ORIGINAL

SOUTH FLORIDA WATER MANAGEMENT DISTRICT AMENDMENT

4600002248-A01

AMENDMENT NO. 1

TO AGREEMENT NO. 4600002248

BETWEEN THE

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

AND

NATIONAL PARK SERVICE – BIG CYPRESS NATIONAL PRESERVE

This **AMENDMENT NO. 1** is entered into on DEC 04 2014 to that **AGREEMENT** dated January 5, 2011, between "the Parties," the South Florida Water Management District (**DISTRICT**), and National Park Service – Big Cypress National Preserve (**NPS-BICY**).

WITNESSETH THAT:

WHEREAS, the **AGREEMENT** may be amended with the prior written approval of the Parties; and

WHEREAS, the **AGREEMENT** is for the purpose of hydrologic and water quality monitoring and

WHEREAS, the **DISTRICT** has monitoring sites near and within the Big Cypress National Preserve and wishes to maintain such sites; and

WHEREAS, the Parties wish to amend the **AGREEMENT** in order to extend the period of performance and revise the Statement of Work of the **AGREEMENT**;

NOW THEREFORE, the **DISTRICT** and the **NPS-BICY**, in consideration of the mutual benefits flowing from each to the other, do hereby agree as follows:

1. This **AMENDMENT NO. 1** shall be effective upon the date of execution by the Parties.
2. This **AMENDMENT NO.** 1 shall be at no additional cost to the Parties.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT AMENDMENT

3. The Statement of Work, attached as Exhibit "A" to the **AGREEMENT**, is hereby replaced with the attached Exhibit "A-1", revised Statement of Work.

4. **NPS-BICY** shall grant the **DISTRICT** and its contractors access to the Big Cypress National Preserve for the purpose of installing, maintaining, replacing, and/or rebuilding monitoring sites as needed.

5. The Contract Specialist for the **DISTRICT** is amended to be Antonio Pucci, located at 3301 Gun Club Road, West Palm Beach, FL 33406, telephone (561) 692-6373.

6. All other terms and conditions of the **AGREEMENT** remain unchanged.

IN WITNESS WHEREOF, the Parties or their duly authorized representatives hereby execute this **AMENDMENT NO. 1** on the date first written above.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

By: _____
Dorothy A. Bradshaw, Procurement Bureau Chief

SFWMD PROCUREMENT APPROVED
BY: _____
DATE: 12-3-14

NATIONAL PARK SERVICE – BIG CYPRESS NATIONAL PRESERVE

By: _____

Title: Dept. Supt

EXHIBIT "A-1"
STATEMENT OF WORK

HYDROLOGIC AND WATER QUALITY DATA COLLECTION IN BIG CYPRESS NATIONAL PRESERVE

1.0 INTRODUCTION

The South Florida Water Management District (District) and Big Cypress National Preserve (BICY) entered into a cooperative agreement in 1990 as a vehicle to collect hydrologic and water quality data within BICY. This partnership was established to share the costs and responsibilities of monitoring across both agencies in accordance with each agency's strengths to provide a long-term hydrologic and water quality baseline.

The District brings to the partnership the hydrologic and water quality monitoring expertise of its staff, station equipment costs, water quality analysis, quality control and database archival of data. BICY provides institutional knowledge of the local ecosystem, use of their helicopter, sample collection staff, and station maintenance. The data collected for this project are used to track hydrologic conditions in the eastern Big Cypress and western Everglades areas relative to historic records, upstream water management operations, and long-term restoration projects within the greater Everglades ecosystem.

The project was initiated in 1990 with a network of 14 continuous-stage hydrostations, ten (10) of which were sampled bi-monthly for water quality. Additional agreements between the District and BICY have been subsequently executed to modify, expand, and/or continue the project's objectives. The network now includes 24 continuous-stage hydrostations (Table 1): ten (10) with associated rain gages and two (2) with associated water quality parameters sampled (project BCWQ).

This agreement continues the cooperative monitoring effort in the BICY. Aspects of this multi-year, adaptive statement of work may be modified by mutual agreement as a result of data evaluations. In-kind District services are subject to availability of funds pending yearly budget approval by the District's Governing Board.

2.0 SCOPE OF WORK

This Statement of Work (SOW) outlines agency-specific responsibilities necessary for continuing hydrologic and water quality monitoring of surface waters in Big Cypress National Preserve.

BICY shall furnish staff who will (1) deploy and maintain instruments designed to measure and collect "continuous" hydrologic and rainfall data from the stations listed in Table 1; (2) collect water quality samples (Figure 1) for the parameters and physio-chemical data (specified in Table 3); (3) preserve and process water quality samples in the BICY wet lab; (4) ship samples overnight to the District's Laboratory for analytical analysis; (5) provide helicopter and/or ground transport transportation for data collection

and station maintenance for all stations; and (6) write summary reports assessing the data on an intermittent (e.g., five [5] year) basis.

The District will (1) process and verify hydrologic and water quality data in an electronic format; (2) provide equipment and technical support for maintaining hydrologic, electronic, and telemetric equipment at the stations; (3) provide a multi-parameter sonde for the collection of *in situ* field physio-chemical water quality parameters; (4) provide analytical laboratory services as specified in Table 3; and (5) make data available through relevant data bases (e.g. DBHYDRO) for data exchange between the two (2) agencies.

3.0 WORK BREAKDOWN STRUCTURE

3.1 BICY shall collect hydrologic and water quality data from the monitoring network locations and frequencies shown in Table 1. Water level and rainfall data shall be transmitted telemetrically to the District at regular intervals year round. BICY staff shall field verify integrity of telemetrically transmitted data at a minimum of four (4) times per year, and more often when problems occur at individual stations. For the BCWQ project, BICY shall collect water quality samples monthly over a six (6) month period each year beginning in June or July. BICY shall notify the District of the scheduled collection dates prior to each month's sampling for BCWQ.

3.2 BICY shall perform pre- and post-calibration of the multi-parameter sonde and prepare for the sampling events prior to the scheduled collection dates. BICY shall provide maintenance to the multi-parameter sonde with technical assistance provided by the District. BICY shall report any malfunctioning equipment to the District immediately.

3.3 BICY shall collect water quality samples and perform field analysis and produce all associated QA/QC at the stations according to the District's Field Sampling Quality Manual (FSQM). The District will audit the collection of samples on an annual or as needed basis. As part of the audit, a report will be generated by the District and sent to BICY highlighting any deficiencies and corrective actions. BICY shall respond and correct any highlighted deficiencies within 30 calendar days of receipt of the report. If a corrective action plan is required, the District will provide a response to BICY within seven (7) calendar days of receiving the plan. The District will provide technical time and equipment requisite for collecting, transmitting, verifying, and archiving data collected at designated station locations.

3.4 The District will provide laboratory analysis for the water quality samples collected by BICY as specified in Table 3. The District will archive the data in DBHYDRO and will make the data accessible to BICY.

3.5 BICY shall provide helicopter and/or ground transport transportation to support all sample/data collection and/or maintenance trips for the monitoring network.

3.6 BICY shall ship all water quality samples to the District on the same day as collection; all shipping costs will be assumed by the District. BICY shall ship associated original Prelogin Summary and Field Test Reports, and a copy of the field

notes with shipped samples. BICY staff shall also forward an electronic copy of the Prelogin Summary and Field Test Reports and provide the original field notes to appropriate District staff as defined by the District Project Manager.

3.7 BICY shall notify the District's Laboratory in advance of the projected sample delivery dates.

3.8 BICY shall notify the District immediately of changes in staff personnel associated with this project. BICY must provide the District with documentation certifying replacement personnel have been trained.

4.0 LOCATION OF THE PROJECT

All data collection shall take place in Big Cypress National Preserve. BICY shall maintain a District-approved sample preparation area at the Big Cypress National Preserve. Samples will be analyzed by the District at the District laboratory: 8894 Belvedere Road, Building 374, West Palm Beach, FL 33411.

5.0 TIME SCHEDULE

BICY shall collect hydrologic and water quality data at designated locations and frequencies as specified in Tables 1- 3. Sampling typically begins in June or July for project BCWQ to capture the first flush of the wet season, and then continues for five (5) more months.

6.0 DELIVERABLE

6.1 BICY shall submit samples and collect data per scope, and maintain operation of the hydrostations in accordance to District standards and as specified in the FSQM.

Table 1. GPS Coordinates for the SFWMD telemetry sites within BICY

Stations	Name	Lat†	Lon†
BCA1	North Bear Island	26 14 54.308	-81 17 42.611
BCA2	East Hinson Marsh	26 11 45.443	-81 17 19.228
BCA3	East Crossing Strand	26 09 35.985	-81 13 34.650
BCA4*	Monument Road	25 57 26.615	-81 06 13.349
BCA5	Raccoon Point	25 58 08.929	-80 55 34.219
BCA9*	Pinecrest	25 46 42.179	-80 54 44.282
BCA10*	Gum Slough	25 42 48.549	-81 01 18.940
BCA11	Sweetwater Strand	25 47 20.439	-81 06 00.956
BCA12	Kissimmee Billy Strand	26 12 19.577	-81 04 28.287
BCA13	Mullet Slough	26 05 53.330	-81 03 23.488
BCA14*	Deep Lake Strand	26 02 39.638	-81 17 59.268
BCA15*	Aqua House	26 02 22.168	-81 01 37.977
BCA16*	West Mud Lake	26 03 23.939	-81 09 21.238
BCA17*	Little Marsh	26 12 17.719	-81 10 06.246
BCA18*	Cowbell Strand	26 12 14.136	-80 58 36.622
BCA19*	Gator Hook Strand	25 47 33.967	-81 12 08.750
BCA20*	Lime Tree Hammock	25 41 49.471	-80 55 39.547
BICY	BICY Groundwater Well	25 53 37.049	-81 18 33.077
BARW6A	Barron River Weir #6A	26 03 04.286	-81 20 40.702
BARW4	Barron River Weir #4	25 59 41.567	-81 20 49.250
L28GAP	Levee 28 Stage Recorder	26 07 26.321	-80 59 02.349
LOOP1	Loop Rd. Culvert 1	25 45 40.369	-80 54 28.238
LOOP2	Loop Rd. Culvert 2	25 44 48.145	-80 57 14.352
OKAL29	SR29 @ OK Slough	26 12 18.125	-81 20 45.220

t Coordinates reported in degrees, minutes, and seconds

* Stations with Rain Gauges

Table 2. Project BCWQ Surface Water Samples During the Wet Season

Stations	Name	Lat†	Lon†
BCWQB1	Bear Island Loop – On Bear Island Grade 3.7 miles E of SR29	26 13 5.550	-81 17 33.310
BCWQB2	Bear Island Loop – On Perocchi Grade Road at East Hinson Marsh, 2.4 miles SE of BCWQB1	26 11 50.520	-81 16 1.760
BCWQB3	Bear Island Loop – BR030169, On Turner River Road, 1.7 miles S of BCWQB2	26 10 19.860	-81 16 00.510
BCWQB4	Bear Island Loop – On Turner River Road at Fire Prairie trail; 5.3 miles south of BCWQB3	26 05 44.770	-81 15 54.220
BCWQB5	Bear Island Loop – BR030166, At corner of Wagon Wheel and Turner River Roads	25 59 40.290	-81 15 45.700
BCWQB6	Bear Island Loop – On Turner River Road at Turner River Headwaters, 0.9 mile N of US 41	25 54 01.292	-81 15 43.149
BCWQB7	Bear Island Loop – at H.P. Williams Wayside Park at intersection of Turner River Road and US 41	25 53 15.530	-81 15 42.772
BCWQB8	Bear Island Loop – BCA8; on US 41 at Turner River	25 53 27.338	-81 16 10.986
BCWQL1	Loop Road – Loop 1; 5 miles W of 40 Mile bend (i.e., east intersection of Loop Road and US 41)	25 45 40.530	-80 54 28.150
BCWQL2	Loop Road – Loop 2; Crooked Culvert – Culvert 46; 3.6 miles from BCWQL1, 8.3 miles W of 40 Mile Bend	25 44 47.740	-80 57 14.030
BCWQL3	Loop Road – Bridge 37; 1 mile from BCWQL2, 9.3 miles W of 40 Mile Bend	25 45 2.360	-80 57 59.180
BCWQL4	Loop Road – Bridge 32N; 2 miles from BCWQL3, 11.3 miles W of 40 Mile Bend	25 45 37.800	-80 59 46.510
BCWQL5	Loop Road – Bridge 29; 3.25 miles from BCWQL4, 14.55 miles W of 40 Mile Bend	25 45 36.990	-80 2 53.890
BCWQL6	Loop Road – Bridge 6 near BCA11; Sweetwater Strand; 5 miles S from Monroe Station; 4 miles from BCWQL5, 19.55 miles W of 40 Mile Bend	25 47 19.000	-81 5 59.670

† Coordinates reported in degrees, minutes, and seconds

Table 3. Project BCWQ Parameters and Sampling Frequency for Surface Water

Stations	Parameters	
	Monthly	Annually
ALL STATIONS	Alkalinity (ALKA), Ammonia (NH4), Calcium (CA), Chloride (CL), Magnesium (Mg), Nitrite (NO2), Potassium (K), Sodium (Na), Orthophosphorus (OPO4), Silica (SiO2), Sulfate (SO4), Total Dissolved Solids (TDS), Total Nitrogen (TN), Total Phosphorus (TPO4), pH, Dissolved Oxygen (DO), Specific conductance (SCOND), Temperature (TEMP)	Total Zinc (TOTZN), Total Copper (TOTCU)

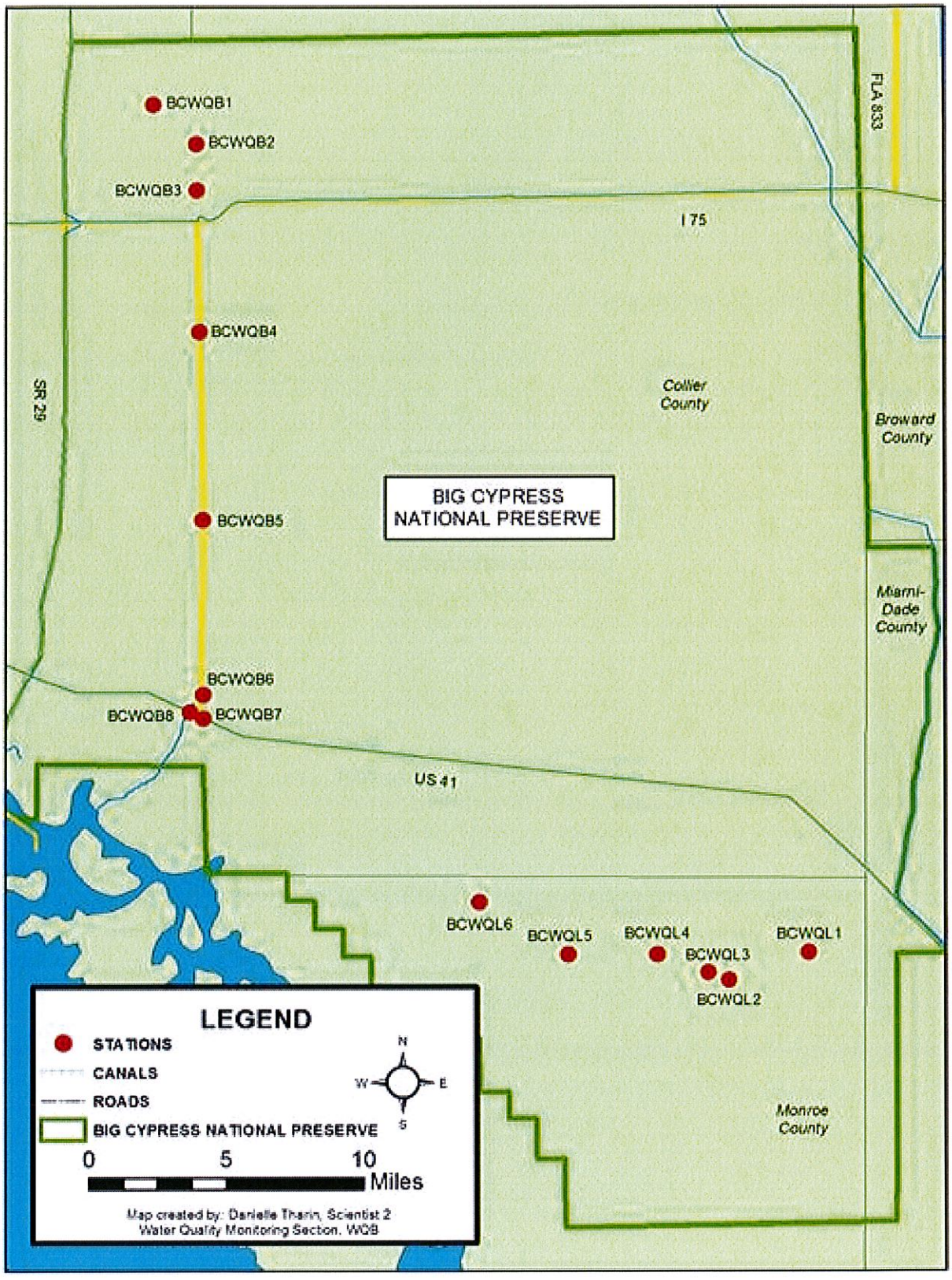

Figure 1. Water quality monitoring stations within BICY.