Agenda Item: 3L4

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

AGENDA ITEM SUMMARY

Meeting Date:	January 15, 2019	(X) Consent ( ) Workshop	( ) Regular ( ) Public Hearing

Department: Environmental Resources Management
Submitted By: Environmental Resources Management
Submitted For: Environmental Resources Management

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Work Order No. ERM 18C-05 to the Palm Beach County Annual Pathway and Minor Construction Contract Federalized Project No. 2015056 (Contract), as amended, with Wynn and Sons Environmental Construction Company, Inc. (Wynn and Sons), for an amount not to exceed $790,615.96, providing for the construction of public use facilities at Loxahatchee Slough Natural Area upon execution until September 30, 2019.

Summary: On March 1, 2016, the Board of County Commissioners (BCC) approved the Contract with Wynn and Sons (R2016-0231). The Contract was amended on January 10, 2017 (R2017-0022) and February 6, 2018 (R2018-0136) to extend its expiration date and increase the amount of work authorized under the Contract. Tasks issued under Work Order No. ERM 18C-05 will be partially or fully funded by a Federal Land and Water Conservation Fund pass-through grant from the State of Florida Department of Environmental Protection (FDEP). Therefore, Small Business Enterprise participation and geographic preferences are not applicable. The FDEP grant will fund up to $200,000 of the cost of the public use facilities. The grant requires a 50% County match, which is included in the Department of Environmental Resources Management's Capital Project Fund (3654). District 1 (DC)

Background and Justification: On March 22, 2016, the BCC approved FDEP Contract No. LW638 (R2016-0376) to construct public use facilities (passive recreational and support facilities) at the County's Loxahatchee Slough Natural Area. Work Order No. ERM 18C-05 will task Wynn and Sons with construction of the public use facilities in compliance with FDEP Contract LW638. The maximum amount authorized under the Contract, as amended, is $2,075,000; the expiration date of the Contract, as amended, is February 28, 2019. Issuance of this Work Order No. ERM 18C-05 shall not exceed the authorized maximum contract amount.

Attachment:
1. Work Order No. ERM 18C-05

Recommended by: _____ 12-13-18
Department Director **Date**

Approved By: _____ 1/10/19
Assistant County Administrator **Date**

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2019	2020	2021	2022	2023
Capital Expenditures	$790,616				
Operating Costs					
External Revenues	($200,000)				
Program Income (County)					
In-Kind Match (County)					
NET FISCAL IMPACT	$590,616	0	0	0	0
# ADDITIONAL FTE POSITIONS (Cumulative)					

Is Item Included in Current Budget? Yes **X** No ____
Does this item include the use of federal funds? Yes **X** No ____

Budget Account No: Fund 3654 Dept. 381 Unit E270, E117, E116 Object 6504

B. Recommended Sources of Funds/Summary of Fiscal Impact:

LWCF Grant (CFDA#: 15.916)	$200,000
ERM Capital Projects Fund (3654)	$590,616

C. Departmental Fiscal Review:

S. Neary

III. REVIEW COMMENTS:

A. OFMB Fiscal and/or Contract Dev. and Control Comments:

12/28/18
OFMB 12/12/21

1/11/19
Contract Dev. & Control

B. Legal Sufficiency

Assistant County Attorney

C. Other Department Review

Department Director

WORK ORDER
ANNUAL CONTRACT

PROJECT NAME: Annual Pathway & Minor Construction Contract PROJECT #: 2015056

DEPARTMENT: ENVIRONMENTAL RESOURCES MANAGEMENT (ERM)

ERM WORK ORDER PROJECT NAME: Loxahatchee Slough Public Use Facilities
COMMISSIONER DISTRICT #: 1

WORK ORDER NO.: ERM18C-05

BUDGET LINE ITEM: See Budget Availability Statement
[Fiscal approval of Budget Availability: _____]
DATE: December 3, 2018

TO: WYNN & SONS ENVIRONMENTAL CONSTRUCTION CO. INC.

In accordance with the terms of your Contract R2016-0231 (Federalized) dated March 1, 2016, you are directed to provide the following supplies and services: Construct parking lot, concrete pathways, fishing pier, observation platform and boardwalk, elevated observation platform and a kiosk at agreed upon unit costs; and provide 18" Square concrete pilings, 1.5" ADA hand rail, aluminum standing seam roofing, grace vycor deck protector, bench brackets, cross brace angle for structural support, 3x14 southern yellow pine, 6x20 southern yellow pine, LED solar light with amber lens, light pole, light pole foundation, and vault toilet building, as per attached plans for Public Use Facilities at Loxahatchee Slough Natural Area.

The above work shall be performed at: Loxahatchee Slough Natural Area - 11855 Beeline Highway, Palm Beach Gardens, FL 33418 commencing upon execution by Contractor and County, and shall be completed by September 30, 2019.

The total amount of this Work Order shall not exceed $790,615.96 as identified in your estimate, dated November 29, 2018.

This work shall be coordinated with:

Lee Lietzke
Name
Sr. Environmental Analyst
Title
561-233-2517
Telephone Number

Please indicate your receipt of this Work Order and agreement with work schedule by signing and returning two originals. This Work Order is not valid until signed by Palm Beach County.

	PALM BEACH COUNTY, FL
WYNN & SONS ENVIRONMENTAL	A Political Subdivision of the State of Florida
CONSTRUCTION CO. INC.	BOARD OF COUNTY COMMISSIONERS
Company	Owner
7268 Belvedere Road	2300 North Jog Road, 4th Floor
Address	Address
West Palm Beach, FL 33411	West Palm Beach, FL 33411-2743
City & State	City & State
Signature Daniel P. Wynn, President	Signature Mack Bernard, Mayor
12/6/18	
Date	Date

Attachments: Contractor Estimate, Contract History, Plan View

ATTEST:
Sharon R. Bock, Clerk & Comptroller

_____
Deputy Clerk

APPROVED AS TO FORM &
LEGAL SUFFICIENCY:

_____
Chief Assistant County Attorney

APPROVED AS TO TERMS & CONDITIONS:

Michael Stahl for
Deborah Drum, Director
Dept. of Environmental Resources Management

cc: Finance (Downtown)
David Young, P.E., Engineering & Public Works/Roadway Production
Holly Knight, P.E., Engineering & Public Works/Roadway Production
Irwin Jacobowitz, Director, Contract Development and Control

BUDGET AVAILABILITY STATEMENT
Palm Beach County
Environmental Resources Management

REQUEST DATE: 12/05/2018

REQUESTED BY: Lee Lietzke **PHONE:** 233-2517

PROJECT TITLE: Loxahatchee Slough Public Use Facility **PROJECT:** ERM18C-04

SITE: Loxahatchee Slough **ACTIVITY:** Construction

CONTRACTOR/CONSULTANT NAME: WYNN & SONS ENVIRONMENTAL CONSTRUCTION CO. INC

SCOPE OF SERVICES: Construct a parking lot, concrete pathways, fishing pier, observation platform, elevated observation platform and a kiosk at agreed upon unit costs; and provide 18" Square concrete pilings, 1.5" ADA hand rail, aluminum standing seam roofing, grace vycor deck protector, bench brackets, cross brace angle for structural support, 3x14 southern yellow pine, 6x20 southern yellow pine, LED solar light with amber lens, light pole, light pole foundation, and vault toilet building.
The total amount of this Work Order shall not exceed $790,615.96 as identified in estimate, dated November 29, 2018.

BUDGET ACCOUNT NUMBER(S):

Fund	Dept	Unit	Obj	SObj	Program	(Proj) Task	(Site) Sub Task	(Activity) Task Ord	Amount
3654	381	E270	6504		E270/CIP	N121	NLOS	012	489,332.05
3654	381	E117	6504		E117/CIP	N121	NLOS	012	250,000.00
3654	381	E116	6504		E116/CIP	N121	NLOS	012	51,283.91

BAS APPROVED BY: S. Neary **DATE:** 12/5/18

ENCUMBRANCE NUMBER: _____

ERM's CONTRACT HISTORY FOR

Wynn & Sons Environmental Construction Co., Inc.

Engineering Dept's. Annual Pathway & Minor Construction Contract

Project # 2015056 (Federalized)

Contract R No. R2016-0231 expiring 2/28/17
R2017-0022 expiring 2/28/18
R2018-0136 expiring 2/28/19

Contract Date: March 01, 2016

1st Year ERM Allotment: $ 900,000.00
2nd Year ERM Allotment: $ 160,000.00
3rd Year ERM Allotment: $ -

SBE %: N/A

WORK ORDER NUMBER	WORK ORDER TOTAL AMOUNT	DUE DATE	WORK ORDER DESCRIPTION	APPROVED BY/DATE
1st Year Work Orders:				
ERM16C-02	$ 435,533.50	9/30/16	Cypress Creek South Public Use Facilities	BCC / 4/19/16
ERM16C-02A	$ (2,511.38)	11/4/15	Cypress Creek South Public Use Facilities-increase time, add fishing pier bank stabilization (rip rap), delete floating dock aluminum control arm	CRC / 6/14/16
3rd Year Work Orders:				
ERM18C-05	$ 790,615.96		Loxahatchee Slough Public Use Facilities	BCC /

Total Work Orders Issued 1st Yr: $ 433,022.12
Total Work Orders Issued 2nd Yr: $ -
Total Work Orders Issued 3rd Yr: $ 790,615.96
Total Work Orders: **$ 1,223,638.08**
Total ERM Allotment (1st Year): $ 900,000.00
Total ERM Allotment (2nd Year): $ 160,000.00
Total ERM Allotment (3rd Year): $ -
Total ERM Allotment: **$ 1,060,000.00**
Available ERM Allotment (Balanc **$ (163,638.08)**

Report File Date: December 10, 2018

U:\BCC Items\fy2019 agenda items\01-15-19 (PR 12-12-18)\3L4_Lox Slough Public Use Facilities (LLietzke)\Pathway ERM Contract History Wynn & Sons_newFedl Lee's 181130

GENERAL REQUIREMENT NOTES

1. THE PLAN AND PROFILE SHEETS ARE PROVIDED FOR REFERENCE AND BASIC DESIGN INTENT TO CONFIRM ADA ACCESSIBILITY OF THE CONCRETE WALKWAY.
2. THE CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS AND DEVICES SUCH AS TURBIDITY CURTAINS AND FLOATING SILT BARRIERS WHERE NECESSARY IN ORDER TO COMPLY WITH STATE AND LOCAL WATER QUALITY STANDARDS. COST OF SUCH METHODS OR DEVICES SHALL BE INCORPORATED IN THE COST OF THE PROJECT'S NPDES COMPLIANCE.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION (FDOT STANDARD SPECIFICATIONS).
4. ALL PAVING AND RELATED WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE STANDARDS OF PALM BEACH COUNTY, CITY OF PALM BEACH GARDENS, AND FLORIDA DEPARTMENT OF TRANSPORTATION.
5. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN SECURED, AND THE CONTRACTOR IS ISSUED A NOTICE TO PROCEED.
6. THE CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION MEETING WITH THE COUNTY PRIOR TO ANY SITE WORK BEING PERFORMED. JOB SITE SUPERINTENDENT AND APPROPRIATE MANAGEMENT PERSONNEL SHALL BE IN ATTENDANCE.

MAINTENANCE OF TRAFFIC NOTES:

1. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH CURRENT FDOT ROADWAY TRAFFIC DESIGN SPECIFICATIONS AND STANDARDS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D., LATEST EDITION).

TEMPORARY FACILITIES AND CONTROL NOTES:

1. ALL NORTHING AND EASTING COORDINATES ARE GRID PER THE NAD 83/1990 ADJUSTMENT STATE PLANE.
2. ALL ELEVATIONS ARE IN THE NAVD '88 DATUM.
3. THE CENTERLINE GEOMETRY OF THE CONCRETE WALKWAYS IS BASED ON GPS FIELD LOCATES PERFORMED BY PBC. THE INTENT OF THE WALKWAY IS TO BE RADIAL ALONG THE CENTERLINE BASED ON A "POINT-TO-POINT" LAYOUT TO BE FIELD VERIFIED BY PBC PRIOR TO CLEARING, FORM WORK, AND PLACEMENT OF CONCRETE.
4. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DISTURBED, AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE PALM BEACH COUNTY SURVEY SECTION, WITHOUT DELAY BY PHONE.
5. THE CONTRACTOR SHALL PROTECT ALL PERMANENT REFERENCE MONUMENTS AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO SURVEY MARKERS DURING CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY PBC.

PAVING & GRADING NOTES

1. ALL CONCRETE SURFACES SHALL BE 0" TO 1" ABOVE THE GRADE ADJACENT TO THE CONCRETE UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
2. ALL CONSTRUCTION SHALL BE VERIFIED IN THE FIELD AND ADJUSTED TO MINIMIZE IMPACTS TO SURROUNDING AREAS INCLUDING MINIMIZING CUT/FILL REQUIREMENTS TO THE MAXIMUM EXTENT POSSIBLE WHILE STILL PROVIDING AN ADA ACCESSIBLE TRAIL.
3. SUBBASE SHALL BE COMPACTED IN ACCORDANCE WITH THE FDOT STANDARD SPECIFICATIONS. IF UNABLE TO REACH COMPACTION REQUIREMENTS, SUBGRADE WILL NEED TO BE STABILIZED UNTIL REQUIREMENTS ARE MET.
4. SUBBASE SHALL BE FREE OF MUCK, STUMPS, ROOTS, UNDERBRUSH, VEGETATIVE MATTER, GARBAGE, TRASH OR ANY MATERIAL THAT WILL NOT PROVIDE A SUITABLE STABLE, CLEAN SUBGRADE.
5. ANY MUCK ENCOUNTERED ON THE SITE MUST BE COMPLETELY REMOVED TO 5 FEET OUTSIDE THE EDGE OF ANY PROPOSED PAVEMENT.
6. WHERE GUMBO OR OTHER PLASTIC CLAY IS ENCOUNTERED, IT SHALL BE REMOVED FROM WITHIN THE PROJECT SITE UP TO ONE FOOT BELOW THE COMPACTED SUBGRADE, EXTENDING HORIZONTALLY TO BEYOND THE EDGE OF PROPOSED PAVEMENT.
7. THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT ALL UNDERGROUND INSTALLATIONS OF ANY KIND, INCLUDING IRRIGATION AND ELECTRICAL CONDUITS THAT WILL REMAIN UNDER THE PROPOSED PAVEMENT OR WITHIN 10 FEET OF ITS EDGES SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF THE BASE.
8. ALL SIDEWALK CONCRETE SHALL BE 6 INCHES THICK AND DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I. AT 28 DAYS, UNLESS SPECIFIED OTHERWISE. ALL CEMENT SHALL BE TYPE I.
9. RE-GRADING FROM EXISTING TO PROPOSED ELEVATIONS SHALL INCLUDE A COMPACTED 1' WIDE FLAT AREA ADJACENT TO THE CONCRETE WALKWAY AND THEN GRADED DOWN TO EXISTING NO STEEPER THAN 4H:1V NOR FLATTER THAN 20H:1V, UNLESS OTHERWISE SPECIFIED.
10. ALL EXCAVATED OR GRUBBED UNSUITABLE MATERIAL SUCH AS MUCK, MARL, AND DEBRIS, SHALL BE REMOVED FROM THE LIMITS OF CONSTRUCTION AND DISPOSED OF LEGALLY.
11. ADDITIONAL FILL MATERIAL FOR SUBBASE SHALL BE FREE OF MUCK, STUMPS, ROOTS, UNDERBRUSH, VEGETATIVE MATTER, GARBAGE, TRASH OR ANY MATERIAL THAT WILL NOT PROVIDE A SUITABLE STABLE, CLEAN SUBGRADE.

UTILITIES NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE EXACT LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES' WHETHER SHOWN OR NOT, PRIOR TO CONSTRUCTION. NOTIFY ALL UTILITIES INVOLVED PRIOR TO CONSTRUCTION.
2. EXISTING UTILITIES, ROADWAY AND DRAINAGE FACILITIES ARE LOCATED AND IDENTIFIED BASED ON THE AVAILABLE INFORMATION. THE CONTRACTOR IS TO VERIFY, WHERE NECESSARY, FOR PROPOSED CONSTRUCTION. ALL COSTS ASSOCIATED WITH VERIFICATION, PROTECTION OF EXISTING SYSTEMS OR CONNECTION TO THOSE ITEMS AS CALLED FOR ON THE PLANS IS INCLUDED IN THE BASE BID.
3. THE LOCATION OF UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF OTHER UTILITIES (NOT SHOWN ON PLANS) EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THERE BE UTILITY CONFLICTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, AND THE RESPECTIVE UTILITY OWNER(S) TO RESOLVE THE UTILITY CONFLICTS AND UTILITY ADJUSTMENTS AS REQUIRED.
4. PRIOR TO ANY EXCAVATION THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES.
5. THE CONTRACTOR SHALL NOTIFY SUNSHINE STATE ONE-CALL OF FLORIDA, INC AT 1-800-432-4770 AND ALL AFFECTED UTILITIES 48 HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING THEIR FACILITIES SO THAT A COMPANY REPRESENTATIVE MAY BE PRESENT.
6. UTILITIES ARE TO BE ADJUSTED OR RELOCATED BY OTHERS AS DIRECTED BY THE COUNTY.
7. ALL EXISTING DRAINAGE STRUCTURES AND PIPES WITHIN THE LIMITS OF THE PROJECT SHALL REMAIN UNLESS OTHERWISE NOTED.
8. FOR FURTHER UTILITY INFORMATION CONTACT THE FOLLOWING:

8.1.	FLORIDA POWER AND LIGHT	JORGE SANCHEZ	561-616-1612
8.2.	ATT/ DISTRIBUTION	GARTH BEDWARD	561-540-9583
8.3.	COMCAST	MARK MILFORD	561-882-4510
8.4.	SEACOAST UTILITY AUTHORITY	JIM LANCE	561-627-2900

T. JEFF TROMPETER LICENSE No. 51045 STATE OF FLORIDA PROFESSIONAL ENGINEER
3/16/16

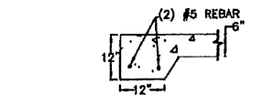
PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

No.
By
Revision
Date
Scale:
Approved: TM
Drawn: DV
Checked: TM
Date: 1/24/2016
Field Book No:

SEAL

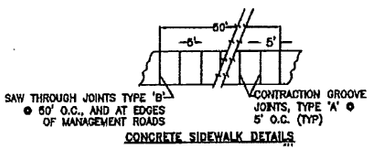
Project: LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES
NOTES

Sheet: 2 of 33

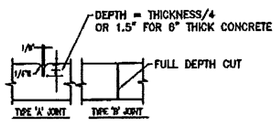


CONCRETE SIDEWALK THICKENED EDGE DETAIL

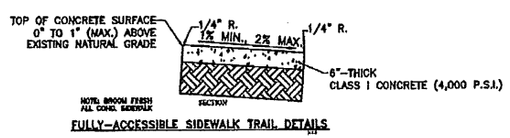
FOR USE AT CONNECTION TO BOARDWALKS
COORDINATE w/STRUCTURAL DRAWINGS



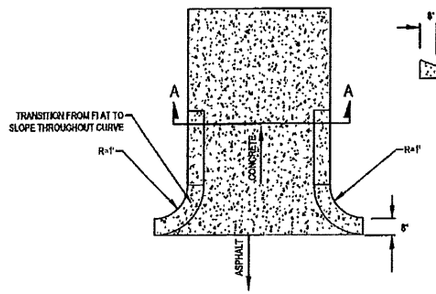
CONCRETE SIDEWALK DETAILS



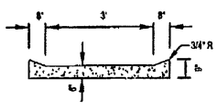
SIDEWALK JOINT DETAIL



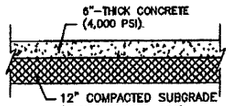
FULLY-ACCESSIBLE SIDEWALK TRAIL DETAILS



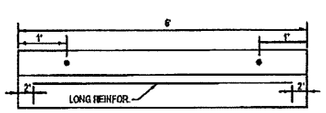
CONCRETE FLUME DETAIL
N.T.S.

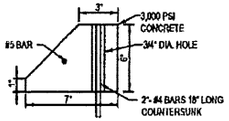


SECTION A-A

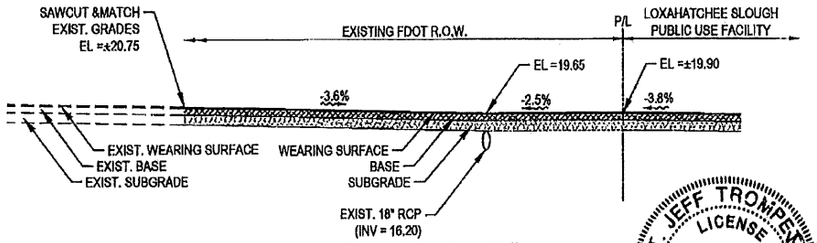


TYPICAL SIDEWALK SECTION





CONCRETE WHEEL STOP DETAIL
N.T.S.



SECTION A-A (SHEET 6)
(ENTRANCE)
SCALE: 1" = 10'

ASPHALT PAVEMENT OFFSITE SR 710 R/W (FDC)	1" THICK, FRICTION COURSE; FC9.5 1.5" STRUCTURAL COURSE (TRAFFIC LEVEL C)	OPTIONAL BASE GROUP 13	12" THICK, COMPACTED TO 98% MAXIMUM DRY DENSITY A.A.S.H.T.O. T-180

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL
RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

Scale:	
Approved:	MT
Drawn:	CM
Checked:	MT
Date:	1/24/2013
Field Book No.	

SEAL

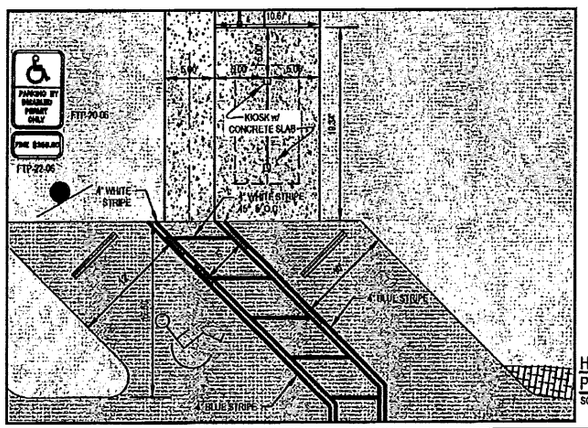
Project: LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES

DETAILS

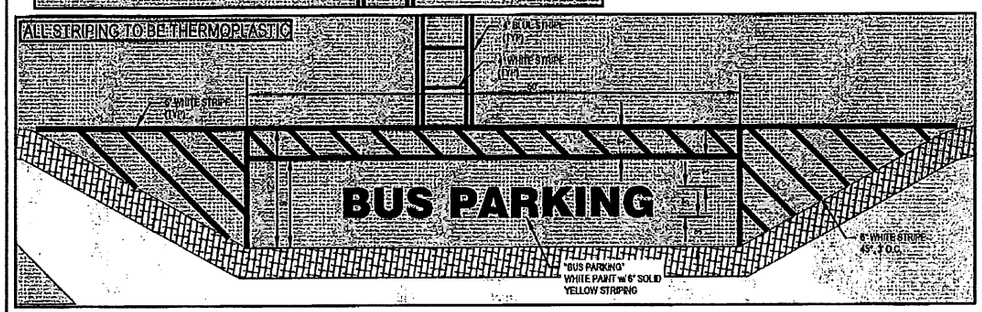
Sheet: 3 of 33

T. JEFF TROMPETER
LICENSE
No. 51045
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
3/6/14

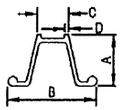
PAVING SPECIFICATIONS			
TYPE	WEARING SURFACE	BASE	SUBGRADE
ASPHALT PAVEMENT ONSITE	1 3/4" THICK, TYPE S-III A.C.S.C. (OR SP9.5) - TWO LIFTS (FIRST LIFT TO BE 3/4" AND 2ND LIFT TO BE 1")	8" THICK, BASEROCK (OR FDOT OPTIONAL BASE GROUP 6) COMPACTED IN TWO EQUAL LIFTS TO 98% MAXIMUM DRY DENSITY A.A.S.H.T.O. T-180 (LBR 100) EXTEND BASEROCK AT A MIN. 4" THICKNESS UNDER FLUMES AND 3' PAST EDGE OF UNCURBED PAVEMENT FOR STABILIZED SHOULDERS.	12" THICK, COMPACTED TO 98% MAXIMUM DRY DENSITY A.A.S.H.T.O. T-180
ASPHALT PAVEMENT OFFSITE SR 710 R/W (PBC)	1" THICK, FRICTION COURSE; FC9.5 1.5" STRUCTURAL COURSE (TRAFFIC LEVEL C)	OPTIONAL BASE GROUP 13	12" THICK, COMPACTED TO 98% MAXIMUM DRY DENSITY A.A.S.H.T.O. T-180



HANDICAP & STANDARD PARKING STALL DETAIL
SCALE: 1" = 10'



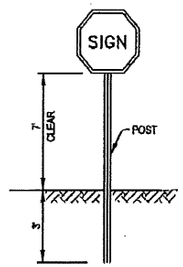
BUS PARKING DETAIL
SCALE: 1" = 10'



CHANNEL POST

DIMENSION	3.00 LBS PER LF
'A'	1.875"
'B'	3.5"
'C'	1.313"
'D'	0.22"

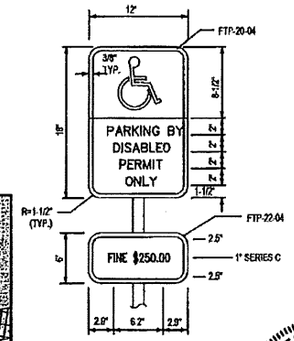
NOTE: SQUARE POST PER FDOT INDEX 11660



GENERAL SPECIFICATIONS

POST: STEEL FLANGED CHANNEL POST (3 LBS/LF) WITH BAKED GREEN ALKYD OR GALVANIZED FINISH PER A.S.T.M. A-123 WITHOUT ANCHOR PLATES.
STOP SIGN: R1-1 MUTCD DIAMOND GRADE
HANDICAP SIGN: FTP 20-04 & 22-04
LOCATION: AS INDICATED ON THE PLANS.

TYPICAL SIGN & POST DETAILS
N.T.S.



HANDICAP SIGN DETAILS
N.T.S.

NOTES:

SIGN FTP-20-04

1. ALL LETTERS ARE 1" SERIES "C".
2. TOP PORTION OF SIGN SHALL HAVE A REFLECTORIZED BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND & BORDER.
3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED WHITE BACKGROUND WITH BLACK OPAQUE LEGEND & BORDER.

SIGN FTP-22-04

1. ALL LETTERS ARE 1" SERIES "C".
2. BACKGROUND WHITE, LEGEND AND BORDER BLACK.

T. JEFF TROMPETER
LICENSE
No. 51045
STATE OF FLORIDA
PROFESSIONAL ENGINEER
3/16/18

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

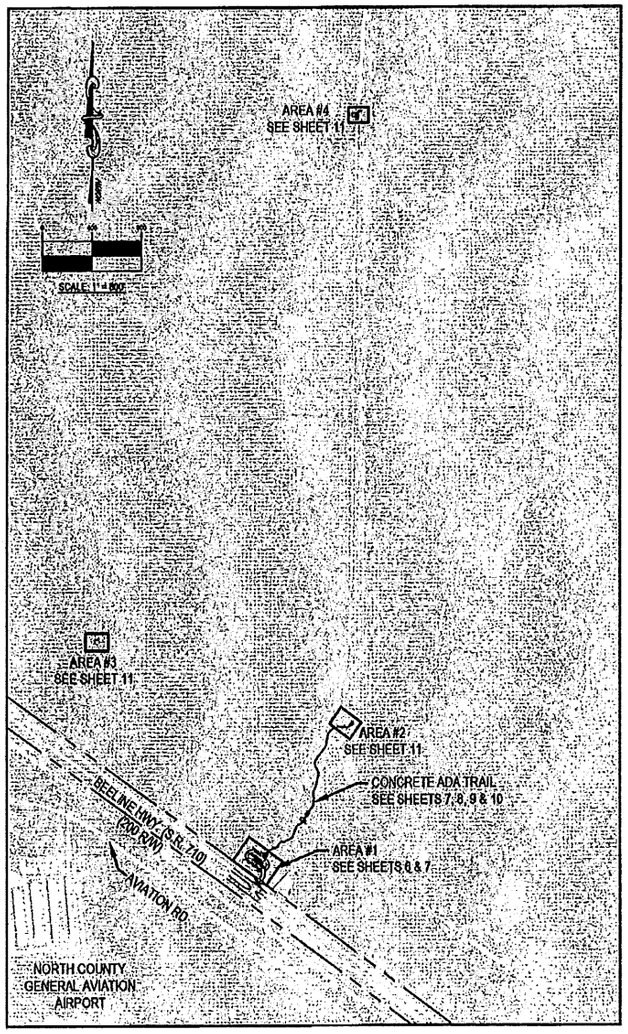
Scale:
Approved: TJT
Drawn: CW
Checked: TJT
Date: 1/24/2018
Field Book No:

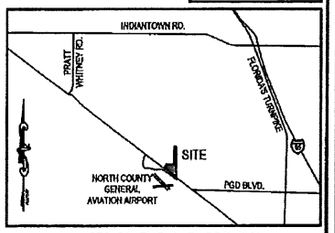
SEAL

Project: LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES
DETAILS

Sheet: 4 of 33

DATUM = NAVD '88





SEC. 01 - TWP. 41 S - RGE. 42 E
LOCATION MAP
N.T.S.

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL
RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

Scale:
Approved: TJT
Drawn: CM
Checked: TJT
Date: 1/24/2018
Field Book No:

SEAL

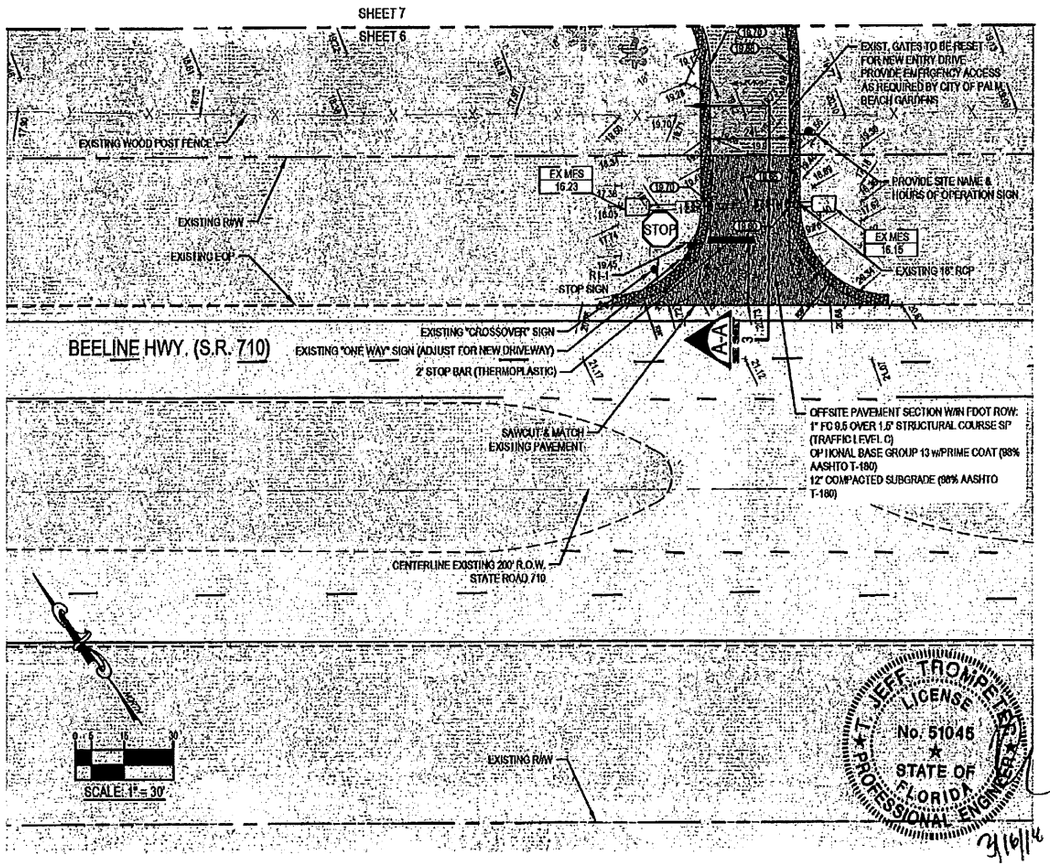
LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES

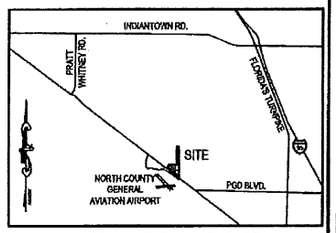
OVERALL SITE PLAN

Sheet: 5
of 33

T. JEFF TROMPETER
LICENSE
No. 51045
STATE OF FLORIDA
PROFESSIONAL ENGINEER
5/16/18

DATUM = NAVD '88





SEC. 01 - TWP. 41 S - RGE. 42 E
LOCATION MAP
N.T.S.

LEGEND

EXISTING FENCE	X
EXISTING STORM DRAINAGE	EXSTM
EXISTING EOP REMOVAL	
PROPOSED OFFSITE PAVEMENT	
PROPOSED PAVEMENT	
PROPOSED STABILIZATION	
PROPOSED CONCRETE	
EXISTING ELEVATION	0.00
PROPOSED ELEVATION	0.00
PROPOSED ELEVATION/ NORTHING & EASTING	N: 916570.8 E: 912061.2 EL: 19.60
DIRECTION OF FLOW	

NOTES:

1. PROPOSED STABILIZATION REQUIRED ALONG EDGE OF PAVEMENT WHERE NO CURB IS PRESENT. EXTEND BASE ROCK THICKNESS 3' BEYOND ASPHALT LIMITS.
2. ADA COMPLIANT CONCRETE WALK TO BE 6' WIDE; 6" THICK; 4,000 PSI. ALL SLOPES DEPICTED REPRESENT LONGITUDINAL SLOPES AT THE CENTERLINE OF THE WALK. GRADE SIDE PER DETAIL #/1" FLAT ADJACENT TO WALK AND 4H:1V DOWN TO EXIST. GRADE PER PAVING & GRADING NOTE 9, SHEET 2.
3. SIGN POSTS IN FDOT R/W TO CONFIRM TO FDOT SPECIFICATIONS INCLUDING INDEX 11860.

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

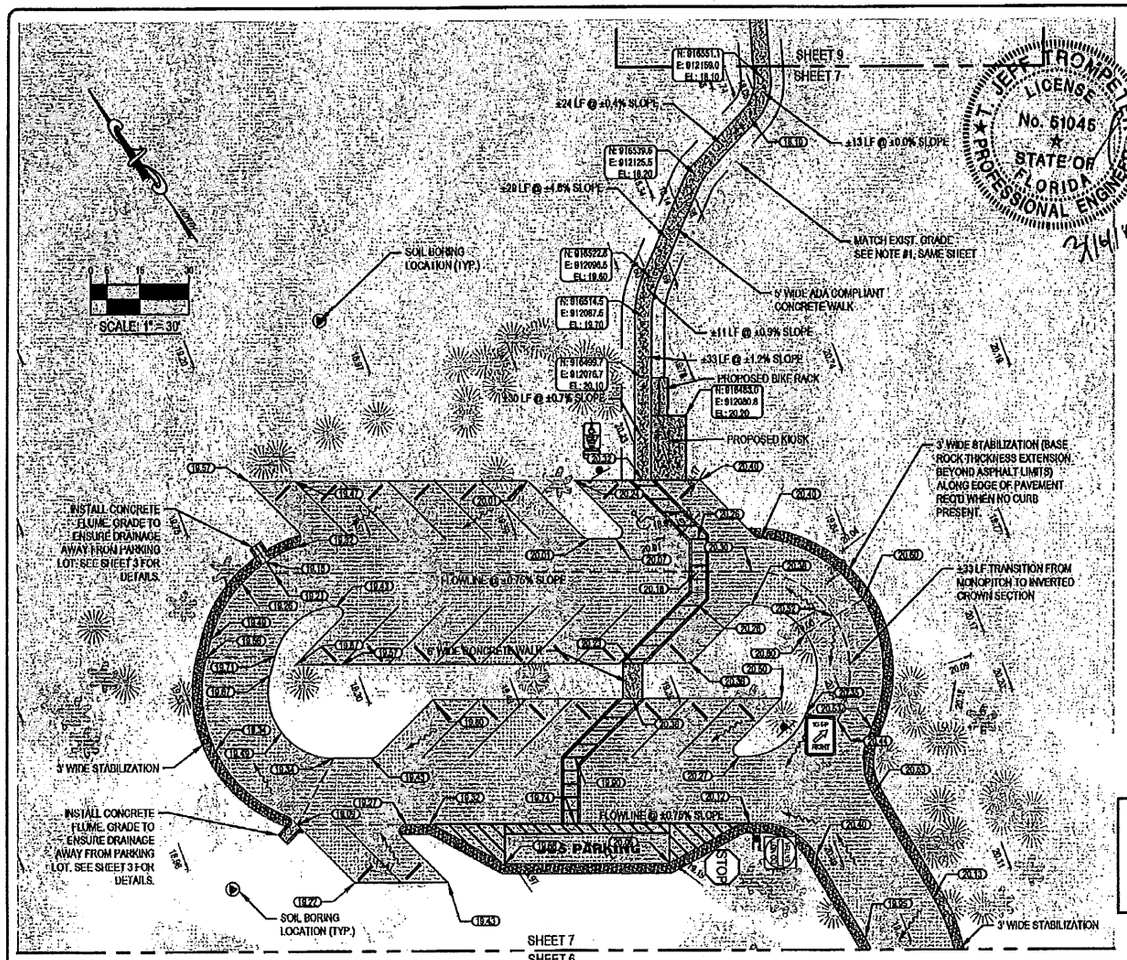
No.	Revision	By	Date
1	CDY COMMENTS	JT	1/15/18

Scale: 1
Approved: TJT
Drawn: CJF
Checked: TJT
Date: 1/24/2018
Field Book No:

SEAL

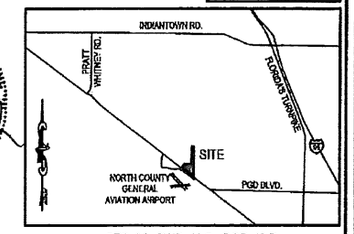
Project: LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES
CIVIL - AREA 1

Sheet: 6 of 33



AREA #1

DATUM = NAVD '88



SEC. 01 - TWP. 41 S - RGE. 42 E
LOCATION MAP
N.T.S.

LEGEND

EXISTING FENCE	X
EXISTING STORM DRAINAGE	EXSTM
EXISTING EOP REMOVAL	
PROPOSED OFFSITE PAVEMENT	
PROPOSED PAVEMENT	
PROPOSED STABILIZATION	
PROPOSED CONCRETE	
EXISTING ELEVATION	0.00
PROPOSED ELEVATION	0.00
PROPOSED ELEVATION/ NORTHING & EASTING	N: 916570.6 E: 912061.2 EL: 19.60
DIRECTION OF FLOW	

NOTES:

1. PROPOSED STABILIZATION REQUIRED ALONG EDGE OF PAVEMENT WHERE NO CURB IS PRESENT. EXTEND BASE ROCK THICKNESS 3' BEYOND ASPHALT LIMITS.
2. ADA COMPLIANT CONCRETE WALK TO BE 5' WIDE; 6" THICK; 4,000 PSI. ALL SLOPES DEPICTED REPRESENT LONGITUDINAL SLOPES AT THE CENTERLINE OF THE WALK. GRADE SIDE PER DETAIL #1/ FLAT ADJACENT TO WALK AND 4H:1V DOWN TO EXIST. GRADE PER PAVING & GRADING NOTE 9, SHEET 2.

T. JEFF TROMPETER
LICENSE
No. 51045
STATE OF FLORIDA
PROFESSIONAL ENGINEER
3/14/18

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-5743
(561) 233-2400

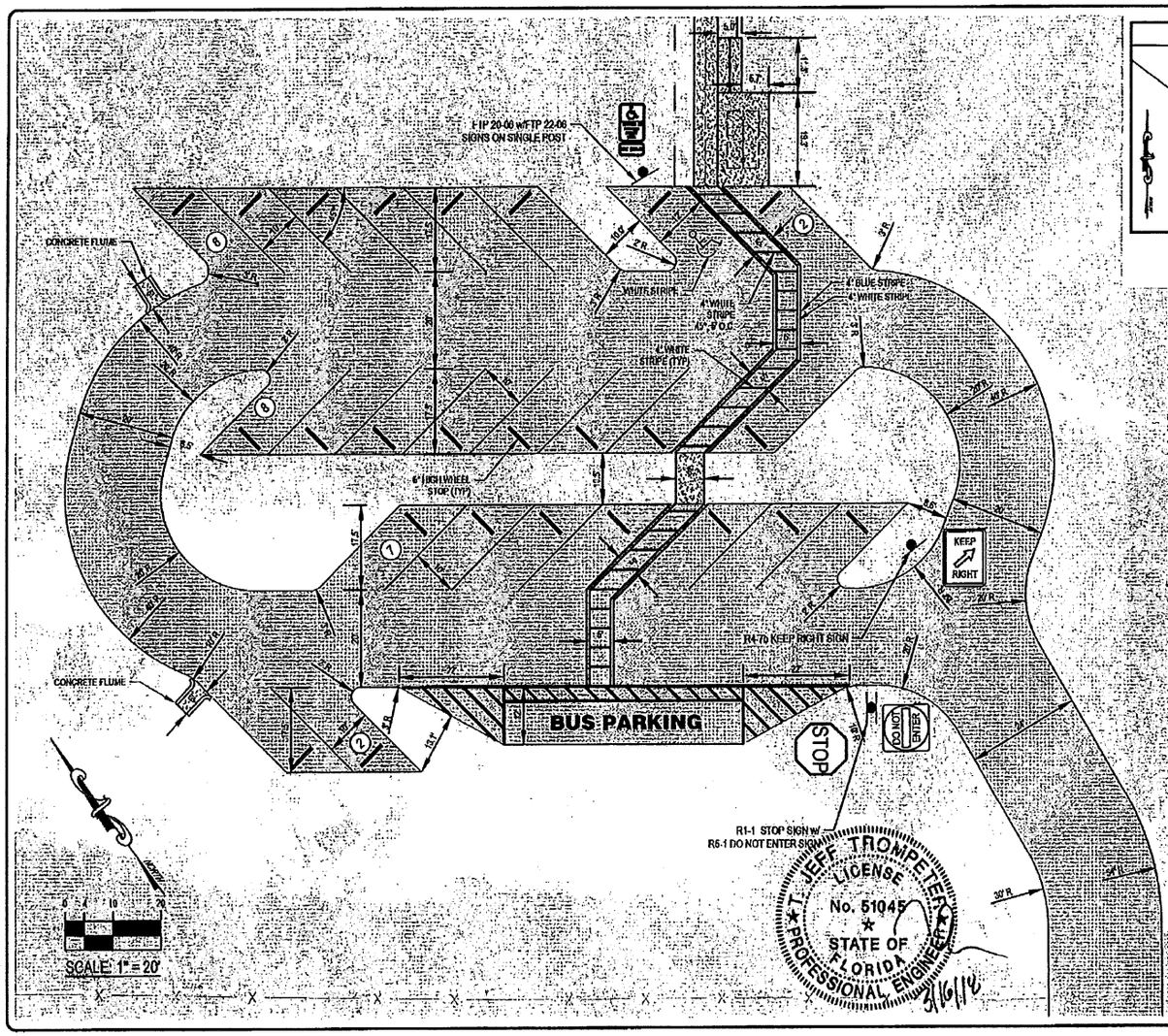
No.	Revision	By	Date
1	CTY COMMENTS	JT	1/8/18

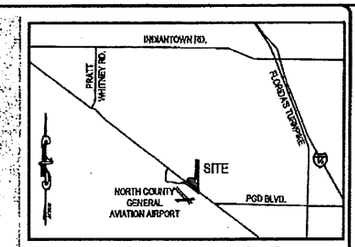
Scale:
Approved: TJT
Drawn: CW
Checked: TJT
Date: 1/21/2018
Field Book No.

SEAL

Project: LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES
CIVIL - AREA 1

Sheet: 7 of 33





SEC. 01 - TWP. 41 S - RGE. 42 E
LOCATION MAP
N.T.S.

ALL STRIPING TO BE THERMOPLASTIC

LEGEND

"STOP" SIGN (R1-1) (30" x30")

"HANDICAP" SIGN (FTP-20-06) (12"X18") & "$250 FINE" SIGN (FTP-22-06) (6"X12")

KEEP RIGHT SIGN (R7-4b) (12"X18")

DO NOT ENTER SIGN (R5-1) (30" X 30")

NOTES:

1. ALL CONSTRUCTION AND RESTORATION WORK WITHIN FDOT RIGHT-OF-WAY SHALL COMPLY WITH THE LATEST EDITION OF THE FDOT DESIGN STANDARDS AND THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. ONSITE PAVEMENT MARKINGS & SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS AND PALM BEACH COUNTY TYPICAL T-P-17.
3. SAFE SITE DISTANCE TRIANGLES AT EXIT DRIVE TO COMPLY WITH FDOT INDEX 546.
4. ALL STRIPING TO BE THERMOPLASTIC WITH A MINIMUM THICKNESS OF 100 MILS AND CONFORM TO FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 711.

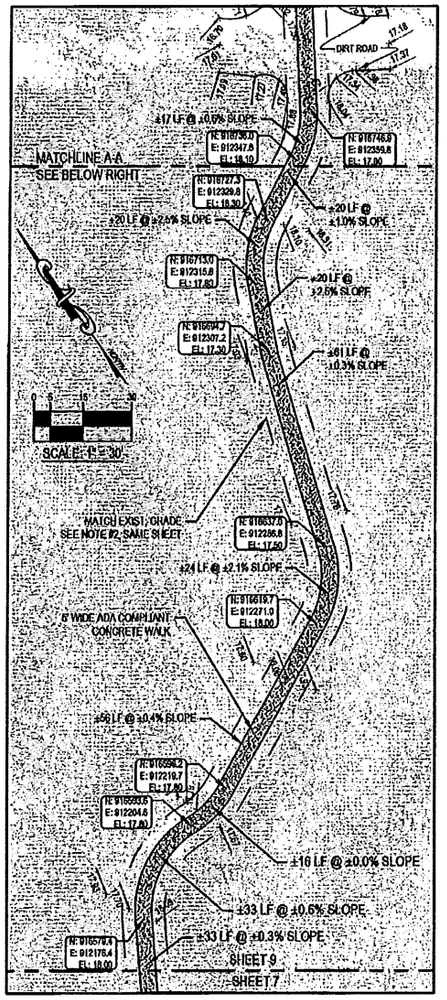
PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

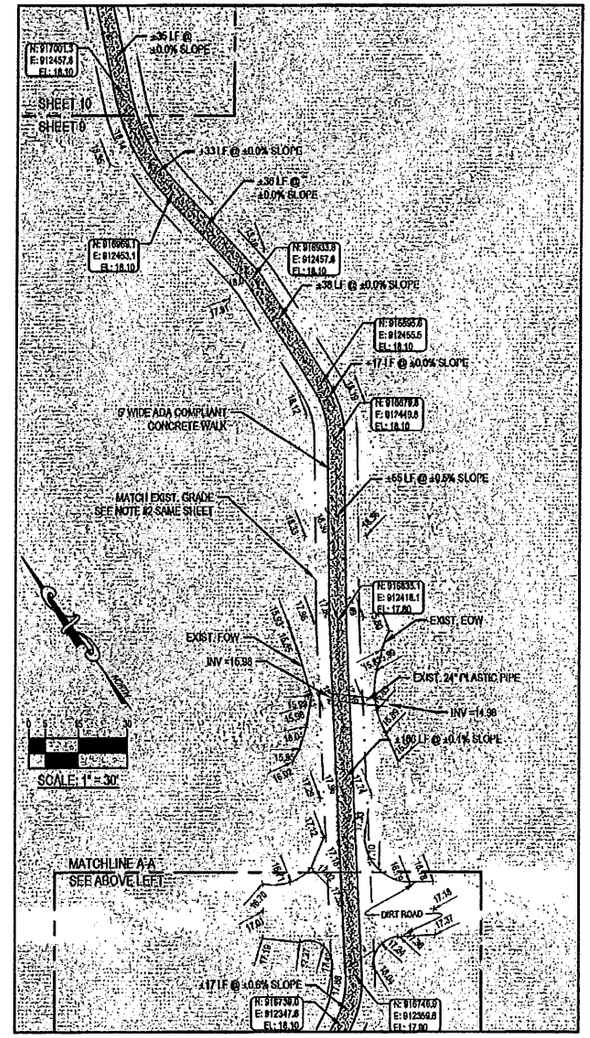
Scale: 1
Approved: TJT
Drawn: CW
Checked: TJT
Date: 1/24/2018
Field Book No:

SEAL

Project: LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES
ENLARGED PLAN (AREA 1)

Sheet: 8 of 33





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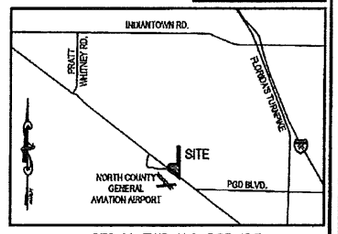


SEC. 01 - TWP. 41 S - RGE. 42 E
LOCATION MAP
N.T.S.

LEGEND

PROPOSED CONCRETE	
EXISTING ELEVATION	0.00
PROPOSED ELEVATION	0.00
DIRECTION OF FLOW	
PROPOSED ELEVATION/ NORTHING & EASTING	N: 916570.6 E: 912061.2 EL: 19.50

NOTES:

1. ALL STRUCTURES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY - REFERENCE STRUCTURAL DRAWINGS FOR DIMENSIONS, PILINGS, ATTACHMENTS, ETC.
2. ADA COMPLIANT CONCRETE WALK TO BE 5' WIDE; 6" THICK; 4,000 PSI. ALL SLOPES DEPICTED REPRESENT LONGITUDINAL SLOPES AT THE CENTERLINE OF THE WALK. GRADE SIDE PER DETAIL w/1' FLAT ADJACENT TO WALK AND 4H:1V DOWN TO EXIST. GRADE PER PAVING & GRADING NOTE 9, SHEET 2.

T. JEFF TROMPETER
LICENSE
No. 51045
STATE OF FLORIDA
PROFESSIONAL ENGINEER

3/16/18

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

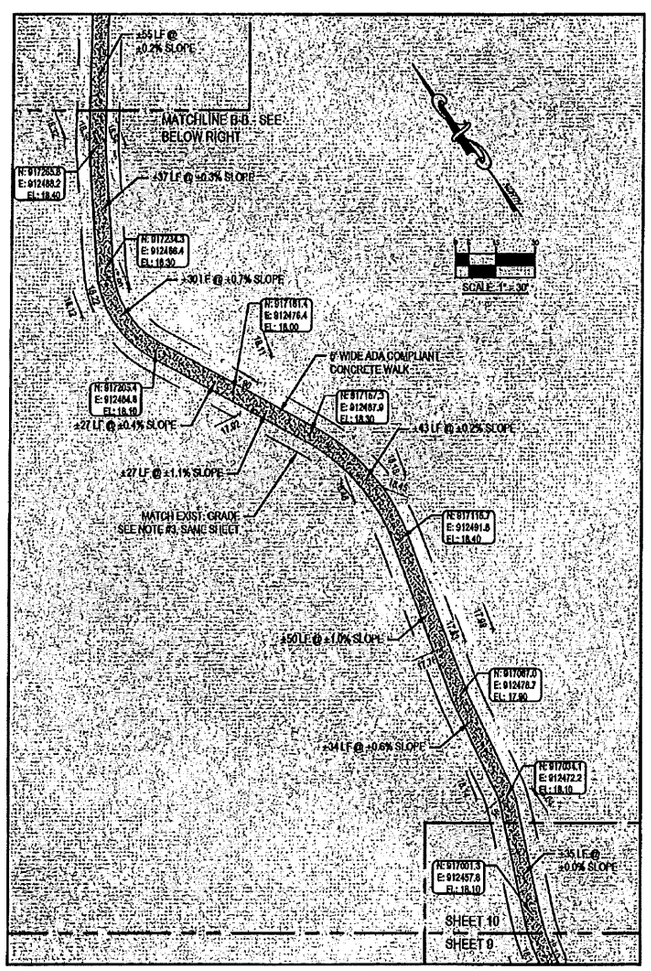
Scale:
Approved: TJT
Drawn: CW
Checked: TJT
Date: 1/24/2018
Field Book No:

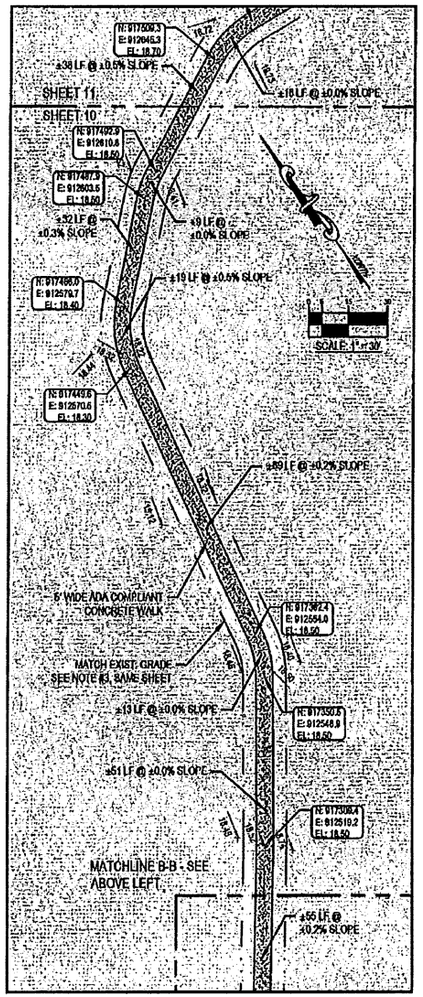
SEAL

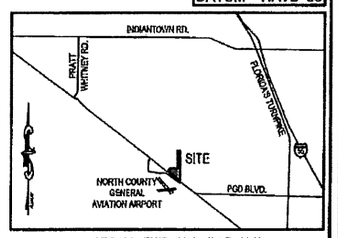
Project:
LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES
CIVIL - ADA WALK

Sheet 9 of 33

DATUM = NAVD '88







SEC. 01 - TWP. 41 S - RGE. 42 E
LOCATION MAP
N.T.S.

NOTES:

1. ALL STRUCTURES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY - REFERENCE STRUCTURAL DRAWINGS FOR DIMENSIONS, PILINGS, ATTACHMENTS, ETC.
2. ADA COMPLIANT CONCRETE WALK TO BE 6' WIDE; 6" THICK; 4,000 PSI. ALL SLOPES DEPICTED REPRESENT LONGITUDINAL SLOPES AT THE CENTERLINE OF THE WALK. GRADE SIDE PER DETAIL w/1" FLAT ADJACENT TO WALK AND 4H:1V DOWN TO EXIST. GRADE PER PAVING & GRADING NOTE 9, SHEET 2.

JEFF TROMPETER
LICENSE
No. 51045
STATE OF FLORIDA
PROFESSIONAL ENGINEER
3/16/18

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4TH FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

No.	Revisions	Date

Scale:
Approved: TAT
Drawn: CW
Checked: TAT
Date: 1/24/2018
Field Book No.

SEAL

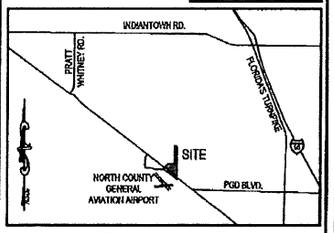
Project:
LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES
CIVIL - ADA WALK

Sheet: 10
of 33

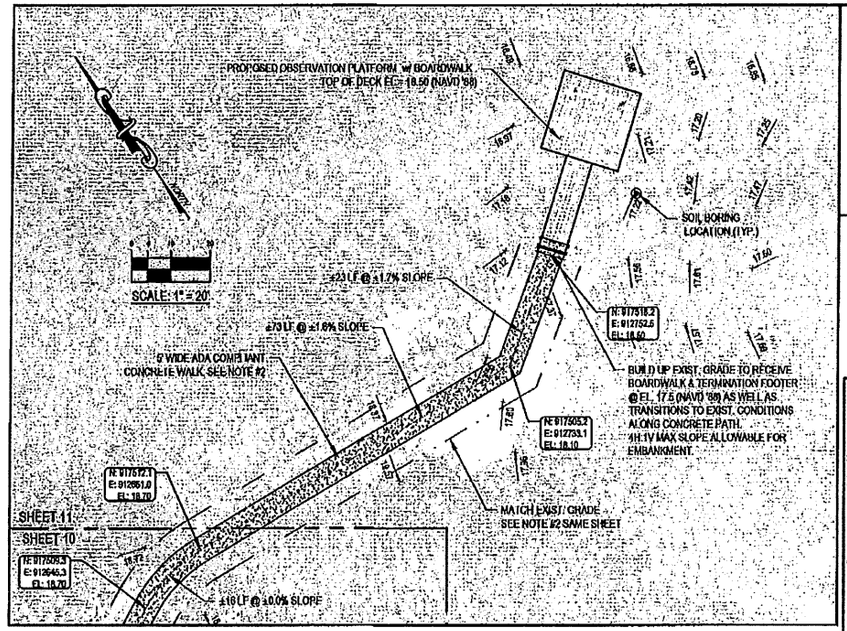
DATUM = NAVD '88

NOTES:

1. ALL STRUCTURES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY - REFERENCE STRUCTURAL DRAWINGS FOR DIMENSIONS, PILINGS, ATTACHMENTS, ETC.
2. ADA COMPLIANT CONCRETE WALK TO BE 6' WIDE; 6" THICK; 4,000 PSI. ALL SLOPES DEPICTED REPRESENT LONGITUDINAL SLOPES AT THE CENTERLINE OF THE WALK. GRADE SIDE PER DETAIL 9/1" FLAT ADJACENT TO WALK AND 4H:1V DOWN TO EXIST. GRADE PER PAVING & GRADING NOTE 9, SHEET 2.



SEC. 01 - TWP. 41 S - RGE. 42 E
LOCATION MAP
N.T.S.



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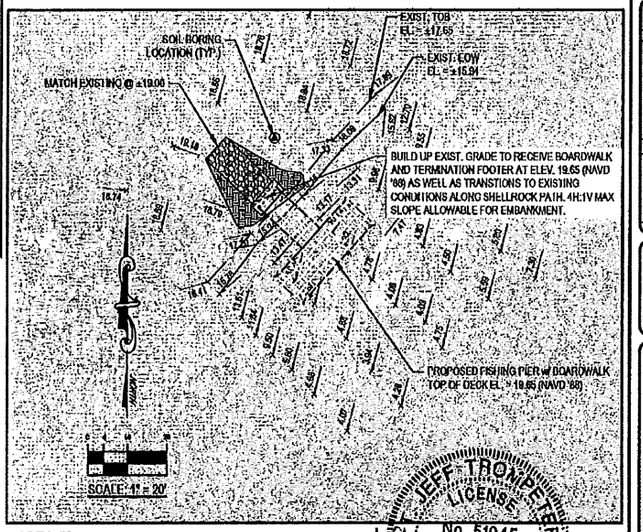

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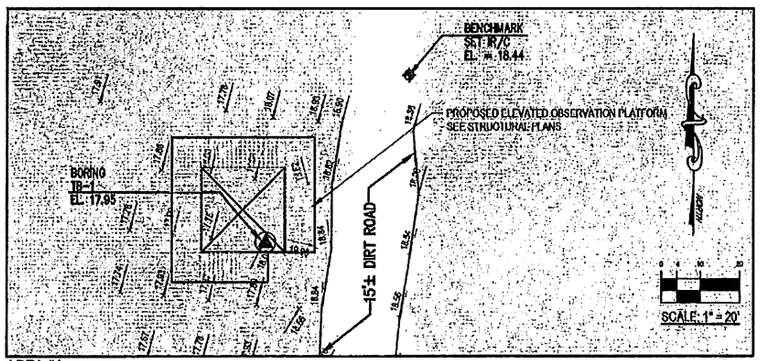


AREA #4

JEFF THOMPSETT LICENSE No. 51045 STATE OF FLORIDA PROFESSIONAL ENGINEER
3/10/18

GDI

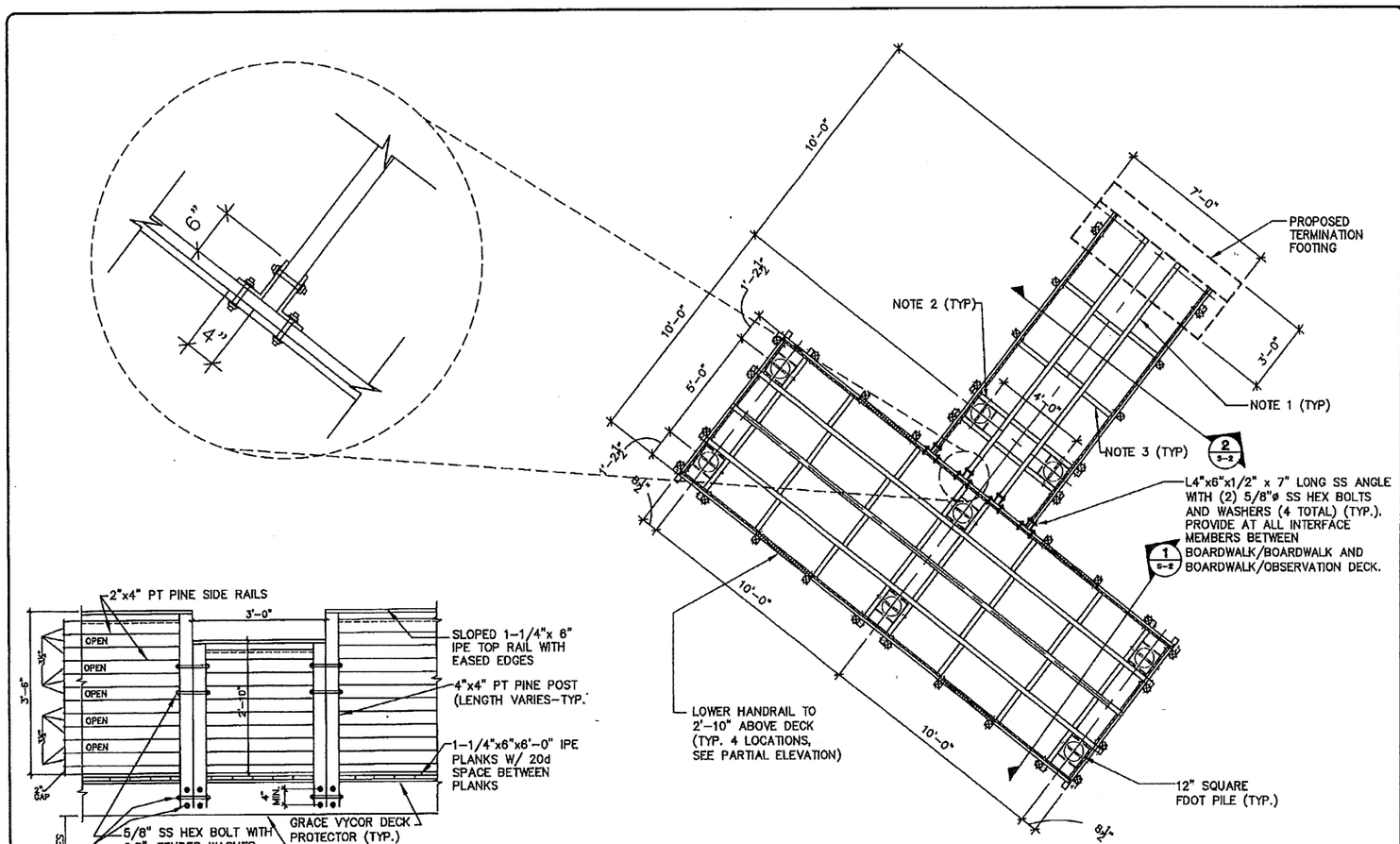
PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4TH FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

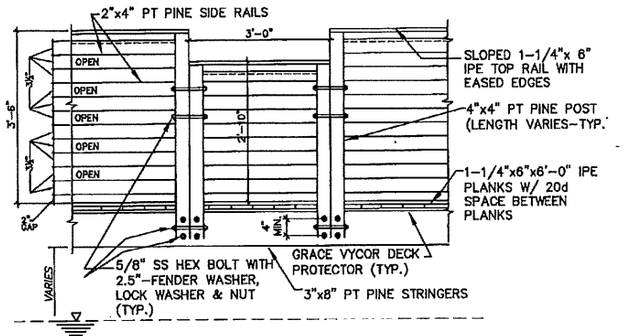
Scale:
Approved: MT
Drawn: CW
Checked: MT
Date: 1/24/2018
Field Book No:

SEAL

Project:
LOXAHATCHEE SLOUGH
PUBLIC USE FACILITIES
CIVIL-AREAS 2,3,&4

Sheet:
11
of 33





PARTIAL ELEVATION

N.T.S.

PLAN VIEW - FISHING PIER

1/4"=1'-0"

NOTES:
1) 3"x8" P.T. STRINGER
2) 3"x12" PILE CAP STRINGER
3) 3"x8" BLOCKING

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

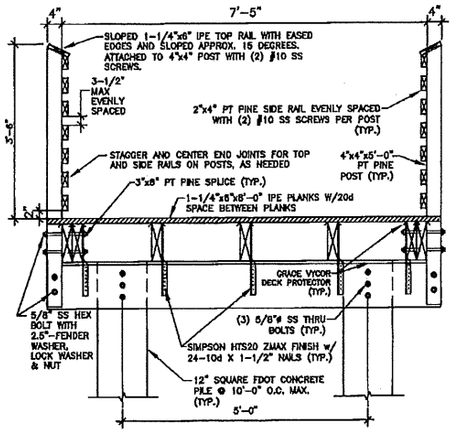
O'Donnell, Naccarato, Mcnayre Jackson
FLORIDA REGISTRY
IBI ECS STREET, SUITE 200
WEST PALM BEACH, FLORIDA 33401
(561) 832-3441 FAX (561) 832-3282
EC #0002484
JOB # 708.008

Date:
Dsg:
Revisions:
No:
Scale:
Approved:
Drawn: DS
Checked: KP/P.R
Date: 1/24/2018
Field Book No:

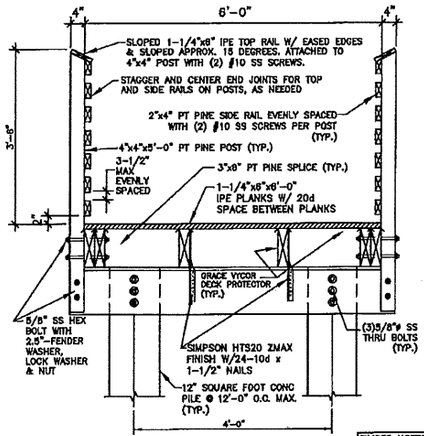
SEAL

Project:
LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

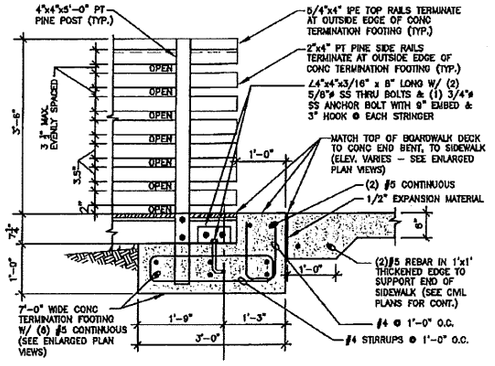
Sheet:
S-1
OF 33



SECTION 1
1/2"=1'-0"
S-2



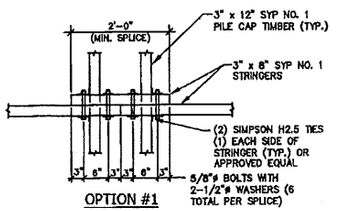
SECTION 2
1/2"=1'-0"
S-2



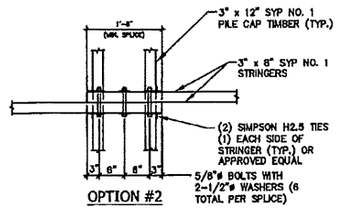
PROPOSED TERMINATION FOOTING
1/2"=1'-0"

PILING NOTES:
1. 12" PILES SHALL BE DRIVEN TO A MINIMUM EMBEDMENT OF 12'-0" BELOW THE MUDLINE/GRADE.
2. MAXIMUM PILE SPACING SHALL BE 10'-0" O.C.
3. PILES SHALL HAVE A 5 TON SERVICE LOAD, MINIMUM.
4. PILES SHALL BE 12" SQUARE FDOT PRESTRESSED CONCRETE PER FDOT INDEX 20612.

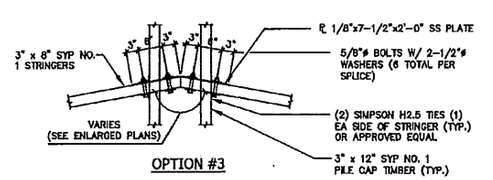
TIMBER NOTES:
1) LUMBER SIZES INDICATED ARE NOMINAL.
2) LUMBER SHALL BE PT SYP GRADE 1, EXCEPT FOR DECKING, TOP RAILS, AND BENCHES, WHICH SHALL BE IPE.
3) BOARDWALK DECKING, TOP RAILS, AND BENCHES SHALL BE CONSTRUCTED OF THE TROPICAL HARDWOOD IPE AMARELO (TABEBUIA SERRATIFOLIA).
4) ALL NUTS, BOLTS, WASHERS AND FRAMING HARDWARE SHALL BE STAINLESS STEEL 316 (U.N.O.)
5) IPE FASTENERS SHALL BE #8x3" STAINLESS STEEL 316 WOODPECKER TRIM HEAD FINISH SCREWS BY SWAN SECURE OR EQUAL APPROVED BY COUNTY. TWO SCREWS ARE REQUIRED PER STRINGER LOCATION. DECKING SHALL BE PRE-DRILLED FOR A FLUSH SCREW SET. STAINLESS STEEL DECK SCREWS SHALL BE ALIGNED WITH CHALK SNAP LINE.
6) CONTRACTOR SHALL SPACE IPE DECKING WITH 20d NAIL (0.203").
7) STRINGERS, BLOCKING AND PILE CAP TIMBERS TO BE WRAPPED IN GRACE VYCOR DECK PROTECTOR PER MANUFACTURERS SPECIFICATIONS.



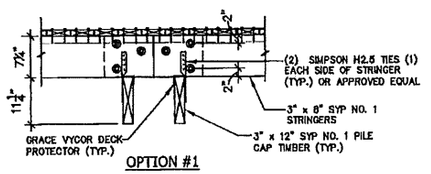
OPTION #1



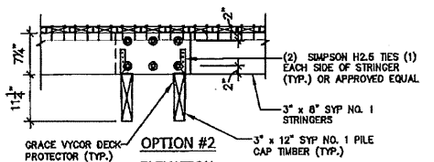
OPTION #2
PLAN



OPTION #3

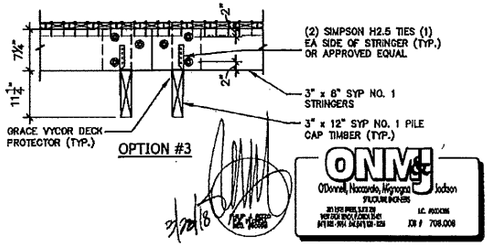


OPTION #1



OPTION #2
ELEVATION

STRINGER SPLICE DETAILS
1/2"=1'-0"



OPTION #3

3/28/18

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O'Donnell, Naccarato, Mcgregor & Jackson
PROFESSIONAL ENGINEERS
LC. #000286
JOB # 708.006

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DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

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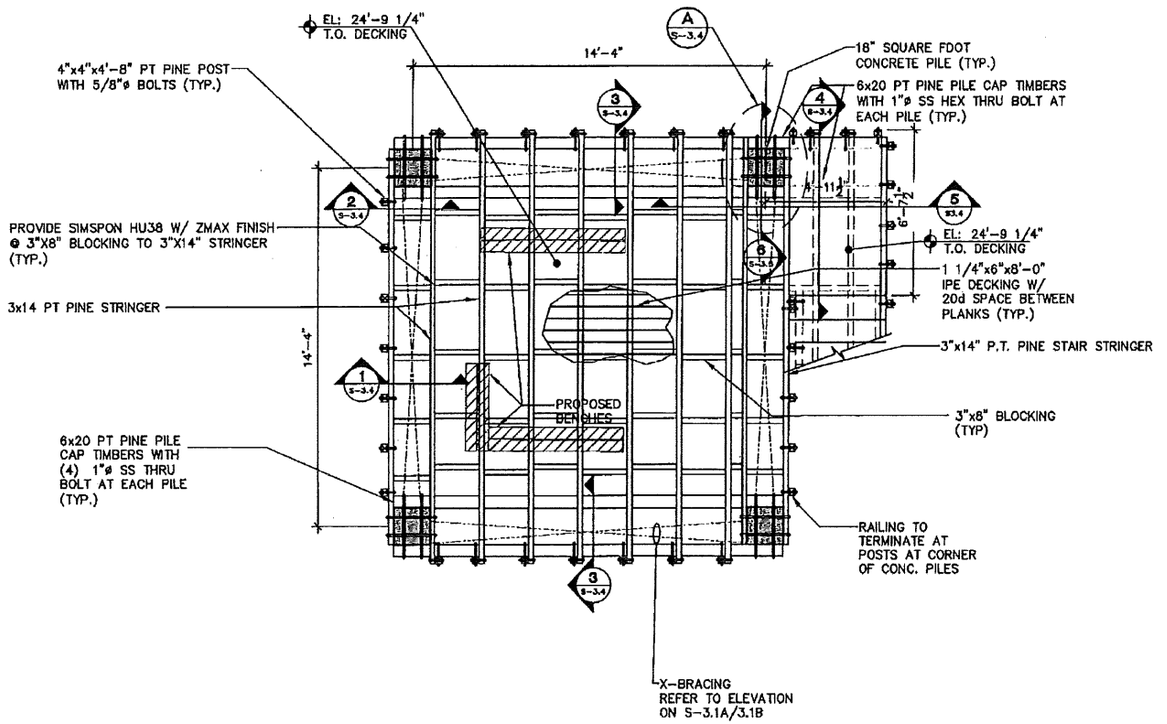

NORTH OBSERVATORY DECK - FRAMING PLAN

1/4"=1'-0"

NOTE: 18" SQUARE FDOT CONCRETE PILE TO HAVE 12 STRAND PATTERN – .06"ø, GRADE 270 LRS AT 35 KIPS.

ONM
O'Donnell, Naccarato, Mignogna & Jackson
PROCUREMENT
TOLL FREE LOCAL AREA
NORTH BEACH, FLORIDA 33410
(561) 233-2480
LC #
ICN # 708.008

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL
RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
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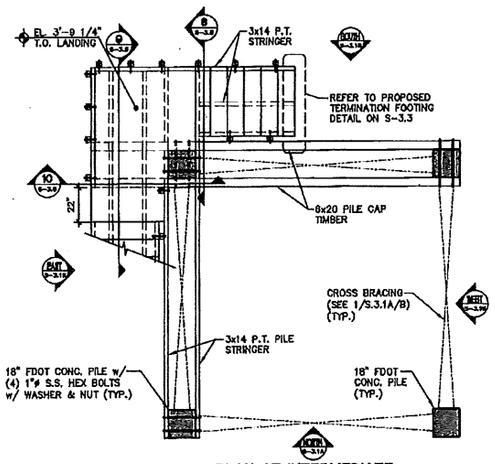
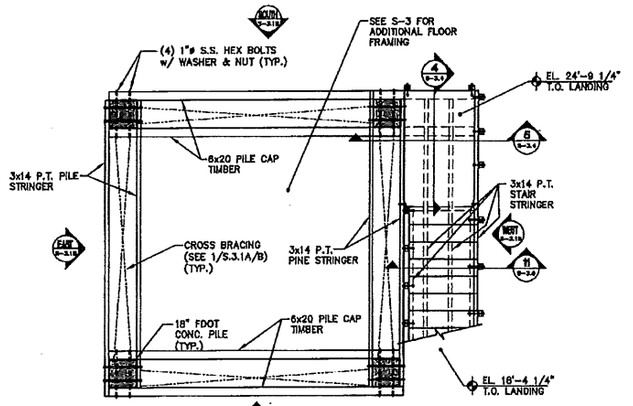
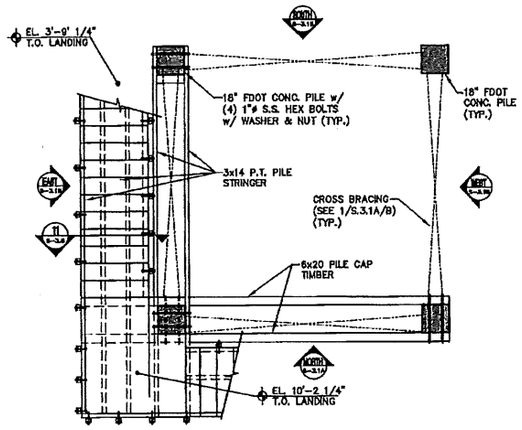


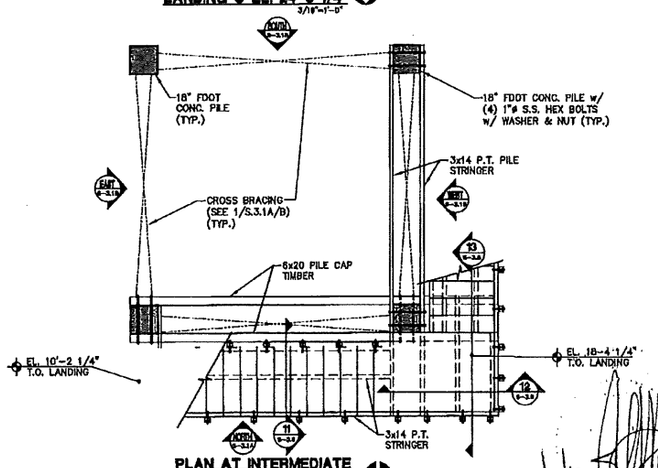
PLAN AT INTERMEDIATE LANDING @ EL. 3'-9 1/4"
3/16"=1'-0"



PLAN AT INTERMEDIATE LANDING @ EL. 24'-9 1/4"
3/16"=1'-0"



PLAN AT INTERMEDIATE LANDING @ EL. 10'-2 1/4"
3/16"=1'-0"



PLAN AT INTERMEDIATE LANDING @ EL. 18'-4 1/4"
3/16"=1'-0"

3/08/18

ONMJ
O'Donnell, Naccarato, Mcinerney & Jackson
ENGINEERS
LIC. #0026084
JOB # 708.008

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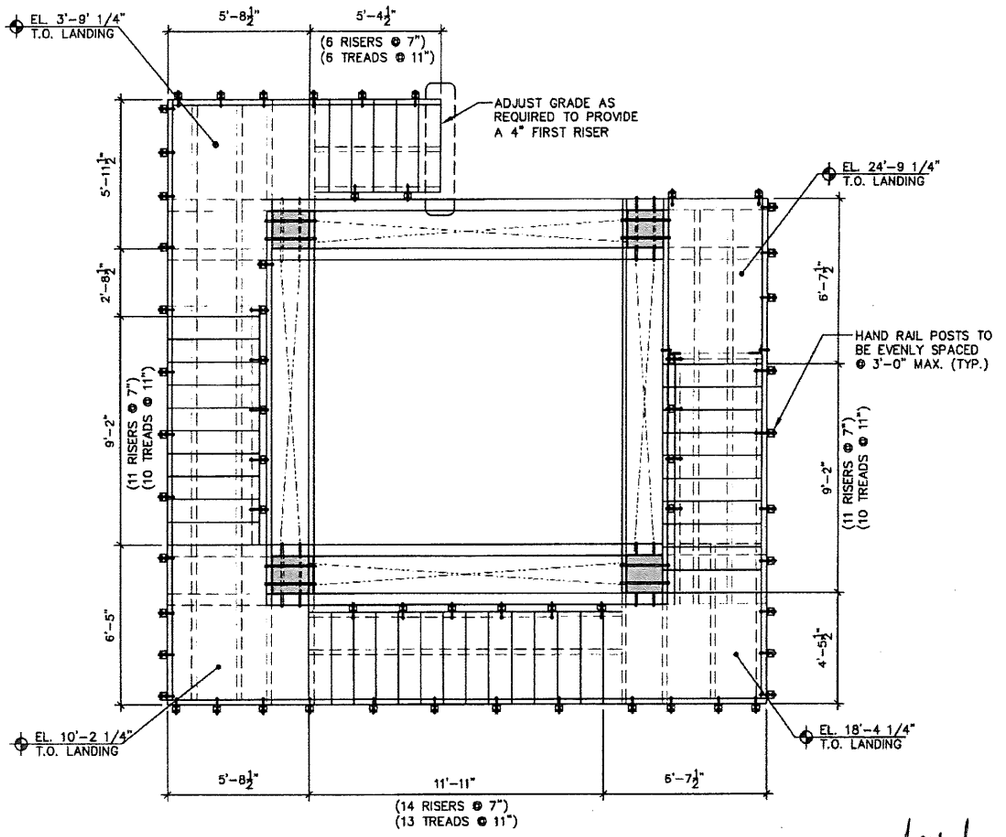

OVERALL DIMENSION PLAN
1/4"=1'-0"

3/23/16

ONM
O'Donnell, Naccarato, Mignogna & Jackson
STRUCTURAL ENGINEERS
LC 4000004
JOB # 708.001

PALM BEACH COUNTY
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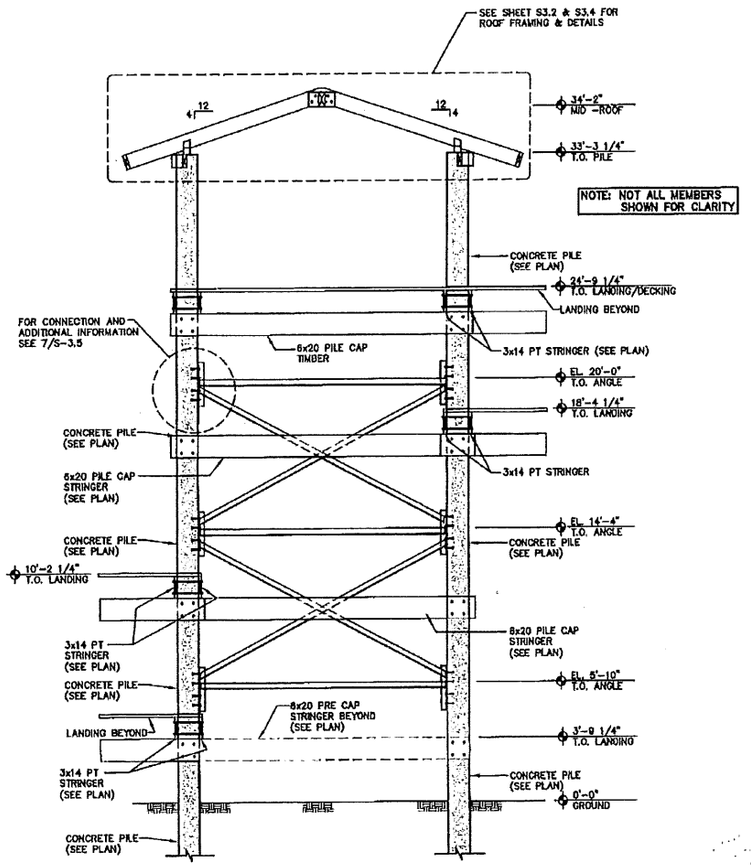

NORTH ELEVATION

N.T.S.

3/22/18

ONMJ
O'Connell, Navarrete, Mignogna Jackson
FLORIDA ENGINEERS

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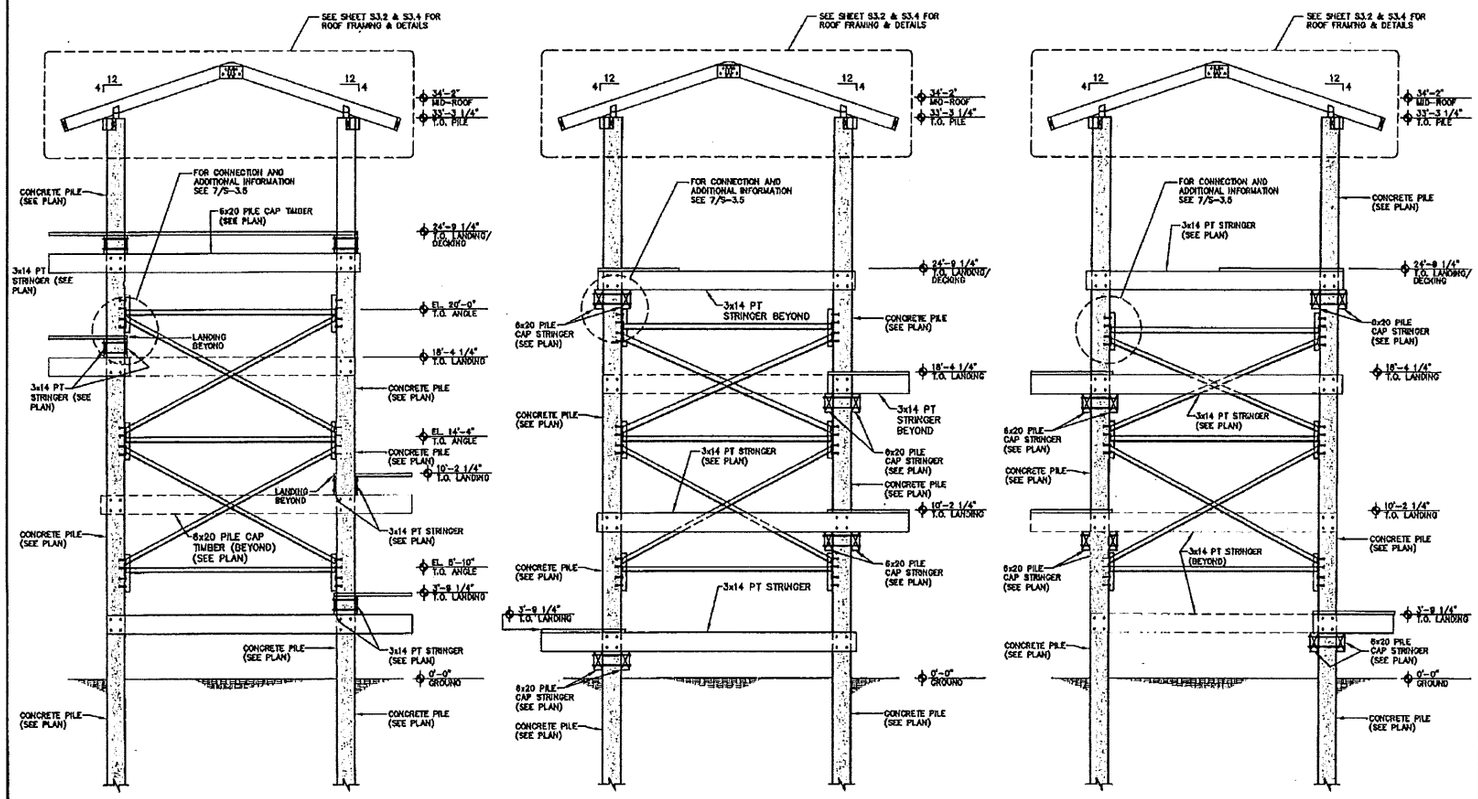

SOUTH ELEVATION
N.T.S.

EAST ELEVATION
N.T.S.

WEST ELEVATION
N.T.S.

NOTE: NOT ALL MEMBERS SHOWN FOR CLARITY

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O'Donnell, Nazareth, Mignogna & Jackson
STUCCO, EC 2155

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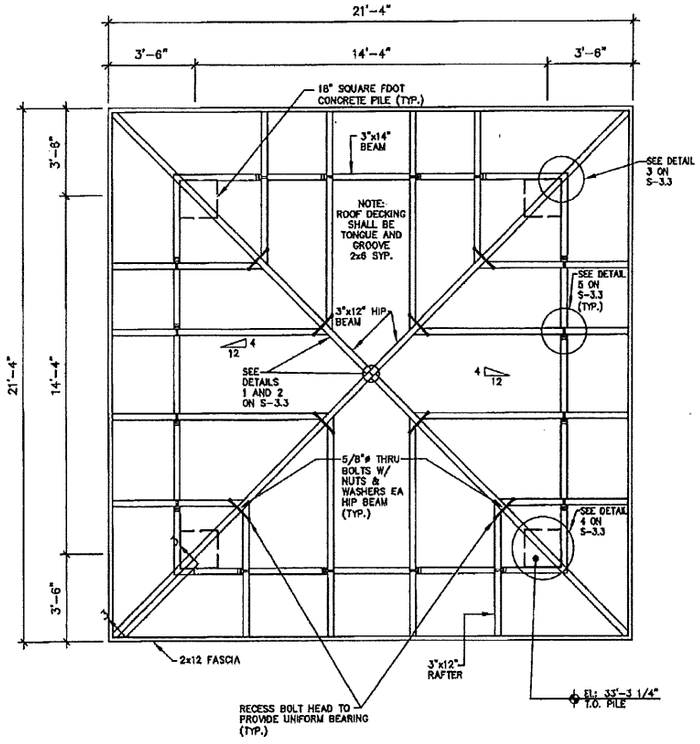

1 ROOF FRAMING PLAN

1/4"=1'-0"

NOTES:

1. ALL NUTS, BOLTS, AND WASHERS SHALL BE STAINLESS STEEL TYPE 316 (SS) UNLESS NOTED OTHERWISE.
2. LUMBER SIZES INDICATED ARE NOMINAL.
3. LUMBER SHALL BE 0.4 PRESSURE TREATED (PT) SOUTHERN YELLOW PINE (SYP) EXCEPT FOR STRUCTURAL LUMBER WHICH SHALL BE 0.6 PT SYP AND EXCEPT FOR IPE DECKING AND TOP RAIL, WHICH SHALL NOT BE TREATED.
4. BOARDWALK DECKING, TOP RAILS AND BENCH TOPS SHALL BE CONSTRUCTED OF THE TROPICAL HARDWOOD IPE AMARELO (TABEBUIA SERRATIFOLIA).
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

3/9/18

ONMJ
O'Donnell, Naccarato, Mcgregor & Jackson
ENGINEERING
LIC. #0014656
ID # 708.006

PALM BEACH COUNTY
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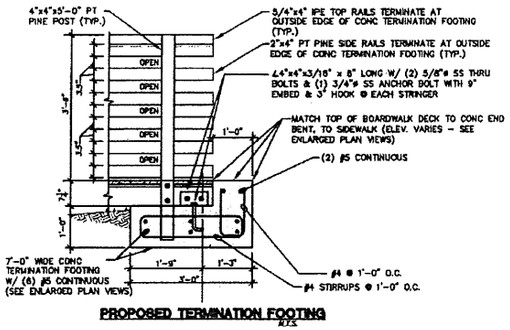
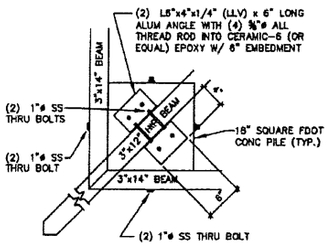
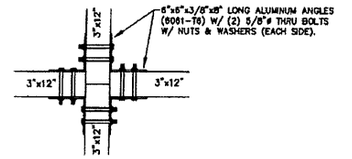


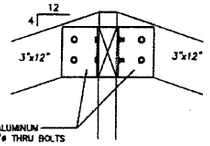
PROPOSED TERMINATION FOOTING
N.T.S.



4 PLAN DETAIL AT COLUMN
N.T.S.



1 PLAN DETAIL AT RIDGE
N.T.S.



2 PLAN DETAIL AT RIDGE
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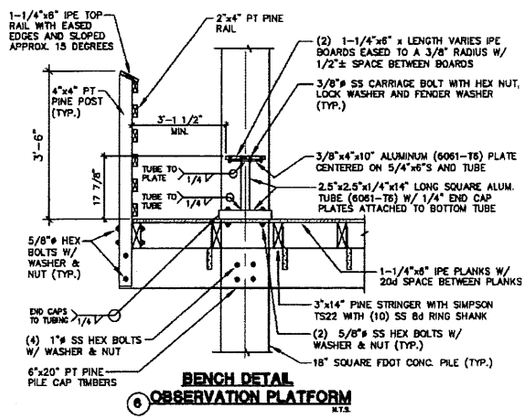
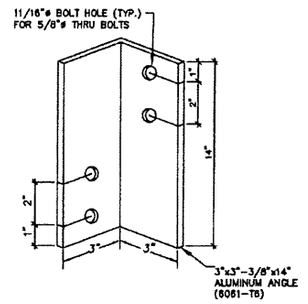
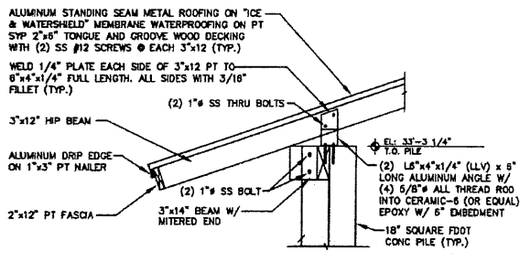


BENCH DETAIL
6 OBSERVATION PLATFORM
N.T.S.



5 SHADE SHELTER RAFTER BRACKET DETAIL
N.T.S.



3 ELEVATION DETAIL AT EAVE
N.T.S.

NORTH OBSERVATION ROOF FRAMING DETAILS

SCALE AS NOTED

PILING NOTES:

1. ALL PILES SHALL BE DRIVEN TO A MINIMUM EMBEDMENT OF 20'-0" BELOW THE MUDLINE/GRADE.
2. MAXIMUM PILE SPACING SHALL BE 14'-4" O.C.
3. PILES SHALL HAVE A 20 TON SERVICE LOAD, MINIMUM.
4. PILES SHALL BE 18" SQUARE FDOT PRESTRESSED CONCRETE PER FDOT INDEX 20614/ 12 STRAND PATTERN - 0.6ø, GRADE 270 LRS AT 35 KIPS.

3/23/16

ONMg
O'Donnell, Naccarato, Mcguire & Jackson
STRUCTURAL ENGINEERS
JOB # 708.008

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

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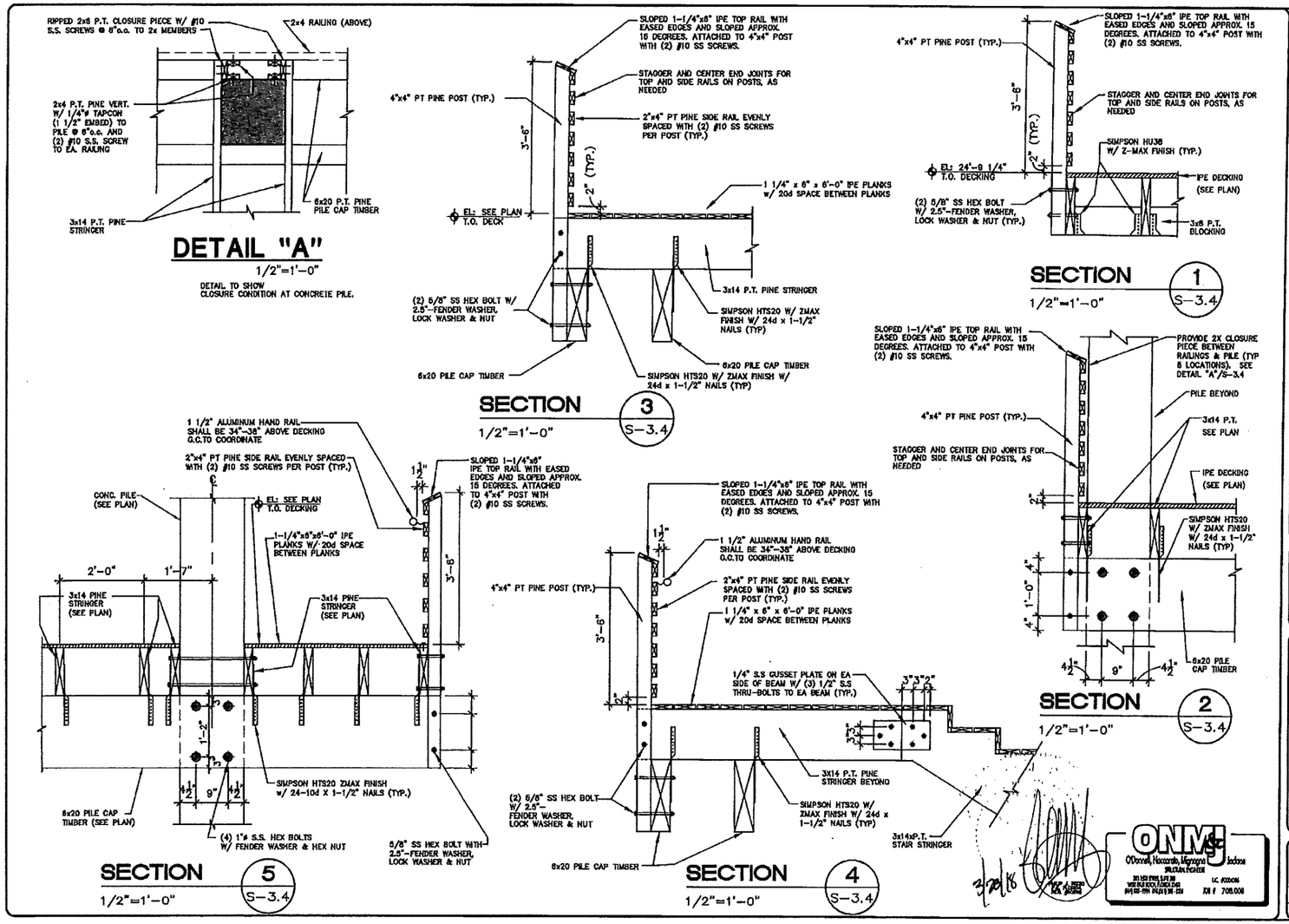
RIPPED 2x6 P.T. CLOSURE PIECE W/ #10 S.S. SCREWS @ 8"o.c. TO 2x MEMBERS
2x4 RAILING (ABOVE)
2x4 P.T. PINE VERT. W/ 1/4"ø TAPCON (1 1/2" EMBED) TO PILE @ 8"o.c. AND (2) #10 S.S. SCREW TO EA. RAILING
3x14 P.T. PINE STRINGER
6x20 P.T. PINE PILE CAP TIMBER
DETAIL "A"
1/2"=1'-0"
DETAIL TO SHOW CLOSURE CONDITION AT CONCRETE PILE.
SLOPED 1-1/4"x8" IPE TOP RAIL WITH EASED EDGES AND SLOPED APPROX. 15 DEGREES. ATTACHED TO 4"x4" POST WITH (2) #10 SS SCREWS.
STAGGER AND CENTER END JOINTS FOR TOP AND SIDE RAILS ON POSTS, AS NEEDED
4"x4" PT PINE POST (TYP.)
2"x4" PT PINE SIDE RAIL EVENLY SPACED WITH (2) #10 SS SCREWS PER POST (TYP.)
3'-6"
2" (TYP.)
EL: SEE PLAN T.O. DECK
1 1/4" x 8" x 6'-0" IPE PLANKS w/ 20d SPACE BETWEEN PLANKS
(2) 5/8" SS HEX BOLT W/ 2.5"-FENDER WASHER, LOCK WASHER & NUT
3x14 P.T. PINE STRINGER
SIMPSON HTS20 W/ ZMAX FINISH W/ 24d x 1-1/2" NAILS (TYP)
6x20 PILE CAP TIMBER
SECTION 3
1/2"=1'-0"
SLOPED 1-1/4"x8" IPE TOP RAIL WITH EASED EDGES AND SLOPED APPROX. 15 DEGREES. ATTACHED TO 4"x4" POST WITH (2) #10 SS SCREWS.
4"x4" PT PINE POST (TYP.)
STAGGER AND CENTER END JOINTS FOR TOP AND SIDE RAILS ON POSTS, AS NEEDED
SIMPSON HU36 W/ Z-MAX FINISH (TYP.)
3'-6"
2" (TYP.)
EL: 24'-8 1/4" T.O. DECKING
IPE DECKING (SEE PLAN)
(2) 5/8" SS HEX BOLT W/ 2.5"-FENDER WASHER, LOCK WASHER & NUT (TYP.)
3x8 P.T. BLOCKING
SECTION 1
1/2"=1'-0"
1 1/2" ALUMINUM HAND RAIL SHALL BE 34"-38" ABOVE DECKING G.C.TO COORDINATE
2"x4" PT PINE SIDE RAIL EVENLY SPACED WITH (2) #10 SS SCREWS PER POST (TYP.)
SLOPED 1-1/4"x8" IPE TOP RAIL WITH EASED EDGES AND SLOPED APPROX. 15 DEGREES. ATTACHED TO 4"x4" POST WITH (2) #10 SS SCREWS.
CONC. PILE (SEE PLAN)
EL: SEE PLAN T.O. DECKING
1-1/4"x8"x8'-0" IPE PLANKS W/ 20d SPACE BETWEEN PLANKS
2'-0"
1'-7"
3x14 PINE STRINGER (SEE PLAN)
3x14 PINE STRINGER (SEE PLAN)
3'-6"
1'-2"
SIMPSON HTS20 ZMAX FINISH w/ 24-10d X 1-1/2" NAILS (TYP.)
6x20 PILE CAP TIMBER (SEE PLAN)
(4) 1"ø S.S. HEX BOLTS W/ FENDER WASHER & HEX NUT
5/8" SS HEX BOLT WITH 2.5"-FENDER WASHER, LOCK WASHER & NUT
SECTION 5
1/2"=1'-0"
SLOPED 1-1/4"x8" IPE TOP RAIL WITH EASED EDGES AND SLOPED APPROX. 15 DEGREES. ATTACHED TO 4"x4" POST WITH (2) #10 SS SCREWS.
1 1/2" ALUMINUM HAND RAIL SHALL BE 34"-38" ABOVE DECKING G.C.TO COORDINATE
4"x4" PT PINE POST (TYP.)
2"x4" PT PINE SIDE RAIL EVENLY SPACED WITH (2) #10 SS SCREWS PER POST (TYP.)
1 1/4" x 8" x 6'-0" IPE PLANKS w/ 20d SPACE BETWEEN PLANKS
3'-6"
1/4" S.S GUSSET PLATE ON EA SIDE OF BEAM W/ (3) 1/2" S.S THRU-BOLTS TO EA BEAM (TYP.)
3"3"2"
3X14 P.T. PINE STRINGER BEYOND
(2) 5/8" SS HEX BOLT W/ 2.5"-FENDER WASHER, LOCK WASHER & NUT
SIMPSON HTS20 W/ ZMAX FINISH W/ 24d x 1-1/2" NAILS (TYP)
3x14xP.T. STAIR STRINGER
6x20 PILE CAP TIMBER
SECTION 4
1/2"=1'-0"
SLOPED 1-1/4"x8" IPE TOP RAIL WITH EASED EDGES AND SLOPED APPROX. 15 DEGREES. ATTACHED TO 4"x4" POST WITH (2) #10 SS SCREWS.
PROVIDE 2X CLOSURE PIECE BETWEEN RAILINGS & PILE (TYP 8 LOCATIONS). SEE DETAIL "A"/S-3.4
PILE BEYOND
4"x4" PT PINE POST (TYP.)
3x14 P.T. SEE PLAN
STAGGER AND CENTER END JOINTS FOR TOP AND SIDE RAILS ON POSTS, AS NEEDED
IPE DECKING (SEE PLAN)
2"
SIMPSON HTS20 W/ ZMAX FINISH W/ 24d x 1-1/2" NAILS (TYP)
4" 1'-0" 4"
4 1/2" 9" 4 1/2"
6x20 PILE CAP TIMBER
SECTION 2
1/2"=1'-0"
ONMJ
O'Donnell, Naccarato, Mangone & Jackson
STRUCTURAL ENGINEERS
LIC #00006
JOB # 708.008
PALM BEACH COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
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(561) 233-2400
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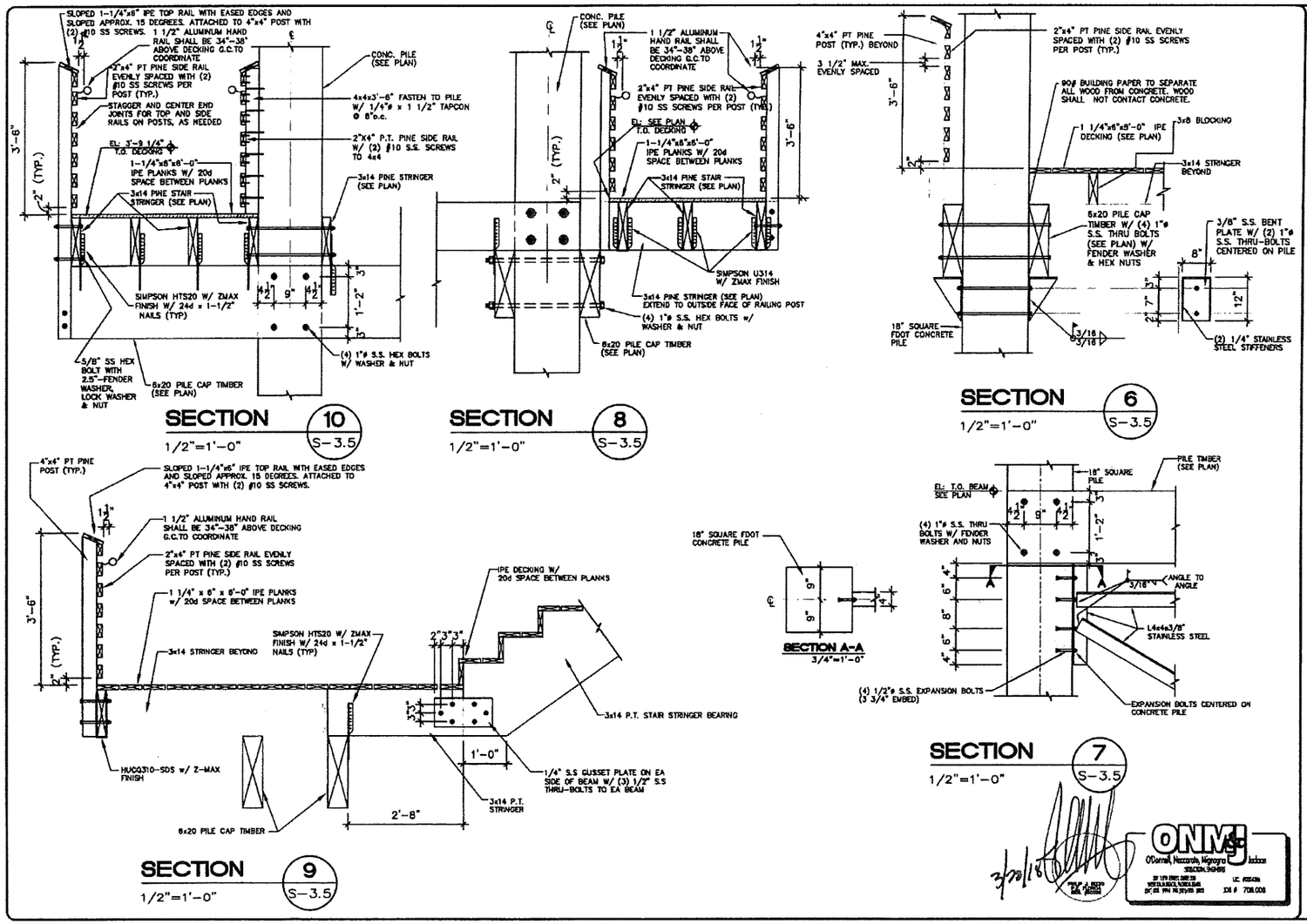

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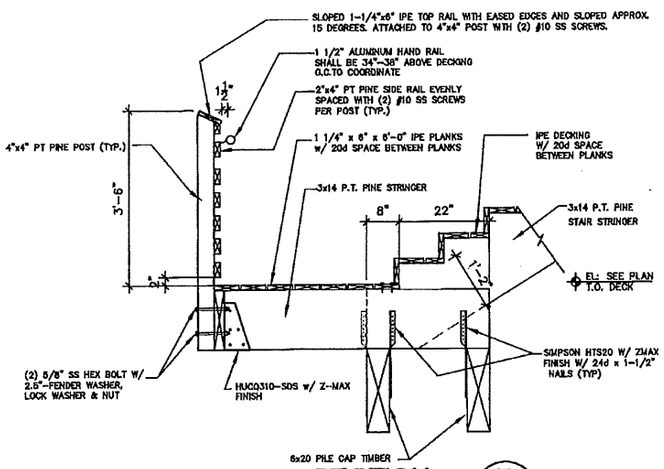
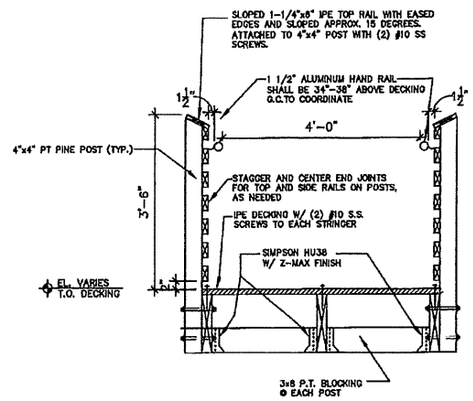
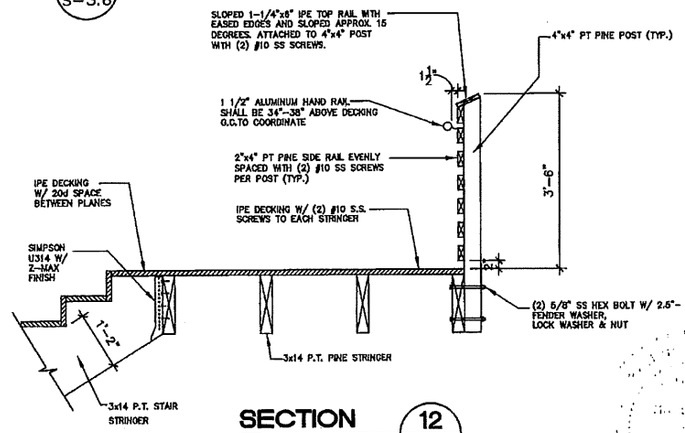
ONMJ
O'Connell, Navarrete, Mignogna Jackson
SOLUTION, ENGINEERS
LIC. #00024174
JOB # 708.008



SECTION 13 S-3.6
1/2"=1'-0"



SECTION 11 S-3.6
1/2"=1'-0"



SECTION 12 S-3.6
1/2"=1'-0"

3/28/18

ONM
O'Donnell, Naccarato, Mignogna & Jackson
STRUCTURAL ENGINEERS
JOB # 708.008

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
(561) 233-2400

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LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

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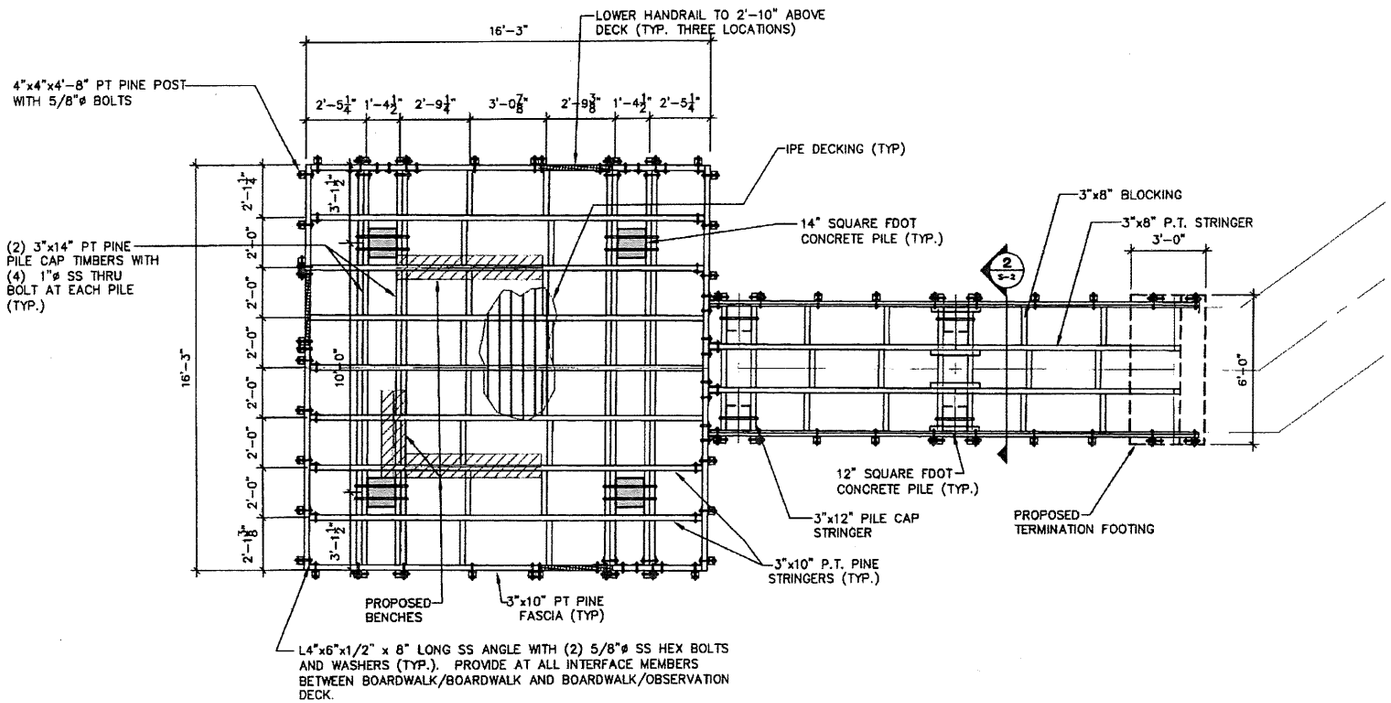

SOUTH OBSERVATORY DECK - PLAN VIEW

1/4"=1'-0"

3/23/18

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O'Donnell, Naccarato, Mignagna & Jackson
PRINCIPAL ENGINEERS
JOB # 708.008

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
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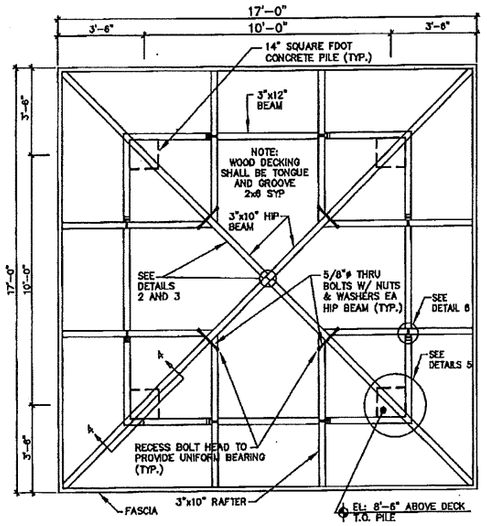
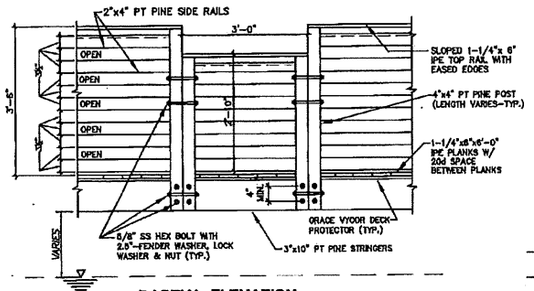


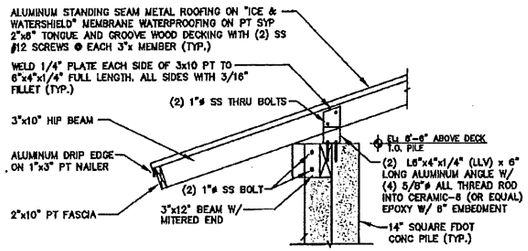
1 ROOF FRAMING PLAN
1/4"=1'-0"



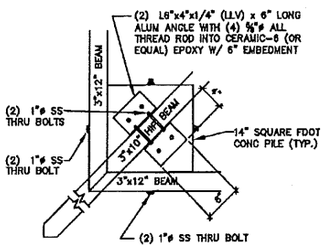
PARTIAL ELEVATION
N.T.S.

NOTES:

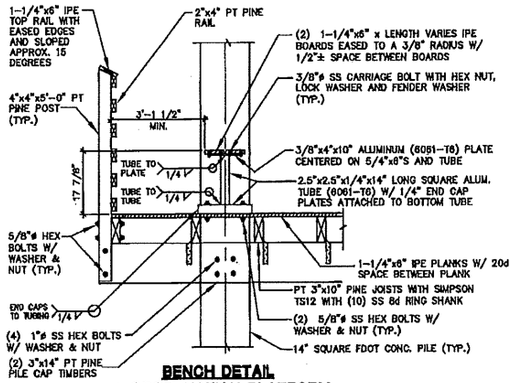
1. ALL NUTS, BOLTS, AND WASHERS SHALL BE STAINLESS STEEL TYPE 316 (SS) UNLESS NOTED OTHERWISE.
2. LUMBER SIZES INDICATED ARE NOMINAL.
3. LUMBER SHALL BE 0.4 PRESSURE TREATED (PT) SOUTHERN YELLOW PINE (SYP) EXCEPT FOR STRUCTURAL LUMBER WHICH SHALL BE 0.6 PT SYP AND EXCEPT FOR IPE DECKING AND TOP RAIL, WHICH SHALL NOT BE TREATED.
4. BOARDWALK DECKING, TOP RAILS AND BENCH TOPS SHALL BE CONSTRUCTED OF THE TROPICAL HARDWOOD IPE AMARELO (TABEBUIA SERRATIFOLIA).
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.



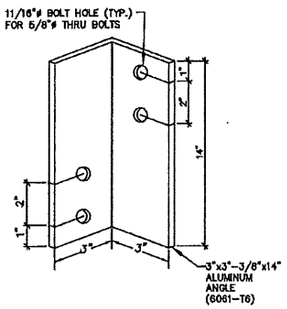
4 ELEVATION DETAIL AT EAVE
N.T.S.



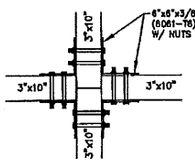
6 PLAN DETAIL AT COLUMN
N.T.S.



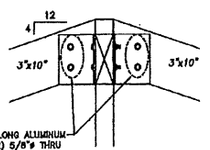
BENCH DETAIL
7 OBSERVATION PLATFORM
N.T.S.



6 SHADE SHELTER RAFTER BRACKET DETAIL
N.T.S.



2 PLAN DETAIL AT RIDGE
N.T.S.



3 PLAN DETAIL AT RIDGE
N.T.S.

PILING NOTES:

1. ALL PILES SHALL BE DRIVEN TO A MINIMUM EMBEDMENT OF 15'-0" BELOW THE MUDLINE/GRADE.
2. MAXIMUM PILE SPACING SHALL BE 10'-0" O.C.
3. PILES SHALL HAVE A 10 TON SERVICE LOAD, MINIMUM.
4. PILES SHALL BE 14" SQUARE FDOT PRESTRESSED CONCRETE PER FDOT INDEX 20814.

SOUTH OBSERVATION ROOF FRAMING PLAN AND DETAILS

SCALE AS NOTED

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LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

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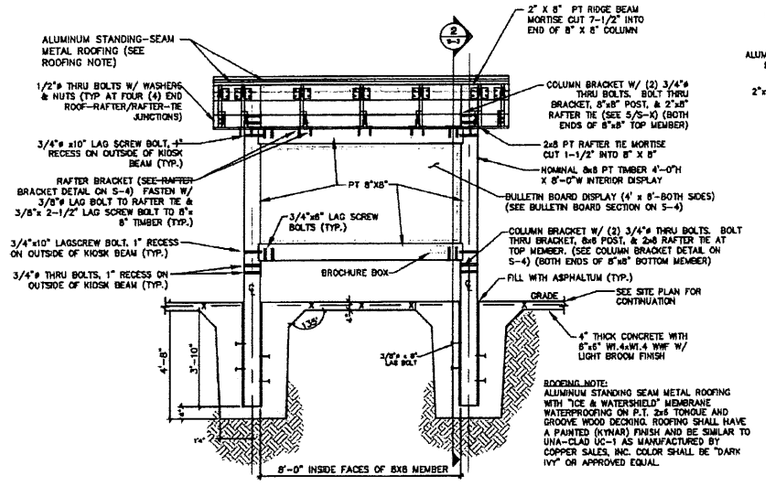
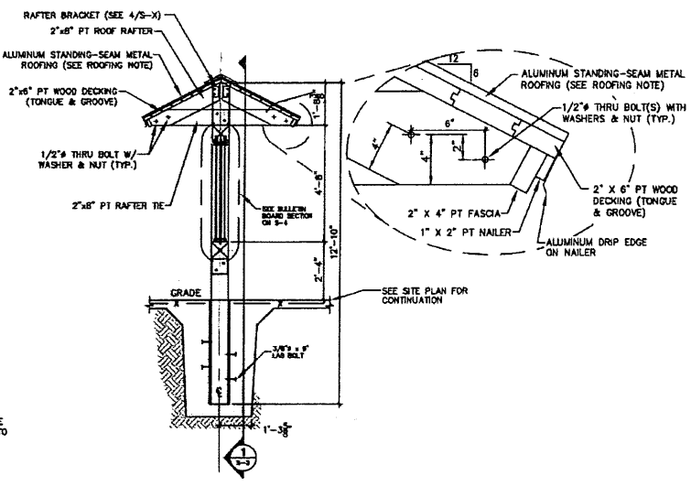
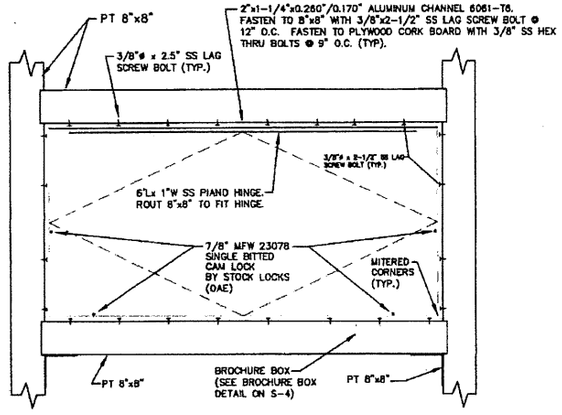
O'Donnell, Naccarato, Mcgregor & Jackson
ENGINEERS
DC #26436
JOB # 708.006



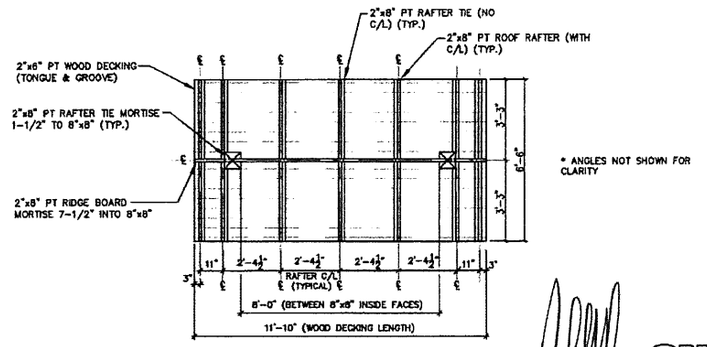
SECTION 1 S-3
1/4"=1'-0"



SECTION 2 S-3
1/4"=1'-0"



POLYCARBONATE PANEL SUPPORT
1/2"=1'-0"



ROOFING FRAMING PLAN
1/4"=1'-0"

* ANGLES NOT SHOWN FOR CLARITY

KIOSK DETAILS

3/20/18

ONMJ
O'Donnell, Mazzarella, Mignacca & Jackson
ENGINEERING SERVICES
33 SW FIRST AVE, SUITE 100
POMPANO BEACH, FLORIDA 33060
(954) 788-3400 FAX (954) 788-3410
LIC. #00006106
JOB # 708.008

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
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PUBLIC USE FACILITIES

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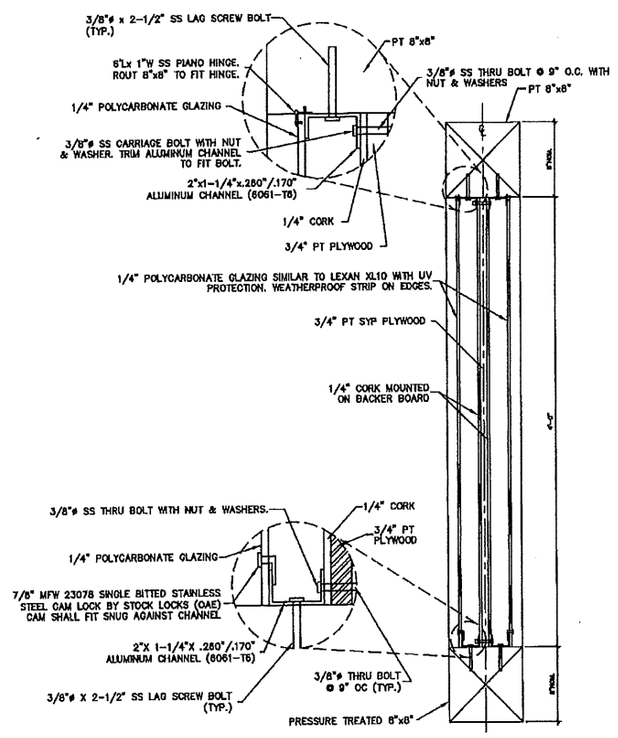
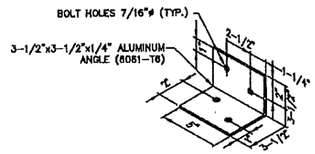
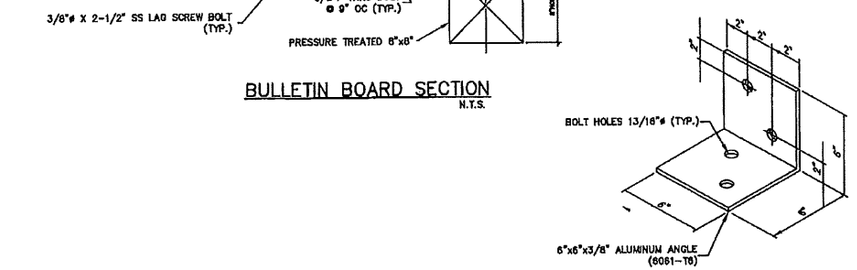


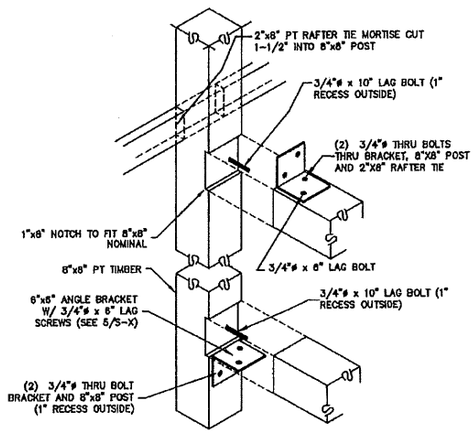
BULLETIN BOARD SECTION
N.T.S.



KIOSK RAFTER BRACKET DETAIL
N.T.S.



COLUMN BRACKET DETAIL
N.T.S.



TIMBER CONNECTION DETAIL
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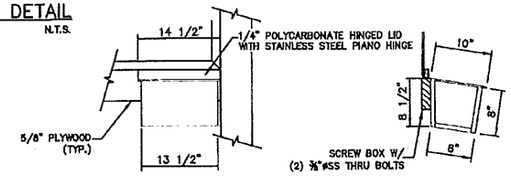

BROCHURE BOX DETAIL
N.T.S.

NOTE:
BROCHURE BOX TO BE PROVIDED BY PBC, AND INSTALLED ON KIOSK BY CONTRACTOR.

PALM BEACH COUNTY
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LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

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ONMJ
O'Donnell, Naccarato, Mcgregor & Jackson
STUART/PALM BEACH GARDENS
LC #26626
ID # 706.008

STRUCTURAL NOTES

CONTRACTOR NOTE:

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. O'DONNELL, NACCARATO, MIGNOGNA & JACKSON, INC. IS NOT RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION OR FOR RELATED SAFETY PRECAUTIONS AND PROGRAMS.

CODES AND STANDARDS

1. WIND LOADS AS PER:
   - A. SECTION 1609 OF THE FLORIDA BUILDING CODE 6TH EDITION (2017) WITH AN ULTIMATE WIND SPEED VULT = 160 MPH (NOMINAL WIND SPEED VASD = 124 MPH), FOR RISK CATEGORY I, EXPOSURE C AND INTERNAL PRESSURE COEFFICIENT +/- 0.00.
   - B. THIS BUILDING IS DESIGNED AS AN OPEN BUILDING.
2. THE PROJECT WAS DESIGNED IN ACCORDANCE WITH THE:
   - A. FLORIDA BUILDING CODE 6TH EDITION (2017).
   - B. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318/ LATEST EDITION).
   - C. NATIONAL DESIGN SPECIFICATION, WOOD CONSTRUCTION NDS/LATEST EDITION.
3. ARCHITECTURAL AND MECHANICAL DRAWINGS:
   - A. THE STRUCTURAL DRAWINGS ARE PART OF THE CONTRACT DOCUMENTS AND DO NOT BY THEMSELVES PROVIDE ALL THE INFORMATION REQUIRED TO PROPERLY COMPLETE THE PROJECT STRUCTURE. THE GENERAL CONTRACTOR SHALL CONSULT THE CIVIL DRAWINGS AND COORDINATE THE INFORMATION CONTAINED IN THESE DRAWINGS WITH THE STRUCTURAL DRAWINGS PROPERLY CONSTRUCT THE PROJECT.
   - B. BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK, THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS TO PROPERLY SIZE OR FIT THE WORK. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED BY THE OWNER RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT.
   - C. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE COUNTY, CIVIL ENGINEER, AND ENGINEER OF RECORD BEFORE PROCEEDING WITH ANY WORK.
   - D. ALL STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LOADS LISTED ONLY AS COMPLETED STRUCTURES. THE GENERAL CONTRACTOR SHALL FULLY BRACE AND OTHERWISE PROTECT WORK IN PROGRESS UNTIL THE STRUCTURES ARE COMPLETED. THE GENERAL CONTRACTOR SHALL ALSO INSURE THAT ITS OPERATIONS AND PROCEDURES PROVIDE NO LOADING GREATER THAN THE DESIGN LOADS LISTED ON ANY MEMBER.
4. SECTIONS AND DETAILS:

   ALL DETAILS, SECTIONS AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE SHOWN.

SPECIALTY ENGINEERED PRODUCTS

1. THE GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE THE PROPER SUBMISSION OF SPECIALTY ENGINEERED SHOP DRAWINGS WHICH SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THE SPECIALTY ENGINEERED SHOP DRAWINGS ARE SUBMITTED IN A TIMELY MANNER SO AS TO ALLOW REVIEWS AND RESUBMISSIONS AS REQUIRED. ALL SPECIALTY ENGINEERED PRODUCTS SHALL BE DESIGNED FOR THE APPROPRIATE GRAVITY LOADS AND WIND LOADS INCLUDING UPLIFT AND LATERAL LOADS. INTERIOR SPECIALTY PRODUCTS SHALL BE DESIGNED FOR LATERAL LOADS TO ASSURE STABILITY. SPECIALTY ENGINEERED PRODUCTS SHALL BE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

A. MISCELLANEOUS METALS INCLUDING STEEL STAIRS, HAND RAILS AND SAFETY RAILS, PIPES OR OTHER STRUTURAL METAL USED.

B. MISCELLANEOUS HANGERS, METAL FRAMES, RAILINGS OR ANY OTHER MISCELLANEOUS PRODUCT REQUIRED BY ANY OF THE CONSTRUCTION DOCUMENTS.

FOUNDATION

1. ALL SITE PREPARATION AND EXCAVATION WORK IS TO BE PERFORMED IN STRICT ACCORDANCE WITH THE:
   - A. REPORT ON SOILS AND FOUNDATION INVESTIGATION PREPARED BY TERRAICON, DATED 12/02/15.
2. THE BUILDING SITE SHOULD BE EXCAVATED TO THE DEPTH AND EXTENT INDICATED IN THE SOILS REPORT. ALL SUBGRADES SHALL BE APPROVED IN WRITING BY THE SOILS ENGINEER PRIOR TO BACKFILLING.
3. SOILS SUPPORTING ALL FOOTINGS MUST BE INSPECTED AND APPROVED BY A REGISTERED SOILS ENGINEER BEFORE COMMENCING WORK, ORDERING MATERIALS, OR MOVING FORWARD IN ANY WAY. APPROVAL IN WRITING MUST INDICATE THE SOIL IS ADEQUATE TO SAFELY SUSTAIN SPECIFIED SOIL BEARING PRESSURE.
4. EXCAVATION & BACKFILL:
   - A. ALL EXCAVATION SHALL BE KEPT DRY. EXCAVATE TO DEPTHS AND DIMENSIONS INDICATED. TAKE EVERY PRECAUTION TO GUARD AGAINST ANY MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES, UTILITIES, PIPING, ETC.
   - B. PROVIDE ANY BRACING OR SHORING NECESSARY TO AVOID SETTLEMENT OR DISPLACEMENT OF EXISTING FOUNDATION OR STRUCTURES.
5. CENTERLINE OF FOOTINGS: SHALL COINCIDE WITH CENTERLINE OF

   COLUMNS UNLESS OTHERWISE NOTED ON DRAWINGS.
6. DIMENSIONS: ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS MUST BE VERIFIED AND COORDINATED WITH THE ARCHITECTURAL DRAWINGS BY THE CONTRACTOR BEFORE PROCEEDING WITH THE CONSTRUCTION. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER IN WRITING BEFORE PROCEEDING WITH ANY WORK.
7. PILES TO BE INSTALLED IN ACCORDANCE WITH A SUITABLE DYNAMIC FORMULA TO BE SELECTED BY THE SOILS ENGINEER.
8. INSTALLATION OF PILES TO BE SUPERVISED AND CERTIFIED BY A REGISTERED SOILS ENGINEER.
9. PRECAST PRESTRESSED CONCRETE PILES:
   - A. PILES SHALL BE DRIVEN TO A SUITABLE BEARING STRATUM, WHICH DEPTH BELOW GROUND SURFACE HAS BEEN DETERMINED BY APPROPRIATE SOIL INVESTIGATION. REFER TO SOIL INVESTIGATION AND REPORT BY Terracon.
   - B. A MINIMUM OF ONE (1) LOAD TEST SHALL BE REQUIRED TO VERIFY PILE BEARING CAPACITY. TEST PILE WILL DETERMINE THE FINAL CASTING LENGTH.
   - C. PILES BID LENGTH: FROM PILE CUT OFF ELEVATION INDICATED ON DRAWINGS TO PILE TIP AT ELEVATION.
   - D. CONTRACTOR SHALL ENGAGE THE SERVICE OF A FLORIDA REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE AND CERTIFY THAT THE PILE INSTALLATION WORK COMPLIES WITH THE DESIGN REQUIREMENTS.
   - E. A RECORD OF EACH PILE DRIVEN SHOWING LENGTH, SIZE, LOCATION, CALCULATED SAFE LOAD, PENETRATION COUNT PER FOOT OF LENGTH, RESULTS OF TESTS AND DESCRIPTION OF HAMMERING EQUIPMENT SHALL BE KEPT AND A CERTIFIED COPY FURNISHED TO THE COUNTY, ENGINEER AND BUILDING OFFICIALS.

CONCRETE

1. CONCRETE ELEMENTS TO HAVE THE FOLLOWING STRENGTHS:
   - A. FOUNDATIONS 3,000 PSI

   ALL OTHER CONCRETE TO BE 3,000 PSI UNLESS NOTED OTHERWISE.
2. ALL CONCRETE SHALL BE READY MIX AND MEET THE FOLLOWING REQUIREMENTS:
   - A. A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS
   - B. SLUMPS SHALL BE 3" MINIMUM AND 5" MAXIMUM.
   - C. CONCRETE SHALL HAVE 3 +/- 1.5 PERCENT AIR ENTRAINMENT.
   - D. ALL CONCRETE TO HAVE MAXIMUM WATER/CEMENT RATIO OF 0.55.
   - E. JOBSITE WATER SHALL NOT BE ADDED.
   - F. CEMENT SHALL CONFORM WITH ASTM C150 TYPE 1. SLAG, ASTM C989 SHALL BE LIMITED TO 50% (BY WEIGHT OF CEMENTITIOUS MATERIAL AND FLY ASH, ASTM C618, CLASS F, SHALL BE LIMITED TO 25% (BY WEIGHT) OF CEMENTITIOUS MATERIAL.
3. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE ACI BUILDING CODE (ACI 318/ LATEST EDITION), THE ACI DETAILING MANUAL (ACI 315/ 1994 EDITION), AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301/ LATEST EDITION).

WOOD

1. ALL STRUCTURAL WOOD MEMBERS ARE DESIGNED AS "DRY-USE". MOISTURE CONTENT MUST BE 19% OR LESS. STORE WOOD FRAMING ABOVE GROUND AND UNDER TARPS WITH PROPER AIR CIRCULATION.
2. ALL LUMBER SHALL BE SOUTHERN PINE SPECIES #1 GRADE OR APPROVED EQUAL. ALLOWABLE DESIGN STRESSES SHALL FOLLOW NATIONAL DESIGN SPECIFICATION (NDS) (LATEST EDITION).
3. PROVIDE SP ACQ PRESSURE TREATED LUMBER IN ACCORDANCE WITH AWPA STANDARDS TO A MINIMUM 0.40 PCF RETENTION WHERE LUMBER IS IN CONTACT WITH CONCRETE/MASONRY OR OUTSIDE OF BUILDING. ALL METAL CONNECTORS IN CONTACT WITH PRESSURE TREADED LUMBER SHALL BE GALVANIZED WITH A RATING OF G-185 AND CONFORM TO ASTM A653. ALL NAILS AND SCREWS USED WITH PRESSURE TREATED LUMBER ARE TO BE HOT-DIPPED GALVANIZED AND TO CONFORM TO ASTM A153 CLASS D. ELECTROGALVANIZED FASTENERS SHALL HAVE A CLASS RATING PER ASTM B695 NO LESS THAN 55. ALUMINUM NOT TO BE USED IN DIRECT CONTACT WITH ACQ TREATED LUMBER.
4. WOOD CONNECTIONS - ALL NAILS USED FOR STRUCTURAL FRAMING MEMBERS SHALL BE COMMON WIRE, U.N.O. ALL NAILS, TRUSS HANGERS, TRUSS ANCHORS AND STRAPS SHALL BE GALVANIZED FOR CORROSIVE RESISTANCE. ALL METAL STRAPS MUST BE INSTALLED WITH EQUAL LENGTHS ABOUT THE JOINT LINE. USE SIMPSON STRONG-TIE CONNECTOR PRODUCTS OR APPROVED EQUAL. TOE NAILING WILL NOT BE PERMITTED.

TIMBER

1. ALL STRUCTURAL TIMBER TO
   - A. SOUTHERN PINE SPECIES, #1 GRADE (MINIMUM) OR APPROVED EQUAL.
   - B. BE DESIGNED PER THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION'S (AITC)"TIMBER CONSTRUCTION MANUAL" AND AMERICAN FOREST & PAPER ASSOCIATION'S (AFPA) NATIONAL DESIGN SPECIFICATION".
   - C. PROVIDE SP ACQ PRESSURE TREATED LUMBER IN ACCORDANCE WITH AWPA STANDARDS TO A MINIMUM 0.40 PCF RETENTION WHERE LUMBER IS IN CONTACT WITH CONCRETE/MASONRY OR OUTSIDE OF BUILDING. ALL METAL CONNECTORS IN CONTACT WITH PRESSURE TREADED LUMBER SHALL BE GALVANIZED WITH A RATING OF G-185 AND CONFORM TO ASTM A653. ALL NAILS AND SCREWS USED WITH PRESSURE TREATED LUMBER ARE TO BE HOT-DIPPED GALVANIZED AND TO CONFORM TO ASTM A153 CLASS D. ELECTROGALVANIZED FASTENERS SHALL HAVE A CLASS RATING PER ASTM B695 NO LESS THAN 55. ALUMINUM NOT TO BE USED IN DIRECT CONTACT WITH ACQ TREATED LUMBER.

SHOP DRAWINGS

1. PRE-ENGINEERED ITEMS SHALL BE SUBMITTED SIGNED AND SEALED BY A SPECIALTY ENGINEER REGISTERED IN THE STATE OF FLORIDA.

DESIGN LOAD SCHEDULE

(ALL LOADS SHOWN ARE IN POUNDS PER SQ. FT.)

COMPONENT \ AREA	ROOF	FLOOR	STAIRS
FRAMING	7	7	7
TOTAL DEAD LOAD	7	7	7
TOTAL LIVE LOAD	30	100	100
TOTAL LOAD	37	107	107

3/22/18

ONM&J
O'Donnell, Naccarato, Mignogna & Jackson
JOB # 708.008

PALM BEACH COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT
2300 NORTH JOG ROAD, 4th FLOOR
WEST PALM BEACH, FLORIDA 33411-2743
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Project: LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

Sheet: S-7

PIPE AND TUBE RAILINGS

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES PIPE AND TUBE HANDRAILS AND RAILINGS MADE OF THE FOLLOWING:

1. ALUMINUM.

1.2 PERFORMANCE REQUIREMENTS

A. STRUCTURAL PERFORMANCE OF HANDRAILS AND RAILINGS:

1. COMPLY WITH ASTM E 985, BASED ON TESTING PER ASTM E 894 AND ASTM E 935.

2. CAPABLE OF WITHSTANDING STRUCTURAL LOADS REQUIRED BY ASCE 7 WITHOUT EXCEEDING ALLOWABLE DESIGN WORKING STRESSES OF MATERIALS INVOLVED.

3. CAPABLE OF WITHSTANDING THE FOLLOWING STRUCTURAL LOADS WITHOUT EXCEEDING THE ALLOWABLE DESIGN WORKING STRESS OF MATERIALS INVOLVED:

A) HANDRAILS NOT SERVING AS TOP RAILS: CONCENTRATED LOAD OF 200 LBF APPLIED AT ANY POINT AND IN ANY DIRECTION, AND A UNIFORM LOAD OF 50 LBF/FT APPLIED IN ANY DIRECTION. CONCENTRATED AND UNIFORM LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.

B) TOP RAIL OF GUARDS: CONCENTRATED LOAD OF 200 LBF APPLIED AT ANY POINT AND IN ANY DIRECTION, AND A UNIFORM LOAD OF 50 LBF/FT, APPLIED HORIZONTALLY AND CONCURRENTLY WITH UNIFORM LOAD OF 100 LBF/FT, APPLIED VERTICALLY DOWNWARD. CONCENTRATED AND UNIFORM LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.

C) INFILL AREA OF GUARDS: HORIZONTAL CONCENTRATED LOAD OF 200 LBF APPLIED TO 1 SQ. FT. AT ANY POINT IN SYSTEM, INCLUDING PANELS, INTERMEDIATE RAILS, BALUSTERS, OR OTHER ELEMENTS COMPOSING INFILL AREA. LOAD ON INFILL AREA NEED NOT BE ASSUMED TO ACT CONCURRENTLY WITH LOADS ON TOP RAILS.

1.3 SUBMITTALS

A. PRODUCT DATA: FOR MECHANICALLY CONNECTED HANDRAILS AND RAILINGS, GROUT, ANCHORING CEMENT, AND PAINT PRODUCTS.

B. SHOP DRAWINGS: INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS OF INSTALLATION, ATTACHMENTS TO OTHER WORK.

1. INCLUDE STRUCTURAL ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

C. SAMPLES: FOR EACH EXPOSED FINISH REQUIRED.

D. TEST REPORTS: INDICATING HANDRAILS AND RAILINGS COMPLY WITH ASTM E 985.

PART 2 – PRODUCTS

2.1 PRODUCTS

A. ALUMINUM: ALLOY AND TEMPER RECOMMENDED BY ALUMINUM PRODUCER AND FINISHER FOR USE AND FINISH INDICATED, AND WITH NOT LESS THAN THE STRENGTH AND DURABILITY OF THE ALLOY AND TEMPER DESIGNATED BELOW:

1. EXTRUDED STRUCTURAL PIPE AND TUBE: ASTM B 429, ALLOY 6063-T6.
2. DIE AND HAND FORGINGS: ASTM B 247, ALLOY 6061-T6.
3. CASTINGS: ASTM B 26/B 26M, ALLOY A356-T6.
4. FINISH: CLEAR ANODIZED.

2.2 MISCELLANEOUS MATERIALS

A. WELDING ELECTRODES AND FILLER METAL: PROVIDE TYPE AND ALLOY AS RECOMMENDED BY PRODUCER OF METAL TO BE WELDED AND AS REQUIRED FOR COLOR MATCH, STRENGTH, AND COMPATIBILITY IN FABRICATED ITEMS.

B. FASTENERS: SAME BASIC METAL AS FASTENED METAL; CONCEALED, UNLESS OTHERWISE INDICATED OR UNAVOIDABLE, AND STANDARD WITH SYSTEMS INDICATED.

C. ANCHORS: FABRICATED FROM CORROSION-RESISTANT MATERIALS WITH CAPABILITY TO SUSTAIN, WITHOUT FAILURE, A LOAD EQUAL TO FOUR TIMES THE LOAD IMPOSED WHEN INSTALLED IN CONCRETE, AS DETERMINED PER ASTM E 488.

D. GROUT AND ANCHORING CEMENT: PREMIXED, NONSHRINK, NONMETALLIC GROUT COMPLYING WITH ASTM C 1107.

2.3 FABRICATION

A. GENERAL: FABRICATE TO DESIGN, DIMENSIONS, AND DETAILS INDICATED, BUT NOT LESS THAN THAT REQUIRED TO SUPPORT STRUCTURAL LOADS.

1. PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS.

B. FORM CHANGES IN DIRECTION OF RAILING MEMBERS BY INSERTING PREFABRICATED FLUSH-ELBOW FITTINGS.

C. WELDED CONNECTIONS FOR ALUMINUM PIPE: CONNECT HANDRAIL AND RAILING MEMBERS WITH CONCEALED INTERNAL WELDS, USING MANUFACTURER'S STANDARD SYSTEM OF SLEEVE AND SOCKET FITTINGS.

D. BRACKETS, FLANGES, FITTINGS, AND ANCHORS: FABRICATE WALL BRACKETS, FLANGES, MISCELLANEOUS FITTINGS, AND ANCHORS TO CONNECT HANDRAILS AND RAILINGS TO OTHER WORK.

1. CAST OR FORM METAL OF SAME MATERIAL AND FINISH AS RAILS.

E. CLOSE EXPOSED ENDS OF HANDRAIL AND RAILING MEMBERS WITH PREFABRICATED END FITTINGS.

F. PROVIDE WALL RETURNS AT ENDS OF WALL-MOUNTED HANDRAILS.

2.4 FINISHES

A. ALUMINUM:

1. FINISH: CLEAR ANODIZED.

PART 3 – EXECUTION

3.1 INSTALLATION

A. GENERAL: PERFORM CUTTING, DRILLING, AND FITTING REQUIRED TO INSTALL HANDRAILS AND RAILINGS. SET UNITS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION.

1. PREVENT GALVANIC ACTION AND OTHER FORMS OF CORROSION BY INSULATING METALS AND OTHER MATERIALS FROM DIRECT CONTACT WITH INCOMPATIBLE MATERIALS.
2. SET POSTS PLUMB WITHIN A TOLERANCE OF 1/16 INCH IN 3 FEET.
3. ALIGN RAILS SO VARIATIONS FROM LEVEL FOR HORIZONTAL MEMBERS AND FROM PARALLEL WITH RAKE OF STEPS AND RAMPS FOR SLOPING MEMBERS DO NOT EXCEED 1/4 INCH IN 12 FEET.

B. ANCHOR POSTS IN CONCRETE BY INSERTING INTO CORE-DRILLED HOLES AND GROUTING ANNULAR SPACE.

C. ANCHOR RAILING ENDS INTO CONCRETE AND MASONRY WITH ROUND FLANGES CONNECTED WITH POSTINSTALLED ANCHORS AND BOLTS.

D. TOUCH UP SURFACES AND FINISHES AFTER ERECTION.
PAINTED SURFACES: CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS AND TOUCH UP PAINT WITH THE SAME MATERIAL AS USED FOR SHOP PAINTING.

3/29/18

ONMJ
O'Donnell, Mazzarella, Mayers & Jodon
FALCON HOUSES
BC #20006
AA # 708.008

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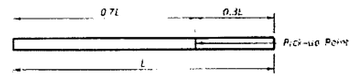
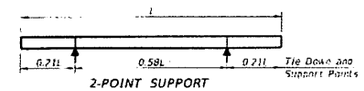
SEAL

Project:
LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

Sheet:
S-7.1
OF 33



1-POINT PICK-UP



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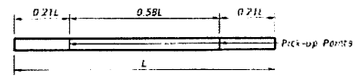

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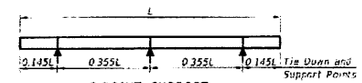

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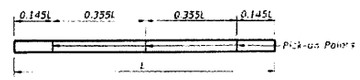
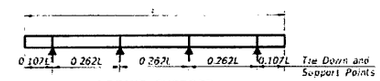


3-POINT PICK-UP

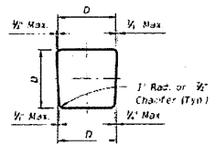
PILE PICK-UP DETAILS



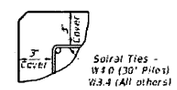
4-POINT SUPPORT

STORAGE AND TRANSPORTATION SUPPORT DETAILS

TABLE OF MAXIMUM PILE PICK-UP AND SUPPORT LENGTHS								
	D = Square Pile Size (inches)						Required Storage and Transportation Detail	Pick-Up Detail
	12	14	18	20	24	30		
Maximum Pile Length (Feet)	48	57	59	62	68	87	2, 3, or 4 point	1 Point
	69	75	85	89	98	124	2, 3, or 4 point	2 Point
	99	107	121	128	140	178	3 or 4 point	3 Point



TYPICAL PILE SHAPE FOR MOLD FORMS



DETAIL SHOWING TYPICAL COVER

PRESTRESSED CONCRETE PILE NOTES:

DESIGN SPECIFICATIONS
Florida Department of Transportation (FDOT) "Structures Design Guidelines", current edition

American Association of State Highway and Transportation Officials (AASHTO) "LRFD Bridge Design Specifications", current edition.

SPIRAL TIES:
Each wrap of spirals shall be tied to at least two corner strands. One turn required for spiral splices

CONCRETE CLASS.
Concrete for all piles shall be Class V (Special) except designated High Moment Capacity Piles (Index 20631) shall be Class VI

Concrete for the High Capacity Collar Splice shall be Class V (Special)

See "GENERAL NOTES" in Structures Plans for any specific locations where the use of Silica Fume is required

CONCRETE STRENGTH.
The pile cylinder strength shall be 6,000 psi minimum at 28 days and 4,000 psi minimum at time of transfer of the Prestressing Force. The cylinder strength for designated High Moment Capacity Piles (Index 20631) shall be 8,500 psi minimum at 28 days and 6,500 psi minimum at time of transfer of the Prestressing Force

SPLICE BONDING MATERIAL.
The material to fill dowel holes and form the joint between pile sections shall be a Type B Epoxy Compound in accordance with Specification Section 926 and shall be contained on the Approved Products List (APL). Use Epoxy Bonding Compound or Epoxy Mortar as recommended by the Manufacturer. For Epoxy Mortar only use sand or other filler material supplied by the manufacturer and in the proportions recommended

PICK-UP POINTS:
Piles shall be marked at the pick-up points to indicate proper points for attaching handling lines

REINFORCING STEEL:
All reinforcing steel shall meet the requirements of Specification Section 450.

PRESTRESSING STEEL.
Prestressing steel shall be seven wire strand, Grade 270, Low-Relaxation Strand (LRS)

CORROSION PROTECTION OF EXPOSED STRANDS.
For all pile ends exposed to the environment and not embedded under final conditions, protect strands in accordance with Specification Section 450

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	NOTES AND DETAILS FOR SQUARE PRESTRESSED CONCRETE PILES	INDEX NO.	SHEET NO.
01/01/14					20600	1 of 1

3/20/18

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SALVAN SCHOES
JOB # 708.008

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Date: 1/24/2018
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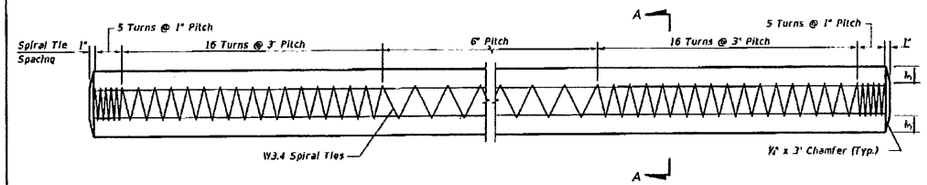
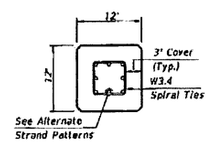
Project: LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

Sheet: S-8



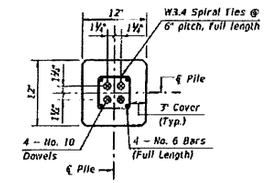
ELEVATION



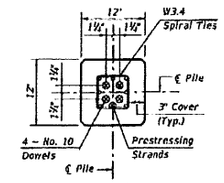
SECTION A-A

ALTERNATE STRAND PATTERNS

4 ~ 0.6" Ø, Grade 270 LRS, at 44 kips
8 ~ ½" Ø (Special), Grade 270 LRS, at 25 kips
8 ~ ½" Ø, Grade 270 LRS, at 24 kips
8 ~ 7/16" Ø, Grade 270 LRS, at 23 kips
12 ~ 3/8" Ø, Grade 270 LRS, at 16 kips



SECTION D-D
(See Nondrivable Unforeseen Reinforced Precast Pile Splice Detail)



SECTION E-E
(See Drivable Unforeseen Prestressed Precast Pile Splice Detail)

PILE SPLICE REINFORCEMENT DETAILS

NOTES:
1. Work this Index with Index No. 20600 - Notes and Details for Square Prestressed Concrete Piles and Index No. 20601 - Square Prestressed Concrete Pile Splices.
2. Any of the given Alternate Strand Patterns may be utilized. The strands shall be located as follows:
   Place one strand at each corner and place the remaining strands equally spaced between the corner strands.
   The total strand pattern shall be concentric with the nominal concrete section of the pile.

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	12" SQUARE PRESTRESSED CONCRETE PILE	INDEX NO.	SHEET NO.
01/01/12					20612	1 of 1

3/23/18

ONM & Jackson
O'Donnell, Naccarato, Mignogna & Jackson
PILCHUM BONERS
JOB # 708.008

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PUBLIC USE FACILITIES

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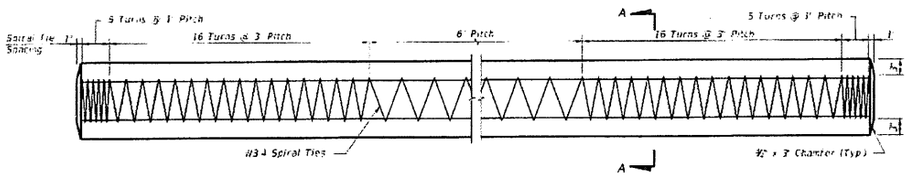
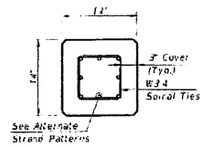


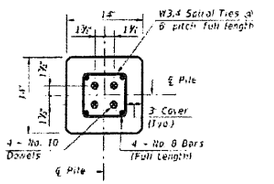
ELEVATION



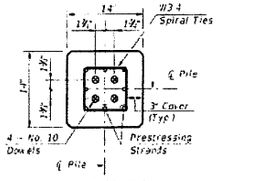
SECTION A-A

ALTERNATE STRAND PATTERNS

8 - 0.6" Ø, Grade 276 LRS, at 33 kips
8 - ½" Ø (Special), Grade 270 LRS, at 31 kips
8 - ½" Ø, Grade 270 LRS, at 31 kips
12 - 7/16" Ø, Grade 270 LRS, at 21 kips
16 - ⅜" Ø, Grade 270 LRS, at 16 kips



SECTION D-D
(See Nondrivable Unforeseen Reinforced Precast Splice Detail)



SECTION E-E
(See Drivable Unforeseen Prestressed Precast Splice Detail)

PILE SPLICE REINFORCEMENT DETAILS

NOTES:
1. Work this Index with Index No. 20600 - Notes and Details for Square Prestressed Concrete Piles and Index No. 20601 - Square Prestressed Concrete Pile Splices.
2. Any of the given Alternate Strand Patterns may be utilized. The strands shall be located as follows:
   Place one strand at each corner and place the remaining strands equally spaced between the corner strands.
   The total strand pattern shall be concentric with the nominal concrete section of the pile.

LAST REVISION	REVISION	DESCRIPTION:	FDOT 2015 DESIGN STANDARDS	14" SQUARE PRESTRESSED CONCRETE PILE	INDEX NO.	SHEET NO.
01/01/12					20614	1 of 1

3/20/18

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STRUCTURAL ENGINEERS
LIC. #00026
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Checked: EP/PR
Date: 1/24/2018
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Project: LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

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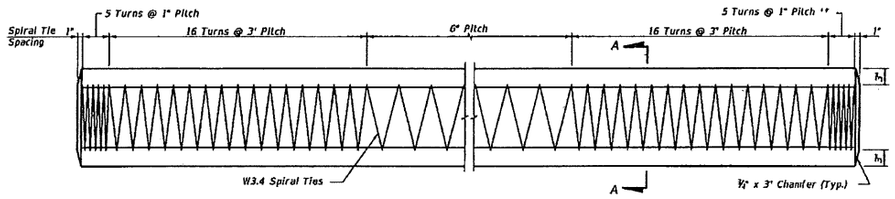
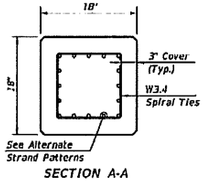


ELEVATION

** See Note No. 4 on Index No. 20601

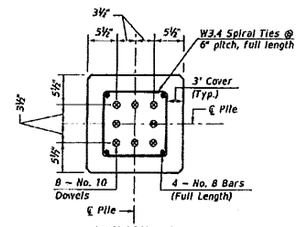


SECTION A-A

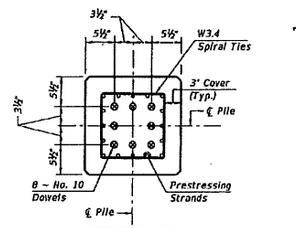
ALTERNATE STRAND PATTERNS

12 – 0.6" Ø, Grade 270 LRS, at 35 kips
12 – ½" Ø (Special), Grade 270 LRS, at 34 kips
16 – ½" Ø, Grade 270 LRS, at 26 kips
20 – 7/16" Ø, Grade 270 LRS, at 21 kips
24 – 3/8" Ø, Grade 270 LRS, at 17 kips

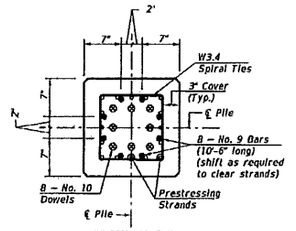
NOTES:
1. Work this Index with Index No. 20600 – Notes and Details for Square Prestressed Concrete Piles and Index No. 20601 – Square Prestressed Concrete Pile Splices.
2. Any of the given Alternate Strand Patterns may be utilized. The strands shall be located as follows:
   Place one strand at each corner and place the remaining strands equally spaced between the corner strands.
   The total strand pattern shall be concentric with the nominal concrete section of the pile.



SECTION D-D
(See Nondrivable Unforeseen Reinforced Precast Splice Detail)



SECTION E-E
(See Drivable Prestressed Precast Splice Detail)



SECTION F-F
(See Drivable Preplanned Splice Detail)

PILE SPLICE REINFORCEMENT DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
01/01/12			FDOT 2015 DESIGN STANDARDS	18" SQUARE PRESTRESSED CONCRETE PILE	20618	1 of 1

ONMJ O'Donnell, Nocarado, Mcgregor Jackson
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Drawn: DG
Checked: EP/MR
Date: 1/21/2018
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Project: LOXAHATCHEE SLOUGH NATURAL AREA
PUBLIC USE FACILITIES

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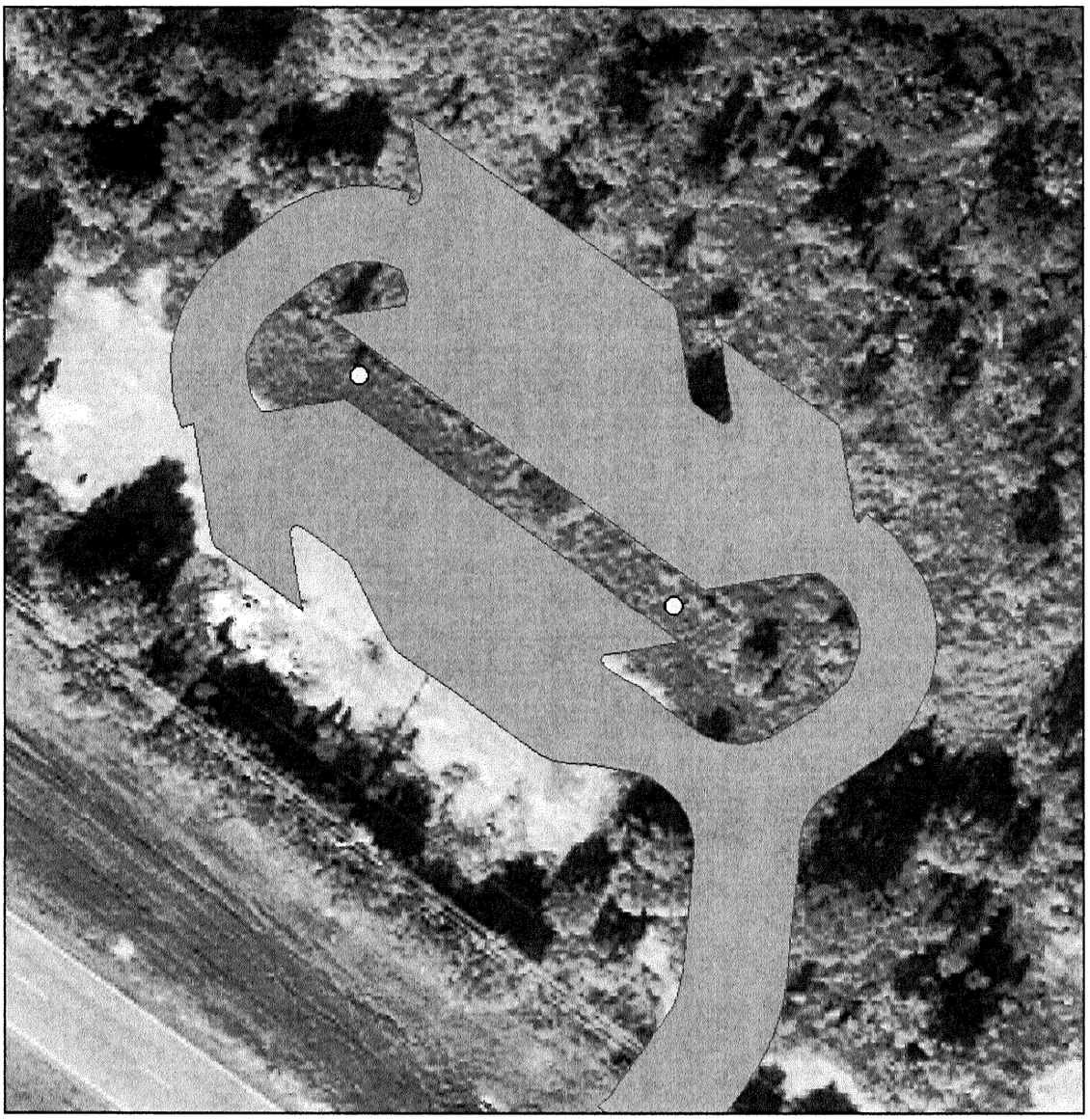
Loxahatchee Slough Natural Area
Parking Lot Lighting Plan



Proposed Solar Light

Parking Lot

0 15 30 60 Feet

N

Palm Beach County
Department of Environmental
Resources Management

GENERAL NOTES

1. STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2017.
2. VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.
3. THE CONTRACTOR IS RESPONSIBLE FOR CLEARING THE CONSTRUCTION SITE OF EXISTING UTILITIES.
4. DO NOT SCALE DRAWINGS.
5. THE GENERAL CONTRACTOR SHALL COMPARE THE OTHER DISCIPLINE DRAWINGS AND THE STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE APPROPRIATE ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
6. THE STRUCTURAL DRAWINGS ARE PART OF THE CONSTRUCTION DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE CIVIL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS AND SPECIFICATIONS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING INFORMATION IN THE CONSTRUCTION DOCUMENTS TO PROPERLY CONSTRUCT THE PROJECT.
7. PRIOR TO SHOP DRAWING PREPARATION, THE CONTRACTOR IS TO INVESTIGATE AND VERIFY ACTUAL FIELD CONDITIONS, EMBEDDED OR CONCEALED, AND TAKE INTO ACCOUNT ANY POSSIBLE CONSTRUCTION INTERFERENCES AND RELOCATIONS OF, BUT NOT LIMITED TO STRUCTURES, EQUIPMENT, UTILITIES, DUCTS, PIPING, DRAIN LINES, ETC.
8. ANY PORTION OF EXISTING STRUCTURES ADJACENT TO THE NEW CONSTRUCTION WHICH MAY BE DISTURBED OR DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO AS GOOD A CONDITION AS BEFORE THE COMMENCEMENT OF THE WORK AT NO ADDITIONAL COST TO THE OWNER.
9. SEE CIVIL AND ELECTRICAL DRAWINGS FOR [illegible] NOT SHOWN HEREON.
10. SEE CIVIL AND ELECTRICAL DRAWINGS FOR ANCHORED, SUPPORTED AND EMBEDDED ITEMS WHICH AFFECT THE STRUCTURAL WORK. VERIFY SIZES AND DIMENSIONS WITH EQUIPMENT PURCHASED.
11. THE CONTRACTOR SHALL PROTECT ADJACENT PROPERTY, HIS OWN WORK AND THE PUBLIC FROM HARM. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND JOBSITE SAFETY INCLUDING ALL OSHA REQUIREMENTS.

STRUCTURAL DESIGN CRITERIA AND CODES

1. STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2017, ACI 318-14 AND OTHER CODES REFERENCED HEREIN.
2. WIND DESIGN IS BASED ON THE ASCE-7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
3. THE POLE IS ASSUMED TO BE 14 FT. HIGH MAXIMUM WITH LIGHT FIXTURE THAT HAS EFFECTIVE PROJECTED AREA = 2.52 SQ. FT.
4. WIND DESIGN CRITERIA:
   a. WIND SPEED ASCE 7-10: 140 mph-V_{asd}, 174 mph-V_{ult}
   b. EXPOSURE C
   c. RISK CATEGORY I
   d. DESIGN VELOCITY PRESSURE 56.7 PSF.
5. FOUNDATION DESIGN CRITERIA:
   a. FBC 2017 CHAPTER 18 LATERAL SOIL BEARING VALUE: 150 PSF
   b. DESIGN LOAD AT TOP OF FOOTING
      - MAX. VERTICAL LOAD: 500 LBS.
      - MAX. HORIZONTAL LOAD: 253 LBS.
      - MAX. BENDING MOMENT: 1611 FT.-LBS.

REINFORCED CONCRETE

1. ALL CONCRETE DESIGN AND PLACEMENT SHALL BE IN STRICT ACCORDANCE WITH ACI 318-14, (BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE) AND ACI 350-06 (CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES).
2. STRUCTURAL CONCRETE SHALL CONFORM TO ACI 301-16 (SPECIFICATIONS FOR STRUCTURAL CONCRETE) AND THE FOLLOWING CONCRETE MIX DESIGNS:
   a. COMPRESSIVE STRENGTH AT 28 DAYS: 4000 PSI
   b. MIN. CEMENTITIOUS MATERIAL CONTENT: 580 LB/CY
3. ACI 350, TABLE 4.1.2.1 FOR 3/4" (#57) COARSE AGG.
4. AIR ENT. (MAX 7.5%) [illegible] MAX W/C RATIO [illegible]
5. MAX W/C RATIO: 0.45 PER 350, TABLE 4.2.2 FOR SEAWATER EXPOSURE.
6. HIGH RANGE WATER REDUCING ADMIXTURE REQ. (TYPE F)
7. RETARDING ADMIXTURE REQ. (TYPE D)
8. MAX WATER SOLUBLE CHLORIDE ION CONTENT: 0.10% BY WT. OF CEMENT.
9. [illegible] REQUIRED
10. CONCRETE SHALL BE READY-MIX, NORMAL WEIGHT FOR ALL STRUCTURAL USES. READY MIX CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C94. IN CASE OF DISCREPANCY, THE PLANS AND SPECIFICATIONS SHALL GOVERN.
11. REINFORCING STEEL SHALL BE DETAILED, FABRICATED AND INSTALLED IN ACCORDANCE WITH ACI 318-14 AND ACI DETAILING MANUAL, ACI 315.
12. REINFORCING STEEL SHALL BE NEW, DEFORMED BARS, FREE OF RUST, SCALE AND OIL, CONFORMING TO ASTM A615, GRADE 60 WITH A MINIMUM YIELD STRENGTH = 60,000 PSI, UNLESS OTHERWISE SHOWN.
13. WHERE SPLICE LENGTHS ARE NOT SHOWN OR NOTED, PROVIDE CLASS "B" LAP SPLICE.
14. PROVIDE 3" MINIMUM CONCRETE COVERAGE CLEARANCE OVER REINFORCING.
15. NO REINFORCING SHALL BE CUT OR OTHERWISE MODIFIED IN THE FIELD. REINFORCING BARS SHALL NOT BE DISPLACED PRIOR TO OR DURING CASTING TO ACCOMMODATE ANCHORS, EMBEDS OR OTHER ITEMS. ALL EMBEDDED ITEMS SHALL BE SECURELY TIED AND MAINTAINED IN POSITION PRIOR TO AND DURING CONCRETE PLACEMENT. REINFORCEMENT SPLICES AS INDICATED HEREIN IN CONFORMANCE WITH AN ACI CLASS B TENSION SPLICE (ACI 318-14 CODE). NO REDUCTION SHALL BE PERMITTED DUE TO BAR SPACING.

CLASS B SPLICES FOR REINFORCEMENT, OTHER THAN TOP BARS:

BAR SIZE	3,000 & 4,000 PSI	
#3	22"	19"
#4	29"	25"
#5	36"	31"
#6	43"	35"
#7	63"	55"

CLASS B SPLICES FOR REINFORCEMENT, AS TOP BARS:

BAR SIZE	3,000 & 4,000 PSI	
#3	28"	25"
#4	38"	33"
#5	47"	41"
#6	56"	49"
#7	82"	71"

16. CEMENT SHALL CONFORM TO ASTM C150, TYPE I. FLY ASH SHALL CONFORM TO ASTM C618, CLASS C OR F. THE RATIO OF THE AMOUNT (BY WEIGHT) OF FLY ASH TO THE AMOUNT OF PORTLAND CEMENT IN THE MIX SHALL NOT EXCEED 25 PERCENT. SLAG CONFORMING TO ASTM C989, IS AN ACCEPTABLE ALTERNATIVE TO FLY ASH AS A CEMENTITIOUS MATERIAL.
17. NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C33.
18. WATER REDUCING ADMIXTURES SHALL CONFORM TO ASTM C494.
19. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN BATCHED. THE MAXIMUM TIME ALLOWED FROM THE TIME MIXING WATER ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1½) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL NOT BE USED IN THE PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR AND THE STRUCTURAL ENGINEER OF ANY NON-COMPLIANCE WITH THE ABOVE.
20. WATER MAY NOT BE ADDED AT THE SITE EXCEPT AT THE DIRECTION OF A REPRESENTATIVE OF THE SUPPLIER. ANY ALLOWABLE WATER MUST BE ADDED TO THE FULL MIX PRIOR TO PLACING ANY CONCRETE. MIXES WITH WATER ADDED AT THE SITE, OTHER THAN AS INDICATED ABOVE, ARE SUBJECT TO REJECTION AND REMOVAL FROM THE PROJECT. IN ALL INSTANCES, MIXES WITH WATER ADDED AT THE SITE SHALL BE INDICATED ON THE TEST REPORTS AND SLUMP TESTS SHALL BE MADE. [illegible] ALLOWABLE JOB SITE WATER THAT MAY BE ADDED WITHOUT INVALIDATING THE MIX.
21. STRUCTURAL ELEMENTS SHALL BE CONSTRUCTED WITH CONCRETE MIXES WHICH UTILIZE NORMAL WEIGHT AGGREGATE. PEAROCK MIXES ARE NOT ACCEPTABLE.
22. ALL CONCRETE SHALL BE PROPERLY CURED IN ACCORDANCE WITH ACI 301-16.
23. IN HOT WEATHER CONDITIONS, MIXING, PLACING, FINISHING, CURING AND PROTECTION OF CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 305R, HOT WEATHER CONCRETING.
24. CONCRETE FINISHES:
   a. CONCRETE SURFACES SHALL BE TROWELED SMOOTH.

SHOP DRAWING REVIEW

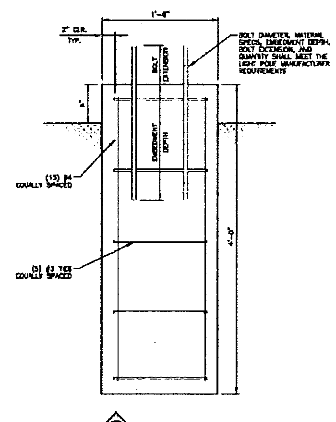
1. SHOP DRAWINGS WILL BE REVIEWED AND STAMPED APPROVED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC.
2. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR'S [illegible] PRIOR TO SUBMITTAL TO THE ENGINEER. DRAWINGS SUBMITTED WITHOUT REVIEW WILL BE RETURNED UNCHECKED. ALLOW TEN BUSINESS DAYS FOR REVIEW TIME OF SHOP DRAWING SUBMITTALS.
3. THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER.
4. CHANGES AND ADDITIONS MADE ON THE RE-SUBMITTALS SHALL BE CLEARLY FLAGGED AND NOTED. THE PURPOSE OF THE RE-SUBMITTALS SHALL BE CLEARLY NOTED ON THE LETTER [illegible] ENGINEER REVIEW WILL BE LIMITED TO THOSE ITEMS CAUSING THE RE-SUBMITTAL.
5. SHOP DRAWING SUBMITTALS ARE REQUIRED FOR ALL ITEMS SHOWN ON THESE DRAWINGS INCLUDING BUT NOT LIMITED TO:
   a. CONCRETE MIX DESIGN
   b. CONCRETE REINFORCING
   c. FABRICATED COMPONENTS (PRECAST)
6. PRODUCT DATA SUBMITTALS:
   a. CONCRETE CURING COMPOUNDS
7. THE CONTRACTOR SHALL SUBMIT FOR THE REVIEW OF THE STRUCTURAL ENGINEER A MIX DESIGN FOR EACH PROPOSED CLASS OF CONCRETE. EACH MIX DESIGN SHALL BE IDENTIFIED BY A MIX NUMBER OR OTHER UNIQUE IDENTIFICATION. THE CONTRACTOR SHALL NOT VARY FROM THE MIX DESIGNS NOR USE ANY CONCRETE OTHER THAN THE APPROVED MIX DESIGNS WITHOUT THE APPROVAL OF THE ENGINEER. MIX DESIGN SUBMITTALS SHALL INCLUDE THE FOLLOWING INFORMATION:
   a. MIX DESIGN NUMBER OR UNIQUE IDENTIFICATION AND INTENDED LOCATION OF PLACEMENT.
   b. CEMENT TYPE, PROPORTION AND NUMBER OF MANUFACTURER.
   c. ALTERNATE CEMENTITIOUS MATERIALS PROPORTION (WHEN USED), LABORATORY ANALYSIS CERTIFICATION AND NAME AND LOCATION OF SUPPLIER.
   d. FLY ASH AND/OR SLAG PROPORTION (WHEN USED), LABORATORY ANALYSIS CERTIFICATION AND NAME AND LOCATION OF SUPPLIER.
   e. COARSE AGGREGATE PROPORTION, GRADATION REPORT, NAME AND LOCATION OF SUPPLIER.
   f. FINE AGGREGATE PROPORTION, GRADATION REPORT, NAME AND LOCATION OF SUPPLIER.
   g. MIXING WATER PROPORTION AND SOURCE.
   h. ADMIXTURE DOSAGES, PRODUCT NAME(S) AND MANUFACTURER NAME(S).
   i. DESIGN 28 DAY COMPRESSIVE STRENGTH (f'c).
   j. DESIGN SLUMP RANGE.
   k. DESIGN AIR-ENTRAINMENT (FOR CONCRETE REQUIRING ENTRAINED AIR).
   l. STATISTICAL ANALYSIS OF LABORATORY STRENGTH TEST DATA IN ACCORDANCE WITH STANDARD DEVIATION DETERMINATION OUTLINED IN ACI 318.
   m. WATER/CEMENTITIOUS MATERIALS RATIO.

CONCRETE TESTING

1. CONCRETE TESTING SHALL BE IN ACCORDANCE WITH THE FOLLOWING PARAMETERS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE SERVICES OF AN INDEPENDENT TESTING LABORATORY APPROVED BY THE OWNER AND THE ENGINEER.
2. CONCRETE MIXES WHICH HAVE WATER ADDED AT THE SITE SHALL BE TESTED AS INDICATED IN THE CONCRETE NOTES.
3. FORWARD COPIES OF TEST RESULTS TO THE ENGINEER, CONCRETE SUPPLIER AND CONTRACTOR WITHIN 24 HOURS AFTER TESTING.
4. AN INDEPENDENT TEST LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST IN PLACE CONCRETE.
   a. ASTM C143 "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE." MINIMUM SLUMP SHALL BE AS INDICATED IN THE CONCRETE NOTES SECTION OR AS SPECIFIED IN APPROVED MIX DESIGN SUBMITTALS.
   b. ASTM C39 "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A STRENGTH TEST SHALL BE CONDUCTED FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), 1 SET PER DAY. REQUIRED CYLINDER(S) QUANTITIES AND TEST AGE AS FOLLOWS:
      1 AT 3 DAYS
      1 AT 7 DAYS
      3 AT 28 DAYS
5. CONTRACTOR TO PROVIDE ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

PRECAST CONCRETE FOUNDATION ALTERNATIVE

1. A PRECAST LIGHT POLE FOUNDATION IS AN ACCEPTABLE ALTERNATE TO THE CAST-IN-PLACE FOUNDATION.
2. THE PRECAST FOUNDATION SHALL BE DESIGNED TO RESIST THE DESIGN LOADS AND SOIL PARAMETERS SUPPLIED IN THE STRUCTURAL DESIGN CRITERIA AND CODES SECTION OF THE GENERAL NOTES.
3. SHOP DRAWINGS AND SIGNED AND SEALED CALCULATIONS PREPARED BY A LICENSED FLORIDA PROFESSIONAL ENGINEER ACTING AS THE DELEGATED ENGINEER FOR THE DESIGN OF THE PRECAST FOUNDATION SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO DELIVERY OF THE PRECAST CONCRETE FOUNDATION.



A/S1 SECTION
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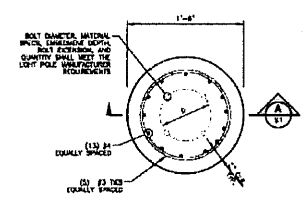

PLAN
SCALE : 1 1/2"=1'-0"

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LOXAHATCHEE SLOUGH NATURAL AREA
PARKING LOT LIGHT POLE FOUNDATION

GENERAL NOTES, PLAN AND DETAIL

Proj. No. 17-003K
Sheet S1 of S1

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LIGHT POLES
Florida Building Code Guide

Proven Performance
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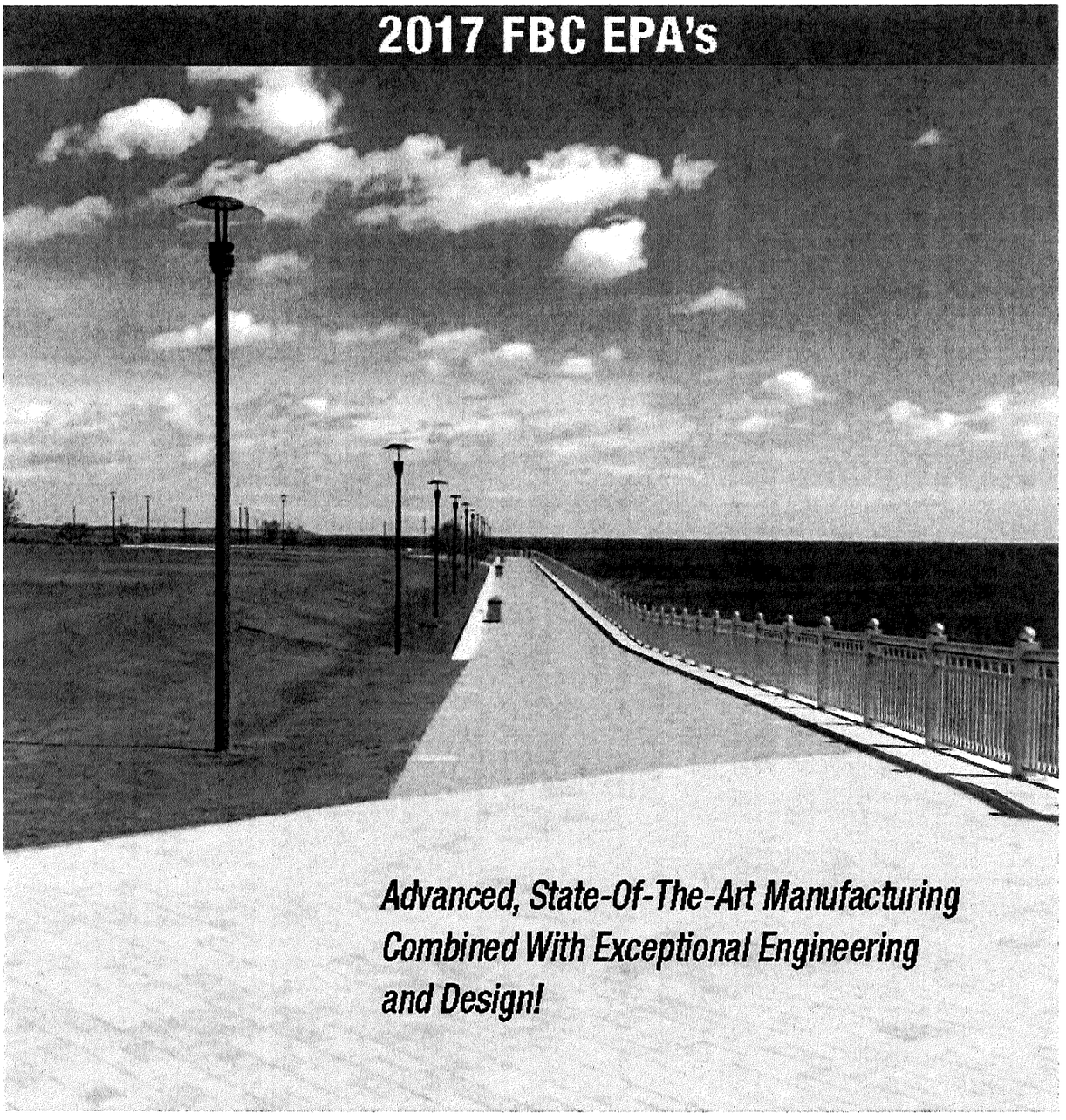
pole products

2017 FBC EPA's



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A 60+ year history of providing quality pole products to Lighting Professionals worldwide.

With an industry-recognized reputation for excellence in Engineering, Research and Development, and Manufacturing, Hapco is proud of our long history of producing the highest quality products for the Commercial, Utility, Municipality, and DOT lighting markets.

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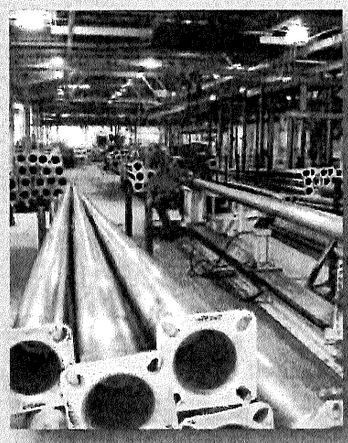

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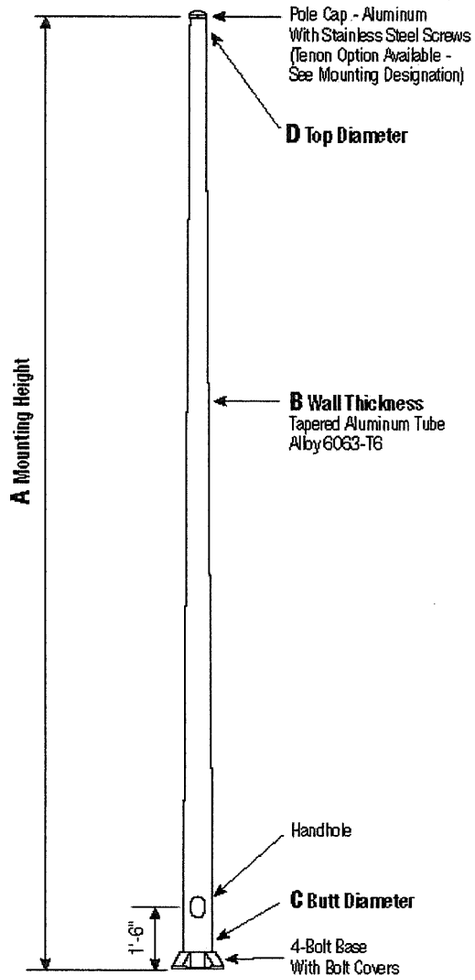
FLORIDA BUILDING CODE GUIDE
2017 FBC EPX

RTA

Round Tapered Aluminum Pole
No Arm — 4-Bolt Base



Satin Aluminum or Powder Coated Finish per Customer Specification.

C Butt Dia.	D Top Dia.	F Bolt Cir. Dia.	G Base Sq.	H Bolt Proj.	I Bolt Size
4	3	6.5 - 8	7.5	2	.75 x 17 x 3
5	3	7.5 - 8	7.5	2	.75 x 17 x 3
6	4.5	9 - 10	9.75	2.75	.75 x 30 x 3*
7	4.5	10 - 11	10.5	2.75	1 x 36 x 4
8	4.5	11 - 12	11.25	2.75	1 x 36 x 4
9	4.5	12.5 - 14	12.75	2.75	1 x 36 x 4
10 Up to .250"	6	14 - 15	14	3.25	1 x 48 x 4
10 .312"	6	14 - 15	14	3.25	1.25 x 48 x 6

"I" x 36" x 4" Anchor Bolts can be specified for 6" butt diameter poles.

Dimensions in Inches

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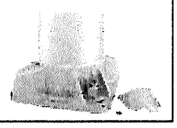
FLORIDA BUILDING CODE GUIDE
2017 FBC EPA's

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.

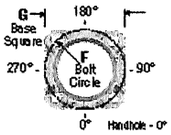


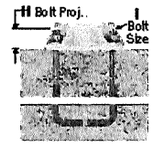
Handhole

4"-5" Butt Diameters - 2" x 4" Handhole with curved Lap Style Aluminum Door and two (2) SS Self-Tapping Attaching Screws. A Grounding Provision incorporating a tapped 1/4"-20NC hole is provided.
6" Butt Diameter - Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.
7"+ Butt Diameters - Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.

Anchorage

Anchorage Kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55. Ten inches (10") of threaded end will be galvanized per ASTM A153. Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized Steel). A bolt circle template will be provided.



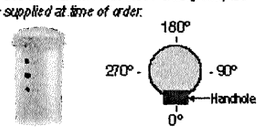


Vibration Damper

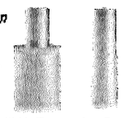
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

Side Drill Mount
For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount - Welded or Spun
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.



WARNING: *Do not install light pole without luminaire.*

A Mtg. Hgt.	B Wall Thickness	C Butt Dia.	Total Lgth. Weight	Maximum EPA 120	130	140	150	160	170	180	Old Catalog Number	Catalog Number
06	0.125	4	125	11.1	9.3	8.0	6.9	6.0	5.2	4.6	78-001	RTA06B4A4-**
08	0.125	4	90	7.9	6.6	5.6	4.7	4.0	3.5	3.0	78-002	RTA08B4A4-**
08	0.188	4	130	11.6	9.7	8.3	7.1	6.1	5.3	4.7	78-015	RTA08D4A4-**
10	0.125	4	65	5.8	4.8	4.0	3.3	2.8	2.3	2.0	78-003	RTA10B4A4-**
10	0.188	4	100	8.8	7.3	6.1	5.2	4.4	3.8	3.3		RTA10D4A4-**
10	0.125	5	130	11.5	9.6	8.1	6.9	6.0	5.2	4.5	78-012	RTA10B5A4-**
10	0.188	5	200	17.1	14.4	12.2	10.5	9.1	8.0	7.1		RTA10D5A4-**
12	0.125	4	50	4.4	3.5	2.8	2.2	1.8	1.4	1.2	78-004	RTA12B4A4-**
12	0.188	4	75	6.8	5.6	4.6	3.8	3.2	2.7	2.2	78-016	RTA12D4A4-**
12	0.125	5	105	9.0	7.4	6.2	5.2	4.4	3.8	3.3	78-009	RTA12B5A4-**
12	0.156	5	130	11.4	9.5	8.0	6.8	5.8	5.0	4.4	78-009W3	RTA12C5A4-**
12	0.188	5	160	13.7	11.5	9.7	8.2	7.1	6.2	5.4	78-009W4	RTA12D5A4-**
14	0.125	4	40	3.2	2.4	1.8	1.4	1.0	0.7	-	78-005	RTA14B4A4-**
14	0.188	4	60	5.3	4.2	3.4	2.7	2.2	1.7	1.4	78-019	RTA14D4A4-**
14	0.125	5	80	7.2	5.8	4.8	3.9	3.3	2.8	2.3	78-010	RTA14B5A4-**
14	0.156	5	105	9.2	7.5	6.2	5.2	4.4	3.8	3.2	78-021	RTA14C5A4-**
14	0.188	5	130	11.2	9.2	7.7	6.5	5.5	4.8	4.1	78-022	RTA14D5A4-**
16	0.188	4	45	4.0	3.1	2.4	1.8	1.3	1.0	0.7	78-027	RTA16D4A4-**
16	0.125	5	65	5.6	4.4	3.5	2.8	2.3	1.9	1.5	78-011	RTA16B5A4-**
16	0.156	5	85	7.3	5.9	4.8	3.9	3.3	2.7	2.3	78-029	RTA16C5A4-**
16	0.188	5	105	9.1	7.4	6.1	5.1	4.2	3.6	3.1	78-030	RTA16D5A4-**
16	0.156	6	170	14.5	12.1	10.3	8.8	7.7	6.7	5.9	51-002S48	RTA16C6B4-**
16	0.188	6	215	17.8	14.9	12.7	10.9	9.5	8.3	7.3		RTA16D6B4-**
18	0.125	5	50	4.2	3.2	2.5	1.9	1.4	1.1	0.8	78-007	RTA18B5A4-**
18	0.156	5	65	5.7	4.5	3.6	2.9	2.3	1.9	1.5	78-031	RTA18C5A4-**
18	0.188	5	85	7.2	5.8	4.7	3.8	3.1	2.6	2.2	78-032	RTA18D5A4-**
18	0.156	6	140	11.9	9.8	8.3	7.1	6.1	5.3	4.7		RTA18C6B4-**
18	0.188	6	175	14.7	12.3	10.4	8.9	7.7	6.8	5.9		RTA18D6B4-**
18	0.156	7	215	17.8	14.8	12.6	10.9	9.4	8.3	7.3		RTA18C7B4-**
20	0.125	5	40	3.0	2.2	1.5	1.0	0.7	-	-	78-008	RTA20B5A4-**
20	0.156	5	50	4.4	3.3	2.5	1.9	1.5	1.1	0.8	78-033	RTA20C5A4-**
20	0.188	5	65	5.7	4.4	3.5	2.8	2.2	1.8	1.4		RTA20D5A4-**
20	0.125	6	85	7.2	5.8	4.8	4.1	3.4	2.9	2.5	51-001	RTA20B6B4-**
20	0.156	6	115	9.7	8.0	6.7	5.7	4.9	4.2	3.6	51-002	RTA20C6B4-**
20	0.188	6	145	12.3	10.1	8.5	7.3	6.3	5.4	4.8	51-003	RTA20D6B4-**
20	0.156	7	180	15.0	12.4	10.5	9.0	7.8	6.8	5.9	51-004	RTA20C7B4-**
20	0.188	7	225	18.5	15.4	13.1	11.3	9.8	8.5	7.5	51-005	RTA20D7B4-**
20	0.156	8	255	21.0	17.6	15.0	12.9	11.2	9.8	8.6	51-006	RTA20C8B4-**
20	0.188	8	300	25.8	21.6	18.5	15.9	13.9	12.2	10.7	51-007	RTA20D8B4-**
25	0.156	6	65	5.7	4.4	3.6	2.9	2.4	2.0	1.7	51-062	RTA25C6B4-**
25	0.188	6	90	7.6	6.0	5.0	4.1	3.5	2.9	2.5	51-063	RTA25D6B4-**
25	0.156	7	115	9.7	7.8	6.5	5.5	4.7	4.0	3.4	51-064	RTA25C7B4-**
25	0.188	7	150	12.4	10.1	8.5	7.2	6.2	5.3	4.6	51-065	RTA25D7B4-**
25	0.156	8	170	14.4	11.8	10.0	8.5	7.3	6.3	5.5	51-066	RTA25C8B4-**
25	0.188	8	215	18.0	14.9	12.6	10.8	9.4	8.1	7.1	51-067	RTA25D8B4-**
25	0.219	8	260	21.4	17.8	15.2	13.0	11.3	9.8	8.6	51-068	RTA25E8B4-**
25	0.250	8	300	24.8	20.7	17.6	15.2	13.2	11.5	10.1	51-069	RTA25F8B4-**
25	0.156	9	235	19.6	16.3	13.9	11.9	10.3	8.9	7.8		RTA25C9B4-**
25	0.156	10	300	25.9	21.8	18.6	16.0	13.8	12.1	10.5		RTA25C1C4-**
30	0.156	7	70	6.0	4.5	3.6	2.9	2.4	2.0	1.6	51-124	RTA30C7B4-**
30	0.188	7	95	8.1	6.4	5.2	4.3	3.6	3.0	2.6	51-125	RTA30D7B4-**
30	0.156	8	115	9.7	7.8	6.4	5.4	4.5	3.9	3.3	51-126	RTA30C8B4-**
30	0.188	8	150	12.6	10.3	8.6	7.3	6.2	5.3	4.6	51-127	RTA30D8B4-**
30	0.219	8	185	15.4	12.6	10.6	9.0	7.7	6.7	5.8	51-128	RTA30E8B4-**
30	0.250	8	220	18.0	14.9	12.5	10.7	9.2	8.0	7.0	51-129	RTA30F8B4-**
30	0.188	9	215	17.6	14.6	12.4	10.5	9.1	7.8	6.8	51-131	RTA30D9B4-**
30	0.250	9	300	24.7	20.6	17.5	15.0	13.0	11.3	9.9	51-133	RTA30F9B4-**
30	0.188	10	285	23.7	19.9	16.9	14.5	12.5	10.8	9.4	51-139	RTA30D1C4-**
30	0.250	10	300	32.8	27.7	23.6	20.3	17.6	15.4	13.5	51-141	RTA30F1C4-**
35	0.156	8	75	6.1	4.7	3.7	3.0	2.4	1.9	1.5	51-186	RTA35C8B4-**
35	0.188	8	105	8.5	6.7	5.5	4.5	3.7	3.1	2.6	51-187	RTA35D8B4-**
35	0.219	8	130	10.8	8.6	7.1	6.0	5.0	4.2	3.6	51-188	RTA35E8B4-**
35	0.250	8	160	13.0	10.5	8.7	7.4	6.3	5.3	4.6	51-189	RTA35F8B4-**
35	0.188	9	155	12.7	10.4	8.6	7.3	6.1	5.2	4.4	51-191	RTA35D9B4-**
35	0.250	9	225	18.5	15.3	12.9	11.0	9.4	8.1	7.0	51-193	RTA35F9B4-**
35	0.188	10	215	17.8	14.9	12.5	10.6	9.1	7.7	6.6	51-199	RTA35D1C4-**
35	0.219	10	260	21.5	18.0	15.2	13.0	11.1	9.6	8.3	51-200	RTA35E1C4-**
35	0.250	10	300	25.2	21.1	17.9	15.3	13.2	11.4	9.9	51-201	RTA35F1C4-**
35	0.312	10	300	32.5	27.4	23.3	20.0	17.3	15.1	13.1	51-202	RTA35G1C4-**
40	0.188	8	65	5.3	3.9	3.0	2.3	1.8	1.3	1.0	51-247	RTA40D8B4-**
40	0.219	8	90	7.3	5.5	4.4	3.5	2.9	2.3	1.8	51-248	RTA40E8B4-**
40	0.250	8	110	9.1	7.1	5.8	4.7	3.9	3.2	2.7	51-249	RTA40F8B4-**
40	0.188	9	105	8.9	7.1	5.7	4.7	3.9	3.2	2.6	51-251	RTA40D9B4-**
40	0.250	9	170	13.8	11.2	9.3	7.8	6.6	5.6	4.7	51-253	RTA40F9B4-**
40	0.188	10	155	13.3	11.0	9.1	7.6	6.4	5.3	4.4	51-259	RTA40D1C4-**
40	0.219	10	195	16.4	13.6	11.4	9.6	8.2	6.9	5.8	51-260	RTA40E1C4-**
40	0.250	10	235	19.5	16.3	13.7	11.6	9.9	8.4	7.2	51-261	RTA40F1C4-**
40	0.312	10	300	25.5	21.4	18.1	15.5	13.3	11.4	9.9	51-262	RTA40G1C4-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.

MOUNTING HEIGHT | BUTT DIA. | BASE STYLE

RTA | | | | | 4 - | | |

SHAFT ASSEMBLY | WALL THICK. | TOP DIA. | FINISH

Catalog Number Example -

RTA 30 D 8 B 4 – 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, 4-Bolt Base, Satin Aluminum Finish

Wall Thickness
B = .125"
C = .156"
D = .188"
E = .219"
F = .250"
G = .312"

Butt Diameter
4 = 4"
5 = 5"
6 = 6"
7 = 7"
8 = 8"
9 = 9"
1 = 10"

Top Diameter
A = 3"
B = 4.5"
C = 6"

Base Style
4 = 4-Bolt Base

Finish
01 = Satin Aluminum
BA = Black Powder Coat
BH = White Powder Coat
BM = Dark Bronze Powder Coat
BV = Dark Green Powder Coat
GC = Gray Powder Coat
** = Specify Finish

FLORIDA BUILDING CODE GUIDE
2017 FBC EPA's

EPA Note:
EPA's based on symmetrically placed side mounted fixture(s) not exceeding height of the pole.

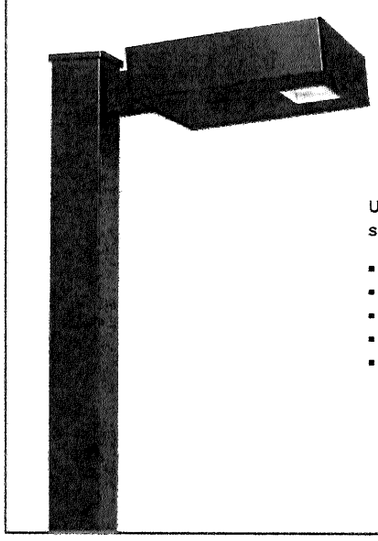
FIRSTLIGHT
TECHNOLOGIES

SCL Series

SOLAR LED INTEGRATED COMMERCIAL AREA LIGHT

Project:

Type: Quantity:



The SCL series solar LED luminaire is a great fit for commercial, recreational bikeway/pathway and public space lighting applications. The self-contained, unobtrusive design integrates its solar power, adaptive control and LED technologies into a compact and efficient form. With robust construction, and unequalled performance the SCL series is an excellent fit wherever cost effective, full cutoff lighting is required.

Utilizing solar power and LEDs, the SCL series is completely self-contained and offers significant benefits:

- **Cost effective design ships fully assembled and installs in minutes**
- **Low installation cost and minimal site impact with no trenching, cabling or wiring**
- **Minimal ongoing costs with no electrical bills or bulbs to change**
- **Operates entirely independent from the grid and is immune to power outages**
- **A sustainable choice without recurring carbon emissions**

All of our solar powered lights are enabled by our innovative Solar Lighting Controller (SLC). The SLC in each light is "self-learning" and allows the lights to predictively adapt to their surroundings, providing a level of lighting performance and reliability unavailable in other solar lighting products.

TECHNICAL SPECIFICATIONS

Solar Module:	▪ High-efficiency mono-crystalline cells ▪ Inconspicuously integrated into the top of luminaire ▪ Used for day/night detection (no photocell required)
Solar Lighting Controller (SLC):	▪ High-efficiency, Maximum Power Point Tracking (MPPT) battery charger ▪ Micro-controller based technology ▪ Includes high-efficiency LED driver ▪ Multiyear data logging ▪ Integrated into luminaire housing ▪ Automatically and adaptively manages lighting performance based on environmental conditions and lighting requirements ▪ Patent Pending
Battery:	▪ High performance Lithium ($LiFePO_4$) ▪ Exceptional 8 – 10 year life cycle ▪ High temperature tolerance ▪ Contained within luminaire housing ▪ Designed for easy battery changes when required
LEDs and Optics:	▪ 100,000 hour L70 lifetime ▪ Warm (3000K) and neutral (4500K) white color temperatures available ▪ High efficiency Type 2, 3, 4 and 5, full cut-off optics ▪ Typical lumen output from 850 to 1200 lumens
Mechanical Construction:	▪ Formed, low copper aluminum enclosure, and mounting arm ▪ Stainless fasteners with security fastener option ▪ Architectural grade, super durable, TGIC powder coat finish ▪ Four standard colors (See order matrix) ▪ Custom colors available
Factory Set Lighting Profiles:	▪ On at dusk, off at dawn ▪ On at dusk, off after 6 hours ▪ On at dusk, dim to 30% after 6 hours till dawn ▪ On at dusk, off after 5 hours, on 1 hour before dawn ▪ On at dusk, dim to 30% after 5 hours, on 1 hour before dawn

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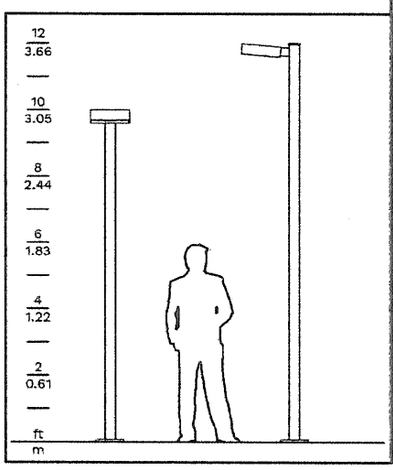
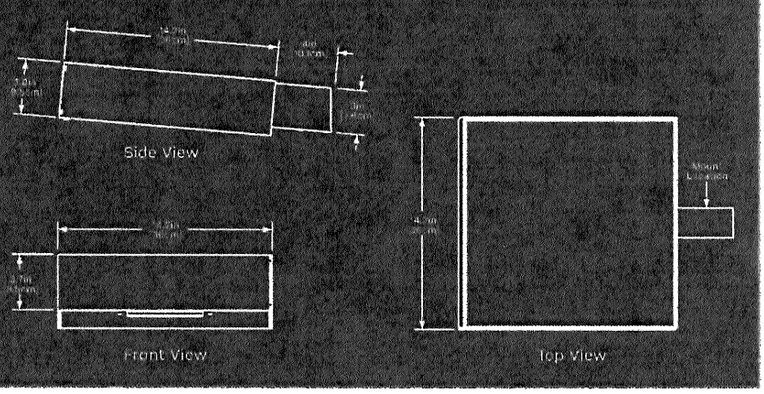
FIRSTLIGHT
TECHNOLOGIES

SCL Series

SOLAR LED INTEGRATED COMMERCIAL AREA LIGHT

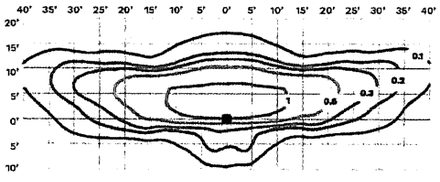


EPA: 0.52ft² (0.05m²) | Weight: 25 lbs (11.4kg) including battery

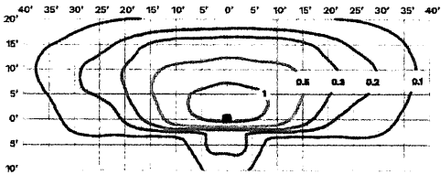


PHOTOMETRICS (IES files available on request)

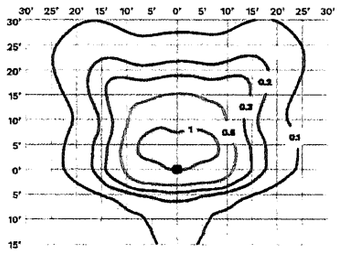
If you have any questions, please don't hesitate to call us toll free at 1-844-279-8754 (USA & Canada).



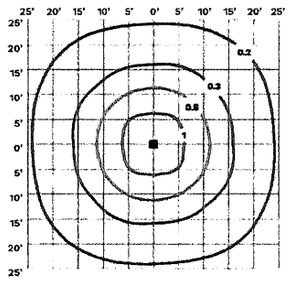
SCL - Type 2



SCL - Type 3



SCL - Type 4



SCL - Type 5

Represented by:

ORDER MATRIX

Series	Mounting	Finish	Distribution	LED Color	Lighting Profile	Options
SCL	**SPMS** - Side Pole Mount Square	**BK** - Black	**T2** - Type 2	**WW** - 3000K	**00** - Dusk till dawn	**SEC** - Security Fasteners
	SPMR - Side Pole Mount Round	**BZ** - Bronze	**T3** - Type 3	**NW** - 4500K	**01** - Dark +6 hours then off	
		SV - Silver	**T4** - Type 4		**02** - Dark +6 hours then 30%	
		WH - White	**T5** - Type 5		**03** - Dark +5 hours, off, Dawn -1 hour	
		CC - Custom			**04** - Dark +5 hours, 30%, Dawn -1 hour (DEFAULT)	

Notes:
- Photometrics based on 12 ft mounting height
- Specifications subject to change without notice
- All light levels in foot candles (fc) with 4500K color temperature and 850 lumen output
- To convert to lux multiply light level by 10.7

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Quote #: JCHA5043TY-1

CXT®, Inc. an L.B. Foster Company

Mailing Address:
CXT Incorporated, an LBFoster Co.
3808 North Sullivan Road Bldg. #7
Spokane Valley, WA 99216

Phone: (800) 696-5766
Fax: (509) 928-8220
Date: 10/19/2018

To: **Palm Beach County**
Dept. of Environmental Resources Management
2300 North Jog Rd
4th Floor
West Palm Beach, FL 33411
Attention: Frank Griffiths
Phone: (561) 233-2486
Fax: (561) 233-2052

Our quotation for the Gunnison Vault Building building is as follows:	Per Building
Gunnison single vault (right hand) toilet building with standard simulated cedar shake roof and barnwood wall texture, Sand Beige color, 16 gauge galvanized steel door and frame, plastic riser, ADA grab bars, ADA signs, 3-roll toilet paper holder, (rear wall) wall vent, solar light kit, unisex sign, solar vent fan and one 1000 gallon concrete vault with liner. PE Stamped drawings and FLDCA Approvals included.	$25,630.60
	$25,630.60

FOB: Freight FOB: Destination. Price includes delivery, off-loading and setting the building in the West Palm Beach County, FL area. Earthwork included. Earthwork includes digging the hole for the vaults and backfilling after the building is set.

Terms: Net 30 with Credit Approval.

Shipment: Within 90 daysARO after receipt of an approved MI (Manufacturing Insurrections) and State approvals.

Notes: Sales tax not included
Number of Units: ___

Tractor trailer and crane must have access to site and literally set up next to utility pad for off loading of the building. If drop deck trailer cannot get next to the site then a $2000 short trailer transfer or hydraulic trailer fee will be incurred. Road must allow standard 120' truck and trailer or short trailer transfer clear passage to site. It is the customer's responsibility to address any encumbrances to site access.

This quotation is subject to the conditions on the attached sheet and the terms hereof shall constitute the exclusive agreement of the parties and all conflicting or additional terms in Buyer's purchase order or any other such documents of Buyer shall have no force or effect.

Accepted this _____ day of _____ 20_____

By:_____ (Customer Name)

_____ (Signed)

L.B. FOSTER COMPANY

By _____
Jeff Chambers
JChambers@lbfoster.com

CONDITIONS OF SALE

1. Taxes: Prices exclude all Federal/State/Local taxes. Tax will be charged where applicable if customer is unable to provide proof of exemption .
2. Payment Terms

Payment to CXT by the purchaser shall be made net 30 days after the submission of the invoice to the purchaser. Interest at a rate equal to the lower of (i) the highest rate permitted by law; or (ii) 1.5% per month will be charged monthly on all unpaid invoices beginning the 35th day (includes 5 day grace period) from the date of the invoice. Under no circumstances can a retention be taken and purchaser shall pay the full invoiced amount without offset or reduction . These terms are available upon approval of credit. If CXT initiates legal proceeding to collect any unpaid amount or other dispute arising out of or relating to this Quote , purchaser shall be liable for all of CXT's costs, expenses and attorneys fees associated with such litigation, including the fees and costs of any appeal.

3. Quotation Term: This offer is subject to acceptance within 60 days from the date of this quotation. After that time, prices are subject to change without notice.
4. Drawings

Prices do not include any documentation other than standard drawings, packing lists, and invoices, unless otherwise stated in quote. Special documentation, reports, or submittals can be supplied at an additional cost. If additional engineering, engineering seals, state approvals, drawings, or insignias are required additional charges may incur.

5. Delivery

Delivery will be scheduled immediately upon receipt of written customer approval of all building submittals, building worksheet(s) and signed contract/purchase order. In the event delivery of the buildings ordered is/are not completed within 30 days of the agreed to schedule through no fault of CXT, an invoice for the full contract value (excluding shipping and installation costs) will be submitted for payment, the terms of which will be as per item 2 in our quotation. Delivery and installation charges will be invoiced at the time of delivery and installation. Should the delivery and installation costs increase due to changes in the delivery period, this increase in cost will be added to the price originally quoted, and will be subject to the contract payment terms. In the event that the delivery is delayed more than 45 days after the agreed to schedule and through no fault of CXT, then in addition to the remedies above, a storage fee of *1 1/2%* of contract price per month or part of any month will be charged.

6. Fuel Costs

Fuel costs for crane and freight have been quoted at fuel prices furnished at the time of quotation. If at the time of delivery and installation these costs have risen, CXT reserves the right to adjust the freight and crane costs to reflect the fuel costs furnished at the time of delivery.

7. Responsibilities of the Customer

A. Stake exact location building is to be set, including orientation.

B. Provide clear and level site, free of overhead and/or underground obstructions.

C. Provide site accessible to normal highway trucks and sufficient area for the crane to install and other equipment to perform the contract requirements.

D. Customer shall provide notice in writing of low bridges, roadway width or grade, unimproved roads or any other possible obstacles from State highway and/or main county road to site. CXT reserves the right to charge the customer for additional costs incurred for special equipment required to perform delivery and installation.

E. Customer is responsible for all permits required.

F. Completing and complying with Pre-Order Information Worksheet that is incorporated herein by this reference .

8. Access to Site

For installation methods described below in paragraph 9 A & B, delivery will be made in normal highway trucks and trailers. If at the time of delivery conditions of access are hazardous or unsuitable for truck equipment for any reason, CXT shall be entitled to payment for extra costs to ensure a safe and quality installation to the chosen site or will agree to an alternative site with better access.

To safely offload the facility referred to within this quotation , CXT must have clear and unobstructed access next to the gravel pad or hole where the facility will be placed . CXT is not responsible for cracked or damaged roads , driveways, sidewalks or aprons that are in the path of the delivery trucks or cranes at the final offloading site . Should CXT be required to obtain a larger crane than quoted due to site amenities or hardscapes , CXT will charge the customer the difference between the crane originally quoted, and the one that was hired to successfully offload the facility safely and efficiently .

9. Installation

A. **Full Install.** If the customer opts to have full installation of their new building, CXT will provide a backhoe trailered into the site, and prepare the customer site at the marked hole/pad area. The crane will arrive and set up next to the hole/pad. Any requirements to lift the building over obstacles or not having the ability of the crane to be right next to the hole could incur additional charges. The size of the crane varies however most cranes require an area of 18'x18' for their outriggers. Truck(s) carrying the vaults and the building systematically pull up right next to the crane and are offloaded onto the site . Any requirements to lift the building over obstacles or not having the ability of the truck to be right next to the crane could incur additional charges. Installation crew then performs all necessary excavation, backfill, compaction, site grading, and connection of utilities (if applicable). Please note: additional time and any special equipment needed by the installation crew for unscheduled site work will be billed to the customer.

B. **Set-Only Install.** If the customer opts to prepare the hole, and do earthwork preparation for the site, the customer will move all excess dirt to allow access by the crane and semi-truck. The crane will arrive and set up next to the hole/pad. Any requirements to lift the building over obstacles or not having the ability of the crane to be right next to the hole could incur additional charges. The size of the crane varies however most cranes require an area of 18'x18' for their outriggers. Truck(s) carrying the vaults and the building systematically pull up right next to the crane and are offloaded onto the site . Any requirements to lift the building over obstacles or not having the ability of the truck to be right next to the crane could incur additional charges. Customer performs all necessary excavation, backfill, compaction, site grading, connection of utilities (if applicable). If the pad for a flush building, or a customer prepared excavation/ hole prep is not to CXT specifications, and results in extra costs the customer will be responsible for these extra costs.

C. **Ship-Only.** If customer opts to self-install their building CXT can provide a drawing of the recommended lifting/rigging arrangement plus the four special lifting plates for the buildings itself with a refundable deposit of $1,000.00 payable by credit card only. The customer must return lifting plates and hardware to CXT (at customers cost) within 2 weeks (14) days or a $1,000.00 fee will be charged to the customer credit card. Please note: It is highly recommended that you use our lifting/rigging arrangements. The CXT arrangements will help prevent damage to the building. CXT will not take responsibility for any damage/accidents to the building or workers during the use or non-use of our recommended lifting/rigging arrangements.

D. CXT shall be entitled to reimbursement from customer for any expenses that are the result of conditions encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated by the customer or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities at the customer 's location.

E. Should customer request additions or changes to the work, CXT shall be entitled to payment for additional or changed work. Any request for additions or changed work shall be in writing executed by Customer Field Representative by signing the additional work required section of the Building Acceptance Form , incorporated herein by this reference.

10. Transportation

Your building(s) will be transported from our plant to your installation site via semi-truck with trailer. The length and clearance vary with the style of trailer used to accommodate your building model(s) and must be taken into consideration when determining access to site. If you ordered a(n)....

Cascadian/Rocky Mountain - Requires 1 truck: When shipped in 2-pieces (standard) the building with vault is shipped on a flatbed trailer. The length of the

tractor-trailer can be up to 75' long. Must have a 14' height clearance to access site.

Gunnison - Requires 1 truck: Shipped with its vault, this building is typically shipped on a step-deck trailer. The length of the tractor-trailer can be up to 75' long. Must have 14' height clearance to access site.

Tioga Special • Requires 2 trucks: 1 to transport the building and 1 to transport vaults. The building is typically shipped on a step-deck trailer and 2 vaults are typically transported on a flatbed trailer. The length of the tractor-trailer can be up to 75' long. Must have 14' height and 14' width clearance to access site.

Dbl Cascadian/Dbl Rocky Mountain • Requires 2 trucks: 1 to transport the building and 1 to transport the vaults. The building is typically shipped on a dbl-drop or low boy trailer (approximate ground clearance of 4 to 6") and the 2 vaults are typically transported on a flatbed trailer. The length of the tractor-trailer can range from 75' to 80'. Must have 14' height and 14' width clearance to access site.

Cortez/Ozark I/Teton/Pioneer - Requires 1 truck: Generally shipped on a step-deck trailer. The length of the tractor-trailer can be up to 75' long. Must have a 14' height and 14' width clearance to access site.

Large Flush, Sectional, or Custom Bldgs -

(Arapahoe/Ozarkdl/Cheyenne/Montrose/Taos/Rainier/PomonayNavajo/Malibu/Kodiak/FontanayDiablo/Denali)

Requires 2-4 trucks, depending on size of building. Each section will be shipped on an RGN trailer (approximate ground clearance of 4 to 6"). The length of the tractor-trailer can range from 80' to 115'. Must have 14' height and 14' width clearance to access site. The Denali model could ship on either an RGN trailer or a dbl-drop.

Schweltzer/Mendocino - Requires 1-2 trucks, depending on size of building. Generally shipped on a step-deck trailer. The length of the tractor-trailer can be up to 75' long. Must have 14' height and 14' width clearance to access site.

11 CXT Warranty

CXT warrants that all structures sold pursuant hereto will, when delivered, conform to specifications of the building listed on the quote. Structures shall be deemed accepted and meeting specifications unless notice identifying the nature of any non- conformity is provided to CXT in writing within one (1) year of delivery. It is specifically understood that CXT's obligation hereunder is for credit or repair only. CXT will repair structural defects against materials and workmanship for one (1) year from date of delivery provided CXT is first given the opportunity to inspect said structure. CXT warranties all components sold within all structures pursuant here to when delivered within structures. Components deemed accepted and meeting specifications shall be warranted for a period of one (1) year against defects in the materials and/or workmanship from said date of delivery. CXT is not responsible for components that are damaged due to misuse, acts of violence, negligence, acts of God, or accidents. Shipping, handling, installation or other incidental or consequential costs, unless otherwise agreed to in writing by CXT, are not included.

This warranty shall not apply to:

Any goods which have been repaired or altered without CXT's express written consent, in such a way as in the reasonable judgment of CXT, to adversely effect the stability or reliability thereof;

To any goods which have been subject to misuse, negligence, acts of God, or accidents;

To any goods which have not been installed to manufacturer's specifications and guidelines, improperly maintained, or used outside of the specifications for which such goods were designed.

12. Disclaimer of Other Warranties

THE WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED. CXT MAKES NO OTHER WARRANTY EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE.

13. Limitation of Remedies

In the event of any breach of any obligations hereunder; breach of any warranty regarding the goods, or any negligent act or omission of any party, the parties agree to submit all claims to binding arbitration. Any settlement reached shall include all reasonable costs including attorney fees. In no event shall CXT be subject to or liable for any incidental or consequential damages. Without limitation on the foregoing, in no event shall CXT be liable for damages in excess of the purchase price of the goods herein offered.

14. Acceptance

The foregoing terms will be deemed accepted in full by signature and return of one copy to CXT, subject to customer credit approval. A copy of any applicable form of payment security device (i.e. payment bonds) available to CXT shall be included with the signed copy of this agreement.

15. Timing of Billing to Buyer

Seller will invoice Buyer upon shipment from its supplier or facility, unless otherwise indicated on the face of this document.

16. Storage of Material For Buyer

If, at Buyer's request, goods covered by this document are held at Seller's facility or service provider for more than 21 days after they are available for shipment, Buyer shall accept Seller's invoice and pay said invoice based on payment terms set forth herein.

17. Material Reservation

Seller will only reserve material for 30 days with receipt of an executed purchase order, quote or order acknowledgement acceptable to Seller. After that time, material availability, price and shipment date may be adjusted, at Seller's option.