

REQUESTED COMMISSION ACTION:

Consent Ordinance Resolution Consideration Workshop

SHORT TITLE A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF POMPANO BEACH, FLORIDA, APPROVING AND AUTHORIZING THE PROPER CITY OFFICIALS TO EXECUTE WORK AUTHORIZATION NO.1 IN THE AMOUNT OF \$69,040.00 PURSUANT TO THE AGREEMENT FOR CONSULTING/PROFESSIONAL SERVICES BETWEEN THE CITY OF POMPANO BEACH AND SEA DIVERSIFIED, INC. FOR PROFESSIONAL SURVEYING AND MAPPING SERVICES; PROVIDING AN EFFECTIVE DATE.

Summary of Purpose and Why: The dredging of critically shoaled canals is necessary to improve the quality of boating and alleviate water safety hazards. Sea Systems (now known as Sea Diversified) conducted the initial survey of over 33 priority canals. Surveying, engineering, environmental, construction management services, and dredging were completed in a multi-phase project from 2005 to 2009. A new canal study needs to be performed to determine which canals need to be dredged to accommodate drainage and boating. Surveying and mapping will be performed using multi-beam technology which gives 100% bottom coverage to accurately identify the high spots in the canals. The survey and mapping will include (98) City maintained canal systems, (4) private canals, and (5) City maintained lake systems. The tasks involved will help determine the shoaling trends, known areas of critical shoaling, investigate potential shoaling such as un-stabilized shorelines, and deteriorating bulkheads and storm water outfalls. Deliverables will include surveying, mapping and canal maintenance plan update.



Accomplishing this item supports achieving initiative 4.6.1, "Institute Canal Dredging Study" identified in the City's Strategy to Increase Community Accessibility and Mobility.

QUESTIONS TO BE ANSWERED BY ORIGINATING DEPARTMENT:

- (1) Origin of request for this action: Engineering Department
- (2) Primary staff contact: Horacio Danovich / Anthony Alhashemi Ext 7834 / 4029
- (3) Expiration of contract, if applicable: N/A
- (4) Fiscal impact and source of funding: \$69,040.00, CIP 16-276, Account No. 302-7554-530.65-03

DEPARTMENTAL COORDINATION	DATE	DEPARTMENTAL RECOMMENDATION	DEPARTMENTAL HEAD SIGNATURE OR ATTACHED MEMO NUMBER
Engineering	<u>3/23/16</u>	APPROVE	<u>[Signature]</u>
City Attorney	<u>3/24/16</u>	APPROVE	<u>[Signature]</u>
Finance	<u>3/24/16</u>	APPROVE	<u>[Signature]</u>
Budget	<u>3/24/16</u>	APPROVE	<u>[Signature]</u>

Advisory Board
 Development Services Director
 City Manager [Signature]

[Signature]

ACTION TAKEN BY COMMISSION:

<u>Ordinance</u>	<u>Resolution</u>	<u>Consideration</u>	<u>Workshop</u>
1st Reading	1st Reading	Results:	Results:
_____	_____	_____	_____
2nd Reading	_____	_____	_____
_____	_____	_____	_____



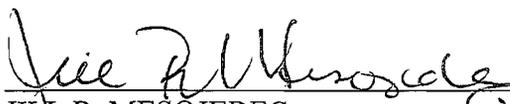
City Attorney's Communication #2016-666
March 21, 2016

TO: Anthony Alhashemi, Project Manager I
FROM: Jill R. Mesojedec, FRP, Paralegal
VIA: Mark E. Berman, City Attorney 
RE: Resolution – Work Authorization No. 1 / Sea Diversified, Inc.

Pursuant to your memorandum dated March 18, 2016, Engineering Department Memorandum No. 16-59, I have prepared and attached the following form of Resolution:

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF POMPANO BEACH, FLORIDA, APPROVING AND AUTHORIZING THE PROPER CITY OFFICIALS TO EXECUTE WORK AUTHORIZATION NO. 1 IN THE AMOUNT OF \$69,040.00 PURSUANT TO THE AGREEMENT FOR CONSULTING/PROFESSIONAL SERVICES BETWEEN THE CITY OF POMPANO BEACH AND SEA DIVERSIFIED, INC. FOR PROFESSIONAL SURVEYING AND MAPPING SERVICES; PROVIDING AN EFFECTIVE DATE.

Please feel free to contact me if I may be of further assistance.



JILL R. MESOJEDEC

/jrm
l:cor/engr/2016-666

Attachment

**CITY OF POMPANO BEACH
Broward County, Florida**

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF POMPANO BEACH, FLORIDA, APPROVING AND AUTHORIZING THE PROPER CITY OFFICIALS TO EXECUTE WORK AUTHORIZATION NO. 1 IN THE AMOUNT OF \$69,040.00 PURSUANT TO THE AGREEMENT FOR CONSULTING/PROFESSIONAL SERVICES BETWEEN THE CITY OF POMPANO BEACH AND SEA DIVERSIFIED, INC. FOR PROFESSIONAL SURVEYING AND MAPPING SERVICES; PROVIDING AN EFFECTIVE DATE.

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF POMPANO BEACH, FLORIDA:

SECTION 1. That a work authorization pursuant to the Agreement for Professional Services between the City of Pompano Beach and Sea Diversified, Inc. for bathymetric survey services and canal maintenance plan preparation update, a copy of which work authorization is attached hereto and incorporated by reference as if set forth in full, is hereby approved.

SECTION 2. That the proper City officials are hereby authorized to execute said work authorization between the City of Pompano Beach and Sea Diversified, Inc.

SECTION 3. This Resolution shall become effective upon passage.

PASSED AND ADOPTED this _____ day of _____, 2016.

LAMAR FISHER, MAYOR

ATTEST:

ASCELETA HAMMOND, CITY CLERK



Sea Diversified, Inc.

21 N.W. 2nd Street
Delray Beach, Florida 33444
Phone: 561-243-4920
Facsimile: 561-243-4957

1900 S. Harbor City Blvd, Ste 110
Melbourne, Florida 32901
Phone: 321-984-7268
Facsimile: 321-984-7270

Work Authorization No. 1 Bathymetric Survey Services Canal Maintenance Dredging Program March 3, 2016

Services pursuant to Work Authorization No. 1 shall be provided in accordance with the terms and conditions of the Contract for Professional Surveying and Mapping Services between the City of Pompano Beach and Sea Diversified, Inc, (SDI) dated October 16, 2016, approved by City Ordinance No. 2016-02.

Project Scope:

The scope of work shall encompass a hydrographic (bathymetric) survey of the City waterways encompassing (98) City maintained canal systems and (4) private canals, totaling approximately 32 miles of waterways plus (5) City maintained lake systems with an estimated combined area of 52.2+/- acres. The objective of the survey is to determine present and future dredging needs for short/long-term planning and budgeting purposes. The scope of services shall specifically include the following tasks:

- Task One: Understanding of Program Objectives and Project Planning**
- Task Two: Bathymetric Survey**
- Task Three: Canal Maintenance Plan Preparation (Update)**

A description of each task is as follows:

Task One: Understanding of Program Objectives and Project Planning

SDI will meet with representatives of the City to discuss the details of the proposed maintenance dredge program and identify any items or areas of concern raised by City staff, boaters or residents along the canal systems. Ultimately it is the intent of this task to identify short and long term program objectives to assist in the planning of the bathymetric survey operations. Specific items of interest include:

- History of shoaling trends
- Known areas of critical shoaling
- Known potential causes of present shoaling such as unstabilized shorelines, deteriorating bulkheads or stormwater outfalls

Task Two: Bathymetric Survey

SDI shall provide supervision, field / office support staff and equipment to perform the scope of work described, herewith. All work shall be conducted to the highest level of industry standards and under the responsible charge of a Professional Surveyor and Mapper registered in the State of Florida. All work shall meet or exceed the Minimal Technical Standards set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 5J-17, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

Horizontal and Vertical Data:

Horizontal Data: Feet, relative to the Florida State Plane Coordinate System, East Zone, North American Datum, 1983 (NAD83)
Vertical Datum: Feet, relative to North American Vertical Datum of 1988 (NAVD88) or Mean Low Water (MLW), as required by the City



Horizontal / Vertical Control Verification:

SDI will conduct an initial site reconnaissance to identify and mark all necessary horizontal and vertical control needed for the survey. Prior to data collection efforts, survey control will be recovered and verified using either conventional methods or Real-time Kinematic Differential Global Positioning techniques, whichever methodology is deemed most practical.

Bathymetric Data Collection:

Bathymetric data shall be collected using an automated hydrographic system comprised of a shallow draft survey launch equipped a Teledyne Odom MB1 shallow water multi-beam swath system (120-degree minimum swath coverage) with integrated Teledyne TSS DMS-05 Motion Sensor. A Trimble SPS-461 RTK/DGPS shall be used for vessel positioning and heading. For navigation, data collection and processing SDI shall employ a computer equipped with Coastal Oceanographic's HYPACK / HYSWEEP software. Equipment calibration procedures shall follow manufacturer recommendations.

Bathymetric data collection methods using a multi-beam sounder is advantageous over a single-beam sounder as a swath of data would be acquired along each transect, which depending on water depth and obstructions along the waterway (i.e. docks and moored vessels) the system is capable of providing essentially full bottom coverage of the maintained navigable portion of each waterway. With full bottom coverage, very detailed maps of the city-wide waterway system can be developed for identification and quantification of shoal areas. The extent of data collected using a multi-beam sounder would be sufficient for the subsequent tasks of project environmental permitting and preparation of dredge plans and specifications.

Multi-beam sounding data will be collected along longitudinal transect(s) oriented approximately parallel with the centerline of the canals, with the objective of mapping the canal bottom to as close to the toe of bulkheads and adjacent to structures. Soundings will be collected in both raw and adjusted (tide corrected) formats using RTK GPS derived water surface elevations. Redundant tide measurements will be recorded as a quality control check on the RTK GPS derived water surface elevations. A tide gauge shall be employed to record continuous tidal data during the course of bathymetric data collection. Tidal data shall be collected and recorded at intervals 10-minute intervals or less.

Upon completion of the field survey, data will be edited and reduced to the project vertical datum as required for final chart production. Aerial-based contour maps shall be produced depicting, by color shading, areas shallower than historically maintained depths with each canal and lake system. Based on previously established canal design sections, estimates of dredge quantities will be computed and posted on the charts.

Deliverables:

- Hardcopy maps (24"x36" paper media), two (2) bound sets
- Electronic CADD files (AutoCAD, .dwg format)
- Electronic, Adobe (.pdf) files
- ASCII, x,y,z files, if requested

Task Three: Canal Maintenance Plan Preparation (Update)

Based on the results of the bathymetric survey, SDI will prepare an updated Canal Maintenance Plan for review by the City. This will include a complete breakdown of dredging requirements for each canal, waterway, tributary or lake within the City limits. The plan will also detail specific areas to be dredged and list them by level of priority based upon input from the City or perhaps comments from the public. Recommendations will be provided for ranking levels of priority insofar as immediate dredging needs. Projections for future dredging requirements based upon analysis of historical data will also be provided. Detailed cost estimations will be developed for implementation of the plan to assist with short and long term budget planning.



In summary, the updated Canal Maintenance Plan will include the following.

- Detailed aerial based charts and plan exhibits that fully describe the areas in need of maintenance dredging.
- Tabulation of required excavation volumes for all reaches of the canal system.
- A summary of long term maintenance dredging requirements based upon evaluation of past trends in shoaling and dredging needs.
- A discussion regarding permitting requirements for each of the areas requiring immediate or future maintenance dredging.
- A tabulation of estimated dredging costs for each of the areas requiring maintenance dredging.
- Projections of potential future dredging costs for long term maintenance of the canal system.

Deliverables:

- Hardcopy, bound report, two (2) copies
- Electronic, Adobe (.pdf) file

Fee Schedule:

Task One:	Understanding of Program Objectives and Project Planning:	\$ 2,500.00
Task Two:	Bathymetric Survey:	\$ 59,040.00
Task Three:	Canal Maintenance Plan Preparation (Update):	\$ 7,500.00
Total:		\$ 69,040.00

Project Schedule*:

Task One:	Understanding of Program Objectives and Project Planning:	2 Weeks
Task Two:	Bathymetric Survey:	
	• Data Collection:	6 Weeks
	• Data Processing and Charts:	4 Weeks
Task Three:	Canal Maintenance Plan Preparation (Update):	4 Weeks

*Schedule does not include City review time

Notes:

Note that the final maintenance plan along with supporting survey data will be comprehensive enough for the City to proceed to the next phase encompassing the supplemental surveying and / or site investigations, preparation of plans and specifications relating to immediate dredging operations, environmental permitting and project bidding.

Services Not Included:

Topographic Surveying
Environmental Permitting
Benthic (Seagrass) Investigations and Mapping
Subsequent Survey or other Field Investigations
Bulkhead and Other Structure Inspections
Submerged Utility Identification and Mapping
Sediment Studies, Sampling and Analysis
Preparation of Dredging Plans and Specifications
Construction Administration Services
Attendance to Public Meetings

"CORPORATION":

Witnesses:

[Handwritten Signature]

Sea Diversified, Inc.
Corporation Name

[Handwritten Signature]
Signature

President owner
Title

STATE OF FLORIDA
COUNTY OF BROWARD

The foregoing instrument was acknowledged before me this 14th day of March, 2016 by William Sadler, as President, of Sea Diversified, on behalf of the corporation. He/she is personally known to me or has produced FLDL (type of identification) as identification.

NOTARY'S SEAL: NOTARY PUBLIC, STATE OF FLORIDA



(Name of Acknowledger Typed, Printed or Stamped)

[Handwritten Signature]

Commission Number FF 967158

"CITY":

Witnesses:

CITY OF POMPANO BEACH

By: _____
LAMAR FISHER, MAYOR

By: _____
DENNIS W. BEACH, CITY MANAGER

Attest:

ASCELETA HAMMOND, CITY CLERK

(SEAL)

Approved As To Form:

MARK E. BERMAN, CITY ATTORNEY

STATE OF FLORIDA
COUNTY OF BROWARD

The foregoing instrument was acknowledged before me this _____ day of _____, 2016 by **LAMAR FISHER**, as Mayor, **DENNIS W. BEACH** as City Manager and **ASCELETA HAMMOND**, as City Clerk of the City of Pompano Beach, Florida, a municipal corporation, on behalf of the municipal corporation, who are personally known to me.

NOTARY'S SEAL:

NOTARY PUBLIC, STATE OF FLORIDA

(Name of Acknowledger Typed, Printed or Stamped)

Commission Number