | R-5 Area | SY | 25 | | |
| | Excavation for Rip Rap | CY | 17 | | |
| | R-5 Volume, 24" thick | CY | 17 | | |
| | Filter Fabric | SY | 25 | | |
| | R-6 Rip Rap | | | | |
| | R-6 Area | SY | 35 | | |
| | Excavation for Rip Rap | CY | 29 | | |
| | R-6 Volume, 30" thick | CY | 29 | | |
| | Filter Fabric | SY | 35 | | |
| | ↑ | ↑ | | | |
| | <i>Rip Rap Summary:</i> | | | | |
| | <i>Area</i> | SY | 211 | | |
| | <i>Excavation for Rip Rap</i> | CY | 98 | | |
| | <i>Rip Rap Volume</i> | CY | 98 | | |
| | <i>Filter Fabric</i> | SY | 217 | | |
| | ↑ | ↑ | | | |
| Subtotal | | | | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|------------|---|-----------|------------|-------|--------|
| XI. | CONCRETE | | | | |
| | Sidewalk | | | | |
| | Reinforced Concrete, 4" thick with 6 x 6 W2.9 x W2.9 WWM | SF | 1,558 | | |
| | Stone Base, 4" thick | SF | 1,558 | | |
| | Miscellaneous Pad Reference Information | | | | |
| | <i>4'-0" x 10'-0" at carbon feed facility</i> | SF | 40 | | |
| | <i>8'-0" x 7'-7" at loading dock</i> | SF | 61 | | |
| | <i>7'-7" x 15'-0" at loading dock</i> | SF | 105 | | |
| | <i>4'-0" x 4'-0" at loading dock</i> | SF | 16 | | |
| | <i>4'-0" x 4'-0" at north side of plant</i> | SF | 16 | | |
| | Total = | SF | 238 | | |
| | Miscellaneous Pads | | | | |
| | Reinforced Concrete, 4" thick with 6 x 6 W2.9 x W2.9 WWM | SF | 238 | | |
| | Stone Base, 4" thick | SF | 238 | | |
| | Transformer Pads - if required under this contract | | | | |
| | Reinforced Concrete, 4" thick with 6 x 6 W2.9 x W2.9 WWM | SF | 98 | | |
| | Stone Base, 4" thick | SF | 98 | | |
| | Meter Cabinet Pad - if required under this contract | | | | |
| | Reinforced Concrete, 4" thick with 6 x 6 W2.9 x W2.9 WWM | SF | 36 | | |
| | Stone Base, 4" thick | SF | 36 | | |
| | Generator Pad - if required under this contract | | | | |
| | Reinforced Concrete, assume 4" thick with 6 x 6 W2.9 x W2.9 WWM | SF | 240 | | |
| | Stone Base, 4" thick | SF | 240 | | |
| | Chiller Pad - if required under this contract | | | | |
| | Reinforced Concrete, assume 4" thick with 6 x 6 W2.9 x W2.9 WWM | SF | 40 | | |
| | Stone Base, 4" thick | SF | 40 | | |
| | Concrete Paving at Trench Drain | | | | |
| | Reinforced Concrete, 8" thick with 6 x 6 W2.9 x W2.9 WWM | SF | 1,216 | | |
| | Stone Base, 8" thick | SF | 1,216 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|-------------|--|------|-------|-------|--------|
| | Dumpster Pad | | | | |
| | Reinforced Concrete, 8" thick with 6 x 6 W2.9 x W2.9 WWM | SF | 288 | | |
| | Stone Base, 8" thick | SF | 288 | | |
| | Miscellaneous Concrete | | | | |
| | Precast Wheel Stops | EA | 7 | | |
| | î | î | | | |
| Subtotal | | | | | |
| | | | | | |
| XII. | PAVEMENT | | | | |
| | Access Road | | | | |
| | Fine Grade and Compact Subgrade | SY | 3,679 | | |
| | 2A Stone Base Course, 8" thick | SY | 3,679 | | |
| | Bituminous Concrete Base Course, 4" thick | SY | 3,679 | | |
| | ID-2 Bituminous Wearing Course, 2" thick | SY | 3,679 | | |
| | Road A | | | | |
| | Fine Grade and Compact Subgrade | SY | 639 | | |
| | 2A Stone Base Course, 6" thick | SY | 639 | | |
| | Bituminous Concrete Base Course, 4" thick | SY | 639 | | |
| | ID-2 Bituminous Wearing Course, 2" thick | SY | 639 | | |
| | Type 1I Shoulder Upgrade | | | | |
| | Saw Cut existing pavement and Seal Joint | LF | 800 | | |
| | Fine Grade and Compact Subgrade | SY | 711 | | |
| | 2A Stone Base Course, 6" thick | SY | 711 | | |
| | Bituminous Concrete Base Course, 4" thick | SY | 711 | | |
| | ID-3 Bituminous Wearing Course, 1-1/2" thick | SY | 711 | | |
| | 4" Pavement Base Drain | LF | 800 | | |
| | 4" Pavement Base Drain Outlet | LF | 105 | | |
| | î | î | | | |
| Subtotal | | | | | |
| | | | | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|--------------|--|------|-------|-------|--------|
| XIII. | PAVING REMOVAL AND REPLACEMENT FOR UTILITIES | | | | |
| | Temporary Pavement | | | | |
| | Install and Remove Temporary Paving, 2" thick | SY | 780 | | |
| | Roosevelt Street and Type 6 Shoulder | | | | |
| | Saw Cut Pavement, full depth | LF | 140 | | |
| | Saw Cut Pavement, trim back | LF | 140 | | |
| | Pavement Removal, Assume 40' wide | SY | 310 | | |
| | Fine Grade and Compact Subgrade | SY | 310 | | |
| | Bituminous Concrete Base Course, 4" thick | SY | 310 | | |
| | ID-2 Bituminous Wearing Course, 1-1/2" thick | SY | 310 | | |
| | Driveway Pavement | | | | |
| | Saw Cut Pavement, full depth | LF | 52 | | |
| | Saw Cut Pavement, trim back | LF | 52 | | |
| | Pavement Removal, 20' width at Second Street/Roosevelt intersection and assume full replacement from westerly limit pipe crossing to end at water plant pump station | SY | 470 | | |
| | Fine Grade and Compact Subgrade | SY | 470 | | |
| | Bituminous Concrete Base Course, 4" thick | SY | 470 | | |
| | ID-2 Bituminous Wearing Course, 1-1/2" thick | SY | 470 | | |
| | Gravel Driveway at Lehigh River Site | | | | |
| | Fine Grade and Compact Subgrade | SY | 600 | | |
| | 2A Stone Base Course, 5" thick | SY | 600 | | |
| | ↑ | ↑ | | | |
| Subtotal | | | | | |
| XIV. | STRIPING AND SIGNS | | | | |
| | Striping | | | | |
| | Striping Parking Spaces | EA | 7 | | |
| | Striping Crosshatch Area (including lines and spaces) | SF | 144 | | |
| | Striping Handicap Logo | EA | 1 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|------------|--|------|-------|-------|--------|
| | Signs | | | | |
| | Stop Sign (R1-1), 24" | EA | 2 | | |
| | No Parking Sign | EA | 1 | | |
| | Handicap Parking Sign with Van Accessible and Penalty Signs | EA | 1 | | |
| | Directional Sign, 2'-6" x 3'-6" | EA | 1 | | |
| | 2" Square Aluminum Post 7'-0" exposed with 2'-6" set in concrete footing | EA | 5 | | |
| | î | î | | | |
| | Subtotal | | | | |
| | | | | | |
| XV. | FENCE, GUIDERAIL AND MISCELLANEOUS | | | | |
| | Fence around New Plant | | | | |
| | 7' Chain Link Fence with 1'-0" high barbed wire top, 9 gauge fabric | LF | 1,734 | | |
| | Man Gate, 3' wide with 1'-0" high barbed wire top, 9 gauge fabric | EA | 1 | | |
| | Double Gate, 12' wide with 1'-0" high barbed wire top, 9 gauge fabric | EA | 1 | | |
| | Cantilevered Sliding Gate, 40'-0" wide with 1'-0" high barbed wire top, 9 gauge fabric on 28'-0" (12'-0" length has no fabric) | EA | 1 | | |
| | Gate Operator with 2 lop detectors | LS | 1 | | |
| | Fence around Generator at Lehigh River | | | | |
| | 7' Chain Link Fence with 1'-0" high barbed wire top, 9 gauge fabric | LF | 168 | | |
| | Double Gate, 12' wide with 1'-0" high barbed wire top, 9 gauge fabric | EA | 1 | | |
| | Bollards | | | | |
| | Pipe Bollard, 6" diameter concrete filled with 2 reflective bands around top, 4'-0" exposed and 3'-0" set in 4'-0" deep concrete footing at Carbon Feed Building | EA | 2 | | |
| | Pipe Bollard, 6" diameter concrete filled with 2 reflective bands around top, 4'-0" exposed and 3'-0" set in 4'-0" deep concrete footing at water plant electric transformer | EA | 6 | | |
| | Pipe Bollard, 6" diameter concrete filled with 2 reflective bands around top, 4'-0" exposed and 3'-0" set in 4'-0" deep concrete footing at generator station | EA | 3 | | |

| | ITEM | UNIT | QUANT | PRICE | AMOUNT |
|-------------|--|------|-------|-------|--------|
| | Miscellaneous | | | | |
| | Bike Rack, 4 unit capacity, "Bike Up" Executive Rack TM | EA | 1 | | |
| | Flagpole | EA | 1 | | |
| | ↑ | ↑ | | | |
| Subtotal | | | | | |
| | | | | | |
| XVI. | LANDSCAPE RESTORATION IN NON MASS EARTHWORK AREAS | | | | |
| | Combination trench, length | LF | 825 | | |
| | Combination trench, assume 40'+/- wide | SY | 3,660 | | |
| | ↑ | ↑ | | | |
| Subtotal | | | | | |
| | | | | | |
| | | | | | |
| | TOTAL | | | | |
| | | | | | |

Water Plant
plan dated 12/2003

| | |
|-------------|------------|
| Takeoff by: | T. O'Neill |
| Summary by: | R. Decker |
| Checked by: | R. Decker |
| Date: | 5/25/2007 |

Agtek File: WTP Mass 1.0, WTP SDtr EX 1.1, WTP Fnl 1.1

(See Note 1)

| | Subgrade | DISTURBANCE AREA & STRIPPING | | | | | RAW C | |
|--|----------|------------------------------|----------------|----------------|-------------|--------------|---------------|--------------|
| | | Cut, Surface | Fill, Surface | Total | Area | 6" Strip | Cut Earth | Cut Rock |
| | | SF | SF | SF | Acres | BCY | BCY | BCY |
| ALL AREAS | | | | | | | | |
| Basin and Swale | 0.50' | 21,933 | 30,882 | 52,815 | 1.21 | 978 | 2,414 | 0 |
| Pavement Areas | 1.17' | 35,750 | 6,321 | 42,071 | 0.97 | 779 | 7,468 | 736 |
| Mass grade landscape and slope areas, excluding plant footprint | 0.50' | 44,196 | 10,488 | 54,684 | 1.26 | 1,013 | 12,053 | 799 |
| Structure Excavation with 4'-6' clearance and 1H:1V slopes | var. | 48,143 | 0 | 48,143 | 1.11 | 892 | 31,921 | 5,815 |
| Structure Backfill interior (820 cy is deep tank layback backfill, balance is layback under admin section of building and 3'+/- average fill under slab) | var. | 0 | 17,627 | 17,627 | 0.40 | 326 | 0 | 0 |
| Structure Backfill exterior under landscape | 0.00' | 0 | 25,610 | 25,610 | 0.59 | 474 | 0 | 0 |
| Final grade around plant, landscape areas | 0.50' | 10,082 | 35,925 | 46,007 | 1.06 | 852 | 1,368 | 0 |
| Final grade around plant, pavement areas | 1.17' | 0 | 13,300 | 13,300 | 0.31 | 246 | 0 | 0 |
| <i>adjust for overlapping area</i> | | 0 | 0 | (300,257) | (6.89) | (5,560) | 0 | 0 |
| <i>Disturbance Area</i> | | 0 | 0 | 224,913 | 5.16 | 4,165 | 0 | 0 |
| ∑ | | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 |
| TOTALS | | 160,104 | 140,153 | 224,913 | 5.18 | 4,165 | 55,224 | 7,350 |

NOTES:

Total Ex

1 TOPSOIL volumes are NOT included in the RAW and ADJUSTED cut & fill volumes. All earth volumes are calculated, after

| | | |
|--------------------------------|-------|-------|
| Redistribute Topsoil, 6" thick | 0 | SY |
| • Topsoil Required | 6" | 0 BCY |
| • Excess (Borrow) Topsoil | 4,165 | BCY |

2 The last column shows the approximate finish grade adjustment required to achieve a balanced site.

3 Pavement areas above are not to be used for exact pavement areas -- e.g. islands are sometimes included within paveme

| | | |
|---|----------------------------------|-----------------|
| Abbreviations: BCY = bank cubic yards (or Raw Volumes) SF = square feet LCY = loose cubic yards (swell factor) B.O.C. = bottom of concrete CCY = compacted cubic yards (#,###) = negative number SG = subgrade AS = as shown | Earth_Swell | 1.189 |
| | Rock_Swell | 1.500 |
| | (Compaction & Swell Assumptions) | |
| | BCY% | 88.00% Existing |
| LCY% | 74.00% Swelled | |

See Note 2

| UT & FILL VOLUMES | | | VOLUMES ADJUSTED FOR SWELL & COMPACTION ASSUMPTIONS | | | | | | Approx. Grade |
|----------------------------|---------------|---------------|---|---------------|------------|-------------------|---------------|----------------|-------------------|
| | | | Earth | Rock | Proposed | LOOSE CUBIC YARDS | | | |
| Total Cut | Fill | Balance | Swell | Swell | Compaction | Cut | Fill | Balance | Adjust to Balance |
| BCY | BCY | BCY | 1.189 | 1.500 | Percent | LCY | LCY Required | LCY | |
| 2,414 | 2,211 | 203 | 2,870 | 0 | 95.00% | 2,870 | 2,838 | 32 | + 0.02' |
| 8,204 | 144 | 8,060 | 8,879 | 1,104 | 95.00% | 9,983 | 185 | 9,798 | + 6.29' |
| 12,852 | 201 | 12,651 | 14,331 | 1,199 | 95.00% | 15,530 | 258 | 15,272 | + 7.54' |
| 37,736 | 0 | 37,736 | 37,954 | 8,723 | 95.00% | 46,677 | 0 | 46,677 | + 26.18' |
| 0 | 6,012 | (6,012) | 0 | 0 | 95.00% | 0 | 7,718 | (7,718) | - 11.82' |
| 0 | 12,328 | (12,328) | 0 | 0 | 95.00% | 0 | 15,826 | (15,826) | - 16.68' |
| 1,368 | 0 | 1,368 | 1,627 | 0 | 90.00% | 1,627 | 0 | 1,627 | + 0.95' |
| 0 | 1,130 | (1,130) | 0 | 0 | 95.00% | 0 | 1,451 | (1,451) | - 2.95' |
| 0 | 0 | 0 | 0 | 0 | 90.00% | 0 | 0 | 0 | + 0.00' |
| 0 | 0 | 0 | 0 | 0 | 90.00% | 0 | 0 | 0 | + 0.00' |
| 0 | 0 | 0 | 0 | 0 | 90.00% | 0 | 0 | 0 | |
| 62,574 | 22,026 | 40,548 | 65,661 | 11,026 | | 76,687 | 28,276 | 48,411 | + 5.81' |
| Excess topsoil = | | 4,165 | Excess topsoil swelled 25% = | | | | 5,206 | | |
| Excess (Borrow) Material = | | 44,713 | Total Excess (Borrow) Material = | | | | 53,617 | + 6.44' | |

or stripping and to proposed subgrade.

This takeoff has been prepared by Walsh Estimating Service, a division of Maracorp International:

Although we have been careful to assure that all items are correct, we make no guarantee beyond the cost of our work. The contractor has the final responsibility for completeness and accuracy in the preparation of his bid.

By acceptance of this takeoff, the purchaser agrees to the following statement:

"I do hereby release and hold harmless Walsh Estimating Service, Maracorp International, Ed Walsh, and his employees from any and all errors and omissions beyond the invoiced value of services rendered."

ent earthwork areas.

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | | |
|---|-----------------------|--------|-----------|------------|------------------------|--------------|-----------------|------------|--------------|-------|----------|-----------|-----------------|--------------|--------|
| | Water Treatment Plant | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| Sample | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY | |
| Prepared: 5/25/2007 | | | | | | | | | | | | | | | |
| <p>This takeoff has been prepared by <i>Walsh Estimating Service</i>, a division of Maracorp International:</p> <p>Although we have been careful to assure that all items are correct, we make no guarantee beyond the cost of our work. The contractor has the final responsibility for completeness and accuracy in the preparation of his bid.</p> <p>By acceptance of this takeoff, the purchaser agrees to the following statement:</p> <p>"I do hereby release and hold harmless Walsh Estimating Service, Maracorp International, Ed Walsh, and his employees from any and all errors and omissions beyond the invoiced value of services rendered."</p> | | | | | | | | | | | | | | | |
| I. SANITARY SEWER PIPE EXCAVATION | | | | | | | | | | | | | | | |
| Services | | | | | | | | | | | | | | | |
| 4" PVC Lateral in pavement (0'-4' deep) | 210 | 4.0 | 4" | 12.0" | 2.33 | 72 | 6" | 100% | 12" | 33 | 1 | 38 | 0 | 72 | |
| Pipe | | | | | | | | | | | | | | | |
| NOTE: Install sewer force main prior to installation of remaining water pipelines. | | | | | | | | | | | | | | | |
| 4" restrained joint DIP Force Main (6'-8' deep) | 50 | 8.0 | 4" | 12.0" | 2.33 | 35 | 6" | 100% | 12" | 8 | 0 | 0 | 27 | 8 | |
| 6" restrained joint DIP Force Main (6'-8' deep) | 300 | 8.0 | 6" | 12.0" | 2.50 | 222 | 6" | 100% | 12" | 53 | 2 | 0 | 167 | 55 | |
| 6" restrained joint DIP Force Main down stream banks (6'-8' deep) | 45 | 8.0 | 6" | 12.0" | 2.50 | 33 | 6" | 100% | 12" | 8 | 0 | 0 | 25 | 8 | |
| 6" restrained joint DIP Force Main in existing paved driveway (6'-8' deep) | 12 | 8.0 | 6" | 12.0" | 2.50 | 9 | 6" | 100% | 12" | 2 | 0 | 7 | 0 | 9 | |

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| Water Treatment Plant | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | |
|--|-------------|-----------|----------|------------------------|--------------|-----------------|------------|--------------|-------|------------|-----------|-----------------|--------------|------------|
| | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| Sample | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY |
| 6" restrained joint DIP Force Main in Spring Creek (6'-8' deep) | 15 | 8.0 | 6" | 12.0" | 2.50 | 11 | 6" | 100% | 12" | 3 | 0 | 8 | 0 | 11 |
| 6" restrained joint DIP Force Main (8'-10' deep) | 110 | 10.0 | 6" | 18.0" | 3.50 | 143 | 6" | 100% | 12" | 28 | 1 | 0 | 114 | 29 |
| 6" restrained joint DIP Force Main (10'-12' deep) | 478 | 12.0 | 6" | 18.0" | 3.50 | 744 | 6" | 100% | 12" | 120 | 3 | 0 | 621 | 123 |
| 6" restrained joint DIP Force Main in Roosevelt Street pavement (12'-14' deep) | 75 | 14.0 | 6" | 18.0" | 3.50 | 136 | 6" | 100% | 12" | 19 | 1 | 116 | 0 | 136 |
| 6" restrained joint DIP Force Main (14'-16' deep) | 100 | 16.0 | 6" | 18.0" | 3.50 | 207 | 6" | 100% | 12" | 25 | 1 | 0 | 181 | 26 |
| 6" restrained joint DIP Force Main in pavement (12'-14' deep) | 75 | 14.0 | 6" | 18.0" | 3.50 | 136 | 6" | 100% | 12" | 19 | 1 | 116 | 0 | 136 |
| î | 0 | 0.0 | 0" | 12.0" | 2.00 | 0 | 6" | 100% | 12" | 0 | 0 | 0 | 0 | 0 |
| Excavation | 1748 | CY | | | | 1748 | | | | 318 | 10 | 285 | 1135 | 613 |
| Bedding | 318 | CY | | | | | | | | | | | | |
| Select Backfill | 285 | CY | | | | | | | | | | | | |
| Common Backfill | 1135 | CY | | | | | | | | | | | | |
| Excess | 613 | CY | | | | | | | | | | | | |

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| | Water Treatment Plant | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | |
|------------|--|--------|-----------|----------|------------------------|--------------|-----------------|------------|--------------|-------|---------|----------|-----------------|--------------|--------|
| | | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| Sample | | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY |
| II. | WATER PIPE EXCAVATION | | | | | | | | | | | | | | |
| | Plant Service Water | | | | | | | | | | | | | | |
| | 2" Service Water, assume copper (4'-6' deep) | 85 | 6.0 | 2" | 12.0" | 2.17 | 41 | 6" | 100% | 12" | 11 | 0 | 0 | 30 | 11 |
| | 4" restrained joint DIP in pavement (4'-6' deep) | 65 | 6.0 | 4" | 12.0" | 2.33 | 34 | 6" | 100% | 12" | 10 | 0 | 24 | 0 | 34 |
| | Water Supply | | | | | | | | | | | | | | |
| | 2-1/2" restrained joint DIP (6'-8' deep) | 50 | 8.0 | 2" | 12.0" | 2.17 | 32 | 6" | 100% | 12" | 7 | 0 | 0 | 25 | 7 |
| | 4" restrained joint DIP (6'-8' deep) | 35 | 8.0 | 4" | 12.0" | 2.33 | 24 | 6" | 100% | 12" | 5 | 0 | 0 | 19 | 5 |
| | 4" restrained joint DIP in existing gravel driveway (6'-8' deep) | 170 | 8.0 | 4" | 12.0" | 2.33 | 117 | 6" | 100% | 12" | 26 | 1 | 90 | 0 | 117 |
| | 4" restrained joint DIP in existing paved driveway (6'-8' deep) | 211 | 8.0 | 4" | 12.0" | 2.33 | 146 | 6" | 100% | 12" | 33 | 1 | 112 | 0 | 146 |
| | 4" DIP Drain (6'-8' deep) | 45 | 8.0 | 4" | 12.0" | 2.33 | 31 | 6" | 100% | 12" | 7 | 0 | 0 | 24 | 7 |
| | Raw Water Pipe | | | | | | | | | | | | | | |
| | 16" restrained joint DIP in existing paved driveway (0'-6' deep) | 37 | 6.0 | 16" | 12.0" | 3.33 | 27 | 6" | 100% | 12" | 11 | 2 | 14 | 0 | 27 |
| | 24" restrained joint DIP (0'-6' deep) | 75 | 6.0 | 24" | 12.0" | 4.00 | 67 | 6" | 100% | 12" | 30 | 9 | 0 | 28 | 39 |
| | 24" restrained joint DIP (6'-8' deep) | 360 | 8.0 | 24" | 12.0" | 4.00 | 427 | 6" | 100% | 12" | 145 | 42 | 0 | 240 | 187 |

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| | Water Treatment Plant | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | |
|--|---|--------|-----------|----------|------------------------|--------------|-----------------|------------|--------------|-------|---------|----------|-----------------|--------------|--------|
| | | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| | Sample | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY |
| | 24" restrained joint DIP in existing paved driveway (6'-8' deep) | 145 | 8.0 | 24" | 12.0" | 4.00 | 172 | 6" | 100% | 12" | 58 | 17 | 97 | 0 | 172 |
| | 24" restrained joint DIP in pavement (0'-6' deep) | 175 | 6.0 | 24" | 12.0" | 4.00 | 156 | 6" | 100% | 12" | 70 | 20 | 66 | 0 | 156 |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (0'-6' deep) | 325 | 6.0 | 24" | 12.0" | 4.00 | 289 | 6" | 100% | 12" | 131 | 38 | 0 | 120 | 169 |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (6'-8' deep) | 200 | 8.0 | 24" | 12.0" | 4.00 | 237 | 6" | 100% | 12" | 80 | 23 | 0 | 134 | 103 |
| | 24" restrained joint DIP in Roosevelt Street pavement (6'-8' deep) | 100 | 8.0 | 24" | 12.0" | 4.00 | 119 | 6" | 100% | 12" | 40 | 12 | 67 | 0 | 119 |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (8'-10' deep) | 210 | 10.0 | 24" | 18.0" | 5.00 | 389 | 6" | 100% | 12" | 112 | 24 | 0 | 253 | 136 |
| | Finished Water Pipe | | | | | | | | | | | | | | |
| | 6" restrained joint DIP (6'-8' deep) | 10 | 8.0 | 6" | 12.0" | 2.50 | 7 | 6" | 100% | 12" | 2 | 0 | 0 | 5 | 2 |
| | 24" restrained joint DIP (6'-8' deep) | 105 | 8.0 | 24" | 12.0" | 4.00 | 124 | 6" | 100% | 12" | 42 | 12 | 0 | 70 | 54 |
| | 24" restrained joint DIP in existing paved driveway (6'-8' deep) | 32 | 8.0 | 24" | 12.0" | 4.00 | 38 | 6" | 100% | 12" | 13 | 4 | 21 | 0 | 38 |
| | 24" restrained joint DIP Force Main down stream banks (6'-8' deep) | 50 | 8.0 | 24" | 12.0" | 4.00 | 59 | 6" | 100% | 12" | 20 | 6 | 0 | 33 | 26 |

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| | Water Treatment Plant | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | |
|--|--|--------|-----------|----------|------------------------|--------------|-----------------|------------|--------------|-------|---------|----------|-----------------|--------------|--------|
| | | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| | Sample | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY |
| | 24" restrained joint DIP Force Main in Spring Creek (6'-8' deep) | 15 | 8.0 | 24" | 12.0" | 4.00 | 18 | 6" | 100% | 12" | 6 | 2 | 10 | 0 | 18 |
| | 24" restrained joint DIP (8'-10' deep) | 58 | 10.0 | 24" | 18.0" | 5.00 | 107 | 6" | 100% | 12" | 31 | 7 | 0 | 69 | 38 |
| | 24" restrained joint DIP (12'-14' deep) | 42 | 14.0 | 24" | 18.0" | 5.00 | 109 | 6" | 100% | 12" | 22 | 5 | 0 | 82 | 27 |
| | 24" restrained joint DIP in pavement (0'-6' deep) | 70 | 6.0 | 24" | 12.0" | 4.00 | 62 | 6" | 100% | 12" | 28 | 8 | 26 | 0 | 62 |
| | 24" restrained joint DIP in pavement (12'-14' deep) | 35 | 14.0 | 24" | 18.0" | 5.00 | 91 | 6" | 100% | 12" | 19 | 4 | 68 | 0 | 91 |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (0'-6' deep) | 145 | 6.0 | 24" | 12.0" | 4.00 | 129 | 6" | 100% | 12" | 58 | 17 | 0 | 54 | 75 |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (6'-8' deep) | 265 | 8.0 | 24" | 12.0" | 4.00 | 314 | 6" | 100% | 12" | 107 | 31 | 0 | 176 | 138 |
| | 24" restrained joint DIP in common trench in Roosevelt Street (WMH No. 3 to WMH No.6) (6'-8' deep) | 60 | 8.0 | 24" | 12.0" | 4.00 | 71 | 6" | 100% | 12" | 24 | 7 | 0 | 40 | 31 |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (8'-10' deep) | 260 | 10.0 | 24" | 18.0" | 5.00 | 481 | 6" | 100% | 12" | 138 | 30 | 0 | 313 | 168 |
| | 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (10'-12' deep) | 65 | 12.0 | 24" | 18.0" | 5.00 | 144 | 6" | 100% | 12" | 35 | 8 | 0 | 101 | 43 |

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| Water Treatment Plant | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | |
|--|--------|-----------|----------|------------------------|--------------|-----------------|------------|--------------|-------|---------|----------|-----------------|--------------|--------|
| | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| Sample | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY |
| Wastewater Pipe | | 0.0 | | | | | | | | | | | | |
| 24" restrained joint DIP (0'-6' deep) | 38 | 6.0 | 24" | 12.0" | 4.00 | 34 | 6" | 100% | 12" | 15 | 4 | 0 | 15 | 19 |
| 24" restrained joint DIP in existing paved driveway (0'-6' deep) | 12 | 6.0 | 24" | 12.0" | 4.00 | 11 | 6" | 100% | 12" | 5 | 1 | 5 | 0 | 11 |
| 24" restrained joint DIP (16'-18' deep) | 65 | 18.0 | 24" | 18.0" | 5.00 | 217 | 6" | 100% | 12" | 35 | 8 | 0 | 174 | 43 |
| 24" restrained joint DIP (20'-22' deep) | 65 | 22.0 | 24" | 18.0" | 5.00 | 265 | 6" | 100% | 12" | 35 | 8 | 0 | 222 | 43 |
| 24" restrained joint DIP (24'-26' deep) | 40 | 26.0 | 24" | 18.0" | 5.00 | 193 | 6" | 100% | 12" | 21 | 5 | 0 | 167 | 26 |
| 24" restrained joint DIP in pavement (18'-20' deep) | 140 | 20.0 | 24" | 18.0" | 5.00 | 519 | 6" | 100% | 12" | 74 | 16 | 429 | 0 | 519 |
| 24" restrained joint DIP in common trench in existing paved driveway (WMH No. 3 to WMH No.6) (8'-10' deep) | 40 | 10.0 | 24" | 18.0" | 5.00 | 74 | 6" | 100% | 12" | 21 | 5 | 48 | 0 | 74 |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (8'-10' deep) | 340 | 10.0 | 24" | 18.0" | 5.00 | 630 | 6" | 100% | 12" | 181 | 40 | 0 | 409 | 221 |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (10'-12' deep) | 89 | 12.0 | 24" | 18.0" | 5.00 | 198 | 6" | 100% | 12" | 47 | 10 | 0 | 141 | 57 |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (12'-14' deep) | 103 | 14.0 | 24" | 18.0" | 5.00 | 267 | 6" | 100% | 12" | 55 | 12 | 0 | 200 | 67 |
| 24" restrained joint DIP in common trench in Roosevelt Street (WMH No. 3 to WMH No.6) (12'-14' deep) | 65 | 14.0 | 24" | 18.0" | 5.00 | 169 | 6" | 100% | 12" | 35 | 8 | 126 | 0 | 169 |

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| Water Treatment Plant | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | |
|---|-------------|-----------|----------|------------------------|--------------|-----------------|------------|--------------|-------|-------------|------------|-----------------|--------------|-------------|
| | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| Sample | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (14'-16' deep) | 33 | 16.0 | 24" | 18.0" | 5.00 | 98 | 6" | 100% | 12" | 18 | 4 | 0 | 76 | 22 |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (16'-18' deep) | 33 | 18.0 | 24" | 18.0" | 5.00 | 110 | 6" | 100% | 12" | 18 | 4 | 0 | 88 | 22 |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (18'-20' deep) | 33 | 20.0 | 24" | 18.0" | 5.00 | 122 | 6" | 100% | 12" | 18 | 4 | 0 | 100 | 22 |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (20' -22' deep) | 33 | 22.0 | 24" | 18.0" | 5.00 | 134 | 6" | 100% | 12" | 18 | 4 | 0 | 112 | 22 |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (22' 24' deep) | 33 | 24.0 | 24" | 18.0" | 5.00 | 147 | 6" | 100% | 12" | 18 | 4 | 0 | 125 | 22 |
| 24" restrained joint DIP in common trench (WMH No. 3 to WMH No.6) (24'-26' deep) | 33 | 26.0 | 24" | 18.0" | 5.00 | 159 | 6" | 100% | 12" | 18 | 4 | 0 | 137 | 22 |
| ∩ | 0 | 0.0 | 0" | 12.0" | 2.00 | 0 | 6" | 100% | 12" | 0 | 0 | 0 | 0 | 0 |
| Excavation | 7409 | CY | | | | 7409 | | | | 1953 | 471 | 1203 | 3782 | 3627 |
| Bedding | 1953 | CY | | | | | | | | | | | | |
| Select Backfill | 1203 | CY | | | | | | | | | | | | |
| Common Backfill | 3782 | CY | | | | | | | | | | | | |
| Excess | 3627 | CY | | | | | | | | | | | | |

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| | Water Treatment Plant | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | |
|-----------------------------------|-----------------------|------------|-----------|----------|------------------------|--------------|-----------------|------------|--------------|-------|------------|-----------|-----------------|--------------|------------|
| | | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| Sample | | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY |
| III. STORM PIPE EXCAVATION | | | | | | | | | | | | | | | |
| 6" PVC (0'-4' deep) | | 77 | 4.0 | 6" | 12.0" | 2.50 | 29 | 6" | 100% | 12" | 14 | 1 | 0 | 14 | 15 |
| 12" HDPE in pavement (0'-4' deep) | | 93 | 4.0 | 12" | 12.0" | 3.00 | 41 | 6" | 100% | 12" | 23 | 3 | 15 | 0 | 41 |
| 12" HDPE (4'-6' deep) | | 161 | 6.0 | 12" | 12.0" | 3.00 | 107 | 6" | 100% | 12" | 40 | 5 | 0 | 62 | 45 |
| 12" HDPE in pavement (6'-8' deep) | | 80 | 8.0 | 12" | 12.0" | 3.00 | 71 | 6" | 100% | 12" | 20 | 2 | 49 | 0 | 71 |
| 12" HDPE (6'-8' deep) | | 13 | 8.0 | 12" | 12.0" | 3.00 | 12 | 6" | 100% | 12" | 3 | 0 | 0 | 9 | 3 |
| 15" HDPE in pavement (0'-4' deep) | | 60 | 4.0 | 15" | 12.0" | 3.25 | 29 | 6" | 100% | 12" | 17 | 3 | 9 | 0 | 29 |
| 15" HDPE (0'-4' deep) | | 45 | 4.0 | 15" | 12.0" | 3.25 | 22 | 6" | 100% | 12" | 13 | 2 | 0 | 7 | 15 |
| 15" HDPE (4'-6' deep) | | 146 | 6.0 | 15" | 12.0" | 3.25 | 105 | 6" | 100% | 12" | 42 | 7 | 0 | 56 | 49 |
| 18" RCP in pavement (0'-4' deep) | | 48 | 4.0 | 18" | 12.0" | 3.50 | 25 | 6" | 100% | 12" | 16 | 3 | 6 | 0 | 25 |
| 18" HDPE in pavement (0'-4' deep) | | 25 | 4.0 | 18" | 12.0" | 3.50 | 13 | 6" | 100% | 12" | 8 | 2 | 3 | 0 | 13 |
| 18" HDPE (0'-4' deep) | | 162 | 4.0 | 18" | 12.0" | 3.50 | 84 | 6" | 100% | 12" | 52 | 11 | 0 | 21 | 63 |
| 18" HDPE (4'-6' deep) | | 100 | 6.0 | 18" | 12.0" | 3.50 | 78 | 6" | 100% | 12" | 32 | 7 | 0 | 39 | 39 |
| ∩ | | 0 | 0.0 | 0" | 12.0" | 2.00 | 0 | 6" | 100% | 12" | 0 | 0 | 0 | 0 | 0 |
| Excavation | | 616 | CY | | | | 616 | | | | 280 | 46 | 82 | 208 | 408 |
| Bedding | | 280 | CY | | | | | | | | | | | | |
| Select Backfill | | 82 | CY | | | | | | | | | | | | |
| Common Backfill | | 208 | CY | | | | | | | | | | | | |
| Excess | | 408 | CY | | | | | | | | | | | | |

Water Plant Site Sample.xls Pipe Excav Worksheet 1.0

| | Water Treatment Plant | INPUTS | | | EXCAVATION | | | BEDDING | | | | BACKFILL | | | |
|------------|---|-----------|-----------|----------|------------------------|--------------|-----------------|------------|--------------|-------|-----------|----------|-----------------|--------------|-----------|
| | | Length | Avg Depth | Pipe Dia | Trench Limits per side | Trench Width | Excavate Volume | Under Pipe | % pipe cover | cover | Bed Vol | Pipe Vol | Select Backfill | Com'n B'fill | Excess |
| | Sample | LF | FT | IN | IN | FT | CY | IN | % | IN | CY | CY | CY | CY | CY |
| IV. | CHEMICAL LINES | | | | | | | | | | | | | | |
| | Reinforced Concrete Encasement A, 26" x 46" | 82 | 6.0 | 4" | 6.0" | 3.83 | 70 | 6" | 100% | 6" | 14 | 1 | 55 | 0 | 70 |
| | Reinforced Concrete Encasement B, 26" x 36" | 12 | 6.0 | 4" | 6.0" | 3.00 | 8 | 6" | 100% | 6" | 2 | 0 | 6 | 0 | 8 |
| | î | 0 | 0.0 | 0" | 12.0" | 2.00 | 0 | 6" | 100% | 12" | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | | | |
| | Excavation | 78 | CY | | | | 78 | | | | 16 | 1 | 61 | 0 | 78 |
| | Concrete | 16 | CY | | | | | | | | | | | | |
| | Select Backfill | 61 | CY | | | | | | | | | | | | |
| | Common Backfill | 0 | CY | | | | | | | | | | | | |
| | Excess | 78 | CY | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

| | | STATIONS | | | | | | | | TOTAL |
|-------------------------------------|----------------------------|----------|---------|--------|-------|---------|-------|-----|--------|-----------|
| Ref | Description | From | To | Length | Width | Radius | Count | Add | Deduct | AREA (SF) |
| <u>Access Road Pavement:</u> | | | | | | | | | | |
| p. 0 | Access Road | 0+00.00 | 0+80.00 | 80.00 | 24' | r = 50' | 2 | 0 | 0 | 2,995 |
| p. 0 | Access Road | 0+80.00 | 1+60.00 | 80.00 | 26' | r = 0' | 0 | 0 | 0 | 2,080 |
| p. 0 | Access Road | 1+60.00 | 2+13.00 | 53.00 | 24' | r = 0' | 0 | 0 | 0 | 1,272 |
| p. 0 | Access Road | 2+13.00 | 2+70.00 | 57.00 | 26' | r = 0' | 0 | 0 | 0 | 1,482 |
| p. 0 | Access Road | 2+70.00 | 7+11.00 | 441.00 | 24' | r = 20' | 1 | 0 | 0 | 10,670 |
| p. 0 | Access Road Parking | 6+07.00 | 6+77.00 | 70.00 | 18' | r = 10' | 2 | 0 | 0 | 1,303 |
| p. 0 | Access Road Unloading Area | 7+11.00 | 8+11.00 | 100.00 | 147' | r = 0' | 0 | 0 | 1,392 | 13,308 |
| p. 0 | | 0+00.00 | 0+00.00 | 0.00 | 0' | r = 0' | 0 | 0 | 0 | 0 |
| | | | | | | | | | | |
| | | | | 881.00 | | | | | | 33,110 |
| <u>Road A Pavement:</u> | | | | | | | | | | |
| p. 0 | Road A | 0+12.00 | 1+93.00 | 181.00 | 20' | r = 30' | 2 | 0 | 0 | 4,007 |
| p. 0 | Road A spur | 0+10.00 | 0+78.00 | 68.00 | 20' | r = 30' | 2 | 0 | 0 | 1,747 |
| | | | | | | | | | | |
| | | | | 249.00 | | | | | | 5,754 |

| CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • CONCRETE • | | | | | | | | | | | | | | | | | |
|---|------------------------------|----------------|----------------------|------------|--------|--------|-----|-------------|------------|-----------|------------|----------------|-------------|-------------|----------------|-------------|---------------|
| REF | DESCRIPTION | Subgrade Elev. | Top of Footing Elev. | DIMENSIONS | | | Qty | Volume (CY) | EXCAVATION | | | | | BACKFILL | | | |
| | | | | Width | Length | Height | | | Depth | Width Add | Length Add | Footing length | Excav. (CY) | Wall thick. | Footing Deduct | Wall Deduct | Backfill (CY) |
| | Water Treatment Plant | | | | | | | | | | | | | | | | |
| | Prepared: 5/25/2007 | | | | | | | | | | | | | | | | |
| <p>This takeoff has been prepared by Walsh Estimating Service, a division of Maracorp International:</p> <p>Although we have been careful to assure that all items are correct, we make no guarantee beyond the cost of our work. The contractor has the final responsibility for completeness and accuracy in the preparation of his bid.</p> <p>By acceptance of this takeoff, the purchaser agrees to the following statement:</p> <p><i>I do hereby release and hold harmless Walsh Estimating Service, Maracorp International, Ed Walsh, and his employees from any and all errors and omissions beyond the invoiced value of services rendered.</i></p> | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

| REF | DESCRIPTION | Subgrade Elev. | Top of Footing Elev. | DIMENSIONS | | | | Volume (CY) | EXCAVATION | | | | | BACKFILL | | | |
|--------------------------------|-----------------------|----------------|----------------------|------------|--------|--------|-----|-------------|------------|-----------|------------|----------------|-------------|-------------|----------------|-------------|---------------|
| | | | | Width | Length | Height | Qty | | Depth | Width Add | Length Add | Footing length | Excav. (CY) | Wall thick. | Footing Deduct | Wall Deduct | Backfill (CY) |
| Carbon Feed Building | | | | | | | | | | | | | | | | | |
| | Footing for 6" slab | | | 2.00 | 12.00 | 1.00 | 2 | 1.78 | 2.50 | 2.50 | 0.00 | 24.00 | 10.00 | 12.0" | (1.78) | (1.33) | 6.89 |
| | Footing for 6" slab | | | 2.00 | 20.00 | 1.00 | 1 | 1.48 | 2.50 | 2.50 | 0.00 | 20.00 | 8.33 | 12.0" | (1.48) | (1.11) | 5.74 |
| | Footing for 24" slab | | | 3.00 | 12.00 | 1.50 | 1 | 2.00 | 1.50 | 1.50 | 0.00 | 12.00 | 3.00 | 12.0" | (2.00) | 0.00 | 1.00 |
| | Footing for 24" slab | | | 2.00 | 20.00 | 1.50 | 2 | 4.44 | 1.50 | 1.50 | 0.00 | 40.00 | 7.78 | 12.0" | (4.44) | 0.00 | 3.34 |
| | Footing for 24" slab | | | 2.00 | 20.00 | 1.50 | 1 | 2.22 | 1.50 | 1.50 | 0.00 | 20.00 | 3.89 | 12.0" | (2.22) | 0.00 | 1.67 |
| | | | | 0.00 | 0.00 | 0.00 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.0" | 0.00 | 0.00 | 0.00 |
| | Subtotal = | | | | | | | 12 | | | | 116 | 33 | | (12) | (2) | 19 |
| Chemical/Admin Building | | | | | | | | | | | | | | | | | |
| | Perimeter | 407.00 | 405.50 | 3.00 | 265.00 | 1.00 | 1 | 29.44 | 2.50 | 2.50 | 0.00 | 265.00 | 134.95 | 12.0" | (29.44) | (14.72) | 90.79 |
| | Interior | 407.00 | 405.50 | 3.00 | 18.50 | 1.00 | 1 | 2.06 | 2.50 | 2.50 | 0.00 | 18.50 | 9.42 | 12.0" | (2.06) | (1.03) | 6.33 |
| | Interior | 407.00 | 405.50 | 3.00 | 61.00 | 1.00 | 2 | 13.56 | 2.50 | 2.50 | 0.00 | 122.00 | 62.13 | 12.0" | (13.56) | (6.78) | 41.79 |
| | Interior | 407.00 | 405.50 | 3.00 | 19.00 | 1.00 | 1 | 2.11 | 2.50 | 2.50 | 0.00 | 19.00 | 9.68 | 12.0" | (2.11) | (1.06) | 6.51 |
| | Interior | 407.00 | 405.50 | 3.00 | 32.00 | 1.00 | 1 | 3.56 | 2.50 | 2.50 | 0.00 | 32.00 | 16.30 | 12.0" | (3.56) | (1.78) | 10.96 |
| | Interior | 407.00 | 405.50 | 3.00 | 100.00 | 1.00 | 1 | 11.11 | 2.50 | 2.50 | 0.00 | 100.00 | 50.93 | 12.0" | (11.11) | (5.56) | 34.26 |
| | Column footings | 407.00 | 405.50 | 3.00 | 3.00 | 1.00 | 8 | 2.67 | 2.50 | 2.50 | 2.50 | 24.00 | 22.41 | 12.0" | (2.67) | (1.33) | 18.41 |
| | | | | 0.00 | 0.00 | 0.00 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.0" | 0.00 | 0.00 | 0.00 |
| | Subtotal = | | | | | | | 65 | | | | 581 | 306 | | (65) | (32) | 209 |
| | GRAND TOTALS = | | | | | | | 77 | | | | 697 | 339 | | (77) | (34) | 228 |