City of Hollywood

Water Main Replacement Program: Pembroke Road to Hollywood Blvd. from S. 21st Avenue to US 1
Project Number: 14-5123

ATKINS

Proposal

Submitted to

October 28, 2014

ATKINS

SCOPE OF SERVICES
City of Hollywood

Project Name:	**Water Main Replacement Program: Pembroke Road to Hollywood Blvd. from S. 21st Avenue to US 1 (US 1-South Federal Highway and Hollywood Blvd. are not included)**
Project Number:	**14-5123**

I. BACKGROUND

The City of Hollywood (City) has requested Atkins to prepare a scope of work (SOW) to provide professional engineering services to replace all existing water mains in the distribution system within the area described in section III- Project Location. This project is part of the Citywide Water Main Replacement Program, identified by the City of Hollywood Department of Public Utilities in its Capital Improvement Program (CIP).

This SOW has been prepared in accordance with the Professional Services Agreement for engineering consulting services between the City of Hollywood and Atkins for water, wastewater, and stormwater projects presented to the City Commission and approved on February 27, 2003, under Resolution R-2003-03, and amended on July 16, 2012, under resolution R-2012-152.

II. OBJECTIVES

The main objective of this SOW is to outline the contract terms and conditions for professional civil engineering services for the design and preparation of construction documents, regulatory assistance, bid and award assistance, and limited support services during the construction phase for the installation of approximately 27,736 linear feet (5.3 miles) of principal roads and 30,435 linear feet (5.8 miles) of alleyway, for an estimated total of 58,171 linear feet of water mains, service stub-outs, and fire hydrants.

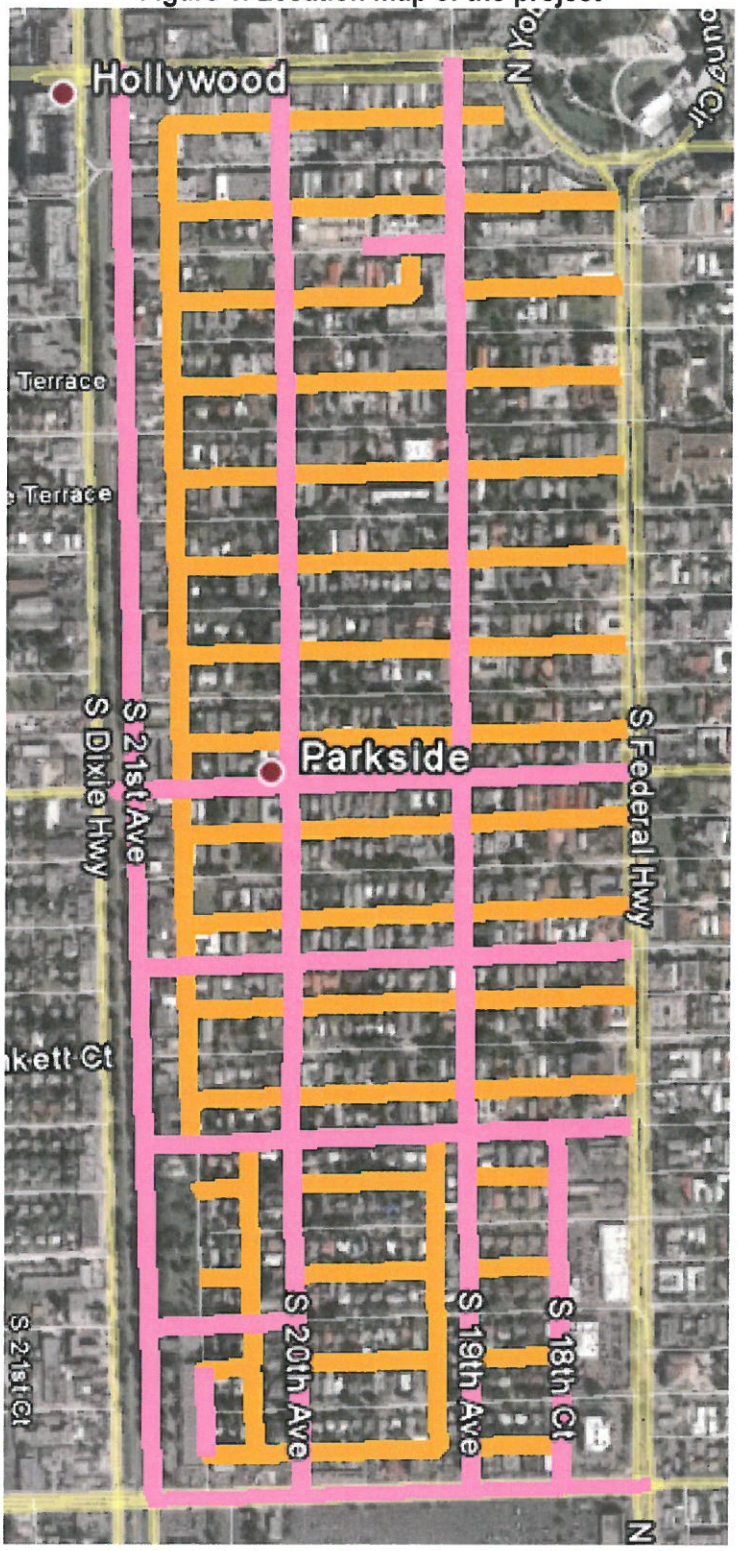
Limited construction administration services to the City are also included in this SOW in order to verify compliance with regulatory agencies during construction, as well as to give the engineer of record the necessary level of comfort to certify the work.

III. PROJECT LOCATION

The project boundaries are delineated by the municipal public rights-of-way lying within the following area within Hollywood, Broward County, Florida, bounded as follows (see Figure 1):

On the north:	By Hollywood Boulevard (SR 820) and South Young Circle (not included)
On the east:	By South Federal Highway (US1) (not included)
On the south:	By Pembroke Road (SR 824) north of center lane
On the west:	By South 21st Avenue, but not abutting South Dixie Highway; include Washington St. railroad track crossing

Figure 1. Location map of the project



IV. SCOPE OF WORK

Design, engineering and construction management

Atkins will provide the following design and engineering services as part of this SOW:

- Preparation of 60, 90, and 100 percent submittal packages, including drawings and specifications, for upgrade of existing potable pressure mains and valves and potable fire line, potable hydrant lines, and fire hydrants as indicated in the utility atlas maplet provided by the City.
- Upgrade of any existing fire hydrants to the City's current specification as identified by City staff.
- Additional fire hydrants as needed to achieve the maximum hydrant spacing allowed by the City of Hollywood Fire Department.
- Regulatory support to obtain the necessary permits including Broward County Health Department, Transportation and Public Works Department, City of Hollywood Planning and Development Services, Florida Department of Transportation (FDOT) and Florida East Coast Railway (FEC), as required.
- Profiles for proposed water mains to be provided as required by FDOT and other regulatory agencies.
- Bid support consisting of reviewing and responding to any request for additional information (RAI) and confirming quantities during procurement process.
- Limited construction administration support during the construction phase.
- Verification that all deliverables meet Quality Assurance/Quality Control (QA/QC) protocols including review, update, and approval of documents for accuracy.

Project management

Atkins will provide overall project management services and coordination with the City project manager (PM) and City staff, including attending meetings, reviewing existing information, and performing the following tasks upon receipt of notice to proceed:

- Prepare a phasing plan for the project and submit to the City PM for approval.
- Coordinate with City PM for kickoff and update meetings and attend public meetings at City's request.
- Provide a project schedule from design through permitting and construction.
- Contact utility owners/providers and request any available records and information depicting the locations and configuration of existing utilities within and around the project area.
- Catalog any utility record drawings and responses received from utility companies and track in a utility matrix.
- Perform site visits to verify the information on the route survey provided by surveyor, and to photograph and make notations regarding existing conditions.
- Identify any existing traffic signs which, in the opinion of Atkins, are found to be leaning or not in acceptable condition.
- Prepare a permit tracking matrix with agency names, permit types, permit/approval numbers, and issue dates.
- Using the topographic route survey, overlay the "best available" locations of existing underground utilities in CAD and create a base map on which the design will be developed.
- Using the CAD base map as background, develop the horizontal alignment for the proposed mains including points of connection and interconnection (as directed by the City), fittings, valves, air release valves, and deflections.

PROJECT ASSUMPTIONS

This SOW has been prepared considering the following project assumptions:

- A hydraulic analysis for the City's water distribution system, including the project area, was prepared by others. If required for permitting, copies of the hydraulic analysis will be provided by the City.
- Plans for maintenance of traffic (MOT) during construction will be prepared by the contractor and are not included in this scope of work.
- City will provide a GIS shapefile containing all existing water main alignments and points of connection on the individual properties.
- Contractor will be responsible for obtaining permission for access from homeowners prior to starting construction.
- All existing properties within the project area that are on private septic systems, if any, will remain as such.
- Site will be accessible to truck-mounted drilling equipment and underground utilities will be cleared by the contractor.
- Assistance with right-of-way (ROW)/easement title searches or acquisition is not included in this SOW.
- Closed water distribution loops will be provided only when there is existing available right-of-way.
- Pipe material will be C900/C905 PVC as preferred material by the City. Any studies to evaluate alternate materials may be performed as an additional service.
- Proposed mains will be installed mainly via conventional open trench method. Directional borings under the railroad trucks will be included in the scope of work for Washington Street as needed.
- Survey will include north ROW to center line of Pembroke Road.
- Along streets and alleys where there are several existing parallel potable water mains, the mains will be abandoned and replaced with a single water main of appropriate diameter.
- City will provide stormwater improvement plans in AutoCAD format that will be shown for clarity and conflict avoidance in the plans. No engineering, design, permitting, or construction administration oversight is included for the stormwater system in this SOW.

WORK BREAKDOWN SCHEDULE

This project will encompass 11 major tasks, separated into Phase 1: Design (Task 1-7), Phase 2: Construction (Task 8-10) and Reimbursable Expenses (Task 11).

Task	Description
Phase 1: Design	
1	Work plan, kickoff and update meetings, public meetings (at City request)
2	Geotechnical services
3	Topographic survey services
4	60% construction documents
5	Regulatory assistance
6	90 % construction documents, drawings and specifications
7	Final construction documents, 100% drawings and specifications

Task	Description
Phase 2: Construction	
8	Contract and bid document services
9	Limited construction administration services
10	Record drawings
Reimbursable expenses	
11	Reimbursable Expenses

Atkins will perform these tasks as detailed in the following sections.

The Atkins project manager (PM) will assemble a team of qualified individuals to monitor the progress and review and QA/QC deliverables from this project. The Atkins PM will be the point of contact for any technical issues related to this project and will be responsible for distributing project deliverables to the City PM.

Phase 1: Design

Task 1. Work plan and kickoff meeting, update meetings, and public meetings (at City request)

Subtask 1.a – Work plan and kickoff meeting

Atkins will prepare a project work plan to describe the project tasks, responsibilities and assignments for tasks, technical and financial controls, and project schedule.

The work plan will be presented at a kickoff meeting to review and discuss the plan, including the project schedule, deliverables, individual and team responsibilities, subconsultants, lines of communication, and payment schedule as well as the overall project mission, goals, and objectives. At the conclusion of the meeting, the work plan and project schedule will be adjusted, as necessary, and the Atkins PM will provide meeting minutes.

Deliverable Sub-Task 1.a – Work plan and kickoff meeting minutes

Atkins will submit the draft and final project work plan and meeting minutes to City staff for review and comments.

Subtask 1.b – Update meetings and public meetings (at City request)

Atkins staff will meet periodically on a bi-weekly or monthly schedule with the City PM to discuss project updates and confirm project schedule, financial statements, and deliverables, as necessary.

Deliverable Sub-Task 1.b – Meeting minutes

Upon completion of regular progress meetings and/or public meetings, Atkins will submit the meeting minutes (draft and final) for City staff review and comments.

Task 2 – Geotechnical services

Geotechnical services for the project will be provided by a sub-consultant to Atkins. The scope of geotechnical services will include performing 40 (forty) SPT standard penetration test (SPT) borings in general accordance with ASTM D-1586 specifications to a depth of 10 feet each, to cover the project area (refer to Attachment B- Nutting Engineering quote). At the completion of the on-site work, soil samples will be returned to the sub-consultant laboratory, who will provide an engineering report including a description of its findings and general trenching and backfill recommendations, if required. In order to provide information concerning the engineering properties of the soils, it is anticipated that tests may be performed to determine natural water content, organic content, and sieve analysis on representative soil samples collected from the field. The engineering report will include graphic logs of the test borings and a test boring location plan.

Task 2 – Deliverable

Atkins will provide two hard copies, signed and sealed by a professional engineer, and one electronic (pdf) file of the geotechnical report.

Task 3 – Topographic route survey

Atkins will provide the topographic route survey for the project. This survey is necessary in order to ascertain certain details for water main replacements within the area. Accordingly, Atkins will undertake the following progressive steps:

1. Conduct research for data with the Broward County Records Division and other public agencies as necessary to develop historical background of project with respect to the underlying plats of record.
2. Perform field recovery of horizontal and vertical survey control as required for the project area. Construction control points will be placed and referenced to the North American Vertical Datum of 1988 (NAVD88) for elevations and the North American Datum of 1983 (NAD83) for horizontal locations. These will be referenced as such in the electronic files.
3. Contact and coordinate with Sunshine State One Call to obtain design tickets and ground markings.
4. Locate all visible surface indications of utilities and hardscape, including but not limited to utility castings, driveways (including type of construction), trees (with trunk diameter up to 4 inches), sidewalks, pavements, curbs, gutters, medians, and other significant features within the project area.
5. Locate all signs, letter boxes, poles, overhead utility lines, fences, and walls with material compositions of same.
6. Acquire elevations for rims, grates, and inverts of all pipes, catch basins, and manholes within the project area. Atkins will also measure elevations of ROW lines, back of sidewalks, bottom of swales edges/centerline of pavements, and high/low points for the project area at 100-foot intervals throughout. Elevations will also be acquired 5 feet beyond each ROW line.

In addition, all traffic signs and signals within the project limits will be identified on the survey, either by name or MUTCD sign ID number.

Task 3 – Deliverables
Atkins will provide three (3) certified hard copies of topographic survey maps and report, drawn to an adequate scale in English units of measurement, and electronic copies in CD format for design purposes.

Task 4 – Development of 60 percent construction documents
Upon completion of Tasks 2 and 3, Atkins will prepare a 60 percent design submittal denoting the horizontal and vertical alignment for the proposed mains and will provide project-specific construction notes and details as follows:

- Atkins will provide drawings for further refining of the proposed horizontal alignment of the system.
- Based on existing utility information gathered, Atkins will identify locations where proposed water mains cross existing utilities. Profiles will be provided only at the locations of utility crossings and not along the entire main alignment. Profiles will depict "best available" locations, depths and sizes of existing underground utilities that cross, and may be in potential conflict with, the proposed mains.
- In areas of potential conflicts between the proposed mains and existing utilities, Atkins may identify those utilities for which available record (as-built) information is not sufficient to anticipate whether there is potential for conflict. Atkins may choose to perform subsurface utility engineering (SUE) services to attempt to accurately identify the size, depth, and horizontal location of the underground utility.
- Profile views will indicate proposed installation depths, vertical separation from existing utility crossings, vertical deflections or fittings, joint and pipe restraints, and recommended locations.
- Atkins will meet with City staff to discuss the proposed horizontal and vertical alignments.

Upon review of the proposed vertical alignment by the City PM, Atkins will prepare 60 percent-preliminary construction drawings consisting of the following:

- Cover sheet with City information (names of City officials, Commissioners, project and contract numbers, etc.)
- Refine general notes sheet(s)
- Refine system key map
- Plan and profile sheets @ 1:20 scale
- Pavement restoration plans
- Standard detail sheets and miscellaneous construction details

Atkins will submit the 60 percent submittal package to the City for review. After review, Atkins will address one round of review and will incorporate the comments in the 90 percent submittal package (Task 5).

Task 4 – Deliverables
Atkins will provide three signed/sealed sets of the 60 percent construction drawings (24-inch x36-inch) in hard copy format and one electronic copy of the drawings in CAD, as well as a project schedule for the proposed improvements.

Task 5 – 90 percent submittal package
Atkins will address review comments provided in Task 4 and incorporate these as revisions to the 60 percent design plans.

Atkins will update the construction plans to Preliminary – 90 percent and submit to the City for review, and will provide the preliminary engineer's opinion of probable construction costs for proposed improvements.

Atkins will address City comments and incorporate one round of revisions to produce final construction drawings.

Task 5 – Deliverables
Atkins will provide three signed/sealed sets of the 90 percent construction drawings (24-inch x 36-inch) in hard copy format and electronic files (AutoCAD), a preliminary engineer's opinion of probable construction cost for the proposed improvements, updated project schedule and an electronic copy (Word and pdf) of the specifications.

Task 6 – Regulatory Assistance
Once the City has approved the 90 percent construction drawings, Atkins will submit plans to the regulatory agencies identified in this Task to begin the regulatory process.

Atkins will assist the City by preparing and submitting permit applications, forms, fee schedule, supporting documents, and plans for review to the following regulatory agencies, as needed:

1. Broward County Health Department
2. City of Hollywood Planning & Development Services Department
3. Broward County Public Works Department
4. Broward County Transportation Department
5. Florida Department of Transportation (FDOT), ROW coordination for Pembroke Road (SR 824), Hollywood Blvd. (SR 820) and S Federal Hwy (US1).
6. Florida East Coast Railway

Atkins will address review comments and requests for information from each referenced permitting agency.

Task 6 – Deliverable
Atkins will provide a regulatory summary report, copies of all permit packages, and requests for additional information coordination as needed.

Task 7 – Final construction – 100 percent submittal package
Upon receipt of comments/revisions on the 90 percent submittal (Task 5) and the required permits by the regulatory agencies (Task 6), Atkins will update the construction plans to FINAL and submit to the City for approval. Atkins will also update the engineer's opinion of probable construction costs for proposed improvements, as needed.

Atkins will address City comments and incorporate one final round of revisions to produce the 100 percent (READY FOR CONSTRUCTION) drawings.

Task 7 – Deliverables
Atkins will provide three signed/sealed sets of the Final- Ready for Construction drawings (24-inch x 36-inch) in hard copy and one electronic file (AutoCAD); one electronic copy (Word and pdf) of the general specifications, final construction schedule, and a final engineer's opinion of probable construction cost for the proposed improvements.

Phase 2: Construction

Task 8 – Contract and bid documents services
Upon completion of Tasks 2–7, Atkins will submit the technical specification package and standard City "front-end" documents provided by the City in electronic (MS Word) format. Atkins will update these documents accordingly to make them site and project-specific and incorporating into the bid document for the project in pdf format.

During the bid and award phase of the construction contract, Atkins will provide the following services:

- Attend one pre-bid meeting to address questions from potential bidders.
- Respond in writing to technical questions from qualified bidders and assist to issue bid addenda, if required for clarification.
- Assist the City with the evaluation and tabulation of all contractor bids as needed by the City, reference checks, and contractor selections.

Task 8 – Deliverables
Atkins will provide draft bid documents to be submitted to the City for review and comment. Once comments are received from the City on the bid document, Atkins will address comments, format the document, and prepare a final bid/contract document.

Task 9 – Limited construction administration services
Once a construction contract is completed and a contractor is selected, Atkins will provide limited construction administration services to the City during the construction phase. Construction administration services may include, but are not limited to plan updates, engineering assistance, RFIs, and meeting attendance as noted below.

During the construction phase of the proposed project, Atkins will provide the following services:

- Attend one pre-construction meeting with the City and selected contractor, and will record and distribute minutes.
- Review submittals from the contractor including shop drawings, product cut sheets, product substitution requests, and various work plans. Submittals shall be responded to within 15 days of receipt.
- Respond in writing to RFIs or RAIs from the contractor within 5 days of receipt..

An Atkins representative will visit the site periodically during construction of the proposed water mains to observe progress and witness tests (as often as deemed appropriate by Atkins for the type of work involved) and prepare site observation reports.

Atkins will submit copies of all field inspection notes and sketches to the City as needed, will keep photographic evidence of its field observations, and will include relevant photos on its reports as needed. The Atkins representative will visit the site at substantial completion to prepare a punch list of items that are found not to be in conformance with the contract documents, or items that require correction, completion, or replacement. The punch list will be developed as a final tool of our construction administration task. As the contractor completes the work and develops his/her own internal punch list, Atkins will concurrently prepare a punch list as the work progress is reviewed. Atkins will coordinate with the contractor and the City to visit the project site, confirm the completion of pending punch list items, and provide the list to the contractor for correction of any deficiencies. Deadlines will be set for this work to be completed to eliminate project delays.

When the contractor has made all corrections, a final review will be performed to confirm all work has been corrected in accordance with Atkins' punch list and comments. Atkins will review as-built drawings, pressure test reports, results of bacteriological analyses, and pavement density tests provided by the contractor for conformance with the contract documents and prepare the engineer's certificate of completion for the water system.

Task 9 – Deliverables
Atkins will attend a pre-construction meeting and provide meeting minutes, inspection logs, and punch-lists as identified in the task description and will provide the engineer's certificate of completion for the water system.

Task 10 – Record drawings
Upon completion of Tasks 2–8 Atkins will develop the final site plan showing the location and layout of the piping, and will provide three sets of signed/sealed record drawings for the City of Hollywood's files.

Task 10 – Deliverables
Atkins will provide three sets of sealed and approved of record drawings.

Task 11 – Reimbursable expenses
Atkins will invoice the City of Hollywood for operating expenses, including printing, photocopying, mailing, Federal Express and other miscellaneous expenses incurred during the preparation of Tasks 1 though 10, as needed.

Task 11 – Deliverables
Atkins will provide invoices for expenses as required on a monthly basis.

Additional services
If authorized by City in writing, Atkins will provide additional services that may be required above and beyond those described in Tasks 1–11, in accordance with this agreement. Additional services may include the following:

- Assistance with acquisitions of easements and/or right-of-way
- Hydraulic modeling
- Public information services and advertisement of public meetings
- Preparation of board-mounted exhibits and renderings for presentations and public meetings

- Relocations/modifications of existing utilities, other than existing water mains, within the project area
- Roadway design and cross sections
- Document preparation for bid of pavement and restoration plans, sections and details beyond of what is shown on the regular bid documents for pipe replacement.
- Maintenance of traffic plans (MOT plans).
- Design of sanitary sewer systems
- Meetings in excess of those described in the preceding tasks
- Environmental testing and engineering services
- Basis of design report (BODR), feasibility, and/or route studies
- Dewatering plans
- Design of corrosion protection systems
- Structural design calculations
- Permitting (other than identified in Task 6)
- Creation of a contract document
- Changes in project extents or main alignments after geotechnical testing services have commenced
- Any other services not specifically listed in Tasks 1–11.

VII. Schedule

The requested professional services will commence with receipt of a letter of authorization from the City, and will be completed as noted in Table 1.

Table 1. Tentative schedule

Task	Completed by	Duration
Design		
NTP received	December 1, 2014	
Work plan and kick off meeting	December 8, 2014	1 week
Topographic survey	March 30, 2015	16 weeks
60% submittal	August 3, 2015	18 weeks
City of Hollywood review	August 31, 2015	4 weeks
Submit permit applications	August 31, 2015	
90% submittal	September 28, 2015	4 weeks
City of Hollywood review	October 12, 2015	2 weeks
100% submittal	October 26, 2015	2 weeks
City of Hollywood review	November 30, 2015	5 weeks
Permitting completed	November 30, 2015	
Design Phase duration		**12 months**
Construction		
Construction and bid documents	January 2 , 2016	4 weeks
Limited construction and administration services	June 1, 2017	18 months
Record drawings	August 31, 2017	4 weeks
Construction Phase duration		**20 months**

VIII. Summary of compensation

For the scope of services enumerated in Tasks 1–11, the total LUMP SUM fee is **$587,453**. The breakdown of these fees is shown in Attachment A.

Task	Description	Cost
Phase 1: Design		
1	Work plan and meetings	**$ 20,160**
2	Geotechnical services	**$ 9,962**
3	Topographic survey services	**$ 183,391**
4	60% construction documents	**$ 149,100**
5	90% submittal – drawings and specifications	**$ 80,000**
6	Regulatory assistance	**$ 27,400**
7	Final construction submittal – 100% drawings and specifications	**$ 19,400**
Phase 2: Construction		
8	Contract and bid document services	**$ 23,200**
9	Limited construction administration services	**$ 49,200**
10	Record drawings	**$ 13,640**
Reimbursable expenses		
11	Reimbursable expenses	**$ 12,000**
	Total sump sum	**$ 587,453**

HOLLYWOOD PEMBROKE ROAD- PROJECT 14-513
ATTACHMENT A- SERVICE FEES

Our Project/Proposal Number		Personnel and Hourly Rates								Expenses	Task Totals
Proposal Date		Sr. Project Manager	Sr. Engineer	Engineer II	Sr. Designer	GIS/Designer	Senior Surveyor	Survey Tech/Cadd	4 Men Survey Team		
Task	Description	$140.00	$120.00	$100.00	$120.00	$65.00	$150.00	$101.00	$198.00		
DESIGN PHASE											
1	Work plan and meetings	48	48	48	24						$ 20,160
2	Geotechnical services										$ 9,962
3	Topographic survey services						100	491	600		$ 183,391
4	60% construction documents	120	140	540	220	540					$ 149,100
5	90% submittal – drawings and specifications	120	100	250	110	200					$ 80,000
6	Regulatory assistance	40	160			40					$ 27,400
7	100% submittal- drawings and specifications	40	20	40	40	40					$ 19,400
CONSTRUCTION PHASE											$ -
8	Contract and bid document services	80	100								$ 23,200
9	Limited construction administration services	80	200	140							$ 49,200
10	Record drawings	16	40	40		40					$ 13,640
REIMBURSABLE EXPENSES											
11	Reimbursable expenses									$ 12,000.00	$ 12,000
TOTAL SERVICE FEES											$ 587,453

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Exhibit B. Preliminary location for soil boring tests