HAZEN AND SAWYER
Environmental Engineers & Scientists

Hazen and Sawyer, P.C.
4000 Hollywood Boulevard, 750N
Hollywood, Florida 33021
(954) 987-0066
Fax: (954) 987-2949

CITY OF HALLANDALE BEACH
2009 AGREEMENT

HAZEN AND SAWYER, PC
WORK AUTHORIZATION No. 15

BISCAYNE RAW WATER PIPELINE

In accordance with Article 12 of the AGREEMENT between City of Hallandale Beach, Florida and Hazen and Sawyer, P.C. for TRANSPORTATION PLANNING AND ENGINEERING, TRAFFIC STUDIES, UTILITIES, ROADWAYS, GEOTECHNICAL CONSULTING AND TESTING SERVICES, the following scope of services is provided as requested by the City. Compensation shall be on a maximum amount not-to-exceed basis for salary costs and reimbursables as set forth in the original agreement.

BACKGROUND

The City of Hallandale Beach (**CITY**) is relocating the **CITY** owned Biscayne Aquifer wells to the west to prevent saltwater intrusion of the City's water supply. The **CITY** is locating the wellfield in the City of West Park within and adjacent to Mary Saunders Park. The **CITY** has requested that Hazen and Sawyer, PC (**CONSULTANT**) prepare the design of the 24-inch raw water transmission pipeline from the proposed wellfield to connect to the existing Broward County Regional Water Supply (BCRWS) pipeline on Pembroke Road.

SCOPE OF SERVICES

Task 1 – Survey and Underground Utilities Locating

CONSULTANT will retain a surveyor to survey the proposed pipeline route and locate existing underground utilities. **CONSULTANT** will provide the services as detailed in the attached proposal from the surveyor.

Task 2 – Design

Pipeline Route: The following route is assumed for the proposed raw water pipeline:

1. The proposed raw water pipeline will start at the termination of the pipeline at the wellfield on 48th Street.

2. The proposed raw water pipeline will continue east along SW 18th Street and continue north on SW 40th Avenue to then turn east on Pembroke Road.

3. The proposed raw water pipeline will connect to the existing raw water pipeline from the Broward County Regional Water Supply system on the south side of Pembroke Road at the Park Road intersection.

The required easements for the pipeline will be obtained by the **CITY**.

Pipe Material: The pipeline will be designed as cement lined ductile iron. Where restrained pipe is needed to resist thrust, factory restrained joints will be specified where practical.

Construction Methods: The design documents will be prepared assuming that the construction method will be open-cut trenching.

Road Restoration along State Pembroke Road: This road is six lanes. The design scope assumes that the pipeline will run east through the southernmost east-west lane. This lane will be restored through a permanent patch. The design scope assumes that the southernmost lane will be patched and one full lane width of pavement will be milled and repaved. This assumption will be reviewed with Florida Department of Transportation prior to initiating the design.

90 Percent Contract Documents

1. 90 percent complete contract documents (drawings, specifications, proposal form and **CITY**'s "front-end" will be prepared and submitted to the **CITY**. The budget level construction cost estimate will be updated and included with the 90 percent submittal.

2. 90 percent drawings will include plan and profile drawings. The 90 percent plans and profiles will be stationed and annotated. Standard details will be selected by **CONSULTANT** from **CONSULTANT**'s and the **CITY**'s standard details.

3. Attend a progress review meeting with **CITY** staff to review 90 percent submittal and receive written comments from **CITY**.

100 Percent Contract Documents

Incorporate the comments received from **CITY**, during 90 percent review meeting, to produce the 100 percent design stage contract documents. The 100 percent documents will be signed and sealed and submitted for construction permits as described below.

Task 2 Deliverables:

1. Prepare and issue six (6) sets of the 90 and 100 percent design completion stage contract documents (i.e., specifications, drawings and construction cost estimate) to the **CITY** for review and comment. Drawings will be 11-inch x 17-inch size.

2. Participate in one design review meeting at the 90 percent design completion stage.

3. A final version of the contract documents will be submitted to the **CITY** that incorporates comments received during the 90 percent design stage review meeting and the Broward County Health Department to create the Bidding Set. Submit to the **CITY** one hardcopy set and one electronic copy of the Bidding Set digital drawing and specification files on a compact disk.

Task 3 – Permitting

The purpose of this task is to prepare and submit permit applications for the construction of the proposed pipeline. **CITY** will pay for all permit application fees that are not included in the reimbursable expenses.

Task 3 Deliverables:

1. Broward County Health Department Permit Application: Prepare and submit one permit application (entitled "Application for a Drinking Water Facility Construction Permit") required for the construction of the new facilities in accordance with 62-555 "Permitting, Construction, Operation and Maintenance of Public Water Systems".

2. City of West Park Engineering Division Permit Application: Prepare and submit one permit application (along with signed and sealed construction cost estimate) required for the City of West Park.

3. Florida Department of Transportation Permit Application: Prepare and submit one permit application required for the Florida Department of Transportation (FDOT) permit application for the pipeline along Pembroke Road. Prepare Maintenance of Traffic (MOT) plan drawings as required by FDOT.

4. Industrial Review Application: Prepare and submit one permit application titled "Industrial Review Application" required by Broward County Urban Planning and Redevelopment Department, Development Management Division – Environment Review Section.

5. Environmental Review Application: Prepare and submit one permit application titled "Application for Environmental Review of Construction Plans" required by Broward County Urban Planning and Redevelopment Department, Development Management Division – Environment Review Section.

6. Impact Fee Assessment: Submit one Impact Fee Assessment. An application form is not needed. Take the drawings to Broward County Development Management Division for stamps.

7. Response to RAIs: Prepare written responses to the above regulatory agencies request for additional information (RAI) regarding the above permit applications.

KEY ASSUMPTIONS

In addition to the assumptions identified under each task, the following assumptions have also been made:

1. **CITY** will obtain easements and/or rights-of-way. If assistance from **CONSULTANT** is required, a separate work authorization will be issued.

2. **CITY** will review documents within four days of receipt and provide written comments.

3. **CITY** will pay for all permit fees not included under reimbursable expenses.

4. **CITY** will pay for materials testing described in the Contract Documents. **CITY** will retain a materials testing laboratory.

5. **CITY**'s laboratory will be responsible for performing the water analyses described in the Contract Documents.

6. The **CITY** is responsible for obtaining easements within the cities of West Park and Pembroke Park.

7. It is assumed that the proposed pipeline will be 24 inches in diameter.

8. If it is determined that a permit application for dewatering during construction is required from South Florida Water Management District (SFWMD), the contract documents will require that it be prepared by the Contractor.

9. If it is determined that a permit application for dewatering during construction is required from Broward County, the contract documents will require that it be prepared by the Contractor.

10. It is assumed that an Environmental Resource Permit is not required.

11. The drawings and specifications will be prepared assuming that the **CITY** will competitively bid this project in a single bid package and enter into a construction contract with one general contractor to complete the work.

12. The **CITY** will bid the project after the construction permits described in this work authorization are obtained. If the **CITY** elects to bid the project while waiting on construction permits, additional funding may be requested to prepare addenda based on permit agency comments.

13. Owner furnished equipment will not be required for this project. Separate procurement packages will not be prepared.

14. There are no known wetlands, endangered species, or other environmentally sensitive flora or fauna which may require additional efforts during design and permitting.

15. Preparation of pavement restoration plan drawings, striping plan drawings, and signage plan drawings are not included in this work authorization. Pavement restoration will be detailed in a standard trench detail. Restoration of striping and signage disturbed by the construction will be described in a technical specification.

16. Bidding services and construction management services are not included in this work authorization. It is assumed that a separate work authorization will be issued.

SCHEDULE

The duration of major work tasks are summarized below:

Description	Estimated Completion Time [A]	
	For Task	From NTP
Task 1 – Survey Assistance/Underground Utilities	As needed	As needed
Task 2 – Design	180[B]	180[B]
Task 3 – Permitting	90	290

Notes:

A: Estimated time in calendar days from the Work Authorization Notice-to-Proceed, unless otherwise noted.

COMPENSATION

The compensation for engineering services provided under this work authorization are on a lump sum basis as indicated in the table below.

Task	Fee
Task 1 – Survey and Underground Utilities	$ 34,000
Task 2 - Design	$129,000
Task 2 – Permitting	$ 27,000
Task 099 – Other Direct Costs (ODCs)	
• Reproduction Costs	$3,000
• Permit Application Fees	$10,000
• Federal Express, UPS & Courier	$5,000
Project Total	**$208,000**

December 6, 2010

Facsimile: 954-987-2949
E-mail: jwietgrefe@hazenandsawyer.com

Ms. Janeen M. Wietgrefe, P.E.
Hazen and Sawyer
4000 Hollywood Boulevard
Suite 750N
Hollywood, FL 33021

RE: CITY OF HALLANDALE BEACH
RAW WATER PIPELINE ROUTE SURVEY
CT&A PROJECT NO. 10-0046
CT&A PROPOSAL NO. 2010-110.337 REV. #2

CRAVEN THOMPSON
& ASSOCIATES INC.

Engineers
Planners
Surveyors

Dear Ms. Wietgrefe:

The firm of Craven Thompson & Associates, Inc. is pleased to provide you with the following revised proposal for professional surveying services for the above referenced project. For your convenience, I have divided the costs into Basic Surveying Services and Optional Surveying Services, the limits of which are described below.

I. SURVEYING SERVICES: BASIC ROUTE

1.1 Prepare Route Survey (CT&A Task No. 11210)

Prepare raw water route survey to include the following described route: Beginning at the intersection of Southwest 48th Avenue and Southwest 19th Street of our current design survey, for the Hallandale Wellfield site; thence continue northerly along Southwest 48th Avenue, approximately 350 feet to Southwest 18th Street; thence easterly approximately 2,600 feet to Northwest 40th Avenue; then northerly approximately 350 feet to Pembroke Road; then easterly 2,300 feet to the east right-of-way line of Park Road. The survey will include the full right-of-way of Southwest 48th Avenue, Southwest 18th Street and Southwest 48th Avenue, and only the south one-half (1/2) right-of-way of Pembroke Road. The length of this project will be approximately 1.06 miles. This survey will include the following:

- Prepare right-of-way calculations covering the project area and prepare base map for route survey.

3563 N.W. 53rd Street
Fort Lauderdale, FL 33309-6311
(954) 739-6400
Fax (954) 739-6409

West Palm Beach

- Recovery of the existing right-of-way monumentation along the route, and the establishment of a survey baseline in a convenient location, that will be used for the initial topographic data collection, survey stakeout of the proposed raw waterline and as-built data collection, once the line is installed.

- Establish site benchmarks along the baseline at a minimum of 500-foot stations for data collection, stakeout and as-built control purposes.

- Location of all above-ground visible improvements within the project limits, including buildings, pavement, walkways, fences, utilities, signs, etc., and to the centerline on the adjacent roads.

- Location of all above-ground and visible utilities features, any storm or sanitary sewer structures on, or adjacent to the site, which will include the rim, invert elevations, pipe sizes and directions, if visible, and not obstructed. If structure is obstructed, or the pipes cannot be measured, the Client will be notified by e-mail and telephone.

- Obtain topography (elevations) and cross-sections 10 feet beyond right-of-way at 100-foot stations, and high and low points to depict existing conditions.

- Locate visible utilities, overhead wiring and designated (painted and flagged) utilities, as provided by utility location sub-contractor.

- Locate all trees larger than three (3) inches in diameter at breast height, indicating size and species within the project limits.

- The survey will be prepared in AutoCAD version 2006 or higher, drawing file format, and will be delivered digitally and on 24" x 36" hard copies.

Lump Sum:.....$21,750.00

Approximate time to complete: five (5) to six (6) weeks (weather permitting). Work will commence approximately one (1) week after the notice to proceed.

1.2 **<u>Engage and Coordinate With Utility Location Subcontractor</u> (CT&A Task No. 12050)**

Employ subcontractor to perform underground utility designations (painting and flagging) within the project limits as described, to be field located by the surveyor when complete.

Lump Sum:.....$7,300.00

Approximate time to complete: two (2) weeks (weather permitting) after the subcontractor receives notice to proceed.

1.3 **Review Painted Utilities With Subcontractor and Field Locate Underground Utility Marks and Add to Survey Drawing (CT&A Task No. 12050)**

Lump Sum:.....$2,000.00

Approximate time to complete: one (1) week (weather permitting) after the subcontractor finishes their work on 1.2 above.

II. SURVEYING SERVICES: OPTIONAL ROUTE

2.1 **Prepare Route Survey** (CT&A Task No. 11210)

Expand raw water route survey to include the north one-half of Pembroke Road, from Southwest 40th Avenue, to the intersection with the east right-of-way line of Park Road. The survey will be the length of this project, and will be approximately 0.44 miles. This expanded survey will include the following:

- Location of all above-ground visible improvements within the project limits, including buildings, pavement, walkways, fences, utilities, signs, etc., and to the centerline on the adjacent roads.
- Location of all above-ground and visible utilities features, any storm or sanitary sewer structures on, or adjacent to the site, which will include the rim, invert elevations, pipe sizes and directions, if visible, and not obstructed.
- Obtain topography (elevations) and cross-sections 10 feet beyond right-of-way at 100-foot stations, and high and low points to depict existing conditions.
- Locate visible utilities, overhead wiring and designated (painted and flagged) utilities, as provided by utility location subcontractor.
- Locate all trees larger than three (3) inches in diameter at breast height, indicating size and species within the project limits.

The survey will be prepared in AutoCAD version 2006 or higher, drawing file format, and will be delivered digitally and on 24" x 36" hard copies.

Lump Sum:.....$10,500

Approximate time to complete: four (4) to five (5) weeks (weather permitting). Work will commence approximately one (1) week after the notice to proceed.

2.2 **Engage and Coordinate With Utility Location Subcontractor (CT&A Task No. 12050)**

Employ subcontractor to perform underground utility designations (painting and flagging) within the project limits as described, to be field located by the surveyor when complete.

Lump Sum:.....$2,500.00

Approximate time to complete: two (2) weeks (weather permitting) after the subcontractor receives notice to proceed.

2.3. **Review Painted Utilities With Subcontractor and Field Locate Underground Utility Marks and Add to Survey Drawing (CT&A Task No. 12050)**

Lump Sum:.....$1,800.00

Approximate time to complete: one (1) week (weather permitting) after the subcontractor finishes their work on 2.2 above.

Scope of Services

The scope of services is limited by the specific terms of this proposal. Except as stated specifically herein, no other service will be provided except as "extra work", subject to the fees hereinafter set forth. The terms hereof shall be construed in favor of the firm and all inferences and implications shall be deemed to be for the benefit of the firm.

In reviewing this proposal for professional services, it should be understood that the above proposal items and their corresponding fees do not necessarily represent the full scope of services required for the project. Rather, it represents our best effort to set forth those services which we believe to be those requested by you, the Client, and/or those we can determine to be needed to accomplish a particular objective. However, we recognize and we ask that the Client recognize that as a project progresses the scope of service as originally defined may change in content to include work not initially identified. Several factors will cause this to happen:

1. Better understanding of the project and the Client's goals as progress on the project is made.

2. Additional requirements identified by the Client.

3. New laws or governmental agency requirements.

As these influences occur and are identified, we will advise you of same and seek your direction as to how you wish to proceed.

Work required as a result of the above will be "extra work" outside of the original scope of services. Upon your direction, we will perform the work under the "Hourly Fee Schedule" section of this proposal or we can provide you with a separate proposal should the scope so indicate.

Hourly Fee Schedule

Principal	$220/Hour
Principal Engineer	$180/Hour
Senior Supervising Engineer	$160/Hour
Principal Surveyor/Landscape Architect/Planner	$145/Hour
Senior Engineer	$120/Hour
Landscape Architect/Senior Planner	$115/Hour
Professional Land Surveyor	$110/Hour

Project Engineer/Surveyor/Planner/Biologist/Landscape Designer	$105/Hour
Senior Field Representative	$90/Hour
Senior CADD Technician	$80/Hour
Field Representative	$80/Hour
Clerical	$65/Hour
Survey Field Crew	$115/Hour
Survey Field Crew with GPS Equipment	$155/Hour
Expert Witness Testimony	$275/Hour
Court Appearances	$300/Hour

Hourly Charges

Hourly work will be billed at our current prevailing rates; however, these are subject to change due to increasing labor and material costs. Hourly work performed outside of normal business hours will be billed at one and a half times the current rates for overtime. No notice of change in prevailing rates shall be required. The firm's normal business hours are from 8:00 a.m. to 5:00 p.m., Monday through Friday.

Lump Sum Fees

The Lump Sum Fees set forth above are applicable for a period of six (6) months from the date of this proposal. If the work on any item to which a lump sum fee shall apply is not commenced within said period, the firm reserves the right to terminate this Agreement as it relates to said item. If the work is initiated but not concluded within said period, regardless of the reason therefore, the balance of the fee due shall be increased at the rate of one percent (1%) per month for each month the work continues until the work is complete. No prior notice of such adjustment shall be required.

Affidavits

When an Affidavit, Surveyor's Report, or separate Surveyor's Certificate is requested, there will be a minimum fee of $150.00.

In addition, all research and calculation time required in the preparation of this affidavit, report or certificate will be charged at our normal hourly rates for the individuals preparing the affidavit.

Cost Estimates

In that our firm does not have control over the cost of labor and materials, or over competitive bidding and marketing conditions, the estimates of construction costs provided by our firm will be made on the basis of our experience and qualifications, but our firm does not guarantee the accuracy of the estimates of probable cost as compared to the contractor's bids. The firm recommends that you consult with the other professionals which you have employed in connection with the project.

Ownership of Documents

All documents including, but not limited to, drawings and specifications prepared in connection with the project constitute the work product of the firm and a portion of the instruments of service with respect to the project. Such documents and/or specifications constitute a portion of the integral services provided by the firm and, as such, are not intended or represented to be suitable for reuse by you or others or for extensions of the project or in connection with any other project. The firm specifically disclaims any responsibility and/or liability for or in connection with the reuse of such documents and/or specifications or any use thereof beyond the scope of the Project as set forth herein. By your execution of this proposal, you agree to indemnify and hold the firm harmless from all claims, damages, losses and expenses including, but not limited to, attorney's fees arising out of or resulting from the reuse or extended use of such documents or specifications.

Permits and Approvals

The permits and agency approvals mentioned above are those known to us to be required for projects of this kind, and we will apply for them as indicated. However, our experience has shown us that agencies and regulatory authorities do not always communicate new regulations and legislation properly and that the enforcement of policies can vary. The Client is

therefore cautioned that additional permits or approvals other than those presently identified may be required. Should this arise, we will notify you and respond promptly to the requirement.

Construction Requirements

At the time that the firm is authorized by you to perform professional engineering services involving design plans and permit requiring approval by governmental agencies, the firm will be required to provide certificates of compliance to those agencies with regard to the performance of certain aspects of the work, which performance will be rendered by others. It will be necessary, therefore, for the firm to perform full-time observation regarding some items and to make periodic site visits for other items to determine whether or not the improvements are in "substantial compliance" with the relevant contract documents.

It shall be your responsibility to notify the firm of the commencement of any work so that the firm may perform the necessary inspections and observations. The amount of time required for such inspections and observations and for the completion of the applicable certifications will be dictated by the performance of the contractor. Moreover, and in addition to the required site visits, the firm must also prepare and review the as-built drawings during and at the end of the construction period. All of the services described in this paragraph constitute "extra work", unless otherwise specifically set forth in the "Scope of Services". The cost of providing these services is not included in the Lump Sum fee, unless specifically indicated.

The firm shall not be responsible for the quality or quantity of the work, the execution thereof, the techniques or sequences of construction, the safety and security of the project or the maintenance thereof. The firm is not a guarantor or insurer of the work of others and assumes no duty in connection therewith. In performing the services required of it, the firm will use that degree of care and skill ordinarily exercised, under similar circumstances, by reputable members of its profession practicing in the same or similar locality. No other warranty, express or implied, is made or intended by the firm by virtue of the undertakings or of its performance of the service hereunder. Absent bad faith in the performance of the work hereunder, the firm shall not be liable for any damages resulting from misfeasance in the performance of any work with regard to the project. No person other than you shall have the right to rely on the expertise of the firm or the performance of the matters set forth herein. The firm reserves the right to record a memorandum hereof in the public records of the County.

The above stated services are the minimum level of services that the firm is obligated to perform. The firm currently provides a complete range of construction-related services which it will be happy to discuss with you at the time that your project is ready for construction.

Permit Fees; Application Fees; Outside Consultant Fees

The service fees set forth herein do not include the payment of governmental agency submittal fees, review fees or permit fees, or any other charges assessed by said agencies. Further, the service fees do not include the cost of services provided by others. These fees shall be paid for by the Client. Should our firm find it absolutely necessary to advance fees for the Client, said fees shall be reimbursed along with a service and handling fee upon receipt of the invoice for same.

Direct Charges

Unless otherwise specified, the above service fees do not include the following direct charges:

1. Blue prints, mylars and xeroxing will be billed at current price schedule per print copy. These prices are available upon request.

2. Postage, Federal Express, photographic services for enlargements, reductions, etc.: At Cost plus 10% handling charge.

Assignment

It should be expressly understood that this proposal is for the use of the executing Client and is not assignable or assumable by any third party.

Invoicing and Payment

Work will be invoiced at the end of each month based on a proration of work completed to date, with payment expected upon receipt of the invoice by the Client. Client shall notify firm within ten (10) days of receipt of invoice should invoice be found to be unacceptable. Any invoice for which firm is not so notified shall be deemed to be acceptable for purposes of payment by Client.

If payment is not received within 45 days of the invoice date, Consultant may terminate this agreement or suspend work under the agreement without further notice, and a late charge of one and one-half percent (1-1/2%) per month on outstanding balance shall accrue until delinquent balance is paid. Client agrees to pay all costs of collection, including reasonable Attorney fees, should such action be required.

Client's Responsibilities

1. The Client shall provide full information regarding requirements for the project including a program, which shall set forth the design objectives, constraints and expendability, special equipment and systems and site requirements.

2. The Client shall furnish the services of soil engineers or other consultants when such services are deemed necessary. Such services shall include test borings, test pits, soil bearing values, percolation tests, air and water pollution tests, ground corrosion and resistivity tests, including necessary operations for determining subsoil, air and water conditions, with reports and appropriate professional recommendations.

3. The Client shall furnish structural, mechanical, chemical and other laboratory tests, inspections and reports as required by law or the Contract Documents.

4. The Client shall furnish a Legal Description of the property and the appropriate Title Information.

5. The Client shall execute all permit applications. As "Permittee", or "applicant" or "holder", Owner shall be responsible for complying with the conditions of all permits issued. In particular, Client shall be responsible for the safety of the General Public during construction.

Acceptance

This proposal and fee schedules are based on acceptance within 30 days of the date of preparation. If not accepted by you within that time period, we reserve the right to re-evaluate the terms and conditions contained herein.

If the proposed work and fees contained herein are agreeable with you, please sign the enclosed copy of this letter and return same to our office. Should you have any questions regarding the above, please do not hesitate to call.

Sincerely,

CRAVEN THOMPSON & ASSOCIATES, INC.

RICHARD D. PPRYCE, P.S.M.
Vice President – Surveying and GIS

RDP/wg
Enclosure

ACCEPTANCE OF PROPOSAL: The above fees, terms, conditions, and specifications are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined.

THIS PROPOSAL ACCEPTED BY:

_____
Name & Title

_____
Firm Name

_____
Date

_____
Telephone Number

_____
Facsimile Number

PRELIMINARY DRAWING LIST

City of Hallandale Beach
Biscayne Wellfield Raw Water Pipeline
Design, Permitting and Observation During Construction

UPDATED: November 9, 2010

			CIVIL
1	C -	1	Title Sheet & Location Map
2	C -	2	List of Drawings
3	C -	3	Abbreviations
4	C -	4	General Notes
5	C -	5	Staging Plan
6	C -	6	Soil Boring Location Map
7	C -	7	Piping Key Map
8	C -	8	Raw Water Piping Sampling Point Plan
9	C -	9	Raw Water Piping Plan and Profile STA 0+00 to STA 5+00
10	C -	10	Raw Water Piping Plan and Profile STA 5+00 to STA 10+00
11	C -	11	Raw Water Piping Plan and Profile STA 10+00 to STA 15+00
12	C -	12	Raw Water Piping Plan and Profile STA 15+00 to STA 20+00
13	C -	13	Raw Water Piping Plan and Profile STA 20+0 to STA 25+00
14	C -	14	Raw Water Piping Plan and Profile STA 25+00 to STA 30+00
15	C -	15	Raw Water Piping Plan and Profile STA 30+00 to STA 35+00
16	C -	16	Raw Water Piping Plan and Profile STA 35+00 to STA 40+00
17	C -	17	Pembroke Road - MOT Plan - Sheet 1
18	C -	18	Pembroke Road - MOT Plan - Sheet 2
19	C -	19	Roadway Sections - Sheet 1
20	C -	20	Roadway Sections - Sheet 2
21	C -	21	Storm Water Catch Basin/Piping Relocations
22	C -	22	Pavement Restoration Details
23	C -	23	Civil Details - Sheet 1
24	C -	24	Civil Details - Sheet 2

FEE ESTIMATE

City of Hallandale Beach
Work Authorization No. 14

BISCAYNE WELLFIELD RAW WATER PIPELINE

Task	Description	Vice President	Senior Associate	Associate	Principal Engineer	Principal Designer	Total H&S Hours	H&S Labor Cost	Sub Labor Cost	Cost
Labor										
Task 1	Survey /Underground Utilities	0	0	20	0	0	20	$3,027	$31,050	$34,077
Task 2	Design	8	48	96	384	384	920	$109,165	$20,000	$129,165
Task 3	Permitting	0	0		136	0	200	$27,276	$0	$27,276
	Broward County Health Department Permit Application	0	0	15	20	0	35	$4,857	$0	$4,857
	City of West Park Engineering Division Permit Application	0	0	15	20	0	35	$4,857	$0	$4,857
	Florida Department of Transportation Permit Application	0	0	16	40	0	56	$7,595	$0	$7,595
	Industrial Review Application	0	0	4	8	0	12	$1,640	$0	$1,640
	Environmental Review Application	0	0	4	8	0	12	$1,640	$0	$1,640
	Response to RAIs	0	0	10	40	0	50	$6,687	$0	$6,687
	SUBTOTAL (LABOR)	8	48	116	520	384	1,140	139,468	51,050	190,518
	% of Total Hours	1%	4%		46%	34%	100%			
TASK 099 - Reimbursable Expenses, Other Direct Costs										
	Reproduction Costs	$3,000								
	Permit Application Fees	$10,000								
	Federal Express, UPS & Courier	$5,000								
	SUBTOTAL (EXPENSES)	$18,000								
	TOTAL (LABOR AND EXPENSES)	$208,518		$ 496,000						
	Opinion of Probable Construction Cost		$3,000,000							

Engineering Services Analysis Relative to ASCE Cost Curves

Item	Fee	Fee as a % of Const. Cost
Design & Permitting (Tasks 1, 2 & 3) :	$190,518	6.4%

FEE SCHEDULE

	Fee Rates ($/HR)	Vice President	Senior Associate	*Associate*	*Principal Engineer*	*Designer*
3.100	W/ Multiplier ($/HR)	215.82	181.82	151.31	129.33	89.90