



October 29, 2019

Ms. Cindy Mulkey
Office of Siting Coordination
Department of Environmental Protection
2600 Blair Stone Road, MS 5500
Tallahassee, FL 32399

Re: **Martin Plant – PPSA No. PA89-27**
Post-Certification Amendment
Martin Plant Chemical Storage Building and New Impervious Surface

Dear Ms. Mulkey:

Florida Power & Light Company (FPL) is requesting a post-certification amendment to the Site Certification for FPL's Martin Plant site, pursuant to rule 62-17.205(1)(A) F.A.C. The purpose of this amendment is to obtain approval to replace an existing storage facility.

FPL is proposing to relocate the existing drum and chemical storage building currently near uncertified Martin Plant Units 1 and 2 (outside the Martin Plant certified area) to an area within the certified boundary of Units 3, 4, and 8 (Attachment A). Units 1 and 2 are proposed for dismantlement and the building will be inaccessible to plant staff during that time and eventually dismantled as well. The proposed improvements include construction of 3,698 square-feet of building footprint and 5,269 square-feet of associated paving.

No impact to the existing stormwater system is proposed as a result of these improvements (Attachment B). The improvements will increase impervious area by approximately 0.21 acre. Based on the site's stormwater calculations, the additional impervious area will not cause the site to exceed its permitted stormwater capacity.

Thank you for your attention to and consideration of FPL's request to amend the Site Certification for the Martin Plant. If you have any questions regarding this submittal, please do not hesitate to contact me at 561-694-4131.

Sincerely,

John T. Tessier
Senior Environmental Specialist

ATTACHMENT A
PROPOSED BUILDING LOCATION

FPL Martin Plant

Proposed Building Location

Legend

-  Martin Plant Certified Boundary
-  Proposed Oil & Chem Storage Bldg

Proposed Oil & Chem Storage Bldg

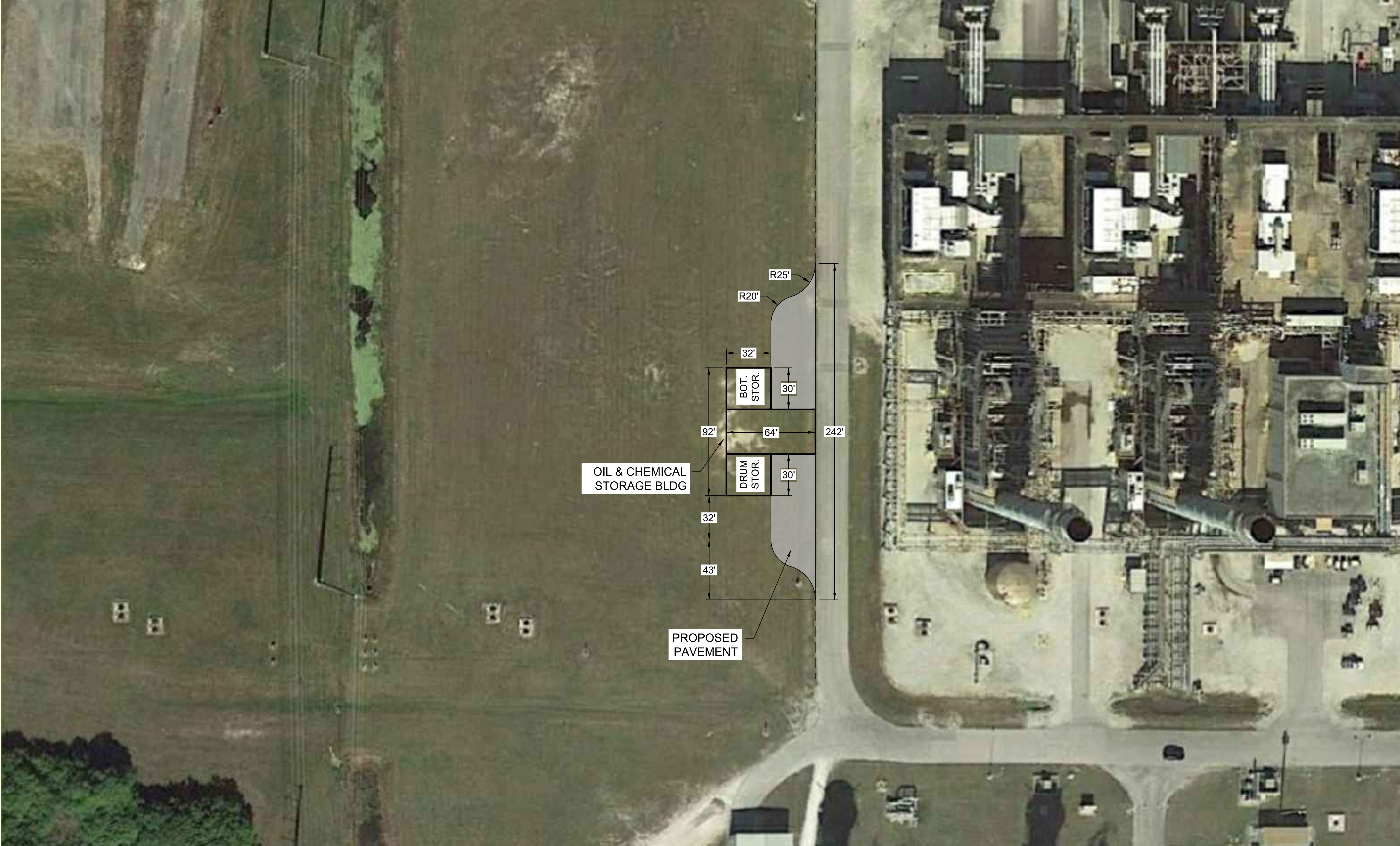
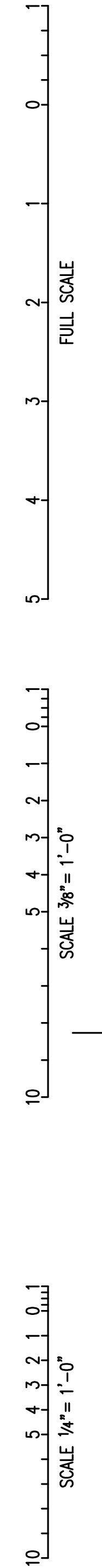
Google Earth

© 2018 Google

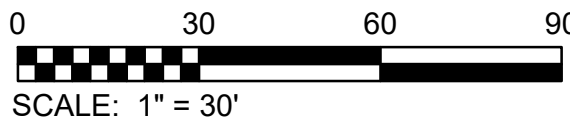
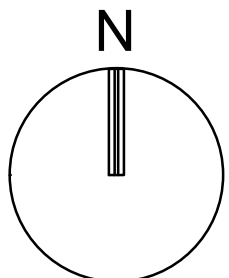
1 mi



WALKDOWN INFORMATION		TECHNICAL ACCEPTANCE	
AS-BUILT INFORMATION	ORG BY DATE	ENGINEERING ORGANIZATION	ORG BY DATE



CLAUDINE ALEXANDER, P.E.
PROFESSIONAL ENGINEER (FL): #53822
CAPE JUPITER, LLC
208 BARBADOS DRIVE
JUPITER, FLORIDA 33458
PHONE: (561) 329-1514
EMAIL: CAPELLO@OUTLOOK.COM
CERTIFICATE OF AUTHORIZATION: 30993



REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG
-	-	-	-	-	-	-	-
-	10/26/19	-	-	-	-	-	-



SYSTEM —	DISCIPLINE —	PLANT/UNIT MARTIN PLANT		
TYPE —	UNIT —	TITLE CONCEPT PLAN		
DRAWING SIZE D(24"X36")	SCALE 1"=30'	OIL AND CHEMICAL STORAGE BLDG		
DRAWING NUMBER		SHEET C-1		REV —

ATTACHMENT B
DRAINAGE STATEMENT

**Drainage Statement for the
Florida Power and Light Company (FPL)
Martin Plant (PMR) Oil and Chemical Storage Building**

Introduction:

The FPL Martin Plant, located south of State Road 710 in Martin County, Florida, is an existing power plant that consists of Units 1 through 4, Unit 8, the Martin Solar Energy Center, a cooling pond and associated site infrastructure. A portion of the plant is located within a Certified Boundary as shown on the following figure.

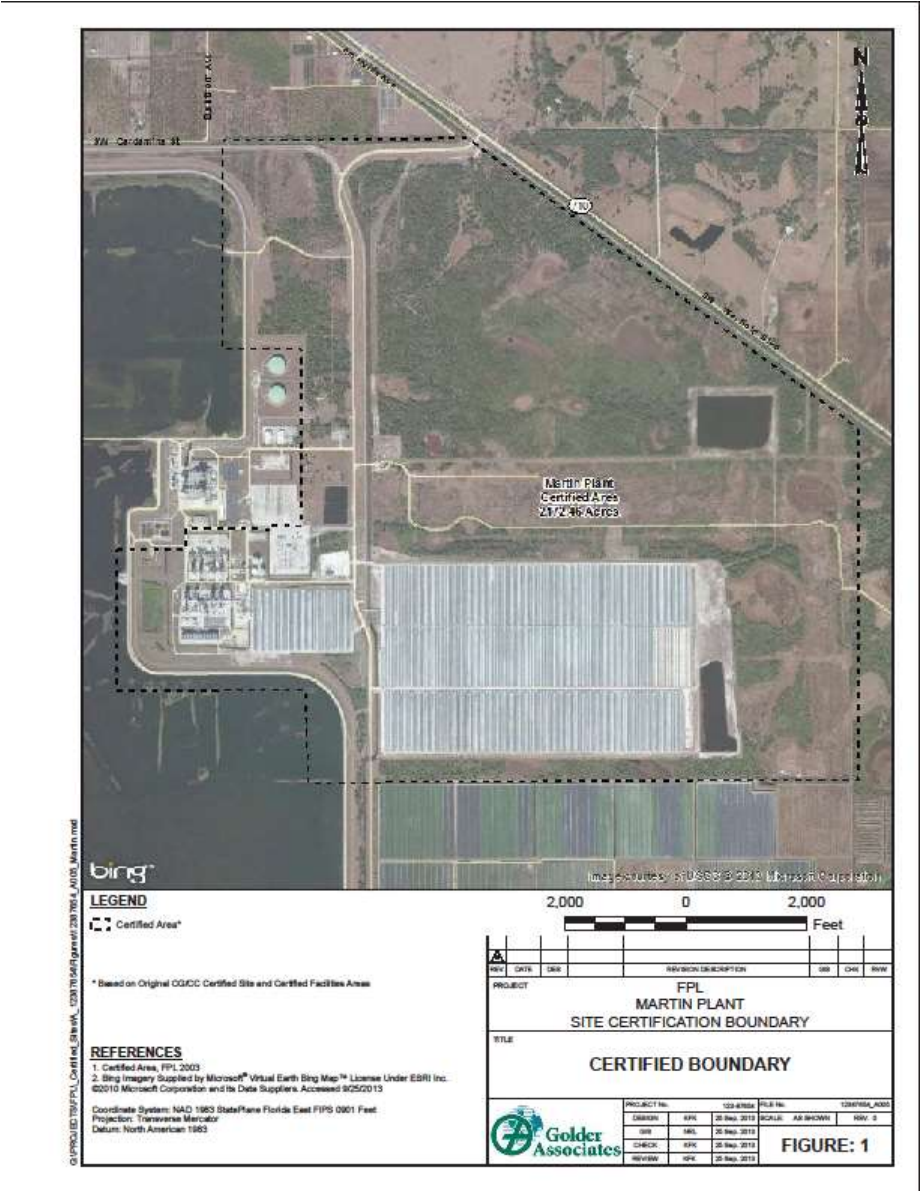


Figure 1: Certified Boundary

In 2019, FPL determined, additional storage areas for chemicals, gas cylinder bottles and drums will be required to support Plant operations.

The proposed improvements will include the construction of the following improvements:

- Construction of a 32 foot by 64 foot Chemical Storage Building;
- Construction of a 32 foot by 30 foot Drum Storage Area;
- Construction of a 32 foot by 30 foot Covered Bottle Storage Area; and
- Installation 5,269 square feet of paving to provide access to the proposed facilities.

Concept Plans of the proposed improvements are shown on Figures 2 through 5.

Chemical Storage Building

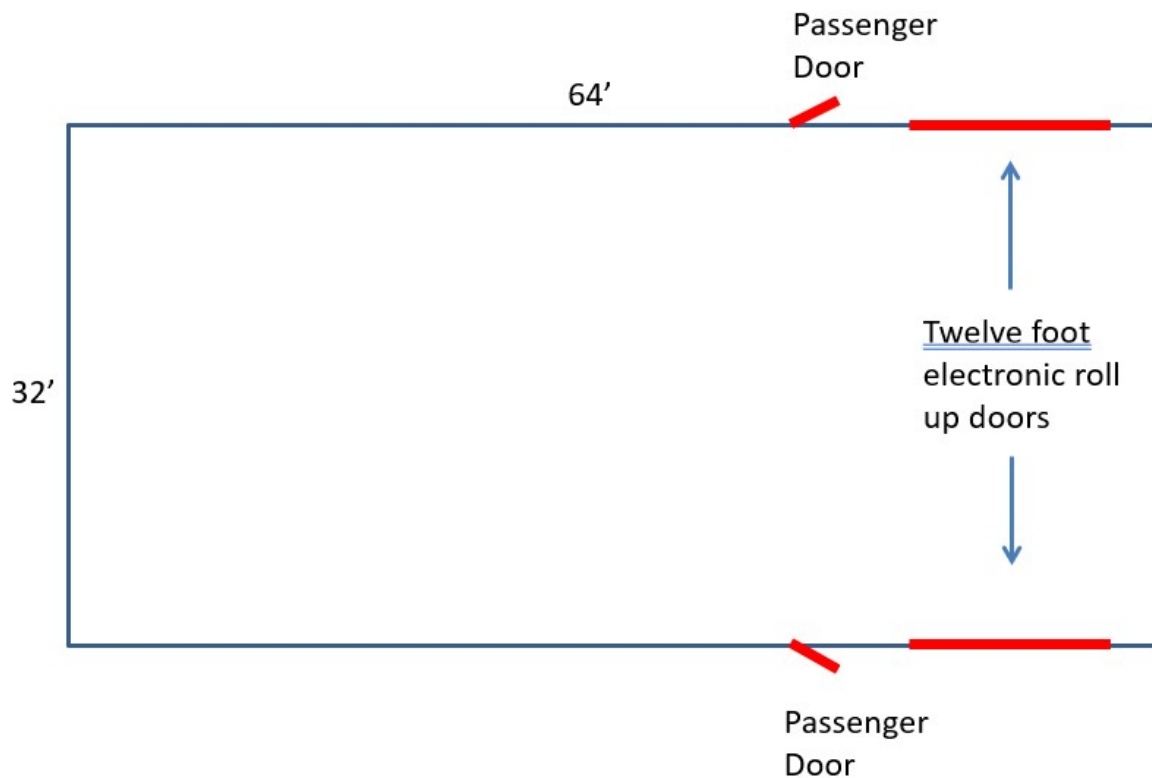


Figure 2: Concept Plan of Chemical Storage Building

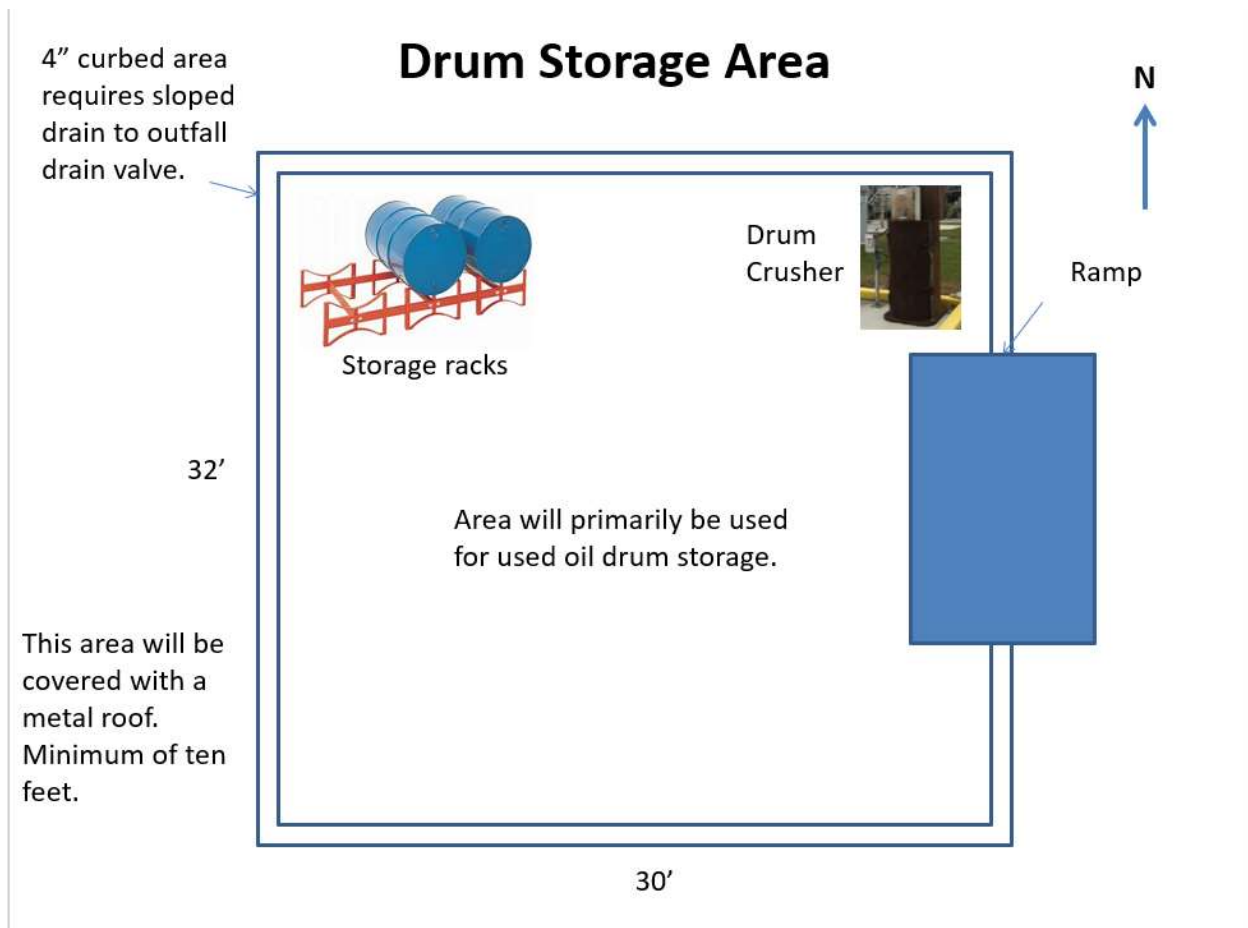


Figure 3: Concept Plan of Drum Storage Area

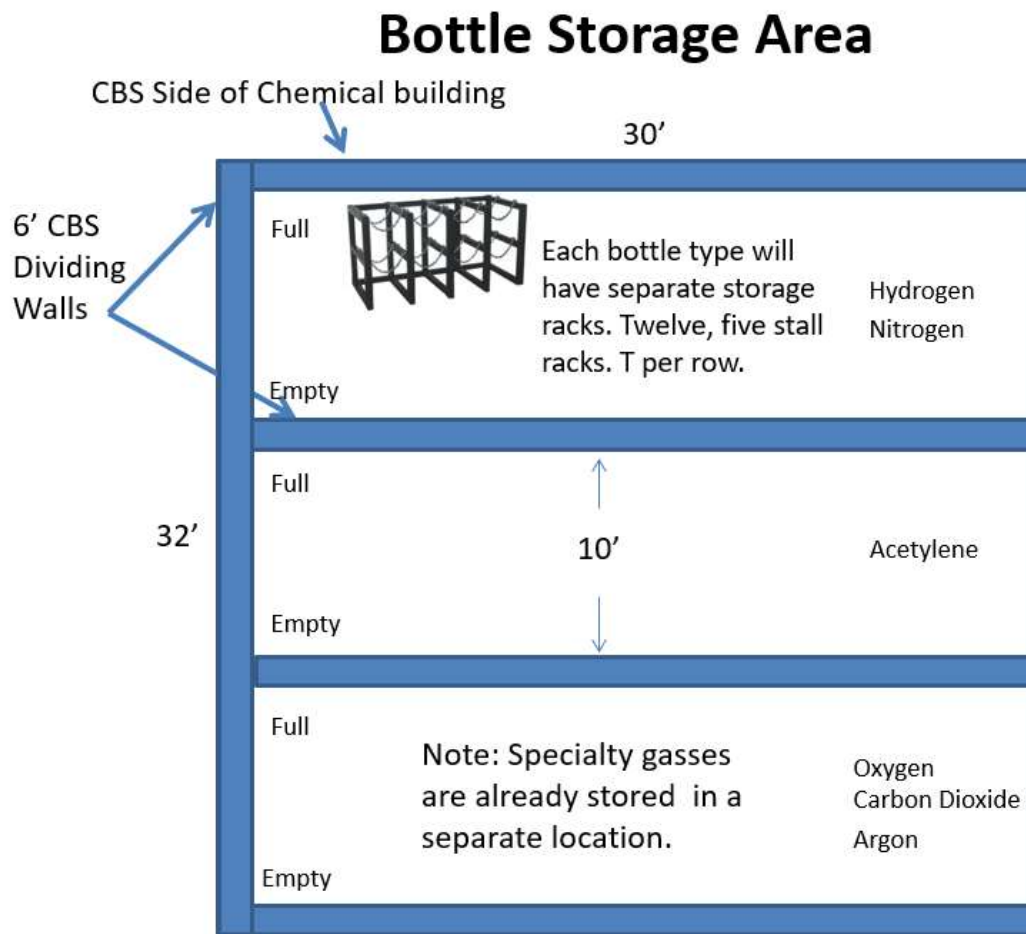


Figure 4: Concept Plan of Bottle Storage Area

Project Description

The Florida Power & Light (FPL) Martin Plant is an existing power plant facility located south of State Road 710 west of the Indiantown area of Martin County, Florida. The developed plant site consists of a 6,800-acre cooling pond, approximately 400 acres of Units 1 through 4, Unit 8, and associated facilities, and approximately 600 acres for the Martin Solar Energy Center (MSEC). The Site Certified (SCA) power plant is located in Sections 20, 21, 28, and 29 of Township 39 South, Range 38 East. The CERTIFIED BOUNDARY prepared by Golder Associates (18 Sep 2013) generally identifies the certified plant site currently consisting of the power block areas, a transmission corridor, and a significant amount of undeveloped area. This CERTIFIED BOUNDARY, as drawn, consists of 2,172.46 acres, however it extends over portions of the cooling pond which is not actually part of the certified plant site. The CERTIFIED BOUNDARY also appropriately wraps around Units 1 and 2, which are also not part of the certified plant site. The latest significant improvement to the certified plant site was the development of the solar energy center that was completed in 2010.

This report addresses stormwater within the CERTIFIED BOUNDARY (please refer to Figure 1 Overall Basin Map for an aerial map of the site). There are two main drainage systems serving the Martin Plant (PMR), the 1) northern perimeter ditch and the 2) eastern perimeter ditch. The northern perimeter ditch drains the majority of the area north of the pond, including a relatively small area of open space north of the main access road and within the CERTIFIED BOUNDARY. The northern perimeter ditch discharges into the L-65 Canal at the northwestern corner of the PMR site. This report does not address the drainage to the northern perimeter ditch. The eastern drainage ditch (also known as the East Ditch) is the major outfall for the CERTIFIED BOUNDARY, and is therefore the subject of analysis for this report. It drains the easternmost portions of the PMR site, as well as the power block area and solar fields, and discharges into the East Ditch Flow Way, which discharges to the St. Lucie Canal. The plant site generally slopes south toward the existing flow way which conveys the project discharge to the St. Lucie Canal.

Finally, the only other exceptions to the CERTIFIED BOUNDARY as the source of all drainage for the East Ditch, are 1) the area immediately around the power block where drainage is collected, treated, and pumped into the cooling pond, 2) any of the area within the CERTIFIED BOUNDARY that includes the cooling pond, banks and dam/levee, which are drained or pumped directly into the cooling pond, and 3) area around Units 1 and 2 that is outside of the CERTIFIED BOUNDARY but contributes drainage to the East Ditch.

Based on the analysis, the project improvements for the project will affect only Basin 6 of the plant stormwater management system.

Basin 6 is described as follows:

Basin 6 & 6A – The final combined basin contributing to this analysis is the 200.00 acres of Basin 6 and the 33.6 acres of Basin 6A which is outside of the certified area. This combined basin is west of the main access road at the southwest corner of the certified site. There is a



considerable amount of CERTIFIED BOUNDARY area adjacent to Basin 6 that consists solely of cooling pond area and is therefore a non-contributing area or not included in the model analysis. Because Basin 6 & 6A are developed areas, these basin have been divided up into sub-basins to improve the accuracy of the model results. These sub-basins have been established consistent to a previous analysis and can be seen on the Basin 6 & 6A Sub Basin Map (Figure 3). Basin 6 also includes some undeveloped area in the southern most extents of the basin, which actually does not drain into the stormwater management system. Both of these basins also exclude power block and solar power block drainage that is collected, treated and discharged into the cooling pond. As a result of these exclusions, the analyzed net basin area for Basin 6 includes 117.5 acres of impervious area, and Basin 6A has 9.0 acres of impervious area. The combined basins drainage is collected in a wet pond at the south-east corner of the Basin 6 and is managed by a control structure outfall (Structure 6) also referred to as D-05E. This outfall drains through double pipes into a ditch that flows south into the north end of the East Ditch Flow Way immediately downstream of the low bridge. The pipes, as common in most cases, have more capacity than the Structure 6 (D-05E), therefore the structure limits the flow capacity of these basins.

Figure 6 illustrates the Basin locations.

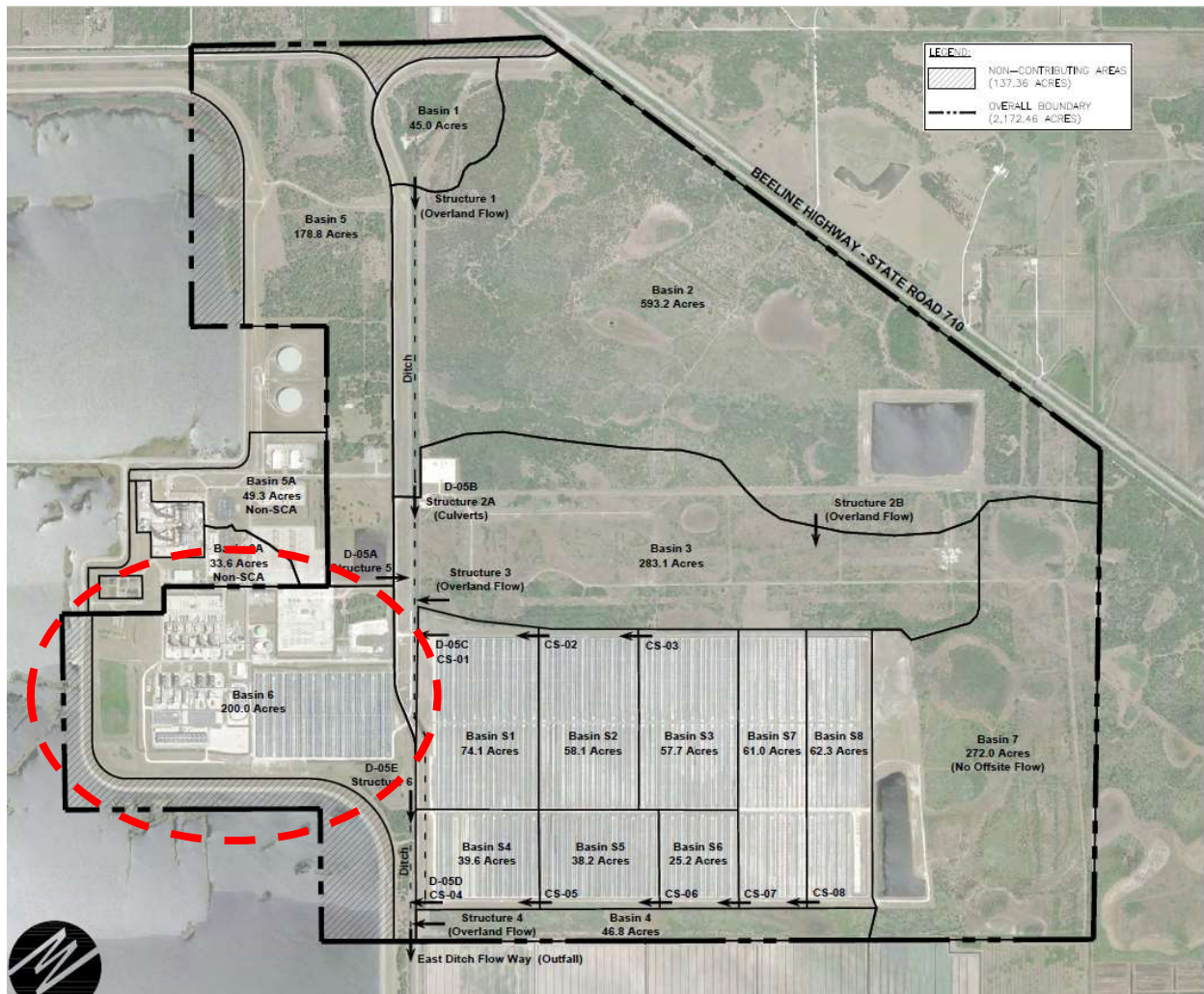


Figure 6: Basin Map

Basin 6 eventually outfalls to the East Ditch Flow Way on the south side of the Solar site.

An enlarged map of Basin 6 is shown in Figure 7.

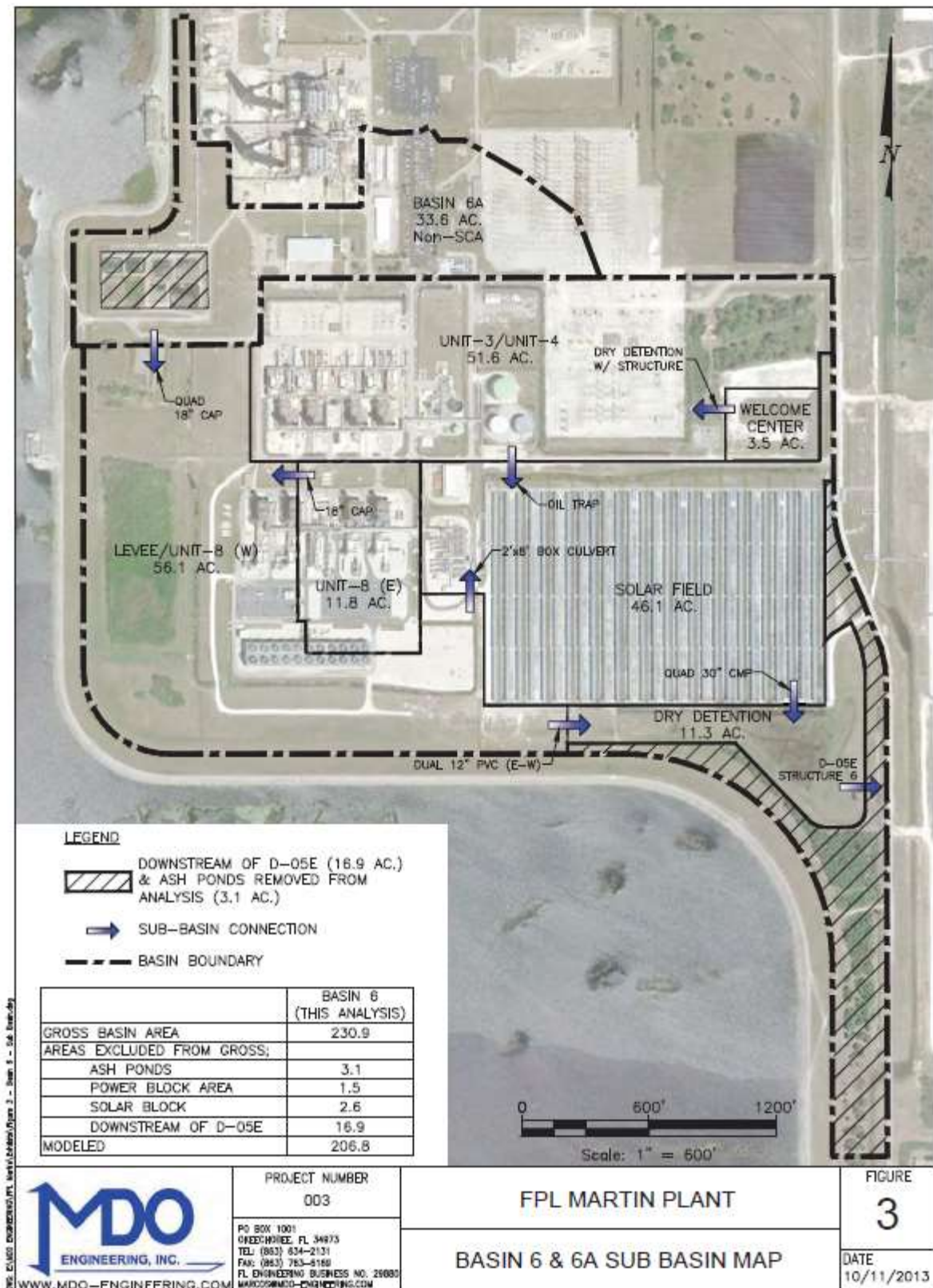


Figure 7: Basin 6

The characteristics for Basin 6 are shown on Figure 8 and Figure 9.

Pre-Development Land Use and Stage-Storage Calculations
FPL Martin Basin 005E - Levee/Unit-8W Sub-Basin

Computation Type: Land Use & Stage-Storage

Control Elevation =	23.80	ft	
Average Ground Elevation (EL_{grnd}) =	31.64	ft NAVD	
Avg. Depth to Water Table (D_{WT}) =	7.84	ft	
Soil Type =	Flatwoods		
Max. Available Soil Storage (S_{max}) =	9	in	(Per SFWMD Flatwoods soil category)
Compaction Factor (F_{compact}) =	25%	%	(Use 25% for developed site)
Compacted Soil Storage (S_{compact}) =	6.75	in	$(S_{\text{max}})(1 - F_{\text{compact}})$
Available Soil Storage (S_{avail}) =	3.71	in	$(A_p)(S_{\text{compact}})/(A_t)$
Curve Number (CN) =	73		$1000 / (S_{\text{avail}} + 10)$
Total Time of Concentration =	107	minutes	

	Pervious	Impervious	Levee Slope	Ditch	Swale		Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Total Areas (A_t)	29.9	33.3	13.0	2.0	0.2	0.0	78.4
Bldg. %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bldg. Area (A_b)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	55.0%
Pervious Area (A_p)	29.9	0.0	13.0	0.0	0.2	0.0	43.1
Impervious %	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	45.0%
Impervious Area (A_i)	0.0	33.3	0.0	2.0	0.0	0.0	35.3
SWM %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SWM Area (A_c)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Figure 8: Basin 6 Characteristics



LEGEND

 DOWNSTREAM OF D-05E (16.9 AC.)
& ASH PONDS REMOVED FROM
ANALYSIS (3.1 AC.)

 BASIN BOUNDARY

BASIN 6 — IMPERVIOUS AREA SUMMARY		
BASIN	IMPERVIOUS (ACRES)	TOTAL (ACRES)
LEVEE/UNIT-8 (W)	33.3	56.1
SOLAR FIELD	3.1	56.1
UNIT-3/UNIT-4	42.2	51.6
UNIT-8(E)	10.0	11.8
WELCOME CENTER	0.5	3.5
DRY DETENTION	0	11.3
TOTAL	117.5	179.4

NOTE: THE AREA OF THE POWER BLOCKS NOT DRAINING
TO STRUCTURE D-05E HAVE BEEN REMOVED FROM THE
EXISTING IMPERVIOUS AREA TOTALS IN THIS TABLE

Figure 9: Basin 6 Impervious Area Summary

Water quality for the Plant is provided as follows:

Water Quality

Since the surface water management system utilizes a wet detention system, SFWMD water quality criteria states that the system must manage the greater of the following two values:

14



1. The first inch of runoff over the entire site
2. The amount of 2.5 in. times the percentage of impervious area

As stated above, the project paving, grading and drainage improvements will consist of the following:

- Construction of a 32 foot by 64 foot Chemical Storage Building;
- Construction of a 32 foot by 30 foot Drum Storage Area;
- Construction of a 32 foot by 30 foot Covered Bottle Storage Area; and
- Installation 5,269 square feet of paving to provide access to the proposed facilities.

The project improvements will be comprised 3,968 square feet of building pad or concrete pads for the Oil and Chemical Storage Facilities and 5,269 square feet of paving for vehicular access to the building. At this time, the type of pavement for the vehicular access has not been determined but it will either be comprised of reinforced concrete pavement or a minimum of 2 inches Type S-III asphalt pavement underlain with 8 inches of limerock base and 12 inches of stabilized subgrade. The existing roadside swales that are located to the west of the internal road will be expanded in some areas to allow for the provision of additional treatment from any runoff from the additional impervious area created by the building pad and pavement improvements.

The basin's land use coverage will be affected as follows:

Land Use Description	Existing Area (Acres)	Proposed Area (Acres)	Change
Pervious	29.90	29.44	-0.46
Levee Slope	13.00	13.00	0.00
Impervious	33.30	33.42	0.12
Building	0.00	0.09	0.09
Swale/Ditch	2.20	2.45	0.25
Total	78.40	78.40	0.00

There will be an increase in impervious area of approximately 0.21 acres for the project improvements. It is anticipated that an additional 0.525 acre-inches of volumetric detention in swales within the same basin will be provided as part of this project.

The existing detention areas within the basin will only be modified as required to facilitate access to the project. There will be no reduction in detention volume for the Basin.

The existing swales on the west side of the road where the project will be constructed will be modified to ensure the volumetric requirements for the Levee-Unit 8W basin are not reduced. An additional 0.525 acres-inches of detention will also be provided near the project to account for the additional impervious area (0.21 acres) being constructed.

Building Finished Floor Elevation:

Based on the analysis, the routed peak stage elevation for the Levee-Unit 8W basin for the 100 Year 3 Day Storm Event is 28.89 feet.

Modeled Basin Name	Max Nodal Stage 100 year 3 day Storm Event	Max Nodal Stage 25 year 3 day Storm Event	Max Nodal Stage 25 year 1 day Storm Event
1	29.04	28.78	28.32
2	29.03	28.78	28.31
3	28.89	28.66	28.23
4	26.92	26.79	26.51
5	30.07	29.72	28.80
5A (non SCA)	30.10	29.86	29.40
B6-welcometr	29.64	29.31	29.00
Basin6-DRYDET	28.55	28.17	27.47
Basin6-solar	28.72	28.31	27.50
Basin6-Unit3-4	29.26	28.80	27.63
Unit8E	30.97	30.22	29.55
Levee-Unit8W	28.89	28.45	27.51
6A (non SCA)	30.71	30.54	30.18
7	29.35	29.07	28.46
S1	28.95	28.79	28.31
S2	29.92	29.73	29.17
S3	30.79	30.60	30.11
S4	27.75	27.59	27.17
S5	28.91	28.74	28.19
S6	30.92	30.67	30.15
S7	31.99	31.81	31.32
S8	32.31	32.14	31.57
25.5	25.9	25.9	25.9
26.7	26.7	26.7	26.7
offsite-east	30.5	30.5	30.5

Therefore, the finished floor elevation of the building will be set at elevation 29.00 feet or above (based on the NAVD 1988 vertical datum).

Conclusion:

No change to the site's existing stormwater management system is proposed as a result of these improvements. The project improvements will increase the impervious area by 0.21 acres. Based on the stormwater calculations prepared previously, the additional impervious area will not cause the site to exceed its permitted stormwater capacity. It is anticipated that an additional 0.525 acre-inches of volumetric detention in swales will be provided as part of this project.

Prepared by:

Claudine Alexander, P.E.

Professional Engineer No. 53822 (Florida)

CAPE Jupiter, LLC

Certificate of Authorization No. 30993

Contract Civil Engineer working on behalf of Florida Power and Light Company

Power Generation Division

October 26, 2019