

**Financial Project ID No's.: 430444-1-56-01**  
**Proposed 8"/20" Water Main JPA Installation along SR 907/Alton Road**  
**From south of Ed Sullivan Drive/ 43rd Street to W 63<sup>rd</sup> Street**  
**Miami-Dade County, Florida**

**Stantec Consulting Services Inc.**  
901 Ponce de Leon Boulevard Suite 900  
Coral Gables FL 33134  
Tel: (305) 445-2900  
Fax: (305) 445-3366

## **1 SCOPE OF WORK**

The purpose of this scope of services is to provide consulting engineering services to the City of Miami Beach for design, permitting, preparation of technical special provisions, electronic delivery and post design activities in relation to the installation of approximately 12,000 LF of 8" DIP and 8,890 LF of 20" DIP water main along SR 907/Alton Road from south of Ed Sullivan Drive/ 43rd Street to W 63rd Street and along W 63<sup>rd</sup> Street Alton Road to La Gorce Dr. See detailed scope in Exhibit A for additional information.

## **2 SCHEDULE**

Design Schedule and submittal is based on the Roadway design schedule.  
PS&E (100%) Submittal 10/3/2016  
Plans Complete Submittal 1/16/2017  
Letting 7/29/2020

## **3 ESTIMATE OF WORK EFFORT**

See attached Estimate of Work Effort and Fee Spreadsheet – Exhibit B

## **4 REQUEST TO UTILIZE / ADD SUB-CONSULTANT**

Survey Sub-consultant to be utilized.

## **5 DELIVERABLES**

Plans, Permits, Engineer's Opinion of Probable Cost, soft digs of existing utilities and Technical Special Provisions for the installation of the proposed watermain replacement.

## **6 EXCLUSIONS**

Permit fees will be paid by City of Miami Beach.

Environmental services for contamination clean-up if encountered.

## **7 METHOD OF COMPENSATION**

The proposed services will be compensated in the form of a Lump Sum of **\$386, 771.17** Compensation will be based on progress submittals of construction documents. Additional services beyond the project scope will require prior approval and separate letter of authorization with justification for the request.

## **8 PRELIMINARY ESTIMATE OF PROBABLE COSTS**

See Preliminary Engineer's Opinion of Probable Cost in Exhibit C.

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**9 CONSULTANT ACCEPTANCE**

Prepared For Stantec by:

Dave Clarke, P.E. \_\_\_\_\_

Name

Project Manager \_\_\_\_\_

Name

 \_\_\_\_\_

Signature

9-10-2015 \_\_\_\_\_

Date

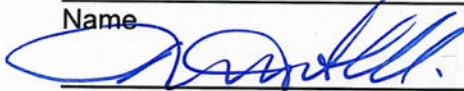
Reviewed and accepted for Stantec by:

Ramon Castella, P.E. \_\_\_\_\_

Name

Vice-President \_\_\_\_\_

Name

 \_\_\_\_\_

Signature

9-10-2015 \_\_\_\_\_

Date

**10 SCOPE OF WORK**

Approved for by City of Miami Beach by:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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## **Exhibit A – Scope of Services**

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## **Scope of Work**

The scope of the work for this Task Work Order (TWO) includes:

- Installation of approximately 12,000 LF of 8" ductile iron pipe (DIP) water main and fittings along SR 907/Alton Road, from south of 43<sup>rd</sup> Street to W 48<sup>th</sup> Street and from Lake View Drive to W 63<sup>rd</sup> Street.
- Installation of approximately 8, 890 LF of 20" DIP and fittings along SR 907/Alton Road from Lake View Drive to W 63<sup>rd</sup> Street and along W 63<sup>rd</sup> Street Alton Road to La Gorce Drive.
- Establishing new tie-ins and reconnections of existing water mains at the following intersections/locations;
  - Reconnection to existing 8" water main at 43<sup>rd</sup> street.
  - New 6" water main connection and reconnection of the existing 6" water main at W 44<sup>th</sup> Street.
  - New 6" water main connection and reconnection of the existing 6" water main at W 44<sup>th</sup> Court.
  - New 8" water main connection and reconnection of the existing 8" water main at W 45<sup>th</sup> Street.
  - New 8" water main connection and reconnection of the existing 6" water main at W 46<sup>th</sup> Street.
  - New 12" water main connection and reconnection of the existing 12" water main at W 47<sup>th</sup> Street (East side) and new 6" water main with stub out on west side. New 4" water main on east side connected to the new 12" water main extending north (~200 LF) of W 47<sup>th</sup> Street and service meters.
  - New 6" water main connection and reconnection of the existing 6" water main at W 47<sup>th</sup> Court.
  - New 12" water main connection and reconnection of the existing 20" water main at W 48<sup>th</sup> Street (west side).
  - Sand blast and paint the two (2) existing 20" water main currently attached to existing Alton Road Bridge crossing Surprise Waterway just north of W 48<sup>th</sup> Street.
  - New 6" water main connection with reconnection to existing 6" water main at N Bay Road (west side) and Lakeview Road Drive (east side).
  - New 8" water main connection and reconnection of the existing 8" water main at W 51<sup>st</sup> Street (east side).
  - New 6" water main connection with stub-out at W 51<sup>st</sup> Street (west side)

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- New 8" water main connection with stub-out at W 52<sup>nd</sup> Street (west side) and new 8" water main with reconnection to existing 8" water main on east side.
  - New 6" water main connection with stub-out at W 53<sup>rd</sup> Street (west side) and new 3" service main and connection to existing 3" service water main on east side (from new 20" water main).
  - New 8" water main connection and reconnection of the existing 8" water main at W 54<sup>th</sup> Street (west side) and new 4" water main with reconnection to existing 4" water main on east side.
  - New 6" water main connection with stub-out at W 56<sup>th</sup> Street (west side) and new 8" water main and reconnection to existing 8" water main on east side (from new 20" water main).
  - New 4" water main at approximate station 252+72 just south of W 57<sup>th</sup> street.
  - New 8" water main connection with stub-out at W 57<sup>th</sup> Street (east and west side).
  - New 8" water main connection and reconnection of the existing 8" water main at W 58<sup>th</sup> Street (west side) and new 4" water main (east side) and transition to new 3 Galv. water service. New 3" galv. water service will be connected to existing 3" galv. water service.
  - New 8" water main connection with stub-out at W 59<sup>th</sup> Street (east and west side).
  - New 6" water main connection with stub-out at W 60<sup>th</sup> Street (west side) and new 2" water service connection with reconnection to existing 3" galv. water service on east side (from new 20" water main).
  - New 6" water main connection and reconnection to the existing 6" water main at W 62<sup>nd</sup> Street (east side) and connection to new 8" water main (west side).
  - Connection to existing 20" water main along W 63<sup>rd</sup> Street at La Gorce Drive.
  - Reconnection to existing 24" water main with stub-out along Alton Road near La Gorce Drive.
- Installation of new fire hydrants, service lines, and water meters along Alton Road from south of Ed Sullivan Drive/ 43rd Street to W 63rd Street.

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- Adjustment of existing water utility valve boxes and sanitary manholes along Alton Road from Ed Sullivan Drive/ 43rd Street to W 63rd Street.
  - Abandonment in-place of the existing 2" 3" 4", 6" 8" 10" 12" & 20" water line along Alton Road from Ed Sullivan Drive/ 43rd Street to W 63rd Street.
  -

Note: Length of stub-outs at side street connections will extend up to the limits of the FDOT roadway construction/milling project.

### **Services to be provided**

The Scope of Work for this TWO includes the following:

1. Coordination with:
  - a. Florida Dept. of Transportation (FDOT)
  - b. City of Miami Beach
  - c. Miami-Dade Department of Regulatory Economic Resource (RER) formerly DERM
  - d. City of Miami Beach Fire Department
  - e. Department of Environmental Protection
  - f. US Army Core of Engineers
2. Review available utility as-built information and prepare markups of FDOT Utility Adjustment Sheets for roadway design engineer to revise/correct existing utility base files as noted
3. Development of a preliminary alignment along Alton Road and proposed tie-in locations for new and existing laterals
4. Detailed design (plan and profile) of 8" water main and associated connections and appurtenances along SR 907/Alton Road, from south of 43rd Street to W 63rd Street.

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5. Detailed design (plan and profile) of 20" water main and associated connections and appurtenances along SR 907/Alton Road, from Lake View Drive to W 63<sup>rd</sup> Street and along W 63<sup>rd</sup> Street Alton Road to La Gorce Drive.
  6. Detailed design (plan and profile) of new 8" water main laterals (stub outs and reconnections) at W 43rd Street, W 45th Street, W 51st Street (east side), W 52nd Street (west side), W 54th Street (west side), W 56th Street (east side), W 57<sup>th</sup> Street (east and west side), W 58<sup>th</sup> Street (west side), W 59<sup>th</sup> Street (east and west side), and W 62<sup>nd</sup> Street (west side).
  7. Detailed design (plan and profile) of new 6" laterals (stub outs and reconnections) at W 44th St, W 44th Court, W 46th Street, W 47th Court, W 47th Street, N Bay Road (west side), Lakeview Road Drive (east side), W 51st Street (west side), W 53rd Street (west side), W 54<sup>th</sup> Street (east side), W 56th Street (west side), W 60th Street (west side), W 62nd Street (east side) and W 42nd Street.
  8. Detail design (plan and profile) of new 4" laterals along Alton Road, at W 47th Street, approximate station 252+72 just south of W 57th street, and W 58th Street (east side).
  9. Detail design (plan and profile) of new 12" water main along Alton Road at, W 47<sup>th</sup> Street, W 48<sup>th</sup> Street (west side), .
  10. Detail design (Plan and Profile) for new fire hydrants
  11. Design in plan view only for replacement of existing water meter services along SR 907/Alton Road, from south of Ed Sullivan Drive/ 43rd Street to W 63rd Street. Summary table of size, offset and location of new water meters will be provided.
  12. Summary table for adjustments to existing water and sanitary utilities surface appurtenances on SR 907/Alton Road, from south of Ed Sullivan Drive/ 43rd Street to W 63rd Street.
  13. Preparation and submittal of permit applications to:
    - a. Miami-Dade Department of Regulatory Economic Resource (RER) formerly DERM
    - b. Department of Health
    - c. City of Miami Beach Fire Department
    - d. US Coast Guard
    - e. Department of Environmental Protection
    - f. US Army Core of Engineers
  14. Preparation of Engineers Opinion of Probable Construction Cost



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15. Preparation of Construction Plans:

- Cover Sheet with Sheet Index
- General Notes
- Legend and Key Plan
- Tabulation of Quantities – water main
- Tabulation of Quantities – Valve and Manhole adjustment
- Tabulations of Quantities – Water meter (pipes & meter)
- Plan and Profile for mainline (As described in items 4 and 5 above)
- Plan and Profile for side streets (Laterals as described in items 6 thru 10 above )
- Plan and profile (proposed fire hydrant connections)
- Traffic Control Notes
- Traffic Control Plans
- General Details
- Typical Details
- FDOT Computation Book

16. Prepare Technical Special Provisions (TSPs) required for:

- a. Water main construction

17. Prepare Engineers Estimate of Probable Construction Cost in FDOT format

18. Electronic Delivery of the proposed design JPA per FDOT requirements and Final CAD delivery to City of Miami Beach.

19. Post Design Services including:

- a. Preconstruction Conference



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- b. Shop Drawing review
- c. Change order evaluation and recommendations
- d. RFIs and Engineers Supplemental Instructions (ESI's)
- e. Field visits

#### **Assumptions/Clarifications:**

Assumptions and exclusions for this Scope of Work include:

1. Scope has been prepared assuming that the two (2) 20" WM crossing Surprise Waterway just north of W 48<sup>th</sup> Street will remain attached to the existing Bridge. If determined that the (2) 20" WM will be a sub aqueous crossing then additional topographic survey of the water way and bridge foundation will be required. Stantec will also be entitled to additional compensation for the detailed design for the sub aqueous crossing of the bay.
2. Subsurface geotechnical investigations have been completed for the roadway design and provide sufficient data and design recommendations to complete the watermain design. No additional geotechnical engineering, design, or evaluation will be required. Available data and geotechnical reports will be provided to the Engineer.
3. Project limits of proposed water utility improvements do not extend up beyond the limits of the proposed FDOT roadway construction/milling.
4. No structural analysis or design is required for this project.
5. Design and/or specification of cathodic protection systems is not required for this project.
6. Design of sheet piling is not required for this project.
7. Summary of Water and sanitary valve box & manhole adjustment provided a tabular table.
8. Line and lay drawings and fitting schedules are not required for this project.
9. Project excludes design of any sanitary sewer gravity pipelines or force mains.
10. Engineer shall prepare and make a total of three submittals to City of Miami Beach for review (90%, PS&E, and Plans Completed/Final). Engineer shall be entitled to additional compensated for additional and/or supplemental submittal requests.

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11. Engineer shall prepare and make a total of six submittals to FDOT which coincide with the 90%, PS&E, Plans Completed, Production Date, Plans to specs and plans to Tally per Project Schedule milestones.
  12. Shop drawing review is limited to 4 submittals, including resubmittals.
  13. Change order reviews are limited to 1 submittal.
  14. RFI's & ESI's are limited to 25 submittals.
  15. Field visits are limited to 10 trips.

#### **Current FDOT Projects Information**

The City of Miami Beach water utility improvements detailed in this Scope of Work will be incorporated under FDOT project FPID No. 430444-1-52-01 along SR 907/Alton Road, from south of Ed Sullivan Drive/ 43rd Street to W 63rd Street.



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**Financial Project ID 430444-1-52-01**

Project Manager: Hong Benitez, PE

Contact Number: (305) 470-5471

Email: hong.benitez@dot.state.fl.us

FDOT Scope of Work: Roadway reconstruction, drainage improvements (including Storm water Pump Stations), intersection improvements, milling and resurfacing, adjustment of valves and manholes, sidewalk and curb ramps, signing and pavement markings signalization.

**Production Schedule:**

PS&E (100%) Submittal 10/3/2016

Plans Complete Submittal 1/16/2017

Letting 7/29/2020

**Financial Project ID No's.: 429193-1-56-01**  
**Proposed 8"/12" Water Main JPA Installation along SR 907/Alton Road**  
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## **Exhibit B - Work Effort Spreadsheet**



CONSULTANT: STANTEC CONSULTING SERVICES INC.

WPI NO.: N/A

DESCRIPTION: Proposed 8"/20" Water Main JPA Installation on SR 907/Alton Road.

CONST. YR. 2018

COUNTY: MIAMI-DADE

**From: south of Ed Sullivan Drive/ 43rd Street**

**To: W 63rd Street**

			W O R K %	MANHOURS						HOURLY RATE (W/OUT OM)	FIXED FEE (OM)	TOTAL HOURLY RATE	ESTIMATED COST	
				A	B	TOTAL WORK EFFORT								
				WATER MAIN	POST DESIGN SERVICE									
CLASSIFICATION			ELEMENTS											
S T A N T E C	CHIEF ENGINEER		5%	147	15	162					\$ 211.43	\$ 23.52	\$234.95	\$38,061.90
	PROJECT MANAGER		10%	294	30	324					\$ 184.15	\$ 20.48	\$204.63	\$66,300.12
	PROJECT ENGINEER		15%	441	44	485					\$ 118.51	\$ 13.18	\$131.69	\$63,869.65
	ENGINEER		15%	441	44	485					\$ 96.49	\$ 10.73	\$107.22	\$52,001.70
	ENGINEERING TECHNICIAN		40%	1,177	118	1295					\$ 67.81	\$ 7.54	\$75.35	\$97,578.25
	ENGINEERING INTERN		15%	441	44	485					\$ 78.82	\$ 8.77	\$87.59	\$42,481.15
	SUB TOTAL		100%			3236	STANTEC SUB TOTAL						\$111.34	\$360,292.77
H A D O N N E	SURVEYOR & MAPPER (Soft-dig)			8		8				\$ 75.48	\$ 8.12	\$83.60	\$668.80	
	SURVEY TECHNICIAN (Soft-dig)			80		80				\$ 45.95	\$ 4.94	\$50.89	\$4,071.20	
	UTILITY COORDINATOR			26		26				\$ 90.68	\$ 9.76	\$100.44	\$2,611.44	
	CLERICAL			8		8				\$ 40.42	\$ 4.35	\$44.77	\$358.16	
						122	HARDONNE SUB TOTAL						63.19	\$7,709.60
SOFT-DIG SURVEY	SURVEY 3-MAN CREW- DAYS			20							20	\$938.44	\$18,768.80	
							SURVEY SUBTOTAL							\$18,768.80
TOTALS						3358								

If revised estimate, give reasons for revisions

Estimator Dave E. Clarke

Date: 9/10/2015

Services for Hadonne Sub consultant are included in Sub activities 5 & 6

**TOTAL CONTRACT FEE COMPUTATIONS-(STANTEC)**

(a)	Total Loaded Salary	\$360,292.77
(b)	TOTAL OVERHEAD <sup>(1)</sup>	\$0.00
(c)	OPERATING MARGIN <sup>(2)</sup>	\$0.00
(d)	FCCM <sup>(3)</sup>	\$0.00
(e)	DIRECT EXPENSE <sup>(4)</sup>	\$0.00

<b>SUB TOTAL CONTRACT AMOUNT (LUMP SUM)-STANTEC</b>	<b>\$360,292.77</b>
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Notes:

- (1) Total Overhead (General) = Included in (a) Total Loaded Salary
- (2) Operating Margin = Included in (a) Total Loaded Salary
- (3) Facilities Capital Cost of Money (FCC) = Included in (a) Total Loaded Salary
- (4) Direct Reimbursables (Out-of-Pocket) = Included in (a) Total Loaded Salary

### TOTAL CONTRACT FEE COMPUTATIONS (HADONNE)

(a)	Total Loaded Salary	_____	<b>\$7,709.60</b>
(b)	TOTAL OVERHEAD <sup>(1)</sup>	_____	<b>\$0.00</b>
(c)	OPERATING MARGIN <sup>(2)</sup>	_____	<b>\$0.00</b>
(d)	FCCM <sup>(3)</sup>	_____	<b>\$0.00</b>
(e)	DIRECT EXPENSE <sup>(4)</sup>	_____	<b>\$0.00</b>

TOTAL CONTRACT AMOUNT (LUMP SUM)-HADONNE	\$7,709.60
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<b>SUB TOTAL CONTRACT AMOUNT (LUMP SUM)-SURVEY</b>	<b>\$18,768.80</b>
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<b>GRAND TOTAL CONTRACT AMOUNT (LUMP SUM)</b>	<b>\$386,771.17</b>
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**Proposed 8" /20" Water Main JPA Installation on SR 907/Alton Road.  
FINANCIAL PROJECT No.:430444-1-56-01  
Water Main Plans**

**ACTIVITY: A. (WATER PLANS)**

**SUBACTIVITY: 1 (Design Analysis)**

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Pipe Line Alignment & Design	LS	1	140		140		Alignment for 8-inch and 20-inch and interconnection to 24-inch WM at intersection La Gorce and Alton Road.
2	Structural Analysis	LS	0	0		0		No structural analysis or design is required for this project.
3	Biscayne Water Way Crossing	LS	1	25		25		Evaluation of sand blasting and painting options of existing water main including specifications
4	Field Reviews	EA	3	12		36		Estimate is for 4 field visits @ 4 hours each (2 persons) and includes preparation, travel, and documentation time. First review will be conducted after 60% plans have been produce to ensure verify proposed location. Final JPA plans to ensure constructability and connection points.
5	Field Survey & Service Location	LS	1	240		240		Includes field inventory and review location of all existing water meters (~133), valves and back flow preventers, fire lines and fire hydrants along the corridor and side street. Determine size of service connections by opening each water meter. (Estimate 2 people x 20 days x 6 hours)
6	Transfer Existing Utilities to Plan/Profile	EA	10	4		40		Assume there are 10 UA/Os within the project limits
7	Contract File (Set-up and maintenance)	LS	1	16		16		Setup project, maintenance of files, schedule updates, sub-consultant management, progress reports etc.
8	Computation Book & Quantities	LS	1	16		16		As required by FDOT.
9	C.E.S. Summary of Pay Items	LS	1	40		40		Trans*port development and update of quantities for water main and coordination with FDOT-D6 Design Section.
10	Special Provisions / Specifications	LS	1	25		25		Technical Special Provisions for water main
11	Prepare Construction Cost Estimate	LS	1	30		30		Includes preparation of engineers estimate of probable construction cost in FDOT formats and revisions as necessary
12	Traffic Control Analysis	LS	1	150		150		Maintenance of Traffic (MOT) for construction of the water main and associated laterals.
13	Signing & Marking Analysis	LS	0	0		0		
14	Coordination Meetings	EA	4	8		32		Coordination with FDOT-D6 Design Section staff ( two), City of Miami Beach, Fire Department. Includes meeting preparation, minutes and follow up.
15	Geotech Investigation (Including Contamination)	LS	1	32		32		Review Geotech information provided by FDOT for installing water main, check for contamination and determine if special fittings and wrap are required for water main
SUBACTIVITY SUBTOTAL						822		
16	Quality Assurance/Quality Control	%	5%			41		
17	Attend FDOT Field Review Meetings	EA	2	8	0	16		Assume 2 persons x 4 hours x 2 trips. These trips are for mandatory field phase review meetings as per FDOT prior to project completion. One meeting at PS&E and another at final completion.
SUBACTIVITY TOTAL						879		

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**Water Main Plans**

ACTIVITY: **A. (WATER PLANS)**

SUBACTIVITY: **2 (Construction Plans)**

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Key Sheet/Key Plan	Sheet	1	4		4		Develop standard FDOT cover sheet for JPA projects
2	General Notes	Sheet	1	6		6		Development of project specific general notes, Department of Health and FDOT D6
3	Legend and Key Plan	Sheet	3	12		36		Key map of all plan sheets and legends all symbols used
4	Tabulation of Quantities and Pay Item Notes	Sheet	5	12		60		Tabulation of quantities using FDOT basis of estimate
5	Summary of Valve and Manhole adjustment	Sheet	1	30		30		Establish station and off set for valves and manholes to be adjusted
6	Summary of water meter service and service lines	Sheet	1	35		35		Establish station and off set for all new meters, meters to be removed and length of 2" PE service line
7	8" Water main Plan/Profile Sheets	Sheet	24	16		384		This includes all work to create elements showing the mainline alignment for both horizontal and vertical geometries in plan and profile portion of plan sheets for proposed water main and existing utilities per FDOT standards.
8	20" Water main Plan/Profile Sheets	Sheet	16	16		256		This includes all work to create elements showing the mainline alignment for both horizontal and vertical geometries in plan and profile portion of plan sheets for proposed water main and existing utilities per FDOT standards.
9	Laterals Connections Plan/Profile Sheets	Sheet	19	16		304		This includes all work to create elements showing the side street alignment for both horizontal and vertical geometries in plan and profile portion of plan sheets for proposed water main and existing utilities per FDOT standards
10	Fire Hydrant Connection Plan/Profile Sheets	Sheet	6	16		96		
11	Structural Details	Sheet	0	0		0		
12	General Details	Sheet	1	8		8		
13	Typical Details	Sheet	2	8		16		
14	Pavement and Base Restoration/General Notes and Details	Sheet	1	4		4		Includes Pavement restoration detail and to match FDOT final reconstructed or milled pavement surface
15	Core Boring Reports	Sheet	0	0		0		
16	Traffic Control Notes	Sheet	1	8		8		Maintenance of Traffic (MOT) for construction of the 8", 20" & interconnection to existing 24 water main and associated laterals.
17	Traffic Control Typical Sections	Sheet	2	12		24		Includes Typical section with phasing notes for each phase
18	Traffic Control Plan	Sheet	30	16		480		Maintenance of Traffic (MOT) for construction of the 8-inch, 20-inch WM and interconnection to 24-inch WM at intersection La Gorce and Alton
19	Electronic Delivery	LS	3	12		36		Electronic delivery per FDOT, includes CADD compliance, CDs etc for 3 submittals
20	Phase Review Meetings	EA	4	6		24		Attend Phase Review Meetings with City and FDOT During 90%, and PS&E Submittal. Total of 4 meetings
21	FDOT Submittals	EA	4	10		40		Additional submittals to satisfy Plans Completed, Production Date, Plans to specs and Plans to Tally per FDOT Project Schedule milestones
SUBACTIVITY SUBTOTAL						1851		
22	Quality Assurance/Quality Control	%	5%			93		
SUBACTIVITY TOTAL						1,944		



Proposed 8" /20" Water Main JPA Installation on SR 907/Alton Road.  
 FINANCIAL PROJECT No.:430444-1-56-01  
Water Main Plans

ACTIVITY: **A. (WATER PLANS)**

SUBACTIVITY: **3 (Permits)**

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Prepare Permit Applications	LS	1	35		35		Complete and submit permit applications to DERM, Department of Health, US Army Core (sand blasting and Painting of water main). Includes permit research for contamination per DERM requirements.
2	Coordination and RFI with Permitting Agencies	LS	1	55		55		Response to RFI from permitting agencies, plan revisions and updates etc.
3	Permit Meetings	EA	5	6		30		Assume 5 meetings at 6 hours including prep time, travel time and follow up
4	Permit Fees	LS						To be paid by City of Miami Beach. Stantec will request check from City once permit package is ready to be submitted.
SUBACTIVITY TOTAL						120		

Proposed 8" /20" Water Main JPA Installation on SR 907/Alton Road.  
 FINANCIAL PROJECT No.:430444-1-56-01  
Water Main Plans

ACTIVITY: B. (POST DESIGN)

SUBACTIVITY: 4 (Post Design Services)

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Post Design Services-Pre-Construction Meeting	EA	1	4		4		Includes attendance, travel time preparation for meeting and follow up.
2	Shop Drawing Review	LS	1	50		50		Review of WM Pipe Shop drawings and substitute materials
3	Engineering Assistance & RFI's	EA	17	6		102		Investigation and preparation of responses to RFI's from the Contractor regarding WM Pipe construction:
4	Construction Site Visits	LS	1	80		80		Based on 10 site visits, 2 staff, 4 hours each. (includes preparation and documentation of site visit observations to resolve any construction issues including unforeseen conflicts with existing conditions and constructability issues
5	Plans Update & Revisions	EA	6	6		36		Miscellaneous changes or site specific details as requested and approved by the CEI and FDOT that may be required to resolve an unforeseen field condition conflict. Assume 10 at 6 hours
6	Review Preliminary As-built Drawings Review	LS	1	24		24		Review preliminary As-builts submitted by the Contractor to ensure water main installed as per City's standards and specifications. Final review and acceptance by City of Miami
SUBACTIVITY TOTAL						296		

Proposed 8" /20" Water Main JPA Installation on SR 907/Alton Road.  
FINANCIAL PROJECT No.:430444-1-56-01  
Water Main Plans

ACTIVITY: **(SUBCONSULTANT)**

SUBACTIVITY: **5 (Utility Coordination)**

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Initial Contact with Utility Agency Owner (UAO)	LS	1	8		8		Perform Initial contact to obtain all existing as-built information from the existing UA/O on the project
2	Coordination with UAO	LS	10	2		20		Follow up with UA/O for additional information, mark ups and transmittal of plans to ensure no conflict with their existing utilities. Assume 4 hours per UA/O
3	Coordination of Utility Installation	LS	0	0		0		
4	Attend Utility Meetings	EA	3	2		6		Prepare agenda, attend utility meeting, prepare minutes and follow up
SUBACTIVITY SUBTOTAL						34		
SUBACTIVITY TOTAL						34		

**Proposed 8" /20" Water Main JPA Installation on SR 907/Alton Road.**  
**FINANCIAL PROJECT No.:430444-1-56-01**  
**Water Main Plans**

ACTIVITY: (SUBCONSULTANT)

SUBACTIVITY: 6 (Survey/Test holes Services)

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Survey and Mapping Services	LS	1	8		8		
2	Soft Digs	LS	1	80		80		Based on 30 soft digs.
3	Survey 3-Man Crew	Days	20					
SUBACTIVITY TOTAL						88		

**Financial Project ID No's.: 429193-1-56-01**  
**Proposed 8"/12" Water Main JPA Installation along SR 907/Alton Road**  
**From south of Ed Sullivan Drive/ 43rd Street to W 63<sup>rd</sup> Street**  
**Miami-Dade County, Florida**



**Stantec Consulting Services Inc.**  
901 Ponce de Leon Boulevard Suite 900  
Coral Gables FL 33134  
Tel: (305) 445-2900  
Fax: (305) 445-3366

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## **Exhibit C – Preliminary Engineer's Estimate of Probable Construction Cost**

**PRELIMINARY ENGINEER'S OPINION OF PROBABLE COST OF CONSTRUCTION****8"/20" Water Main along SR 907/Alton Road, From south of 43rd Street to W 63rd Street**

For City of Miami Beach (Water)

FDOT Financial Project ID No.: 430444-1-56-01

By:	DC
Check By:	TA
Date:	6/18/2015
Revised:	6/19/2015

ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	EXTENDED COST
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**8" & 20" Ductile Iron Water Main & Fittings**

1	MANHOLE, ADJUST, UTILITIES	EA	35	\$ 600.00	\$ 21,000.00
2	VALVE BOXES, ADJUST	EA	10	\$ 350.00	\$ 3,500.00
3	UTILITY PIPE,F&I,PE,WATER,2" - 4.9" (assume 80-ft for 78 meters and 35-ft for 167 meters)	LF	12,085	\$ 50.00	\$ 604,250.00
4	UTILITY PIPE,F&I,Brass,WATER,2" - 4.9"	LF	140	\$ 40.00	\$ 5,600.00
5	UTILITY PIPE,F&I, 4" DI/CI,WATER, PIPE & FITTINGS	LF	100	\$ 65.00	\$ 6,500.00
6	UTILITY PIPE,F&I, 6" DI/CI,WATER, PIPE & FITTINGS (+FH Conection ~50'	LF	1,600	\$ 85.00	\$ 136,000.00
7	UTILITY PIPE,F&I, 8" DI/CI,WATER, WATER, PIPE & FITTINGS	LF	12,000	\$ 110.00	\$ 1,320,000.00
8	UTILITY PIPE,F&I, 10" DI/CI,WATER, WATER, PIPE & FITTINGS	LF	120	\$ 145.00	\$ 17,400.00
9	UTILITY PIPE,F&I, 12" DI/CI,WATER, WATER, PIPE & FITTINGS	LF	230	\$ 150.00	\$ 34,500.00
10	UTILITY PIPE,F&I, 20" DI/CI,WATER, WATER, PIPE & FITTINGS	LF	8,890	\$ 180.00	\$ 1,600,200.00
11	UTILITY PIPE, CUT,& GROUT FILL 8" & 12"	LF	21,240	\$ 10.00	\$ 212,400.00
12	UTILITY FIXTURE,F&I, 2" - 4.9", METER/VALVE BOX	EA	243	\$ 300.00	\$ 72,900.00
13	UTILITY FIXTURE,F&I, 2" - 4", VALVE ASSEMBLY	EA	3	\$ 800.00	\$ 2,400.00
14	UTILITY FIXTURE,F&I, 2" - 4.9",VAC/AIR ASSEMBLY	EA	10	\$ 2,700.00	\$ 27,000.00
15	UTILITY FIXTURE,F&I, 6", VALVE ASSEMBLY	EA	35	\$ 1,200.00	\$ 42,000.00
16	UTILITY FIXTURE,F&I, 6" - 19.9",TAPPING SLEEVES	EA	12	\$ 5,334.00	\$ 64,008.00
17	UTILITY FIXTURE,F&I, 8",VALVE ASSEMBLY	EA	38	\$ 1,938.00	\$ 73,644.00
18	UTILITY FIXTURE,F&I, 12",VALVE ASSEMBLY	EA	2	\$ 2,500.00	\$ 5,000.00
18	UTILITY FIXTURE,F&I, 20",VALVE ASSEMBLY	EA	4	\$ 12,000.00	\$ 48,000.00
19	UTILITY FIXTURE,F&I, 20",TAPPING SADDLE/SLEEVE	EA	5	\$ 20,000.00	\$ 100,000.00
20	UTILITY FIXTURE, REMOVE & DISPOSE (WATER METER)	EA	243	\$ 150.00	\$ 36,450.00
21	FIRE HYDRANT,F&I,STD,2 WAY,FLUSH TYPE, ONE PUMPER, 6"	EA	27	\$ 4,500.00	\$ 121,500.00
22	FIRE HYDRANTS (REMOVE)	EA	39	\$ 2,000.00	\$ 78,000.00

<b>Subtotal</b>				<b>\$ 4,632,252.00</b>
Contamination Assessment Remediation (CAR) Services - To Be Determined During Construction		7.0%		<b>\$ 324,257.64</b>
<b>Subtotal Construction and Car Services</b>				<b>\$ 4,956,509.64</b>

Maintenance of Traffic	percent of construction	7.0%	<b>\$ 346,955.67</b>
Mobilization	percent of construction	7.5%	<b>\$ 371,738.22</b>
Contingency Fund	percent of construction	10.0%	<b>\$ 495,650.96</b>
Construction Engineering Administration (CEA)	percent of construction	2.0%	<b>\$ 99,130.19</b>

<b>Subtotal Construction Allowances</b>			<b>\$ 1,313,475.05</b>
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<b>Total Estimated Cost of Utility Work</b>		<b>\$6,269,984.69</b>
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