

**SOUTH BROWARD DRAINAGE DISTRICT
GOVERNING BOARD MEETING MINUTES**

MAY 31, 2018

Present:

Scott Hodges, Chairperson
James Ryan, Vice Chairperson
Vicki Minnaugh, Treasurer
Robert E. Goggin, IV, Secretary
Jack McCluskey, Commissioner
Alanna Mersinger, Commissioner
Mercedes Santana-Woodall, Commissioner

Kevin M. Hart, District Director
Reina Muniz, Recording Secretary
Douglas R. Bell, Legal Counsel
General Public: See Attached List

Absent:

01. CALL TO ORDER/ROLL CALL/PLEDGE OF ALLEGIANCE

Chair Hodges called the SBDD Board Meeting to order at 8:03 a.m.; with Vice Chair Ryan, Commissioner Minnaugh, Commissioner Mersinger, Commissioner McCluskey, and Commissioner Santana-Woodall present at the meeting; followed by the Pledge of Allegiance.

02. PUBLIC COMMENT

None.

03. APPROVAL OF MINUTES

Commissioner Santana-Woodall moved for approval of the minutes of the April 26, 2018, South Broward Drainage District Board meeting. Motion was seconded by Commissioner McCluskey and it was carried unanimously.

04. DIRECTOR'S REPORT

A. RELEASE AND VACATION REQUEST OF 40.74' LAKE MAINTENANCE EASEMENT FOR CARD PROPERTY, PEMBROKE PINES, FL

District Director Hart stated that SBDD received a request to release and vacate its interest in a 40.74-foot Lake Maintenance Easement (LME) on property owned by Stephen M. and Kimberlyn F. Card, Pembroke Pines, Florida. The LME was previously dedicated and retained when SBDD conveyed 4,349 square feet of surplus land to the property owner back in 2003 under OR Book 36561, Page 1623, Broward County Records (B.C.R.). Typically, SBDD only requires a 20-foot LME adjacent to the water's edge.

As part of this request the property owners, Stephen M. and Kimberlyn F. Card will dedicate a new 20-foot LME along their south property line, and adjacent to the existing water's edge.

District Director Hart said that this was a unique development in the District. He explained that when the property was originally developed, the LME was outside of the property; and that it was

within the lake track that was dedicated to SBDD; in addition, the lake was under dug, which created additional dry land between the edge of water and the lot; and in this case, a little over 40 feet. He said the good news is that the HOA documents for Cinnamon Place II state that the HOA is responsible for the maintenance. Back in 2003, the Cards requested through the District to acquire this 40' strip of land; and at the time, the District agreed; and conveyed it back to the property owner through a quick claim deed; but in the deed, it also mentioned that SBDD would retain a lake maintenance easement over the same property. SBDD conveyed 40 feet, and retained a LME over the entire strip of land. He said that in retrospect, SBDD should have only retained a 20' LME up against the water's edge. For many years this was really not an issue.

The Cards are now looking to do an addition on the home, which will encroach into that 40' strip of land, but well outside the 20' LME which SBDD would typically require. The proposal states that SBDD will vacate the 40' LME that was retained back when SBDD conveyed the surplus land, and the Cards have already signed a document for a 20' LME directly up against the water's edge.

Commissioner Goggin joined the meeting at 8:09 a.m.

Under the Cinnamon Place II plat (Plat Book 125, Page 45, BCR), a 20-foot LME was also dedicated to the Honeywood's Homeowners Association, Inc.; and that 20-foot LME has been vacated by the HOA.

SBDD staff has reviewed the request and has no objections. There are no financial impacts to this Agenda Item, other than SBDD administrative costs.

The request is for SBDD to vacate and release its interest in a 40.74' Lake Maintenance Easement previously dedicated and retained under OR Book 36561, Page 1623, BCR, and as described in the Release and Vacation document; subject to the dedication of a new 20-foot Lake Maintenance Easement adjacent to the water's edge.

Vice Chair Ryan moved for approval of the Release & Vacation of the 40.74' LME for the Card residence as submitted. Motion was seconded by Commissioner McCluskey.

Chair Hodges asked District Director Hart if the cross-section for the LME is per the District's 20' standards. District Director Hart replied yes.

The question was called and it was carried unanimously.

B. RELEASE AND VACATION REQUEST OF SURFACE WATER MANAGEMENT AREA (SWMA) DESIGNATION AND 15' DRAINAGE EASEMENT FOR RODRIGUEZ RESIDENCE

District Director Hart stated that the owners of the property located at 5321 Hawkhurst Avenue, Southwest Ranches, FL 33331 requested that SBDD vacate the Surface Water Management Area (SWMA) that was previously designated and recorded under OR Book 33797, Pages 836-839, Broward County Records (B.C.R.) and the 15-foot Drainage Easement that was previously designated and recorded under OR Book 33797, Pages 840-842, B.C.R.. All properties in the SW Ranches are required to set aside 20% of their property at elevation 5.0' (or an equivalent storage area) as a SWMA. Properties in Ivanhoe Estates are required to set aside 12.5% of their property at elevation 5.0' (or an equivalent storage area) as a SWMA, due to the fact that the community has an on-site lake system that provides flood protection and surface water management area for the community.

The property owners, Juan Carlos and Alina Rodriguez will dedicate a new SWMA over their property to comply with the 12.5% SWMA requirement.

SBDD staff has reviewed the request and has no objections. There are no financial impacts to this Agenda Item, other than SBDD administrative costs; all other costs will be incurred by the property owner.

The request is for SBDD to vacate and release its interest in the Surface Water Management Area (SWMA) that was previously designated and recorded under OR Book 33797, Pages 836-839, B.C.R. and the 15-foot Drainage Easement that was previously designated and recorded under OR Book 33797, Pages 840-842, B.C.R. This request is subject to the dedication of a new SWMA in accordance with SBDD Criteria.

Commissioner Goggin moved for approval of the Release & Vacation of the SWMA and 15' Drainage Easement previously recorded on the Rodriguez residence as submitted. Motion was seconded by Commissioner Santana-Woodall.

Commissioner Mersinger asked if this is a vacant property, and what was behind that property. District Director Hart replied yes, it is vacant and there are existing homes behind the property. Commissioner Mersinger also asked if this lot was going to drain onto someone else's property, or is it just going downhill. District Director Hart answered that they have their own drainage system within this residential community; and all the properties have their own on-site storage; and have connection capability to the master drainage system.

Vice Chair Ryan wanted clarification on the equivalence of the SWMA, whether it is 12.5% or 20%. District Director Hart clarified that it is 20% except in certain communities to the east, because they have a common lake area that provides storage for all the properties; and they have calculated what the difference would be.

The question was called and it was carried unanimously.

C. RELEASE AND VACATION REQUEST OF 60' STORM WATER RUN-OFF RETENTION EASEMENT ON PROPOSED ALTMAN MIRAMAR PLAT, MIRAMAR, FL

District Director Hart stated that South Broward Drainage District (SBDD) received a request to release and vacate its interest in an existing 60' Storm Water Run-Off Drainage Easement (Easement) on property owned by Cleghorn Shoe Corporation. The Easement was dedicated back in 2005 under OR Book 42092, Page 328, Broward County Records.

He said that the Easement was previously dedicated to provide for storage of stormwater run-off from Miramar Parkway; and the Easement document states that the Easement would remain in place until such time as a permanent drainage outfall for Miramar Parkway and Red Road was constructed and a new drainage easement granted to the District. The District agreed to promptly execute a termination of the Easement at the time the new easement was granted to the District.

SBDD staff has reviewed the request and has no objections.

Currently, Miramar Parkway and Red Road have a positive drainage system with a permanent outfall through an existing Drainage Easement. Furthermore, the proposed Altman at Miramar project is constructing an additional outfall connection at the west end of the project, and is

dedicating a new Drainage Easement to SBDD over this pipe.

District Director Hart commented that what is currently in place is an existing roadside swale that is currently in place for Miramar Parkway and, also for Red Road. There are drainage outfalls in place, and easements that are in place; so the drainage system for Miramar Parkway has been in place for quite some time. He said that the property on the NW corner is now coming in for development permits; and the 60' Easement is outside of the public right-of-way and was placed there before any drainage was in place.

As part of the Altman at Miramar development, they are placing additional improvements along the roadway; and an outfall to the west, so the drainage system will improve; and they are going to dedicate easements over their on-site lake and mitigation area to the west of the development site; and SBDD has already received the additional easement from Miramar Parkway into the lake system. Because of this, the 60' Easement is no longer necessary for the drainage of the roadways. Staff has no objections to the release. There are no financial impacts to this Agenda Item, other than SBDD administrative costs.

District Director Hart said that the request is for SBDD approval to vacate and release its interest in a 60' Storm Water Run-Off Drainage Easement that was previously recorded under OR Book 42092, Page 328, BCR, as described in the Release and Vacation document, subject to the dedication of a new Drainage Easement which has already been executed.

Chair Hodges declared a potential conflict of interest; because the company that he works for is providing the sale of the property and therefore, he is indirectly linked with the company that is selling the property and requesting the vacation.

Commissioner Goggin moved for approval of the Release & Vacation of the 60' storm water run-off retention easement on the proposed Altman Miramar Plat as submitted. Motion was seconded by Commissioner Santana-Woodall and it was carried unanimously.

D. REQUEST FOR APPROVAL TO ALLOW PAYMENTS TO SBDD BY CREDIT CARD & DEBIT CARD, AND TO INCREASE PERMIT FEES TO COVER PROCESSING COSTS

District Director Hart said that this is something the District has been looking into for several years; and have been discussing in-house with its financial bookkeeper, permit staff, and banking officials. He feels this is important to offer this to our residents; and that in today's finance and payment world, more and more people are paying with debit cards; and less and less people have checking accounts, and don't pay with cash. We are moving towards online permitting; and when it is fully instituted, the District would like to do all their permitting, etc. online. Most every other agency has already provided for the use of debit cards.

Commissioner Mersinger suggested that while looking into this, the District Director consider looking into e-checks. District Director Hart said that between now and then (October 1st), there are still some things that need to be done. He said he wants to make sure that it's done very carefully and seamlessly; so that the people that are going to be affected, especially staff, are comfortable with the way it will be done. He said we will be working with our banks, who are going to train us, and Commissioner Goggin who has also offered his assistance. He said that Commissioner Goggin has much experience from his time with the Hardware Store.

On the permit fees, we will try to keep it as simple as we can. He said that the service charges are based on a percentage of cost. He said that on permit fees of \$0 - \$100 will be a flat fee, etc. There

is a minimum fee that the bank charges. District Director Hart commented that this a big benefit to our residents, and a convenience to them; and something the District would like to incorporate.

Commissioner McClusky commented that he is in agreement as long as the District covers whatever the fee is with an escalation, where District Director Hart does not have to come back to the Board.

Commissioner Santana-Woodall suggested that District Director Hart also look into Paypal, and Applepay. She said that many of the younger generation use paypal, and don't ever touch money to make payments.

Attorney Bell interjected saying that the last page of the Agreement refers to a personal guarantee; and he commented that there is no personal guarantee on government agencies.

Commissioner Goggin moved for approval to allow payments to SBDD by credit card & debit card, and to increase permit fees to cover processing costs; conditioned upon that requirement, of a personal guarantee, being removed. Motion was seconded by Commissioner McCluskey.

Commissioner Goggin commented that he and District Director Hart had a conversation about the credit card procedures, and knowing what he's learned from working at the hardware store, he will help implement some things for the District's procedure so that they are not caught in the dark. He said that there are tricky things that the credit card companies do in the processing fees. He also mentioned about capturing signatures through the internet, storing information, being PCI compliant, etc.

The question was called and it was carried unanimously

E. REQUEST TO PURCHASE NEW GRAPPLE TRUCK

District Director Hart said that SBDD staff researched pricing for the purchase of a second grapple truck for the on-going maintenance of the District's canals and waterways.

The purchase of this equipment will allow SBDD the ability to continue to maintain its right-of-way and easement areas in an efficient, safe, and cost-effective manner. The District's existing grapple truck was purchased back in 2011 and has proven to be an irreplaceable piece of equipment for the District. The District's grapple truck is used to clear vegetation and debris from the District's primary canals and in front of the trash racks at all of the District's stormwater pump stations, which is a critical function in the efficient and on-going operations of these pump stations. The grapple truck also removes bulk debris from waterways and drainage channels throughout the District.

Before the grapple trucks, about four staff employees had to stand up on top of the trash rack with long rakes, physically pull the weeds up with the rake, hand-over-hand, throw it up onto the deck, wheel barrow it off, and come back later with the dump trailer. It was back-breaking, labor intensive work. Now, with the grapple truck it takes 2 staff employees about an hour to completely clear off the trash rack. It has proven to be an invaluable piece of equipment.

According to the District's Operations & Maintenance Manager, Robert Franklin, the grapple truck is the single, most important, piece of equipment that the District owns. Having a second grapple truck will provide the District with the ability to clear multiple trash racks and water bodies, simultaneously; and will also allow the District to perform the necessary maintenance work on these heavy pieces of equipment while continuing to have one unit in service at all times. This is

especially critical during Hurricane season when the District is most reliant on the use of its grapple truck.

This is a request to purchase the following equipment:

- 2018 Freightliner M2-112 Chassis-Cab, Tandem Axle, Class 8, 58,000 LBS. GVWR (6x4)
- Custom Stationary Body/Palfinger Epsilon L130 Grapple Loader, Rear-Mounted
- 19' long Beau Roc MPHD non-dumping bed with 60" high sides and 3/8" HARDOX steel

The lowest price available for the purchase of this equipment is through the State of Florida Department of Management Services Contract in the amount of \$261,349.82. The State of Florida Contract was awarded through a publically advertised, competitive bid process and therefore, the purchase of a grapple truck through this contract does not require SBDD to publically advertise for bids.

District Director Hart gave the floor to Robert Franklin, Operations Manager, to discuss the changes that were added to the new grapple truck vs the previous grapple truck. Mr. Franklin said they added outriggers and stabilizers for stability, thickened up the bed, placed more drainage ports, and an oil cooler for the hydraulic system, etc.

Mr. Franklin said that the way the pump stations are set up, they want to keep the grapple truck as it is now, because for the past 5 years, staff has familiarized themselves with the truck, they are familiar with how it sets up, they know what it can and cannot do. He opined that as Operations Manager it is the most significant and beneficial piece of equipment that the District has purchased.

Commissioner Goggin added that the reach component, by placing it in the back, is a definite advantage, because sometimes they have such a long distance from the shore they need to stretch out far. Mr. Franklin said that they have narrow lanes where they sometimes need to work through, and this grapple truck as it is now, works at all of their pump stations.

The purchase of the new grapple truck will be funded through the SBDD Capital Improvement Account (\$250,000) and the SBDD General Operating Account as part of the District's 2017-2018 budget under line item 1765 – Herbicides (\$11,349.82).

District Director Hart requested approval for the purchase of a new grapple truck consisting of a 2018 Freightliner M2-112 Chassis-Cab, Tandem Axle, Class 8, 58,000 LBS. GVWR (6x4); a Custom Stationary Body/Palfinger Epsilon L130 Grapple Loader, Rear-Mounted; and a 19' long Beau Roc MPHD non-dumping bed with 60" high sides and 3/8" HARDOX steel in the amount of \$261,349.82 from Tampa Truck Centers, LLC. Funding for this purchase will come from the SBDD Capital Improvement Account and SBDD General Operating Account as part of the 2017-2018 Budget.

Commissioner Goggin moved for approval to purchase a new grapple truck as submitted. Motion was seconded by Commissioner Mersinger.

Commissioner Mersinger commented she will approve this item as long as it does not cost anyone their job. District Director Hart said this will just help the District to do what they currently do, and the District cannot afford to lose anyone on our staff. Commissioner Mersinger also commented that before the sanctions go in on the aluminum and steel, if we are going to do it, now would be the best time to do it.

The question was called and it was carried unanimously.

F. OTHER

- **Hurricane Season Readiness** – District Director Hart commented that he would not be surprised, if SBDD had record rainfall for the month of May. He said hurricane season starts tomorrow, and the average rainfall in May for SBDD from 2010-2017 was 4.35”, and we are 235% above that average for this year. He said that when you average out all the rainfall that SBDD has experienced from May to October on any given year, we have already received 31% of the rainfall amount for the year. District Director Hart said that SBDD has already pumped over 900 hours for this year.

Following are improvements that are in process or have been completed:

- District Director Hart said that the SBDD modified the Basin 8 Permit, to incorporate the operational use of all the gates along Griffin Road.
- There is now a sluice gate at the S8 Pump Station.
- SBDD modified the gate at Ivanhoe, which is now fully automated and can be opened remotely.
- SBDD will be adding the automation to the three other gates along the C-11 Canal. District Director Hart commented that he hopes to get one more gate done this year.
- Construction has begun on the canal from Dykes Road to the Ivanhoe Lake; and that it will be a huge improvement.
- The Maintenance Building has been completed.
- SBDD purchased two new gear drives, which are both in and operational.
- SBDD rebuilt one motor at the S-7 pump station.
- They just received approval for a second grapple truck.
- District Director Hart said that SBDD installed two sluice gates at the S-4/S-5 Pump Station; and they are operational. The only thing left at S-4/S-5 is to place the fencing.
- They are continuing to work on their water level recorders. A downstream recorder was added at the S-7, and there are now downstream recorders at all other pump stations; and they will replace other water level recorders as needed.
- In addition, the District had done a follow-up after Irma to discuss other improvements that they think would be important moving forward. A slip-liner was installed at 13th Street in Pembroke Pines.
- There was revetment installed at the S-3 Pump Station, and it was completed.
- SBDD also modified the S-7 Sluice gate; the S-1 Boat Ramp; and they purchased a new bucket for the grapple truck.

- SBDD purchased new generators for S-1 and S-7.
- All repairs on S-8 have been completed and the Pump Station got a fresh coat of paint.
- Finally, SBDD completed the on-going culvert inspections/cleaning.

District Director Hart said they have had good coordination with HOAs on maintenance work, and identified blocked culverts which is the HOA's responsibility on the tertiary system; and he had an in-house hurricane preparatory meeting with Staff.

Commissioner McClusky asked if SBDD has been in touch with City of Pembroke Pines. He said they have an Adhoc Hurricane Preparedness Committee. District Director Hart replied no; but that he has been in touch with Steve Buckland, Assistant Director of Public Services Manager, and their Engineer; but on that specific committee, he has not.

- **Annual Maintenance Seminar** - SBDD had their Annual Maintenance Seminar with AllState Resource Management, Inc. at the District Conference Room on May 30th. It is a program to educate property managers and HOA groups on the importance of maintenance. He said that over 50% of the flooding that we see when we go out to the properties, ties directly back to improper maintenance (blocked drains, catch basins, and outfalls that are blocked, etc.). These are easy things to deal with, as long as you understand it. He said there were about 15 people attending, and hopefully it will be beneficial to some of the HOAs and Property Managers.
- **Maintenance Building Dedication** - District Director Hart said that the Maintenance Building Dedication will be June 29 from 9:00 a.m. to 11:00 a.m.

05. ATTORNEY'S REPORT:

Attorney Bell reminded the Board members that this years' deadline to register for election is from June 18th thru 22nd.

06. APPROVAL OF LEGAL BILLS

Commissioner Goggin moved for approval of the legal bills. Motion was seconded by Commissioner Mersinger and it was carried unanimously.

07. BOARD MEMBERS QUESTIONS/COMMENTS

Commissioner McCluskey asked if SBDD has any ethics training at this level. Attorney Bell replied that SBDD is not required to do that. Commissioner McCluskey asked District Director Hart if Karl Kennedy ever get in touch with him on the culvert at Pasadena Boulevard. District Director Hart said yes, he brought it to Mr. Kennedy's attention, they reached out to the homeowner, and he left it between Mr. Kennedy and the homeowners. He said he will follow up.

Commissioner Goggin said that months ago there was discussion about the Shopping Center at Taft Street, off of University Drive, where the Harbor Freight is located. He said that the entrance to that Shopping Center is literally a canal, where you have to pass through to get into that property. Whatever was done to the drainage on that property, the water is always standing there for weeks on end. He said he does not know if SBDD reached out to the property owner, but there definitely needs to be something done on that. There

is always an accident there. Also, where the slip-lining was performed at 13th Street, there is a cover on the east side and west side for drainage into the lake, and then there is another cover that appears as if it goes into the drainage system, they are all full of mud, and coconuts, etc. He said that he doesn't know who is responsible for it, but there is one structure that is full of coconuts. District Director Hart said that we will look into it.

Vice Chair Ryan commented that the entire shopping center (Taft Street) has no drainage system. Commissioner McCluskey said that the City of Pembroke Pines is dealing with that whole center. District Director Hart commented that back then, it wasn't that uncommon that all of the drainage was done through underground trench. The good news is that at least at the driveway entrance, there is an outfall and connection point that is very close. The shopping center owners are not always receptive to SBDD's appeal or offer of assistance. He said that he will try to talk to the owners and appeal to them on a win-win, to come up with suggestions to improve their drainage. Commissioner McCluskey suggested that District Director Hart talk to Karl Kennedy.

08. MEETING DATE(S)

- A. NEXT REGULAR BOARD MEETING WILL BE HELD ON **THURSDAY, MAY 31, 2018 AT 8:00 A.M.**

Adjournment at 9:50 A.M.

Respectfully submitted,

Robert E. Goggin IV, Secretary
South Broward Drainage District

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FORM 8B MEMORANDUM OF VOTING CONFLICT FOR COUNTY, MUNICIPAL, AND OTHER LOCAL PUBLIC OFFICERS

LAST NAME—FIRST NAME—MIDDLE NAME Hodges, Scott	NAME OF BOARD, COUNCIL, COMMISSION, AUTHORITY, OR COMMITTEE Board of Commissioners
MAILING ADDRESS 1494 NW 159 Avenue	THE BOARD, COUNCIL, COMMISSION, AUTHORITY OR COMMITTEE ON WHICH I SERVE IS A UNIT OF: <input type="checkbox"/> CITY <input type="checkbox"/> COUNTY <input checked="" type="checkbox"/> OTHER LOCAL AGENCY
CITY Pembroke Pines	COUNTY Broward
DATE ON WHICH VOTE OCCURRED 5/31/18	NAME OF POLITICAL SUBDIVISION: South Broward Drainage District
	MY POSITION IS: <input checked="" type="checkbox"/> ELECTIVE <input type="checkbox"/> APPOINTIVE

WHO MUST FILE FORM 8B

This form is for use by any person serving at the county, city, or other local level of government on an appointed or elected board, council, commission, authority, or committee. It applies to members of advisory and non-advisory bodies who are presented with a voting conflict of interest under Section 112.3143, Florida Statutes.

Your responsibilities under the law when faced with voting on a measure in which you have a conflict of interest will vary greatly depending on whether you hold an elective or appointive position. For this reason, please pay close attention to the instructions on this form before completing and filing the form.

INSTRUCTIONS FOR COMPLIANCE WITH SECTION 112.3143, FLORIDA STATUTES

A person holding elective or appointive county, municipal, or other local public office **MUST ABSTAIN** from voting on a measure which would inure to his or her special private gain or loss. Each elected or appointed local officer also **MUST ABSTAIN** from knowingly voting on a measure which would inure to the special gain or loss of a principal (other than a government agency) by whom he or she is retained (including the parent, subsidiary, or sibling organization of a principal by which he or she is retained); to the special private gain or loss of a relative; or to the special private gain or loss of a business associate. Commissioners of community redevelopment agencies (CRAs) under Sec. 163.356 or 163.357, F.S., and officers of independent special tax districts elected on a one-acre, one-vote basis are not prohibited from voting in that capacity.

For purposes of this law, a "relative" includes only the officer's father, mother, son, daughter, husband, wife, brother, sister, father-in-law, mother-in-law, son-in-law, and daughter-in-law. A "business associate" means any person or entity engaged in or carrying on a business enterprise with the officer as a partner, joint venturer, coowner of property, or corporate shareholder (where the shares of the corporation are not listed on any national or regional stock exchange).

* * * * *

ELECTED OFFICERS:

In addition to abstaining from voting in the situations described above, you must disclose the conflict:

PRIOR TO THE VOTE BEING TAKEN by publicly stating to the assembly the nature of your interest in the measure on which you are abstaining from voting; *and*

WITHIN 15 DAYS AFTER THE VOTE OCCURS by completing and filing this form with the person responsible for recording the minutes of the meeting, who should incorporate the form in the minutes.

* * * * *

APPOINTED OFFICERS:

Although you must abstain from voting in the situations described above, you are not prohibited by Section 112.3143 from otherwise participating in these matters. However, you must disclose the nature of the conflict before making any attempt to influence the decision, whether orally or in writing and whether made by you or at your direction.

IF YOU INTEND TO MAKE ANY ATTEMPT TO INFLUENCE THE DECISION PRIOR TO THE MEETING AT WHICH THE VOTE WILL BE TAKEN:

- You must complete and file this form (before making any attempt to influence the decision) with the person responsible for recording the minutes of the meeting, who will incorporate the form in the minutes. (Continued on page 2)

APPOINTED OFFICERS (continued)

- A copy of the form must be provided immediately to the other members of the agency.
- The form must be read publicly at the next meeting after the form is filed.

IF YOU MAKE NO ATTEMPT TO INFLUENCE THE DECISION EXCEPT BY DISCUSSION AT THE MEETING:

- You must disclose orally the nature of your conflict in the measure before participating.
- You must complete the form and file it within 15 days after the vote occurs with the person responsible for recording the minutes of the meeting, who must incorporate the form in the minutes. A copy of the form must be provided immediately to the other members of the agency, and the form must be read publicly at the next meeting after the form is filed.

DISCLOSURE OF LOCAL OFFICER'S INTEREST

I, Scott Hodges, hereby disclose that on May 31, 20 18 :

(a) A measure came or will come before my agency which (check one or more)

- inured to my special private gain or loss;
- inured to the special gain or loss of my business associate, _____ ;
- inured to the special gain or loss of my relative, _____ ;
- inured to the special gain or loss of _____, by whom I am retained; or
- inured to the special gain or loss of Cleghorn Shoe Corporation, which is the parent subsidiary, or sibling organization or subsidiary of a principal which has retained me.

(b) The measure before my agency and the nature of my conflicting interest in the measure is as follows:

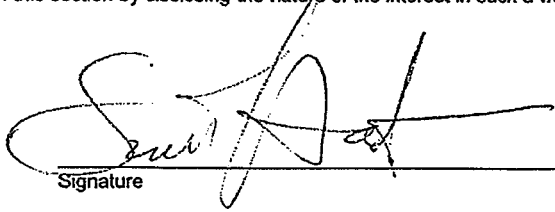
The measure before the South Broward Drainage District was a request for release and vacation of a stormwater run-off retention Easement on the proposed Altman Miramar Plat in Miramar, Florida.

My conflicting interest is that my employer is a sibling organization of the owner of the property subject to the aforescribed Easement.

If disclosure of specific information would violate confidentiality or privilege pursuant to law or rules governing attorneys, a public officer, who is also an attorney, may comply with the disclosure requirements of this section by disclosing the nature of the interest in such a way as to provide the public with notice of the conflict.

6/15/2018

Date Filed


Signature

NOTICE: UNDER PROVISIONS OF FLORIDA STATUTES §112.317, A FAILURE TO MAKE ANY REQUIRED DISCLOSURE CONSTITUTES GROUNDS FOR AND MAY BE PUNISHED BY ONE OR MORE OF THE FOLLOWING: IMPEACHMENT, REMOVAL OR SUSPENSION FROM OFFICE OR EMPLOYMENT, DEMOTION, REDUCTION IN SALARY, REPRIMAND, OR A CIVIL PENALTY NOT TO EXCEED \$10,000.

*****MEMORANDUM*****

DATE: June 21, 2018

TO: South Broward Drainage District Commissioners

FROM: Kevin M. Hart, P.E.
District Director

Subject: SBDD Resolution No. 2018-01 – Interlocal Agreement with Broward County on Update to County-Wide 100-Year Flood Elevation Maps

Comments:

SBDD Resolution No. 2018-01 is to approve an Interlocal Agreement between Broward County and SBDD for cost-share funding of the County's update to its 100-year flood elevation maps. In April, 2016 the SBDD Board of Commissioners approved an update to the District's 5-Year Capital Improvement Plan (CIP) that included a \$30,000 cost-share over 2 years for the County-wide Flood Mapping Project. Since that time, SBDD 5-Year CIP has included a line item and funding for this initiative.

The County-wide Flood Mapping Project has started. The County has signed an agreement with a Consultant (Geosyntec Consultants Inc.) to prepare the updated flood maps, and the Consultant has begun working on specific tasks outlined in the agreement. One such task is a Stakeholder Meeting scheduled at SBDD's headquarters on Wednesday, June 27th which SBDD will be attending.

Broward County has prepared an Interlocal Agreement that specifies the terms and conditions for payment of SBDD's \$30,000 cost-share, which is attached as Exhibit "1" to the Resolution. Exhibit "A" to the Interlocal Agreement specifies the Scope of Services for the flood mapping project; and Exhibit "2" to the Resolution lists the benefits to SBDD and its residents in the County-wide Flood Mapping Project.

Financial Impacts to this Agenda item: This project is included in the District's 2016-2017 and 2017-2018 Capital Improvement Plan; and funding for the project will come from the SBDD CIP Committed Account.

This is to request approval of SBDD Resolution No. 2018-01 for approval of an Interlocal Agreement between Broward County and SBDD for the District's \$30,000 cost-share in the development of updated, County-wide 100-year flood elevation maps and associated stormwater modeling, with funding coming from the SBDD CIP Committed Account.

KH
Attachments

SOUTH BROWARD DRAINAGE DISTRICT RESOLUTION No. 2018-01

RESOLUTION OF THE SOUTH BROWARD DRAINAGE DISTRICT APPROVING AN INTERLOCAL AGREEMENT BETWEEN BROWARD COUNTY AND SOUTH BROWARD DRAINAGE DISTRICT FOR A \$30,000 COST SHARE IN THE DEVELOPMENT OF UPDATED, COUNTY-WIDE 100-YEAR FLOOD ELEVATION MAPS AND ASSOCIATED STORMWATER MODELING; PROVIDING FOR SEVERABILITY AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the South Broward Drainage District, a political subdivision of the State of Florida, and an independent water management district hereinafter referred to as "District", is charged with the responsibility of effecting drainage and water management within its geographical boundaries; and

WHEREAS, the District is the largest single-purpose drainage district in Broward County with a geographical area of approximately 72 square miles; and

WHEREAS, the District is committed to protecting its residents and properties against flooding, improving water quality, and providing effective water management for southwest Broward County; and

WHEREAS, members of the District's Board of Commissioners, staff, and consultants have been active participants in various county and regional committees concerned with water resources issues, including, but not limited to the Broward County Water Advisory Board (WAB), Broward County Technical Advisory Committee (TAC), Broward Water Resources Task Force (WRTF), Broward Water Resources Task Force Technical Team, Compact Built Environmental Work Group, Broward County Surface Water Coordination Committee (BCSWCC), C-51 Governance and Finance Work Group, Broward Everglades Working Group (BEWG), and Broward Leaders Water Academy; and

WHEREAS, the District's jurisdictional boundaries includes portions of five (5) municipalities as follows: City of Miramar, City of Pembroke Pines, City of Hollywood, Town of Davie and Town of Southwest Ranches; and

WHEREAS, in 2016 Broward County (hereinafter referred to as "County") adopted the updated Unified Sea Level Rise Projection for Southeast Florida Regional Climate Compact and directed staff to apply this projection as the basis for regional sea level rise adaptation planning; and

WHEREAS, in 2017 County approved a motion to Direct the Environmental Protection and Growth Management Department ("EPGMD") to create and maintain a future conditions map series to include average wet season groundwater elevations and 100-year flood elevations to account for predicted changes in water levels and ensure the resiliency of current and future infrastructure investments; and

WHEREAS, in 2018 County signed an agreement with Geosyntec Consultants Inc. ("Consultant"), an Engineering Consulting Company, to develop the 100-year Flood Elevation Map and Associate Modeling, which cost a total cost of \$717,894 (the "100-Year Flood Agreement"). The scope of services for the 100-Year Flood Agreement is attached as Exhibit "A" to the 100-Year Flood Agreement; and

WHEREAS, in April 2016 the District's Board of Commissioners approved an update to the District's Capital Improvement Plan (CIP), which included a cost share in the County-wide Flood Mapping Project in the total amount of \$30,000; and

WHEREAS, the County has prepared an Interlocal Agreement between the County and District for the 100-Year Flood Elevation Map and Associated Modeling (hereinafter referred to as "Interlocal Agreement"), which is attached as Exhibit "1" to this Resolution; and

WHEREAS, the Interlocal Agreement includes the terms and conditions for the payment of the District's \$30,000 cost share in the development of the updated 100-year flood elevation maps and associated stormwater modeling; and

WHEREAS, the benefits to the District and the District's residents in the County-wide Flood Mapping Project are attached as Exhibit "2" to this Resolution; and

WHEREAS, a public hearing was held at the offices of the South Broward Drainage District located at 6591 S.W. 160th Avenue, Southwest Ranches, Florida 33331 at 8:00 A.M. on Thursday, the 28th day of June, 2018 for the purpose of approving the Interlocal Agreement between the County and the District;

NOW, THEREFORE, be it resolved by the Board of Commissioners of the South Broward Drainage District in meeting assembled that:

1. The foregoing statements are true and correct and are incorporated herein by reference as if fully stated herein.

2. The Interlocal Agreement between Broward County and the South Broward Drainage District for a \$30,000 cost share in the development of updated, County-wide 100-year flood elevation maps and associated stormwater modeling attached as Exhibit "1" is approved.

3. If any one or more of the covenants, agreements or provisions of this Resolution or the attached Exhibit "1" shall be held contrary to any express provision of law or contrary to the policy of express law, though not expressly prohibited, or against public policy, or shall for any reason whatsoever be held invalid, then such covenants, agreements or provisions shall be null and void and shall be separate from the remaining covenants, agreements or provisions and shall in no way affect the validity of all other provisions of this Resolution or the attached Exhibit "1".

4. This Resolution shall take effect immediately upon its adoption.

IN WITNESS WHEREOF, the Chairperson of the Board of Commissioners of the SOUTH BROWARD DRAINAGE DISTRICT has hereunto set his hand and the Secretary of the Board of Commissioners of the SOUTH BROWARD DRAINAGE DISTRICT has caused to be set its seal.

ADOPTED AND DATED the _____ day of _____, 2018.
SOUTH BROWARD DRAINAGE DISTRICT

(SEAL)

By: _____
Scott Hodges, Chairperson

Attest:

Robert E. Goggin, IV, Secretary

STATE OF FLORIDA)
)§
COUNTY OF BROWARD)

The foregoing Resolution No. 2018-01 was acknowledged before me this ____ day of _____, 2018 by SCOTT HODGES and ROBERT E. GOGGIN, IV, as Chairperson and Secretary, respectively of the SOUTH BROWARD DRAINAGE DISTRICT, a political subdivision of the State of Florida, on behalf of SOUTH BROWARD DRAINAGE DISTRICT. They are personally known to me.

WITNESS my hand and official seal in the county and state last aforesaid this _____ day of June, 2018.

(NOTARY SEAL OR STAMP)

↓

Notary Public - State of Florida at Large

EXHIBIT "I"



INTERLOCAL AGREEMENT BETWEEN BROWARD COUNTY, FLORIDA AND THE SOUTH BROWARD DRAINAGE DISTRICT FOR SHARING THE COST OF THE 100-YEAR FLOOD ELEVATION MAP AND ASSOCIATED MODELING

This is an Interlocal Agreement ("Interlocal Agreement" or "Agreement"), made and entered into by and between Broward County, a political subdivision of the State of Florida ("County") and South Broward Drainage District, an independent special district of the State of Florida ("District") (collectively referred to as the "Parties").

RECITALS

- A. In 2016, County adopted the updated Unified Sea Level Rise Projection for Southeast Florida Regional Climate Compact and directed staff to apply this projection as the basis for regional sea level rise adaptation planning.
- B. In 2017, County approved a motion to Direct the Environmental Protection and Growth Management Department ("EPGMD") to create and maintain a future conditions map series to include average wet season groundwater elevations and 100-year flood elevations to account for predicted changes in water levels and ensure the resiliency of current and future infrastructure investments.
- C. In 2018 County entered into an agreement with Geosyntec Consultants Inc. ("Consultant"), an Engineering Consulting Company, to develop a County-wide 100-Year Flood Elevation Map and Associate Modeling, at a total cost not to exceed \$717,894 (the "100-Year Flood Agreement") in response to Request for Proposals # R2114367P1. The scope of the 100-Year Flood Agreement is attached as Exhibit A.
- D. County has identified ten (10) local government partners willing to collectively cost share fifty percent (50%) of the 100-Year Flood Agreement costs, as provided in the Cost Sharing Schedule attached as Exhibit B. NOW, THEREFORE,

IN CONSIDERATION of the mutual terms, conditions, promises, covenants, and payments hereinafter set forth, the Parties agree as follows:

ARTICLE 1. DEFINITIONS

- 1.1 **Board.** The Board of County Commissioners of Broward County, Florida.
- 1.2 **Contract Administrator.** Director of County's Environmental Planning and Community Resilience Division.

- 1.3 **County Administrator**. The administrative head of County appointed by the Board.

ARTICLE 2. SCOPE OF SERVICES

- 2.1 County shall share with District materials, information, and data received from Consultant pursuant to the work more fully described in Exhibit A within a reasonable time following County's receipt of that information from Consultant.
- 2.2 It is understood and agreed that County may enter into a separate agreements with Consultant; however, District shall not be responsible for any additional costs or expenses associated with said separate agreement with the Consultant unless otherwise agreed to in writing. Furthermore, the 100-Year Flood Agreement is understood to be solely between the County and the Consultant, and District shall have no right or responsibility to administer the 100-Year Flood Agreement.

Article 3. Cost Sharing

- 3.1 Upon completion of the project described in Exhibit A, District agrees to pay County, in the manner specified in Section 3.2, Method of Billing and Payment, its "Cost Share" of the 100-Year Flood cost as set forth in the schedule attached as Exhibit B. The failure of any city or government entity to provide County payment or to enter into a separate interlocal agreement shall not increase SBDD's obligation or relieve District of its own obligation to pay County. County may enter into additional cost sharing agreements with other cities or government entities not listed in Exhibit B. The entering into any such additional agreements shall not alter District's cost share.

3.2 METHOD OF BILLING AND PAYMENT

- 3.2.1 County may submit an invoice for services completed under this Agreement in the amount set forth as District's "Cost Share" in Exhibit B. Invoice must be in the form of one original invoice plus one copy. Invoice shall designate the nature of the services performed and/or the expenses incurred.
- 3.2.2 District shall pay County within thirty (30) calendar days of receipt of County's proper invoice.

- 3.3 Payment shall be made to County at:

Jennifer Jurado
Director and Chief Resilience Officer
Environmental Planning and Community Resilience Division
Government Center, Room 329H
115 South Andrews Avenue

ARTICLE 4. TERM AND TIME OF PERFORMANCE OF AGREEMENT

- 4.1 This Interlocal Agreement shall become effective upon execution by County and shall continue in full force and effect until midnight, twenty-four (24) months following final execution of the Agreement. In addition, the County Administrator is authorized to execute any amendments extending the term of this Interlocal Agreement with the appropriate amendment prepared with the same or similar formality, provided that any such amendment does not decrease the compensation due to County.
- 4.2 All duties, obligations, and responsibilities of County and District required by this Interlocal Agreement shall remain in full force and effect through the termination date or any extended termination date, as set forth above, unless written notice of termination by County or District is provided pursuant to Article 7.7, Notices. Time shall be deemed to be of the essence in performing the duties, obligations and responsibilities required by this Interlocal Agreement.

ARTICLE 5. GOVERNMENTAL IMMUNITY

- 5.1 Nothing herein is intended to serve as a waiver of sovereign immunity by any party nor shall anything included herein be construed as consent to be sued by third parties in any matter arising out of this Interlocal Agreement or any other contract. District and County are state agencies or political subdivisions as defined in Chapter 768.28, Florida Statutes, and agree to be fully responsible for the acts and omissions of their agents or employees to the extent permitted by law.

ARTICLE 6. TERMINATION

- 6.1 This Interlocal Agreement may be terminated for cause by the aggrieved party if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach, or for convenience by either Party upon not less than thirty (30) days' written notice. An erroneous termination for cause shall be considered a termination for convenience.
- 6.3 Notice of termination shall be provided in accordance with the "Notices" section of this Interlocal Agreement except that notice of termination by Contract Administrator which Contract Administrator deems necessary to protect the public health, safety, or welfare may be verbal notice which shall be promptly confirmed in writing in accordance with the "NOTICES" section of this Interlocal Agreement.

ARTICLE 7. MISCELLANEOUS

- 7.1 Public Records. The Parties shall comply with all public records requirements of Chapter 119, Florida Statutes, as may be required by law.

IF EITHER PARTY HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO A PARTY'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE BROWARD COUNTY CUSTODIAN OF PUBLIC RECORDS, NORMA ELLISON, AT (954) 519-1466, nellison@broward.org, 115 S. ANDREWS AVE., SUITE 329H, FORT LAUDERDALE, FLORIDA 33301, OR THE DISTRICT CUSTODIAN OF PUBLIC RECORDS, DISTRICT DIRECTOR KEVIN HART, AT (954) 680-3337, kevin@sbdd.org, 6591 SW 160th AVE, SOUTHWEST RANCHES, FL 33331.

- 7.2 Assignment and Performance. Neither this Agreement nor any interest herein shall be assigned, transferred, or encumbered without the written consent of the other party and any attempt to transfer or assign any interest in this Agreement shall be void.
- 7.3 Indemnification of County. Each party shall indemnify and hold harmless the other party, its officers and employees from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness or intentionally wrongful conduct of the other party or other persons employed or utilized by the other party in the performance of this Agreement. The provisions of this section shall survive the expiration or earlier termination of this Agreement.
- 7.4 All Prior Agreements Superseded. This document incorporates and includes all prior negotiations, correspondence, conversations, agreements or understandings applicable to the matters contained herein; and the Parties agree that there are no commitments, agreements or understandings concerning the subject matter of this Agreement that are not contained in this document. Accordingly, the Parties agree that no deviation from the terms hereof shall be predicated upon any prior representations or agreements whether oral or written.
- 7.5 Disclaimer of Warranties. COUNTY MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, OF ANY KIND CONCERNING CONSULTANT'S WORK OR INFORMATION PROVIDED TO DISTRICT.
- 7.6 Amendments. Except as provided in Section 4.1, no modification, amendment or alteration in the terms or conditions contained herein shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith.

7.7 Notices. In order for a notice to a party to be effective under this Agreement, notice must be sent via U.S. first-class mail with a contemporaneous copy via e-mail to the addresses listed below and shall be effective upon mailing. The addresses for notice shall remain as set forth herein unless and until changed by providing notice of such change in accordance with the provisions of this section.

FOR COUNTY:

Broward County Environmental Planning and Community Resilience Division
Attn: Dr. Jennifer Jurado, Director and Chief Resilience Officer
Governmental Center, Room 329H
115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Email address: jjurado@broward.org

FOR District:

South Broward Drainage District
Attn: District Director
6591 SW 160th Avenue
Southwest Ranches, FL 33331
Email address: kevin@sbdd.org

7.8 Interpretation. The language of this Agreement has been agreed to by both Parties to express their mutual intent and no rule of strict construction shall be applied against either party hereto. The headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement. All personal pronouns used in this Agreement shall include the other gender, and the singular shall include the plural, and vice versa, unless the context otherwise requires. Terms such as "herein," "hereof," "hereunder," and "hereinafter" refer to this Agreement as a whole and not to any particular sentence, paragraph, or section where they appear, unless the context otherwise requires. Whenever reference is made to a section or article of this Agreement, such reference is to the section or article as a whole, including all of the subsections of such section, unless the reference is made to a particular subsection or subparagraph of such section or article.

7.9 Independent Contractor. Each Party is an independent contractor and not an agent, employee, partner, or joint venturer of the other Party. Neither Party has authority to undertake or accept any obligation, liability or expense on behalf of the other Party, nor act in any other manner on behalf of the other Party, nor in the name of the other Party.

7.10 Third Party Beneficiaries. The Parties do not intend to directly or substantially benefit a third party by this Agreement. Therefore, the Parties acknowledge that there are no third party beneficiaries to this Agreement and that no third party shall be entitled to assert a right or claim against either of them based upon this Agreement.

- 7.11 Materiality and Waiver of Breach. The Parties agree that each requirement, duty, and obligation set forth herein was bargained for at arms-length and is agreed to by the Parties in exchange for quid pro quo, that each is substantial and important to the formation of this Agreement and that each is, therefore, a material term hereof. County's failure to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach of a provision of this Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this Agreement.
- 7.12 Compliance with Laws. The Parties shall comply with all federal, state, and local laws, codes, ordinances, rules, and regulations in performing its duties, responsibilities, and obligations related to this Agreement.
- 7.13 Severability. In the event any part of this Agreement is found to be unenforceable by any court of competent jurisdiction, that part shall be deemed severed from this Agreement and the balance of this Agreement shall remain in full force and effect.
- 7.14 Joint Preparation. This Agreement has been jointly prepared by the Parties hereto, and shall not be construed more strictly against either Party.
- 7.15 Priority of Provisions. If there is a conflict or inconsistency between any term, statement, requirement, or provision of any exhibit attached hereto, any document or events referred to herein, or any document incorporated into this Agreement by reference and a term, statement, requirement, or provision of this Agreement, the term, statement, requirement, or provision contained in Articles 1 through 7 of this Agreement shall prevail and be given effect.
- 7.16 Law, Jurisdiction, Venue, Waiver of Jury Trial. This Agreement shall be interpreted and construed in accordance with and governed by the laws of the state of Florida. All Parties acknowledge and accept that jurisdiction of any controversies or legal problems arising out of this Agreement, and any action involving the enforcement or interpretation of any rights hereunder, shall be exclusively in the state courts of the Seventeenth Judicial Circuit in Broward County, Florida, and venue for litigation arising out of this Agreement shall be exclusively in such state courts, forsaking any other jurisdiction which either party may claim by virtue of its residency or other jurisdictional device. **BY ENTERING INTO THIS AGREEMENT, DISTRICT AND COUNTY HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

7.17 Incorporation by Reference. Any and all Recital clauses stated above are true and correct and are incorporated herein by reference. The attached Exhibits are incorporated into and made a part of this Agreement.

7.18 Representation of Authority. Each individual executing this Agreement on behalf of a party hereto hereby represents and warrants that he or she is, on the date he or she signs this Agreement, duly authorized by all necessary and appropriate action to execute this Agreement on behalf of such party and does so with full and legal authority.

[Rest of page intentionally blank]

IN WITNESS WHEREOF, the Parties hereto have made and executed this Agreement: BROWARD COUNTY, through its BOARD OF COUNTY COMMISSIONERS, signing by and through its Mayor or Vice-Mayor, authorized to execute same by Board action on the _____ day of _____, 20____, and the South Broward Drainage District, signing by and through its Board Chair and Board Secretary, duly authorized to execute same.

County

ATTEST:

BROWARD COUNTY, by and through
its Board of County Commissioners

Broward County Administrator, as
Ex-officio Clerk of the Broward County
Board of County Commissioners

By _____
Mayor

_____ day of _____, 20__

Insurance requirements
approved by Broward County
Risk Management Division

Approved as to form by
Andrew J. Meyers
Broward County Attorney
Governmental Center, Suite 423
115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Telephone: (954) 357-7600
Telecopier: (954) 357-7641

By _____
Signature (Date)

Print Name and Title above

By _____
Joseph K. Jarone (Date)
Assistant County Attorney

By _____
Maite Azcoitia (Date)
Deputy County Attorney

INTERLOCAL AGREEMENT BETWEEN BROWARD COUNTY AND THE SOUTH BROWARD DRAINAGE DISTRICT, FOR COST SHARE FOR 100-YEAR FLOOD ELEVATION MAP AND ASSOCIATED MODELING (RFP #R2114367P1)

FOR DISTRICT

District

WITNESSES:

SOUTH BROWARD DRAINAGE DISTRICT:

Signature

By: _____
Scott Hodges, Chairperson

Print Name

By: _____
Robert E. Goggin IV, Secretary

Signature

Print Name

Date: _____

EXHIBIT A - SCOPE OF WORK

Broward County 100-year Flood Elevation Map and Associated Modeling

Project Request

The objective of this project is to update the Broward County 100-year Flood Elevation Map with incorporation of future climatic conditions, including sea level rise, through the refinement and application of the latest Broward County-wide Integrated MIKE SHE/MIKE 11 Hydrologic-Hydraulic Model (referred below as "BCModel"), and in accordance with stakeholder inputs.

Background

In 1977, the Broward County Board of County Commissioners (Board) adopted a 100-year flood elevation map in order to mitigate flood risk in developed areas through regulation of minimum infrastructure design criteria, including base flood elevation. The map was based on estimated runoff across existing development at the time, the anticipated expansion of the urban area to its final bounds, historic extreme rainfall-driven flooding events and historic groundwater and sea levels. Although some Federal Emergency Management Agency (FEMA) flood insurance studies and flood insurance rate maps (FIRMs) had been completed for certain municipalities by 1977, county-wide information on flood depths or appropriate design criteria was not available until the adoption of the County map.

Since 1977, three county-wide FEMA flood insurance studies have been completed for Broward County. Each study released, updated, and typically increased base flood elevation requirements for buildings. County policy has required the most conservative design criteria shown on the FEMA FIRMs, or the County map, or as derived by basin-specific modeling to be applied in the construction design of new development. In areas where the County map was more conservative and was thus applied, property owners often realized subsequent cost savings in avoided flooding or flood insurance premiums as FEMA base flood elevations were adjusted in later years. In its most recent update, in 2014, FEMA revised flood hazard areas in Broward County utilizing the BCModel. The revised flood map revealed significant changes in base flood elevations and delineation of flood area boundaries in certain parts of the County, a combined result of increased development and changes in hydrologic conditions since the previous update, nearly 20-years prior. This study also revealed a substantial convergence in the flood elevations derived from the two map-based approaches, with the County's flood elevation map no longer predictably providing the higher, or more protective, standard. With substantial build-out already having taken place, changes in hydrologic processes resulting from development patterns have already been realized. As such, sea level rise and its influence on the groundwater table, regional storage, and the discharge capacity of stormwater systems not only constitutes the most significant influence

on future flood elevations, but is expected to substantially increase flood elevations in coastal and inland portions of the county in the coming decades. Additionally, downscaled climate models have predicted scenarios of future rainfall and extreme events. In order to mitigate for the increased potential for flooding with time, the County desires to update the 100-year Flood Elevation Map to account for flood conditions predicted with changes in climate and rising sea level to support planning, infrastructure investments, and development requirements.

In 2016, the Board adopted the updated Unified Sea Level Rise Projection for Southeast Florida (Compact, 2015) and directed staff to apply this projection as the basis for regional sea level rise adaptation planning. This action reflected the recognized vulnerability of both coastal and inland areas to the impacts of rising seas, including increased coastal flooding, changes in groundwater levels, and reduced capacity of gravity-dependent stormwater systems.

In February 2017, the Board approved a motion to Direct the Environmental Protection and Growth Management Department (EPGMD) to create and maintain a future conditions map series to include average wet season groundwater elevations and 100-year flood elevations to account for predicted changes in groundwater levels due to sea level rise and ensure the resiliency of current and future infrastructure investments.

Similar to the strategy employed in 1977, the County has again identified the need for progressive building requirements that will deliver flood protection for the duration of the investment, including under future climate conditions and changes in sea level. While the FEMA FIRMs will continue to reflect flood risk under current conditions, it is expected that as these maps are updated in ensuing years, the flood elevations will again begin to approximate those of the more forward-looking community flood map. As such, it is fully anticipated that the Broward County 100-year Flood Elevation Map may undergo future adjustments as trends in sea level and flood condition warrant.

This scope of work defines the data analysis, modeling and development of deliverables necessary to update the Broward County 100-year Flood Elevation Map to account for future climatic conditions.

Project Overview

The EPGMD is currently seeking professional consulting services to update the Broward County 100-year Flood Elevation Map to establish flood elevations under future climate conditions. The results of this analysis are expected to support the establishment of finished floor elevations necessary for mitigating flood risk under conditions of continued sea level rise and more intense rainfall events.

Following FEMA Guidelines and Standards (FEMA, 2017) and Broward County and SFWMD stormwater rules and regulations, the selected consultant shall use the most recent version of the BCMModel from the 2014 FEMA flood insurance study (FEMA, 2014) to generate flood depths for selected storm scenarios. The model is referenced to NAVD88 elevation datum and was updated to include surveyed cross sections of canals C-11, C-13, C-14, C-42 and North New River. Updates to drainage systems and control structures, including sediment information, may be required and identified through community stakeholder meetings and model review process. The selected consultant shall research and incorporate recent modeling efforts on water management systems made available by partner municipalities, utilities, control and drainage districts, including the City of Fort Lauderdale Stormwater Master Plan; as well as updated tidal information for downstream boundary conditions developed by the South Florida Water Management District (SFWMD) and tidal tailwater information to develop time-varying stage boundary conditions, expected land use changes and refined LiDAR information, where available. These efforts may include targeted collection and review of plans and as-built data from permits and municipal records, field reconnaissance to confirm drainage infrastructure, and topography survey. Potential future modifications, including planned infrastructure projects to surface water management systems should be discussed with the SFWMD and incorporated into the future conditions model, as applicable, and in accordance with the approach employed by SFWMD in the Big Cypress Basin Flood Protection Level of Service (FPLOS) Study, and including the analysis of simulated operating protocols of gravity-driven coastal structures. The consultant will review the soils and aquifer-based parameters in the BCMModel to ensure reasonable values for hydraulic conductivity in the surficial aquifer, as well as soil moisture characteristic curves. The consultant also needs to verify at time of commencement of current project if additional refinements had been made after August 2015, as part of current FEMA Coastal A zone remodeling. The selected consultant shall develop a user-friendly utility to easily reprocess the results of the FEMA Coastal A zone remodeling, once these results become available, and integrate into the inland flooding simulation using joint probabilistic analysis.

Upon the conclusion of the prioritized updates, the consultant shall demonstrate the modified (current conditions) BCMModel ability to improve peak stages and flows in response to extreme rainfall events, based on watershed evaluation. Future Conditions rainfall Intensity-Duration-Frequency curves and associated simulation time steps should be derived according to NOAA Atlas 14 and based on the results of adjusting the best set of downscaled data among three alternatives to be tested: 1) Statistical Downscaled Localized Constructed Analogs (LOCA); 2) Statistical Downscaled Center for Ocean-Atmospheric Prediction Studies (COAPS); and 3) Dynamically Downscaled World Climate Research Program Coordinated Regional Climate Downscaling Experiment (CORDEX). If results of the statistical analysis, determined according to the approach suggested by SFWMD, 2016, show large bias, a probabilistic approach to quantify potential changes to the 100-year floodplain, in response to non-stationary rainfall conditions, can be

performed in conjunction with the determination of associated risks, as suggested by Salas & Obeysekera, 2014.

The County will also provide future groundwater elevations to be used as boundary/antecedent conditions for the modified (future conditions) BCMModel based on output from recent applications of MODFLOW groundwater models developed by the United States Geological Survey (USGS). This input data will represent groundwater elevations under future sea level conditions (2060-2069) in accordance with the Unified Sea Level Rise Projection for South Florida (Compact, 2015) and estimated future rainfall average in accordance with the Center for Ocean-Atmospheric Prediction Studies (COAPS) downscaled Community Climate System Model (CCSM) global model. The consultant shall develop a user-friendly utility to easily convert updated MODFLOW output files to MIKE SHE/MIKE 11 input files to allow for future updates based on changes to the groundwater model or sea level rise projections.

Once future extreme rainfall conditions, sea level rise, tide and groundwater elevation, as well as future model configurations are determined, the consultant shall run the modified (future conditions) BCMModel for approved 10-, 25-, 50-, 100-, and 500-year storm events assuming nonstationary conditions. The model results will represent flood elevations under future conditions (2060-2069) and will serve as the basis of the updated Future Conditions 100-year Flood Elevation Map. Extreme rainfall events, combined with an agreed upon Sea Level Rise scenario should also be evaluated under nonstationary conditions to simulate flood elevations under 2100 future condition.

Once the simulations are complete and reasonable results are attested, the updated 100-year Flood Elevation Map (future conditions 2060-2069) should be developed in a similar format to the 1977 image map (Figure 1), and also a digital format grid and resulting flood zones, similar to the 2014 FEMA DFIRMs and to the 2017 Broward County Future Conditions Average Wet Season Groundwater Elevation Digital Map. The MIKE ZERO Toolbox will be used to export the gridded maximum depth of overland water, and the output grid will be converted into ESRI ArcGIS. The resulting feature class will then be transformed into a triangular integrated network and overlaid onto the detailed LiDAR data to develop 100-year future floodplain surface. From this surface, contours can be easily generated in ArcGIS or Surfer using standard tools. The consultant shall also develop a user-friendly utility to easily update the flood elevation digital map, as new simulated results become available.

All three developed utilities should allow the County to run the analysis on future updated datasets as well as evaluate the effect of changes to the factor scoring scheme on the analysis results with minimal effort required. Also, the tools should be nonproprietary and run as tools in the native ArcGIS environment (ArcGIS Toolbox), to provide flexibility to make updates to the tools in the future if needed due to major changes to the input data, calculation methodology, etc. All features represented in the modified BCMModel, especially drainage systems and water

control structures, should also be available in geodatabase format. Required coordinate system and datum are specified in Figure 2.

The consultant shall review the National Flood Insurance Program Community Rating System (CRS) and ensure that specific components of this project are undertaken in a manner that will maximize the potential for earning creditable criteria in accordance with the CRS program. It appears the public information and floodplain mapping tasks of this project may qualify for additional CRS Credit points. To maximize the CRS credit potential, it is recommended to review the County's and Partner Municipalities' current CRS Coordinator's Manual Activity Checklists and Documentation Checklists to identify current credit allocations. A list of current and recommended scope tasks would then be developed that if implemented would maximize the CRS credit points available and potential for improving the CRS classification. The CRS creditable project activities will be presented to the community stakeholders to ensure the stakeholders are aware that the project may be used to increase their communities CRS credit points and potentially CRS classification. Communicating the potential CRS benefits of the project to stakeholders early in the project schedule may enhance stakeholder participation in the project.

As part of the community outreach process, the selected consultant is also required to prepare and deliver presentations, as needed, before stakeholder and public groups as part of the map development process, and establish a methodology to organize and track stakeholder comments and questions, and follow up as necessary. Stakeholder communication efforts will begin at project onset and move forward in parallel with the technical model development tasks of the project. Key stakeholders that will be involved in the project and key individual(s) within each stakeholder organization should be identified. It is anticipated that this will involve communication with local representatives from 23 special districts, 25 water utilities, and 31 municipalities within the County; SFWMD and other regional, state and federal stakeholders involved in the Comprehensive Everglades Restoration Plan (CERP) and the Lower East Coast Water Supply Plan. The selected consultant should also facilitate effective stakeholder meetings, including the preparation of emails, mailers, social media posts, websites, and / or phone calls to ensure all stakeholders are well informed of meetings, as well as agendas, informational handouts, and comment forms are prepared for each meeting.

Finally, the consultant shall develop a summary report detailing the project methodology, stakeholder process, model improvements, technical assumptions, calibration parameters and results, production runs results, map development process, and the evaluation of potential CRS creditable criteria resulting from the project and through the stakeholder process.

County Contributions

The County will provide the future conditions average wet season groundwater elevations in a grid format, 500x500ft, with centroids representing the NAVD88 groundwater elevation of discrete cells. The County will also provide the original updated version of the existing BCMModel as delivered by FEMA in August 2015.

The County will schedule three stakeholder meetings to introduce the community to this project and gather information to refine the existing BCMModel. Meetings will be held in the geographic areas associated with the north, central, and south portions of the County and may include residents, media, private sector, elected officials, subject matter experts, and other interested stakeholders. If substantial contentious issues are identified in any of the initial open houses, a follow up meeting would be scheduled to address revisions to initial assumptions of process.

List of Detailed Tasks and Proposed Schedule

Task 1 - Project Kick off and Schedule Development

This task will include a general project team introduction, establish communication protocols, define quality assurance / quality control (QA/QC) procedures, and upfront planning to move forward with the technical scope of work and stakeholder involvement.

Task 1.1 - Project Management Plan

Consultant will develop a generalized management plan for the project which addresses issues of project management, communication (internal and client), and quality assurance / quality control (QA/QC).

Task 1.2 - Develop MS Project Gantt Diagram

Consultant will develop a project schedule that outlines the tasks for completion. Included will be key milestones for deliverables, and identify contingent paths and tasks predecessors.

Task 1.3 - Attend Kick off Meeting

Consultant will coordinate with County staff to conduct a kick-off meeting with Consultant personnel. The meeting will be an opportunity to discuss the scope in detail, answer scope clarification questions, schedule constraints, and scope challenges. Initial data collection needs will be discussed as well as preliminary stakeholder coordination strategies.

Task 1.4 - Prepare Kick off Meeting Minutes and Update Schedule

Consultant shall prepare a meeting summary to capture the salient points of the kick-off meeting. This will include action items required of Consultant and/or County. County input will be solicited, and a revised version issued if necessary.

Task 2 - Initial Data Collection and Review

This task will include efforts to gather all relevant, readily available data from various entities that will be required for the model updates and establishing future conditions.

Task 2.1 - Collect & Compile Broward County Model Files

Consultant will coordinate with County to obtain latest Broward County Model (BCModel) files and associated backup materials. This will include the latest version of the MIKE SHE / MIKE 11 model used during the County-wide FEMA Flood Mapping update (or more recent revisions if available). This also includes MODFLOW based groundwater input files (including future 2060 and 2100) that will be used as initial conditions for the MIKE SHE model.

Task 2.2 - Collect & Compile LiDAR data

Consultant will obtain the latest topographical data for County in LiDAR format from available sources. It is assumed that the LiDAR based topography will be available in both native LAS format as well as a derived digital elevation model (DEM) raster surface in a minimum 5'x5' grid cell size.

Task 2.3 - Collect & Compile Jurisdictional Data

Consultant will make requests to obtain the latest data from the various municipalities, water districts and major utilities that have relevance to surface water drainage and conveyance. This will include drainage feature inventories, map atlas data, hydrological & hydraulic reports, and modeling files. This will also include information on flood prone areas and flood complaint areas.

Task 2.4 - Collect & Compile Soils / Hydrogeology / Aquifer Characteristics

Consultant will obtain the latest available information from various government sources that describe subsurface conditions in Broward County. This includes the most recent shallow soils data from the USDA-NRCS soils web service, and hydrogeologic data representing deeper hydrogeological formations from County, SFWMD, and other relevant water district and municipal agencies.

Task 2.5 - Collect & Compile Current Land Use / Future Land Use

Consultant will obtain the latest GIS based existing land use data from County and the SFWMD in Florida Land Use Cover and Forms Classification Systems (FLUCFCS) format. Consultant will coordinate with County to obtain future land use coverages from planning based on comprehensive plans or other planning projections.

Task 2.6 - Collect & Compile FEMA Coastal Modeling

Consultant will obtain the latest costal modeling and associated data (when available) from the ongoing FEMA coastal modeling efforts.

Task 2.7 - Collect & Compile Gauge and Tidal Data

Consultant will obtain the latest available relevant flow and stage data sets from the SFWMD, County, water districts, municipalities (Including Pompano Beach and Ft. Lauderdale), and other agencies as appropriate. Particular focus will be getting data representing Hurricane Irma to be used for model validation purposes.

Task 2.8 - Collect & Compile Rainfall and Calibration Storm

Consultant will obtain the latest available relevant rainfall data sets from the SFWMD, NOAA, and other agencies as appropriate. This will include rain gauge data and available

radar based (NEXRAD) data. Particular focus will be getting data representing Hurricane Irma to be used for model validation purposes.

Task 2.9 - Collect & Compile Reference Climate Documentation

Consultant will obtain the latest relevant documentation from identified and other relevant sources. This will include relevant documentation associated with the Southeast Florida Regional Compact on Climate Change, NOAA Atlas 14 precipitation frequency estimates, Localized Constructed Analogs (LOCA) processes for statistical downscaling, Statistical Downscaled Center for Ocean-Atmospheric Prediction Studies (COAPS), and the Coordinated Regional Climate Downscaling Experiment (CORDEX). Also, specifically the following:

- *Southeast Florida Regional Climate Change Compact Sea Level Rise Work Group (Compact). October 2015. Unified Sea Level Rise Projection for Southeast Florida. A document prepared for the Southeast Florida Regional Climate Change Compact Steering Committee. 35 p.*
- *South Florida Water Management District. Determination of Future Intensity-Duration-Frequency Curves for Level of Service Planning Projects – Extreme Rainfall Analysis in Climate Model Outputs to Determine Temporal Changes in Intensity-Duration-Frequency Curves. November 2016.*
- *Salas, J.; Obeysekera, J. (2014) Revisiting the Concepts of Return Period and Risk for Nonstationary Hydrologic Extreme Events. Journal of Hydrologic Engineering 19: 554-568p. ASCE.*

Additional reference documentation may be compiled as appropriate.

Task 2.10 - Collect & Compile Sedimentation Data

Consultant will obtain the latest available relevant sedimentation data sets from the SFWMD, County, water districts, municipalities, and other agencies as appropriate. Particular focus will be getting current data for existing conditions model validation purposes.

Task 2.11 - Conduct Data Gap Analysis

Based on the foregoing data items, Consultant will identify and significant data gaps that will need to be addressed as part of the existing model update process. An assessment of the degree of impact will be made.

Task 2.12 - Initial Model Data Needs Identification

Based on the foregoing data items and data gap analysis, Consultant will identify significant data needs that will need to be addressed as part of the existing model update process. A plan of action for obtaining the data will be developed, with identification of key stakeholders which may assist.

Task 2.13 - Task Summary Memorandum

A Task Summary Memorandum will be developed summarizing the above subtasks and provide the basis for addressing data gaps and model data needs. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 3 - Community Stakeholder Meeting Support

This task includes planning and involvement in the stakeholder communication process.

Task 3.1 - Stakeholder Planning / Strategy Meeting with County

Consultant will coordinate with County to schedule a planning meeting to strategize on the best approach for stakeholder involvements. This will include initial discussion of appropriate stakeholders to be involved and sources of relevant input.

Task 3.2 - Key Stakeholder Identification

Consultant will work with County to develop listing of key stakeholders on which to focus primary communication efforts with during initial meetings.

Task 3.3 - Other Stakeholder Identification

Consultant will work with County to develop listing of other relevant stakeholders that may warrant secondary communication efforts with outside of initial meetings. This may include peripheral agencies or public interest entities which may have some information useful to the technical aspects of the project. A plan of action for contact with identified parties will be developed.

Task 3.4 - Develop Stakeholder Tracking Process

Consultant will develop a tracking process for effectively tracking stakeholder input, including consideration for tracking initial and follow up communications, data requests, and data transfers. This is expected to be a traditional database system with possible integration of geographic data if warranted.

Task 3.5 - Develop Notifications - emails, mailers, social media, websites, etc.

Consultant will support the communication efforts of County prior to the Stakeholder Meetings by preparing as appropriate email blasts, mailers, social media posts, website content, etc. as necessary to effectively communicate the logistics and intent of the meetings. It is assumed that the content will be prepared and transmitted to County for use by County's Public Information Office for dissemination.

Task 3.6 - Prepare agendas, informational handouts, comment forms, etc.

Consultant will support the communication efforts of County during the Stakeholder Meetings by preparing as appropriate agendas, informational handouts, comment forms, etc. as necessary to effectively communicate the purpose and intent of the meetings, and effectively solicit input from the stakeholders. It is assumed that the content will be prepared and transmitted to County for production prior to the meetings.

Task 3.7 - Attend North Stakeholder Meeting

Consultant will prepare for and attend the North Stakeholder Meeting, including assistance with presentations as appropriate.

Task 3.8 - Attend Central Stakeholder Meeting

Consultant will prepare for and attend the Central Stakeholder Meeting, including assistance with presentations as appropriate.

Task 3.9 - Attend South Stakeholder Meeting

Consultant will prepare for and attend the South Stakeholder Meeting, including assistance with presentations as appropriate.

Task 3.10 - Meeting Summaries

Consultant will compile information from each of the three Stakeholder Meetings and prepare a meeting summary. This will include attendance, capture of relevant comments, and data contact.

Task 3.11 - Model Data Needs Identification

Based on the meeting summaries, input relevant to updating the existing conditions modeling will be compiled and a prioritized listing of possible modifications developed. It is recognized that not all stakeholder requested model updates may be feasible or able to be addressed under the current scope of work. As such, the prioritization will distinguish between updates recommended to be covered by the current scope, a future scope, or that may not be appropriate given the overall goal of the model. It is also recognized that the model is regional in nature focused on primary and secondary infrastructures and conveyances, and requested updates related to tertiary infrastructure or local level issues will likely not be appropriate.

Task 3.12 - Follow Up Meetings with Selected Stakeholders

Consultant will communicate with County to identify any stakeholders that may warrant individualized meetings. This may either be "other" stakeholders identified in Task 3.3 or primary stakeholders identified through the three meetings as warranting follow up. For the purposes of the scope of work, it is assumed that up to four such meetings will be included.

Task 3.13 - Task Summary Memorandum

A Task Summary Memorandum will be developed summarizing the above subtasks and provide the basis for addressing supplemental data collection and completing acquisition of information for model updates. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 4 - Supplemental Data Collection Based on Stakeholder Meetings

This task includes efforts to follow up and obtain various relevant data based on contacts with stakeholders in the previous task.

Task 4.1 - Municipality Stormwater Plan and Model Acquisition

Consultant will coordinate with identified municipalities and water control districts to obtain relevant stormwater plan and model information which may be warranted for model update purposes.

Task 4.2 - Planned Major Infrastructure Projects

Consultant will coordinate with local water control districts and identified municipalities to obtain relevant plans for major water resource infrastructure projects which may be warranted for model update purposes.

Task 4.3 - SFWMD ERPs, As-built plans, etc.

Consultant will coordinate with SFWMD and identified municipalities as needed to obtain relevant stormwater plan and as-built plans information relevant to drainage infrastructure that warrants inclusion in the updated model.

Task 4.4 - SFWMD Future Water Control Projects

Consultant will coordinate with the SFWMD to identify significant future water control projects which may warrant inclusion in the future conditions model.

Task 4.5 - Field Reconnaissance

Consultant will make field visits to identified drainage infrastructure and projects to confirm conditions for model inclusion. For the purposes of the scope, this effort will be limited to up to 3 days of staff time.

Task 4.6 - Field Survey - Structures, Cross-sections, Sediments

Consultant will coordinate with surveying subconsultant to collect field survey data of features identified for inclusion in the model and/or for confirmation of current conditions of features already represented in the model as warranted. For the purpose of the scope of work, an allowance for surveying services is assumed as specific locations are not yet identified. The surveying may address the following types of features:

- Measure cross-section and profiles of major and secondary canals.
- Measure and collect as-built data of major water control structures associated with canals or primary piping systems.
- Measure and collect as-built details of bridges (span, deck, low chord, piers, opening cross-sections, channel cross-section upstream and downstream, etc.).
- Measure and collect as-built details of major storm water ponds and outfall structures.
- Measure and collect as-built detail of major pipe conveyance systems including culverts and drainage inlets.
- Measure sediment with probe depth surveys in major canals.
- Measure high water marks of water bodies and/or at bridges and significant culvert crossings.
- Provide verification of elevation data collected by previous LIDAR efforts.
- Prepare maps, cross-sections and reports as needed to accurately depict the features being surveyed.

All field survey work will be performed in accordance with the following:

- All survey work will be prepared in accordance with the Standards of Practice for surveying established by The Board of Professional Surveyors and Mappers within the State of Florida.
- Data to be collected by conventional survey measurements, GPS measurements, echo sounding and laser scanning.
- Project Horizontal control will be based on the Florida State Plane Coordinate System, East Zone, NAD 83.
- Project Vertical control will be based on NAVD 88 Vertical Datum.
- Establish vertical control networks (benchruns) as needed to support accurate vertical data for each site to be surveyed.
- Drawings will be delivered in AutoCAD (.dwg) file format. Raw data will be delivered in ASCII file format. Scan data will be delivered in RCP file format

Task 4.7 - Task Summary Memorandum

A Task Summary Memorandum will be developed summarizing the above subtasks and the supplemental data collected for model updates. County's comments in the Task

Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 5 - Develop ArcGIS Tool - MODFLOW Groundwater Output to MIKE-SHE Boundary Conditions

This task includes effort to develop a utility tool to translate groundwater MODFLOW model output into a MIKE SHE model compatible input format.

Task 5.1 - Coordinate example datasets with County

Consultant will coordinate with County to obtain the appropriate MODFLOW model output datasets to be used for the project.

Task 5.2 - Utility Development

Consultant will develop a utility tool to translate grid based MODFLOW model output data into a MIKE-SHE model compatible input format. The tool will be developed as an ArcGIS toolbox compatible with County GIS systems. For the purposes of the project it is assumed the tool will be developed at the ArcGIS 10.5 version level.

Task 5.3 - Utility Delivery and Troubleshooting

The tool will be tested by Consultant with project data and then used for project model input purposes. The tool will also be tested on County's system to ensure compatibility.

Task 5.4 – Task Summary Memorandum

Consultant will prepare a Task Summary Memorandum documenting the tool development process and providing instructional information for use of the tool in the future by County. Also, will include electronic delivery of ArcGIS tool. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 6 – Update Current Conditions MIKE SHE / MIKE-11 Model

Consultant will update the most recent version of the BCModel from the 2014 FEMA flood insurance study to generate flood depths for selected storm scenarios. The updates will be identified through the outcomes of previous tasks including the Task 2 - Initial Data Collection and Review, Task 3 - Community Stakeholder Meetings, and Task 4 - Supplemental Data Collection including Field Survey. These may include updates to drainage systems, control structures, additional major conveyances, and channel cross sections to account for sedimentation. The updates to the model will be validated against a historical storm event (Hurricane Irma or other recent). The use of the model to predict flood depths shall be in general accordance with FEMA Guidelines and Specifications (FEMA, 2017). A description/justification of the selected model structure that will address the modeling objectives, will be agreed to among parties before model runs/all updates.

It is noted that this task will be accomplished using the current 2017 version of MIKE SHE / MIKE 11 and does not include updating the MIKE 11 model to its successor 1-D modeling package, MIKE Hydro River. MIKE Hydro River was introduced as part of the 2016 release of MIKE

SHE. While the 2016 and 2017 releases of MIKE SHE contains both MIKE 11 and MIKE Hydro River, the 2017 version is reportedly the last major release in which MIKE 11 is included as a product. MIKE Hydro River contains several computational method changes and other framework differences which would not facilitate a direct import. If desired for future compatibility, the existing MIKE 11 modeling data can be ported to MIKE Hydro River under a separate future scope of work.

6.1 – Add Hydraulic Detail Based on Stakeholder Input

At the commencement of this Task, Consultant will coordinate with County to prioritize the updates identified in the initial model data needs identification, as well as updates requested by the stakeholders. Starting with the highest priority updates and working down the list of updates in order of decreasing priority, Consultant will incorporate the additional detail subject to the not-to-exceed budget for this task.

6.2 –Reduce Model Grid Size

The current MIKE SHE model grid spacing in the BCMModel is 500 feet x 500 feet. Because this spacing does not effectively capture fine details of topography and impervious coverage in urban areas, significant improvements in the accuracy of the 2-D overland flow component could be realized by reducing the grid spacing. Increasing the grid resolution will, however, increase run times. It is expected that grid spacing smaller than 250 feet x 250 feet may result in acceptable run times, while greatly improving the model's representation of runoff, storage, and overland flow. This task includes an initial test run with the finer grid resolution to determine the impact on model run times. If the test run results in acceptable run times, all components of the 2-D overland flow module will be re-parameterized using the source LiDAR data and detailed land use/land cover mapping. Because the objective of this task is to improve the overland flow representation, the groundwater and unsaturated zone parameters used for the 500-foot grid will be duplicated when adapting to the 250-foot or smaller grid.

6.3 – Land Use Refinement

The current SFWMD FLUCFCS based land use and most recently available aerial photography will be compared with the land use in the current BCMModel. Areas of recent development and other land use changes will be identified. Aerial mapping and construction drawings (where available from ERPs, etc.) will be used to update the land use in the MIKE SHE model. Additionally, overland flow roughness coefficients will be varied by land use throughout the model gridded area, as the current BCMModel uses a single value for this parameter throughout the domain. Note the resolution and detail of this effort will be respective to the overall grid size of the model (i.e., localized changes in land use coverage significantly less than the grid resolution will not be addressed).

6.4 – Storage Representation

The 2017 version of MIKE SHE includes a new ponded drainage routine that will be used in conjunction with land use dependent detention storage values to improve the representation of storage detention and routing in portions of the model domain where small (sub-grid scale) stormwater detention ponds or other significant storage features are not explicitly represented in the current BCMModel. This task includes development

and implementation of this routine, model-wide. Storage representation will rely solely on the LiDAR based DEM, take-offs from plans or other source material will not be included. Focus will be applied to flood prone areas identified by County and municipalities as appropriate.

6.5 – Hydrologic Parameterization Updates

Consultant will review the remaining MIKE SHE parameterization, including saturated zone drain levels and time constants, paved area roughness coefficients, soils parameters (specifically, the soil moisture retention curves), and hydraulic conductivities of the surficial aquifer, and update as necessary. The current model values will be retained unless sufficient justification is found for revision.

6.6 – Groundwater Initial Conditions

Consultant will compare the initial groundwater elevations from the 2014 BCMModel with groundwater well data (measurements) for the time period preceding the model validation event (i.e., Hurricane Irma). The initial groundwater elevations will be adjusted if necessary in preparation for the validation simulation.

6.7 – Model Validation

The existing conditions model updates will be validated by simulating a single historic storm event (most likely Hurricane Irma or other recent storm events) and comparing the results with observed stage and flow hydrographs. NEXRAD radar-based rainfall data, with a 15-minute time step (previously collected in Task 2) will be formatted for input into the MIKE SHE model. Observed tidal data, where available, will be input as boundary conditions for the major coastal outfalls. Model inputs will be adjusted, within reasonable ranges, in an effort to achieve best acceptable agreement between simulated and observed flow volumes, peak flows, and peak stages at selected measurement stations. The goodness-of-fit of peak stages and flows will be compared in a spatially varied manner as appropriate to the previous BCMModel calibration (to Hurricane Irene in 1999) to validate the improvements to the model, with the objective of obtaining an overall goodness-of-fit that is equal or better than the previous calibration.

6.8 – Current Conditions Simulations

Current conditions model simulations will be run for the 10-, 25-, 50-, 100-, and 500-year design storm events, with distributions to be based on SWFWMD or NOAA 14. MIKE SHE model outputs, in the form of maximum depths of overland flow, will be compiled, mapped, and reviewed to ensure the results are reasonable and numerically stable. The MIKE 11 peak stage profiles will also be prepared using the MIKE standard post-processing tools and reviewed for reasonableness and stability. Any identified model instabilities will be addressed.

6.9 – Compile Model Input Data into ArcGIS Geodatabase

Consultant will compile the current conditions MIKE SHE model input into an ArcGIS 10.5 geodatabase. The geodatabase will be populated with readily exportable data using the standard MIKE Zero toolbox.

6.10 - Task Summary Memorandum

The approach, parameterization, and results of the current conditions model update will be documented in a Task Summary Memorandum and submitted to County for review.

County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 7 – Develop Future Conditions MIKE SHE / MIKE 11 Model Input

Under this task, the updated BCMModel input will be modified to develop a version of the model to represent future conditions. Model inputs will be adjusted to represent projected future sea levels, future rainfall depths, major changes in future land use, and planned major future infrastructure improvements.

7.1 – Develop Future Conditions Rainfall IDF Curves

The Future Conditions Rainfall Intensity Duration-Frequency (IDF) curves will be developed in accordance with the prescribed scope. In general, the process will be that the Future rainfall depths and IDF curves (and associated simulation time steps) will be derived according to NOAA Atlas 14 and based on the results of adjusting the best set of downscaled data among three alternatives to be tested:

- 1) Statistical Downscaled Localized Constructed Analogs (LOCA)
- 2) Dynamically Downscaled Center for Ocean-Atmospheric Prediction Studies (COAPS)
- 3) Dynamically Downscaled World Climate Research Program Coordinated Regional Climate Downscaling Experiment (CORDEX).

If it is determined that the results of the statistical analysis, determined according to the approach suggested by SFWMD, 2016, show large bias, a probabilistic approach to quantify potential changes to the 100-year floodplain, in response to non-stationary rainfall conditions, will be performed in conjunction with the determination of associated risks, for example by Salas & Obeysekera, 2014.

7.2 – Future Sea Level Rise Scenarios

Two future sea level rise scenarios will be evaluated with the updated BCMModel based on the unified projections from the Southeast Florida Climate Compact. The basis of the updated Future Conditions 100-year Flood Elevation Map (Task 10) will be model results representing flood elevations under 2060-2069 conditions. Flood elevations will also be evaluated under 2100 future conditions. In this subtask, projected sea level rise information for the year 2100 scenario will be identified, discussed and agreed upon between Consultant and County.

7.3 – Future Groundwater Elevations from MODFLOW

County will provide future groundwater elevations (2060 and 2100) to be used as antecedent conditions for the future conditions MIKE SHE model based on output from recent applications of MODFLOW by the U.S. Geological Survey. This input data will represent groundwater elevations under future sea level conditions (2060-2069) in accordance with the Unified Sea Level Rise Projection for South Florida, and estimated future rainfall average in accordance with the Center for Ocean-Atmospheric Prediction Studies (COAPS) downscaled Community Climate System Model (CCSM) global model. Consultant will import these elevations, using the tool developed in Task 5, into a MIKE SHE grid file for use as initial water table elevations for the surficial aquifer.

7.4 – Future Tidal Boundary Conditions

Surface water boundary conditions for the 1-D hydraulic model, the 2-D overland flow model, and surficial aquifer will be developed in consultation with SFWMD and County. Boundary conditions for projected tide and storm surge will be developed according to the C4/C7 FPLOS studies from the SFWMD. Because the FEMA Coastal Zone A modeling/mapping results will be integrated with the MIKE SHE / MIKE 11 model results, it is anticipated that it will not be necessary or appropriate for the MIKE SHE and MIKE 11 tidal boundary conditions to incorporate the effects of storm surge. Tidal boundary conditions will be based on an astronomical tide cycle (without atmospheric influences) adjusted upward to account for future sea level rise.

7.5 – Future Land Use

Future land use mapping for the 2060 to 2069 scenario will be obtained from Broward County. For the purposes of the scope, up to 20 specific areas (each larger than approximately 100 contiguous acres to be targeted for development or redevelopment) that County and stakeholders will identify can be represented in the future conditions model. The land use categories for these areas will be aggregated into the subset of model-based (hydrologic) land use categories developed for MIKE SHE modeling purposes. The resulting future land use polygons will be used to parameterize the two future conditions MIKE SHE model scenarios. The approach to land-use based model parameterization will be identical to that used to update the current conditions model, and will account for storage and attenuation in the updated areas as appropriate. For the purposes of this study, it is assumed that the year 2100 land use will be unchanged from the 2060 to 2069 land use (e.g., same land use changes reflected in both model scenarios).

7.6 – Future Operating Protocols of Gravity-Driven Structures

In consultation with SFWMD, any expected long-term changes to operating protocols of gravity-driven coastal structures (to adapt to future sea levels) will be incorporated into the 1-D (MIKE 11) model input. For the purposes of this study, it is assumed that the year 2100 operating protocols will be unchanged from those reflected in 2060 to 2069.

7.7 – Planned Infrastructure Improvements

Potential future modifications, including planned surface water management infrastructure projects (e.g., the C-9 and C-11 Impoundments and C-51 reservoir) will be discussed with the SFWMD and incorporated into the future conditions model, as applicable, and in accordance with the approach employed by SFWMD in the Big Cypress Basin Flood Protection Level of Service (FPLOS) Study. Up to five (5) additional major water control/storage/conveyance projects identified by SFWMD and/or water control districts will be incorporated. For the purposes of this study, it is assumed that the year 2100 infrastructure improvements will be unchanged from those reflected in 2060 to 2069.

7.8 – Compile Model Input Data into ArcGIS Geodatabases

Consultant will compile the future conditions MIKE SHE model input into an ArcGIS 10.5 geodatabase. The geodatabase will be populated with readily exportable data using the standard MIKE Zero toolbox.

7.9 – Task Summary Memorandum

The approach and parameterization of the future conditions model scenarios will be documented in a Task Summary Memorandum and submitted to County for review. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 8 – Model Execution and Results Processing

The model inputs developed and modified in the preceding tasks will be used to generate flood elevations for the selected future conditions scenarios. Model simulations will be conducted for the 10-, 25-, 50-, 100-, and 500-year storm events for the following scenarios.

8.1 – Future Conditions Simulations – 2060-2069

Future conditions (2060-2069) model simulations will be run for the 10-, 25-, 50-, 100-, and 500-year design storm events. MIKE SHE model outputs, in the form of maximum depths of overland flow, will be generated and reviewed to ensure the results are reasonable and numerically stable. The MIKE 11 peak stage profiles will also be prepared using the MIKE standard post-processing tools and reviewed for reasonableness and stability. Any identified model instabilities will be addressed.

8.2 – Future Conditions Simulations – 2100

Future conditions (2100) model simulations will be run for the 10-, 25-, 50-, 100-, and 500-year design storm events. MIKE SHE model outputs, in the form of maximum depths of overland flow, will be generated and reviewed to ensure the results are reasonable and numerically stable. The MIKE 11 or MIKE Hydro River peak stage profiles will also be prepared using the MIKE standard post-processing tools and reviewed for reasonableness and stability. Any identified model instabilities will be addressed.

8.3 – Model Results Post-Processing

Using the standard MIKE Zero toolbox, model results from the two future conditions simulations will be exported to ArcGIS grid files and shape files. Map projections files will be created for all feature classes.

- Maximum depth of overland flow (10-, 25-, 50-, 100-, 500-year)
- Maximum groundwater elevations in the Surficial Aquifer (10-, 25-, 50-, 100-, 500-year)

8.4 – Compile Model Output Data into ArcGIS Geodatabases

Consultant will compile the future conditions MIKE SHE model output into an ArcGIS 10.5 geodatabase. In addition to the feature classes generated in the preceding subtask, feature classes will be generated to represent the overland flood elevations by adding the maximum depths over overland flow to the topographic grid elevations.

8.5 – Task Summary Memorandum

The results of the future conditions model scenarios will be documented in a Task Summary Memorandum and submitted to County for review. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 9 – Develop ArcGIS Tool – Coastal Zone A Model Results Integration with MIKE SHE

The development of flood hazards in Broward County incorporates upland (riverine, surficial) and coastal sources (storm surge including wave action). In its flood risk studies, Broward County assumes that flooding from upland and coastal sources is statistically independent. This task seeks to calculate the total or actual frequency flood curve at any desired point by statistically adding flood elevations from all sources, a calculation called combined rate of return (CRR).

9.1 – Extract Results from Current Coastal Storm Scenarios

Consultant will develop a tool that will read model results, perform iterative calculation of a given flood frequency, and produce an output. Time allocated to Task 9.1 includes preparation of MIKE-SHE and coastal datasets to meet the needs of the CRR Tool. For example, we will convert datasets to a different format (e.g., raster, ESRI terrain, or shapefile), clip to County's boundary, or create necessary geodatabase fields.

9.2 – Develop Toolbox

Consultant will develop a tool that will read model results, perform an iterative calculation to estimate a given frequency within the range of the flood frequency curve, and produce geospatial output for mapping.

We envision the CRR Tool operation as follows.

1. Using a template geodatabase, the CRR Tool will read coastal and upland flood elevations at user-specified point locations. These locations may include the center of a grid element, a cross section, or any other location specified by the user. The CRR Tool will populate the geodatabase with the specified frequency levels.
2. The CRR Tool will allow manual edits in case the user would like to edit flood elevations. For example, the user may want to include the effects of waves, not included in FEMA's stillwater elevation surfaces.
3. The CRR Tool will iteratively solve the combined rate of return equation.
4. The CRR Tool will store results in the same geodatabase.

The CRR tool will be delivered as an ArcGIS toolbox. Some tool functionality may change during its development to improve efficiency and accommodate Broward County's interests. Major changes to the design of the CRR Tool proposed in this scope of work, may require an additional fee.

9.3 – Integrate Coastal Zone Results with Future MIKE SHE Model Results

Consultant will compute flood frequency results using the tool developed in Task 9.2. We will create a point shapefile with locations of interest in obtaining combined rate of return. Typically, these points will extend upstream along tidally-influenced canals. Staff will review results and recalculate combined rates, if necessary. The task includes the development of a geodatabase or shapefile with combined elevations that mappers can use to delineate flood risks.

9.4 – Task Summary Memorandum

Consultant will prepare Task Summary Memorandum documenting the tool development process and providing instructional information for use of the tool in the future by County,

including documentation that will guide the user on how to operate the tool and describe input and output products for future reference. Also, will include electronic delivery of ArcGIS tool. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 10 - Develop ArcGIS Tool - Generate Future 100-year Flood Contour Map

This task will produce a utility tool that will convert MIKE SHE output flood stages into contours suitable for County flood mapping purposes.

Task 10.1 - Develop Toolbox

Consultant will develop a work flow process to generate 100-year flood contours from GIS based model output data. This work flow will rely on standard ArcGIS based processes which will be compiled into an ArcGIS toolbox for delivery to County. The tool box will be troubleshooted using project model output datasets to generate desired results. The generalized process will be to use rasterized flood stage results processed from the model output and DEM, then further process using contouring tools to produce desired results in vector format. Resulting contour elevation features will be attributed with results in both NGVD 1929 and NAVD 1988 vertical datums.

Task 10.2 - Generate Future 2060-2069 100-year Flood Contour Map

An ArcGIS map template (mxd) will generated in to facilitate depiction of the resulting 100-year flood contours in a format similar to the previous 1977 100-year flood map used by County.

Task 10.3 - Task Summary Memorandum

Consultant will prepare a Task Summary Memorandum providing details on the construction of the tool and providing instructions on usage, data format requirements, etc. Also, will include electronic delivery of ArcGIS tool and map template. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 11 - CRS Evaluation and Recommendations

This task will evaluate current Community Rating System (CRS) credits for Broward County and applicable municipalities, and recommend categories for improvement in the rating system based on this study. Consideration of FEMA Guidelines and Specifications shall be made when using the results of the flood modeling as a basis to evaluate CRS improvement measures.

Task 11.1 - Develop CRS Credit Information for Initial Stakeholder Meetings

Consultant will compile CRS data relevant to Broward County and its municipalities from reference sources and preliminarily identify applicable sections that may be influenced by the results of this project. This will be used to develop information to be shared with relevant stakeholders at the initial project coordination meetings.

Task 11.2 - Compile Current CRS Rating Data from County and Municipalities

Based on input from stakeholders, compile and summarize current CRS program data from participating municipalities. Comparison of current rating credit will be performed.

Task 11.3 - Evaluate Credit Opportunities Relevant to Flood Mapping Effort

Based on compiled data and evaluation, evaluate potential areas for additional credit opportunity for County and applicable municipalities based on the results of this 100-year flood map project. This will be evaluated in general County-wide and individually specific to applicable municipalities.

Task 11.4 - Prepare Potential CRS Credit Recommendations

Based on the results of the previous tasks, generate a matrix of specific potential CRS credit recommendations. It is noted that this will focus on recommendation for County and applicable municipalities (municipalities which are specifically identified during the initial stakeholder process as expressing interest in receiving recommendation and that actively engaged in a dialog regarding CRS under this effort).

Task 11.5 - Task Summary Memorandum

The results of the above referenced task will be provided in a Task Summary Memorandum for County's review and comment. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 12 - Presentation of Results to County and Stakeholders

This task includes effort to coordinate, attend, and disseminate information to identified stakeholders during the course of the project.

Task 12.1 - Meetings at Milestones (assume 2)

Consultant shall coordinate with County to prepare for and attend meetings at key project milestones to disseminate project results to interested stakeholders. For the purposes of the scope of work, it is assumed that up to two meetings will be included. It is assumed that Consultant shall prepare presentation materials to assist the County with the meeting.

Task 12.2 - Meetings During Map Adoption Process (assume 2)

Consultant shall coordinate with County to prepare for and attend meetings during the map adoption process to relevant stakeholders. For the purposes of the scope of work, it is assumed that up to two meetings will be included. It is assumed that Consultant shall prepare presentation materials to assist County with the meeting.

Task 12.3 - Task Summary Memorandum

A Task Summary Memorandum will be prepared capturing the results of the milestone and map adoption meetings and documenting any relevant decisions and supporting information. County's comments in the Task Summary Memorandum, if any, will be addressed in the draft Project Summary Report (Task 13).

Task 13 - Prepare and Submit Draft Summary Report

This task includes efforts to develop a comprehensive draft report of project activities for County review.

Task 13.1 - Prepare draft report narrative and supporting figures, tables, etc.

It is anticipated this will incorporate information from the various task summary memos into a combined report. In general, the organization will include an introduction, narrative sections corresponding to scope tasks, and supporting appendices. Relevant figures and table of data will be provided. The appendices will be focused on immediately supportive material to the report narrative. Volume reference information and model related data will be referenced but provided as part of the electronic deliverable (cataloged for future reference purposes).

Task 13.2 - Report QA/QC

The report will have senior review conducted by the project manager and a peer review by a qualified individual not directly associated with the project for QA/QC purposes.

Task 13.3 - Publish report

The draft report will be published in PDF format for delivery to County. Native files will be provided along with back up reference and model materials in a set of electronic deliverables.

Task 14 - Prepare and Submit Final Summary Report

Task 14.1 - Prepare final report

Based on County comments and those of other applicable stakeholders, Consultant will revise and finalize the report.

Task 14.2 - Report QA/QC

The report will have senior review conducted by the project manager and a peer review by a qualified individual not directly associated with the project for QA/QC purposes.

Task 14.3 - Publish report

The final report will be published in PDF format for delivery to County. Native files will be provided along with back up reference and model materials in a set of electronic deliverables. It is understood that the information developed during the project will be used to support technical publications and /or presentation to organizations.

Task 15 - Project Management

This task includes various administrative efforts necessary for execution of the project work.

Task 15.1 - Project setup & administration

Task 15.2 - Management of subconsultant efforts and QA/QC

Task 15.3 - Management of technical staff efforts and general project QA/QC

Task 15.4 - Project tracking, schedule updates, weekly status reports, etc.

References

Southeast Florida Regional Climate Change Compact Sea Level Rise Work Group (Compact). October 2015. Unified Sea Level Rise Projection for Southeast Florida. A document prepared for the Southeast Florida Regional Climate Change Compact Steering Committee. 35 p.

Federal Emergency Management Agency. August 18, 2014. Federal Insurance Study Broward County, Florida and incorporated Areas. Flood Insurance Study Number 12011CV000A. 60 p.

Federal Emergency Management Agency. FEMA's Guidelines and Standards for Flood Risk Analysis and Mapping. Available at: <https://www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping> Access on April, 2017.

South Florida Water Management District. Determination of Future Intensity-Duration-Frequency Curves for Level of Service Planning Projects – Extreme Rainfall Analysis in Climate Model Outputs to Determine Temporal Changes in Intensity-Duration-Frequency Curves. November 2016.

Salas, J.; Obeysekera, J. (2014) Revisiting the Concepts of Return Period and Risk for Nonstationary Hydrologic Extreme Events. Journal of Hydrologic Engineering 19: 554-568p. ASCE.

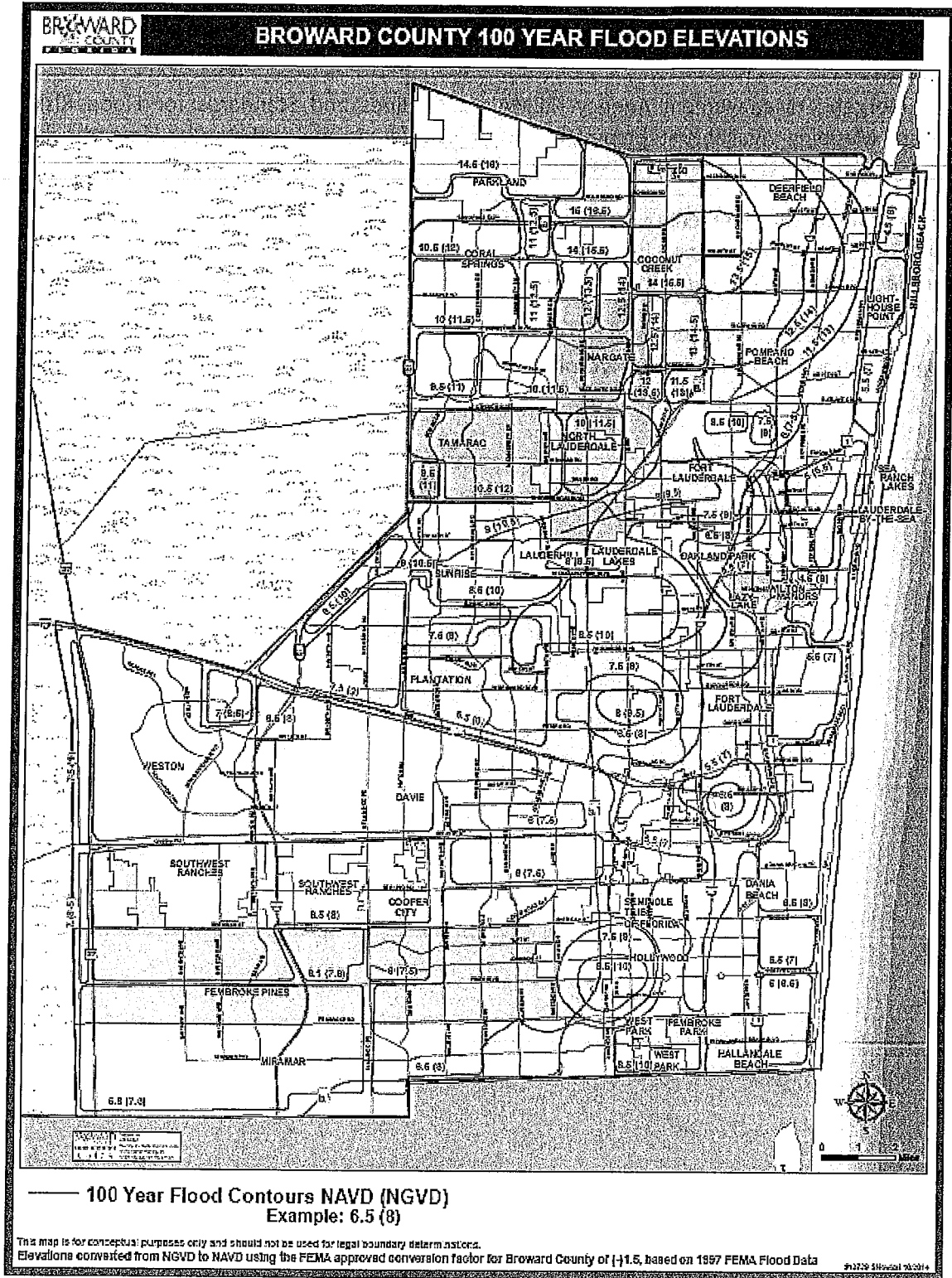


Figure 1. 1977 Broward County 100-year flood elevation map

NAD_1983_HARN_StatePlane_Florida_East_FIPS_0901_Feet
WKID: 2881 Authority: EPSG

Projection: Transverse_Mercator
False_Easting: 656166.6666666665
False_Northing: 0.0
Central_Meridian: -81.0
Scale_Factor: 0.9999411764705882
Latitude_Of_Origin: 24.33333333333333
Linear Unit: Foot_US (0.3048006096012192)

Geographic Coordinate System: GCS_North_American_1983_HARN
Angular Unit: Degree (0.0174532925199433)
Prime Meridian: Greenwich (0.0)
Datum: D_North_American_1983_HARN
Spheroid: GRS_1980
Semimajor Axis: 6378137.0
Semiminor Axis: 6356752.314140356
Inverse Flattening: 298.257222101

Figure 2. Recommended GIS Coordinate System and Datum

EXHIBIT B – Cost Sharing Schedule

Cost Share Partner	Cost Share Amount
Coconut Creek	\$ 33,684.21
Dania Beach	\$ 16,842.11
Fort Lauderdale	\$ 101,052.63
Hallandale Beach	\$ 16,842.11
Hollywood	\$ 84,210.53
Oakland Park	\$ 16,842.11
Pompano Beach	\$ 50,526.32
Hillsboro	\$ 10,000.00
SBDD	\$ 30,000.00
Subtotal	\$ 360,000.00
County	\$ 360,000.00
Total	\$ 720,000.00

EXHIBIT "2"

BENEFITS TO SBDD AND SBDD RESIDENTS OF THE BROWARD COUNTY FLOOD MAPPING PROJECT

Background

This is a Broward County initiative to develop a groundwater/surface water model (stormwater model) and prepare updated flood maps for Broward County. The modeling effort will incorporate Sea Level Rise Scenarios, and will allow Broward County, local municipalities and drainage districts the ability to evaluate potential impacts from Sea Level Rise and Climate Change and to incorporate Adaption Strategies and Resiliency Standards to guard against these impacts.

The stormwater modeling will utilize the MIKE SHE/11 integrated surface water/groundwater model. This is an advanced hydrological stormwater model that has the capacity to simulate overland flow and surface water flow and will provide Broward County communities with important data and tools for Flood Risk Analysis and Stormwater Management. The project is a proposed 50/50 cost share between Broward County and local municipalities/drainage districts with an estimated cost of \$725,000 over a 2 year period.

Benefits

The benefits to SBDD and its residents for participating in this initiative are:

- Project will provide flood elevations based on projected Sea Level Rise which is currently not available on the FEMA flood maps.
- Project will provide 100-year flood elevations for properties that are outside of the current flood plain as depicted on the FEMA flood maps.
- Project will have the potential to assist local communities with improving their rating under the Community Rating System (CRS) (or maintaining their current CRS rating) through the National Flood Insurance Program which will result in lower flood insurance rates for residents throughout Broward County.
- Project will allow Broward County to update its 10-year and 100-year flood maps, which are used by many communities as one of the criterion in establishing minimum road and finished floor elevations. The County's current 100-year flood map is based on the 1997 FEMA Flood Data.
- Project will provide Broward County and local agencies with valuable information on the potential impacts of Sea Level Rise on local water management systems.
- Project will allow Broward County and local communities to evaluate the potential benefits of incorporating adaptation measures in dealing with the impacts of Sea Level Rise.
- Project will provide comparative flood elevation data for SBDD's drainage basins in which to compare against the District's existing flood elevation data.
- Project will provide tail water elevations for the C-9 Canal along the District's southern boundary (boundary conditions) based on different scenarios of Sea Level Rise, which help SBDD in accessing any potential impacts to its operations and stormwater management systems. Same for the C-11 Canal along the District's northern border.
- SBDD's participation in this initiative will continue a long-standing commitment and involvement by the District in County-wide and regional water resources issues.
- SBDD and Broward County have partnered on other water quality and drainage-related initiatives in the past; the most recent being Broward County's partnership with SBDD on evaluating nursery properties for water usage and Best Management Practices (BMPs).

MEMORANDUM

DATE: June 21, 2018

TO: South Broward Drainage District Commissioners

FROM: Kevin M. Hart, P.E.
District Director

Subject: Contract Close-Out for SBDD Maintenance Building Expansion Project

Comments:

In April 2017, South Broward Drainage District (SBDD) awarded a contract to Republic Construction Corporation (Republic) for the SBDD Maintenance Building Expansion Project in the amount of \$586,100. The contract included the construction of the Maintenance Building Expansion (Base Bid) plus two Alternate Bid items for Solar Power and Piping for a Future Air Compressor. The project was substantially completed on April 6, 2018.

Attached for the Board's information is a summary of the final accounting for the project. To date, there has been one (1) Change Order (CO) on the Project in amount of \$5,558 or 0.95% of the contract value; and there will be one additional CO to close-out the project. The project was delayed by 99 days, which equates to \$24,750 in Liquidated Damages (LDs). The Contractor has submitted four additional COs for additional time and money on the project.

A meeting was held on Friday, June 15th between the President of Republic and the SBDD District Director to review Republic's additional CO requests and to discuss a final payment amount to close-out the contract. SBDD agreed to add 10 days to the contract time due to the impacts from Hurricane Irma in September 2017. This would reduce the LDs to \$22,250. The content and validity of the remaining CO requests were the subject of the discussion during the meeting. Ultimately, Republic and SBDD agreed to a deduction of \$12,500 on the final payment amount to account for the time delays (LDs) on the project.

Therefore, the Final Change Order will reflect a deduction of \$12,500 on the contract price, which brings the final contract total to \$579,158 or 1.18% below the original contract amount.

The final accounting report shows that SBDD's costs for the project (site work, permitting, and architectural) came in at \$9,187.81 below the 2017 budget estimate; and that a total of \$15,225.98 in additional items were added to the building that were not included in the original budget estimate. These were all items that SBDD elected to add (not CO items), such as security cameras, security system, additional building ladder, additional support columns, and a new air compressor.

With these additional items added, the final building cost totals \$674,146.17.

Financial Impacts to this Agenda item: This project is included in the District's Capital Improvement Plan; and funding for the project has come from the SBDD CIP Committed Account and the SBDD General Operating Account over a 2-year period. Final payment to the Contractor will be in the amount of \$75,281.75, based on the final accounting report referenced above.

This is to request approval to close-out the contract with Republic Construction Corporation for the SBDD Maintenance Building Expansion Project with a final payment amount of 75,281.75 as noted above. Funding for this project has come from the SBDD CIP Committed Account and the SBDD General Operating Account over a 2-year period.

KH
Attachments

FINAL PROJECT ACCOUNTING
SBDD MAINTENANCE BUILDING EXPANSION

6/18/2018

<u>DESCRIPTION</u>	<u>Cost</u>	<u>Comments</u>
Republic Construction Contract	\$586,100.00	Bid Price
Change Order # 1	\$5,558.00	Modify supports for solar panels (0.95% of contract total)
Demolition and Site Preparation	\$195.00	Saw Rental (SBDD Cost)
Preparation of New Asphalt Areas	\$1,542.21	Materials and rentals (SBDD Cost)
Asphalt	\$10,278.75	Brothers Paving, Inc. (SBDD Cost)
Striping & Wheel Stops	\$64.20	Paint (SBDD Cost)
Dumpster Enclosure (Fencing)	\$3,595.00	Andes Fence, Inc. (SBDD Cost)
Water Service; Sewer Service & Electrical Conduit	\$1,758.25	Main Attraction (SBDD Cost)
Final Grading & Sod	\$2,310.00	R&R Landscaping (Sod - SBDD Cost))
Install New Cameras	\$3,600.00	Mr. Wireman (SBDD Initiative)
Install New Security System	\$675.00	Broward County Securities (SBDD Initiative)
Purchase New Cameras	\$3,705.90	CCTV Advisors (SBDD Cost)
Install Additional Ladder	\$2,450.00	Skyline Steel (SBDD initiative)
Install support columns	\$1,950.00	Skyline Steel (SBDD initiative)
Purchase New Air Compressor	\$2,195.00	Hollywood Compressor Service (SBDD Cost)
Misc	\$650.08	Pavers for Temp Dumpster pad (\$333.06); network switch for new cameras (\$317.02); (SBDD Costs)
Architectural Services	\$43,950.00	CPZ Architects (7.5% of Bid Price; SBDD provided the Civil Drawings)
Permitting	\$16,068.78	SBDD Cost
Total	\$686,646.17	
Less Deduct For Contract Delay (Liquidated Damages)	-\$12,500.00	
Adjusted Total	\$674,146.17	

SUMMARY

Project Budget from 2017	\$645,950.00	Estimate did not include alternate bid items (\$29,100), cameras (\$7,305.90), security system (\$675), ladder (\$2,450), columns (\$1,950), air compressor (\$2,195), or misc items (\$650.08)
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Difference Between 2017 Budget and Adjusted Total	\$28,196.17	4.37%
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Difference Without Additional Building Items (\$44,325.98)	-\$16,129.81	-2.50%
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Republic Construction Corp Contract

Bid Price	\$586,100.00	
Change Order No. 1	<u>\$5,558.00</u>	0.95%
Sub-Total	\$591,658.00	

Less Deduct For Contract Delay (Liquidated Damages)	-\$12,500.00	
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Final Contract Amount	\$579,158.00	-1.18%
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SBDD Costs

	<u>Org Budget Est</u>	<u>Actual Costs</u>
Site Work	\$20,000.00	\$19,743.41
Permitting	\$25,000.00	\$16,068.78
Architectural Services	<u>\$43,950.00</u>	<u>\$43,950.00</u>
Sub-total	\$88,950.00	\$79,762.19

Additional Building Items Not Included in Contract or Budget Estimate

Purchase of New Cameras	\$3,705.90
Installation of New Cameras	\$3,600.00
Installation of New Security System	\$675.00
Fabrication & Installation of Additional Ladder	\$2,450.00
Fabrication & Installation of Support Columns	\$1,950.00
Purchase New Air Compressor	\$2,195.00
Misc	<u>\$650.08</u>
Sub-Total	\$15,225.98

Contract Status

Final Contract Amount	\$579,158.00
Payments to Date	\$503,876.25
Final Payment	\$75,281.75

MEMORANDUM

DATE: June 21, 2108
TO: South Broward Drainage District Commissioners
FROM: Kevin M. Hart, P.E.
District Director
Subject: Request to Purchase New Vehicle

Comments:

SBDD staff has researched pricing for the purchase of a new vehicle to replace one of the District's existing vehicles.

This is a request to purchase a new 2018 Ford Escape. The lowest price available for the purchase of a new 2018 Ford Escape is through the Florida Sheriff's Association Contract in the amount of \$18,598.00. The Florida Sheriff's Association Contract was awarded through a publically advertised, competitive bid process and therefore, the purchase of a vehicle through this contract does not require SBDD to publically advertise for bids.

SBDD has researched other pricing options for a comparable 2018 Ford Escape, and determined that the pricing through the Florida Sheriff's Association Contract is the most economical option. Informal pricing obtained from other local car/truck dealers exceeded \$24,500 in price.

I am requesting approval for the District to purchase a 2018 Ford Escape from Prestige Ford of Mt. Dora under the Florida Sheriff's Association Contract in the amount of \$18,598.00.

Financial impacts to this Agenda Item: The purchase of the new vehicle will be funded through the General Operating Account as part of the District's 2017-2018 budget.

This is to request approval for the purchase of a 2018 Ford Escape in the total amount of \$18,598.00. Funding for this project will come from the SBDD General Operating Account as part of the 2017-2018 Budget.

KH
Attachments



**FLORIDA SHERIFFS ASSOCIATION
& FLORIDA ASSOCIATION OF COUNTIES
SMALL SIZE 4-DOOR UTILITY VEHICLES - 4X2
SPECIFICATION #25**

2018 Ford Escape (U0F)

The Ford Escape (U0F) purchased through this contract comes with all the standard equipment as specified by the manufacturer for this model and FSA's base vehicle specification(s) requirements which are included and made a part of this contract's vehicle base price as awarded by specification by zone.

ZONE:	Western	Northern	Central	Southern
BASE PRICE:	\$18,597.00	\$18,845.00	\$18,490.00	\$18,598.00

While the Florida Sheriffs Association and Florida Association of Counties have attempted to identify and include those equipment items most often requested by participating agencies for full size vehicles, we realize equipment needs and preferences are going to vary from agency to agency. In an effort to incorporate flexibility into our program, we have created specific add/delete options which allow the purchaser to tailor the vehicle to their particular wants or needs.

The following equipment delete and add options and their related cost are provided here to assist you in approximating the total cost of the type vehicle(s) you wish to order through this program. Simply deduct the cost of any of the following equipment items you wish deleted from the base unit cost and/or add the cost of any equipment items you wish added to the base unit cost to determine the approximate cost of the type vehicle(s) you wish to order.

NOTE: An official listing of all add/delete options and their prices should be obtained from the appropriate dealer in your zone when preparing your order. Additional add/delete options other than those listed here may be available through the dealers, however, those listed here must be honored by the dealers in your zone at the stated prices.

*****MEMORANDUM*****

DATE: June 25, 2018

TO: South Broward Drainage District Commissioners

FROM: Kevin M. Hart, P.E.
District Director

Subject: SBDD Resolution No. 2018-02 – Authorization for the District Director to Sign Grant Applications and Grant Agreements

Comments:

SBDD Resolution No. 2018-02 is to authorize the District Director to sign grant applications and grant agreements on behalf of the District.

It is not uncommon for SBDD to apply for grants from different federal, state, county, local, or private agencies, including, but not limited to: South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS); Federal Emergency Management Agency (FEMA), State of Florida Division of Emergency Management (FDEM), and Broward County. Typically, the District Director will sign the grant application on behalf of the District; however, certain grant applications may require “Proof of Authorization Authority” for the District Director to sign. Resolution 2018-02 will provide this authorization.

Also, some grants may be accompanied by a grant agreement that is prepared after the grant is awarded. As with the grant application, the District Director would typically sign such agreements on behalf of the District. SBDD Resolution No. 2018-02 will provide “Proof of Authorization Authority” for the District Director to sign these agreements as well, if required.

Financial Impacts to this Agenda item: None at this time; any cost sharing associated with grant applications will require prior SBDD Board approval, either as part of the District’s 5-year Capital Improvement Plan (CIP) or by separate Board approval.

This is to request approval of SBDD Resolution No. 2018-02 authorizing the District Director to sign grant applications and grant agreements on behalf of the District.

KH
Attachments

**SOUTH BROWARD DRAINAGE DISTRICT
RESOLUTION No. 2018-02**

RESOLUTION OF THE SOUTH BROWARD DRAINAGE DISTRICT
AUTHORIZING THE DISTRICT DIRECTOR TO SIGN GRANT
APPLICATIONS AND GRANT AGREEMENTS ON BEHALF OF THE
DISTRICT; PROVIDING FOR SEVERABILITY AND PROVIDING AN
EFFECTIVE DATE.

WHEREAS, the South Broward Drainage District, a political subdivision of the State of Florida, and an independent water management district hereinafter referred to as "District", is charged with the responsibility of effecting drainage and water management within its geographical boundaries; and

WHEREAS, the District is the largest single-purpose drainage district in Broward County with a geographical area of approximately 72 square miles; and

WHEREAS, the District is committed to protecting its residents and properties against flooding, improving water quality, and providing effective water management for southwest Broward County; and

WHEREAS, from time-to-time the District may apply for grant funding from different federal, state, county, local, or private agencies, including, but not limited to: South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS); Federal Emergency Management Agency (FEMA), State of Florida Division of Emergency Management (FDEM), and Broward County; and

WHEREAS, if grant funding is approved, the District may be required to enter into certain Grant Agreements; and

WHEREAS, it is the desire of the District's Board of Commissioners to authorize the District Director to sign grant applications and to sign associated grant agreements on behalf of the District; and

WHEREAS, a public hearing was held at the offices of the South Broward Drainage District located at 6591 S.W. 160th Avenue, Southwest Ranches, Florida 33331 at 8:00 A.M. on Thursday, the 28th day of June, 2018 for the purpose of authorizing the District Director to sign grant applications and to sign associated grant agreements on behalf the District;

NOW, THEREFORE, be it resolved by the Board of Commissioners of the South Broward Drainage District in meeting assembled that:

1. The foregoing statements are true and correct and are incorporated herein by reference as if fully stated herein.

2. The District Director is hereby authorized to sign grant applications and to sign associated grant agreements on behalf of the District.

3. The authorization for the District Director to sign grant applications and to sign associated grant agreements shall apply, but not be limited to, the following agencies: South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS); Federal Emergency Management Agency (FEMA), State of Florida Division of Emergency Management (FDEM), and Broward County.

4. If any one or more of the covenants, agreements or provisions of this Resolution shall be held contrary to any express provision of law or contrary to the policy of express law, though not expressly prohibited, or against public policy, or shall for any reason whatsoever be held invalid, then such covenants, agreements or provisions shall be null and void and shall be separate from the remaining covenants, agreements or provisions and shall in no way affect the validity of all other provisions of this Resolution.

5. This Resolution shall take effect immediately upon its adoption.

IN WITNESS WHEREOF, the Chairperson of the Board of Commissioners of the SOUTH BROWARD DRAINAGE DISTRICT has hereunto set his hand and the Secretary of the Board of Commissioners of the SOUTH BROWARD DRAINAGE DISTRICT has caused to be set its seal.

ADOPTED AND DATED the _____ day of _____, 2018.
SOUTH BROWARD DRAINAGE DISTRICT

(SEAL)

By: _____
Scott Hodges, Chairperson

Attest:

Robert E. Goggin, IV, Secretary

STATE OF FLORIDA)
)§
COUNTY OF BROWARD)

The foregoing Resolution No. 2018-02 was acknowledged before me this ____ day of _____, 2018 by SCOTT HODGES and ROBERT E. GOGGIN, IV, as Chairperson and Secretary, respectively of the SOUTH BROWARD DRAINAGE DISTRICT, a political subdivision of the State of Florida, on behalf of SOUTH BROWARD DRAINAGE DISTRICT. They are personally known to me.

WITNESS my hand and official seal in the county and state last aforesaid this _____ day of June, 2018.

(NOTARY SEAL OR STAMP)

↓

Notary Public - State of Florida at Large

South Broward Drainage District
Comparative Statement of Revenues and Expenses
General Fund (Budgetary Basis)

	<u>Oct '17 - May 18</u>	<u>Annual Budget</u>
Ordinary Income/Expense		
Income		
1402 · Maintenance	3,489,356.82	3,562,677.30
1404 · Permit Fees	76,039.00	45,000.00
1405 · 5 Year Recertification Program	58,797.00	35,000.00
1406 · Residential and Lot Permit Fees	23,863.50	25,000.00
1407 · Telecommunications Annual Fee	3,500.00	3,500.00
1408 · Appropriation of Fund Balance	0.00	114,169.15
1410 · Interest Income	11,197.17	6,500.00
1416 · Miscellaneous Income	18,400.37	1,000.00
Total Income	3,681,153.86	3,792,846.45
Expense		
1412 · South Broward Collection Fee	66,886.20	71,253.55
1414 · Discounts (Early Tax Payments)	127,887.31	128,256.38
1501 · Administrative - Office	243,593.08	354,311.36
1503 · Board of Supervisors	24,750.00	37,800.00
1505 · Field Operations	308,318.90	488,101.12
1506 · Inspectors/Project Coord.	179,658.99	261,797.12
1507 · Payroll Taxes - FICA	59,125.56	92,236.24
1509 · Pension	75,993.47	120,940.68
1513 · Payroll Other	60,814.34	65,000.00
1520 · Accounting Fees	22,500.00	25,000.00
1535 · Engineer/Consult Fees/Spec Proj	9,921.25	30,000.00
1540 · Legal Fees	19,466.65	60,000.00
1543 · Legal Fees Special Proj.	0.00	25,000.00
1544 · Other Expense	32.96	1,000.00
1550 · Commercial Property Package	30,794.00	32,800.00
1555 · General/Hazard Liability	30,884.84	34,000.00
1560 · Group Health, Life & Dental	190,715.80	395,000.00
1570 · Workers Compensation	24,531.00	25,000.00
1575 · Advertising	2,686.65	6,500.00
1585 · Computer Supplies - Upgrades	4,647.65	10,000.00
1590 · Dues & Subscriptions	4,505.00	5,800.00
1600 · FPL - Electric	8,481.59	13,000.00
1603 · Gas (LP) Auxiliary Power	650.98	5,000.00
1605 · Janitorial Service	1,192.00	2,000.00
1610 · Licenses & Fees	187.75	1,100.00
1615 · Maintenance Contracts	5,849.86	10,200.00
1620 · Uniforms	1,973.99	2,800.00
1625 · Office Supplies - Postage	1,916.90	5,000.00
1630 · Payroll Service	2,178.13	3,800.00
1635 · Printing - Stationary	778.30	1,800.00
1640 · Public Records Storage/Filing	9,316.00	35,000.00
1645 · Telephone - Misc. Communication	9,204.26	15,000.00

South Broward Drainage District
Comparative Statement of Revenues and Expenses
General Fund (Budgetary Basis)

	<u>Oct '17 - May 18</u>	<u>Annual Budget</u>
1650 · Water & Sewer	1,491.57	2,100.00
1655 · Buildings & Grounds	101,581.11	112,000.00
1660 · Equipment Rental/Outside Svcs.	668.08	6,000.00
1665 · Equip/Vehic/Boats/Hvy Equip	22,275.45	35,000.00
1670 · Fuel/Oil/Lubric. (Pump Stat)	22,754.26	50,000.00
1675 · Fuel/Oil/Lubric. (Vehic/Equip)	25,915.72	40,000.00
1677 · Hazardous Mat./Spill Cont.	0.00	5,000.00
1680 · Janitorial Supplies - Carp. Clg	0.00	1,000.00
1683 · Hurricane Preparedness Supp.	14.95	1,500.00
1685 · Landscaping & Mowing	19,519.60	35,000.00
1690 · Photography - VCR Equip. & Phot	88.00	250.00
1695 · Pump Stations - Flood Gates	17,880.48	70,000.00
1700 · Safety/SCUBA - Inspect Equip.	1,331.35	3,000.00
1705 · Sanitat. - Exterminating Serv.	14,198.01	12,000.00
1710 · Small Tools - Shop Supplies	4,187.69	9,000.00
1715 · Water Recorder/Elev Gge/Telemetry	33.84	8,000.00
1720 · CanaL/Swale Cleaning/Renovation	7,978.62	30,000.00
1725 · Culvert Cleaning/Inspection	11,900.00	50,000.00
1730 · Culvert Repair - Flapper Gates	0.00	40,000.00
1735 · Endwall Repair - Replace./Upgrd	0.00	5,000.00
1740 · Erosion Control	15,241.75	25,000.00
1745 · Gates/Barrier/Fence/Ramp/Sign	1,593.85	5,000.00
1747 · Outfall Structures	6,797.00	2,000.00
1750 · Trash Rack/Piling/Tank Upgr.	10,620.48	10,000.00
1755 · Tree Removal	0.00	40,000.00
1765 · Herbicides	97,268.69	330,000.00
1770 · Triploid Carp/Fsh Guards/Maint	16,875.00	25,000.00
1775 · Water Testing	1,530.00	8,000.00
1780 · Seminars/Meetings/Conferences	6,081.09	8,500.00
1785 · Equip./Vehicle Replace./Upgrd	23,248.00	50,000.00
1795 · Capital Improvements	381,410.95	400,000.00
1797 · Contingency/Misc Expense	0.00	10,000.00
Total Expense	<u>2,341,928.95</u>	<u>3,792,846.45</u>

SOUTH BROWARD DRAINAGE DISTRICT
SUMMARY OF DISTRICT FUNDS
June 19, 2018

SBDD ASSET ACCOUNTS

Fund	Cash on Hand	Subtotals	Institution	Investment Accounts	Fund Totals
UNASSIGNED					
General	\$2,224,088	\$2,224,088	Suntrust AdvantageNow	\$114,883 CD-Bank United	\$2,338,971
Payroll	\$44,395	\$44,395	Suntrust		\$44,395
COMMITTED					
Capital Improvements	\$627,438	\$627,438	Suntrust Reserve	\$81,569 CD-Bank United	\$1,388,507
				\$247,500 CD-Legacy Bank	
				\$184,500 CD-TD Bank	
				\$247,500 CD-FL Community	
Emergency	\$2,707,290	\$2,707,290	Suntrust Reserve		\$2,707,290
Separation	\$160,668	\$160,668	Suntrust Reserve	\$51,048 CD-Bank United	\$274,716
				\$63,000 CD-TD Bank	
Totals	\$5,763,879	\$5,763,879		\$990,000	\$6,753,879

SBDD LIABILITY ACCOUNT

Fund	Cash on Hand	Subtotals	Institution	Investment Accounts	Fund Totals
As-Built	\$204,040	\$204,040	Suntrust Paying		\$204,040
Total	\$204,040	\$204,040			
FUND TOTALS					\$6,957,919

SBDD INVESTMENT SUMMARY

Investment	Recommendation	Investment Amount	Interest Rate	Issue Date	Maturity Date
Legacy Bank		\$247,500	1.50%	11/28/2017	12/28/2018
Bank United		\$247,500	1.55%	11/30/2017	12/30/2018
TD Bank		\$247,500	1.73%	2/22/2018	2/22/2019
FL Community Bank		\$247,500	1.87%	2/25/2018	2/25/2019
TOTAL OF INVESTMENTS		\$990,000			

Dec-18	Feb-19
\$495,000	\$495,000

DOUGLAS R. BELL
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CUMBERLAND BUILDING, SUITE 505
800 E BROWARD BOULEVARD
FORT LAUDERDALE, FLORIDA 33301
(954) 524-8526

June 21, 2018

South Broward Drainage District
6591 Southwest 160th Avenue
Southwest Ranches, Florida 33331

INVOICE

Legal services rendered on behalf of South Broward Drainage District from May 22, 2018 through June 19, 2018:

1. Coordination regarding Maintenance Building Improvements/Change Orders:
Attorney's Fees: 5 hrs. 50 min. @ \$250.00/hr. = \$ 1,458.33

2. Coordination regarding Sunshine Law Applicability to Maintenance Building Dedication:
Attorney's Fees: 1 hr. 30 min. @ \$250.00/hr. = \$ 375.00
Paralegal Fees: 45 minutes @ \$100.00/hr. = \$ 75.00

TOTAL DUE THIS INVOICE: \$ 1,908.33

DOUGLAS R. BELL
ATTORNEY AT LAW
CUMBERLAND BUILDING, SUITE 505
800 E BROWARD BOULEVARD
FORT LAUDERDALE, FLORIDA 33301
(954) 524-8526

June 20, 2018

South Broward Drainage District
6591 Southwest 160th Avenue
Southwest Ranches, Florida 33331

I N V O I C E

LEGAL SERVICES REIMBURSABLE FROM PROPERTY OWNERS:

Legal services rendered on behalf of South Broward Drainage District from May 22, 2018 through June 19, 2018:

1. Coordination regarding SW Broward Theaters Lake Vacation/Sale:

Attorney's Fees:	4 hrs. 50 min.	@ \$250.00/hr.	= \$ 1,208.33
Paralegal Fees:	3 hrs. 30 min.	@ \$100.00/hr.	= \$ 350.00

2. Coordination regarding Tuscan Isles Plat:

Attorney's Fees:	15 minutes	@ \$250.00/hr.	= \$ 62.50
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TOTAL DUE THIS INVOICE: \$ 1,620.83