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November 15, 2018

Ms. Nicki van Vonno, AICP
Growth Management Director
Martin County
2401 S.E. Monterey Road
Stuart, FL 33996

Re: Florida Power & Light Company
Sweetbay Solar Energy Facility Major Final Site Plan Application
Project Number: F109-002
Staff Report Reply Letter

Dear Nicki:

The following is a response to the October 26, 2018 staff report for Florida Power & Light Company's Sweetbay Solar Energy Facility Major Final Site Plan Application, as discussed at the November 8, 2018 Joint Workshop meeting. One (1) original packet and a bookmarked electronic disc identical to the original packet of the following materials are provided, along with two (2) paper copies of the plans:

1. Resubmittal Reply Letter
2. Final Site Plan
3. Landscape Plan
5. Construction Plans
6. PAMP
7. Stormwater Report

Please note that only the **section headings, unresolved issues and remedy/suggestion/clarification** portions of the staff report have been repeated in **bold type.** Our responses follow in *italics*. Please refer to the staff report for the entire comment within each section.

Itemized Responses to Staff Report

A. Application information

Agree.

B. Project description and analysis

Agree.

C. Staff recommendation

See responses to the non-comply comments below.

D. Review Board/Committee action

Agree.

E. Location and site information

Agree.

F. Determination of compliance with Comprehensive Growth Management Plan requirements

Unresolved Issues:
Item #1: This application cannot be deemed to be in compliance with the Martin County Comprehensive Growth Management Plan (CGMP) until the issues identified in this report have been satisfactorily resolved.

The following responses to the unresolved issues document compliance with the CGMP

G. Determination of compliance with land use, site design standards, zoning and procedural requirements

Unresolved Issues:
Item #1: Required Permits
Remedy/Suggestion/Clarification: Please submit the required permits for review prior to development order approval, consistent with the Option 1 election; or, alternatively, please confirm that the applicant is choosing to process the application under Option 2 and that all authorizations will be submitted after development order approval, but prior to scheduling the pre-construction meeting, along with a $600.00 review fee.

Please see Section V of this report for details on which authorizations are required prior to approval, and which may be deferred to submittal prior to pre-construction meeting under the currently chosen Option 1.

This will confirm that the applicant is electing to move forward under Option 2.

Item #2: Elective Resubmittal Fee An additional fee is required for the review of the elective resubmittal of documents for this development application. Please remit the $2,282.00 elective resubmittal review fee with the resubmittal package.

The resubmittal fee is enclosed with this resubmittal.

H. Determination of compliance with urban design and community redevelopment requirements

Not applicable.

I. Determination of compliance with property management requirements
The Applicant is working with the County Attorney's office regarding the donation of a 15' Right-of-Way Easement on Allapattah Road within the 50' setback on the Applicant's property.

Agree.

J. Determination of compliance with environmental and landscaping requirements
Environmental

Unresolved Issues:
Item #1: Wetland Design Standards The construction plans show a proposed stormwater berm bisecting wetland WL11 and possibly WL10 along the northern boundary of the project. Construction of the berm would be a direct filling impact to the wetlands. Pursuant to Sections 4.2.G.4 and 4.2.I, Martin County Fla., Ord. No. 1082 (2018), stormwater structures are only allowed in or around wetlands if their function is to improve or maintain wetland hydrology. The proposed berm will have a negative impact on the wetland from fill material and a negative impact on hydrology as the wetland(s) will be severed. Please re-locate the berm to a suitable location outside of the wetland and update all associated plans to reflect this change.

Response: The berm through the wetland along the northern property boundary has been relocated interior to the site thereby eliminating the wetland impact along the northern property line in its entirety. However, wetlands adjacent to the Troup-Indiantown canal easement, which are being negatively impacted by the canal, require a perimeter berm to restore/maintain the wetland's hydrology pursuant to the wetland protection requirements in Section 4.6.C.3. of the land development code. FPL originally intended to provide the berm entirely within the canal easement, however based on comments received from the Troup Indiantown Water Control District, minor wetland impacts to the wetlands and wetland buffers are necessary to address their comments and restore/maintain the wetland hydrology.

These impacts are summarized as follows:

	Temp. Buffer Impacts (sf)	*Temp. Wetland Impacts (sf)*	*Perm. Wetland Impacts (sf)*
WL 13	*2,650*	*855*	*0*
WL 14B	*4,350*	*300*	*0*
WL 16B	*605*	*605*	*535*

The temporary impacts to the wetland and wetland buffer will be restored in accordance with the PAMP, which has been revised to include these impacts.

Since option 1 has been selected, the ERP from FDEP has been reviewed for consistency and a modification to the ERP may be necessary to address relocation of the berm. Please coordinate with FDEP on this issue.

Based on the minor changes in wetland impacts described above due to the relocation of the proposed perimeter berm, the applicant considers an as-built modification after construction as the appropriate method for modifying the ERP. The applicant will provide the County concurrence from FDEP with this approach.

Item #2: The proposed borrow lake is less than 200 feet from an adjacent wetland and no impermeable barrier is proposed. In accordance with Section 4.2.G.3, if a lake is within 200 feet of a wetland, an impermeable barrier or a gradient analysis is required. The gradient analysis shall show that no adverse impacts will occur to the wetland. Please provide an impermeable barrier or gradient analysis showing no drawdown will occur to adjacent wetlands.

As discussed at the workshop, the water level elevation of the lake will vary during the seasons but will be at or very near the seasonal elevation of the adjacent wetlands at all times. Please see notes on the "Typical Borrow Pit Section W-3" and "Typical Borrow Pit Section with Littoral Zone" on Sheet CE 19.

Item #3: Wetland Performance Standards Thank you for providing a monitoring, maintenance, and restoration schedule in the PAMP for the preserve areas. For clarification, Martin County code requires that restoration activities for this project shall include replanting of areas temporarily impacted to install water management structures, the removal of the temporary haul road near the borrow lake, and replanting of wetland buffers. The PAMP includes a restoration plan addressing the temporary impacts, but not the wetland buffers. However, in section 6.2 of the proposed PAMP, it states that natural recruitment and supplemental planting will be utilized to revegetate the wetland buffers impacted by past ranching activities. Section 4.2.G.2, Martin County, Fla., Ord. No. 1082 (2018) requires replanting in wetland buffer areas that are devoid of existing, natural associations of native vegetation. Please provide a typical replanting plan for the wetland buffers and please revise the language

in the PAMP to clarify that replanting of wetland buffers will be required as part of restoration. As an alternative, if the applicant can demonstrate that natural recruitment can meet the native plant coverage requirements after one year (80 percent coverage of native groundcovers), replanting of wetland buffers will not be necessary.

The PAMP has been revised to clarify that the wetland buffers that are devoid of native vegetation will be seeded with native plant species and monitored during the sampling periods to encourage and promote natural recruitment of appropriate native species. If after a period of 1 year, the buffers do not meet 80% coverage with native plants, then the deficient areas will be replanted in accordance with an approved wetland buffer restoration plan. See revised PAMP and activity schedule enclosed.

Landscape
Unresolved Issues:
Item #1: Littoral Planting Requirements

Remedy/Suggestion/Clarification: A Lake Management Plan has now been provided and densities of planted species within the littoral zones have been modified to meet requirements for herbaceous and tree planting requirements. However, no trees have been proposed to be established within the upland buffer that is to serve as portions of the upland transition zone.

Division 8 Section 4.348.C.3. allows for existing native vegetation to help fulfill the requirements but also requires provision of 1 tree per every 500 square feet.

The native upland and transitional zone buffer may consist of preserved or planted vegetation but shall include trees, understory and ground cover of native species only. The native upland and transitional zone and the adjacent littoral zone shall be designed and maintained to provide a continuous compatible habitat area.

a. The upland and transitional zone shall be planted with at least five native plant species which shall include trees with a minimum height of eight feet and understory seedlings with a minimum height of 18 inches. Existing native vegetation in the upland transitional zone shall qualify to help fulfill this requirement. Plants are required to be installed in accordance with the applicable standards provided in division 1 of this article. The design and species used shall have an anticipated minimum 80 percent coverage.

b. A minimum of one tree shall be planted for every 500 square feet of upland and transitional zone area. The trees must be a minimum of eight feet in height and native upland and transitional varieties.

Provide for installation of required trees within the portion of wetland buffer adjacent to the lake that is being utilized to meet the lake upland transitional buffer.

The lake littoral landscape plan enclosed has been revised to provide the required trees within and adjacent to the wetland buffer along the east side of the lake.

M. Determination of compliance with engineering, storm water and flood management requirements - Engineering Department

Unresolved Issues:
Item #1: RIGHT-OF-WAY IMPROVEMENTS
1. The proposed grade for MES WL23-R is lower than the proposed grade to match at the existing swale line to the south creating a back pitch condition; revise South Driveway Plan detail on sheet CE24 accordingly. [MARTIN COUNTY, FLA., LDR SECTION 4.845]

As requested, the culverts have been adjusted to have a flat pitch, see sheet CE 24.

2. Revise Proposed Swale Section detail on sheet CE24 to provide for a minimum 1-foot bottom width of the swale. [Martin County Stormwater Management and Flood Protection Standards for Design and Review Section 1.2.B.1]

As requested, the swale section has been adjusted to have 1-foot bottom, see sheet CE 24

Item #2: STORMWATER MGMT REPORT
1. Pre-Development: As previously stated: Some stage/storage values are inconstant with the existing/proposed grades. For example: The pre-development depressional storage for Basin 10 is still listed as 6.65 acres in the stage storage table, however it appears to be only 0.81 acres when measured on the plans. Revisit all stage/storage tables to ensure they are consistent with existing/proposed grades.

The depressional open space storage refers primarily to the easterly basins and to the open space, which have a sloping topography. The depressional area within basin WL10 lies between elevations 34.9'-40' NAVD. This area of land was separated from the upland open space land in which the topography ranges from elevations 40'-45.5' NAVD. This delineation of open space land use was provided to depict the major variations of topography within the basin and to provide more accurate storage values.

2. Post Development: As discussed during a phone conversation on 10/24/2018 with the Engineer of Record, James "Butch" Terpening, the proposed design will utilize a swale system for water quality treatment areas instead of the initial design of "vegetated natural buffers". Compliance with Post Development stormwater design requirements will be determined upon staff's review of the revised stormwater management report addressing the discussed changes.

Water quality swales have been added to the Constriction plans. A summary table, Table No. 5 "Martin County Water Quality," has been added to Sheet CE 20. In addition Section 4.1 "Water Quality" of the Stormwater Report has been revised to reflect the required treatment volumes.

Item #3: STORMWATER MGMT CONSTRUCTION PLANS
1. Currently, the provided Engineer's Opinion of Probable Excavation, Fill, and Hauling (EOPC) indicates 75,000 net cubic yards to be excavated on site; however, the proposed borrow pit is significantly lager in area than the volume indicated on the EOPC. Consider reducing the proposed depth of excavation and/or the overall dimension of the proposed borrow pit.

We have estimated the project to need approximately 75,000 cyds of neat material. In review of the borrow Pit size of 5.5 acres and allowing for losses due to compaction, this would yield an approximate depth of 15 feet, thus we believe the proposed depth is correct.

2. As previously requested, the Site Data table on the Major/Final Site Plan is not consistent with the Site Data table on Sheet CE2 of the construction plans. Revise the Site Data tables to include the proposed wetlands and borrow pit/lake as impervious areas.

Sheet CE 2 has been reformatted to be consistent with the Site Data table on the Major/Final Site Plan.

3. As previously requested, the substation pad dimension labeled on the Major/Final Site Plan is not consistent with the dimensions labeled within the construction plans (Sheet CE2); revise accordingly.

Sheet CE 2 has been revised to dimension the fenced area, thus being consistent with the Major/Final Site Plan.

V. Local, State, and Federal Permits

Approval of the development order is conditioned upon the applicant's submittal of all required applicable Local, State, and Federal Permits, to the Growth Management Department (GMD), prior to the development order approval as Option 1 has been elected by the applicant pursuant to Section 10.9.A., Martin County, Fla. (2017).

The applicant is formally changing to Option 2, which requires all permits to be submitted and reviewed prior to construction.

Item #1: STORMWATER MGMT PERMITS The following permits must be obtained prior to approval:

1. South Florida Water Management District (SFWMD) or FDEP Environmental Resource Permit (ERP)
2. South Florida Water Management District (SFWMD) Dewatering Permit
3. Army Corps of Engineers (ACOE) Permit
4. Troup-Indiantown Water Control District (TIWCD) Authorization/Permit

The applicant is formally changing to Option 2, which requires all permits to be submitted and review prior to construction.

Item #2: ENVIRONMENTAL PERMITS The following permits must be obtained prior to approval:
1. USACOE permit with consultation from the USFWS.
2. SFWMD or FDEP ERP permit.

The applicant is formally changing to Option 2, which requires all permits to be submitted and review prior to construction.

Item #3: PERMITS PRIOR TO PRE-CON The following permits will be required prior to scheduling the pre-construction meeting:
1. Florida Department of Environmental Protection (FDEP) NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities
2. Martin County Right-of-Way Use Permit
3. FWC listed species permit or plan, if applicable, prior to commencement of construction.

Agree

W. Fees

Acknowledged.

X. General application information

Acknowledged.

Y. Acronyms

Acknowledged.

Z. Attachments

N/A

We believe that the above responses and revised documents satisfactorily address all staff concerns. Thank you for your cooperation in this matter. Should you have any questions or if I may be of further assistance, please do not hesitate to contact me.

Sincerely,

Joshua I. Long, AICP

cc: Client
Robert S. Raynes, Jr., Esq

Enclosures

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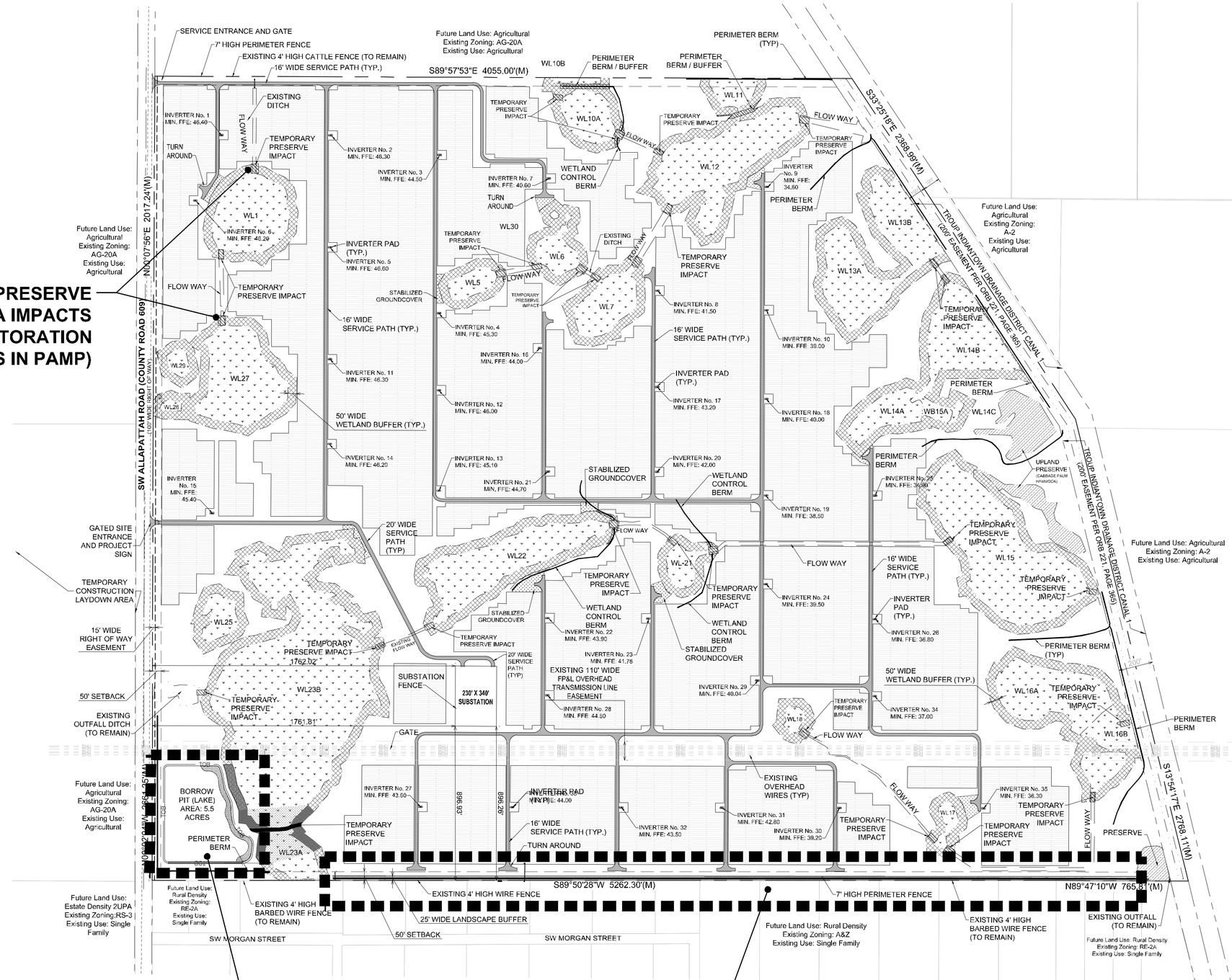

TEMPORARY PRESERVE AREA IMPACTS (SEE RESTORATION PLANS IN PAMP)

LAKE LITTORAL DETAIL (SEE SHEET 3)

SOUTH BUFFER DETAIL (SEE SHEET 2)

Note:

Required landscape materials with lake and south buffer shall be installed by December 31, 2020.

Sheet Index:

lucido & associates

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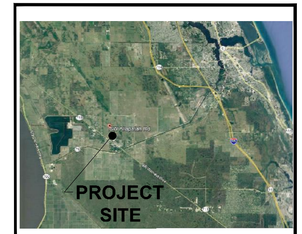


Scale: N.T.S

Project Team:

Applicant:
Florida Power & Light Company

Land Planner / Landscape Architect:
Lucido & Associates
701 E Ocean Blvd
Stuart, FL 34994
772-220-2100

Civil Engineer / Surveyor:
Culpepper & Terpening
2980 S. 25th Street
Fort Pierce, FL 34981
772-464-3537

FPL Sweetbay Solar Energy Center

Martin County, Florida

Landscape Plan

Date	By	Description
6.21.18	BW	Initial Submittal
10.04.18	BW	1st Resubmittal
11.14.18	BW	2nd Resubmittal

NORTH

SCALE: 1" = 300'

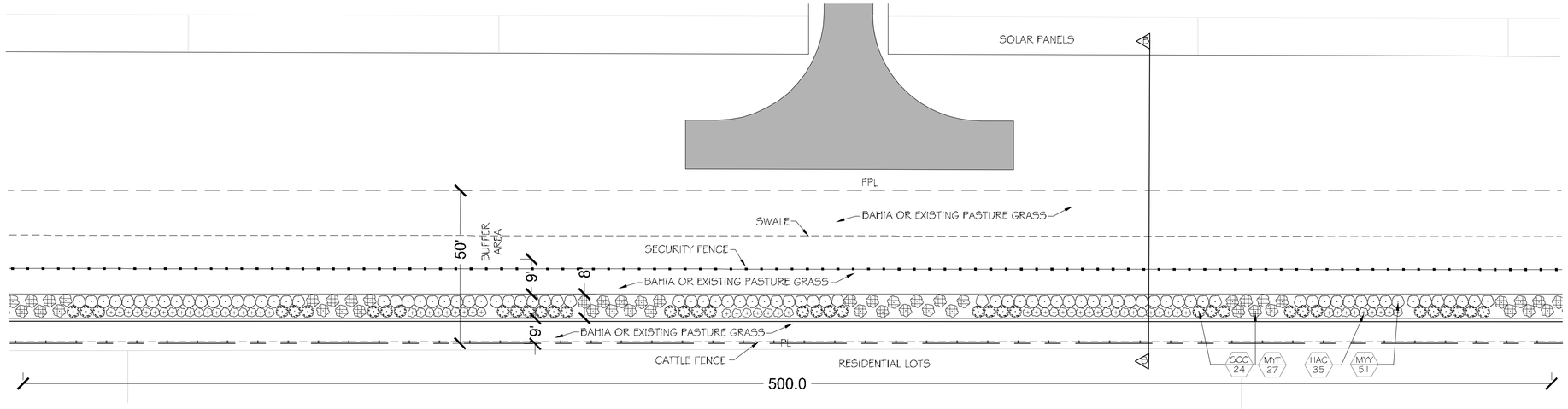
0 150' 300' 600'

REG. # 1018
Thomas P. Lucido

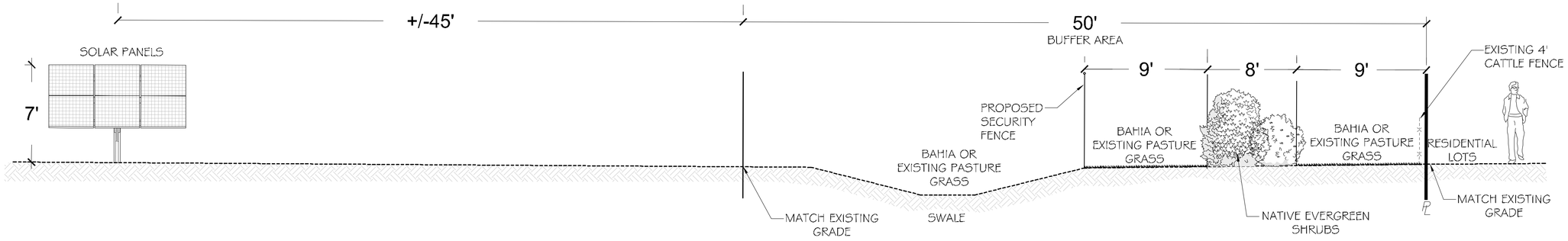
Designer	BW	Sheet
Manager	MC	1 OF 5
Project Number	17-626	
Municipal Number	--	
Computer File	17-626 FPL Sweetbay Landscape Plan.dwg	

PLANT SCHEDULE SOUTH BUFFER

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SPECS
	HAC	555	Hamilia patens `Calusa`	Native Firebush	7G, 36" X24", F
	MYF	487	Myrcianthes fragrans	Simpson`s Stopper	7G, 4` HT, F
	MYY	775	Myrica cerifera	Wax Myrtle	7G, 36" OA, F
	SCC	366	Serenoa repens	Saw Palmetto	7G, 24" OA, F



A1 TYPICAL 500' SECTION LANDSCAPE PLAN
SCALE: 1"=20'



B2 TYPICAL LANDSCAPE SECTION
SCALE: 1/4"= 1'-0"

Landscape Notes:

1. All planted areas to receive temporary irrigation for a minimum period of twelve months or until successful establishment.
2. All planted areas to receive 3" of Pine Straw Mulch or approved equal.
3. Plantings should reach an average height of six feet within twelve to eighteen months.
4. Irrigation source: Water Truck.

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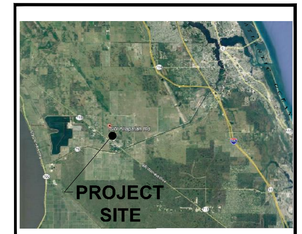

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NORTH

SCALE: 1" = 20'

0 10' 20' 40'

REG. # 1018
Thomas P. Lucido

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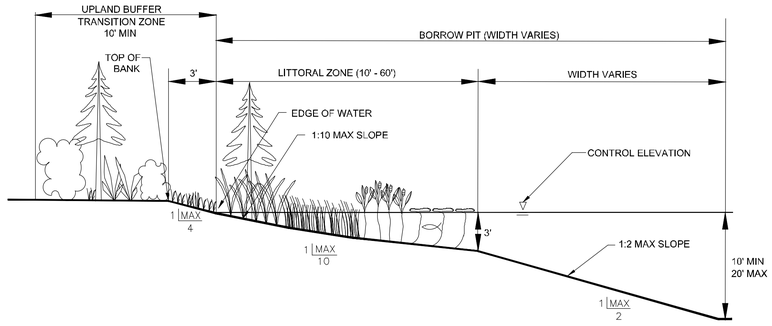
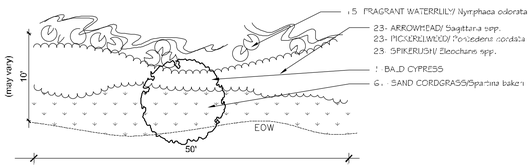


UPLAND BUFFER TRANSITION & LITTORAL ZONES TYPICAL SECTION

N.T.S.

QTY	COMMON NAME	Botanical Name
15	FRAGRANT WATERLILY	Nymphaea odorata
23	ARROWHEAD	Sagittaria spp.
23	PICKERELWEED	Pontedena cordata
23	SPIKERUSH	Eleochans interstincta
61	SAND CORDGRASS	Spartina bakeri
1	BALD CYPRESS	Taxodium distichum

TYPICAL 10'x50' LITTORAL PLANT SCHEDULE

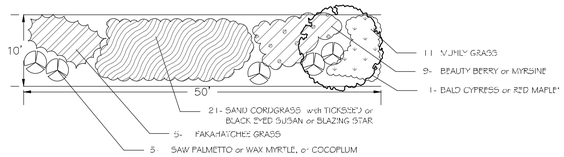


TYPICAL 10'x50' SECTION - LITTORAL PLAN

N.T.S.

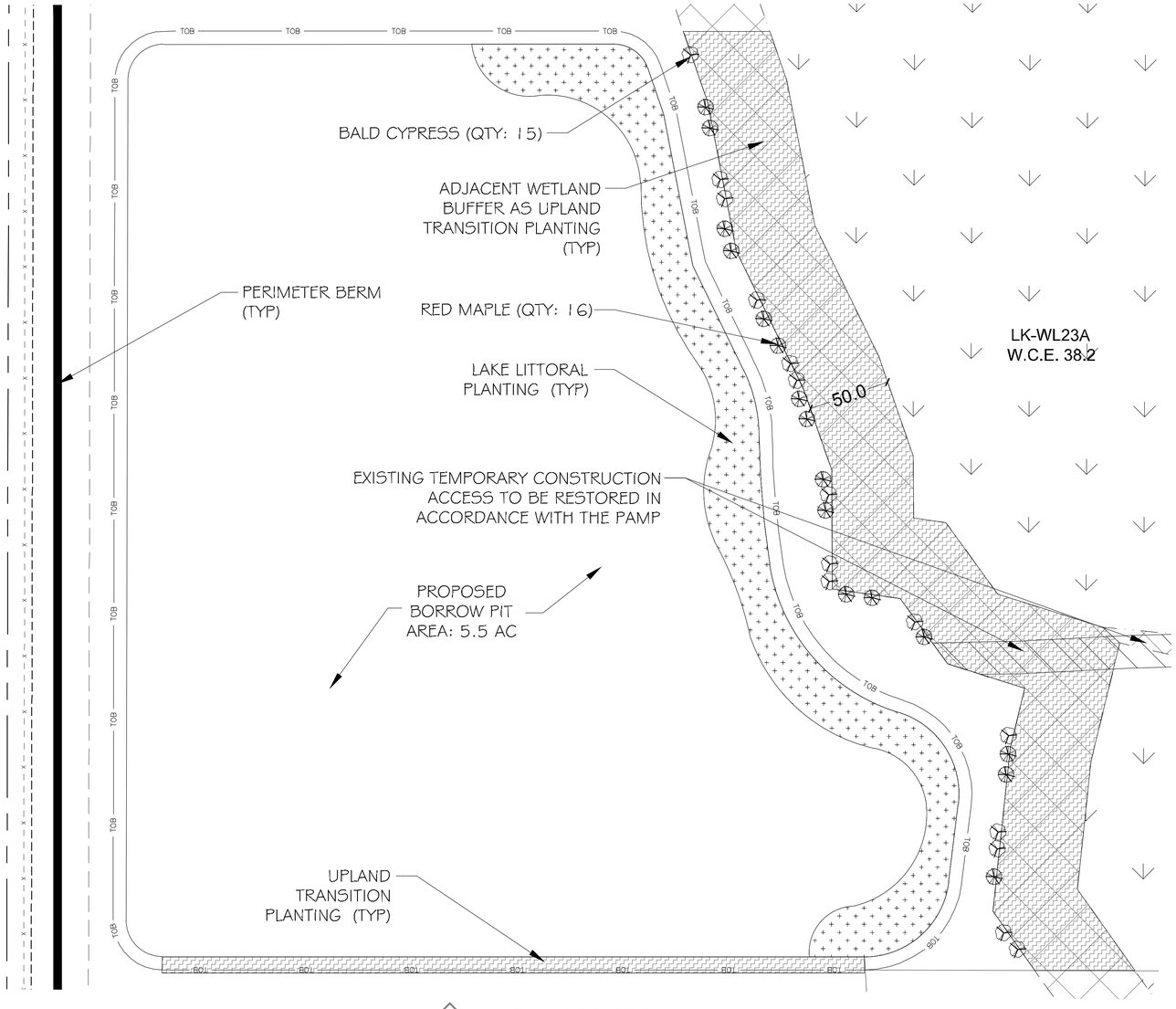
QTY	COMMON NAME	Botamcal name
1	RED MAPLE	Acer rubrum
	BALD CYPRESS	Taxodium distichum
5	WAX MYRTLE	Myrica cenfera
	SAW PALMETTO	Serenoa repens
5	FAKAHATCHEE GRASS	Tnpsacum dactyloides
9	BEAUTY BERRY	Callicarpa americana
	MYRSINE	Myrsine guianensis
21	SAND CORDGRASS	Spartina bakeri
11	MUHLY GRASS	Muhlienbergia capillans

TYPICAL 10'x50' UPLAND BUFFER PLANT SCHEDULE

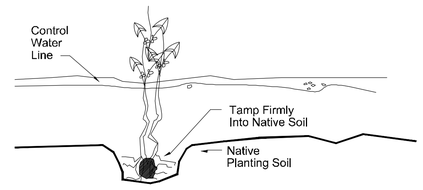


TYPICAL 10'x50' SECTION - UPLAND BUFFER PLAN

N.T.S. *Actual tree spacing may vary, see total plant quantities in lake plant schedules below.



A/3 LAKE LANDSCAPE PLAN
SCALE: 1"=40'



TYPICAL LITTORAL DETAIL

N.T.S.

LITTORAL AND UPLAND TRANSITION ZONE AREA CALCULATIONS

Lake Perimeter (Shoreline):	1,954 linear feet (lf)
Required littoral zone area (10 sf x 1,954 lf):	19,954 sf (0.46 ac.)
Required transition zone area (10 sf x 1,954 lf):	19,954 sf (0.46 ac.)
Provided littoral zone area (10 sf x 1,954 lf):	19,954 sf (0.46 ac.)
Provided transition zone area - (10 sf x 430 lf)*:	4,300 sf (0.10 ac.)
Provided wetland buffer as transition zone (50 sf x 681.11 lf)*:	34,055.5 sf (0.78 ac.)

Note: (430 + 681.11'lf = 1,111.11 LF = 57% shoreline)

LAKE - LITTORAL & UPLAND BUFFER PLANTING

LITTORAL ZONE PLANT SCHEDULE:

1,954 lf. shoreline / 50' typ. section = 39 (multiply x material in typical plant schedule above)

COMMON NAME/Botanical Name	Specifications
585 FRAGRANT WATERLILY/Nymphaea odorata	24'root, BR, clean, free of weeds, 2' o.c., 2'-3' depth
897 ARROWHEAD/Sagittaria spp.	24'ht., BR, clean, free oi weeds, 2' o.c., 6"-2' depth
897 PICKERELWEED/Pontedena cordata	24'ht., BR, clean, free oi weeds, 2' o.c., 6"-2' depth
897 SPIKERUSH/Eleochans interstincta	BR, clean,free of weeds, 2' o.c., 6"-18'depth
2379 SAND CORDGRASS/Spartina bakeri	4' liner, 2 o.c., shoreline-6' depth
39 BALD CYPRESS/Taxodium distichum	10' ht. X 5' sprd., 2" cal., FG

UPLAND BUFFER PLANT SCHEDULE:

430 lf. upland / 50 typ. section = 8.6 (multiply x material in typical plant schedule above)

Note: (430 lf. Provided + 681.11 lf. Adjacent Wetland Buffer = 1,111.11 LF = 57% Shoreline)

QTY	COMMON NAME	Botanical name	Specifications
9	RED MAPLE	Acer rubrum	10' ht. X 5' sprd., 2" cal., FG
	BALD CYPRESS	Taxodium distichum	
16	RED MAPLE*	Acer rubrum	10' ht. X 5' sprd., 2" cal., FG
15	BALD CYPRESS*	Taxodium distichum	
43	WAX MYRTLE	Myrica cenfera	36" ht. X 20" sprd., 5' o.c.
	SAW PALMETTO	Serenoa repens	
43	FAKAHATCHEE GRASS	Tnpsacum dactyloides	36" ht. X 20" sprd., 3 gal., 4' o.c.
77	BEAUTY BERRY	Callicarpa americana	30" ht. X 18" sprd., 3 gal., 4' o.c.
	MYRSINE	Myrsine guianensis	
181	SAND CORDGRASS	Spartina bakeri	18" ht. X 18" sprd., 1 gal., 36" o.c.
95	MUHLY GRASS	Muhlienbergia capillans	18" ht. X 18" sprd., 1 gal., 36" o.c.

*PLANTED ALONG ADJACENT WETLAND BUFFER, SHOWN ON LAKE LANDSCAPE PLAN.

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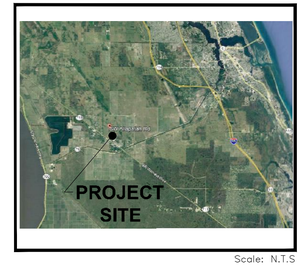

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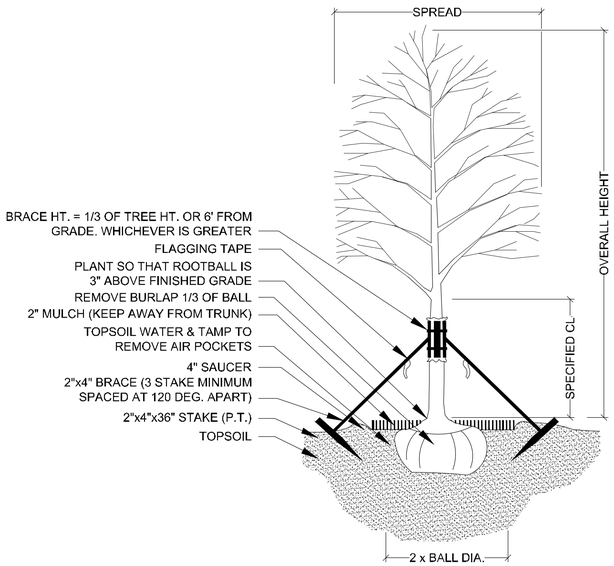
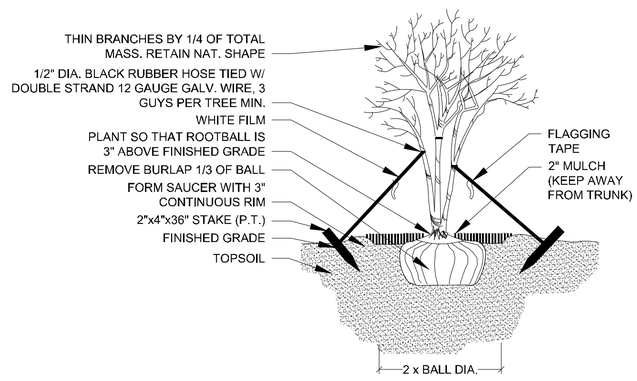


TREE PLANTING & STAKING

NOT TO SCALE



MULTI-TRUNK PLANTING & GUYING

NOT TO SCALE

DRAINAGE TESTING/DRAINAGE CHANNEL REQUIREMENTS.

PRIOR TO PLANTING, ALL PLANTINGS PITS SELECTED FOR TESTING SHALL BE TESTED IN THE FOLLOWING MANNER.

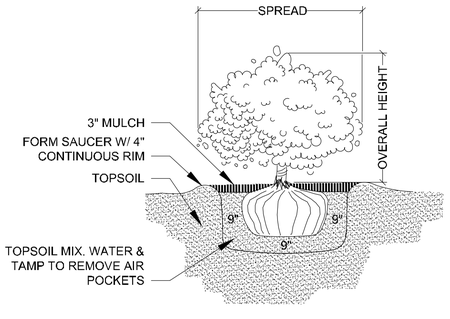
A. DIG EACH PLANTING PIT TO THE MINIMUM SPECIFIED SIZE.

B. FILL PLANTING PIT WITH TWELVE INCHES (12") OF WATER. IF THE WATER LEVEL DROPS FOUR (4") OR MORE WITHIN FOUR (4) HOURS, THE DRAINAGE IS SUFFICIENT AND A DRAINAGE CHANNEL IS NOT REQUIRED. IF THE WATER LEVEL DROPS LESS THAN FOUR INCHES (4") WITHIN THE FOUR (4) HOUR PERIOD, A DRAINAGE CHANNEL IS REQUIRED.

C. WHERE REQUIRED, THE DRAINAGE CHANNEL MUST EXTEND DOWN THROUGH THE NON POROUS SOIL AND INTO POROUS SOIL. (SEE DETAIL)

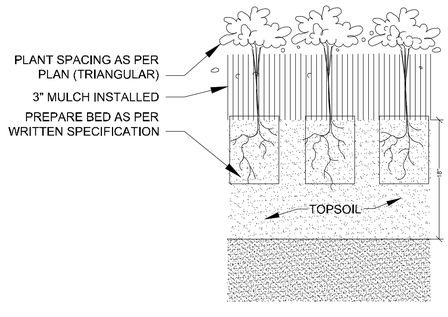
D. ALL MATERIAL REMOVED FROM THE DRAINAGE CHANNEL SHALL BE DISCARDED.

E. WHEN BACKFILLING PLANTING PITS WITH NATIVE TOPSOIL, CARE MUST BE TAKEN TO KEEP THE CONSISTENCY OF THE SOIL MIX THE SAME THROUGHOUT THE PLANTING PIT AND DRAINAGE CHANNEL.



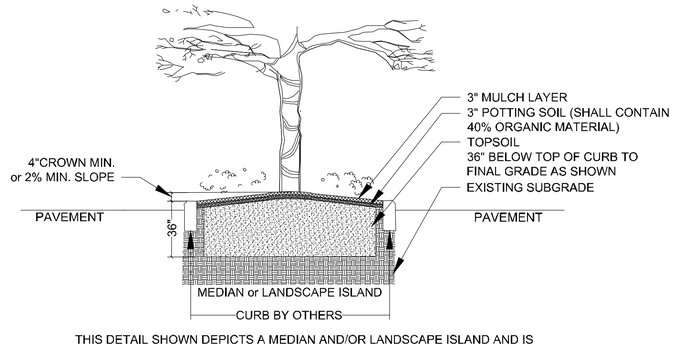
SHRUB PLANTING

NOT TO SCALE



GROUNDCOVER PLANTING DETAIL

NOT TO SCALE

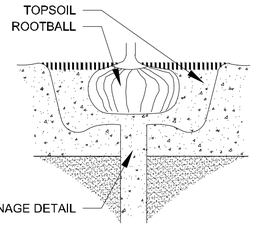


THIS DETAIL SHOWN DEPICTS A MEDIAN AND/OR LANDSCAPE ISLAND AND IS FOR GRAPHIC PURPOSES ONLY; SOIL PREPARATION SHALL APPLY TO ALL TREE, SHRUB, & GROUND COVER AREAS. THIS DOES NOT INCLUDE SOD AREAS

LANDSCAPE AREA PREPARATION DETAIL

NOT TO SCALE

- "TOPSOIL SHALL BE NATURAL, FRIABLE, FINE LOAMY SOIL POSSESSING CHARACTERISTICS OF REPRESENTATIVE TOPSOIL IN THE VICINITY OF THE PROJECT SITE THAT PRODUCES HEAVY GROWTH.
- TOPSOIL SHALL HAVE A PH RANGE OF 5.5-7.4, FREE FROM SUBSOIL, WEEDS, LITTER, SODS, CLAY, STONES, STUMPS, ROOTS, TRASH, HERBICIDES, TOXIC SUBSTANCES, OR ANY OTHER MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH, OR HINDER PLANTING OPERATIONS.
- TOPSOIL SHALL CONTAIN A MINIMUM OF 3% ORGANIC MATERIAL.
- TOPSOIL MUST PERCOLATE WATER AT A RATE OF 1" PER HOUR (SEE ALSO DRAINAGE TESTING DETAIL FOR TREES)
- LANDSCAPE AREA SOILS SHALL BE APPROVED BY LANDSCAPE ARCHITECT/OWNER PRIOR TO PLANTING



DRAINAGE TESTING DETAIL

NOT TO SCALE

lucido & associates

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100 Avenue A Suite 2A, Fort Pierce, Florida 34950 (772) 467-1301, Fax (772) 467-1303
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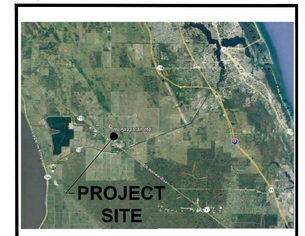

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Civil Engineer / Surveyor:
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FPL Sweetbay Solar Energy Center

Martin County, Florida

Planting Details

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NORTH

SCALE: 1" = 0

0 0 0 0

REG. # 1018
Thomas P. Lucido

Designer	BW	Sheet
Manager	MC	4 OF 5
Project Number	17-626	
Municipal Number	--	
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LANDSCAPE SPECIFICATIONS

PART 1: GENERAL CONDITIONS

1.01 SCOPE:
A. The landscape contract includes the supplying and planting of all trees, shrubs, vines, and ground cover together with all necessary labor, equipment, tools and materials needed for the successful completion, execution and maintenance of the landscape plans.

1.02 AGENCY STANDARDS:
A. Grades and standards of plant materials to be used shall be true to name, size, condition and graded Florida #1 or better as stated in: Grades and Standards of Florida Plant Materials published by the State of Florida Department of Agriculture, Tallahassee, Florida.

1.03 SITE EXAMINATION:
A. The Landscape Contractor shall personally examine the site and fully acquaint him/herlself with all of the existing conditions in order that no mis-understanding may afterwards arise as to the character or extent of the work to be performed, and, additionally, in order to acquaint him/herself with all precautions to be taken in order to avoid injury to property or persons. No additional compensation will be granted because of any unusual difficulties which may be encountered in the execution or maintenance of any portion of the work.

1.04 ERRORS AND OMISSIONS:
A. The plant list is a part of the drawings and is furnished as a convenience. The plant list indicates the name, size and quantities of specific plant materials as called for and is located on the drawings. The Landscape Contractor is responsible for his/her own quantity count, and any discrepancy between drawings and plant list shall be considered as correct on the drawings.

B. The Landscape Contractor shall not take advantage of errors or omissions in the specifications or contract drawings. Full instruction will be given if such errors are discovered. Upon the discovery of any discrepancies in, or omissions from the drawings or documents, or should the Landscape Contractor be in doubt as to their meaning, the Landscape Architect shall be notified and will determine the actions necessary to each query.

C. If plans and specifications are found to disagree after the contract is awarded, the Landscape Architect shall be the judge as to which was intended.

1.05 EXECUTION OF THE WORK:
A. The Landscape Contractor shall have his labor crews controlled and directed by a Foreman well versed in plant materials, planting methods, reading plans, and coordination between job and nursery in order to execute installation correctly and in a timely manner.

B. The Landscape Contractor shall provide a competent English-speaking Foreman on the project at all times, who shall be fully authorized as the Contractor's agent on the work. The Foreman shall be capable of reading and thoroughly understanding the Plans, Specifications and other Contract Documents. If the Superintendent is deemed incompetent by the Landscape Architect, he (the superintendent) shall be immediately replaced.

C. The Landscape Contractor shall be available for any meetings with the Owner and/or Landscape Architect during implementation of the job. Any additional work or changes received as a result of failure to communicate with the Owner or Landscape Architect during implementation will be the responsibility of the Landscape Contractor.

1.06 PROTECTION OF PUBLIC AND PROPERTY:
A. The Landscape Contractor shall protect all materials and work against injury from any cause and shall provide and maintain all necessary safeguards for the protection of the public. He shall be held responsible for any damage or injury to persons or property which may occur as a result of his fault or negligence in the execution of the work, i.e. damage to underground pipes or cables.

1.07 CHANGES AND EXTRAS:
A. The Contractor shall not start work on any changes or "extras" in the project until a written agreement setting forth the adjusted prices has been executed by the Owner and the Contractor. Any work performed on changes or "extras" prior to execution of a written agreement may or may not be compensated for by the Owner at his discretion.

1.08 GUARANTEE:
The Landscape Contractor shall furnish a written guarantee warranting all materials, workmanship and plant materials, except sod, for a period of 18 MONTHS from the time of completion and acceptance by the Landscape Architect and Owner. Sod shall be guaranteed to 90 calendar days after acceptance by the Landscape Architect and Owner. All plant material shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. The guaranteeing of plant material shall be construed to mean complete and immediate replacement with plant material of the same variety, type, size, quality and grade as that of the originally specified material. During the guarantee period it shall be the Landscape Contractor's responsibility to immediately replace any dead or unhealthy material as determined by the Landscape Architect. The guarantee will be null and void if plant material is damaged by lightning, hurricane force winds, or any other acts of God, as well as vandalism or lack of proper maintenance.

B. At the end of the specified guarantee period, any plant required under this contract that is dead or not in satisfactory condition, as determined by the Landscape Architect, shall be replaced. The Landscape Contractor shall be responsible for the full replacement cost of plant materials for the first replacement and share subsequent replacement (s) costs equally with the Owner, should the replacement plant fail to survive.

1.09 CARE AND MAINTENANCE:
A. The Landscape Contractor shall be responsible for the care and maintenance of all plant materials and irrigation when applicable until final acceptance by the Owner or Landscape Architect.

B. The Owner agrees to execute the instructions for such care and maintenance.

1.10 SAFETY:
A. It shall be the responsibility of the Landscape Contractor to protect all persons from injury and to avoid property damage. Adequate warning devices shall be placed and maintained during the progress of the work.

B. It shall be the contractor's responsibility to conform to all local, state, and federal safety laws and codes including the Federal Occupational Safety And Health Act (O.S.H.A.).

1.11 CONTRACTOR QUALIFICATION:
A. The Owner may require the apparent contractor (s) to qualify him/herself to be a responsible entity by furnishing any or all of the following documentary data:
1. A financial statement showing assets and liabilities of the company current to date.
2. A listing of not less than (3) completed projects of similar scope and nature.
3. Permanent name and address of place of business.
4. The number of regular employees of the organization and length of time the organization has been in business under the present name.

1.12 INSURANCE AND BONDING:
A. The contractor (s) shall submit proof of insurance for this job for the time period that the work is done. The minimum amount of insurance shall be $300,000.00 per person and $300,000.00 per aggregate or as required by owner and agreed to in the contract. The successful bidder shall be required to have this coverage in effect before beginning work on the site.

B. The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

1.13 PERMITS AND CERTIFICATES:
A. All contractors shall secure and pay for all permits and certificates required for his/her class of work.

PART 2: MARTERIALS

2.01 PLANT MATERIALS:
A. A complete list of plants is shown on the drawings, including a schedule of quantities, sizes, and such other requirements deemed necessary. In the event discrepancies occur, the specifications on the drawings shall govern.

B. Substitutions: Substitutions of plant materials or changes in size or spacing of materials will be permitted ONLY upon written authorization by the Owner or the Landscape Architect. If plant material is not of sufficient size to meet applicable codes, a letter of variance from the appropriate agency must be obtained by the Contractor prior to issuance of any change order. If material of smaller size is to be accepted, the quantity of material shall be increased, at no additional cost to the Owner, to meet the intent of the drawings.

C. All plant materials shall have a habit of growth that is normal for the species and shall be healthy, vigorous and equal to or exceed the measurements specified in the plant list, which are the minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting.

D. All plant materials shall be nursery grown, unless otherwise noted, Florida #1 or better and shall comply with all required inspections, grading standards and plant regulations as set forth by the Florida Department of Agriculture's Grades and Standards for Nursery Plants, most current addition and Grades and Standards for Nursery Plants, most current addition.

E. Plants that do not have the normal balance of height and spread typical for the respective plant shall not be acceptable.

F. The Landscape Contractor shall install each plant to display its best side. Adjustments may be required if plants are not installed properly and/or approved by the Landscape Architect at no additional cost to owner.

2.02 INSPECTION

A. The Landscape Architect and Owner may inspect trees and shrubs at place of growth or at site before planting, for compliance with requirements for genus, species, variety, size and quality. The Landscape Architect and Owner retain the right to further inspect trees and shrubs for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Rejected plant materials shall be immediately removed from project site.

2.03 PROTECTION OF PLANT MATERIALS:
A. Balled and burlapped plants (B & B) shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Balls shall be firmly wrapped with burlap similar materials and bound with cord, rope, or wire mesh. All collected plants shall be balled and burlapped.

B. Plants with broken, damaged or insufficient rootballs will be rejected.

C. All plant material shall be protected from possible bark injury or breakage of branches. All plants transported by open trucks shall be adequately covered to prevent windburn, drying or damage to plants.

D. Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch or other protection from the drying of wind and sun. All plants shall be watered as necessary by the Landscape Contractor until planted.

2.04 STORAGE
A. All plant materials shall be stored on the site in designated areas, specified by the Landscape Architect or Owner's agent.

B. No plant material shall be stored longer than seventy-two (72) hours unless approved by Landscape Architect and/or owner.

C. The Landscape Architect reserves the right to reject any plant materials not in conformance with these specifications.

D. All rejected material shall be immediately removed from the site and replaced with acceptable material at no cost to the Owner.

2.05 PROTECTION DURING PLANTING:
A. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling or bark slippage by means of burlap, wood battens or other approved methods. Battens shall NOT be attached to the tree with nails

2.06 TOP SOIL:
A. Planting soil for all plantings shall consist of topsoil and be natural, friable, fertile, fine loamy soil possessing characteristics of representative topsoil in the vicinity of the project site that produces heavy growth. Topsoil shall have a PH range of 5.5-7.4, free from subsoil, weeds, litter, sods, clay, stones, stumps, roots, trash, herbicides, toxic substances, or any other material which may be harmful to plant growth, or hinder planting operations. Topsoil shall contain a minimum of 3% organic material. Topsoil must percolate water at a rate of 1" per hour (See also drainage testing detail for trees)

B. Landscape Area Preparation. The intent of this section is to ensure a healthy growing environment for all planting material in all landscaped areas. Landscape Contractor to examine existing soils prior to planting to ensure conformance to all definitions of "Topsoil" (seeLandscape Area Preparation Detail); In addition, a 3" layer of high organic (min 40%) potting soil shall be added to the topsoil and mixed in at time of planting. *East Coast Recycling Inc.* is a recommended source for imported Topsoil (if needed) as well as the top 3" layer of potting soil.

Existing soils must meet all definitions of 'Topsoil' as described above in all planting areas throughout the site. If existing soils do not meet all definitions of Topsoil, please refer to the 'Landscape Area Preparation' detail. Examination may require existing soils to be tested by an accredited testing laboratory. Should a soil test be necessary, Contractor shall contact soil testing lab directly to confirm such lab's soil collection and transmittal protocol; all costs if any shall be borne by the Contractor. Contractor shall provide to Landscape Architect for review the results of the soil test if conducted. Contractor shall schedule an on-site meeting with Landscape Architect to review existing and/or imported soils prior to planting. The Landscape Area Preparation is the responsibility of the Landscape Contractor. He/she shall except all responsibility of planting soils and shall honor all guarantee items in section 1.08.

Large tubs, wire baskets, grow bags, and balled and burlapped material shall have 1 tablet for each 1/2 inch of trunk diameter (measured 3 feet from ground) or for each foot of height or spread of larger shrub material. The Landscape Architect reserves the right to inspect and review the application of fertilizer.

2.08 MULCH:
A. Native pine straw mulch to be used for all landscape areas. Mulch material shall be clean, dry, free of weeds, seeds and pests, moistened at the time of application to prevent wind displacement. Cypress &/or Red mulch is prohibited.

B. All trees and shrub beds shall receive 3" mulch immediately after planting and thoroughly watered. Apply 2" max on tree & palm rootballs, keep 6" away from tree & palm trunks or as required by local jurisdiction.

PART 3 EXECUTION
3.01 DIGGING:
A. The Landscape Contractor shall exercise care in digging and other work so as not to damage existing work, including overhead wires, underground pipes and cables and the pipes and hydrants of watering systems. Should such overhead or underground obstructions be encountered which interfere with planting, the Owner shall be consulted and contractor will adjust the location of plants to clear such obstruction. The Contractor shall be responsible for the immediate repair of any damage caused by his work.

3.02 GRADING:
A. Grading for drainage, swales, etc. to within 4 inches of the finished grade to be provided by others.

B. It shall be the responsibility of the Landscape Contractor to provide the final grading during the course of landscape installation so as to bring sod and planting areas to their proper elevations in relation to walks, paving, drain structures, and other site conditions. The site grading plan must be checked prior to installation of sod to insure that drainage and other conditions will NOT be modified.

3.03 PLANTING:
A. Planting shall take place during favorable weather conditions.

B. The Contractor shall call for utility locates and ascertain the location of all utilities and easements so proper precautions can be taken not to damage or encroach on them.

C. Tree Planting shall be located where it is shown on the plan. No planting holes shall be dug until the proposed locations have been staked on the ground by the Contractor.

D. Excavation of holes shall extend to the required subgrades as specified on the planting diagrams located in the landscape plans. Plant pits shall be circular in outline and shall have a profile which conforms to the aforementioned "Tree and Shrub Planting Diagrams".

E. A representative number of planting pits (a minimum of one in every 25 feet throughout the entire site) shall be tested for proper drainage. See Landscape Details for complete testing methods and requirements.

F. Planting pits shall be excavated to the following dimensions and backfilled with Topsoil- see Landscape Area Preparation Detail;
1 Gallon material (1 gal.): 12" x 12" x 12" min.
3 Gallon material (3 gal.): 20" x 20" x 18" min.
Lerio material (7 gal.): 30" x 30" x 24" min.
Field grown material and trees: 1-1/2 times width of ball and depth of ball plus 12" min.

G. No planting or laying of sod shall be initiated until the area has been cleaned of existing sod or other plant materials, rough grass, weeds, debris, stones etc. and the ground has been brought to an even grade, with positive drainage away from buildings and towards drain inlets and swales and approved by Landscape Architect or owner's rep.

H. Each plant shall be planted in an individual hole as specified for trees, shrubs, and vines.

I. All plants shall be set to ultimate finished grade. No filling will be permitted around trunks or stems. All ropes, wire, stakes, etc., shall be removed from sides and top of the ball and removed from hole before filling in.

J. All flagging ribbon shall be removed from trees and shrubs before planting.

K. Excess excavation (fill) from all holes shall be removed from the site, at no additional expense to Owner.

3.04 PRUNING:
A. Remove dead and broken branches from all plant material. Prune to retain typical growth habit of individual plants with as much height and spread as possible in a manner which will preserve the plant's natural character.

B. Make all cuts with sharp instruments flush with trunk or adjacent branch, in such a manner as to insure elimination of stubs. Cuts made at right angles to line of growth will not be permitted.

C. Trees shall not be poled or topped.

D. Remove all trimming from site.

3.05 GUYING:

A. All trees over six (6') feet in height shall, immediately after setting to proper grade, be guyed with three sets of two strands, No. 12 gauge malleable galvanized iron, in tripod fashion. See Detail.

B. Wires shall not come in direct contact with the tree but shall be covered with an approved protection device at all contact points. Wires shall be fastened in such a manner as to avoid pulling crotches apart.

C. Stake & Brace all trees larger than 12' oa. See detail. Stakes shall be 2" x 2" lumber of sufficient length to satisfactorily support each tree.

D. Turnbuckles for guying trees shall be galvanized or cadmium plated and shall be of adequate size and strength to properly maintain tight guy wires.

3.06 WATER:
A. Each plant or tree shall be thoroughly watered in after planting. Watering of all newly installed plant materials shall be the responsibility of the Landscape Contractor until final acceptance by the Landscape Architect.

B. Prior to installing any irrigation system components, the contractor shall obtain a water sample from the proposed water supply and conduct a particle size and count analysis on the sample using the services of a reputable lab certified in such analysis. Submit the test results to the owner/owner's representative for review and approval. Do not proceed further with system installation until given written approval to do so.

3.07 SOD:
A. The Landscape Contractor shall sod all areas indicated on the drawings.

B. It shall be the responsibility of the Landscape Contractor to fine grade all landscape areas, eliminating all bumps, depressions, sticks, stones, and other debris.

C. The sod shall be firm, tough texture, having a compacted growth of grass with good root development. It shall contain no noxious weeds, or any other objectionable vegetation, fungus, insects, or disease. The soil embedded in the sod shall be good clean earth, free from stones and debris.

D. Before being cut and lifted, the sod shall have been mowed at least three times with a lawn mower, with the final mowing not more than seven days before the sod is cut. The sod shall be carefully cut into uniform dimensions.

E. 6-6-6 fertilizer with all trace elements is to be applied at the rate of 40 lbs. per 1,000 sq. ft. prior to laying sod.

F. Solid sod shall be laid with closely abutting, staggered joints with a tamped or rolled, even surface.

G. The finished level of all sod areas after settlement shall be one (1") inch below the top of abutting curbs, walks, paving and wood borders to allow for building turf.

H. If in the opinion of the Landscape Architect, top dressing is necessary after rolling, clean yellow sand will be evenly applied over the entire surface and thoroughly washed in.

3.09 CLEANING UP:
A. The contractor shall at all times keep the premises free from accumulations of waste materials or rubbish caused by his employees or work. He shall leave all paved areas "broom clean" when completed with his work.

3.10 MAINTENANCE:
A. Maintenance shall begin immediately after each plant is installed and shall continue until all planting has been accepted by the Owner or Landscape Architect. Maintenance shall include watering, weeding, removal of dead materials, resetting plants to proper grades or upright positions, spraying, restoration of planting saucer and/or any other necessary operations.

B. Proper protection to lawn areas shall be provided and any damage resulting from planting operations shall be repaired promptly.

C. Replacement of plants during the maintenance period shall be the responsibility of the Contractor, excluding vandalism or damage on the part of others, lighting, or hurricane force winds, until final acceptance.

D. In the event that weeds or other undesirable vegetation become prevalent, it shall be the Contractor's responsibility to remove them.

E. Trees or other plant material which fall or are blown over during the maintenance period will be reset by the Contractor at no additional expense to the Owner, the only exception being hurricane force winds.

3.11 COMPLETION, INSPECTION AND ACCEPTANCE:
A. Completion of the work shall mean the full and exact compliance and conformity with the provisions expressed or implied in the Drawings and in the Specifications, including the complete removal of all trash, debris, soil or other waste created by the Landscape Contractor.

B. Inspection of work to determine completion of contract, exclusive of the possible replacement of plants, will be made by the Owner and/or Landscape Architect at the conclusion of all planting and at the request of the Landscape Contractor.

C. All plant material shall be alive and in good growing condition for each specified kind of plant at the time of acceptance. The rating of each plant according to Florida Grades and Standards shall be equal to or better than that called for on the plans and in these Specifications at the time of final inspection and acceptance.

D. After inspection, the Landscape Contractor will be notified by the Owner of the acceptance of all plant material and workmanship, exclusive of the possible replacement of plants subject to guarantee.

E. All trees & shrubs shall be straight and in correct position per the landscape plans, details and specifications. All nursery, shipping and identification tags & ribbons shall be removed from trees & shrubs immediately after planting.

lucido & associates

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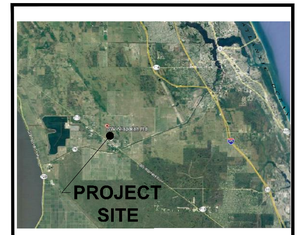

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REG. # 1018
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FPL SWEETBAY SOLAR ENERGY CENTER

MARTIN COUNTY, FLORIDA

CULPEPPER & TERPENING, INC

CONSULTING ENGINEERS | LAND SURVEYORS

ITEM 16 - STORMWATER REPORT DRAINAGE CALCULATIONS

NOVEMBER 2018
C&T Project No. 17-151
Certificate of Authorization No. 4286

PREPARED BY
Culpepper & Terpening, Inc
2980 South 25th Street
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www.ct-eng.com

PREPARED FOR
Florida Power & Light
a Next Era Energy Company
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Juno Beach, FL 33408
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SUBMITTED BY:

This item has been digitally signed and sealed by James Parker Terpening, PE on 11/9/2018 using a Digital Signature. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies.

James P. Terpening, P.E.
Florida Engineering No. 24276
EOR Responsibility: 100 % (Pages 1 - 410)

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FPL Sweetbay Solar Energy Center Drainage Calculations

SECTION 1 - FACILITY INFORMATION

1.1. General Information

The Florida Power & Light Company ("FPL") is proposing a Facility ("Facility") known as "FPL Sweetbay Solar Energy Center". The Facility is located east of SW Allapattah Rd. (CR "609") and North of SW Morgan St. within sections 19, 29 and 30, Township 39S, Range 39E of Martin County. A general location map is shown in Figure 1 "Location Map" on page 2 and site access is via the Allapattah Road.

The proposed Facility is located on 491 acres of the 565.78 acre site.

The current land use is in agricultural production, consisting of cow pastures, cow pins, cow ponds, and wetlands. The site has previously been impacted by the grading and construction of agricultural ditches that connect to and have drained many of the existing wetlands.

The existing drainage system can be generally described as sheet flow from west to the east via pasturelands into the abutting wetlands and agricultural ditches. These wetlands and ditches are inter connected and ultimately discharge off-site via a combination of natural breaches, free discharging culverts, and one (1) weir controlled culvert.

The site topography ranges from a high of 45 NAVD on the west to a low of 25 NAVD along the east property line. The existing drainage system can be divided into 17 drainage basins, sixteen (16) of which flows to the eastern boundary and discharges into the Troup Indiantown Drainage District (TIDD) Relief Canal.

This (TIDD) Relief Canal then flows southeast towards the north-south (TIDD) Canal D. Canal D drains south into South Florida Water Management District (SFWMD) C-44 canal via the existing drainage spillway Allapattah No. 1.

Only Basin WL23, abutting SW Allapattah Road has historically outfall to the west. Basin WL23 discharges under SW Allapattah Road via an existing 48-inch culvert. Interviews with the abutting property owner indicated that this has been the historically drainage of this basin and the culvert was installed by the FDOT in the mid 1960's during the construction of the SR 609 (aka SW Allapattah Road). This ditch also ultimately drains to the north and into the TIDD Relief Canal.

A pre-application meeting was held with the Florida Department of Environmental Protection on December 12, 2017, in which FPL presented the design concepts for the Facility. The design concepts proposes to utilize the natural contours of the land by restoring overland sheet flow into the site's existing wetlands systems to restore the pre agricultural natural hydrology. Wetland control structures are proposed to regulate the post development wetland water elevation. The wetland control structures will discharge into flow ways, which flows downstream into wetlands and to then to the proposed project outfalls. The wetland buffer areas will be planted with native grasses.

The design will also include the construction of outfall structures, generally in the proximity of the site's existing outfalls, to insure that the post development stormwater discharges are less than the pre-development conditions.

Figure 1 – Location Map

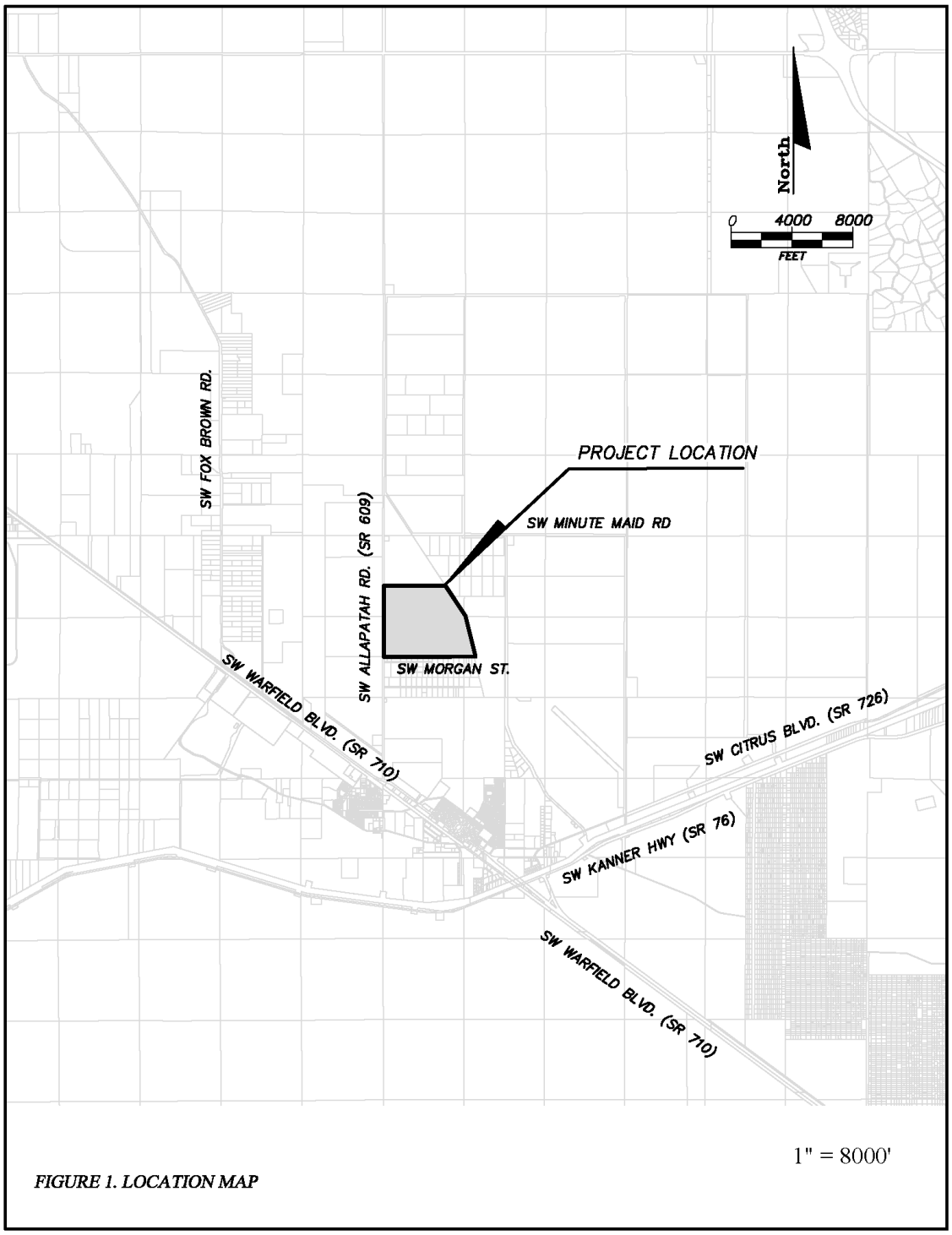


Figure 2 – FEMA Flood Map

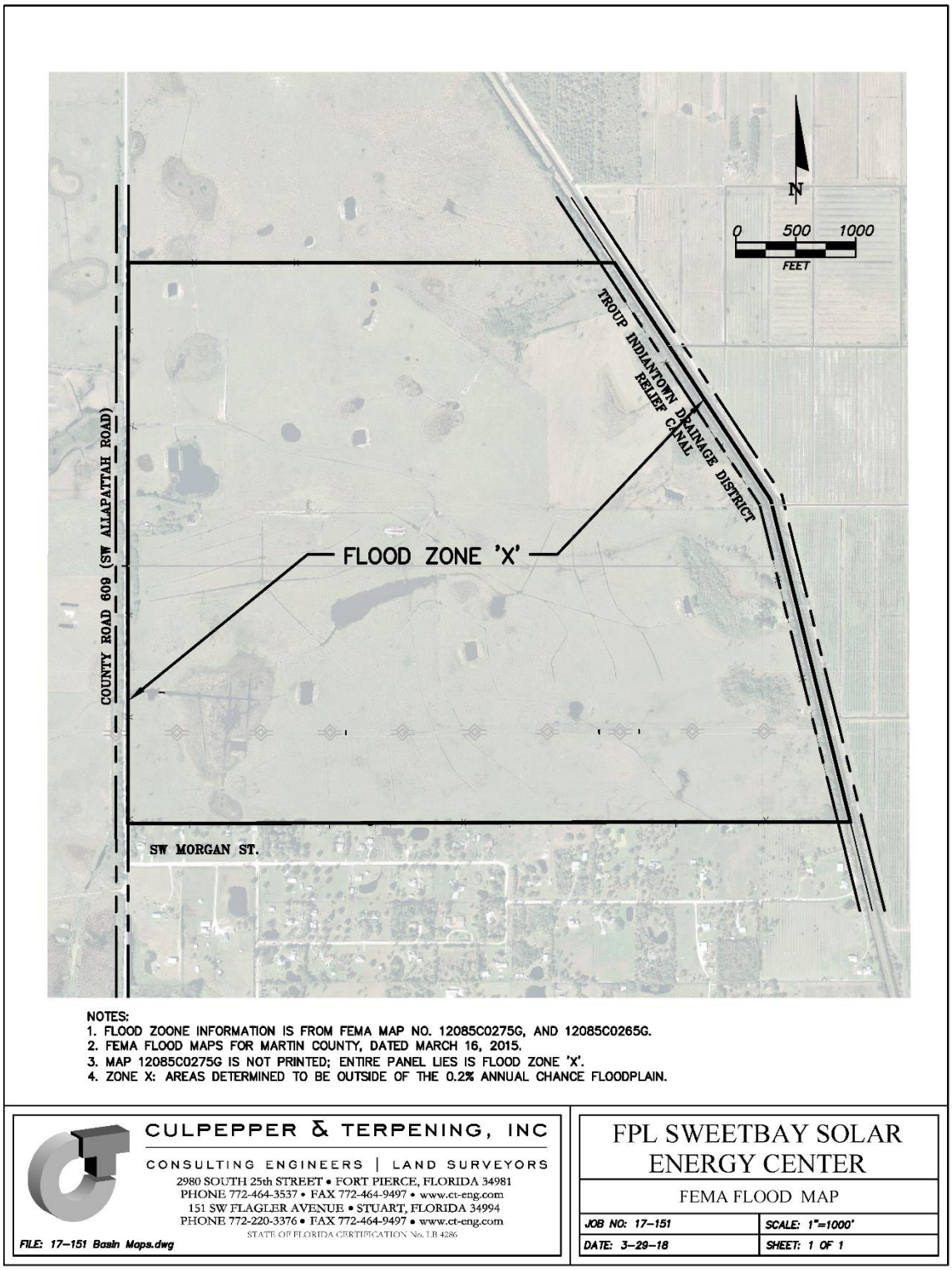


Figure 3 – Pre-Development Basin Map

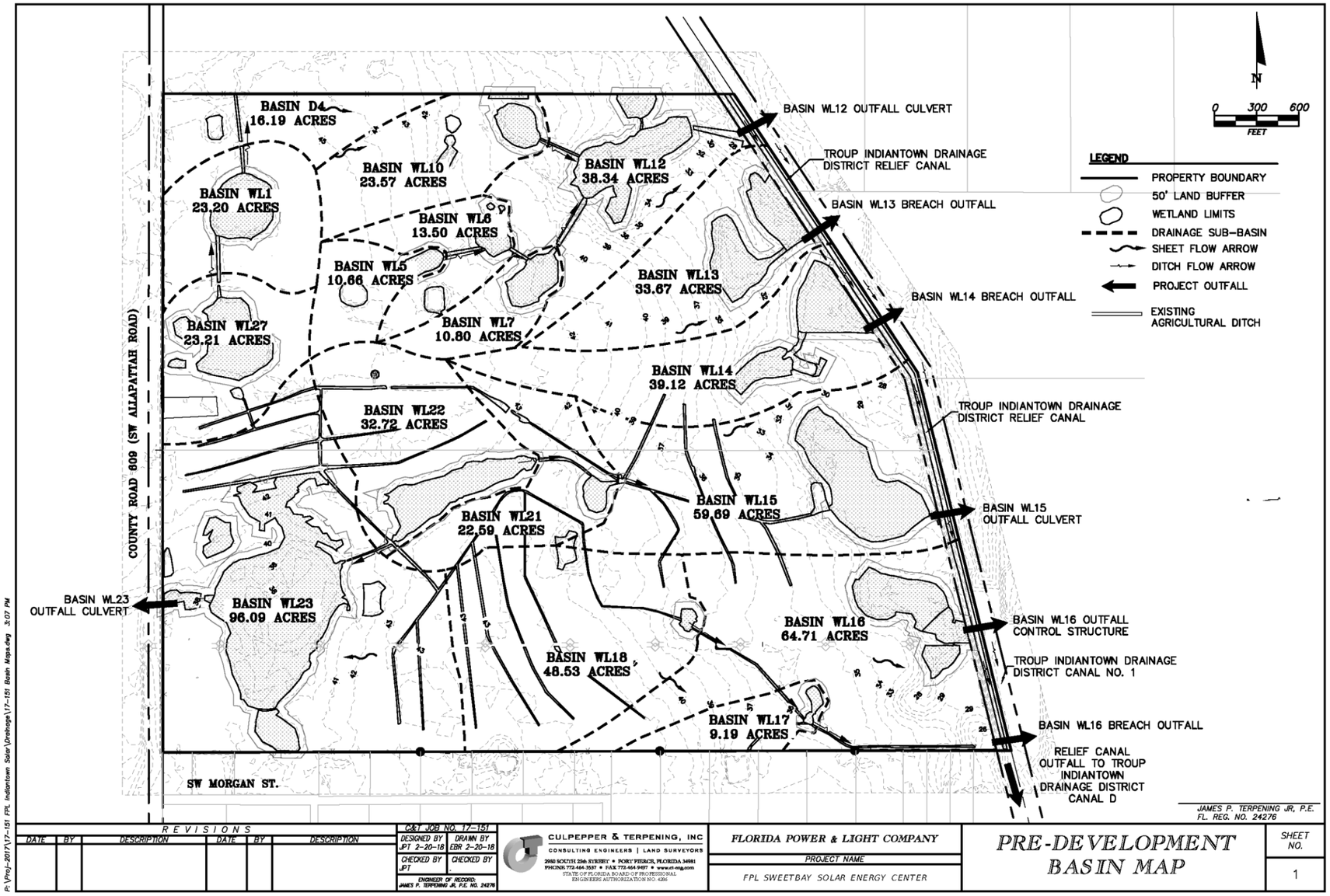
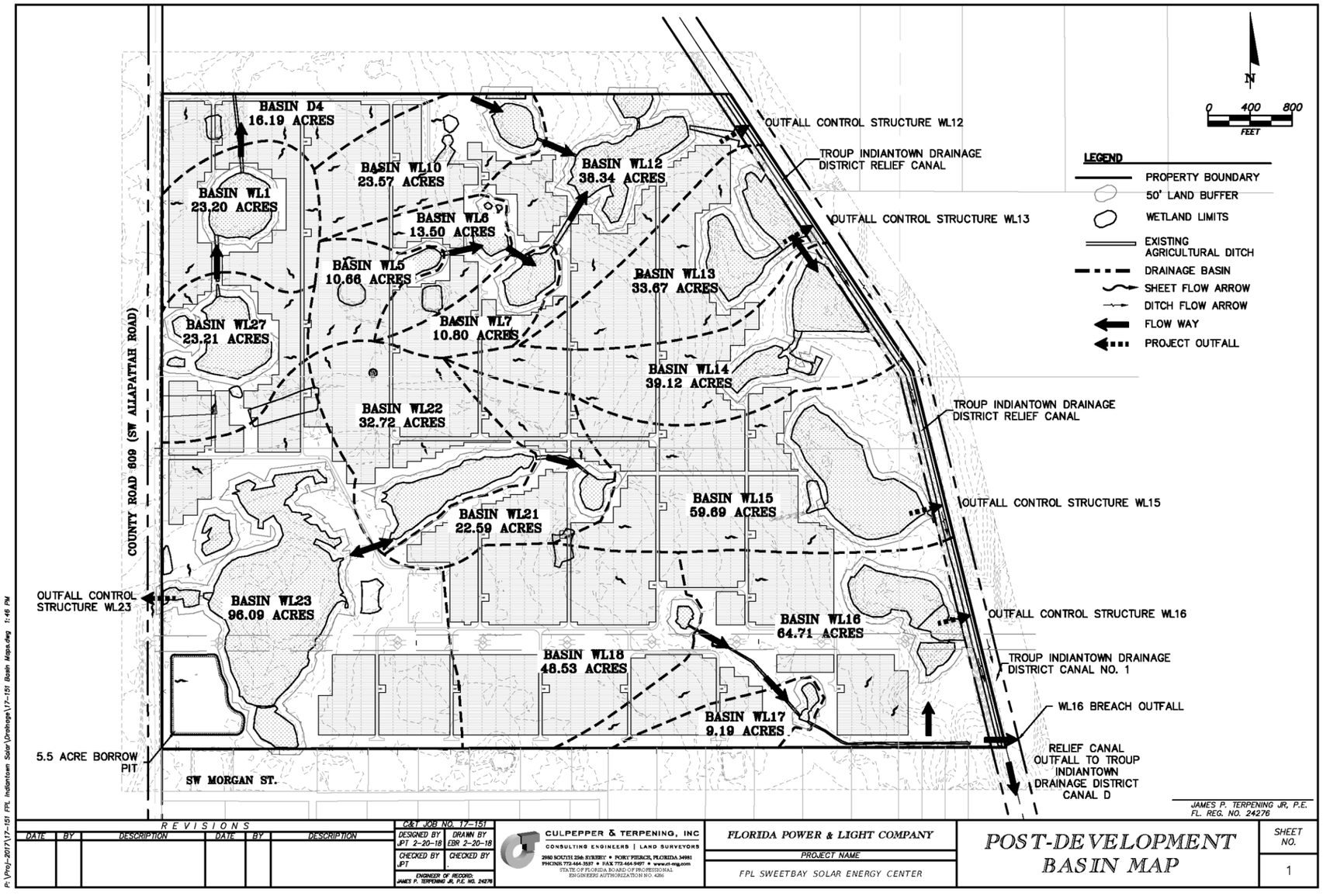


Figure 4 – Post-Development Basin Map



SECTION 2 – DESIGN APPROACH

The Facility will be designed to insure that no adverse water quantity or quality to the receiving water will occur as a result of the development of the Facility, as required by the South Florida Water Management District ("SFWMD") regulations and under Section 62-330.304 of the Florida Administrate Code.

The proposed Facility was designed with a "Civil Light" approach. The Civil Light design elements include:

- Minimal grading;
- Preservation of existing flows by constructing at the existing grade;
- Minimizes the introduction of impervious area by limiting it to only a few semi-impervious, unpaved pathways constructed at or near grade and a semi-impervious Solar Collection Yard;
- No permanent impacts are proposed to state jurisdiction wetlands;
- Impacts to other surface waters are proposed;
- Preservation or reduction in the pre-development water quantity;
- Improving water quality by restoring the farming pasture to a natural grassland condition;
- Regrading of the agricultural ditches that have negatively impacted the existing wetland system;
- Removal of exotic vegetation form the wetlands and restoration of the upland buffers with planting of native grasses; and
- Restoring pre-development wetland hydrology by restoring the drainage area and establishing wetland control elevations.

The Design Requirements of the SFWMD includes:

- The Facility is located within the TIDD Relief Canal Basin;
- In both the Pre and Post development phase, all drainage basins drains to the TIDD Relief Canal;
- Post Development discharge rates will be limited to the predevelopment rates;
- In accordance with SFWMD Applicant's Handbook Vol. II, Section 3.9, the site recovery will be will be designed to revoke within 12 days based on the 25 year, 3 day storm event;
- The tailwater condition for the site was obtained through field observation and historical record; and
- The site will be analyzed for nutrient loading based on both the pre-development and post-development conditions.

The Site Design Elements will include:

- Restoring historical drainage patterns throughout the site to allow sheet flow into existing wetlands and flow ways ;
- Increase Infiltration Volume by restoring sheet flow conditions;
- Improving water quality and wetland hydration by filling in of the agricultural ditches
- Restoring wetlands to their pre agricultural natural hydro-period;
- Construction of wetland control structures located in 11 wetlands to maintain wetland hydration;
- Improvements to the site's existing outfalls by repairing breaches, construction of five (5) outfall control structures; and
- Decrease in the nutrient loadings by the restoration of the land use from pasture to grasslands.

FPL Sweetbay Solar Energy Center Drainage Calculations

The design criteria and methodology are as follows:

- Time of concentration, runoff curve number and soil storage were calculated by utilizing the TR-55 "Urban Hydrology for Small Watersheds," methodology. The curve numbers were based on land use, i.e. pre-development and post-development rangeland, and soil types from the USDA Soil Survey for Martin County.
- In addition to the SFWMD standard water quality and quantity requirements, the site was analyzed for pre vs post development nutrient loadings. The Nutrient Analysis was conducted under the Harper Report methodology ("Evaluation of Stormwater Design Criteria within the State of Florida," June 2007).
- The site was analyzed with ICPR4 for several storm events. The rainfall amounts for the various storm events were derived from the SFWMD Isohyetal Rainfall Maps. The following storm events and rainfall amounts were utilized:
    - 10 Year, 1 Day – Rainfall amount = 8.20 in.
    - 25 Year, 3 Day – Rainfall amount = 10.00 in.
        - Analyzed for minimum Solar Collection Yard Path elevations and minimum inverter elevations
        - Maximum Discharge
        - Site Recovery Analysis
    - 100 Year, 3 Day – Rainfall amount = 14.00 in.
        - Analyzed for minimum Solar collection Yard elevation
- Wet Season and Wetland Water elevations will be established based on geotechnical analysis, wetland vegetation analysis and field observed seasonal high water elevations; and
- Lastly, a review of the FEMA Flood Zone Maps was completed to check design elevations and ensure a minimum impact design.

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SECTION 3 – STORMWATER ANALYSIS

3.1. Pre-Development

The pre-development condition consists of pasture farmland with an agricultural ditch drainage system.

The time of concentration for each of the 17 basins were developed by the TR-55 methodology with the longest flowing path being from the location furthest from the basin outfall to the eventual end of path at the outfall of the basin. The longest overland flow path was analyzed as sheet flow for a maximum of 300 feet with the remaining flow path analyzed as shallow concentrated flow. The average pre-development time of concentration of the basins is approximately 59 minutes. This information can be found on page 12 in Table No.2, "Pre vs Post Nutrient Loading Evaluation".

The weighted curve number and soil storage for each basin was calculated by the TR-55 methodology for the basin's specific USDA Martin County soil types and TR-55 Table 2-2c "Other Agricultural Lands – Pasture, Grassland, or Range, in good condition." All of the soil types for the site were of a hydrologic soil group type D without drainage improvements. The average pre-development weighted curve number and soil storage of the basins was 82 and 2.17 in., respectively. This information can be found on page 12 in Table No. 2, "Pre vs Post Nutrient Loading Evaluation".

The pre-development nutrient loadings were determined utilizing the Harper Report 2007 methodology tabular data. A pre-development land use of pasture was utilized for each basin, with a typical runoff concentration of nitrogen and phosphorus of 3.47 mg/l and 0.616 mg/l, respectively.

3.2. Post-Development

The post-development condition consists of 17 drainage basins that will be the restored and converted from the pastureland to a natural, sheet flow grassland system. Some of the agricultural ditches will be filled and some will be converted as shallow flow ways and incorporated into the drainage system. Wetland control structures will be placed in ten (10) of the wetlands to control wetland hydration. There are five (5) drainage modifications proposed to the site's six (6) existing outfalls. The sixth existing outfall is a breach along the eastern side and is proposed to be eliminated.

Only Basin WL16 outfall breach, located in the site's southeastern corner will remain in the post development condition. This breach is proposed to remain, unhindered in order to insure that there are no impacts to the drainage in the neighboring properties.

These modifications include the following:

- The Basin WL12 existing culvert will be replaced with a weir control structure prior to discharging to the (TIDD) Relief Canal;
- The Basin WL13 existing breach will be replaced with a weir control structure prior to discharging to the (TIDD) Relief Canal;
- The Basin WL14 existing breach will be repaired and a flow way constructed to Basin WL 13;
- The Basin WL15 existing culvert will be replaced with a weir control structure prior to discharging to the (TIDD) Relief Canal;

- The Basin WL16 existing control structure will be modified prior to discharge to the (TIDD) Relief Canal; and
- A control structure will be added to the Basin WL23 existing outfall culvert prior to discharge under SW Allapattah Rd.

The time of concentration for each basin was develop by the TR-55 methodology. The longest overland flow path was analyzed as sheet flow for a maximum of 300 feet with the remaining flow path analyzed as shallow concentrated flow. The average post-development time of concentration for the 17 basins is 59 minutes. This information can be found on page 12 in Table No. 1, "Pre vs Post Nutrient Loading Evaluation".

The weighted curve number and soil storage for each basin was calculated by the TR-55 methodology for the basin's specific USDA Martin soil types and TR-55 Table 2-2c "Other Agricultural Lands – Pasture, Grassland or Range, in good condition." The average post-development weighted curve number and soil storage for the basins is 83 and 2.10 in., respectively. This information can be found on page 12 in Table No. 2, "Pre vs Post Nutrient Loading Evaluation".

The post-development nutrient loadings were determined utilizing the Harper Report 2007 methodology tabular data. A post-development land use of Undeveloped/Range Land/Forest was utilized for each basin, with a typical runoff concentration of nitrogen and phosphorus of 1.15 mg/l and 0.055 mg/l, respectively.

3.3. Tailwater Analysis

The tailwater in the TIWCD Relief Canal was updated for both the pre and post-development conditions using design information a memorandum provided by AECOM to the TIWCD, dated July 6th, 2018. The design information includes Relief Canal cross-sectional data, minimum flows, maximum flows, design flows, headwater elevations, and stormwater modeling analysis results. Using data provided in the AECOM Relief Canal model, a time/stage relationship was developed. Given the location of the project relative to other Relief Canal drainage areas, a 2 hour lag time was conservatively estimated across the site and utilized to develop the time/stage relationship. The developed time/stage relationship was applied as a tailwater condition for the pre and post-development stormwater model for the site.

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SECTION 4 – RESULTS

The results of the pre and post-development Drainage Calculations and ICPR analysis are included in Appendices 2 and 3 of this report on page 159 and 265, respectively.

4.1. Water Quality

4.1.1. Water Quality Treatment Volumes Required

The site was designed and analyzed based on the Florida Administrative Code (F.A.C.) Chapter 62-40, which requires that a stormwater management system achieve at least 80% reduction of the overall annual load of pollutants and in compliance with Martin County's Land Development Regulations (the "LDR").

South Florida Water Management District (SFWMD) and the Florida Department of Environmental Protection (FDEP) criteria to achieve the 80% reduction. FDEP has accepted that the water quality treatment criteria for solar facilities be based only on the impervious area multiplied by 1.75 inches. In addition, SFWMD reduces the required wet detention by 25% for dry detention systems.

Martin County criteria is based on the Martin County's Land Development Regulations Section 4.385F.4, which requires a water quality treatment volume equal to the impervious area multiplied by 3.0 inches. In addition, for Dry Detention/Swales the total treatment volume is equal to 100% of water quality volume based on the 3-inch volume.

The facility as designed proposed to utilize "Water Quality Swales" as primary water quality treatment, thus the total required water quality treatment volume will be based on Martin County's criteria for Dry Detention/Swales systems. In calculating the required water quality treatment volumes a 12 foot path section was used, thus:

- Required Wet Detention Water Quality Volume = 11.56 ac of impervious area x 3.0"/12 = 2.89 ac-ft
- Required Detention Water Quality Volume = 100% of Water Quality Volume of Wet detention or 1.00 x 2.80 ac-ft = 2.80 ac-ft

4.1.2. Water Quality Treatment Volumes Provided

Martin County LDR's Section 4.385F.1 requires that projects after development shall have approximately the same quality of runoff that occurs in the pre-development conditions.

A total of 2.93 ac-ft of Dry Detention volume has been provided via the treatment swales provided in the construction plans. Table No. 1 "Martin County Water Quality" summarizes the treatment volumes provided in each swale.

Table No. 1							
Martin County Water Quality							
Basin (ID)	**Swale (ID)**	**Required Retention Volume (Ac-ft)**	**Swale Length (ft)**	**Swale Depth, H (ft)**	**Swale Bottom, W (ft)**	**Minimum Swale Bottom (sf)**	**Provided Retention Volume (Ac-ft)**
WL1	WL1-1	**0.03**	290	0.50	8.00	3,480	**0.03**
WL1	WL1-2	**0.07**	580	0.50	8.00	6,960	**0.07**
*D4	---	**0.28**	---	---	---	---	**---**
WL5	WL5-1	**0.03**	340	0.50	7.00	3,740	**0.04**
WL6	WL6-1	**0.05**	640	0.50	5.00	5,760	**0.05**
WL7	WL7-1	**0.04**	520	0.50	5.00	4,680	**0.04**
*WL10	WL10-1	**0.15**	560	1.00	30.00	21,280	**0.44**
WL12	WL12-1	**0.04**	260	0.50	10.00	3,640	**0.04**
WL12	WL12-2	**0.04**	265	0.50	10.00	3,710	**0.04**
WL13	WL13-1	**0.07**	850	0.50	6.00	8,500	**0.08**
WL14	WL14-1	**0.09**	1,120	1.00	1.00	10,080	**0.13**
WL15	WL15-1	**0.08**	640	0.75	5.00	7,040	**0.09**
WL15	WL15-2	**0.09**	710	0.75	5.00	7,810	**0.10**
WL16	WL16-1	**0.21**	1,200	0.75	7.00	15,600	**0.21**
WL17	WL17-1	**0.03**	320	0.50	7.00	3,520	**0.03**
WL18	WL18-1	**0.41**	520	0.50	67.00	36,920	**0.41**
WL21	WL21-1	**0.12**	660	0.75	8.00	9,240	**0.13**
WL22	WL22-1	**0.13**	1,070	0.75	5.00	11,770	**0.15**
WL23	WL23-1	**0.27**	1,670	0.75	6.00	20,040	**0.26**
WL23	WL23-2	**0.50**	450	1.00	40.00	21,600	**0.45**
WL23	WL23-3	**0.14**	1,180	0.75	3.00	10,620	**0.12**
WL27	WL27-1	**0.04**	490	0.50	5.00	4,410	**0.04**
Total	**N/A**	**2.89**	**14,335**	**N/A**	**N/A**	**220,400**	**2.93**

* Water Quality requirements of Basin D4 will be met downstream in Basin WL10

Additional post development water quality benefits will be realized based on the land use. The site is currently used for agricultural cattle pastureland. The agricultural activity produces an immense amount of nutrient pollution from the nutrient rich manure produced by the cattle and the site has no method of stormwater treatment prior to discharge.

In accordance with the 2007 Harper Report methodology, nutrient loading evaluations were conducted for both the pre and post development conditions. A summary of the nutrient evaluation is shown on page 12 in Table No. 2.

Table No. 2										
Pre vs Post Nutrient Loading Evaluation										
Basin	**CN**		**Time of Conc. (min.)**		**Soil Storage (in.)**		**Nitrogen (kg/yr.)**		**Phosphorus (kg/yr.)**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
WL1	83	83	55	55	2.05	2.00	52.82	19.64	9.38	0.94
D4	80	82	90	90	2.50	2.25	48.96	22.26	8.69	1.06
WL5	81	82	44	44	2.28	2.24	26.53	9.51	4.71	0.45
WL6	81	82	39	39	2.28	2.23	32.95	11.81	5.85	0.56
WL7	84	84	60	60	1.96	1.91	20.89	7.77	13.78	2.75
WL10	81	82	59	59	2.28	2.19	61.27	15.87	13.92	2.78
WL12	83	83	52	52	2.02	1.99	82.58	28.48	13.99	2.8
WL13	83	84	54	54	2.00	1.97	71.23	25.53	14.08	2.8
WL14	83	83	77	77	2.10	2.07	86.35	30.95	13.86	2.77
WL15	83	83	61	61	2.06	2.02	140.64	28.95	8.04	1.54
WL16	82	82	54	54	2.24	2.19	166.90	24.56	6.35	1.27
WL17	81	81	45	45	2.37	2.32	23.38	8.38	4.15	0.40
WL18	80	81	48	48	2.48	2.36	143.41	57.21	25.46	2.74
WL21	81	81	59	59	2.40	2.31	62.11	23.10	11.03	1.10
WL22	83	83	87	87	2.06	2.01	72.26	26.88	12.83	1.29
WL23	84	85	62	71	1.84	1.74	193.96	54.65	34.43	2.61
WL27	84	84	48	48	1.88	1.86	38.92	13.95	6.91	0.67
Average	**82**	**83**	**59**	**59**	**2.17**	**2.10**	**77.95**	**24.09**	**12.20**	**1.68**
Total	**NA**	**NA**	**NA**	**NA**	**36.81**	**35.64**	**1325.17**	**409.52**	**207.45**	**28.54**

The treatment efficiency (percentage reduction), for both nitrogen and phosphorus, was determined using Equation 3-1 of the Draft "Stormwater Quality Application Handbook", as follows:

Equation 3-1: Treatment Efficiency (% reduction) =
= (1-(Pre development loading {kg/yr.} /Post development Loading {kg/yr.})) x 100

- Treatment Efficiency (% reduction) Nitrogen =
  = (1-(1,325 {kg/yr.} / 409 {kg/yr.})) x 100 = 224%

- Treatment Efficiency (% reduction) Phosphorus =
  = (1-(207 {kg/yr.} / 28 {kg/yr.})) x 100 = 639%

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In summary, the Water Quality Treatment Volumes requirements have been met for Martin County and FDEP since:

1. A water quality treatment volume of 2.93 ac-ft of treatment has been provided;
2. A nutrient reduction of greater than 85% has been achieved based on the Draft "Stormwater Quality Application Handbook" for the post development site condition. Water Quality Treatment Efficiencies are summarized as follow:
    - Nitrogen = 224% Removal;
    - Phosphorus = 639% Removal;
3. The post-development water quality is better than the pre-development conditions.

4.2. Water Quantity

4.2.1. Maximum Discharge

The results of the Pre Development Maximum Discharge rates are included in Appendix 2, beginning on page 159 of this report. The results of the Post Development Maximum Discharge rates are included in Appendix 3, beginning on page 265 of this report.

With the addition of the proposed wetland control structures, and improvements to the site's existing outfalls, the site's maximum discharge from the site significantly decreased. This has a positive impact of greatly reducing the risk of flooding of downstream water bodies in large storm events. Decreasing the discharge also improves water quality by increasing retention time on-site.

A summary of the design storm events maximum discharge rates are shown in Table No. 3 below. These discharge rates are based on the 25 Year, 3 Day Storm Event.

Table No. 3

Maximum Discharge Rates (cfs)

Outfall	Pre-Development	Post-Development	Decrease	Percent Decrease
Troup Indiantown Relief Canal	236.20	150.48	85.72	36%
Troup Indiantown Canal D	31.18	18.32	12.86	41%
Total	267.38	168.8	98.58	37%

4.2.2. Basin Max Stages

The results of the Post-Development Routings are included in Appendix 3, beginning on page 265 of this report. A summary of the design storm events maximum routed stages are shown below in Table No. 4 "Post-Development Maximum Stage".

Table No. 4				
Post-Development Maximum Stage (NAVD)				
Basin	**Area**	**10 Year, 1 Day**	**25 Year, 3 Day**	**100 Year, 3 Day (Zero Discharge)**
Basin WL1	23.20	45.35	45.44	46.00
Basin D4	16.19	43.84	43.88	45.20
Basin WL5	10.66	42.95	42.99	44.54
Basin WL6	13.50	40.59	40.72	42.10
Basin WL7	10.80	40.13	40.27	41.53
Basin WL10	23.57	36.86	37.00	38.76
Basin WL12	38.34	32.16	32.59	32.84
Basin WL13	33.67	30.12	30.30	32.00
Basin WL14	39.12	30.21	30.38	31.71
Basin WL15	59.69	29.30	29.52	30.91
Basin WL16	64.71	29.17	29.48	30.41
Basin WL17	9.19	36.29	36.26	37.56
Basin WL18	48.53	37.94	37.89	40.04
Basin WL21	22.59	40.30	40.32	41.78
Basin WL22	32.72	42.64	42.68	44.11
Basin WL23	96.09	39.72	39.94	40.80
Basin WL27	23.21	45.37	45.47	45.94
Total	565.78	-----	-----	-----

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4.2.3. Recovery Analysis

The results of the Post-Development Recovery Routings are included in Appendix 3, beginning on page 265. A summary of the basin recovery analysis is depicted below in Table No. 5 "Recovery Analysis Summary". All of the basins recover to the basin control elevation within 12 days (288 hours) following the end of the storm event. In addition to the recovery analysis performed with ICPR, Evapotranspiration was considered in the recovery. As per section 5.7.3 of the SFWMD Applicant's Handbook, Volume 2, the evapotranspiration can be estimated at 0.3 feet for the 12 day recovery period. The Basin Recovery data is included below.

Table No. 5

Recovery Analysis Summary

Basin	Control El. (NAVD)	Recovery El. (NAVD)	Recovery Time(Hours)
WL1	43.5	43.50	288
D4	43	43.03	252
WL5	41.7	41.70	224
WL6	38.6	38.67	212
WL7	38.6	38.64	220
WL10	34.6	34.60	288
WL12	30.1	30.10	288
WL13	28.5	28.52	204
WL14	28.5	28.56	232
WL15	27.2	27.21	240
WL16	26.2	26.20	288
WL17	34.4	34.40	168
WL18	35.6	35.60	120
WL21	38.9	38.93	240
WL22	41.7	41.72	260
WL23	38.2	38.26	240
WL27	44.6	44.65	240

4.3. Floodplain

The Facility is located in within a designated Flood Zone X, per FEMA Panels 12085C0275G, and 12085C0265G, thus there are no impacts to the floodplain.

4.4. Wetland Control Elevations

The wetland control elevations were established by a combination of review and analysis of the Environmental wetland determination, geo-technical report information, and field surveyed elevations taken post Hurricane Irma. The Wetland Limits Elevations and Buffer Line Elevations are average elevations along the wetland limit and buffer lines that were obtained by surveyed topographic information. The summary of the Wetland Control Elevations are included in Table No. 6, on page 18.

4.5. Wetland Hydration

Wetland hydration will be restored to ensure that all of the onsite wetlands receive equivalent or greater hydration in the post development condition as compared to the pre development condition. In analyzing the historical wetland hydration, the existing agricultural ditches were disregarded since they were constructed to drain the wetland areas. The results of the pre development historical drainage and wetland hydration analyses are depicted in Figure 5 – "Wetland Hydration Map". Since the site is being restored to the historical drainage patterns, this map also represents the post-development conditions.

The proposed borrow pit, located in the southwest corner of the site has no hydraulic connection to the site's stormwater system, thus the water levels will naturally vary seasonal, dependent on rainfall conditions and thus will not adversely impact the adjacent Wetland 23A nor 23B.

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Figure 5 – Wetland Hydration Map

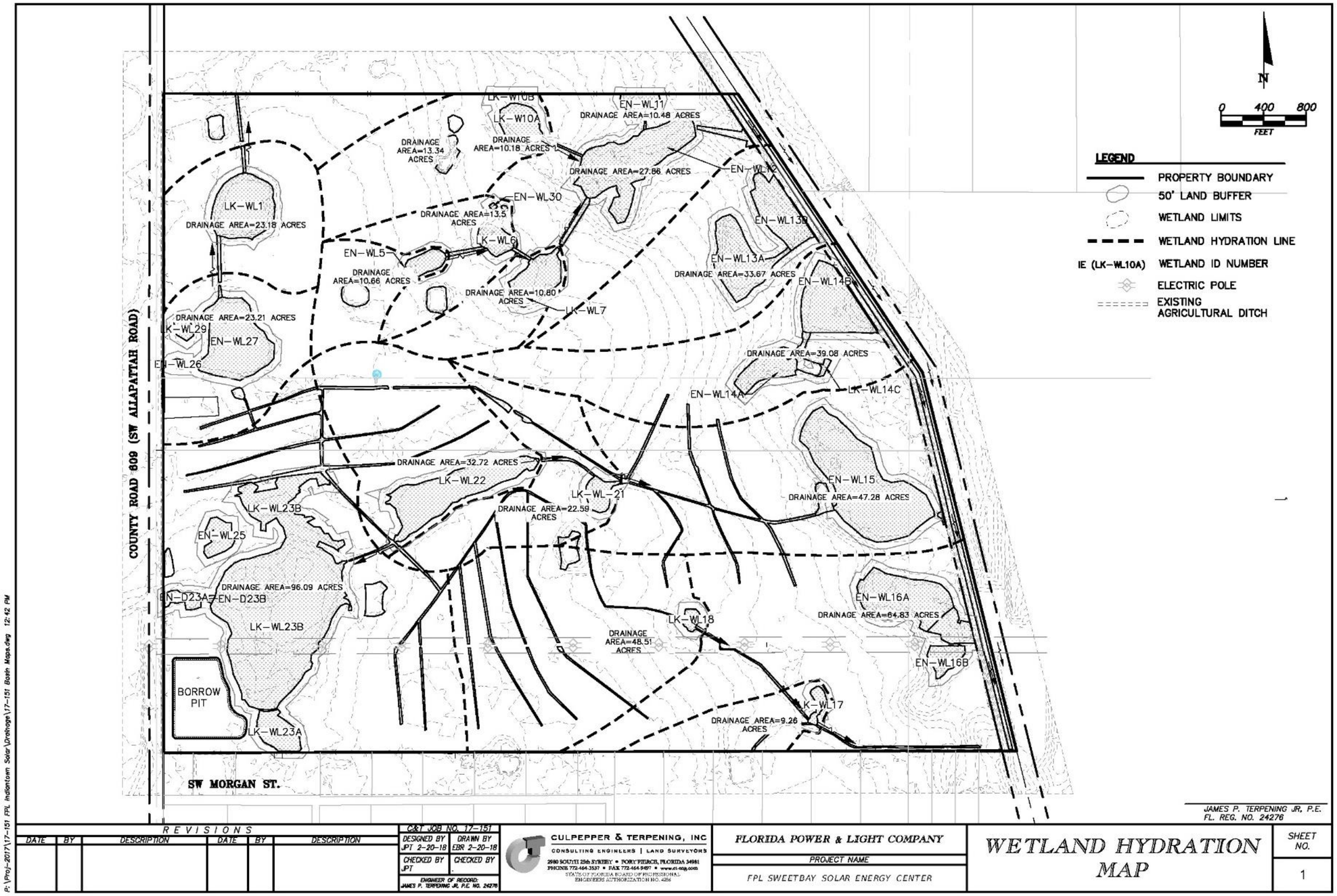

Table No. 6					
Wetland Control Elevations NAVD					
Wetland ID	**Area (Ac)**	**Wetland Limits El.**	**Water Elev. 2017**	**Buffer Line El.**	**Design WCE**
North Basin					
EN-WL26	0.15	45.0	43.75	45.5	44.80
LK-WL29	0.37	44.8	43.70	45.2	44.70
EN-WL27	4.89	44.8	44.00	45.2	44.60
LK-WL1	3.81	44.0	42.78	45.3	43.50
EN-WL5	0.83	42.2	40.14	43.1	41.70
EN-WL30	0.04	38.6	38.00	39.4	38.50
LK-WL6	1.05	39.0	38.04	40.5	38.60
LK-WL7	2.16	39.2	37.73	40.4	38.60
LK-WL10B	0.22	36.5	34.00	36.5	34.90
LK-WL10A	1.68	35.0	34.00	36.0	34.60
EN-WL11	0.83	31.0	28.80	31.5	30.40
EN-WL12	6.04	30.0	27.64	31.5	30.10
West Basin					
EN-WL25	0.96	41.4	*40.00*	41.4	40.80
LK-WL23B	20.86	39.0	37.70	40.0	38.20
LK-WL23A	1.48	38.9	38.00	39.6	38.20
Central Basin					
EN-WL22	5.25	42.1	41.10	42.6	41.70
LK-WL21	0.84	38.9	38.40	39.4	38.90
EN-WL15	9.57	27.8	26.44	28.4	27.20
EN-WL13A	3.45	29.9	28.55	31.6	30.20
EN-WL13B	2.74	27.1	25.89	30.0	28.50
EN-WL14A	1.67	30.0	27.77	31.0	29.30
LK-WL14C	0.13	28.5	*28.30*	29.5	28.50
EN-WL14B	3.98	27.3	25.20	29.0	28.50
South Basin					
LK-WL18	0.33	36.0	35.40	36.7	35.60
LK-WL17	0.42	34.6	33.90	35.3	34.40
EN-WL16B	2.04	28.1	24.80	29.0	27.50
EN-WL16A	4.18	26.5	24.80	28.8	26.20

- Italics denote that the wetland was dry when surveyed

SECTION 5 – CONCLUSIONS

The proposed Sweetbay Solar Energy Center stormwater management system was analyzed in accordance with standard Engineering practices and the following conclusions are derived:

- Reasonable assurance has been provide that the downstream waterbodies will not be negatively impacted in both quantity nor quality of stormwater runoff by the construction of this project;
- All requirements of FDEP, SFWMD, and Martin County addressing stormwater attenuation, water quantity and quality have been addressed and satisfied with this report;
- The site will continue to outfall to the TIDD Relief Canal;
- The Site is neither an import nor an export site, and the site is completely within FEMA Flood Zone 'X', therefore there is no change in the Flood Plain Storage for the Site;
- All State, Local and Federal flood protection requirements have been satisfied;
- The total site area is 565.78 acres;
- Post-Development impervious area increased only by 2.53%;
    - New Impervious Area:

        Solar Collection Yard = 1.80 acres
        Access Path = 9.40 acres
        Inverters = 0.36 acres
        TOTAL = 11.56 acres (rounded)
        Total Site Added Impervious = 2..04%

- The site has sustained water quality by;
    - Maintaining Runoff Curve Number;
        - Average curve number increased by 1
    - Maintaining Time of Concentration;
        - Average Time of Concentration remains constant at 59 minutes
    - Maintaining Soil Storage;
        - Average Storage slightly decrease from 2.17 inches to 2.10 inches

- The site has improved water quality by:
    - Restored the site to a natural grassland condition;
    - Decreasing Nutrient Loadings;
        - Net Reduction in Annual Nitrogen Load of 826 kg/yr.
        - Net Reduction in Annual Phosphorus Load of 178 kg/yr.
    - Increasing retention time on-site by decreasing stormwater runoff;
        - 41% stormwater runoff reduction for western outfall.
        - 28% stormwater runoff reduction for eastern outfalls.
    - Increased water quality by providing a 50' vegetative buffer around each wetland;
        - 45.22 acres of Wetland buffer area

- The required Martin County Dry Detention Volume for Water Quality was calculated at 2.89 ac-ft;

- The total Dry Detention Volume provided for Water Quality was calculated at 2.93 ac-ft;

- In accordance with the draft "Stormwater Quality Application Handbook", the Water Quality Treatment Efficiencies are:
    - Nitrogen = 224% Removal; and
    - Phosphorus = 639% Removal.

- Martin County's Water Quality Treatment Volumes have been met since the Water Quality volume provided exceeded the required water quality volume.

- FDEP Water Quality Treatment Volumes have been met since a reduction of nutrient loading of 85% has been achieved.

- The site's Post-Development water quantity is lower that the Pre-Development conditions:
    - **Pre-Development maximum discharge rate = 267 cfs**
    - **Post-Development maximum discharge rate = 169 cfs**

- The Maximum 25 Year, 3 Day Storm Event Stage for the 17 basins ranges from 29.52 to 45.47 NAVD;

- The Maximum 100 Year, 3 Day – Zero Discharge Storm Event Stage for the 17 basins ranges from 30.41 to 46.00 NAVD;

- All electrical equipment is set above the Maximum 100 Year, 3 Day – Zero Discharge Storm Stage;

- Best Management Practices have been utilized in preparing an Erosion Sediment Control Plan to comply with NPDES;

- The existing outfall "Basin 16 Breach" will be maintained in the post development condition to insure no impacts to the abutting southeastern property owners; and
- There are no anticipated tailwater impacts to the stormwater management system for the facility.

I, James P. Terpening, PE, do certify that the application for FPL Sweetbay Solar Energy Center has been designed in full compliance the requirements of the South Florida Water Management District, Martin County and the Florida Department of Environmental Protection. All plans, calculations, reports, or other documents submitted any regulatory agency in support of the application have been prepared in full recognition of and compliance with these requirements.

Submitted by:

This item has been digitally signed and sealed by James Parker Terpening, PE on 11/09/018 using a Digital Signature. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies.

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James P. Terpening, PE
Florida Registration #24276
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