TOWN OF PALM BEACH

Town Manager's Office

PUBLIC WORKS COMMITTEE MEETING

TOWN HALL
COUNCIL CHAMBERS-SECOND FLOOR
360 SOUTH COUNTY ROAD

AGENDA

TUESDAY, AUGUST 8, 2017
9:30 A.M.

WELCOME!

I. CALL TO ORDER AND ROLL CALL

II. APPROVAL OF AGENDA

III. COMMUNICATIONS FROM CITIZENS

IV. STUDY FOR REGULATING OVERSIZED VEHICLES (TRUCK TRAFFIC) ON TOWN ROADWAYS
Eric Brown, P.E., Assistant Director of Public Works

V. UPDATE ON THE FLORIDA DEPARTMENT OF TRANSPORTATION PROPOSAL FOR WIDENER'S CURVE
Patricia Strayer, P.E., Town Engineer

VI. ACCELERATED CAPITAL IMPROVEMENTS PROGRAM – PHASE 2 BUDGETING UPDATE
Patricia Strayer, P.E., Town Engineer

VII. REVIEW OF FLORIDA POWER & LIGHT LED LIGHTING
Patricia Strayer, P.E., Town Engineer

VIII. T3/TESTA'S PROJECT UPDATE
Patricia Strayer, P.E., Town Engineer

IX. TOWN-WIDE UNDERGROUNDING TRAFFIC MANAGEMENT
Patricia Strayer, P.E., Town Engineer

Post Office Box 2029 * 360 South County Road * Palm Beach, Florida 33480
Telephone (561) 838-5410 * Facsimile (561) 838-5411 * townmanager@townofpalmbeach.com

X. TOWN-WIDE UNDERGROUNDING PHASE 1 CONSTRUCTION STAGING AREA
Patricia Strayer, P.E., Town Engineer

XI. NORTH LAKE WAY AND WELLS ROAD DELINEATORS
Patricia Strayer, P.E., Town Engineer

XII. ANY OTHER MATTERS

XIII. ADJOURNMENT

PLEASE TAKE NOTE:

The progress of this meeting may be monitored by visiting the Town's website (www.townofpalmbeach.com) and clicking on "Meeting Audio" in the left column. If you have questions regarding that feature, please contact the Office of Information Systems (561) 227-6315. The audio recording of the meeting will appear within 24 hours after the conclusion of the meeting.

Disabled persons who need an accommodation in order to participate in the Finance and Taxation Committee Meeting are requested to contact the Town Manager's Office at 838-5410 or through the Florida Relay Service by dialing 1-800-955-8770 for voice callers or 1-800-955-8771 for TDD callers, at least two (2) working days before this meeting.

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on August 8, 2017

TO: Public Works Committee

VIA: Thomas G. Bradford, Town Manager

FROM: Eric Brown, P.E., Assistant Director of Public Works

RE: Study for Regulating Oversized Vehicles (Truck Traffic) on Town Roadways

DATE: August 1, 2017

STAFF RECOMMENDATION

Town staff requests that the Public Works Committee review the attached information and provide any direction deemed necessary. Specific staff recommendations for conducting this study are noted below.

GENERAL INFORMATION

The recommendation from the prior Public Works Committee meeting on May 5, 2017 was to utilize a consultant to investigate the issues associated with large truck traffic operating within the Town limits. A feasibility study and implementation plan would be pursued through that consultant. Since then, the Town Council has authorized at its July 12, 2017 meeting the use of a consultant for traffic engineering services. The consultant approved was American Consulting Engineers of Florida, and a professional services agreement is being processed to authorize work tasks through that consultant. Staff recommends this truck traffic study be negotiated with American Consulting Engineers. With the Public Works Committee's concurrence, staff will meet with the consultant to define the scope of services and obtain a proposal for those services.

A summary of the previously identified topics of interest would include the following:

- What streets or roads are to be regulated more strictly regarding large vehicles?
- How are these large or over-sized vehicles defined (weight, width, length, etc.)?
- What is the process to regulate them, and what new restrictions would be put in place beyond those already defined in State statutes?
- Would a new permitting process be needed, and how would that permit program be implemented?
- What signs or public notifications are required to restrict or permit vehicles on Town roadways?
- What Town departments are involved and how would they interact, and who would act as the program oversight for this new initiative?
- What funding does this new program require for start-up and how would ongoing costs be funded (via permit fees, etc.)?
- How would enforcement of these restrictions be handled and would new staff or personnel be required? What are the penalties for non-compliance?
- What are other municipalities doing in this regard and what lessons can we learn from them?

SPECIAL CONSIDERATIONS

The regulation of vehicular traffic on Town roadways is also made more complicated since the State roads and bridges managed by FDOT are a significant part of the overall roadway system. The establishment of a new program and regulatory requirements would likely only be enforceable on the Town roadways.

FUNDING/FISCAL IMPACT

There is no funding currently identified for the consultant study or implementation costs for a proposed new program. When the proposal is received from the consultant, and the fee for that task is known, approval would be sought from the Town Council as required.

cc: John Randolph, Town Attorney
Jay Boodheshwar, Deputy Town Manager
Kirk Blouin, Public Safety Director
Jeff Trylch, Deputy Police Chief
Eric B. Brown, P.E., Assistant Director of Public Works
Patricia Strayer, P.E., Acting Town Engineer
Brett Madison, Facilities Maintenance Division Manager

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on: August 8, 2017

TO: Public Works Committee

VIA: Thomas G. Bradford, Town Manager

FROM: Patricia Strayer, P.E., Town Engineer

RE: Update on the Florida Department of Transportation Proposal for Widener's Curve

DATE: August 1, 2017

STAFF RECOMMENDATION

Town staff requests guidance on accepting the recommendations from the Florida Department of Transportation (FDOT) for Widener's Curve safety improvements.

GENERAL INFORMATION

Staff presented the finding of the FDOT study of Wideners Curve to the Public Works Committee on May 5, 2017 and, subsequently to the Town Council on June 13, 2017. As a result, Public Works reached out to District IV of FDOT to request warning signs instead of the recommended road reflectors. Maria Anaya de Yeats responded indicating the following:

- FDOT checked the crash data for the years 2015 and 2016 at this location (the report used crash data from 2012 to 2014). It should be noted that the crash data for the year 2016 has not been certified as complete by FDOT.

- There were five (5) "run off the road (ROR)" crashes. Four (4) of them in 2015 and one (1) in 2016. One of these ROR crashes was a DUI crash.

- Three (3) of the ROR crashes hit the property whose owners initially contacted FDOT to perform the study (1482 S. Ocean Boulevard), one (1) of the ROR crashes hit the property across the street from the property that initially contacted FDOT and the other ROR crash lost control at the curve and crashed further south of that curve. Also, four (4) of the five (5) crashes occurred during dark conditions (three (3) dark and one (1) dawn).

- Lane departure crashes are one of the high emphasis areas in the Florida Strategic Highway Safety Plan (SHSP). ROR crashes come into this category. Internally Illuminated Raised Pavement Markers (IIRPM) would better delineate the curve, thereby reducing the potential for motorists leaving the roadway. Therefore, the safety office would appreciate the Town of Palm Beach's cooperation to reduce the potential for these types of crashes.

FDOT performed a qualitative assessment of Widener's Curve, at the request of a resident at 1482 South Ocean Boulevard, Palm Beach. The resident requested the assessment because of the perceived large number of crashes in the area due to the road's sharp curves.

FDOT evaluated Widener's Curve during the daylight and night-time conditions, striping, signage, geometrics, along with an analysis of crash data from 2012 to 2014. In summary, the striping and signage are adequate for both daylight and night time conditions. The roadway's geometry met the minimum design elements with exception to the stopping sight distance. The accidents reviewed were not determined to be related to the deficiency in the stopping sight distance. FDOT did note the crash data of two (2) ROR accidents were higher than expected based on the Highway Safety Manual Methodology. Their recommendation to minimize the accidents is to enhance the existing signage and striping with IIRPMs as outlined in the enclosed study.

FUNDING/FISCAL IMPACT

There is no funding/fiscal impact related to this item.

Attachments

cc. Kirk Blouin, Director of Public Safety
Paul Brazil, Director of Public Works
Geoffrey Parker, P.E. New Millennium Engineering, Inc.

Gannett Fleming

Excellence Delivered ***As Promised***

LETTER OF TRANSMITTAL

TO:	Maria E. Anaya de Yeats, E.I.	**DATE:**	03/17/2016
	Florida Department of Transportation – District Four	**PROJECT NO.:**	056767 P47
	3400 W. Commercial Boulevard		
	Fort Lauderdale, FL 33309		
	P:954 777 4582		
RE:	Final Technical Memorandum - Task Work Order No. 47 (SR A1A S. of SR 80)		

WE ARE SENDING YOU: ☒ Attached ☐ Under Separate Cover
VIA: ☐ U.S. Mail ☒ Overnight ☐ Tracked Pkg ☐ Hand Delivered ☐ E-mail
THE FOLLOWING:

☒ DOCUMENTS ☐ LETTER ☐ SHOP ☐ CD
☐ PLANS ☐ SPECIFICATIONS ☐ DISKS ☐ OTHER

UNIT	DESCRIPTION
3	Final Technical Memorandum TWO No. 47 (Signed and Sealed)
1	CD with Final Technical Memorandum in PDF.

THE ABOVE ITEM(S) ARE BEING TRANSMITTED AS CHECKED BELOW:

☐ FOR YOUR APPROVAL ☐ AS REQUESTED
☐ FOR REVIEW AND COMMENT ☒ FOR YOUR RECORDS

☒ ***This submittal is being made in accordance with our agreement with you. It fulfills the requirements of Tasks 1 through 7 of our Scope of Services.***

REMARKS:

SUBMITTED BY: Nelson Castillo, P.E., PTOE

COPY TO: File

Gannett Fleming, Inc.
7300 Corporate Center Drive, Suite 701 • Miami, FL 33126-1233
t: 786.845.9540 • f: 786.845.6802
www.gannettfleming.com

Qualitative Assessment On SR A1A/S. Ocean Blvd.

SR A1A/S. Ocean Boulevard
State Section:
93060000 (Mile Posts: 23.946 – 24.116)

Palm Beach County,
Florida

Prepared
For:

Florida Department of Transportation, District Four

March 2016

TECHNICAL MEMORANDUM

TO: Maria E. Anaya de Yeats, E.I. - FDOT District Four Studies Specialist

FROM: Nelson Castillo, P.E., PTOE – Gannett Fleming

DATE: March 17, 2016

RE: **TWO No. 47: Qualitative Assessment on SR A1A/S. Ocean Boulevard Segment State Section 93060000, Mile Post: 23.946-24.116, Palm Beach County**

1 INTRODUCTION

Gannett Fleming, Inc. was retained by the Florida Department of Transportation (Department) to conduct a Qualitative Assessment on SR A1A/S. Ocean Boulevard (Section No. 93060000) from approximately MP 23.946 to MP 24.116 in Palm Beach County. The qualitative Assessment was originated by a citizen complaint indicating that several run-off-the-road crashes have occurred at 1482 S. Ocean Boulevard. Appendix A includes the request for a study. Exhibit 1 shows the location of the study segment.

This evaluation includes a brief description of existing conditions, an analysis of the three-year recorded crash data from 2012 to 2014, collision diagrams, a site review, an evaluation of the roadway geometry pertaining the reverse curve, and developing potential recommendations.

2 EXISTING CONDITIONS

The study segment of SR A1A/S. Ocean Boulevard has a reverse curve with a posted speed limit of 25 mph. Appendix B includes an existing condition diagram.

2.1 Geometry

SR A1A/S. Ocean Boulevard is an undivided two-lane urban major collector. The cross section of the roadway consists of one 11-foot lane in each direction and shoulders that vary from four (4) to six (6) feet on the east side and from two (2) to four (4) feet on the west side of SR A1A.

2.2 Posted Speed Limit

The posted speed limit on SR A1A/S. Ocean Boulevard is 35 mph in the vicinity of reverse curve and it is reduced to 25 mph near the point of inflection (PI).

2.3 Street Lighting

Street lighting is not provided along this segment of SR A1A/S. Ocean Boulevard. There are three (3) decorative street lighting poles on the west side of SR A1A/S. Ocean Boulevard but these appear to have been installed by the private residence located at 14500 S. Ocean Boulevard.

STUDY LIMITS DIAGRAM	SR A1A/S. OCEAN BOULEVARD	PAGE 1 OF 1

2.4 Land Use

The land use is residential.

2.5 Parking

On-street parking is not provided on this segment of SR A1A/S. Ocean Boulevard.

2.6 Transit

There are no bus routes running along this segment of SR A1A/S. Ocean Boulevard.

2.7 Pedestrian Facilities

There are no sidewalks provided along this segment of SR A1A/S. Ocean Boulevard.

2.8 Bicycle Facilities

Designated bicycle lanes are not provided in this segment of SR A1A/S. Ocean Boulevard. However, there are signs warning motorists that bicyclists use the road.

2.9 Pavement Conditions and Pavement Markings

The roadway surface is asphaltic pavement and it is in good condition. Edge line pavement markings are provided along this segment of SR A1A and are in good conditions.

2.10 Average Annual Daily Traffic Volume

The AADT for this segment of SR A1A/S. Ocean Boulevard was 9,200 vpd in 2014 based on the crash data summary provided by the Department.

3 CRASH DATA ANALYSIS

Crash data and hard copy police reports were provided by the Department for those crashes that were reported within the study segment of SR A1A. The Department provided the crash data from 2011 to 2014, and Gannett Fleming was instructed by the Department to perform the crash data analysis from 2012 to 2014. . Collision diagrams were prepared based on the review of the hard copy police reports and these are included in Appendix C.

From a total of five (5) crashes reported during the 2012-2014 period, three (3) crashes were considered for the crash data analysis. The two (2) crashes that were not considered consisted of Run-off-the-Road (ROR) crashes that occurred at Ocean View Road (MP 23.890) in 2012, and a ROR crash reported at 1440 S. Ocean Boulevard in 2013 (i.e., these crashes occurred outside of the study segment). Table 1 summarizes the annual crash frequency by crash type. Although the frequency of ROR crashes reported within the study segment is low, an analysis performed by using the Highway Safety Manual (HSM) methodology indicates that the observed number of crashes is greater than the expected average crash frequency for single-vehicle crashes for both 2012 and 2014 (see Appendix D).

Table 1: Crash Summary for Study Segment of SR A1A/S. Ocean Boulevard, from 2012 to 2014

Crash Type	2012	2013	2014	3-Year Total	% of Total	Average Crashes per Year
Bicycle	0	0	1	1	33%	0.33
Hit Fixed Object	1	0	1	2	67%	0.67
Grand Total	**1**	**0**	**2**	**3**	**100%**	**1.00**

Table 2 presents the annual crash frequency by severity, lighting condition and pavement surface condition. The values presented in Table 2 show that one (1) out of the three (3) crashes occurred during dark lighting conditions which is greater than the statewide average of 31 percent, and all the reported crashes occurred under dry pavement conditions.

Table 2: Crash Summary by Severity, Lighting Condition and Surface Condition for Study Segment of SR A1A/S. Ocean Boulevard

Year	No. of Crashes	Severity			Lighting Condition		Surface Condition	
		Fatalities	Injury Crashes	Prop. Dam. Only	Daylight	Dark	Dry	Wet
2012	1	0	1	0	1	0	1	0
2013	0	0	0	0	0	0	0	0
2014	2	0	2	0	1	1	2	0
Total	**3**	**0**	**3**	**0**	**2**	**1**	**3**	**0**
Percent	**100%**	**0%**	**100%**	**0%**	**67%**	**33%**	**100%**	**0%**

A review of the latest High Crash List prepared for FDOT District Four revealed that this segment of SR A1A was not considered a high crash segment during the 2012-2014 period.

A review of the hard copy police reports and collision diagrams revealed the following about the reported ROR crashes:

- In 2012 the ROR appears to have occurred when there was a Maintenance of Traffic operation in place in this segment of SR A1A and the motorist was distracted.
- In 2014, the ROR involved a motorist who may have fallen asleep.

The bicycle crash reported on October 6, 2014, occurred when one of two bicyclists lost control when a car passed them while traveling on southbound SR A1A/S. Ocean Boulevard.

Table 3 presents the probable causes for the occurrence of the crashes at the study location based upon the review of the hard copy police reports. These probable causes will be considered when analyzing the existing conditions.

Table 3: Probable Causes for Occurrence of Crashes on Study Segment

Crash Type	Probable Cause
ROR	Inadequate Roadway Geometry
	Excessive Speed
	Inadequate Signage and Delineation
	Inadequate Roadway Lighting
Dark Crashes	Inadequate Signage and Delineation
	Inadequate Roadway Lighting

Source: FHWA's Highway Safety Engineering Studies

4 SITE REVIEW OBSERVATIONS

Site reviews were conducted along the study segment of SR A1A/S. Ocean Boulevard on December 8, 2015, from approximately 10:00 AM to 11:00 AM (i.e., daylight conditions), and from approximately 7:00 PM to 7:30 PM (nighttime conditions). The following presents a summary of the site review observations:

- It did not appear that motorists were speeding.
- The existing Reverse Turn (W1-3) signs and Chevron (W1-8) signs properly inform motorists of the change in horizontal alignment (see Exhibits 2 and 3). The retroreflectivity of these signs appears to be acceptable based on site observations.

Exhibit 2: Existing Signage at Reverse Curve, Looking Northwest on Northbound SR A1A

Exhibit 3: Existing Signage at Reverse Curve, Looking Southeast on Southbound SR A1A

- Pavement markings are visible and appear to be in good condition based on both daylight and nighttime conditions.
- Raised Pavement Markers (RPM) are visible along the edge lines and the double yellow solid lanes in the center of the roadway. The RPMs are in good condition.
- Scuff marks were observed on the curb near the access point to the property located at 1500 S. Ocean Boulevard, as shown on Exhibit 4.

Exhibit 4: Scuff Marks at 1500 S. Ocean Boulevard

- Bicyclist activity during daylight conditions was low along SR A1A/S. Ocean Boulevard when the site review was conducted.
- The existing street lights were properly operating. However, the study segment was dark.

5 EVALUATION OF HORIZONTAL ROADWAY GEOMETRY

The design elements of horizontal geometry of the study location were evaluated based on the requirements described in FDOT's Plans Preparation Manual (PPM) and AASHTO, and based on the data obtained from the "As-Built" plans provided by the Department. A design speed of 40 mph, which is the design speed limit, and a cross slope of two (2) percent, with reverse crown at the curves, were utilized for reviewing FDOT's PPM and AASHTO criteria, existing conditions for each design element. Please refer to Appendix E for an excerpt of the "As-Built" plans and the evaluation of the design elements of the study location.

Table 4 summarizes the design elements, existing conditions, criteria and indication of whether the criteria are met or not. Table 4 shows that most of the design elements meet the criteria except the stopping sight distance. However, it should be noted that this deficiency is not related to the occurrence of ROR crashes.

Table 4: Evaluation of Design Elements of the Study Location

Design Element	Existing Conditions	FDOT Criteria	AASHTO Criteria	Meets Requirement? FDOT/AASHTO
Lane Width	11 ft.	11 ft. (PPM Table 2.1.1)	10 ft. (AASHTO Section 4.3)	Yes/Yes
Shoulder Width	5 ft. paved with curb	5 ft. paved /8 ft. full (PPM Table 2.3.4)	2 ft. (AASHTO Section 4.4)	No/Yes
Stopping Sight Distance	125 ft.	305 ft. (PPM Table 2.7.1)	155 ft. (AASHTO Table 3.1)	No/No
Radius	189.50 ft. and 193.00 ft. Reverse Crown	160 ft. minimum (FDOT Greenbook Fig. 3-2)	167 ft. (AASHTO Table 3.13b)	Yes/Yes

Note: N/A= Not applicable.

6 SUMMARY OF FINDINGS AND RECOMMENDATIONS

Based upon the crash data analysis a total of two (2) ROR crashes occurred along the curve during the 2012-2014 period. This number is higher than the expected number of ROR crashes for this segment based on the HSM methodology.

The design elements of horizontal geometry of the study location were evaluated based on the requirements described in FDOT's PPM and AASHTO, and based on the data obtained from the "As-Built" plans provided by the Department. Considering a design speed of 25 mph and a cross slope of two (2) percent, the review of the horizontal geometry revealed that most of the design elements meet the criteria except the stopping sight distance. However, it should be noted that the deficiency in the stopping sight distance is not related to the occurrence of ROR crashes.

Site observations during daylight and nighttime conditions indicate that the existing signage and pavement markings are appropriate and in good conditions. However, the Department should consider enhancing the existing signage and pavement markings by installing Internally Illuminated Raised Pavement Markers (IIRPMs) along the edge lines of the study segment of SR A1A/S. Ocean Boulevard (see example on Exhibit 5). The IIRPMs should be installed from the tangent of the curve at a spacing of 40 feet and at the curve at a spacing of 20 feet. The conceptual improvement sketch is included in Appendix F.

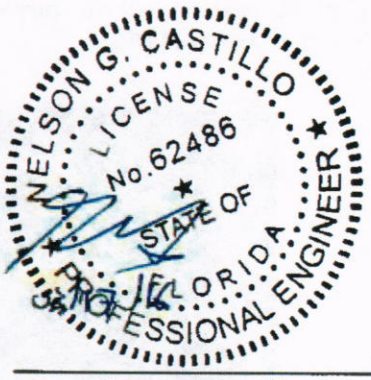
Exhibit 5: Example of IIRPMs along Horizontal Curve on Northbound SR 25 near SR 997/Krome Avenue, Miami-Dade County

7 BENEFIT TO COST RATIO AND NET PRESENT VALUE CALCULATION

Based on common practices by the Department's Traffic Operations Office, a Safety Benefit/Cost (B/C) Ratio analysis and a Net Present Value (NPV) analysis were performed although improvements implemented by using a Pavement Markings and Signs (PMS) contract are not considered for the Safety B/C and NPV analyses.

A Crash Reduction Factor (CRF) of 0.20 was obtained from FDOT's "Update of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Improvement Projects" (Table 3-12), and applied to the total number of ROR crashes that would be reduced by implementing the recommendations, resulting in an average crash reduction of 0.13 crashes per year.

The cost estimate of the proposed recommendations is expected to be $27,805 and the expected annual benefit is expected to be $20,208. Thus, the Safety B/C is 5.9 and the NPV is $164,958. The detailed calculations for the Safety B/C and NPV are included in Appendix G.



Nelson G. Castillo, P.E.
Florida Registration Number 62486
Gannett Fleming, Inc.
7300 Corporate Center Drive,
Suite 701
Miami, FL 33126
Certificate of Authorization No. 5564

APPENDIX A
STUDY REQUEST

Castillo, Nelson G.

From: Anaya de Yeats, Maria <Maria.AnayadeYeats@dot.state.fl.us>
Sent: Friday, December 04, 2015 10:34 AM
To: Castillo, Nelson G.
Subject: FW: Frequent Crash Site - 1482 South Ocean Blvd. - Palm Beach, Fl.

Nelson,

Do you have time to perform a Q/A at this location? See issue below

Thank you,

Maria

Maria E. Anaya de Yeats, E.I.
District IV Bike/Pedestrian Safety Program Specialist
Florida Department of Transportation
Phone: (954) 777-4582
E-mail: Maria.AnayadeYeats@dot.state.fl.us

From: Xie, Yujing
Sent: Thursday, December 03, 2015 3:42 PM
To: Overton, Jonathan
Cc: Plass, Mark; Anaya de Yeats, Maria
Subject: FW: Frequent Crash Site - 1482 South Ocean Blvd. - Palm Beach, Fl.

Jonathan, Mark mentioned that our office has reviewed this location before. I do not recall that Safety Section performed any assessment at the location. Do you have any previous study there?

From: Plass, Mark
Sent: Tuesday, November 24, 2015 4:22 PM
To: Marzi, Joseph
Cc: Bill Sondericker; Bauer, Larry; Overton, Jonathan; Xie, Yujing
Subject: Re: Frequent Crash Site - 1482 South Ocean Blvd. - Palm Beach, Fl.

Tracey, Jonathan: please contact the customer re this. I think we have reviewed this location before.

Sent from my iPhone

On Nov 24, 2015, at 3:20 PM, Marzi, Joseph <Joseph.Marzi@dot.state.fl.us> wrote:

> Hi Mark,
>
> I am forwarding this email from Mr. Sondericker below with location map. The address is 1482 S. Ocean Blvd (just north of Sloan's curve) and is south of Southern Blvd. bridge.
>
> Please direct this to the appropriate person for review. Also, I am copying in Mr. Sondericker in case you have any questions. Thank you.

Joseph A. Marzi, P.E.

Operations Program Engineer
Palm Beach Operations Center
7900 Forest Hill Blvd.
West Palm Beach, FL 33413-3342
Direct: 561-370-1152
Office: 561-432-4966
e-mail: joseph.marzi@dot.state.fl.us

<image006.jpg>

From: Bill Sondericker [mailto:bsondericker@firstalliedcorp.com]
Sent: Tuesday, November 24, 2015 2:08 PM
To: Marzi, Joseph <Joseph.Marzi@dot.state.fl.us>
Subject: Frequent Crash Site - 1482 South Ocean Blvd. - Palm Beach, Fl.

Joe, thanks for returning my call. As I had indicated, there is a sharp curve on the road adjacent to the above address that has been the site of multiple crashes, the most recent of which sent the vehicle's occupants to the hospital. We are concerned that it won't be long before a real tragedy occurs.

Set forth below is my contact information. I appreciate you forwarding this concern onto the State's Traffic Operations Department. Please copy me in on your transmittal so that I may follow up with them. Thank you.

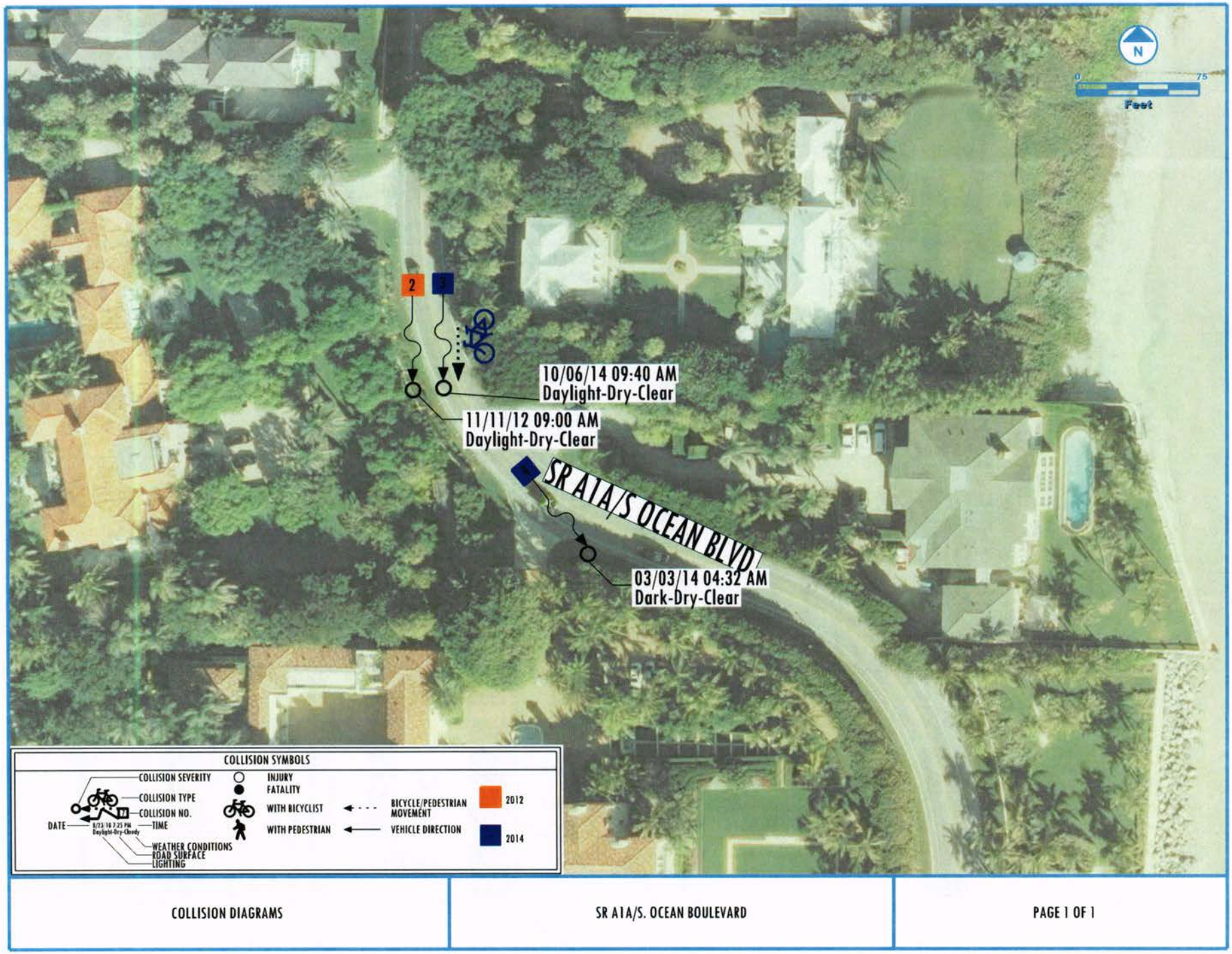
Bill Sondericker, Vice President
First Allied Corporation
270 Commerce Drive
Rochester, NY 14623

(p) 585-359-3000 ext. 105
(f) 585-359-4690
Email: bsondericker@firstalliedcorp.com

APPENDIX B
CONDITION DIAGRAM

N
0 25 125
Feet
LEGEND:
DOUBLE SIGN POST
SIGN POST
LIGHT POLE
SR A1A/S OCEAN BLVD
SPEED LIMIT 35
SPEED LIMIT 25
SHARE THE ROAD
(TYP.)
6" DOUBLE SOLID YELLOW LINE
6" SOLID WHITE EDGE LINE
PAGE 1 OF 1
SR A1A/S. OCEAN BOULEVARD
EXISTING CONDITION DIAGRAM

APPENDIX C
COLLISION DIAGRAMS



COLLISION DIAGRAMS	SR A1A/S. OCEAN BOULEVARD	PAGE 1 OF 1

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C R A S H R E P O R T I N G S Y S T E M

N O T I C E: THE INFORMATION CONTAINED IN THIS DOCUMENT (REPORT, SCHEDULE, LIST, OR DATA) HAS BEEN COMPILED FROM INFORMATION COLLECTED FOR THE PURPOSE OF IDENTIFYING, EVALUATING, OR PLANNING SAFETY ENHANCEMENTS. THIS PRODUCT IDENTIFIES INFORMATION USED FOR THE PURPOSE OF DEVELOPING HIGHWAY SAFETY CONSTRUCTION IMPROVEMENT PROJECTS WHICH MAY BE IMPLEMENTED UTILIZING FEDERAL-AID HIGHWAY FUNDS. ANY DOCUMENT DISPLAYING THIS NOTICE SHALL BE USED ONLY FOR THOSE PURPOSES DEEMED APPROPRIATE BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. SEE TITLE 23, UNITED STATES CODE, SECTION 409.

I/O NAME: CARI113
PROGRAM ID: CARPJ13
REPORT NUMBER: 01
RUN CLASS: ..... A
MESSAGE CLASS: ..... Q
PRINTER DEST: ..... LOCAL
COPIES: 01
ACCOUNT #: 5565945
SUBMIT W/HOLD? ..... N
USERID: ..... KNCTNSA
DETAIL SORT ORDER: ..... 1 - SORT BY ROADWAY, MILE POINT
PRINT SEGMENTS? ..... Y
PRINT INTERSECTIONS? .... N
SUMMARY FORMAT: ..... 2 - TOP LINE ALL BREAKS
OVERRIDE VALUES:
MAX # OF BREAKS: 06
CRASH RATE CATEGORY: ...
AVERAGE DAILY TRAFFIC:..
OF LEGS: .....

1

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REPORT...CARPJ13-01 FLORIDA - DEPARTMENT OF TRANSPORTATION PAGE NO: 1
DATE...12/03/2015 C A R - CRASH ANALYSIS REPORTING SYSTEM USERID: KNCTNSA
TIME...17:20:35 CRASH DATA DETAIL AND EXTRACT FOR STATE-MAINTAINED ROADS I/O.... CARO213

COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2011 TO 12/31/2013 RAMPS INCL
FROM CO/SEC/SUB: 93 060 000 MP: 023.840 INFL INCL
TO CO/SEC/SUB: 93 060 000 MP: 024.190 CR/OS INCL

C	ROADWYID	M	N	S	ADT	Y	M	D	H	CRCC	A	H	L	W	R	T	R	SL	R	A	V	V	VM	V	PI	CC	D	V	V	V	V	PI	CC	D	#	#	N
R	C S S	I	EN	TR	VAR	E	O	A	O	RALA	L	AE	I	E	D	RC	OC	IO	O	C	ET	EU	EO	E	OM	OA	RA	ET	EU	EM	E	OM	OA	RA			UI
A	O E E	L	AO	AO	EIA	A	N	Y	U	ATAT	C	RV	G	A		AO	AO	TC	A	C	HY	HS	HV	H	IP	NU	IG	HY	HS	HO	H	IP	NU	IG	V	K	MN
S	U C SC	E	RD	TA	RLF	R	T		R	SESE		ME	H	T	S	FN	DN	EA	D		IP	IE	IM		NA	TS	VE	IP	IE	IV		NA	TS	VE	E	I	BJ
H	N T UT	P	EE	ED	AYF		H			H	SG	I	FN	T	H	U	FT	D	T		L	CE	C	CN	D	TC	RE	/	CE	C	C	D	TC	RE	/	H	L	EU
	T I BI	O	S		G I							O	N	UT	I	E	R	IR	T	I	S	N	L	L1	LT	I	T	I	P1	L	L2	L2	I	T	I	P2	C	L	RR
	Y O O	S	T		E C							R	V	L	N	R	F	CO	N	O	D		E1	E	E	R	O	B1	E	E2	E	E	R	O	B2	E	L	E	E
	N N	T								Y		1	G		L	S	N	#			1	1	F1		D			2	F2		D	S	D	D

815661590 93060000 23.907 0226 A1A 008300 13 02 14 19 U-2UN 1 03 4 3 2 01 01 02 L 1 03 01 01 N 01 02 00 01 01 01 S 06 77 62 2 0 02
815660790 93060000 24.002 0226 A1A 008800 12 11 11 09 U-2UN 0 27 1 1 1 01 01 01 L S 03 01 01 S 01 77 00 77 00 1 0 01
815659120 93060000 24.046 0226 A1A 009100 11 01 24 03 U-2UN 0 27 4 1 1 77 01 01 L S 01 01 01 S 02 12 29 77 00 1 0 01
815660780 93060000 24.153 0226 A1A 008800 12 11 09 14 S-2UN 0 27 1 1 1 10 01 01 L S 01 01 01 S 02 02 00 77 00 1 0 00

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REPORT...CARPJ13-01 FLORIDA - DEPARTMENT OF TRANSPORTATION
DATE...12/03/2015 C A R - CRASH ANALYSIS REPORTING SYSTEM
TIME...17:20:35 CRASH DATA DETAIL AND EXTRACT FOR STATE-MAINTAINED ROADS
COMMENT: 1 - SORT BY ROADWAY, MILE POINT
FROM: 01/01/2011 TO 12/31/2013 RAMPS INCL
FROM CO/SEC/SUB: 93 060 000 MP: 023.840 INFL INCL
TO CO/SEC/SUB: 93 060 000 MP: 024.190 CR/OS INCL

FOR YEAR	FATAL CRASH STATISTICS: CRASHES	FATALITIES	INJURIES	INJURY CRASH STATS: CRASHES	INJURIES	PROPERTY DAMAGE ONLY: CRASHES	TOTALS: CRASHES	FATALITIES	INJURIES	INFLUENCE CRASHES OCCURRING ON INTERSECTING RDWYS: AT INT.	INFL AREA
2011	0	0	0	1	1	0	1	0	1	0	0
2012	0	0	0	1	1	1	2	0	1	0	0
2013	0	0	0	1	2	0	1	0	2	0	0
TOTAL	0	0	0	3	4	1	4	0	4	0	0

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REPORT...CARPJ13-01 FLORIDA - DEPARTMENT OF TRANSPORTATION
DATE...12/03/2015 C A R - CRASH ANALYSIS REPORTING SYSTEM
TIME...17:20:35 CRASH DATA DETAIL AND EXTRACT FOR STATE-MAINTAINED ROADS

*** REPORT TOTALS ***

CUMULATIVE TOTALS FOR ALL LOCATIONS SUBMITTED - OVERLAPPING OR INTERSECTING LOCATIONS MAY RESULT IN CRASHES COUNTED MORE THAN ONCE

93060000_D_2011 to 2013.IOFLIST

FOR YEAR	FATAL CRASH STATISTICS			INJURY CRASH STATS		PROPERTY DAMAGE ONLY	TOTALS			INFLUENCE CRASHES OCCURRING ON INTERSECTING RDWYS	
	CRASHES	FATALITIES	INJURIES	CRASHES	INJURIES	CRASHES	CRASHES	FATALITIES	INJURIES	AT INT.	INFL AREA
2011	0	0	0	1	1	0	1	0	1	0	0
2012	0	0	0	1	1	1	2	0	1	0	0
2013	0	0	0	1	2	0	1	0	2	0	0
TOTAL	0	0	0	3	4	1	4	0	4	0	0

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                    CCCCCCCCCC      AAAAAAAAAA       RRRRRRRRR
                   CCCCCCCCCCCC    AAAAAAAAAAAA      RRRRRRRRRR
                  CCC             AAA      AAA      RRR      RRR
                 CCC             AAA      AAA      RRR      RRR
                CCC              AAAAAAAAAAAA      RRRRRRRRRR
               CCC               AAAAAAAAAAAA      RRRRRRRRR
              CCC               AAA      AAA      RRR   RRR
             CCC                AAA      AAA      RRR    RRR
            CCCCCCCCCCC         AAA      AAA      RRR     RRR
           CCCCCCCCCCC          AAA      AAA      RRR      RRR
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C R A S H R E P O R T I N G S Y S T E M

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I/O NAME: ..............  CARI113
PROGRAM ID: ............  CARPJ13
REPORT NUMBER: .........  01
RUN CLASS: .............  A
MESSAGE CLASS: .........  Q
PRINTER DEST: ..........  LOCAL
# COPIES: ..............  01
ACCOUNT #: .............  5565945
SUBMIT W/HOLD? .........  N
USERID: ................  KNCTNSA
DETAIL SORT ORDER: .....  1 - SORT BY ROADWAY, MILE POINT
PRINT SEGMENTS? ........  Y
PRINT INTERSECTIONS? ...  N
SUMMARY FORMAT: ........  2 - TOP LINE ALL BREAKS
OVERRIDE VALUES:
 MAX # OF BREAKS: ......  06
 CRASH RATE CATEGORY: ...
 AVERAGE DAILY TRAFFIC:..
 # OF LEGS: .............
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REPORT...CARPJ13-01 — DATE...12/03/2015 — TIME...17:21:06

FLORIDA - DEPARTMENT OF TRANSPORTATION
C A R - CRASH ANALYSIS REPORTING SYSTEM
CRASH DATA DETAIL AND EXTRACT FOR STATE-MAINTAINED ROADS

PAGE NO: 1 — USERID: KNCTNSA — I/O.... CARO213

COMMENT:
FROM: 01/01/2014 TO 12/31/2014
FROM CO/SEC/SUB: 93 060 000
TO CO/SEC/SUB: 93 060 000

1 - SORT BY ROADWAY, MILE POINT
MP: 023.840
MP: 024.190
RAMPS INCL
INFL INCL
CR/OS INCL

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C      ROADWYID   M     N     S    ADT   Y  M  D  H  CRCC  A H  L W R T  R  SL R A V  V  VM V PI CC D  V  V  V  V PI CC D  # # N
R N    C S   S    I     EN    TR   VAR   E  O  A  O  RALA  L AE I E D RC OC IO O C ET EU EO E OM OA RA ET EU EM E OM OA RA     UI
A U    O E   E    L     AO    AO   EIA   A  N  Y  U  ATAT  C RV G A   AO AO TC A C HY HS HV H IP NU IG HY HS HO H IP NU IG V K MN
S M    U C   SC   E     RD    TA   RLF   R  T     R  SESE    ME H T S FN DN EA D   IP IE IM   NA TS VE IP IE IV   NA TS VE E I BJ
H B    N T   UT   P     EE    ED   AYF       H        H SG  I FN T H U FT  D  T   L CE C  CN D TC RE /  CE C  C  D TC RE /  H L EU
  E    T I   BI   O     S          G I                    O  N UT I E R IR  T  I S N L  L1 LT I  T I  P1 L  L2 L2 I  T I  P2 C L RR
  R    Y O   O    S     T          E C                    R  V L  N R F CO  N  O D   E1 E  E  R O  B1 E  E2 E  E  R O  B2 E  L E  E
         N   N    T                                      Y     1 G     L  S  N   #          1 1 F1    D      2 F2    D  S D  D
*****************************************************************************************************************************************
821557160 93060000 23.998 0226  A1A 009200 14 10 06 09 U-2UN 0 11 1 1 1 01 06 01 L 1 77 01 11 S 12 77 49 02 01 06 S 04 00 87 2 0 01
815664450 93060000 24.008 0226  A1A 009200 14 03 03 04 U-2UN 0 77 5 1 1 01 01 01 L S 03 01 77 U 01 77 25                  00 00 1 0 01
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REPORT...CARPJ13-01 — DATE...12/03/2015 — TIME...17:21:06

FLORIDA - DEPARTMENT OF TRANSPORTATION
C A R - CRASH ANALYSIS REPORTING SYSTEM
CRASH DATA DETAIL AND EXTRACT FOR STATE-MAINTAINED ROADS
1 - SORT BY ROADWAY, MILE POINT

PAGE NO: 2 — USERID: KNCTNSA — I/O.... CARI113

COMMENT:
FROM: 01/01/2014 TO 12/31/2014
FROM CO/SEC/SUB: 93 060 000
TO CO/SEC/SUB: 93 060 000

MP: 023.840
MP: 024.190
RAMPS INCL
INFL INCL
CR/OS INCL

FOR YEAR	FATAL CRASH STATISTICS: CRASHES	FATALITIES	INJURIES	INJURY CRASH STATS: CRASHES	INJURIES	PROPERTY DAMAGE ONLY: CRASHES	TOTALS: CRASHES	FATALITIES	INJURIES	INFLUENCE CRASHES OCCURRING ON INTERSECTING RDWYS: AT INT.	INFL AREA
2014	0	0	0	2	2	0	2	0	2	0	0
TOTAL	0	0	0	2	2	0	2	0	2	0	0

N O T I C E: THE INFORMATION CONTAINED IN THIS DOCUMENT (REPORT, SCHEDULE, LIST, OR DATA) HAS BEEN COMPILED FROM INFORMATION COLLECTED FOR THE PURPOSE OF IDENTIFYING, EVALUATING, OR PLANNING SAFETY ENHANCEMENTS. THIS PRODUCT IDENTIFIES INFORMATION USED FOR THE PURPOSE OF DEVELOPING HIGHWAY SAFETY CONSTRUCTION IMPROVEMENT PROJECTS WHICH MAY BE IMPLEMENTED UTILIZING FEDERAL-AID HIGHWAY FUNDS. ANY DOCUMENT DISPLAYING THIS NOTICE SHALL BE USED ONLY FOR THOSE PURPOSES DEEMED APPROPRIATE BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. SEE TITLE 23, UNITED STATES CODE, SECTION 409.

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REPORT...CARPJ13-01 — DATE...12/03/2015 — TIME...17:21:06

FLORIDA - DEPARTMENT OF TRANSPORTATION
C A R - CRASH ANALYSIS REPORTING SYSTEM
CRASH DATA DETAIL AND EXTRACT FOR STATE-MAINTAINED ROADS
*** REPORT TOTALS ***

PAGE NO: 3 — USERID: KNCTNSA — I/O.... CARI113

CUMULATIVE TOTALS FOR ALL LOCATIONS SUBMITTED - OVERLAPPING OR INTERSECTING LOCATIONS MAY RESULT IN CRASHES COUNTED MORE THAN ONCE

FOR YEAR	FATAL CRASH STATISTICS: CRASHES	FATALITIES	INJURIES	INJURY CRASH STATS: CRASHES	INJURIES	PROPERTY DAMAGE ONLY: CRASHES	TOTALS: CRASHES	FATALITIES	INJURIES	INFLUENCE CRASHES OCCURRING ON INTERSECTING RDWYS: AT INT.	INFL AREA

2014	0	0	0	2	2	0	2	0	2	0	0
TOTAL	0	0	0	2	2	0	2	0	2	0	0

APPENDIX D
CRASH DATA ANALYSIS BY FOLLOWING THE HSM METHODOLOGY

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	Ncastillo	Roadway	SR A1A
Agency or Company	GF	Roadway Section	MP 23.946 to MP 24.116
Date Performed	03/06/16	Jurisdiction	West Palm Beach, Palm Beach County
		Analysis Year	2012

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	2U
Length of segment, L (mi)		--	0.17
AADT (veh/day)	$AADT_{MAX}$ = 32,600 (veh/day)	--	8,800
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	2
Other driveways (number)		--	0
Speed Category		--	Posted Speed 30 mph or Lower
Roadside fixed object density (fixed objects / mi)		0	17.6
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	4
Calibration Factor, Cr		1.00	1.02

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.10	1.00	0.93	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	0.177	1.000	0.177	1.02	1.02	0.185
Fatal and Injury (FI)	-16.22	1.66	0.65	0.054	$\frac{(4)_{FI}/((4)_{FI}+(4)_{PDO})}{0.295}$	0.052	1.02	1.02	0.054
Property Damage Only (PDO)	-15.62	1.69	0.87	0.130	$\frac{(5)_{TOTAL}-(5)_{FI}}{0.705}$	0.125	1.02	1.02	0.130

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1) Collision Type	(2) Proportion of Collision Type$_{(FI)}$	(3) Predicted N $_{brmv\ (FI)}$ (crashes/year)	(4) Proportion of Collision Type $_{(PDO)}$	(5) Predicted N $_{brmv\ (PDO)}$ (crashes/year)	(6) Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.054	1.000	0.130	0.185
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.040	0.778	0.101	0.141
Head-on collision	0.068	0.004	0.004	0.001	0.004
Angle collision	0.085	0.005	0.079	0.010	0.015
Sideswipe, same direction	0.015	0.001	0.031	0.004	0.005
Sideswipe, opposite direction	0.073	0.004	0.055	0.007	0.011
Other multiple-vehicle collision	0.029	0.002	0.053	0.007	0.008

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1) Crash Severity Level	(2) SPF Coefficients from Table 12-5 a	(2) SPF Coefficients from Table 12-5 b	(3) Overdispersion Parameter, k from Table 12-5	(4) Initial N_{brsv} from Equation 12-13	(5) Proportion of Total Crashes	(6) Adjusted N_{brsv} $(4)_{TOTAL}*(5)$	(7) Combined CMFs (6) from Worksheet 1B	(8) Calibration Factor, Cr	(9) Predicted N_{brsv} (6)*(7)*(8)
Total	-5.47	0.56	0.81	0.116	1.000	0.116	1.02	1.02	0.121
Fatal and Injury (FI)	-3.96	0.23	0.50	0.026	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.236	0.027	1.02	1.02	0.029
Property Damage Only (PDO)	-6.51	0.64	0.87	0.085	$(5)_{TOTAL}-(5)_{FI}$ = 0.764	0.088	1.02	1.02	0.092

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1) Collision Type	(2) Proportion of Collision Type$_{(FI)}$	(3) Predicted N $_{brsv\ (FI)}$ (crashes/year)	(4) Proportion of Collision Type $_{(PDO)}$	(5) Predicted N $_{brsv\ (PDO)}$ (crashes/year)	(6) Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.029	1.000	0.092	0.121
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.001	0.066	0.006	0.007
Collision with fixed object	0.723	0.021	0.759	0.070	0.091
Collision with other object	0.010	0.000	0.013	0.001	0.001
Other single-vehicle collision	0.241	0.007	0.162	0.015	0.022

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	--
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	
Major residential	0	0.083	1.000	0.000	
Minor residential	2	0.016	1.000	0.019	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.019	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.019	1.000	0.019	1.02	1.02	0.020
Fatal and injury (FI)	--	0.323	0.006	1.02	1.02	0.006
Property damage only (PDO)	--	0.677	0.013	1.02	1.02	0.013

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	0.185	0.121	0.020	0.325	0.036	1.02	0.012
Fatal and injury (FI)	--	--	--	--	--	1.02	0.012

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	0.185	0.121	0.020	0.325	0.018	1.02	0.006
Fatal and injury (FI)	--	--	--	--	--	1.02	0.006

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.040	0.101	0.141
Head-on collisions (from Worksheet 1D)	0.004	0.001	0.004
Angle collisions (from Worksheet 1D)	0.005	0.010	0.015
Sideswipe, same direction (from Worksheet 1D)	0.001	0.004	0.005
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.007	0.011
Driveway-related collisions (from Worksheet 1H)	0.006	0.013	0.020
Other multiple-vehicle collision (from Worksheet 1D)	0.002	0.007	0.008
Subtotal	0.061	0.143	0.204
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.001	0.006	0.007
Collision with fixed object (from Worksheet 1F)	0.021	0.070	0.091
Collision with other object (from Worksheet 1F)	0.000	0.001	0.001
Other single-vehicle collision (from Worksheet 1F)	0.007	0.015	0.022
Collision with pedestrian (from Worksheet 1I)	0.012	0.000	0.012
Collision with bicycle (from Worksheet 1J)	0.006	0.000	0.006
Subtotal	0.046	0.092	0.139
Total	0.107	0.236	0.343

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	0.3	0.17	2.0
Fatal and injury (FI)	0.1	0.17	0.6
Property damage only (PDO)	0.2	0.17	1.4

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	0.185	0.054	0.130	0	0.840	0.866	0.160
Segment 2						1.000	0.000
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Single-vehicle							
Segment 1	0.121	0.029	0.092	1	0.810	0.911	0.199
Segment 2						1.000	0.000
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Multiple-vehicle driveway-related							
Segment 1	0.020	0.006	0.013		0.810	0.984	0.019
Segment 2						1.000	0.000
Segment 3						1.000	0.000
Segment 4						1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1							
Intersection 2							
Intersection 3							
Intersection 4							
Single-vehicle							
Intersection 1							
Intersection 2							
Intersection 3							
Intersection 4							
COMBINED (sum of column)	0.325	0.089	0.236	1	--	--	0.378

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1) Site Type	(2) N_{ped}	(3) N_{bike}
ROADWAY SEGMENTS		
Segment 1	0.012	0.006
Segment 2		
Segment 3		
Segment 4		
INTERSECTIONS		
Intersection 1		
Intersection 2		
Intersection 3		
Intersection 4		
COMBINED (sum of column)	0.012	0.006

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	$N_{predicted}$	N_{ped}	N_{bike}	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	0.3	0.0	0.0	0.4	0.4
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	0.1	0.0	0.0	0.1	0.1
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	0.2	0.0	0.0	0.3	0.3

Worksheet 4A -- Predicted Crashes by Collision and Site Type and Observed Crashes Using the Project-Level EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Collision type / Site type	Predicted crashes			Observed crashes, $N_{observed}$ (crashes/year)	Overdispersion Parameter, k	$N_{predicted\ w0}$ Equation A-8 (6)*(2)^2	$N_{predicted\ w1}$ Equation A-9 sqrt((6)*(2))	W_0 Equation A-10	N_0 Equation A-11	w_1 Equation A-12	N_1 Equation A-13	$N_{expected/comb}$ Equation A-14
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)									
ROADWAY SEGMENTS												
Multiple-vehicle nondriveway												
Segment 1	0.185	0.054	0.130	--	0.840	0.029	0.394	--	--	--	--	--
Segment 2				--				--	--	--	--	--
Segment 3				--				--	--	--	--	--
Segment 4				--				--	--	--	--	--
Single-vehicle												
Segment 1	0.121	0.029	0.092	1	0.810	0.012	0.313	--	--	--	--	--
Segment 2				--				--	--	--	--	--
Segment 3				--				--	--	--	--	--
Segment 4				--				--	--	--	--	--
Multiple-vehicle driveway-related												
Segment 1	0.020	0.006	0.013	--	0.810	0.000	0.126	--	--	--	--	--
Segment 2				--				--	--	--	--	--
Segment 3				--				--	--	--	--	--
Segment 4				--				--	--	--	--	--
INTERSECTIONS												
COMBINED (sum of column)	0.325	0.089	0.236	1	--	0.041	0.833	0.889	0.400	0.281	0.810	0.605

Worksheet 4B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1) Site Type	(2) N_{ped}	(3) N_{bike}
ROADWAY SEGMENTS		
Segment 1	0.012	0.006
Segment 2	0.019	0.010
Segment 3		
Segment 4		
INTERSECTIONS		
Intersection 1		
Intersection 2		
Intersection 3		
Intersection 4		
COMBINED (sum of column)	0.031	0.015

Worksheet 4C -- Project-Specific EB Method Summary Results for Urban and Suburban Arterials

(1) Crash severity level	(2) $N_{predicted}$	(3) N_{ped}	(4) N_{bike}	(5) $N_{expected\ (vehicle)}$	(6) $N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 4A	$(2)_{COMB}$ from Worksheet 4B	$(3)_{COMB}$ from Worksheet 4B	$(13)_{COMB}$ Worksheet 4A	(3)+(4)+(5)
	0.3	0.0	0.0	0.6	0.7
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 4A	$(2)_{COMB}$ from Worksheet 4B	$(3)_{COMB}$ from Worksheet 4B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	0.1	0.0	0.0	0.2	0.2
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 4A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	0.2	0.0	0.0	0.4	0.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	Ncastillo	Roadway	SR A1A
Agency or Company	GF	Roadway Section	MP 23.946 to MP 24.116
Date Performed	03/06/16	Jurisdiction	West Palm Beach, Palm Beach County
		Analysis Year	2014

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	2U
Length of segment, L (mi)		--	0.17
AADT (veh/day)	$AADT_{MAX}$ = 32,600 (veh/day)	--	9,200
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	2
Other driveways (number)		--	0
Speed Category		--	Posted Speed 30 mph or Lower
Roadside fixed object density (fixed objects / mi)		0	17.6
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	4
Calibration Factor, Cr		1.00	1.02

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF_{1r}	**CMF_{2r}**	**CMF_{3r}**	**CMF_{4r}**	**CMF_{5r}**	**CMF_{COMB}**
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.10	1.00	0.93	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-15.22	1.68	0.84	0.190	1.000	0.190	1.02	1.02	0.199
Fatal and Injury (FI)	-16.22	1.66	0.65	0.058	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.294	0.056	1.02	1.02	0.059
Property Damage Only (PDO)	-15.62	1.69	0.87	0.140	$(5)_{TOTAL}-(5)_{FI}$ = 0.706	0.134	1.02	1.02	0.140

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1) Collision Type	(2) Proportion of Collision Type$_{(FI)}$	(3) Predicted N $_{BBMV\ (FI)}$ (crashes/year)	(4) Proportion of Collision Type $_{(PDO)}$	(5) Predicted N $_{BBMV\ (PDO)}$ (crashes/year)	(6) Predicted N $_{BBMV\ (TOTAL)}$ (crashes/year)
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.059	1.000	0.140	0.199
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.730	0.043	0.778	0.109	0.152
Head-on collision	0.068	0.004	0.004	0.001	0.005
Angle collision	0.085	0.005	0.079	0.011	0.016
Sideswipe, same direction	0.015	0.001	0.031	0.004	0.005
Sideswipe, opposite direction	0.073	0.004	0.055	0.008	0.012
Other multiple-vehicle collision	0.029	0.002	0.053	0.007	0.009

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients		Overdispersion Parameter, k	Initial N_{brsv}	Proportion of Total Crashes	Adjusted N_{brsv}	Combined CMFs	Calibration Factor, Cr	Predicted N_{brsv}
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.47	0.56	0.81	0.119	1.000	0.119	1.02	1.02	0.124
Fatal and Injury (FI)	-3.96	0.23	0.50	0.026	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.233	0.028	1.02	1.02	0.029
Property Damage Only (PDO)	-6.51	0.64	0.87	0.087	$(5)_{TOTAL}-(5)_{FI}$ = 0.767	0.091	1.02	1.02	0.095

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1) Collision Type	(2) Proportion of Collision Type$_{(FI)}$	(3) Predicted N $_{BSSV\ (FI)}$ (crashes/year)	(4) Proportion of Collision Type $_{(PDO)}$	(5) Predicted N $_{BSSV\ (PDO)}$ (crashes/year)	(6) Predicted N $_{BSSV\ (TOTAL)}$ (crashes/year)
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.029	1.000	0.095	0.124
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.026	0.001	0.066	0.006	0.007
Collision with fixed object	0.723	0.021	0.759	0.072	0.093
Collision with other object	0.010	0.000	0.013	0.001	0.002
Other single-vehicle collision	0.241	0.007	0.162	0.015	0.022

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.158	1.000	0.000	
Minor commercial	0	0.050	1.000	0.000	
Major industrial/institutional	0	0.172	1.000	0.000	
Minor industrial/institutional	0	0.023	1.000	0.000	--
Major residential	0	0.083	1.000	0.000	
Minor residential	2	0.016	1.000	0.020	
Other	0	0.025	1.000	0.000	
Total	--	--	--	0.020	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.020	1.000	0.020	1.02	1.02	0.020
Fatal and injury (FI)	--	0.323	0.006	1.02	1.02	0.007
Property damage only (PDO)	--	0.677	0.013	1.02	1.02	0.014

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	0.199	0.124	0.020	0.343	0.036	1.02	0.013
Fatal and injury (FI)	--	--	--	--	--	1.02	0.013

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	0.199	0.124	0.020	0.343	0.018	1.02	0.006
Fatal and injury (FI)	--	--	--	--	--	1.02	0.006

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI) (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	Property damage only (PDO) (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	Total (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.043	0.109	0.152
Head-on collisions (from Worksheet 1D)	0.004	0.001	0.005
Angle collisions (from Worksheet 1D)	0.005	0.011	0.016
Sideswipe, same direction (from Worksheet 1D)	0.001	0.004	0.005
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.008	0.012
Driveway-related collisions (from Worksheet 1H)	0.007	0.014	0.020
Other multiple-vehicle collision (from Worksheet 1D)	0.002	0.007	0.009
Subtotal	0.065	0.154	0.219
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.001	0.006	0.007
Collision with fixed object (from Worksheet 1F)	0.021	0.072	0.093
Collision with other object (from Worksheet 1F)	0.000	0.001	0.002
Other single-vehicle collision (from Worksheet 1F)	0.007	0.015	0.022
Collision with pedestrian (from Worksheet 1I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 1J)	0.006	0.000	0.006
Subtotal	0.048	0.095	0.143
Total	0.113	0.249	0.362

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)	Roadway segment length, L (mi)	Crash rate (crashes/mi/year)
	(Total) from Worksheet 1K		(2) / (3)
Total	0.4	0.17	2.1
Fatal and injury (FI)	0.1	0.17	0.7
Property damage only (PDO)	0.2	0.17	1.5

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	0.199	0.059	0.140	0	0.840	0.857	0.170
Segment 2						1.000	0.000
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Single-vehicle							
Segment 1	0.124	0.029	0.095	2	0.810	0.909	0.295
Segment 2						1.000	0.000
Segment 3						1.000	0.000
Segment 4						1.000	0.000
Multiple-vehicle driveway-related							
Segment 1	0.020	0.007	0.014		0.810	0.984	0.020
Segment 2						1.000	0.000
Segment 3						1.000	0.000
Segment 4						1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1							
Intersection 2							
Intersection 3							
Intersection 4							
Single-vehicle							
Intersection 1							
Intersection 2							
Intersection 3							
Intersection 4							
COMBINED (sum of column)	0.343	0.094	0.249	2	--	--	0.486

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1) Site Type	(2) N_{ped}	(3) N_{bike}
ROADWAY SEGMENTS		
Segment 1	0.013	0.006
Segment 2		
Segment 3		
Segment 4		
INTERSECTIONS		
Intersection 1		
Intersection 2		
Intersection 3		
Intersection 4		
COMBINED (sum of column)	0.013	0.006

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	$N_{predicted}$	N_{ped}	N_{bike}	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	0.3	0.0	0.0	0.5	0.5
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	0.1	0.0	0.0	0.1	0.2
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	0.2	0.0	0.0	0.4	0.4

Worksheet 4A -- Predicted Crashes by Collision and Site Type and Observed Crashes Using the Project-Level EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Collision type / Site type	Predicted crashes			Observed crashes, $N_{observed}$ (crashes/year)	Overdispersion Parameter, k	$N_{predicted\ w0}$	$N_{predicted\ w1}$	W_0	N_0	w_1	N_1	$N_{expected/comb}$
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-8 $(6)*(2)^2$	Equation A-9 sqrt((6)*(2))	Equation A-10	Equation A-11	Equation A-12	Equation A-13	Equation A-14
ROADWAY SEGMENTS												
Multiple-vehicle nondriveway												
Segment 1	0.199	0.059	0.140	--	0.840	0.033	0.409	--	--	--	--	--
Segment 2				--				--	--	--	--	--
Segment 3				--				--	--	--	--	--
Segment 4				--				--	--	--	--	--
Single-vehicle												
Segment 1	0.124	0.029	0.095	2	0.810	0.012	0.317	--	--	--	--	--
Segment 2				--				--	--	--	--	--
Segment 3				--				--	--	--	--	--
Segment 4				--				--	--	--	--	--
Multiple-vehicle driveway-related												
Segment 1	0.020	0.007	0.014	--	0.810	0.000	0.129	--	--	--	--	--
Segment 2				--				--	--	--	--	--
Segment 3				--				--	--	--	--	--
Segment 4				--				--	--	--	--	--
INTERSECTIONS												
COMBINED (sum of column)	0.343	0.094	0.249	2	--	0.046	0.854	0.882	0.539	0.287	1.525	1.032

Worksheet 4B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1) Site Type	(2) N_{ped}	(3) N_{bike}
ROADWAY SEGMENTS		
Segment 1	0.013	0.006
Segment 2		
Segment 3		
Segment 4		
INTERSECTIONS		
Intersection 1		
Intersection 2		
Intersection 3		
Intersection 4		
COMBINED (sum of column)	0.013	0.006

Worksheet 4C -- Project-Specific EB Method Summary Results for Urban and Suburban Arterials

(1) Crash severity level	(2) $N_{predicted}$	(3) N_{ped}	(4) N_{bike}	(5) $N_{expected\ (vehicle)}$	(6) $N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 4A	$(2)_{COMB}$ from Worksheet 4B	$(3)_{COMB}$ from Worksheet 4B	$(13)_{COMB}$ Worksheet 4A	(3)+(4)+(5)
	0.3	0.0	0.0	1.0	1.1
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 4A	$(2)_{COMB}$ from Worksheet 4B	$(3)_{COMB}$ from Worksheet 4B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	0.1	0.0	0.0	0.3	0.3
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 4A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	0.2	0.0	0.0	0.7	0.7

APPENDIX E
EXISTING HORIZONTAL GEOMETRY

EXISTING HORIZONTAL GEOMETRY	SR A1A/S. OCEAN BOULEVARD	PAGE 1 OF 1

APPENDIX F
CONCEPTUAL IMPROVEMENT SKETCH

CONCEPTUAL IMPROVEMENTS SKETCH	SR A1A/S. OCEAN BOULEVARD	PAGE 1 OF 1

APPENDIX G
BENEFIT TO COST RATIO AND NET PRESENT VALUE ANALYSES

COST ESTIMATE

Improvements for SR A1A Segment

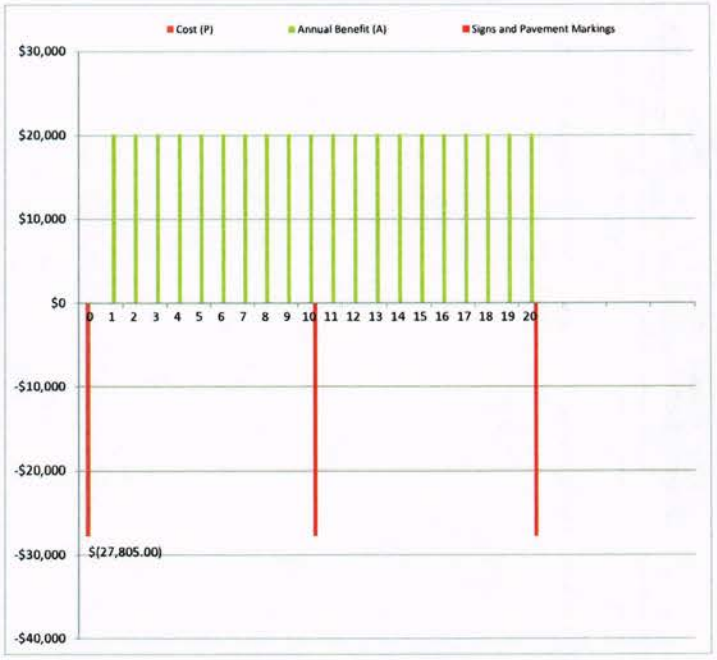
PAY ITEM NO.	DESCRIPTION	UNIT	UNIT COST	QUANTITY	AMOUNT
Pedestrian Facilities					
N/A	LED INTERNALLY ILLUMINATED RPM	EA	$150.00	124	$18,600.00
				SUBTOTAL	$18,600.00
	MOBILIZATION			0.00%	$1,000.00
	MAINTENANCE OF TRAFFIC			10.00%	$3,500.00
	CEI			15.00%	$1,000.00
				CONSTRUCTION COST	$24,100.00
	DESIGN			10.00%	$2,500.00
	CONTINGENCY			5.00%	$1,205.00
				TOTAL PROJECT COST	$27,805.00

Crash Type	Number of Target Crashes	Crash Reduction Factor	Estimated Reduction of Crashes	Average Crash Reduction per Year	Crash Cost	Estimated Benefit
Add reflectorized raised pavement markings	2.0	0.2	0.40	0.13	$ 155,444	$ 20,208
$t =$ 1+ – 1 2+ – 1 – 2 3+						$ 20,208

Source: *Update of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Imrpovement Projects (Table 3-12).*

SUBMITTED BY **NELSON CASTILLO**
DATE SUBMITTED **2/15/2016**
PROJECT NO. **N/A**
ALTERNATIVE NO. **N/A**
DISTRICT **4**
BEGINNING MILE POST **23.946** ENDING MILE POST **24.116** 0.170
STATE ROAD: A1A
DESCRIPTION OF LOCATION/FACILITY TYPE **SR A1A/S. Ocean Blvd.**

		t	Cost (P)	Signs and Pavement Markings	Operations and Maintenance Cost (A)	Annual Benefit (A)
Construction	2016	0	$ (27,805.00)			
	2017	1				$ 20,207.72
	2018	2				$ 20,207.72
	2019	3				$ 20,207.72
	2020	4				$ 20,207.72
	2021	5				$ 20,207.72
	2022	6				$ 20,207.72
	2023	7				$ 20,207.72
	2024	8				$ 20,207.72
	2025	9				$ 20,207.72
	2026	10		$ (27,805.00)		$ 20,207.72
	2027	11				$ 20,207.72
	2028	12				$ 20,207.72
	2029	13				$ 20,207.72
	2030	14				$ 20,207.72
	2031	15				$ 20,207.72
	2032	16				$ 20,207.72
	2033	17				$ 20,207.72
	2034	18				$ 20,207.72
	2035	19				$ 20,207.72
	2036	20		$ (27,805.00)		$ 20,207.72



Net Present Value= $ 164,957.49
=

where P = Present Value
F = Future Worth
(P/A,7%,20)=10.5940
(P/F, 7%,10)= 0.5083
(P/F, 7%,20)= 0.2584

FORM 511-09

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

SAFETY OFFICE ANNUAL BENEFIT COST ANALYSIS

1 SUBMITTED BY **NELSON CASTILLO** WPA NO. **N/A** SAFETY PRIORITY

2 DATE SUBMITTED ENVIRONMENTAL STUDY

3 PROJECT NO. SKID (I.D.) **N/A**

4 ALTERNATIVE NO **N/A** SN **NA** SPEED

6 DISTRICT **4** COUNTY **PALM BEACH** SECTION **93060000** STATE ROAD **A1A** U.S. ROAD **25 mph**

7 BEGINNING MILE POST **23.946** ENDING MILE POST **24.116** LENGTH **0.170** Miles NODE -

8 DESCRIPTION OF LOCATION/FACILITY TYPE **Undivided Two-Lane Urban Principal Arterial**

9 CAUSE OF CRASH PROBLEMS (LIST AND DISCUSS)
Run-off-the -road crashes on southbound SR A1A at horizontal curve

10 PROPOSED IMPROVEMENTS (LIST AND DISCUSS)
1) Install Internally Illuminated RPMs (20-foot separation) along reverse curve.

	2012	2013	2014	AVG.
11 NO. OF CRASHES	**1.00**	**0.00**	**2.00**	**1.00**
12 NO. CRASHES POTENTIALLY REDU(	**0.20**	**0.00**	**0.20**	**0.13**

CRASH INFORMATION FOR FACILITY

COST/CRASH	$ 151,384
CRASH CLEANUP	$ 100
INTEREST RATE	4%

13

TYPE OF CRASH	NUMBER OF CRASHES (3-year)	CRASHES TO BE REDUCED
ROR	2	0.40
Coll. w/Bicyclist	1	0.00
Other		
Total Crashes	3	0.40
Crashes Per Year	1.0	**0.13**
Wet/Slippery	0	
Night Time	0	

ANNUAL COST OF IMPROVEMENTS

	TYPE	COST	LIFE	CRF	ANNUAL COST
A.	SIGNING/PAVEMENT	$ 27,805	10	0.1233	$ 3,428.10
B.	STRUCTURE	$ -		0.0000	$ -
C.	ROW			0.0000	$ -
D.	LIGHT			0.0000	$ -
E.	ROADWAY			0.0000	$ -
F.	SIGNALS			0.0000	$ -
G.	SUBTOTAL				$ 3,428.10
H.	CHANGE IN MAINTENANCE				$ -
I.	CRASH CLEANUP				$ (13.00)
J.	**TOTAL**				**$ 3,415.10**

16 **BENEFITS**

A.	CRASH REDUCTION	0.13	crash @	$ 155,444	$ 20,207.72
B.	DELAY SAVINGS	0.00	veh-hrs @	$ 14.60	$ -
	SUB TOTAL ANNUAL BENEFIT				**$ 20,207.72**
C.	OTHER BENEFIT	0		$ -	$ -
D.	**TOTAL ANNUAL BENEFIT**				**$ 20,207.72**

17

NET BENEFIT/COST	$ 20,207.72	$ 3,415.10	**5.9**
SAFETY BENEFIT/COST	$ 20,207.72	$ 3,415.10	**5.9**

PREPARED BY **Nelson Castillo, P.E.** APPROVED BY DATE **03/06/2016**

COMMENTS/CRASH REDUCTION METHOD:
Crash Reduction Factor (CRF) of 20% was obtained from review of "*Update of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Improvement Projects*" (Table 12).

HIGH CRASH LISTINGS:

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on August 8, 2017

TO: Public Works Committee

VIA: Thomas G. Bradford, Town Manager

FROM: Patricia Strayer, P.E., Town Engineer

RE: Accelerated Capital Improvements Program – Phase 2 Budgeting Update

DATE: August 1, 2017

STAFF RECOMMENDATION

Town staff requests that the Public Works Committee review the presented information and provide any direction deemed necessary.

GENERAL INFORMATION

Most of the existing infrastructure in the Town was constructed between 1950 and 1970. This includes the drainage collection network, the pumped drainage system, the sanitary sewage collection system, sewage pump stations, streets, curb and gutter, sidewalk, and culminated with the construction of the East Coast Regional Water Reclamation Facility (ECR) in 1973. Until the early 2000's, Pay-As-You-Go (PAYGO) funds, which were approximately $50,000 per year, were sufficient to maintain and operate the systems and provide for minor upgrades. In the early 2000's, this infrastructure was reaching or had reached its standard life expectancy. Significantly more funds were required to repair and replace the Town's infrastructure.

At that time, the Town Engineer, Jim Bowser, P.E., established a 20-year plan to accomplish the necessary upgrades with expected costs on the order of $120 million over the 20 years. At that time, interest rates were low and borrowing money was relatively inexpensive, so the Town Council decided to borrow the funds and complete the projects as soon as possible. The Accelerated Capital Improvement Plan (ACIP) was developed. To date, ACIP has consisted of two (2), three (3) to five (5) year phases of $40 million each. ACIP-1, began in 2010 and has been successfully completed. ACIP-2 carried over approximately $16 million, therefore, there is a total budget of approximately $56 million. ACIP-2 began in 2013 and is required to be complete by December 2018. ACIP-2 is approximately 60 percent complete at the completion of this construction season. The current ACIP-2 budget is attached for your reference.

During the ACIP, PAYGO funds were utilized to maintain the portions of the infrastructure that was not being replaced. Much of the infrastructure, specifically the pumped drainage system and sanitary sewer pumping facilities, will be considered "new" at the end of ACIP-2 and is expected to have a life expectancy of approximately 50 years with proper and routine maintenance. Due to a 20 to 30 percent per year increase in construction costs over the last few years, some of the original scope of ACIP will not be completed. The scope of this work was primarily included in general miscellaneous line items such as Facilities, Drainage / ADA / Sidewalk / Curb and Gutter Improvements, Drainage Pump Stations, and Sanitary Pump Stations. While a detailed scope for these general improvements was not established, it predominantly consists of building improvements, pavement management, surface water drainage, and coastal structure replacement. Staff is proceeding with Asset Management / Condition studies of the various components to better define the costs.

As mentioned above, Phase 2 of the Program is well under way and is continuing to improve, harden, and make more efficient, all of the Town's critical infrastructures. This will reduce operation and maintenance costs, and provide residents with reliable service for many years to come. Staff will present the remaining budget and projects to be completed by December 2019.

cc: Jay Boodheshwar, Deputy Town Manager
Jane Struder, Director of Finance
Eric B. Brown, P.E., Assistant Director of Public Works
William K. Francis, P.E., Town Engineer
Patricia Strayer, P.E., Senior Project Engineer

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on: August 8, 2017

TO: Public Works Committee

VIA: Thomas G. Bradford, Town Manager

FROM: Patricia Strayer, P.E., Town Engineer

RE: Review of Florida Power & Light LED Lighting

DATE: August 1, 2017

STAFF RECOMMENDATION

Town staff is proposing the use of Florida Power & Light (FPL) LED lighting Town-Wide when we replace existing FPL owned street lights.

GENERAL INFORMATION

There are many FPL owned street lights throughout Town. They are typically energized by a overhead service that will be removed during the undergrounding projects. They typically consist of a metal arm mounted on a timber or concrete FPL power pole. The poles will also be removed after undergrounding. Replacement of these lights is necessary in most cases.

On March 28, 2017, the Public Service Commission approved the FPL LT-1 Street Light Tariff. The tariff provides for the installation of FPL owned Light Emitting Diodes (LED) lights at no upfront cost to the customers for projects requiring common construction practices. The tariff allows FPL to offer a variety of LED street lights and area light solutions for converting Town owned and maintained lights to LEDs and installing new LED street and area lights. The tariff is billed monthly based on the fixture and pole selected, associated energy charges, and additional monthly charges for dedicated light poles and conversions. The FPL LT-1 Tariff was recently launched in Miami-Dade County with Miami Springs being the first Municipality to sign up to replace 722 of their lights.

Discussions with street light manufacturers have indicated that High Pressure Sodium (HPS) fixtures will be phased out in the future and replaced with LED fixtures that offer superior color rendition and differentiation, higher efficiency, and greater variety of choices.

The LED lights offered by the FPL LT-1 Tariff are smart street lights that will use smart grid technology, and be equipped with “Smart Nodes” that can auto-generate trouble tickets. This will reduce the time it takes to discover and repair an outage or other light related issues and, also allow for FPL to know there is an issue, what the issue is, and reduce the response time to make the repair.

The new LT-1 tariff, allows FPL to offer dozens of street and area lighting options from leading LED manufacturers such as CREE, GE, Cooper, Holophane, and AEL. There are poles offered under the FPL LT-1 tariff that have a similar appearance to the poles that the Town previously standardized on for use on Town projects. Attached is a side by side photo comparison of the Town's standard pole and the FPL LT-1 Tariff pole that is similar in appearance.

The Town evaluated the cost of opting for the FPL LT-1 Tariff LED street lights versus the Town installing new Town owned street lights. Mock Roos will provide a presentation of the decorative lights and the financial savings for the Town to proceed with the FPL LED LT1 Tariff compared to a Town owned street light system.

FUNDING/FISCAL IMPACT

There are no funding impacts associated with this item.

Attachments

cc.

Patricia Strayer, P.E., Town Engineer
Michael Roach, P.E., Project Engineer

Side by Side Comparison:

Town Standard vs. FPL LED LT-1 Tariff

Town Standard
Pole and Acorn Fixture

FPL LED LT-1 Tariff
Pole and Acorn Fixture

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on August 8, 2017

TO: Public Works Committee

VIA: Thomas G. Bradford, Town Manager

FROM: Patricia Strayer, P.E., Town Engineer

RE: T3/Testa's Project Update

DATE: August 1, 2017

STAFF RECOMMENDATION

Town staff is providing an informational update on this project and requests that the Public Works Committee review the summary below.

GENERAL INFORMATION

This project to redevelop private property on Royal Poinciana Way received conditional site plan approval with special exceptions and variances. A condition of that zoning approval was to enter into a Construction Management Agreement (CMA) to mitigate any adverse impacts of that redevelopment on the surrounding property owners and the public. The final approval of the proposed CMA is pending signature by the Town Manager as of the date of this memo. Key elements of the proposed CMA include the following:

- Pre-construction meeting with Town staff prior to permit issuance;
- Construction parking shall only be allowed within the boundaries of the property. Shuttle transportation shall be provided for any parking/personnel needs that cannot be accommodated on-site;
- A construction status report and meeting are required monthly with Town staff's review and/or participation;
- Cleanliness of the site will be maintained by required debris removal, rodent extermination, and dust control;
- Occupancy of the right-of-way for loading and unloading shall be governed by the Site Logistics Plan submitted;
- Construction hours shall be governed by appropriate Town ordinances unless modifications are approved by the Town Council;
- Excavated material removed from the property cannot be tracked onto Town or State roadways;
- A traffic plan shall be developed to minimize impacts. That plan shall be prepared by the contractor for review and approval by Town staff prior to the commencement of work. Approval by the Police Department and Public Works Department are required prior to large truck (semi-truck, etc.) deliveries. Any construction work in the right-of-way shall be submitted via typical permit application process;
- Noise requirements shall meet the appropriate Town ordinances;

- Remedies for violation of the CMA terms and conditions are subject to fines and other actions (cessation of work, etc.). Those remedies and processes are also defined in the CMA;
- The schedule of construction was submitted with the proposed CMA and any impacts to the public will be addressed through appropriate means (weekly traffic and roadway notices, etc.).

Public Works will review all requests for activity in the right-of-way and will assure that these requirements are met.

FUNDING/FISCAL IMPACT

There is no funding impact associated with this project, other than the typical fees for permits, fines, and other costs that may be incidental to the contractor and the project.

Attachment

cc: John Randolph, Town Attorney
Jay Boodheshwar, Deputy Town Manager
Kirk Blouin, Public Safety Director
Jeff Trylch, Deputy Police Chief
Eric B. Brown, P.E., Assistant Director of Public Works
Patricia Strayer, P.E., Acting Town Engineer
Brett Madison, Facilities Maintenance Division Manager

CONSTRUCTION MANAGEMENT AGREEMENT
FOR TESTA'S PROJECT

THIS CONSTRUCTION MANAGEMENT AGREEMENT is made and entered into this _____ day of _____, 2017, by and between the TOWN OF PALM BEACH, a Florida municipal corporation, 360 South County Road, Palm Beach, Florida 33480 ("the Town") and T3 FAMILY INVESTMENTS, LLC, a Florida limited liability company, c/o Kochman & Ziska, PLC, 222 Lakeview Avenue, Suite 1500, West Palm Beach, Florida 33401 ("the Owner/Lessee"), which terms will include and bind the successors and assigns of the parties, wherever the context so requires or admits.

WITNESSETH:

WHEREAS, the land described in Exhibit "A" attached hereto and made a part hereof (hereinafter referred to as the "Property") is located within the municipal limits of the Town; and

WHEREAS, the Property is zoned C-TS, Commercial Town Serving and commercial and residential uses are allowable uses within such zoning category; and

WHEREAS, the Town Council on May 13, 2015, conditionally approved Site Plan Review No. 13-2014 with Special Exceptions and Variances for the redevelopment of a two story mixed use project; and

WHEREAS, a condition of approval of the subject zoning application is that the Owner/Lessee enter into a Construction Management Agreement; and

WHEREAS, the conditions in this Construction Management Agreement are imposed in order to mitigate any adverse impacts of the redevelopment of the Property, as well as to insure that said ~~use~~ demolition and construction shall not be adverse to the public interest and the surrounding property owners; and

NOW THEREFORE, in consideration of the mutual promises set forth herein, it is agreed as follows:

ARTICLE I

RECITALS

The recitals set forth above are true and correct and are incorporated herein and made a part hereof.

ARTICLE II

CONSTRUCTION CONDITIONS

The Property is approved for a building of 106,642 gross square feet with two (2) stories above ground, containing 63,680 square feet, including first floor commercial space of 18,080 square feet and six (6) residential units on the second floor, one (1) level of underground parking containing 42,962 square feet including eighty-six (86) parking spaces and the square footages and configurations as shown on sheets 1 through 32 prepared by Dailey Janssen Architects, P.A., sheets L-1 through L-4 prepared by Parker-Yannette, sheets 1of 2 and 2 of 2 prepared by Keshavarz & Associates and the boundary survey sheet 1 of 1 prepared by Keshavarz & Associates, all of which are part of a package date stamped June 26, 2015 and made part of the approval of this application. Attached are added sheets 12 and 13 prepared by Dailey Janssen Architects, P.A., stamp dated June 29, 2015. (hereinafter "the Project") and included as part of the application. No deviation of the approved plan package is allowed without previous approval of zoning application by the Town Council.

The Owner/Lessee shall follow the Schedule of Construction as set forth in Exhibit B ("Schedule") attached hereto. The completion date in said Schedule may only be modified with the consent of the Town Council. The dates within the schedule may be modified with the consent of the Building Official provided that construction does not exceed the maximum number of days allowed by the Town Council as provided for in the attached Schedule. The Town shall use its best efforts to expedite review and issuing of the building permit and/or any modifications to the building permit. Such modifications shall be monitored and approved by the Building Official. The Owner/Lessee's construction personnel shall provide to the Town's Building Official a progress report on the Schedule on the 1st business day of each month starting at the beginning of demolition of the Property.

The construction of the Project is subject to the following conditions:

1. The Owner/Lessee's general contractor shall schedule and attend a pre-construction meeting with all of the sub-contractors and the Town Staff prior to the issuance of a demolition permit or a building permit.

2. The Owner/Lessee's general contractor shall designate two project managers who can be contacted by the Town with respect to any issues involved with the construction. The Owner/Lessee shall meet with the Town and all abutting property owners who wish to meet prior to beginning construction and provide the Town and abutting property owners with the contact information of the two project managers for the construction project. The contact information shall include the names, cell phone numbers and identification pictures of the two project managers. Should the project managers or their contact information change, the Owner/Lessee shall provide the new contact information to the Town and abutting property owners. At least one of those project managers shall be on the Property at all times when construction work is being done on the Property.

3. Construction workers and project management personnel shall only be allowed to park within the boundaries of the Property. If parking is not possible on the Property, construction workers and project management personnel shall be transported by shuttle to the Property from an off-island location. Parking by said persons in the Town of Palm Beach is prohibited.

4. The Owner/Lessee may be required to hire a resident inspector if deemed necessary by the Town Building Official per Section 109.3.7 of the Code of Ordinances.

5. A construction status report shall be delivered by the Owner/Lessee's contractor to the Town Building Official or his designee on the first business day of each month starting subsequent to the commencement of demolition evidenced by the issuance of a building permit by the Town, showing the anticipated completion times for each phase of construction and the current stage of completion for each phase. A monthly meeting shall be held with attendees from the Owner/Lessee's contractor and sub-contractors, the Town's Public Works and the Town Planning, Zoning and Building Departments to review the status.

6. Rodent extermination shall be completed prior to the start of demolition by a Florida licensed and bonded exterminator. A written report shall be provided to the Town certifying complete extermination.

7. Removal of debris on an every other day basis shall be required of the contractor. Prior to the issuance of a demolition or construction permit the contractor shall provide the Town with an acceptable plan that identifies the staging area for debris accumulated on the Property. Said plan shall provide detailed information on how the contractor will screen the debris staging area from the neighboring property owners and street.

8. Dust control shall be as prescribed by the Town Code of Ordinances as set forth in Section 42-164. Water spray suppression shall be provided by the contractor, as deemed necessary by the Town Building Official.

9. Any security lighting shall be shielded so that it shines downward and does not produce any light or glare which would adversely affect surrounding property owners. Such lighting shall be the minimum necessary to allow security surveillance of the Property.

10. Occupancy of right-of-way for loading and unloading shall be governed and restricted by the approved Site Logisitics and Equipment Plan as identified in Exhibit C.

11. Erosion control of the Property shall be according to plans prepared by the Owner/Lessee and approved by the Town.

12. Hours of construction shall be governed by Section 42-199 of the Town's Code of Ordinances. Hours may be modified only by special approval by the Town Council.

13. The Schedule of Construction is as set forth in Exhibit B ("Schedule") attached hereto shall apply. The completion date in said Schedule may be modified only upon consent of the Town Council. The dates within the Schedule may be modified with the consent of the Town Building Official provided that construction does not exceed the maximum number of days allowed by the Town Council as provided for in the attached Schedule.

14. De-watering shall be accomplished by well point only to a point where it is discharged into the Town's storm sewer system. Turbidity shall be monitored at the discharge from the site to where it enters the Town storm sewer system and where it discharges from Town facilities to the Lake Worth Lagoon, on a weekly basis and reported in writing to the Town Public Works Department on a weekly basis. Fees for the de-water discharge to the Town storm sewer system shall be based on the total of $0.21 per thousand gallons discharged plus a fee for clean out of the wet well to the pump station before and after completion of the de-watering activities plus any clean out of the Town storm sewer system between the site and the pump station which may be required upon the completion of the de-watering.

    De-watering shall be allowed to occur until the necessary work to dry-in the site is complete or in cases of emergency as determined by the Town Building Official. The work hours on the Property during the de-watering phase are limited to the construction hours regulated in Section 42-199 of the Code unless otherwise approved by the Town Council. Emergency access to the de-watering pumps as may be required by Town personnel or by the Owner/Lessee's contractor shall only be limited to purposes necessary to continue the operation or discontinue the operation of the de-watering until such time as normal work hours resume.

    At such time as may be directed by the Town, suspension of the de-watering operation may be required. Access shall be provided to de-watering facilities for the Town personnel on a 24-hour-a-day basis in the event that suspension of the de-watering is required. Suspension of the de-watering operation may be required under conditions, such as when the Town storm sewer system has reached capacity, turbidity limits have been exceeded at the point of discharge to the Lake Worth Lagoon, or for any other reason as so determined by the Town.

15. Excavated material shall be removed from the Property in a condition or in such a manner that water, soil, sediments or etc. are not tracked onto the Town or Florida Department of Transportation rights-of-way.

16. The Owner/Lessee or its contractor shall develop a traffic plan for the removal of excavated material which minimizes impacts to the Town. Excavated material shall only be removed from the Property Monday through Friday during the hours of 8 AM through 3 PM. The perimeter sheet piles required for the excavation shall be in place no later than December 1, 2017. The excavation traffic control plan shall be prepared by the Owner's contractor with approvals required from the Town of Palm Beach Police, Fire Rescue, Planning, Zoning and Building and Public Works Departments prior to commencement of work.

17. The Owner/Lessee shall be required to obtain the Town Council approval for any concrete pours which exceed the hours allowed for construction or which require a continuous pour of more than six hours. Prior to being considered by the Town Council, the Owner shall provide a minimum 20 days written notice to all property owners and tenants within 300 feet of the Property and to those residential owners and tenants which either abut or are adjacent to the concrete truck route. The notice shall include the date(s) and time(s) of the proposed concrete pour(s). In addition, as part of any approval for the concrete pour, the contractor shall develop a traffic plan which is acceptable to the Town of Palm Beach Police, Fire Rescue, Planning, Zoning and Building and Public Works Departments prior to commencement of work.

    In the event the date of the pour has not previously been provided in the notice to Council, the Owner/Lessee shall provide written notice to all property owners and tenants within 300 feet of the Property ten days prior to the commencement of any concrete pour outside the hours allowed for construction or which requires a continuous pour of more than six hours. The notice shall be approved by the Town Director of the Planning, Zoning and Building Department before it is mailed and shall state the date(s) and time(s) of the concrete pour(s), and any impact to traffic, traffic detours, parking, etc., which might occur during those periods.

    On the immediate Sunday and Thursday prior to the concrete pour for the foundation mat, the Owner/Lessee shall place a quarter page advertisement in the Palm Beach Daily News that provides notice of the dates and times of the proposed activity including the procedure, any impacts the Town determines may occur to traffic, and showing truck routes which may be required. Said notice shall be reviewed and approved by the Town Planning, Zoning and Building Director prior to its publication. Storage and delivery area plans shall be submitted and approved by the Town prior to the issuance of a building permit.

18. The Property shall be fenced and screened from view by an eight-foot high green mesh fence. All construction deliveries shall be conducted on the Property and in the public rights-of-way as identified in the approved Site Logistics and Equipment Plan as identified in Exhibit C. Semi-truck and large deliveries shall not be permitted unless prior approval from the Town's Police and Public Works Departments is obtained. The Loading Access Area identified in Exhibit C shall be clear of debris and obstructions at all times and shall be used for deliveries only. Prior approval shall also be required from the Town Police Department to bring in large deliveries that may block the street or access into the Property.

19. Construction trailers shall only be for the Owner/Lessee's general contractor and subcontractors. No trailers shall be allowed on the Property for sales staff unless previously approved by the Town Council.

20. The Owner/Lessee shall meet the requirements regarding noise in Sections 42-196 through 42-229 of the Code of Ordinances.

ARTICLE III

VOLUNTARY AGREEMENT

The terms and conditions set forth in this Agreement are agreed to voluntarily by the Owner/Lessee. The Owner/Lessee agrees to be bound by them, and the Owner/Lessee waives any legal objection it might otherwise have to said terms and conditions or parts thereof.

ARTICLE IV

REMEDIES FOR VIOLATION

1. If the Owner/Lessee fails to complete the construction of the Project in the maximum number of days allowed by the Town Council as provided for in the Code of Ordinances and identified in Exhibit B of this Agreement, the Owner/Lessee shall pay to the Town a liquidated amount of $2,000.00 per day for each calendar day past the maximum number of days allowed. An extension of completion date shall be granted in the event of an act of terrorism or war or other casualty, or act of God or nature, which would shut down the project for a period of time. An "act of God or nature" as defined in this Agreement is an unintentional fire, earthquake, tropical depression, named tropical storm, or a hurricane that impacts the Town of Palm Beach.

2. In addition to the above, for violations of any of the other conditions of this Agreement, Owner/Lessee shall pay the Town a liquidated amount of $2,000.00 for each day that any of the conditions of this Agreement are violated and which shall increase to $5,000.00 per day after the fifth (5^{th}) day of such violation.

3. If valid noise, odor, dust control or other complaints are reported to the Town, the Town may order a cessation or modification of construction activities of the Project, until such time as the Town is satisfied that such complaints have been resolved. Upon receipt of a noise, odor, dust or other complaint which the Director of the Planning, Zoning and Building Department believes may be valid, the Director shall notify Owner/Lessee and obtain Owner/Lessee's response to the complaint prior to making a determination on the complaint. Once received, the Owner/Lessee shall have three business days to respond to the Director's notification. A final determination shall be made within 3 business days of the Owner/Lessee's response to the Director's notification.

   The Owner/Lessee shall have the right to appeal the Director's determination in regard to the remedies described in this section to the Town Council at the next scheduled meeting of the Town Council, which is at least seven (7) days subsequent to the date of the notice of appeal for all outstanding amounts imposed by this provision. If the appeal is granted in favor of the Owner/Lessee, any time lost by not allowing construction during the appeal will be added to the end of the construction schedule and will not count towards a violation of time to complete construction. In addition, if any substantiated unintended

consequences of a detrimental nature should arise, the Town can take enforcement action to address the issue.

4. All outstanding fees imposed under this provision shall be paid by the Owner/Lessee prior to the issuance of a Certificate of Occupancy for any building or structure on the Property.

ARTICLE V

ENTIRE AGREEMENT

This Agreement represents the entire agreement between the parties as to its subject matter and it may not be amended except by written agreement executed by both parties.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals the day and year first above.

Signed, sealed and delivered
in the presence of:

THE TOWN OF PALM BEACH

_____

By: _____
GAIL CONIGLIO, Mayor

_____

_____

By: _____
RICHARD KLEID
President Town Council

_____

_____

By: _____
THOMAS G. BRADFORD
Town Manager

_____

THE OWNER/LESSEE
(T3 FAMILY INVESTMENTS, LLC)

By: _____
RICHARD CRUM, Authorized Representative

Ann Z Anders

Randy Torres

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by GAIL CONIGLIO, the Mayor of the Town of Palm Beach, a Florida municipal corporation, on behalf of the corporation. She is personally known to me and did not take an oath.

_____
NOTARY PUBLIC

My commission expires:

AFFIX NOTARY SEAL

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by RICHARD KLEID, the President of the Town Council of the Town of Palm Beach, a Florida municipal corporation, on behalf of the corporation. He is personally known to me and did not take an oath.

_____
NOTARY PUBLIC

My commission expires:

AFFIX NOTARY SEAL

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by THOMAS G. BRADFORD, the Town Manager of the Town of Palm Beach, a Florida municipal corporation, on behalf of the corporation. He is personally known to me and did not take an oath.

_____
NOTARY PUBLIC

My commission expires:

AFFIX NOTARY SEAL

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 28th day of July, 2017, by RICHARD CRUM, as Authorized Representative of T3 FAMILY INVESTMENTS, a Florida limited liability company, on behalf of the corporation, who is personally known to me or produced _____ as identification and did not take an oath.

Ann Z Anders
NOTARY PUBLIC

My commission expires: 6/13/18

AFFIX NOTARY SEAL

RECOMMEND APPROVAL

By:_____
PAUL CASTRO
Zoning Administrator

APPROVED AS TO LEGAL FORM AND SUFFICIENCY

By: _____
JOHN C. RANDOLPH
The Town Attorney

EXHIBIT "A"
LEGAL DESCRIPTION

LOTS 52, 53, 54, 55, 56, 57, 58, 59, 60, 61 AND 62. FLORAL PARK, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 2, PAGE 6, OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA.

AND

LOTS 23, 24, 25, 26, 27, 28, 29, 30, 31, AND THE WEST 7.1 FEET OF LOT 32, FLORAL PARK ADDITION NO. 1, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 5, PAGE 28, OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA.

AND

TRACT 1:

ALL OF THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN PALM BEACH COUNTY AND STATE OF FLORIDA, SHOWN AND DESIGNATED AS THE AST 19 FEET OF LOT 35, FLORAL PARK ADDITION NO. 1, ACCORDING TO THE PLAT THEREOF ON FILE IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT AN AND FOR PALM BEACH COUNTY, FLORIDA, IN PLAY BOOK 5, PAGE 28, AND THE EAST 19 FEET OF LOT 65 AND THE AST 4 FEET OF THE WEST 6 FET OF THE NORTH 15.5 FEET OF LOT 65; ALL OF LOTS 66, 67, 68, 69, 70, 71, 72 AND 73, LESS THE EAST 15 FEEL OF SAID LOTS OF FLORAL PARK, ACCORDING TO THE PLAT THERE OF ON FILE IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT IN AND FOR PALM BEACH COUNTY, FLORIDA IN PLAT BOOL 2, PAGE 6.

TRACT 2:

PARCEL 1, LOTS 63 AND 64 AND THE WEST 6 FEET OF LOT 65 LESS THE NORTH 15.5 FEET OF THE EAST 4 FEET, FLORAL PARK ADDITION NO. 1, ACCORDING TO THE PLAT THEREOF ON FILE IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT IN AND FOR PALM BEACH COUNTY, FLORIDA, IN PLAY BOOK 5, PAGE 28.

EXHIBIT B

SCHEDULE OF CONSTRUCTION

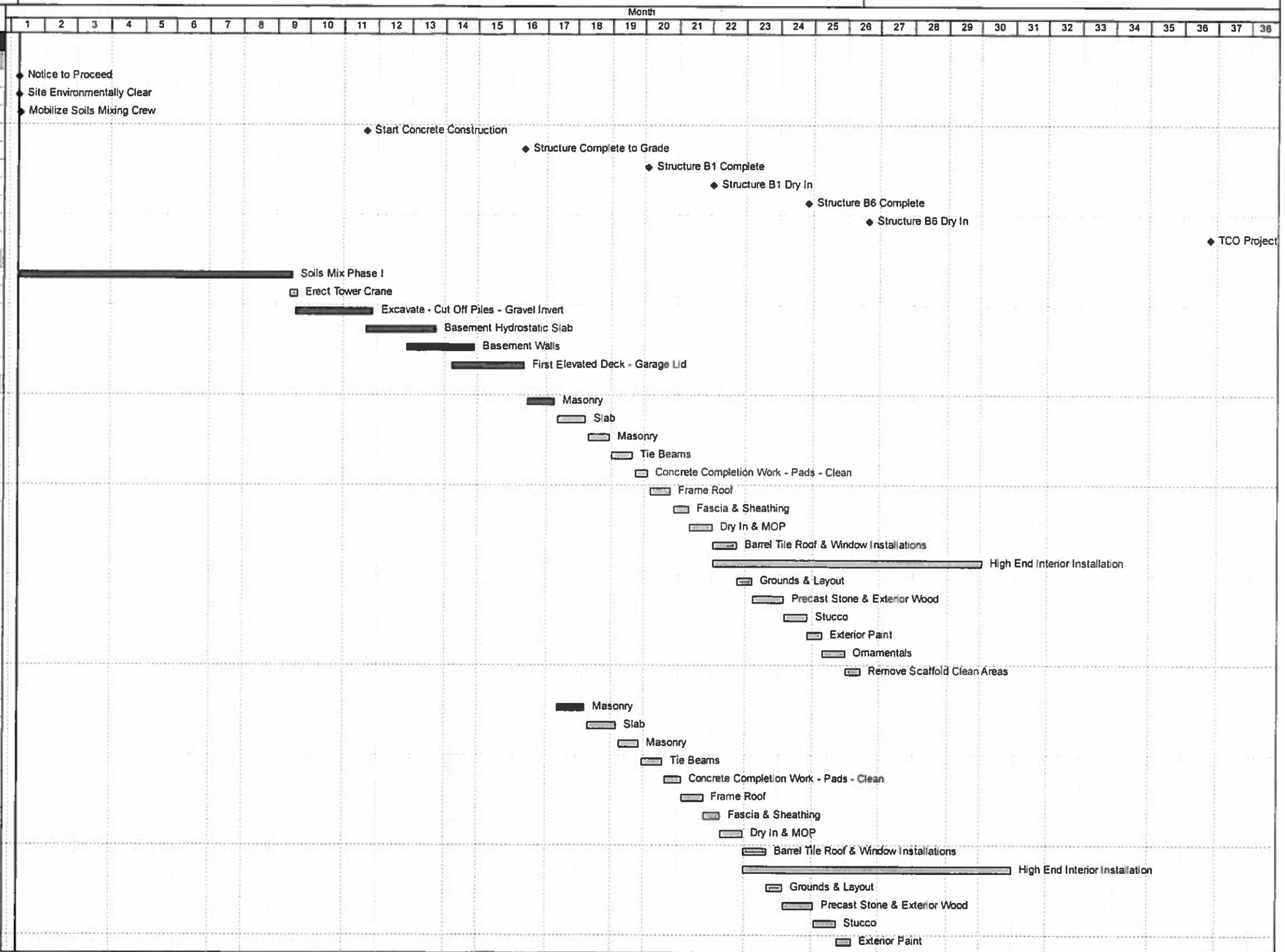
Coastal

Testa's Palm Beach

Preliminary Conceptual Schedule

PRELIMINARY

Activity ID	Activity Name	Dur
Testa's Preliminary Conceptual Schedule		
Major Milestones		
MILE-100	Notice to Proceed	0
MILE-105	Site Environmentally Clear	0
MILE-110	Mobilize Soils Mixing Crew	0
MILE-115	Start Concrete Construction	0
MILE-120	Structure Complete to Grade	0
MILE-125	Structure B1 Complete	0
MILE-130	Structure B1 Dry In	0
MILE-135	Structure B6 Complete	0
MILE-140	Structure B6 Dry In	0
MILE-145	TCO Project	0
Soils Mix to 1st Structural Elevated Deck		
RP-1000	Soils Mix Phase I	175
RP-1004	Erect Tower Crane	5
RP-1008	Excavate - Cut Off Piles - Gravel Invert	50
RP-1012	Basement Hydrostatic Slab	45
RP-1016	Basement Walls	45
RP-1020	First Elevated Deck - Garage Lid	45
Building One		
B1-100	Masonry	20
B1-105	Slab	20
B1-106	Masonry	15
B1-110	Tie Beams	15
B1-115	Concrete Completion Work - Pads - Clean	10
B1-120	Frame Roof	15
B1-125	Fascia & Sheathing	10
B1-130	Dry In & MOP	15
B1-135	Barrel Tile Roof & Window Installations	15
B1-170	High End Interior Installation	170
B1-140	Grounds & Layout	10
B1-145	Precast Stone & Exterior Wood	20
B1-150	Stucco	15
B1-155	Exterior Paint	10
B1-160	Ornamentals	15
B1-165	Remove Scaffold Clean Areas	10
Building Two		
B2-1000	Masonry	20
B2-1005	Slab	20
B2-1006	Masonry	15
B2-1010	Tie Beams	15
B2-1015	Concrete Completion Work - Pads - Clean	10
B2-1020	Frame Roof	15
B2-1025	Fascia & Sheathing	10
B2-1030	Dry In & MOP	15
B2-1035	Barrel Tile Roof & Window Installations	15
B2-1070	High End Interior Installation	170
B2-1040	Grounds & Layout	10
B2-1045	Precast Stone & Exterior Wood	20
B2-1050	Stucco	15
B2-1055	Exterior Paint	10



Actual Work | Critical Remaining Work ◆ | ◆ Critical Milestone
Remaining Work ◆ | ◆ Milestone

1 of 3

Testa's Preliminary Conceptual Schedule

Data Date: 09-Oct-17

Print Date: 31-May-1714:21

EXHIBIT "B"

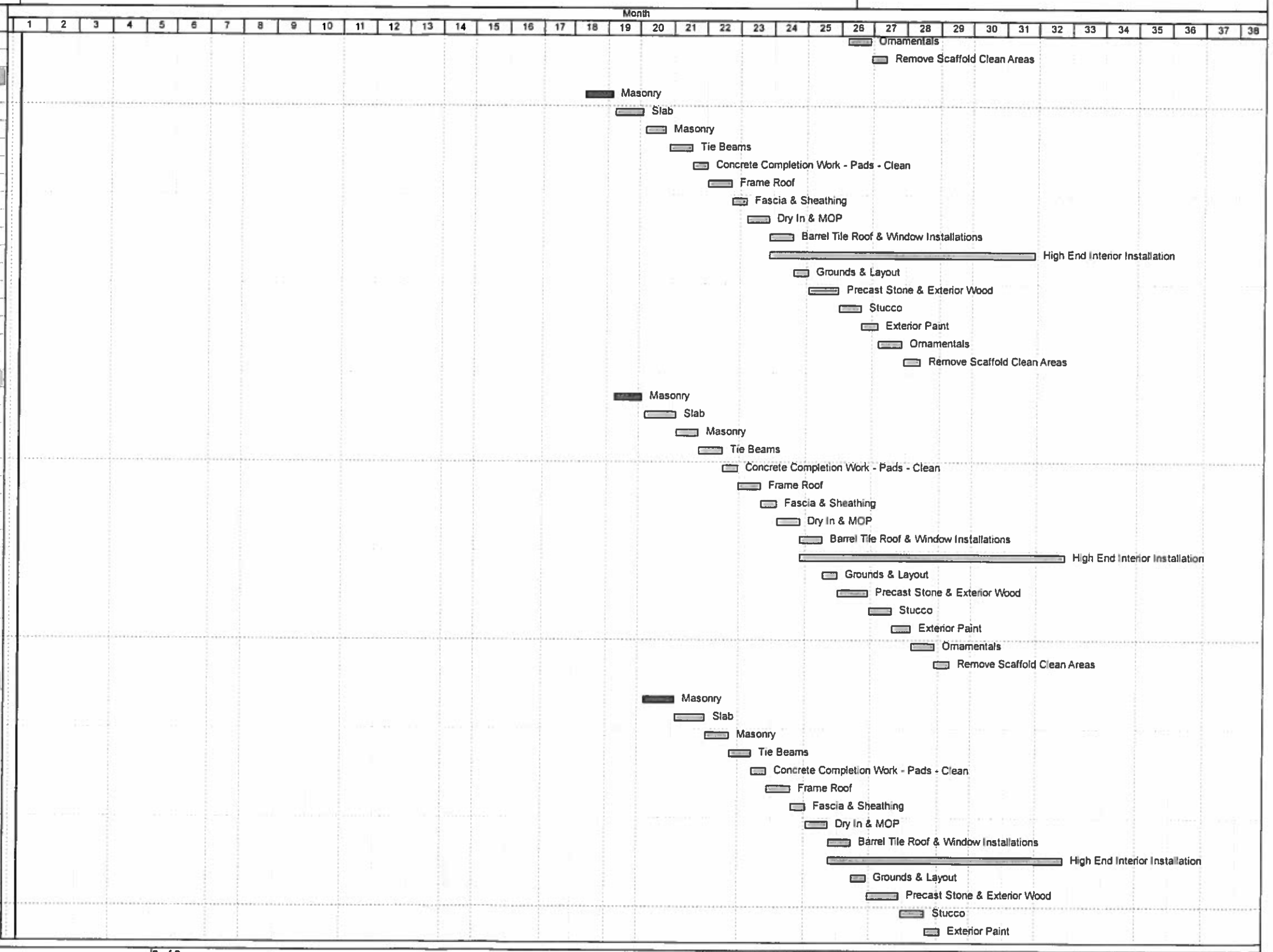
Coastal

Testa's Palm Beach

Preliminary Conceptual Schedule

PRELIMINARY

Activity ID	Activity Name	Dur
B2-1060	Ornamentals	15
B2-1065	Remove Scaffold Clean Areas	10
Building Three		
B3-1000	Masonry	20
B3-1005	Slab	20
B3-1006	Masonry	15
B3-1010	Tie Beams	15
B3-1015	Concrete Completion Work - Pads - Clean	10
B3-1020	Frame Roof	15
B3-1025	Fascia & Sheathing	10
B3-1030	Dry In & MOP	15
B3-1035	Barrel Tile Roof & Window Installations	15
B3-1070	High End Interior Installation	170
B3-1040	Grounds & Layout	10
B3-1045	Precast Stone & Exterior Wood	20
B3-1050	Stucco	15
B3-1055	Exterior Paint	10
B3-1060	Ornamentals	15
B3-1065	Remove Scaffold Clean Areas	10
Building Four		
B4-1000	Masonry	20
B4-1005	Slab	20
B4-1006	Masonry	15
B4-1010	Tie Beams	15
B4-1015	Concrete Completion Work - Pads - Clean	10
B4-1020	Frame Roof	15
B4-1025	Fascia & Sheathing	10
B4-1030	Dry In & MOP	15
B4-1035	Barrel Tile Roof & Window Installations	15
B4-1070	High End Interior Installation	170
B4-1040	Grounds & Layout	10
B4-1045	Precast Stone & Exterior Wood	20
B4-1050	Stucco	15
B4-1055	Exterior Paint	10
B4-1060	Ornamentals	15
B4-1065	Remove Scaffold Clean Areas	10
Building Five		
B5-1000	Masonry	20
B5-1005	Slab	20
B5-1006	Masonry	15
B5-1010	Tie Beams	15
B5-1015	Concrete Completion Work - Pads - Clean	10
B5-1020	Frame Roof	15
B5-1025	Fascia & Sheathing	10
B5-1030	Dry In & MOP	15
B5-1035	Barrel Tile Roof & Window Installations	15
B5-1070	High End Interior Installation	150
B5-1040	Grounds & Layout	10
B5-1045	Precast Stone & Exterior Wood	20
B5-1050	Stucco	15
B5-1055	Exterior Paint	10



Actual Work | Critical Remaining Work | Critical Milestone
Remaining Work | Milestone

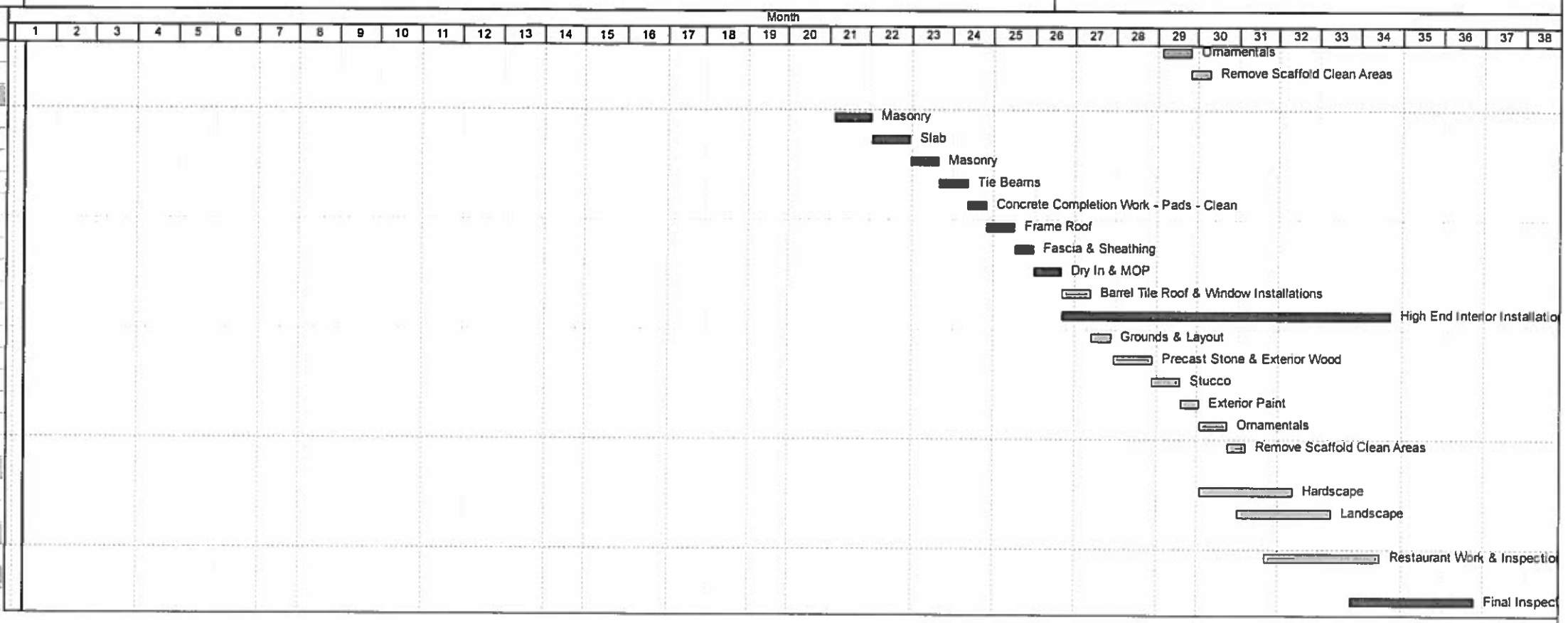
Coastal

Testa's Palm Beach

Preliminary Conceptual Schedule

PRELIMINARY

Activity ID	Activity Name	Dur
B5-1060	Ornamentals	15
B5-1065	Remove Scaffold Clean Areas	10
Building Six		
B6-1000	Masonry	20
B6-1005	Slab	20
B6-1006	Masonry	15
B6-1010	Tie Beams	15
B6-1015	Concrete Completion Work - Pads - Clean	10
B6-1020	Frame Roof	15
B6-1025	Fascia & Sheathing	10
B6-1030	Dry In & MOP	15
B6-1035	Barrel Tile Roof & Window Installations	15
B6-1070	High End Interior installation	170
B6-1040	Grounds & Layout	10
B6-1045	Precast Stone & Exterior Wood	20
B6-1050	Stucco	15
B6-1055	Exterior Paint	10
B6-1060	Ornamentals	15
B6-1065	Remove Scaffold Clean Areas	10
Hardscapes - Landscapes		
HL-100	Hardscape	50
HL-105	Landscape	50
Restaurant Work & Inspections		
R-1000	Restaurant Work & Inspections	60
Final Inspections		
FIN-1000	Final Inspections	65

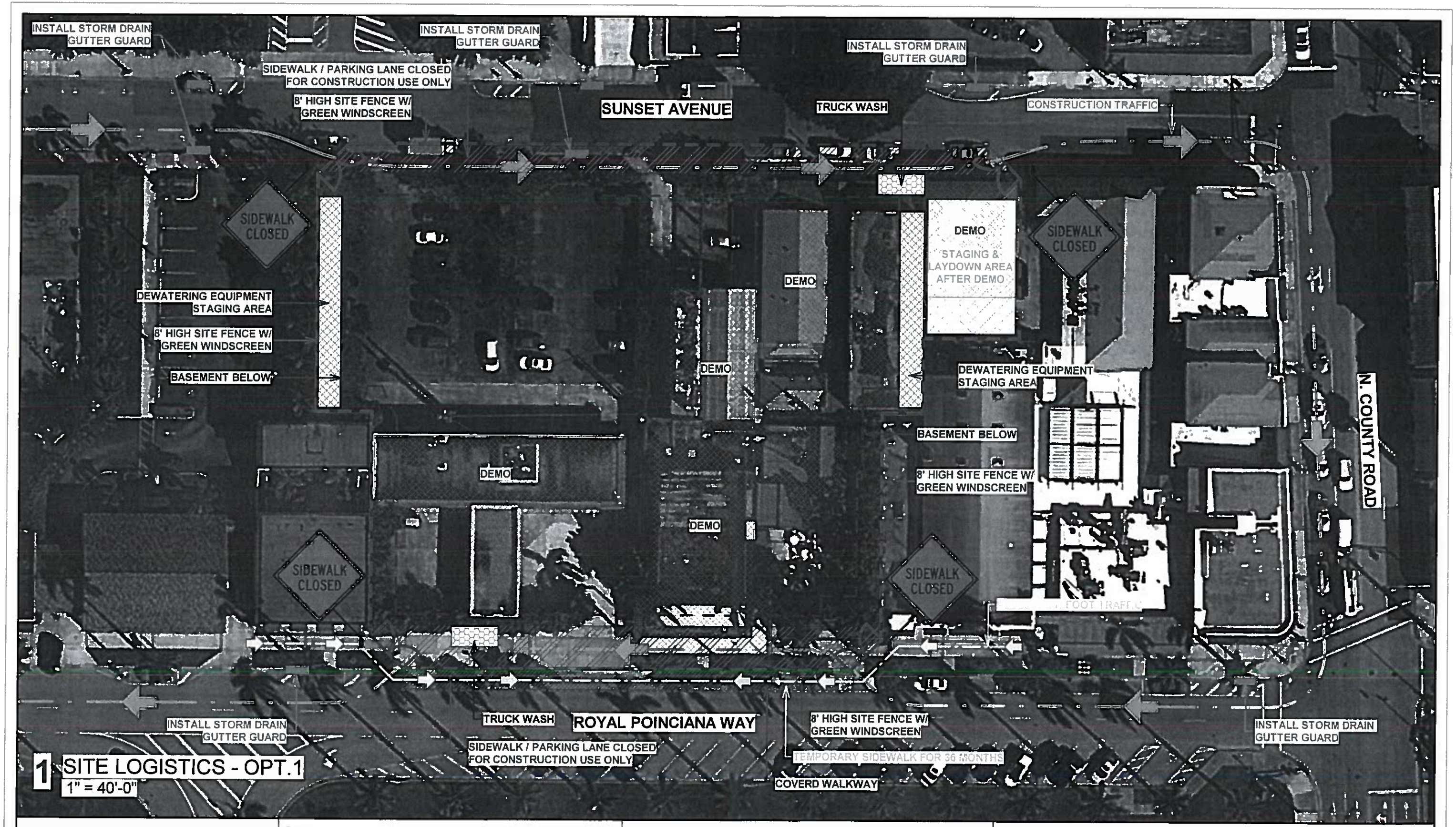


Actual Work | Critical Remaining Work | Critical Milestone
Remaining Work | Milestone

Data Date: 09-Oct-17
Print Date: 31-May-1714:21

EXHIBIT C

SITE LOGISTICS AND EQUIPMENT PLAN



1 SITE LOGISTICS - OPT.1
1" = 40'-0"

Coastal
5959 Blue Lagoon Dr. Suite 200 Miami, Fl 33126
Phone: 305-559-4900
www.Coastalconstruction.com

Owner
-

Project
TESTAS PALM BEACH
EXHIBIT C

SITE LOGISTICS - OPT. 1

PRELIMINARY DRAWING	
Date Printed	5/31/2017 11:44:57
Project number	0000
Drawn by	Author

LG4.01
Scale 1" = 40'-0"

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on August 8, 2017

TO: Public Works Committee

VIA: Thomas G. Bradford, Town Manager

FROM: Patricia Strayer, P.E., Town Engineer

RE: Town-Wide Undergrounding Traffic Management

DATE: August 2, 2017

STAFF RECOMMENDATION

Town staff requests that the Committee provide any direction deemed necessary.

GENERAL INFORMATION

The Town-Wide Undergrounding of Utilities Program Master Plan includes a chapter titled Traffic Management Plan. The Master Plan developed a Transportation Management Plan (TMP) to coordinate traffic impacts related to both the Undergrounding Program and other known significant infrastructure projects for each phase/year of the undergrounding construction in order to minimize impacts to the residents and businesses. The TMP follows the sequencing and phasing developed in the Master Plan and takes into consideration the construction planned in the Accelerated Capital Improvement Program 2 and the five (5) Year Capital Improvement Plan.

Through the development of the TMP traffic control, guidelines have been established. For example: from approximately half (1/2) a mile north of Southern Boulevard to approximately a quarter (1/4) of a mile south of Royal Palm Way, County Road parallels Ocean Boulevard, therefore; for this stretch of the Town the two (2) parallel roadways cannot have impacted travel lanes at the same time. The Master Plan evaluates travel conditions throughout the Town and provides specific guidelines to be utilized for each phase of construction. Kevin Schanen, P.E., Vice President of Kimley-Horn and Associates, Inc., will be providing a presentation that describes the TMP and how it was developed to the Public Works Committee.

One of the challenges of any approach to traffic management within the Town is keeping the residents aware of the lane closures, road closures, and detours. Public Works has been working with the Planning Zoning and Building Department along with the Police Department to identify ways to effectively provide traffic information timely to the residents and staff. Presently, the Town provides a weekly traffic report which is published in the Shiny Sheet and on the Town's Website. The Town also pushes out emails when short notice traffic impacts occur. These methods require the users to login to emails or the website to retrieve the traffic information. There are smart phone applications that "push" the information out to the users when a traveler is entering into an area that has traffic delays or impacts. Public Works' staff believes one of these applications would provide a more effective communication tool. We are currently working with the Town Manager's office to hopefully have a new system in place before season.

FUNDING/FISCAL IMPACT

There is no funding/fiscal impact related to this item, at this time. A new traffic management tool will most likely have a fiscal impact.

cc: Paul Brazil, P.E., Director of Public Works
Eric B. Brown, P.E., Assistant Director of Public Works

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on August 8, 2017

TO: Public Works Committee

VIA: Thomas G. Bradford, Town Manager

FROM: Patricia Strayer, P.E., Town Engineer

RE: Town-Wide Undergrounding Phase 1 Construction Staging Area

DATE: August 2, 2017

STAFF RECOMMENDATION

Town staff requests that the Committee provide any direction deemed necessary.

GENERAL INFORMATION

The Town-Wide Undergrounding of Utilities Phase 1 North contracts have been executed and the Notice to Proceed was issued June 26, 2017. In an effort to facilitate the construction and to reduce cost for transporting materials onto the Island, two (2) construction lay down areas have been identified. There is significant materials that will be required for the construction. This includes conduit, cable, transformers, and other equipment.

One utilizes the Town owned property on Town Property located on 6th Street in West Palm Beach and the other location is the south end of Laurie Lane. Exhibits are attached delineating the areas to be used. In an effort to limit the impacts to residents, guidelines have been developed for the contractor's use of the property. The guidelines are also attached. Laurie Lane is being used primarily for the drainage structures and watermain materials associated with this phase of construction. Public Works had originally planned to utilize Palmo Way, but we are suspending utilizing Palmo Way for construction staging and will be utilizing the Town's property on 6th Street in West Palm Beach. Since Flagler Bridge is now open to four lanes of traffic, the contractor is hoping this will reduce the need to store materials near the actual construction site.

FUNDING/FISCAL IMPACT

There is no funding/fiscal impact related to this item, at this time.

Attachments

cc: Paul Brazil, P.E., Director of Public Works
Eric B. Brown, P.E., Assistant Director of Public Works

TOWNWIDE OVERHEAD TO UNDERGROUNDING

PHASE 1 NORTH

RE: LAURIE LANE CONSTRUCTION YARD GUIDELINES

1) Construction fence will be installed with ficus hedge screen per attached sketch.
2) Work hours are from 8:00 AM to 6:00 PM Monday through Saturday until November 30, 2017. December 1, 2017 through April 30, 2018 crew work hours shall be 9:00 AM to 5:00 PM Monday through Friday. May 1, 2018 through November 2018 work hours will revert back to 8:00 AM to 6:00 PM Monday through Saturday.
3) Night, weekend, or holiday work beyond the regularly scheduled work hours stated in item 2, which may be necessary due to emergency, delay, or makeup time shall be requested on a case by case basis and reviewed / approved solely and exclusively by the Public Works Staff.
4) The project will require free and unlimited jobsite access for workmen and deliveries during all authorized work hours.
5) Construction yard to be kept in a neat and orderly fashion.
6) No equipment is to be started before construction start times as stated in item 2.
7) All workers are to be respectful of the surrounding residences including but not limited to all work areas.
8) Trash containers to be established and emptied when necessary.
9) Fueling / greasing of equipment may begin at 7:00 AM.
10) Construction yard, post construction, to be returned to equal or better condition than before project start with the exception of the roadway. Roadway will only be patched where waterline is installed. Will be fully paved at a later date by others.


Debra Ln
Debra Ln
Debra Ln
Leaman Ln
N Lake Way
Laurie Ln
N Ocean Blvd
Laurie Ln
2 PANELS
Laurie Ln
6' HIGH CHAIN LINK
FENCE ON STANDS
WITH SAND BAGS.
2 PANELS
Onondaga Ave
Onondaga Ave
Onondaga Ave
ke Way


© 2017 Google
Google Earth

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on August 8, 2017

TO: Public Works Committee

VIA: Thomas G. Bradford, Town Manager

FROM: Patricia Strayer, P.E., Town Engineer

RE: North Lake Way and Wells Road Delineators

DATE: August 2, 2017

STAFF RECOMMENDATION

Town staff requests that the Committee approve the installation of roadway delineators along North Lake Way between Wells Road and Coral Lane.

GENERAL INFORMATION

Between Wells Road and Coral Lane, North Lake Way is a reverse horizontal curve. North Lake Way is a two (2) lane Town road with 12-foot travel lanes at this location, although an additional ten (10) feet of pavement exists on the western side of the southernmost curve in this section. This extra pavement is striped out to encourage motorist to stay in the travel lane. Motorists have continued to exit the travel lane and cross over the white edge line when traveling southbound. We have received several complaints about the safety of the intersection of Northlake Way and Wells Road.

Town staff requested Kimley-Horn to conduct a review of the traffic operations at this location. The review was provided to the Town on July 27, 2017 and is attached. The recommendation is to install flexible delineators on the west side of the south curve. The reflective material shall be white, consistent with the roadside edge line. The delineators are recommended to be placed approximately two (2) feet outside of the existing edge line; preliminary analysis indicates that delivery trucks and landscape vehicles with trailers can navigate the roadway with the delineators placed approximately two (2) feet outside of the existing edge line. Furthermore, the type of delineator should be on the Florida Department of Transportation's (FDOT) Approved Product List. Because the delineators will be spaced within a short curve, rather than tangent segment as described in the Manual on Uniform Traffic Control Devices (MUTCD), it is recommended to place delineators at intervals that are more frequent. A graph showing the recommended placement of delineators is attached. The FDOT Plans Preparation Manual allows for rigid or flexible delineators; Kimley-Horn recommends installing flexible delineators for this application.

FUNDING/FISCAL IMPACT

The fiscal impacts are limited to staff time for installation and the purchase of the delineators. Public Works staff will purchase and install the delineators.

cc: Paul Brazil, P.E., Director of Public Works
Eric B. Brown, P.E., Assistant Director of Public Works

Kimley»Horn

July 27, 2017

Patricia Strayer, P.E.
Town Engineer
Town of Palm Beach
951 Old Okeechobee Boulevard
West Palm Beach, Florida 33401

Re: North Ocean Way Curve Treatment
Town of Palm Beach

Dear Ms. Strayer:

Kimley-Horn has conducted a review of traffic operations in the reverse horizontal curve on North Lake Way, located between Wells Road and Coral Lane in the Town of Palm Beach, Florida. The roadway is wider than a typical two-lane roadway at this location and includes a section of pavement that has been striped out. Field observations have indicated that some motorists do not stay within the marked travel lanes. Therefore, the Town is considering alternatives to assist in maintaining vehicular movement within the designated travel lanes. A summary of the review, assumptions, and conclusions follows.

Existing Conditions

Between Wells Road and Coral Lane, North Lake Way is a reverse horizontal curve. North Lake Way is a two-lane Town road with 12-foot travel lanes at this location, although an additional ten feet of pavement exists on the western side of the southernmost curve in this section. Although this extra pavement is striped out, motorists have been observed to exit the travel lane and cross over the white edge line when traveling southbound.

Flexible Delineator Guidance

The *Manual on Uniform Traffic Control Devices (MUTCD)* provides guidance on installation of delineators to help guide motorists through curves. The relevant guidance from the MUTCD follows:

> **Section 3F.01 Delineators**
> Support:
>
> 01) Delineators are particularly beneficial at locations where the alignment might be confusing or unexpected, such as at lane-reduction transitions and curves. Delineators are effective guidance devices at night and during adverse weather. An important advantage of delineators in certain locations is that they remain visible when the roadway is wet or snow covered.
>
> 02) Delineators are considered guidance devices rather than warning devices.

Option:

03) Delineators may be used on long continuous sections of highway or through short stretches where there are changes in horizontal alignment.

This section of the MUTCD can be applied to this portion of roadway due to the reverse horizontal curves.

The MUTCD also provides guidance on placement, spacing, and color of delineators, as follows:

Section 3F.04 Delineator Placement and Spacing

Guidance:

01) *Delineators should be mounted on suitable supports at a mounting height, measured vertically from the bottom of the lowest retroreflective device to the elevation of the near edge of the roadway, of approximately 4 feet.*

Option:

02) When mounted on the face of or on top of guardrails or other longitudinal barriers, delineators may be mounted at a lower elevation than the normal delineator height recommended in Paragraph 1.

Guidance:

03) *Delineators should be placed 2 to 8 feet outside the outer edge of the shoulder, or if appropriate, in line with the roadside barrier that is 8 feet or less outside the outer edge of the shoulder.*

04) *Delineators should be placed at a constant distance from the edge of the roadway, except that where an obstruction intrudes into the space between the pavement edge and the extension of the line of the delineators, the delineators should be transitioned to be in line with or inside the innermost edge of the obstruction. If the obstruction is a guardrail or other longitudinal barrier, the delineators should be transitioned to be just behind, directly above (in line with), or on the innermost edge of the guardrail or longitudinal barrier.*

05) *Delineators should be spaced 200 to 530 feet apart on mainline tangent sections. Delineators should be spaced 100 feet apart on ramp tangent sections.*

Recommendations

Flexible delineators are recommended to be installed on the west side of the south curve, as described above. The reflective material shall be white, consistent with the roadside edge line. The delineators are recommended to be placed approximately two feet outside of the existing edge line; preliminary analysis indicates that delivery trucks and landscape vehicles with trailers can navigate

the roadway with the delineators placed approximately two feet outside of the existing edge line. Furthermore, the type of delineator shall be on the FDOT Approved Product List.

Because the delineators will be spaced within a short curve, rather than tangent segment as described in the MUTCD, it is recommended to place delineators at more frequent intervals. A graphic showing the recommended placement of delineators is attached. The *FDOT Plans Preparation Manual* allows for rigid or flexible delineators; it is recommended to provide flexible delineators for this application.

We appreciate this opportunity to work with you on this project. Please contact me at 561-840-0874 if you have any questions.

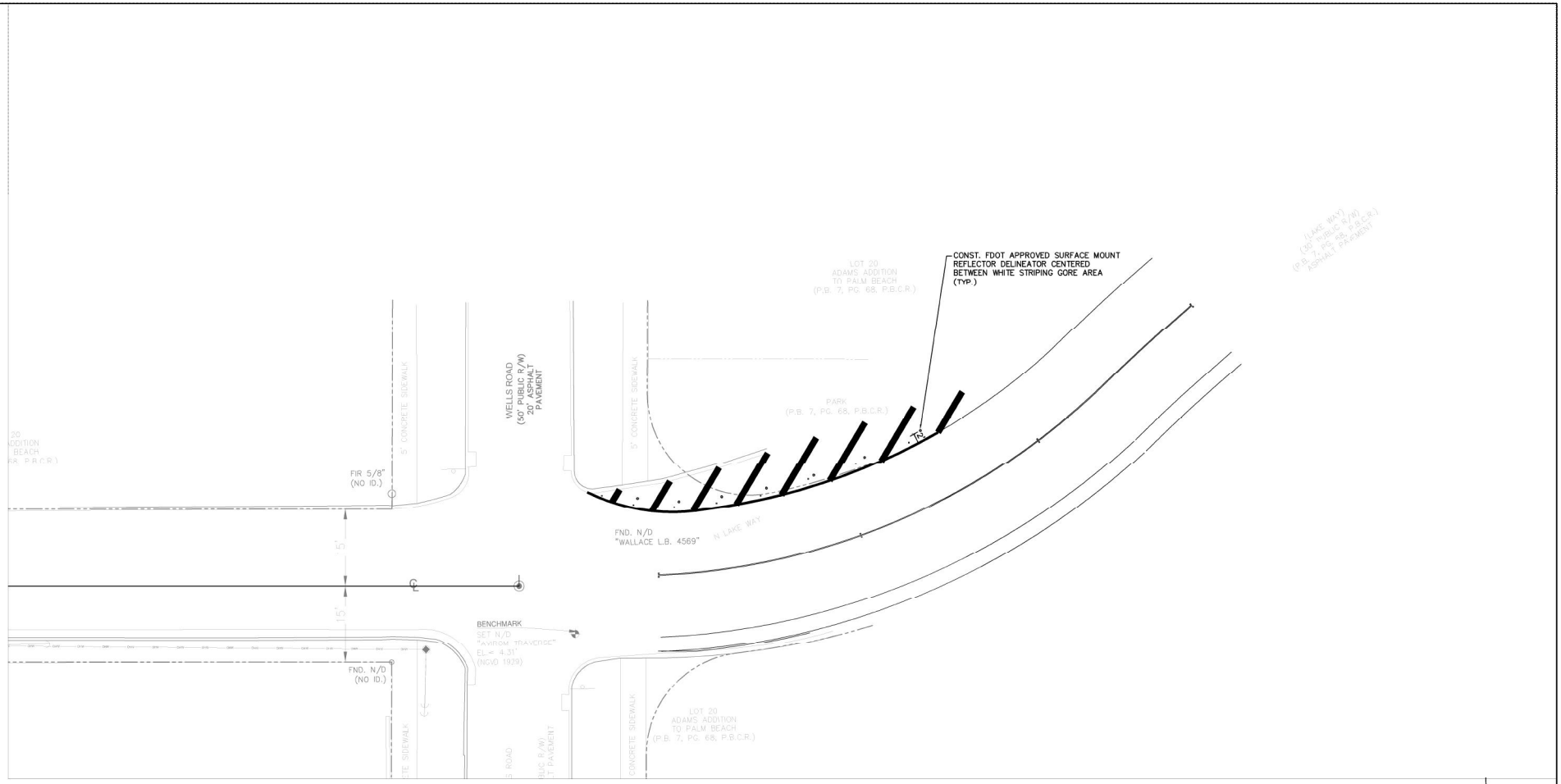
Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Adam B. Kerr, P.E.
Transportation Engineer

ABK/

k:\wpb_tpto\0440\044063194 - north ocean way\north lake curve.docx



NOTE:
DESIGN BASED ON AERIAL INFORMATION ONLY. CONTRACTOR SHALL FIELD VERIFY EXISTING STRIPING WITH TOWN OF PALM BEACH STAFF PRIOR TO INSTALLATION.

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

Kimley»Horn
1920 WEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411
PHONE: 561-845-0665 FAX: 561-863-8175
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	
DATE	JULY 2017
SCALE	AS SHOWN
DESIGNED BY	NOB
DRAWN BY	NOB
CHECKED BY	NOB

BRADLEY PLACE
PREPARED FOR
CITY OF WEST PALM BEACH
TOWN OF PALM BEACH FLORIDA

LICENSED PROFESSIONAL
FLORIDA LICENSE NUMBER
DATE:

SURFACE MOUNT DELINEATOR EXHIBIT

SHEET NUMBER
EX-1