Bowman

Memorandum

To: Jenny Baez
Branch Manager
Bowman Consulting

From: Andrew J. Petersen, P.E. - Director
Daniela Jurado - Analyst

Andrew J. Petersen, P.E.
State of Florida, License # 75493

Digitally signed by Andrew Petersen
Reason: This item has been digitally signed & sealed by Andrew J. Petersen, P.E. on the date indicated here. Printed copies of this document are not considered signed & sealed and the signature must be verified on any electronic copies.
Contact Info: apetersen@bowmanconsulting.com
Date: 2021.06.04 09:44:51-04'00'

Date: 06/04/2021

Re: Chick-Fil-A -1800 S Federal Hwy –Stacking Analysis Memorandum

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Bowman Consulting Group has been retained by Chick-fil-A, Inc. to perform a Staking Analysis for the existing Chick-Fil-A (CFA) Restaurant located at 1800 S Federal Hwy, Delray Beach, Florida, see **Figure 1**. The purpose for this memorandum is to evaluate the site improvements proposed for the existing CFA site to determine if the queue storage required exceeds the proposed drive-thru stacking.

Figure 1 Site Location

1. Background Information

The applicant is proposing to redevelop of the existing Chick-Fill-A drive-thru lanes and parking lot layout in order to improve the internal circulation and drive-thru operations.

The existing site currently consists of a 3,470 square foot Fast-food Restaurant with 24 parking Stalls and 18 car stack. The proposed improvement will increase the number of parking stalls to 25 and the drive-thru to 24 car stack. The existing and proposed site plans are presented in **Appendix A** and **Appendix B** respectively.

Access to the site is currently provided via one existing right-in /right-out driveway along S Federal Hwy (1), and one existing right-in/left-in/right-out driveway along Linton Blvd (2). The access points to the site are proposed to remain unaltered. **Figure 2** depicts the location of the proposed access driveways.

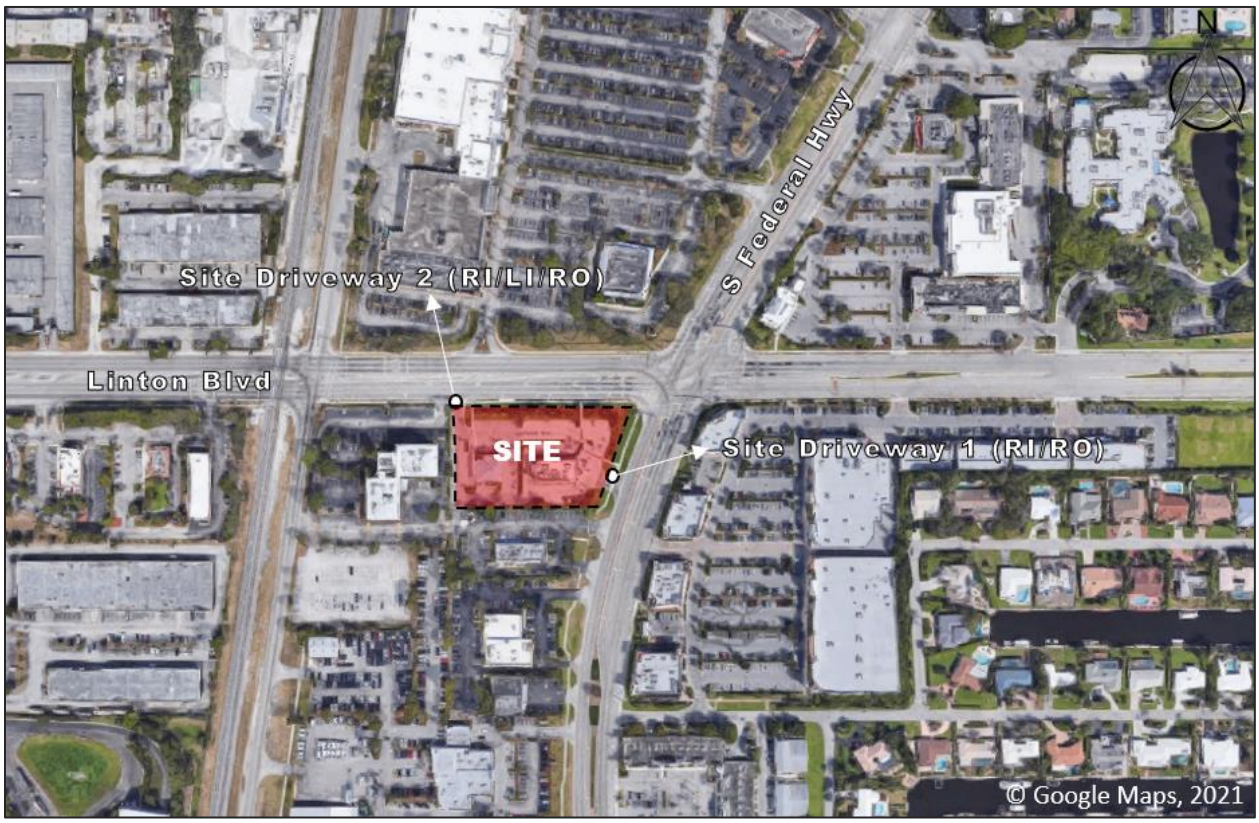


Figure 2 Access driveways location

2. Roadway system

S Federal Hwy: within the study area, S Federal Hwy is a four-lane divided urban Major Collector state-maintained roadway according to the Florida Department of Transportation 2010 Federal Functional Classification and Urban Area Map for Palm Beach County. S Federal Hwy has a north-south alignment and a posted speed limit of 45 MPH.

Linton Blvd: within the study area, Linton Blvd is classified as six-lane divided urban minor arterial state roadway according to the Florida Department of Transportation 2010 Federal Functional

Classification and Urban Area Map for Palm Beach County. Linton Blvd has an east-west alignment and a posted speed limit of 40 MPH.

3. Internal Circulation:

While the access to the site is to remain unaltered, the proposed site restricts the circulation around the property to a counterclockwise one-way circulation around the main building, see **Figure 3**.

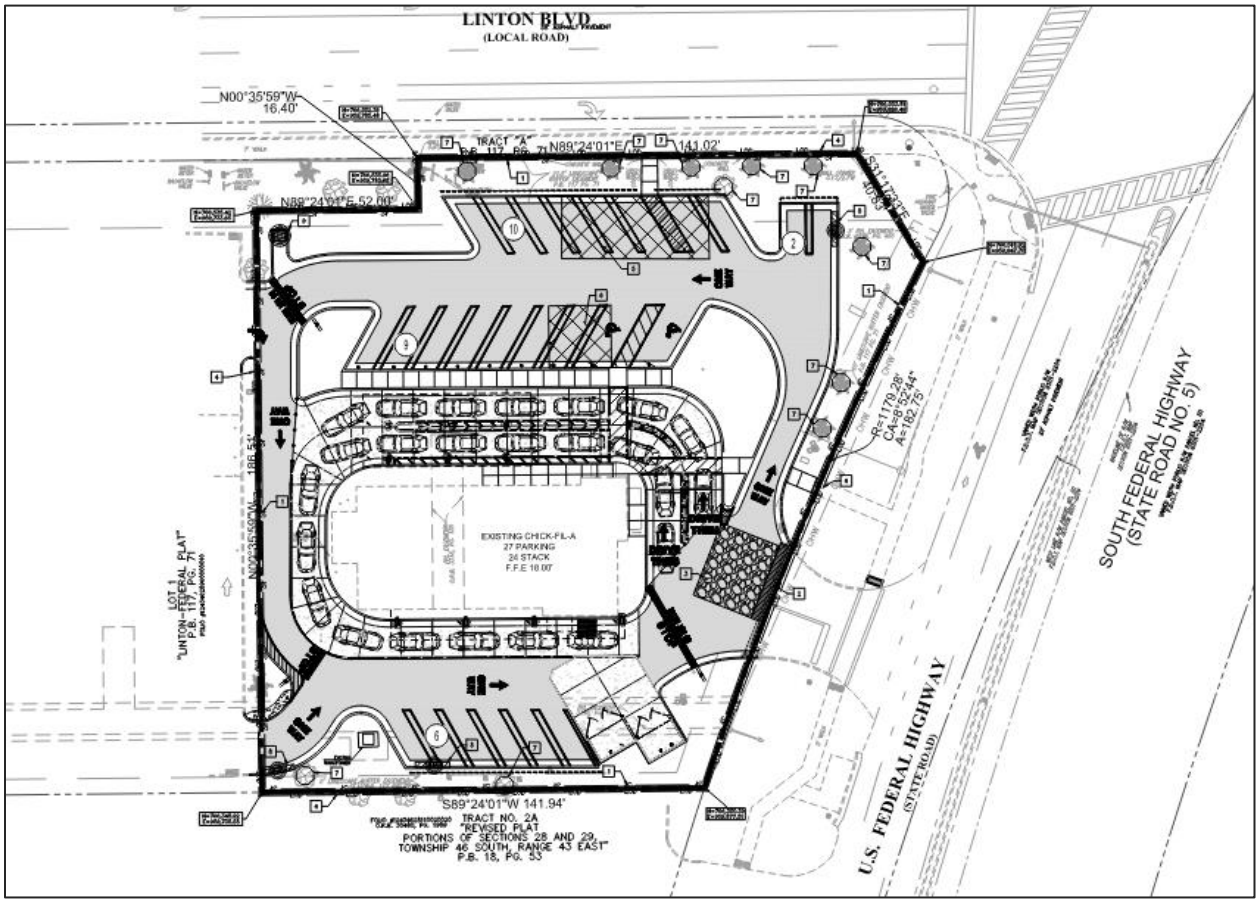


Figure 3 Proposed Stacking and Circulation

This site layout reduces conflict points inside the development and allows vehicles already served in the drive-thru to exit the site by using the eastern peripheral circulation lane which is proposed to work as by-pass lane.

Additionally, the vehicles accessing the dive-thru will be required to loop around the site to access the drive-thru lanes, therefore, if ever exceeded the capacity of the drive-thru the additional vehicles are expected to stack on-site.

4. Trip Generation and Distribution

The Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition was used to determine the number of trips generated by the land use Fast-food with Drive-thru window (Land Use 934).

No changes in land use or building size are proposed. **Table 1** presents the trip generation for the existing/ to remain development.

Table 1 Site Trip Generation

Land Use Code	Adjacent Street Peak Hour	Total trips (Weekday AM) [1]			Total Trips (Weekday PM) [1]		
		Average Trip rate: 40.19 per 1,000 SF			Average Trip rate: 32.67 per 1,000 SF		
934		In	Out	Total	In	Out	Total
		71 (51%)	68 (49%)	139	59 (52%)	54 (48%)	113
Square Footage	**Generator Peak Hour**	**Total trips (Weekday AM) [2]**			**Total Trips (Weekday PM) [2]**		
		Average Trip rate: 50.97 per 1,000 SF			Average Trip rate: 51.36 per 1,000 SF		
3,470		In	Out	Total	In	Out	Total
		92 (52%)	85 (48%)	177	91 (51%)	87 (49%)	178

The development is expected to generate a total of 139 trips (71 entering and 68 exiting) during the morning peak hour and 113 trips (59 entering and 54 exiting) during the evening peak hour of Adjacent Street. During the peak hour of the generator, the development is expected to generate a total 177 trips (92 entering and 85 exiting) for the morning peak and 178 trips (91 entering and 87 exiting) during the evening peak hour of the generator.

5. Stacking Analysis

A stacking analysis of drive-thru operations was performed for the proposed development to verify that drive-thru queues will not spillback into the driveways and/or adjacent streets.

This Stacking Analysis considers the following periods:

- Weekday AM Peak hour of Generator
- Weekday PM Peak hour of Generator
- Weekday AM Peak hour of Adjacent Street
- Weekday PM Peak hour of Adjacent Street

The following features will be included in the proposed site improvements:

- Bypass lane
- Delivery door with multiple order and delivery points instead of the standard drive thru design
- Less pedestrian conflicts and interior circulation conflicts.
- Dual lanes (2) drive-thru lanes at the ordering stations, as well as a dual menu board.
- 24 Car Stack.
- Additional stacking: Drive-thru users will loop around the main building to access the Drive-thru, increasing the stacking of the site.
- Drive-thru CCTV to associate orders with car tags

In recent years, Chick-fil-A has implemented a series of new techniques (no used on the existing) to most drive-thru businesses and adapted a new restaurant design and building floor plans to help facilitate cars through the drive-thru at a high rate (45 seconds), allowing the drive-thru to process a total of 80 orders per hour. This was achieved by the implementation of face-to-face ordering, dual drive-thru lanes with 3-4 order points and a stacking capacity of 20 vehicles in the

drive-thru lane. The proposed new drive-thru considers a bypass lane to allow the exit of vehicles served, thus, a reduction on the ordering to pick up times is expected.

Figure 4 Chick-fil-A Drive-thru double lane and face to face ordering

Drive-thru Utilization rates were based on the Nationwide rates of drive-thru utilization of Chick-fil-A restaurants on pre-COVID 19 Pandemic are as follows:

- Drive Thru – 60%
- Dine In/Carryout – 40%

Therefore, 55 trips (i.e., 60% of the 92 entering trips) are expected to utilize the drive-thru during the weekday peak hour.

Table 2 presents the drive-thru utilization and service rates during the peak hour of the adjacent street and Generator.

Table 2 Drive-thru utilization and service rates

Peak Hour of	**Generator**		**Adjacent Street**	
Vehicles Entering Site *(Max Number of vehicles Entering) (1)*	**92**	*Trips/hour*	**92**	*Trips/hour*
Drive-thru Utilization *(2)*	**60%**		**60%**	
Service Time	**45**	*Seconds*	**45**	*Seconds*
Arrival Rate				
Vehicles Entering Drive-Thru *(Max Number of Vehciels Entering the Drive-Thru)*	55	*cars / hour*	55	*cars / hour*
Service Rate				
Vehicles Served *(Number of Vechiles Served)*	80	*cars / hour*	80	*cars / hour*

(1) Based on ITE Trip Generation
(2) Nationwide rates of drive-thru utilization of Chick-fil-A restaurants on pre-COVID 19 Pandemic

Table 2 shows the forecasted arrival rates are not expected do not exceed the service rates. With the proposed new configuration and operation of the driveway the site is expected to be able to withstand up to 87% of drive-thru utilization rate, i.e., 87% of the peak hour of the generator trips.

As shown on the proposed site plan in **Appendix B**, the proposed site is designed to provide 24 car stack in the drive-thru lanes, exceeding, the 20-car stack required to process 80 vehicles per hour.

Based on this it is not expected that the vehicles served by the drive-thru exceed the available stacking capacity of the proposed site spilling back to S Federal Hwy.

6. Conclusions and Recommendations

- The proposed site layout reduces points of conflict points inside the development and allows vehicles already served in the drive-thru to exit the site by using the eastern peripheral circulation lane which is proposed to also work as by-pass lane.

- The vehicles accessing the dive-thru will be required to loop around the site to access the drive-thru lanes, therefore, if ever exceeded the capacity of the drive-thru, the additional vehicles are expected to stack on-site.

- The proposed development is expected to generate a total of 139 trips (71 entering and 68 exiting) during the morning peak hour and 113 trips (59 entering and 54 exiting) during the evening peak hour of Adjacent Street.

- During the peak hour of the generator, the development is expected to generate a total 177 trips (92 entering and 85 exiting) for the morning peak and 178 trips (91 entering and 87 exiting) during the evening peak hour of the generator.

- Drive-thru Utilization rates based on the Nationwide rates of drive-thru utilization of Chick-fil-A restaurants show Drive Thru – utilization of 60% on pre-COVID 19 Pandemic conditions.

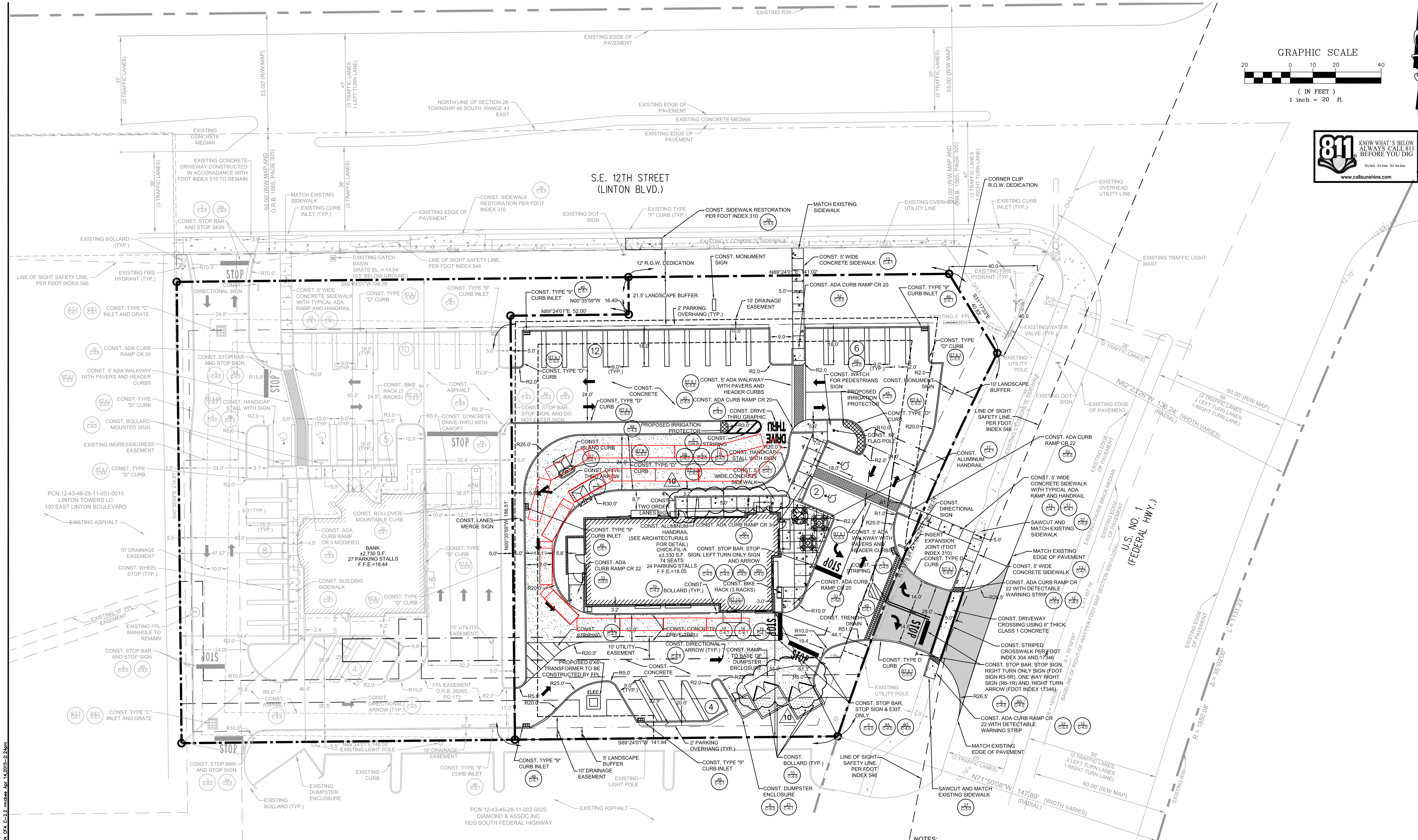
- The expected drive-thru utilization of the site is 55 trips (i.e., 60% of the 92 entering trips) during the weekday peak hour.

- With the proposed new configuration and operation of the driveway the site is expected to be able to withstand up to 87% of drive-thru utilization rate, i.e., 87% of the peak hour of the generator trips.

- The proposed site is designed to provide 24 car stack in the drive-thru lanes, exceeding, the 20-car stack required to process 80 vehicles per hour.

- Based on the results of the stacking analysis it is not expected that the vehicles served by the drive-thru exceed the available stacking capacity of the proposed site spilling back to S Federal Hwy.

Appendix A



Revisions:

Mark	Date	By
7	9/3/14	R.M.
PAVEMENT REVISION		
8	9/12/14	R.M.
DELIVERY ROUTE REMOVAL		
10	4/13/15	R.M.
HANDRAIL AND DUMPSTER REVISION		

Chick-fil-A
5200 Buffington Rd.
Atlanta Georgia,
30349-2998

Seal

CREECH ENGINEERS, INC.
CIVIL/TRANSPORTATION ENGINEERED
418 EAST VIRGINIA STREET; TALLAHASSEE, FLORIDA 32301 (850) 841-1705
OFFICES ALSO IN STUART, PORT ST LUCIE AND MELBOURNE FL.
BOARD OF PROFESSIONAL ENGINEERS, CERTIFICATE OF AUTHORIZATION NUMBER 5139
PROFESSIONAL SURVEYORS AND MAPPERS, AMENDED CERTIFICATE NO. LB-0006705

STORE
DELRAY BEACH
DELRAY BEACH, FL
FSU #03146

1800 S FEDERAL HWY
DELRAY BEACH, FL 33483

SHEET TITLE
SITE PLAN CHICK-FIL-A

VERSION: 1
ISSUE DATE:

- ☐Preliminary
- ☐80% Submittal
- ☐For Construction

Job No. : 12001.00
Store : 03146
Date : 04/15
Drawn By : W.B.
Checked By: B.P.

Sheet
C-2.2

UTILITY CONTACTS:

SANITARY SEWER:
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- EMAIL: Charles.Orr@fpl.com

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- CONTACT: CARLOS A de ROJAS
- PHONE: (561) 686-8800
- EMAIL: cderojas@sfwmd.gov

- AGENCY: FLORIDA DEPARTMENT OF TRANSPORTATION, DISTRICT FOUR
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- CONTACT: GEORGI CELUSNEK
- PHONE: (954) 777-4368
- EMAIL: georgi.celusnek@dot.state.fl.us

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- CONTACT: ROBERT LAZO
- PHONE: (561) 684-4090
- EMAIL: rlazo@pbcgov.org

TRAFFIC ENGINEERING:
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- ADDRESS: 2300 NORTH JOG ROAD, WEST PALM BEACH, FL 33411
- CONTACT: SUPERINTENDENT
- PHONE: 561-233-3900

G:\2012\12001.00 - Delray Chick-fil-A\Construction\C-2.0 - SITE PLAN.dwg SITE PLAN CFA C-2.2 rmcbee Apr 14,2015-2:24pm

SITE DATA

TOTAL SITE AREA:	66,309 SF (1.52 ACRES)	
PROPOSED PAVEMENT AREA:	43,126 SF (65.0%)	
PROPOSED GREEN AREA:	17,123 SF (25.9%)	
PROPOSED BUILDING AREA:	6,060 SF (9.1%)	
	100%	
CHICK-FIL-A:	35,711 SF (0.82 ACRES)	
PROPOSED IMPERVIOUS AREA:	25,838 SF (72.4%)	
PROPOSED PERVIOUS AREA:	9,873 SF (27.6%)	
SUNTRUST:	30,598 SF (0.70 ACRES)	
PROPOSED IMPERVIOUS AREA:	23,358 SF (76.3%)	
PROPOSED PERVIOUS AREA:	7,240 SF (23.7%)	
EXISTING IMPERVIOUS AREA:	51,632 SF (72.1%)	
EXISTING PERVIOUS AREA:	19,963 SF (27.9%)	
FLOOR AREA RATIO	1:10.9	
MAXIMUM BUILDING HEIGHT	**ALLOWED**	**PROVIDED**
BUILDING HEIGHT	48'	23.67'
ZONING	PLANNED COMMERCIAL (PC)	
NUMBER OF SEATS		
INDOOR	74 SEATS	
OUTDOOR	0 SEATS	

BUILDING SETBACKS:	REQUIRED	PROVIDED
NORTH (LINTON BLVD)	10'	93'
EAST (FEDERAL HWY)	10'	39'
SOUTH (INTERIOR)	0'	51'
WEST (INTERIOR)	10'	49'

LANDSCAPE BUFFER:	REQUIRED	PROVIDED
NORTH (LINTON BLVD)	21.4'	23'
EAST (FEDERAL HWY)	10'	10'
SOUTH (INTERIOR)	5'	6.8'
WEST (INTERIOR EXISTING)	5'	±7'-2.5' (VARIES)

PARKING REQUIRED:
- CHICK-FIL-A: 12 SPACES PER 1000 SF G.F.A. = (3330/1000)*12 = 40 SPACES
- SUNTRUST: 4 SPACES PER 1000 SF G.F.A. = (2730/1000)*4 = 11 SPACES
- TOTAL: 51 PARKING SPACES
- BICYCLE: 5 SPACES PER FAST FOOD RESTAURANT

PARKING PROVIDED:	
REGULAR:	47 SPACES
HANDICAP:	4 SPACES
TOTAL	51 SPACES
BICYCLE	6 SPACES

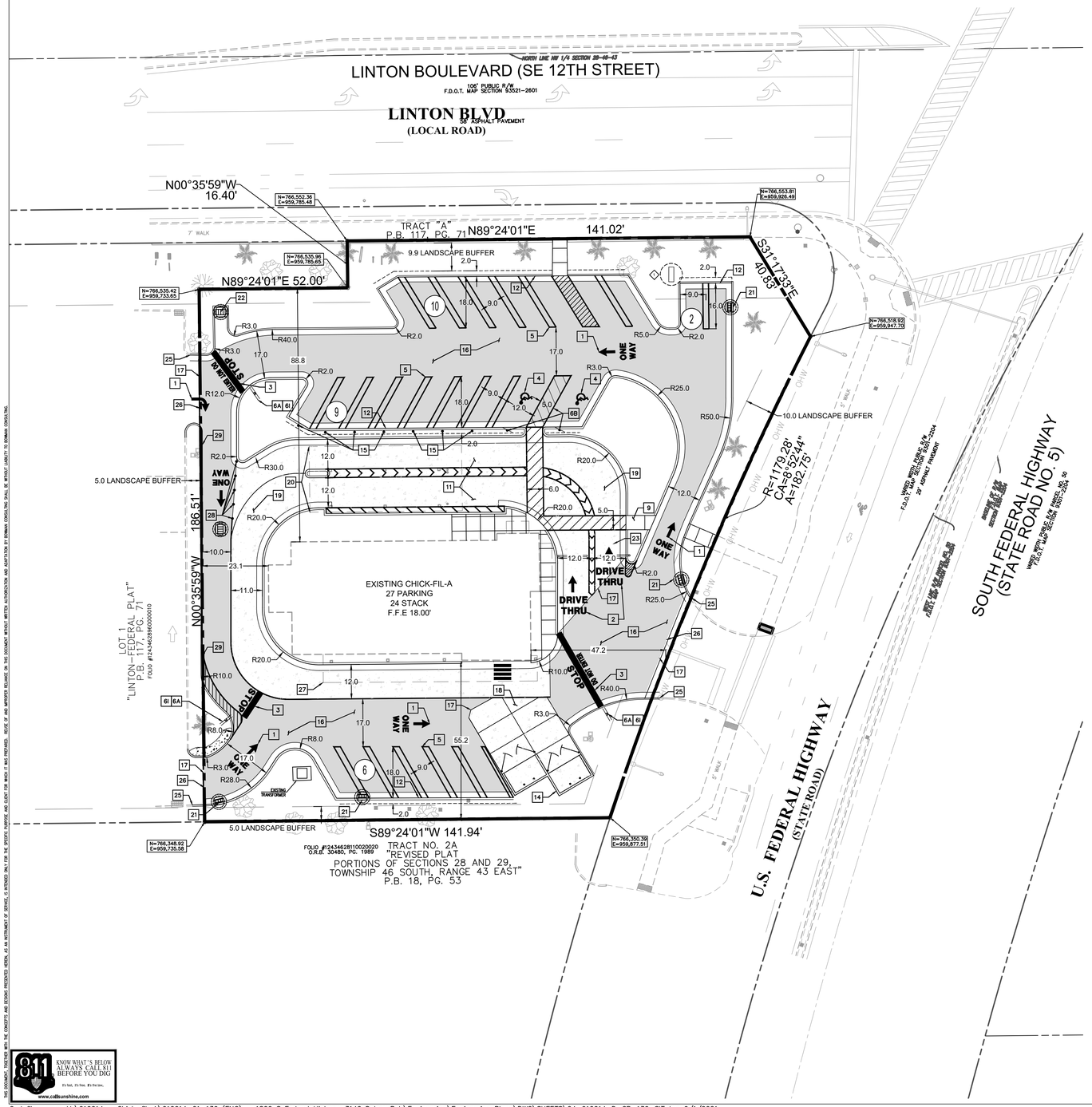
NOTES:

1. ALL MARKINGS EXCEPT PARKING SPACE LINES MUST BE THERMOPLASTIC AND 6" WIDE.
2. PAVEMENT MARKINGS MUST MEET CITY OF DELRAY BEACH STANDARDS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. REFERENCE SIGNAGE SITE PLAN AS PROVIDED BY CLAYTON SIGNS FOR ALL PROPOSED SIGNAGE LOCATION AND TYPE.
4. REFER TO SURVEY FOR ADDITIONAL INFORMATION.
5. ALL CONSTRUCTION AND RESTORATION WORK WITHIN THE RIGHT OF WAY SHALL COMPLY WITH THE LATEST EDITION OF THE FDOT STANDARD INDEX AND THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
6. THERE ARE PALM BEACH COUNTY-TRAFFIC ITS BURIED FIBER OPTIC FACILITIES WITHIN THE LIMITS OF THIS PROJECT. PLEASE REFER TO THE ATTACHED DRAWING FOR APPROXIMATE LOCATION OF PBC-TRAFFIC ITS FACILITIES.
7. ANY DAMAGE TO PALM BEACH COUNTY TRAFFIC ITS FACILITIES CAUSED BY CONSTUCTION OF THIS PROJECT MUST BE REPAIRED OR REPLACED TO ORIGINAL OR BETTER CONDITION BY THE PERMITTEE AT NO COST TO PALM BEACH COUNTY.
8. PALM BEACH COUNTY (PBC) RESERVES THE RIGHT TO DETERMINE IF DAMAGED FACILITIES WILL BE REPAIRED OR REPLACED.
9. IF ADJACENT ROADWAY IS AFFECTED DURING CONSTRUCTION, MILL AND PAVE TRANSITION AREA MUST BE AT A LANE WIDTH MINIMUM AND 50' IN EITHER DIRECTION FROM THE POINT OF CONSTRUCTION. IF ADJACENT LANES ARE AFFECTED, THE AFFECTED ADDITIONAL LANE OR LANES WILL BE REQUIRED TO BE MILLED AND PAVED AT A LANE WIDTH AND AT THE EQUAL DISTANCE OF THE ORIGINAL AFFECTED LANE.
10. ENSURE PALM BEACH COUNTY R/W IS RESTORED TO LIKE OR BETTER THEN LIKE CONDITION AND ALL DIRT AND SOD IS RAKED AND PLACED AT THE SAME SURROUNDING ELEVATION.
11. FOR LINTON BLVD., PAVEMENT MARKINGS AND GEOMETRICS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND PALM BEACH COUNTY TYPICAL NO. T-P-13

LEGEND

PROPOSED ASPHALT	PROPOSED DRAINAGE EASEMENT
PROPOSED CONC. SIDEWALK	PROPOSED UTILITY EASEMENT
PROPOSED CONC. DRIVE	PROPOSED FPL EASEMENT
PROPOSED DUMPSTER PAD	LANDSCAPE BUFFER
PROPOSED TRENCH DRAIN	PROPOSED PROPERTY LINE
PROPOSED TYPE F CURB AND GUTTER	EXISTING CONC. SIDEWALK
PROPOSED TYPE "D" CURB	EXISTING INLET
PROPOSED TYPE "C" INLET	EXISTING HYDRANT
PROPOSED TYPE "F" CURB FRAME AND GRATE	EXISTING BOLLARD
PROPOSED SIGN	EXISTING SIGN
PROPOSED TRANSFORMER (ELEC.)	EXISTING WATER METER
PROPOSED PARKING COUNT (4)	EXISTING WATER VALVE
PROPOSED DETAIL CALLOUT (DETAIL NUMBER 7 / SHEET NUMBER C-4.0)	EXISTING LIGHT POLE
	EXISTING UTLITY POLE
	EXISTING OVERHEAD UTILITY LINE
	EXISTING EASEMENTS
	EXISTING PROPERTY LINE

Appendix B



LEGEND

PROP. ASPHALT DRIVE		PROPERTY LINE	
PROP. CONC. SIDEWALK		EX. CONCRETE SIDEWALK	
PROP. CONC. PAVEMENT		EX. CONCRETE D CURB	
PROP. TYPE "F" CURB		EX. CONCRETE F CURB	
PROP. CLEARANCE BAR		EX. LIGHT POLE	
PROP. PARKING STRIPE		EX. SIGN	
PROP. HANDICAP MARKING		EX. EDGE OF PAVEMENT	
PROP. SITE SIGNAGE		EX. EDGE OF SIDEWALK	
PROP. DIRECTIONAL ARROW		EX. FIRE HYDRANT	
PROP. BOLLARD		EX. ELEC. BOX	
PROP. PARKING COUNT	9	EX. STORM SEWER	
PROP. CURB INLET		EX. STORM INLET	
PROP. CATCH BASIN		EX. SANITARY SEWER	
		EX. SANITARY MANHOLE	
		EX. WATER SERVICE	
		EX. ELECTRIC SERVICE	
		EX. GAS LINE	
		EX. COMM. LINE	
		EX. OVERHEAD ELECTRIC	
		EX. GRADE	
		EX. CLEANOUT	
		EX. BACK FLOW PREVENTER	
		EX. TRANSFORMER	
		EX. TREE	

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

SITE SUMMARY	
ZONING	PLANNED COMMERCIAL (PC)
FLU	GENERAL COMMERCIAL
USE	RESTAURANT W/ DRIVE THRU
TYPE OF CONSTRUCTION	COMMERCIAL
PARCEL ID	25300500000032430
LOT	
SIZE	203' X 214'
BUILDING	
SIZE	3,587 SF
HEIGHT	37.4'
CONSTRUCTION TYPE	TYPE VB
PARKING	
STALL SIZE	VARIES

BUILDING SETBACKS		
SETBACKS	REQUIRED	PROVIDED
FRONT (NORTH)	10'	88.8'
REAR (SOUTH)	0'	55.2'
SIDE (EAST)	10'	47.2'
SIDE (WEST)	10'	23.1'

PARKING CALCULATIONS			
USE	SF	RATIO	REQUIRED SPACES
GROSS FLOOR AREA (SF)	3,587 SF	12 SPACES PER 1,000 SF GROSS FLOOR AREA	43 SPACES
EXISTING PARKING			24
PROPOSED STANDARD PARKING PROVIDED			25
PROPOSED HANDICAP PARKING REQUIRED			2
PROPOSED HANDICAP PARKING PROVIDED			2
PROPOSED TOTAL PARKING PROVIDED			27

EXISTING SITE CALCULATIONS			
AREA	SF	ACRES	%
TOTAL SITE AREA	35,711.	.82	100
TOTAL PERVIOUS AREA	10,226	0.23	28.6
BUILDING AREA	3,587	0.08	10.0
PAVEMENT AREA	21,898	0.50	61.3
TOTAL IMPERVIOUS AREA	25,485	.59	71.4

CHICK-FIL-A SITE CALCULATIONS			
AREA	SF	ACRES	%
TOTAL SITE AREA	35,711	.82	100
TOTAL PERVIOUS AREA	9,877	0.23	27.7
BUILDING AREA	3,587	0.08	10.0
PAVEMENT AREA	22,247	.51	62.3
TOTAL IMPERVIOUS AREA	25,834	.59	72.3

SITE NOTES

1. CONST. DIRECTIONAL ARROW (TYP.)
2. CONST. DRIVE-THRU GRAPHICS
3. CONST. STOP LINE GRAPHIC
4. CONST. HANDICAP STALL WITH PAINTED ACCESSIBILITY SYMBOL PER FDOT STANDARD PLANS INDEX 711-001
5. CONST. STANDARD PARKING STALL
6. DIRECTIONAL SIGNAGE (REFER TO SIGN PACKAGE FOR MORE DETAILS)
   - 6A STOP SIGN (R1-1)
   - 6B BOLLARD MOUNTEDHANDICAP SIGN PER FDOT STANDARD PLANS INDEX 700-102, FTP-20-06 AND FTP-22-06
   - 6C BOLLARD MOUNTED CURBSIDE DELIVERY
   - 6D NO LEFT TURN SIGN (NOT USED)
   - 6E ONE WAY SIGN (NOT USED)
   - 6F RIGHT TURN ONLY (NOT USED)
   - 6G PEDESTRIANS CROSSING (NOT USED)
   - 6H CIRCLE BUILDING FOR DRIVE THRU (NOT USED)
   - 6I DO NOT ENTER SIGN (R5-1)
   - 6J LANES MERGE SIGN (NOT USED)
7. CONST. 6' SIDEWALK RAMP @ 1:12 SLOPE
8. CONST. CURB RAMP CR-F PER FDOT STANDARD PLANS INDEX 522-002
9. CONST. TYPICAL CONCRETE SIDEWALK
10. CONST. SIDEWALK W/ CURB AND GUTTER
11. CONST. DRIVE-THRU
12. CONST. CURB AND GUTTER
13. CONST. TRUNCATED DOMES WITH DETECTABLE WARNING SURFACES
14. CONST. REFUSE ENCLOSURE WITH STORAGE SHED
15. CONST. CONCRETE BOLLARD
16. CONST. ASPHALT PAVEMENT
17. CONST. PAVEMENT EDGE
18. CONST. CONCRETE APRON AT REFUSE ENCLOSURE
19. CONST. CONCRETE PAVING DRIVE-THRU LANE
20. EXISTING TIER 3 ORDER CANOPY
21. CONST. TYPE 9 CURB INLET
22. CONST. TYPE C INLET
23. CONST. CLEARANCE BAR
24. CONST. SOLID 4" YELLOW STRIPING ON ENDS W/ 4" WIDE STRIPES @ 3' O.C., YELLOW REFLECTIVE PAINT WITH ANTI-SLIP ADHESIVE
25. CONNECT TO EXISTING CURB
26. CONNECT TO EXISTING EDGE OF PAVEMENT
27. EXISTING MEAL ORDER DELIVERY CANOPY
28. CONST. TRAFFIC DELINEATORS
29. CONST. CURB

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY WILLIAM PFEFFER, P.E. (LICENSE NO. 73058) ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

811 KNOW WHAT'S BELOW ALWAYS CALL 811 BEFORE YOU DIG
It's fast. It's free. It's the law.
www.callsunshine.com

Cad file name: V:\010014 - Chick-fil-A\010014-01-136 (ENG) - 1800 S Federal Highway 3146 Delray Bch\Engineering\Engineering Plans\DWG\SHEETS\04-010014-D-CP-136-SIT.dwg 6/1/2021

5200 Buffington Rd.
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Seal

WILLIAM PFEFFER, P.E.
LICENSE NO. 73058
6/1/2021

CHICK-FIL-A
DELRAY
1800 S. FEDERAL HIGHWAY
DELRAY BEACH, FL 33830

FSU# 3146

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	06/01/2021	MONUMENT SIGN RELOCATED

PERMIT

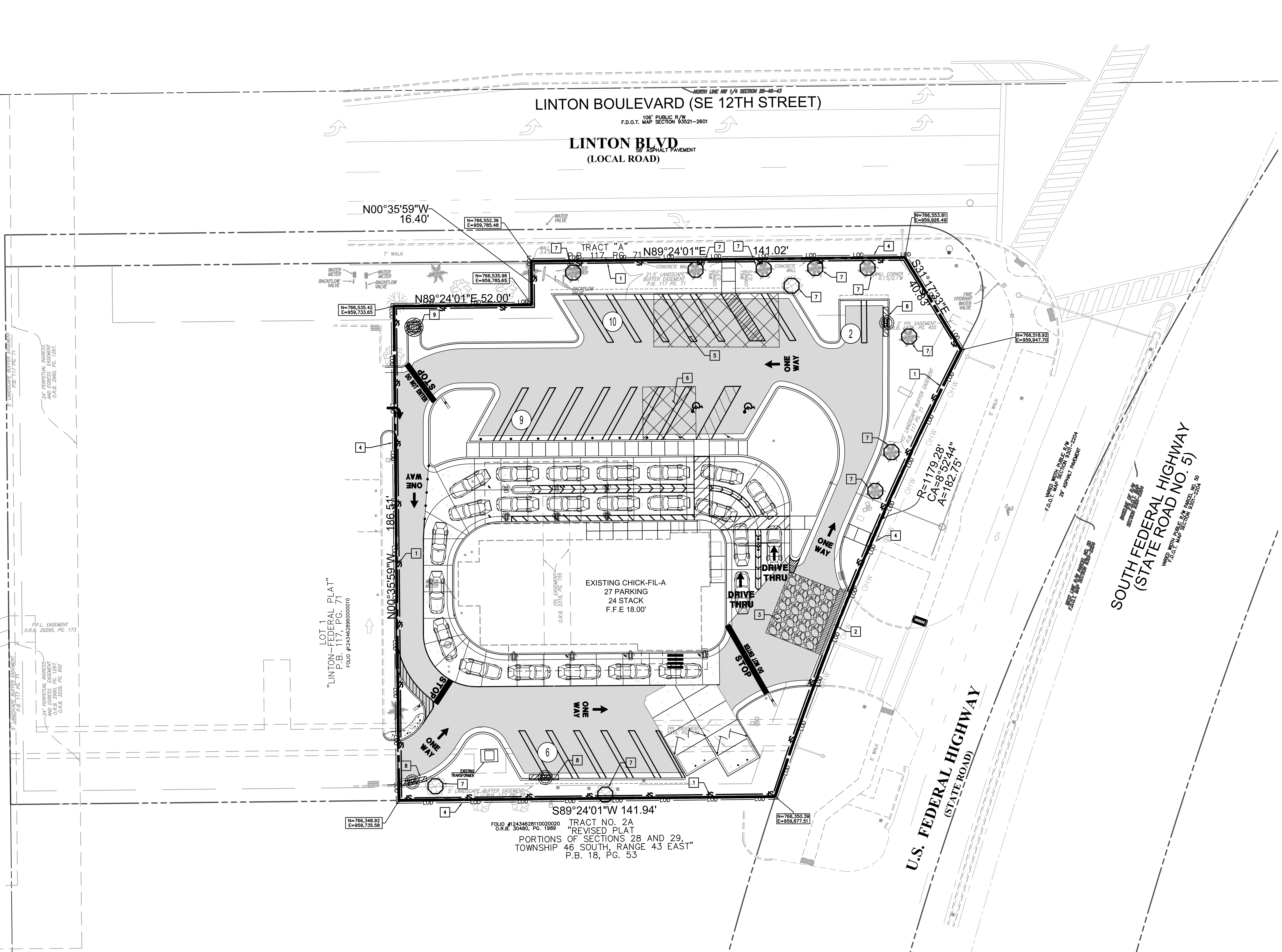
CURRENT DESIGN NOTE APPLIED	2021-005
PROJECT #	010014-01-136
PRINTED FOR	PERMIT
DATE	6/1/2021
DRAWN BY	JL

SHEET

SITE PLAN

SHEET NUMBER

C-2.0



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

LEGEND

LIMIT OF DISTURBANCE (LOD)	PROPERTY LINE
PROP. CURB INLET FILTER	EX. CONCRETE SIDEWALK
PROP. SILT DIKE ON PAVEMENT	EX. CONCRETE D CURB
PROP. SILT FENCE (SF)	EX. CONCRETE F CURB
TEMPORARY PARKING AND STAGING AREAS	EX. LIGHT POLE
PROP. INLET FILTER	EX. SIGN
	EX. EDGE OF PAVEMENT
	EX. EDGE OF SIDEWALK
	EX. FIRE HYDRANT
	EX. ELEC. BOX
	EX. STORM SEWER
	EX. STORM INLET
	EX. SANITARY SEWER
	EX. SANITARY MANHOLE
	EX. WATER SERVICE
	EX. ELECTRIC SERVICE
	EX. GAS LINE
	EX. COMM. LINE
	EX. OVERHEAD ELECTRIC (OHU)
	EX. GRADE
	EX. CLEANOUT
	EX. BACK FLOW PREVENTER
	EX. TRANSFORMER
	EX. TREE

EROSION CONTROL NOTES

1. CONST. SILT FENCE (1/C-3.4)
2. CONST. SILT DIKE ON PAVEMENT (3/C-3.4)
3. CONST. STABILIZED CONSTRUCTION EXIT (6/C-3.4)
4. LIMIT OF DISTURBANCE
5. TEMPORARY PARKING AREA
6. TEMPORARY STORAGE AREA
7. CONST. TREE BARRIER (5/C-3.4)
8. CONST. CURB INLET FILTER (4/C-3.4)
9. CONST. INLET FILTER (2/C-3.4)

CONSTRUCTION SEQUENCE

1. CONDUCT PRE-CONSTRUCTION MEETING WITH THE COUNTY TO DISCUSS EROSION AND SEDIMENT CONTROLS AND CONSTRUCTION PHASING.
2. INSTALL AND POST SWPPP AND SITE COMPLIANCE SIGNAGE PUBLICLY VISIBLE.
3. INSTALL INLET PROTECTION, SILT DIKES, AND SILT FENCE ON THE SITE AS SHOWN.
4. INSTALL CONSTRUCTION FENCES AND TEMPORARY TRAFFIC AND PEDESTRIAN CONTROL DEVICES.
5. PREPARE TEMPORARY PARKING AND STORAGE AREAS.
6. DEMO EXISTING STRUCTURES, PAVEMENT, AND SPECIFIED UTILITIES.
7. BEGIN GRADING THE SITE.
8. BEGIN CONSTRUCTION OF UTILITIES.
9. BEGIN SUBGRADE PREPARATION AND CONSTRUCTION OF STRUCTURES.
10. BEGIN INSTALLATION OF CURB, GUTTER, AND PAVING.
11. COMPLETE PERMANENT STABILIZATION ON AREAS WHERE CONSTRUCTION HAS BEEN COMPLETED.
12. COMPLETE FINAL GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.
13. OBTAIN CONCURRENCE FROM THE OWNER AND THE COUNTY THAT THE SITE HAS BEEN FULLY STABILIZED.
14. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.
15. STABILIZE ALL AREAS DISTURBED BY BMP REMOVAL.

CONTRACTOR MAY COMPLETE CONSTRUCTION RELATED ACTIVITIES CONCURRENTLY ONLY IF ALL PRECEDING BMPS HAVE BEEN COMPLETELY INSTALLED.

THE ACTUAL SCHEDULE FOR IMPLEMENTING POLLUTANT CONTROL MEASURES WILL BE DETERMINED BY THE PROJECT CONSTRUCTION PROGRESS AND RECORDED BY THE GENERAL CONTRACTOR ON THESE PLANS.

BMP MAINTENANCE NOTES

ALL MEASURES STATED ON THESE PLANS SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR COMPLETED PHASE OF WORK OF FINAL STABILIZATION OF THE SITE. SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONSTRUCTION FDEP GENERIC PERMIT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF DETERIORATION.
2. ALL SEEDED/SODDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND OF GRASS IS MAINTAINED. AREAS SHALL BE FERTILIZED, WATERED AND REPAIRED AS NEEDED.
3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCE WHEN IT REACHES ONE-HALF THE HEIGHT OF THE FENCE.
4. THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF SEDIMENT FROM THE SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE EXIT AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN A GOOD CONDITION. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE AREA AS CONDITIONS DEMAND.
6. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. ANY DEBRIS AND/OR SEDIMENT LEAVING THE SITE SHALL BE CLEANED IMMEDIATELY.
7. ALL INLETS AND STORM DRAINS SHALL BE KEPT CLEAN OF DEBRIS AND SEDIMENT. ANY DEBRIS AND/OR SEDIMENT THAT ENTERS ANY INLET OR STORM DRAIN SHALL BE CLEANED IMMEDIATELY. FLUSHING SHALL NOT BE USED TO CLEAN DEBRIS AND/OR SEDIMENT FROM STORM DRAINS.

GENERAL EROSION CONTROL NOTES

1. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED AND THAT CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DIRECTED BY PERMITTING AGENCY AND OWNER OR AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
2. PERMIT(S) FOR ANY CONSTRUCTION ACTIVITY MUST BE MAINTAINED ON SITE AT ALL TIMES.
3. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE FDEP GENERIC PERMIT.
4. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
5. ALL WASH WATER SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
6. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
7. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
8. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
9. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN SHALL BE INITIATED AS SOON AS PRACTICABLE.
10. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY STOPPED FOR AT LEAST 7 DAYS, SHALL BE TEMPORARILY SEEDED.
11. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE SODDED/LANDSCAPED PER PLANS. THESE AREA SHALL BE SODDED/LANDSCAPED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.
12. IF THE ACTION OF VEHICLES TRAVELING OVER THE CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
13. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
14. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
15. ON-SITE AND OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH FDEP GENERIC PERMIT REQUIREMENTS.
16. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
17. DUE TO CONSTRUCTION ACTIVITIES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES TO PREVENT EROSION AND SEDIMENTATION.
18. CONTRACTOR SHALL DESIGNATE/IDENTIFY AREAS INSIDE THE LIMITS OF DISTURBANCE, FOR WASTE DISPOSAL AND DELIVERY AND MATERIAL STORAGE.
19. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH THE EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN, NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.
20. ALL EXISTING SIGNALIZATION EQUIPMENT TO REMAIN IS ASSUMED TO BE IN GOOD WORKING ORDER UNLESS PALM BEACH COUNTY IS NOTIFIED IN WRITING PRIOR TO THE START OF CONSTRUCTION. ANY SUBSEQUENT DAMAGE TO THE SIGNAL EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
21. THE CONTRACTOR SHALL ENSURE THAT A FOREMAN OR SUPERVISOR WHO HAS BEEN CERTIFIED UNDER FLORIDA STORMWATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR TRAINING PROGRAM IS AVAILABLE IN PERSON OR BY PHONE AT ALL TIMES DURING THE CONSTRUCTION ACTIVITIES. (ONCE CONTRACTOR IS SELECTED, A QUALIFIED FOREMAN/SUPERVISOR WILL BE DESIGNATED AND AVAILABLE AT THE PRE-CONSTRUCTION MEETING)
22. ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY BE REQUIRED, DURING ANY PHASE OF DEVELOPMENT, AT THE DISCRETION OF THE COUNTY'S INSPECTOR.

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5/19/2021

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DELRAY BEACH, FL 33830

FSU# 3146

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

PERMIT

CURRENT DESIGN NOTE APPLIED	2021-005
PROJECT #	010014-01-136
PRINTED FOR	PERMIT
DATE	5/19/2021
DRAWN BY	JL

SHEET
EROSION CONTROL PLAN PHASE II

SHEET NUMBER
C-3.2

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