



## PUBLIC FACILITIES REPORT

Ranger Drainage District  
19950 Nugent Street  
Orlando, Florida 32833  
(407) 568-5502

September 2017  
Revised October 2017

*Prepared by:*  
**Wohlfarth Consulting Group, LLC**  
246 N. Westmonte Drive  
Altamonte Springs, Florida 32714  
(407) 750-3123



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This report was prepared at the request of the Ranger Drainage District Board of Supervisors for submittal to Orange County as required by Section 189.415(2), Florida Statutes.

## I. GENERAL INFORMATION

### A. *Introduction*

The Ranger Drainage District was created by Legislative Act on June 11, 1970, as recorded in O.R. 1953, page 918, Public Records of Orange County, Florida, with legal authority as established by Chapter 298 of the Florida Statutes. The purpose of this District is to reclaim and protect the lands within its boundaries by means of the construction and maintenance of a system of canals, ditches, swales, lakes, storm sewers and control structures in accordance with a Plan of reclamation. The Plan of Reclamation (P.O.R.) developed by the District was approved by the Circuit Court on March 10, 1971.

The District's maintenance and single-story office facility of 4,938 sq. ft. was opened November 1994 and is located at 19950 Nugent Street, Orlando, FL 32833. A single-story metal building approximately 4,200 square feet was completed June 2017. The building is adjacent to the District headquarters and is used for storage of maintenance vehicles and equipment.

### B. *District Boundary*

The Ranger Drainage District encompasses approximately 9,900 acres in the unincorporated area of East Orange County lying north of State Road 528 and west of State Road 520. The legal boundary of the District is describe as follows:

The South ½ of Section 1, less that part lying East of the West right-of-way line of State Road No. 520; the South ½ of Section 2; the East 3/8 of Section 10; Sections 11, 12, 13, 14, 19, 23, 24, 25, 26, 27, 28, 29, 30, and 31; all lying in Township 23 South, Range 32 East, Orange County, Florida.

Approximately 6,642 acres of the District lies east of the Econlockhatchee River and is serviced by an existing network of paved roads, utilities and District drainage facilities. This portion of the District consists primarily of residential lots platted in the early 1960's and range in size from 0.25 to 10 acres. Approximately 50% of this area is fully developed.

The remaining 3,258 acres lying west of the east bank of the Econlockhatchee River are partially developed and do not contain facilities owned and/or operated by the District. No District facilities are planned for this area within the foreseeable future (see attached exhibits).

### C. *Physical and Environmental Conditions*

Lands within the District are primarily pine flatwoods interspersed with isolated cypress domes and wetlands. Soils are poorly drained with a wet season water table between 6" and 8" below ground level. Rainfall is assumed to be typical to that of Orange County. District records of the past 10 years indicated an average yearly rainfall of 42.65 inches. See attached Exhibit D – Rainfall Data Ranger Drainage District – 2002 through July 2017.

Most rural lots are being developed such that cleared areas are limited to the immediate home site. Based on this development trend, the percentage of rural platted lots and local, state and federal regulations, it is estimated that at least 50% of the District lands east of the Econlockhatchee River will remain in its natural condition.

### D. *District Works*

The initial design and construction of District works to service those lands east of the Econlockhatchee River in accordance with the Plan of Reclamation began in 1974 and was substantially completed in 1978. A general description of the P.O.R. is as follows:

Surface runoff is collected by a tertiary drainage system consisting of roadside swales and culvert systems and is conveyed to secondary canals and artificial lakes. The secondary canals and lakes convey the runoff to primary canals with controlled discharge by overland flow to the Econlockhatchee River using multiple control structures. The tertiary and secondary drainage system were designed for a 10 year storm event. The primary drainage system was designed for a 25 year event. The location of primary and secondary canals, lakes, primary canal control structures are shown on the District map included with this report. Section details of the primary and secondary canals, roadside swales, and control structures are also included with this report.

Completed under the Plan of Reclamation were 17 miles of primary canals, 28.8 miles of secondary canals, 73 miles of roadside swales, 4 miles of curb and gutter, 33 primary canal control structures, several hundred culvert installations, and the excavation of 5 artificial lakes; Lake Davis, Lake Suzanne, Jennifer, Dallas and Nettleton.

A culvert system, canal and Mallard Lake serving the South ½ of Sections 1 and 2 in Township 23 – Range 32E was in place prior to the creation of the District.

### E. *Permits*

The drainage system was permitted with the St. Johns River Water Management District (SJRWMD) on March 27, 1981 per Permit No. 4031778784.

This permit required several improvements over and above the requirement of the P.O.R., many of which are linked to specific percentages of build-out and have been constructed. Additional SJRWMD permits for past modifications to the system include 4-095-003, 4-095-003M2 and 4-095-003AM. In July 2011 the Operating Permit No. was updated to 4-095-19883-1.

It was recognized that an aging system required significant drainage improvements to alleviate flooding and improve the safety and property values. Following the flooding caused by Hurricane Charlie in 2005, the District applied for an \$800,000 grant from FEMA. In December 2007, the District received the first of several Federal Grants through the Hazard Mitigation Program, a federally funded program administered by the State of Florida. Over \$6 million dollars were awarded to the District for drainage improvements.

Through the funding provided by Federal FEMA Grants and supplemented by Ranger Drainage District, major drainage improvements were made from 2007 through official project completion in August 2015.

- Rocket City drainage improvements
- Canals 1 and 2 (aka major structures)
- Canals 3, 5 and 6 structure replacement – slip lining
- Dallas Lake, a buffer that helps mitigation surges in Canal 5's operation, was completed in December 2012.
- Lake Davis, aka Lake 11A, a 9-acre lake to be utilized as a stormwater management facility, was completed in 2015.
- Abalone Blvd. pipe project; relieve drainage problem in the City area to drain water to Canal 6.

In order to expedite the permitting process for the District's on-going maintenance and minor activities, the ACOE issued a 15-year Standard Permit (SAJ-2014-00463 - SP-JCP) to allow two types of maintenance activities. The project site is located north of SR 528, south of SR 520, and east of the Econlockhatchee River in Sections 5-9, 17-18, 19-20, and 28-30, Township 23 South, Range 32 East, Orange County, Florida.

#### Fill Activities within RDD - Type I:

1. Replacement/repair of all existing stormwater drainage structures, such as culverts, catch basins, headwalls, etc.
2. Removal of vegetation (with incidental excavation such as soil attached to root mass) within existing waterways (primary canals, secondary canals, and roadside ditches) and re-contouring to stabilize

the slope with no additional excavation or change in volume of the existing waterway

3. Repair/re-grade eroded banks of existing waterways
4. Placement of Fabriflorm (concrete mat) at severe erosion site to stabilize the banks in waters of the US from future erosion (not to exceed 600 square feet per location).
5. Installation of culverts for temporary crossings to gain access to easements for performing maintenance activities.

Fill Activities within RDD – Type II:

1. Installation of culverts for general driveway crossings (single family homes, etc.) within the right-of-way under the authority of the RDD and meets the following criteria:
  - a. Aquatic resource (surface) water impact area is under 320 square feet (for a single crossing) or 640 feet (for a double driveway or circular drive) measured from ordinary high water line (OHWL) to OHWL, or where an OHWM line is not evident, from top-of-bank (TOB) to TOB.
  - b. There are no other wetlands on site (upland-to-upland crossing required).
  - c. The culvert is installed by the RDD.

*F. Construction Activities*

In July 2017, the District was authorized by SJRWMD to use General Environmental Resource Permit No. 19883-14 to allow improvements to the Wedgefield Golf Course. Drainage improvement activities included installation of a culverted golf cart path over a ditch and construction of a Stormwater Management System.

With the exception of those items specifically mentioned in the preceding paragraphs, no other major construction activities are being planned by the District. However, the District is continuously reexamining its existing drainage system and evaluating the need for additional improvement and modifications.

## II. OPERATIONS

### A. Administration

The Ranger Drainage District is governed by a three-member Board of Supervisors which are landowners within the District. Each supervisor is elected to office for three year term by vote of the landowners within the District. In addition to the elected supervisors, the District employs a chief engineer, attorney, treasurer, general manager, office manager and maintenance staff. As of August 10, 2017, the supervisors and employees of the Ranger Drainage District were:

**SUPERVISORS:**

Mr. David Mauck  
President  
3312 Archer Avenue  
Orlando, FL 32833

Mr. Mike Nolan  
Supervisor  
19401 Quarterly Parkway  
Orlando, FL 32833

Mr. Russell Beyersdorf  
Supervisor  
4443 Bancroft Blvd.  
Orlando, FL 32833

**ENGINEER:**

Mr. Richard C. Wohlfarth, P.E.  
Wohlfarth Consulting Group, LLC  
246 N. Westmonte Drive  
Altamonte Springs, Florida 32714

Mr. Wilson E. Way  
Wohlfarth Consulting Group, LLC  
246 N. Westmonte Drive  
Altamonte Springs, Florida 32714

**ATTORNEY:**

Mr. Terry Lewis  
Lewis, Longman & Walker, P.A.  
515 North Flagler Drive, Suite 1500  
West Palm Beach, FL 33401

**TREASURER:**

Mr. Ajay Agarwal, C.P.A.  
Moore & Company  
2318 E. Atlantic Boulevard  
Pompano Beach, FL 33062

**DISTRICT STAFF**

Ms. Dawn Mullins General Manager	Ms. Wanda Tucker Adm. Clerk
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Mr. Ronald Carver Equipment Operator IV Spray Technician	Ms. Robin Smith Adm. Assistant
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Mr. William Schimansky  
Equipment Operator IV

Mr. Robert Mankovich  
Equipment Operator IV

Mr. Lewis Greathouse  
Equipment Operator III

Mr. Lawrence Stewart  
Equipment Operator IV &  
Shop Maintenance Director

All administrative activities are in accordance with applicable Florida Statutes and the District Rules and Regulations.

***B. Permitting***

All projects within the boundary of the Ranger Drainage District and adjacent areas which use or alter the District's facilities or discharge water into the District's system, regardless of size or location, require review and permitting by the District in accordance with its recorded rules and regulations. Permit forms, application fees and requirements can be obtained from the District office.

***C. Maintenance***

Maintenance of the District facilities is provided by District staff under the direction of the general manager. Maintenance activities include slope mowing and dragline operations for all canals and lakes, mowing of roadside swales, replacement of pipe, inlets and control structures, sweeping of gutter and regarding of swales. Although many of these activities take place within the County road right-of-way, right-of-way utilization permits are not required per agreement between the District and the Orange County Board of Commissioners dated August 22, 1988.

In order to provide the maintenance activities, the District owns and operates its own equipment, including; 2 tractors, 2 bush hog mowers, 2 ditch bank mowers, backhoe, grade-all, 2 dump trucks, 3 pick-up trucks, Echo-Harvester, Spray Boat and miscellaneous support equipment.

An Echo-Harvester was purchased in November 2013; a machine that is used to control aquatic growth in lakes and canals. This environmentally friendly machine 'pulls' the aquatic plants up by the roots and collects the plants in a manner that can be disposed of more easily.

***D. Storm Preparedness and Emergency Response***

The District has a Storm Preparedness Manual that is used to prepare for a major storm; i.e. pump down canal, set up pump, etc., and prepared a set of guidelines to help insure the safety and welfare of the residents of the Ranger Drainage District. This document is available upon request from the District Office.

### III. WATER QUALITY

#### A. Peak Discharge

The Ranger Drainage District is currently involved in an effort to re-model the drainage system for the 2, 10, 25 and 100 year storm events. The Army Corp of Engineers is also reevaluating the flood stage conditions of the Econlockhatchee River for various storm events, the results of which may have a significant impact of the modeling of the District system.

The original stormwater calculations for the Ranger Drainage District were revised by the St. Johns River Water Management District during the permitting process in 1980. The SJRWMD performed routing calculations based on 9.0 inches of rainfall in 24 hours with the results provided herein for the purpose of this report.

CANAL No.	PEAK DISCHARGE (CFS)	TIME (hrs)
1	346.67	13.62
2	107.58	12.60
3	270.43	19.39
4	92.15	17.52
5	693.50	19.71
6	236.02	20.90

Total system peak discharge = 1076 cfs at t=29.0 hrs.

#### B. Volumes

Based on the SJRWMD calculations mentioned previously, the swales and canals of the District provide a total storage capacity of approximately 1,700 ac-ft at peak stage. Wetland and depressional areas provide an additional 1,000 ac-ft of storage capacity. Lake storage, which was not accounted for in the SJRWMD calculations, provides 250 ac-ft. The total storage capacity available for stormwater runoff within the District is approximately 2,950 ac-ft or 5.3 inches at peak stage. The canal, lake and swale areas are short term storage with 95% drawdown occurring within 72 hours of a storm event.

## IV. WATER QUALITY (CONTINUED)

### A. *Testing*

The District has performed water quality testing at all major outfalls to the Econlockhatchee River and at other significant locations within the District on several occasions. The results of this testing indicate that the waters within the District meet or exceed the standards established for Class III waters.

In 2009, the District instituted a continuous surface water testing program to help identify potential sources of pollution for the protection of the residents of the District and the Econlockhatchee River.

Staff gauges and bridges were installed at all major canals and continuous monitoring ensures that the water quality discharge standards are met. Real-time and remote monitoring of water quality is on-going at all locations with information electronically forwarded to the District office. Measurements include temperature, conductivity, turbidity level, canal elevation, and flow of water. A monthly technical report is prepared by Harvey H. Harper, III, PhD., P.E., President of Environmental Research & Design, Inc. (ERD). Monitoring activities adhere to the protocols outlined in the FDEP document titled "Department of Environmental Protection Standard Operating Procedures for Field Activities" dated March 1, 2014. Lab analyses are conducted in the ERD Research Laboratory and comply with the requirements and/or specifications of the NELAC standard and test methods.

### B. *Estimated Pollutant Loadings*

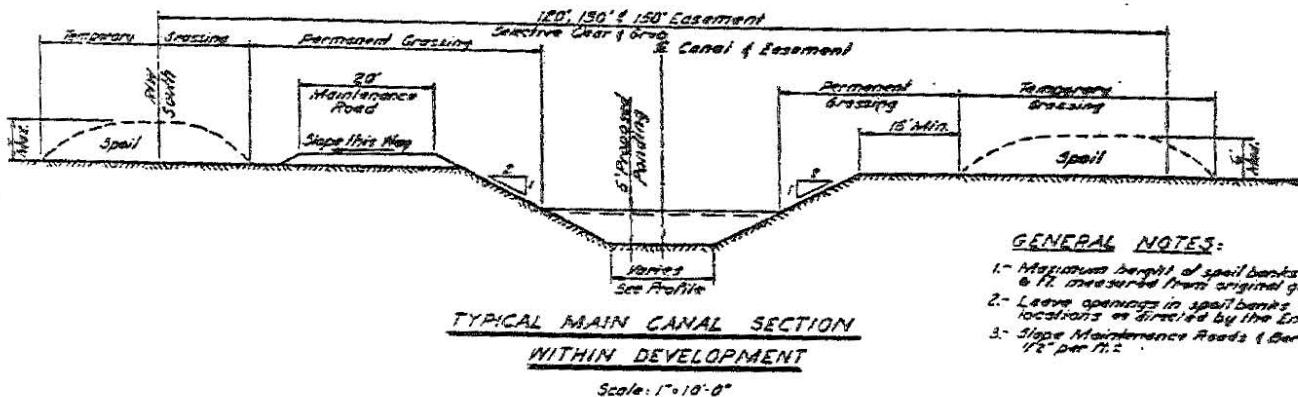
Pollutant loadings from stormwater runoff within the District are assumed to be typical of low density and rural residential areas. Due to the characteristics of the District drainage system, long canals with low velocities and multiple control structures, suspended solids concentrations at the outfalls are negligible. With less than 40% of the District fully developed, loadings for BOD, nitrogen and phosphorous to the canal system are also estimated to be minimal.

## V. EXHIBITS

*Detail – Typical Sections – Pages 10-17*

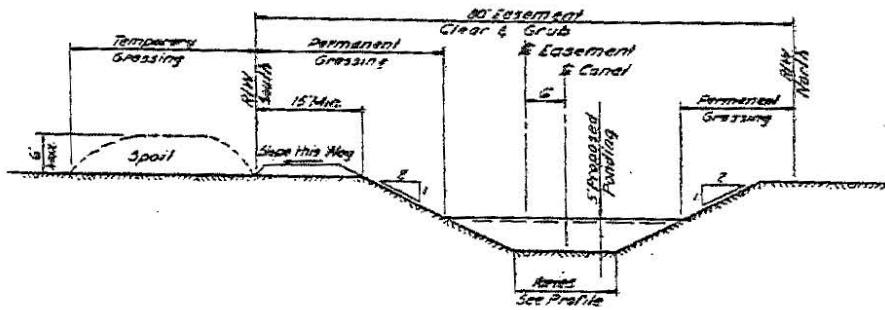
- A. *District Map*
- B. *Sketch and Legal Description – RDD lands east of the Econlockhatchee River*
- C. *Sketch and Legal Description – RDD lands west of the Econlockhatchee River*
- D. *Rainfall Data – Ranger Drainage District*

**TYPICAL SECTIONS  
CANALS AND STRUCTURES**

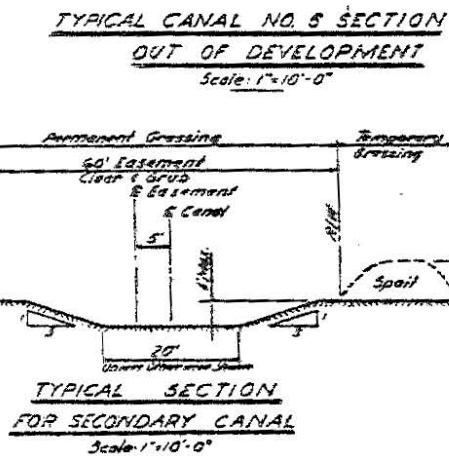
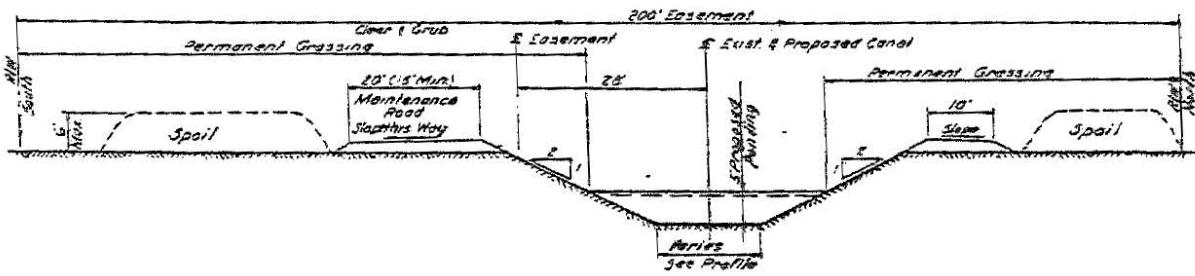


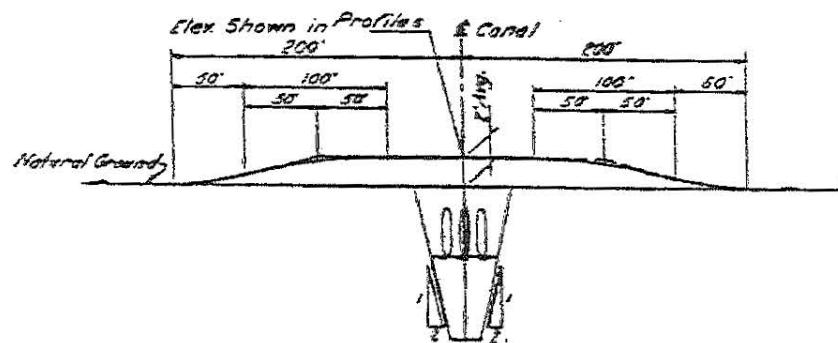
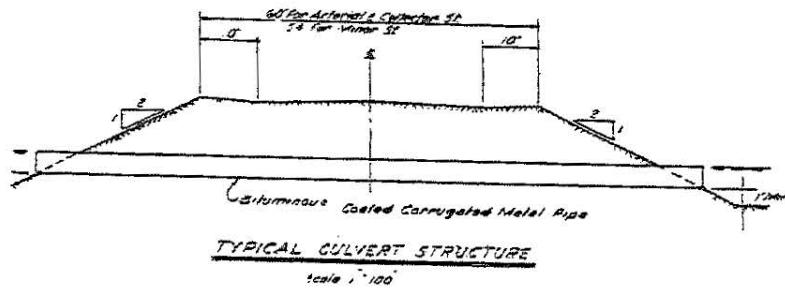
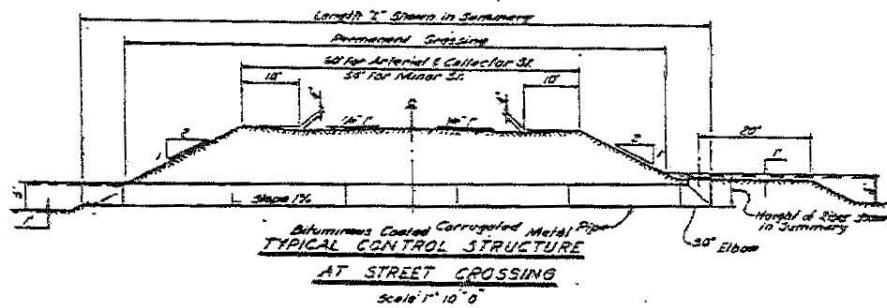
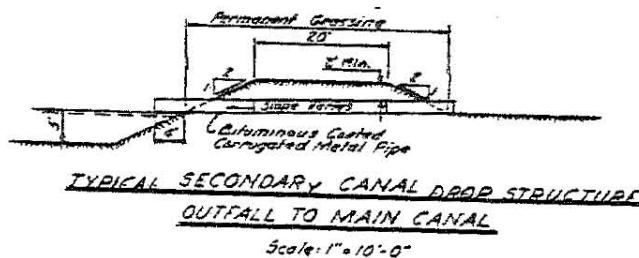
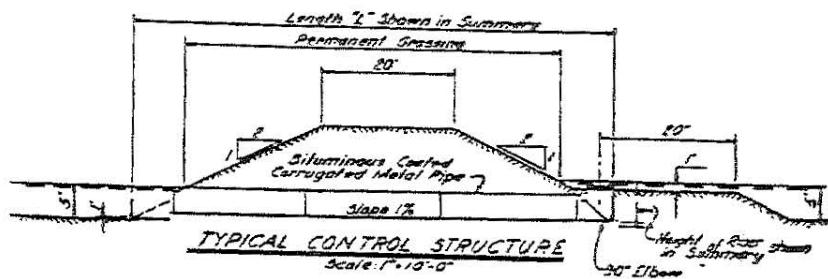
**GENERAL NOTES:**

1. Maximum height of spoil banks shall be 6 ft. measured from original ground.
2. Large openings in spoil banks at locations as directed by the Engineer.
3. Slope Maintenance Roads & Berms 1/2 per cent.

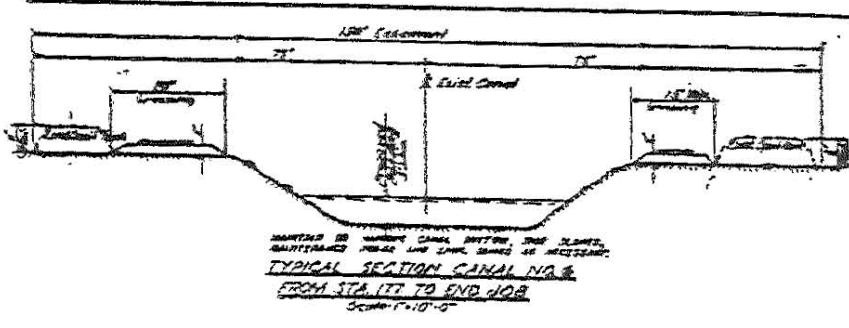
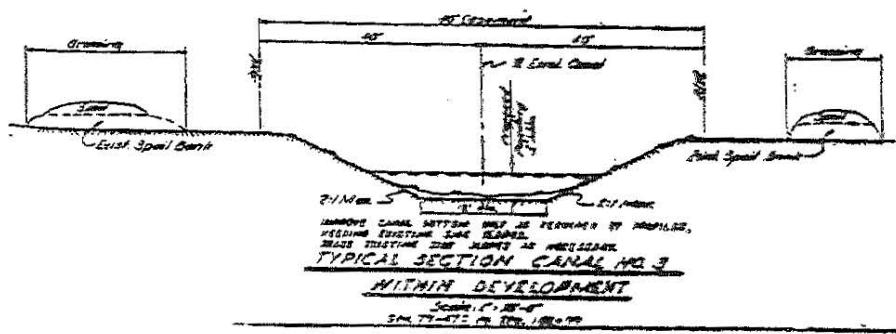
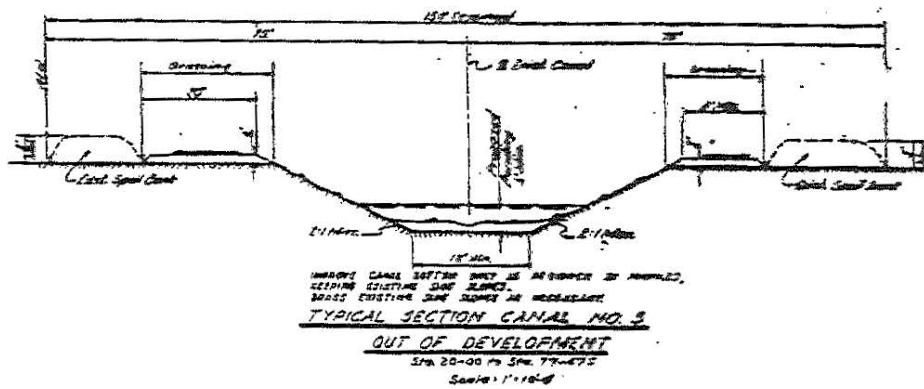
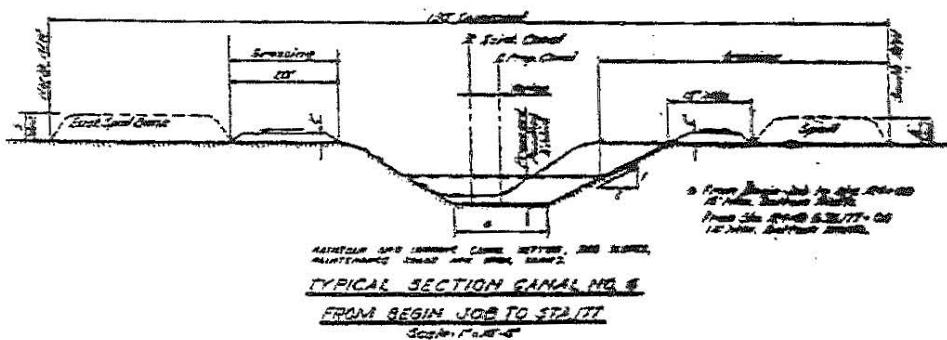


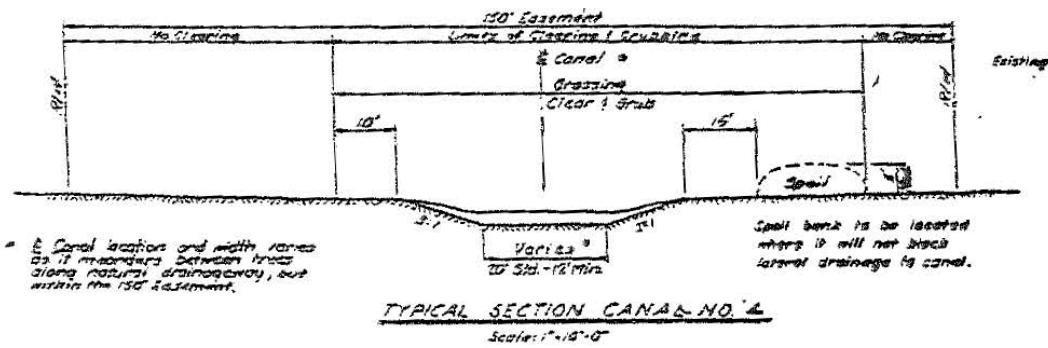
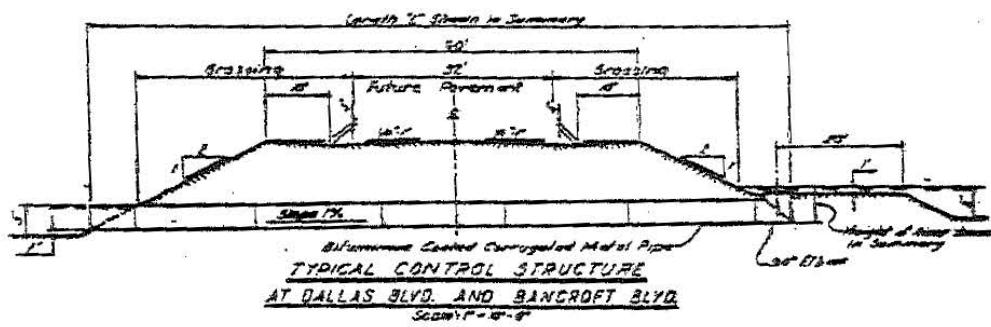
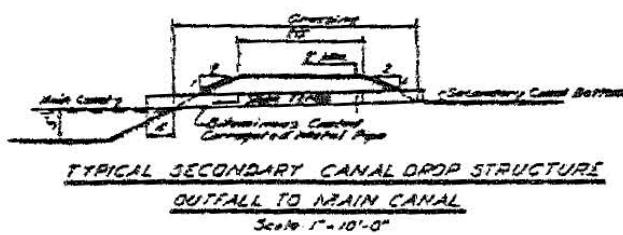
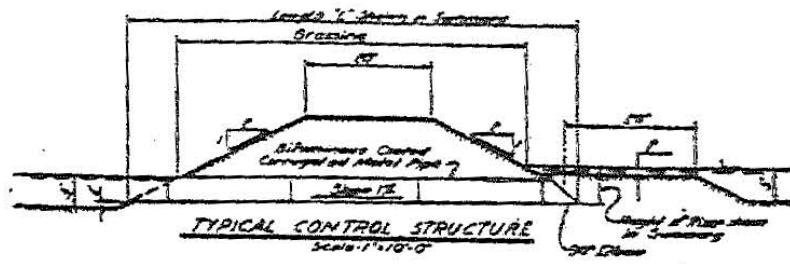
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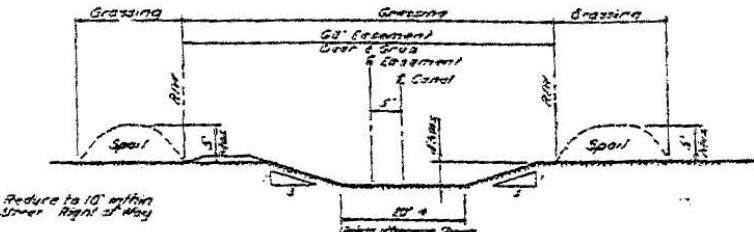




## TYPICAL SECTIONS CANALS AND STRUCTURES

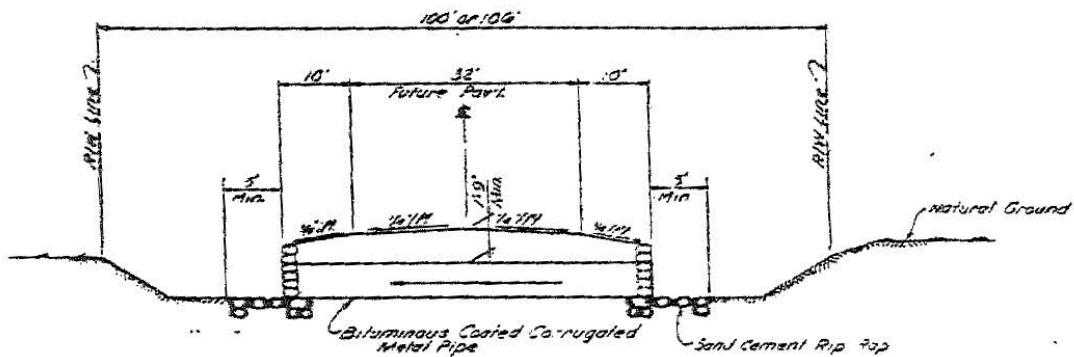






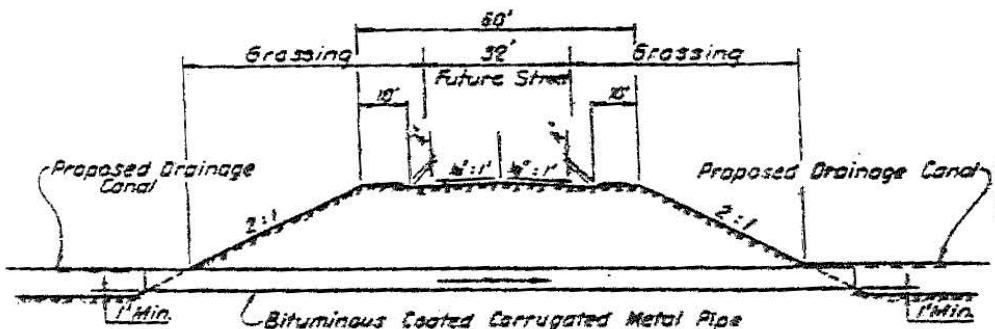
TYPICAL SECTION FOR SECONDARY CANAL

Scale: 1" = 10'-0"

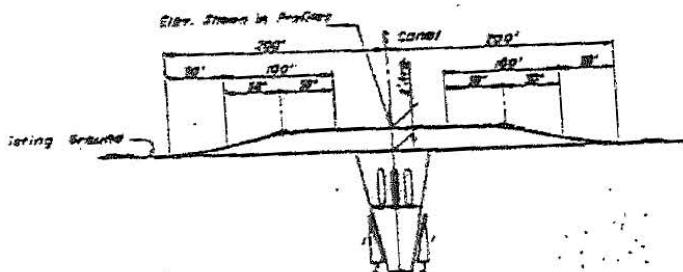


TYPICAL CULVERT STRUCTURE FOR 100' OR 106' R/W

Scale: 1" = 10'-0" Horz.  
1" = 40'-0" Vert.

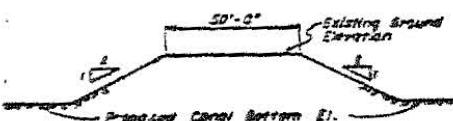


TYPICAL CULVERT STRUCTURE AT CANAL  
NO. 6 E DALLAS BLVD. EXTENSION



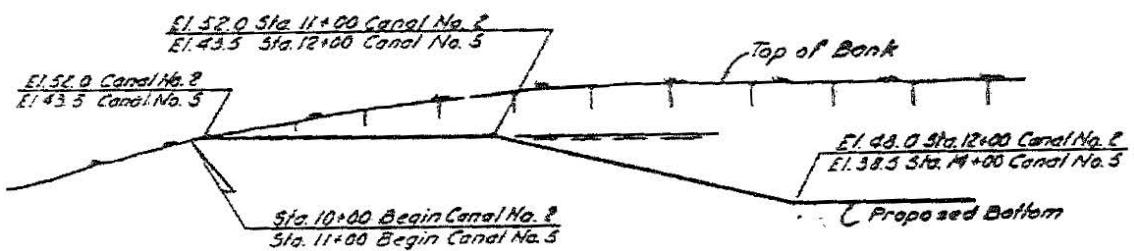
TYPICAL PROFILE OF CROSSING  
OVER CONTROL STRUCTURES &  
CULVERTS

Scale: 1" = 50' Horiz.  
1" = 6' Vert.



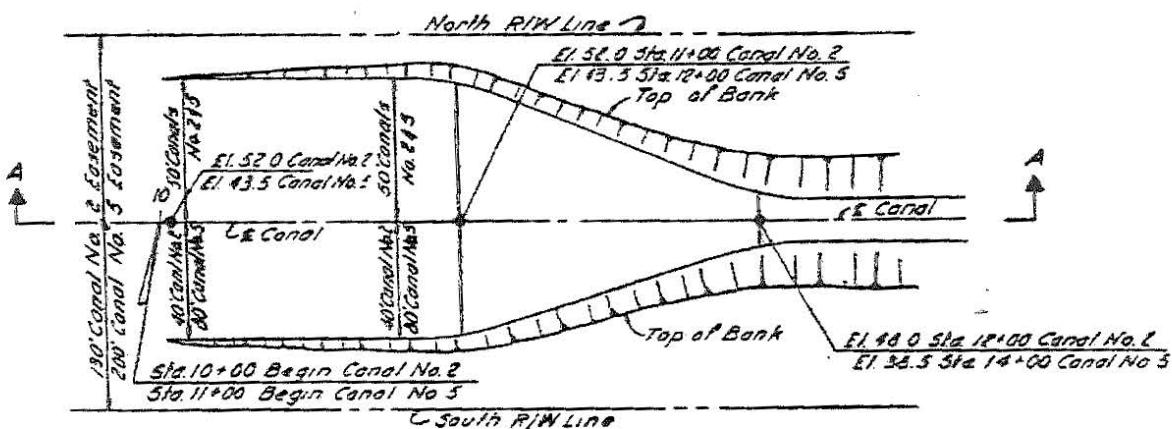
TYPICAL SECTION OF  
TEMPORARY MAIN CANAL PLUS  
AT WATER CONTROL STRUCTURES

Scale: 1" = 10'-0"



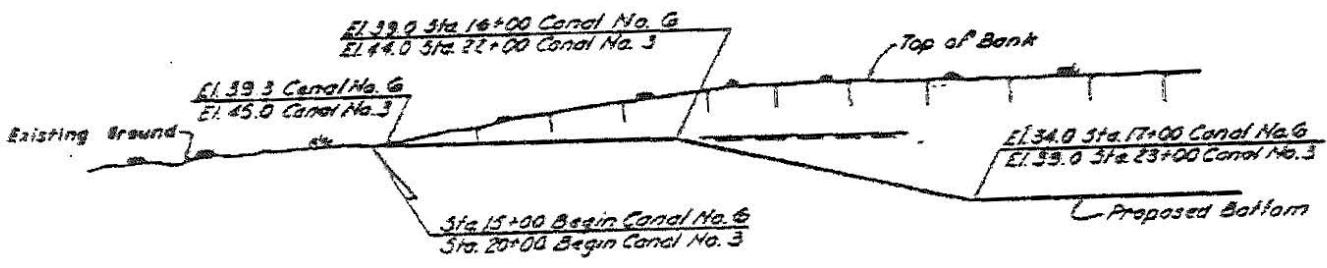
### SECTION A-A

Scale: 1" = 30' Horiz  
1" = 4' Vert



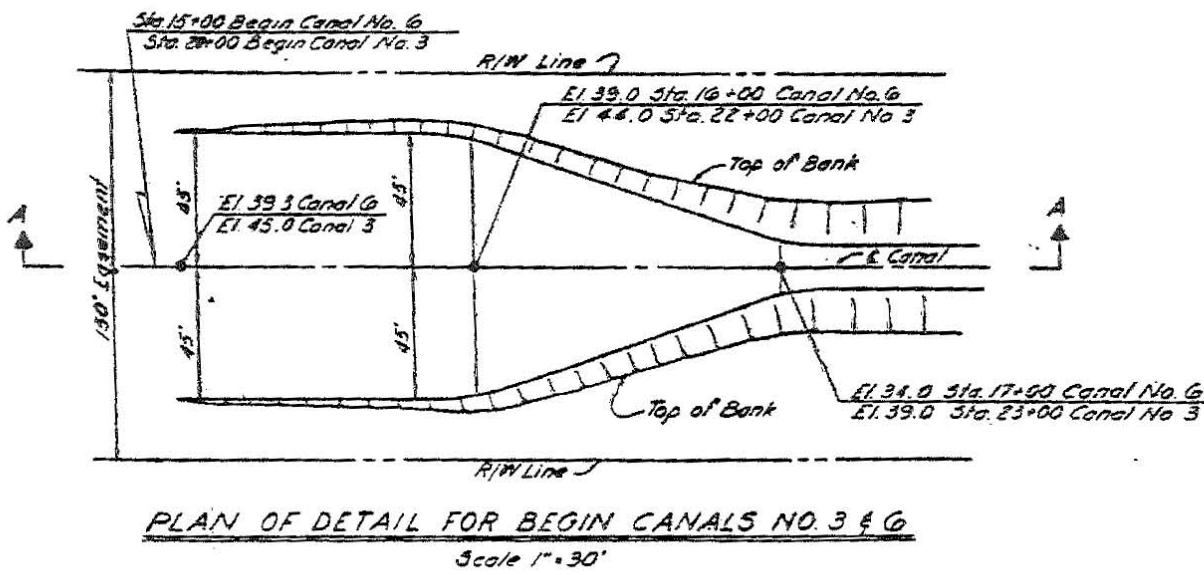
### PLAN OF DETAIL FOR BEGIN CANALS NO. 2 & NO. 5

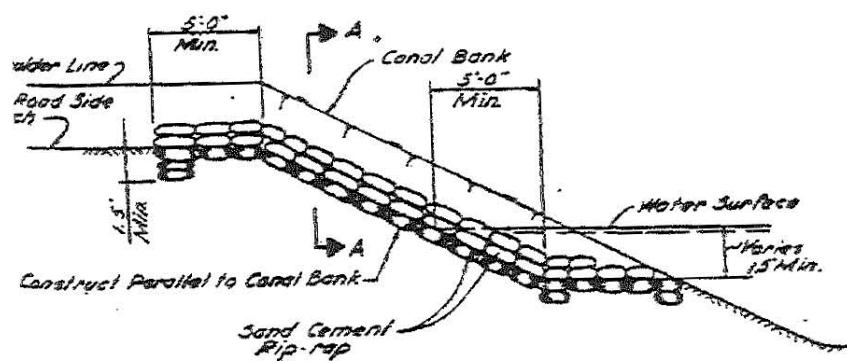
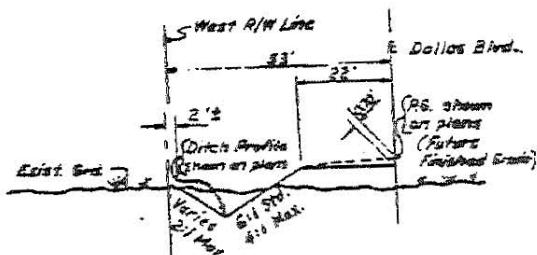
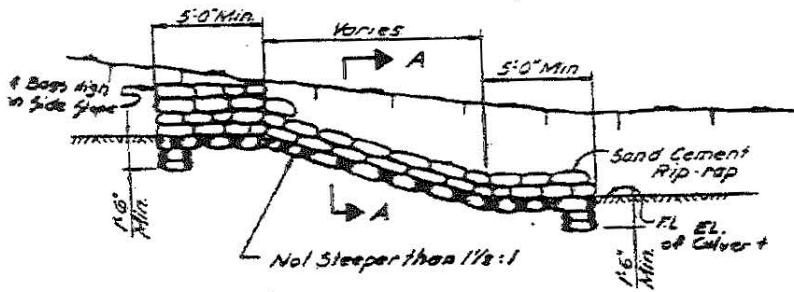
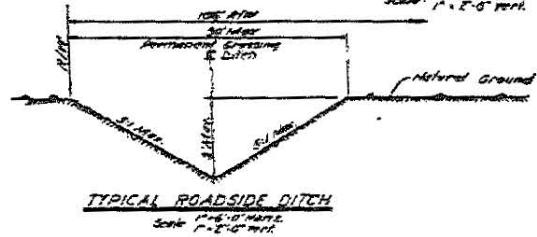
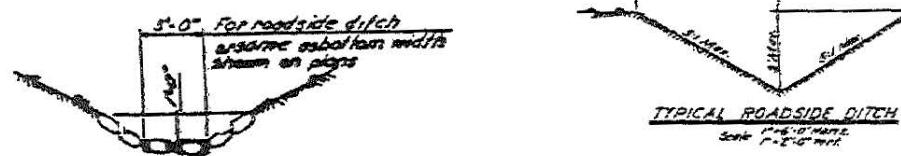
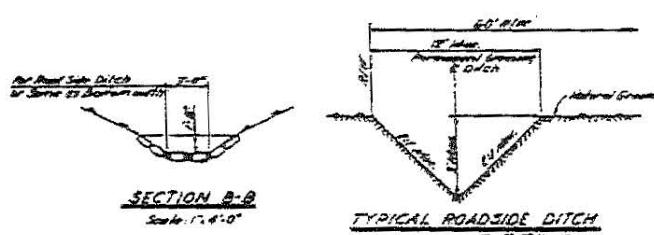
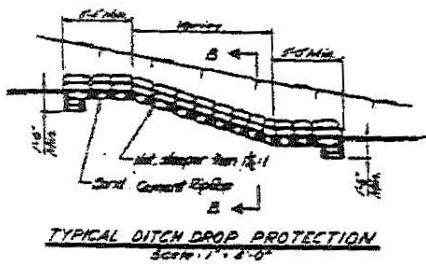
Scale 1" = 30'



### SECTION A-A

Scale 1" = 30' Horiz  
1" = 6' Vert





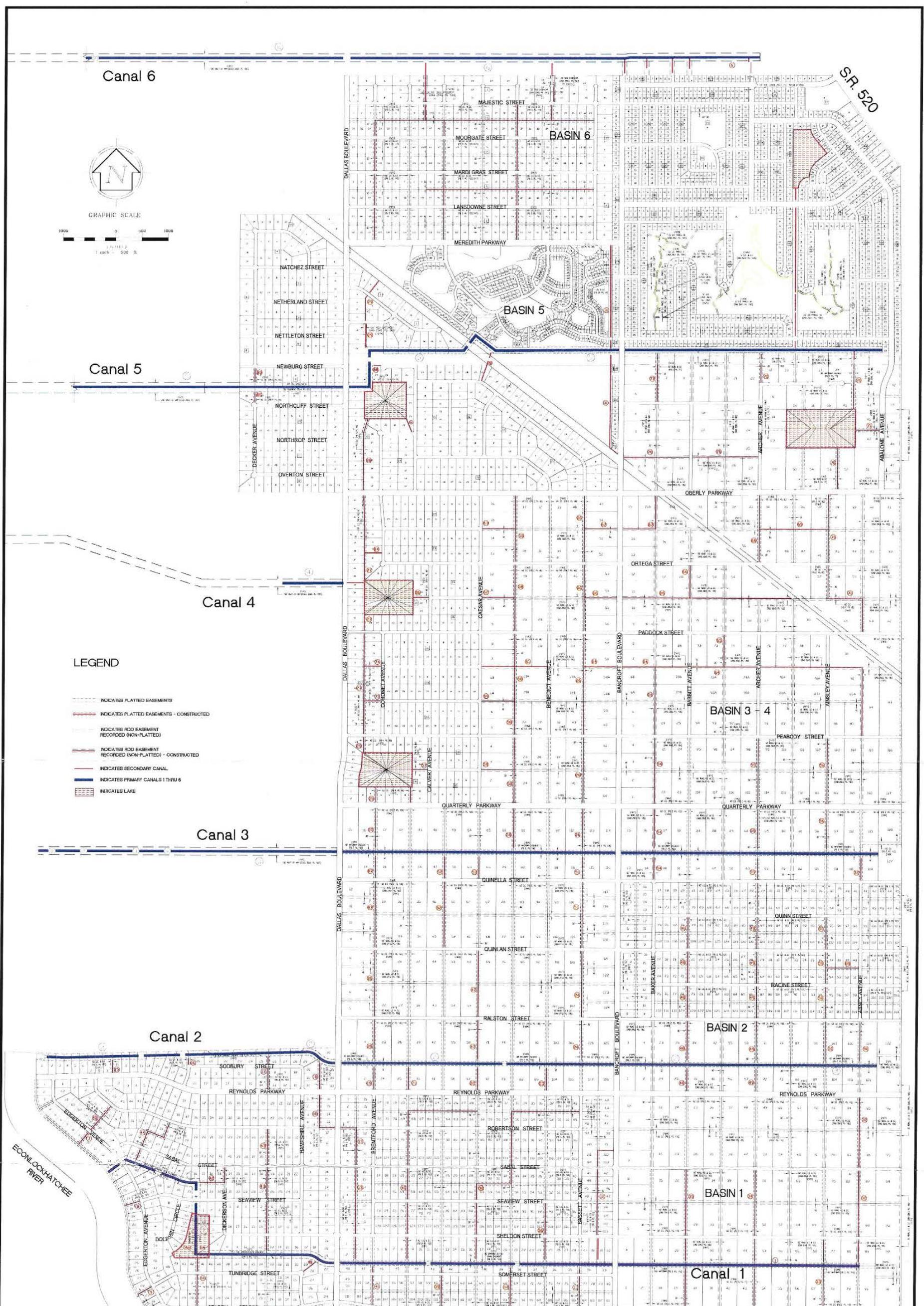


EXHIBIT A



IBI GROUP, Inc.  
Architects • Surveyors • Planners  
LEARNER ARCHITECTS • ENVIRONMENTAL CONSULTANTS  
CIVIL PLANNING • LANDSCAPE ARCHITECTURE  
HAZARD MITIGATION • WATER & WASTE WATER  
TRANSPORTATION • ENERGY

RANGER DRAINAGE DISTRICT  
CANAL EXHIBIT

REVISED TO SHOW DAVIS LAKE (LAKE 11-A) SEPTEMBER 5TH, 2017

JULY, 2012





(SKETCH AND DESCRIPTION ONLY - NOT A SURVEY)

### DESCRIPTION:

#### RANGER DRAINAGE DISTRICT - EAST OF THE ECONLOCKHATCHEE RIVER:

The South one-half of Section 1, less that part lying East of the West right-of-way line of State Road No. 520; The South one-half of Section 2; the East three-eighths of Section 10; all of Sections 11, 12, 13, 14, 23, 24, 25, 26, together with portions of Sections 27 and 28, in Township 23 South, Range 32 East in Orange County, Florida, being more particularly described as follows:

BEGINNING at the Southeast corner of Section 25, run northerly along the easterly line of Sections 25, 24, 13, 12 and 1 to the westerly right-of-way line of State Road No. 520; thence northwesterly along said westerly right-of-way line of State Road No. 520 to a point of intersection with the north line of the South one-half of Section 1; thence westerly along the north line of the South one-half of Sections 1 and 2 to the westerly quarter corner of Section 2; thence southerly along the West line of Section 2 to the Southwest corner of Section 2; thence westerly along the North line of Section 10 to the Northwest corner of the easterly three-eighths of Section 10; thence southerly along the west line of the easterly three-eighths of Section 10 to the Southwest corner of the easterly three-eighths of Section 10; thence easterly along the south line of Section 10 to the Southeast corner of Section 10; thence southerly along the west line of Sections 14 and 23 to the Southwest corner of Section 23; thence westerly along the north line of Sections 27 and 28 to the Northeast corner of Tract A, CAPE/ORLANDO ESTATES UNIT 11A, according to the plat thereof, as recorded in Plat Book 3, at Pages 107 through 109, inclusive, of the Public Records of Orange County, Florida; thence southerly along the easterly boundary of said Tract A to the Southeast corner of said Tract A; thence easterly along the south line of Sections 27, 26 and 25 to the POINT OF BEGINNING.

### NOTES:

1. UNLESS IT BEARS THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER THIS DRAWING, SKETCH, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.

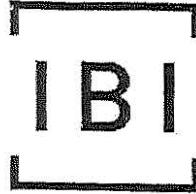
2. LANDS SHOWN HEREON WERE NOT ABSTRACTED BY IBI GROUP (FLORIDA) INC. FOR EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

3. DATA SHOWN HEREON WAS COMPILED FROM OTHER INSTRUMENTS AND DOES NOT CONSTITUTE A FIELD SURVEY.

4. REFERENCE IS MADE TO THE RANGER DRAINAGE DISTRICT LANDS AS DESCRIBED IN DOCUMENT PREPARED BY LEWIS, LONGMAN & WALKER, P.A. DATED NOVEMBER 14TH, 2007.

5. IBI GROUP (FLORIDA) INC.'S CERTIFICATE OF AUTHORIZATION NO. LB5610 IS ISSUED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.

REVISIONS	DATE	BY	DATE: 8/11/17	DRAWN BY	BF	CHECKED BY	FIELD BOOK	SKETCH NO.
								N/A



**IBI GROUP (Florida), Inc.**

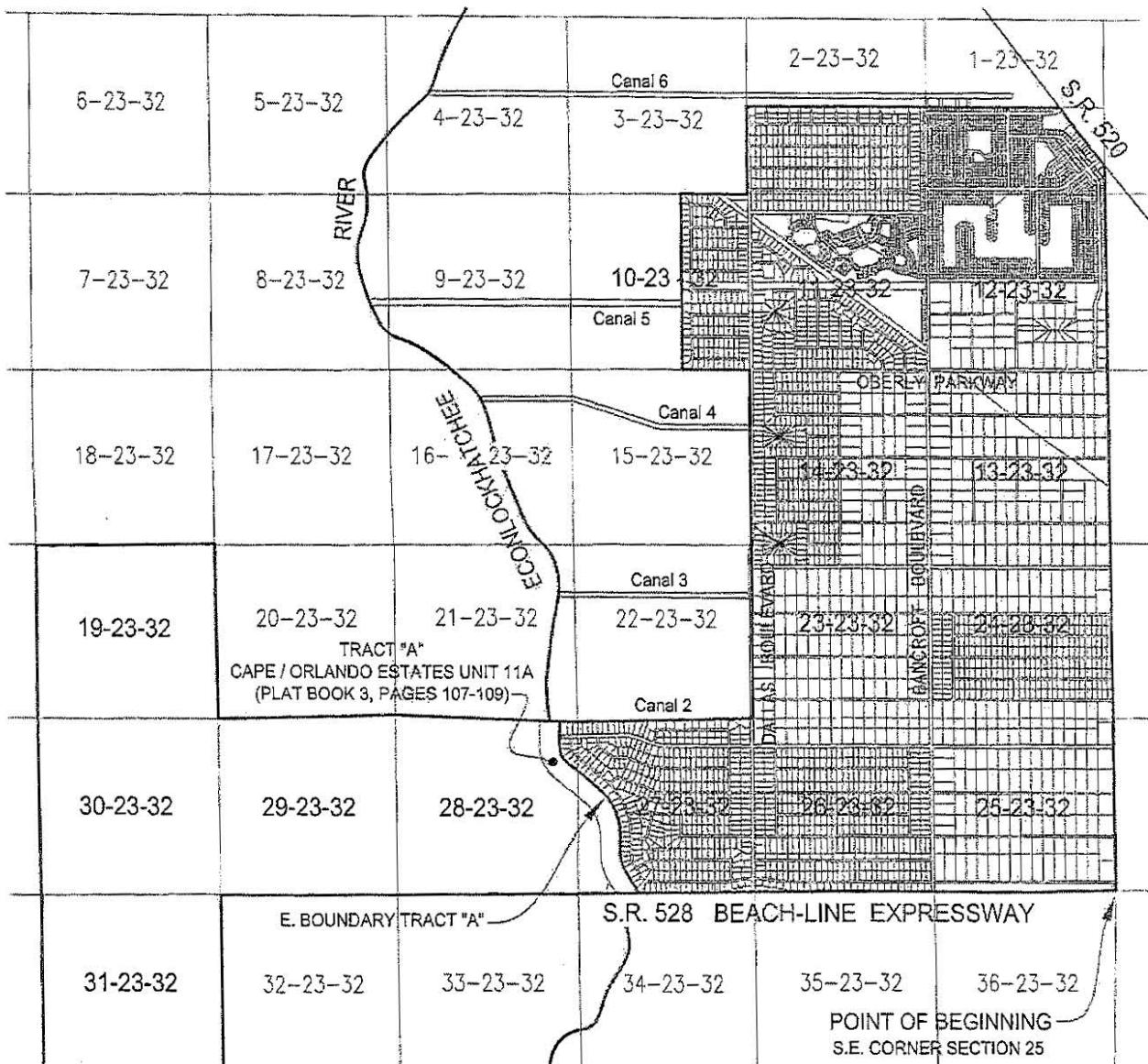
AUTHORIZATION # LB 5610

ENGINEERS SURVEYORS PLANNERS  
LANDSCAPE ARCHITECTS ENVIRONMENTAL CONSULTANTS

2200 PARK CENTRAL BLVD. N. 2300 MAITLAND CENTER PARKWAY  
SUITE 100 SUITE 131  
POMPANO BEACH, FLORIDA, 33064 MAITLAND, FLORIDA, 32751  
(954) 974-2200 (407) 660-2120

(SKETCH AND DESCRIPTION ONLY - NOT A SURVEY)

RANGER DRAINAGE DISTRICT - EAST OF ECONLOCKHATCHEE RIVER



**LOCATION MAP**

SCALE: 1" = 5000'

REVISIONS	DATE	BY

DATE: 8/11/17 DRAWN BY BF CHECKED BY WEW FIELD BOOK N/A

SHEET 2 OF 2

2505

SKETCH NO.  
N/A

	<p><b>IBI GROUP (Florida), Inc.</b></p> <p>AUTHORIZATION # LB 5610</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">ENGINEERS</td> <td style="width: 33%;">SURVEYORS</td> <td style="width: 34%;">PLANNERS</td> </tr> <tr> <td>LANDSCAPE ARCHITECTS</td> <td>ENVIRONMENTAL CONSULTANTS</td> <td></td> </tr> </table> <p>2200 PARK CENTRAL BLVD. N.      2300 MAITLAND CENTER PARKWAY      SUITE 100      SUITE 101      POMPANO BEACH, FLORIDA, 33064      MAITLAND, FLORIDA, 32751      (954) 974-2200      (407) 660-2120</p> <p>(SKETCH AND DESCRIPTION ONLY - NOT A SURVEY)</p>	ENGINEERS	SURVEYORS	PLANNERS	LANDSCAPE ARCHITECTS	ENVIRONMENTAL CONSULTANTS	
ENGINEERS	SURVEYORS	PLANNERS					
LANDSCAPE ARCHITECTS	ENVIRONMENTAL CONSULTANTS						

**DESCRIPTION:**

RANGER DRAINAGE DISTRICT - WEST OF ECONLOCKHATCHEE RIVER:

All of Sections 19, 29, 30 and 31, together with portions of Sections 27 and 28, in Township 23 South, Range 32 East in Orange County, Florida, being more particularly described as follows:

BEGINNING at the Southwest corner of Section 27; thence run easterly along the south line of Section 27 to the Southeast corner of Tract A, CAPE/ORLANDO ESTATES UNIT 11A, according to the plat thereof, as recorded in Plat Book 3, at Pages 107 through 109, inclusive, of the Public Records of Orange County, Florida; thence northerly along the easterly boundary of said Tract A to the Northeast corner of said Tract A; thence westerly along the north line of Sections 28 and 29 to the Northwest corner of Section 29; thence northerly along the east line of Section 19 to the Northeast corner of Section 19; thence westerly along the North line of Section 19 to the Northwest corner of Section 19; thence southerly along the west line of Sections 19, 30 and 31 to the Southwest corner of Section 31; thence easterly along the south line of Section 31 to the Southeast corner of Section 31; thence northerly along the east line of Section 31 to the Northeast corner of Section 31; thence easterly along the south line of Sections 29 and 28 to the POINT OF BEGINNING.

**NOTES:**

1. UNLESS IT BEARS THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER THIS DRAWING, SKETCH, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.

2. LANDS SHOWN HEREON WERE NOT ABSTRACTED BY IBI GROUP (FLORIDA) INC. FOR EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

3. DATA SHOWN HEREON WAS COMPILED FROM OTHER INSTRUMENTS AND DOES NOT CONSTITUTE A FIELD SURVEY.

4. REFERENCE IS MADE TO THE RANGER DRAINAGE DISTRICT LANDS AS DESCRIBED IN DOCUMENT PREPARED BY LEWIS, LONGMAN & WALKER, P.A. DATED NOVEMBER 14TH, 2007.

5. IBI GROUP (FLORIDA) INC.'S CERTIFICATE OF AUTHORIZATION NO. LB5610 IS ISSUED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.

For The Firm:  
**IBI Group (Florida) Inc.**

REVISIONS	DATE	BY	WILSON E. WAY					SKETCH NO.
			PROFESSIONAL SURVEYOR and MAPPER #2885 STATE OF FLORIDA					
	DATE: 8/11/17	DRAWN BY BF	CHECKED BY WEW	FIELD BOOK N/A				



**IBI GROUP (Florida), Inc.**

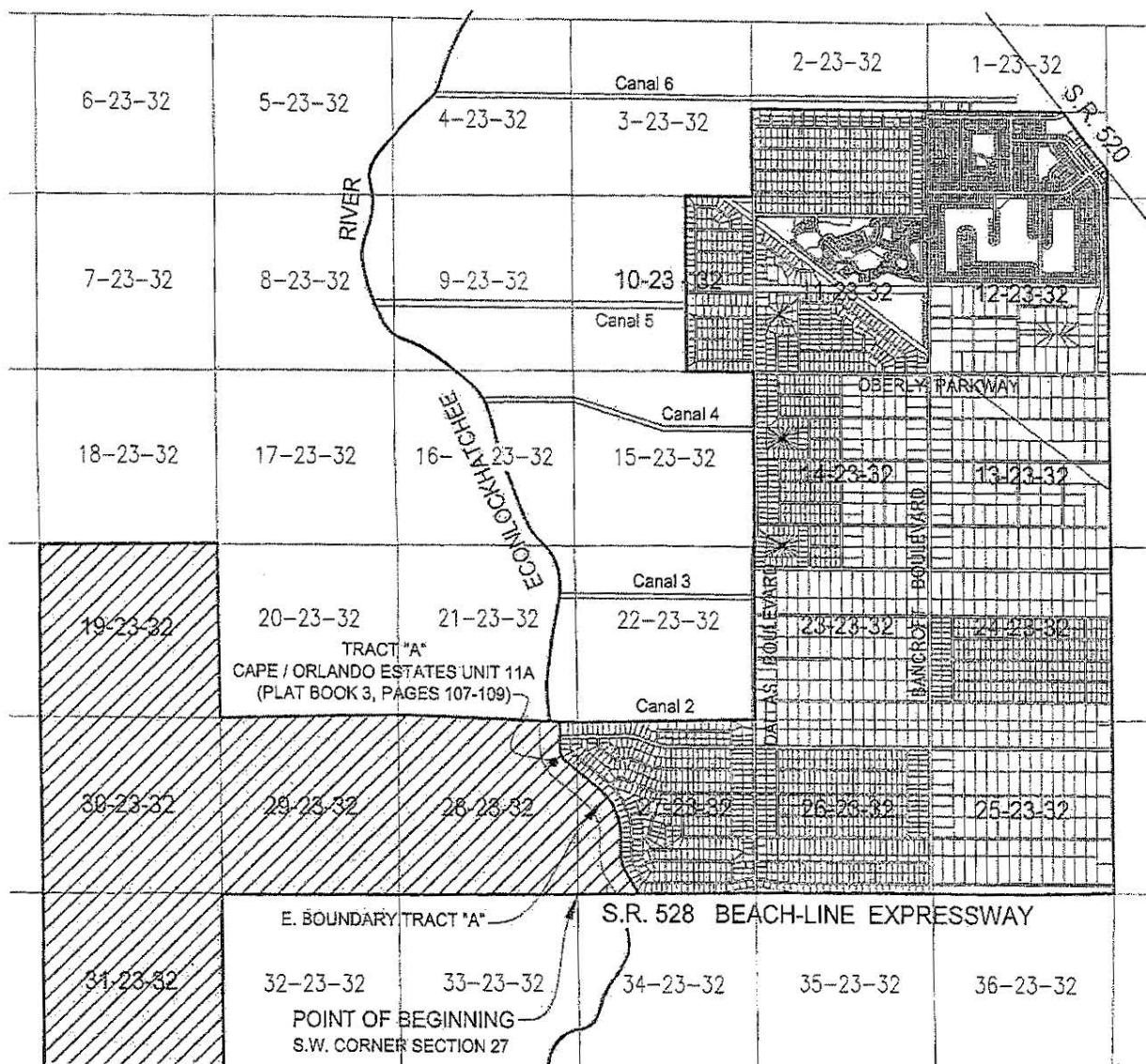
AUTHORIZATION # LB 5610

ENGINEERS	SURVEYORS	PLANNERS
LANDSCAPE ARCHITECTS	ENVIRONMENTAL CONSULTANTS	

2200 PARK CENTRAL BLVD. N. SUITE 100 POMPANO BEACH, FLORIDA, 33064 (954) 974-2200	2300 MAITLAND CENTER PARKWAY SUITE 101 MAITLAND, FLORIDA, 32751 (407) 650-2120
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(SKETCH AND DESCRIPTION ONLY - NOT A SURVEY)

RANGER DRAINAGE DISTRICT - WEST OF ECONLOCKHATCHEE RIVER



**LOCATION MAP**

SCALE: 1" = 5000'

GLYON & HILLAW.COM

REVISIONS

DATE BY

DATE: 8/11/17	DRAWN BY BF	CHECKED BY WEW	FIELD BOOK	N/A
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2505 SHEET 2 OF 2

SKETCH NO.

# RAIN FALL DATA RANGER DRAINAGE DISTRICT

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
JAN	0.75	0.00	3.40	2.25	0.25	1.20	4.55	1.85	2.40	*	0.08	0	2.58	2.27	5.96	1.49
FEB	0.75	1.30	5.15	1.25	1.60	1.10	1.65	0	*	*	2.43	0.31	1.92	4.19	2.3	1.85
MARCH	0.75	5.75	0.75	6.00	0.00	1.25	3.80	0	*	*	2.29	1.14	3.73	1.32	4.19	0.16
APRIL	0.75	2.75	6.00	0.50	0.65	1.60	3.05	0.80	*	*	0.79	5	2.91	5.07	0.61	0.25
MAY	0.75	2.45	4.00	2.25	**	0.80	1.65	8.90	*	2.23	3.93	3.15	2.34	0.64	3.65	1.24
JUNE	10.25	7.50	6.05	14.75	7.00	8.40	7.50	2.65	*	6.17	10.04	9.35	7.51	5.34	5.14	12.56
JULY	10.50	7.50	9.35	3.25	7.15	7.05	9.45	10.50	*	8.43	1.81	6.43	10.93	9.35	3.28	6.26
AUG	6.25	9.75	16.75	6.75	9.40	2.50	11	6.00	*	5.8	10.46	6.26	9	6.28	3.82	
SEPT	2.50	3.85	11.50	3.40	6.25	3.35	2.50	5.90	*	2.04	0.31	5.56	10.98	3.87	5.27	
OCT	0.35	**	**	9.70	0.85	6.25		2.00	*	10.98	0.02	0.78	1.59	0.27	5.28	
NOV	2.15	**	1	0.25	3.45	0.95	0.75	0.85	*	1.38	0	1.46	6.32	4	0.32	
DEC	10.70	1.35	2.5	2.85	4.45	0.40	0.40	3.00	*	1.4	0	0.61	2.2	0.83	0.96	
TOTAL	46.45	42.20	66.45	53.20	41.05	34.85	46.30	42.45	2.40	38.43	32.16	40.05	62.01	43.43	40.78	23.81
** Raingauge down for repair																