



CH2MHILL

CH2M HILL

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September 22, 2006
CH2M HILL Letter No. 060112

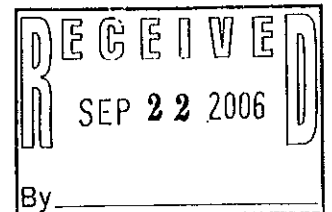
Ms. Miriam C. Siegfried, P.E.
City of Columbus - Division of Water
Technical Support Section
Utilities Complex
910 Dublin Rd, 2nd Floor
Columbus, OH 43215

Subject: Proposal for Additional Detailed Design Services and
Construction Administration Services
Hap Cremean Water Plant
Sludge Pump Station Renovations and Electrical Upgrades
Project No. 690332
Contract No. 870

Dear Ms. Siegfried:

CH2M HILL is pleased to submit this proposal for Construction Administration Services for the above referenced project. Enclosed (original plus three copies), please find the following:

1. Modifications to the Scope of Work
2. Additional Detailed Design Services
Estimate of Tasks and Fees
3. Construction Administration Services
Estimate of Tasks and Fees
4. Project Schedule



Ms. Miriam C. Siegfried, P.E.
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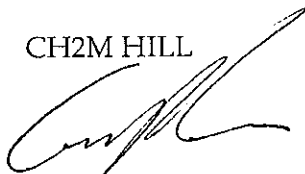
Per your request, the cost break out for each task is as follows. This breakdown is an estimate of engineering labor and expenses for expenditure and scheduling purposes only. Invoicing will be per our agreement.

| | | |
|-----------|--|-------------|
| I.A.16. | Coagulation Sludge Control House | \$29,733 |
| I.A.17. | B-Plant High Service Starters and Sensors | \$74,843 |
| I.A.18. | Basin Electrical Improvements | \$33,695 |
| I.A.19. | Programmable Logic Controllers | \$40,257 |
| I.A.20. | Force Main Meter Vaults | \$34,651 |
| I.A.21. | Basin Draining and Maintenance Evaluations | \$27,423 |
| I.A.22. | Air Release Vault Improvements | \$35,774 |
| I.A.23. | Plant Paving | \$16,569 |
| I.A.24. | SCADA Workstation at Main Substation | \$3,682 |
| | | |
| III.B.1. | Chair and Conduct Progress Meetings | \$178,085 |
| III.B.2. | Perform Site Visits | \$270,241 |
| III.B.3. | Submittal Review | \$732,164 |
| III.B.4. | Issue Interpretation of Contract Documents | \$725,074 |
| III.B.5. | Review Applications for Payment | \$242,777 |
| III.B.6. | Conduct Substantial Completion Inspection | \$555,177 |
| III.B.7. | Prepare Record Drawings | \$378,320 |
| III.B.8. | Operation and Maintenance Manual | \$244,226 |
| III.C. | Resident Project Representation | \$524,320 |
| III.C.10 | Material Testing | \$171,952 |
| Total Fee | | \$4,318,963 |

Please review the information and contact us at your earliest convenience with any questions or comments you may have.

Sincerely,

CH2M HILL



Greg Mosure, P.E.
Project Manager



Dennis Tinkler, P.E.
Vice-President

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SCHEDULE 1

HAP CREMEAN WATER PLANT SLUDGE PUMP STATION RENOVATIONS AND ELECTRICAL UPGRADES CONTRACT No. 690332 PROJECT No. 870

MODIFICATION 1 TO SCOPE OF BASIC SERVICES

I.A. PROJECT FACILITIES, the following paragraphs shall be appended as follows:

- I.A.16. Coagulation Sludge Control House: Design new Coagulation Sludge Control House to assume the function of existing Control House 1 and Control House 2. Design modifications to convert Control House 1 and Control House 2 to valve vaults.
- I.A.17. B-Plant High Service Starters and Sensors: Design improvements to retrofit "B" High Service Starters with a programmable logic controller for each starter. Provide for new vibration sensors for the "B" High Service Pumps and integrate with the starter modifications.
- I.A.18. Basin Electrical Improvements: Provide for re-feeding existing basin collectors, floc drives, rapid mixers, receptacles, and basin lighting. Equipment will be re-fed using new conduit and wire run overhead of basin walkways.
- I.A.19. Programmable Logic Controllers: Provide for a new control system consisting of networked PLCs to replace the existing RTUs at the following locations:
- Control House 1
 - Control House 2
 - Control House 3
 - Main Drain Pump Station
 - Pump Building "A"
 - Pump Building "B"
 - Chemical Storage Building

Provide for new PLCs at the following locations:

- Coagulation Sludge Control House
- Lime Sludge Control House
- Sludge Pumping Station
- Pump Building "A"
- Pump Building "B"
- Chemical Storage Building

This work will also include adding network hardware to accept the new control system at these locations. Make an allowance in the bid

forms for upgrade of the existing SCADA system software to allow communication with the new control system network. Specifications for the software upgrade and allowance amount will be furnished by the City for inclusion into the Contract Documents.

- I.A.20. Force Main Meter Vaults: Design sludge force main meter vaults for construction at the Kingshill Pump Station location and in Griggs Park on Riverside Drive. Communications between the vaults and the Plant SCADA will be over dedicated telephone lines. SCADA modifications to accept this additional I/O will be modified by others. Improvements to incorporate radio communication between the vaults and the Plant will be performed as by others.
 - I.A.21. Basin Draining and Maintenance Evaluations: Review Plant maintenance procedures during annual basin washout and evaluate economies in pumping at a higher rate, providing off-line storage or pumping basin washout to lagoons. Make recommendations to the City.
 - I.A.22. Air Release Vault Improvements: Design improvements to air release vaults on the force main at not more than five (5) locations.
 - I.A.23. Plant Paving: Provide for repaving Plant roads upon completion of construction work. Repaving limits will be determined through field investigation by the Engineer.
 - I.A.24. SCADA Workstation at Main Substation: Provide a line item allowance on the bid forms for the Contractor to furnish a SCADA workstation at the Main Substation. Allowance amount will be furnished by the City, per their agreement with their SCADA vendor.
3. III.B. CONSTRUCTION PHASE: shall be modified to strike the language "(Future As- Authorized Services)"
4. III.B. CONSTRUCTION PHASE: The following paragraph shall be appended as follows:
- III.B.10. Material Testing: Furnish appropriate field staff and equipment and laboratory staff and facilities to perform compaction testing, concrete testing, asphalt testing, and pile load testing. The Engineer shall forward copies of all test results to the City.

CITY OF COLUMBUS, OHIO
 DEPARTMENT OF PUBLIC UTILITIES
 DIVISION OF WATER

HAP CREMEAN WATER PLANT
 SLUDGE PUMP STATION RENOVATIONS
 Contract No. 870, Project No. 690332

Estimate of Tasks and Fees

Additional Detailed Design Services

BBS/CH2M HILL

| LABOR CLASSIFICATIONS | | ESTIMATED AVG HOURLY RATES (Year 2006) | ESTIMATED AVERAGE EXPENSE RATES (Year 2006) | |
|-----------------------|---------------------|--|---|--------------------|
| PP | Project Principal | \$80.19 | Mileage - Personal Vehicles Only | (Per Mile) \$0.445 |
| PM | Project Manager | \$34.10 | Printing - Out of Office Only | Actual Cost |
| PE | Project Engineer | \$33.98 | Travel and Subsistence - Pre Approved Only | Actual Cost |
| ST | Staff Technician | \$24.10 | OTHER COST FACTORS | |
| AA | Administrative Asst | \$19.92 | Indirect Cost Rate as Percent of Direct Labor 207.00% | |

Direct Labor Hours

| Task No. | Task Description | PP | PM | PE | ST | AA | Total |
|----------|--|----|----|-----|-----|----|-------|
| I.A | PROJECT FACILITIES | | | | | | |
| I.A.16 | Coagulation Sludge Control House | - | 40 | 150 | 120 | - | 310 |
| I.A.17 | B-Plant High Service Starters and Sensors | 5 | 5 | 520 | 220 | - | 750 |
| I.A.18 | Basin Electrical Improvements | 5 | 5 | 210 | 120 | - | 340 |
| I.A.19 | Programmable Logic Controllers | - | 5 | 240 | 180 | - | 425 |
| I.A.20 | Force Main Meter Vaults | - | 60 | 140 | 170 | - | 370 |
| I.A.21 | Basin Draining and Maintenance Evaluations | 5 | 95 | 90 | 80 | - | 270 |
| I.A.22 | Air Release Vault Improvements | - | 20 | 240 | 100 | - | 360 |
| I.A.23 | Plant Paving | - | 5 | 120 | 40 | - | 165 |
| I.A.24 | SCADA Workstation at Main Substation | 5 | 5 | 10 | 10 | - | 30 |

Total Hours 20 240 1,720 1,040 0 3,020 Estimated Fee

| Direct Labor: | Labor Class | Hours | Hrly Rate | Cost |
|---------------|-------------|-------|-----------|----------|
| | PP | 20 | \$80.19 | \$ 1,604 |
| | PM | 240 | 34.10 | 8,184 |
| | PE | 1,720 | 33.98 | 58,446 |
| | ST | 1,040 | 24.10 | 25,064 |
| | AA | 0 | 19.92 | - |

Total Direct Labor: 3,020 \$93,298
Overhead Costs @ 207.00% 193,127

286,425

Expenses
Mileage 184 0.45 82
Other Direct Expenses 10,120

Total Expenses 10,202

BBS/CH2M HILL Total Estimated Fee \$296,627

CITY OF COLUMBUS, OHIO
 DEPARTMENT OF PUBLIC UTILITIES
 DIVISION OF WATER

HAP CREMEAN WATER PLANT
 SLUDGE PUMP STATION RENOVATIONS
 Contract No. 870, Project No. 690332

Estimate of Tasks and Fees
 Construction Administration Services

BBS/CH2M HILL

| LABOR CLASSIFICATIONS | ESTIMATED AVG HOURLY RATES (Year 2008/11) |
|------------------------|---|
| PP Project Principal | \$86.88 |
| PM Project Manager | \$47.45 |
| PE Project Engineer | \$38.57 |
| ST Staff Technician | \$31.55 |
| AA Administrative Asst | \$30.25 |

SUBCONSULTANTS

Advanced Engineering Consultants
 Prime Engineering & Architecture, Inc.
 Dynotec, Inc.

| ESTIMATED AVERAGE EXPENSE RATES (Year 2008/11) | |
|--|--------------------------------|
| Mileage - Personal Vehicles Only | (Per Mile) \$0.445 Actual Cost |
| Printing - Out of Office Only | Actual Cost |
| Travel and Subsistence - Pre Approved Only | |
| OTHER COST FACTORS | |
| Indirect Cost Rate as Percent of Direct Labor | 207.00% |
| Overhead Markup on Subconsultants | 5.00% |

Direct Labor Hours

| Task No. | Task Description | PP | PM | PE | ST | AA | Total |
|-------------|--|-----|-------|--------|-------|-------|--------|
| III.B | CONSTRUCTION PHASE | | | | | | |
| III.B.1 | Chair and Conduct Project Meetings | 20 | 500 | 500 | - | - | 1,020 |
| III.B.2 | Perform Site Visits | 10 | 1,330 | 1,222 | - | - | 2,562 |
| III.B.3 | Submittal Review | 10 | 1,330 | 2,675 | - | 556 | 4,571 |
| III.B.4 | Issue Interpretation of Contract Documents | 40 | 1,300 | 2,675 | - | 458 | 4,473 |
| III.B.5 | Review Applications for Payment | 40 | 900 | - | - | 490 | 1,430 |
| III.B.6 | Conduct Substantial Completion Inspection | - | 542 | 2,950 | - | - | 3,492 |
| III.B.7 | Prepare Record Drawings | - | 240 | 1,160 | 1,000 | 244 | 2,644 |
| III.B.8 | Operation and Maintenance Manual | - | 160 | 680 | 480 | 410 | 1,730 |
| III.C | RESIDENT PROJECT REPRESENTATION | - | - | 8 | 4,166 | - | 4,174 |
| Total Hours | | 120 | 6,302 | 11,870 | 5,646 | 2,158 | 26,096 |

Estimated Fee

| Labor Class | Hours | Hrly Rate | Cost |
|---------------------|--------|-----------|-------------|
| Direct Labor: | | | |
| PP | 120 | \$86.88 | \$ 10,426 |
| PM | 6,302 | 47.45 | 299,030 |
| PE | 11,870 | 38.57 | 457,826 |
| ST | 5,646 | 31.55 | 178,131 |
| AA | 2,158 | 30.25 | 65,280 |
| Total Direct Labor: | | | \$1,010,693 |
| Overhead Costs @ | | | 207.00% |
| | | | 2,092,135 |
| | | | 3,102,828 |

Markup on Subconsultants @ 5.00% 40,581

Total Direct Labor & Indirect Costs \$3,143,409

Expenses: Mileage 2,600 0.45 1,157
 Printing 12,000
 Other Direct Expenses 54,141

Total Expenses \$67,298

BBS/CH2M HILL Total Estimated Fee \$3,210,707

ESTIMATED FEE DISTRIBUTION AMONG TEAM MEMBERS

| | | |
|--|---------|-------------|
| Prime Engineering & Architecture, Inc. | 4.72% | \$189,745 |
| Advanced Engineering Consultants | 1.16% | 46,680 |
| Dynotec, Inc. | 14.30% | 575,203 |
| Total Subconsultants | | |
| BBS/CH2M HILL | 20.18% | \$811,628 |
| | 79.82% | 3,210,707 |
| Total Estimated Fee | | |
| | 100.00% | \$4,022,336 |

CAS

9/22/2006

Prime Engineering & Architecture, Inc.

ESTIMATED AVG
HOURLY RATES
(Year 2008/11)

| CLASSIFICATIONS | LABOR | ESTIMATED AVG HOURLY RATES (Year 2008/11) |
|-----------------|-----------------------|---|
| PM | Project Manager | \$ 50.84 |
| A | Architect | \$ 41.10 |
| GE | Geotechnical Engineer | \$ 40.02 |
| FT | Field Technician | \$ 19.47 |
| E | Engineer | \$ 41.10 |
| CT | CADD Technician | \$ 37.86 |
| Admin | Administrative | \$ 21.09 |

ESTIMATED AVERAGE EXPENSE RATES (Year 2008/11)

| | (Per Mile) | Actual Cost |
|--|------------|-------------|
| Mileage - Personal Vehicles Only | \$0.445 | |
| Printing - Out of Office Only | | Actual Cost |
| Travel and Subsistence - Pre Approved Only | | Actual Cost |

OTHER COST FACTORS

Indirect Cost Rate as Percent of Direct Labor 207.00%

Direct Labor Hours

| Task No. | Task Description | PM | A | GE | FT | E | CT | Admin | Total |
|----------|--|------------|------------|------------|--------------|----------|-----------|------------|--------------|
| III.B | CONSTRUCTION PHASE | | | | | | | | 0 |
| III.B.2 | Perform Site Visits | 15 | 120 | 0 | 0 | 0 | 0 | 15 | 150 |
| III.B.3 | Submittal Review | 20 | 100 | 0 | 0 | 0 | 20 | 20 | 160 |
| III.B.4 | Issue Interpretation of Contract Documents | 15 | 120 | 0 | 0 | 0 | 0 | 15 | 150 |
| III.B.10 | Material Testing | 88 | 0 | 244 | 1,168 | 0 | 0 | 120 | 1,620 |
| | Total Hours | 138 | 340 | 244 | 1,168 | 0 | 20 | 170 | 2,080 |

| Estimated Fee | Labor Class | Hours | Hrly Rate | Cost |
|---------------|-------------|-------|-----------|------|
| \$7,016 | PM | 138 | \$50.84 | |
| \$13,974 | A | 340 | 41.10 | |
| \$9,765 | GE | 244 | 40.02 | |
| \$22,741 | FT | 1,168 | 19.47 | |
| \$0 | E | 0 | 41.10 | |
| \$757 | CT | 20 | 37.86 | |
| \$3,585 | Admin | 170 | 21.09 | |

| | |
|--------------------------|------------------|
| Total Direct Labor | \$57,838 |
| Overhead Costs @ 207.00% | 119,725 |
| | \$177,563 |

| Expenses: | Quantity | Rate | Cost |
|----------------------|----------|----------|------------------|
| Mileage | 5550 | \$ 0.445 | \$ 2,470 |
| Cylinder Mold | 560 | \$ 2 | \$ 1,120 |
| Cylinder Test | 420 | \$ 15 | \$ 6,300 |
| Grout Cube | 72 | \$ 16 | \$ 1,152 |
| Nuclear Densitometer | 30 | \$ 38 | \$ 1,140 |
| | | | \$ 12,182 |

Prime Total Estimated Fee \$169,745

Advanced Engineering Consultants

ESTIMATED AVG
HOURLY RATES
(Year 2008/11)

| LABOR CLASSIFICATIONS | ESTIMATED AVG HOURLY RATES (Year 2008/11) |
|--------------------------|---|
| PE3 Project Engineer 3 | \$ 55.00 |
| PE Project Engineer | \$ 53.20 |
| SE 2 Senior Engineer 2 | \$ 44.72 |
| CAD CADD Technician | \$ 22.51 |
| TECH/S Technical Support | \$ 15.50 |

ESTIMATED AVERAGE EXPENSE RATES (Year 2008/11)

| | | |
|--|-------------|---------|
| Mileage - Personal Vehicles Only | (Per Mile) | \$0.445 |
| Printing - Out of Office Only | Actual Cost | |
| Travel and Subsistence - Pre Approved Only | Actual Cost | |

OTHER COST FACTORS

Indirect Cost Rate as Percent of Direct Labor 163.00%

Direct Labor Hours

| Task No. | Task Description | Direct Labor Hours | | | | Total |
|----------|--|--------------------|-----|------|-----|-------|
| | | PE3 | PE | SE 2 | CAD | |
| III.B | CONSTRUCTION PHASE | | | | | |
| III.B.2 | Perform Site Visits | 0 | 80 | 48 | | 128 |
| III.B.3 | Submittal Review | | 58 | 38 | 0 | 96 |
| III.B.4 | Issue Interpretation of Contract Documents | | 80 | 49 | | 129 |
| | Total Hours | 0 | 218 | 135 | 0 | 353 |

Estimated Fee

| Labor Class | Hours | Hrly Rate | Cost |
|-------------|-------|-----------|----------|
| | | | |
| PE | 218 | 53.20 | \$11,598 |
| SE 2 | 135 | 44.72 | \$6,037 |

Total Direct Labor \$17,635
Overhead Costs @ 163.00% 28,745
\$46,380

Expenses:
Mileage 675 \$ 0.445 \$ 300
\$ 300

AEC Total Estimated Fee \$46,680

Dynotec Engineering, Inc.

ESTIMATED AVG
HOURLY RATES
(Year 2008/11)

LABOR
CLASSIFICATIONS

| | | |
|----|-------------------------|---------|
| PM | Project Manager | \$39.98 |
| RR | Resident Representative | \$35.64 |

ESTIMATED AVERAGE EXPENSE RATES (Year 2008/11)

| | | |
|--|-------------|---------|
| Mileage - Personal Vehicles Only | (Per Mile) | \$0.405 |
| Printing - Out of Office Only | Actual Cost | |
| Travel and Subsistence - Pre Approved Only | Actual Cost | |

OTHER COST FACTORS

Indirect Cost Rate as Percent of Direct Labor 197%

Direct Labor Hours

| Task No. | Task Description | PM | RR | Total |
|----------|---------------------------------|-----|-------|-------|
| III.C | Resident Project Representative | 120 | 5,200 | 5,320 |
| | Total Hours | 120 | 5,200 | 5,320 |

Estimated Fee

| Labor Class | Hours | Hrly Rate | Cost |
|-----------------------|-------|-----------|-----------|
| PM | 120 | \$39.98 | \$4,798 |
| RR | 5,200 | 35.64 | 185,328 |
| Total Direct Labor | | | \$190,126 |
| Overhead Costs @ 197% | | | 374,547 |
| | | | \$564,673 |

Expenses: Mileage 26000 \$0.405 \$ 10,530

Dynotec Total Estimated Fee \$575,203