

RESOLUTION NO. 2014- 192

A RESOLUTION BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, APPROVING THE TERMS AND AUTHORIZING THE CHAIRMAN TO EXECUTE A MEMORANDUM OF AGREEMENT BETWEEN ST. JOHNS COUNTY AND THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT FOR THE BASIN 8 DEEP CREEK REGIONAL OFFSITE MITIGATION AREA

RECITALS

WHEREAS, St. Johns County (County) and St. Johns River Water Management District (District) wish to formalize an agreement relating to the Basin 8 Regional Offsite Mitigation Area (ROMA) located in St. Johns County, Florida; and

WHEREAS, Section 373.4135(1), Florida Statutes (F.S.) directs the District to participate in and encourage the establishment of public offsite regional mitigation; and

WHEREAS, the County desires to establish a ROMA to serve as mitigation for future environmental resource permits issued by the District to the County for County projects; and

WHEREAS, although Section 373.4135(6), F.S., does not require that this Basin 8 ROMA be established and operated under an MOA because no money will be donated or paid as mitigation as the site will provide solely for County mitigation, the parties have determined that an MOA would be mutually beneficial.

NOW THEREFORE, BE IT RESOLVED by the Board of County Commissioners of St. Johns County, Florida, as follows:

Section 1. The above Recitals are incorporated by reference into the body of this Resolution and such Recitals are adopted as findings of fact.

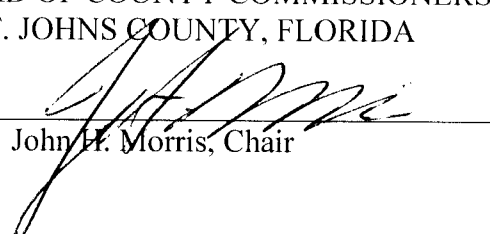
Section 2. The Board of County Commissioners hereby approves the terms, provisions, conditions and requirements of the attached Memorandum of Agreement (MOA) and authorizes the County Administrator, or designee, to execute said MOA.

Section 3. To the extent that there are typographical or administrative errors or omissions that do not change the tone, tenor, or context of this Resolution, then this Resolution may be revised without subsequent approval of the Board of County Commissioners.

PASSED AND ADOPTED by the Board of County Commissioners of St. Johns County, Florida, this 15th day of July, 2014.

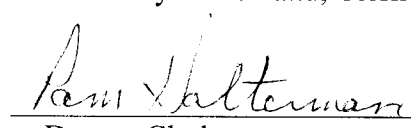
BOARD OF COUNTY COMMISSIONERS
OF ST. JOHNS COUNTY, FLORIDA

By: _____


John F. Morris, Chair

ATTEST: Cheryl Strickland, Clerk

By: _____


Deputy Clerk

RENDITION DATE 7/17/14



**MEMORANDUM OF AGREEMENT BETWEEN
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT AND ST. JOHNS COUNTY
FOR ST. JOHNS COUNTY BASIN 8 REGIONAL OFFSITE MITIGATION AREA
(ROMA)**

THIS MEMORANDUM OF AGREEMENT is entered into by the St. Johns River Water Management District (District) and St. Johns County (County) regarding the St. Johns County Basin 8 Regional Offsite Mitigation Area (ROMA).

WITNESSETH:

WHEREAS, Section 373.4135(1), Florida Statutes (F.S.), directs the District to participate in and encourage the establishment of public offsite regional mitigation;

WHEREAS, the County desires to establish a ROMA to serve as mitigation for future environmental resource permits (ERPs) issued by the District to the County for County projects;

WHEREAS, Section 373.4135(6), F.S., requires that certain ROMAs for which money is donated or paid as mitigation be established and operated pursuant to a Memorandum of Agreement (MOA);

WHEREAS, although Section 373.4135(6), F.S., does not require that this St. Johns County Basin 8 ROMA be established and operated under an MOA because no money will be donated or paid as mitigation, the parties have determined that an MOA would be mutually beneficial;

WHEREAS, Section 373.4135, F.S., provides that such MOA need not be adopted by rule;

NOW THEREFORE, for and in consideration of the foregoing, which are made a part of the MOA, the District and the County hereby agree to the following:

Section 1. The County will implement the St. Johns County Basin 8 ROMA as described in the following five documents: (1) The Floyd Preservation Plan- attached as Exhibit "A"; (2) "Wetland Mitigation Overall Site Plan for Masters Tract Regional Stormwater Treatment Facility" WM-1, WM-11, WM-12 and WM-13 received by the District on February 28, 2012, for permit 4-109-126294-1- attached as Exhibit B; (3) the approved construction plans for permits 4-109-126294-1- attached as Exhibit C; (4) The Tatum Tract Mitigation Plan View Map- attached as Exhibit D; and (5) this MOA. Each of the exhibits described in this section shall be incorporated into and made part of this MOA.

Section 2. In exchange for the County's implementation of the St. Johns County Basin 8 ROMA as described above, the County will be able to use 27.956 Total

Functional Gain Units (FGUs) from the ROMA as mitigation for ERPs issued by the District to the County for County projects in Basin 8.

Section 3. Responsibilities.

A. *Description of work.* The County will conduct the following activities to return the sites to a more natural state:

Floyd Tract

- Preservation of 55.87 acres of wetlands
- Preservation of 2.77 acres of uplands

Masters Tract

- Wetland Flow-way Creation (C-4 and C-4N) of 14.3 acres
- Wetland Forest Enhancement of 7.8 acres
- Forested Wetland Creation (Cells 1, 2 ,3A and 3B) of 38.1 acres
- Upland Buffer Enhancement of 21.0 acres
- Preservation of 4.0 acres of wetlands

Tatum Tract

- Preservation of 60.7 acres of wetlands
- Forested Wetland Enhancement of 13.4 acres
- Forested Upland Buffer Enhancement of 17.1 acres

The County will begin conducting these activities in 2014 and expects to complete construction in 2016.

B. *Timeline for obtaining any required ERP.* Some of the mitigation activities required an ERP, which the County obtained on March 16, 2012 (4-109-126294-1).

C. *Environmental success criteria.*

Floyd Tract:

(a) Preserve the entire property in perpetuity by conveying a conservation easement approved in writing by District staff.

(b) Perform annual inspection and exotic species removal/maintenance as needed. Invasive exotic species covers 1% or less in any one acre area.

Masters Tract:

(a) Preserve the entire property in perpetuity by conveying a conservation easement approved in writing by District staff.

(b) Perform annual inspection and exotic species removal/maintenance as needed. Invasive exotic species covers 1% or less in any one acre area.

(c) Perform the activities described in Exhibit B and ERP 4-109-126294-1.

(d) For the planted areas, plantings must meet the following success criteria within five years after initial planting:

i. At least 75 percent of the planted individuals in each stratum have survived throughout the monitoring period and are showing signs of normal growth, based upon standard growth parameters such as height and base diameter, or canopy circumference.

ii. At least 80 percent cover by appropriate wetland herbaceous species has been obtained.

iii. Hydrologic conditions generally conform to those specified for wetlands in Chapter 62-340, F.A.C..

iv. If successful establishment has not occurred as stated above within 5 years following initial planting, then within 30 days of the termination of the monitoring period, the County shall submit to the District a narrative describing the type and causes of failure and a complete set of plans for the redesign or replacement planting of the wetland mitigation area so that the success criteria will be achieved. If an ERP is required for the activity, then the County shall apply for a permit modification. Within 30 days of District approval and, if applicable, issuance of the permit modification, the permittee must implement the redesign and/or replacement planting. Following completion of such work, success criteria as stated above or modified by subsequent permit must again be achieved. In addition, the monitoring must be conducted.

v. In the event that 50 percent or greater mortality of planted wetland species in any stratum within the mitigation area occurs, the permittee must undertake a remediation program approved by District staff.

Tatum Tract:

- (a) Preserve the entire property in perpetuity by conveying a conservation easement approved in writing by District staff.
- (b) Perform annual inspection and exotic species removal/maintenance as needed. Invasive exotic species covers 1% or less in any one acre area.
- (c) Perform the activities described in Exhibit D.
- (d) Plant the following material at the Tatum Tract:

Planting Plan for Tatum Tract						
Tatum Tract Forested Wetland Enhancement (13.4-Acres)						
Type	Scientific Name	Common Name	% Plants	Feet on Center	Size	Number of Plants
Tree	<i>Acer rubrum</i>	Red maple	25	10	1 gal	401
	<i>Nyssa sylvatica var. biflora</i>	Swamp tupelo	25			401
	<i>Taxodium distichum</i>	Bald Cypress	50			803
<i>Subtotal</i>						1,605
Herb	<i>Osmunda cinnamomea</i>	Cinnamon fern	30	6	1 gal	1,926
	<i>Osmunda regalis</i>	Royal fern	30		1 gal	1,926
	<i>Saururus cernuus</i>	Lizards tail	40		2" Liner	2,568
<i>Subtotal</i>						6,421
Tatum Tract Forested Upland Buffer Enhancement (17.1-Acres)						
Type	Scientific Name	Common Name	% Plants	Feet on Center	Size	Number of Plants
Tree	<i>Celtis laevigata</i>	Sugarberry	20	20	1 gal	410
	<i>Ulmus americana</i>	American elm	30			615
	<i>Liquidambar styraciflua</i>	Sweetgum	30			615
	<i>Sabal palmetto</i>	Cabbage palm	20			410
<i>Subtotal</i>						2,048

(e) For the planted areas, plantings must meet the following success criteria within five years after initial planting:

- i. At least 75 percent of the planted individuals in each stratum have survived throughout the monitoring period and are showing signs of normal growth, based upon standard growth parameters such as height and base diameter, or canopy circumference.

ii. At least 80 percent cover by appropriate wetland or upland herbaceous species has been obtained.

iii. Hydrologic conditions generally conform to those specified for wetlands in Chapter 62-340, F.A.C..

iv. If successful establishment has not occurred as stated above within 5 years following initial planting, then within 30 days of the termination of the monitoring period, the County shall submit to the District a narrative describing the type and causes of failure and a complete set of plans for the redesign or replacement planting of the wetland mitigation area so that the success criteria will be achieved. If an ERP is required for the activity, then the County shall apply for a permit modification. Within 30 days of District approval and, if applicable, issuance of the permit modification, the permittee must implement the redesign and/or replacement planting. Following completion of such work, success criteria as stated above or modified by subsequent permit must again be achieved. In addition, the monitoring must be conducted.

v. In the event that 50 percent or greater mortality of planted wetland species in any stratum within the mitigation area occurs, the permittee must undertake a remediation program approved by District staff.

D. *Monitoring and long-term management requirements.* The County will monitor the planted areas for a total of 5 years following planting. In addition, the County shall furnish the District with two copies of an annual monitoring report on EN-55 for all wetland creation, restoration, and enhancement areas and upland enhancement areas for four growing seasons after establishment of this MOA unless otherwise notified by the District.

The County shall perform exotic species removal and maintenance activities and land management activities as described in this MOA.

The County will operate and maintain the site in a manner consistent with the Plans (Exhibits A, B and D), permits 4-109-126294-1, this MOA, and the conservation easement.

E. *Project Assessment.* Mitigation value was assessed pursuant to the Uniform Mitigation Assessment Method (UMAM) in Chapter 62-345, Florida Administrative Code. The District has determined that the ROMA can provide 27.956 Total Functional Gain Units (FGUs). The final UMAM assessment is attached as Exhibit E. Because this assessment accounts for time lag and risk, all of the FGUs will be available once the County records the District-approved conservation easements. To track the use of FGUs, the County and District will

maintain a list containing the project name, ERP number, FGUs used, and date used, until all FGUs have been used.

- F. *Completion of the mitigation work.* The County is responsible for all work at the ROMA.
- G. *Geographic area where the project may be used.* The FGUs from the ROMA may be used as mitigation for ERPs issued for County projects proposing impacts to herbaceous and forested freshwater wetlands in the District's Basin 8, which is where the ROMA is located.
- H. *Cost accounting, annual review and adjustment.* Because the County will be using the ROMA only for County projects and will not be collecting funds from others to implement the ROMA, and because an MOA is not required for this type of ROMA, the District has determined that a procedure for full cost accounting is not needed in this case.
- I. *Land Acquisition.* The County owns the property and does not need to acquire any lands for the ROMA.
- J. *Preservation of the site.* The County will convey conservation easements to the District, as explained above.
- K. *Funds.* Because the County will not collect moneys from others to implement the ROMA, the District has concluded that a procedure to track funds is not needed in this case.
- L. *Termination.* If the District determines that the County is not in material compliance with the terms and conditions of this MOA, it shall provide the County with written notice of its material non-compliance and give the County ninety (90) calendar days, or another time period mutually agreed upon in writing, to correct the non-compliance. During the time period provided for correcting the non-compliance, the County may not use FGUs as mitigation for newly issued ERPs from the District.

If the County does not correct the material non-compliance within the stated timeframe, the District may terminate use of the remaining FGUs for future ERPs from the District.

If the District determines that the material non-compliance diminishes the value of FGUs already used from the ROMA, then the District shall provide the County with written notice of this determination. The District shall give the County ninety (90) calendar days, or another time period mutually agreed upon in writing, to correct the non-compliance or submit for District approval alternative mitigation for any permits that were not fully mitigated within the ROMA.

The County is obligated to manage the lands in accordance with the Plan, the conservation easement, and this MOA, regardless of whether FGUs have been used or terminated.

Section 4. Notices.

All notices required by this MOA shall be in writing and shall be sent by registered or certified mail, return receipt requested, as follows:

To the District: St. Johns River Water Management District
Jacksonville Service Center
7775 Baymeadows Way, Suite 102
Jacksonville, FL 32256
Attention: Christine Wentzel*

To the County: St. Johns County
St. Johns County Environmental Division
4040 Lewis Speedway
St. Augustine, FL 32084
Attention: Ryan Mauch*

Each party may unilaterally change the person to whom notices are sent by notifying the other party in writing.

Section 5. Effective Date and Term.

This MOA shall become effective upon the date the last party signs the agreement. This MOA shall remain in effect in perpetuity, unless both parties amend or terminate the MOA.

Section 6. Amendments.

This MOA, including its exhibits, may be amended in writing by the District and County.

Section 7. Severance Clause.

The invalidity of one or more of the phrases, sentences, clauses, or articles contained in the MOA shall not affect the validity of the remainder of this MOA, provided that the material purposes of this MOA can be determined and effectuated.

[remainder of page intentionally left blank]

IN WITNESS WHEREOF, the parties have caused this Memorandum of Agreement to be executed.

Approved as to Form and Legality
District Office of General Counsel

By: _____

ST. JOHNS RIVER WATER
MANAGEMENT DISTRICT

By: _____
Printed Name: _____
Title: _____
Date: _____

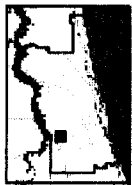
Approved as to Form and Legality
St. Johns County Office of General Counsel

By: _____

ST. JOHNS COUNTY

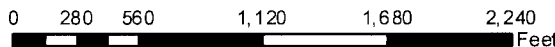
By: _____
Printed Name: _____
Title: _____
Date: _____

Exhibit "A" to MOA



St. Johns County
Environmental Division
(904) 209-0792
Date: 05152013

Basin 8 ROMA Floyd

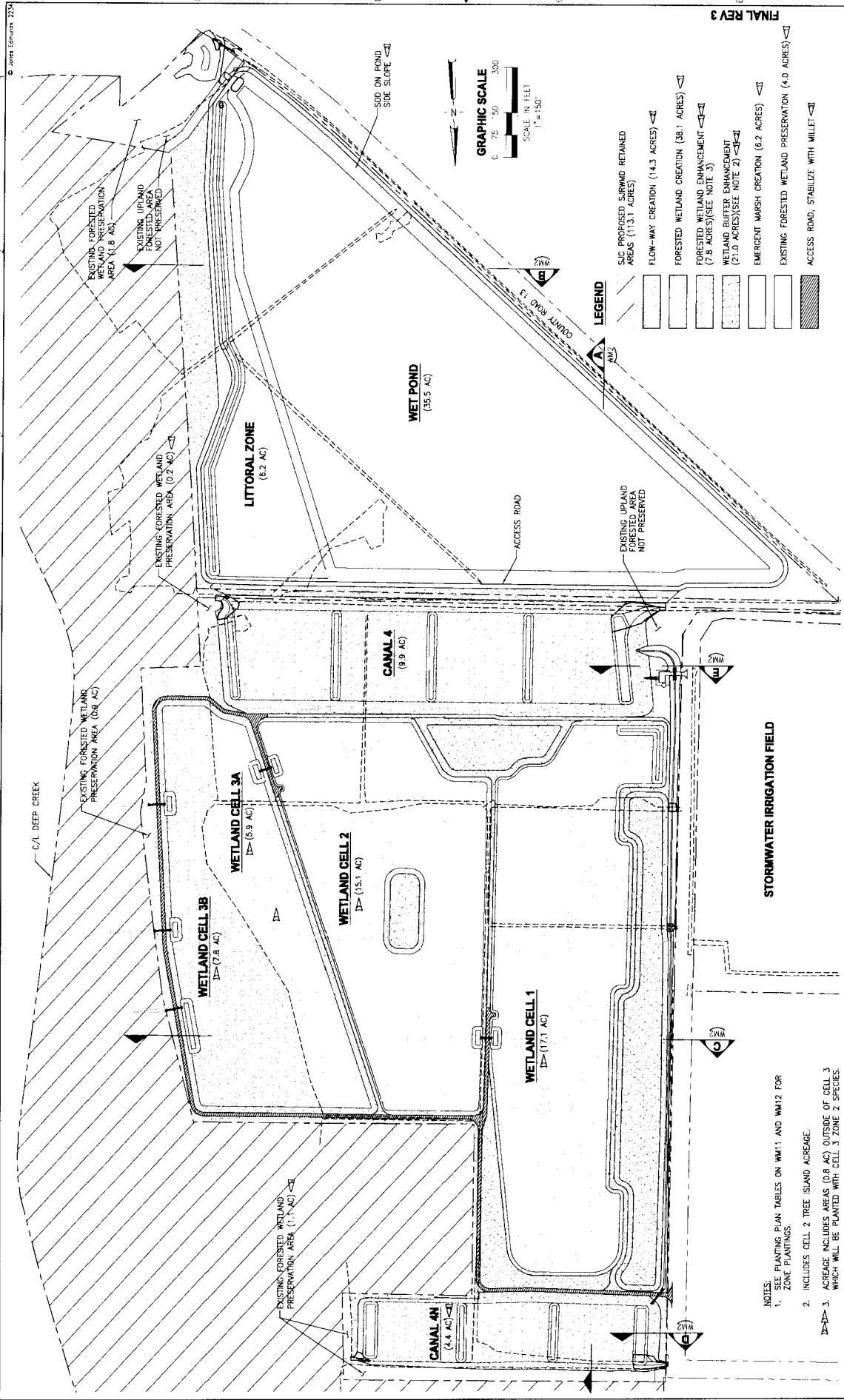


2010 Aerial Imagery

DISCLAIMER.
This map is for reference use only. Data provided are derived from multiple sources with varying levels of accuracy.



Exhibit "B" to MOA



FINAL REV 3

GRAPHIC SCALE
 0 75 150 300
 SCALE IN FEET
 1" = 150'

- LEGEND**
- EXISTING FORESTED WETLAND PRESERVATION (4.0 ACRES)
 - EXISTING FORESTED WETLAND PRESERVATION (4.0 ACRES)
 - ACCESS ROAD, STABILIZE WITH MILLET
 - EMERGENT MARSH CREATION (6.2 ACRES)
 - WETLAND BUFFER ENHANCEMENT (21.0 ACRES)(SEE NOTE 2)
 - FORESTED WETLAND ENHANCEMENT (7.8 ACRES)(SEE NOTE 3)
 - FORESTED WETLAND CREATION (38.1 ACRES)
 - FLOW-WAY CREATION (14.3 ACRES)
 - SIC PROPOSED SURMOUNT REMAINED AREAS (113.1 ACRES)

- NOTES:**
- SEE PLANTING PLAN TABLES ON WM11 AND WM12 FOR ZONE PLANTINGS.
 - INCLUDES CELL 2 TREE ISLAND ACREAGE.
 - ACREAGE INCLUDES AREAS (0.8 AC) OUTSIDE OF CELL 3 WHICH WILL BE PLANTED WITH CELL 3 ZONE 2 SPECIES.

DATE		APPROVED BY		CERTIFICATE OF AUTHORIZATION # 841	
DEC 2011		WALTER A. NUCKE		19270-048 (D)	
SCALE		PROJECT NO.		PROJECT NAME	
1" = 150'		655238		WETLAND MITIGATION OVERALL SITE PLAN	
DRAWN		CHECKED		DESIGNED	
URUSARIO		JANICKEL		AGOODWIN	
PROJECT		DATE		DATE	
WM1		11/15/11		11/15/11	
PROJECT		DATE		DATE	
19270-048		11/15/11		11/15/11	
PROJECT		DATE		DATE	
19270-048		11/15/11		11/15/11	

WETLAND MITIGATION OVERALL SITE PLAN

MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA



Exhibit "B" to MOA

CELL 1 (17.1-AC) - VEGETATION PLANTING PLAN TABLE. Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

CELL 2 (15.1-AC) - VEGETATION PLANTING PLAN TABLE. Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

CELL 3 (13.7-AC) - VEGETATION PLANTING PLAN TABLE. Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

CANAL 4 (0.9-AC) - VEGETATION PLANTING PLAN TABLE. Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

CELL 2 (15.1-AC) - VEGETATION PLANTING PLAN TABLE. Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

CELL 3 (13.7-AC) - VEGETATION PLANTING PLAN TABLE. Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

CELL 1 (17.1-AC) - VEGETATION PLANTING PLAN TABLE. Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

CELL 2 (14.4-AC) (EL. 6.0). Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

CELL 3 (0.3-AC) (EL. 3.5-EL. 4.5). Table with columns: TYPE, SCIENTIFIC NAME, COMMON NAME, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES, PLANT SPACING (FT ON CENTER), PLANT SIZE, NUMBER OF PLANTS, % OF PLANT SPECIES.

FINAL REV 3

NOTES:
* PLANTING QUANTITIES INCLUDE A 10% INCREASE FOR POTENTIAL MORTALITY.
** 13.7-AC, EQUALS 12.9 ACRES IN CELL 3 AND 0.81-AC IN CELL 1, 2, OR 3.
ADJACENT 500' WADSWORTH ARE NOT IN CELLS 1, 2, OR 3.

REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA. MASTERS TRACT WETLAND MITIGATION PLANTING TABLES. Includes logos for Jones Edmunds and project details.

Summary table with columns: TYPE, DATE, PREPARED BY, CHECKED BY, APPROVED BY, PROJECT NO., DATE, DWG. NO., DWG. TITLE, SCALE, DATE, PROJECT NO., DATE, DWG. NO., DWG. TITLE.

Exhibit "B" to MOA

DI> CANAL 4 NORTH (4.4-AC) - VEGETATION PLANTING PLAN TABLE

TYPE	SCIENTIFIC NAME	COMMON NAME	PLANT SPACING (FT ON CENTER)	PLANT SIZE	% OF PLANT SPECIES	NUMBER OF PLANTS*
HERB	<i>Spartina bakeri</i>	SAND CORDGRASS	3	2" LINER	50	746
	<i>Juncus effusus</i>	SOFT RUSH				245
						159
SUBTOTAL					100	1,150
HERB	<i>Elychalis sp.</i>	SPARGELIS	3	3" BUSH	10	1,843
	<i>Panicum urticaria</i>	MUSGRAVE				1,143
	<i>Cladium jamaicense</i>	SWAMPGRASS				1,043
	<i>Halim. tenoziata</i>	HEP. FLAG				3,487
	<i>Pontederia zosterata</i>	PICKERELWEED				25
	<i>Sagittaria latifolia</i>	DAK. POPLAR				15
SUBTOTAL					100	19,433
HERB	<i>Cladium jamaicense</i>	SWAMPGRASS	3	BARE FOOT	35	549
	<i>Sclerpus californicus</i>	BULRUSH				35
	<i>Fontenaria zosterata</i>	PICKERELWEED				30
SUBTOTAL					100	1,597

DI> WETLAND BUFFER ENHANCEMENT (21.0-AC) - VEGETATION PLANTING PLAN TABLE

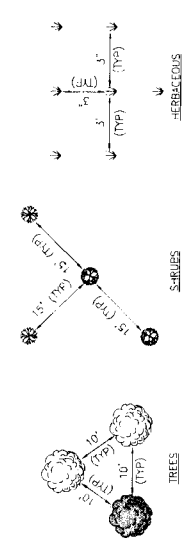
TYPE	SCIENTIFIC NAME	COMMON NAME	PLANT SPACING (FT ON CENTER)	PLANT SIZE	% OF PLANT SPECIES	NUMBER OF PLANTS*				
TREE	<i>Quercus virginiana</i>	LIVE OAK	10	1 GAL	15	1,509				
	<i>Liquidambar styraciflua</i>	SWEETGUM				20				
	<i>Sabal palmetto</i>	CABBAGE PALM				15				
	<i>Diospyros virginiana</i>	PERSIMMON				10				
	<i>Carya glabra</i>	PENUT Hickory				10				
	<i>Carexus caroliniana</i>	MUSLEGGOOD				10				
	<i>Myrica cerifera</i>	WAX MYRTLE				100				
	<i>Ely. glabra</i>	GALLBERY				25				
	<i>Ely. americana</i>	BEAUTYBERRY				1				
	<i>Calliandra americana</i>	BEAUTYBERRY				50				
HERB	<i>Aristida stricta</i>	WIRE GRASS	6	2" LINER	30	8,385				
	<i>Panicum virgatum</i>	SWITCHGRASS				30				
	<i>Muhlenbergia capillaris</i>	MULPY GRASS				40				
						1,180				
	SUBTOTAL					100	27,957			
	SHRUB	<i>Quercus virginiana</i>				LIVE OAK	15	1 GAL	15	50
<i>Acer rubrum</i>		RED MAPLE	30							
<i>Celtis laevigata</i>		SUGARBERRY	20							
<i>Sabal palmetto</i>		CABBAGE PALM	20							
<i>Carpinus caroliniana</i>		MUSLEGGOOD	15							
<i>Myrica cerifera</i>		WAX MYRTLE	100							
<i>Ely. glabra</i>		GALLBERY	35							
<i>Ely. americana</i>		BEAUTYBERRY	30							
<i>Calliandra americana</i>		BEAUTYBERRY	35							
<i>Muhlenbergia capillaris</i>		MULPY GRASS	50							
SUBTOTAL					100	468				
CELL 2 TREE ISLAND (EL. 7.0 - LL. 3.0)										
HERB	<i>Quercus virginiana</i>	LIVE OAK	10	1 GAL	35	101				
	<i>Acer rubrum</i>	RED MAPLE				20				
	<i>Celtis laevigata</i>	SUGARBERRY				20				
	<i>Sabal palmetto</i>	CABBAGE PALM				67				
	<i>Carpinus caroliniana</i>	MUSLEGGOOD				15				
	<i>Myrica cerifera</i>	WAX MYRTLE				100				
SHRUB	<i>Ely. glabra</i>	GALLBERY	15	1 GAL	35	52				
	<i>Ely. americana</i>	BEAUTYBERRY				30				
	<i>Calliandra americana</i>	BEAUTYBERRY				35				
	<i>Panicum virgatum</i>	SWITCHGRASS				100				
	<i>Muhlenbergia capillaris</i>	MULPY GRASS				50				
	<i>Myrica cerifera</i>	WAX MYRTLE				100				
SUBTOTAL					100	522				

NOTE: * PLANTING QUANTITIES INCLUDE A 10% INCREASE FOR POTENTIAL MORTALITY.

- PLANTING PLAN NOTES**
- PLANT MATERIAL SHALL BE CONTAINER GROWN FLORIDA #1 OR BETTER AS OUTLINED BY GRADES AND STANDARDS FOR NURSERY PLANTS, DIVISION OF PLANT INDUSTRY, FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.
 - PLANTING WILL NOT BE CONDUCTED UNTIL AS-BUILT SURVEY HAS BEEN REVIEWED AND ACCEPTED BY ENGINEER AND OWNER.
 - SUBSTITUTIONS TO PLANTING PLAN CAN BE MADE BASED ON PLANT AVAILABILITY AND AS-BUILT SURV. CHARACTERISTICS BUT MUST BE FIRST APPROVED BY OWNER'S PROJECT MANAGER.
 - PLANTS INSTALLED IN ZONES 1-4 OF THE CONSTRUCTED WETLANDS SHALL BE INSTALLED IN LARGE GROUPS OF THE SAME SPECIES.
 - CONTRACTOR SHALL INSTALL BLUE FLAG AND SOFT RUSH IN LARGE GROUPS OF THE SAME SPECIES ON 3' FOOT CENTERS IN THE LOWER HALF OF ZONE 1 FOR LITTORAL SHELF, CANAL 4 AND 4" FLOW-WAYS, AND WETLAND CREATION CELLS 1-3. SAND CORDGRASS SHALL BE INSTALLED ON 3' FOOT CENTERS IN THE UPPER HALF OF ZONE 1. HOWEVER, SAND CORDGRASS SHALL BE INSTALLED IN A STAGGERED PATTERN IN ZONE 1. PLANTS SHALL BE PLANTED TO MAINTAIN A LISTING "BREAK" IN PLANT SPECIES. CONTRACTOR SHALL INSTALL BUSH ON 15' FOOT CENTERS IN THE LOWER HALF OF ZONE 2 IN CELLS 1, 2, AND 3.
 - CONTRACTOR SHALL BARE ZONE 2 OF ALL CREATION AREAS TO LOOSEN SOIL PRIOR TO PLANT MATERIAL INSTALLATION.
 - WATER LILY OR SPATTERDOCK SHALL BE PLANTED IN THE LOWER ELEVATIONS OF ZONE 3 IN THE LITTORAL SHELF AND CELLS 1, 2, AND 3.
 - WETLAND BUFFER PLANTINGS SHOULD BEGIN FROM THE TOP OF ZONE 1 IN CREATION AREAS, FLOW-WAYS, AND LITTORAL SHELF.

WETLAND CREATION CELL NOTE

ZONE 1 REPRESENTS 5:1 SIDE SLOPES FROM TCI OF WETLAND CREATION AREAS UP TO UPLAND GRADE. ZONE 2 REPRESENTS THE WETLAND BASIN.



PLANTING SCHEME

FINAL REV 3

<p>JONES EDMUNDS 730 W. WALTON ROAD, GAINESVILLE, FLORIDA 32601 (352) 377-0801</p>	<p>MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA</p>	<p>WETLAND MITIGATION PLANTING TABLES, DETAILS, AND NOTES</p>	<p>CERTIFICATE OF AUTHORIZATION #141 APPROVED BY WALLER A. NICKEL P.E. / FRC-13</p>	<p>DATE DEC. 2011</p> <p>SCALE NONE</p>	<p>PROJECT NO. 13270-048-C</p> <p>DWG. NO. WM12</p>
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Exhibit "B" to MOA

WETLAND MONITORING & MITIGATION NOTES

1. TO SHOW COMPLIANCE WITH THE PERFORMANCE STANDARDS OUTLINED IN THE USAGE PERMIT, CONTRACTOR SHALL COMPLETE THE FOLLOWING:
 - a. PERFORM A TIME-ZERO MONITORING EVENT OF THE PROJECT SITES WITHIN 60 DAYS OF COMPLETION OF THE WETLAND AND UPLAND PLANTING.
 - b. SUBMIT THE TIME-ZERO REPORT TO THE COUNTY WITHIN 45 DAYS OF COMPLETION OF MONITORING EVENT. THE REPORT SHALL INCLUDE A PARAGRAPH DISCUSSING BASELINE CONDITIONS OF THE PROJECT AREAS BEFORE INITIATION OF WORK AND A DETAILED PLAN VIEW DRAWING OF ALL ENHANCED/CREATED AREAS. THE REPORT SHALL ALSO INCLUDE AS-BUILT DRAWINGS THAT DEPICT THE CREATION AND ENHANCEMENT ACTIVITIES.
 - c. PERFORM SEMI-ANNUAL MONITORING OF THE WORK AREAS FOR THE FIRST 3 YEARS AND ANNUAL MONITORING THEREAFTER FOR A TOTAL OF 5 YEARS OF MONITORING.
 - d. SUBMIT UP TO FIVE ANNUAL REPORTS TO THE COUNTY WITHIN 45 DAYS OF COMPLETION OF THE MONITORING EVENT (SEMI-ANNUAL MONITORING IS COMBINED INTO ONE REPORT). ANNUAL MONITORING REPORTS SHALL BE A MAXIMUM OF 10 PAGES AND COMPLY WITH REPORTING FORMAT AND REQUIRED CONTENT OUTLINED IN THE USAGE PERMIT.
2. SITES WILL BE CONSIDERED SUCCESSFUL AND RELEASED FROM MONITORING AND REPORTING REQUIREMENTS WHEN THE FOLLOWING CRITERIA ARE MET CONTINUOUSLY FOR AT LEAST 1 YEAR WITHOUT INTERVENTION IN THE FORM OF IRRIGATION OR THE ADDITION OR REMOVAL OF VEGETATION:
 - a. 80% COVER OF DESIRABLE WETLAND PLANT SPECIES IN WETLAND CREATION AND ENHANCEMENT AREAS.
 - b. 75% SURVIVAL OF SHRUB AND TREE PLANT MATERIAL.
 - c. POSITIVE TREE GROWTH RATES FOR TWO CONSECUTIVE YEARS.
 - d. LESS THAN 10% COVER BY NUISANCE AND/OR INVASIVE EXOTIC PLANT SPECIES.

MAINTENANCE NOTES

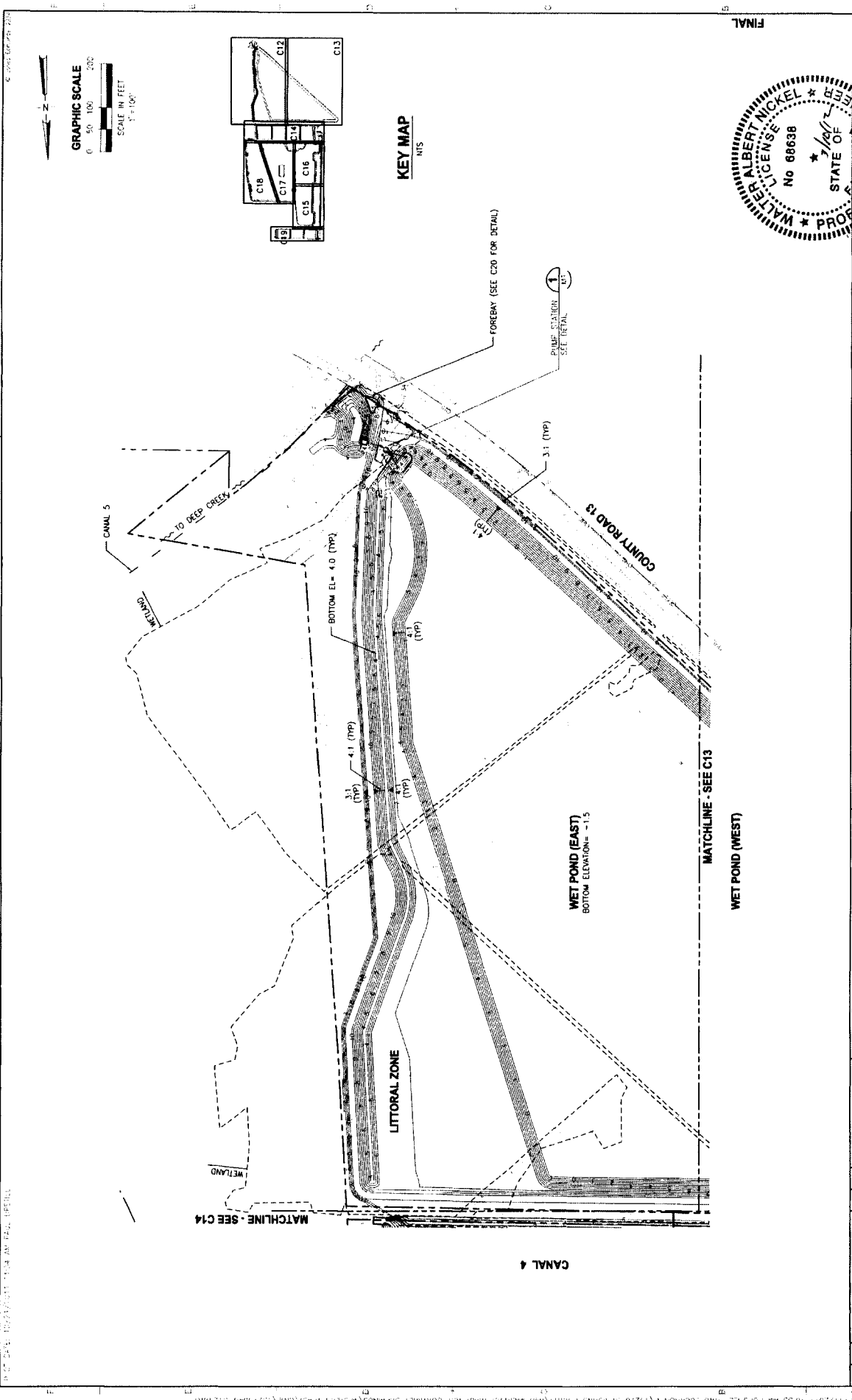
1. COVER CATEGORIES I AND II INVASIVE EXOTIC PLANT SPECIES, PURSUANT TO THE MOST CURRENT LISTED ESTABLISHED BY THE FLORIDA EXOTIC PEST PLANT COUNCIL, AND THE NUISANCE SPECIES WHOSE WILLOW (*LUDWIGA REPENS*), DOG FENNEL (*EUPATORIUM CAPILLIFOLIUM*), BERMUDA GRASS (*CYNODON SPP.*), BAHIA GRASS (*PAISALUM NOTATUM*), AND CATTAIL (*TYPHA SPP.*) SHALL TOTAL LESS THAN 10 PERCENT IN ALL WETLAND CREATION AND ENHANCEMENT AREAS.
2. MAINTENANCE SHALL BE CONDUCTED SEMI-ANNUALLY OR AS NEEDED TO MAINTAIN INVASIVE AND EXOTIC PLANT COVER BELOW 10% WITHIN THE PROPERTY.
3. ALL REMOVED PLANT MATERIAL WILL BE PROPERLY DISPOSED OFF-SITE AT A LANDFILL OR OTHER APPROPRIATE WASTE COLLECTION SITE.
4. ONLY HERBICIDES APPROVED FOR AQUATIC APPLICATIONS SHALL BE UTILIZED IN THE WETLAND MITIGATION AREAS.
5. ALL LICENSED AQUATIC COMMERCIAL PESTICIDES / HERBICIDE APPLICATOR SHALL CONDUCT ALL HERBICIDE APPLICATIONS.
6. NO MOTORIZED VEHICLES SHALL BE USED BEYOND THE LIMITS OF CONSTRUCTION AREAS, SPECIFICALLY NOT WITHIN DESIGNATED CONSERVATION EASEMENT AREAS EXCEPT FOR THE PURPOSE OF IMPLEMENTING THE MITIGATION ACTIVITIES. HAND HELD MECHANIZED EQUIPMENT SHALL ONLY BE UTILIZED IN WETLAND AREAS FOR THE PURPOSE OF REMOVING EXOTIC / NUISANCE SPECIES.



**MASTERS TRACT
REGIONAL STORMWATER TREATMENT FACILITY
ST. JOHNS COUNTY, FLORIDA**

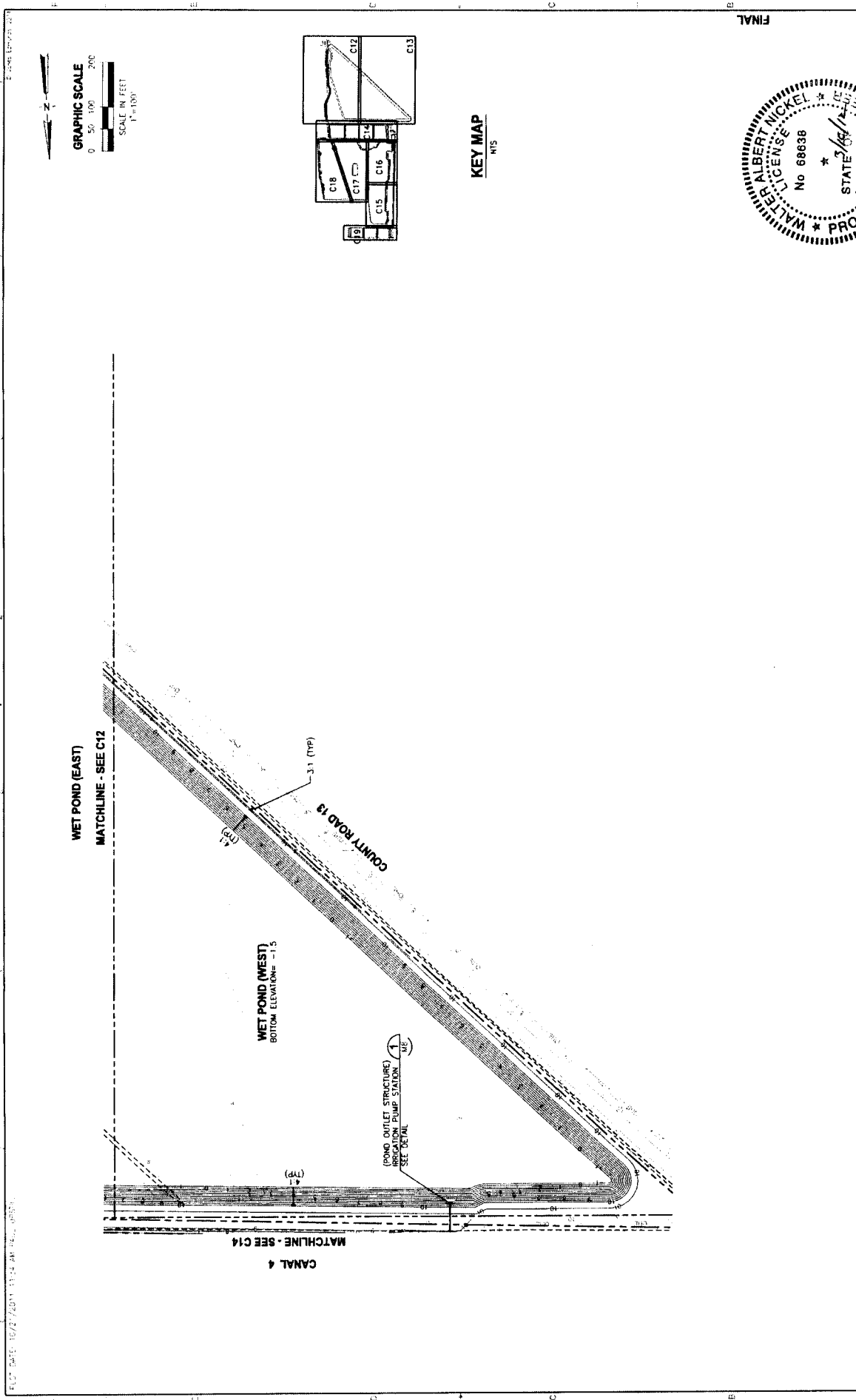
**WETLAND MITIGATION MONITORING
AND MAINTENANCE PLAN**

CERTIFICATE OF AUTHORIZATION # 041 APPROVED BY: _____ DATE: DEC 2011		PROJECT NO. 19270-048-01
DATE: _____ BY: _____	DATE: _____ BY: _____	PROJECT NO. 19270-048-01

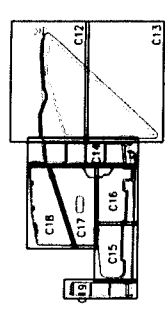
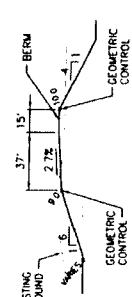
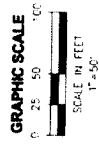
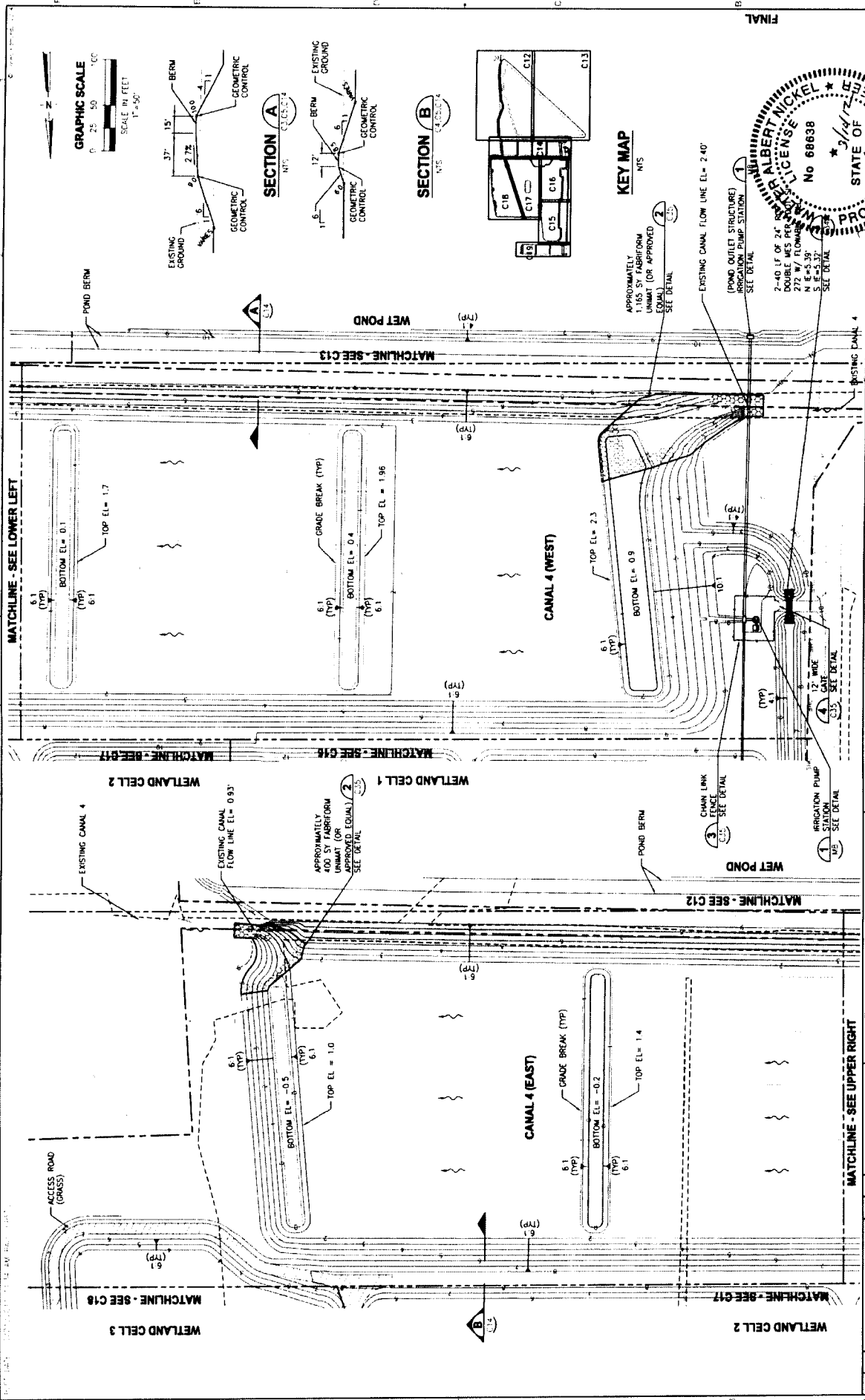


PROJECT NO. 19270-048-01		DATE 11/11/03	
DRAWN BY WALTER A. NICKEL		CHECKED BY WALTER A. NICKEL	
PROJECT TITLE MSTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA		SHEET NO. C12	
TOTAL SHEETS 12		SCALE 1" = 100'	
DESIGNER JONES EDMONDS		PROJECT NO. 19270-048-01	
DESIGNER JONES EDMONDS		DATE 11/11/03	
CHECKED WALTER A. NICKEL		PROJECT TITLE MSTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	
DRAWN BY WALTER A. NICKEL		SHEET NO. C12	
TOTAL SHEETS 12		SCALE 1" = 100'	

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 CONTRACT NO.: 19270-048-01
 DRAWING NO.: 19270-048-01-C12.dwg



DATE: 10/27/2011 10:34 AM	FILE: 10220-048-C13.DWG	PROJECT NO: 10220-048-C13	SCALE: 1" = 100'
DESIGNED BY: ALGOODEN	DRAWN BY: JURISBARCO	CHECKED BY: WINICKEL	DATE: 10/27/2011
PROJECT: GRADING PLAN - WET POND (WEST)	Masters Tract Regional Stormwater Treatment Facility St. Johns County, Florida		



KEY MAP
NTS

APPROXIMATELY
1,165 SY FABRIFORM
UNIMAT (OR APPROVED
EQUAL)
SEE DETAIL

EXISTING CANAL FLOW LINE EL = 2.40'

(POND OUTLET STRUCTURE)
IRRIGATION PUMP STATION
SEE DETAIL

2-40 LF OF 24" DIA
DOUBLE WCS PER
472 W/ CONCRETE
S. I.E. 5-37
SEE DETAIL

ALBERT NICKEL
No 68638
STATE OF
FLORIDA

PROJECT NO.	19270-048-01
DWG. NO.	C14
DATE	11-2-10
DESIGNED BY	F. J. BRUCE
CHECKED BY	
IN CHARGE	
DATE	

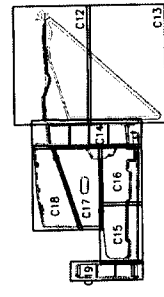
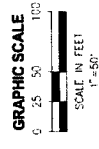
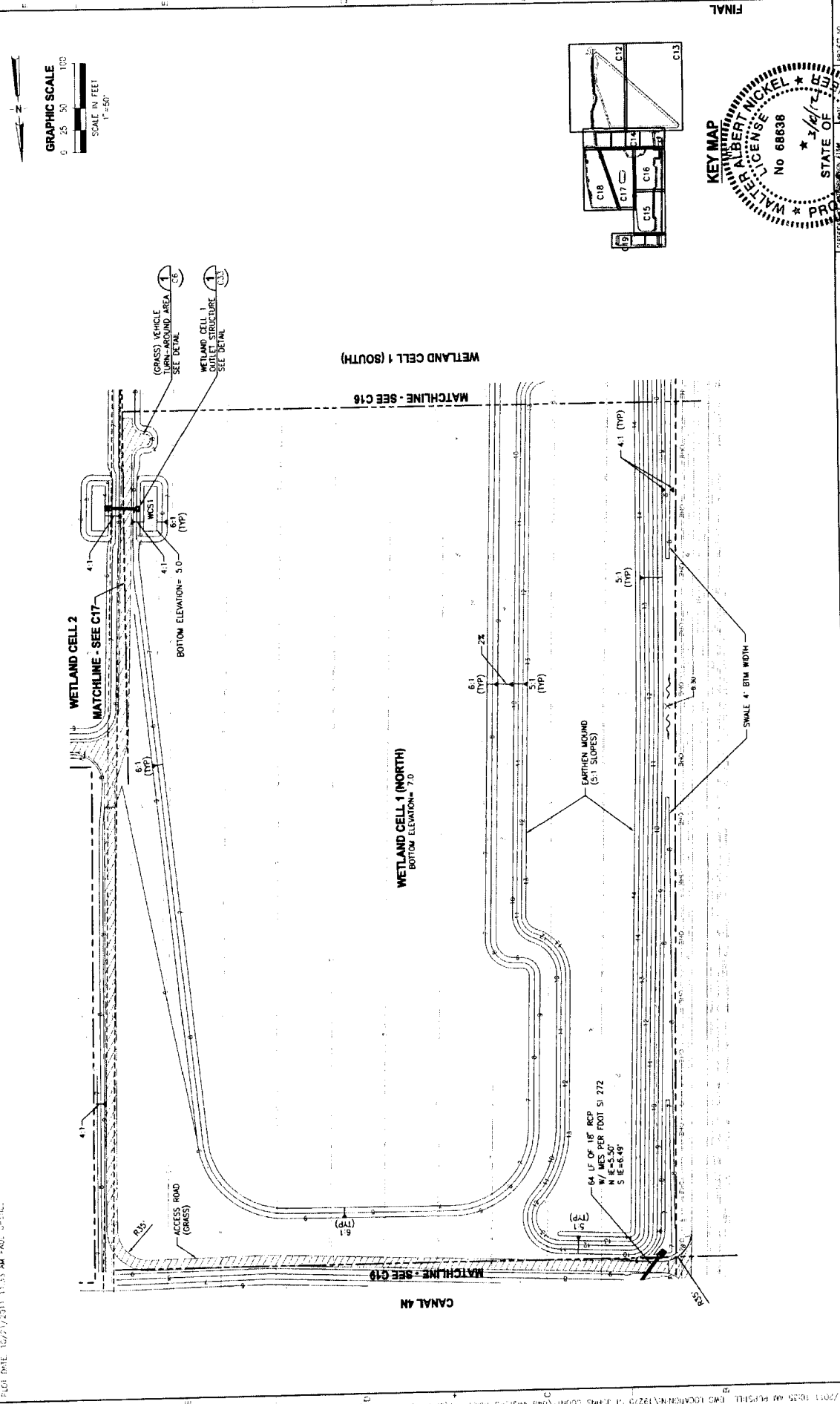
GRADING PLAN - CANAL 4

MASTERS TRACT
REGIONAL STORMWATER TREATMENT FACILITY
ST. JOHNS COUNTY, FLORIDA

JONES EDMUNDS
710 N. WALDO ROAD, CAMDENVILLE, FLORIDA 32131 (386) 277-1811

DESIGNER	AGOODEN
DRAWN	IRVING
CHECKED	WINKEL
IN CHARGE	
DATE	

DATE: 10/27/2011 11:33 AM PROJ: 126294-1



FINAL

PROJECT NO. 126294-01

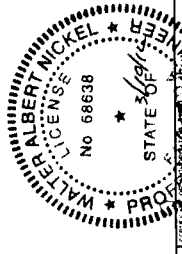
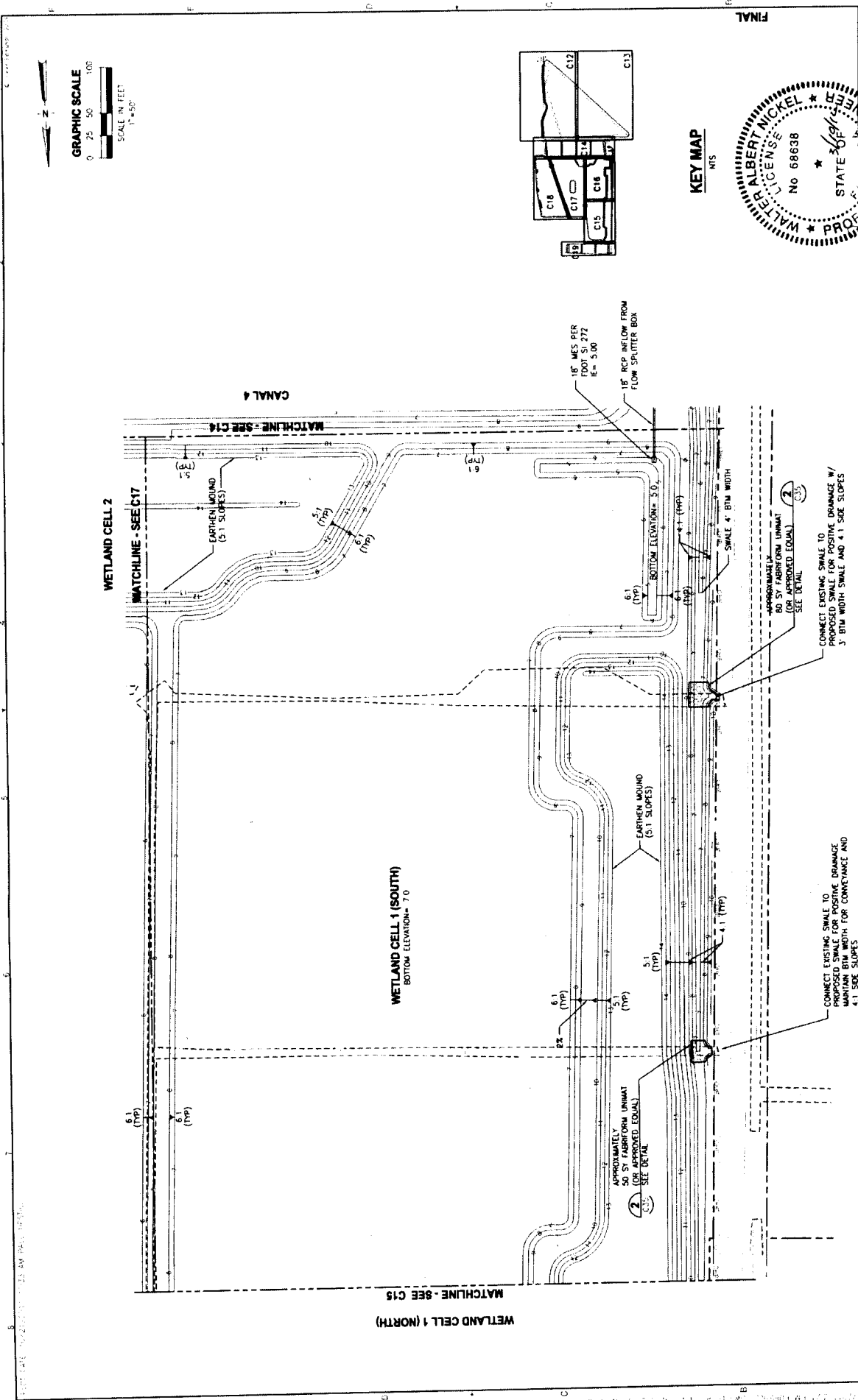
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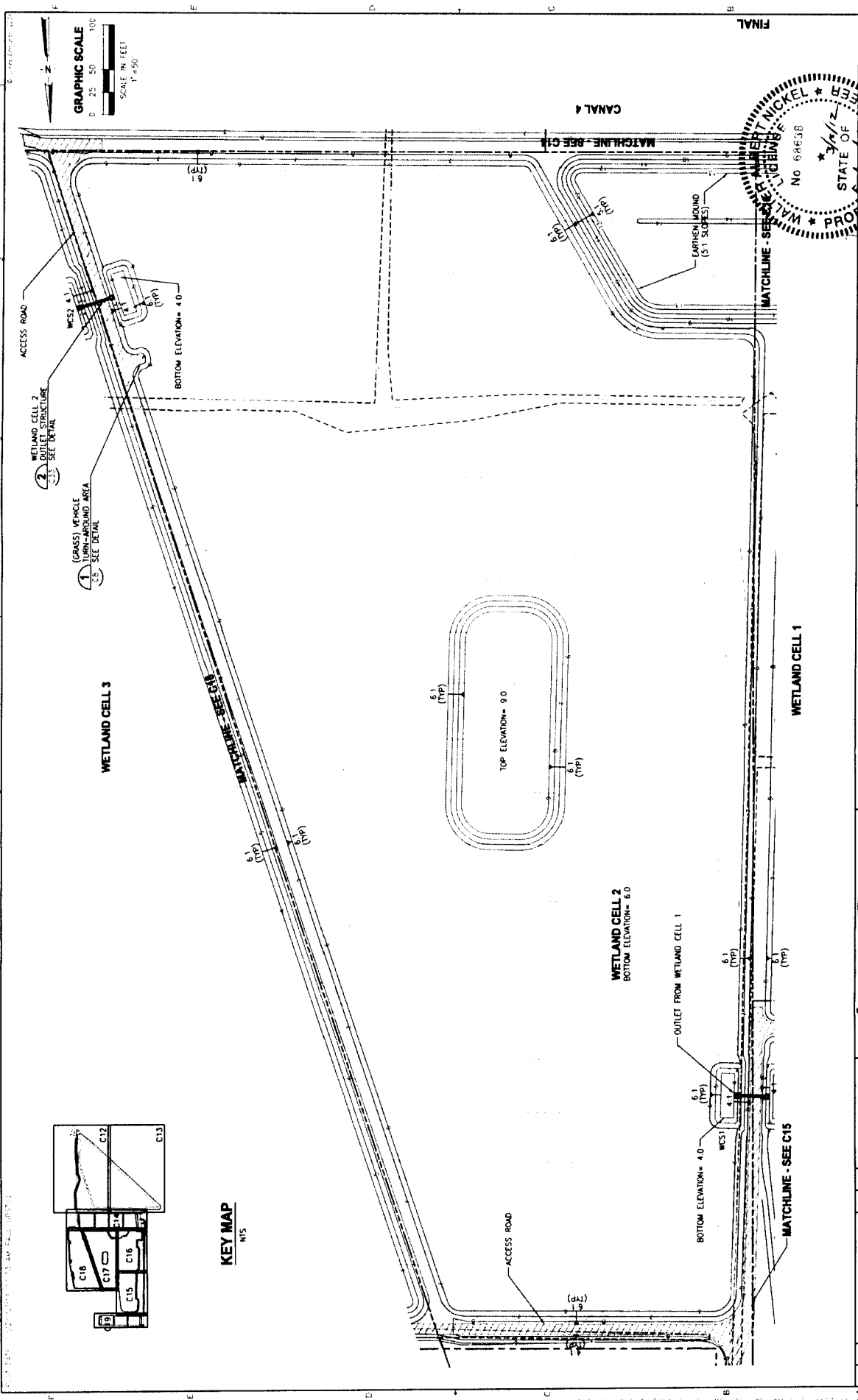
STATE OF FLORIDA

WALTER ALBERT NICKEL
Professional Engineer
No. 68838

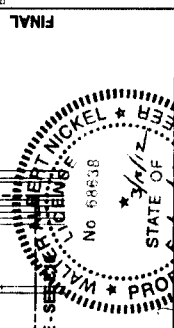
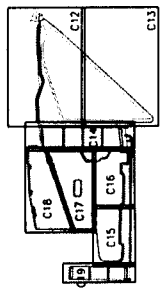
JONES EDMUNDS 720 W WALDO ROAD, GAINESVILLE, FLORIDA 32641-7351 (352) 377-5481		MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA		GRADING PLAN - WETLAND CELL 1 (NORTH)	
REPORT	AGOODEN	DRAWN	JURISARD	CHECKED	NICKEL
DATE		DATE		DATE	



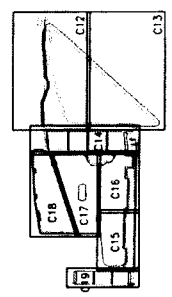
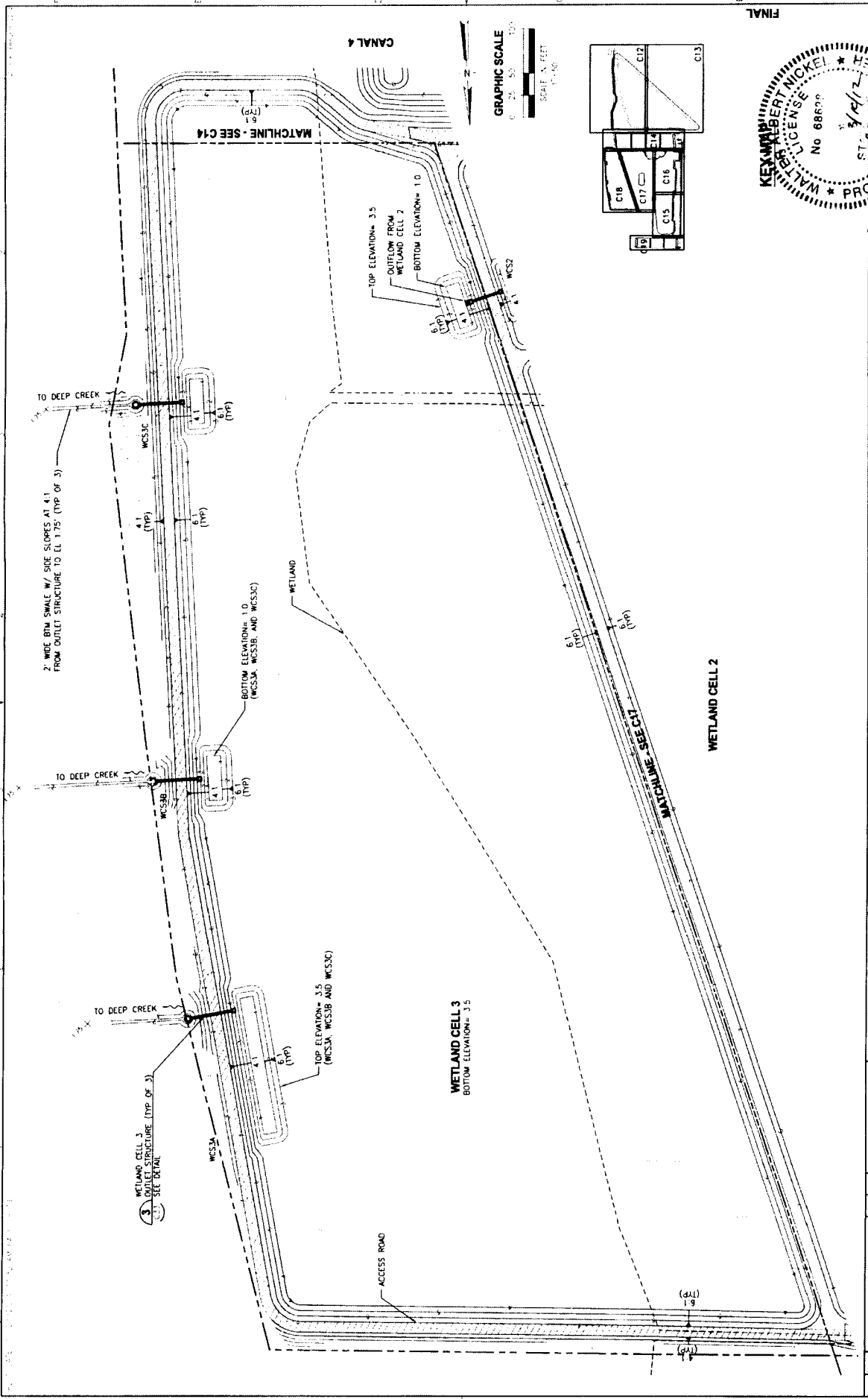
PROJECT NO. 19270-046-01 DATE 11/15/2011 DRAWING NO. 216	
GRADING PLAN - WETLAND CELL 1 (SOUTH)	
MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	
JONES EDMUNDS <small>210 W. WALTON BOULEVARD, SUITE 1000, TAMPA, FLORIDA 33601-1711</small>	
DESIGNER CHECKED IN CHARGE	APPROVED DATE PROJECT NO.
DATE SCALE REVISIONS	PROJECT NO.



- 1 (GRASS) VEHICLE TURN-AROUND AREA SEE DETAIL
- 2 WETLAND CELL 2 OUTLET STRUCTURE SEE DETAIL



PROJECT NO. 19270-046-C1		DATE 11-1-00	
DRAWN BY WALTER A. NICKEL		SCALE 1" = 50'	
CHECKED BY WALTER A. NICKEL		PROJECT NO. 19270-046-C1	
DESIGNED BY AGREVEN		PROJECT TITLE GRADING PLAN - WETLAND CELL 2	
DRAWN BY JOSABO		PROJECT LOCATION MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	
CHECKED BY WICKEL		DRAWING NO. 118 W PALM BLVD, GAINESVILLE, FLORIDA 32601 (352) 377-3411	
DATE	BY	REVISION	



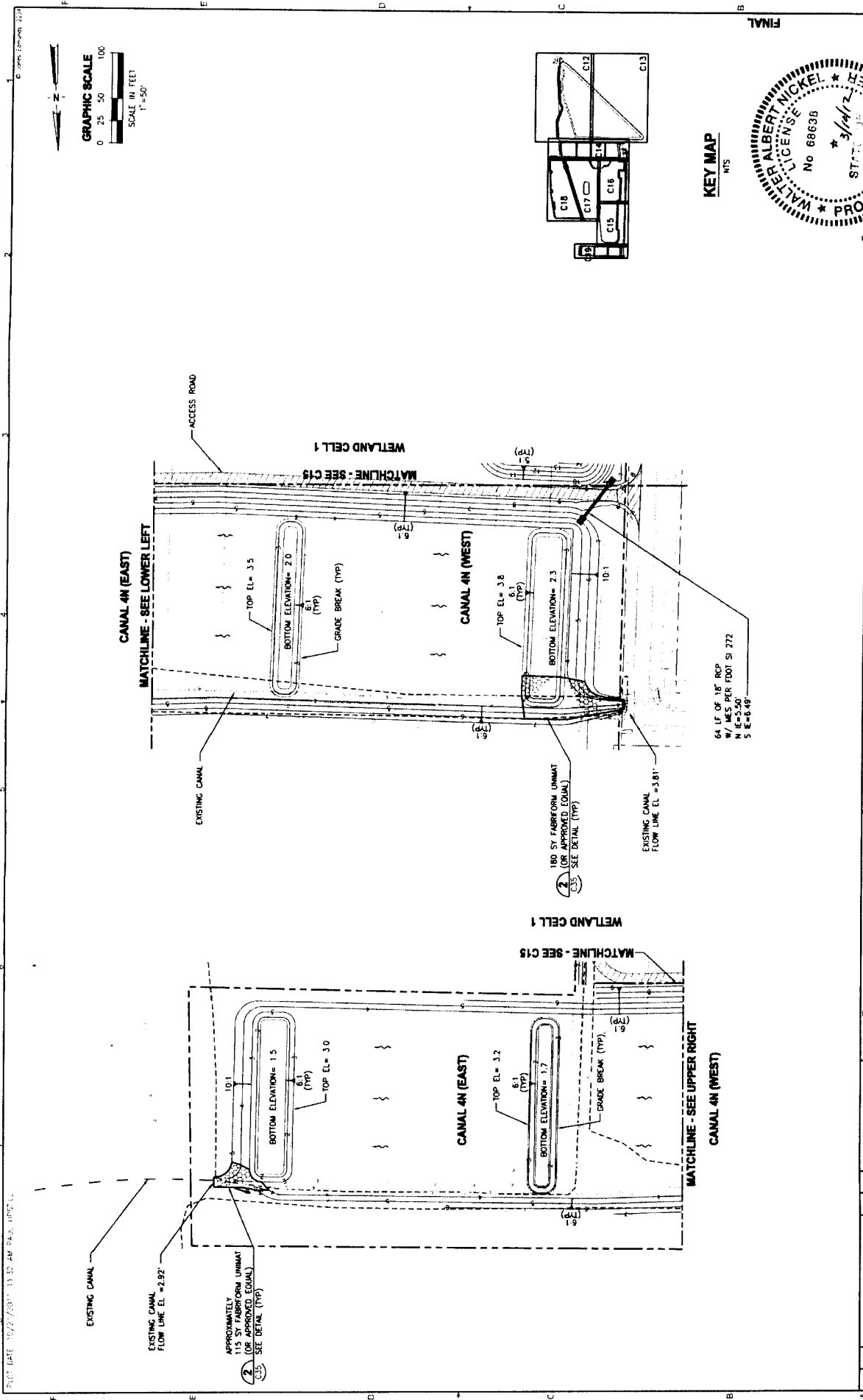
APPROVED BY: *[Signature]*
 DATE: 12/12/12
 PROJECT: ST. JOHN'S COUNTY
 TITLE: GRADING PLAN - WETLAND CELL 3

MASTERS TRACT
 REGIONAL STORMWATER TREATMENT FACILITY
 ST. JOHN'S COUNTY, FLORIDA

JONES EDMUNDS
 170 N. WINDY ROAD, LAKE WORTH, FLORIDA 33464-1700

NO.	DATE	BY	CHKD	DESCRIPTION

NO.	DATE	BY	CHKD	DESCRIPTION



PLOT DATE: 10/27/2011 11:57 AM PLS. 10/27/11

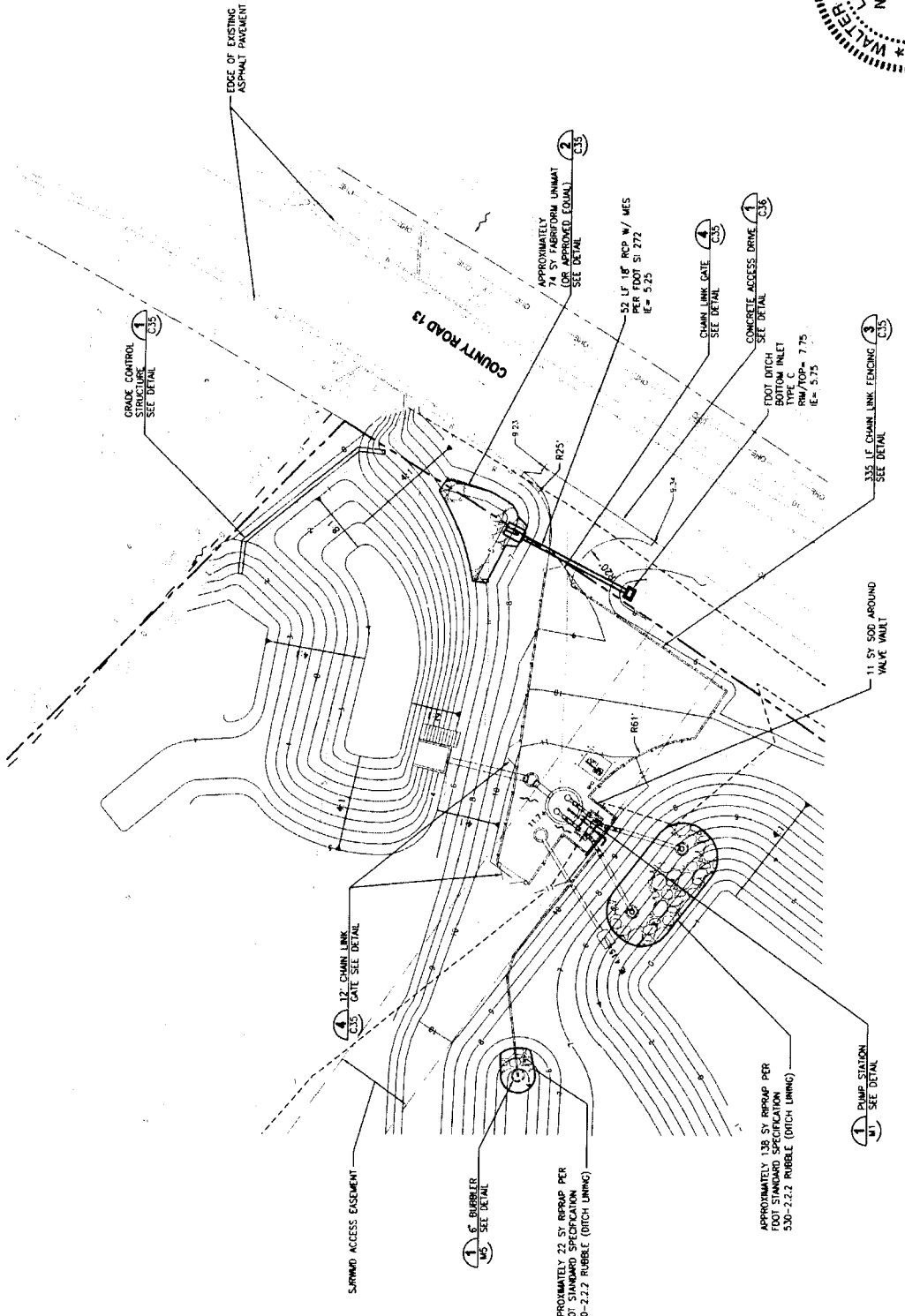
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KEY MAP
NIS



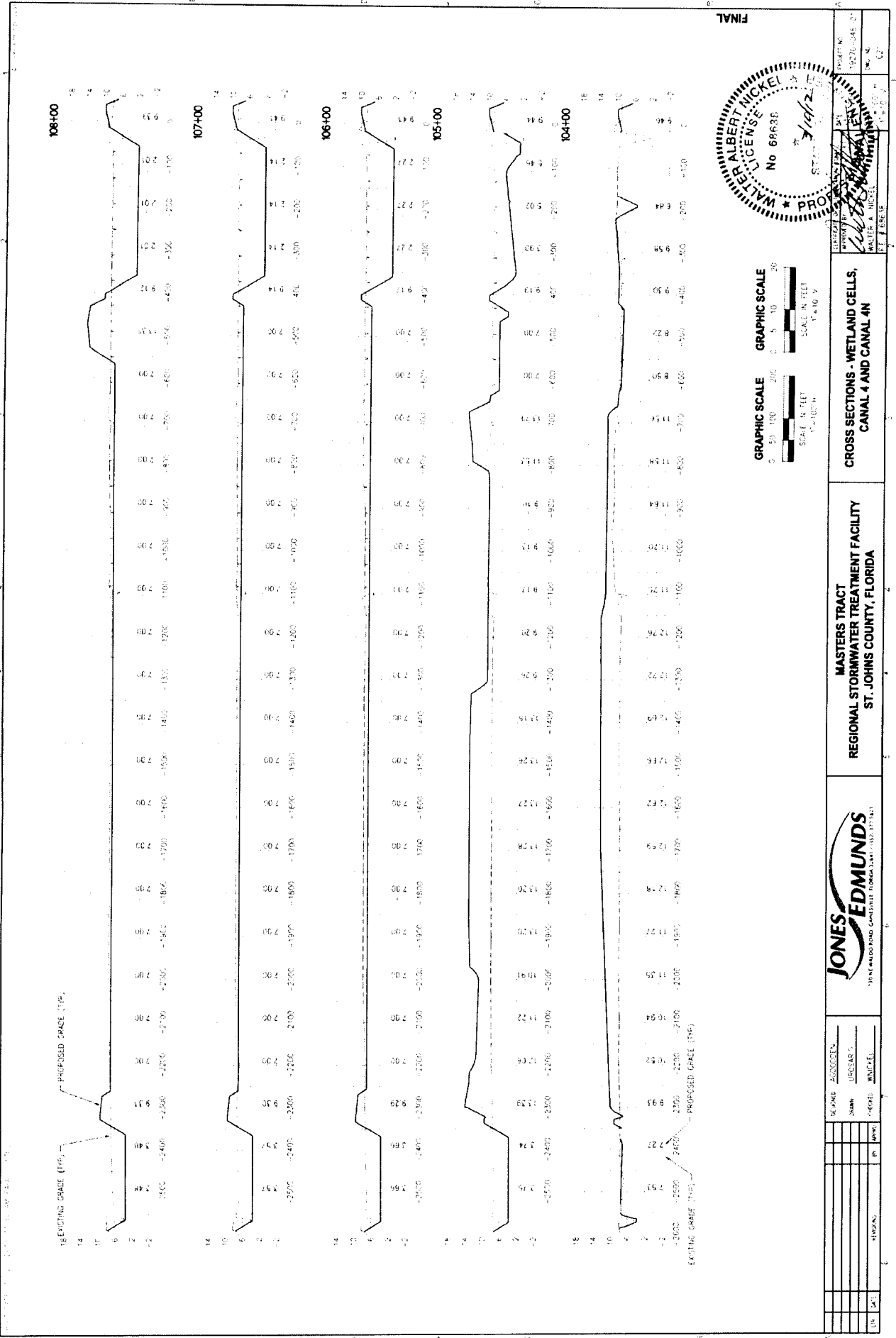
DESIGNED: ACCORDIEN DRAWN: UPOCARO CHECKED: MUNICKEL		JONES EDMUNDS 718 N WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-1811	MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	GRADING PLAN - CANAL 4N	PROJECT NO: 19270-088-01 SHEET NO: C19 DATE: 10/27/2011
DATE: 10/27/2011 TIME: 11:57 AM	DRAWN: UPOCARO CHECKED: MUNICKEL				

DATE: 10/27/2011 11:32 AM PLOT: 095711



PROJECT NO. 19270-C48-01		DWG. NO. C20	
DATE 10/27/2011		SCALE 1"=20'	
DRAWN BY LUCASARIO		CHECKED BY WALDETEL	
DESIGNED BY ACORDOEN		PROJECT MSTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	
DATE 10/27/2011		PROJECT MSTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	
DRAWN BY LUCASARIO		PROJECT MSTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	
DESIGNED BY ACORDOEN		PROJECT MSTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	
DATE 10/27/2011		PROJECT MSTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	





DATE	DESCRIPTION	BY	CHKD

DATE	DESCRIPTION	BY	CHKD

DATE	DESCRIPTION	BY	CHKD

DATE	DESCRIPTION	BY	CHKD

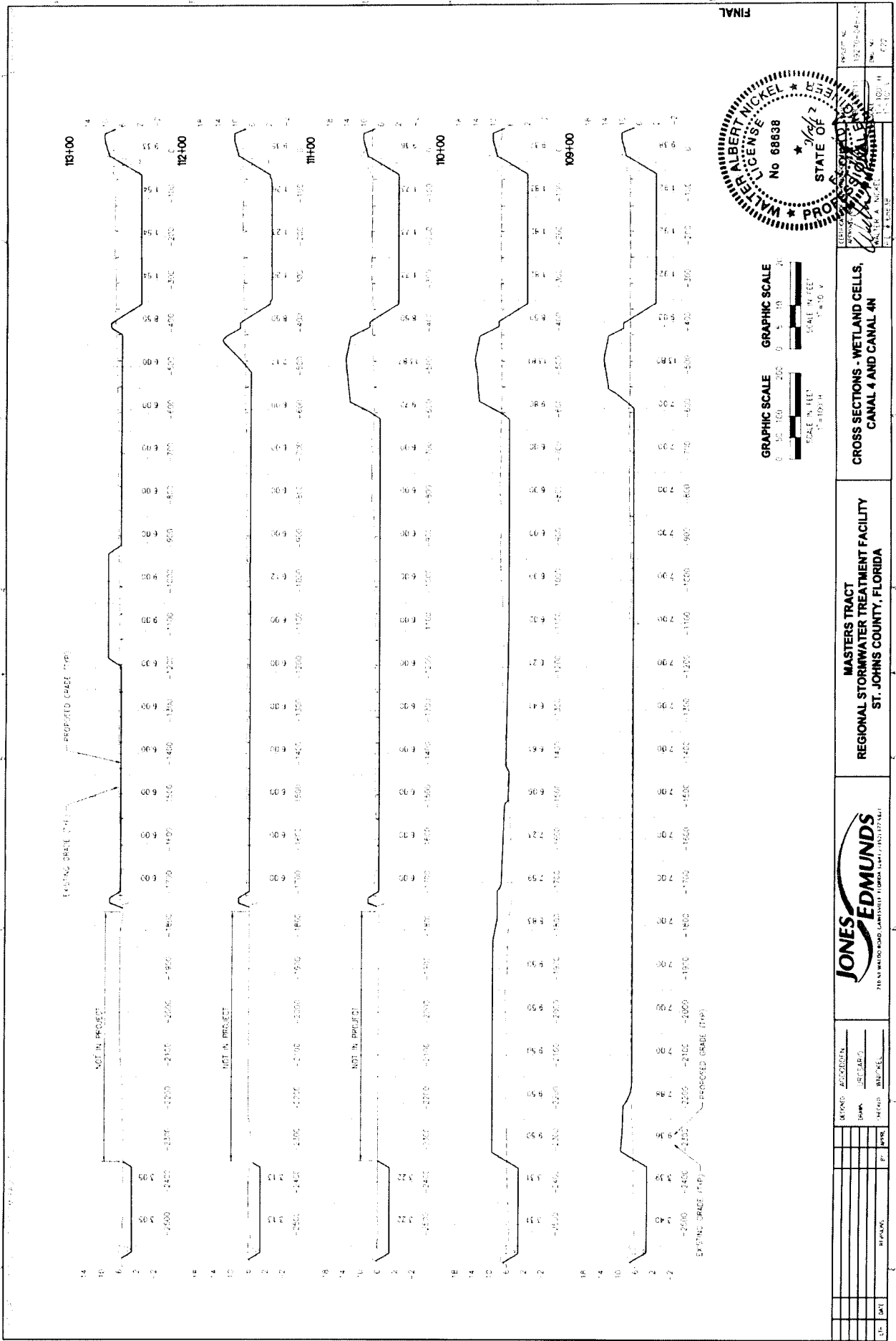
**MASTERS TRACT
REGIONAL STORMWATER TREATMENT FACILITY
ST. JOHNS COUNTY, FLORIDA**

**CROSS SECTIONS - WETLAND CELLS,
CANAL 4 AND CANAL 4N**

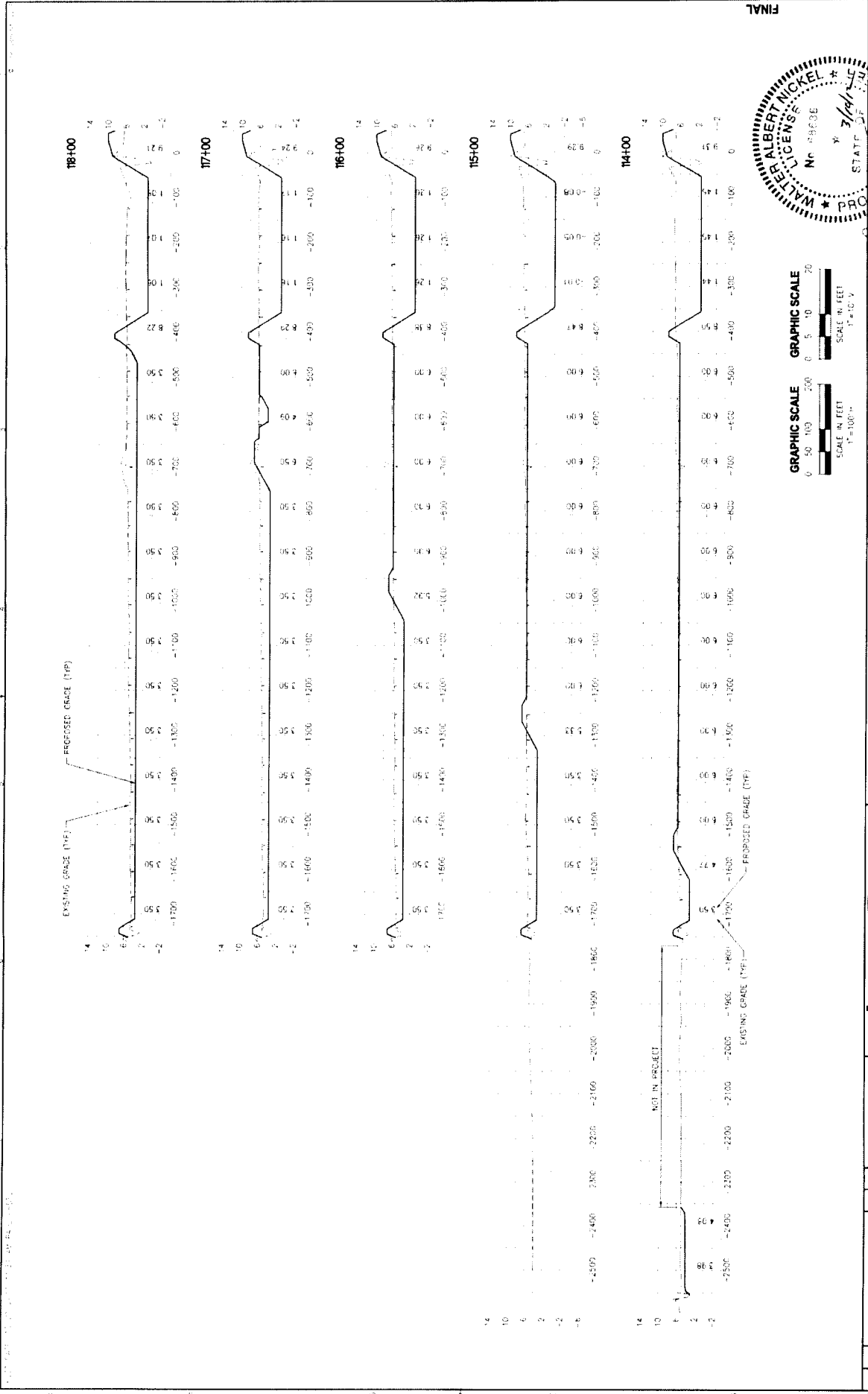


JONES EDMUNDS
1915 N. W. 11th Street, Suite 100
Fort Lauderdale, Florida 33304

PROJECT NO. 126294-1
SHEET NO. 427



FINAL



GRAPHIC SCALE
 0 50 100 200 0 5 10 20
 SCALE IN FEET
 1" = 100'

GRAPHIC SCALE
 0 50 100 200 0 5 10 20
 SCALE IN FEET
 1" = 10'

MASTERS TRACT
 REGIONAL STORMWATER TREATMENT FACILITY
 ST. JOHNS COUNTY, FLORIDA

CROSS SECTIONS - WETLAND CELLS,
 CANAL 4 AND CANAL 4N

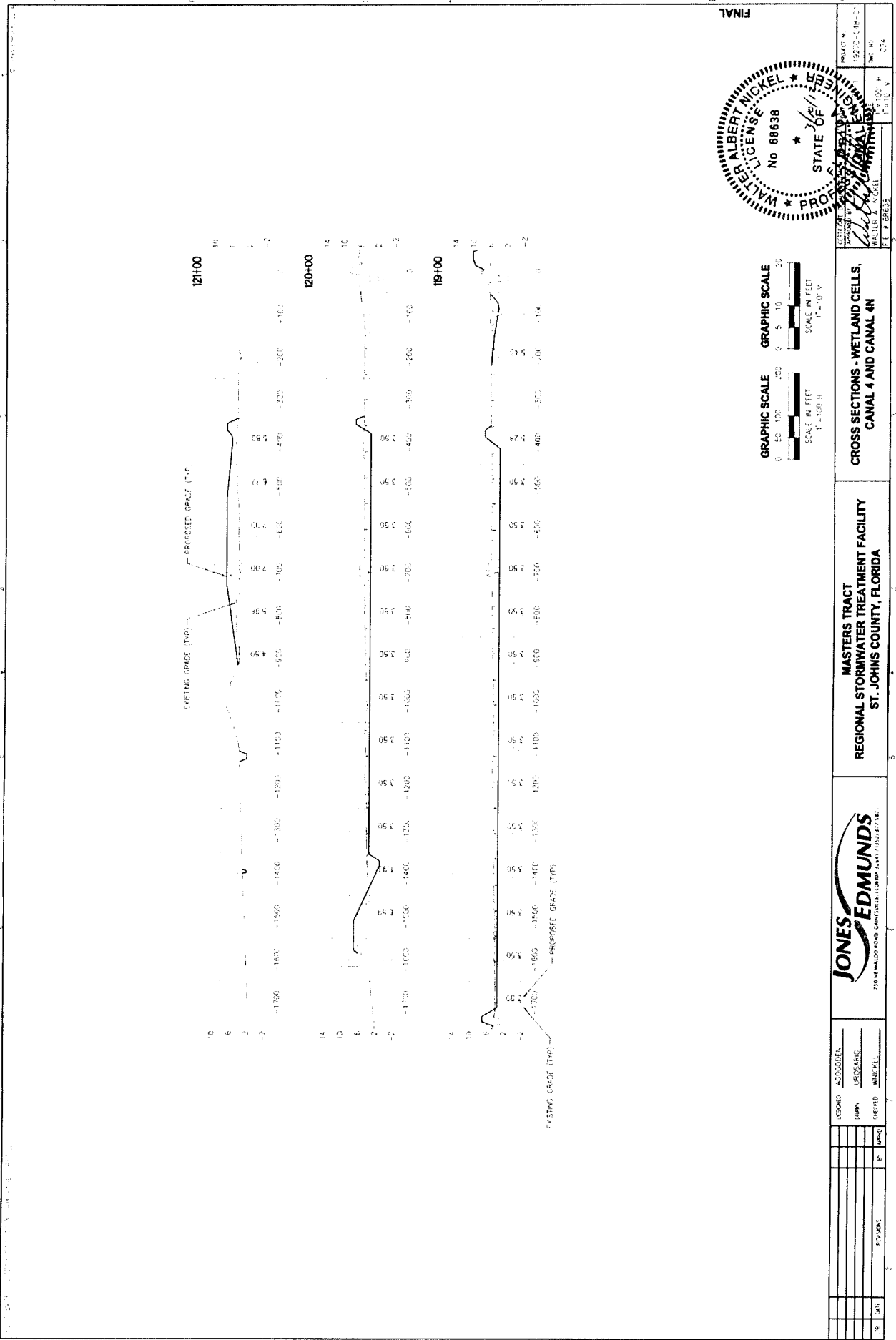
JONES EDMUNDS
 216 N. WALDRON BLVD., SUITE 100, TAMPA, FL 33601

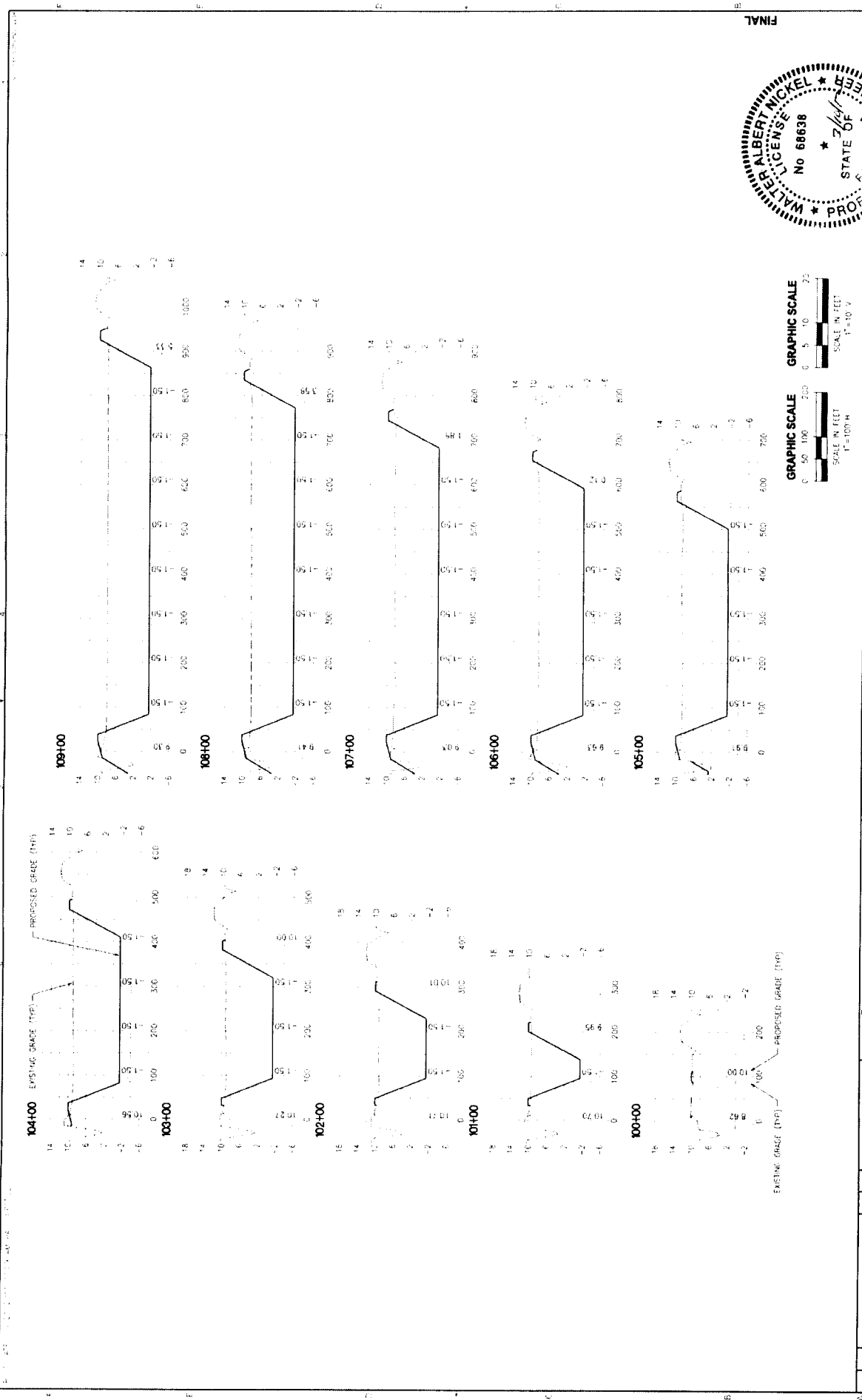
DESIGNED: ACCORDINI
 DRAWN: LUDSARIO
 CHECKED: MURPHY
 DATE: 3/14/12

PROJECT NO: 15270-C45-01
 SHEET NO: 100
 DATE: 3/14/12
 DRAWN BY: LUDSARIO
 CHECKED BY: MURPHY

WALTER ALBERT NICKEL
 No. 89838E
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

FINAL





PROJECT NO. 10270-248-01
 DATE 11/11/11
 DRAWN BY WALTER A. NICKEL
 CHECKED BY WALTER A. NICKEL
 P.L. E. 500.35

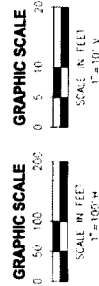
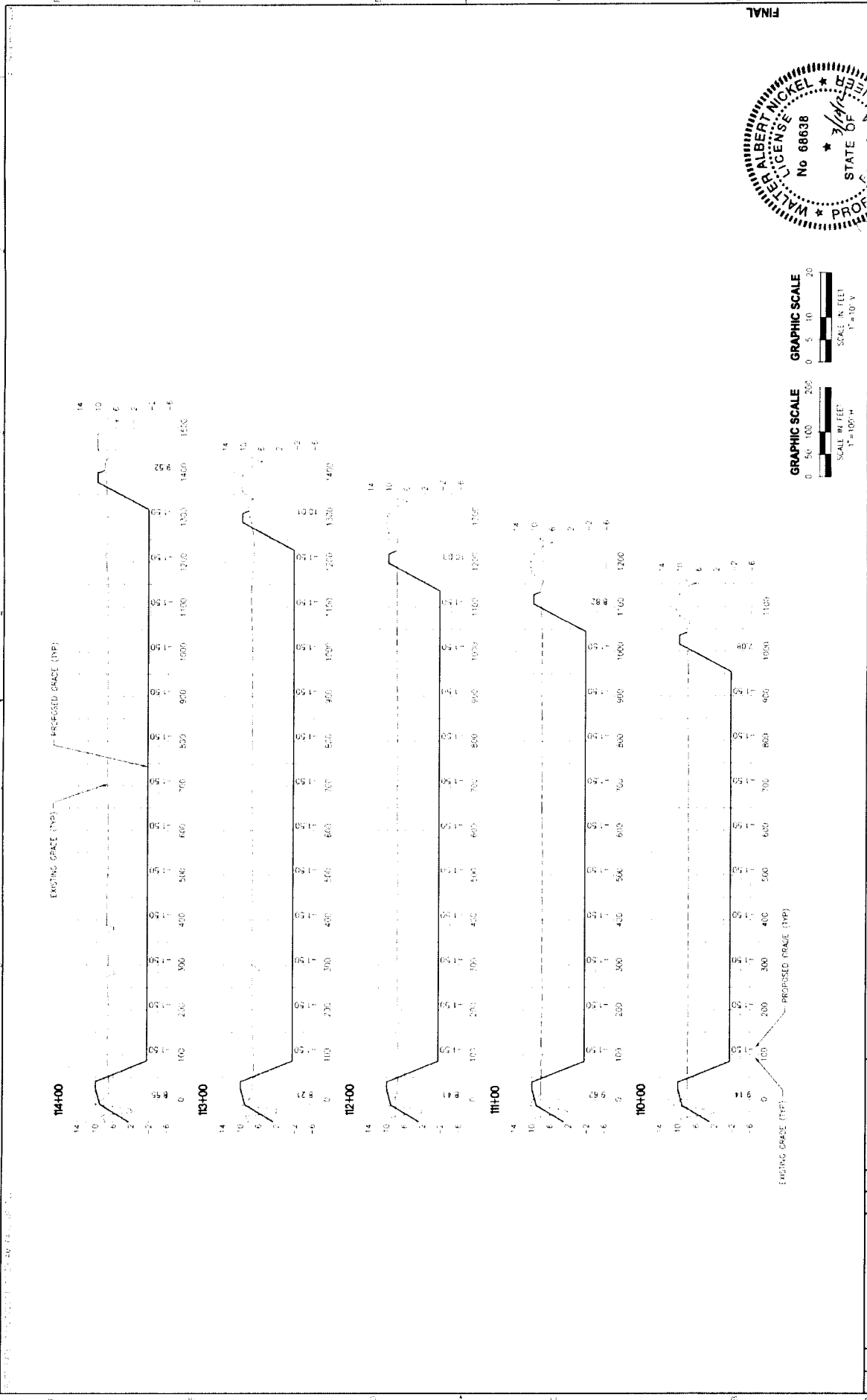
CROSS SECTIONS - WET POND

**MASTERS TRACT
 REGIONAL STORMWATER TREATMENT FACILITY
 ST. JOHNS COUNTY, FLORIDA**



REV	DATE	BY	APP'D	REVISIONS

CHECKED: ASSOCIATE
 DRAWN: J. ROSARIO
 CHECKED: W. NICKEL



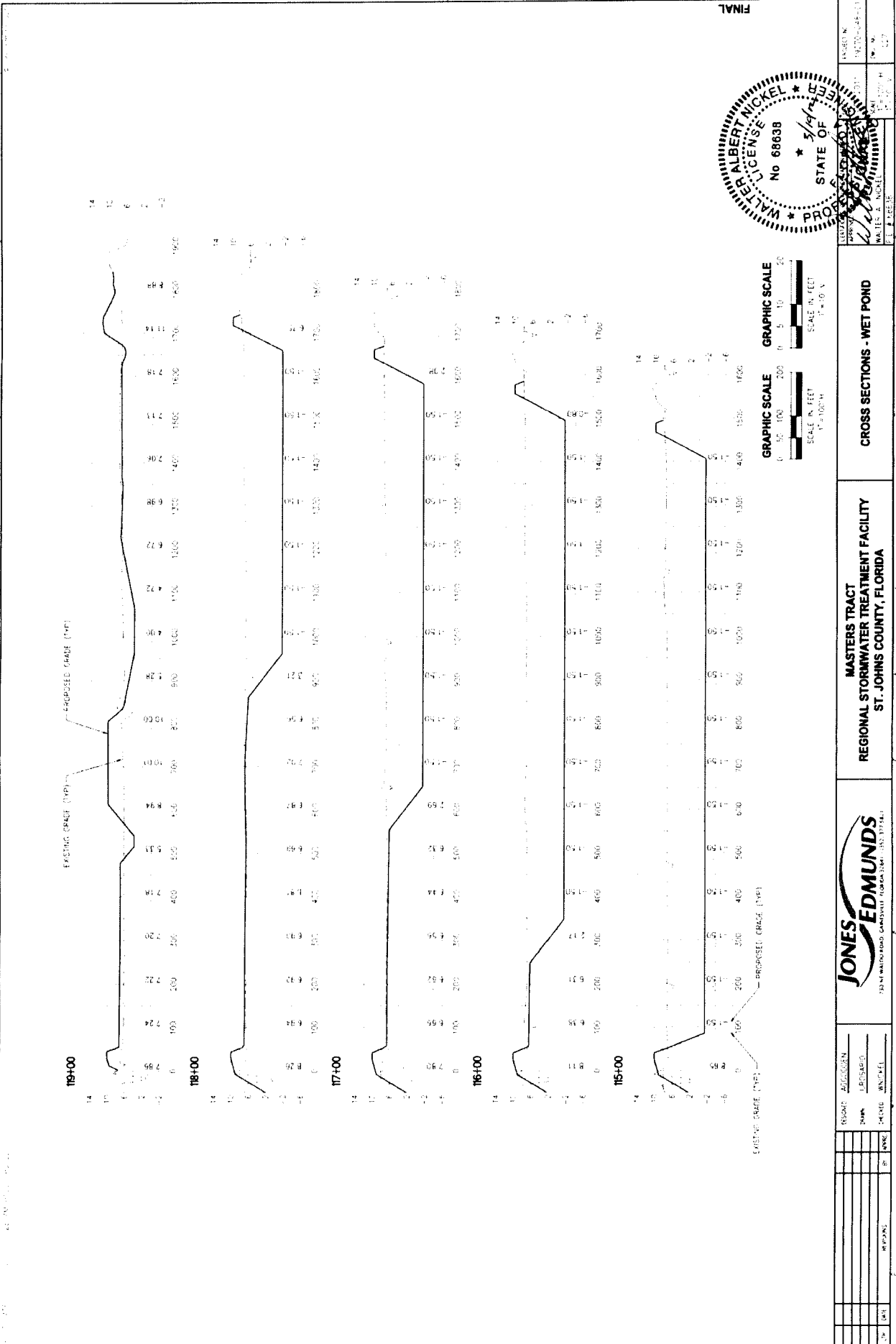
PROJECT NO.	19/20-047-01
DATE	11/19/14
PROJECT	ST. JOHN'S COUNTY
SCALE	1" = 10' V
DATE	11/19/14
SCALE	1" = 100' H

CROSS SECTIONS - WET POND

**MASTERS TRACT
REGIONAL STORMWATER TREATMENT FACILITY
ST. JOHN'S COUNTY, FLORIDA**



NO.	DATE	BY	CHKD	APP'D	REVISION



DATE	BY	REVISION

CROSS SECTIONS - WET POND

**MASTERS TRACT
REGIONAL STORMWATER TREATMENT FACILITY
ST. JOHNS COUNTY, FLORIDA**

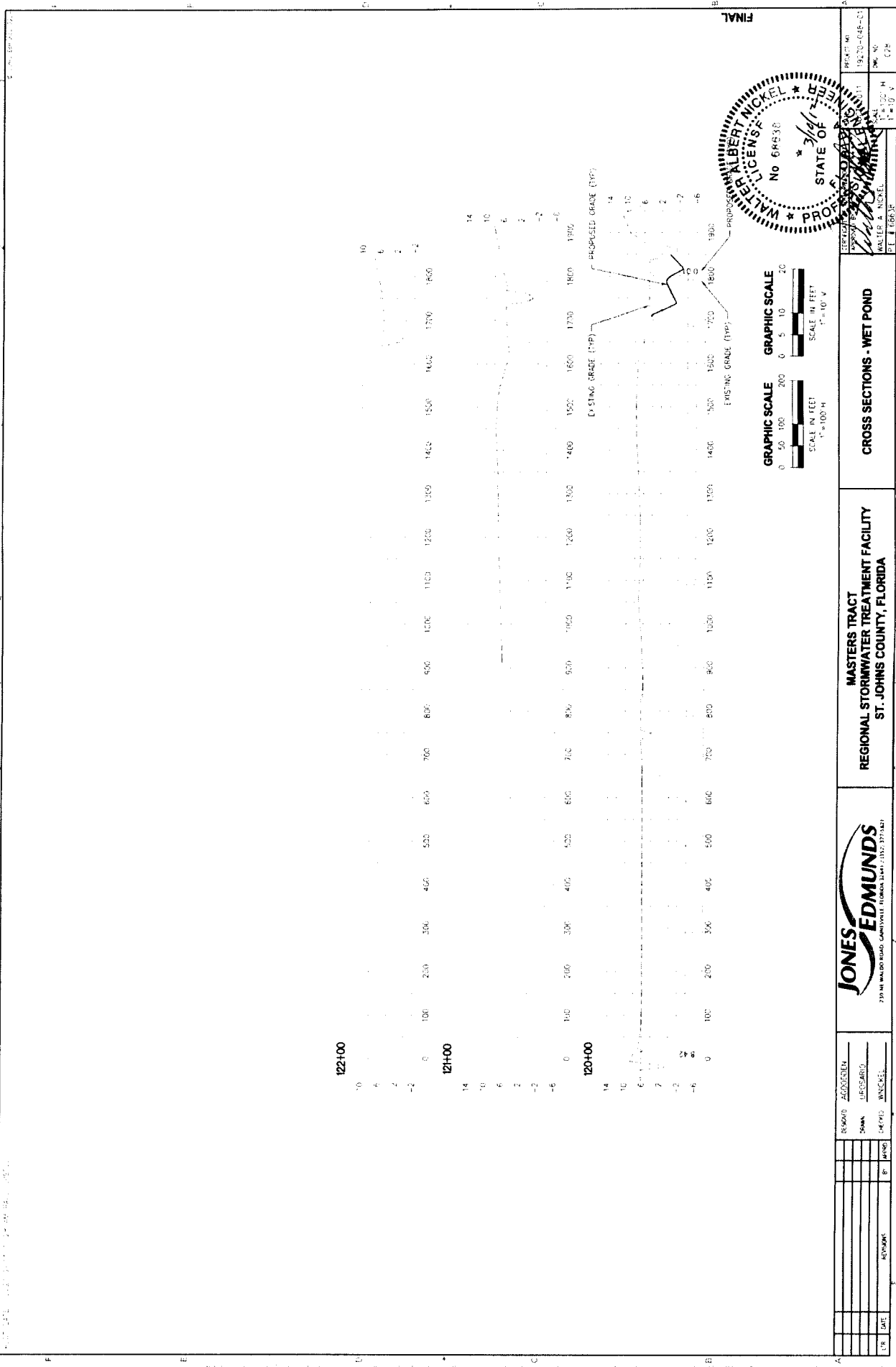


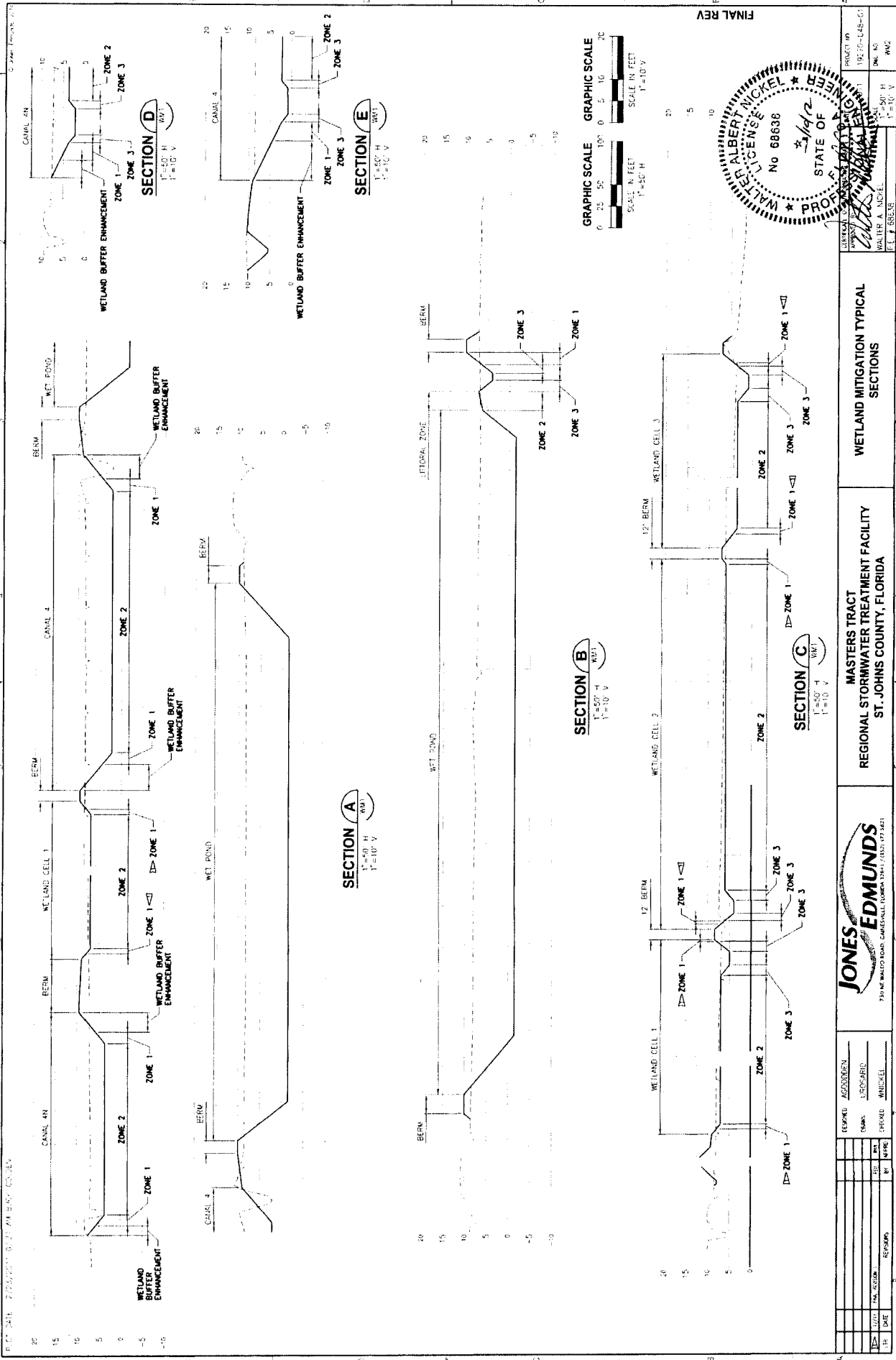
NO.	DATE	BY	CHKD	APP'D

GRAPHIC SCALE
1" = 100'
SCALE IN FEET

GRAPHIC SCALE
1" = 10'
SCALE IN FEET

FINAL





FINAL REV

GRAPHIC SCALE 1"=50' H
SCALE IN FEET 1"=10' V

GRAPHIC SCALE 1"=50' H
SCALE IN FEET 1"=10' V

GRAPHIC SCALE 1"=50' H
SCALE IN FEET 1"=10' V

WALTER ALBERT MCKEL ENGINEER
No 68638
STATE OF FLORIDA
3/14/12

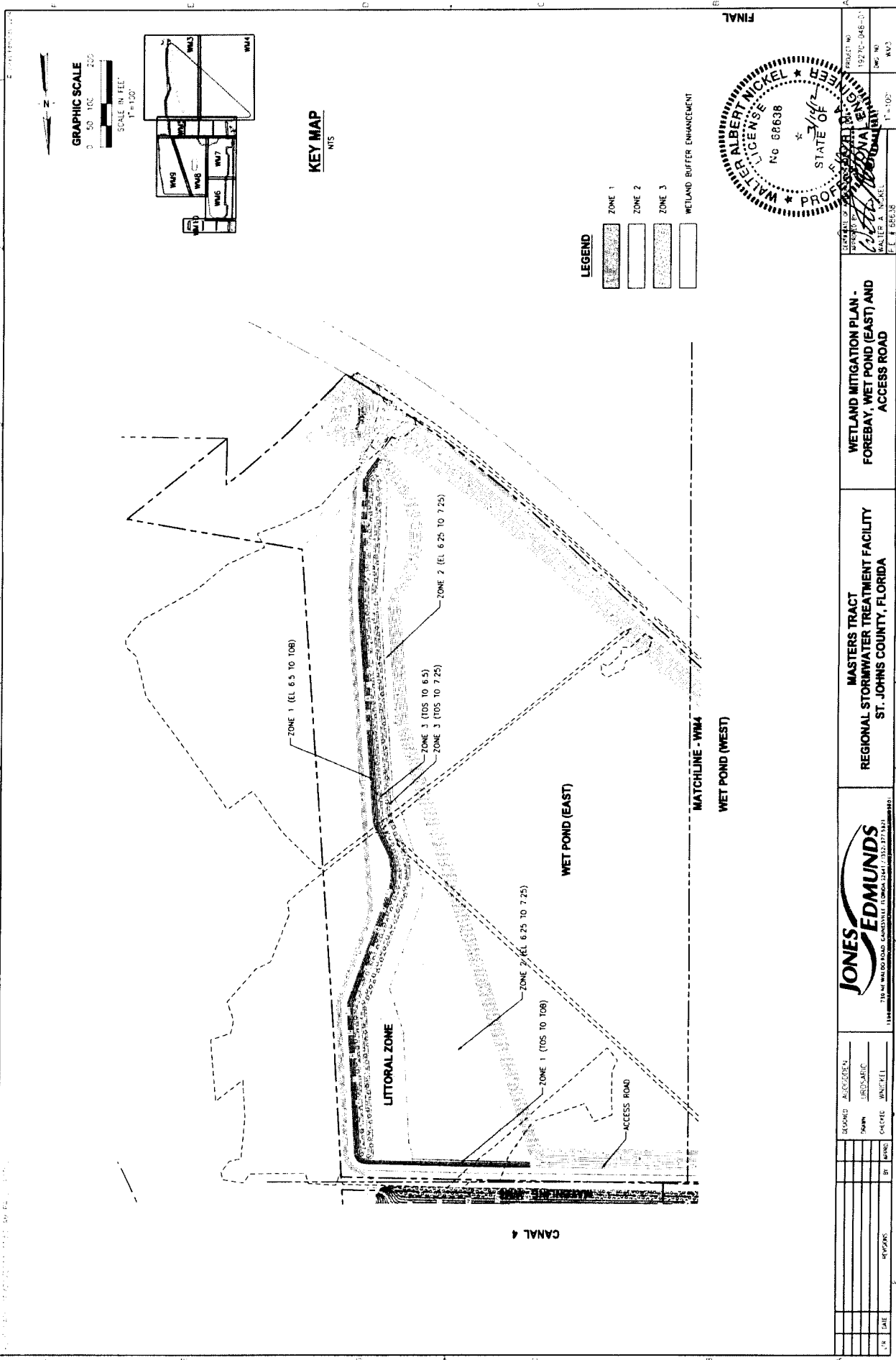
PROJECT NO: 126294-1-01
SHEET NO: 207 H
DATE: 11/11/11
BY: J. S. BRUN

WETLAND MITIGATION TYPICAL SECTIONS

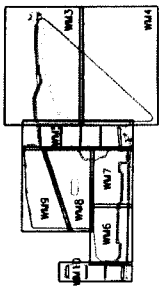
MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA



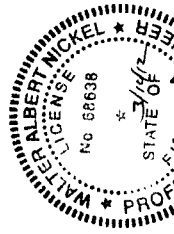
DESIGNED BY	ASAD/DFB
DRAWN BY	LD/SFB
CHECKED BY	MANICKEL
DATE	
BY	
DATE	
REVISIONS	



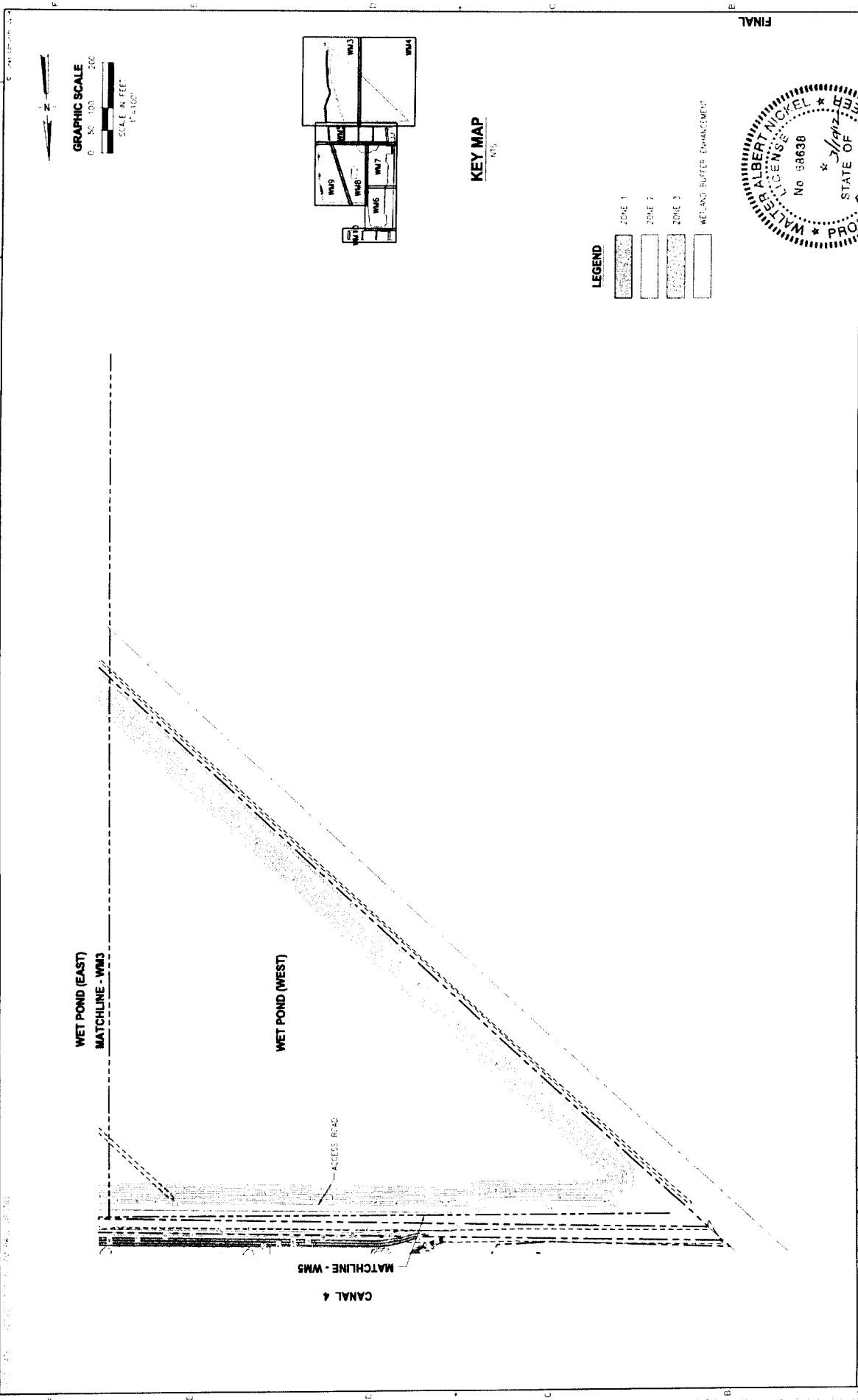
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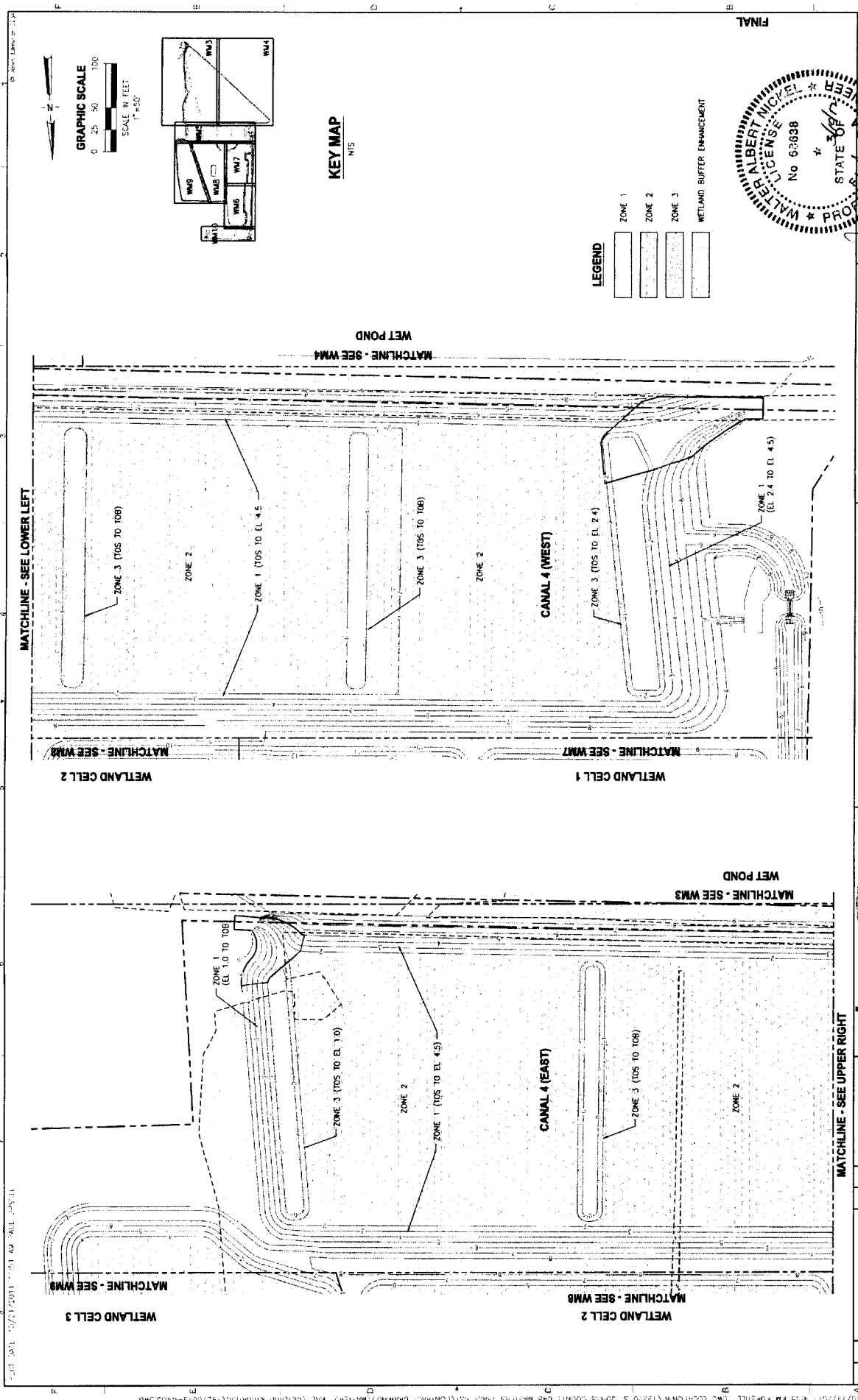
- LEGEND**
- ZONE 1
 - ZONE 2
 - ZONE 3
 - WETLAND BUFFER ENHANCEMENT



<p>JONES EDMUNDS <small>1111 W. WINDY ROAD, CANAL FLORIDA, FLORIDA 32909-1992</small></p>		<p>MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA</p>		<p>WETLAND MITIGATION PLAN - FOREBAY, WET POND (EAST) AND ACCESS ROAD</p>	
<p>BOOKING: ALCOBODEN</p>	<p>DATE: 3/16/2012</p>	<p>BY: JRS/SAL/UC</p>	<p>PROJECT NO: 126294-1</p>	<p>DWG. NO: W-3</p>	<p>TITLE: FINAL</p>
<p>DATE: 3/16/2012</p>	<p>BY: JRS/SAL/UC</p>	<p>PROJECT NO: 126294-1</p>	<p>DWG. NO: W-3</p>	<p>TITLE: FINAL</p>	<p>SCALE: 1" = 100'</p>



PROJECT NO.	19202-046-01
DATE	1/10/12
PROJECT NAME	WETLAND MITIGATION PLAN - WET POND (WEST)
CLIENT	MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA
DESIGNED BY	JONES EDMUNDS
DRAWN BY	J. LISGARDIS
CHECKED BY	C. WICKEL
DATE	1/10/12
SCALE	AS SHOWN
PROJECT LOCATION	ST. JOHNS COUNTY, FLORIDA
PROJECT STATUS	FINAL



FINAL

LEGEND

- ZONE 1
- ZONE 2
- ZONE 3
- WETLAND BUFFER ENHANCEMENT

STATE OF FLORIDA
WATER ALBERT NICOLE
PROFESSIONAL ENGINEER
 No 63638
 WALTER A. NICKEL
 P.E. # 005136

WETLAND MITIGATION PLAN - CANAL 4

MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA

PROJECT: ACCORDIEN
 DRAWN: JRO/SAB/DG
 CHECKED: W/NICKEL
 IN: []
 DATE: []

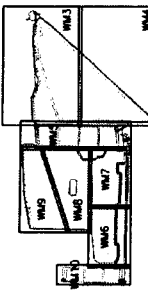
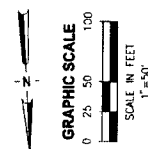
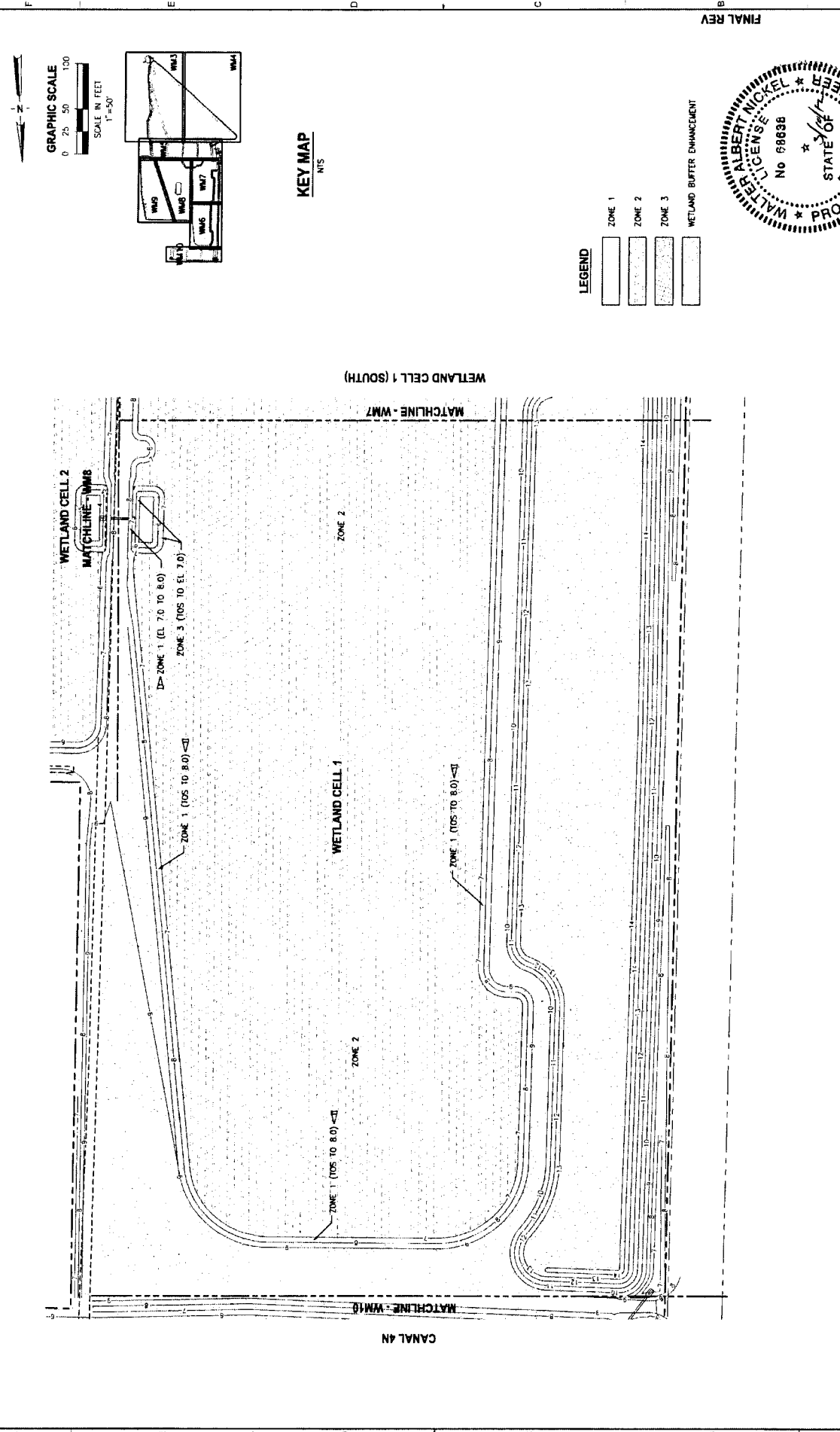
JONES & EDMUNDS
730 W. WALDO ROAD, GAINESVILLE, FLORIDA 32601 / (352) 377-5871

WETLAND MITIGATION PLAN - CANAL 4

MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA

WETLAND MITIGATION PLAN - CANAL 4

FILED DATE 12/22/2011 07:32 AM BY: C. BRICK, GRADNER



KEY MAP
 NIS

- LEGEND
- Zone 1
 - Zone 2
 - Zone 3
 - WETLAND BUFFER ENHANCEMENT

FINAL REV

WALTER ALBERT NICKEL
 No 68638
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 1-50'

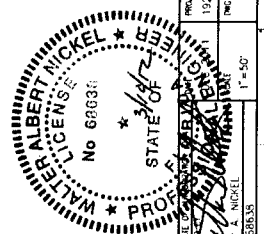
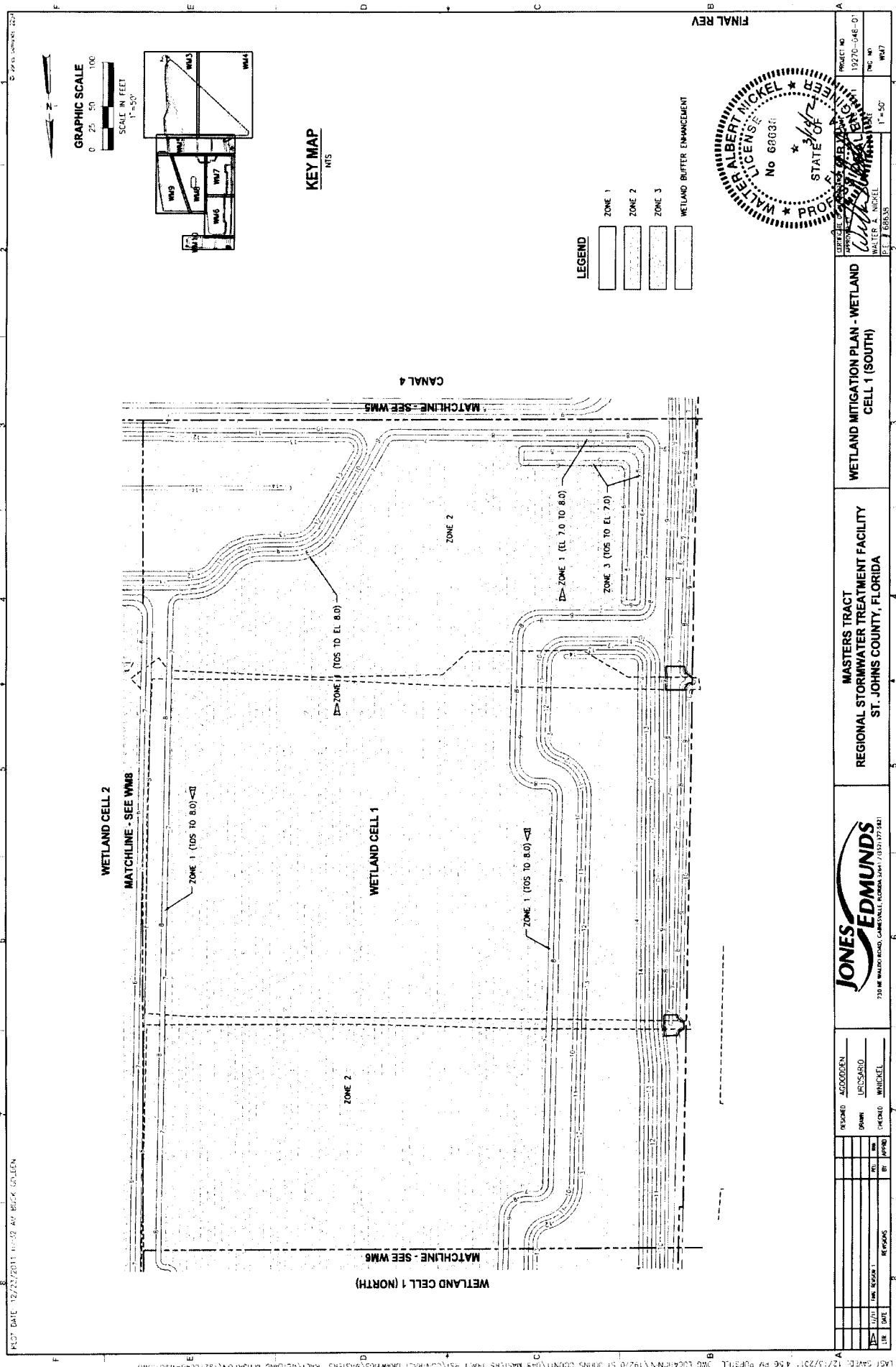
PROJECT NO: 19270-048-01
 DMC NO: WME
 DATE: 12/22/2011
 DRAWN BY: JRS/SRG
 CHECKED BY: JRS/SRG
 DATE: 12/22/2011
 PROJECT: MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA

WETLAND MITIGATION PLAN - WETLAND CELL 1 (NORTH)

MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA



NO.	DATE	BY	CHKD BY	DESCRIPTION
1	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
2	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
3	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
4	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
5	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
6	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
7	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
8	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
9	12/22/2011	JRS	JRS	ISSUE FOR PERMIT
10	12/22/2011	JRS	JRS	ISSUE FOR PERMIT

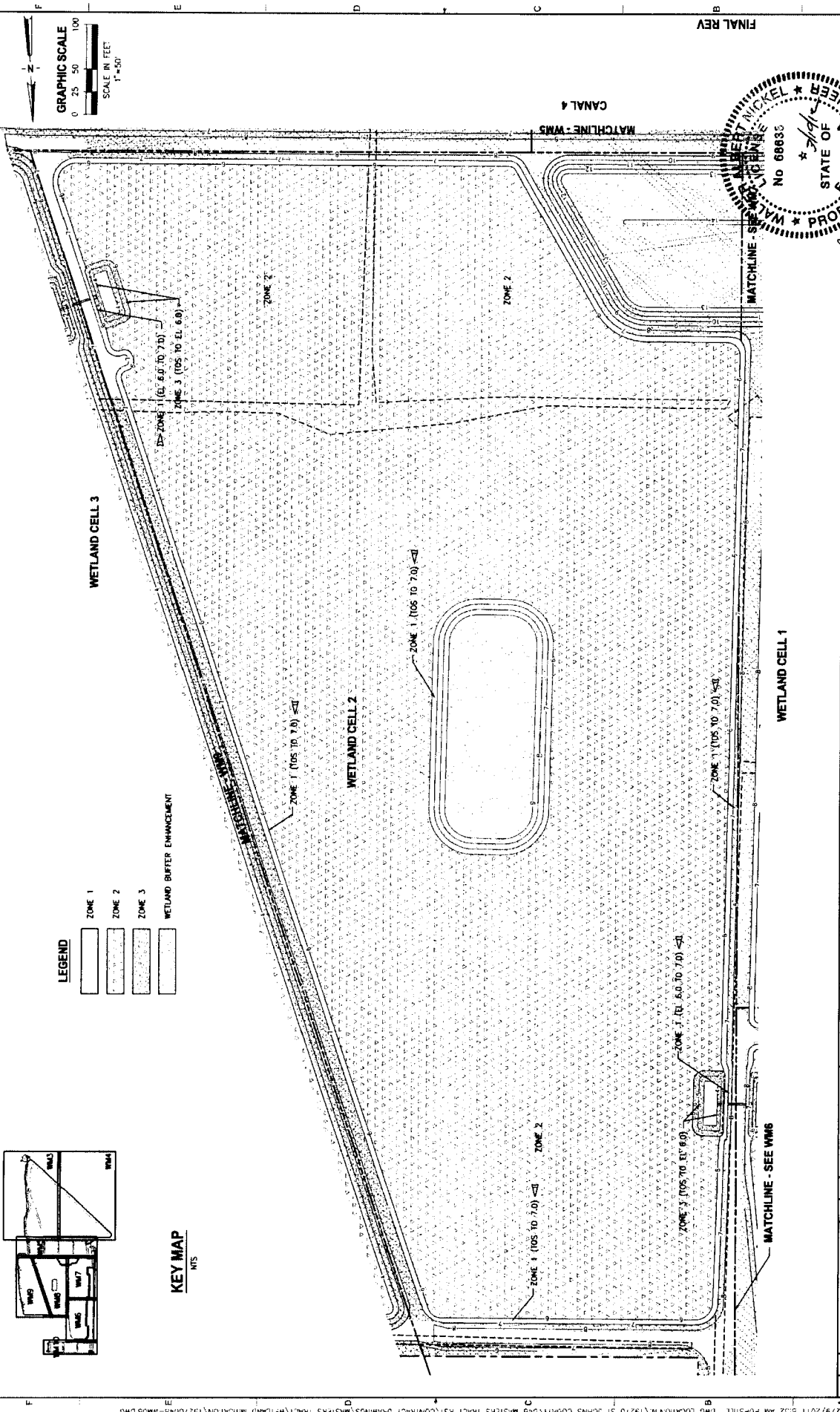


PROJECT NO. 19276-04E-01		DATE 11/11/11	
DRAWING NO. WMS		SCALE 1" = 50'	
WETLAND MITIGATION PLAN - WETLAND CELL 1 (SOUTH)			
MSTRACT REGIONAL STORMWATER TREATMENT FACILITY		ST. JOHNS COUNTY, FLORIDA	
JONES EDMUNDS			
730 W WALTON ROAD, GAINESVILLE, FLORIDA 32601 / (352) 377-5441			
DESIGNED BY	AGOODEN	CHECKED BY	WHICKEL
DRAWN BY	LEDSBARD	IN CHARGE	
DATE	11/11/11	BY	WMS
DATE		BY	
DATE		BY	

FINAL REV

PLOT DATE 12/25/2014 10:52 AM BLACK GREEN

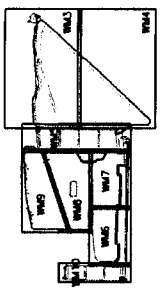
PLOT DATE: 12/21/2011 07:33 AM BUCK GOLDEN



GRAPHIC SCALE
0 25 50 100
SCALE IN FEET
1" = 50'

LEGEND

- ZONE 1
- ZONE 2
- ZONE 3
- WETLAND BUFFER ENHANCEMENT



KEY MAP
NTS

FINAL REV

STATE OF FLORIDA
PROFESSIONAL ENGINEER
No. 68833
WALTER A. NICKEL
P.E. 188038

PROJECT NO.	19270-048-01
DATE	12/21/2011
SCALE	1" = 50'
DESIGNED BY	WALTER A. NICKEL
CHECKED BY	WALTER A. NICKEL
DATE	12/21/2011
PROJECT	WMS

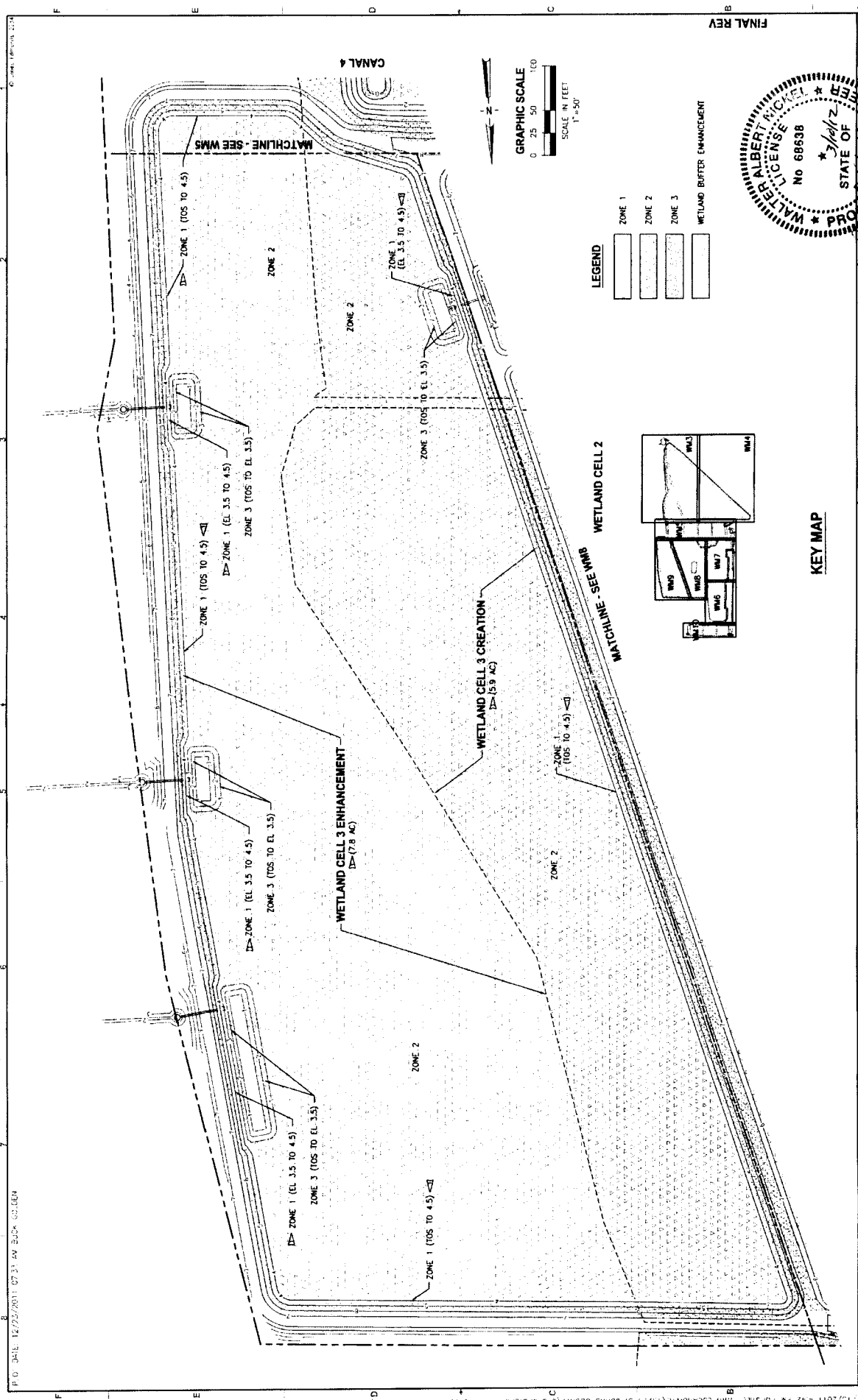
WETLAND MITIGATION PLAN -
WETLAND CELL 2

MASTERS TRACT
REGIONAL STORMWATER TREATMENT FACILITY
ST. JOHNS COUNTY, FLORIDA

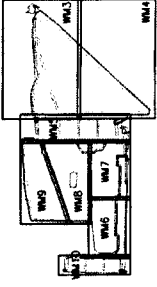


NO.	DATE	BY	REVISIONS

LAST SAID 12/29/2011 8:52 AM PRESHILL DWG LOCATION: N:\19270 ST. JOHNS COUNTY\048 MASTERS TRACT RST\CONTRACT DRAWINGS\MASTERS TRACT\WETLAND MITIGATION\19270048-WM08.DWG



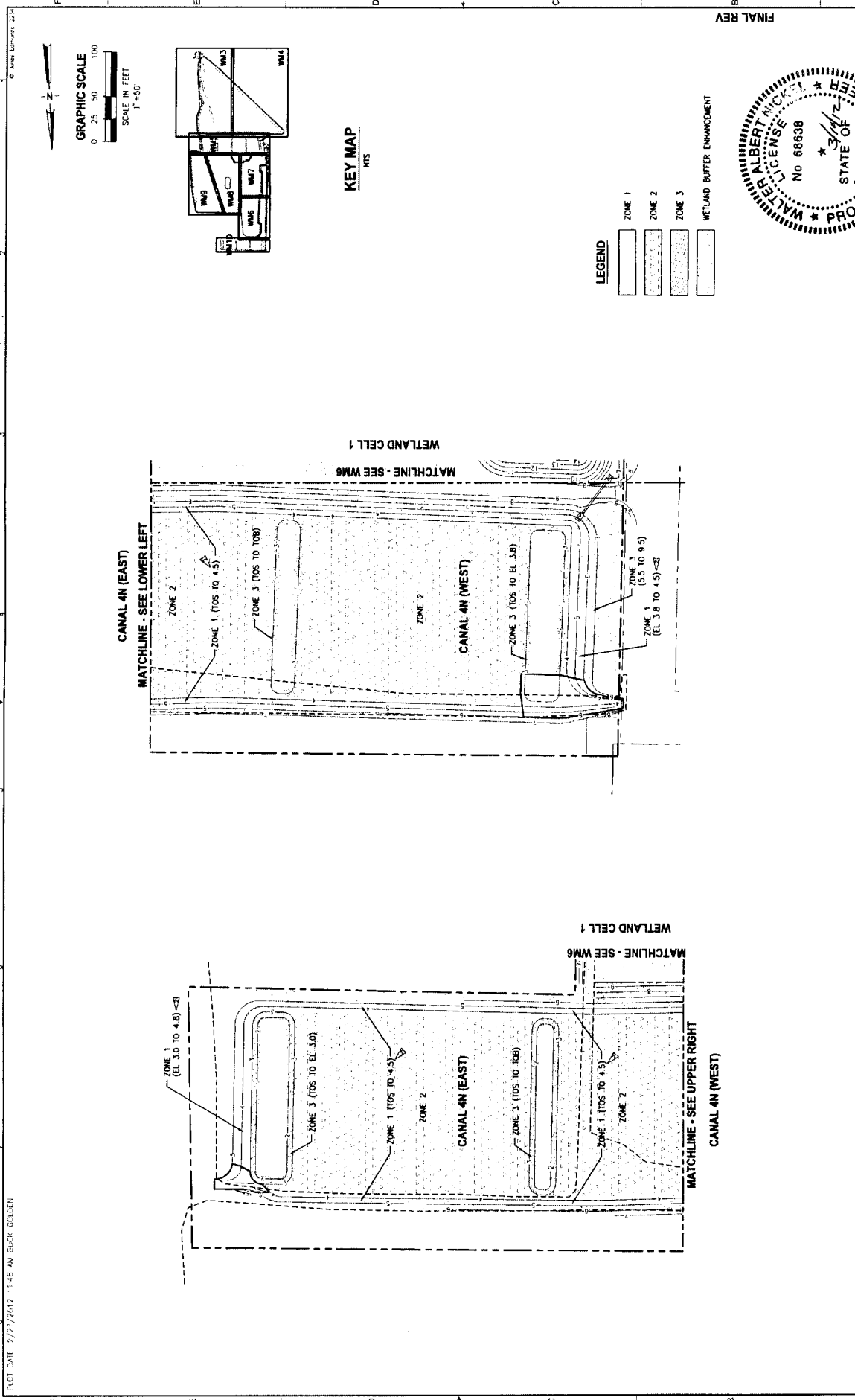
- LEGEND**
- ZONE 1
 - ZONE 2
 - ZONE 3
 - WETLAND BUFFER ENHANCEMENT



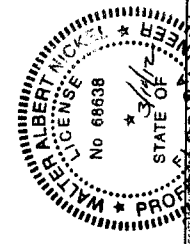
KEY MAP

PROJECT NO. 1927C-DAB-01		WETLAND MITIGATION PLAN - WETLAND CELL 3	
DRAWN BY WALTER A. MICKEL		REGIONAL STORMWATER TREATMENT FACILITY - ST. JOHNS COUNTY, FLORIDA	
CHECKED BY WALTER A. MICKEL		JONES EDMUNDS <small>719 N. WALDO ROAD, GAINESVILLE, FLORIDA 32601-1717 (352) 381-1100</small>	
DATE 12/17/2011	TIME 1:49:57 PM	REVISIONS 1 2 3 4 5 6 7 8	APPROVED BY WALTER A. MICKEL

P.O. DATE: 12/22/2011 07:34 AM BOOK: 02-004



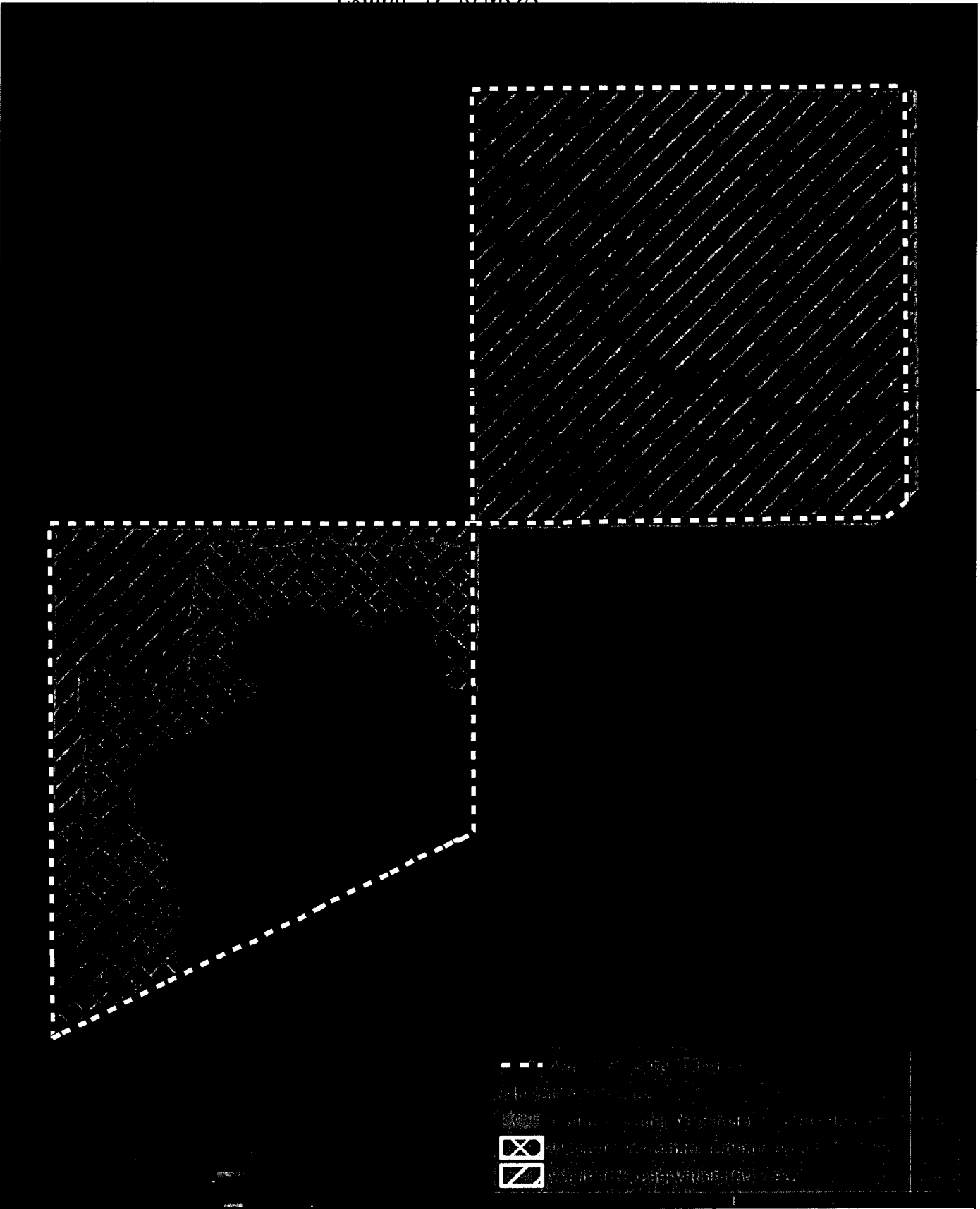
FINAL REV



PROJECT NO. 19270-048-01		DATE 11/11/11	
DRAWING NO. WU10		SCALE 1" = 50'	
DESIGNED BY WALTER A. NICKEL		CHECKED BY WALTER A. NICKEL	
DRAWN BY WALTER A. NICKEL		DATE 11/11/11	
PROJECT TITLE WETLAND MITIGATION PLAN - CANAL 4N		PROJECT LOCATION MASTERS TRACT REGIONAL STORMWATER TREATMENT FACILITY ST. JOHNS COUNTY, FLORIDA	
730 W. WALDO ROAD, GAINESVILLE, FLORIDA 32601 (352) 377-7441			
REVISIONS	DATE	BY	APP'D BY

PLOT DATE 2/27/2012 11:48 AM BUOK GOLDEN

Q:\19270_st_johns_co\048_Masters_BDM\mxd\ERP\JRW\MD_RA\1\Figure7.9_Tatum Mitigation Plan View Map.mxd BJB 02/08/2011



**JONES
EDMUNDS**

Figure 7.9 Revised
Tatum Tract Mitigation Plan View Map
Masters Tract ERP

0 200 400
Feet
1:4,800



Exhibit D Tatum Tract

7.2.1.1 Vegetation Communities

Three communities were identified on-site and classified using the 1999 FDOT *Florida Land Use, Forms, Cover, and Classification System* (FLUCFCS): Coniferous Plantation (FLUCFCS Code 4410), Stream and Lake Swamps (Bottomland) (FLUCFCS Code 6150), and Wetland Coniferous Forest (FLUCFCS Code 6200). The Coniferous Plantation community comprises approximately 17.5 acres and is found throughout the southwestern parcel. This community is dominated by 10- to 12-year-old slash pines that were planted on rows on elevated beds. Other native species that are common include sapling sweetgum, wax myrtle, beautyberry, beggar ticks (*Bidens alba*), trumpet vine (*Ampelopsis arborea*), sapling sweetgums, and blackberry (*Rubus* sp.). The Stream and Lake Swamps (Bottomland) community comprises 60.7 acres of the property and is in the northwest corner of the southwestern parcel and the entire northeast parcel. The portion of this community in the southwest parcel was formerly row crops but is now dominated by red maple, swamp tupelo, bald cypress, laurel oak, wax myrtle, buttonbush, sedges, lizards tail, and royal fern. The remainder of this community found in the northeast parcel is mature and very high quality. Large bald cypress, swamp tupelo, and red maple are very common in this parcel. The Coniferous Plantation community refers to historic wetland areas that are now dominated by planted pine throughout the southern parcel. The canopy of this community is dominated by slash pine, but red maple and other wetland tree species dominate the mid- and understory.



7.2.1.2 Exotic Species

Numerous exotic and invasive plant species are found in the southwestern parcel and dominate the understory in much of the pine plantation and transitional areas. Exotic species observed include Caesar weed (*Urena lobata*), climbing fern, air potato, camphor, and rain tree (*Cassia* sp.).

7.2.2 Proposed Mitigation Activities

The County will place a conservation easement on the entire Tatum property to protect it in perpetuity from development. In addition to this preservation, the County also proposes wetland and upland buffer vegetation enhancement in the southwestern parcel to increase the habitat quality (Figure 7-9).

7.2.3 Upland Buffer Enhancement

The upland buffer found at this site was likely dominated by a mesic hammock community based on its proximity to the Deep Creek floodplain and a review of adjacent undeveloped properties. As a result, Jones Edmunds proposes that the densely planted slash pine dominating the upland buffer community have a 5th row thinning along with removal of the suppressed, damaged and poor quality tress left in the four remaining rows. A target of 190 trees per acre left standing would be acceptable for the first thinning and second thinning thereafter in five years, remove enough timber to hit a target of 76 to 150 trees per acre to allow native hardwoods to recover. Supplemental planting of sweetgum, sugarberry, American elm, and cabbage palm is proposed to facilitate the enhancement process. We also propose an extensive and aggressive exotic species management program to remove the large populations of species.

7.2.3.1 Wetland Enhancement

Jones Edmunds proposes enhancing 13.4 acres of on-site wetlands in the southwest parcel by harvesting and removing all pine within the wetland in addition to removing invasive/exotic species combined with supplemental planting of wetland trees. During pine removal, care will be taken to avoid damaging hardwood trees. Supplemental planting of red maple, bald cypress, swamp tupelo, cinnamon fern, royal fern, and lizards tail is proposed in areas that lack hardwood trees or saplings. Trees and herbaceous species will be planted on 20- and 10-foot centers, respectively. For this planting plan we used a supplemental planting of approximately 40% of the wetland enhancement area to calculate the number of trees that would actually be planted throughout the entire wetland, depending upon which areas were lacking native trees. Exotic plant species will also be removed from the on-site wetlands of both parcels.