received
4/25/97

Hobbs, Upchurch & Associates, P.A.

Consulting Engineers

290 S.W. Broad Street • Post Office Box 1737 • Southern Pines, NC 28388

April 24, 1997

Mr. Bob Oreskovich
Water Production Department
600 Mustian Street
Kill Devil Hills, NC 27948

RE: Engineering Contracts
Cape Hatteras Water System
HUA No. DR9605-Financial

Dear Bob,

Enclosed you will find engineering contracts for the water treatment and water distribution improvements for the Cape Hatteras water system. Please review and distribute as necessary.

We look forward to hearing from you in the near future. If you have any questions or comments, please do not hesitate to call.

Sincerely,
HOBBS, UPCHURCH & ASSOCIATES, P.A.

Eric T. Weatherly, P.E.

Enclosures

① CONTRACT SUMS
H, U & A's
↳ Dist Improve - $313,660
↳ Wat. Trmnt System - $680,280
$993,740

② AEPi/Rosser - $374,000

③ M.I. $215,000
$334,000
$1,816,940

Southern Pines, NC • Telephone 910-692-5616
Winston-Salem, NC • Telephone 910-759-3009 • Fax 910-759-7590
Myrtle Beach, SC • Telephone 803-626-1910 • Fax 803-626-1745

CONTRACT FOR ENGINEERING SERVICES

Water Treatment System Improvements
to the
Cape Hatteras Water System
County of Dare

THIS AGREEMENT is made this _____ day of _____, 1997, by and between the County of Dare, hereinafter called the OWNER, and Hobbs, Upchurch & Associates, P.A., hereinafter called the ENGINEER.

WHEREAS, the OWNER intends to construct potable water system improvements in the Cape Hatteras area consisting of limestone aquifer wells, raw water transmission main, water treatment plant (excluding all equipment associated with and supporting the RO membrane assembly operation), concentrate discharge, finished water storage and finished water pumping.

NOW, THEREFORE, the OWNER and ENGINEER, for the consideration hereinafter named, agree as follows:

The ENGINEER agrees to perform for the above named project, professional services as hereinafter set forth.

The OWNER agrees to compensate the ENGINEER for services as hereinafter provided.

I. SCOPE OF SERVICES

The Scope of Engineering Services will be divided into three phases: A) Preliminary Design Phase, B) Detailed Design and Permitting Phase and C) Construction Phase. Specific services that the ENGINEER agrees to furnish for each phase are as follows:

B. Detailed Design and Permitting Phase

1. Plans and Specifications

a. Prepare detailed design plans and specifications for the limestone aquifer wells, raw water transmission main, water treatment plant, concentrate discharge, finish water storage and pumping. These plans and specifications shall be in accordance with the preliminary design report and as approved at the preliminary design phase by the OWNER. The design will include architectural, structural, mechanical, instrumentation and electrical for building and treatment systems as well as site grading, paving, drainage, site piping, utilities and all off site work necessary to connect to the existing distribution system. Exhibit "A" contains a list of anticipated plan sheets.

b. Design reviews will be scheduled with Dare County and Boyle Engineering Corp. at 50%, 75% and 95% completion. Three (3) sets of completed plans and specifications will be provided to Dare County with one (1) set provided to Boyle Engineering Corp. for each review.

c. The plans shall be prepared on computer using the AutoCAD computer aided design drafting format.

2. Estimating

Based on the approved detailed design plans and specifications, prepare final construction cost estimates for the project.

3. Permitting

Coordinate and obtain permit approval on detailed design, plans and specifications from the OWNER as well as the following regulatory agencies currently having permitting authority over the project. These agencies are NC Department of Environment, Health and Natural Resources - Water Supply Section, NC Department of Environment, Health and Natural Resources - Division of Water Quality, NC Department of Environment, Health and Natural Resources - Land Quality Section, Coastal Area Management Association, U.S. Fish and Wildlife Services, U.S. Army Corps of Engineers, NC Department of Transportation and local planning, zoning and building permitting as may be applicable in Dare County.

C. Construction

1. Construction Bidding

a. Provide coordination and assistance to the OWNER and the qualifying bidders as may be necessary and in accordance with appropriate procurement codes and laws governing North Carolina bidding processes.

b. Circulate plans and specifications to potential bidders, suppliers and trades.

c. Provide coordination with contractors and the OWNER as may relate to clarification of issues during the contractor's investigation for project bids.

d. Conduct pre-bid conferences with perspective bidders and suppliers as may be required to accurately disseminate project data.

e. Conduct formal bid opening, prepare certified bid tabulations and assist in project negotiations associated with the contracting process.

f. Evaluate and recommend award of the contracts to the OWNER, both verbally and in writing.

g. Prepare contracts for execution by the OWNER and contractors.

2. Construction Management

a. Conduct pre-construction conference(s) as required to begin the construction.

b. Provide engineering assistance and coordination of the project effort with the contractors and suppliers while maintaining a liaison with the OWNER.

c. Provide a full-time resident project representative to oversee the overall project scope including construction coordination, scheduling and quality control as outlined in Exhibit "B" attached hereto.

d. Review and approve all shop drawings.

e. Provide periodic field work necessary to ensure compliance with location and grade as contained in the detailed design plans and specifications.

f. Present status reports to the OWNER on a monthly basis, both verbally and in writing.

g. Maintain on-site project drawings indicating modifications as may be approved during construction.

h. Review and recommend action on all change orders and/or all supplemental agreements as may arise during construction.

i. Coordinate and respond to all requests for clarification of plans and specifications as may arise during construction.

j. Review and recommend appropriate action on all payment requests from contractors.

k. Conduct pre-final inspection(s) and final inspection (s) including recommendation of project acceptance.

3. Operational Services

a. Furnish services and consultations necessary to provide the OWNER with plant startup, equipment calibration and operator training in cooperation with Boyle Engineering ~~Corp~~.

b. Instruct the OWNER in initial operation and maintenance of the project but not supervision of the normal operation of the entire water treatment plant and related facilities.

c. Assist the OWNER in performing a review of the project during the eleventh month after the date of its substantial completion and notify the contractors of any warranty claims.

4. As-Builts and O&M Manuals

a. Prepare record drawings depicting final constructed facility. Provide the OWNER with both hard copy and disk format.

b. Assemble operations and maintenance manuals consisting of equipment data and operational information as provided by equipment suppliers.

II. OWNER PROVIDED SERVICES

A. Test Wells

1. Costs for test well construction will be paid by the OWNER.

2. Costs for hydrogeologist fees will be paid by the OWNER.

3. Costs for analytical testing will be paid for by the OWNER.

B. The OWNER intends to contract engineering services with Boyle Engineering Corp. for specialized services relating to RO treatment process and ion exchange organic removal processes. As such, all fees associated with Boyle Engineering Corp. shall be borne by the OWNER. It is understood Hobbs, Upchurch & Associates, P.A. will coordinate work with Boyle Engineering Corp. All products prepared by Boyle Engineering Corp. for inclusion in the Hobbs, Upchurch & Associates, P.A. project shall be received in a timely fashion.

III. PERFORMANCE SCHEDULE

A. This AGREEMENT is based on the anticipation of orderly and continuous progress of the project through completion of the services contained herein. If the specific periods of time for rendering services are exceeded through no fault of Hobbs, Upchurch & Associates, P.A., all rates, measures and amounts of compensation provided herein shall be subject to equitable adjustment, provided the OWNER consents in writing. If, for any reason, Hobbs, Upchurch & Associates, P.A. cannot complete its services or any particular service under this Contract in accordance with the applicable time period, Hobbs, Upchurch & Associates, P.A. may ask the OWNER for an extension of time within which to perform.

B. Each type of service outlined in Section I, Scope of Services, shall be completed within the stipulated time period indicated below, after written authorization to proceed with that service has been given by the OWNER.

1. Preliminary Design Phase

   Pre-design shall be completed within 150 calendar days.

2. Detailed Design and Permitting Phase

   Final design shall be completed within 270 calendar days, and the design documents shall be submitted to the regulatory agencies for review and approval.

3. Bidding

Bidding shall be completed within 60 calendar days.

4. Construction Administration

Construction administration shall be completed within the time stipulated for completion of construction in the Contract Documents. Anticipated time of construction is 420 calendar days.

IV. PAYMENT SCHEDULE

A. Compensation Terms Defined

1. Lump sum shall mean a fixed amount agreed upon in advance, subject to modifications and amendments, for services rendered.

2. Hourly rates shall mean the rates as set forth on the fee schedule attached hereto as Exhibit "C" charged by each type of personnel employed by Hobbs, Upchurch & Associates, P.A. for the hours actually worked on the project by the appropriate classification of employee.

B. Basis and Amount of Compensation for Basic Services

1. Compensation for Section I, Scope of Services, shall be on a lump sum basis. For preliminary design, detailed design, permitting and construction management, Hobbs, Upchurch & Associates, P.A. shall be entitled to a lump sum fee of SIX HUNDRED EIGHTY THOUSAND TWO HUNDRED EIGHTY 00/100 DOLLARS ($680,280.00).

The OWNER agrees to pay the ENGINEER for services as follows:

Description of Work Phase	**Fee Amount**
I. Preliminary Design Phase	
A. Field Services	
Land	$19,440
Endangered Species, Biological and Wetland Assessment	$8,400
B. Subsurface Investigation, Water Treatment Plant Site	$22,000

C.	Preliminary Design Report	$15,000
	Total Phase I	$64,840

II. Detailed Design and Permitting Phase

Sections A, B and C	$269,460

III. Construction Administration and Inspection

Sections A, B, C and D	$345,980
Total	$680,280

NOTE: Exhibit "D" contains a detailed man-hour estimate for the project.

2. The ENGINEER shall receive progress payments on a monthly basis as mutually agreed by the OWNER based on the percent complete for each task outlined above.

C. Basis and Amount of Compensation for Additional Services

Compensation for additional services shall be on the basis of Hobbs, Upchurch & Associates, P.A.'s fee schedule attached hereto as Exhibit "C".

V. ADDITIONAL SERVICES

Based on the current Scope of Services, certain items are specifically excluded from those services to be provided by the ENGINEER. These items are as follows:

A. Limestone Aquifer Wells

It is anticipated three (3) limestone aquifer wells will be required for the RO treatment process. Additional fees will be negotiated for services beyond the anticipated number of wells.

B. Distribution System Analysis

1. Upon completion of the distribution system analysis, the OWNER and ENGINEER will negotiate additional engineering fees for design, permitting and construction management of improvements necessary to support delivery of potable water from the initial phase of the water treatment facility outlined in this contract.

2. Work will be performed with a schedule to allow completion of construction of needed distribution upgrades to allow delivery of 1.8 MGD of potable water upon completion of the water treatment plant.

C. Field Surveys

1. Surveying for the limestone aquifer well sites shall include all surveying necessary for engineering function and preparation of plats and legal descriptions for use by the OWNER. Wells are understood to be spaced approximately 2,000 feet apart extending along NC Hwy. 12 from the water treatment plant site. It is further understood the raw water transmission main will be installed within the NC Department of Transportation rights-of-way without requirements of easement acquisition from private landowners. Additional fees shall be negotiated for raw water main design for well spacing at much greater distances or raw water mains installed outside the rights-of-way.

2. The water treatment plant site is understood as a wooded parcel owned by the Cape Hatteras Water Association (approximately 8.89 acres) located south of NC Hwy. 12 between Water Association Road and Spencer Lane. Additional surveying fees shall be negotiated for surveying additional sites.

3. Concentrate discharge pipeline is understood to extend from the water treatment plant site along rights-of-way of Water Association Road, NC Hwy. 12 and Buccaneer Drive. From the end of the right-of-way of Buccaneer Drive, an easement map and legal description will be prepared to cross private property to the Pamlico Sound. Changes in discharge location and length may constitute additional fees.

4. The ENGINEER shall not be responsible for negotiating the acquisition of easements from private landowners or recordation of the easements.

5. Construction stake-out will be provided by the various contractors as required by the approved plans and specifications with checking of these layouts on a periodic basis by the ENGINEER.

D. The ENGINEER's services do not include environmental assessments or environmental impact statements beyond the evaluation and delineation of wetlands and endangered plant and animal species. If, during the course of the project, expanded environmental assessments or impact statements are required, such services shall be negotiated separately.

E. All fees associated with advertising for bids, purchasing, permits for the project, issuing bonds for the financing of the project, etc., shall be borne by the OWNER.

F. Should the ENGINEER be required to render additional services in connection with related work upon which the work scope does not apply, the ENGINEER shall receive additional compensation for such additional services at hourly rates as specified on the Fee Schedule attached hereto as Exhibit "C" for the hours actually worked by the appropriate classification of employee.

VI. TERMINATION OF CONTRACT

In the event the ENGINEER has not performed according to the terms of the Agreement for any reason including but not limited to substantial and unjustified delays in work without approval of the OWNER, the ENGINEER is found incapable of performing the class of work specified, or other breach of the terms of the contract, the OWNER may in its sole discretion declare the ENGINEER in default of the terms of this Agreement. Upon declaration by the OWNER of the default of the ENGINEER, the ENGINEER shall be furnished written notice of such default at the last known address which ENGINEER has provided to the OWNER. If the ENGINEER has not satisfied such default within ten (10) days from the date of the receipt of the written notice of such default, the OWNER shall consider the Agreement terminated and in such termination agree to pay the ENGINEER for work performed on or before the date of such termination. Said payment to be for man-hours performed at the hourly rate herein specified in Exhibit "C". The failure of the OWNER at any time to require performance by the ENGINEER of any provision hereof shall in no way affect the right of the OWNER hereafter to enforce same.

The OWNER and ENGINEER have discussed the risks, rewards and benefits of the project and the ENGINEER's total fee for services. The risks have been allocated such that the OWNER agrees that to the fullest extent permitted by law, the ENGINEER's total liability to OWNER for any and all injuries, claims, losses, expenses, damages or claim expenses arising out of this Agreement from any cause or causes shall not exceed the total amount of $1,000,000. Such causes include but are not limited to the ENGINEER's negligence, errors, omissions, strict liability, breach of contract or breach of warranty.

If the OWNER has pending claims against the ENGINEER due to the breach of the Contract and in question at the time of termination, the OWNER may withhold payment until such claims are settled and then make payment at the settled amount due to the ENGINEER.

The OWNER and ENGINEER each binds himself, his partners, successors, executors, administrators and assigns to the other party to the Agreement, and to the partners, successors, executors, administrators and assigns of each other party in respect to all covenants of the Agreement.

The OWNER and ENGINEER hereby agree to the full performance of the covenants contained herein.

IN WITNESS HEREOF, they have executed this Agreement, the day and the year first above written, which is the effective date of this Agreement.

HOBBS, UPCHURCH & ASSOCIATES, P.A.

BY:_____
Fred M. Hobbs, P.E.
President

Witness:_____
David T. Upchurch, P.E.
Vice President

COUNTY OF DARE

BY:_____
Robert V. Owens, Jr.
Chairman, County Commissioners

Witness:_____
Terry L. Wheeler
County Manager

EXHIBIT "A"

List of Drawings

List of Drawings

HUA Engineering Services

General

Map and Index
Property and Topography
Plant Layout
Site Plan
Site Grading and Drainage
Plant Piping
Plant Process Schematic and Hydraulic Profile
Miscellaneous Details (Fence, Curb and Gutter, Road Sections, Etc.)
Well Field Layout and Site Plans
Landscape Plan

Structural

Plant Structure Layout
Operations Building Floor Plan
Operations Building Elevation
Foundation Plans
Building Sections
Roof Plan
Operations Building Schedules
Laboratory Layout and Sections
Clearwell Plans and Sections
Clearwell Details
Filter Backwash Settling Basin and Details

Environmental

Plant Unit Layout
Filter Plan and Details
Aerator Details
Chemical Feed Layout and Details
Chlorine Feed Details
Instrumentation and Control Schematics
Finished Water Pumps and Details
Finished Water Meter Vault and Details
Filter Backwash Settling Basin and Discharge
Concentrate Discharge Layout

Concentrate Discharge Piping Details
Concentrate Discharge Plan and Profile
Well Construction Details
Well Sections
Raw Water Main Layout and Plan and Profile
SCADA System Layout
Plant SCADA Schematics

Electrical

Electrical Site Plan
One Line Power Diagram
Schedules and Diagrams
Operations Building Power
Operations Building Lighting
Miscellaneous Details
Well Field Electrical

Architectural

Elevations
Elevations
Floor Plan
Wall Sections
Building Details
Door Schedule and Room Finish Schedule

Mechanical

Operations Building Floor Plan
Section and Details
Equipment Schedule

Plumbing

Operations Building Floor Plan
Detail Sheet

EXHIBIT "B"

DUTIES, RESPONSIBILITIES AND LIMITATIONS

OF THE

RESIDENT PROJECT REPRESENTATIVE

DUTIES, RESPONSIBILITIES AND LIMITATIONS OF AUTHORITY

OF THE RESIDENT PROJECT REPRESENTATIVE

ENGINEER shall furnish a Resident Project Representative (RPR), assistance and other field staff to assist ENGINEER in observing performance of the Work of the Contractor.

Through more extensive on-site observations of the Work in progress and field checks of materials and equipment by the RPR and assistants, ENGINEER shall endeavor to provide future protection for OWNER against defects and deficiencies in the Work; but, the furnishings of such services will not make ENGINEER responsible for or give ENGINEER control over construction means, methods, techniques, sequences or procedures or for safety precautions or programs, or responsibility for CONTRACTOR's failure to perform the Work in accordance with Contract Documents.

The duties and responsibilities of the RPR are limited to those of ENGINEER in ENGINEER'S agreement with the OWNER and in the construction Contract Documents, and are further limited and described as follows:

A. General

RPR is ENGINEER'S agent at the site, will act as directed by and under the supervision of ENGINEER, and will confer with ENGINEER regarding RPR's actions. RPR's dealings in matters pertaining to the on-site work shall in general with ENGINEER and CONTRACTOR keeping OWNER advised as necessary. RPR's dealings with sub-contractors shall only be through or with the full knowledge and approval of CONTRACTOR. RPR shall generally communicate with OWNER with the knowledge of and under the direction of ENGINEER.

B. Duties and Responsibilities of RPR

1. **Schedules:** Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by CONTRACTOR and consult with ENGINEER concerning acceptability.

2. **Conferences and Meetings**: Attend meetings with CONTRACTOR, such as preconstruction conferences, progress meetings, job conferences, and other project-related meetings, and prepare and circulate copies of minutes thereof.

3. **Liaison:**

   a. Serve as ENGINEER'S liaison with CONTRACTOR, working principally through CONTRACTOR'S superintendent and assist in understanding the

intent of the Contract Documents; and assist in understanding the intent of the Contract Documents; and assist the ENGINEER in serving as OWNER'S liaison with CONTRACTOR when CONTRACTOR'S operations affect OWNER'S onsite operations.

b. Assist in obtaining from OWNER additional details or information, when required for proper execution of Work.

4. **Shop Drawings and Samples:**

a. Record date of receipt of Shop Drawings and samples.

b. Receive samples which are furnished at the site by CONTRACTOR, and notify ENGINEER of availability of samples for examination.

c. Advise ENGINEER and CONTRACTOR of the commencement of any Work requiring a Shop Drawing or sample of the submittal of the submittal has not been approved by ENGINEER.

5. **Review of Work, Rejection of Defective Work, Inspections and Tests**

a. Conduct on-site observations of the Work in progress to assist ENGINEER in determining if the Work is in general proceeding in accordance with the Contract Documents.

b. Report to ENGINEER where RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise ENGINEER of Work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

c. Verify that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and the CONTRACTOR maintains adequate records thereof; and observe, record and report to ENGINEER appropriate details relative to the test procedures and startups.

d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to the ENGINEER.

6. **Interpretation of Contract Documents:** Report to ENGINEER when clarifications and interpretations of the Contract Documents are needed and transmit to CONTRACTOR clarifications and interpretations as issued by ENGINEER.

7. **Modifications:** Consider and evaluate CONTRACTOR'S suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to ENGINEER. Transmit to CONTRACTOR decisions as issued by ENGINEER.

8. **Records:**

   a. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, ENGINEER'S clarification and interpretations of the Contract Documents, progress reports, and other Project related documents.

   b. Keep a diary or log book, recording CONTRACTOR hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to ENGINEER.

   c. Record names, addresses and telephone numbers of all CONTRACTORS, subcontractors and major suppliers of materials and equipment.

9. **Reports:**

   a. Furnish ENGINEER periodic reports as required of progress of the Work and of CONTRACTOR'S compliance with the progress schedule and schedule of Shop Drawing and sample submittals.

   b. Consult with ENGINEER in advance of scheduled major tests, inspections or start of important phases of the Work.

   c. Draft proposed Change Orders and Work Directive Changes, obtaining backup material from CONTRACTOR and recommend to ENGINEER Change Orders, Work Directive Changes, and Field Orders.

d. Report immediately to ENGINEER and OWNER upon the occurrence of any accident.

10. **Payment Requests:** Review applications for payment with CONTRACTOR for compliance with the established procedure for their submission and forward with recommendations to ENGINEER, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.

11. **Certificates, Maintenance and Operation Manuals:** During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to ENGINEER for review and forwarding to OWNER prior to final payment for the Work.

12. **Completion:**

a. Before ENGINEER issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring completion or correction.

b. Conduct final inspection in the company of ENGINEER, OWNER and CONTRACTOR and prepare a final list of items to be completed or corrected.

c. Observe that all items on final list have been completed or corrected and make recommendations to ENGINEER concerning acceptance.

C. Limitations of Authority

Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by ENGINEER.

2. Shall not exceed limitations of ENGINEER'S authority as set forth in the Contract Documents.

3. Shall not undertake any of the responsibilities of CONTRACTOR, subcontractors or CONTRACTOR'S superintendent.

4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction

unless such advise or directions are specifically required by the Contract Documents.

5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.

6. Shall not accept Shop Drawing or sample submittals from anyone other than CONTRACTOR.

7. Shall not authorize OWNER to occupy the Project in whole or in part.

8. Shall not participate in specialized field or laboratory tests or inspection conducted by others except as specifically authorized by ENGINEER.

EXHIBIT "C"

FEE SCHEDULE

FEE SCHEDULE

Hobbs, Upchurch & Associates is pleased to offer our clients a competitive rate structure. Our firm aggressively pursues the control of overhead and quality in an effort to maintain the highest level of professional service at the most reasonable project costs.

ENGINEER - GRADE IV	$90.00/HOUR
ENGINEER - GRADE III	$75.00/HOUR
ENGINEER - GRADE II	$60.00/HOUR
ENGINEER - GRADE I	$50.00/HOUR
REGISTERED LANDSCAPE ARCHITECT	$55.00/HOUR
SURVEYOR - GRADE III	$65.00/HOUR
SURVEYOR - GRADE II	$55.00/HOUR
SURVEYOR - GRADE I	$45.00/HOUR
CONSTRUCTION MANAGER	$60.00/HOUR
TECHNICIAN - GRADE IV	$45.00/HOUR
TECHNICIAN - GRADE III	$40.00/HOUR
TECHNICIAN - GRADE II	$35.00/HOUR
TECHNICIAN - GRADE I	$30.00/HOUR
THREE-MAN SURVEY CREW	$80.00/HOUR
TWO-MAN SURVEY CREW	$65.00/HOUR
GIS COORDINATOR	$70.00/HOUR
SECRETARY - GRADE II	$35.00/HOUR
SECRETARY - GRADE I	$30.00/HOUR

Hobbs, Upchurch & Associates, P.A. hourly rates include all expenses and reflect our competitive pricing.

Specific projects may be addressed on an hourly rate or based on mutually agreed upon lump sum fees, negotiated on the basis of a well-defined scope of services.

The ultimate aim of our services and fees is to provide the client with professional assistance in a timely and cost-conscious manner.

EXHIBIT "D"

MANHOUR ESTIMATE

Project Description: Cape Hatteras Water Treatment Facilities

Owner: Dare County, North Carolina
HUA No.: Field Surveys
Date: 9/18/96

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	BIO (Hrs.)	SURV 3 (Hrs.)	SURV 2 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
1. Land												
a. Well fields and Raw Water Main		8.0				24.0		12.0	32.0	40.0	4.0	$6,700.00
b. Plant Site		4.0				24.0		12.0	24.0	40.0	4.0	$5,960.00
c. Discharge		8				24		12.0	24.0	48.0	4.0	$6,780.00
2 Endangered Species, Biological and Wetland Assessment		16.0					80.0					$8,400.00
TOTAL HOURS	0.0	36.0	0.0	0.0	0.0	72.0	80.0	36.0	80.0	128.0	12.0	444.0
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$90	$65	$55	$65	$30	
CATEGORY SUBTOTAL	$0	$2,700	$0	$0	$0	$2,520	$7,200	$2,340	$4,400	$8,320	$360	$27,840
TOTAL ENGINEERING COST	**$27,840**											

Project Description: Cape Hatteras Water Treatment Facilities

Owner: Dare County, North Carolina
HUA No.: Subsurface Investigation, Water Treatment Plant Site
Date: 9/10/96

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	SUB (Lmp. sum)	SURV 3 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
1. Coordination	4.0	12.0									$1,260.00
2. Stake Borings								8.0	16.0		$1,560.00
3. Drilling and Report							$17,000				$17,000.00
4. Data Review	4.0	12.0			23						$2,180.00
TOTAL HOURS	8.0	24.0	0.0	0.0	23.0	0.0		8.0	16.0	0.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35		$65	$65	$30	
CATEGORY SUBTOTAL	$720	$1,800	$0	$0	$920	$0	$17,000	$520	$1,040	$0	$22,000.00
TOTAL ENGINEERING COST	**$22,000**										

Project Description: Cape Hatteras Water Treatment Facilities

Owner: Dare County, North Carolina
HUA No.: Preliminary Design Report
Date: 9/10/96

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	BIO (Hrs.)	SURV 2 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
1. **Plant Survey and Layout**	4.0	16.0	16.0	4.0							$2,700.00
2. **Wells and Raw Water Main**	4.0	8.0	4.0	4.0							$1,380.00
3. **Discharge**	4.0	16.0	8.0	4.0							$2,220.00
4. **Environmental**	4.0	4.0	4.0	4.0							$1,080.00
5. **Preliminary Plans**	4	24	24	4	30						$4,980.00
6 **Narrative Statement**	4.0	16.0	3.0	4.0						24.0	$2,640.00
TOTAL HOURS	24.0	84.0	59.0	24.0	30.0	0.0	0.0	0.0	0.0	24.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$75	$55	$65	$30	
CATEGORY SUBTOTAL	$2,160	$6,300	$3,540	$1,080	$1,200	$0	$0	$0	$0	$720	$15,000.00
TOTAL ENGINEERING COST	**$15,000**										

Project Description: Cape Hatteras Water Treatment Facilities

Owner: Dare County, North Carolina
HUA No.: Water Treatment Facilities Design
Date: 9/10/96

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	TECH 1 (Hrs.)	BIO (Hrs.)	SUB (lump)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
1. Plans (56 sheets)	240.0	800.0	200.0		1000.0	320.0	80.0					$147,200.00
2. Specifications	40.0	100.0	80.0				80.0				40.0	$19,500.00
3 Cost Estimates	16.0	32.0	32.0			24.0					16.0	$7,080.00
4 Electrical Subconsultant	8.0	24.0							$50,000			$52,520.00
5 Architectural Subconsultant	8.0	24.0							$20,000			$22,520.00
6. Mechanical Subconsultant	8.0	16.0							$7,500			$9,420.00
7. Permit Coordination	16.0	60.0	40.0					24.0			24.0	$11,220.00
TOTAL HOURS	336.0	1056.0	352.0	0.0	1000.0	344.0	160.0	24.0		0.0	80.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$30	$90		$65	$30	
CATEGORY SUBTOTAL	$30,240	$79,200	$21,120	$0	$40,000	$12,040	$4,800	$2,160	$77,500	$0	$2,400	$269,460.00
TOTAL ENGINEERING COST	**$269,460**											

Project Description: Cape Hatteras Water Treatment Facilities

Owner: Dare County, North Carolina
HUA No.: Construction Bidding
Date: 9/10/96

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	TECH 1 (Hrs.)	BIO (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
1. **Solicitation of General Contracts and Prebid Conferences**	16.0	40.0	24.0				80.0			24.0	$9,000.00
2. **Receipt and Recommendation of Awards**	8	32	24			40				16	$6,440.00
TOTAL HOURS	24.0	72.0	48.0	0.0	0.0	40.0	80.0	0.0	0.0	40.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$30	$90	$65	$30	
CATEGORY SUBTOTAL	$2,160	$5,400	$2,880	$0	$0	$1,400	$2,400	$0	$0	$1,200	$15,440.00
TOTAL ENGINEERING COST	**$15,440**										

Project Description: Cape Hatteras Water Treatment Facilities

Owner: Dare County, North Carolina

HUA No.: Construction Management (14 month construction period)

Date: 9/18/96

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	BIO (Hrs.)	SURV3 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
1. **Project Management Coordination**											
a. Principal Coordination (3 mandays/month)	336.0										$30,240.00
b. Primary Construction Management (2 mandays/wk.)		960.0									$72,000.00
c. Staff Engineer (1 manday/week)			480								$28,800.00
2 **On-Site Construction Inspection**											
a. Full-Time Resident Inspector				2400.0							$108,000.00
b. Part-Time Inspector					1200.0						$48,000.00
c. Misc.							24.0			40.0	$3,360.00
3, **Periodic Field Work**								32.0	40.0		$4,680.00
4. **Shop Drawing Review**	40.0	60.0	20.0								$9,300.00
TOTAL HOURS	376.0	1020.0	500.0	2400.0	1200.0	0.0	24.0	32.0	40.0	40.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$90	$65	$65	$30	
CATEGORY SUBTOTAL	$33,840	$76,500	$30,000	$108,000	$48,000	$0	$2,160	$2,080	$2,600	$1,200	$304,380.00
TOTAL ENGINEERING COST	**$304,380**										

Project Description: Cape Hatteras Water Treatment Facilities

Owner: Dare County, North Carolina
HUA No.: Operational Services
Date: 9/10/96

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	TECH 1 (Hrs.)	BIO (Hrs.)	SURV3 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
1. As-Builts and 0&M Manuals												
a. As-Builts	16.0	24.0		32.0			40.0					$5,880.00
b. O&M Manuals	16.0	24.0		32.0			40.0				16.0	$6,360.00
TOTAL HOURS	32.0	48.0	0.0	64.0	0.0	0.0	80.0	0.0	0.0	0.0	16.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$30	$90	$65	$65	$30	
CATEGORY SUBTOTAL	$2,880	$3,600	$0	$2,880	$0	$0	$2,400	$0	$0	$0	$480	$12,240.00
TOTAL ENGINEERING COST	**$12,240**											

Hobbs, Upchurch & Associates, P.A.
Consulting Engineers
290 S.W. Broad Street • Post Office Box 1737 • Southern Pines, NC 28388

April 24, 1997

Mr. Bob Oreskovich
Water Production Department
600 Mustian Street
Kill Devil Hills, NC 27948

RE: Engineering Contracts
Cape Hatteras Water System
HUA No. DR9605-Financial

Dear Bob,

Enclosed you will find engineering contracts for the water treatment and water distribution improvements for the Cape Hatteras water system. Please review and distribute as necessary.

We look forward to hearing from you in the near future. If you have any questions or comments, please do not hesitate to call.

Sincerely,
HOBBS, UPCHURCH & ASSOCIATES, P.A.

Eric T. Weatherly, P.E.

Enclosures

Southern Pines, NC • Telephone 910-692-5616 • Fax 910-692-7342
Winston-Salem, NC • Telephone 910-759-3009 • Fax 910-759-7590
Myrtle Beach, SC • Telephone 803-626-1910 • Fax 803-626-1745

CONTRACT FOR ENGINEERING SERVICES

Water Distribution System Improvements to the Cape Hatteras Water System County of Dare

THIS AGREEMENT is made this _____ day of _____, 1997, by and between the County of Dare, hereinafter called the OWNER, and Hobbs, Upchurch & Associates, P.A., hereinafter called the ENGINEER.

WHEREAS, the OWNER intends to construct potable water system improvements in the Cape Hatteras area consisting of approximately 55,600 linear feet of 12" and 6" water main and appurtenances, booster pump station, elevated tank and tank appurtenances. The distribution system improvements are broken down into the following areas, hereinafter called the PROJECT.

A. 54,000 linear feet 12" water main between Hatteras tank and Avon booster pump station.

B. 1,600 linear feet 6" water main to complete loop at Flowers Ridge Road.

C. New 10 to 20 horsepower above-ground booster pump station to replace existing Avon booster pump station.

D. Dismantle 400k tank to replace the existing 100k Avon tank or new 300k tank to replace existing 100k Avon tank.

E. Install altitude valves at Avon, Buxton and Hatteras tanks.

F. Upgrade telemetry network at four elevated storage tanks, two booster pump station sites and one master control at water treatment plant.

NOW, THEREFORE, the OWNER and ENGINEER, for the consideration hereinafter named, agree as follows:

The ENGINEER agrees to perform for the above named project professional services as hereinafter set forth.

The OWNER agrees to compensate the ENGINEER for services as hereinafter provided.

I. SCOPE OF SERVICES

A. Engineering Design and Permitting

1. Prepare complete construction plans and specifications in accordance with applicable regulations.

2. Provide all necessary field surveying for preparation of the plans and specifications.

3. Verify any and all existing DOT rights-of-way in the project area for water main installation.

4. Coordination of subsurface investigations (soil borings) necessary for design of the water tank.

5. Prepare applications for, and secure, any and all required regulatory permits and/or approvals including those necessary but not limited to encroachment, construction, the environment, and/or local government agencies.

6. Prepare detailed cost estimate for each section of construction.

B. Construction Bidding

1. Provide coordination and assistance to the OWNER and the qualifying bidders as may be necessary and in accordance with appropriate procurement codes and laws governing North Carolina bidding processes.

2. Circulate plans and specifications to potential bidders, suppliers and trades.

3. Provide coordination with contractors and the OWNER as may relate to clarification of issues during the contractor's investigation for project bids.

4. Conduct pre-bid conferences with perspective bidders and suppliers as may be required to accurately disseminate project data.

5. Conduct formal bid opening, prepare certified bid tabulations and assist in project negotiations associated with the contracting process.

6. Evaluate and recommend award of the contracts to the OWNER.

7. Prepare contracts for execution by the OWNER and contractors.

C. Construction Management

1. Conduct pre-construction conference(s) as required to begin the construction.

2. Provide engineering assistance and coordination of the project effort with the contractors and suppliers while maintaining a liaison with the OWNER.

3. Provide a full-time resident project representative to oversee the overall project scope including construction coordination, scheduling and quality control as outlined in Exhibit "A" attached hereto.

4. Review and approve all shop drawings.

5. Present status reports to the OWNER on a monthly basis, both verbally and in writing.

6. Maintain on-site project drawings indicating modifications as may be approved during construction.

7. Review and recommend action on all change orders and/or all supplemental agreements as may arise during construction.

8. Coordinate and respond to all requests for clarification of plans and specifications as may arise during construction.

9. Review and recommend appropriate action on all payment requests from contractors.

10. Conduct pre-final inspection(s) and final inspection(s) including recommendation of project acceptance.

11. Prepare record drawings depicting final constructed facility.

II. PERFORMANCE SCHEDULE

Each type of service outlined in Section I, Scope of Services, shall be completed within the stipulated time period indicated below after written authorization to proceed with that service has been given by the OWNER.

A. Design and Permitting

Final design shall be completed within 210 calendar days, and the design documents shall be submitted to the regulatory agencies for review and approval.

B. Bidding

Bidding shall be completed within 60 calendar days.

C. Construction Management

Construction management shall be completed within the time stipulated for completion of construction in the Contract Documents. Anticipated time of construction is 300 calendar days.

III. PAYMENT SCHEDULE

A. Basis and Amount of Compensation for Basic Services

1. Compensation for Section I, Scope of Services, shall be on a lump sum basis. For design and permitting, bidding and construction management, Hobbs, Upchurch & Associates, P.A. shall be entitled to a lump sum fee of THREE HUNDRED THIRTEEN THOUSAND SIX HUNDRED SIXTY 00/100 DOLLARS ($313,660.00).

The OWNER agrees to pay the ENGINEER for services as follows:

Description of Work Phase	**Fee Amount**
A. Design and Permitting	$175,110
B. Bidding	$13,400
C. Construction Management	$125,150
Total	$313,660

NOTE: Exhibit "B" contains a detailed man-hour estimate for the project.

2. The ENGINEER shall receive progress payments on a monthly basis as mutually agreed by the OWNER based on the percent complete for each task outlined above.

B. Basis and Amount of Compensation for Additional Services

Compensation for additional services shall be on the basis of Hobbs, Upchurch & Associates, P.A.'s fee schedule attached hereto as Exhibit "C".

IV. ADDITIONAL SERVICES

Based on the current Scope of Services, certain items are specifically excluded from those services to be provided by the ENGINEER. These items are as follows:

A. Appraisals.

B. Payment to geotechnical firm for soil borings.

C. Acquisition and plats of easements necessary for construction outside the DOT right-of-way.

D. Construction stakeout.

E. Reproduction of contract documents beyond 20 sets.

F. Environmental reports.

G. Preparation of audit reports and/or any other financial document relating to the project.

V. TERMINATION OF CONTRACT

In the event the ENGINEER has not performed according to the terms of the Agreement for any reason including but not limited to substantial and unjustified delays in work without approval of the OWNER, the ENGINEER is found incapable of performing the class of work specified, or other breach of the terms of the contract, the OWNER may in its sole discretion declare the ENGINEER in default of the terms of this Agreement. Upon declaration by the OWNER of the default of the ENGINEER, the ENGINEER shall be furnished written notice of such default at the last known address which ENGINEER has provided to the OWNER. If the ENGINEER has not satisfied such default within ten (10) days from the date of the receipt of the written notice of such default, the OWNER shall consider the Agreement terminated and in such termination agree to pay the ENGINEER for work performed on or before the date of such termination. Said payment to be for man-hours performed at the hourly rate herein specified in Exhibit "C". The failure of the OWNER at any time to require performance by the ENGINEER of any provision hereof shall in no way affect the right of the OWNER hereafter to enforce same.

The OWNER and ENGINEER have discussed the risks, rewards and benefits of the project and the ENGINEER's total fee for services. The risks have been allocated such that the OWNER agrees that to the fullest extent permitted by law, the ENGINEER's total liability to OWNER for any and all injuries, claims, losses, expenses, damages or claim expenses arising out of this Agreement from any cause or causes shall not exceed the total amount of $1,000,000. Such causes include but are not limited to the ENGINEER's negligence, errors, omissions, strict liability, breach of contract or breach of warranty.

If the OWNER has pending claims against the ENGINEER due to the breach of the Contract and in question at the time of termination, the OWNER may withhold payment until such claims are settled and then make payment at the settled amount due to the ENGINEER.

The OWNER and ENGINEER each binds himself, his partners, successors, executors, administrators and assigns to the other party to the Agreement, and to the partners, successors, executors, administrators and assigns of each other party in respect to all covenants of the Agreement.

The OWNER and ENGINEER hereby agree to the full performance of the covenants contained herein.

IN WITNESS HEREOF, they have executed this Agreement, the day and the year first above written, which is the effective date of this Agreement.

HOBBS, UPCHURCH & ASSOCIATES, P.A.

BY:_____
Fred M. Hobbs, P.E.
President

Witness:_____
David T. Upchurch, P.E.
Vice President

COUNTY OF DARE

BY:_____
Robert V. Owens, Jr.
Chairman, County Commissioners

Witness:_____
Terry L. Wheeler
County Manager

EXHIBIT "A"

Duties, Responsibility and Limitations of the Resident Project Representative

DUTIES, RESPONSIBILITIES AND LIMITATIONS OF AUTHORITY

OF THE RESIDENT PROJECT REPRESENTATIVE

ENGINEER shall furnish a Resident Project Representative (RPR), assistance and other field staff to assist ENGINEER in observing performance of the Work of the Contractor.

Through more extensive on-site observations of the Work in progress and field checks of materials and equipment by the RPR and assistants, ENGINEER shall endeavor to provide future protection for OWNER against defects and deficiencies in the Work; but, the furnishings of such services will not make ENGINEER responsible for or give ENGINEER control over construction means, methods, techniques, sequences or procedures or for safety precautions or programs, or responsibility for CONTRACTOR's failure to perform the Work in accordance with Contract Documents.

The duties and responsibilities of the RPR are limited to those of ENGINEER in ENGINEER'S agreement with the OWNER and in the construction Contract Documents, and are further limited and described as follows:

A. General

RPR is ENGINEER'S agent at the site, will act as directed by and under the supervision of ENGINEER, and will confer with ENGINEER regarding RPR's actions. RPR's dealings in matters pertaining to the on-site work shall in general with ENGINEER and CONTRACTOR keeping OWNER advised as necessary. RPR's dealings with sub-contractors shall only be through or with the full knowledge and approval of CONTRACTOR. RPR shall generally communicate with OWNER with the knowledge of and under the direction of ENGINEER.

B. Duties and Responsibilities of RPR

1. **Schedules:** Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by CONTRACTOR and consult with ENGINEER concerning acceptability.

2. **Conferences and Meetings**: Attend meetings with CONTRACTOR, such as preconstruction conferences, progress meetings, job conferences, and other project-related meetings, and prepare and circulate copies of minutes thereof.

3. **Liaison:**

   a. Serve as ENGINEER'S liaison with CONTRACTOR, working principally through CONTRACTOR'S superintendent and assist in understanding the

intent of the Contract Documents; and assist in understanding the intent of the Contract Documents; and assist the ENGINEER in serving as OWNER'S liaison with CONTRACTOR when CONTRACTOR'S operations affect OWNER'S onsite operations.

b. Assist in obtaining from OWNER additional details or information, when required for proper execution of Work.

4. **Shop Drawings and Samples:**

a. Record date of receipt of Shop Drawings and samples.

b. Receive samples which are furnished at the site by CONTRACTOR, and notify ENGINEER of availability of samples for examination.

c. Advise ENGINEER and CONTRACTOR of the commencement of any Work requiring a Shop Drawing or sample of the submittal of the submittal has not been approved by ENGINEER.

5. **Review of Work, Rejection of Defective Work, Inspections and Tests**

a. Conduct on-site observations of the Work in progress to assist ENGINEER in determining if the Work is in general proceeding in accordance with the Contract Documents.

b. Report to ENGINEER where RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise ENGINEER of Work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

c. Verify that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and the CONTRACTOR maintains adequate records thereof; and observe, record and report to ENGINEER appropriate details relative to the test procedures and startups.

d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to the ENGINEER.

6. **Interpretation of Contract Documents:** Report to ENGINEER when clarifications and interpretations of the Contract Documents are needed and transmit to CONTRACTOR clarifications and interpretations as issued by ENGINEER.

7. **Modifications:** Consider and evaluate CONTRACTOR'S suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to ENGINEER. Transmit to CONTRACTOR decisions as issued by ENGINEER.

8. **Records:**

   a. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, ENGINEER'S clarification and interpretations of the Contract Documents, progress reports, and other Project related documents.

   b. Keep a diary or log book, recording CONTRACTOR hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to ENGINEER.

   c. Record names, addresses and telephone numbers of all CONTRACTORS, subcontractors and major suppliers of materials and equipment.

9. **Reports:**

   a. Furnish ENGINEER periodic reports as required of progress of the Work and of CONTRACTOR'S compliance with the progress schedule and schedule of Shop Drawing and sample submittals.

   b. Consult with ENGINEER in advance of scheduled major tests, inspections or start of important phases of the Work.

   c. Draft proposed Change Orders and Work Directive Changes, obtaining backup material from CONTRACTOR and recommend to ENGINEER Change Orders, Work Directive Changes, and Field Orders.

d. Report immediately to ENGINEER and OWNER upon the occurrence of any accident.

10. **Payment Requests:** Review applications for payment with CONTRACTOR for compliance with the established procedure for their submission and forward with recommendations to ENGINEER, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.

11. **Certificates, Maintenance and Operation Manuals:** During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to ENGINEER for review and forwarding to OWNER prior to final payment for the Work.

12. **Completion:**

a. Before ENGINEER issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring completion or correction.

b. Conduct final inspection in the company of ENGINEER, OWNER and CONTRACTOR and prepare a final list of items to be completed or corrected.

c. Observe that all items on final list have been completed or corrected and make recommendations to ENGINEER concerning acceptance.

C. Limitations of Authority

Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by ENGINEER.

2. Shall not exceed limitations of ENGINEER'S authority as set forth in the Contract Documents.

3. Shall not undertake any of the responsibilities of CONTRACTOR, subcontractors or CONTRACTOR'S superintendent.

4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction

unless such advise or directions are specifically required by the Contract Documents.

5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.

6. Shall not accept Shop Drawing or sample submittals from anyone other than CONTRACTOR.

7. Shall not authorize OWNER to occupy the Project in whole or in part.

8. Shall not participate in specialized field or laboratory tests or inspection conducted by others except as specifically authorized by ENGINEER.

EXHIBIT "B"

Man-Hour Estimate

Project Description: Cape Hatteras Water Distribution Facilities
Owner: Dare County, North Carolina
Manhour Estimate For: Water Main Design
Date: 4/22/97

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	BIO (Hrs.)	SURV 3 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
Route Evaluation, Coordination of Existing Utilities	40	60									$8,100.00
Field Surveying								40.0	280.0		$20,800.00
Transpose Final Alignment to AutoCAD			8.0		80.0						$3,680.00
Preparation of Final Plans	80.0	160.0	40.0	40.0	780.0						$54,600.00
Preparation of Specifications	40.0	60.0	16.0	16.0						24.0	$10,500.00
Construction Cost Estimates	16.0	24.0	4.0	2.0							$3,570.00
Permitting	24.0	40.0	4.0	4.0			16.0				$6,780.00
TOTAL HOURS	200.0	344.0	72.0	62.0	860.0	0.0	16.0	40.0	280.0	24.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$75	$65	$65	$30	
CATEGORY SUBTOTAL	$18,000	$25,800	$4,320	$2,790	$34,400	$0	$1,200	$2,600	$18,200	$720	$108,030.00
TOTAL ENGINEERING COST	**$108,030**										

Project Description:	Cape Hatteras Water Distribution Facilities										
Owner:	Dare County, North Carolina										
Manhour Estimate For:	Tank Design										
Date:	4/22/97										
TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	BIO (Hrs.)	SURV 3 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
Field Surveys: Elevations, Existing Utilities								8.0	32.0		$2,600.00
Replace 100 k Avon Tank with 400 k Tank from Frisco											
Plans	16.0	24.0		8.0	32.0						$4,880.00
Specifications	16.0	32.0		8.0						16.0	$4,680.00
New 300 k Avon Tank											
Plans	16.0	40.0		8.0	48.0						$6,720.00
Specifications	16.0	32.0		8.0						16.0	$4,680.00
Altitude Valve Design	4.0	16.0			24.0						$2,520.00
Telemetry Network Design	32.0	24.0			16.0						$5,320.00
Construction Cost Estimates	4.0	24.0									$2,160.00
Coordination with Geotechnical Firm	2.0	40.0									$3,180.00
Permitting	8.0	16.0									$1,920.00
TOTAL HOURS	114.0	248.0	0.0	32.0	120.0	0.0	0.0	8.0	32.0	32.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$75	$65	$65	$30	
CATEGORY SUBTOTAL	$10,260	$18,600	$0	$1,440	$4,800	$0	$0	$520	$2,080	$960	$38,660.00
TOTAL ENGINEERING COST	**$38,660**										

Project Description:	Cape Hatteras Water Distribution Facilities										
Owner:	Dare County, North Carolina										
Manhour Estimate For:	Construction Bidding										
Date:	4/22/97										
TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	TECH 1 (Hrs.)	SURV 3 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
Solicitation of General Contracts and Pre-Bid Conferences	8.0	32.0	32.0				80.0				$7,440.00
Receipt and Recommendation of Awards	8.0	32.0	24.0			40.0					$5,960.00
TOTAL HOURS	16.0	64.0	56.0	0.0	0.0	40.0	80.0	0.0	0.0	0.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$30	$65	$65	$30	
CATEGORY SUBTOTAL	$1,440	$4,800	$3,360	$0	$0	$1,400	$2,400	$0	$0	$0	$13,400.00
TOTAL ENGINEERING COST	**$13,400**										

Project Description: Cape Hatteras Water Distribution Facilities
Owner: Dare County, North Carolina
Manhour Estimate For: Construction Management (10-month construction period)
Date: 4/22/97

TASK	ENG 4 (Hrs.)	ENG 3 (Hrs.)	ENG 2 (Hrs.)	TECH 4 (Hrs.)	TECH 3 (Hrs.)	TECH 2 (Hrs.)	TECH 1 (Hrs.)	SURV 3 (Hrs.)	SURV Crew	SEC (Hrs.)	WORK ITEM SUBTOTAL
Project Management Coordination											
Principal Coordination	400.0										$36,000.00
Primary Construction Management		120.0									$9,000.00
Staff Engineer			120.0								$7,200.00
Onsite Construction Inspection											
Water Main Construction				160.0	700.0						$35,200.00
Tank Construction					320.0						$12,800.00
Booster Pump Station Construction				40.0	160.0						$8,200.00
Preconstruction Conference	16.0			16.0	16.0						$2,800.00
Review Shop Drawings	32.0	10.0	10.0								$4,230.00
Substantial Completion and Final Inspection with Owner and Contractor	8.0			24.0	24.0						$2,760.00
Final Inspections with NCDOT, Land Quality Section and Owner	8.0				24.0						$1,680.00
As-Built Drawings	16.0	16.0			60.0		8.0				$5,280.00
TOTAL HOURS	480.0	146.0	130.0	240.0	1304.0	0.0	8.0	0.0	0.0	0.0	
CATEGORY FEE	$90	$75	$60	$45	$40	$35	$30	$65	$65	$30	
CATEGORY SUBTOTAL	$43,200	$10,950	$7,800	$10,800	$52,160	$0	$240	$0	$0	$0	$125,150.00
TOTAL ENGINEERING COST	**$125,150**										

EXHIBIT "C"

Fee Schedule

FEE SCHEDULE

Hobbs, Upchurch & Associates is pleased to offer our clients a competitive rate structure. Our firm aggressively pursues the control of overhead and quality in an effort to maintain the highest level of professional service at the most reasonable project costs.

ENGINEER - GRADE IV	$90.00/HOUR
ENGINEER - GRADE III	$75.00/HOUR
ENGINEER - GRADE II	$60.00/HOUR
ENGINEER - GRADE I	$50.00/HOUR
REGISTERED LANDSCAPE ARCHITECT	$55.00/HOUR
SURVEYOR - GRADE III	$65.00/HOUR
SURVEYOR - GRADE II	$55.00/HOUR
SURVEYOR - GRADE I	$45.00/HOUR
CONSTRUCTION MANAGER	$60.00/HOUR
TECHNICIAN - GRADE IV	$45.00/HOUR
TECHNICIAN - GRADE III	$40.00/HOUR
TECHNICIAN - GRADE II	$35.00/HOUR
TECHNICIAN - GRADE I	$30.00/HOUR
THREE-MAN SURVEY CREW	$80.00/HOUR
TWO-MAN SURVEY CREW	$65.00/HOUR
GIS COORDINATOR	$70.00/HOUR
SECRETARY - GRADE II	$35.00/HOUR
SECRETARY - GRADE I	$30.00/HOUR

Hobbs, Upchurch & Associates, P.A. hourly rates include all expenses and reflect our competitive pricing.

Specific projects may be addressed on an hourly rate or based on mutually agreed upon lump sum fees, negotiated on the basis of a well-defined scope of services.

The ultimate aim of our services and fees is to provide the client with professional assistance in a timely and cost-conscious manner.

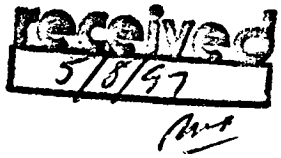
WESTERN OFFICE

707 544-7908
707 527-7908 (FAX)

WATERPRO@MSN.COM

AEPI/ROSTEK, INC.
3580 Ridgeview Drive
Santa Rosa, CA, 95404

May 5, 1997



Robert Oreskovich
600 Mustian Street
Kill Devil Hills, N. Carolina 27948

Reference: Proposed Agreement for Design of RO Water Treatment Plant
Cape Hatteras, North Carolina

Dear Bob

Please find attached four(4) copies of the subject agreement, executed by me as President of AEPI/RosTek, Inc. If the County review process finds everything to be satisfactory, please have Bobby Owens or his designee execute all four copies, and return two(2) copies to me. We will then await your Notice to Proceed before starting the work

Both OJ and I are looking forward to this project, and continuing both of our associations with Dare County.

You will see in the Fee Proposal that I have included estimates of $20,000 each for Tasks V and VI, and $15,000 for Task III. As requested, an estimate for the pilot testing phase is also include. Please give me a call if you have any questions.

Sincerely,

Ian C. Watson, PE
President/COO

cc: O. J. Morin, Eastern Office

Attachments
c:\icwwork\Dare County\Cape Hatteras\letter1.doc

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT is entered into on the _____ day of _____, 19 ___, by and between _____

The Board of County Commissioners, Dare County, North Carolina

_____, hereinafter called "CLIENT,"

and AEPI/RosTek, Inc, a Florida corporation, hereinafter called "CONSULTANT," as follows:

CLIENT engages CONSULTANT to perform professional services for a project known and described as _____

Design and Construction of a new Reverse Osmosis Water Treatment Plant, and Modifications to the Existing Water Treatment Plant, Buxton, Hatteras Island, North Carolina.

_____, hereinafter called the "PROJECT"

CLIENT and CONSULTANT, for mutual consideration, agree as follows:

1. **Scope of Services.** CONSULTANT agrees to provide and perform certain professional services for CLIENT in connection with the PROJECT as set forth in Exhibit "A" attached hereto and incorporated by this reference.

2. **Schedule.** CONSULTANT shall perform its services in accordance with the schedule mutually agreed to at the time CLIENT gives notice to proceed with the PROJECT. CLIENT agrees that CONSULTANT shall not be responsible for delays which are due to causes beyond CONSULTANT's reasonable control. In the case of any such delay, the time for completion of CONSULTANT's services hereunder shall be extended accordingly. CONSULTANT shall coordinate his work with Hobbs, Upchurch and Associates, and Missimer International, Inc.

3. **Compensation.**

   a. ***Fees.*** CLIENT agrees to pay CONSULTANT as compensation for its services in accordance with the Fee Schedule attached hereto and incorporated by this reference as Exhibit "B." All Fees and other direct costs will be billed monthly as the work progresses. Lump sum fees will be invoiced on a "percentage of the work completed" basis, and Time and Expense fees and other costs will be invoiced as incurred. Time and Expense fees and other costs will be invoiced according to the Standard Rate Schedule, attached as Exhibit "C". The net amount of the monthly invoice shall be due at the time of billing, and paid within 30 days.

   b. ***Project Delay.*** In the event that CONSULTANT's services hereunder are delayed for a period in excess of six months due to causes beyond CONSULTANT's reasonable control, CONSULTANT's compensation shall be subject to renegotiation.

   c.. ***Partial Services.*** In the event any portion of the work prepared or partially prepared by CONSULTANT is suspended, abandoned, or terminated, CLIENT shall pay CONSULTANT for the work performed on such portion, not to exceed any maximum contract amount specified herein.

4. **Standard of Care.** In the performance of its professional services, CONSULTANT will use that degree of care and skill ordinarily exercised under similar conditions in similar localities and no other warranties, express or implied, are made or intended in any of CONSULTANT's proposals, contracts or reports. CONSULTANT shall be entitled to rely upon the accuracy of data and information provided by CLIENT or others without independent review or evaluation unless provided otherwise in Exhibit "A." CONSULTANT shall perform its services in connection with applicable laws, rules, regulations and standards that are in effect as of the date of this agreement. If any changes occur in such laws, rules,

regulations or standards that materially affect the scope of work or schedule of this agreement, CONSULTANT's compensation shall be renegotiated accordingly.

5. **Opinion of Construction Cost.** Any Opinion of the Construction Cost prepared by CONSULTANT represents its judgment as a design professional and is supplied for the general guidance of CLIENT. Since CONSULTANT has no control over the cost of labor and material, or over competitive bidding or market conditions, CONSULTANT does not guarantee the accuracy of such opinions as compared to contractor bids or actual cost to CLIENT.

6. **Limitation of Liability.** In recognition of the relative risks and benefits of the PROJECT to the parties, CLIENT agrees to limit CONSULTANT's liability for damages to CLIENT arising out of services performed hereunder to a sum not to exceed $50,000 or CONSULTANT's fee, whichever is greater.

7. **Construction Contractor.**

   a. ***Construction Contractor Indemnification.*** CLIENT will require that any construction contractor performing work in connection with the PROJECT hold harmless, indemnify and defend CLIENT, CONSULTANT, their consultants, and each of their directors, officers, agents and employees from any and all liabilities, claims, losses, damages and costs, including attorneys' fees, arising out of or alleged to arise from the construction contractor's performance of the work described in the construction contract documents, but not including liability that may be due to the sole negligence of CLIENT, CONSULTANT, their consultants, or their directors, officers, agents and employees.

9. **Fees and Permits.** CLIENT shall pay the cost of all fees, permits, bond premiums, title company charges, in connection with the PROJECT unless otherwise specified in Exhibit "A."

10. **Termination of Agreement.** This agreement may be terminated by either CLIENT or CONSULTANT upon thirty days' written notice in the event of a change in the PROJECT, or an unforeseen circumstance, or upon substantial failure of the other party to perform in accordance with the terms of this agreement. In the event of termination of this agreement, CONSULTANT shall prepare a final invoice for fees and other costs incurred up to the time of termination of the agreement, in accordance with the compensation arrangements included in this agreement.

11. **Dispute Resolution.** The parties agree in good faith to attempt to resolve amicably, without litigation, any dispute arising out of or relating to this agreement. In the event that any dispute cannot be resolved through direct discussions, the parties agree to endeavor to settle the dispute by mediation. Either party may make a written request for mediation, which request shall specify the facts of the dispute. The matter shall be submitted to a mediator who shall hear the matter and provide an informal nonbinding opinion and advice in order to help resolve the dispute. The mediator's fee shall be shared equally by the parties.

12. **Assignment.** Services provided under this agreement are for the exclusive use of CLIENT. Neither CLIENT nor CONSULTANT shall assign its interest in this agreement without the written consent of the other.

14. **Severability.** Should any provision herein be found or deemed to be invalid, this agreement shall be construed as not containing such provision, and all other provisions which are otherwise lawful shall remain in full force and effect, and to this end the provisions of this agreement are declared to be severable.

15. **Other Agreements.** There are no understandings or agreements except as herein expressly stated.

16. **Counterparts.** This agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

17. **Governing Law.** This agreement shall be governed by and construed in accordance with the laws of the State of North Carolina

IN WITNESS WHEREOF, the parties hereto have accepted, made and executed this agreement upon the terms, conditions and provisions above stated, the day and year first above written.

For CONSULTANT

AEPI/RosTek, Inc

By:_____

Ian C. Watson

Title: President/C.O.O.

For CLIENT

Dare County, N. Carolina

By:_____

Robert V. Owens, Jr

Title: Chairman

EXHIBIT "A"
Scope of Services

Owner: County of Dare

Project: Water Treatment Plant Improvements to Serve the Cape Hatteras Area, North Carolina
Consultant shall perform the following services in connection with the design and construction of a brackish water RO plant, and modifications to the existing shallow water treatment plant.

Optional Services-RO Pilot Plant

Part of the water system improvements proposed for the Cape Hatteras area involve the construction and operation of a brackish water reverse osmosis plant. Initial indications, based on sampling and analysis of the proposed source water aquifer during a full scale pump test, are that pilot testing may not be required prior to finalizing the process design. However, until all of the feedwater wells are constructed, developed and tested, pilot testing of RO to evaluate fouling potential cannot be finally dismissed. As such, the following optional services work scope has been developed, to be implemented only after discussion with and at the written direction of the owner.

1. Provide a Trailer Mounted Pilot Plant (feedwater capacity approximately 20 gallons per minute) consisting of a cartridge filter, membrane treatment unit, RO booster pump, and chemical feed system. Total operational period for the pilot plant will be limited to 90 calendar days. The 90 day optional period will exclude the following: approximately seven days total for a setup, initial testing and instruction of the Dare County operator(s); two days for monitoring initial performance after the pilot plant is fully operational; and two days for removal of the pilot plant after testing is complete. Operation of pilot facilities may be extended if necessary, upon written notice from Dare County. ***(either the Consultant or Dare County will provide a complete, trailer mounted pilot plant including mobilization/demobilization, start-up and training.)***

2. Provide Weekly Monitoring of pilot plant operation and condition of equipment. ***(Consultant will make one three day trip per month during pilot plant operations. Review and advice on operations during the test period and review of data is included in this task.)***

3. Water Quality Data. Owner will provide water quality testing and analytical services as required.

4. Perform Evaluations of Test Results obtained from the pilot plant operation for use in development of process design for the RO plant. Test results will be used to develop operational parameters for a full-scale facility including:

   a. The need for pretreatment,
   b. The type of pretreatment - if any,
   c. Membrane performance,
   d. Finished water characteristics,
   e. Blended water characteristics,
   f. Brine characteristics and disposal volume.

5. Report. A report will be prepared for submission to Dare County. The report will summarize the pilot test data, and summarize the evaluations developed in Subtask 4. The impact of the study findings on the overall project will be evaluated, and summarised.

Responsibilities of the Owner during Optional Services

1. Owner will provide the site for the RO pilot plant, and will arrange for weather protection appropriate to the season.

2. Owner will provide for a feedwater supply at the requested flow and pressure for the pilot plant.

3. Owner will provide electrical service as specified by the Consultant to the pilot plant site.

4. Owner will provide staff to monitor the RO pilot plant, take samples and log data, adjust conditions and maintain the operation.

5. Owner will arrange for the mixing and disposal of the permeate and concentrate from the RO pilot.

Task I - Preliminary Design Report

As part of the design services, theConsultant will produce a Preliminary Design Report. The report will include an opinion on the anticipated project cost for the work covered within the confines of this scope document.

The Preliminary Design Report will contain the following information:

1. Basic design assumptions, process calculations, equipment capacities and sizes, and overall equipment layouts.

2. Preliminary process electrical power distribution, and piping and instrumentation diagrams (P&IDs).

3. Process equipment sizing, and building floor plan arrangements for the process and related area(s).

4. Opinion on maximum project construction cost.

5. The project schedule including schedules for procurement and construction of the RO system.

An initial meeting with the Owner to clarify understanding of the scope and parameters of the project will be held. The Consultant will then conduct two (2) workshops with the Owner's staff to review progress of the Preliminary Design Report.

Task II - Final Design, Construction Drawings and Specifications

Prepare final design calculations, equipment sizing and membrane performance projections for the RO system, defined as all the equipment associated with and supporting the membrane assembly operation. This will include the following:

Mechanical design
Electrical design
Process design
Instrumentation and Control

The list of drawings proposed for the RO plant is as follows:

Site plan (by HUA with Consultant input)
Building floorplan
Equipment layout
Pipe trench layout
Pipe trench drainage
Process flow diagram
RO system layout
Pretreatment and RO pump plans
Sections and elevations
RO train plan and elevations
RO piping sections and details
Post treatment arrangement
Post treatment details and elevations
P&ID Pretreatment
P&ID RO System
P&ID Post treatment
P&ID Chemical Systems and Cleaning System
I&C Legend and Symbols
Control System block diagram
Building cross section (based on HUA - prepared building plans)
Electrical Legend and Symbols
Electrical single line diagram
Electrical Panels and Details
Control Room Layout and Details
Control Panel Layout and Details
Instrument Mounting Details

The drawing list is based on the assumption that the Consultant's work will start at a point on the raw well water piping ± 5 feet outside the building line and will terminate at a point on the product water piping after post-treatment, and ± 5 feet outside the building wall for the concentrate pipe. The design will include the complete RO system and related items such as chemical systems, cleaning system and instrumentation and control. Electrical is limited to those devices traditionally supplied with RO equipment, such as VFDs, and structural is limited to information required for foundation design (by others) for RO related equipment. It is assumed that the architectural, structural, mechanical and electrical building systems, as well as site grading, paving, drainage, site piping, utilities, and all offsite work will be designed by Hobbs, Upchurch & Associates.

The proposed scope of work for design, plans and specifications is based on the RO package being bid as a separate contract, with installation by the general contractor. The RO system contractor will provide on site supervision, instrumentation and control support, and personnel for commissioning, startup and testing.

The Consultant's standard specification and detailing standards will be used throughout.

Design reviews will be scheduled with Dare County and HUA at 50%, 75% and 95% completion. Three (3) sets of completed plans and specifications will be provided to Dare County, with one (1) set provided to HUA, for each review.

Task III - Pre Award Services

Consultant will provide the following services during the period between completion of design and RO Contract Award:

1. Coordinate bid letting date, time, and place with Dare County and prepare final Invitation to Bid.

2. Assist and advise Dare County in placing the advertisements of the Invitation to Bid.

3. Identify potential contractors and suppliers, and distribute copies of Invitation to Bid. Maintain a record of prospective bidders and suppliers to whom bid packages have been issued. Consultant will also provide assistance to HUA if addenda to the RO system bid documents impacts the scope of the of the work to be performed by HUA..

4. Provide a sufficient number of sets of construction contract drawings and specifications for bidding purposes, and distribute the drawings and specifications to prospective bidders.

5. Receive payment for construction contract drawings and specifications for Bidding purposes. Consultant will retain these monies as compensation for reproduction and mailing expenses. Provide assistance to HUA on balance of project, as required.

6. Arrange and moderate a pre-bid conference at or near the plant site.

7. Interpret construction contract drawings and specifications, and provide written responses to questions from bidders requiring clarification during the bidding period. Prepare and issue addenda to the construction contract documents as required.

8. Assist the Owner during bid opening. Answer questions during bid opening, make preliminary tabulation of bids, and review questionnaires and bids for completeness. Provide Discussion of Bids and make recommendation for award.

Task IV - Construction Services

Consultant will provide the following services during the fabrication, installation, commissioning, start-up and testing of the Reverse Osmosis System.

1. Pre-construction conference. Dare County, Consultant and HUA will meet with the successful RO system bidder and the general contractor after award of the general contract. The purpose of this meeting is to review the project schedule, the scope of the RO contractor's services, interface points with the general contractor and craft contractors if required. The shop drawing procedure, request for information (RFI) procedure, change order procedure, and request for substitution procedure all will be reviewed. Any questions raised by any party will be addressed at this time, or a written response provided after the meeting. Consultant will be responsible for memorializing this meeting with distributed minutes. Any written responses to questions raised will be copied to all attendees.

2. Shop Drawing and Samples. Consultant will be responsible for establishing and maintaining a shop drawing management system. Consultant will be the primary contact for RO system shop drawings, and will be responsible for distribution to Dare County and HUA.

3. Contract Change Orders. Consultant will be responsible for preparation, review and processing of RO system contract change orders. Consultant will recommend necessary or desirable changes to Dare County, review and comment on Dare County generated suggestions, review and comment on requests by the RO system contractor; prepare and maintain change order documentation, and assist Dare County in negotiating contract change orders.

4. Payments to RO System Contractor. Consultant will develop and implement a procedure for the review, approval and processing of RO system contractor's applications for payment.

5. Provide Oversight of the plant commissioning and start-up, in cooperation with Dare County and HUA. Assist Dare County in checking the RO system and associated components for readiness. Monitor acceptance test, and provide a report on the test results to Dare County.

6. Provide Periodic On Site Representation at project progress meetings. Provide monthly review of the RO system contract progress, and provide a letter report to Dare County and HUA. Six (6) monthly visits of three days each are proposed, with 5-10 days onsite during start up and testing.

Task V - Input to Balance of Work

This phase covers advisory and technical input to HUA during the design development and construction of the balance of plant, including process building; site development; raw water collection and transmission system; wells and well appurtenances; and integration of the RO system package into the overall project.

Task VI - Supplemental and Additional Services

From time to time, supplemental and additional services which cannot be defined in advance may be required. Such services could include a change in scope requiring engineering investigation; a request from HUA for assistance in the maintenance of the NPDES permit which is not covered within this scope document; response to requests for input from Dare County; and similar services. Also, Consultant's costs associated with extensions to the construction schedule would fall into this category.

Dare County, North Carolina
Cape Hatteras Water Treatment Improvements

EXHIBIT "B"
Fee Proposal Summary

Task #	Description	Fee Basis	Fee Amount
1	Preliminary Design Report		$ 50,000
11	Final Design, Drawings, & Specifications.		$150,000
111	Pre-award Services	Time & Expense	$ 15,000
1V	Construction Phase Services		$ 99,000
V	Input to Balance of Work	T & E	$ 20,000
V1	Supplemental and Additional Services(Allowance)	T & E	$ 20,000
Optional	RO Pilot Testing	T & E	
	Pilot Plant Rental (by Owner)		$ 20,000
	Consultant Support		$ 20,000
	Subtotal, Lump Sum Component		$299,000
	Subtotal, Time and Expense Component(ex. Pilot Plant Rental)		$ 75,000
	Total Estimated Fee		**$374,000**

Dare County, North Carolina
Cape Hatteras Water Treatment Improvements

EXHIBIT "C"
AEPI/RosTek, Inc.
TIME AND EXPENSE RATE SCHEDULE

Principal Consultant	$125.00/hr
Associate	$100.00/hr
Drafting	$ 65.00/hr
Clerical/Word Processing	$ 45.00/hr

Travel and accommodation	cost + 0%
Automobile Travel	$0.30/mile
Xeroxing, Printing and Blueprinting	cost + 5%
Postage and Overnight	cost + 0%
Telephone/Fax/Cellular	cost + 5%
Lab. Work, Testing, Special Services	cost + 10%
Subcontracted Work	cost + 10%

Note 1. Unless otherwise negotiated, hourly rates are charged portal to portal
Note 2. For well defined scope of work, lump sum task fees may be negotiated.

4/25/97

PHASE II

5,400	1.) ON SITE INSPECTIONS / MEETINGS
29,500 + 98,000	2.) SUPERVISION OF AND MONITOR WELL (7) CONSTRUCTION
19,500	3.) APT & HYDRAULIC ANALYSIS (MINUS TEST PUMP RENTAL)
2,000	4) WATER QUALITY ANALYSES
46,000	5.) COMPUTER MODELING
9,800	6) W.F. DESIGN & REPORT
4,800	7.) TECH. SPECS.
$215,000	

PHASE III

85,000	170,000	1.) PRODUCTION WELL CONSTRUCTION
3,500	7,000	2.) STEP-DRAWDOWN TESTING
25,500	51,000	3.) WELL CONSTRUCTION & TESTING SPVSN
4,500	6,000	4.) WELL COMPLETION REPORT
$118,500		

$234,000

4/25/97
RLW

MISSIMER INTERNATIONAL INC.

April 24, 1997

Mr. Bob Oreskovich
Dare County Water Production Department
600 Mustian Street
Kill Devil Hills, NC 27948

Re: Cape Hatteras Reverse Osmosis Wellfield
Proposal for Testing, Analysis, and Wellfield Design Services

Dear Bob:

A preliminary reverse osmosis raw water supply feasibility study was conducted on Hatteras Island during the spring and summer of 1995. Three test wells were constructed near the Cape Hatteras Water Association (CHWA) water treatment plant as part of the study. Step-drawdown testing and lithologic and water quality analyses were conducted. Results of this Phase I investigation indicate that a viable source of brackish water suitable for reverse osmosis treatment exists on Hatteras Island. Based on the study, the upper part of the Mid-Yorktown Aquifer is proposed for development of up to 4 MGD or more of raw water supply to the planned reverse osmosis plant. The productive capacity of this zone is very good, however, water quality within the unit was found to be quite variable between the three test well locations.

A Phase II test program is proposed to obtain the required information for design of the reverse osmosis production wellfield and water treatment facility. The monitor wells proposed for construction during the Phase II drilling and testing program will also be important to assess water level and quality conditions in the aquifer when the production wellfield is in operation. This data will be useful in evaluating wellfield performance and long-term protection of the resource. In order to complete the evaluation for development of the resource, a number of investigative tasks remain as recommended in the Phase I report.

The primary objectives of the Phase II investigation are as follows:

1) Determine pertinent hydraulic characteristics of the aquifer system and assess water quality trends within the production zone and underlying units.

8140 College Parkway, Suite 202
Fort Myers, Florida 33919

(941) 432-9494
FAX (941) 432-9453

2) Develop 3-dimensional hydraulic and solute transport computer models of the aquifer system in order to evaluate the long-term yield and water quality stability of the source.

3) Optimize wellfield design by selecting production well locations and pumping rates with consideration given to well site availability, procurement and construction costs, treatment plant requirements, and predicted wellfield performance.

The Phase II project scope includes monitor well construction, aquifer performance testing, water quality sampling, computer modeling, and data analysis. Upon completion of the project a detailed report of the investigation results will be prepared with conclusions and recommendations for the final production wellfield design. In addition, technical specifications for construction of the reverse osmosis production wells will be prepared to assist in obtaining bids for wellfield construction.

Following the completion of Phase II, the final phase of the raw water supply project would be installation of the permanent reverse osmosis production wells. Phase III would include production well construction and development, step-drawdown testing, water quality sampling and analyses, and preparation of a wellfield completion report.

The various tasks required to achieve the project objectives for Phase II and Phase III are described in detail on the following pages along with associated costs for each item. The cost estimates provided can be considered not to exceed values. We estimate the field drilling and testing activities for the Phase II test program will take approximately two months to complete. The Phase II data analysis, computer modeling and report preparation can be accomplished in roughly two months also. Therefore, we estimate it will take approximately four to five months to complete the proposed Phase II work scope. Construction and testing of the permanent production wells (Phase III) will probably take an additional two to four months depending upon how many wells are required.

Please review the enclosed proposal and let me know if you have any questions or comments. We are prepared to begin work upon your approval.

Sincerely,

Wm. Scott Manahan, P.E.
Water Resource Engineer

WSM:lk
Enclosure

MISSIMER INTERNATIONAL INC.

DARE COUNTY WATER PRODUCTION DEPARTMENT
CAPE HATTERAS REVERSE OSMOSIS WELLFIELD
PHASE II - RAW WATER SUPPLY INVESTIGATION

1. **Meetings and Site Inspection** - Senior Missimer International Inc. (MI) staff will discuss proposed wellfield alignments with Dare County staff and travel to Cape Hatteras in order to make site inspections and stake potential monitor well locations. The cost for this item includes air fare and miscellaneous travel expenses as well as time spent in meetings, conference calls, etc.

2. **Monitor Well Construction** - A total of seven (7) monitor wells will be constructed for use in aquifer performance testing and to assess water quality trends. Of the seven wells, five will be constructed within the proposed production zone and two will tap underlying units. The cost for this item includes subcontracted drilling fees, on-site supervision by a hydrogeologist, water sampling, lithologic analyses, and per diem expenses including travel. Cost assumes access to the drill sites is readily available and that the sites have been cleared and prepared for drilling activities.

3. **Aquifer Performance Testing and Hydraulic Data Analysis** - An aquifer performance test (APT) will be conducted utilizing the existing test well TW-3 as the test/production well. The well will be pumped continuously at a high rate (700 gpm or greater) for a minimum of 72 hours. Drawdown in the aquifer will be monitored with electronic pressure transducers in several of the wells constructed for the test. Water samples will be obtained from the test/production well periodically throughout the test. Time and drawdown data collected during the test will be transferred to a computer for plotting and analysis. The aquifer hydraulic coefficients of transmissivity, storage coefficient, and leakance will be calculated using the APT data. The cost for this item includes design and supervision of the aquifer performance test, data logger and transducer rental, water sampling, hydraulic data analysis and per diem expenses. Costs for the test pump are not included. The Cape Hatteras water treatment plant personnel were able to provide this equipment during previous testing of well TW-3.

4. **Water Quality Analyses** - It is assumed that the staff with the Dare County Water Production Department will analyze the majority of water samples obtained during the investigation. However, complete analyses for a full suite of parameters may be required. This item will be billed based on laboratory cost and shipping and handling charges plus 20 percent for procurement and miscellaneous expenses. An estimate is provided here for budgeting purposes.

DARE COUNTY WATER PRODUCTION DEPARTMENT
CAPE HATTERAS REVERSE OSMOSIS WELLFIELD
PHASE II - RAW WATER SUPPLY INVESTIGATION
-CONTINUED-

5. **Computer Modeling** - Hydraulic and solute transport computer models will be developed to simulate the brackish water aquifer system underlying Hatteras Island. The models will incorporate aquifer hydraulic coefficients, water quality data, and other information determined from the results of on-site testing and analyses. The models will be used to optimize wellfield design by evaluating various alignments and pumpage rate scenarios. A final proposed wellfield design and operation schedule will be determined based on predicted wellfield performance, water treatment plant requirements, and production well site availability. The cost for this item includes software expenses, development of the models, calibration to the available hydraulic data, and evaluation of wellfield alignment and pumpage scenarios.

6. **Wellfield Design and Report** - A detailed report will be prepared that describes the testing and analysis procedures utilized during the investigation. The computer modeling results will be presented along with specific recommendations regarding wellfield development including well locations, construction details and drilling techniques, pumpage rates and scheduling.

7. **Technical Specifications** - Specifications for the construction and testing of the reverse osmosis production wells will be prepared. Drilling methods, well completion and development techniques, and anticipated cased and total depths of the wells will be included to assist contractors in preparing bids for the job.

MISSIMER INTERNATIONAL INC.

DARE COUNTY WATER PRODUCTION DEPARTMENT
CAPE HATTERAS REVERSE OSMOSIS WELLFIELD
PHASE II - RAW WATER SUPPLY INVESTIGATION

ESTIMATED PROJECT COSTS

1.	Meetings and Site Inspection	$ 5,400.00
2.	Monitor Well Construction and Testing Supervision	29,500.00
2a.	Subcontracted Drilling Expenses (7 wells as recommended in the preliminary investigation report)	98,000.00
3.	Aquifer Performance Testing & Hydraulic Data Analysis	19,500.00
4.	Water Quality Analyses (if required)	2,000.00
5.	Data Reduction/Analysis/Computer Modeling	46,000.00
6.	Wellfield Design and Report	9,800.00
7.	Production Well Technical Specifications	4,800.00

Total Estimated Phase II Project Cost: $215,000.00

MISSIMER INTERNATIONAL INC.

DARE COUNTY WATER PRODUCTION DEPARTMENT
CAPE HATTERAS REVERSE OSMOSIS WELLFIELD
PHASE III - PERMANENT PRODUCTION WELL CONSTRUCTION

The number of permanent production wells required and their locations will be determined based on the results of the Phase II investigation. The costs provided below are based on the assumption that either two or four production wells will be needed to meet the treatment plant demands. The existing test/production well (TW-3) could be utilized for backup or standby purposes.

1. **Production Well Construction** - A drilling contractor will be selected to install the permanent production wells. The wells will be constructed with 12-inch diameter schedule 80 PVC casing to an approximate depth of 250 feet below land surface. An open hole section will be drilled out below the casing to a total depth of approximately 280 feet below land surface. The wells will be air developed for a minimum of 8 hours after the drilling is completed. The cost provided includes subcontracted drilling fees and miscellaneous expenses required to obtain the drilling permits.

2. **Step-Drawdown Testing** - A test pump will be installed in the production wells after drilling and development are completed. Each well will be pumped at five separate pumping rates that are above, below, and at or near the proposed withdrawal rate for the wells. Water levels will be measured in the wells before and during the tests. The drawdown and pumping rate data will be used to calculate specific capacity values for the wells. Water samples will be obtained during the tests and provided to Dare County Water Production Department staff for analyses. Silt Density Index (SDI) testing will be conducted during the pump tests to assess sediment production from the wells. It is assumed that the pump used previously to test well TW-3 will be available for testing the new production wells. An additional cost of $1500.00 per test will be incurred in the event the test pump used previously is not available.

3. **Well Construction and Testing Supervision** - A hydrogeologist will supervise all drilling and testing activities to insure the work is completed according to the technical specifications prepared for the job. In addition, the on-site hydrogeologist will recommend cased and total depths for each production well based on field analysis of lithologic samples obtained during drilling. The hydrogeologist will be responsible for collecting and recording step-drawdown test and other pertinent data throughout all drilling and testing activities. The cost provided includes supervision fees, lithologic analyses, and per diem expense including travel.

DARE COUNTY WATER PRODUCTION DEPARTMENT
CAPE HATTERAS REVERSE OSMOSIS WELLFIELD
PHASE III - PERMANENT PRODUCTION WELL CONSTRUCTION
-CONTINUED-

4. **Well Completion Report** - A brief report will be prepared that details the methods and procedures used during well construction and testing. Results of the step-drawdown tests and water quality analyses will be presented along with pertinent recommendations regarding well withdrawal rates and pump setting depths. Schematic diagrams showing as-built construction details of the wells will be included also.

MISSIMER INTERNATIONAL INC.

DARE COUNTY WATER PRODUCTION DEPARTMENT
CAPE HATTERAS REVERSE OSMOSIS WELLFIELD
PHASE III - PERMANENT PRODUCTION WELL CONSTRUCTION
-CONTINUED-

ESTIMATED PROJECT COSTS

1.	Production Well Construction (two wells)	$ 85,000.00
	(four wells)	170,000.00
2.	Step-Drawdown Testing* (two wells)	3,500.00
	(four wells)	7,000.00
3.	Well Construction and Testing Supervision (two wells)	25,500.00
	(four wells)	51,000.00
4.	Well Completion Report (two wells)	4,500.00
	(four wells)	6,000.00

TOTAL ESTIMATED PHASE III PROJECT COST** (two wells): $118,500.00
(four wells): $234,000.00

* Does not include cost for test pump

** Does not include permanent production pumps, well vaults, discharge piping, or transmission main design and installation. Costs for these items can be provided if desired.

4/25/97

MISSIMER INTERNATIONAL, INC.
STANDARD TERMS AND CONDITIONS FOR CONSULTING SERVICES

As used herein, the term ***"MI"*** refers to ***Missimer International, Inc.***; the term ***"Client"*** refers to ***Dare County Water Production Department***; and the term "Agreement" refers to the contract between Missimer International, Inc. and Client consisting of the MI's Technical and Cost Proposal Number FH4-88.PR5, the Hourly Rate Schedule and these Standard Terms and Conditions for consulting services described in the proposal.

1.0 Entire Agreement. This Agreement constitutes the entire Agreement between MI and Client. All previous representations relative thereto, either written or oral, are hereby annulled and superseded. No modification shall be binding on either party unless it shall be in writing and signed by an authorized officer. Paragraph headings are for the convenience of the parties only and are not to be construed as part of this Agreement.

2.0 Interpretation. In the event of any dispute as to the precise meaning of any term contained herein, the principles of construction and interpretation that written documents be construed against the party preparing the same shall not be so applicable.

3.0 Governing Law. This Agreement shall be construed and governed in accordance with the laws of the State of North Carolina. The venue for any legal proceedings shall be Dare County, North Carolina.

4.0 Independent Consultant. MI is, and shall be, an independent consultant in the performance of services covered by this Agreement, maintaining complete control of its employees and operations. Neither MI, nor anyone employed by MI, shall be the agent, representative, employee, or servant of Client in the performance of the services covered by this Agreement.

5.0 Client Responsibilities. Client shall provide to MI information necessary to properly conduct its services, such as but not limited to:

5.1 all criteria and full available information relating to the project and MI's services, including all studies, reports, drawings, specifications, schedules, correspondence, and other data pertinent to the project;

5.2 pertinent technical documents, reports, letters, etc.;

5.3 identification of the completion dates for various work products;

5.4 designation of representative or contact person knowledgeable of existing project conditions such as site boundaries, structural, mechanical, HVAC, heating, drainage, and plumbing systems as related to the project;

5.5 identification of representatives of Client with the authority to order work and incur costs on behalf of the Client.

6.0 Insurance. During the term hereof, MI shall maintain Worker's Compensation Insurance in the amount required by applicable statute and Comprehensive General Liability with a limit of liability of One Million ($1,000,000) Dollars on a combined single limit basis; Comprehensive Automobile Liability Insurance covering bodily injury and property damage with a limit of liability in the amount of Five Hundred Thousand ($500,000) Dollars on a combined single limit basis; and Professional Liability Insurance with a One Million

($1,000,000) Dollar combined single limit. At the request of Client, MI shall furnish Certificates of Insurance evidencing the insurance coverage required under this Agreement.

7.0 Indemnification. MI shall indemnify, defend, and hold harmless Client, its employees, officers, and agents, from and against claims, damages, losses, costs, and expense (including reasonable attorneys fees) sustained by third parties on account of bodily injury to or death of any person, or for damage to or destruction of physical property, to the extent such damage or injury is directly attributable to MI's gross negligence in the performance of MI's services hereunder.

7.1 The Client shall indemnify, defend, and hold harmless MI, its employees, officers, and agents from and against all liability claims, suits, losses, damages (including loss of profits and other consequential damages), fines, fees, costs, and expense (including reasonable attorneys fees) on account of personal injury, including death, property damage (including loss of use), or any other liabilities, which arise out of or result from, in whole or in part, the acts or omissions of Client, its employees, agents, representatives, or its contractors in connection with this project.

8.0 Warranty. MI warrants that it will perform its services in accordance with the standard of care and diligence normally practiced by recognized firms in performing services of a similar nature under similar circumstances. In the event of nonfulfillment of the foregoing warranty, MI shall promptly correct at Client's written request made at any time within a one (1) year period after Client's acceptance of the services by use, services within the original scope of work as may be necessary to conform to the foregoing warranty. Client's failure to allow MI to promptly make such tests and perform such corrective services as MI may deem appropriate shall relieve MI of its warranty obligation relative to the subject of such service. All warranties made by MI in connection with the services and Client's sole and exclusive remedies with respect to nonfulfillment thereof, are limited to those set forth in this Section. MI makes no other warranties or guarantees, expressed or implied.

9.0 Force Majeure. Any delays in or failure of performance of either party hereto shall not constitute a default under this Agreement or give rise to any claim for damages to the extent such delays or failure of performance are caused by circumstances beyond the reasonable control of the party thereby affected, including but not limited to acts of God; fire; flood; windstorm; explosion; accidents; riots; sabotage; strikes; other concerted work stoppages of labor; lockouts; inability to obtain raw material, equipment, or transportation; or the compliance with any general order or request of any governmental authority or loss of any necessary utility. In the event a force majeure condition arises which wholly or in part prevents either party hereto from performing hereunder, the affected party shall inform the other in writing within fifteen (15) working days from the commencement of the force majeure condition. Provided such notice is given, the obligation affected by a force majeure condition shall be automatically extended for a time equal to the delay caused by the intervention of such force majeure condition.

10.0 Limitation of Liability. Notwithstanding any provision to the contrary, MI's total liability to Client arising out of or related to MI's performance of services under this Agreement, whether based on contract (including breach of warranty), tort (including negligence, whether of MI or others), strict liability, or otherwise, shall not exceed in the aggregate an amount equal to the sum of the fees for professional services paid to MI hereunder. In no event shall MI be liable in contract or tort or otherwise, to Client or Client's insurers for any lost, delayed, or diminished profits, revenues, or opportunities, losses by reason of shutdown or inability to utilize or complete the project, or any other incidental, special, indirect or consequential damages of any kind or nature whatsoever resulting from MI's performance or failure to perform services under this Agreement. The provisions of this section, providing for limitations of and protection against MI's liability, shall survive the expiration, cancellation, or termination of this Agreement.

11.0 Reuse of Documents. All drawings, reports, specifications, and other materials prepared by MI in connection with the services performed hereunder by MI are not intended or represented to be suitable for reuse by client or any other person or entity on extensions or modifications of work for this project or any other project without MI's express written permission. Reuse of said reports or other materials by Client on any such extensions, modifications, or other sites without written permission or adaptation by MI for the specific purposes intended is prohibited and shall be at the user's sole risk, without liability on MI's part. The Client agrees to release, indemnify, and hold harmless MI from all claims, damages, and expenses (including all attorneys fees) arising out of such unauthorized reuse. In the event MI consents to any reuse or is willing to adapt the instruments of service for Client, Client agrees MI shall be entitled to compensation in accordance with mutually acceptable payment terms.

12.0 Assignment. This agreement may not be transferred or assigned without the prior written consent of all parties hereto except as to the assignment of monies due under the terms hereof.

13.0 Severability. If any provision contained herein is held to be unenforceable by a court of law or equity, this Agreement shall be construed as if such provision did not exist, and the unenforceability of such provision shall not be held to render any other provision of this Agreement unenforceable.

14.0 Discrepancies. All discrepancies or misunderstandings are to be documented and communicated to the parties involved as soon as they become evident to either party in order to resolve them during the performance of this task or phase.

15.0 Successors and Assigns. The covenants and agreements contained herein shall apply to and inure to the benefit of and be binding upon the parties hereto and upon their respective assigns and successors in interest.

16.0 Compensation. For the professional services performed by MI for Client, Client shall compensate MI on the basis of payment as specified in the Proposal and in accordance with the payment terms identified in Section 17.0 Payment Terms, hereof. In the event MI has prepared an estimate of the cost of performing the services hereunder, Client understands and agrees that the amount estimated by MI is intended to be and shall be construed only as an estimate and not as a guarantee of the actual final cost for performing the services requested by Client. Some of the significant factors which may affect the estimate include MI's current knowledge of the project, scope of work and best effort participation by all project participants, field conditions, latent discovered conditions, environmental incidents, the subcontractor's schedule, governing law and regulatory changes, and any conditions beyond the control of MI. The Client shall be notified by MI at the time it appears likely that the actual cost to complete the services intended will exceed the cost estimate. Additional fees shall be based upon MI's Hourly Rate Schedule. Reimbursement of subcontractor's shall be at cost plus 15% of subcontractor costs.

17.0 Payment Terms. Client invoices are rendered as of the final day of each calendar month. Payment is due within thirty (30) days after the date of the MI invoice. Client shall pay MI interest charges on overdue balances at the rate of 1.5% per month. Questions or disputes regarding invoices shall be communicated to MI immediately. Any disputed amount shall not preclude payment of the balance of the invoice. MI shall invoice Client for each task relative to a specific project for services rendered in accordance with the fees and rates as set forth in the Cost Proposal. MI shall submit individual invoices per project and site unless otherwise agreed to by both parties. Monthly invoices for lump sum projects shall reflect the percentage of services completed as a percentage of the lump sum amount. The invoices for time and materials projects will identify the actual labor hours expended by MI personnel, subcontractor fees, travel expenses, and other reimbursables. Client accepts the above described invoicing format as satisfactory. The obligation of Client to compensate MI shall not be contingent upon payment by any other party to Client.

Client acknowledges that failure to compensate MI in accordance with the foregoing terms shall authorize MI at its sole discretion to suspend the performance of services. MI shall not be obligated to perform services thereafter to Client. MI may withhold any final report and analytical results until payment is received in full. MI shall be entitled to recover all reasonable attorneys fees and other expenses incurred in the collection of overdue balances. Payment terms other than stipulated above shall be agreed to in writing by both parties.

18.0 Witness Fee. In the event MI is served with a subpoena or is otherwise required by issuance of any order, rule, or decision to attend a deposition, arbitration, or other judicial or administrative proceeding and give testimony regarding any matter related to the Claim, Client shall pay MI a fee for the actual hours expended at such proceeding and in preparation therefore and in travel thereto at the rates and in accordance with the terms set forth in MI's applicable Hourly Rate Schedule. If Client's account is in arrears, MI shall not be obligated to appear and testify on behalf of Client in any proceeding. This provision shall survive the expiration, cancellation, or termination of this Agreement.

19.0 Non-Compliance. If requested to do so by Client, as part of this Agreement, MI shall monitor the performance of the client's contractor during the work. In the event MI recommends to Client that the work of a contractor be stopped for noncompliance with the specifications and/or applicable laws and regulations, and Client is not willing to order a work stoppage, then in such event MI shall have the right to terminate this Agreement without penalty and cease all activities hereunder upon forty-eight (48) hours notice to Client. Client shall pay MI for all costs incurred to the date of termination.

20.0 Permits and Notices. The responsibility of MI for securing permits and licenses shall be limited to those required to perform MI's services under this Agreement. Client agrees that the technical specifications and client's contractor's scope of work shall provide that contractor will be required to secure and pay for all permits, fees, and licenses and to give all notices and comply with all laws, rules, regulations, and orders of any public authority bearing on the performance of the contractor's work.

21.0 Breach of Contract. In the event Client fails to pay invoices when due or otherwise breaches the contract, and MI is required to engage legal counsel for purposes of enforcing the term of the agreement or collecting outstanding invoices, then Client shall be responsible for all legal fees, expenses, and court costs incurred by MI. If MI is unable to complete the proposed work scope for any reason, the client shall only be responsible for payment for the completed work items. Legal fees, expenses and court costs incurred to resolve any dispute of this contract will be the responsibility of the nonprevailing party.

22.0 Termination. This Agreement may be terminated by either party hereto upon ten (10) days prior written notice to the other party upon the occurrence of any one (1) or more of the following events, without prejudice to any other rights or remedies that the terminating party may have: a) in the event the other party shall fail substantially to perform in accordance with the terms hereof through no fault of the terminating party and shall fail to correct such default within ten (10) days after written notice thereof; or b) in the event the other party shall make a general assignment for the benefit of its creditors, or if a petition in bankruptcy shall be filed against such party or a receiver appointed on account of its insolvency. In the event of termination of this Agreement, Client shall pay MI for all costs incurred and fees earned for services performed to the date of termination and through necessary services to stop the project.

23.0 Acceptance. Acceptance of these Terms and Conditions constitutes a binding contract between Client and MI effective as of the date of execution.

MISSIMER INTERNATIONAL, INC.	DARE CO. WATER PRODUCTION DEPT.
Thomas M. Missimer	
By	
Thomas M. Missimer Printed Name	Printed Name
President Title	Title
William A. Marsden Witness	Witness
4/24/97 Date	Date

County of Dare, NC
CHWA Engineering & Pilot Testing

	Proposed CHWA
Missimer	
Meetings & site inspection	5,400
Monitor well construction & testing supervision	29,500
Subcontracted drilling	98,000
Aquifer performance testing & hydraulic data analys	19,500
Water quality analysis	2,000
Data reduction/analysis/computer modeling	46,000
Wellfield design and report	9,800
Production well technical specifications	4,800
	215,000
Permanent production wells	118,500
	333,500
Hobbs & Upchurch	
Preliminary design phase	
Shallow aquifer pilot plant testing	29,740
Distribution system analysis	23,800
Field services - land	19,440
Field services - endangered species, wetlands, etc.	8,400
Subsurface investigation, Plant site	22,000
Preliminary design report	15,000
	118,380
Detail design and permitting	269,460
Construction administration and inspection	345,980
	733,820
Boyle Engineering	
Shallow water pilot testing	30,905
RO pilot plant	54,641
Preliminary design report	50,000
Final design, drawings and specifications	150,000
Pre award services	15,000
Construction phase services	99,000
Input to balance of work	20,000
	419,546
total	1,368,366

County of Dare, NC
CHWA Engineering & Pilot Testing

Comparison to RWS

	CHWA	Missimer	Hobbs & UpC	Boyle	Total
Aquifer & wellfield					
Meetings & site inspection		5,400			5,400
Monitor well construction & testing supervision		29,500			29,500
Subcontracted drilling	40,000	98,000			138,000
Aquifer performance testing & hydraulic data analysis		19,500			19,500
Water quality analysis		2,000			2,000
Data reduction/analysis/computer modeling		46,000			46,000
Wellfield design and report		9,800			9,800
Production well technical specifications		4,800			4,800
Hydrogeological					0
Shallow water pilot testing			29,740	30,905	60,645
Permanent production wells		118,500			118,500
RO pilot plant				54,641	54,641
subtotals	40,000	333,500	29,740	85,546	488,786
Preliminary design					
Preliminary design phase			23,800		23,800
Supplemental and permits			49,840		49,840
Pre award services				15,000	15,000
Preliminary design report			15,000	50,000	65,000
subtotals	0	0	88,640	65,000	153,640
Final design					
Detail design and permitting			269,460		269,460
Final design, drawings and specifications				150,000	150,000
subtotals	0	0	269,460	150,000	503,100
Construction administration					
Construction administration and inspection			345,980		345,980
Construction phase services				99,000	99,000
Input to balance of work				20,000	20,000
subtotals	0	0	345,980	119,000	464,980
totals	40,000	333,500	733,820	419,546	1,610,506

Total construction estimate not including above items 4,980,000

Total preliminary work as a percentage of estimated construction cost 32.34%

County of Dare, NC
CHWA Engineering & Pilot Testing

Estimated Construction Costs

Cape Hatteras Water Association

Plant per Boyle 9/95	7,330,000
Distribution per Diehl & Phillips - Phas	780,000
Distribution per Diehl & Phillips - Phas	1,500,000
Tank work	390,000
	10,000,000
Costs of issuance of debt	1,000,000
Original estimate of debt	11,000,000
Add:	
Administrative, etc.	50,000
Less:	
Costs of issuance	1,000,000
Wells included in Boyle estimate	750,000
Wells included in Boyle estimate	180,000
Legal, engineering, etc. in Boyle estimat	1,470,000
Distribution per Diehl & Phillips - Phas	780,000
Distribution per Diehl & Phillips - Phas	1,500,000
Tank work	390,000
Construction cost estimate relating to proposed engineering, etc.	4,980,000

Rodanthe, Waves & Salvo

Total project cost	6,503,428
Less:	
Basis of design report	50,000
Construction drawings and specification	369,900
Construction management	365,000
Supplemental permits, etc.	95,000
Boyle Engineering	88,873
Missimer	38,620
Skipper's Well Drilling	208,809
Construction cost estimate relating to proposed engineering, etc.	5,287,226

Estimated engineering costs by Boyle

Total preliminary costs	1,610,506
Wells	(170,571)
Wells	(118,500)
Wells	(98,000)
Admin, etc.	50,000
total for comparison	1,273,435
Estimate made by Boyle	1,470,000

Dare County - Rodanthe, Waves Salvo R.O. Plant Project to compare (recent history):

A. PHASE I - Pilot Study

	RWS		CH-RO		
	B & V	RosTek / MPI	H,U & A.	Boyle	
- Pilot Study	$52,608	$65,923	$29,740	$30,905	
- Additional Services				54,641	
Subtotal -			$29,740	$85,546	
(RWS) Total -	$52,608	$65,923			(CHWA) Total

- Additional Services include the cost of the pilot unit, start-up, training, water quality data, evaluation and r

COST DIFFERENTIAL OF THE PILOT STUDY = **($3,245)**

B. PHASE II - Preliminary Design Report

	RWS		CH-RO		
	B & V	RosTek Svcs.	H,U & A.	Boyle	
- Sum of activities	$50,000	$0	$19,440	$50,000	
			8,400	15,000	
			22,000		
			15,000		
Subtotal -			$64,840	$65,000	
(RWS) Total -	$50,000	$0			(CHWA) Total

COST DIFFERENTIAL OF THE PRELIMINARY DESIGN REPORT = **$79,840**

C. PHASE III - Final Design, Drawings, Specifications

	RWS		CH-RO		
	B & V	RosTek Svcs.	H,U & A.	Boyle	
- Sum of activities	$448,000	$90,000	$269,460	$150,000	
Subtotal -	$448,000	$90,000	$269,460	$150,000	
(RWS) Total -		$538,000			(CHWA) Total

COST DIFFERENTIAL OF THE FINAL DSGN,DRWNGS,& SPECS. = **$118,540**

D. PHASE IV - Construction Administration

	RWS		CH-RO		
	B & V	RosTek Svcs.	H,U & A.	Boyle	
- Sum of activities	$365,000	$0	$345,980	$99,000	
				20,000	
Subtotal -	$365,000	$0	$345,980	$119,000	
(RWS) Total -		$365,000			(CHWA) Total

COST DIFFERENTIAL OF THE CONSTRUCTION ADMIN. = **$99,980**

	RWS		CH-RO	
	B & V	RosTek / MPI	H,U & A.	Boyle
PHASE 1	$52,608	$65,923	$29,740	$85,546
PHASE 2	50,000	0	64,840	65,000
PHASE 3	448,000	90,000	269,460	150,000
PHASE 4	365,000	0	345,980	119,000
	$915,608	$155,923	$710,020	$419,546
Total Engineering Costs =		**$1,071,531**		**$1,129,566**
Cost Differential from RWS =		$58,035		
Cost Differential % increase from RWS =		**5.42%**		

Missimer International

ORIGINAL PROPOSAL		REVISED PROPOSAL	
1 Meetings & Site Inspection	$5,400	1 Meetings & Site Inspection	$5,400
2 Monitor Well Const. & Tsting Spvsion	29,500	2 Monitor Well Const. & Tsting Spvsion	29,500
2a. Subcontracting Drilling (7 wells)	118,000	2a. Subcontracting Drilling (7 wells)	98,000
3 Aquifer performance Testing & Analysis	23,400	3 Aquifer performance Testing & Analysis	19,500
4 Water Quality Analyses	2,000	4 Water Quality Analyses	2,000
5 Computer Modeling	49,500	5 Computer Modeling	46,000
6 Wellfield Design & Report	14,900	6 Wellfield Design & Report	9,800
7 Production Well Tech. Specs.	4,800	7 Production Well Tech. Specs.	4,800
	$247,500		$215,000
		Cost Differential from Original =	$32,500
		Cost Differential % drop from Original =	**13.13%**

Hobbs, Upchurch & Associates, Inc.

ORIGINAL PROPOSAL		REVISED PROPOSAL	
1A Limestone Aquifer Test Wells	$15,000	Limestone Aquifer Test Wells	$0
1B Shallow Aquifer Pilot Plant Testing	29,740	1A Shallow Aquifer Pilot Plant Testing	29,740
1C Distribution System Analysis	24,049	1B Distribution System Analysis	23,800
1D Field Services - Land, Endangered.....	34,000	1C Field Services - Land, Endangered.....	27,840
1E Subsurface Investigatin	22,000	1D Subsurface Investigatin	22,000
1F Preliminary Design Report	15,000	1E Preliminary Design Report	15,000
2A Detail Design & Permitting Phase		2A Detail Design & Permitting Phase	
2B -		2B -	
2C -	285,000	2C -	269,460
3A Construction Administration & Inspection		3A Construction Administration & Inspection	
3B -		3B -	
3C -		3C -	
3D -	350,000	3D -	345,980
	$774,789		$733,820
		Cost Differential from Original =	$40,969
		Cost Differential % drop from Original =	**5.29%**

Boyle Engineering

ORIGINAL PROPOSAL		REVISED PROPOSAL	
1a Shallow Water Pilot testing	$30,905	1a Shallow Water Pilot testing	$30,905
1b Additional Services, RO Pilot plant	55,000	1b Additional Services, RO Pilot plant	54,641
2 Preliminary Design Report	50,000	2 Preliminary Design Report	50,000
3 Final Design, Drawings, & Specifications	150,000	3 Final Design, Drawings, & Specifications	150,000
4 Pre Award Services	15,000	4 Pre Award Services	15,000
5 Construction Phase Services	99,000	5 Construction Phase Services	99,000
6 Input to Balance of Work	20,000	6 Input to Balance of Work	20,000
7 Supplemental & Additional Services		7 Supplemental & Additional Services	
	$419,905		$419,546
		Cost Differential from Original =	$359
		Cost Differential % drop from Original =	**0.09%**

Hydrogeology and Engineering Costs proposals

ORIGINAL PROPOSAL		REVISED PROPOSAL	
	$1,442,194		$1,368,366
Cost Differential from Original =	**$73,828**	Cost Differential % drop from Original =	**5.12%**

Three Dare County Well Projects to compare (recent history):

A. KDH - R.O. Plant Wellfield expansion (with 4 mntr. wells & 2 prod. wells) 1994/1995

- Hydrogeology	$6,677 per well	$40,060	Missimer & Associates (M&A)
- Construction (2 wells)		385,338	Skipper's Well Drilling
- Well Houses		13,836	Dare County Pub. Wks.
- Telemetry		16,619	Ken Flatt
		$455,853	*

* includes $8,500 per monitor well construction at Albatross & Abalone streets (400 feet deep).
($21.25 per foot)

B. Rodanthe - R.O. Plant Well (with 2 mntr. wells & 2 prod. wells) 1995/1996

- Hydrogeology	$9,655 per well	$38,620	Virogroup (formally M&A)
- Construction (1 well)			Skipper's Well Drilling
- with (2) wellhouses			Skipper's Well Drilling
- with (2) telemetry		319,240	Skipper's Well Drilling
		$357,860	*

* includes $30 per foot for monitor well construction to 430 ft. (~$12,900 per well)

C. South Hatteras Island- R.O. Plant Wells (Proposed 7 mntr wells & 3 prod. wells)

(5 - 6 inch / 250 feet deep, 1 - double cased / 300-310', 1 - 400-410')
Total = 1,970 feet @ $49.75/foot

- Hydrogeology	$15,050 per well			Missimer Interr
- Meetings & Site Inspection			$5,400	
- Monitor Well Construction & Testing Supervision			29,500	
- Well Construction & Test. Sprvsn. (production wells - 2)			25,500	
- Aquifer Performance Testing & Hydraulic Data Analysis			19,500	
- Step-Drawdown Testing (production wells - 2)			3,500	
- Water Quality Analyses (if required)			2,000	
- Computer Modeling			46,000	
- Wellfield Design & Report			9,800	
- Well completion Report (production wells -2)			4,500	
- Production Well Technical Specifications			4,800	
		subtotal -	$150,500	
- Sub-Contracted				MI sub-contrac
- Monitor Well Construction (7)	$14,000 per well		$98,000	
- Prod. Well Construction (2)	$42,500 per well		85,000	
		Total -	$333,500	
- Phase II - Raw water supply investigation		subtotal -	$215,000	
- Phase III - Permanent Prod. Well construction		subtotal -	$118,500	
		Total -	$333,500	