BLACKBURN CREEK CDD

STORMWATER SYSTEM INSPECTION
PHASE 3

Prepared for:
Blackburn Creek CDD

Prepared by:
Brletic Dvorak Inc.
436 4th Ave. S., Unit 4
St. Petersburg, FL 33701

March 2025

Contents

Appendices

1.0 - SUMMARY:

The Blackburn Creek CDD requested that BDI inspect the stormwater conveyance system in Phase 3 in the Grand Palms Community in preparation for stormwater conveyance system maintenance work for 2025. This includes inlets, pipes, outlets, control structures and swales to determine if the system is operating at full capacity, identify problems problems or issues (if any), and provide recommendations as needed to restore the functionality of the drainage system.

2.0 – EXISTING SITE CONDITIONS:

In March 2025 BDI completed a visual inspections of the Phase 3 drainage system as well as conducted a review of SWFWMD ERP permits and permitted plan sets. While our site inspection did not include a full inspections of the entire length of the storm sewer pipes, we were able to inspect inlets, manholes and end sections to determine if there was any accumulation of sand, silt or debris or anything else that may cause blockage within the system.

The findings from the inspection are presented below:

1. Stormwater curb inlets were found to be in good condition. Man hole covers were pulled to complete a visual inspection inside each structure. No significant signs of sediment or debris were observed.
2. Stormwater pipe end section were found to be in good condition. The MES/FES structures operate in a free flow condition and no significant signs of sediment, debris or vegetation were observed.
3. Control structures were found to be in good condition. Several were observed with accumulation of debris and/or overgrown vegetation in, around and on top of structures.
4. Treatment and conveyance swales and channels were found to be in good condition. There are several swales that have excessive vegetation, sediment and debris buildup that is restricting the free flow of stormwater.
5. A grated ditch bottom inlet was found to be in good condition, however, it has become overgrown with excessive vegetation and debris deposits which is restricting the free flow of stormwater into and out of the structure.
6. The weir structure on pond 12A had water flowing from the wetland tributary into the pond. Based on elevation readings in permitted plan set for permit 24192.011 sheet A-4 and the elevation reading for the opening of the weir found on sheet B-12 of the as built plan set for 24192.011 the water should be flowing out of the pond and not into the pond. This anomaly is resulting in elvated water levels in ponds 12, 12A, 13 and 13A and in the stormwater pipes and curb inlets.
7. There is an unpermitted structure crossing the conveyance swale from pond 12A to south tributary.
8. Remove fallen trees in north tributary at box culvert crossing under Observation Blvd. This is in phase 1 although the trees came down during the storms at the end of the 2024 hurricane season.

In general, the stormwater conveyance system within Phase 3 of Blackburn Creek CDD is in good condtion. We have identified some minor maintenance activities in the following section which will enhance the ability of the system to convey stormwater through community more efficiently.

3.0 – RECOMMENDATIONS:

Based on our findings, BDI recommends the following maintenance activities be performed with in the next year:

1. Recommend the removal of vegetation, debris and sediment from control structures, grated swale inlet(s), drainage swales and channels as identified in the following exhibits.
2. Reecommend ongoing annual inspections of the drainage conveyance system in order to identify and mitigate issues at the earliest possible stage.
3. We also recommend that the CDD have regular and ongoing communication with the residents, contractors and vendors regarding the importance of preventing vegetation, debris and sediment from entering into the stormwater system. Implementing the following activities will help maintain the drainage system's ability to convey, attenuate and treat the stormwater within the community.
    a. Eliminate power leaf blowing vegetation and debris into the street and drainage inlets.
    b. Eliminate the application of excess mulch that is prone to movement during storm events.
    c. Incorporate appropriate erosion control measures such as silt fence and inlet protection at active construction sites.
4. Recommend addressing Pond 12A weir to restore outflow of water from pond 12A into the wetland tributary. In addition this structure will need the missing skimmer board replaced.
5. There are two items included in this work that are in phase 2 of the community. Due to their impact on phase 3 conveyance we have included the following; 1) Clearning out an FES that conveys water from a wetland in phase 3 to a conveyance swale in phase 2 that outflows into the south tributary and 2) Clearing out overgrown and invasive vegetation where the south tributary exits along River Rd.
6. Removal of the unpermitted structure at pond 12A

APPENDIX A

Marked Plan Set Documents for Maintenance Work

LEGEND

- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- MINOR BASIN LINE
- MAJOR BASIN LINE
- PROJECT BOUNDARY
- JURISDICTIONAL WETLAND LINE
- WETLAND BUFFER LINE
- WETLAND TO BE PRESERVED
- ×73.40 EXISTING SPOT ELEVATION
- 6.12 PROPOSED PAVED SPOT ELEVATION
- 6.2 PROPOSED NON PAVED ELEVATION
- SLOPE DIRECTION
- 12.00 FINISH FLOOR ELEVATION
- CR CURB RAMP (PER FDOT INDEX #304)
- BVCS BEGIN VERTICAL CURVE STATION
- EVCS END VERTICAL CURVE STATION

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

NOTE:
CONSTRUCT BERM TO ELEVATIONS ON PLANS. TOP OF BERM CAN BE NATURAL GROUND ELEVATION IF SAME OR HIGHER THAN PROPOSED TOP OF BERM

6-4A
TYPE "F" INLET
STA: 24+50, -27.33 LT
RIM: 10.37
INV IN: 2.25 (S)
INV OUT: 2.25 (N)

6-4B
TYPE "F" INLET
STA: 24+50, 27.33 RT
RIM: 10.37
INV OUT: 2.40 (N)

48-2A
TYPE "F" INLET
STA: 30+80, 27.33 RT
RIM: 9.86
INV IN: 5.30 (N)
INV OUT: 3.00 (SE)

48-2B
TYPE "F" INLET
STA: 30+80, -27.33 LT
RIM: 9.86
INV OUT: 5.50 (S)

POND 6
CWL=6.5
100YR=8.8±

PHASE 1A
FLARED END SECTION
INV.= 0.50

VALLEY GUTTER CURB

8' CONCRETE SIDEWALK

TYPE "F" CURB (TYP)

55 LF 18" STORM PIPE

84 LF 18" STORM PIPE

MATCH EXISTING SIDEWALK
BLACKBURN CREEK PHASE 1A

TYPE "M" CURB

EXISTING 72" R.C.P.
BLACKBURN CREEK PHASE 1A

PHASE 1A
LARGE CONTROL STUCTURE
INV.= 0.00

MEDIAN CURB (TYP)

150' VERTICAL CURVE

MATCH EXISTING GROUND (TYP.)

OTHER SURFACE WATER IMPACT (0.09 AC.)

133 LF 4'x6' CONCRETE BOX CULVERT PER FDOT INDEX 292
CONTRACTOR SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS SIGNED AND SEALED BY A FLORIDA REGISTERED ENGINEER PRIOR TO FABRICATION
WEST INV. 4.15
EAST INV. 3.90

302 LF 18" STORM PIPE

WETLAND "P" CONCRETE OUTFALL CONTROL WEIR REFER TO SEE DETAIL SHEET B-
INV. 5.2
TOP 9

MATCH LINE "SEE SHEET B-4B"

MATCH EXISTING ROADWAY
BLACKBURN CREEK PHASE 1A

EXISTING 48" R.C.P.
BLACKBURN CREEK PHASE 1A

PHASE 1A
MEDIUM CONTROL STRUCTURE
INV.= -1.30

PROJECT AREA (TYP.)

D.S.W. #6

3' WIDE BERM

SUMP ELEVATION 4.0

FLARED END SECTION
INV. 0.00

FLARED END SECTION
INV. 1.50

POND 48
CWL=6.0
100YR=8.7±

WETLAND "P"
N.P. 6.0
S.H.W.L. 6.5
F.W.L. 8.7

1117 S.F. TEMPORARY WETLAND IMPACT

4' WIDE BOTTOM SWALE WITH 4:1 SIDE SLOPES

(0.29 AC.) LITTORAL SHELF

POND/WETLAND CONNECTION WITH SKIMMER SEE SHEET B-7

Submitted by separate contract

121 LF 18" STORM PIPE

NOTE:
CONSTRUCT BERM TO ELEVATIONS ON PLANS. TOP OF BERM CAN BE NATURAL GROUND ELEVATION IF SAME OR HIGHER THAN PROPOSED TOP OF BERM

NOTES:

1. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
2. JOINTS SHALL BE WATER TIGHT
3. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY.
4. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.

2601 CATTLEMEN ROAD, SUITE 200, SARASOTA, FL 34232
PHONE: 941-379-7600 FAX: 941-379-4352
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL ENGINEER
THOMAS M. STOVALL
No. 57224
STATE OF FLORIDA
PROFESSIONAL ENGINEER

KHA PROJECT	048119039
DATE	FEB. 2012
SCALE	AS SHOWN
DESIGNED BY	KHA
DRAWN BY	RBK
CHECKED BY	TEG

PAVING GRADING AND DRAINAGE PLAN

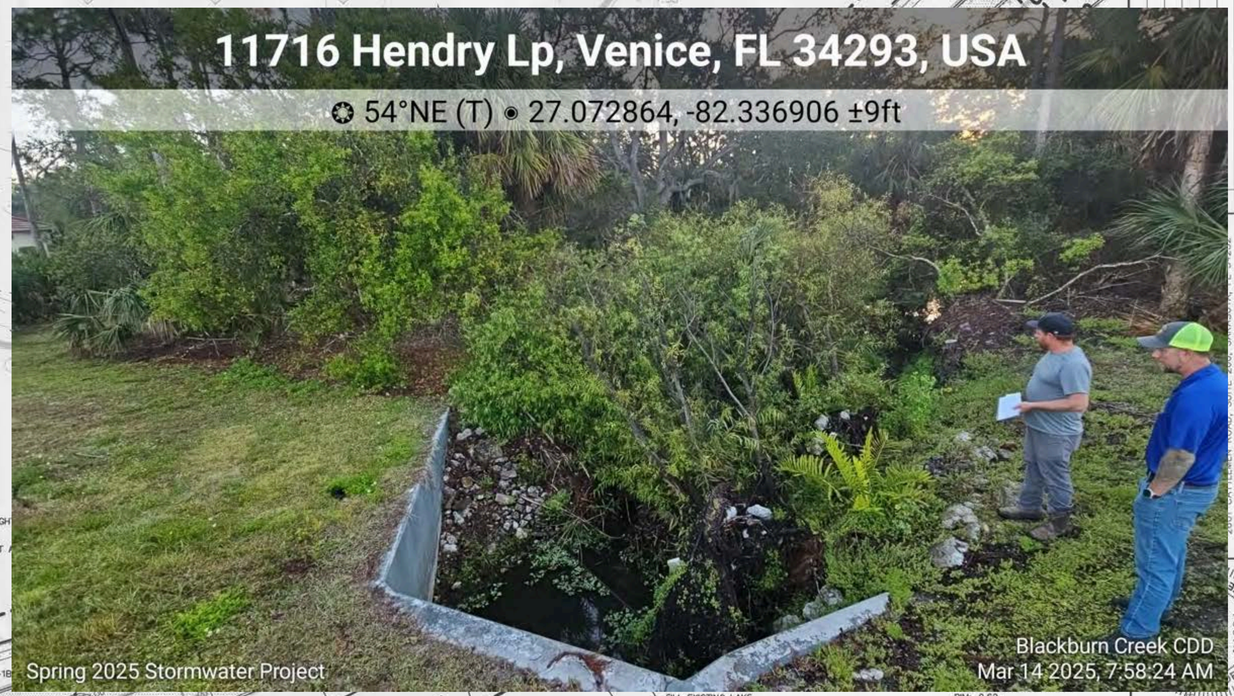
GRAND PALM EAST-WEST ROAD

PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4A

Remove fallen trees and debris from this area



MATCH LINE SEE SHEET B-4A

MATCH LINE SEE SHEET B-4B

121 LF 18" STORM PIPE

48-1B

48-1A

55 LF 18" STORM PIPE

EXISTING FLOW PATTERNS IN DITCH (TYP.)

(3) 120 LF 4'x7' CONCRETE BOX CULVERTS WITH WINGWALLS PER FDOT INDEX 292 CONTRACTOR SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS SIGNED AND SEALED BY A FLORIDA REGISTERED ENGINEER PRIOR TO FABRICATION (S) INV. 4.25 (N) INV. 4.00

OTHER SURFACE WATER IMPACT (0.09 AC.)

55 LF 18" STORM PIPE

MEDIAN CURB (TYP)

55 LF 18" STORM PIPE

18-1B

18-1A

150' VERTICAL CURVE

58 LF 18" STORM PIPE

FLARED END SECTION INV. 0.80

POND 18
CWL=5.3
100YR=8.0±

FLARED END SECTION INV. 0.80

CONCRETE OUTFALL WEIR, SEE SHEET B-8 FOR DETAIL

4' WIDE BOTTOM SWALE WITH 4:1 SIDE SLOPES

(0.05 AC.) LITTORAL SHELF

WIDE BERM

MATCH EXISTING GROUND (TYP.)

FILL EXISTING LAKE

RIM: 9.62
INV OUT: 5.20 (S)
19-1A

TIE SWALE INTO

NOTES:

1. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
2. JOINTS SHALL BE WATER TIGHT
3. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY.
4. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

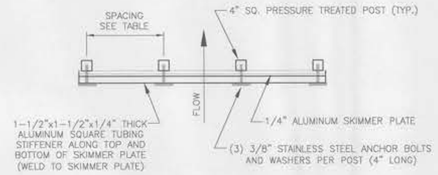
SLOPE DIRECTION
12.00 FINISH FLOOR ELEVATION
CR CURB RAMP (PER FDOT INDEX #304)
BVCS BEGIN VERTICAL CURVE STATION
EVCS END VERTICAL CURVE STATION

REVISIONS | No. | DATE | BY

DRAWN BY: RBK
CHECKED BY: TEG

GRAND RESO
SARASOTA, LLC
SARASOTA COUNTY FLORIDA

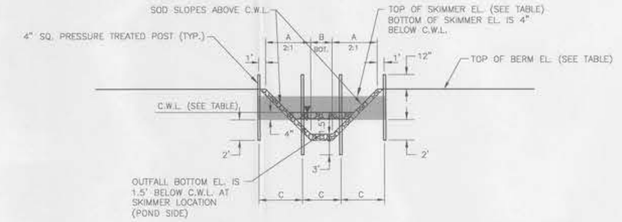
SHEET NUMBER
B-4B



SKIMMER PLATE DETAIL – PLAN VIEW

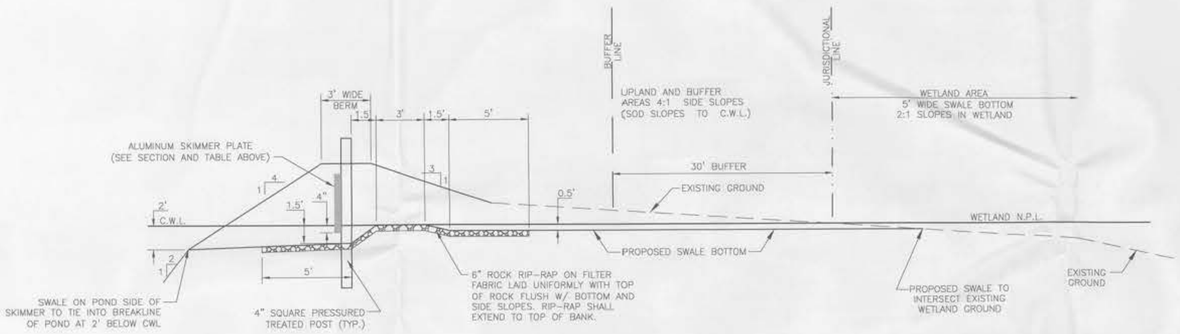
N.T.S.

SKIMMER STRUCTURE TABLE								
POND NO.	WETLAND ID.	C.W.L.	TOP OF BERM EL.	TOP OF SKIMMER EL.	SWALE BOTTOM EL.	DISTANCE "A"	DISTANCE "B"	DISTANCE "C"
48	P	6.0'	9.5'	9.0'	4.5'	10.0'	4.0'	8.67'
(RECORD DATA)		–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–
(RECORD DATA)		–	–	–	–	–	–	–



SWALE/SKIMMER SECTION BETWEEN POND AND WETLAND

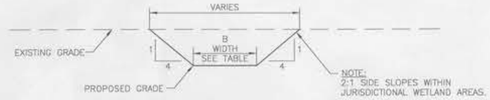
N.T.S.



OUTFALL/SKIMMER PROFILE BETWEEN POND AND WETLAND (WHERE POND AND WETLAND HAVE SAME WATER LEVEL)

N.T.S.

NOTE:
PLANT SWALE BOTTOM WITH SPARTINA BAKERI ON 2' CENTERS (INCLUDES SWALE SLOPES IN WETLAND AREA AND SWALE SLOPES BELOW C.W.L.).



TYPICAL POND TO WETLAND SWALE SECTION (WETLAND SIDE OF SKIMMER)

N.T.S.

PLANTING PLAN:

THE PORTION OF SWALE WITHIN THE WETLAND SHALL BE PLANTED WITH SPARTINA BAKERI ON 2' CENTERS.

THE PLANTINGS MUST OCCUR WITHIN 30 DAYS OF WETLAND IMPACT.

THE PLANTINGS SHALL BE MONITORED ON A QUARTERLY BASIS UNTIL 85% COVERAGE IS ACHIEVED.

SOD SIDE SLOPES OUTSIDE OF WETLAND JURISDICTIONAL AREAS.

DO NOT DISTURB WETLAND JURISDICTIONAL AREA BEYOND PROPOSED CROSS SECTION. DO NOT DEPOSIT SPOIL OR DEBRIS WITHIN WETLAND OR BUFFER LIMITS.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
REVIEWED DRAWING
For construction permits, this Exhibit shall not supersede the SWFWMD Surface Water/ERP Determination, which governs construction begins.
Wayne R. Platt

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.

2601 CATTLEMEN ROAD, SUITE 200, SARASOTA, FL 34232
PHONE: 941-379-7600 FAX: 941-379-4352
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL ENGINEER STATE OF FLORIDA No. 41224 ROBERT E. KOVALESKI

KHA PROJECT	048119039
DATE	FEB. 2012
SCALE	AS SHOWN
DESIGNED BY	KHA
DRAWN BY	RBK
CHECKED BY	TEG

POND WETLAND CONNECTION DETAILS

GRAND PALM EAST-WEST ROAD
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

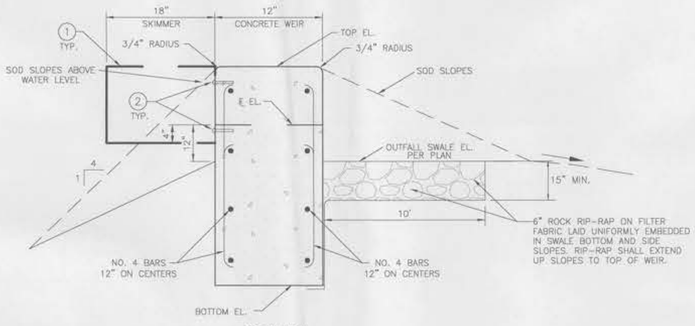
SHEET NUMBER
B-7

NOTES:

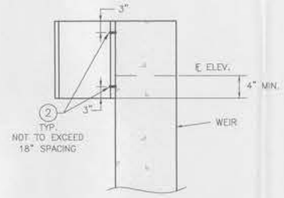
1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS.
2. ALL STEEL TO HAVE A MINIMUM 3" CLEARANCE UNLESS OTHERWISE NOTED.
3. STEEL REINFORCEMENT SHALL MEET ASTM SPECIFICATIONS (A-615).
4. 3/4" CHAMFER ALL EXPOSED EDGES.

① 1/4" THICK ALUMINUM FABRICATED SKIMMER PLATE WITH OPEN TOP AND BOTTOM.

② 3/8" DIAMETER STAINLESS STEEL EXPANSION ANCHORS, 3" LONG (MIN.) WITH STAINLESS STEEL WASHERS.



SECTION
N.T.S.

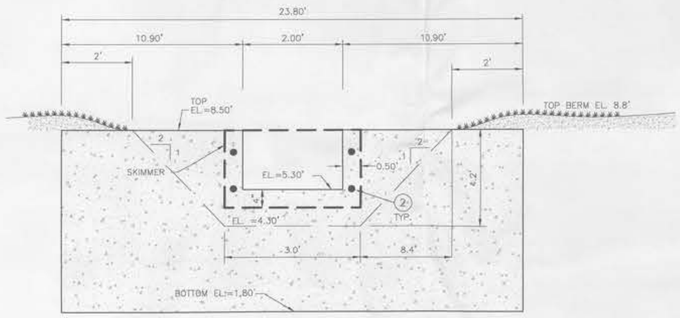


SKIMMER PLATE DETAIL
SIDE VIEW
N.T.S.

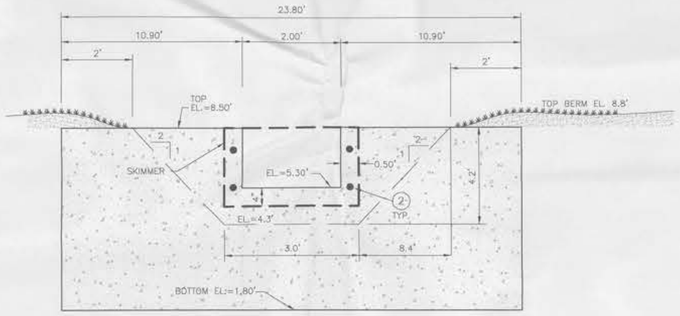
CONCRETE WEIR DETAIL
N.T.S.

NOTES:

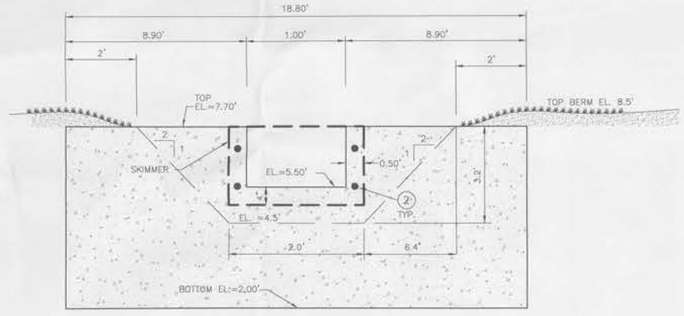
1. OUTFALL SWALE BOTTOM SHALL BE 4' WIDE WITH 3:1 SIDE SLOPES THROUGH BUFFER AND 2:1 SIDE SLOPES IN WETLAND.
2. PLANT SWALE BOTTOM WITH SPARTINA BAKERI ON 2' CENTERS (INCLUDES SWALE SLOPES IN WETLAND AREA AND SWALE SLOPES BELOW WATER LEVEL).
3. SOD UPLAND AND BUFFER SWALE SLOPES.



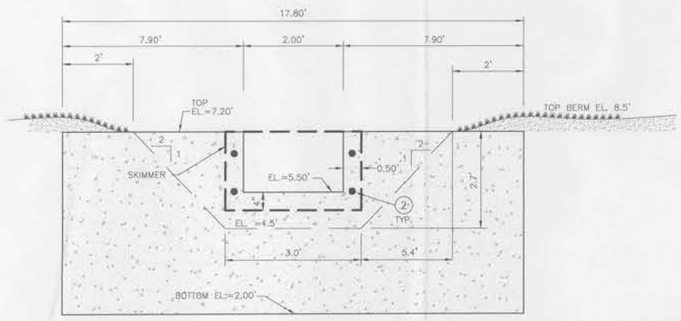
CONTROL STRUCTURE FOR POND #18 OUTFALL
N.T.S.



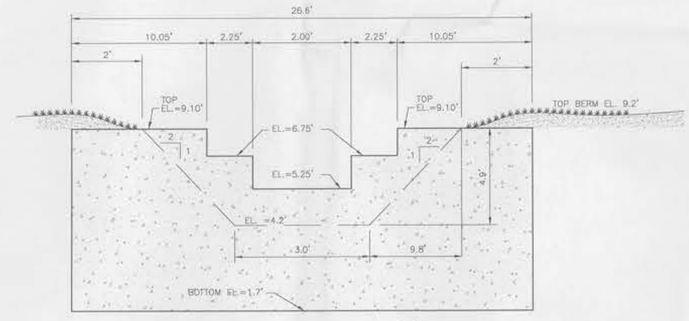
CONTROL STRUCTURE FOR POND #19 OUTFALL
N.T.S.



CONTROL STRUCTURE FOR TP-1 OUTFALL
N.T.S.



CONTROL STRUCTURE FOR TP-2 OUTFALL
N.T.S.



CONTROL STRUCTURE FOR WETLAND "P" OUTFALL
N.T.S.

NOTE: PLAN, SECTIONS AND DETAILS SHOWN ARE NOT TO ANY SCALE.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD) PERMITTED DRAWINGS

For construction permits, the Permittee shall notify the SWFWMD Sarasota Regulation Department after construction begins.

Wayne R. Bish

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.

2601 CATTLEMEN ROAD, SUITE 200, SARASOTA, FL 34232
PHONE: 941-379-7600 FAX: 941-379-4352
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL ENGINEER
THOMAS E. GOVALE
No. 81224
STATE OF FLORIDA
PROFESSIONAL ENGINEER

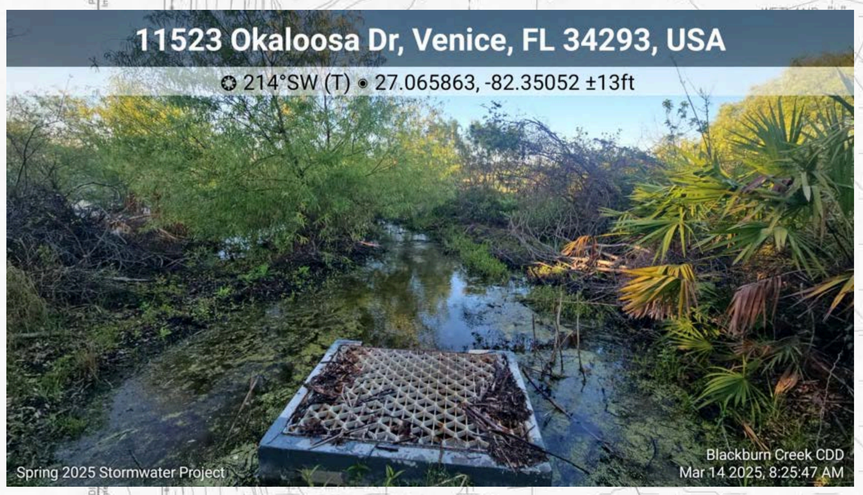
KHA PROJECT	048119039
DATE	FEB. 2012
SCALE	AS SHOWN
DESIGNED BY	KHA
DRAWN BY	RBK
CHECKED BY	TEG

CONCRETE OUTFALL CONTROL WEIR

GRAND PALM EAST-WEST ROAD
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-8

Clear out debris and vegetation from around CS; remove willow and other invasive around conveyance swale and CS

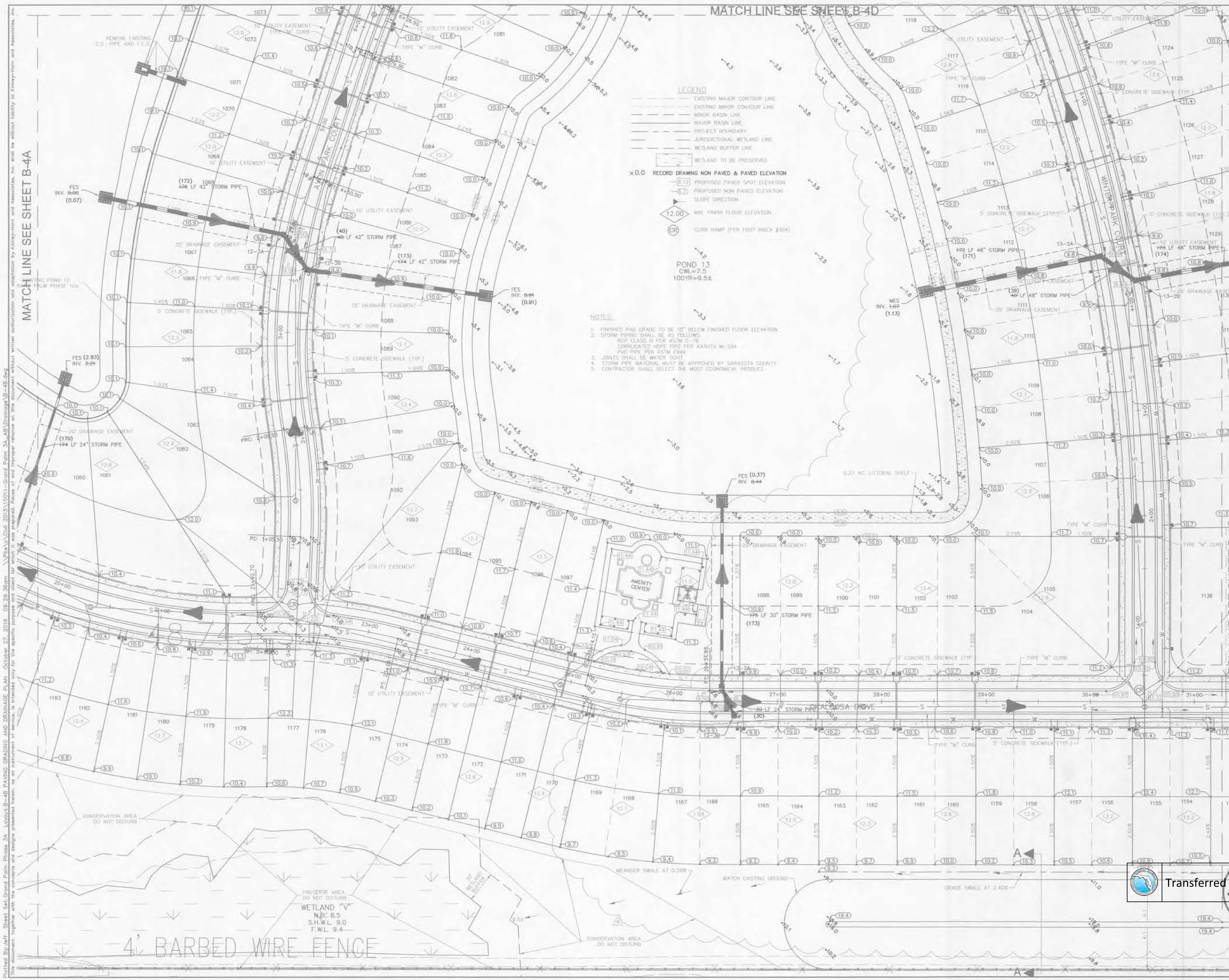


Transferred to Operation

FILE OF RECORD
Southwest Florida Water Management District
OCT 28 2016
Received Sarasota RSB

24192.011

Imaged As Is



P⊕INT BREAK SURVEYING, LLC
CERTIFICATE OF AUTHORIZATION LB 0007384
8111 Blaikie Court, Suite E
Sarasota, Fl 34240
Phone: (941) 378-4797
Fax: (941) 378-0058

X
JEFFERY B. MORROW, P.S.M.
FL. CERT. NO. 6296
DATE:

No.	REVISIONS	DATE	BY
4	ADJUSTED LOT LINES AND ASSOCIATED GRADING	1/05/2016	RBK
3	ADJUSTED LOT LINES	9/14/2015	RBK
2	NEW AMENITY CENTER LAYOUT	8/13/2015	RBK
1	ADDED BERM	4/24/2015	RBK

Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER 41224
DATE

KHA PROJECT 048119072
DATE DEC. 2014
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY RBK
CHECKED BY TMS

RECORD DRAWING PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3A
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4B

MATCH LINE SEE SHEET B-4E

MATCH LINE SEE SHEET B-4B

POND 13A
CWL=7.5
100YR=9.4±

3' WIDE BERM (TYP.)

0.27 AC. LITTORAL SHELF

PROJECT BOUNDARY

GRAND PALM
FUTURE DEVELOPMENT

48" STORM PIPE

20' DRAINAGE EASEMENT

FES
INV. ~~0.58~~
(0.62)

~~175~~ LF 30" STORM PIPE
(173)

FES
INV. ~~-0.16~~
(0.38)

10' UTILITY EASEMENT

13A-3A

13A-3B

28 LF 24" STORM PIPE

TYPE "M" CURB

6' CONCRETE SIDEWALK (TYP.)

MEDIAN CURB

5' CONCRETE SIDEWALK (TYP.)

GRADE SWALE AT 0.40%

MATCH EXISTING GROUND

13A-3A
TYPE M INLET
RIM: 9.76
INV IN: 0.69
INV OUT: ~~0.19~~ (0.52)

13A-3B
TYPE M INLET
RIM: 9.76
INV IN: 1.75
INV OUT: 0.75

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.88 FEET.

No.	REVISIONS	DATE	BY
1	ADDED BERM, REMOVED EMERGENCY ACCESS	4/24/2015	RBK
2	ADJUSTED LOT LINES AND ASSOCIATED GRADING	9/14/2015	RBK
3	ADJUSTED LOT LINES	1/05/2016	RBK

Kimley»Horn
© 2014 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL:
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE:

KHA PROJECT
048119072
DATE
DEC. 2014
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY RBK
CHECKED BY TMS

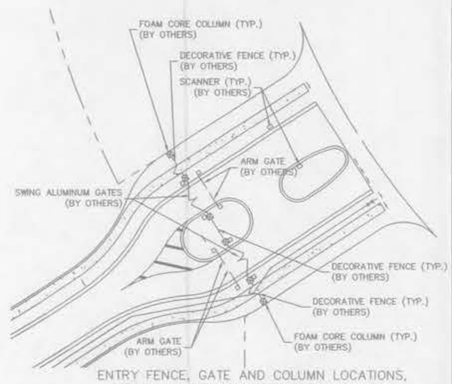
RECORD DRAWING PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3A

PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4C



ENTRY FENCE, GATE AND COLUMN LOCATIONS.
FENCE, GATE AND COLUMNS BY OTHERS

NOTES:

1. FINISHED PAD GRADE TO BE 10" BELOW FINISHED FLOOR ELEVATION
2. STORM PIPING SHALL BE AS FOLLOWS:
   RCP, CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
3. JOINTS SHALL BE WATER TIGHT
4. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY
5. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

LEGEND

- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- MINOR BASIN LINE
- MAJOR BASIN LINE
- PROJECT BOUNDARY
- WETLAND TO BE PRESERVED
- ×0.0 RECORD DRAWING NON PAVED & PAVED ELEVATION
- (8.72) PROPOSED PAVED SPOT ELEVATION
- (8.2) PROPOSED NON PAVED ELEVATION
- SLOPE DIRECTION
- 12.00 MIN. FINISH FLOOR ELEVATION
- CR CURB RAMP (PER FDOT INDEX #304)

JEFFERY B. MORROW
LICENSE
NO. 6296
STATE OF
FLORIDA
PROFESSIONAL SURVEYOR & MAPPER

POINT BREAK SURVEYING, LLC
CERTIFICATE OF AUTHORIZATION LB 0007384
8111 Blakie Court, Suite E
Sarasota, Fl 34240
Phone: (941) 378-4797
Fax: (941) 378-0058

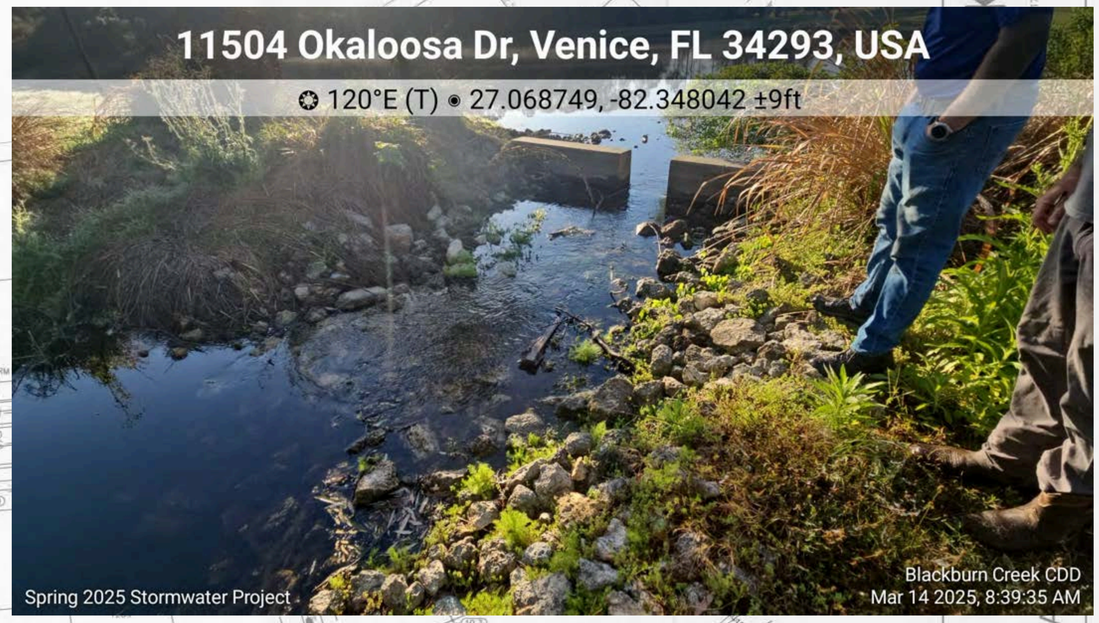
X
JEFFERY B. MORROW, P.S.M.
FL. CERT. NO. 6296
DATE:

Transferred to Operation
Southwest Florida Water Management District
OCT 28 2016
Received
Sarasota RSB

Southwest Florida Water Management District
OCT 28 2016
Received
Sarasota RSB

Imaged As Is

Water flowing into pond from wetland; Need to determine if weir is set to right elevation; Unpermitted structure over conveyance swale to wetland ditch



POND 12A
CWL=7.5
100YR=9.4±

FES INV. ~~1.86~~ (1.39)

42" STORM PIPE (177')

(28) ~~28~~ LF 42" STORM PIPE

(201) ~~203~~ LF 42" STORM PIPE

13-1B (32) ~~32~~ LF 24" STORM

13-1A

FES INV. ~~1.60~~ (1.72)

(243) ~~243~~ LF 30" STORM PIPE

FES INV. ~~2.18~~ (2.18)

ZONE AE

ZONE AE

POINT BREAK SURVEYING, LLC
CERTIFICATE OF AUTHORIZATION LB 0007384
8111 Blaikie Court, Suite E
Sarasota, Fl 34240
Phone: (941) 378-4797
Fax: (941) 378-0058

JEFFERY B. MORROW
LICENSE NO. 6296
STATE OF FLORIDA
PROFESSIONAL SURVEYOR & MAPPER

JEFFERY B. MORROW, P.S.M.
FL. CERT. NO. 6296
DATE: 10/27/16

Imaged As Is

Transferred to Operation

Southwest Florida Water Management District
OCT 28 2016

Received Sarasota RSB

GRAND PALM PHASE 3A
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4D

MATCH LINE SEE AT RIGHT

MODIFIED TYPE "F" CURB

MODIFIED TYPE "F" CURB

10' PUBLIC UTILITY EASEMENT (TYP.)

TYPE "M" CURB (TYP.)

5' CONCRETE SIDEWALK (TYP.)

VALLEY CROSSING

STUART DRIVE

TYPE "M" CURB (TYP.)

5' CONCRETE SIDEWALK (TYP.)

TYPE "M" CURB (TYP.)

10' PUBLIC UTILITY EASEMENT (TYP.)

PROJECT BOUNDARY

(39) 40 LF 24" STORM PIPE

13A-1C

141 LF 30" STORM PIPE (140)

25' DRAINAGE ESMT.

13A-1A

243 LF 54" STORM PIPE (245)

25' DRAINAGE EASEMENT

MATCH LINE SEE SHEET B-4D

WETLAND JURISDICTIONAL LIMITS

N.P. 7.0
S.H.W.L. 7.5
F.W.L. 9.1

WETLAND "N"
N.P. 7.0
S.H.W.L. 7.5
F.W.L. 9.1

WETLAND "N"

PRESERVE AREA DO NOT DISTURB

50' WETLAND BUFFER

WETLAND "N"
N.P. 7.0
S.H.W.L. 7.5
F.W.L. 9.1

NATURAL MEANDERING EXISTING SWALE INTO WETLAND

END OF CONSTRUCTED SWALE

MATCH EXISTING GROUND (TYP.)

GRAND PALM
FUTURE DEVELOPMENT

MATCH EXISTING GROUND (TYP.)

BOTTOM SWALE WITH 4:1 SIDE SLOPES MEANDER SWALE TO PRESERVE EXISTING TREES

CS-13A

(40) 41 LF 60" STORM PIPE

FES INV. -0.42 (-0.42)

FES INV. -0.42 (-2.31)

3' WIDE BERM (TYP.)

MATCH LINE SEE/SHEET B-4C

CS 13A has been removed

GRAND PALM PHASE 1B

387
MATCH EXISTING PAVEMENT, CURB AND SIDEWALK WITH SMOOTH TRANSITION

5' CONCRETE SIDEWALK

WETLAND JURISDICTIONAL LIMITS

MODIFIED TYPE "F" CURB

REMOVE EXISTING TEMPORARY SHELL TURNAROUND

TRIPLE (3) 55 LF 4'X12' CONCRETE BOX CULVERTS
WEST INVERT = ~~5.25~~ (5.44)
EAST INVERT = ~~5.00~~ (5.14)

75 LF 5" CONCRETE PAD OVER WATERMAIN IN THIS LOCATION. TOP OF PAD ELEVATION 9.0

WETLAND JURISDICTIONAL LIMITS

MODIFIED TYPE "F" CURB

MATCH LINE SEE AT LEFT

GRAPHIC SCALE IN FEET
0 20 40 80

NORTH

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.68 FEET.

NOTES:

1. FINISHED PAD GRADE TO BE 10" BELOW FINISHED FLOOR ELEVATION
2. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III, PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
3. JOINTS SHALL BE WATER TIGHT
4. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY
5. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

13A-1B
TYPE M INLET
RIM: ~~9.75~~ (9.91)
INV IN: ~~4.51~~ (W) (1.44)
INV OUT: ~~4.01~~ (SE) (1.19)

13A-1C
TYPE M INLET
RIM: ~~9.75~~ (9.92)
INV OUT: ~~4.59~~ (E) (1.48)

13A-1A
7' DIA. JUNCTION BOX
RIM ELEV.: ~~8.75~~ (9.09)
INV IN: ~~6.86~~ (-0.01)
INV OUT: ~~-1.84~~ -2.01)

LEGEND

- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- MINOR BASIN LINE
- MAJOR BASIN LINE
- PROJECT BOUNDARY
- JURISDICTIONAL WETLAND LINE
- WETLAND BUFFER LINE
- WETLAND TO BE PRESERVED
- x0.0 RECORD DRAWING NON PAVED & PAVED ELEVATION
- (6.12) PROPOSED PAVED SPOT ELEVATION
- (6.5) PROPOSED NON PAVED ELEVATION
- SLOPE DIRECTION
- 12.00 MIN. FINISH FLOOR ELEVATION
- (CR) CURB RAMP (PER FDOT INDEX #304)

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

MATCH EXISTING SWALE BOTTOM

RIP RAP

T.O.W. (8.70)

TEMPORARY TURNAROUND TO BE REMOVED

TRIPLE (3) 55 LF 4'X12' CONCRETE BOX CULVERTS
WEST INVERT = ~~5~~
EAST INVERT = ~~5~~

T.O.W. (8.60)

CONCRETE HEADWALL

RIP RAP

MATCH EXISTING GROUND TYP.

T.O.W. (10.00)

T.O.W. (7.83)

MATCH EXISTING GROUND TYP.

MATCH EXISTING SWALE BOTTOM

MATCH EXISTING GROUND TYP.

ENLARGED VIEW BOX CULVERT CROSSING

JURISDICTIONAL LIMITS

30' WETLAND BUFFER

TRIPLE (3) 55 LF 4'X12' CONCRETE BOX CULVERTS
WEST INVERT = ~~5~~
EAST INVERT = ~~5~~

SECTION LOCATION

JURISDICTIONAL LIMITS

WETLAND BUFFER

WETLAND BUFFER

SILT FENCE

SILT FENCE

EXISTING GROUND

MATCH EXISTING GROUND (TYP.)

MATCH EXISTING GROUND (TYP.)

PROPOSED GRADE

SECTION A-A

Transferred to Operation

Southwest Florida Water Management District
OCT 28 2016
Received Sarasota RSB

Imaged As Is

POINT BREAK SURVEYING, LLC
CERTIFICATE OF AUTHORIZATION LB 0007384
8111 Blaikie Court, Suite E
Sarasota, Fl 34240
Phone: (941) 378-4797
Fax: (941) 378-0058

No.	REVISIONS	DATE	BY
1	REMOVED EMERGENCY ACCESS	9/24/2015	SBR
2	MOVED BOX CULVERTS AND WATERMAIN	9/1/15	RBK
3	ADJUSTED LOT LINES	9/14/2015	RBK

Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 000006696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER 41224

KHA PROJECT 048119072
DATE DEC. 2014
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY RBK
CHECKED BY TMS

RECORD DRAWING PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3A

PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4E

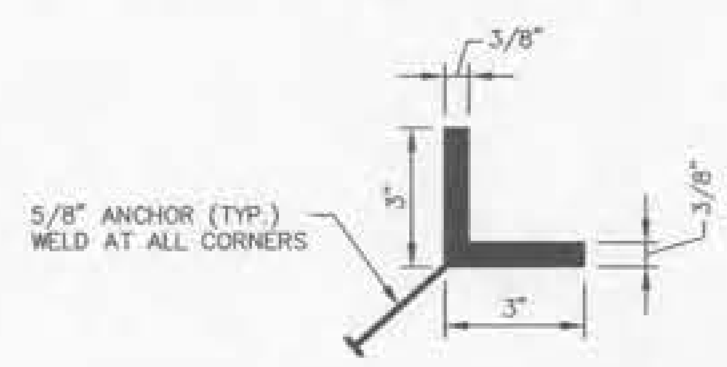
STRUCTURE TABLE

CONTROL STRUCTURE NO.	TOP OF STRUCTURE/ GRATE ELEV.	FLOWLINE WINDOW ELEV.	RECTANGULAR WEIR SIZE (SLOT) (WINDOWS)				NOTCH ELEV.	NOTCH WIDTH	PIPE SIZE/TYPE	OUTFALL PIPE INVERT	SKIMMER? YES/NO	SPECIAL COMMENT
			FRONT	REAR	SIDES	TOTAL						
CS-13A	9.5	7.5	3.0'	–	1.0' (2)	5.0'	N/A	N/A	60"	–0.61	NO	BUBBLER **
(RECORD DATA)	**(9.51)**		**(3.0')**		**(1.0' (2))**	**(5.0')**	**N/A**	**N/A**	**(60")**	**(–0.72)**	**NO**	
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												

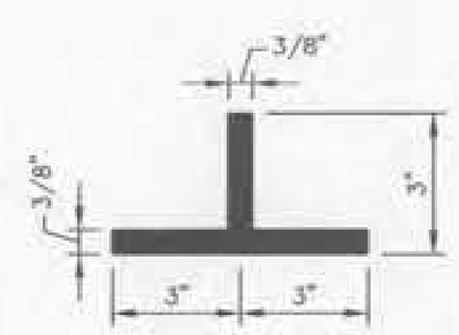
CONSTRUCTION IN WETLANDS SHOULD BE ACCESSED FROM THE UPLAND SIDE. ANY TEMPORARY IMPACT AREAS IN THE WETLAND SHOULD BE REGRADED AND RESTORED TO THEIR NATURAL CONDITION. CONSTRUCTION LIMITS IN WETLAND SHOULD NOT EXTEND MORE THAN 10 FEET FROM THE EDGE OF THE STRUCTURE UNLESS WETLAND SWALE IS REQUIRED.

** 6" ROCK RIP-RAP ON FILTER FABRIC EMBEDDED AND LAID UNIFORMILY FLUSH WITH GROUND 5' WIDE AROUND ALL 4 SIDES OF THE STRUCTURE. TOP OF ROCK RIP-RAP TO BE A MINIMUM OF 6" BELOW WINDOW FLOW LINES OR FLUSH WITH GROUND WHICH EVER IS LOWEST.

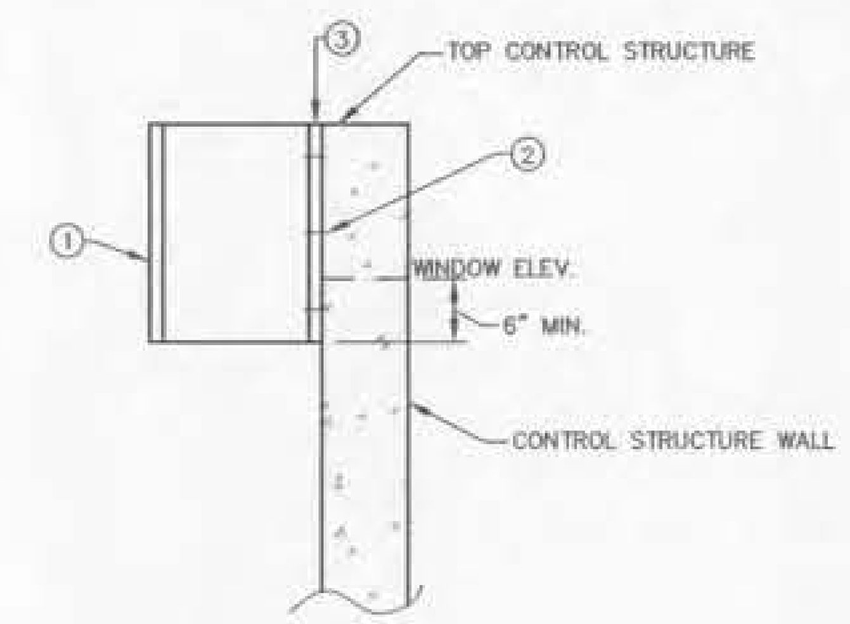
** ALL BUBBLER BOXES SHALL HAVE AN INSIDE BOTTOM ELEVATION 18" BELOW PIPE INVERT. THE CONTRACTOR IS REQUIRED TO PROTECT THESE SUMPS AND PIPES FROM DEBRIS AND SILTATION. ALL PIPES AND SUMPS SHALL BE FREE OF DEBRIS AND SILTATION AT FINAL PROJECT ACCEPTANCE. DO NOT POUR INVERTS IN BUBBLER BOXES.



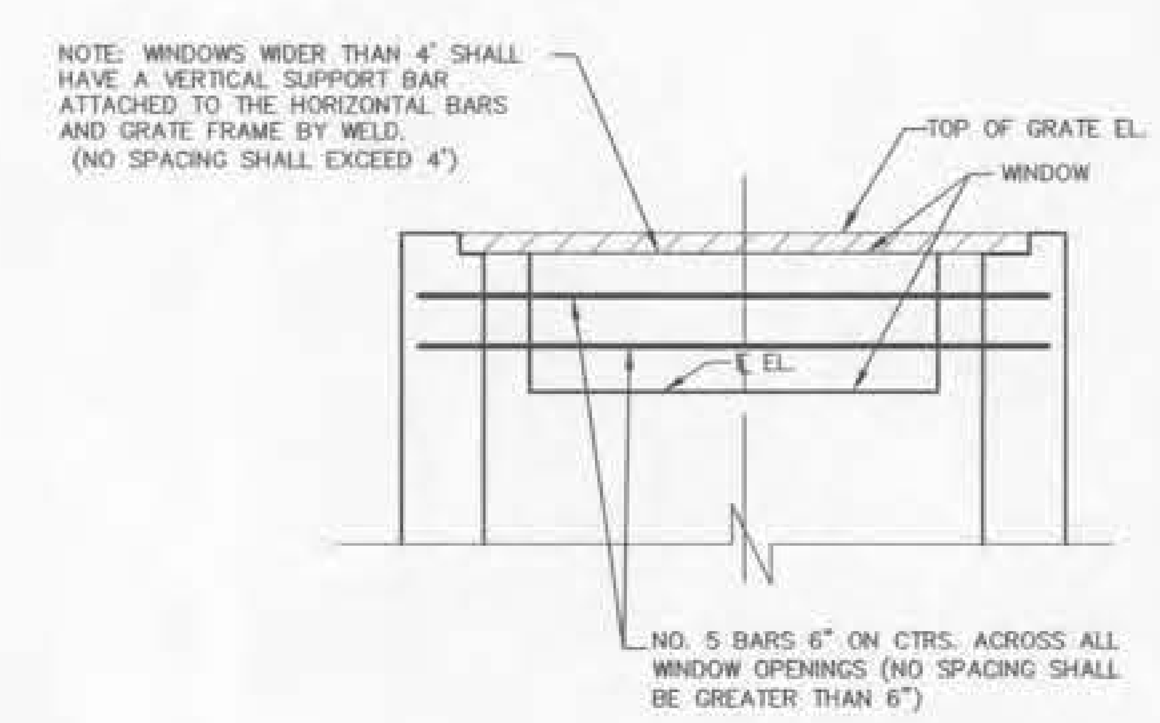
ANGLE FRAME



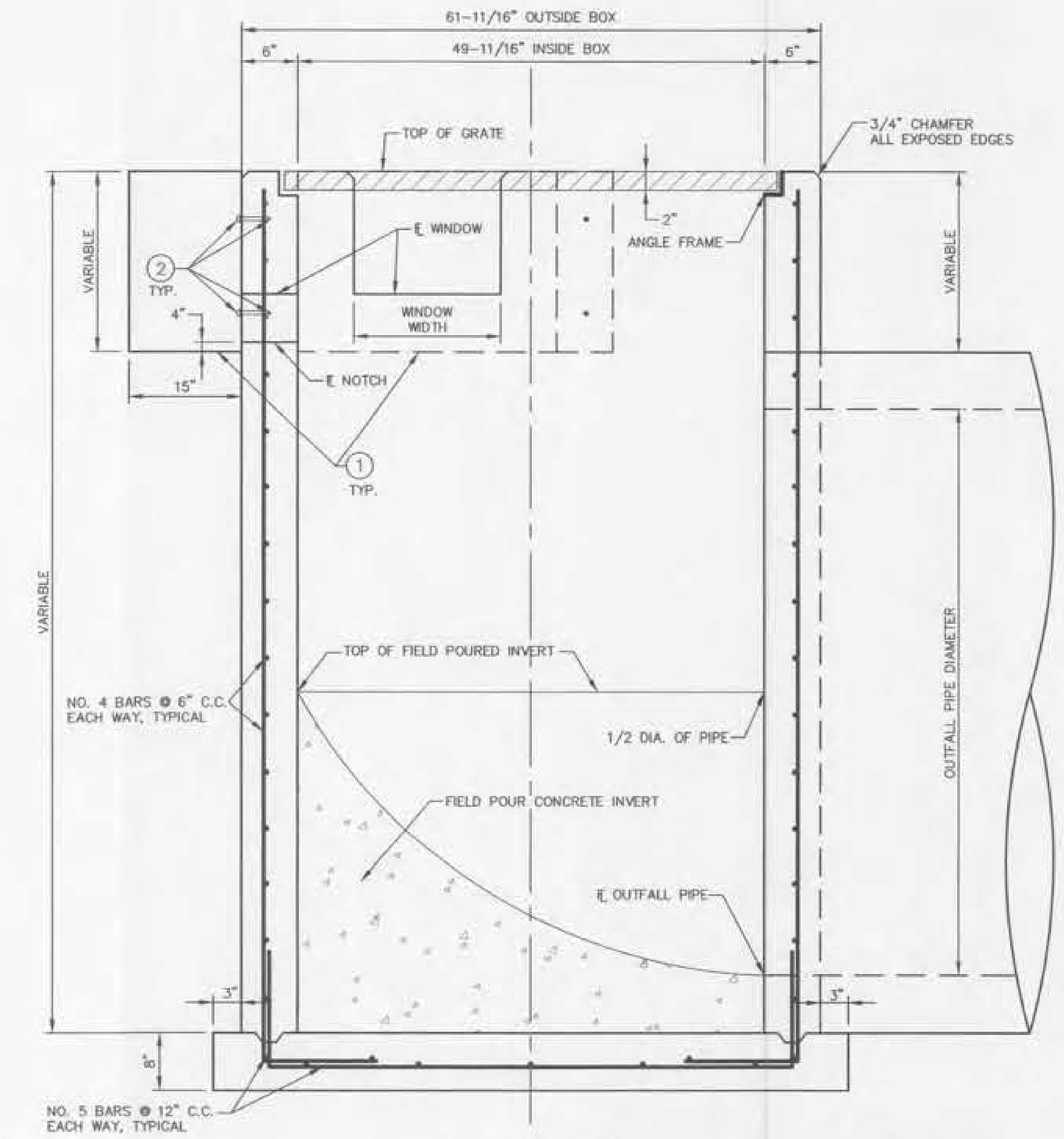
T-BAR SUPPORT



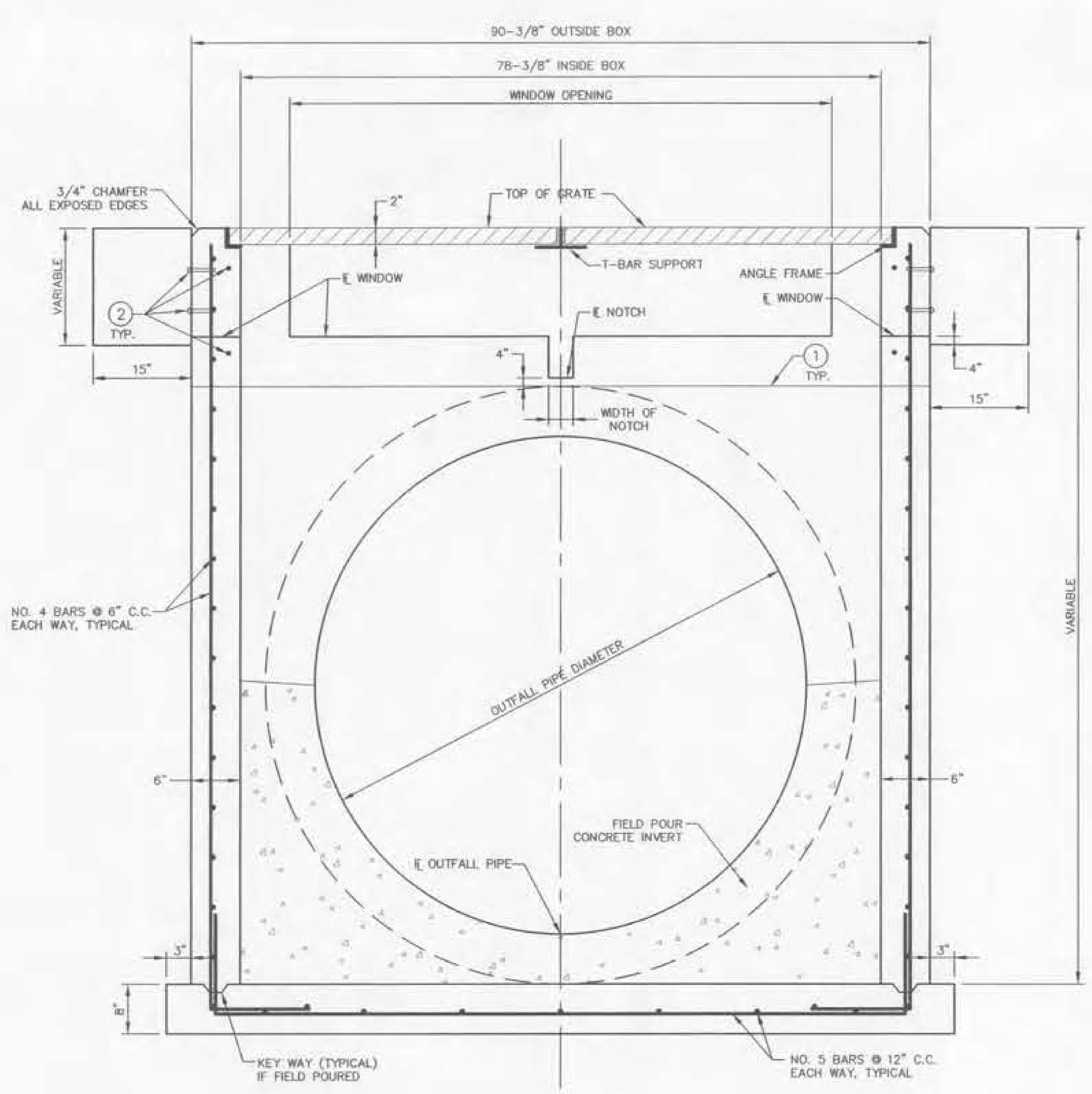
SKIMMER PLATE DETAIL SIDE VIEW



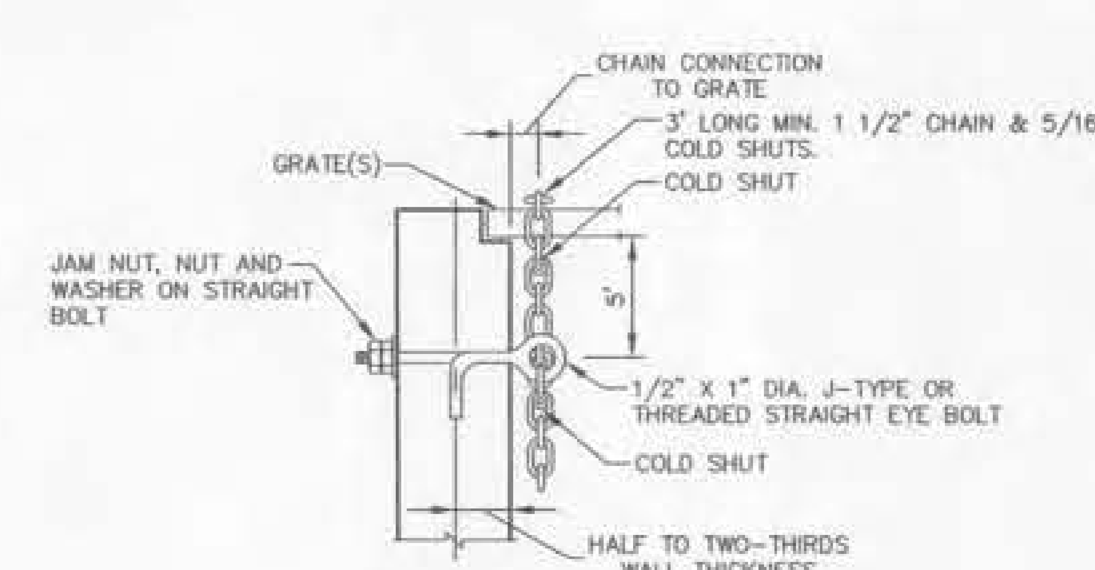
SECTION



SECTION "B-B"



SECTION "A-A"



COST OF EYE BOLT AND CHAIN TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR STRUCTURES.

ONE EYE BOLT & CHAIN FOR EACH GRATE.

EYE BOLT AND CHAIN FOR LOCKING GRATES TO STRUCTURES
N.T.S.

NOTES:

1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS.
2. ALL STEEL TO HAVE A MINIMUM 2-1/2" CLEARANCE UNLESS OTHERWISE NOTED.
3. STEEL REINFORCEMENT SHALL MEET ASTM SPECIFICATIONS (A-615), DEFORMED BARS
4. ALL INLETS TO HAVE FIELD POURED INVERTS TO ELIMINATE STANDING WATER.
5. 3/4" CHAMFER ALL EXPOSED EDGES.
6. ALL EXPOSED STEEL AND IRON SHALL HAVE ONE SHOP COAT RUST INHIBITOR AND ONE FIELD COAT OF KOPPERS 300 BITUMASTIC EPOXY BASED PAINT, 8 MILS D.F.T.

① 1/4" THICK ALUMINUM FABRICATED SKIMMER PLATE WITH OPEN TOP AND BOTTOM.

② 3/8" DIAMETER STAINLESS STEEL EXPANSION ANCHORS. 3" LONG (MIN.) WITH STAINLESS STEEL WASHERS AND NUTS. THREE REQUIRED EACH SIDE OF SKIMMER.

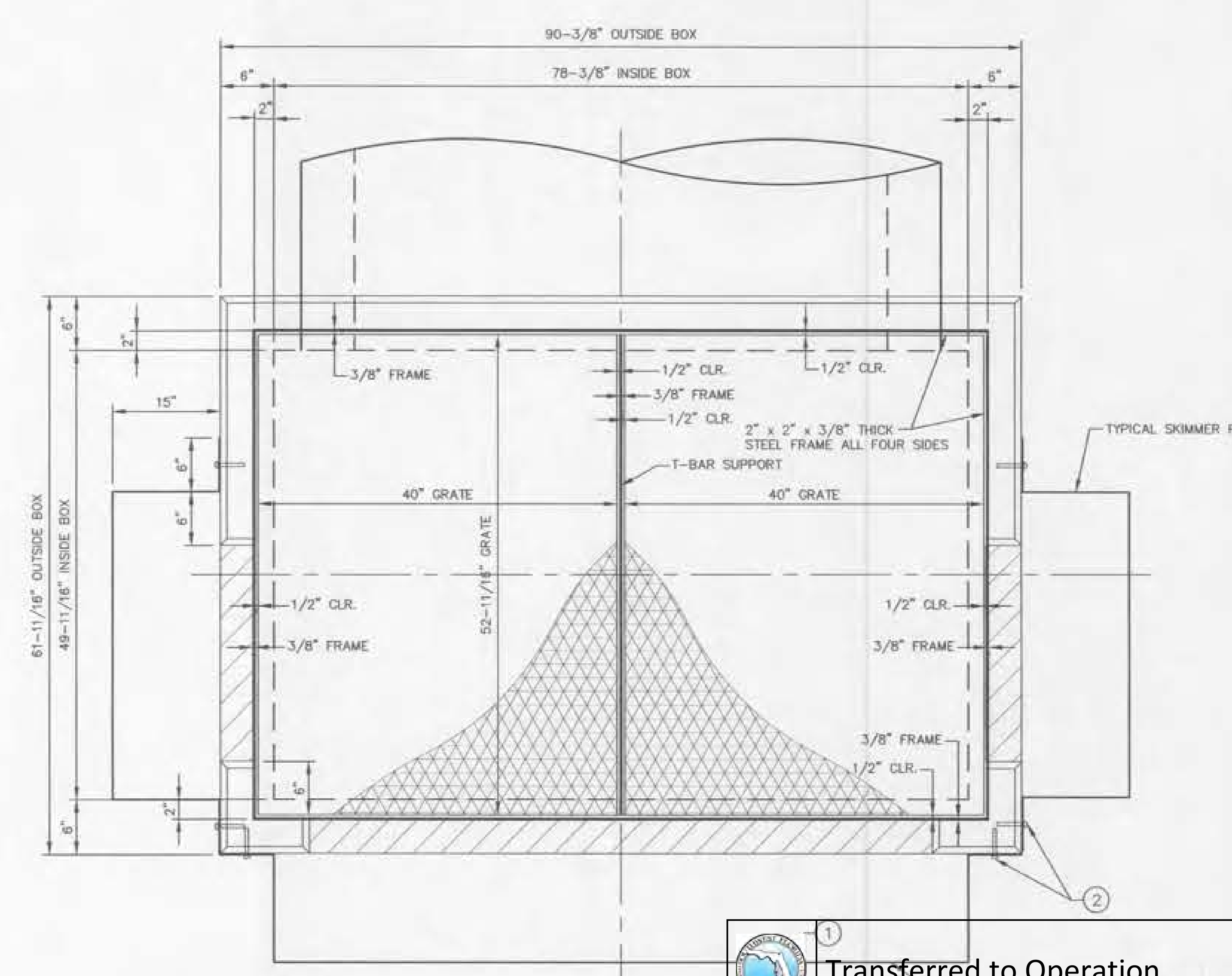
③ 3/16" THICK NEOPRENE GASKET BETWEEN SKIMMER AND CONCRETE.

④ THE LARGE WINDOWS WILL REQUIRED A STIFFENER TOP AND BOTTOM ON THE LONG FRONT SIDE SKIMMER. THIS MAY BE AN ANGLE BAR OF LIKE MATERIAL USED FOR SKIMMER, WELDED TO SKIMMER PLATE FACE. DO NOT MIX MATERIALS.

⑤ SKIMMER LONGER THAN 4 FEET WILL REQUIRE BRACES, BOTH AT TOP AND BOTTOM OF SKIMMER TO THE CONTROL STRUCTURE. NO SPACING SHALL EXCEED 4 FEET WITHOUT A BRACE.

SEE PAVING, DRAINAGE AND GRADING PLANS FOR PIPE SIZES, LOCATIONS AND INVERT ELEVATIONS

DOUBLE GRATE CONTROL STRUCTURE
N.T.S.



PLAN VIEW

2 – U.S. FOUNDRY NO. 6615 GALVANIZED STEEL GRATES REQUIRED (52-11/16" x 40" x 2");

Transferred to Operation

POINT BREAK SURVEYING, LLC
CERTIFICATE OF AUTHORIZATION LB 0007384
8111 Blaikie Court, Suite E
Sarasota, Fl 34240
Phone: (941) 378-4797
Fax: (941) 378-0058

Southwest Florida Water Management District
OCT 28 2016
Received Sarasota RSB

JEFFERY B. MORROW LICENSE NO. 6296 STATE OF FLORIDA PROFESSIONAL SURVEYOR & MAPPER

X
JEFFERY B. MORROW, P.S.M.
FL. CERT. NO. 6296
DATE: 10/27/16

Imaged As Is

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER 41224
DATE:

KHA PROJECT 048119072
DATE DEC. 2014
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY RBK
CHECKED BY TMS

RECORD DRAWING DOUBLE GRATE CONTROL STRUCTURE DETAIL

GRAND PALM PHASE 3A
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

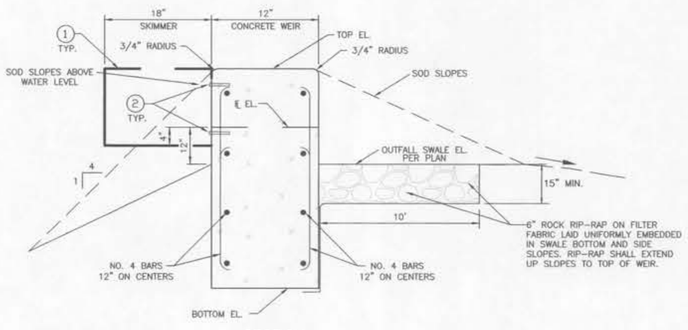
SHEET NUMBER
B-11

NOTES:

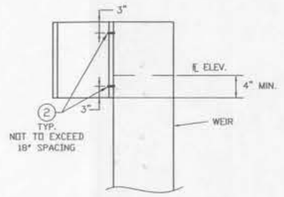
1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS.
2. ALL STEEL TO HAVE A MINIMUM 3" CLEARANCE UNLESS OTHERWISE NOTED.
3. STEEL REINFORCEMENT SHALL MEET ASTM SPECIFICATIONS (A-615).
4. 3/4" CHAMFER ALL EXPOSED EDGES.

① 1/4" THICK ALUMINUM FABRICATED SKIMMER PLATE WITH OPEN TOP AND BOTTOM.

② 3/8" DIAMETER STAINLESS STEEL EXPANSION ANCHORS, 3" LONG (MIN.) WITH STAINLESS STEEL WASHERS.



SECTION
N.T.S.

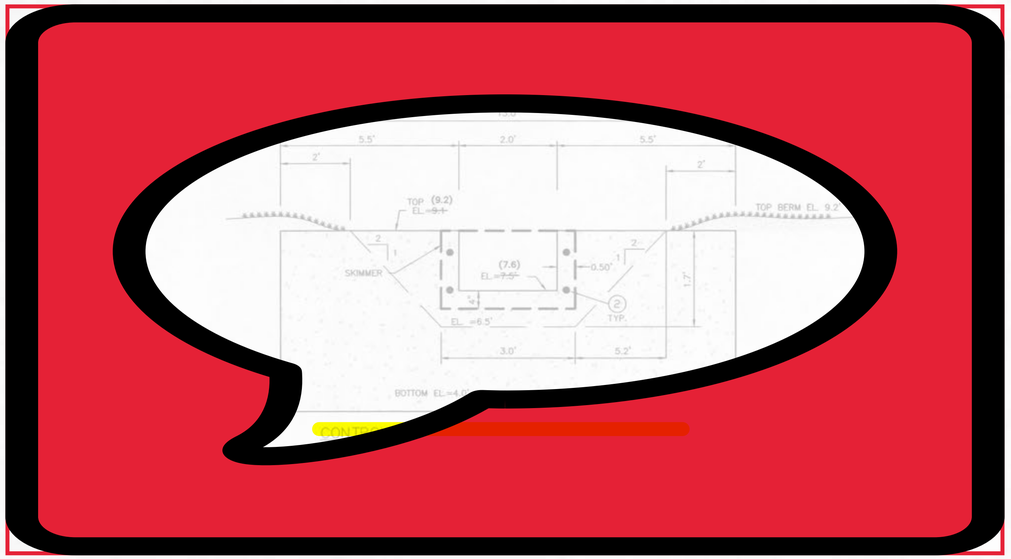


SKIMMER PLATE DETAIL
SIDE VIEW
N.T.S.

NOTES:

1. OUTFALL SWALE BOTTOM SHALL BE 4' WIDE WITH 3:1 SIDE SLOPES THROUGH BUFFER AND 2:1 SIDE SLOPES IN WETLAND.
2. PLANT SWALE BOTTOM WITH SPARTINA BAKERI ON 2' CENTERS (INCLUDES SWALE SLOPES IN WETLAND AREA AND SWALE SLOPES BELOW WATER LEVEL).
3. SOD UPLAND AND BUFFER SWALE SLOPES.

CONCRETE WEIR DETAIL
N.T.S.



NOTE: PLAN, SECTIONS AND DETAILS SHOWN ARE NOT TO ANY SCALE.

POINT BREAK SURVEYING, LLC
CERTIFICATE OF AUTHORIZATION LB 0007384
8111 Blaikie Court, Suite E
Sarasota, Fl 34240
Phone: (941) 378-4797
Fax: (941) 378-0058

Transferred to Operation

Southwest Florida Water Management District
OCT 28 2016
Received
Sarasota RSB

JEFFERY B. MORROW
NO. 6296
STATE OF FLORIDA
PROFESSIONAL SURVEYOR AND MAPPER

X
JEFFERY B. MORROW, P.S.M.
FL. CERT. NO. 6296
DATE: 10/24/16

No.	REVISIONS	DATE	BY
1.	REMOVED CS-1 DETAIL	6/24/2015	RBK

Kimley»Horn

2601 CATTLEMEN ROAD, SUITE 200, SARASOTA, FL 34232
PHONE: 941-379-7600 FAX: 941-379-4352
WWW.KIMLEY-HORN.COM CA 00000696

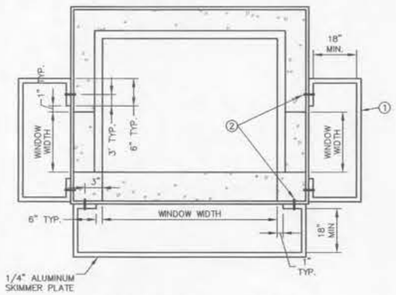
LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224

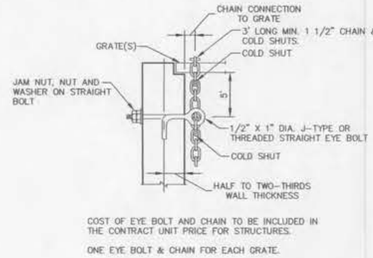
KHA PROJECT 048119072
DATE DEC., 2014
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY RBK
CHECKED BY TMS
DATE:

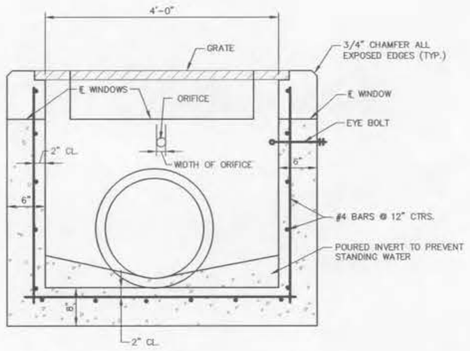
RECORD DRAWING
CONCRETE OUTFALL CONTROL WEIR DETAILS

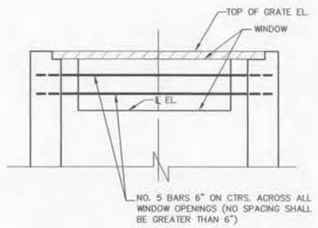
GRAND PALM PHASE 3A
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

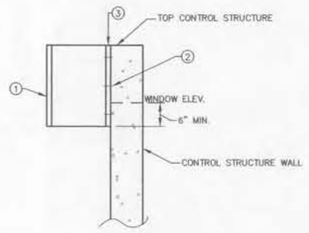
SHEET NUMBER
B-12

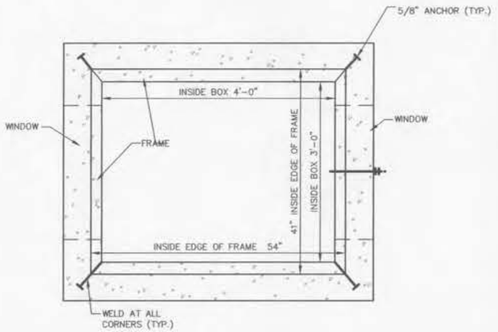


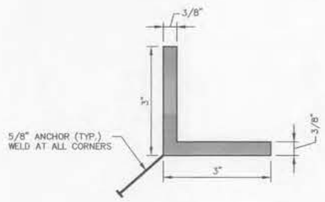


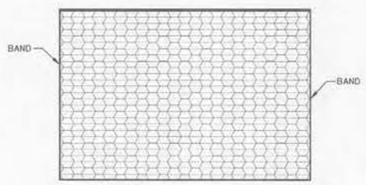


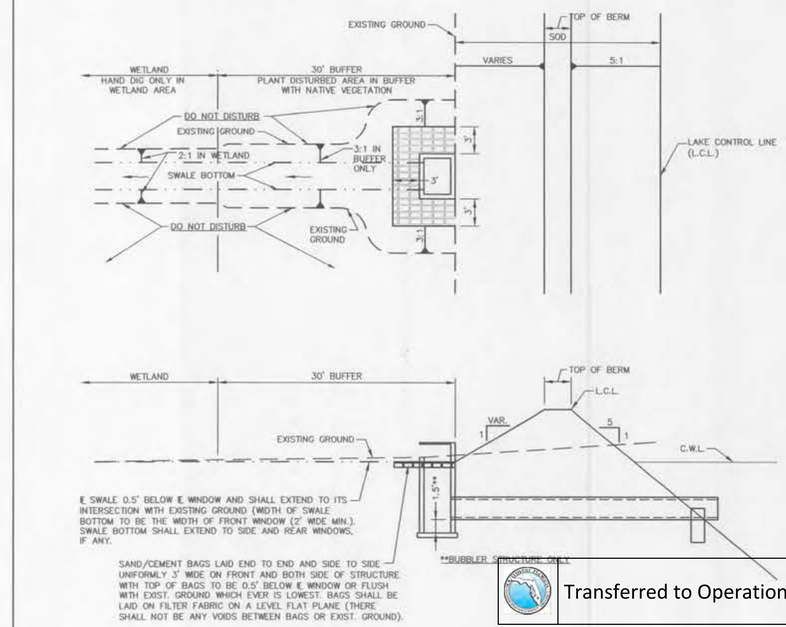












STRUCTURE TABLE												
CONTROL STRUCTURE NO.	TOP OF STRUCTURE/ GRATE ELEV.	FLOWLINE WINDOW ELEV.	RECTANGULAR WEIR SIZE (SLOT) (WINDOWS)				ORIFICE ELEV.	ORIFICE GEOMETRY	PIPE SIZE	OUTFALL PIPE INVERT	SKIMMER* YES/NO	SPECIAL COMMENT
			FRONT	REAR	SIDES	TOTAL						
CS-W-L	9.7	8.5	~~3.0~~	-	~~3.0' (2)~~	~~9.0~~ 3.0'	-	-	36"	4.0	-	-
(RECORD DATA)			(3')			(3')						
-	-	-	-	-	-	-	-	-	-	-	-	-
(RECORD DATA)												
-	-	-	-	-	-	-	-	-	-	-	-	-
(RECORD DATA)												
-	-	-	-	-	-	-	-	-	-	-	-	-
(RECORD DATA)												
-	-	-	-	-	-	-	-	-	-	-	-	-
(RECORD DATA)												
-	-	-	-	-	-	-	-	-	-	-	-	-
(RECORD DATA)												
-	-	-	-	-	-	-	-	-	-	-	-	-
(RECORD DATA)												
-	-	-	-	-	-	-	-	-	-	-	-	-
(RECORD DATA)												
-	-	-	-	-	-	-	-	-	-	-	-	-
(RECORD DATA)												

** ALL BUBBLER BOXES SHALL HAVE AN INSIDE BOTTOM ELEVATION 18" BELOW PIPE INVERT. THE CONTRACTOR IS REQUIRED TO PROTECT THESE SUMPS AND PIPES FROM DEBRIS AND SILTATION. ALL PIPES AND SUMPS SHALL BE FREE OF DEBRIS AND SILTATION AT FINAL PROJECT ACCEPTANCE. DO NOT POUR INVERTS IN BUBBLER BOXES.

POINT BREAK SURVEYING, LLC

CERTIFICATE OF AUTHORIZATION LB 0007384
8111 Blaikie Court, Suite E
Sarasota, Fl 34240
Phone: (941) 378-4797
Fax: (941) 378-0058

JEFFERY B. MORROW LICENSE NO. 6296 STATE OF FLORIDA

X
JEFFERY B. MORROW, P.S.M.
FL. CERT. NO. 6296
DATE:

① 1/4" THICK ALUMINUM FABRICATED SKIMMER PLATE WITH OPEN TOP AND BOTTOM.

② 3/8" DIAMETER STAINLESS STEEL EXPANSION ANCHORS. 3" LONG (MIN.) WITH STAINLESS STEEL WASHERS AND NUTS @9" MAXIMUM. TWO MIN. REQUIRED EACH SIDE OF SKIMMER.

③ 3/16" THICK NEOPRENE GASKET BETWEEN SKIMMER AND CONCRETE.

SKIMMER PLATE DETAIL
TOP VIEW

COST OF EYE BOLT AND CHAIN TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR STRUCTURES.

ONE EYE BOLT & CHAIN FOR EACH GRATE.

EYE BOLT AND CHAIN FOR LOCKING GRATES TO STRUCTURES
N.T.S.

SECTION

SECTION

SKIMMER PLATE DETAIL SIDE VIEW

PLAN

STEEL FRAME DETAIL
(ALL FOUR SIDES WELDED TOGETHER)

GALVANIZED STEEL GRATE USF
(52-11 ~~#6015~~" x 2")

NOTES:

1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS
2. ALL STEEL TO HAVE A MINIMUM 2" CLEARANCE UNLESS OTHERWISE NOTED.
3. STEEL REINFORCEMENT SHALL MEET ASTM SPECIFICATIONS (A-615), DEFORMED BARS.
4. ALL INLETS TO HAVE FIELD POURED INVERTS TO ELIMINATE STANDING WATER.
5. 3/4" CHAMFER ALL EXPOSED EDGES.
6. ALL EXPOSED STEEL AND IRON SHALL HAVE ONE SHOP COAT RUST INHIBITOR AND ONE FIELD COAT OF KOPPERS 300 BITUMASTIC EPOXY BASED PAINT, 8 MILS D.F.T.

SEE PAVING, DRAINAGE AND GRADING PLANS FOR PIPE SIZES, LOCATIONS AND INVERT ELEVATIONS.

SMALL CONTROL STRUCTURE

N.T.S.

℄ SWALE 0.5' BELOW ℄ WINDOW AND SHALL EXTEND TO ITS INTERSECTION WITH EXISTING GROUND (WIDTH OF SWALE BOTTOM TO BE THE WIDTH OF FRONT WINDOW (2' WIDE MIN.). SWALE BOTTOM SHALL EXTEND TO SIDE AND REAR WINDOWS, IF ANY.

SAND/CEMENT BAGS LAID END TO END AND SIDE TO SIDE UNIFORMLY 3' WIDE ON FRONT AND BOTH SIDE OF STRUCTURE WITH TOP OF BAGS TO BE 0.5' BELOW ℄ WINDOW OR FLUSH WITH EXIST. GROUND WHICH EVER IS LOWEST. BAGS SHALL BE LAID ON FILTER FABRIC ON A LEVEL FLAT PLANE (THERE SHALL NOT BE ANY VOIDS BETWEEN BAGS OR EXIST. GROUND).

CONTROL STRUCTURE WHEN LOCATED AT WETLAND

NOTE:
CONSTRUCTION IN WETLANDS SHOULD BE ACCESSED FROM THE UPLAND SIDE. ANY TEMPORARY IMPACT AREAS IN THE WETLAND SHOULD BE REGRADED AND RESTORED TO THEIR NATURAL CONDITION. CONSTRUCTION LIMITS IN WETLAND SHOULD NOT EXTEND MORE THAN 10 FEET FROM THE EDGE OF THE STRUCTURE UNLESS WETLAND SWALE IS REQUIRED.

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE:

KHA PROJECT
048119072
DATE
DEC. 2014
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY RBK
CHECKED BY TMS

RECORD DRAWING MODIFIED CONTROL STRUCTURE CS-W-L

GRAND PALM PHASE 3A
(FKA GRAND PALM PHASE 1D)
PREPARED FOR
RESOURCE CONSERVATION OF
SARASOTA, LLC
SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-15

Plotted By:Jeff Sheet Set:Grand Palm Phase 3A Layout:B-15 MODIFIED CONTROL STRUCTURE CS-W-L October 27, 2016 09:41:01am \\Pbs\c\Civil 2015\15011-Grand Palm 3A_AB\Drainage\B-15.dwg

PERMITTED DRAWINGS SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD)
For construction permits, the Permittee shall notify the District in writing when construction begins.

MODIFY EXISTING WETLAND P CONCRETE OUTFALL CONTROL WEIR CONSTRUCTED WITH GRAND PALM PHASE 1C(b) SEE MODIFICATION DETAIL SHEET B-12 THIS PLAN SET

GRAND PALM PHASE 1B

REMOVE CS-1 BUILT WITH GRAND PALM PHASE 3A CONSTRUCTION PLANS REGRADE DITCH TO MATCH EXISTING

GRAND PALM PHASE 3A

GRAND PALM PHASE 1C(b)

GRAND PALM PHASE 2A

GRAND PALM FUTURE DEVELOPMENT

POND 10 EXPANSION
CWL=6.5
100YR=9.3±

POND 13A
CWL=7.5
100YR=9.4±

POND 14
CWL=7.0
100YR=9.5±

POND 15
CWL=7.2
100YR=9.5±

POND 23
CWL=5.3
100YR=8.3±

POND 29
CWL=5.5
100YR=9.0±

WETLAND "C"
N.P.=7.05
S.H.W.L.=7.80
F.W.L.=8.4

WETLAND "D"
N.P.=7.0
S.H.W.L.=7.5
F.W.L.=8.9

WETLAND "E"
N.P.=7.50
S.H.W.L.=8.00
F.W.L.=8.23

WETLAND "F"
N.P.=6.0
S.H.W.L.=7.0
F.W.L.=7.8

WETLAND "G"
N.P.=6.0
S.H.W.L.=7.0
F.W.L.=7.32

WETLAND "C"
N.P.=7.15
S.H.W.L.=7.66
F.W.L.=8.3

PRESERVE AREA
DO NOT DISTURB

HUNTERS CREEK ROAD

WILLOW RIVER DRIVE

SILVERSTONE DRIVE

SILVERSTONE PLACE

ALTAMONTE COURT

SAGEBRUSH DRIVE

BRUSHLAND DRIVE

SAWGRASS DRIVE

CROSS CREEK BOULEVARD

POND INFO				
POND #	CWL ELEV.	CWL AREA	TOB ELEV.	TOB AREA
POND 14	7.0	4.72 AC	10.0	5.31 AC
POND 15	7.2	0.6 AC	10.2	0.81 AC
POND 29	5.5	0.98 AC	8.5	1.29 AC

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2015 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE: _____

KHA PROJECT	048119074
DATE	APRIL 2015
SCALE	AS SHOWN
DESIGNED BY	RBK
DRAWN BY	RBK
CHECKED BY	TMS

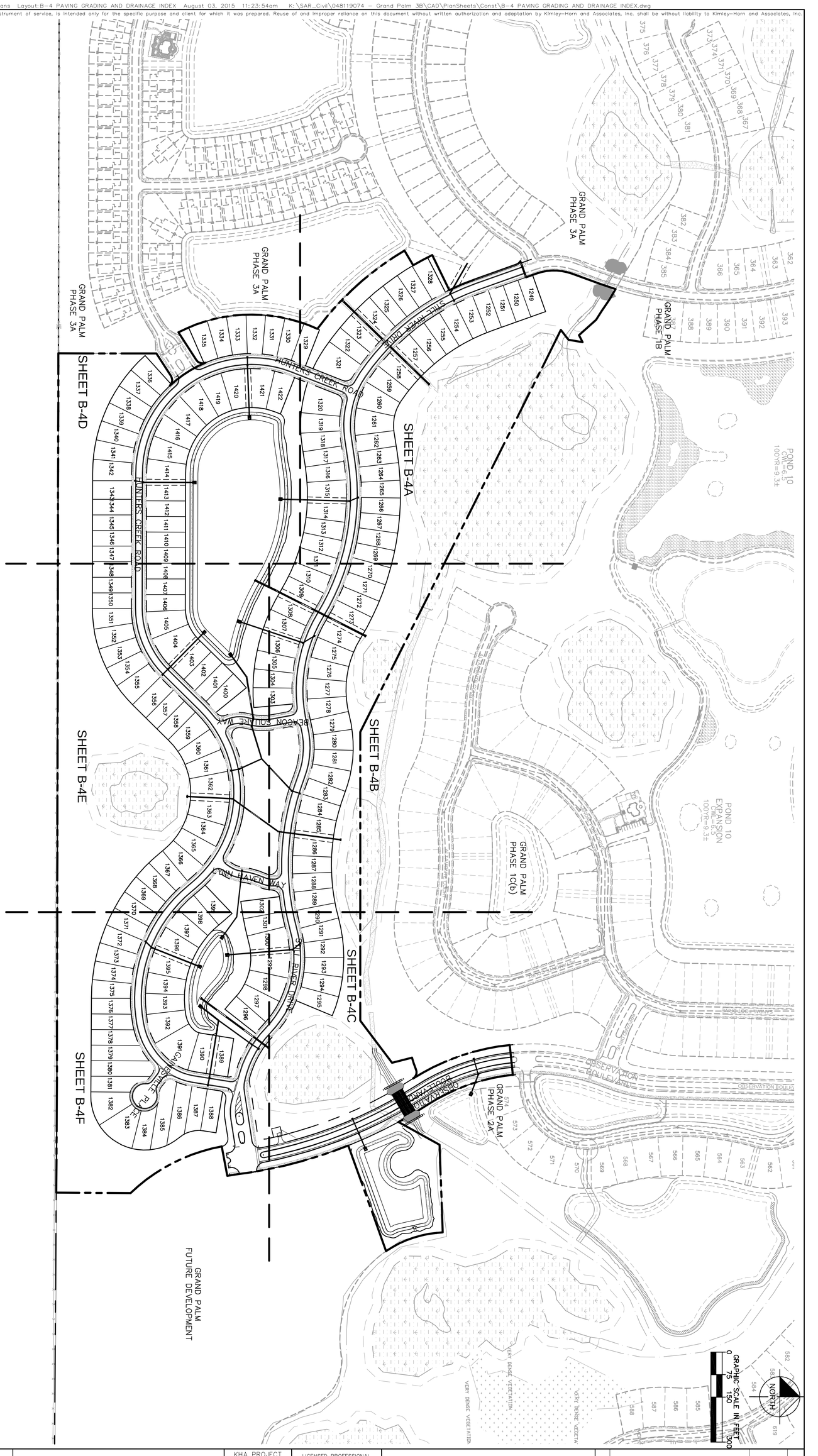
MASTER DRAINAGE PLAN

GRAND PALM PHASE 3B

PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-3



SHEET NUMBER B-4

GRAND PALM PHASE 3B
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

PAVING GRADING AND DRAINAGE INDEX

KHA PROJECT 048119074
DATE APRIL 2015
SCALE AS SHOWN
DESIGNED BY RBK
DRAWN BY RBK
CHECKED BY TMS

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER 41224
DATE: _____

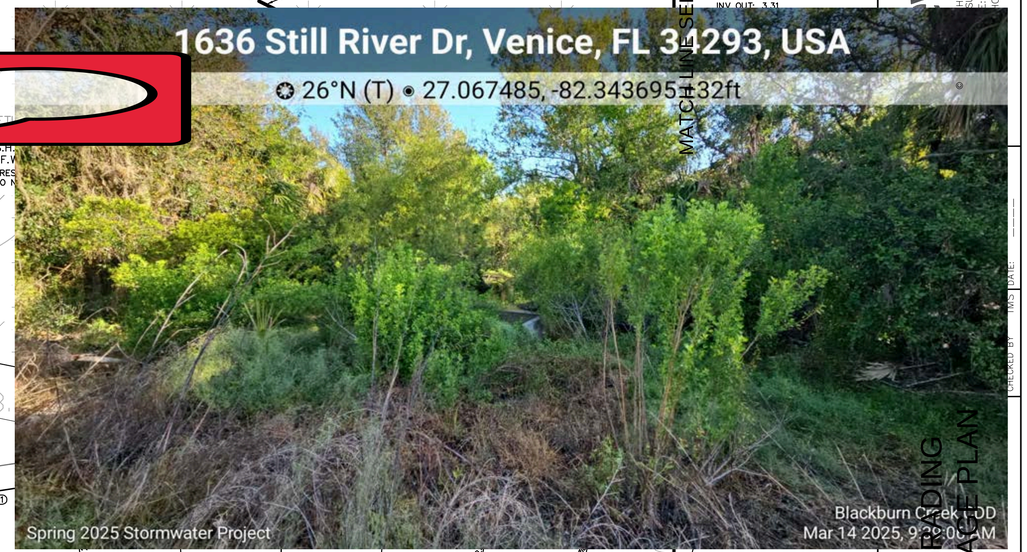
Kimley»Horn

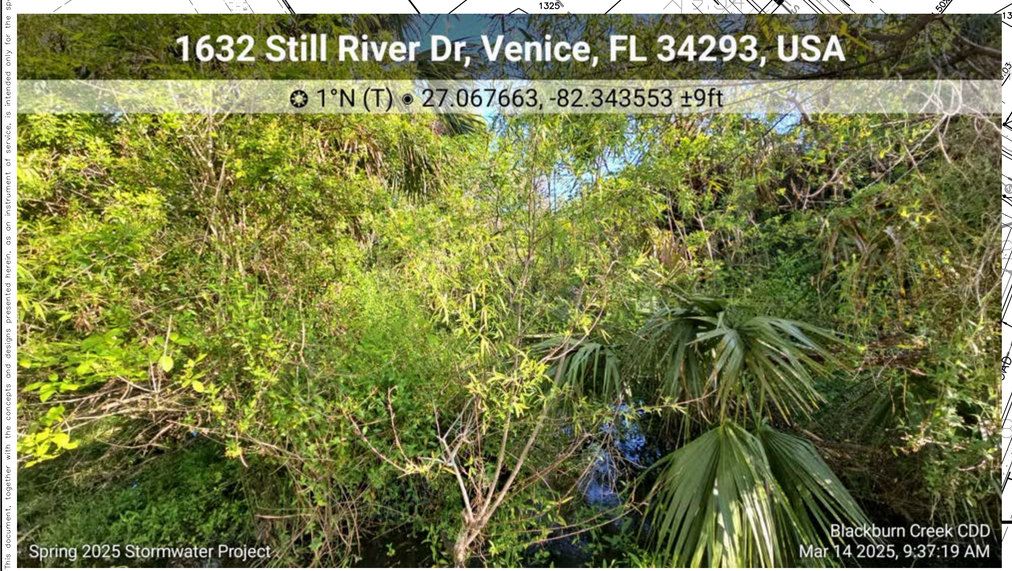
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

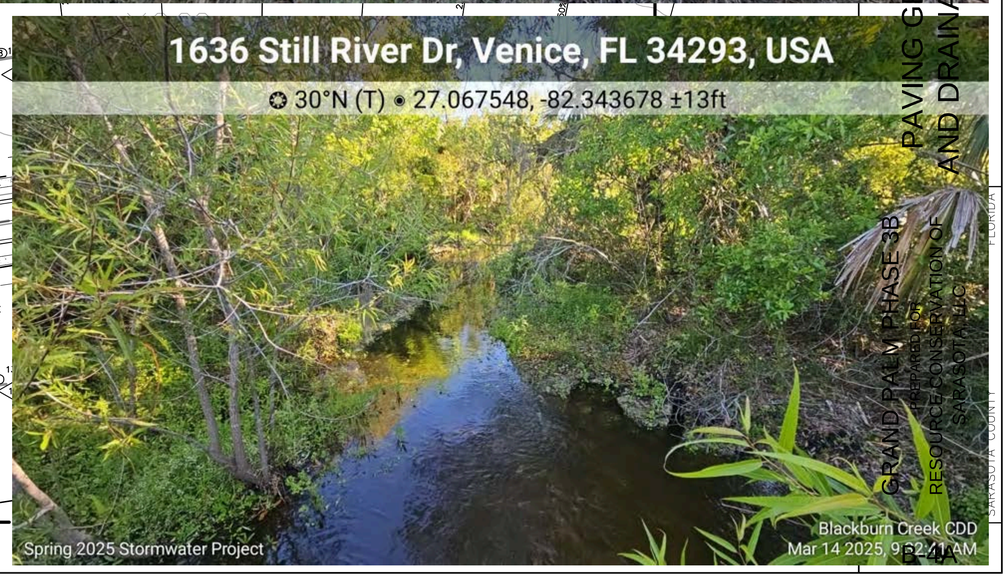
No.	REVISIONS	DATE	BY

PERMITTED DRAWINGS SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD)
For construction permits, the Permittee shall notify the District in writing when construction begins.

Clear debris and vegetation from structure and conveyance swale about 100ft into wetland; native vegetation to remain, remove invasive and nusiance







MATCH LINE SEE SHEET B-4B

MATCH LINE SEE SHEET B-4D

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.88 FEET.

13A-4A
TYPE M INLET
42"X60" INSIDE SIZE
STA: 31+60.66, 14.00 RT
RIM: 9.96
INV IN: 0.79
INV OUT: -0.21

13A-4B
TYPE M INLET
STA: 31+59.40, -14.00 LT
RIM: 9.96
INV OUT: 0.85

14-1A
TYPE M INLET
STA: 39+93.19, 14.00 RT
RIM: 10.06
INV IN: 3.25
INV OUT: 2.75

14-1B
TYPE M INLET
STA: 39+80.50, -14.00 LT
RIM: 10.06
INV OUT: 3.31

No.	REVISIONS	DATE	BY

Horn
KIMLEY-HORN AND ASSOCIATES, INC.
200 SOUTH ORANGE AVENUE, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

DESIGNED BY: MKS DRAWN BY: MKS CHECKED BY: MKS DATE: 08/03/2015

GRAND PALM PHASE 3B
PAVING GRADING AND DRAINAGE PLAN
RESOURCE CONSERVATION OF SARASOTA INC.
SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4C

MATCH LINE SEE SHEET B-4A

MATCH LINE SEE SHEET B-4C

CONSERVATION AREA (DO NOT DISTURB)

30' WETLAND BUFFER

WETLAND "F" N.P. 7.0 S.H.W.L. 7.5

0.01 AC. WETLAND BUFFER IMPACT
0.01 AC. WETLAND BUFFER COMPENSATION

PROJECT BOUNDARY

CONSERVATION AREA (DO NOT DISTURB)

WETLAND "D" N.P. 6.75 S.H.W.L. 7.25 F.W.L. 8.4 PRESERVE AREA DO NOT DISTURB

0.01 AC. WETLAND BUFFER IMPACT

30' WETLAND BUFFER

TYPE "M" CURB (TYP.)

30' DRAINAGE EASEMENT

14-3B

14-4F

5' CONCRETE SIDEWALK (TYP.)

210 LF 36" STORM PIPE

25' DRAINAGE EASEMENT

10' PUBLIC UTILITY EASEMENT (TYP.)

45 LF 24" STORM PIPE

14-3A

20' DRAINAGE EASEMENT

5' CONCRETE SIDEWALK (TYP.)

14-2A

226 LF 30" STORM PIPE

STILL RIVER DRIVE

BEACON SQUARE

O.S.W. 8

ND
XISTING MAJOR CONTOUR LINE
XISTING MINOR CONTOUR LINE
NOR BASIN LINE
AJOR BASIN LINE
ROJECT BOUNDARY
URISDICTIONAL WETLAND LINE
ETLAND BUFFER LINE
ETLAND TO BE PRESERVED
XISTING SPOT ELEVATION
ROPOSED PAVED SPOT ELEVATION
ROPOSED NON PAVED ELEVATION
LOPE DIRECTION
NISH FLOOR ELEVATION
URB RAMP (PER FDOT INDEX #304)
E 10" BELOW FINISHED FLOOR ELEVATION
S FOLLOWS:
STM C-76
IPE PER AASHTO M-294
F949
IGHT
ST BE APPROVED BY SARASOTA COUNTY.
T THE MOST ECONOMICAL PRODUCT.

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.88 FEET.

E-1B
4' DIA. JUNCTION BOX
STA: 51+42.32, 30.00 RT
RIM: 9.34
INV IN: 1.26
INV OUT: 1.26

14-3A
TYPE M INLET
STA: 45+00.26, 14.00 RT
RIM: 10.06
INV IN: 0.98
INV OUT: 0.48

14-3B
TYPE M INLET
STA: 44+65.03, -14.00 LT
RIM: 10.06
INV OUT: 1.07

14-4E
TYPE M INLET
STA: 50+03.97, 14.00 RT
RIM: 10.06
INV IN: 3.53
INV OUT: 3.03

14-4F
TYPE M INLET
STA: 50+03.97, -14.00 LT
RIM: 10.06
INV OUT: 3.59

No.	REVISIONS	DATE	BY

Kimley»Horn

1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE:

KHA PROJECT 048119074
DATE APRIL 2015
SCALE AS SHOWN
DESIGNED BY RBK
DRAWN BY RBK
CHECKED BY TMS

PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3B

PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4B

PERMITTED DRAWINGS SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD)
For construction permits, the Permittee shall notify the District in writing when construction begins.

MATCH LINE SEE SHEET B-4B

GRAND PALM PHASE 1C(b)

GRAND PALM PHASE 2A

MATCH EXISTING PAVEMENT AND CURB WITH SMOOTH TRANSITION

8' CONCRETE SIDEWALK

55 LF 18" STORM PIPE

28-1A

28-1B

70 LF 24" STORM PIPE

FES INV. 1.24

MODIFIED TYPE "F" CURB

10' PUBLIC UTILITY EASEMENT (TYP.)

MODIFIED TYPE "F" CURB

MEDIAN CURB

72 L.F. 5' CONCRETE PAD OVER W.M. IN THIS LOCATION TOP OF PAD ELEV. 4.5

MATCH EXISTING SWALE BOTTOM

MATCH EXISTING GROUND

RIP RAP

CONCRETE HEADWALL

NO DISTURBANCE WITHIN GRAND TREE DRIP LINE UNLESS APPROVED BY SARASOTA COUNTY

(3) 99 L.F. 4'(H)x12'(W) BOX CULVERT
S.W. INV. ELEV. 4.5
N.E. INV. ELEV. 4.5

12' WIDE SWALE BOTTOM WITH 4:1 SIDE SLOPES

RELOCATED DITCH

POND 28
CWL=5.5
100YR=8.6±

POND 29
CWL=5.5
100YR=9.0±

0.17 AC. LITTORAL SHELF

0.06 AC. O.S.W. IMPACT

FES INV. 1.21

55 LF 18" STORM PIPE

56 LF 24" STORM PIPE

29-1A

29-1B

PROJECT BOUNDARY

8' CONCRETE SIDEWALK

10' PUBLIC UTILITY EASEMENT (TYP.)

UTILITY EASEMENT

30'x30' EXCLUSIVE SARASOTA COUNTY LIFT STATION EASEMENT

GRAND PALM FUTURE DEVELOPMENT

O.S.W. 7

O.S.W. 8

O.S.W. 9

30' PROJECT BOUNDARY

PRESERVE AREA DO NOT DISTURB

CONSERVATION AREA (DO NOT DISTURB)

0.01 AC. WETLAND BUFFER COMPENSATION

0.01 AC. WETLAND BUFFER IMPACT

WETLAND "C"
N.P. 7.15
S.H.W.L. 7.65
F.W.L. 8.3

WETLAND "BB"
N.P. 6.55
S.H.W.L. 7.05
F.W.L. 8.2
PRESERVE AREA DO NOT DISTURB

30' WETLAND BUFFER

TYPE "M" CURB

5' CONCRETE SIDEWALK (TYP.)

15-1B

15-1A

34 LF 24" STORM PIPE

20' DRAINAGE EASEMENT

CS-15A

CS-29

MATCH LINE SEE SHEET B-4F

ENLARGED VIEW BOX CULVERT CROSSING

66 L.F. 5' CONCRETE PAD OVER WATERMAIN IN THIS LOCATION, TOP OF PAD ELEVATION 4.5

72 L.F. 5' CONCRETE PAD OVER WATERMAIN IN THIS LOCATION, TOP OF PAD ELEVATION 4.5

10' WIDE PUBLIC UTILITY EASEMENT (TYP.)

14' ASPHALT | 17.3' MEDIAN | 14' ASPHALT

100' RIGHT OF WAY

12' BOTTOM

GRAPHIC SCALE IN FEET
0 10 20 40

GRAPHIC SCALE IN FEET
0 20 40 80

NORTH

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.88 FEET.

15-1A
TYPE M INLET
STA: 55+34.97, 14.00 RT
RIM: 9.96
INV IN: 5.19
INV OUT: 4.69

15-1B
TYPE M INLET
STA: 55+16.10, -14.00 LT
RIM: 9.96
INV OUT: 5.26

28-1A
TYPE F INLET
STA: 53+28.47, -27.33 LT
RIM: 10.19
INV IN: 6.50
INV OUT: 2.24

28-1B
TYPE F INLET
STA: 53+28.47, 27.40 RT
RIM: 10.19
INV OUT: 6.61

29-1A
TYPE F INLET
STA: 57+77.43, -27.33 LT
RIM: 9.56
INV IN: 5.81
INV OUT: 1.86

29-1B
TYPE F INLET
STA: 57+77.43, 27.33 RT
RIM: 9.56
INV OUT: 5.92

REQUIRED LITTORAL ZONE VEGETATION SHALL BE MAINTAINED IN PERPETUITY.

A MONITORING AND MAINTENANCE BOND NEEDS TO BE SUBMITTED TO SARASOTA ENVIRONMENTAL PROTECTION DIVISION TO COVER 100% OF THE COST FOR TWO YEARS OF MONITORING AND MAINTENANCE OF THE LITTORAL ZONES PRIOR TO EXCAVATION PURSUANT TO LDR ENVIRONMENTAL TECHNICAL MANUAL SECTION A.5. THIS BOND SHALL REMAIN IN EFFECT UNTIL THE LITTORAL ZONES ARE DETERMINED SUCCESSFUL BY RPS.

NO DISTURBANCE WITHIN GRAND TREE DRIP LINE UNLESS APPROVED BY SARASOTA COUNTY

LEGEND
- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- MINOR BASIN LINE
- MAJOR BASIN LINE
- PROJECT BOUNDARY
- JURISDICTIONAL WETLAND LINE
- WETLAND BUFFER LINE
- WETLAND TO BE PRESERVED
- x73.40 EXISTING SPOT ELEVATION
- 6.12 PROPOSED PAVED SPOT ELEVATION
- 6.2 PROPOSED NON PAVED ELEVATION
- SLOPE DIRECTION
- 12.00 FINISH FLOOR ELEVATION
- CR CURB RAMP (PER FDOT INDEX #304)

NOTES:
1. FINISHED PAD GRADE TO BE 10" BELOW FINISHED FLOOR ELEVATION
2. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
3. JOINTS SHALL BE WATER TIGHT
4. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY.
5. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2015 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE: ———

KHA PROJECT 048119074	
DATE	APRIL 2015
SCALE	AS SHOWN
DESIGNED BY	RBK
DRAWN BY	RBK
CHECKED BY	TMS

PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3B

PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4C

PERMITTED DRAWINGS SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD)
For construction permits, the Permittee shall notify the District in writing when construction begins.

MATCH LINE SEE SHEET B-4A

MATCH LINE SEE SHEET B-4E

POND 13A
CWL=7.5
100YR=9.4±

GRAND PALM
PHASE 3A

MATCH EXISTING POND T.O.B.

TYPE "M" CURB (TYP.)

5' CONCRETE SIDEWALK (TYP.)

28 LF 24" STORM PIPE

176 LF 30" STORM PIPE

20' DRAINAGE EASEMENT

56' RIGHT OF WAY

MATCH EXISTING GROUND

0.44 AC.
LITTORAL SHELF

FES
INV. 0.13

FES
INV. 2.29

FES
INV. 1.99

POND 14
CWL=7.0
100YR=9.5±

172 LF 30" STORM PIPE

20' DRAINAGE EASEMENT

10' PUBLIC UTILITY EASEMENT

28 LF 24" STORM PIPE

HUNTERS CREEK ROAD

PROJECT BOUNDARY

CONSERVATION AREA
(DO NOT DISTURB)

CONSERVATION AREA
(DO NOT DISTURB)

14-6A
TYPE M INLET
STA: 9+75.98, −14.00 LT
RIM: 10.06
INV IN: 5.39
INV OUT: 4.89

14-6B
TYPE M INLET
STA: 9+71.04, 14.00 RT
RIM: 10.06
INV OUT: 5.44

14-7A
TYPE M INLET
STA: 3+71.65, −14.00 LT
RIM: 10.06
INV IN: 0.98
INV OUT: 0.48

14-7B
TYPE M INLET
STA: 3+70.74, 14.00 RT
RIM: 10.06
INV OUT: 1.04

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.88 FEET.

LEGEND

- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- MINOR BASIN LINE
- MAJOR BASIN LINE
- PROJECT BOUNDARY
- JURISDICTIONAL WETLAND LINE
- WETLAND BUFFER LINE
- WETLAND TO BE PRESERVED
- ×73.45 EXISTING SPOT ELEVATION
- 6.12 PROPOSED PAVED SPOT ELEVATION
- 6.2 PROPOSED NON PAVED ELEVATION
- SLOPE DIRECTION
- 12.00 FINISH FLOOR ELEVATION
- CR CURB RAMP (PER FDOT INDEX #304)

NOTES:

1. FINISHED PAD GRADE TO BE 10" BELOW FINISHED FLOOR ELEVATION
2. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
3. JOINTS SHALL BE WATER TIGHT
4. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY.
5. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

REQUIRED LITTORAL ZONE VEGETATION SHALL BE MAINTAINED IN PERPETUITY.

A MONITORING AND MAINTENANCE BOND NEEDS TO BE SUBMITTED TO SARASOTA ENVIRONMENTAL PROTECTION DIVISION TO COVER 100% OF THE COST FOR TWO YEARS OF MONITORING AND MAINTENANCE OF THE LITTORAL ZONES PRIOR TO EXCAVATION PURSUANT TO LDR ENVIRONMENTAL TECHNICAL MANUAL SECTION A.5. THIS BOND SHALL REMAIN IN EFFECT UNTIL THE LITTORAL ZONES ARE DETERMINED SUCCESSFUL BY RPS.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2015 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE: ——

KHA PROJECT 048119074
DATE APRIL 2015
SCALE AS SHOWN
DESIGNED BY RBK
DRAWN BY RBK
CHECKED BY TMS

PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3B

PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4D

PERMITTED DRAWINGS SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD)
For construction permits, the Permittee shall notify the District in writing when construction begins.

REQUIRED LITTORAL ZONE VEGETATION SHALL BE MAINTAINED IN PERPETUITY.

A MONITORING AND MAINTENANCE BOND NEEDS TO BE SUBMITTED TO SARASOTA ENVIRONMENTAL PROTECTION DIVISION TO COVER 100% OF THE COST FOR TWO YEARS OF MONITORING AND MAINTENANCE OF THE LITTORAL ZONES PRIOR TO EXCAVATION PURSUANT TO LDR ENVIRONMENTAL TECHNICAL MANUAL SECTION A.5. THIS BOND SHALL REMAIN IN EFFECT UNTIL THE LITTORAL ZONES ARE DETERMINED SUCCESSFUL BY RPS.

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.88 FEET.

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

14-4A
6' DIA. JUNCTION BOX
STA: 2+01.07, 145.30 RT
RIM: 9.25
INV IN: 1.18
INV OUT: 1.18

14-4B
TYPE M INLET
42"X60" INSIDE SIZE
STA: 1+67.08, 14.00 RT
RIM: 10.06
INV IN: 1.95
INV OUT: 1.45

14-4C
TYPE M INLET
42"X60" INSIDE SIZE
STA: 1+67.08, -14.00 LT
RIM: 10.06
INV IN: 2.01
INV OUT: 2.01

14-4D
5' DIA. JUNCTION BOX
STA: 49+31.87, 144.41 RT
RIM: 8.40
INV IN: 2.74
INV IN: 2.74
INV OUT: 2.24

14-4G
TYPE M INLET
STA: 20+40.69, -14.00 LT
RIM: 10.06
INV IN: 5.24
INV OUT: 4.74

14-4H
TYPE M INLET
STA: 20+40.69, 14.00 RT
RIM: 10.06
INV OUT: 5.30

14-5A
TYPE M INLET
STA: 16+31.76, -14.00 LT
RIM: 10.06
INV IN: 5.39
INV OUT: 4.89

14-5B
TYPE M INLET
STA: 16+31.76, 14.00 RT
RIM: 10.06
INV OUT: 5.44

15-4B
TYPE M INLET
STA: 1+50.71, -14.00 LT
RIM: 9.96
INV IN: 5.31
INV OUT: 2.88

15-4C
TYPE M INLET
STA: 1+50.71, 14.00 RT
RIM: 9.96
INV OUT: 5.37

E-1A
5' DIA. JUNCTION BOX
STA: 21+38.19, 15.50 RT
RIM: 10.26
INV IN: 1.63
INV OUT: 1.63

LEGEND

- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- MINOR BASIN LINE
- MAJOR BASIN LINE
- PROJECT BOUNDARY
- JURISDICTIONAL WETLAND LINE
- WETLAND BUFFER LINE
- WETLAND TO BE PRESERVED
- ×73.40 EXISTING SPOT ELEVATION
- 6.12 PROPOSED PAVED SPOT ELEVATION
- 6.2 PROPOSED NON PAVED ELEVATION
- SLOPE DIRECTION
- 12.00 FINISH FLOOR ELEVATION
- CR CURB RAMP (PER FDOT INDEX #304)

NOTES:

1. FINISHED PAD GRADE TO BE 10" BELOW FINISHED FLOOR ELEVATION
2. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
3. JOINTS SHALL BE WATER TIGHT
4. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY.
5. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2015 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER 41224
DATE:

KHA PROJECT 048119074
DATE APRIL 2015
SCALE AS SHOWN
DESIGNED BY RBK
DRAWN BY RBK
CHECKED BY TMS

PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3B
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4E

PERMITTED DRAWINGS SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD)
For construction permits, the Permittee shall notify the District in writing when construction begins.

MATCH LINE SEE SHEET B-4C

MATCH LINE SEE SHEET B-4E

PRESERVE AREA
DO NOT DISTURB

30' WETLAND BUFFER

STILL RIVER DRIVE

HUNTERS CREEK ROAD

OBSERVATION BOULEVARD

GAINESVILLE PLACE

POND 15
CWL=7.2
100YR=9.5±
0.18 AC. LITTORAL SHELF

220 LF 30" STORM PIPE
85 LF 24" STORM PIPE
MATCH EXISTING GROUND
FES INV. 2.43
FES INV. 2.29
280 LF 54" STORM PIPE
FES INV. 1.75
FES INV. 0.22
FES INV. 2.21
78 LF 42" STORM PIPE
192 LF 36" STORM PIPE
28 LF 30" STORM PIPE
28 LF 24" STORM PIPE
137 LF 30" STORM PIPE
173 LF 36" STORM PIPE
30 LF 30" STORM PIPE

TYPE "M" CURB (TYP.)
5' CONCRETE SIDEWALK (TYP.)
8' CONCRETE SIDEWALK
10' PUBLIC UTILITY EASEMENT (TYP.)
25' DRAINAGE EASEMENT
VALLEY CROSSING

GRAND PALM
FUTURE DEVELOPMENT

CONSERVATION AREA
(DO NOT DISTURB)

PROJECT BOUNDARY

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.88 FEET.

15-2A
6' DIA. JUNCTION BOX
STA: 33+15.05, –206.50 LT
RIM: 8.81
INV IN: 3.36
INV IN: 2.86
INV OUT: 2.36

15-2B
TYPE M INLET
STA: 59+00, 14.00 RT
RIM: 9.96
INV IN: 5.16
INV OUT: 4.67

15-2C
TYPE M INLET
STA: 59+00, –14.00 LT
RIM: 9.96
INV OUT: 5.22

15-2D
TYPE M INLET
42"X60" INSIDE SIZE
STA: 33+15.05, –14.00 LT
RIM: 9.96
INV IN: 4.60
INV OUT: 4.10

15-2E
TYPE M INLET
STA: 33+14.04, 14.00 RT
RIM: 9.96
INV OUT: 4.66

15-3A
TYPE M INLET
42"X60" INSIDE SIZE
STA: 27+26.69, –14.00 LT
RIM: 9.96
INV IN: 4.60
INV OUT: 4.10

15-3B
TYPE M INLET
STA: 27+15.54, 14.00 RT
RIM: 9.96
INV OUT: 4.66

15-4A
4' DIA. JUNCTION BOX
RIM ELEV.: 7.53
INV IN: 2.62
INV OUT: 2.62

LEGEND
- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- MINOR BASIN LINE
- MAJOR BASIN LINE
- PROJECT BOUNDARY
- JURISDICTIONAL WETLAND LINE
- WETLAND BUFFER LINE
- WETLAND TO BE PRESERVED
- ×73.40 EXISTING SPOT ELEVATION
- 6.12 PROPOSED PAVED SPOT ELEVATION
- 6.2 PROPOSED NON PAVED ELEVATION
- SLOPE DIRECTION
- 12.00 FINISH FLOOR ELEVATION
- (CR) CURB RAMP (PER FDOT INDEX #304)

NOTES:

1. FINISHED PAD GRADE TO BE 10" BELOW FINISHED FLOOR ELEVATION
2. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
3. JOINTS SHALL BE WATER TIGHT
4. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY.
5. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

REQUIRED LITTORAL ZONE VEGETATION SHALL BE MAINTAINED IN PERPETUITY.

A MONITORING AND MAINTENANCE BOND NEEDS TO BE SUBMITTED TO SARASOTA ENVIRONMENTAL PROTECTION DIVISION TO COVER 100% OF THE COST FOR TWO YEARS OF MONITORING AND MAINTENANCE OF THE LITTORAL ZONES PRIOR TO EXCAVATION PURSUANT TO LDR ENVIRONMENTAL TECHNICAL MANUAL SECTION A.5. THIS BOND SHALL REMAIN IN EFFECT UNTIL THE LITTORAL ZONES ARE DETERMINED SUCCESSFUL BY RPS.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2015 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE: ——

KHA PROJECT 048119074	SCALE AS SHOWN	DESIGNED BY RBK	CHECKED BY TMS
DATE APRIL 2015		DRAWN BY RBK	

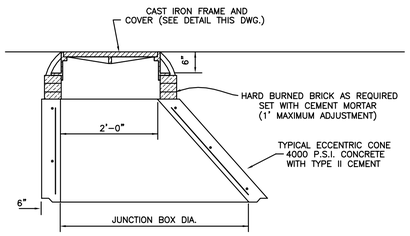
PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3B

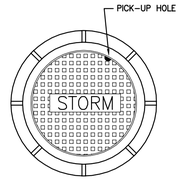
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

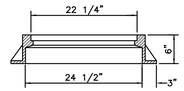
SHEET NUMBER
B-4F



LID SECTION
TYPE 8 (TRAFFIC) (H-20)



TOP VIEW



FRAME AND COVER SECTION
U.S. FOUNDRY 170 H OR APPROVED EQUAL
(WHEEL LOAD H-20)
1 FIELD COAT OF ASPHALTIC PAINT FOR FRAME AND COVER

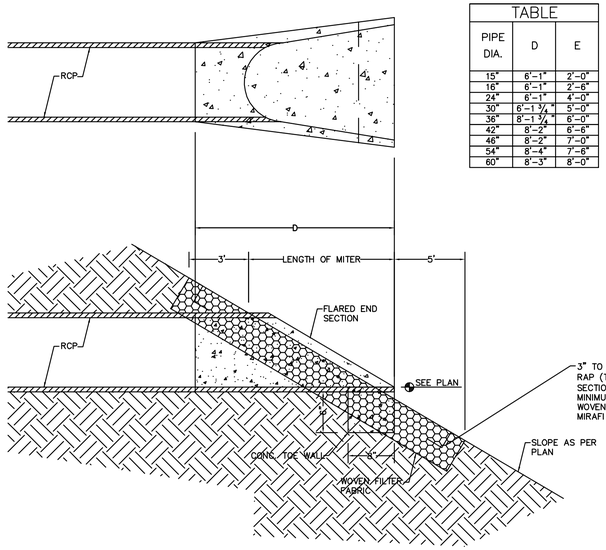
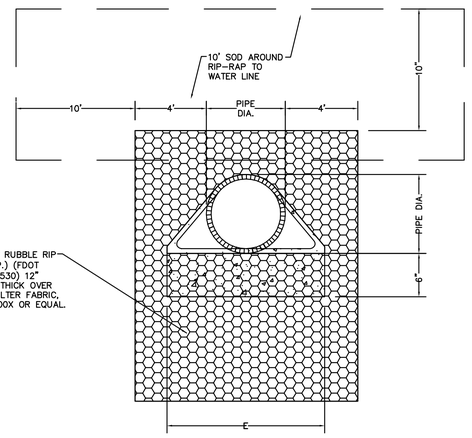
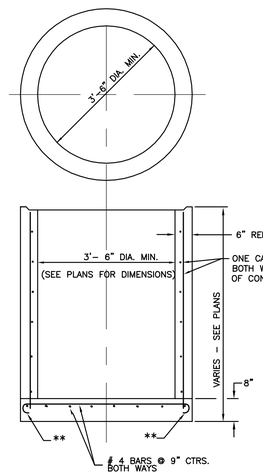


TABLE		
PIPE DIA.	D	E
15"	6'-1"	2'-0"
16"	6'-1"	2'-6"
24"	6'-1"	4'-0"
30"	8'-1 1/4"	5'-0"
36"	8'-1 1/4"	6'-0"
42"	8'-2"	6'-6"
48"	8'-2"	7'-0"
54"	8'-4"	7'-6"
60"	8'-3"	8'-0"

NOTES:
1. TYPICAL ALL PIPES INTO LAKES
2. FLARED END SECTION TO BE IN ACCORDANCE WITH F.D.O.T. INDEX NO. 270.
3. TOE WALL REQUIRED EXCEPT WHEN FLARED END SECTION (F.E.S.) IS BEDDED ON UNDISTURBED ROCK SURFACE.



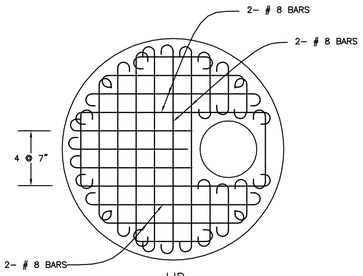
FLARED END SECTION PIPE
NTS



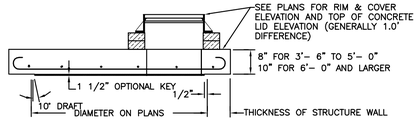
ALTERNATE A TYPE P

** PERIPHERAL BARS OR STRAIGHT END EMBEDMENTS MAY BE USED IN LIEU OF STANDARD HOOKS, IN ACCORDANCE WITH DETAILS INDEX NO. 201, SHT. 3 OF 6.

SECTION



LID
REINFORCEMENT PLAN

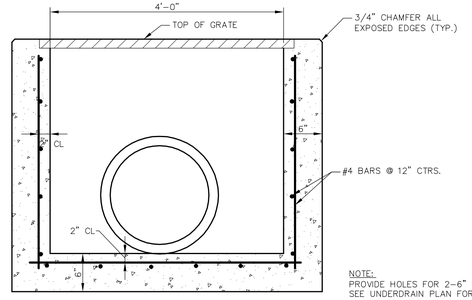


LID SECTION
TYPE 7-T (TRAFFIC) (H-20)

ALL REINFORCEMENT NO. 6 BARS EXCEPT 6- # 8 BARS SHOWN. BARS SPACED @ 6" CENTERS BOTH WAYS EXCEPT MIDDLE BARS @ 7" CENTERS. ALL BARS WITH ACI STANDARD HOOKS CANTED APPROX. 45°, OR EMBEDDED IN ACCORDANCE WITH THE SLAB REINFORCEMENT DETAIL SHOWN UNDER OPTIONAL COSTRUCTION JOINTS. SHT.3 OF 6. EXCEPT ALL # 8 BARS AND # 6 BARS AROUND MANHOLE OPENING SHALL BE HOOKED.

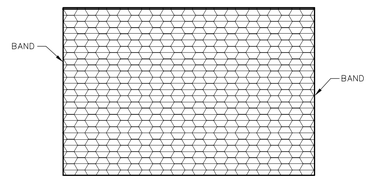
NOTE:
(1) ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS.
(2) REINFORCING SHOWN IS THE MINIMUM REQUIRED. IF DIMENSIONS OF BOX REQUIRES ADDITIONAL REINFORCING, IN ORDER TO CARRY DESIGN LOADS, MANUFACTURER SHALL PROVIDE ADDITIONAL REINFORCING AS REQUIRED.

STANDARD JUNCTION BOX
SSDKH25_.DWG NTS

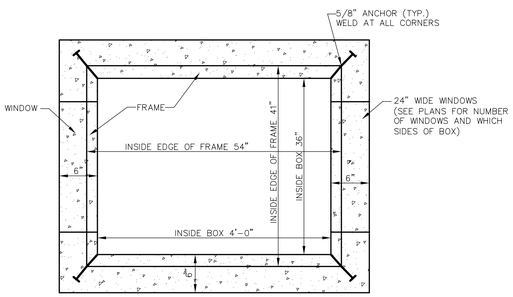


SECTION

NOTE:
PROVIDE HOLES FOR 2-6" UNDERDRAINS SEE UNDERDRAIN PLAN FOR DIRECTION AND INVERT ELEVATION.

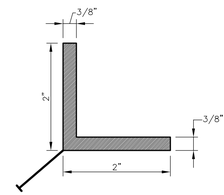


STEEL GRATE USF #6615
APPLY ASPHALTIC PAINT



PLAN

NOTE:
SEE PAVING, DRAINAGE AND GRADING PLANS FOR PIPE SIZE, DIRECTION AND ELEVATIONS.



STEEL FRAME DETAIL
(ALL FOUR SIDES WELDED TOGETHER)
APPLY ASPHALTIC PAINT

NOTES:
1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS.
2. ALL STEEL TO HAVE A MINIMUM 2" CLEARANCE UNLESS OTHERWISE NOTED.
3. STEEL REINFORCEMENT SHALL MEET ASTM SPECIFICATIONS (A-615), DEFORMED BARS.
4. ALL INLETS TO HAVE FIELD POURED INVERTS TO ELIMINATE STANDING WATER.
5. 3/4" CHAMFER ALL EXPOSED EDGES.

GRATED SWALE INLET DETAILS
N.T.S.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2015 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

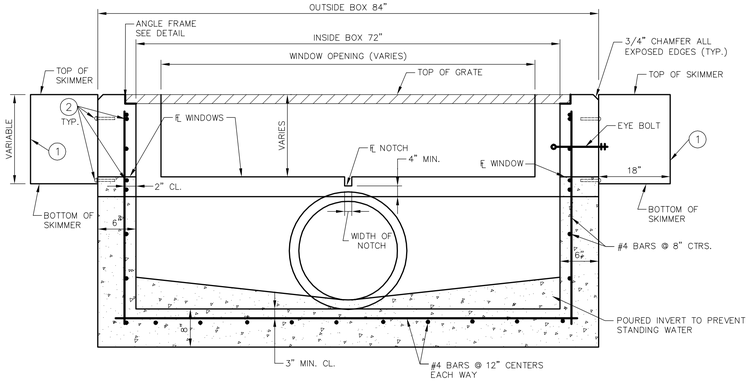
LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE:

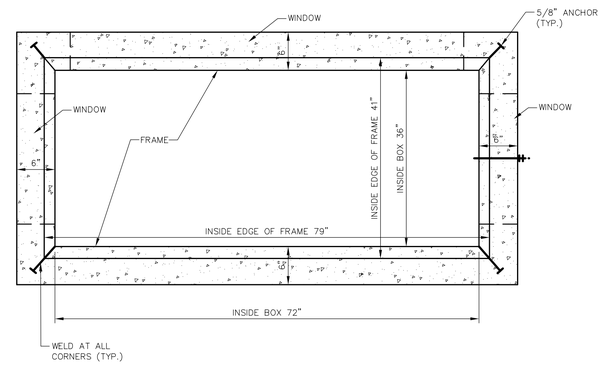
KHA PROJECT	048119074
DATE	APRIL 2015
SCALE	AS SHOWN
DESIGNED BY	RBK
DRAWN BY	RBK
CHECKED BY	TMS

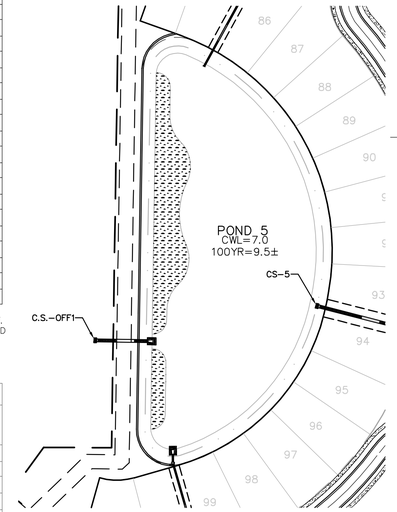
FLARED END, GRATED SWALE INLET & JUNCTION BOX DETAILS

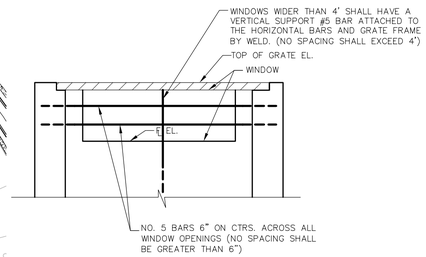
GRAND PALM PHASE 3B
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

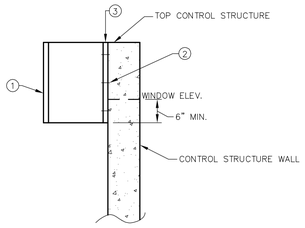
SHEET NUMBER
B-9

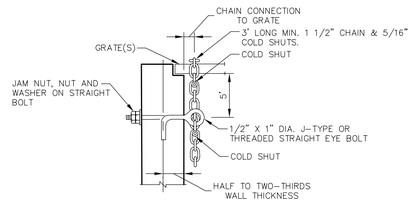


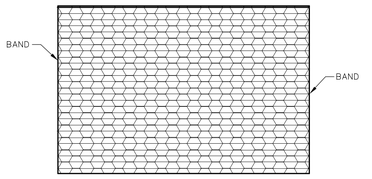


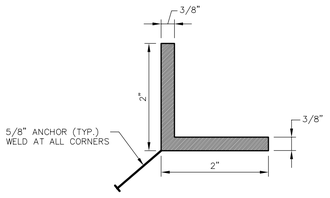


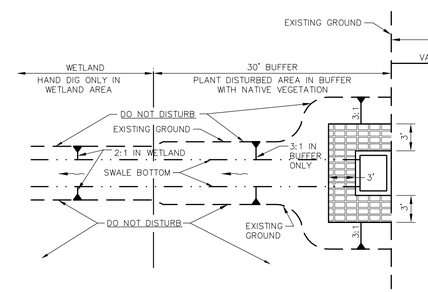


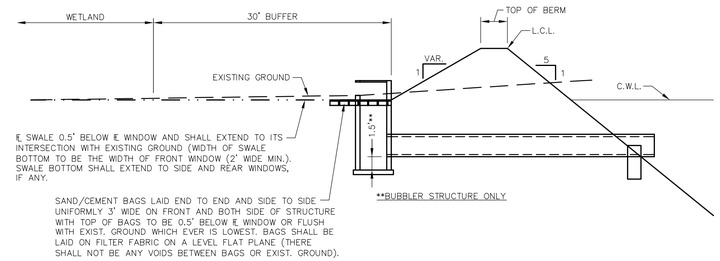












PERMITTED DRAWINGS SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD)
For construction permits, the Permittee shall notify the District
in writing when construction begins.

STRUCTURE TABLE

CONTROL STRUCTURE NO.	TOP OF STRUCTURE/ GRATE ELEV.	FLOWLINE WINDOW ELEV.	RECTANGULAR WEIR SIZE (SLOT) (WINDOWS)				NOTCH ELEV.	NOTCH WIDTH	PIPE SIZE/TYPE	OUTFALL PIPE INVERT	SKIMMER? YES/NO	SPECIAL COMMENT
			FRONT	REAR	SIDES	TOTAL						
CS-E	9.3	8.0	4.0'	–	1.0' (2)	6.0'	–	–	36"	1.93	NO	–
(RECORD DATA)												
CS-E1C	9.3	7.5	6.0'	–	–	6.0'	–	–	36"	0.84	NO	–
(RECORD DATA)												
CS-15A	9.6	7.2	5.0'	–	–	5.0'	–	–	54"	–0.88	NO	BUBBLER
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												

** ALL BUBBLER BOXES SHALL HAVE AN INSIDE BOTTOM ELEVATION 18" BELOW PIPE INVERT. THE CONTRACTOR IS REQUIRED TO PROTECT THESE SUMPS AND PIPES FROM DEBRIS AND SILTATION. ALL PIPES AND SUMPS SHALL BE FREE OF DEBRIS AND SILTATION AT FINAL PROJECT ACCEPTANCE. DO NOT POUR INVERTS IN BUBBLER BOXES.

GRAND PALM PHASE 1A STRUCTURES TO BE MODIFIED THIS PHASE

CONTROL STRUCTURE NO.	TOP OF STRUCTURE/ GRATE ELEV.	FLOWLINE WINDOW ELEV.	RECTANGULAR WEIR SIZE (SLOT) (WINDOWS)				NOTCH ELEV.	NOTCH WIDTH	PIPE SIZE	OUTFALL PIPE INVERT	SKIMMER? YES/NO	SPECIAL COMMENT
			FRONT	REAR	SIDES	TOTAL						
CS-5	~~9.50'~~	~~7.50'~~	~~2.50' (2)~~	–	~~2.75' (2)~~	~~10.50'~~	–	–	~~48"~~	~~3.30'~~	N	
(RECORD DATA)	(9.62)	(7.50')	(2.5')		(2.75')	(10.5')			(48")	(3.40)		
MODIFICATION							7.0	0.5'				ADD NOTCH TO STRUCTURE
CS-OFF1	~~8.50'~~	~~7.50'~~	~~4.00'~~	–	~~2.25' (2)~~	~~8.50'~~	–	–	~~48"~~	~~3.00'~~	N	
(RECORD DATA)	(8.50)	(7.50)	(4')		(2.25')	(8.5')			(48")	(3.00)		
MODIFICATION							7.0	0.5'				ADD NOTCH TO STRUCTURE

GRAND PALM PHASE 1A POND 5
CONTROL STRUCTURE MODIFICATION LOCATION

SECTION

COST OF EYE BOLT AND CHAIN TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR STRUCTURES.

ONE EYE BOLT & CHAIN FOR EACH GRATE.

EYE BOLT AND CHAIN FOR LOCKING GRATES TO STRUCTURES

N.T.S.

SKIMMER PLATE DETAIL SIDE VIEW

GALVANIZED STEEL GRATE USF #6620

(40" x 77-11/16" x 2")

SECTION

PLAN

STEEL FRAME DETAIL

(ALL FOUR SIDES WELDED TOGETHER)

NOTES:

1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS.
2. ALL STEEL TO HAVE A MINIMUM 2" CLEARANCE UNLESS OTHERWISE NOTED.
3. STEEL REINFORCEMENT SHALL MEET ASTM SPECIFICATIONS (A-615), DEFORMED BARS
4. ALL INLETS TO HAVE FIELD POURED INVERTS TO ELIMINATE STANDING WATER.
5. 3/4" CHAMFER ALL EXPOSED EDGES.
6. ALL EXPOSED STEEL AND IRON SHALL HAVE ONE SHOP COAT RUST INHIBITOR AND ONE FIELD COAT OF KOPPERS 300 BITUMASTIC EPOXY BASED PAINT, 8 MILS D.F.T.

① 1/4" THICK ALUMINUM FABRICATED SKIMMER PLATE WITH OPEN TOP AND BOTTOM.

② 3/8" DIAMETER STAINLESS STEEL EXPANSION ANCHORS. 3" LONG (MIN.) WITH STAINLESS STEEL WASHERS AND NUTS. THREE REQUIRED EACH SIDE OF SKIMMER.

③ 3/16" THICK NEOPRENE GASKET BETWEEN SKIMMER AND CONCRETE.

④ THE LARGE WINDOWS WILL REQUIRE A STIFFENER TOP AND BOTTOM ON THE LONG FRONT SIDE SKIMMER. THIS MAY BE AN ANGLE BAR OF LIKE MATERIAL USED FOR SKIMMER, WELDED TO SKIMMER PLATE FACE. DO NOT MIX MATERIALS.

⑤ SKIMMER LONGER THAN 4 FEET WILL REQUIRE BRACES, BOTH AT TOP AND BOTTOM OF SKIMMER TO THE CONTROL STRUCTURE. NO SPACING SHALL EXCEED 4 FEET WITHOUT A BRACE.

SEE PAVING, DRAINAGE AND GRADING PLANS FOR PIPE SIZES, LOCATIONS AND INVERT ELEVATIONS

MEDIUM CONTROL STRUCTURE

N.T.S.

℄ SWALE 0.5' BELOW ℄ WINDOW AND SHALL EXTEND TO ITS INTERSECTION WITH EXISTING GROUND (WIDTH OF SWALE BOTTOM TO BE THE WIDTH OF FRONT WINDOW (2' WIDE MIN.). SWALE BOTTOM SHALL EXTEND TO SIDE AND REAR WINDOWS, IF ANY.

SAND/CEMENT BAGS LAID END TO END AND SIDE TO SIDE UNIFORMLY 3' WIDE ON FRONT AND BOTH SIDE OF STRUCTURE WITH TOP OF BAGS TO BE 0.5' BELOW ℄ WINDOW OR FLUSH WITH EXIST. GROUND WHICH EVER IS LOWEST. BAGS SHALL BE LAID ON FILTER FABRIC ON A LEVEL FLAT PLANE (THERE SHALL NOT BE ANY VOIDS BETWEEN BAGS OR EXIST. GROUND).

CONTROL STRUCTURE WHEN LOCATED AT WETLAND

NOTE:
CONSTRUCTION IN WETLANDS SHOULD BE ACCESSED FROM THE UPLAND SIDE. ANY TEMPORARY IMPACT AREAS IN THE WETLAND SHOULD BE REGRADED AND RESTORED TO THEIR NATURAL CONDITION. CONSTRUCTION LIMITS IN WETLAND SHOULD NOT EXTEND MORE THAN 10 FEET FROM THE EDGE OF THE STRUCTURE UNLESS WETLAND SWALE IS REQUIRED.

No.	REVISIONS	DATE	BY

Kimley»Horn

1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

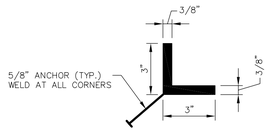
LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE: ____

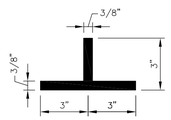
KHA PROJECT
048119074
DATE
APRIL 2015
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY RBK
CHECKED BY TMS

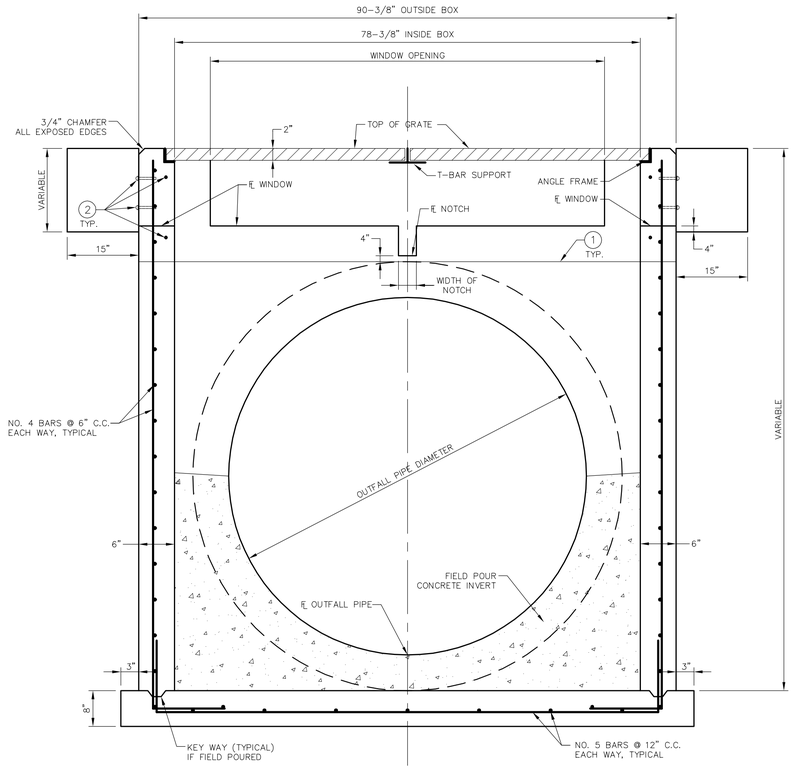
MEDIUM CONTROL STRUCTURE DETAILS

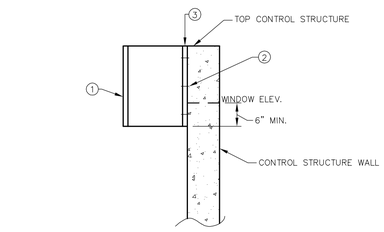
GRAND PALM PHASE 3B
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

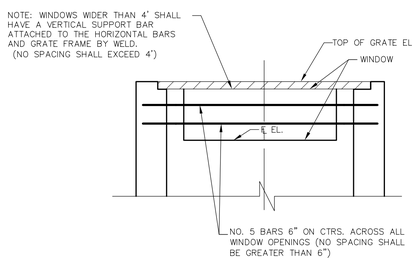
SHEET NUMBER
B-10

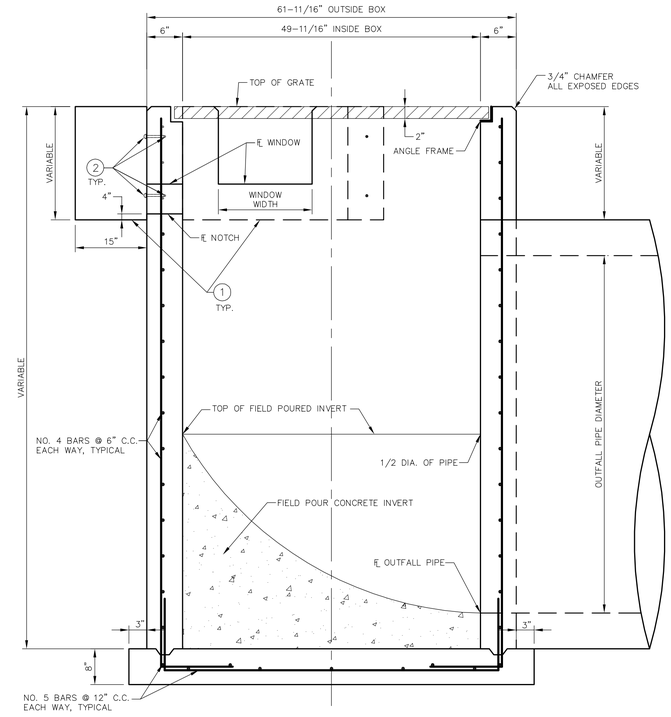


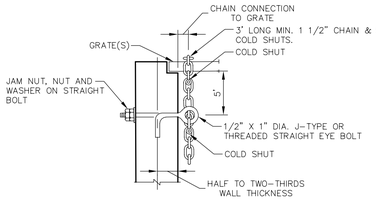


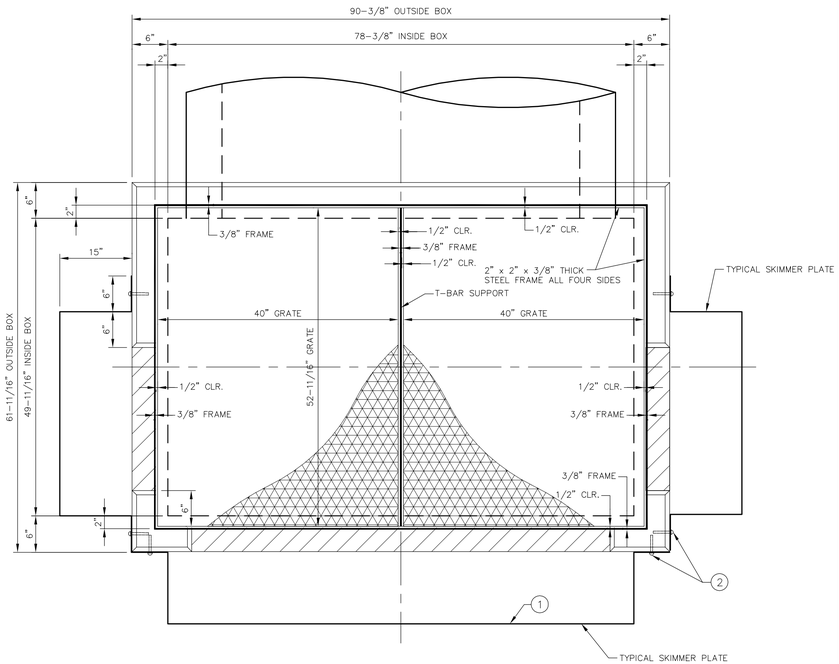












PERMITTED DRAWINGS SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD)
For construction permits, the Permittee shall notify the District
in writing when construction begins.

STRUCTURE TABLE

CONTROL STRUCTURE NO.	TOP OF STRUCTURE/ GRATE ELEV.	FLOWLINE WINDOW ELEV.	RECTANGULAR WEIR SIZE (SLOT) (WINDOWS)				NOTCH ELEV.	NOTCH WIDTH	PIPE SIZE/TYPE	OUTFALL PIPE INVERT	SKIMMER? YES/NO	SPECIAL COMMENT
			FRONT	REAR	SIDES	TOTAL						
CS–13A	9.5	7.5	5'	–	–	5'	–	–	60"	–0.61	NO	BUBBLER
(RECORD DATA)												
CS–14	9.6	7.0	5'	–	–	5'	–	–	60"	1.50	NO	BUBBLER
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												
–	–	–	–	–	–	–	–	–	–	–	–	–
(RECORD DATA)												

CONSTRUCTION IN WETLANDS SHOULD BE ACCESSED FROM THE UPLAND SIDE. ANY TEMPORARY IMPACT AREAS IN THE WETLAND SHOULD BE REGRADED AND RESTORED TO THEIR NATURAL CONDITION. CONSTRUCTION LIMITS IN WETLAND SHOULD NOT EXTEND MORE THAN 10 FEET FROM THE EDGE OF THE STRUCTURE UNLESS WETLAND SWALE IS REQUIRED.

** 6" ROCK RIP–RAP ON FILTER FABRIC EMBEDDED AND LAID UNIFORMILY FLUSH WITH GROUND 5' WIDE AROUND ALL 4 SIDES OF THE STRUCTURE. TOP OF ROCK RIP–RAP TO BE A MINIMUM OF 6" BELOW WINDOW FLOW LINES OR FLUSH WITH GROUND WHICH EVER IS LOWEST.

** ALL BUBBLER BOXES SHALL HAVE AN INSIDE BOTTOM ELEVATION 18" BELOW PIPE INVERT. THE CONTRACTOR IS REQUIRED TO PROTECT THESE SUMPS AND PIPES FROM DEBRIS AND SILTATION. ALL PIPES AND SUMPS SHALL BE FREE OF DEBRIS AND SILTATION AT FINAL PROJECT ACCEPTANCE. DO NOT POUR INVERTS IN BUBBLER BOXES.

SKIMMER PLATE DETAIL SIDE VIEW

SECTION "B–B"

ANGLE FRAME

T–BAR SUPPORT

SECTION

SECTION "A–A"

COST OF EYE BOLT AND CHAIN TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR STRUCTURES.

ONE EYE BOLT & CHAIN FOR EACH GRATE.

EYE BOLT AND CHAIN FOR LOCKING GRATES TO STRUCTURES
N.T.S.

NOTES:

1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS.
2. ALL STEEL TO HAVE A MINIMUM 2–1/2" CLEARANCE UNLESS OTHERWISE NOTED.
3. STEEL REINFORCEMENT SHALL MEET ASTM SPECIFICATIONS (A–615), DEFORMED BARS
4. ALL INLETS TO HAVE FIELD POURED INVERTS TO ELIMINATE STANDING WATER.
5. 3/4" CHAMFER ALL EXPOSED EDGES.
6. ALL EXPOSED STEEL AND IRON SHALL HAVE ONE SHOP COAT RUST INHIBITOR AND ONE FIELD COAT OF KOPPERS 300 BITUMASTIC EPOXY BASED PAINT, 8 MILS D.F.T.

① 1/4" THICK ALUMINUM FABRICATED SKIMMER PLATE WITH OPEN TOP AND BOTTOM.

② 3/8" DIAMETER STAINLESS STEEL EXPANSION ANCHORS. 3" LONG (MIN.) WITH STAINLESS STEEL WASHERS AND NUTS. THREE REQUIRED EACH SIDE OF SKIMMER.

③ 3/16" THICK NEOPRENE GASKET BETWEEN SKIMMER AND CONCRETE.

④ THE LARGE WINDOWS WILL REQUIRED A STIFFENER TOP AND BOTTOM ON THE LONG FRONT SIDE SKIMMER. THIS MAY BE AN ANGLE BAR OF LIKE MATERIAL USED FOR SKIMMER, WELDED TO SKIMMER PLATE FACE. DO NOT MIX MATERIALS.

⑤ SKIMMER LONGER THAN 4 FEET WILL REQUIRE BRACES, BOTH AT TOP AND BOTTOM OF SKIMMER TO THE CONTROL STRUCTURE. NO SPACING SHALL EXCEED 4 FEET WITHOUT A BRACE.

SEE PAVING, DRAINAGE AND GRADING PLANS FOR PIPE SIZES, LOCATIONS AND INVERT ELEVATIONS

PLAN VIEW
2 – U.S. FOUNDRY NO. 6615 GALVANIZED STEEL GRATES REQUIRED (52–11/16" x 40" x 2");

DOUBLE GRATE CONTROL STRUCTURE
N.T.S.

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2015 KIMLEY–HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941–379–7600
WWW.KIMLEY–HORN.COM CA 00000696

LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE: ____

KHA PROJECT 048119074
DATE APRIL 2015
SCALE AS SHOWN
DESIGNED BY ___
DRAWN BY ___
CHECKED BY ___

DOUBLE GRATE CONTROL STRUCTURE DETAILS

GRAND PALM PHASE 3B
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

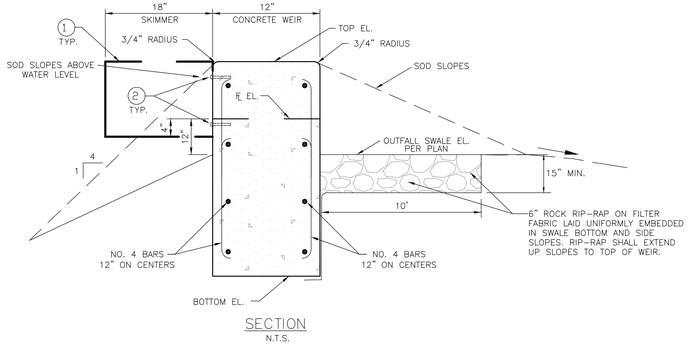
SHEET NUMBER
B-11

NOTES:

1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4000 P.S.I. @ 28 DAYS.
2. ALL STEEL TO HAVE A MINIMUM 3" CLEARANCE UNLESS OTHERWISE NOTED.
3. STEEL REINFORCEMENT SHALL MEET ASTM SPECIFICATIONS (A-615).
4. 3/4" CHAMFER ALL EXPOSED EDGES.

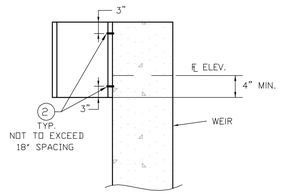
① 1/4" THICK ALUMINUM FABRICATED SKIMMER PLATE WITH OPEN TOP AND BOTTOM.

② 3/8" DIAMETER STAINLESS STEEL EXPANSION ANCHORS. 3" LONG (MIN.) WITH STAINLESS STEEL WASHERS.



SECTION
N.T.S.

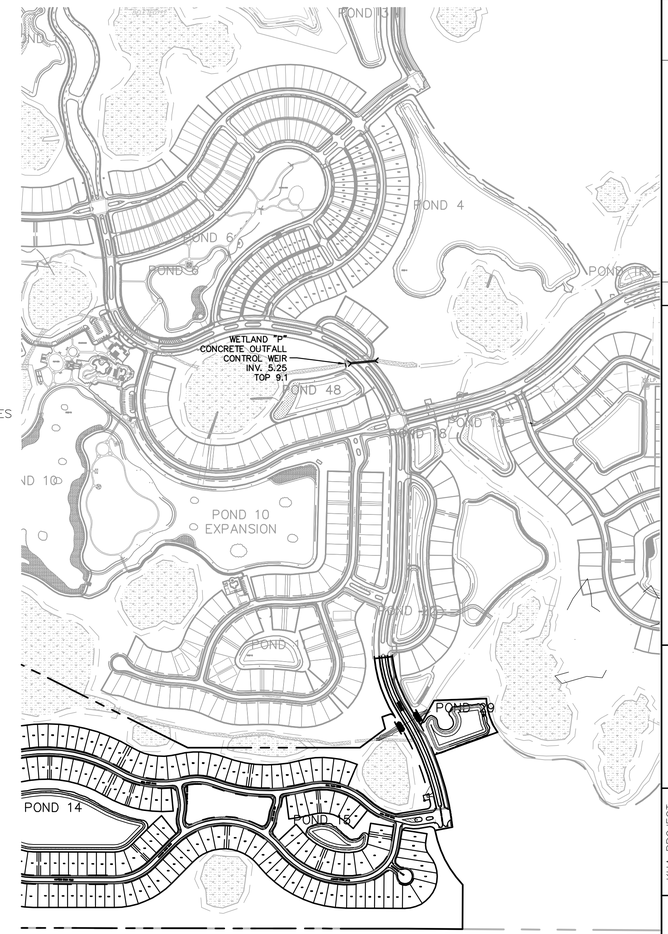
CONCRETE WEIR DETAIL
N.T.S.

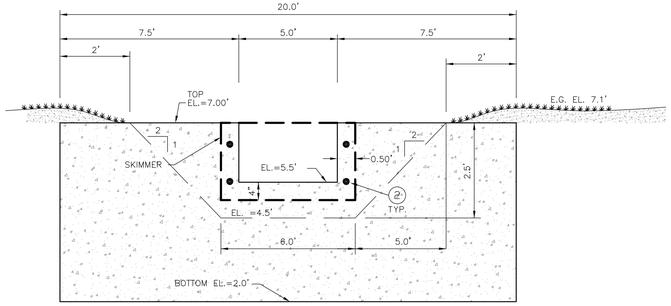


SKIMMER PLATE DETAIL
SIDE VIEW
N.T.S.

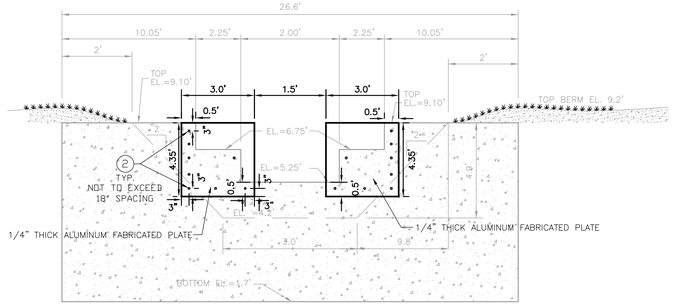
NOTES:

1. OUTFALL SWALE BOTTOM SHALL BE 4' WIDE WITH 3:1 SIDE SLOPES THROUGH BUFFER AND 2:1 SIDE SLOPES IN WETLAND.
2. PLANT SWALE BOTTOM WITH SPARTINA BAKERI ON 2' CENTERS (INCLUDES SWALE SLOPES IN WETLAND AREA AND SWALE SLOPES BELOW WATER LEVEL).
3. SOD UPLAND AND BUFFER SWALE SLOPES.



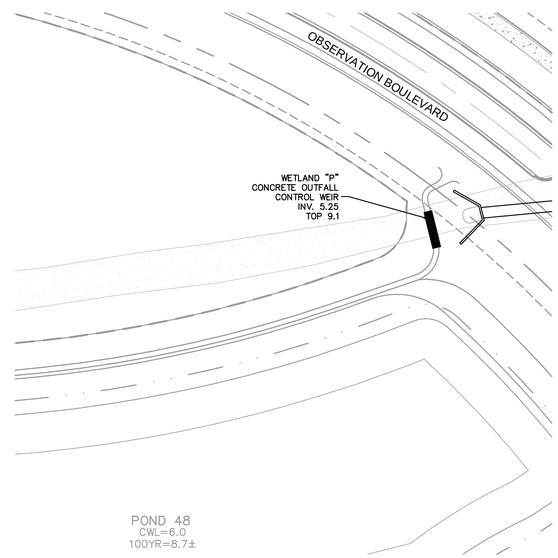


CONTROL STRUCTURE FOR POND #29 OUTFALL
N.T.S.



MODIFICATION TO EXISTING CONTROL STRUCTURE FOR WETLAND "P" OUTFALL WEIR ORIGINALLY CONSTRUCTED WITH PHASE 1C(b)
N.T.S.

NOTE: PLAN, SECTIONS AND DETAILS SHOWN ARE NOT TO ANY SCALE.



No.	REVISIONS	DATE	BY

Kimley»Horn
© 2015 KIMLEY-HORN AND ASSOCIATES, INC.
2601 CATTLEMEN ROAD, SUITE 200, SARASOTA, FL 34232
PHONE: 941-379-7600 FAX: 941-379-4352
WWW.KIMLEY-HORN.COM CA 00000696

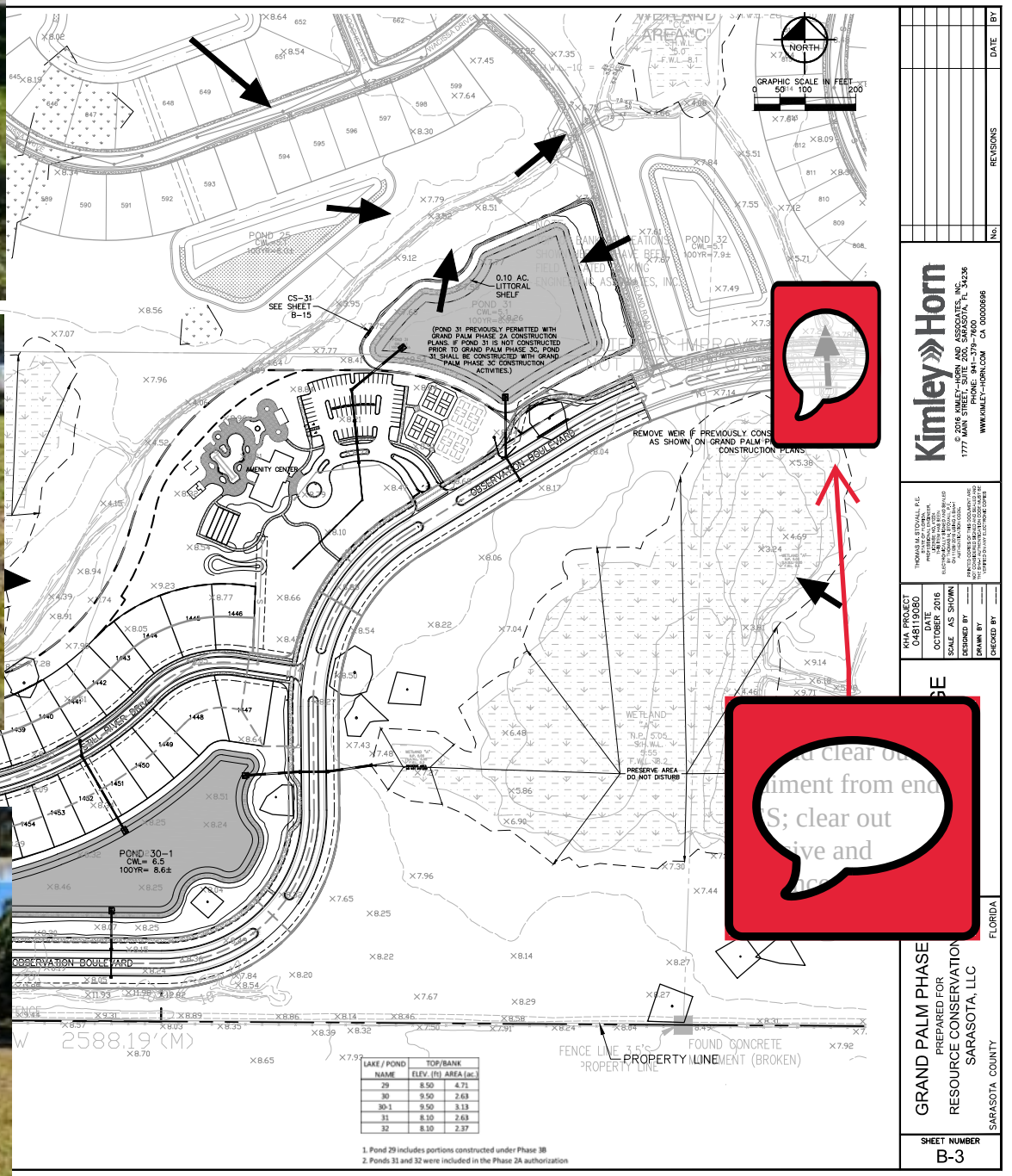
LICENSED PROFESSIONAL
THOMAS M. STOVALL
FLORIDA LICENSE NUMBER
41224
DATE:

KHA PROJECT 048119074
DATE APRIL 2015
SCALE AS SHOWN
DESIGNED BY ---
DRAWN BY ---
CHECKED BY ---

CONCRETE OUTFALL CONTROL WEIR DETAIL

GRAND PALM PHASE 3B
PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC
SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-12



Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

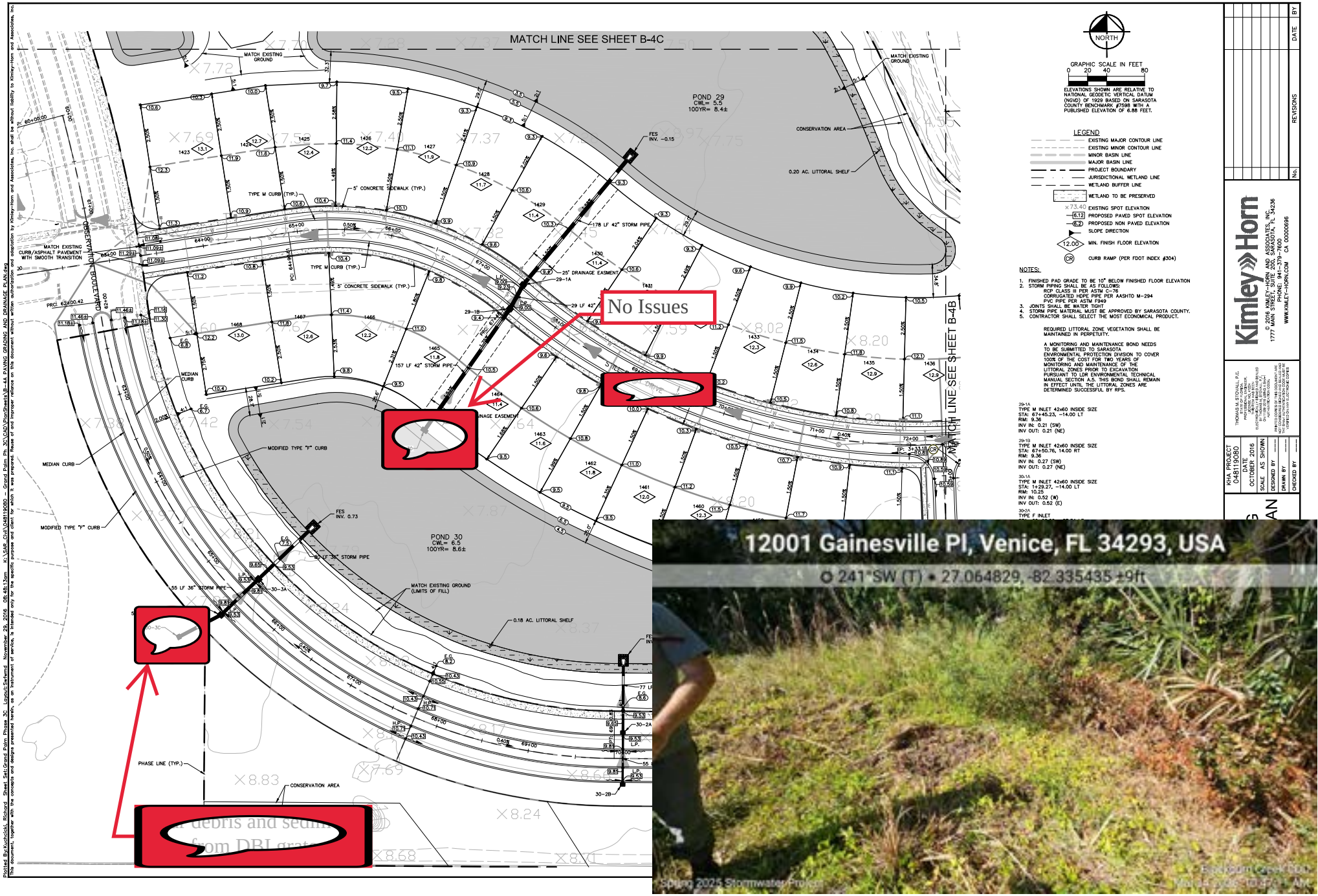
THOMAS M. STOVALL, P.E.
FLORIDA REGISTRATION NUMBER
LICENSED PROFESSIONAL ENGINEER
DATE

KHA PROJECT 048119080
DATE OCTOBER 2016
SCALE AS SHOWN
DESIGNED BY
DRAWN BY
CHECKED BY

GRAND PALM PHASE 3A DRAINAGE
PREPARED FOR
RESOURCE CONSERVATION
SARASOTA, LLC
SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-3

No.	REVISIONS	DATE	BY



NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

ELEVATIONS SHOWN ARE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 BASED ON SARASOTA COUNTY BENCHMARK #7598 WITH A PUBLISHED ELEVATION OF 6.88 FEET.

LEGEND

- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- MINOR BASIN LINE
- MAJOR BASIN LINE
- PROJECT BOUNDARY
- JURISDICTIONAL WETLAND LINE
- WETLAND BUFFER LINE
- WETLAND TO BE PRESERVED
- ×73.40 EXISTING SPOT ELEVATION
- 6.12 PROPOSED PAVED SPOT ELEVATION
- 6.2 PROPOSED NON PAVED ELEVATION
- SLOPE DIRECTION
- 12.00 MIN. FINISH FLOOR ELEVATION
- CR CURB RAMP (PER FDOT INDEX #304)

NOTES:

1. FINISHED PAD GRADE TO BE 10" BELOW FINISHED FLOOR ELEVATION
2. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
3. JOINTS SHALL BE WATER TIGHT
4. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY.
5. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

REQUIRED LITTORAL ZONE VEGETATION SHALL BE MAINTAINED IN PERPETUITY.

A MONITORING AND MAINTENANCE BOND NEEDS TO BE SUBMITTED TO SARASOTA ENVIRONMENTAL PROTECTION DIVISION TO COVER 100% OF THE COST FOR TWO YEARS OF MONITORING AND MAINTENANCE OF THE LITTORAL ZONES PRIOR TO EXCAVATION PURSUANT TO LDR ENVIRONMENTAL TECHNICAL MANUAL SECTION A.5. THIS BOND SHALL REMAIN IN EFFECT UNTIL THE LITTORAL ZONES ARE DETERMINED SUCCESSFUL BY RPS.

29-1A
TYPE M INLET 42x60 INSIDE SIZE
STA: 67+45.23, -14.00 LT
RIM: 9.36
INV IN: 0.21 (SW)
INV OUT: 0.21 (NE)

29-1B
TYPE M INLET 42x60 INSIDE SIZE
STA: 67+50.76, 14.00 RT
RIM: 9.36
INV IN: 0.27 (SW)
INV OUT: 0.27 (NE)

30-1A
TYPE M INLET 42x60 INSIDE SIZE
STA: 1+29.27, -14.00 LT
RIM: 10.25
INV IN: 0.52 (W)
INV OUT: 0.52 (E)

30-2A
TYPE F INLET

Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

THOMAS M. STOVALL, P.E.
FLORIDA REGISTRATION NUMBER 71251
DATE: OCTOBER 2016
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY THOMAS M. STOVALL, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

KHA PROJECT 048119080
DATE OCTOBER 2016
SCALE AS SHOWN
DESIGNED BY ——
DRAWN BY ——
CHECKED BY ——

No.	REVISIONS	DATE	BY

MATCH LINE SEE SHEET B-4A

LINE SEE S

MATCH EXISTING GROUND (TYP.)

RETAINING WALL (DESIGN BY OTHERS)

TYPE M CURB (TYP.)

HILL RIVER DRIVE

31 LF 24" STORM PIPE

5' CONCRETE SIDEWALK (TYP.)

20' DRAINAGE EASEMENT

171 LF 30" STORM PIPE

109 LF 36" STORM PIPE

87 LF 36" STORM PIPE

55 LF 36" STORM PIPE

WETLAND "A"
N.P. 5.05
S.H.W.L. 5.55
F.W.L. 8.2
PRESERVE AREA
DO NOT DISTURB

"V" BOTTOM SWALE WITH 4:1 SIDE SLOPES DAYLIGHT TO EXISTING GROUND ELEV. 6.5

FES INV. 0.98

FES INV. 2.11

FES INV. 0.37

FES INV. 2.09

POND 30-1
CWL= 6.5
100YR= 8.6±

NO DISTURBANCE WITHIN GRAND TREE DRIP LINE UNLESS APPROVED BY SARASOTA COUNTY

28 LF 42" STORM PIPE

48 LF 42" STORM PIPE

0.22 AC. LITTORAL SHELF

77 LF 24" STORM PIPE

MATCH EXISTING GROUND (TYP.)

8' CONCRETE SIDEWALK (TYP.)

LIMITS OF FILL

MODIFIED TYPE "F" CURB (TYP.)

MEDIAN CURB

OBSERVATION BOULEVARD

55 LF 18" STORM PIPE

CONSERVATION AREA

PHASE LINE (TYP.)

CURB RAMP (PER FDOT INDEX #304)

NOTES:

1. FINISHED PAD GRADE TO BE 10" BELOW FINISHED FLOOR ELEVATION
2. STORM PIPING SHALL BE AS FOLLOWS:
   RCP CLASS III PER ASTM C-76
   CORRUGATED HDPE PIPE PER AASHTO M-294
   PVC PIPE PER ASTM F949
3. JOINTS SHALL BE WATER TIGHT
4. STORM PIPE MATERIAL MUST BE APPROVED BY SARASOTA COUNTY.
5. CONTRACTOR SHALL SELECT THE MOST ECONOMICAL PRODUCT.

REQUIRED LITTORAL ZONE VEGETATION SHALL BE MAINTAINED IN PERPETUITY.

A MONITORING AND MAINTENANCE BOND NEEDS TO BE SUBMITTED TO SARASOTA ENVIRONMENTAL PROTECTION DIVISION TO COVER 100% OF THE COST FOR TWO YEARS OF MONITORING AND MAINTENANCE OF THE LITTORAL ZONES PRIOR TO EXCAVATION PURSUANT TO LDR ENVIRONMENTAL TECHNICAL MANUAL SECTION A.5. THIS BOND SHALL REMAIN IN EFFECT UNTIL THE LITTORAL ZONES ARE DETERMINED SUCCESSFUL BY RPS.

30-1-1A
TYPE M INLET
STA: 75+47.21, 14.00 RT
RIM: 9.56
INV IN: 5.21 (N)
INV OUT: 5.21 (SE)

30-1-1B
TYPE M INLET
STA: 75+59.42, -14.00 LT
RIM: 9.56
INV OUT: 5.28 (S)

30-1-2A
TYPE F INLET
STA: 77+00.01, 27.34 RT
RIM: 9.89
INV OUT: 4.88 (N)

30-1-3A
TYPE M INLET 42X60 INSIDE SIZE
STA: 1+29.27, 14.00 RT
RIM: 10.25
INV IN: 0.47 (W)
INV OUT: 0.47 (E)

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
1777 MAIN STREET, SUITE 200, STERLING, FL 34236
PHONE: 941-379-7600
WWW.KIMLEY-HORN.COM CA 00000696

THOMAS M. STOVALL, P.E.
FLORIDA LICENSE NO. 72324
DATE

KHA PROJECT
048119080
DATE
OCTOBER 2016
SCALE AS SHOWN
DESIGNED BY
DRAWN BY
CHECKED BY

PAVING GRADING AND DRAINAGE PLAN

GRAND PALM PHASE 3C

PREPARED FOR
RESOURCE CONSERVATION OF SARASOTA, LLC

SARASOTA COUNTY FLORIDA

SHEET NUMBER
B-4B

Clear debris in conveyance swale; clear debris from under bridge

CONNECT POND 29 GRAND PALM PHASE 3B CONSTRUCTION PLANS

POND 29
CWL= 5.5
100YR= 8.4±

LITTORAL SHELF SEE SHEET B-4A FOR AREA

NO DISTURBANCE WITHIN GRAND TREE DRIP LINE UNLESS APPROVED BY SARASOTA COUNTY

MATCH LINE SEE SHEET B-4B

(POND 31 PREVIOUSLY PERMITTED WITH GRAND PALM PHASE 2A CONSTRUCTION PLANS. IF POND 31 IS NOT CONSTRUCTED PRIOR TO GRAND PALM PHASE 3C, POND 31 SHALL BE CONSTRUCTED WITH GRAND PALM PHASE 3C CONSTRUCTION ACTIVITIES.)

MAINTAINED IN PERPETUITY.

A MONITORING AND MAINTENANCE BOND NEEDS TO BE SUBMITTED TO SARASOTA ENVIRONMENTAL PROTECTION DIVISION TO COVER 100% OF THE COST FOR TWO YEARS OF MONITORING AND MAINTENANCE OF THE LITTORAL ZONES PRIOR TO EXCAVATION PURSUANT TO LDR ENVIRONMENTAL TECHNICAL MANUAL SECTION A.5. THIS BOND SHALL REMAIN IN EFFECT UNTIL THE LITTORAL ZONES ARE DETERMINED SUCCESSFUL BY RPS.

CONSERVATION AREA

AMENITY CENTER
SEE SHEET B-4D FOR GRADING DETAIL

8' CONCRETE SIDEWALK

MEDIAN CURB

MODIFIED TYPE F CURB

VALLEY GUTT

MATCH LINE SEE SHEET B-4B

GRAND PALM PHASE 3C
RESOURCE
SARASOTA COUNTY

SHEET NUMBER
B-4C


Google Maps
Harney St
Deland Rd
Holmes Cir
Avanti Gutters
Chattahoochee Ave
Dunedin St
N River Rd
Steinhatchee Loop
Alfred J Pantel Park
Wacissa Dr
Palatka Dr
Google
Imagery ©2025 Airbus, Maxar Technologies, Map data ©2025
200 ft