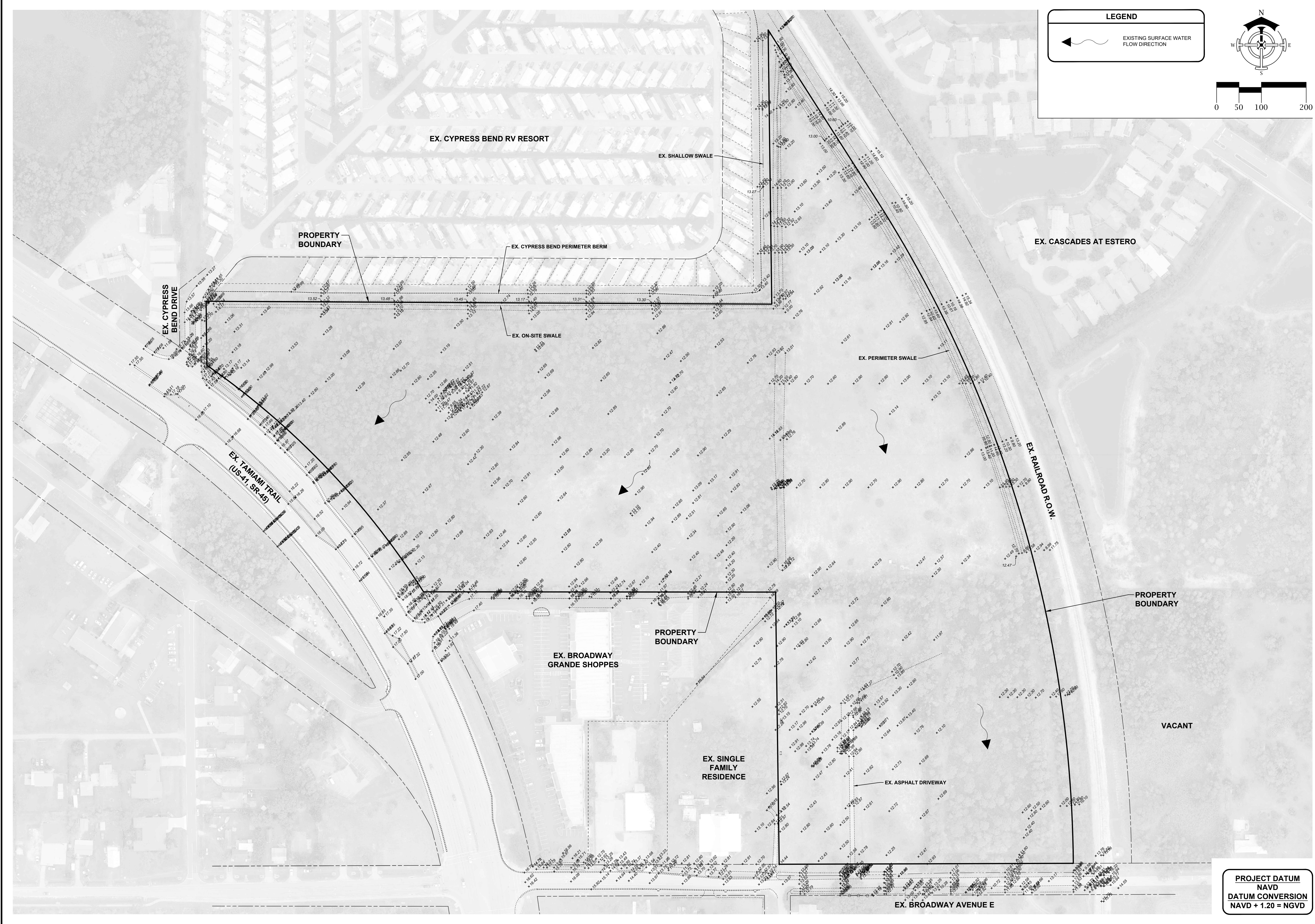


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PROJECT DATUM
NAVD
DATUM CONVERSION
NAVD + 1.20 = NGVD

LEGEND

← EXISTING SURFACE WATER FLOW DIRECTION

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Number 33253

ENGINEER OF RECORD:
JOHN T. WOODAK, P.E. (FOR THE FIRM)
FLORIDA P.E. NO. 58217

NOT VALID WITHOUT SEAL, SIGNATURE AND DATE

OWNER / DEVELOPER:
BUCKINGHAM COMPANIES
941 N MEDAN STREET
INDIANAPOLIS, IN 46209
(317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
INFRASTRUCTURE**

PLAN REVISIONS	DATE	DESCRIPTION
#		

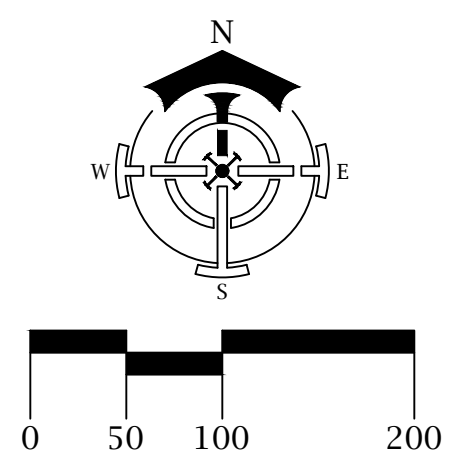
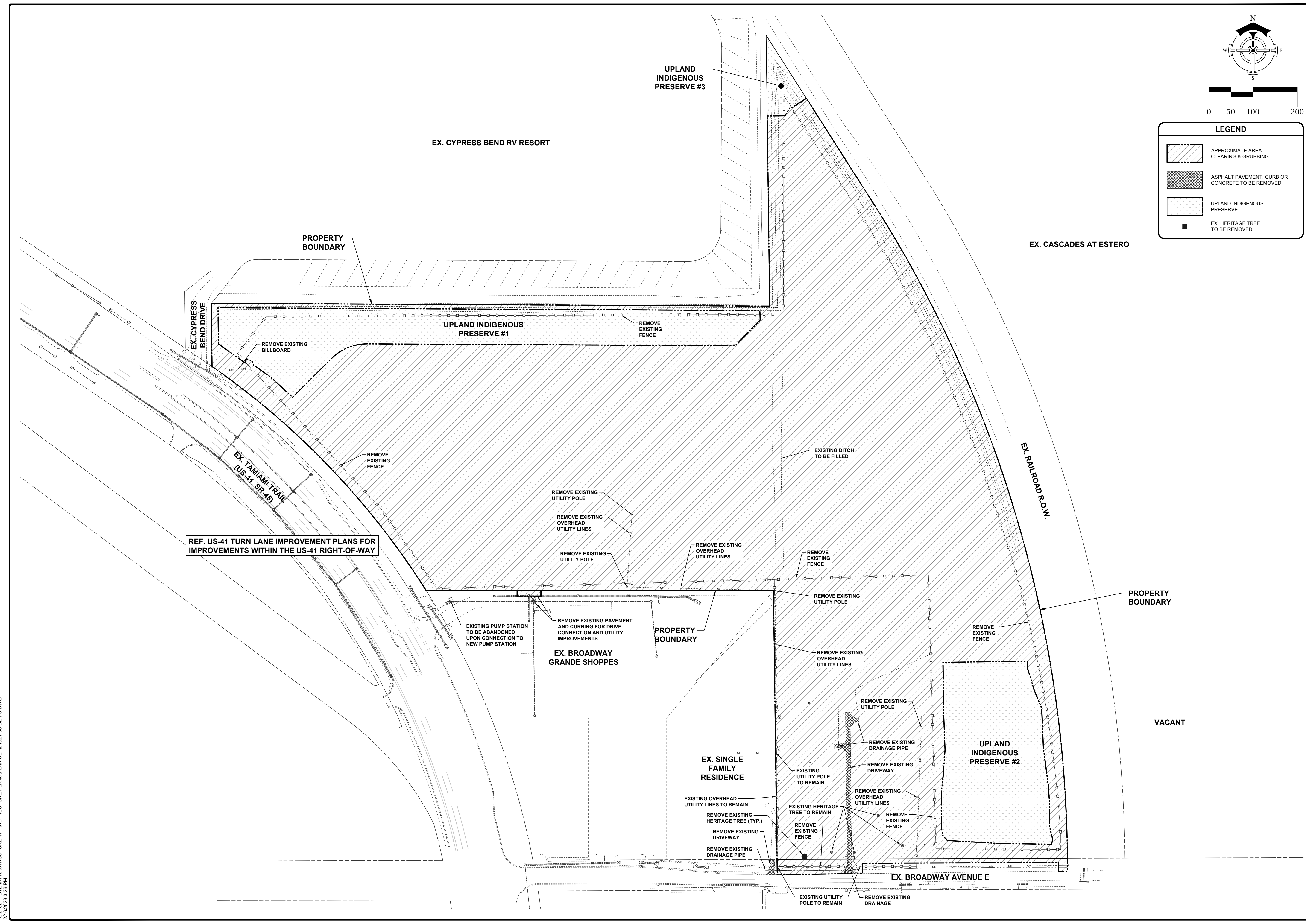
AERIAL AND EXISTING CONDITIONS PLAN

Project Manager: JTW
 Drawn By: CAS
 Checked By: JTW
 Project Number: 21521
 Located in Section(s): 28
 Township: 46 S | Range: 25 E
 County, State: LEE COUNTY, FL

Status:
FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

Sheet Number: 2

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21521-03-DEM.DWG



LEGEND	
	APPROXIMATE AREA CLEARING & GRUBBING
	ASPHALT PAVEMENT, CURB OR CONCRETE TO BE REMOVED
	UPLAND INDIGENOUS PRESERVE
	EX. HERITAGE TREE TO BE REMOVED

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PROJECT:
DOWNTOWN ESTERO INFRASTRUCTURE

PLAN REVISIONS	DESCRIPTION
#	DATE

DEMOLITION AND CLEARING PLAN	
Project Manager:	JTW
Drawn By:	CAS
Checked By:	JTW
Project Number:	21521
Located in Section(s):	28
Township:	46 S Range: 25 E
County, State:	LEE COUNTY, FL

Status:
 FOR CONSTRUCTION
 SUBJECT TO ALL PERMIT APPROVALS

Sheet Number: 3

GENERAL DEVELOPMENT NOTES:

1. ALL CONTRACTORS AND SUB-CONTRACTORS SHALL MAINTAIN THEIR WORK AND THE SITE RELATIVE TO THEIR WORK IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND ALL REQUIREMENTS OF THE PROJECT N.P.D.E.S. PERMIT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO DEWATER IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL PERMITTING REQUIREMENTS.
3. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE VILLAGE OF ESTERO LAND DEVELOPMENT CODE.
4. THE CONTRACTOR SHALL RETAIN ON THE WORK SITE AT ALL TIMES COPIES OF ALL PERMITS NECESSARY FOR ANY CONSTRUCTION.
5. THE CONTRACTOR SHALL NOTIFY THE OWNER AND CONTACT ALL UTILITY COMPANIES FOR LOCATIONS OF EXISTING UTILITIES IN THE AREA 72 HOURS (MINIMUM) PRIOR TO COMMENCING CONSTRUCTION.
6. THE LOCATION OF EXISTING UTILITIES, SIDEWALKS, PAVEMENT, VEGETATION AND MISCELLANEOUS IMPROVEMENTS ARE APPROXIMATE. THE EXACT FIELD LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO COMMENCING ANY CONSTRUCTION.
7. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS THE BENCHMARK DATUM FOR THIS PROJECT.
8. ANY PUBLIC LAND CORNER WITHIN LIMITS OF CONSTRUCTION IS TO BE PROTECTED. ANY LAND CORNER MONUMENT IN DANGER OF BEING DESTROYED MUST BE PROPERLY REFERENCED BY THE CONTRACTOR.
9. EXISTING IMPROVEMENTS SHALL BE RESTORED TO A CONDITION EQUIVALENT TO THAT WHICH EXISTED PRIOR TO COMMENCING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
10. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DEVIATION IN PLAN INFORMATION SHALL BE REPORTED TO THE ENGINEER AND OWNER'S REPRESENTATIVE IMMEDIATELY.
11. CONTRACTOR IS REQUIRED TO OBTAIN FROM THE ENGINEER WRITTEN APPROVAL FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
12. UNDERGROUND CONTRACTOR SHALL MINIMIZE THE WORK AREA AND WIDTH OF ALL TRENCHES TO AVOID DISTURBANCES OF NATURAL VEGETATION. SPILL FROM TRENCHES SHALL BE PLACED ONLY ON PREVIOUSLY CLEARED AREAS OR AS DIRECTED BY THE OWNER. CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY TREES AND/OR SHRUBS WITHOUT PRIOR APPROVAL OF THE OWNER.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND USAGE OF THE EXISTING STREETS ADJACENT TO THE PROJECT. ALL TRAFFIC MAINTENANCE CONTROL SHALL BE IN ACCORDANCE WITH FLORIDA MANUAL OF TRAFFIC CONTROL AND SAFE PRACTICES FOR STREET CONSTRUCTION, MAINTENANCE, AND UTILITY OPERATIONS. TRAFFIC CONTROL OPERATION PROCEDURES SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO THE BEGINNING OF CONSTRUCTION.
14. NO DEWATERING IS PROPOSED WITH THIS PROJECT. IF DEWATERING IS REQUIRED, A PERMIT FROM SPWMD IN ACCORDANCE WITH 40E-20.301, F.A.C. SHALL BE OBTAINED.
15. NO BLASTING IS PROPOSED WITH THIS PROJECT.

SIGNING AND MARKING NOTES:

1. ALL SIGNING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE F.D.O.T. STANDARD PLANS FOR ROAD CONSTRUCTION, LATEST EDITION, THE F.D.O.T. DESIGN MANUAL, LATEST EDITION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND PUBLISHED STANDARDS, LATEST EDITION.
2. ALL STOP SIGN LOCATIONS SHALL INCLUDE A 24" PAINTED WHITE STOP BAR UNLESS NOTED OTHERWISE.
3. THE CONTRACTOR SHALL COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

ENTITLEMENT INVENTORY TABLE

USE	MAX INTENSITY ⁽¹⁾	PROPOSED	TOTAL TO DATE
RESIDENTIAL	310 UNITS ⁽¹⁾	0	0
(ALF)	50 EQUIVALENT UNITS	0	0
COMMERCIAL (TOTAL)	200,000 SF ⁽²⁾	0	0
RETAIL	115,000 SF	0	0
HOTEL	125 ROOMS	0	0

- (1) 310 UNITS INCLUDES 50 EQUIVALENT ALF / ILF / CCF UNITS.
- (2) COMMERCIAL INCLUDES A MAXIMUM OF 150,000 SF OF RETAIL USES.
- (3) MAXIMUM INTENSITIES PER RESOLUTION Z-10-017.

PARKING SUMMARY

TOTAL SPACES = 163 (2)

- NOTES:**
1. "(2)" REPRESENTS THE NUMBER OF HANDICAP SPACES INCLUDED IN THE TOTAL SPACES.

OPEN SPACE CALCULATIONS

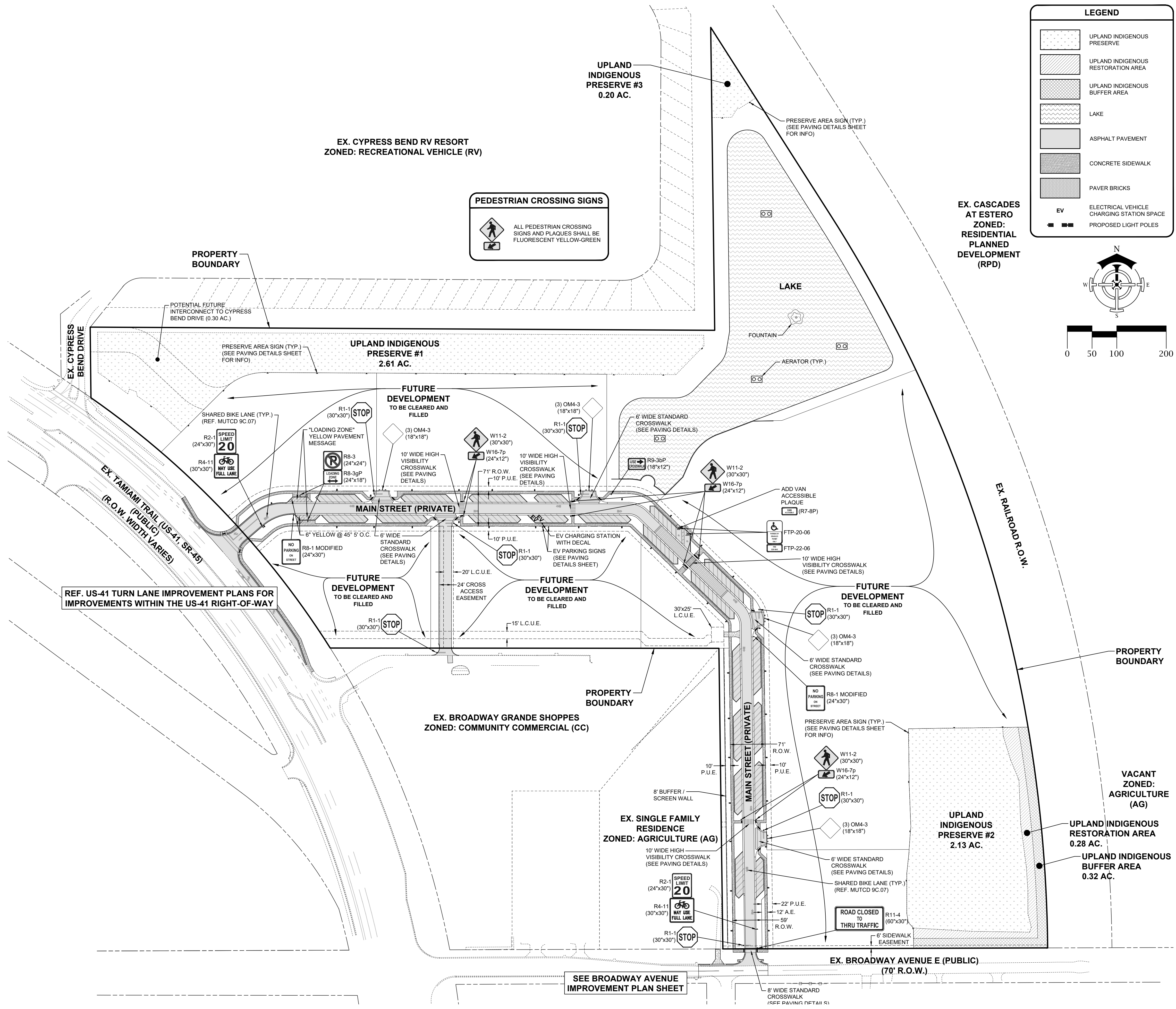
REQUIRED	AREA
OPEN SPACE REQUIRED	12.70 AC.
PROVIDED	
LAKES (25% OF REQ'D OPEN SPACE MAX.)	3.17 AC.
LAKE BANK	1.25 AC.
INDIGENOUS	5.54 AC.
DRY DETENTION	0.56 AC.
BUFFERS	1.47 AC.
FUTURE PARKS	0.71 AC.
OPEN SPACE PROVIDED	12.70 AC.

- NOTES:**
1. OPEN SPACE IN FUTURE DEVELOPMENT AREAS EXCLUDED SINCE ONLY CLEARING AND FILLING IS PROPOSED AT THIS TIME. FUTURE DEVELOPMENT ORDERS WILL QUANTIFY OPEN SPACE IN DEVELOPMENT AREAS AS THEY ARE SUBMITTED.
 2. REQUIRED OPEN SPACE PER Z-10-017, CONDITION 5.B.(1).
 3. OPEN SPACE TABLE AND INDIGENOUS AREAS EXCLUDE CREDIT AND REFER ONLY TO ACTUAL LAND AREA IN ACRES. SEE LANDSCAPE PLANS FOR AREA & CREDIT CALCULATIONS.

BUFFER REQUIREMENTS

PROPERTY LINE	ADJACENT USE	BUFFER REQUIRED
NORTH	RESIDENTIAL (CYPRESS BEND)	5' TYPE 'F'
SOUTH	COMMERCIAL (BROADWAY GRANDE SHOPPES)	5' TYPE 'A'
SOUTH	R.O.W. (BROADWAY AVE.)	20' TYPE 'D'
EAST	R.O.W. (RAILROAD)	20' TYPE 'D'
WEST	RESIDENTIAL (CYPRESS BEND)	5' TYPE 'F'
WEST	RESIDENTIAL (SINGLE FAMILY RESIDENCE)	20' TYPE 'C'
WEST	R.O.W. (US-41)	20' TYPE 'D'

- NOTES:**
1. REQUIRED BUFFERS PER ZONING RESOLUTION Z-10-017.



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 (317) 974-1234

PROJECT:

**DOWNTOWN ESTERO
 INFRASTRUCTURE**

PLAN REVISIONS

#	DATE	DESCRIPTION

MASTER SITE PLAN

Project Manager:	JTW
Drawn By:	CAS
Checked By:	JTW
Project Number:	21521
Located in Section(s):	28
Township:	46 S Range: 25 E
County, State:	LEE COUNTY, FL

Status:
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Sheet Number: 4

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GENERAL DRAINAGE NOTES:

1. THE LENGTH OF ALL STORM DRAIN PIPES SHOWN ARE APPROXIMATE AND ARE MEASURED FROM THE INSIDE FACE OF STRUCTURE TO THE INSIDE FACE OF THE NEXT STRUCTURE.
2. EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING THE COURSE OF CONSTRUCTION.
3. THE LOCATION OF THE DRAINAGE STRUCTURES SHOWN ON THE PLANS MAY BE FIELD ADJUSTED TO PRESERVE ANY EXISTING VEGETATION, AS APPROVED BY THE ENGINEER.
4. THE CONTRACTOR SHALL ADJUST ALL PROPOSED ELEVATIONS TO MEET THE EXISTING GRADES AS NEEDED.
5. ALL STORM DRAINAGE PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP), UNLESS OTHERWISE NOTED.
6. STRUCTURAL DESIGN AND REINFORCING FOR DRAINAGE STRUCTURES SHALL CONFORM TO FDOT DESIGN STANDARDS.
7. ALL DRAINAGE STRUCTURES CONCRETE SHALL HAVE COMPRESSION STRENGTH OF 3,000 PSI @ 28 DAYS.
8. PROPOSED GRADES IN OPEN SPACE AREAS ARE TOP OF SOD.
9. THE SUBJECT PARCEL IS LOCATED IN FLOOD ZONE 'X', HAVING NO BASE FLOOD ELEVATION, BASED ON FLOOD INSURANCE RATE MAPS 12071C0579F AND 120710583F, AUGUST 28, 2008.
10. THERE ARE NO KNOWN IMPACTS TO SURFACE GROUND WATER RESULTING FROM THE PROJECT.
11. THERE ARE NO KNOWN IMPACTS TO WETLANDS RESULTING FROM THIS PROJECT.
12. CEMENT STABILIZED SAND, 57 STONE OR SIMILAR BEDDING REQUIRED FOR ALL STORM DRAIN INLET STRUCTURES AND JUNCTION BOXES.
13. ALL ELEVATIONS PROVIDED ARE BASED IN NAVD DATUM.
14. HDPE PIPE JOINTS SHALL BE WRAPPED IN MIRAFIB FABRIC UPON INSTALLATION.
15. OPERATION AND OWNERSHIP OF THE SURFACE WATER MANAGEMENT SYSTEM SHALL BE THE RESPONSIBILITY OF THE ESTERO CROSSING PROPERTY OWNERS ASSOCIATION.

SURFACE WATER MANAGEMENT PARAMETERS

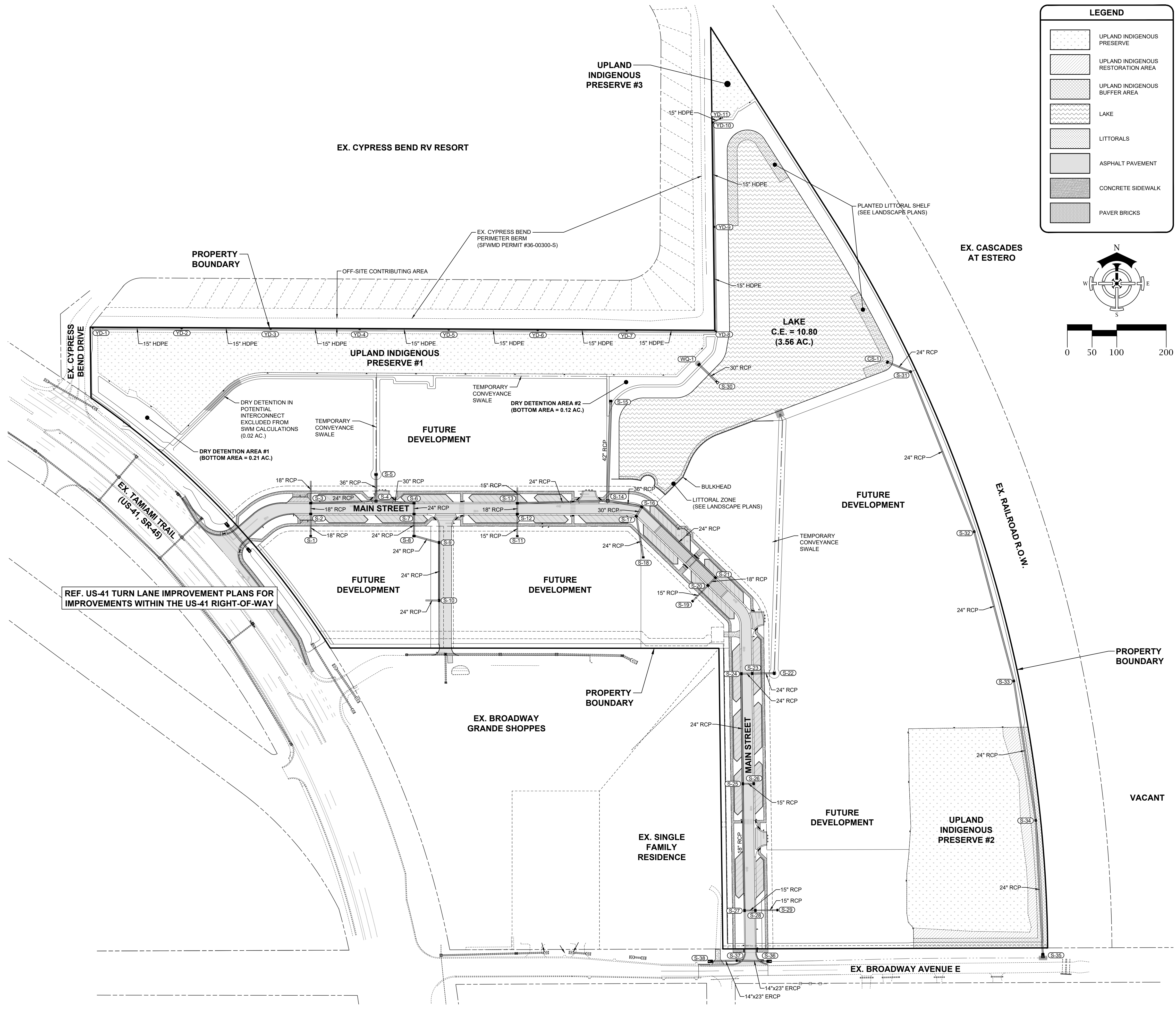
PARAMETER	ELEVATION
100 YEAR, 3 DAY, ZERO DISCHARGE PEAK STAGE (FT)	14.33 NAVD
100 YEAR, 3 DAY, (WITH DISCHARGE) PEAK STAGE (FT)	14.20 NAVD
MINIMUM PERIMETER BERM ELEVATION (FT)	14.00 NAVD
MINIMUM ROAD CROWN ELEVATION (FT)	14.00 NAVD
MINIMUM FINISHED FLOOR ELEVATION (FT)	15.20 NAVD
CONTROL ELEVATION (FT)	10.80 NAVD

- NOTES:**
1. THE PROJECT ELEVATIONS ARE BASED IN NAVD.
 2. DATUM CONVERSION: NAVD + 1.20 = NGVD.

CYPRESS BEND OFF-SITE FLOW CALCULATIONS

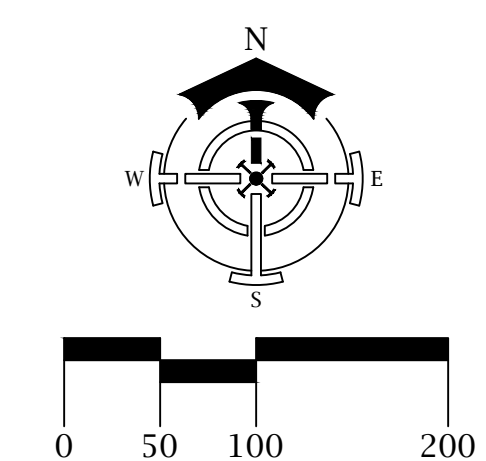
CONTRIBUTING AREA 'A' = 1,690 LF x 27'± = 45,830 SF = 1.05 AC.
 DESIGN FLOW FOR PIPE = Q = CIA (RATIONAL METHOD)
 RATIONAL COEFFICIENT 'C' = 0.2 (FOOT DRAINAGE MANUAL, TABLE B4, WOODLANDS, FLAT, CLAY SOILS, MAX)
 RAINFALL INTENSITY 'I' = 5.6 IN/HR (FOOT IDF CURVE, ZONE 8, 25 YEAR, Tc = 28 MIN.)
 Q = 0.2 x 5.6 x 1.05 = 2.17 CFS
 PIPE SIZE
 ASSUME 2 FPS VELOCITY
 Q = 2.17 CFS
 PIPE DIAMETER = 2.17 CFS / 2 FPS = 1.1 SF
 D = 1.2" = 15"
 USE 15" PIPE

PROJECT DATUM
 NAVD
 DATUM CONVERSION
 NAVD + 1.20 = NGVD



LEGEND

- UPLAND INDIGENOUS PRESERVE
- UPLAND INDIGENOUS RESTORATION AREA
- UPLAND INDIGENOUS BUFFER AREA
- LAKE
- LITTORALS
- ASPHALT PAVEMENT
- CONCRETE SIDEWALK
- PAVER BRICKS



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 (317) 974-1234
 PROJECT:
**DOWNTOWN ESTERO
 INFRASTRUCTURE**

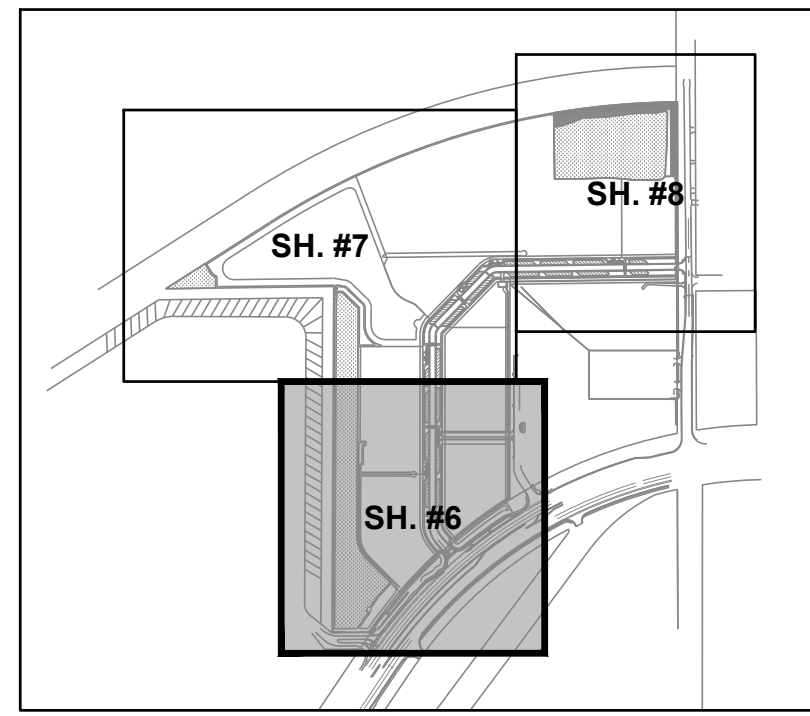
PLAN REVISIONS	DESCRIPTION
#	DATE

MASTER DRAINAGE PLAN

Project Manager: JTW
 Drawn By: CAS
 Checked By: JTW
 Project Number: 21521
 Located in Section(s): 28
 Township: 46 S | Range: 25 E
 County, State: LEE COUNTY, FL

Status:
 FOR CONSTRUCTION
 SUBJECT TO ALL PERMIT APPROVALS
 Sheet Number: 5

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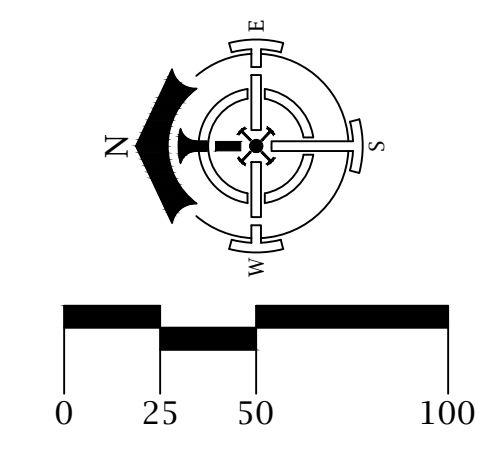
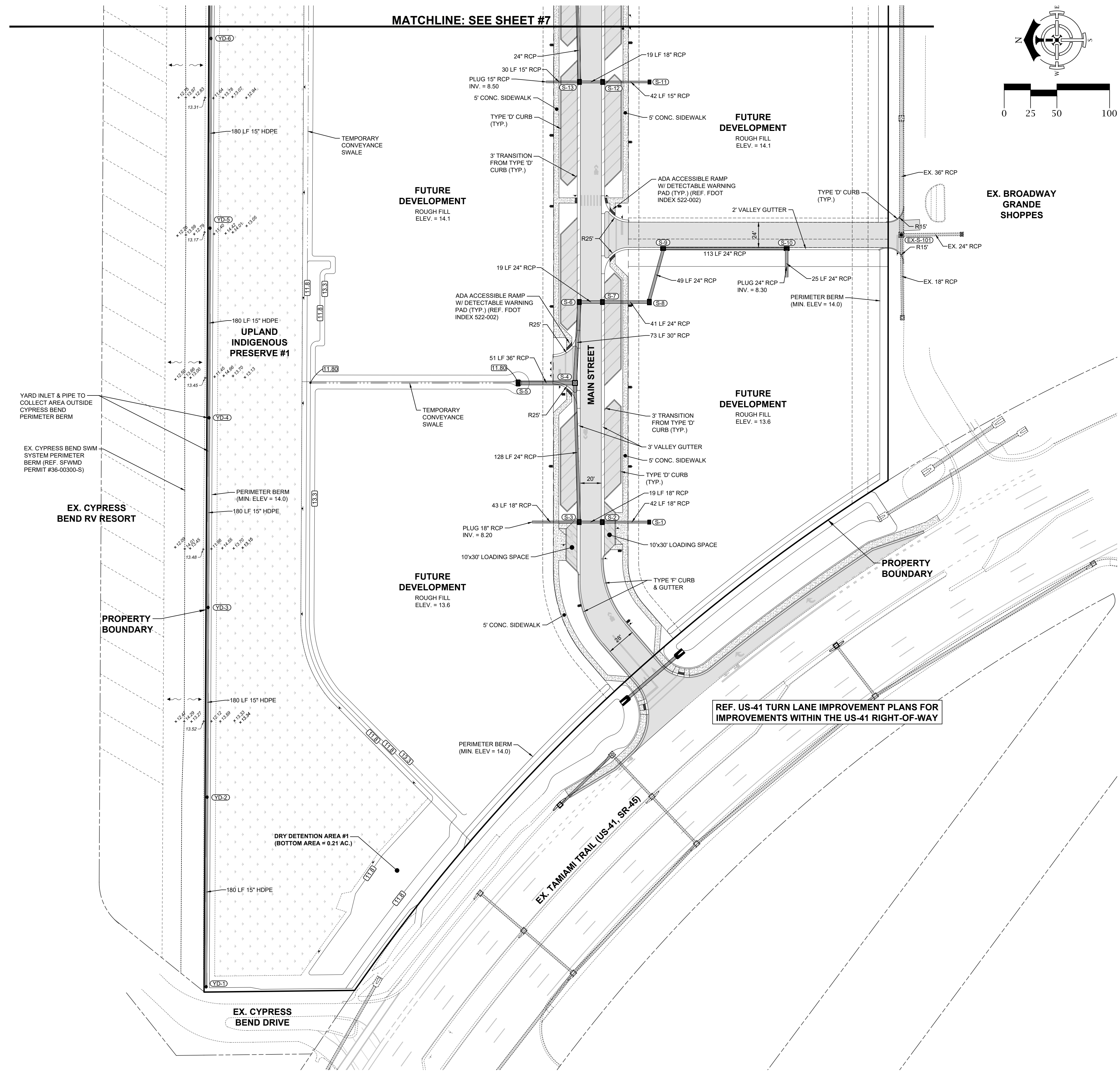


KEY MAP
NTS

DRAINAGE STRUCTURE TABLE		
(S-1) TYPE 'C' INLET FDOT #425-052 GRATE ELEV. = 13.10 INV. N (18") = 8.60	(S-8) TYPE 'E' INLET FDOT #425-052 GRATE ELEV. = 13.10 INV. N (24") = 8.00 INV. E (24") = 8.00	(YD-2) HDPE INLET (12") GRATE ELEV. = 13.00 INV. W (15") = 10.50 INV. E (15") = 10.50
(S-2) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. N (18") = 6.10 INV. S (18") = 8.50	(S-9) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. S (24") = 8.10 INV. W (24") = 8.10	(YD-3) HDPE INLET (12") GRATE ELEV. = 12.70 INV. W (15") = 10.20 INV. E (15") = 10.20
(S-3) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. N (18") = 6.00 INV. N (18") = 8.10 INV. E (24") = 6.00	(S-10) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. N (24") = 8.30 INV. W (24") = 8.30	(YD-4) HDPE INLET (12") GRATE ELEV. = 12.80 INV. W (15") = 10.00 INV. E (15") = 10.00
(S-4) JUNCTION BOX FDOT #425-001, 425-010 RIM ELEV. = 14.55 INV. W (24") = 5.50 INV. N (36") = 4.40 INV. E (30") = 4.40	(S-11) TYPE 'C' INLET FDOT #425-052 GRATE ELEV. = 13.60 INV. N (15") = 8.90	(YD-5) HDPE INLET (12") GRATE ELEV. = 12.40 INV. W (15") = 9.80 INV. E (15") = 9.80
(S-5) TYPE 'E' INLET FDOT #425-052 GRATE ELEV. = 11.80 INV. S (36") = 4.30	(S-12) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. S (15") = 8.70 INV. N (18") = 8.70	(EX-S-101) EX. CURB INLET E.O.P. ELEV. = 15.75 INV. W (15") = 10.80 INV. E (36") = 10.80 INV. S (24") = 10.80
(S-6) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. S (24") = 4.60 INV. W (30") = 4.60	(S-13) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. S (18") = 8.60 INV. N (15") = 8.40 INV. E (24") = 8.30	REMOVE EX. CURB INLET TOP AND INSTALL GRATE INLET TOP (SEE DRAINAGE DETAILS SHEET) GRATE ELEV. = 15.70
(S-7) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. S (24") = 7.90 INV. N (24") = 4.70	(YD-1) HDPE INLET (12") GRATE ELEV. = 13.40 INV. E (15") = 10.90	

PROJECT DATUM
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LEGEND	
	UPLAND INDIGENOUS PRESERVE
	UPLAND INDIGENOUS RESTORATION AREA
	UPLAND INDIGENOUS BUFFER AREA
	LAKE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	PAVER BRICKS



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PROJECT:
DOWNTOWN ESTERO
INFRASTRUCTURE

PLAN REVISIONS	DESCRIPTION
#	DATE

PAVING, GRADING AND DRAINAGE PLAN (A)

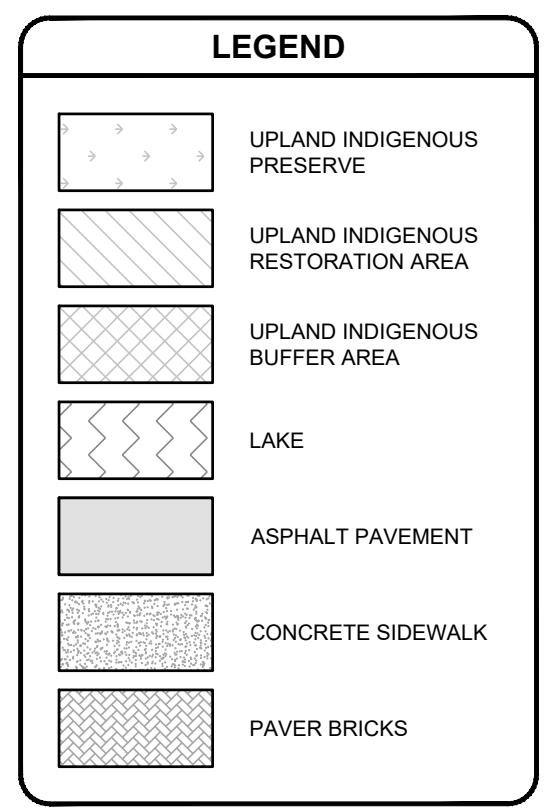
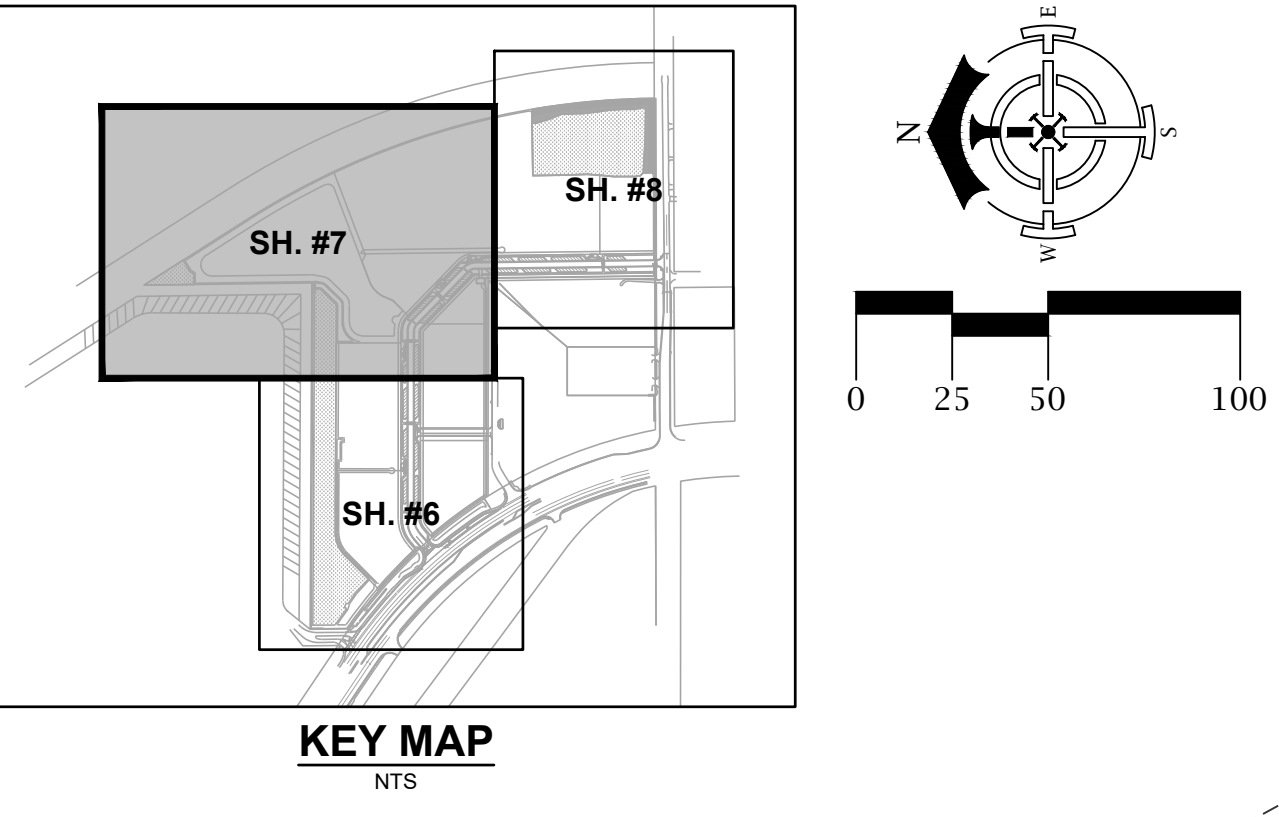
Project Manager: JTW
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Checked By: JTW
Project Number: 21521
Located in Section(s): 28
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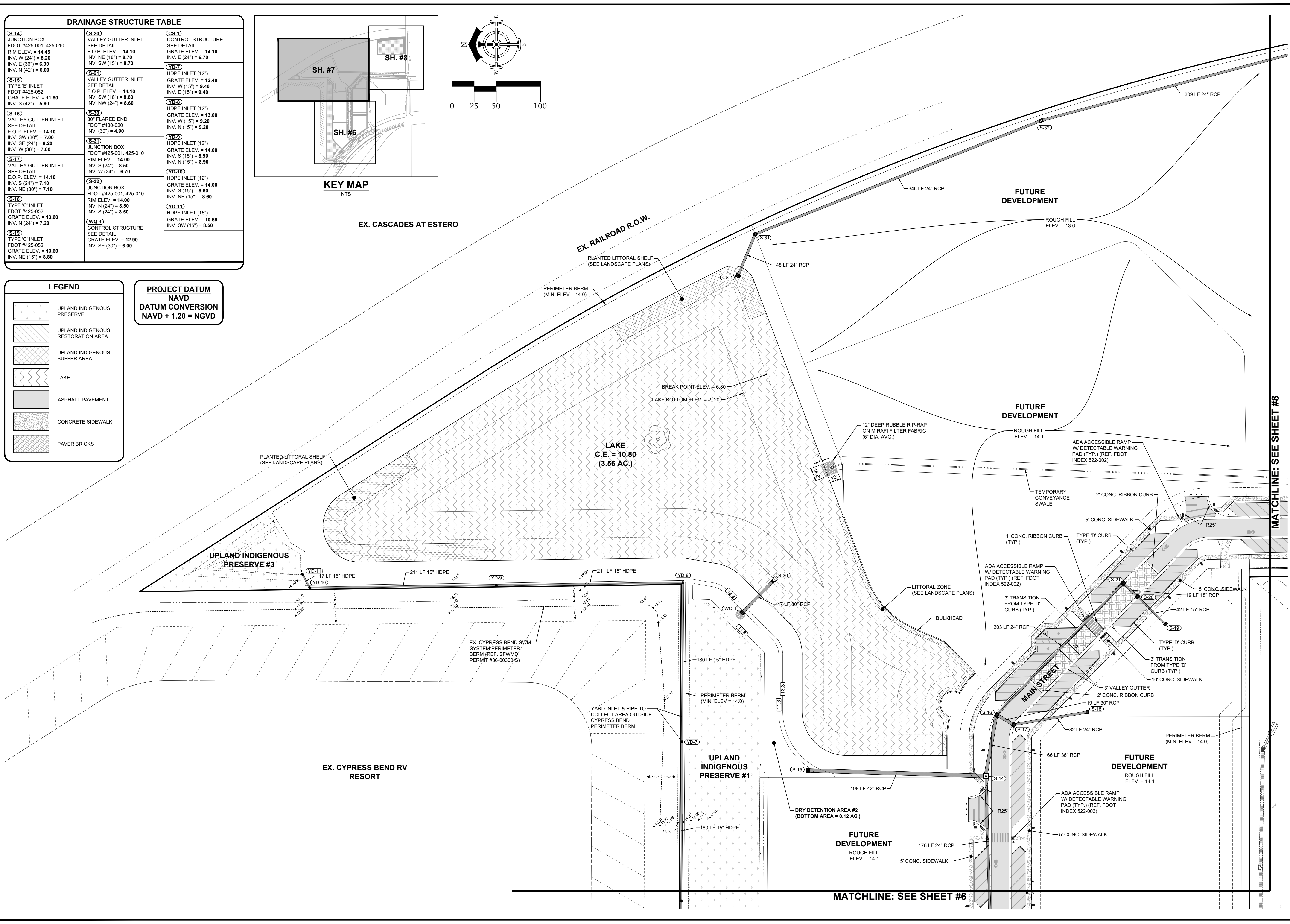
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DRAINAGE STRUCTURE TABLE		
(S-14) JUNCTION BOX FDOT #425-001, 425-010 RIM ELEV. = 14.45 INV. W (24") = 8.20 INV. E (36") = 6.90 INV. N (42") = 6.00	(S-20) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. SW (18") = 8.70 INV. W (15") = 8.70	(CS-1) CONTROL STRUCTURE SEE DETAIL GRATE ELEV. = 14.10 INV. E (24") = 6.70
(S-16) TYPE 'E' INLET FDOT #425-052 GRATE ELEV. = 11.80 INV. S (42") = 5.60	(S-21) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. SW (18") = 8.60 INV. NW (24") = 8.60	(YB-7) HDPE INLET (12") GRATE ELEV. = 12.40 INV. W (15") = 9.40 INV. E (15") = 9.40
(S-18) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. SW (30") = 7.00 INV. SE (24") = 8.20 INV. W (36") = 7.00	(S-30) 30" FLARED END FDOT #430-020 INV. (30") = 4.90	(YB-8) HDPE INLET (12") GRATE ELEV. = 13.00 INV. S (15") = 8.90 INV. N (15") = 9.20
(S-17) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. S (24") = 7.10 INV. NE (30") = 7.10	(S-31) JUNCTION BOX FDOT #425-001, 425-010 RIM ELEV. = 14.00 INV. S (24") = 8.60 INV. W (24") = 6.70	(YB-9) HDPE INLET (12") GRATE ELEV. = 14.00 INV. S (15") = 8.90 INV. N (15") = 8.90
(S-18) TYPE 'C' INLET FDOT #425-052 GRATE ELEV. = 13.60 INV. N (24") = 7.20	(S-32) JUNCTION BOX FDOT #425-001, 425-010 RIM ELEV. = 14.00 INV. N (24") = 8.60 INV. S (24") = 8.60	(YB-10) HDPE INLET (12") GRATE ELEV. = 14.00 INV. S (15") = 8.60 INV. NE (15") = 8.60
(S-19) TYPE 'C' INLET FDOT #425-052 GRATE ELEV. = 13.60 INV. NE (15") = 8.80	(WQ-1) CONTROL STRUCTURE SEE DETAIL GRATE ELEV. = 12.90 INV. SE (30") = 6.00	(YB-11) HDPE INLET (15") GRATE ELEV. = 10.69 INV. SW (15") = 8.60



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PLAN REVISIONS	DESCRIPTION
#	DATE

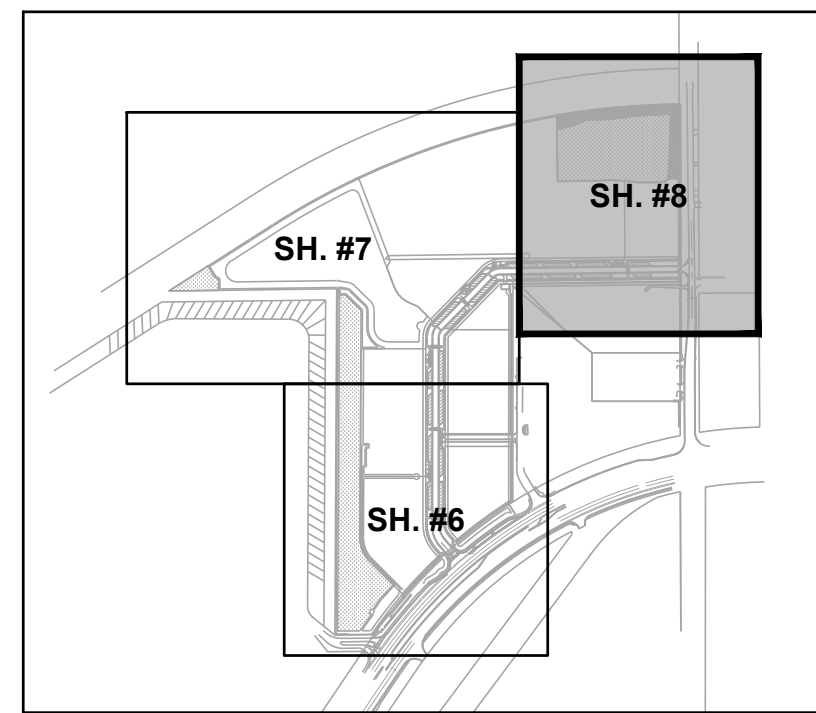
PAVING, GRADING AND DRAINAGE PLAN (B)

Project Manager: JTW
Drawn By: CAS
Checked By: JTW
Project Number: 21521
Located in Section(s): 28
Township: 46 S Range: 25 E
County, State: LEE COUNTY, FL

Status:
FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

Sheet Number: 7

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21521521.DWG

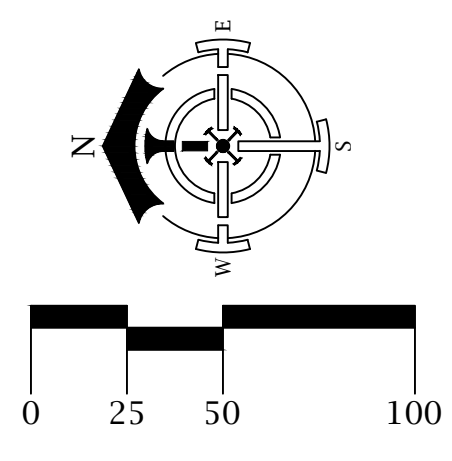
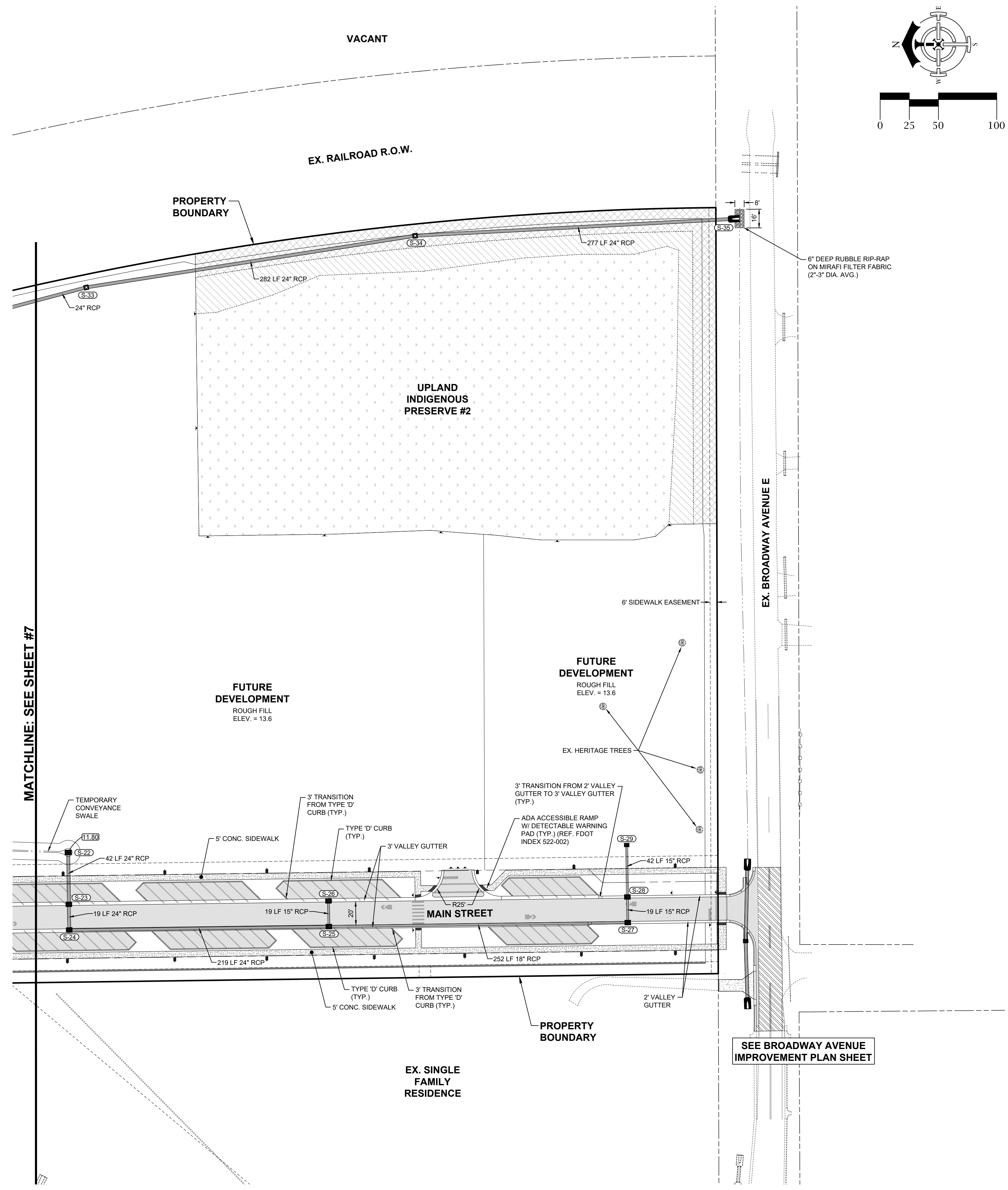


KEY MAP
NTS

DRAINAGE STRUCTURE TABLE		
(S-22) TYPE 'E' INLET FDOT #425-052 GRATE ELEV. = 11.80 INV. W (24") = 4.40	(S-26) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. W (15") = 6.20	(S-33) JUNCTION BOX FDOT #425-001, 425-010 RIM ELEV. = 14.00 INV. N (24") = 8.50 INV. S (24") = 8.50
(S-23) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. E (24") = 4.50 INV. W (24") = 4.50	(S-27) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. E (15") = 8.30 INV. N (18") = 8.30	(S-34) JUNCTION BOX FDOT #425-001, 425-010 RIM ELEV. = 14.10 INV. N (24") = 8.50 INV. S (24") = 8.50
(S-24) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. E (24") = 4.60 INV. S (24") = 5.80	(S-28) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. W (15") = 8.40 INV. E (15") = 8.40	(S-38) 24" MES FDOT #430-021 INV. (24") = 10.00
(S-25) VALLEY GUTTER INLET SEE DETAIL E.O.P. ELEV. = 14.10 INV. E (15") = 6.30 INV. N (24") = 6.20 INV. S (18") = 7.80	(S-29) TYPE 'C' INLET FDOT #425-052 GRATE ELEV. = 13.10 INV. W (15") = 8.50	

PROJECT DATUM
NAVD
DATUM CONVERSION
NAVD + 1.20 = NGVD

LEGEND	
	UPLAND INDIGENOUS PRESERVE
	UPLAND INDIGENOUS RESTORATION AREA
	UPLAND INDIGENOUS BUFFER AREA
	LAKE
	ASPHALT PAVEMENT
	CONCRETE SIDEWALK
	PAVER BRICKS



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DELISI FITZGERALD, INC.
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 Number 33253

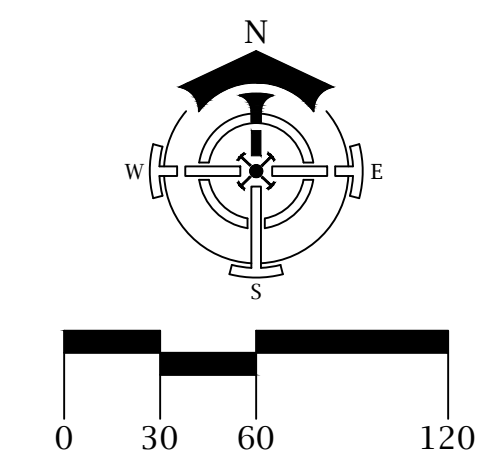
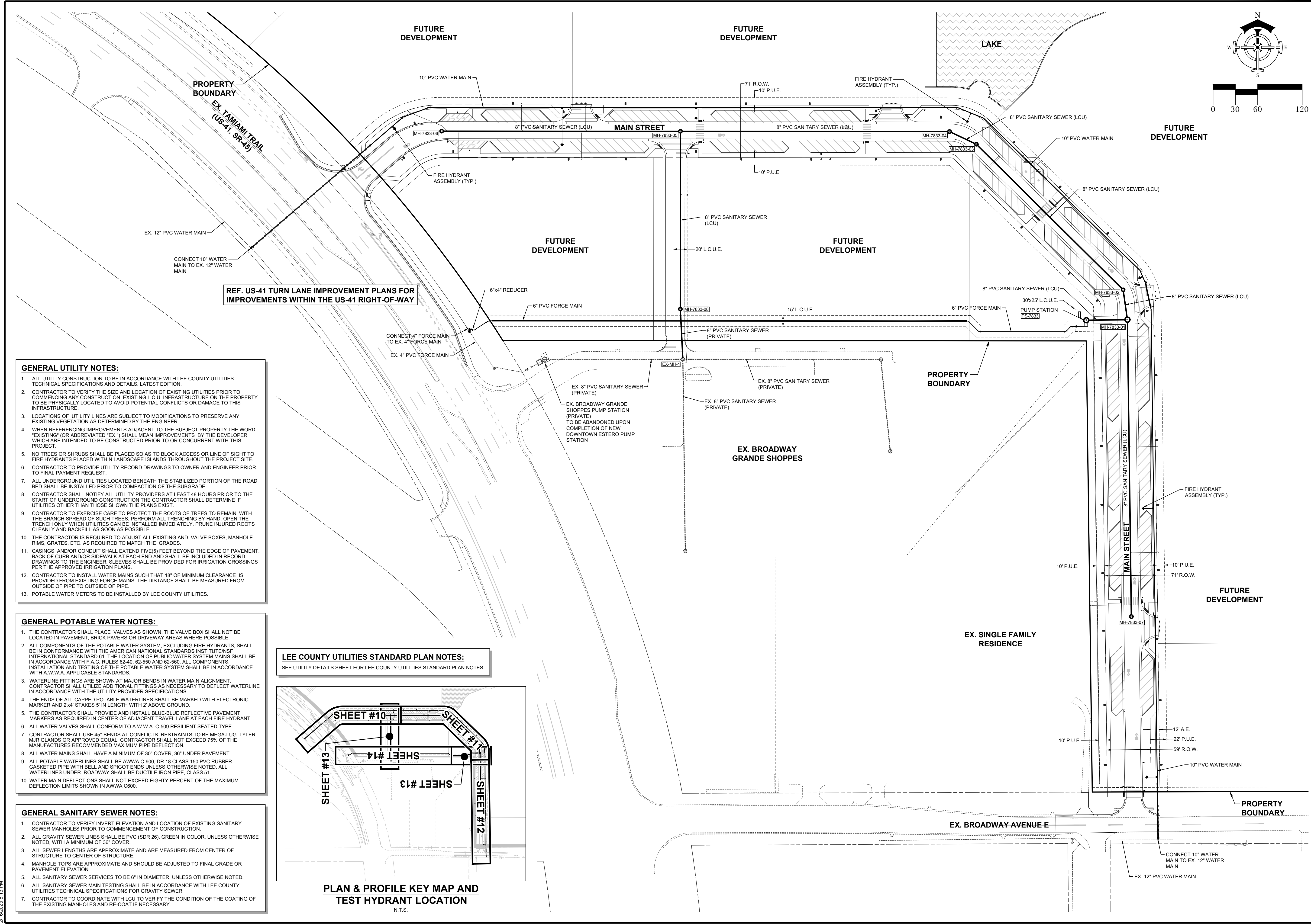
ENGINEER OF RECORD:
 JOHN T. WOODA, P.E. (FOR THE FIRM)
 FLORIDA P.E. NO. 58217
 NOT VALID WITHOUT SEAL, SIGNATURE AND DATE

OWNER / DEVELOPER:
BUCKINGHAM COMPANIES
 941 N. MEDAN STREET
 INDIANAPOLIS, IN 46209
 (317) 974-1234
 PROJECT:
**DOWNTOWN ESTERO
 INFRASTRUCTURE**

PLAN REVISIONS	DESCRIPTION
#	DATE

PAVING, GRADING AND DRAINAGE PLAN (C)
 Project Manager: JTW
 Drawn By: CAS
 Checked By: JTW
 Project Number: 21521
 Located in Section(s): 28
 Township: 46 S | Range: 25 E
 County, State: LEE COUNTY, FL

Status:
FOR CONSTRUCTION
 SUBJECT TO ALL PERMIT APPROVALS
 Sheet Number: **8**

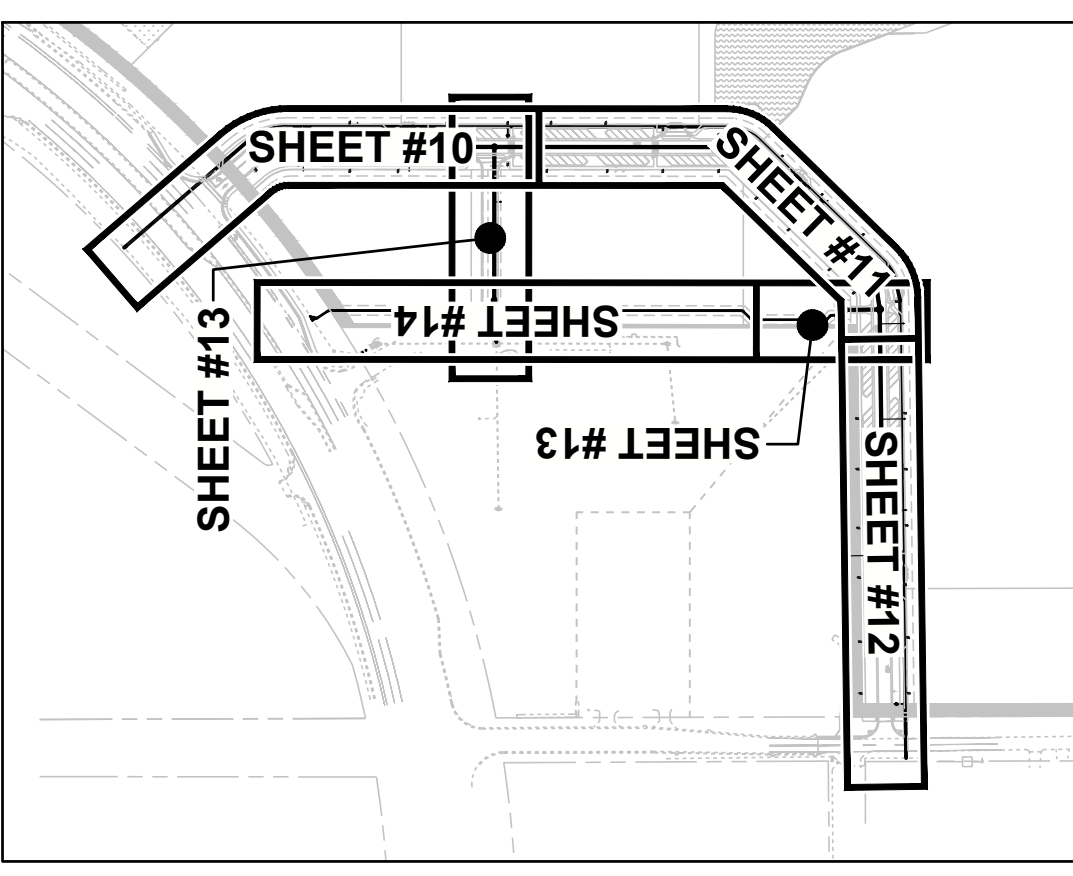


REF. US-41 TURN LANE IMPROVEMENT PLANS FOR IMPROVEMENTS WITHIN THE US-41 RIGHT-OF-WAY

- GENERAL UTILITY NOTES:**
- ALL UTILITY CONSTRUCTION TO BE IN ACCORDANCE WITH LEE COUNTY UTILITIES TECHNICAL SPECIFICATIONS AND DETAILS, LATEST EDITION.
 - CONTRACTOR TO VERIFY THE SIZE AND LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION. EXISTING L.C.U. INFRASTRUCTURE ON THE PROPERTY TO BE PHYSICALLY LOCATED TO AVOID POTENTIAL CONFLICTS OR DAMAGE TO THIS INFRASTRUCTURE.
 - LOCATIONS OF UTILITY LINES ARE SUBJECT TO MODIFICATIONS TO PRESERVE ANY EXISTING VEGETATION AS DETERMINED BY THE ENGINEER.
 - WHEN REFERENCING IMPROVEMENTS ADJACENT TO THE SUBJECT PROPERTY THE WORD "EXISTING" OR ABBREVIATED "EX" SHALL MEAN IMPROVEMENTS BY THE DEVELOPER WHICH ARE INTENDED TO BE CONSTRUCTED PRIOR TO OR CONCURRENT WITH THIS PROJECT.
 - NO TREES OR SHRUBS SHALL BE PLACED SO AS TO BLOCK ACCESS OR LINE OF SIGHT TO FIRE HYDRANTS PLACED WITHIN LANDSCAPE ISLANDS THROUGHOUT THE PROJECT SITE.
 - CONTRACTOR TO PROVIDE UTILITY RECORD DRAWINGS TO OWNER AND ENGINEER PRIOR TO FINAL PAYMENT REQUEST.
 - ALL UNDERGROUND UTILITIES LOCATED BENEATH THE STABILIZED PORTION OF THE ROAD BED SHALL BE INSTALLED PRIOR TO COMPACTION OF THE SUBGRADE.
 - CONTRACTOR SHALL NOTIFY ALL UTILITY PROVIDERS AT LEAST 48 HOURS PRIOR TO THE START OF UNDERGROUND CONSTRUCTION THE CONTRACTOR SHALL DETERMINE IF UTILITIES OTHER THAN THOSE SHOWN THE PLANS EXIST.
 - CONTRACTOR TO EXERCISE CARE TO PROTECT THE ROOTS OF TREES TO REMAIN, WITH THE BRANCH SPREAD OF SUCH TREES. PERFORM ALL TRENCHING BY HAND. OPEN THE TRENCH ONLY WHEN UTILITIES CAN BE INSTALLED IMMEDIATELY. PRUNE INJURED ROOTS CLEANLY AND BACKFILL AS SOON AS POSSIBLE.
 - THE CONTRACTOR IS REQUIRED TO ADJUST ALL EXISTING AND VALVE BOXES, MANHOLE RIMS, GRATES, ETC. AS REQUIRED TO MATCH THE GRADES.
 - CASINGS AND/OR CONDUIT SHALL EXTEND FIVE(S) FEET BEYOND THE EDGE OF PAVEMENT, BACK OF CURB AND/OR SIDEWALK AT EACH END AND SHALL BE INCLUDED IN RECORD DRAWINGS TO THE ENGINEER. SLEEVES SHALL BE PROVIDED FOR IRRIGATION CROSSINGS PER THE APPROVED IRRIGATION PLANS.
 - CONTRACTOR TO INSTALL WATER MAINS SUCH THAT 18" OF MINIMUM CLEARANCE IS PROVIDED FROM EXISTING FORCE MAINS. THE DISTANCE SHALL BE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
 - POTABLE WATER METERS TO BE INSTALLED BY LEE COUNTY UTILITIES.

- GENERAL POTABLE WATER NOTES:**
- THE CONTRACTOR SHALL PLACE VALVES AS SHOWN. THE VALVE BOX SHALL NOT BE LOCATED IN PAVEMENT, BRICK PAVEMENT OR DRIVEWAY AREAS WHERE POSSIBLE.
 - ALL COMPONENTS OF THE POTABLE WATER SYSTEM, EXCLUDING FIRE HYDRANTS, SHALL BE IN CONFORMANCE WITH THE AMERICAN NATIONAL STANDARDS INSTITUTE'S INTERNATIONAL STANDARD 61. THE LOCATION OF PUBLIC WATER SYSTEM MAINS SHALL BE IN ACCORDANCE WITH F.A.C. RULES 62-10, 62-560 AND 62-560. ALL COMPONENTS, INSTALLATION AND TESTING OF THE POTABLE WATER SYSTEM SHALL BE IN ACCORDANCE WITH A.W.W.A. APPLICABLE STANDARDS.
 - WATERLINE FITTINGS ARE SHOWN AT MAJOR BENDS IN WATER MAIN ALIGNMENT. CONTRACTOR SHALL UTILIZE ADDITIONAL FITTINGS AS NECESSARY TO DEFLECT WATERLINE IN ACCORDANCE WITH THE UTILITY PROVIDER SPECIFICATIONS.
 - THE ENDS OF ALL CAPPED POTABLE WATERLINES SHALL BE MARKED WITH ELECTRONIC MARKER AND 2x4 STAKES 5' IN LENGTH WITH 2" ABOVE GROUND.
 - THE CONTRACTOR SHALL PROVIDE AND INSTALL BLUE-GLUE REFLECTIVE PAVEMENT MARKERS AS REQUIRED IN CENTER OF ADJACENT TRAVEL LANE AT EACH FIRE HYDRANT.
 - ALL WATER VALVES SHALL CONFORM TO A.W.W.A. C-509 RESILIENT SEATED TYPE.
 - CONTRACTOR SHALL USE 45° BENDS AT CONFLICTS. RESTRAINTS TO BE MEGA-LUG TYLER MJR GLANDS OR APPROVED EQUAL. CONTRACTOR SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM PIPE DEFLECTION.
 - ALL WATER MAINS SHALL HAVE A MINIMUM OF 30" COVER, 36" UNDER PAVEMENT.
 - ALL POTABLE WATERLINES SHALL BE AWWA C-900, DR 18 CLASS 150 PVC RUBBER GASKETED PIPE WITH BELL AND SPIGOT ENDS UNLESS OTHERWISE NOTED. ALL WATERLINES UNDER ROADWAY SHALL BE DUCTILE IRON PIPE, CLASS 51.
 - WATER MAIN DEFLECTIONS SHALL NOT EXCEED EIGHTY PERCENT OF THE MAXIMUM DEFLECTION LIMITS SHOWN IN AWWA C900.

LEE COUNTY UTILITIES STANDARD PLAN NOTES:
SEE UTILITY DETAILS SHEET FOR LEE COUNTY UTILITIES STANDARD PLAN NOTES.



PLAN & PROFILE KEY MAP AND TEST HYDRANT LOCATION
N.T.S.

- GENERAL SANITARY SEWER NOTES:**
- CONTRACTOR TO VERIFY INVERT ELEVATION AND LOCATION OF EXISTING SANITARY SEWER MANHOLES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - ALL GRAVITY SEWER LINES SHALL BE PVC (SDR 26), GREEN IN COLOR, UNLESS OTHERWISE NOTED, WITH A MINIMUM OF 36" COVER.
 - ALL SEWER LENGTHS ARE APPROXIMATE AND ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
 - MANHOLE TOPS ARE APPROXIMATE AND SHOULD BE ADJUSTED TO FINAL GRADE OR PAVEMENT ELEVATION.
 - ALL SANITARY SEWER SERVICES TO BE 6" IN DIAMETER, UNLESS OTHERWISE NOTED.
 - ALL SANITARY SEWER MAIN TESTING SHALL BE IN ACCORDANCE WITH LEE COUNTY UTILITIES TECHNICAL SPECIFICATIONS FOR GRAVITY SEWER.
 - CONTRACTOR TO COORDINATE WITH LCU TO VERIFY THE CONDITION OF THE COATING OF THE EXISTING MANHOLES AND RE-COAT IF NECESSARY.

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Number 33253

ENGINEER OF RECORD:
JOHN T. WOODA, P.E. (FOR THE FIRM)
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OWNER / DEVELOPER:
BUCKINGHAM COMPANIES
941 N. MEDAN STREET
INDIANAPOLIS, IN 46209
(317) 974-1234

PROJECT:
DOWNTOWN ESTERO INFRASTRUCTURE

PLAN REVISIONS	DATE	DESCRIPTION

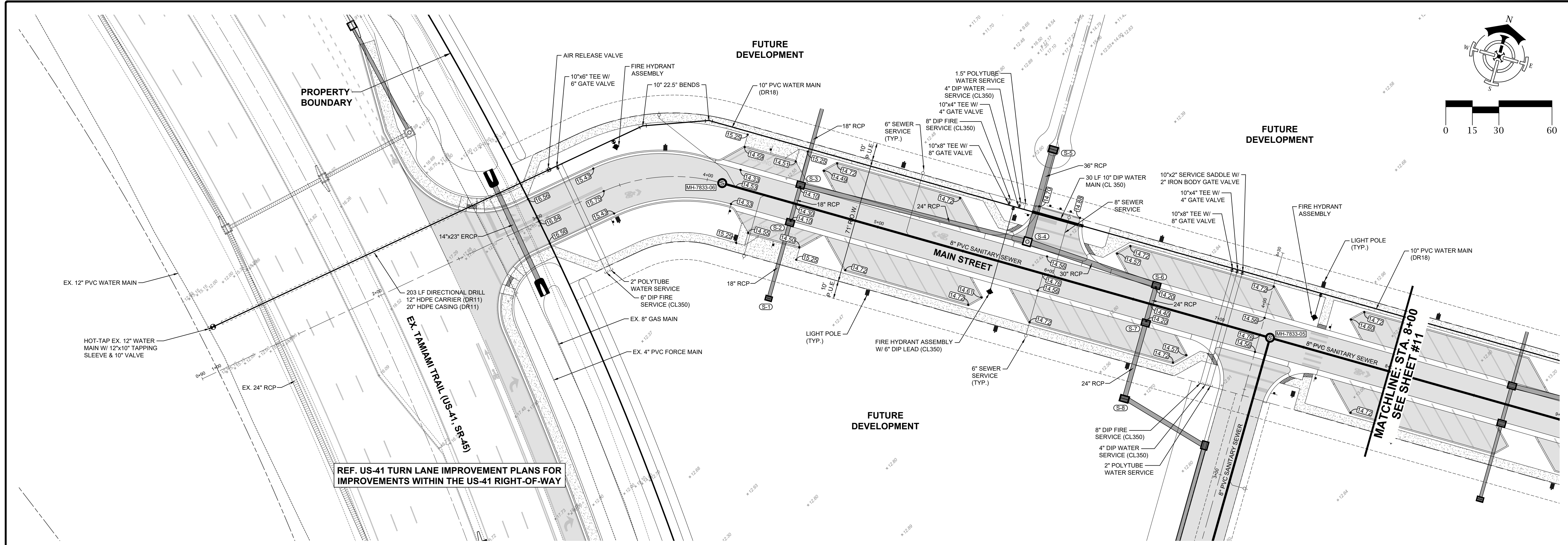
MASTER UTILITY PLAN

Project Manager: JTW
Drawn By: CAS
Checked By: JTW
Project Number: 21521
Located in Section(s): 28
Township: 46 S | Range: 25 E
County, State: LEE COUNTY, FL

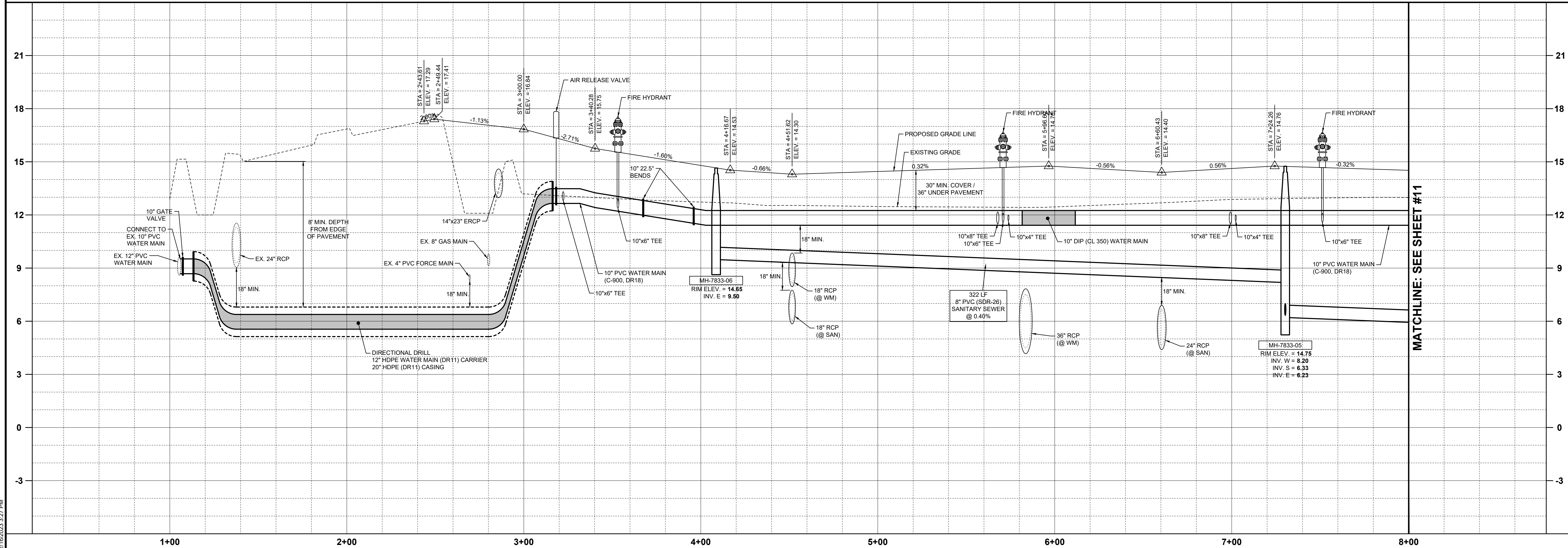
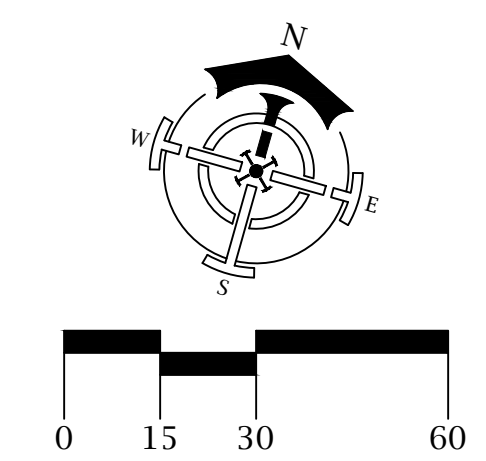
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FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

Sheet Number: 9

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REF. US-41 TURN LANE IMPROVEMENT PLANS FOR IMPROVEMENTS WITHIN THE US-41 RIGHT-OF-WAY



MATCHLINE: SEE SHEET #11

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 FLORIDA P.E. NO. 58217

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BUCKINGHAM COMPANIES
 941 N. MEDAN STREET
 INDIANAPOLIS, IN 46209
 (317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
 INFRASTRUCTURE**

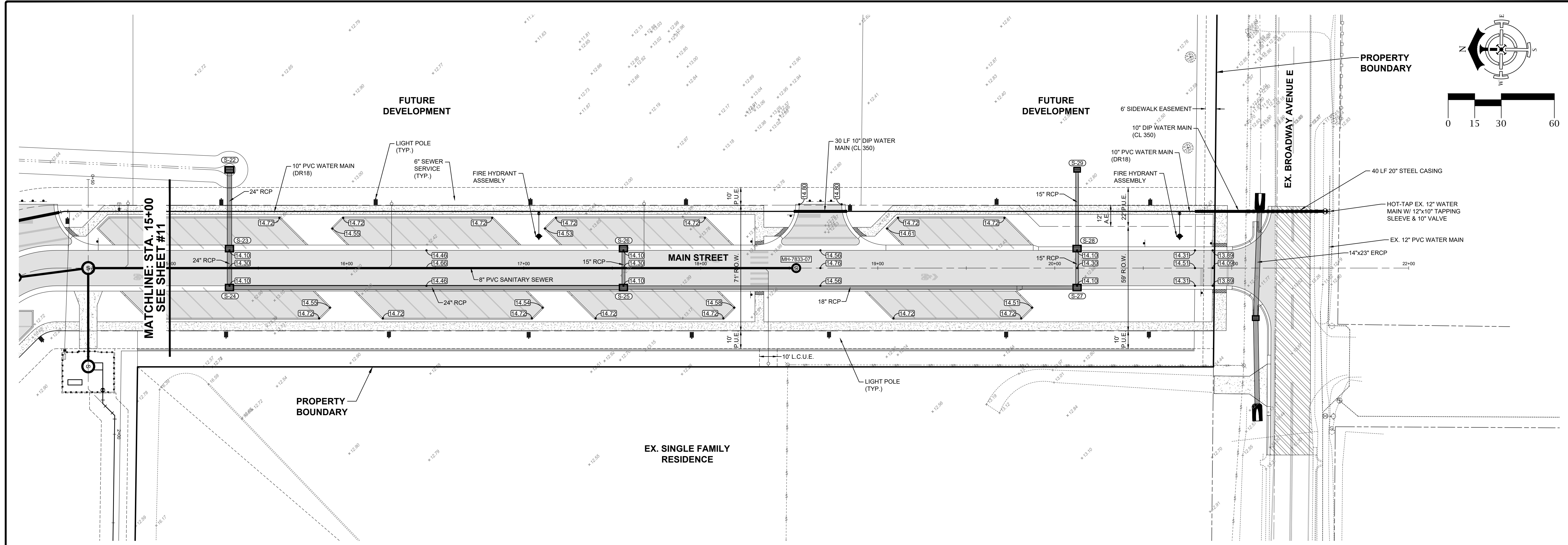
PLAN REVISIONS	DESCRIPTION
#	DATE

PLAN & PROFILE

Project Manager: JTW
 Drawn By: CAS
 Checked By: JTW
 Project Number: 21521
 Located in Section(s): 28
 Township: 46 S Range: 25 E
 County, State: LEE COUNTY, FL

Status:
FOR CONSTRUCTION
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Sheet Number: 10



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 a Division of RESPEC Company LLC

1605 Handy Street
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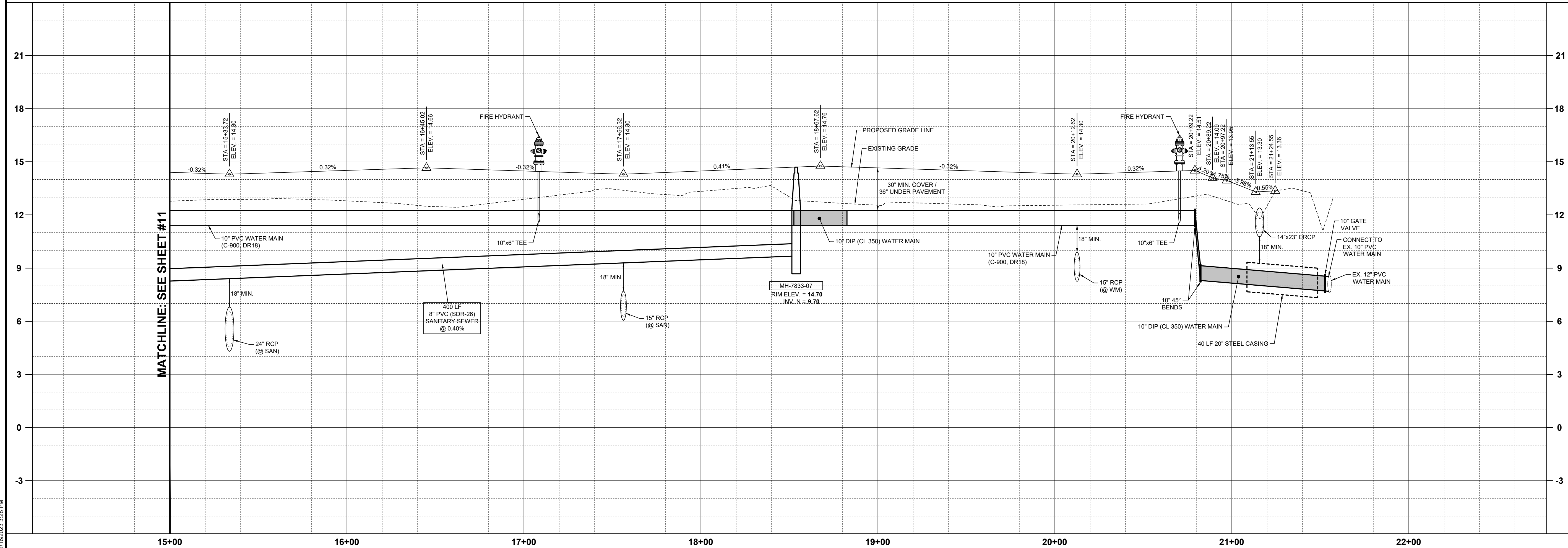
Florida
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 (317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
 INFRASTRUCTURE**



PLAN REVISIONS	DESCRIPTION
#	DATE

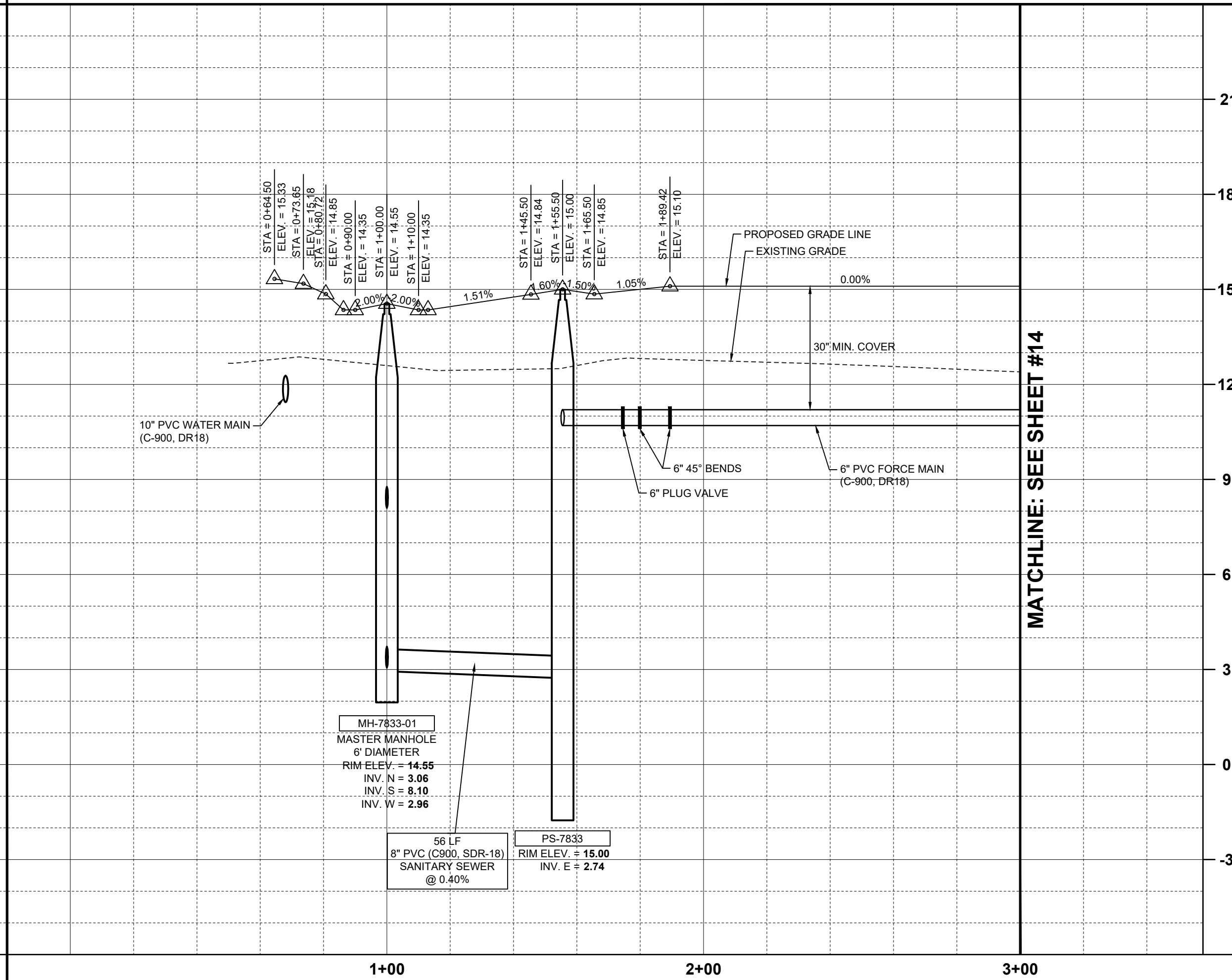
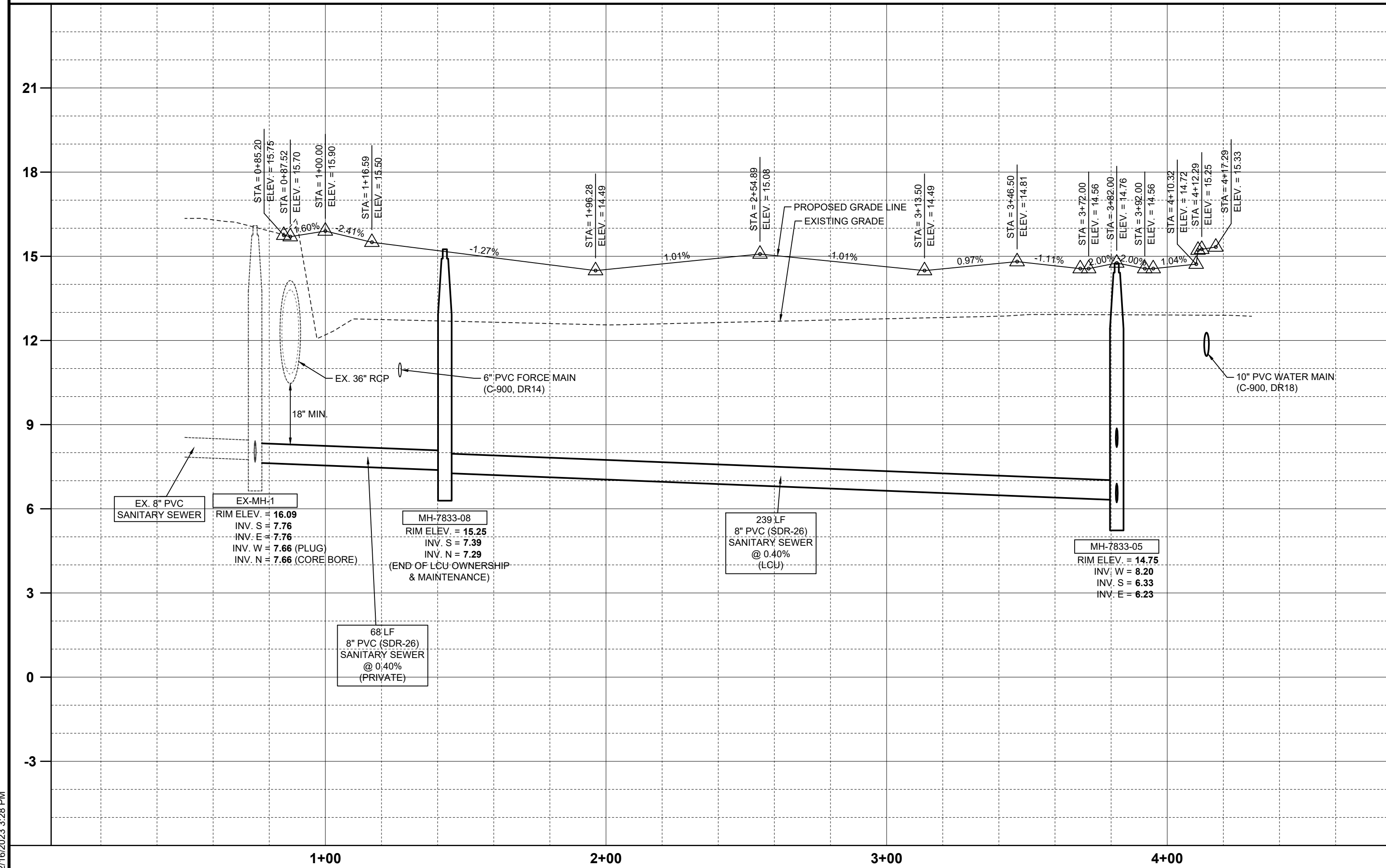
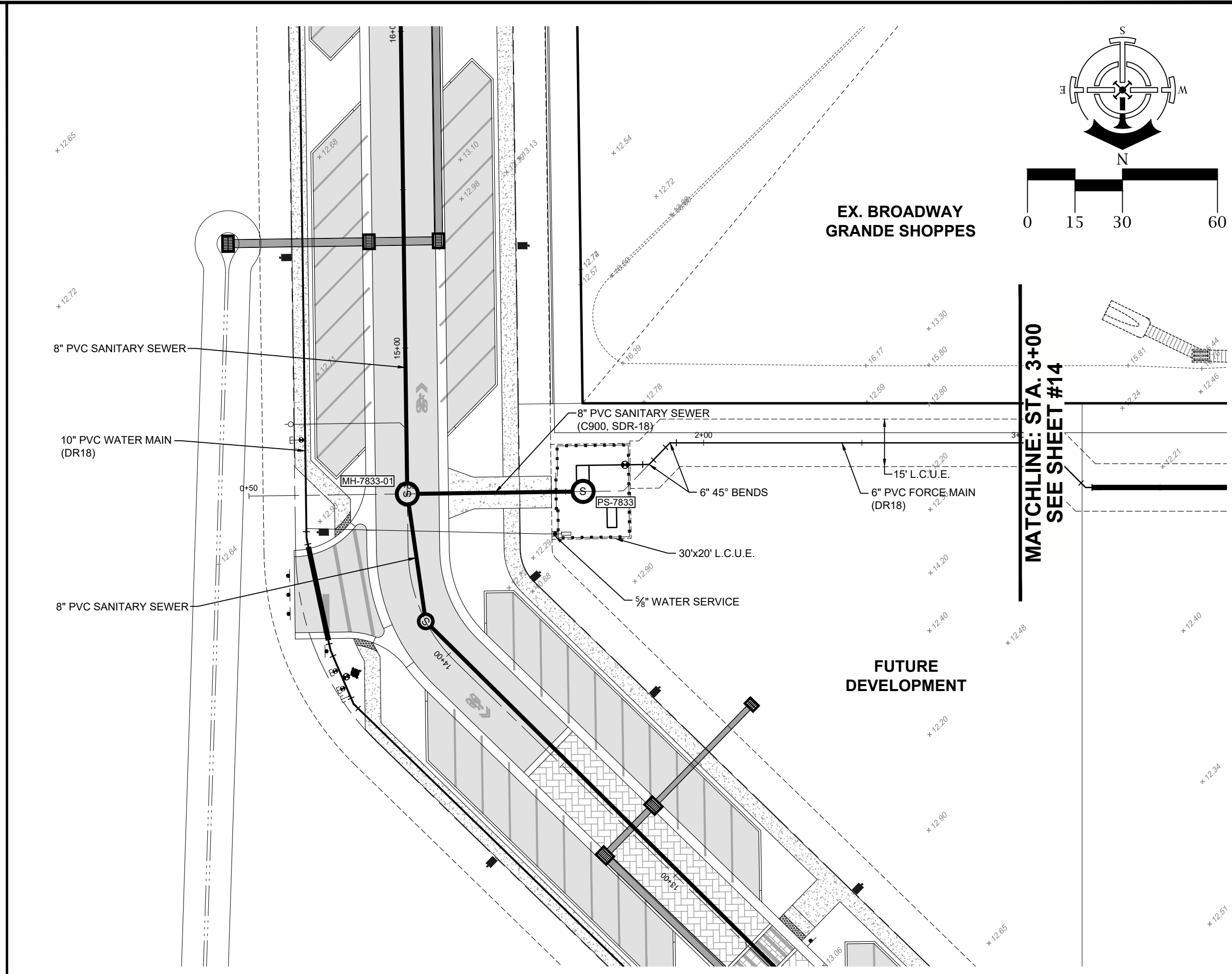
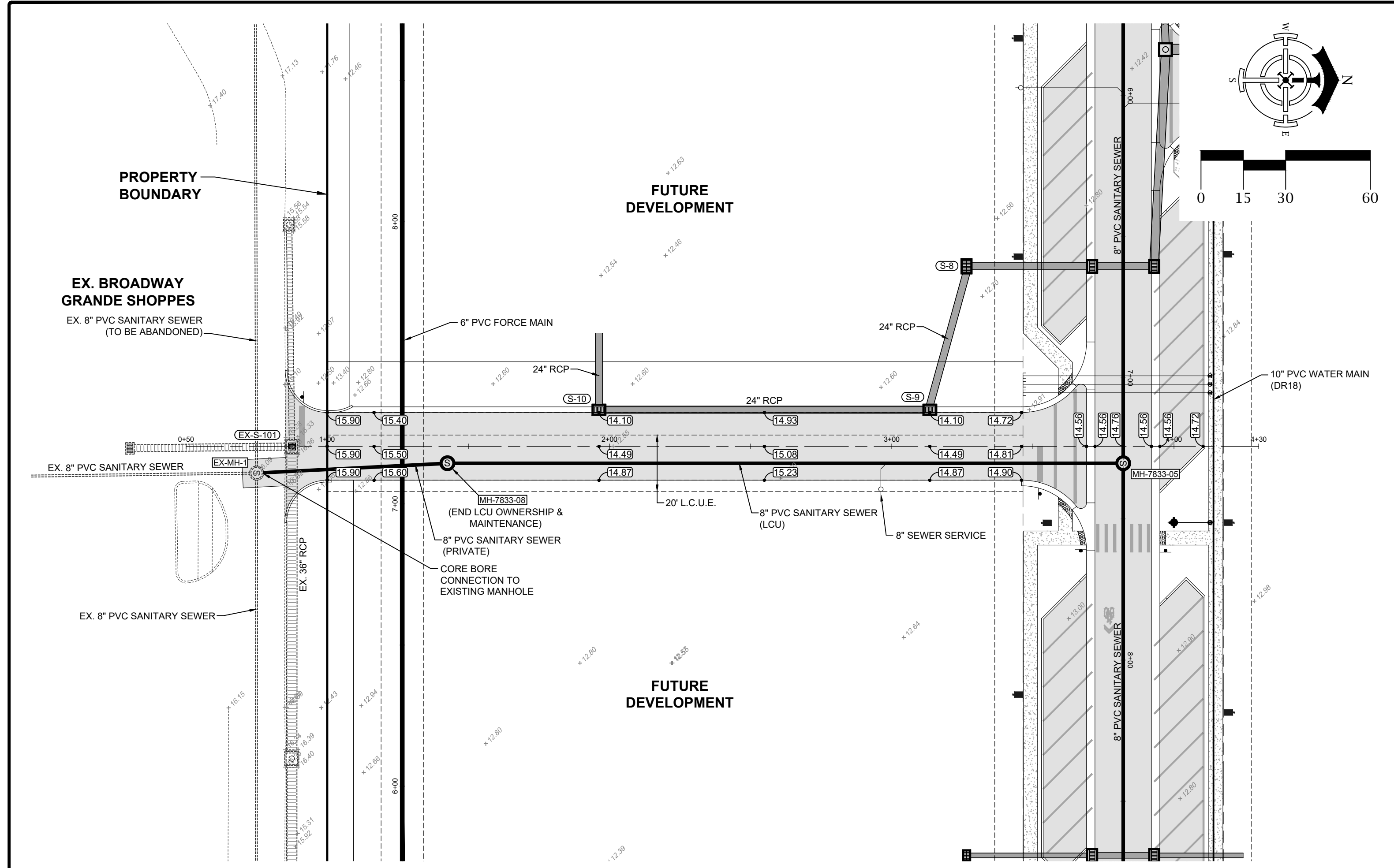
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Project Manager: JTW
 Drawn By: CAS
 Checked By: JTW
 Project Number: 21521
 Located in Section(s): 28
 Township: 46 S Range: 25 E
 County, State: LEE COUNTY, FL

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Sheet Number: 12

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 INDIANAPOLIS, IN 46209
 (317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
 INFRASTRUCTURE**

PLAN REVISIONS	DESCRIPTION
#	DATE

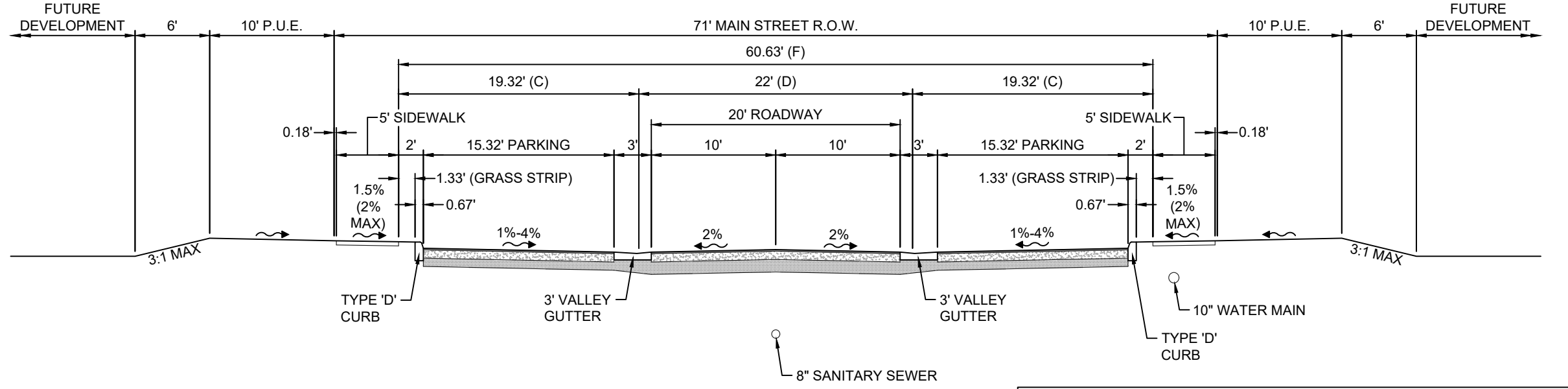
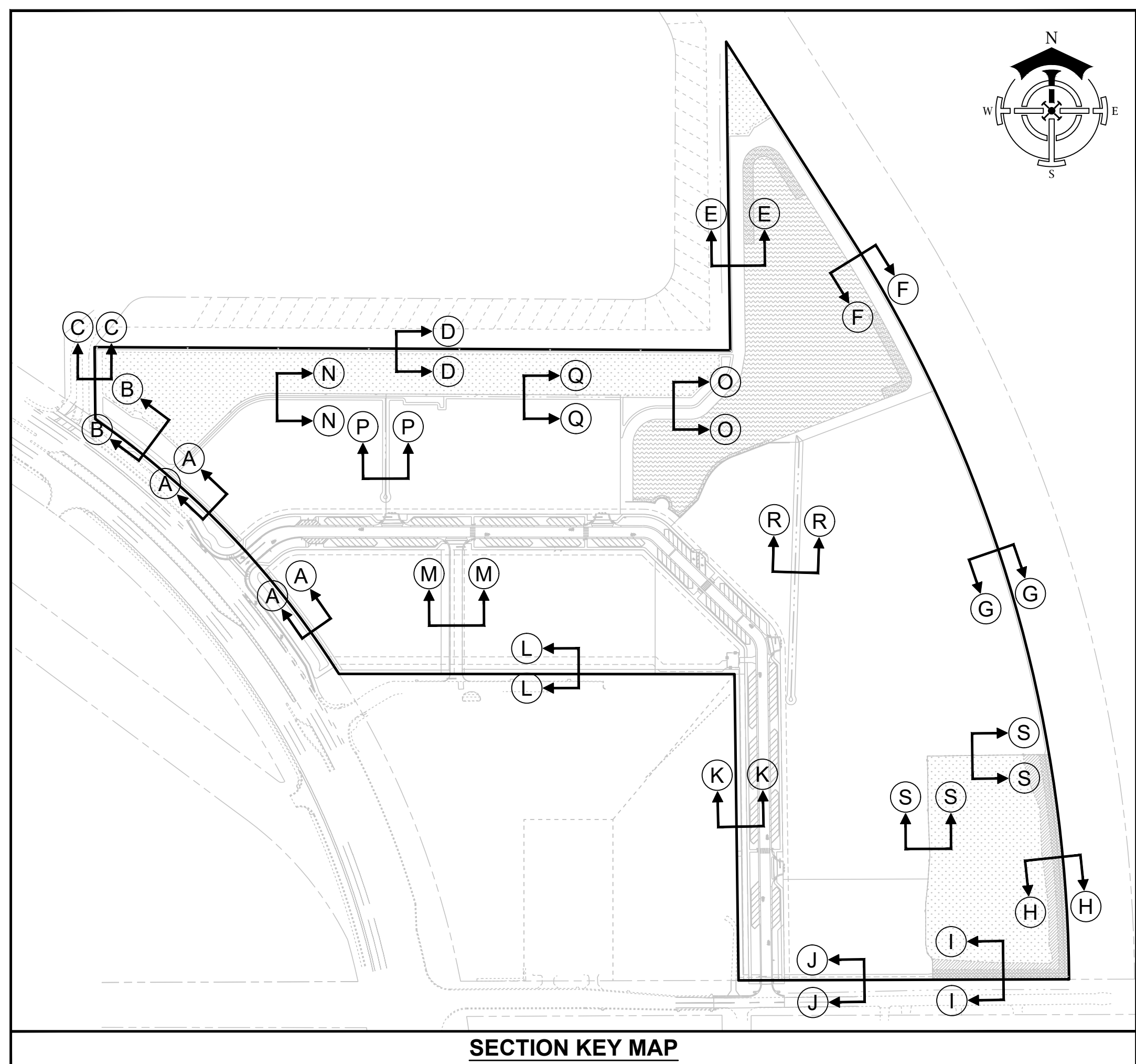
PLAN & PROFILE

Project Manager: JTW
 Drawn By: CAS
 Checked By: JTW
 Project Number: 21521
 Located in Section(s): 28
 Township: 46 S | Range: 25 E
 County, State: LEE COUNTY, FL

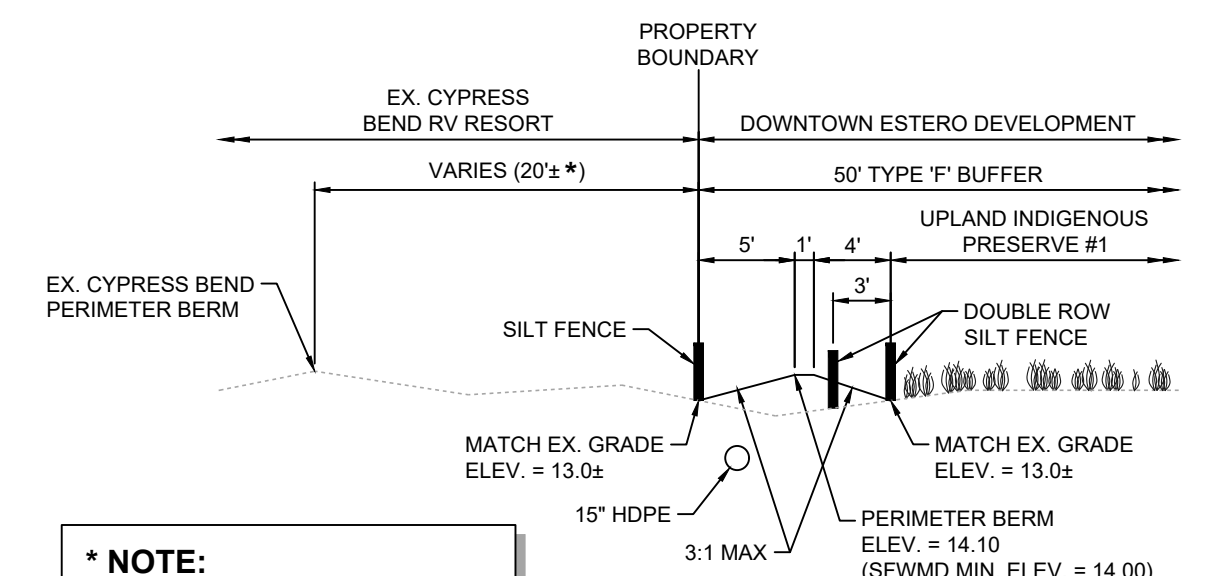
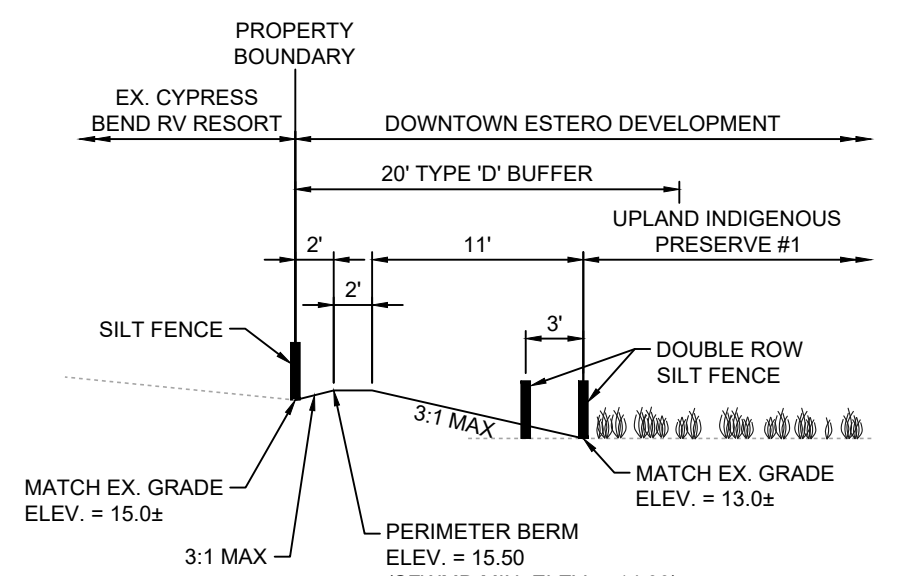
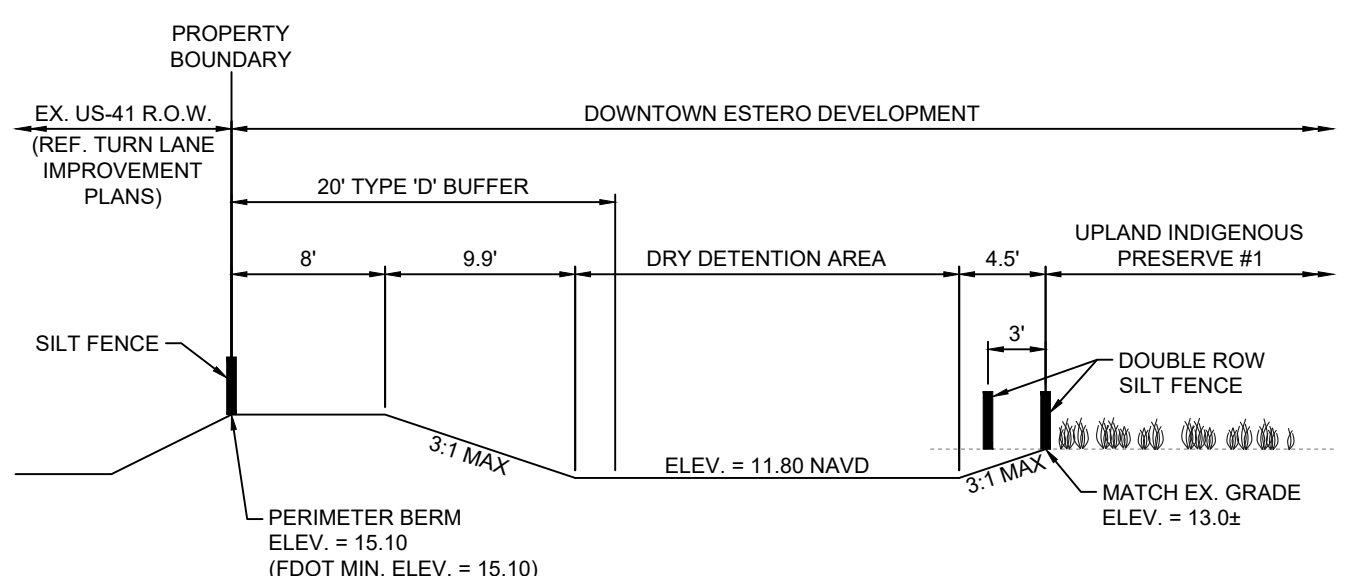
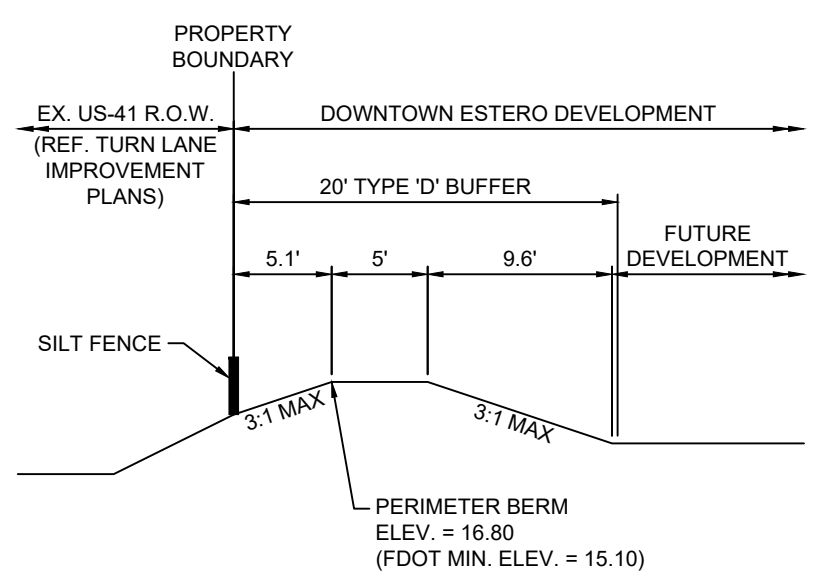
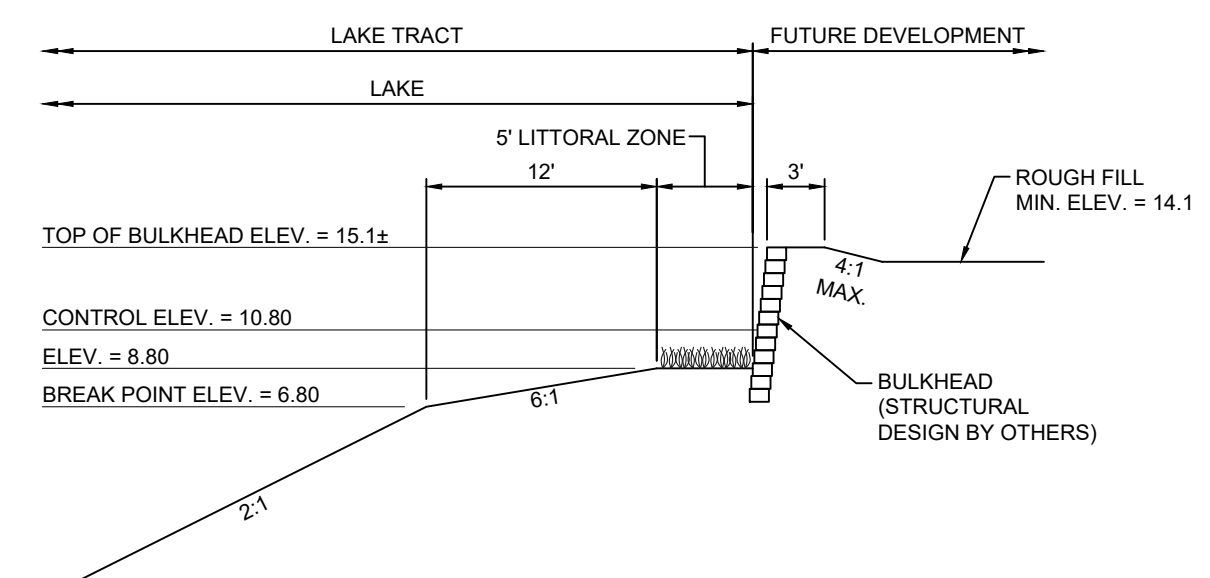
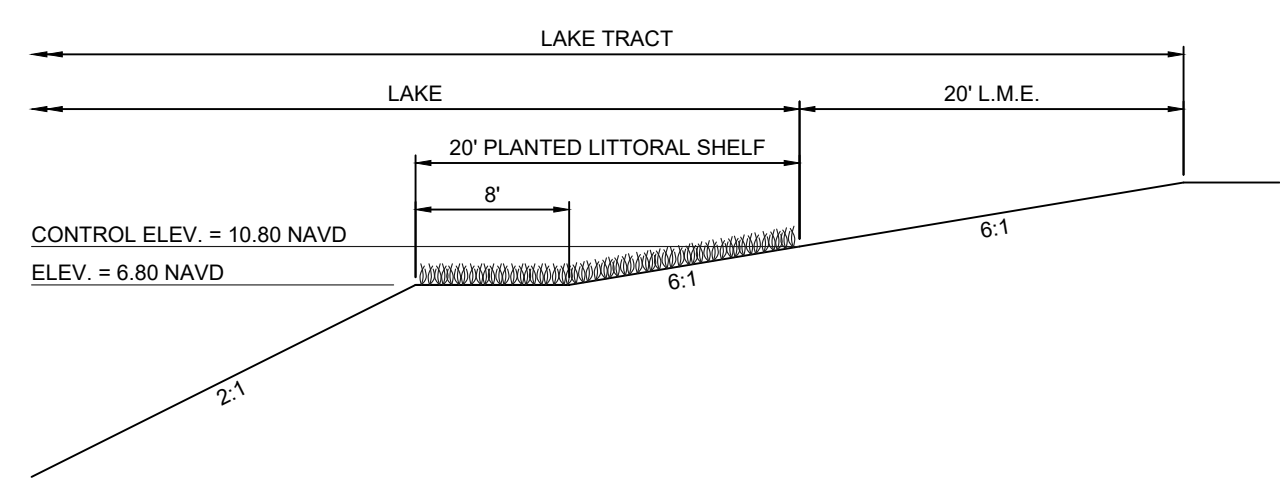
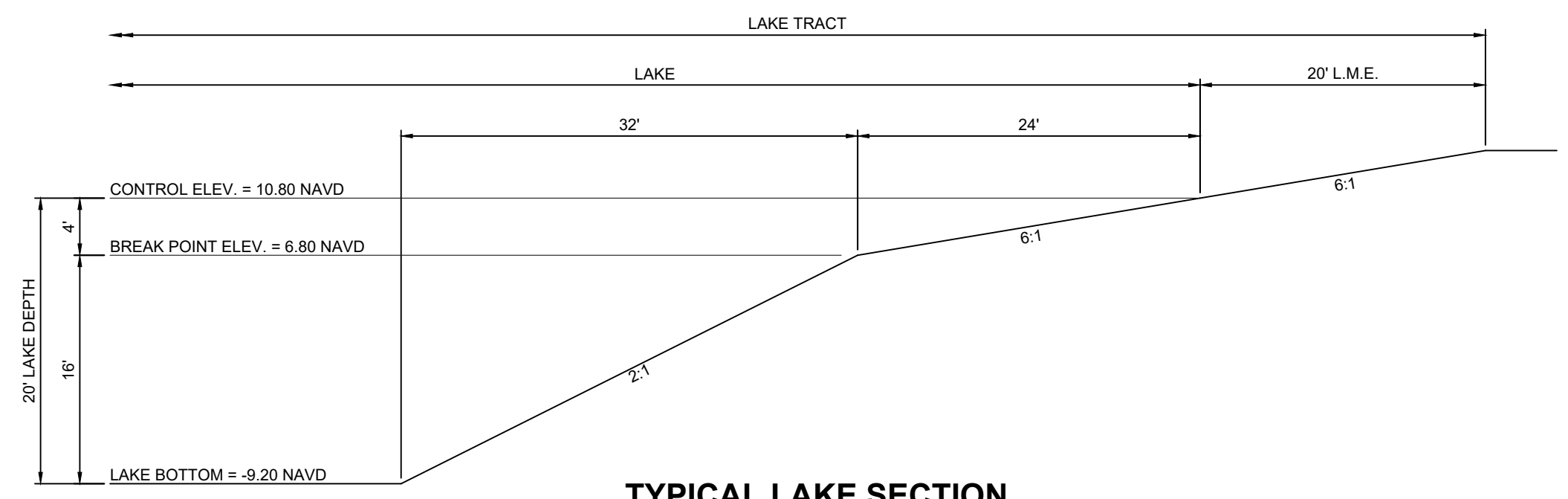
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Sheet Number: 13

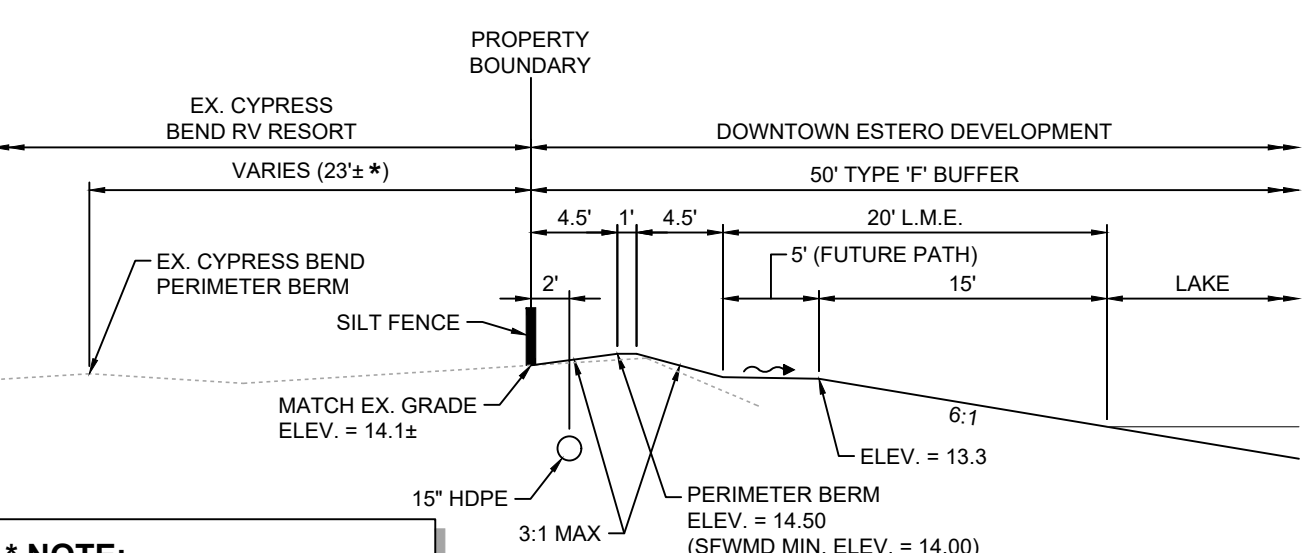
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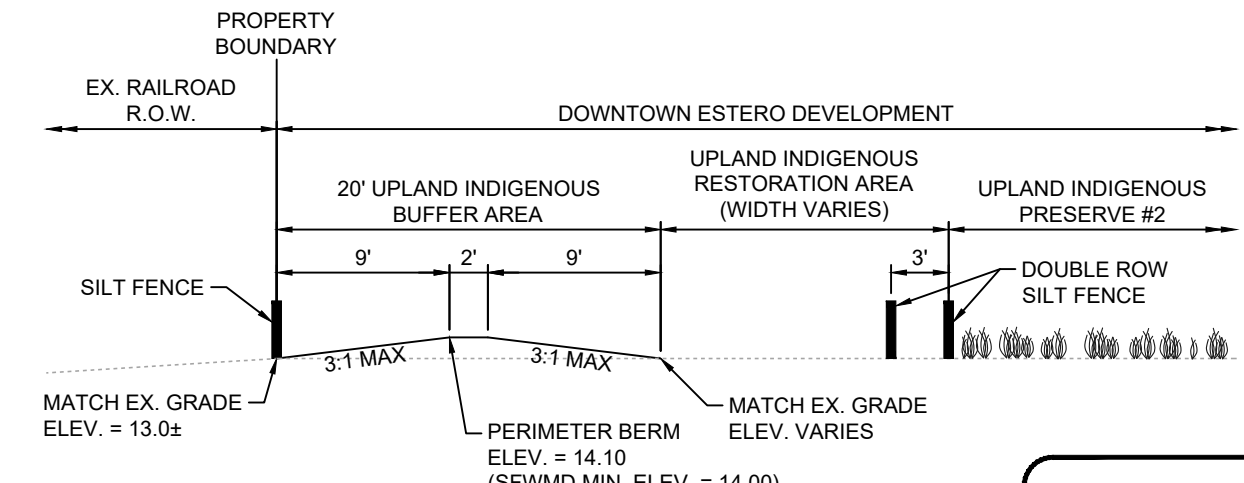
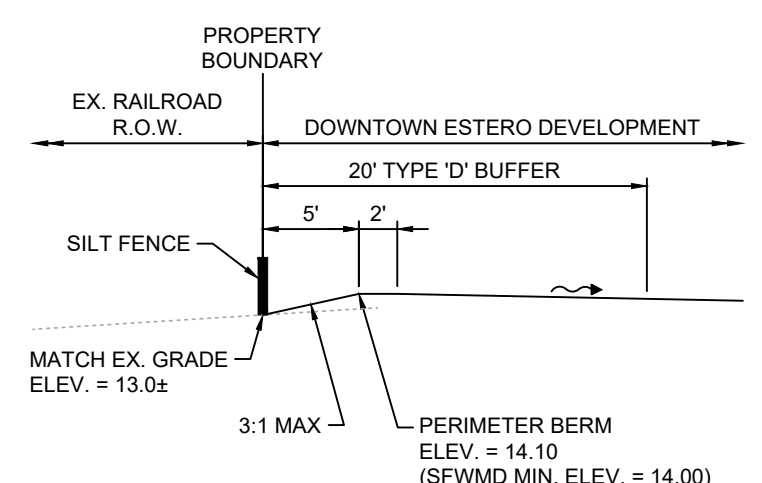
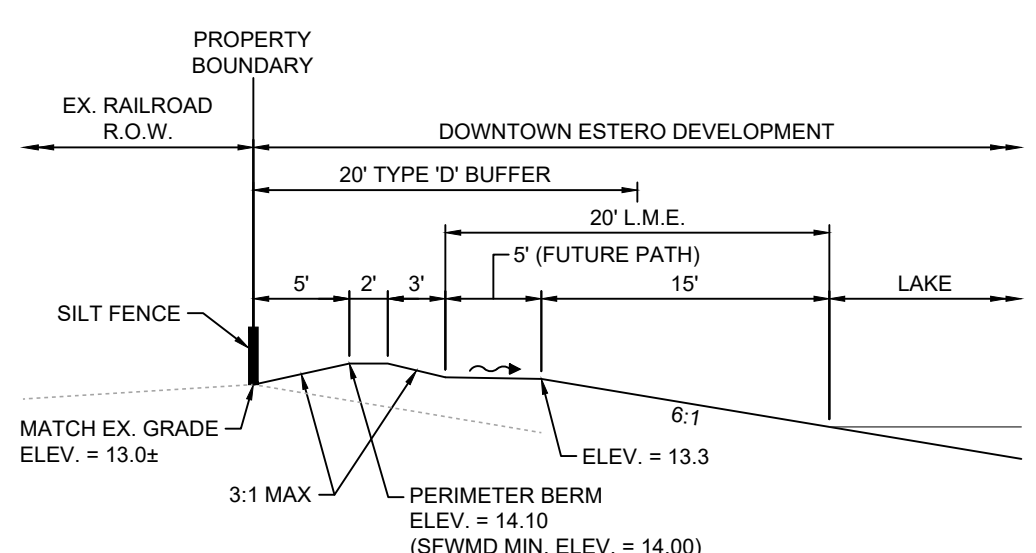
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LETTERS IN PARENTHESIS CORRELATE TO FIGURE 5-204.C, MEASUREMENT OF PARKING SPACE AND AISLE DIMENSIONS IN THE VILLAGE OF ESTERO LDC.



*** NOTE:**
AREA TO BE POSITIVE DRAINAGE FOR AREA OUTSIDE CYPRESS BEND PERIMETER BERM TO BE MAINTAINED.



*** NOTE:**
AREA TO BE POSITIVE DRAINAGE FOR AREA OUTSIDE CYPRESS BEND PERIMETER BERM TO BE MAINTAINED.



PROJECT DATUM
NAVD
DATUM CONVERSION
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PROJECT:
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PLAN REVISIONS	DESCRIPTION
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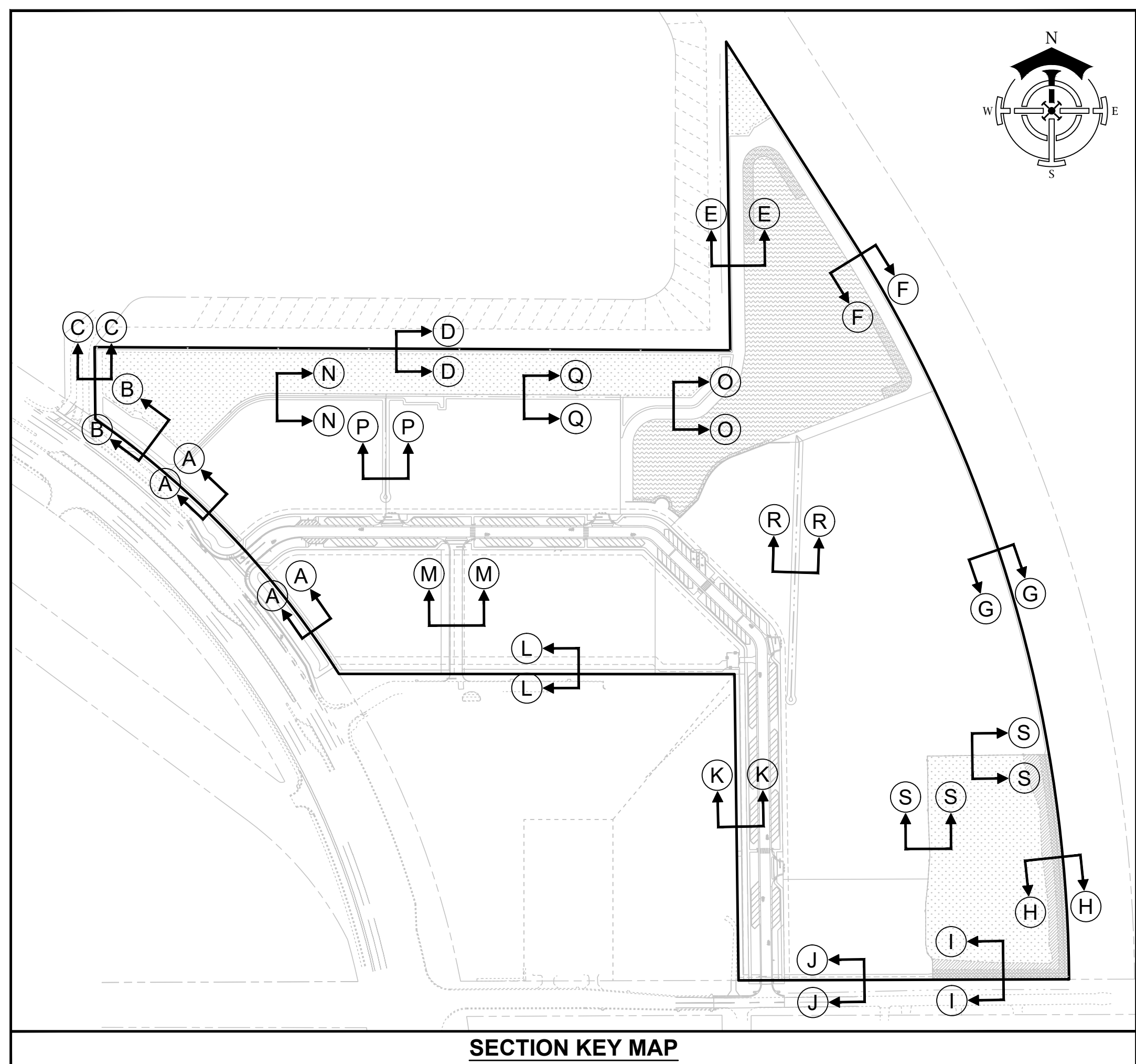
TYPICAL SECTIONS

Project Manager: JTW
Drawn By: CAS
Checked By: JTW
Project Number: 21521
Located in Section(s): 28
Township: 46 S | Range: 25 E
County, State: LEE COUNTY, FL

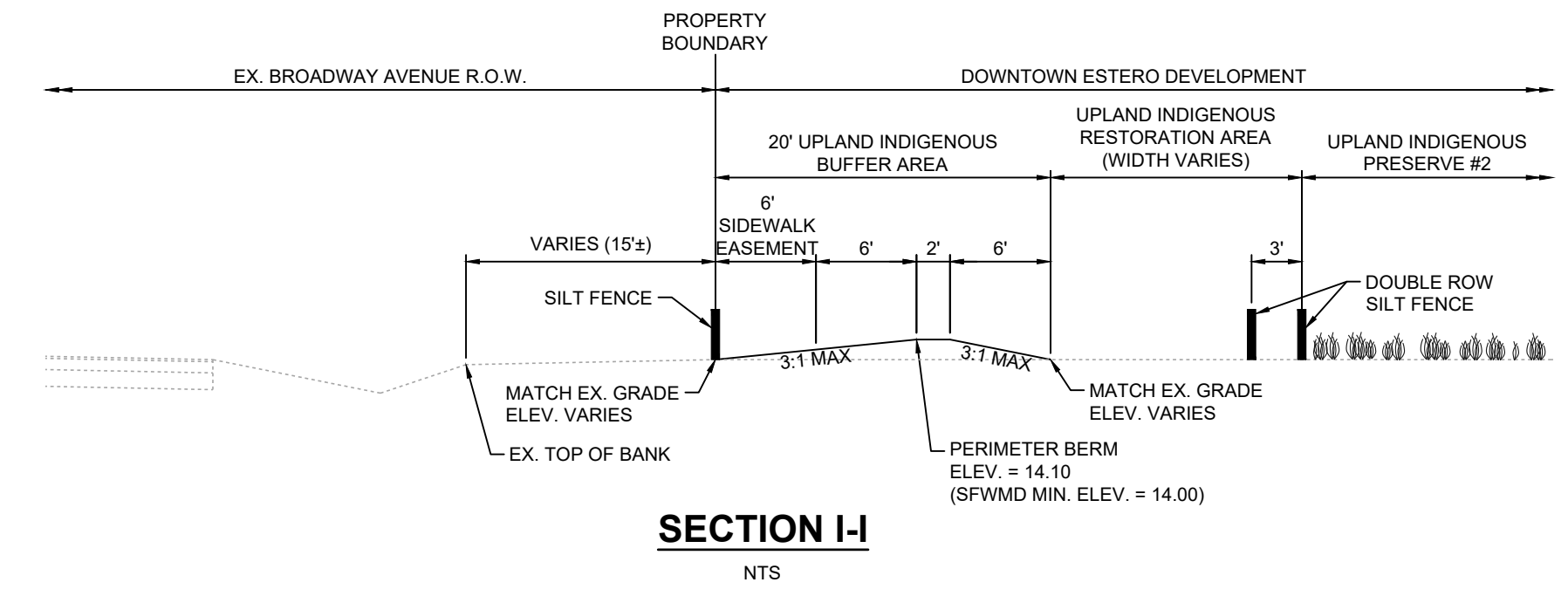
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SUBJECT TO ALL PERMIT APPROVALS

Sheet Number: 16

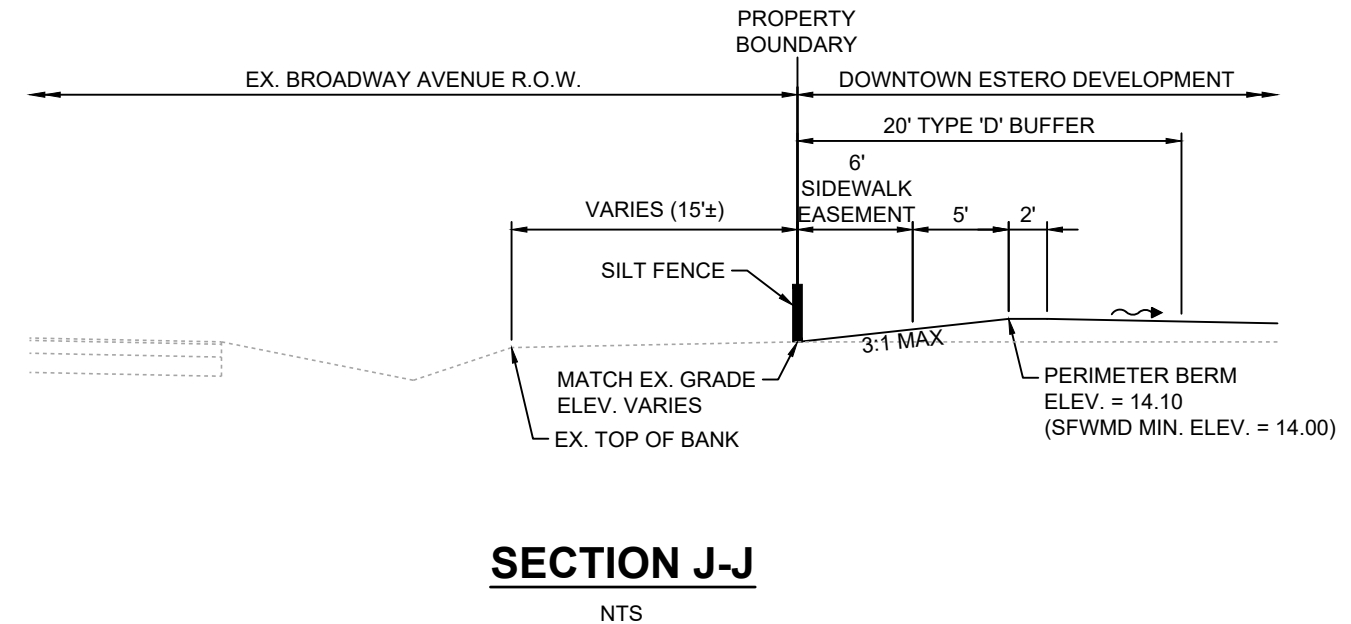
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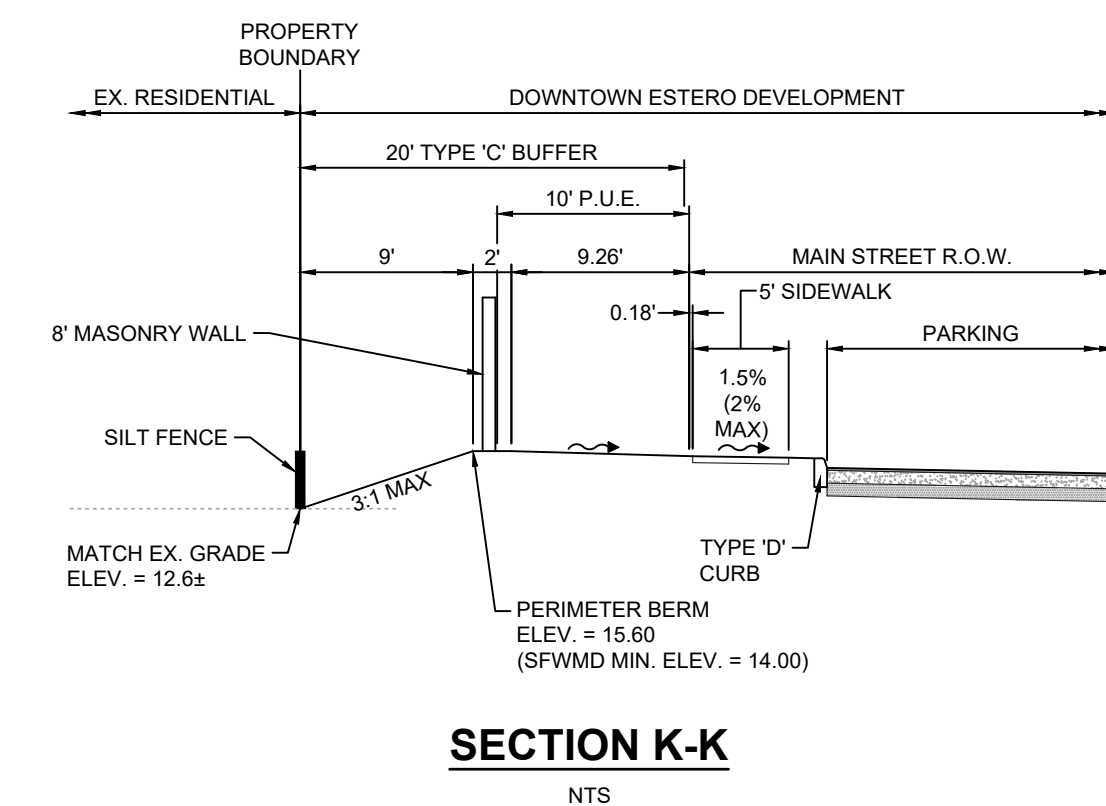
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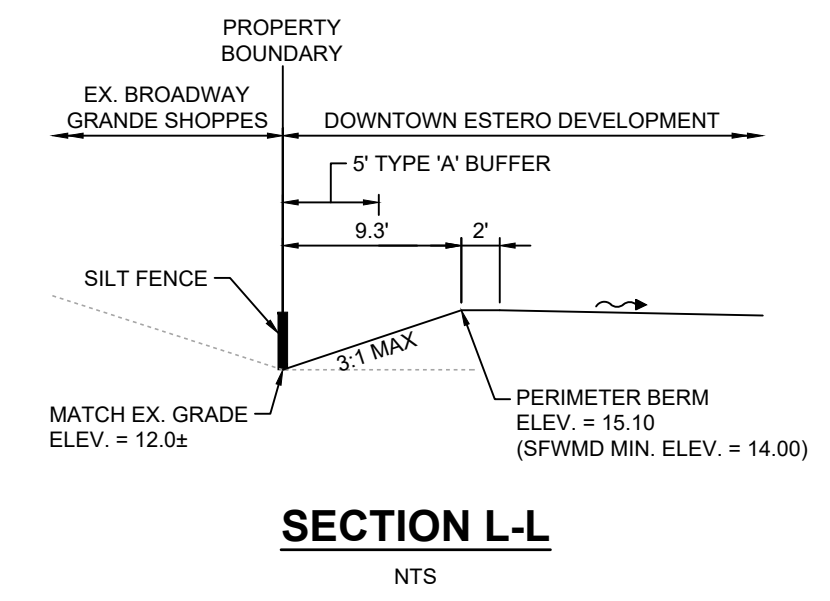
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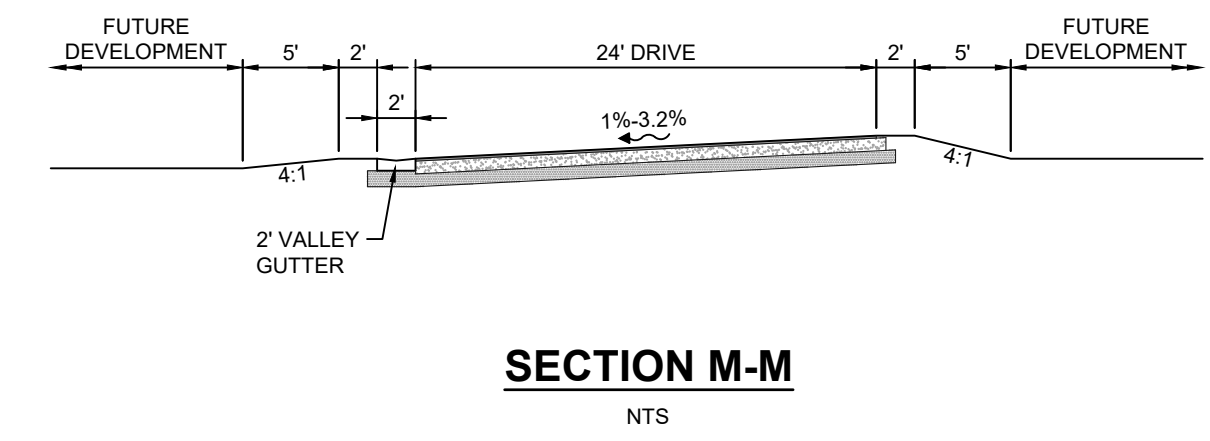
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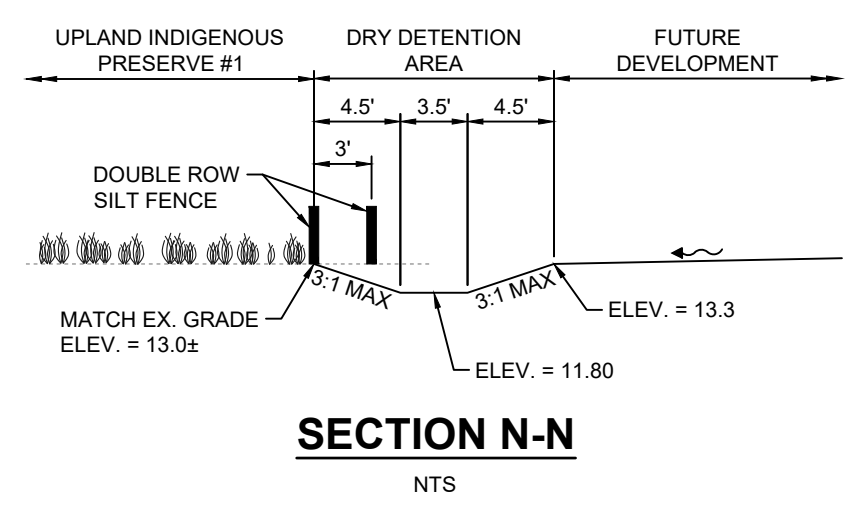
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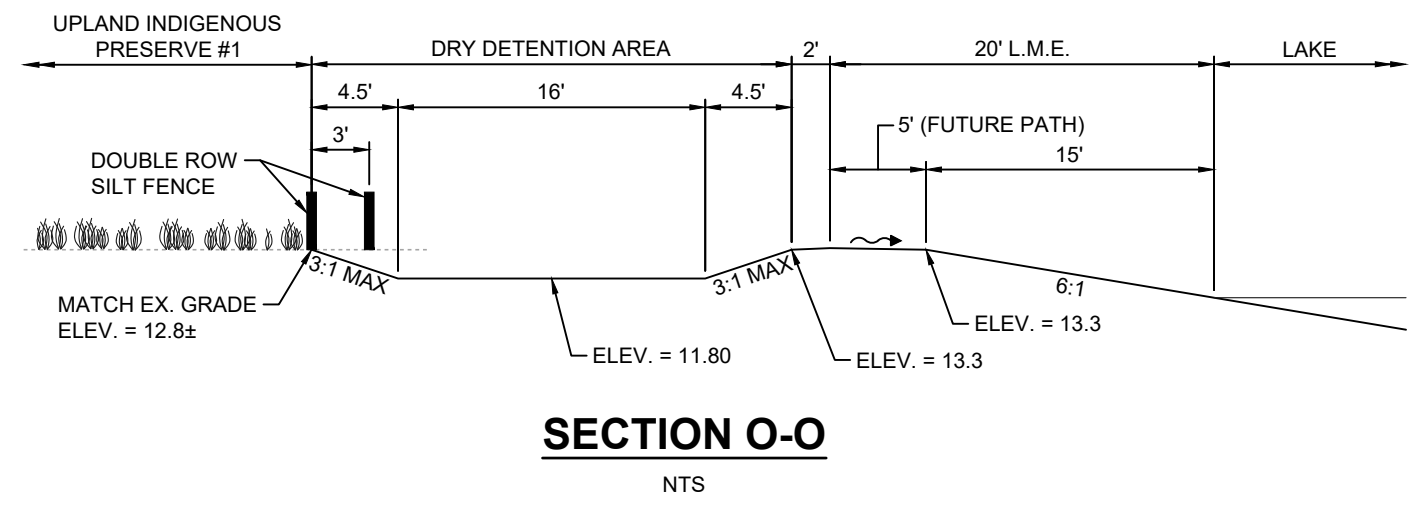
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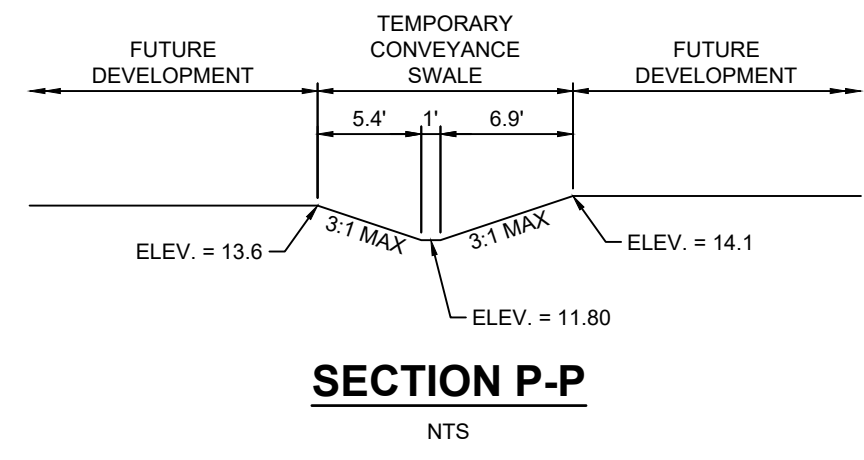
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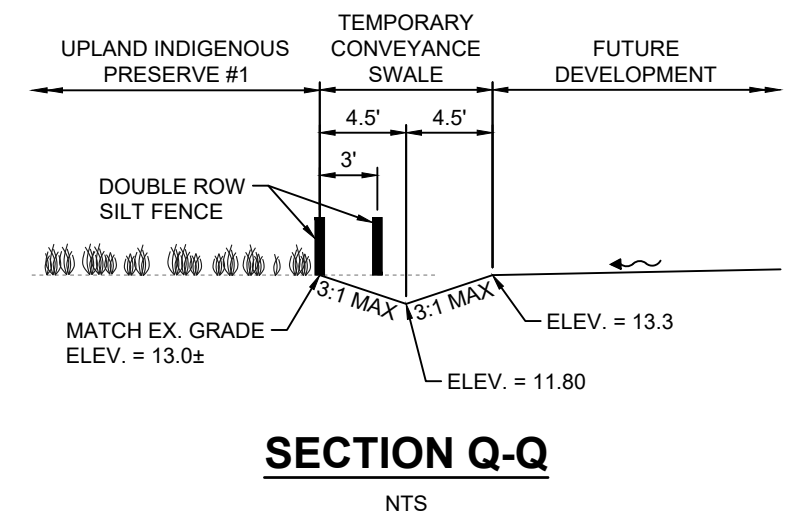
SECTION N-N
NTS



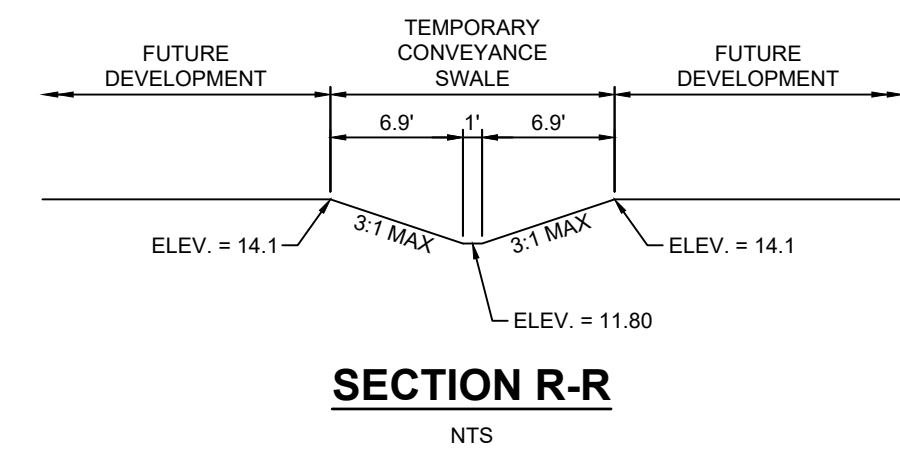
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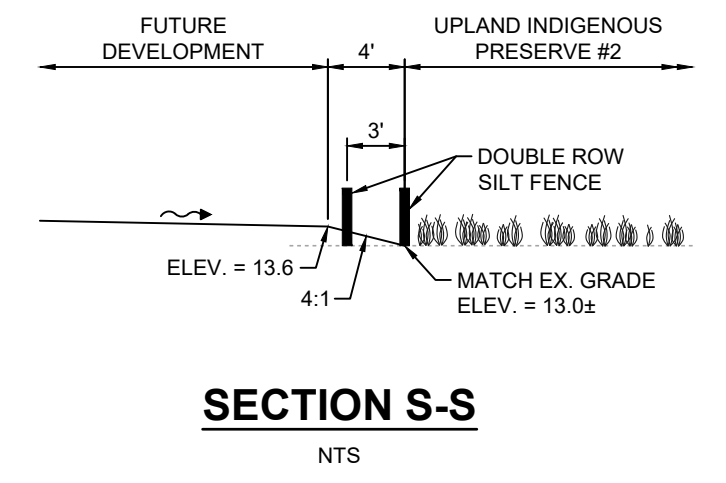
SECTION P-P
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SECTION Q-Q
NTS



SECTION R-R
NTS



SECTION S-S
NTS

PROJECT DATUM
NAVD
DATUM CONVERSION
NAVD + 1.20 = NGVD

DELISI FITZGERALD, INC.
Planning - Engineering - Project Management
a Division of RESPEC Company LLC

1605 Handy Street
Fort Myers, FL 33901
(239) 418-0691
Registry License Number 33253

ENGINEER OF RECORD:
JOHN T. WOODA, P.E. (FOR THE FIRM)
FLORIDA P.E. NO. 58217

NOT VALID WITHOUT SEAL, SIGNATURE AND DATE

OWNER / DEVELOPER:
BUCKINGHAM COMPANIES
941 N. MEDIAN STREET
INDIANAPOLIS, IN 46209
(317) 974-1234

DOWNTOWN ESTERO INFRASTRUCTURE

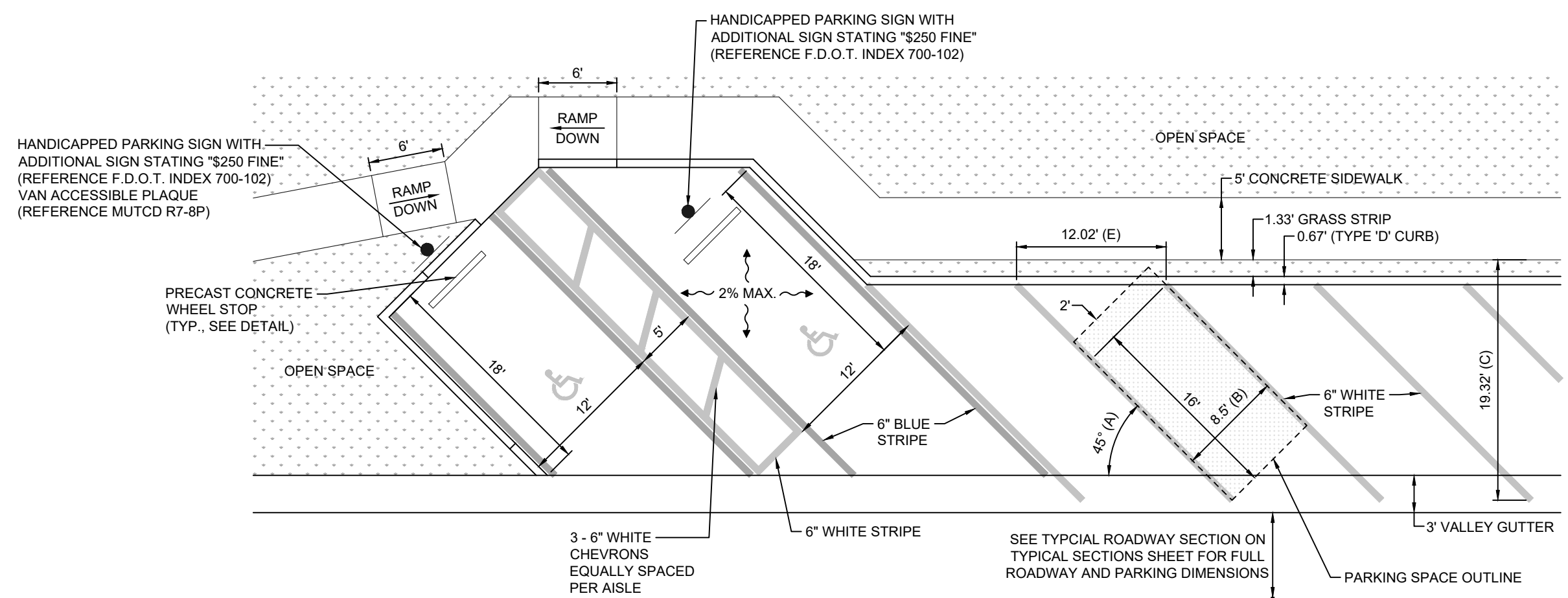
PLAN REVISIONS	DESCRIPTION
#	DATE

TYPICAL SECTIONS

Project Manager:	JTW
Drawn By:	CAS
Checked By:	JTW
Project Number:	21521
Located in Section(s):	28
Township:	46 S Range: 25 E
County, State:	LEE COUNTY, FL

Status:
FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

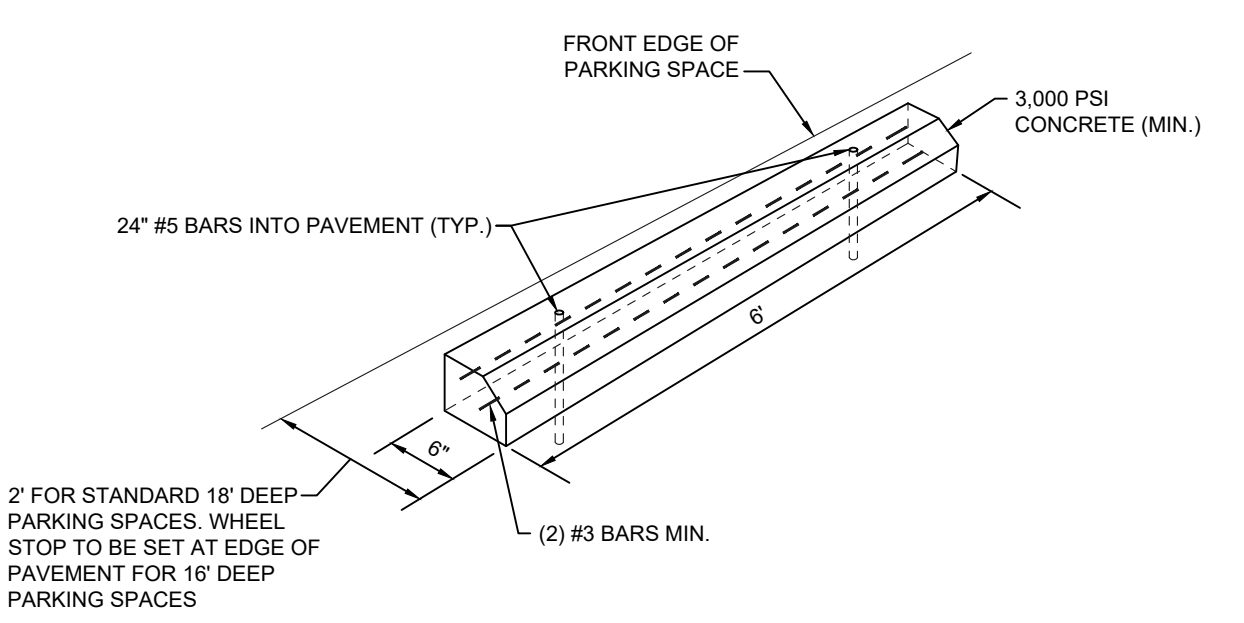
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21521-17-17



NOTES:
 1. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS PER ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 4.6.
 2. LETTERS IN PARENTHESIS CORRELATE TO FIGURE 5-204 C: MEASUREMENT OF PARKING SPACE AND AISLE DIMENSIONS IN THE VILLAGE OF ESTERO LDC.

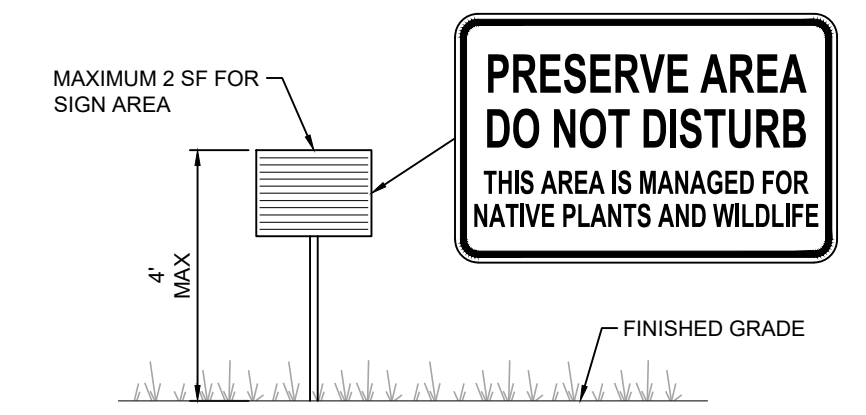
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NTS



WHEEL STOP DETAIL

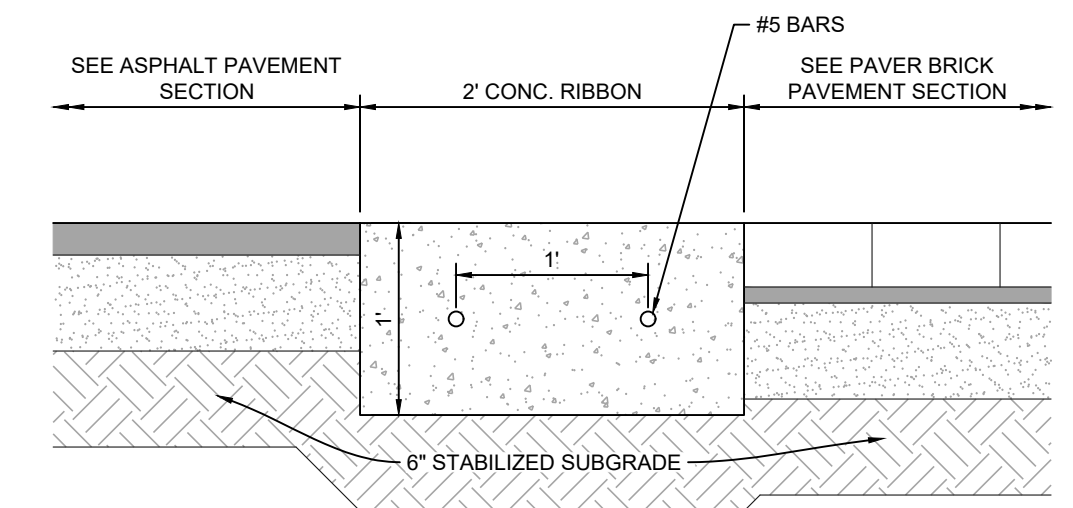
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NOTES:
 1. THE SIGN SHALL BE PLACED NO CLOSER THAN 10 FEET TO THE PROPERTY LINE.
 2. MAXIMUM SIGN SPACING SHALL BE 100'.

PRESERVE AREA SIGN DETAIL

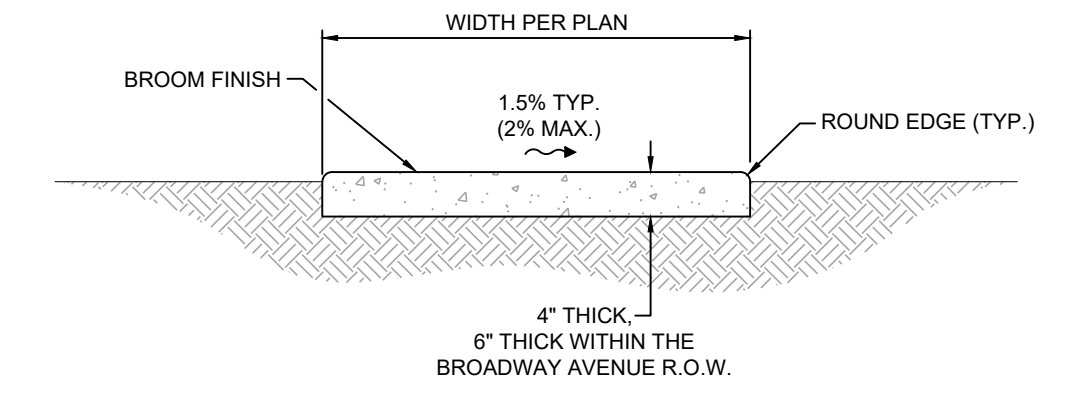
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NOTE:
 CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS.

2' CONCRETE RIBBON DETAIL

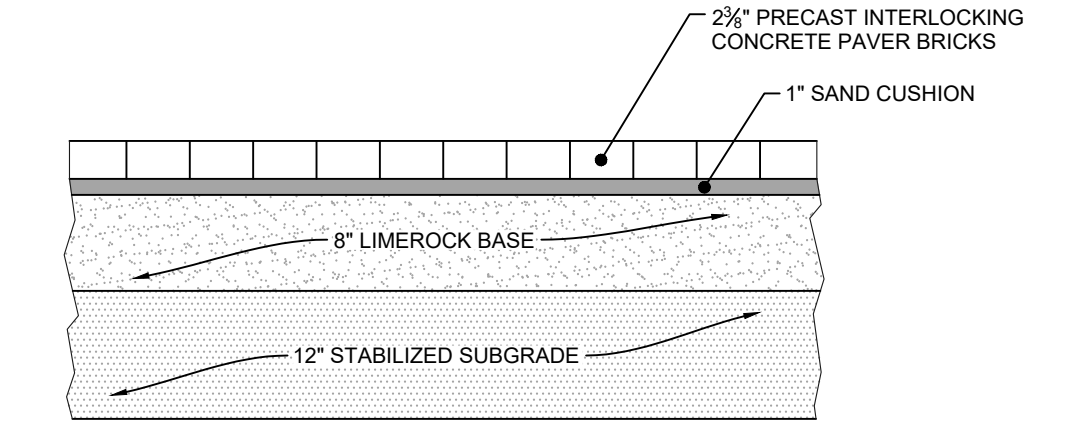
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NOTE:
 CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS.

1' CONCRETE RIBBON CURB DETAIL

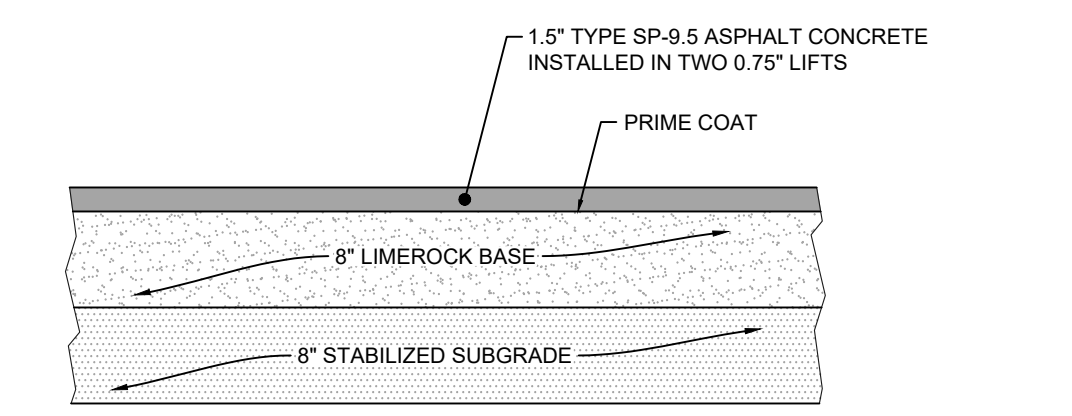
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PAVEMENT NOTES:
 1. 8" LIMEROCK BASE, PRIMED AND COMPACTED TO 98% OF MAX. DENSITY (DETERMINED BY AASHTO T-180), (MIN. LBR 100).
 2. 12" STABILIZED SUBGRADE (MIN. LBR 40).
 3. STABILIZED SUBGRADE TO EXTEND 1 FOOT BEYOND EDGE OF PAVEMENT AND BACK OF CURB.
 4. WHEN NO CURB IS PROPOSED LIMEROCK TO EXTEND 6 INCHES BEYOND EDGE OF PAVEMENT.
 5. PAVER BRICK SHALL BE A MINIMUM 2 1/2" THICK.

PAVER BRICK PAVEMENT DETAIL

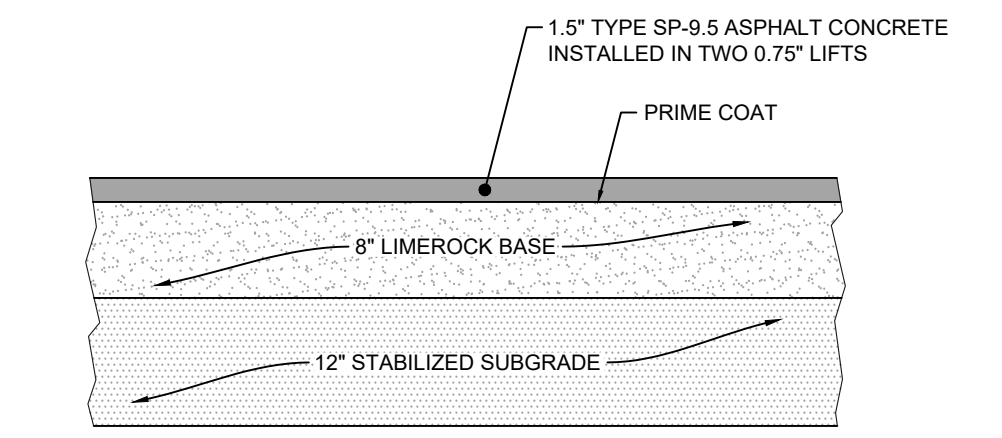
NTS



NOTES:
 1. SIDEWALK SHALL BE CONSTRUCTED IN CONFORMANCE WITH FDOT STANDARD PLANS INDEX 522-001 AND STANDARD SPECIFICATION 522 AND CORRESPONDING STANDARDS.
 2. COMPACT FILL AREAS TO MINIMUM 95% OF AASHTO T99 DENSITY.
 3. SIDEWALK SHALL HAVE CONTRACTION JOINTS SPACED EQUALLY TO THE SIDEWALK WIDTH AND HAVE EXPANSION JOINTS EVERY 120' MAXIMUM.
 4. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS.
 5. SIDEWALKS SHALL HAVE A MAXIMUM RUNNING SLOPE OF 1:20 (5%) AND A MAXIMUM CROSS SLOPE OF 1:50 (2%) PER ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 4.3.
 6. CURB RAMPS SHALL BE CONSTRUCTED IN CONFORMANCE WITH ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 4.7 AND FDOT STANDARD PLANS INDEX 522-002.

TYPICAL CONCRETE SIDEWALK DETAIL

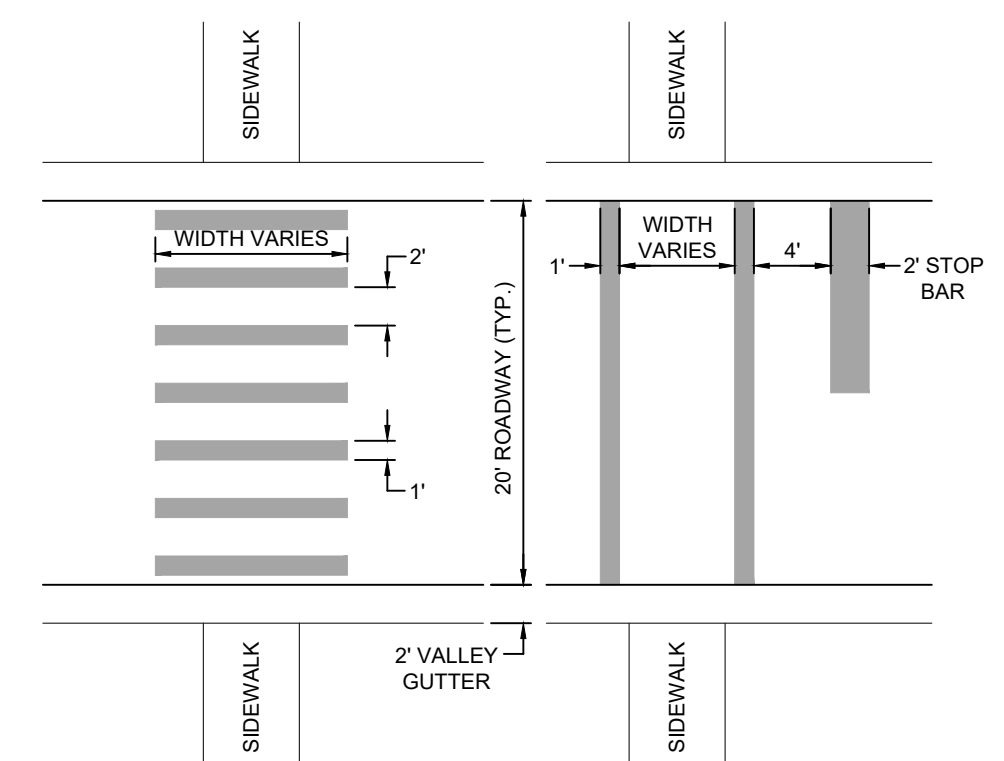
NTS



PAVEMENT NOTES:
 1. 8" LIMEROCK BASE, PRIMED AND COMPACTED TO 98% OF MAX. DENSITY (DETERMINED BY AASHTO T-180), (MIN. LBR 100).
 2. 12" STABILIZED SUBGRADE (MIN. LBR 40).
 3. STABILIZED SUBGRADE TO EXTEND 1 FOOT BEYOND EDGE OF PAVEMENT AND BACK OF CURB.
 4. WHEN NO CURB IS PROPOSED LIMEROCK TO EXTEND 6 INCHES BEYOND EDGE OF PAVEMENT.

TYPICAL ROADWAY PAVEMENT SECTION

NTS

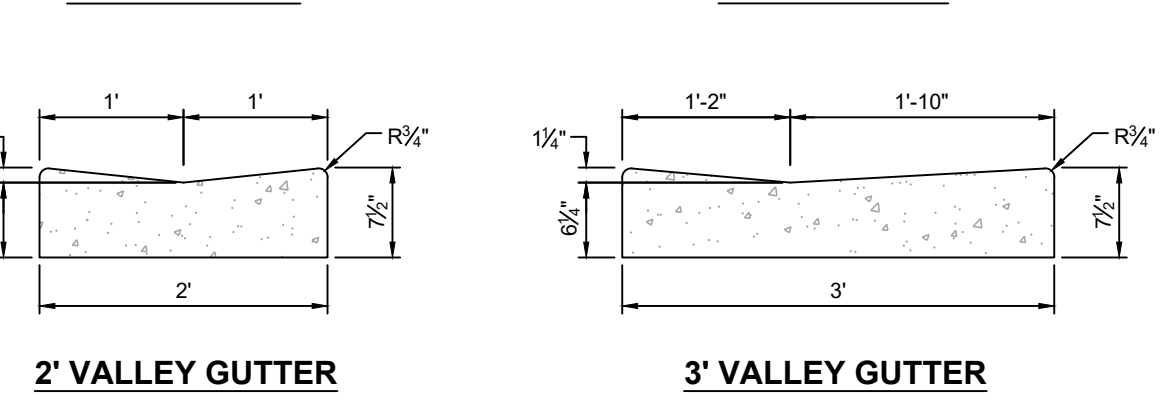
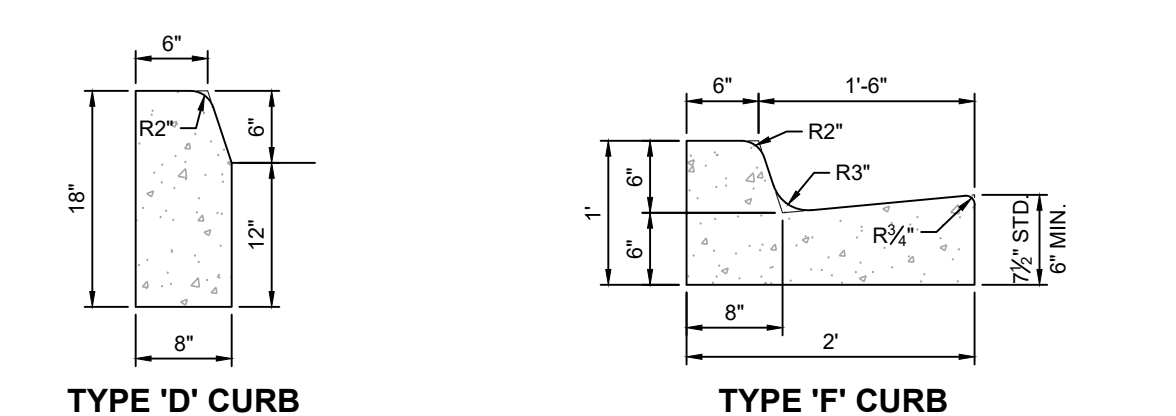


HIGH VISIBILITY STANDARD W/STOP BAR

NOTES:
 1. SEE PLANS FOR TYPE OF CROSSWALK STRIPING AND LOCATION.
 2. DETAILS REFERENCED F.D.O.T. INDEX 711-001 & M.U.T.C.D. SECTION 38.17.
 3. CROSSWALKS SHALL HAVE A MAXIMUM RUNNING SLOPE OF 1:20 (5%) AND A MAXIMUM CROSS SLOPE OF 1:50 (2%) PER ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 4.3.

TYPICAL PEDESTRIAN CROSSWALKS

NTS



NOTES:
 1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS UNLESS OTHERWISE NOTED.
 2. CURB SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX 520-001.
 3. CURB SHALL HAVE EXPANSION JOINTS INSTALLED AT ALL INLETS AND EVERY 500'.

CURB DETAILS

NTS



EV PARKING SIGN DETAIL



EV CHARGING STATION

PLEASE CONTACT MANAGEMENT COMPANY WITH ANY EQUIPMENT PROBLEMS COMPANY NAME: TBD PHONE NUMBER: TBD

EV CHARGING STATION DECAL

NOTES:
 1. EV CHARGING STATIONS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
 2. EV CHARGING STATION DECAL SHALL BE ATTACHED TO EACH STATION.

CT4000 EV CHARGING STATION DETAIL

NTS

DELISI FITZGERALD, INC.
 Planning - Engineering - Project Management
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 1605 Hendry Street
 Fort Myers, FL 33901
 (239) 418-0691
 (239) 418-0692 fax
 Florida
 Registry License
 Number 33253

ENGINEER OF RECORD:
 JOHN T. WOODAK, P.E. (FOR THE FIRM)
 FLORIDA P.E. NO. 58217
 NOT VALID WITHOUT SEAL, SIGNATURE AND DATE

OWNER / DEVELOPER:
BUCKINGHAM COMPANIES
 941 N. MEDIAN STREET
 INDIANAPOLIS, IN 46209
 (317) 974-1254
PROJECT:
DOWNTOWN ESTERO INFRASTRUCTURE

PLAN REVISIONS	DESCRIPTION	DATE
#		

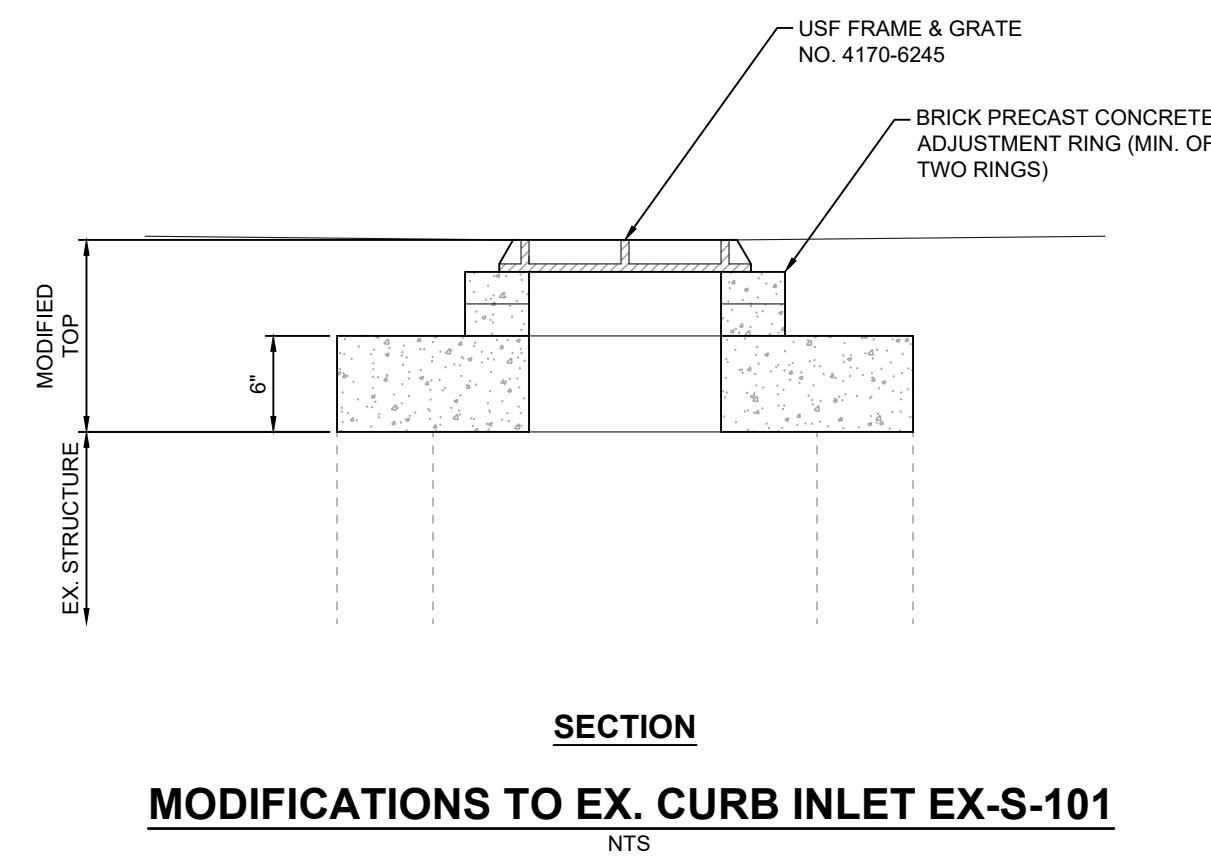
PAVING DETAILS

Project Manager:	JTW
Drawn By:	CAS
Checked By:	JTW
Project Number:	21521
Located in Section(s):	28
Township:	46 S Range: 25 E
County, State:	LEE COUNTY, FL

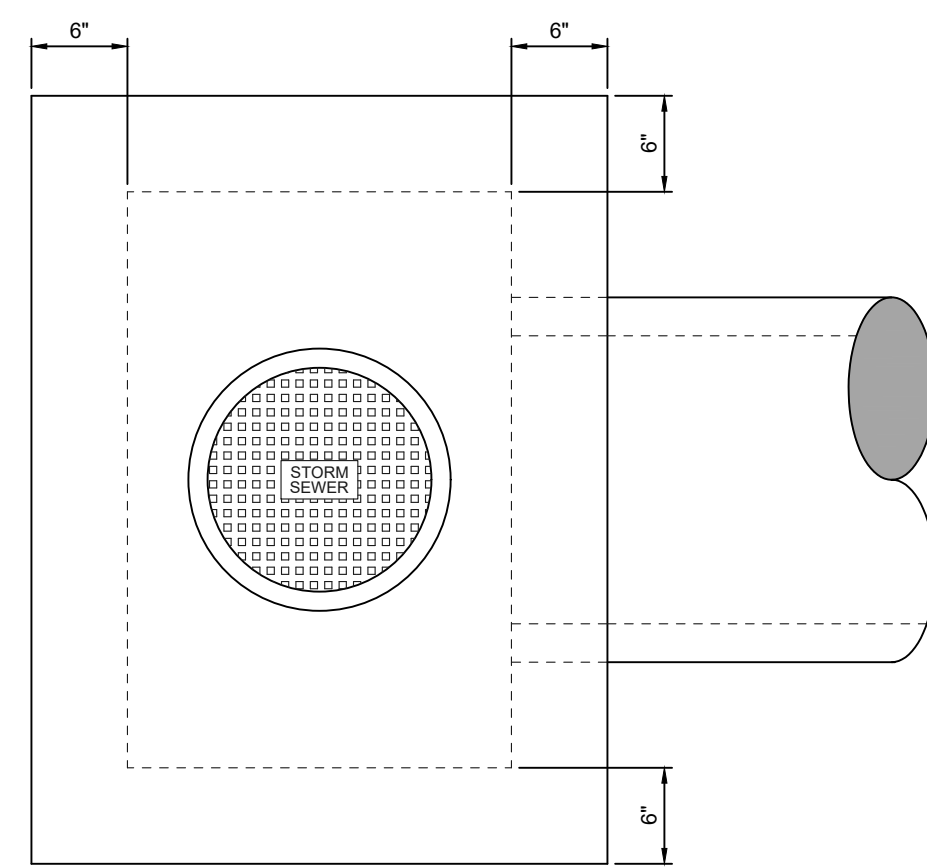
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FOR CONSTRUCTION
 SUBJECT TO ALL PERMIT APPROVALS
 Sheet Number: **18**

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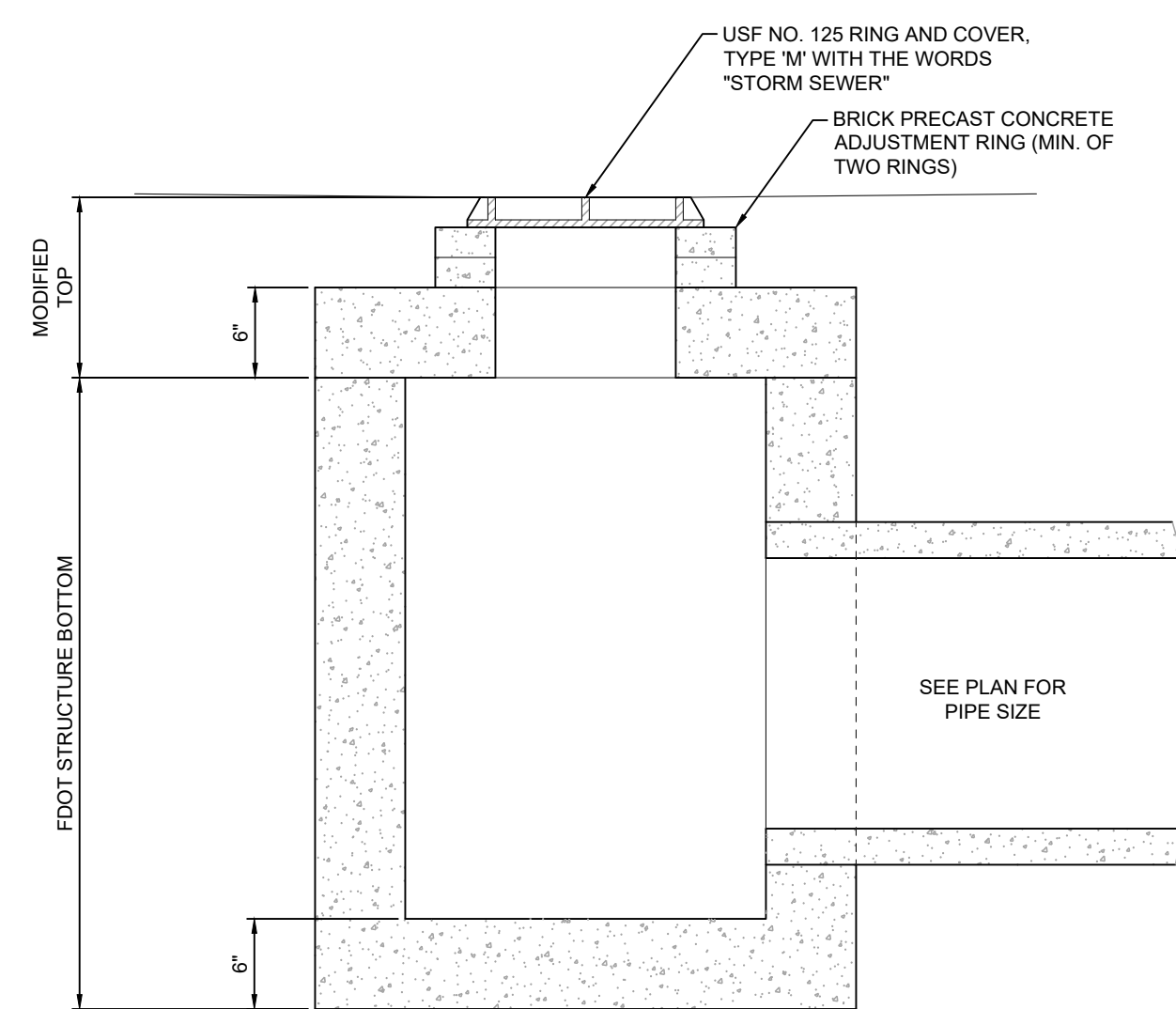
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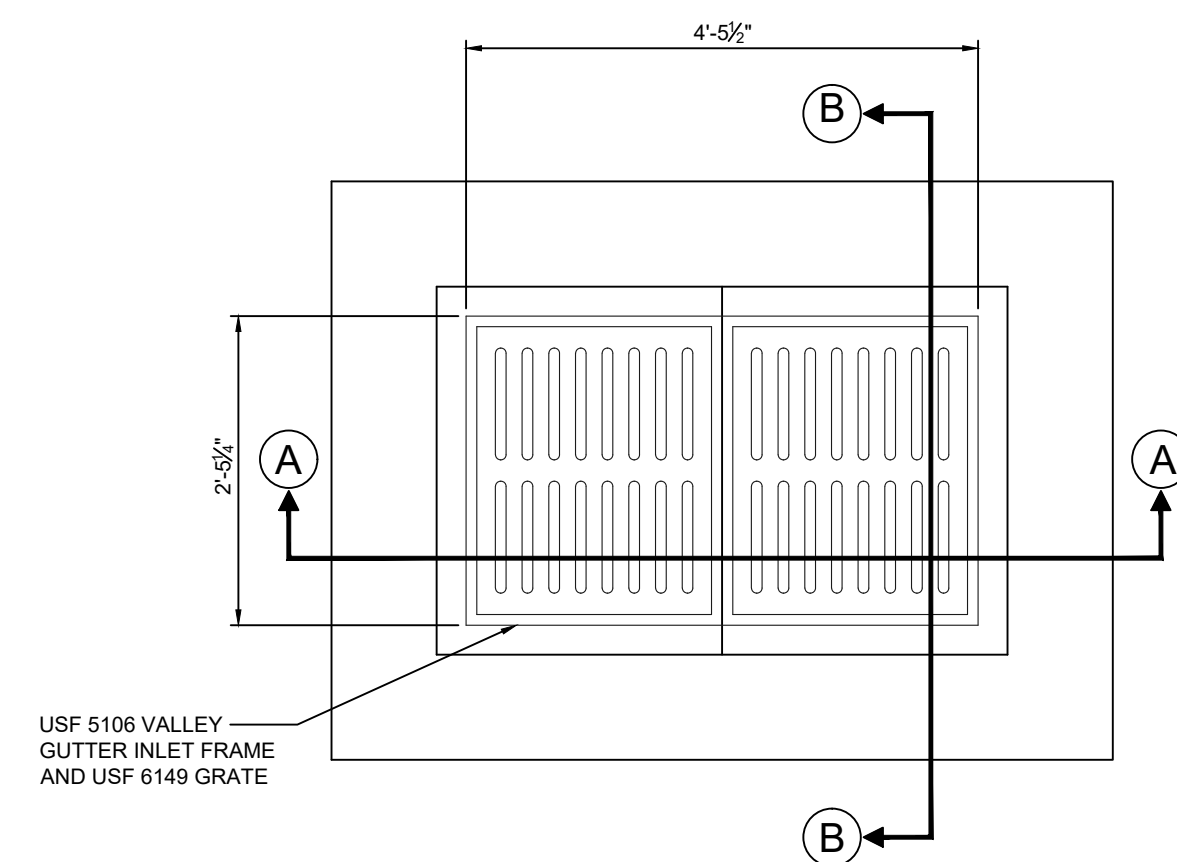
MODIFICATIONS TO EX. CURB INLET EX-S-101
NTS



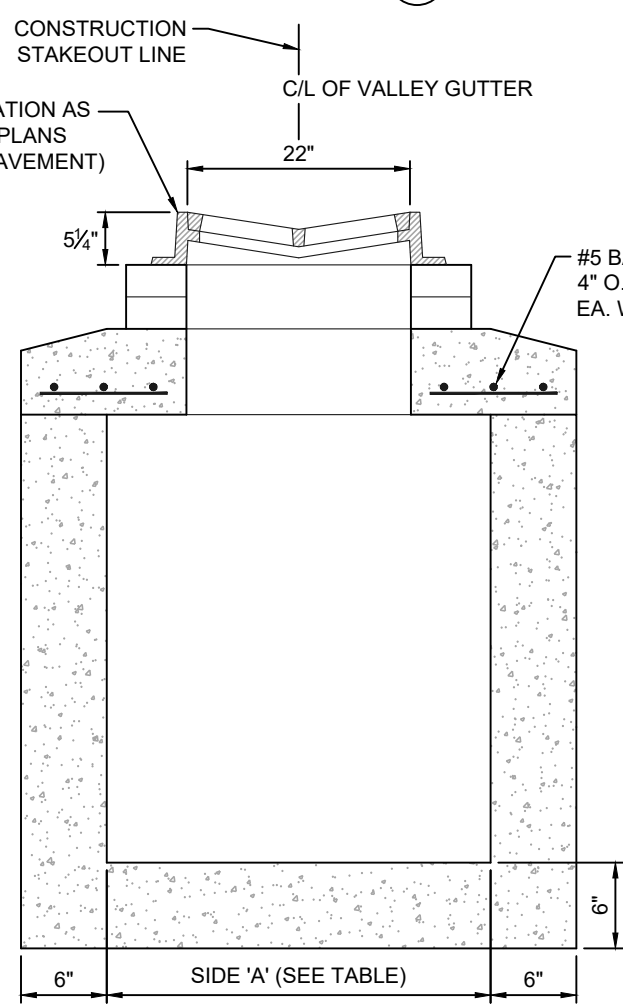
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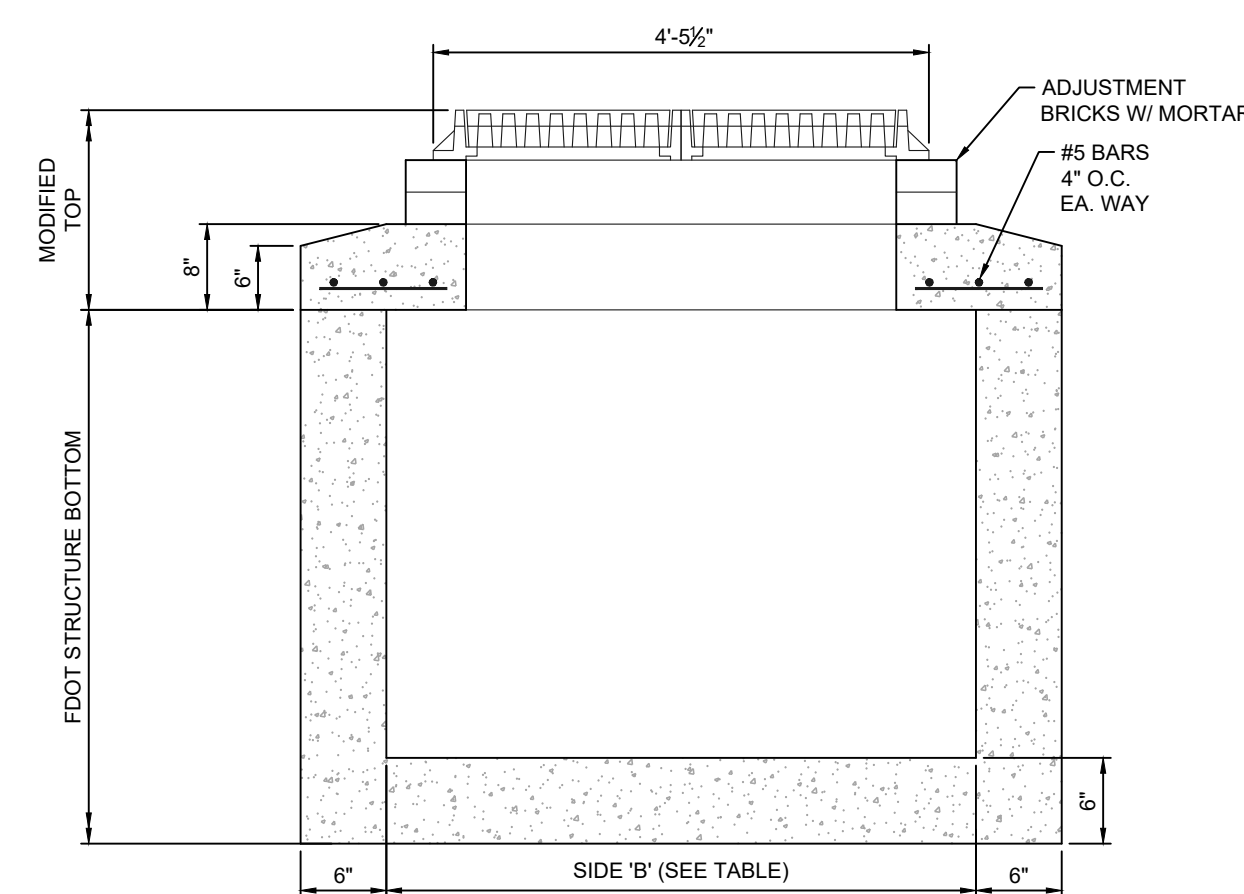
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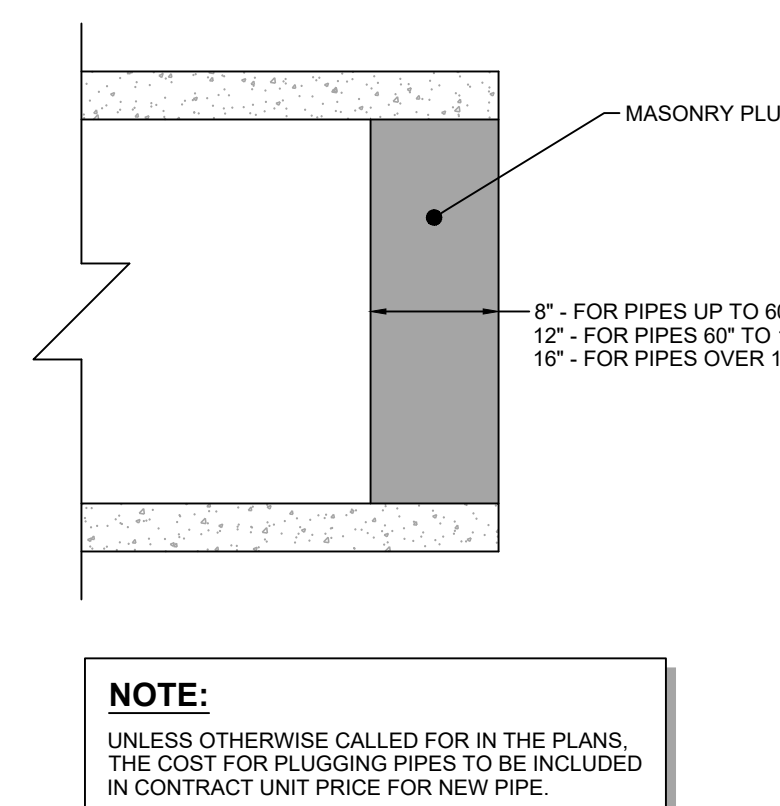
SECTION B-B



NOTE:
CONTRACTOR TO PROVIDE AND INSTALL A NON-WOVEN FILTER FABRIC OVER INLET GRATE DURING CONSTRUCTION. INLET TO BE CONSTRUCTED IN ACCORDANCE WITH CURRENT F.D.O.T. STANDARD INDEX 200 AND 201.



SECTION A-A
VALLEY GUTTER INLET
NTS



NOTE:
UNLESS OTHERWISE CALLED FOR IN THE PLANS, THE COST FOR PLUGGING PIPES TO BE INCLUDED IN CONTRACT UNIT PRICE FOR NEW PIPE.

NYLOPLAST 12" INLINE DRAIN: 2712AG __ X

ADAPTER SIZE	B
4"	10.50
6"	11.50
8"	11.50
10"	11.25
12"	8.00

(3) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE:
4" - 12" FOR CORRUGATED HOPE ADS-N-12 HANCOR DUAL WALL, HANCOR SINGLE WALL, N-12 HP, PVC SEWER (EX. SOR 50), PVC DWV (EX. SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC (CORRUGATED HOPE SHOWN)

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

GRATE OPTIONS	LOAD RATIO	PART #	DRAWING #
RESEGRAN	MEETS T130	1299C0P	7001-110-203
STANDARD	MEETS H420	1299C0S	7001-110-203
GRATE COVER	MEETS H420	1299C0C	7001-110-203
FEDERAL/TRAFFIC BRONZE	N/A	1299C0PB	7001-110-203
DOVE	N/A	1299C0D	7001-110-206
DROP IN GRATE	LIGHT DUTY	1351D	7001-110-201

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D2321 FOR CORRUGATED HOPE ADS-N-12 HANCOR DUAL WALL, N-12 HP, & PVC SEWER.
4 - DIMENSIONS ARE FOR REFERENCE ONLY. ACTUAL DIMENSIONS MAY VARY.
5 - DIMENSIONS ARE IN INCHES.
6 - SEE DRAWING NO. 7001-110-215 FOR ADS-N-12 HANCOR DUAL WALL BELL INFORMATION & DRAWING NO. 7001-110-364 FOR N-12 HP BELL INFORMATION.

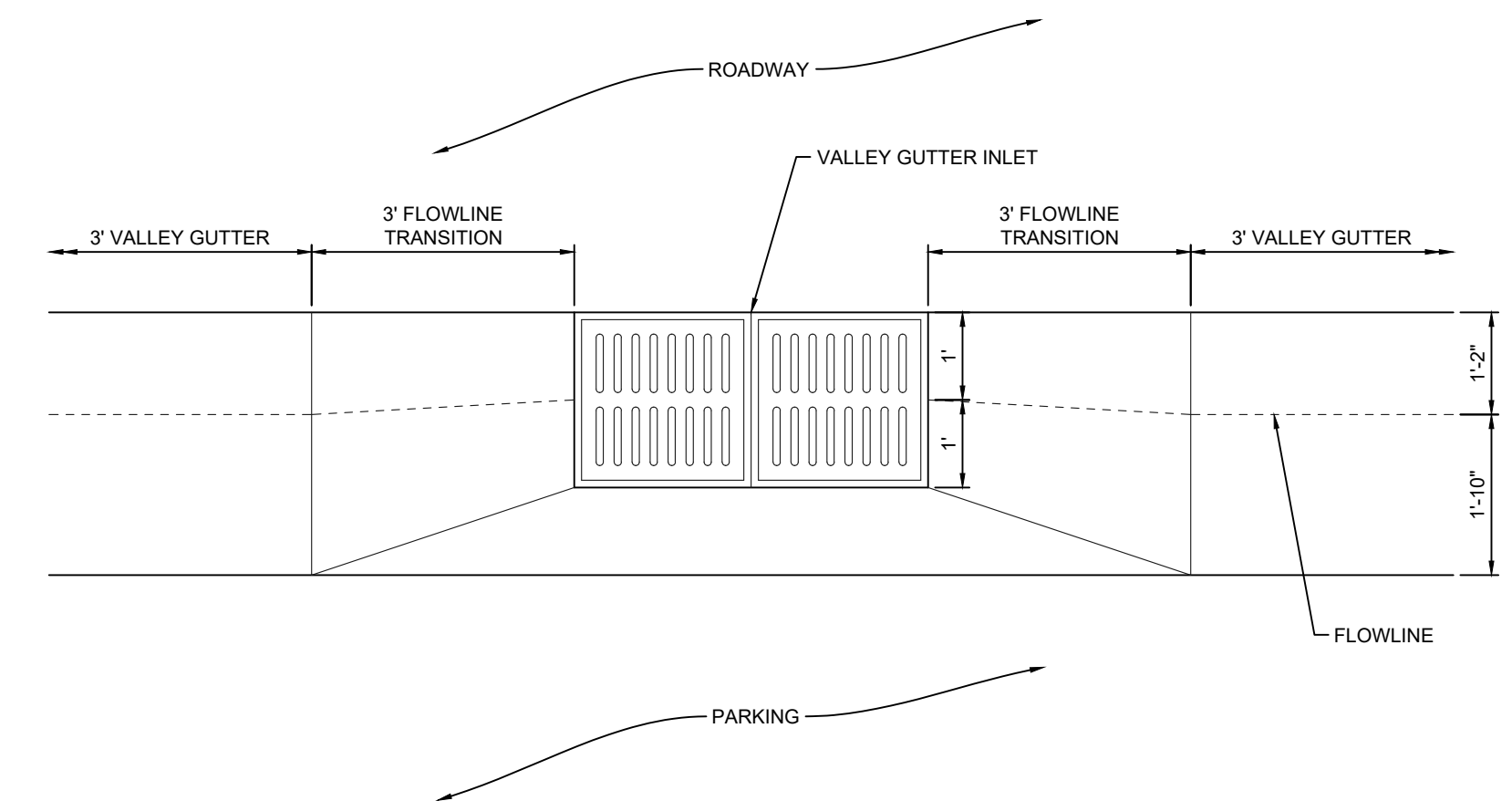
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DATE	04-03-06	DESIGNED BY	ESB	3138 VERONA AVE BURLINGAME, CA 94516 PHN (770) 832-2442 FAX (770) 832-2490 www.nyloplast-usa.com
REVISION	MMH	PROJECT NO.		
DATE	03-15-16	TITLE	12 IN INLINE DRAIN QUICK SPEC INSTALLATION DETAIL	
DWG SIZE	A	SCALE	1:20	SHEET 1 OF 1
DWG NO.	7003-110-423	REV	E	

NOTE:
1. REFERENCE MANUFACTURER'S DETAILS FOR LATEST SPECIFICATIONS.
2. TYPE OF INLET MAYBE BE CHANGED AT OWNERS AND/OR ENGINEER'S DISCRETION.

DRAINAGE STRUCTURE TABLE	
DRAINAGE STRUCTURE	REFERENCE DETAIL
TYPE 'C' INLET	FDOT INDEX 425-052
TYPE 'D' INLET	FDOT INDEX 425-052
TYPE 'E' INLET	FDOT INDEX 425-052
JUNCTION BOX	FDOT INDEX 425-001, 425-010
FLARED END	FDOT INDEX 430-020

STRUCTURE DESIGN INFORMATION:
1. STRUCTURAL DESIGN AND REINFORCING SHALL CONFORM TO FDOT DESIGN STANDARDS.
2. ALL CONCRETE SHALL HAVE COMPRESSION STRENGTH OF 3,000 PSI @ 28 DAYS.



VALLEY GUTTER TRANSITION AT INLET DETAIL
NTS

DELISI FITZGERALD, INC.
Planning - Engineering - Project Management
a Division of RESPEC Company LLC

1605 Hendry Street
Fort Myers, FL 33901
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Florida
Registry License
Number 33253

ENGINEER OF RECORD:
JOHN T. WIDDAM, P.E. (FOR THE FIRM)
FLORIDA P.E. NO. 58217

NOT VALID WITHOUT SEAL, SIGNATURE AND DATE

OWNER / DEVELOPER:
BUCKINGHAM COMPANIES
941 N. MEDIAN STREET
INDIANAPOLIS, IN 46209
(317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
INFRASTRUCTURE**

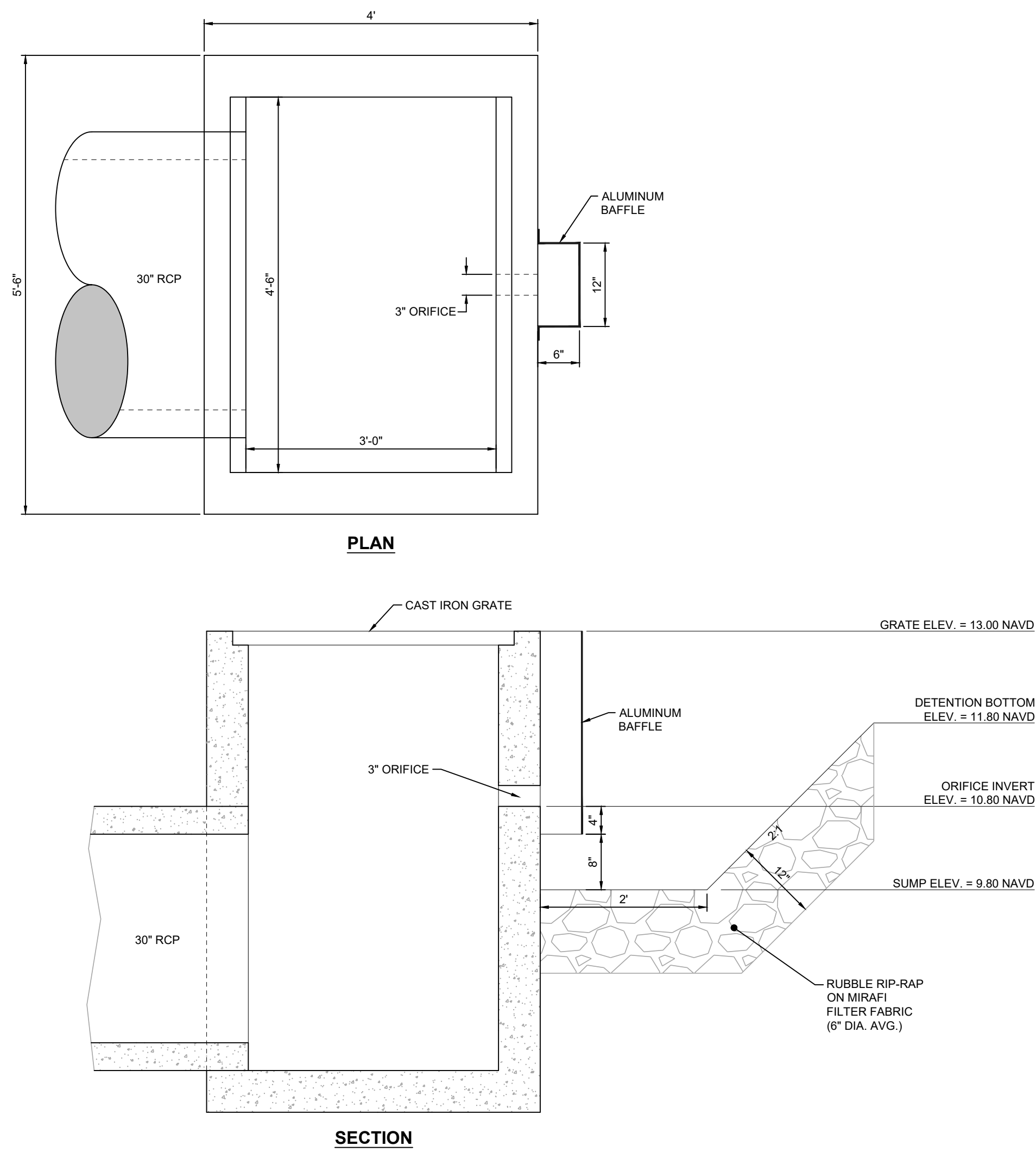
PLAN REVISIONS	DESCRIPTION
#	DATE

DRAINAGE DETAILS

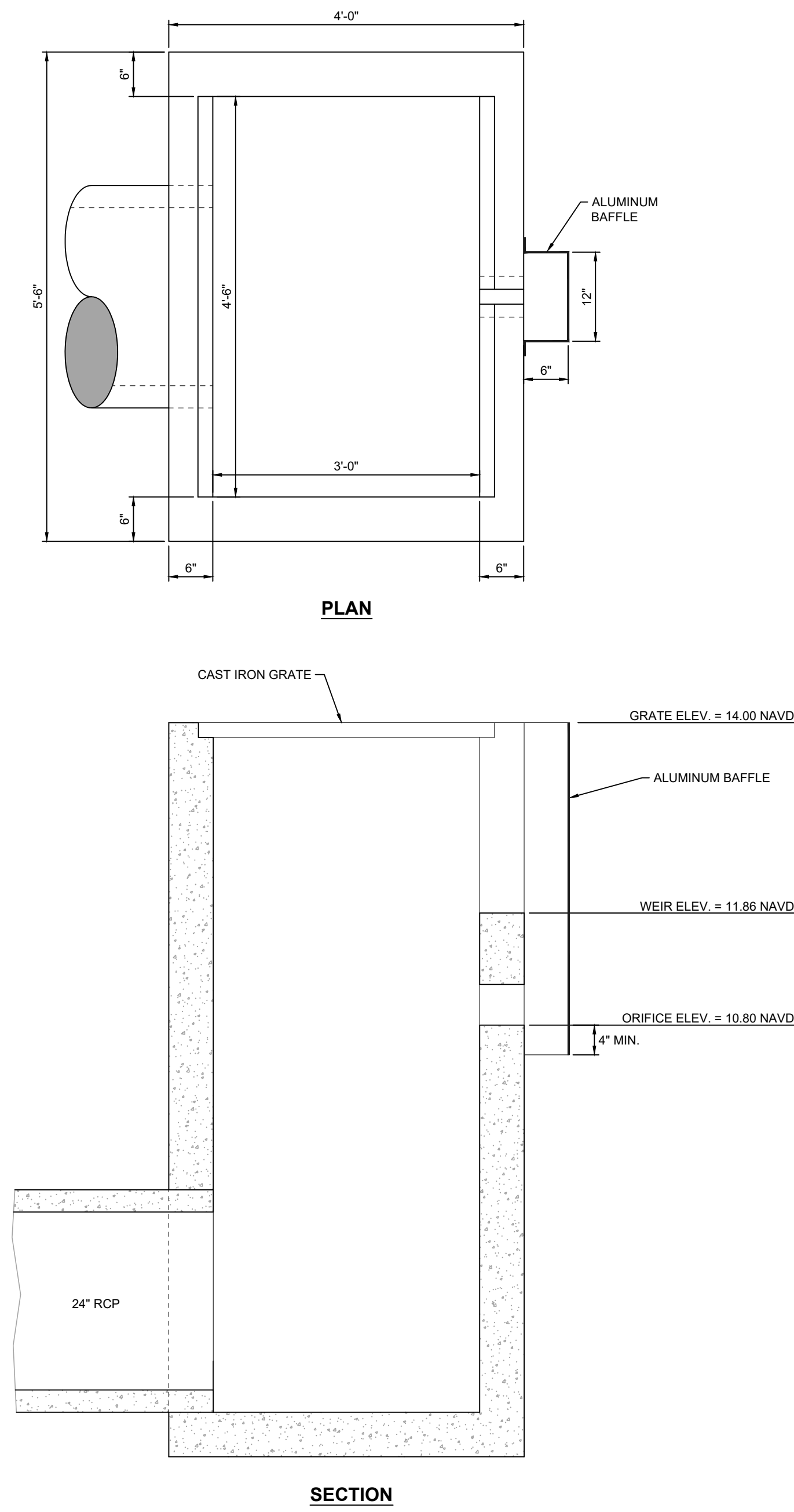
Project Manager:	JTW
Drawn By:	CAS
Checked By:	JTW
Project Number:	21521
Located in Section(s):	28
Township:	46 S Range: 25 E
County, State:	LEE COUNTY, FL

Status:
FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

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CONTROL STRUCTURE #WQ-1
MODIFIED TYPE 'E' INLET - FDOT INDEX 425-052
NTS



CONTROL STRUCTURE #CS-1
MODIFIED TYPE 'E' INLET - FDOT INDEX 425-052
NTS

PROJECT DATUM
NAVD
DATUM CONVERSION
NAVD + 1.20 = NGVD

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(317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
INFRASTRUCTURE**

PLAN REVISIONS	DESCRIPTION	DATE
#		

DRAINAGE DETAILS

Project Manager: JTW
 Drawn By: CAS
 Checked By: JTW
 Project Number: 21521
 Located in Section(s): 28
 Township: 46 S | Range: 25 E
 County, State: LEE COUNTY, FL

Status:
FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

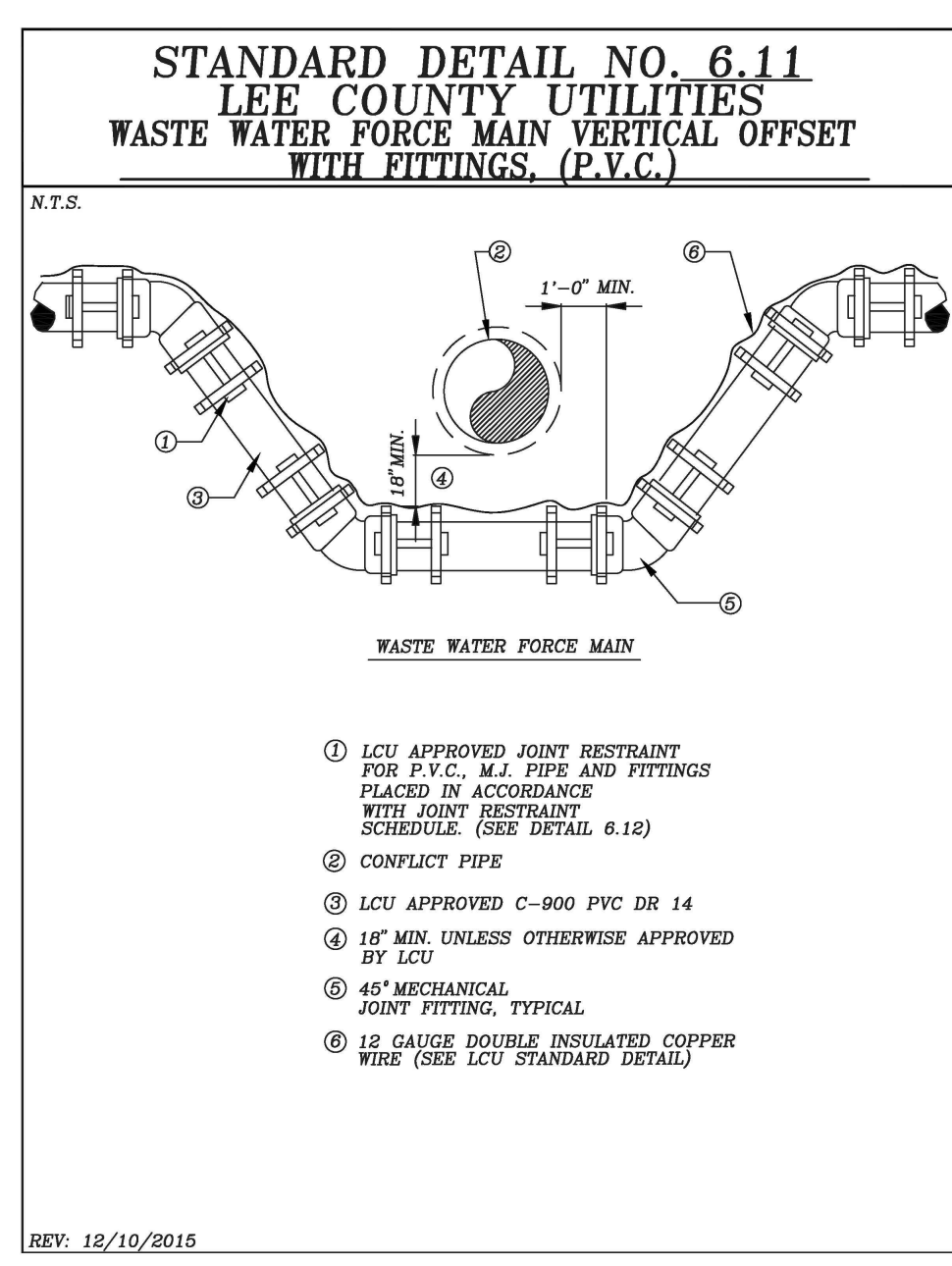
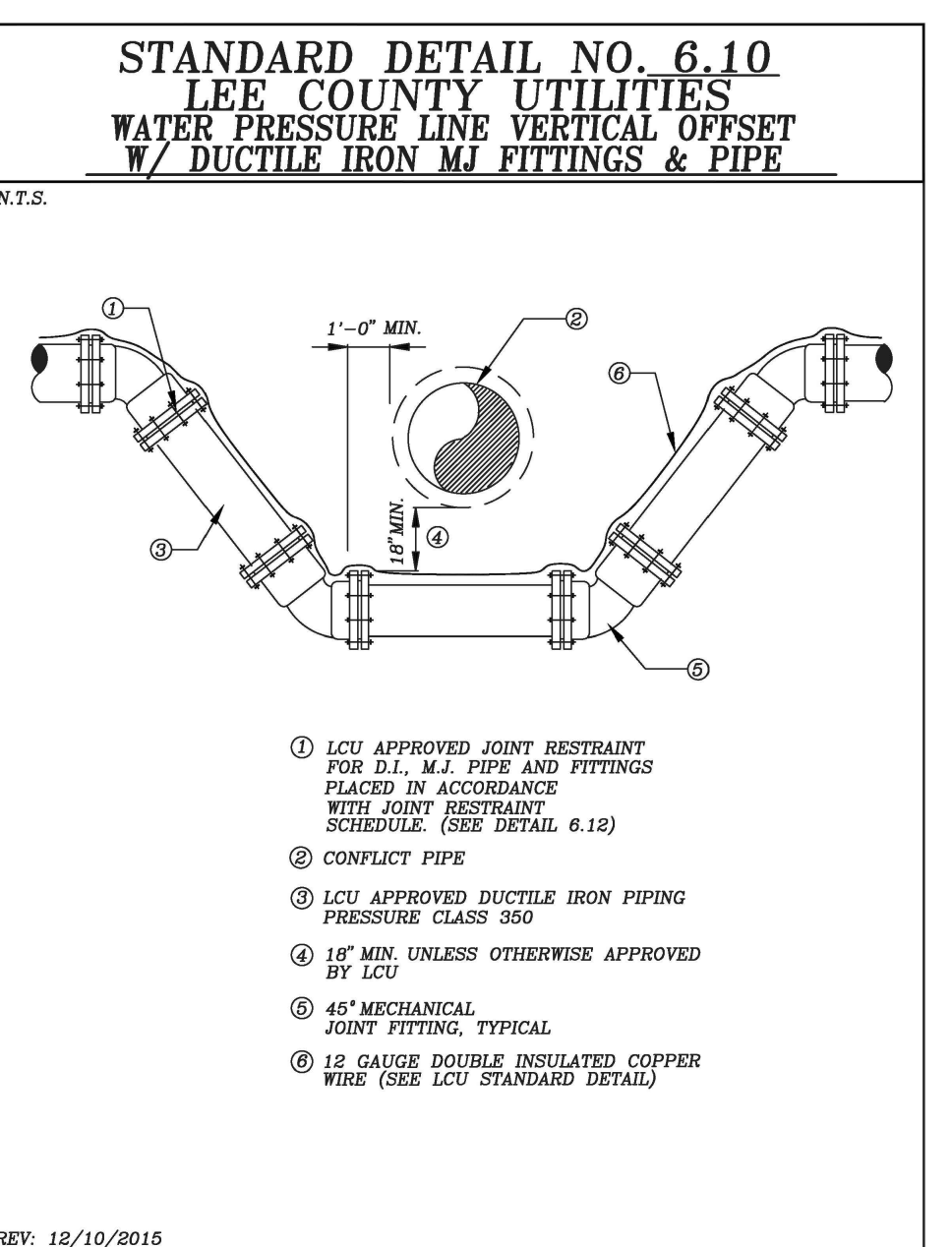
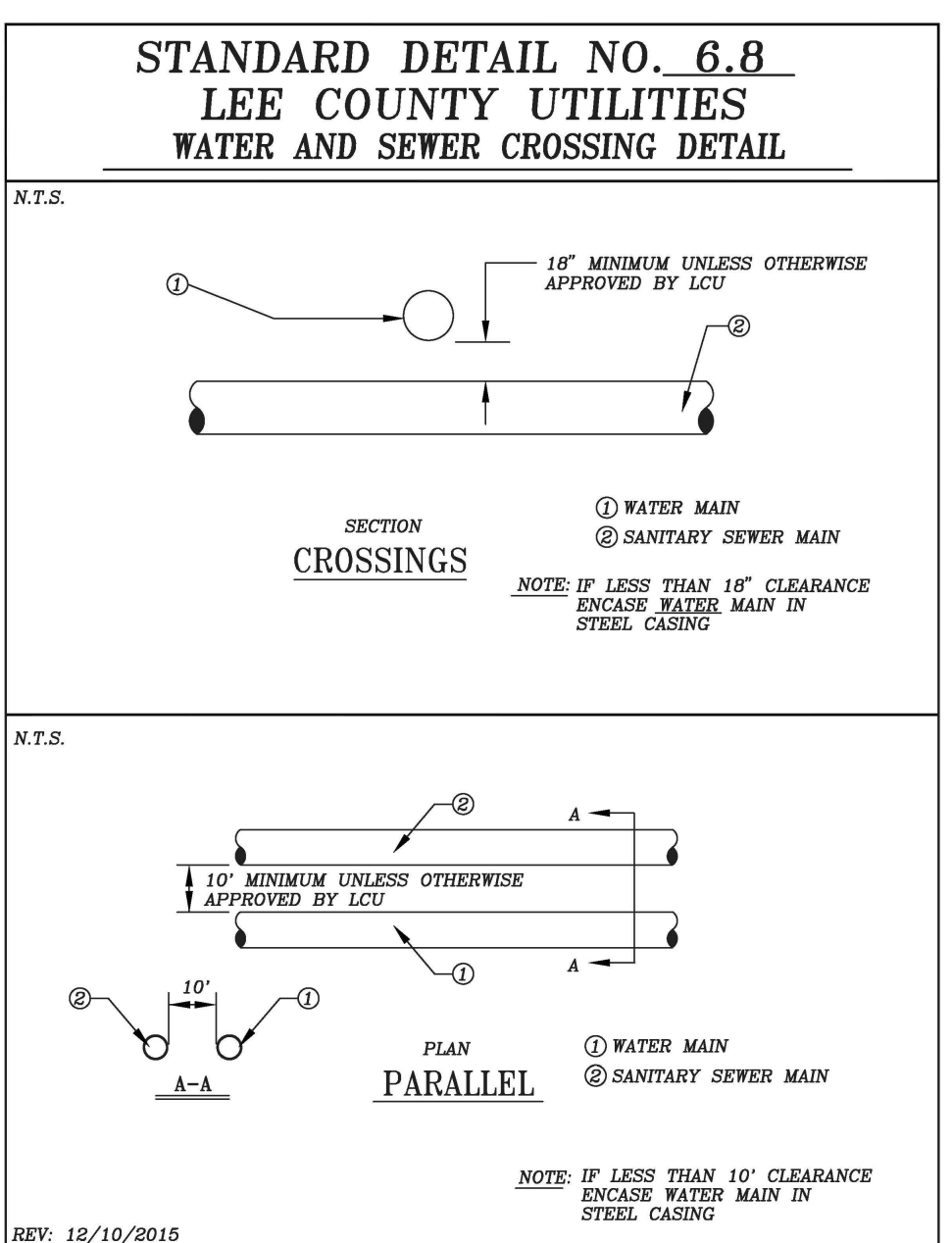
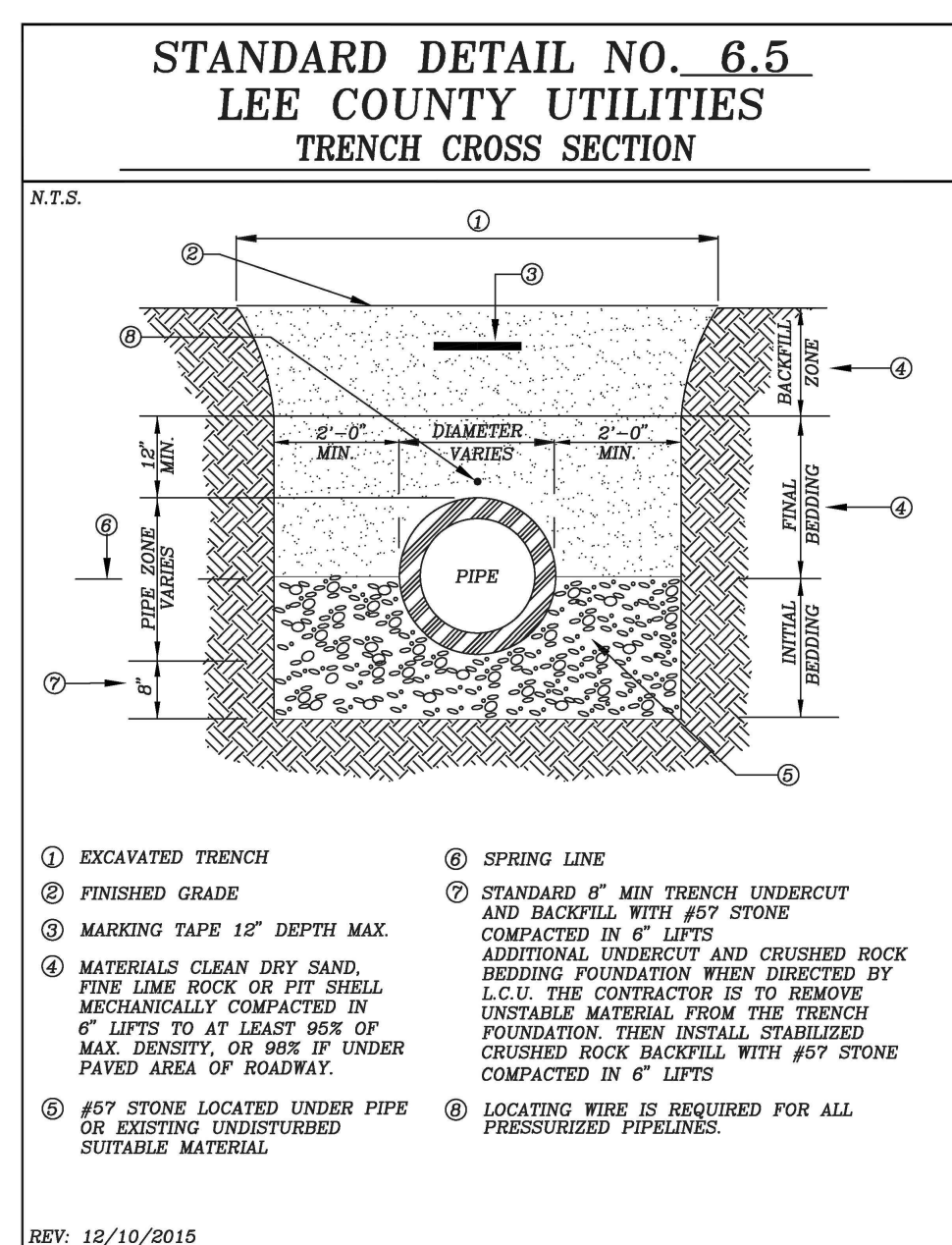
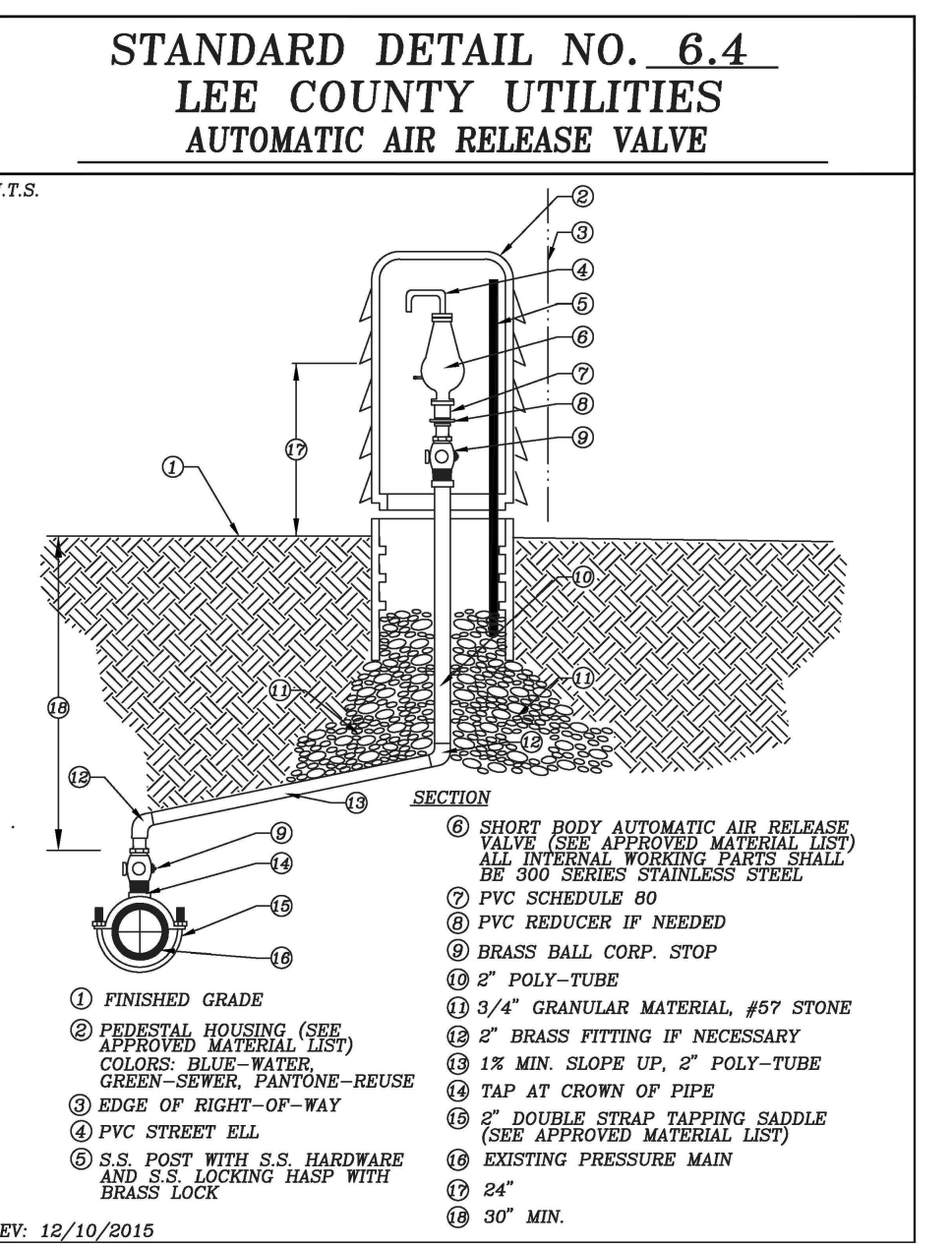
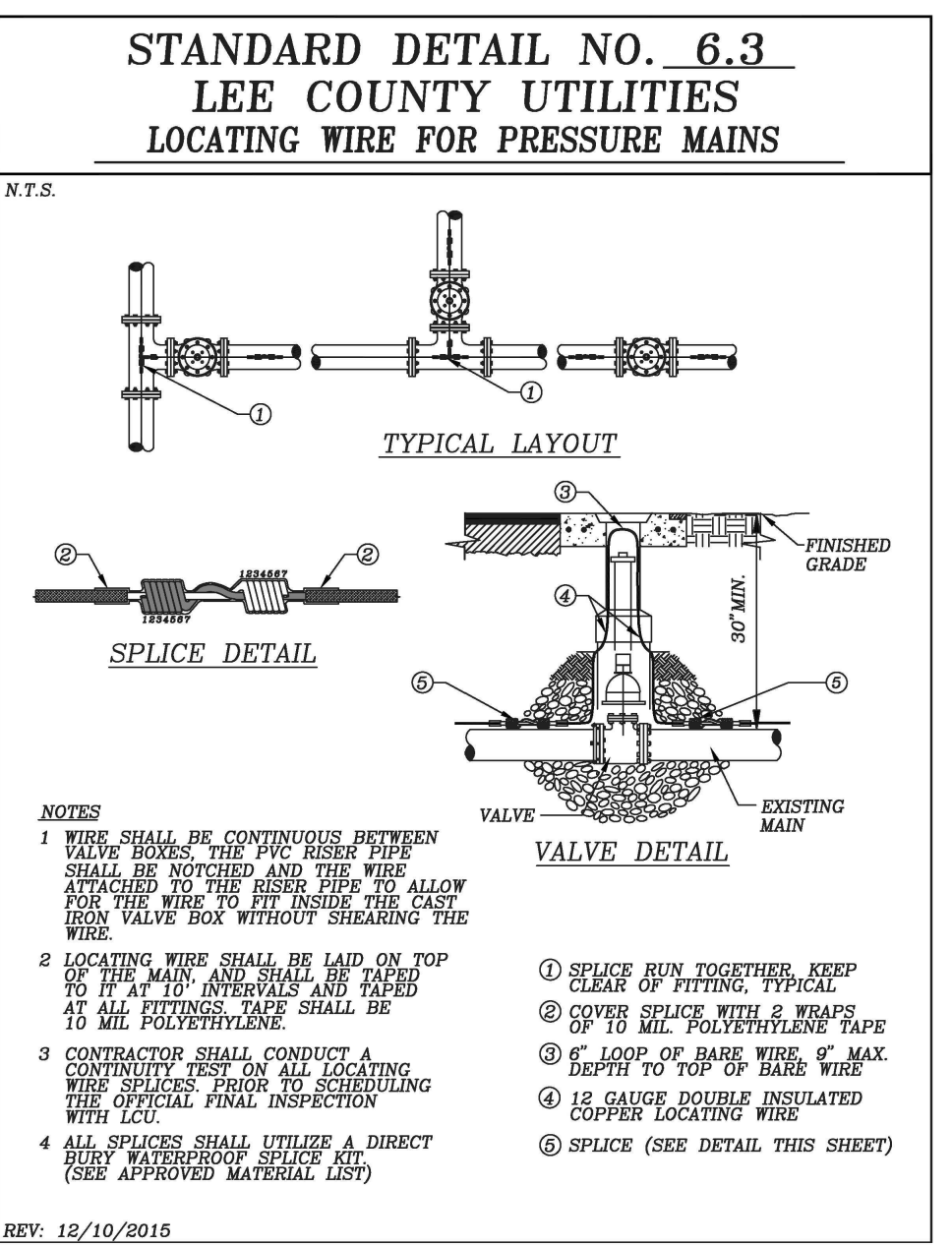
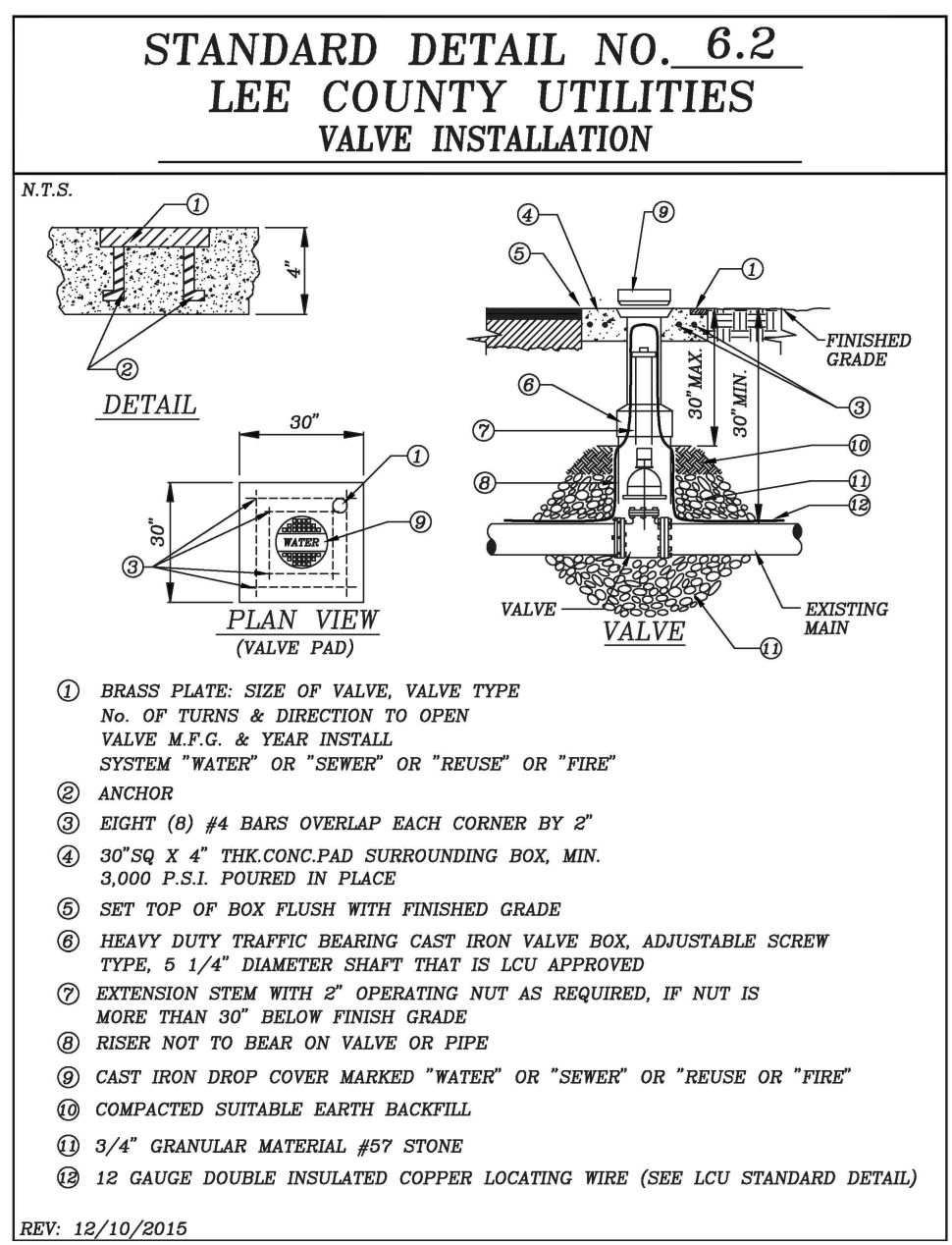
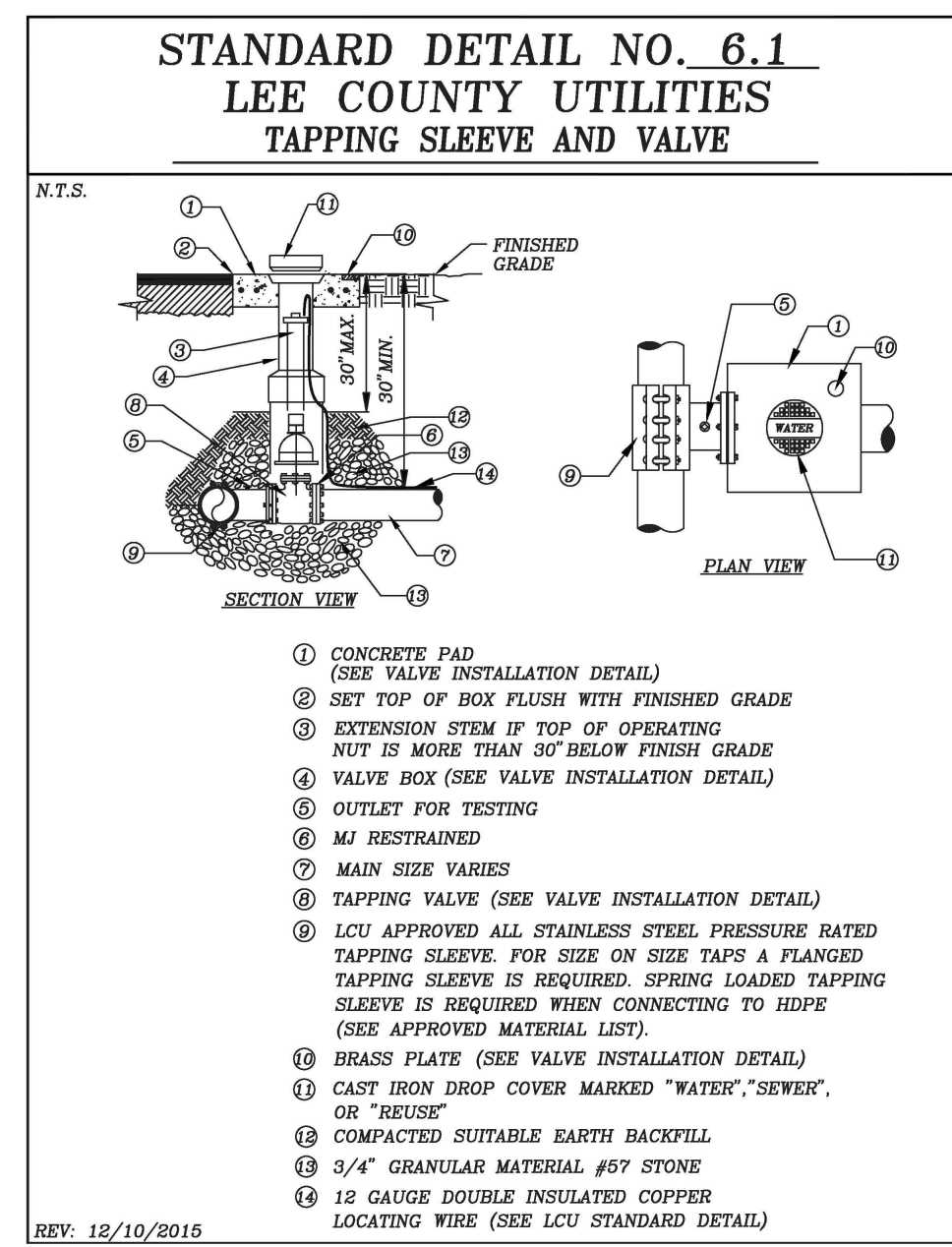
Sheet Number: 20

**LEE COUNTY UTILITIES
STANDARD PLAN NOTES**

GENERAL

The standard notes shown below shall be included on all water and sewer plans submitted for approval to Lee County Utilities (LCU).

- All work shall conform to latest revision of the LCU Design Manual which is available on our web-page via the following link: <https://www.lesco.com/utilities/design-manual>
- The Contractor shall comply with All Regulatory and Permitting Agencies' requirements.
- Any quantities shown on plans are not verified by LCU.
- All construction performed must be done by a Contractor properly licensed in the State of Florida.
- A pre-construction meeting is required before work may begin. Required attendees include but are not limited to the Engineer of Record or his designee, the Underground Contractor and the LCU Inspector assigned to the project. LCU is to be notified a minimum of two (2) working days prior to the pre-construction meeting.
- One copy of the LCU Approved/Stamped Construction Plans must be maintained by the Contractor at the site at all times.
- Any and all work and materials installed by the Contractor that are intended for ownership and maintenance by LCU, which do not conform to LCU specifications and which do not have prior LCU written approval, are subject to removal and replacement at the Contractor's expense.
- Any work performed on infrastructure intended for ownership and maintenance by LCU without the knowledge of LCU is subject to re-excavation, removal and replacement of same to be done at the Contractor's expense.
- LCU Inspection Staff is to be present for all hot taps, pressure tests, lift station start-ups, and for any other necessary inspection. The Contractor is to provide a minimum of two (2) working days' notice prior to scheduling any of the above with the exception of the lift station start-up which requires a minimum of two-week's notice.
- The Contractor is to uncover all existing LCU utility infrastructure to verify horizontal location, vertical location, pipe diameter, and pipe material prior to scheduling the connection with LCU.
- Locations, elevations, and dimensions of existing utilities, structures and other features are shown according to the best information available at the time of preparation of these plans, but do not purport to be absolutely correct. LCU will not guarantee any locations as shown on these plans or those omitted from these plans.
- August 4, 2022
- The Contractor shall provide a minimum of at least two (2) working days' notice to the individual utility companies prior to construction.
- The Contractor shall contact the Engineer of Record and LCU immediately to report any conflict with LCU utilities/structures arising during construction of any facilities shown on these drawings.
- All frames, covers, valve boxes, meter boxes and manholes shall be adjusted to finished grade upon completion of paving or related construction. All valve pads shall be poured in place. No pre-cast valve pads will be accepted.
- LCU requires 36" minimum of cover for all underground piping except under pavement, which requires 36" minimum cover. If LCU required cover cannot be maintained, alternate methods of construction or pipe protection must be approved by LCU and the Engineer, at no additional cost to the County. If state agencies require additional cover, meeting the requirements shall be done at no additional cost to the County.
- LCU requires there to be a minimum of ten (10) feet horizontal and 18" vertical separation between potable water & sanitary sewer mains. LCU also requires minimum of ten (10) feet horizontal separation between other public and/or private utilities, structures (building(s), wall(s), fountain(s), fence(s) and LCU infrastructure unless specifically approved by LCU.
- LCU requires there to be a minimum of five (5) feet horizontal separation and 18" vertical separation between LCU infrastructure and drainage infrastructure, metered end sections, inlets, etc. LCU also requires minimum of five (5) feet horizontal separation between LCU infrastructure and all new light pole foundations.
- The trunk of palm trees shall be a minimum of five (5) feet and the trunk of shade trees shall be a minimum of ten (10) feet from any existing or proposed LCU owned and maintained pipe/infrastructure.
- As the work progresses the Contractor shall provide for all changes and deviations from the LCU Stamped/Approved Construction Plans to be recorded. The exact location of all changes in vertical and horizontal alignment shall be recorded with X, Y, and Z coordinates with respect to the NAVD 1988 State Plane Florida West Coordinate System, as well as any other record information required by the LCU Design Manual.
- August 4, 2022



**STANDARD DETAIL NO. 6.12
LEE COUNTY UTILITIES
RESTRAINED LENGTH SCHEDULE**

N.T.S.

DUCTILE IRON PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)				DEAD END	HORIZONTAL TEE
	90°	45°	22-1/2°	11-1/4°		
4	17	7	4	2	29	6
6	23	10	5	2	40	17
8	29	12	6	3	53	29
10	35	14	7	4	63	38
12	41	17	8	4	74	49
16	51	21	11	5	94	66
24	69	29	14	7	131	105
30	91	34	17	8	156	129

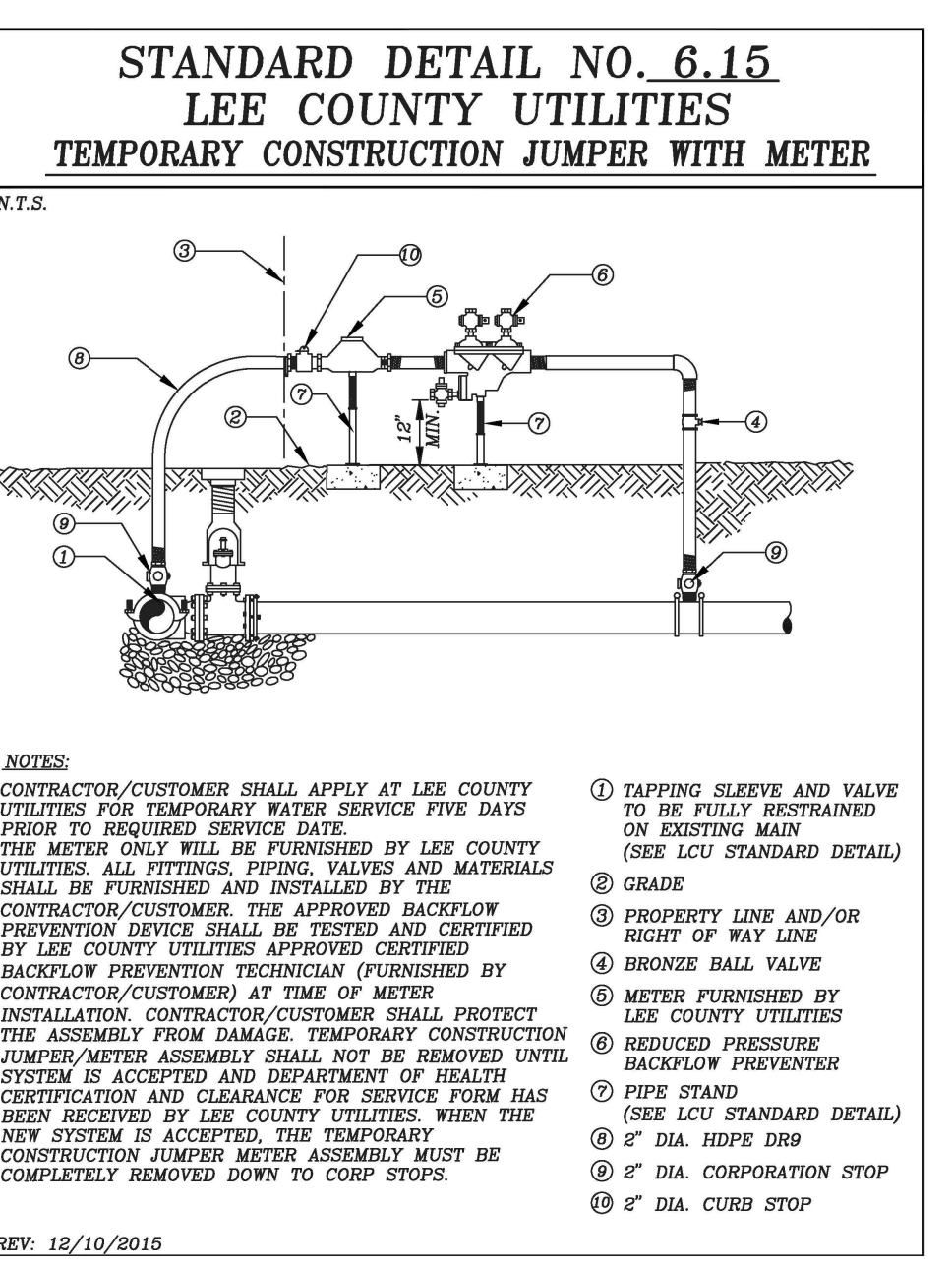
PVC PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)				DEAD END	HORIZONTAL TEE
	90°	45°	22-1/2°	11-1/4°		
4	20	8	4	2	45	8
6	29	12	6	3	63	25
8	36	15	8	4	83	43
10	44	18	9	5	99	58
12	51	21	11	5	116	74
16	63	26	13	7	149	103
24	87	36	18	9	208	158
30	102	42	21	10	248	194

A COMPLETE JOINT RESTRAINING SCHEDULE FOR ALL ENCOUNTERED VERTICAL & HORIZONTAL BENDS, VERTICAL OFFSETS, TEES, AND DEAD ENDS SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER.

LENGTH FIGURES BASED ON FOLLOWING:
Pressure = 150 psi, FS = 1.5, Trench type = 3, 30' cover on Bare pipe, Soil type = GP & SF

REV: 12/10/2015



DELISI FITZGERALD, INC.
Planning - Engineering - Project Management
a Division of RESPEC Company LLC

ENGINEER OF RECORD:
JOHN T. WOODDA, P.E. (FOR THE FIRM)
FLORIDA P.E. NO. 58217

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Florida
Registry License
Number 33253

NOT VALID WITHOUT SEAL, SIGNATURE AND DATE

OWNER/DEVELOPER:
BUCKINGHAM COMPANIES
941 N. MEDIAN STREET
INDIANAPOLIS, IN 46209
(317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
INFRASTRUCTURE**

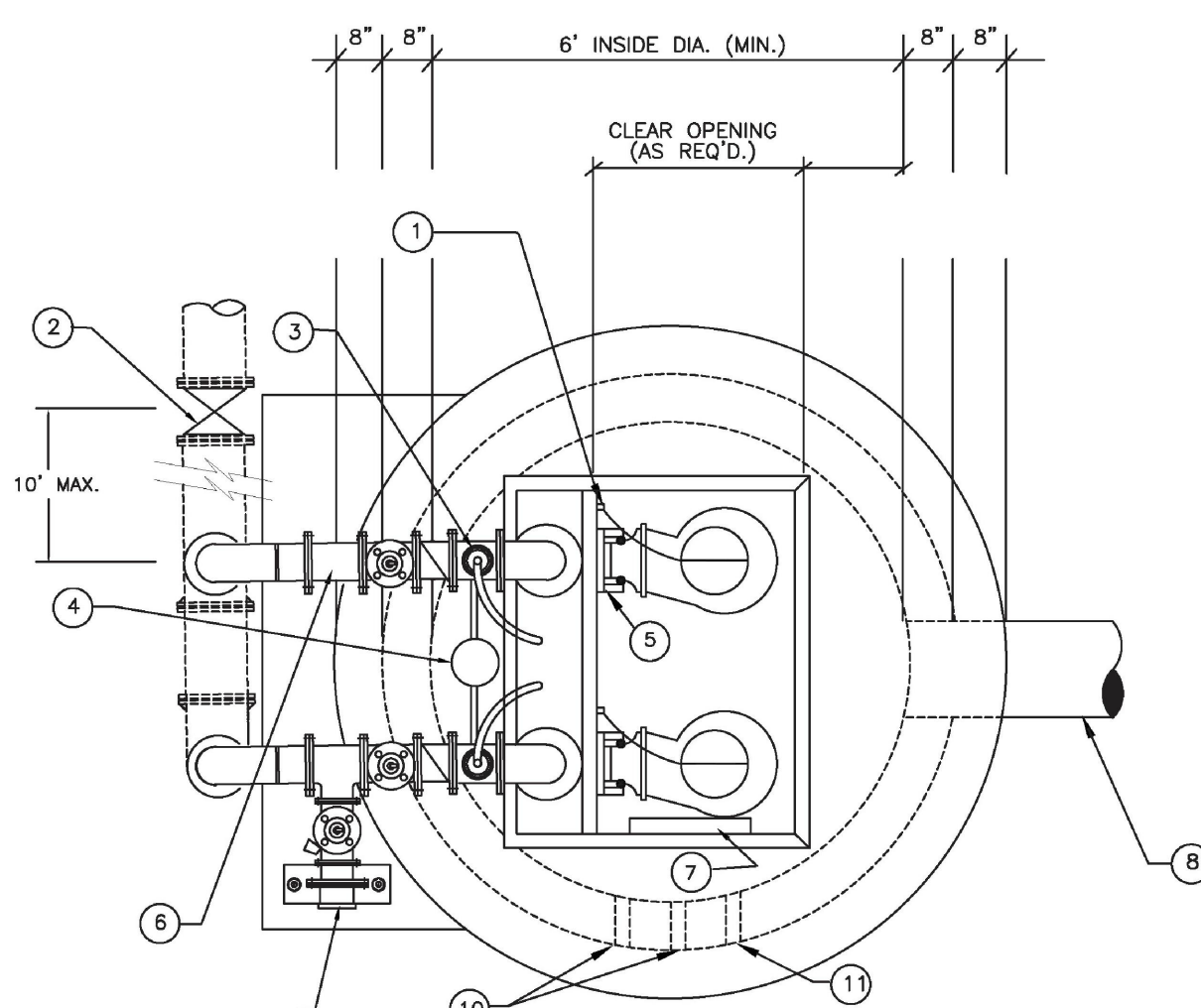
**LEE COUNTY UTILITIES
DETAILS**

PLAN REVISIONS	DESCRIPTION	DATE
#		

Project Manager: JTW
Drawn By: CAS
Checked By: JTW
Project Number: 21521
Located in Section(s): 28
Township: 46 S | Range: 25 E
County, State: LEE COUNTY, FL

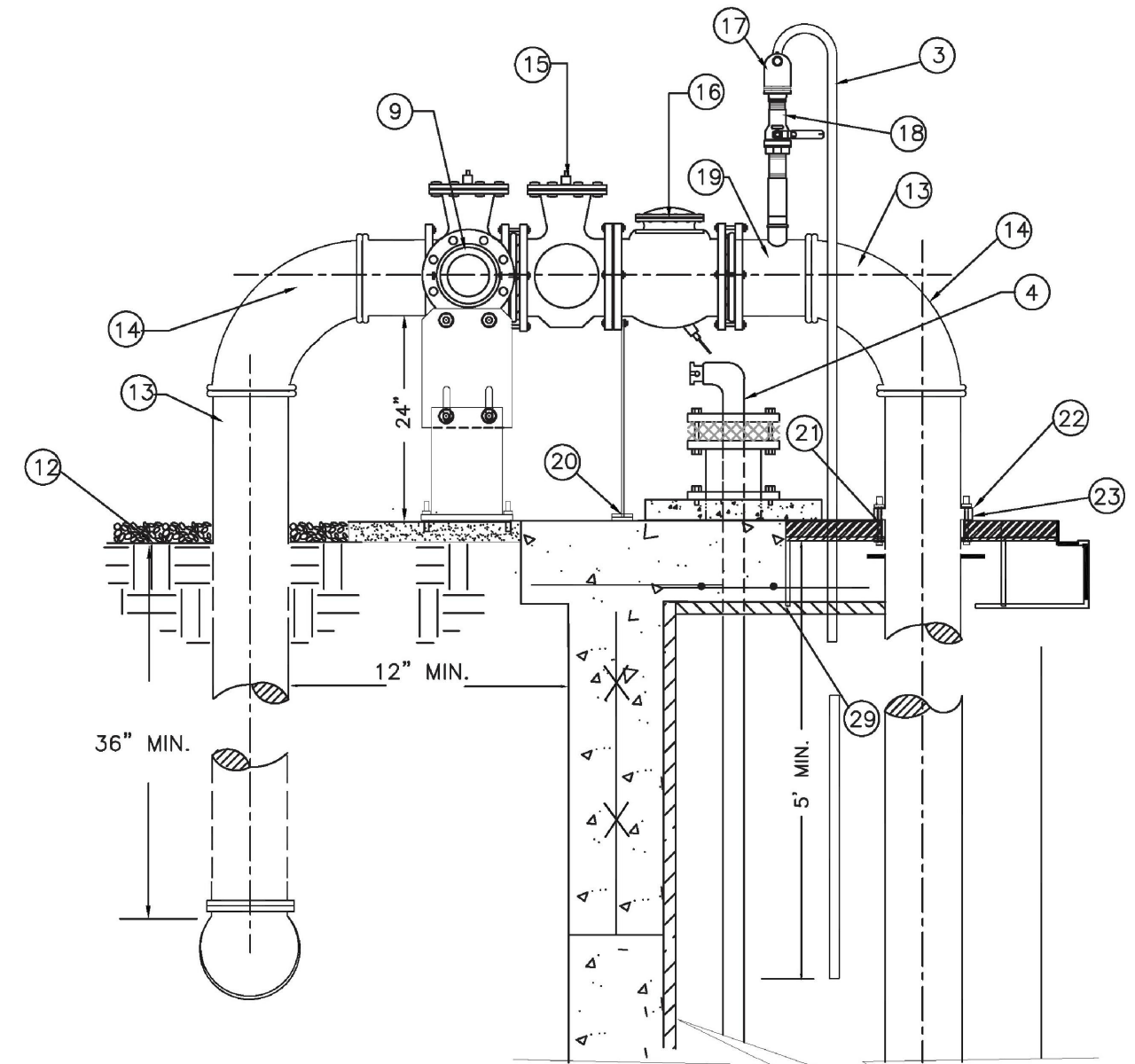
Status:
FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

Sheet Number: 21

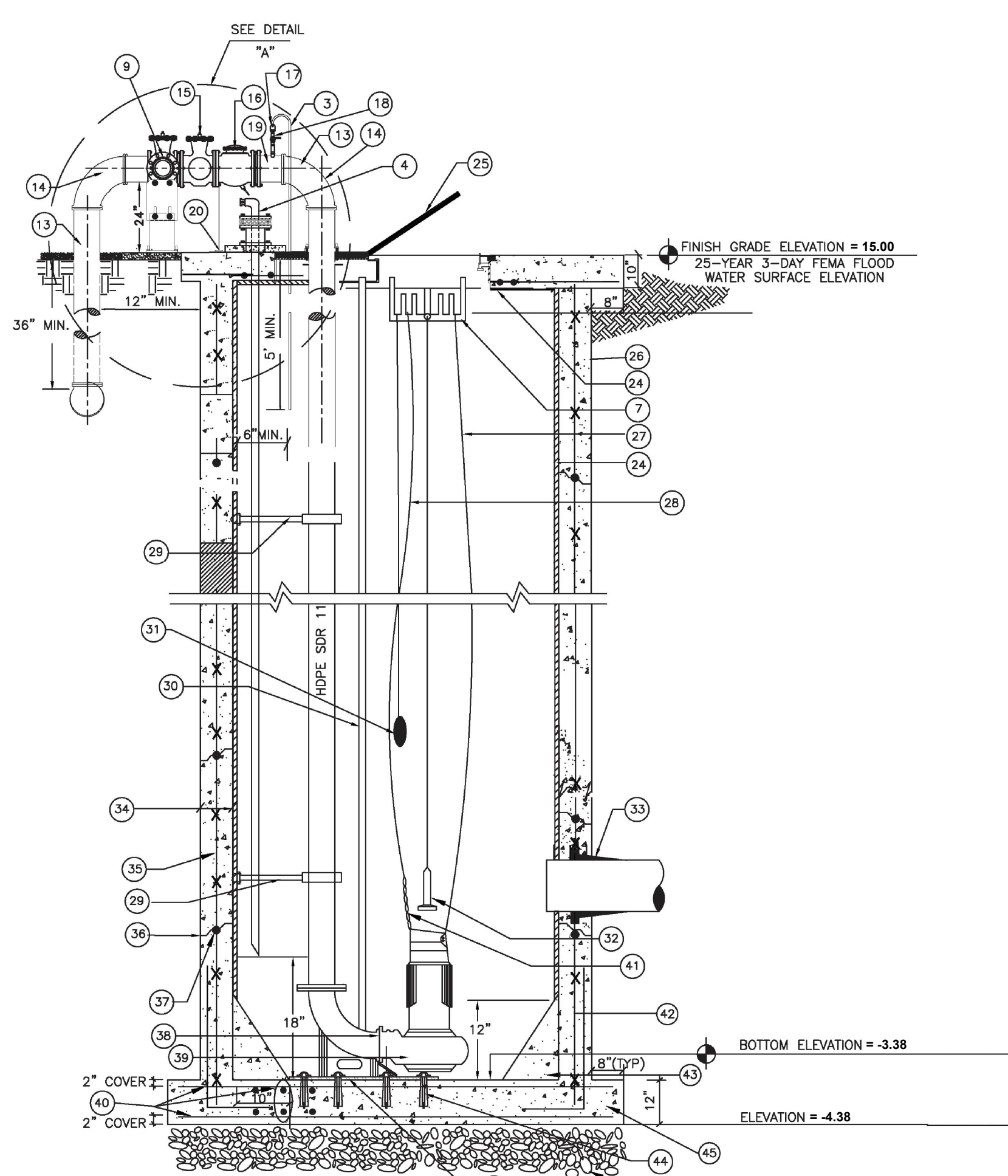


WETWELL PLAN
N.T.S.

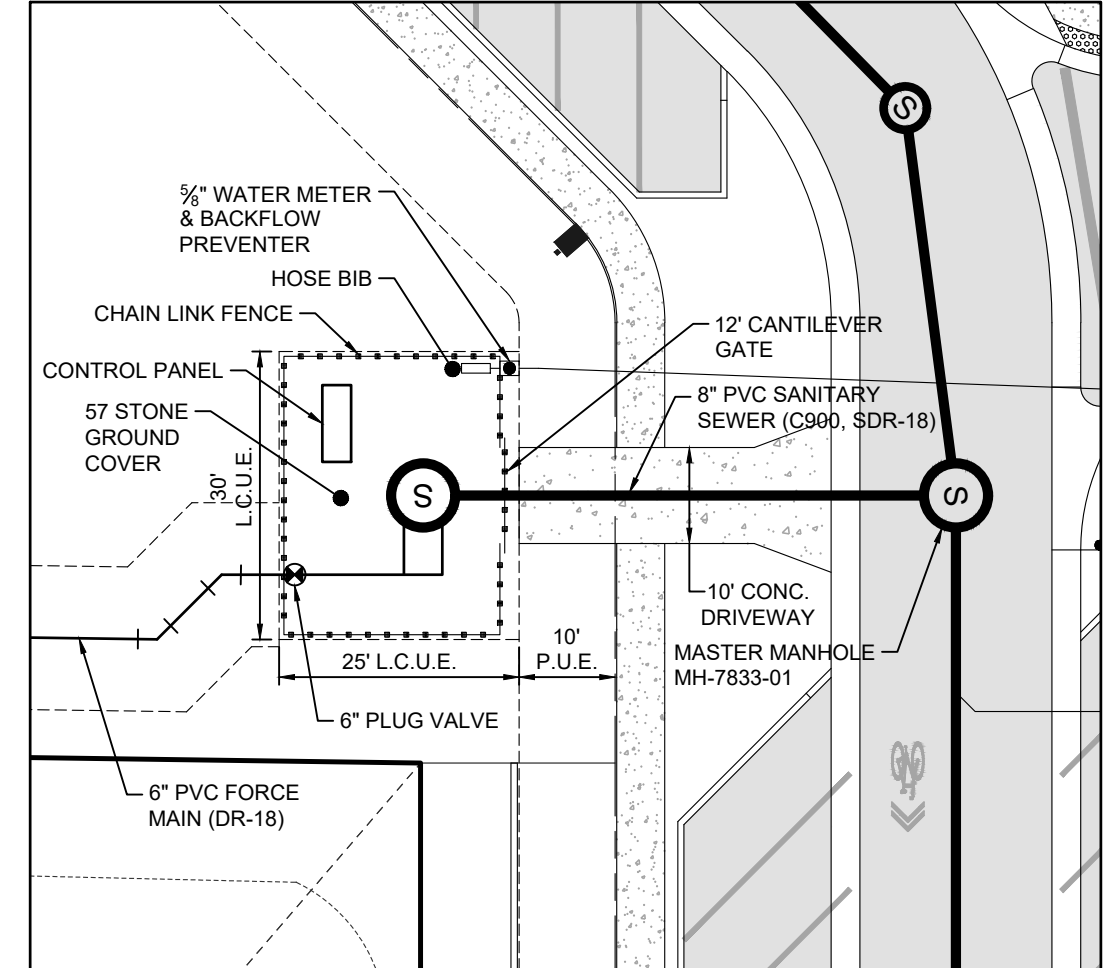
NOTES:
CONTRACTOR TO SET PUMPS AND ACCESS COVER TO ENSURE ACCURATE ALIGNMENT OF GUIDE RAILS.
CONDUIT FOR PUMP POWER CABLES & FLOAT SWITCH CABLES. PLACEMENT IS TO BE DETERMINED BY LOCATION OF CONTROL PANEL.



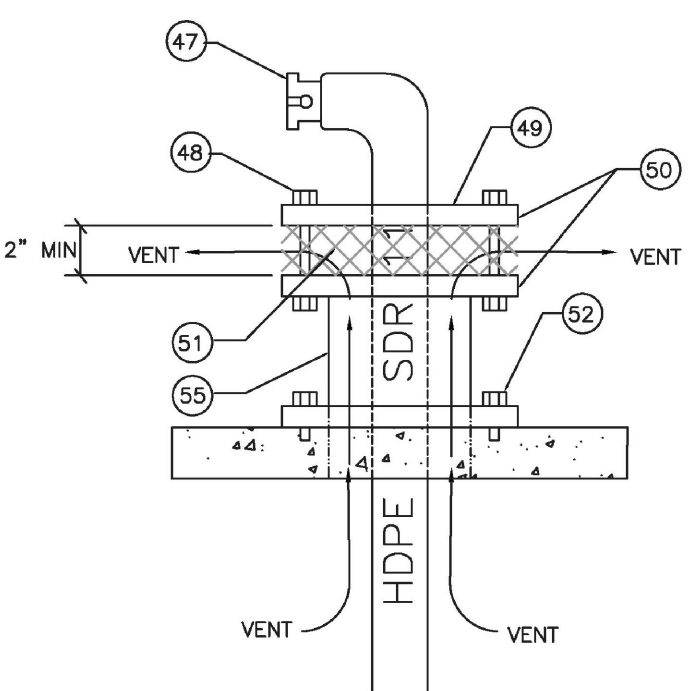
DETAIL "A"
N.T.S.



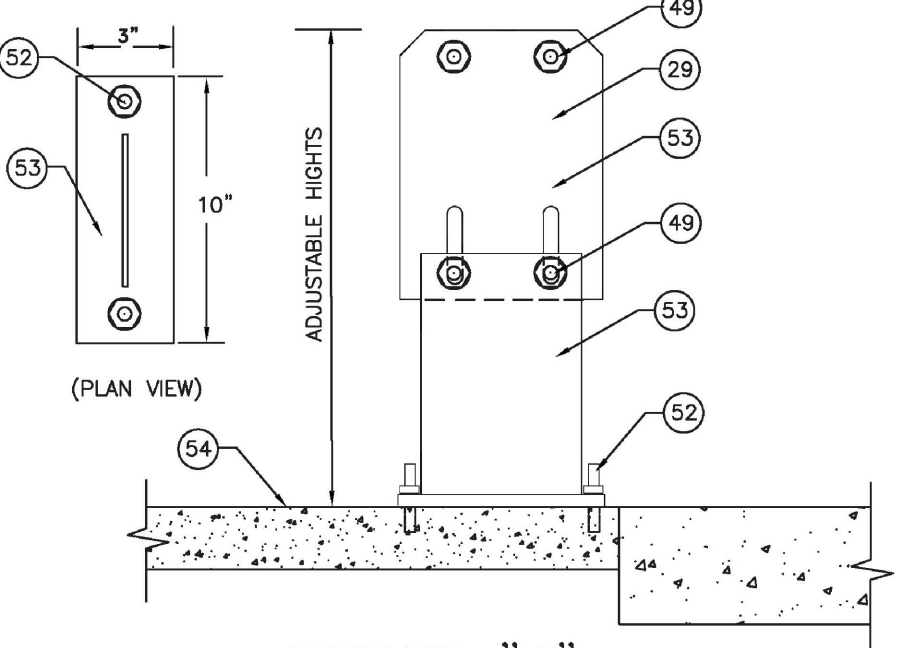
SECTION
N.T.S.



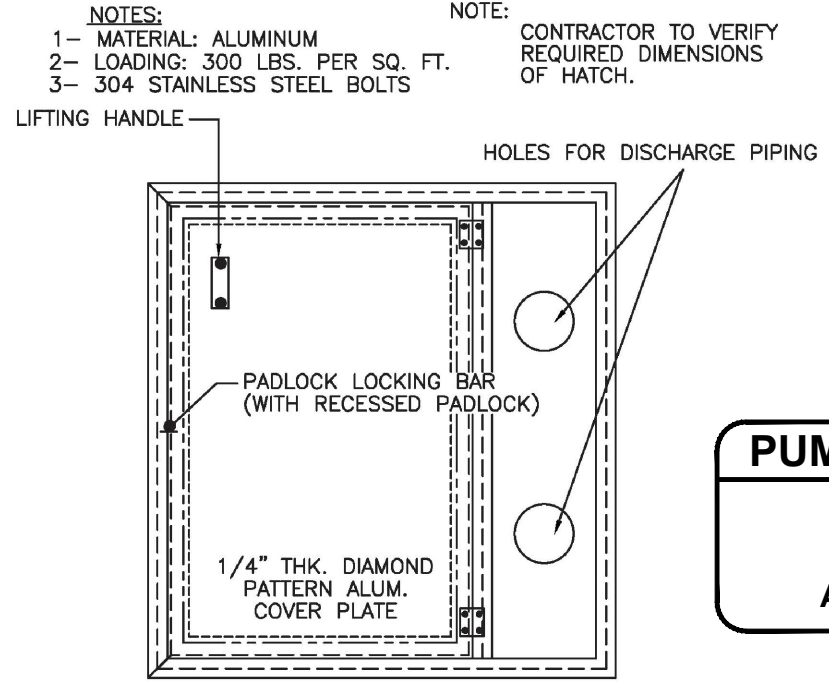
PUMP STATION SITE PLAN
SCALE: 1" = 20' (24"x36")



DETAIL "B"
N.T.S.



DETAIL "C"
N.T.S.



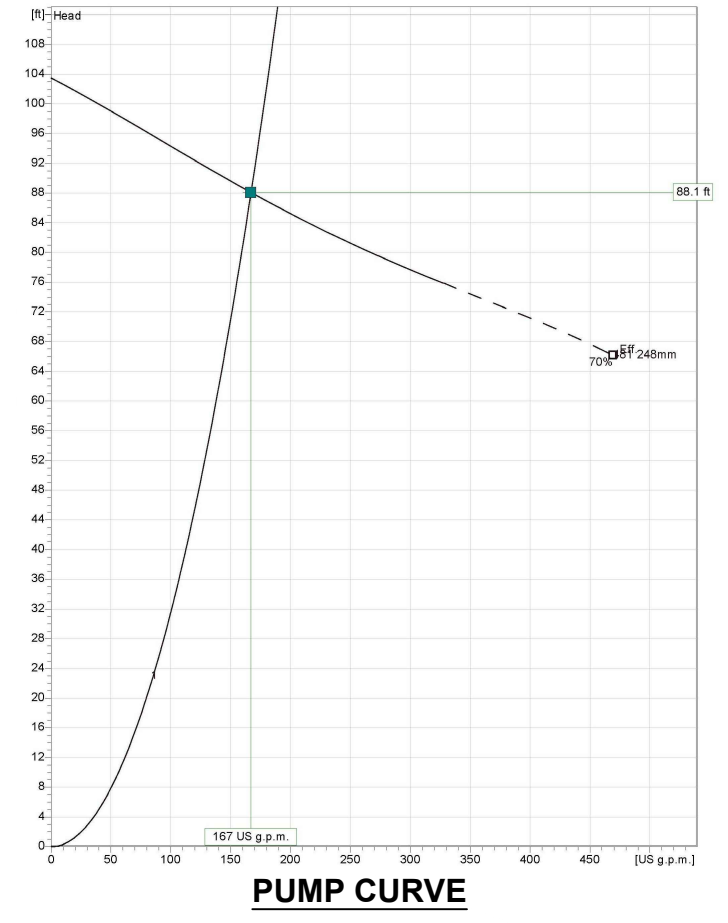
DETAIL "D"
WETWELL ACCESS HATCH
N.T.S.

GENERAL NOTES AND REQUIREMENTS

- 1 1/4" THK. SERIES 300 STAINLESS STEEL HOOKS FOR HOIST CABLES
- 2 PLUG VALVE
- 3 PVC DRAIN LINE FROM AIR RELEASE VALVE TO WET WELL
- 4 EMERGENCY PUMP OUT AND AIRVENT (SAME DIAMETER AS DISCHARGE PIPING) (SEE DETAIL "B")
- 5 GUIDE RAILS
- 6 SPOOL PIECE
- 7 STAINLESS STEEL FLOAT CABLE SUPPORT
- 8 INFLUENT PIPE INSTALLED RADIALLY FROM WETWELL CENTER
- 9 FEMALE QUICK CONNECT COUPLER WITH CAP AND PLUG VALVE
- 10 POWER CABLE
- 11 FLOAT CONTROLS
- 12 FILTER CLOTH WITH 4" OF COMPACTED #57 STONE
- 13 HDPE PIPE
- 14 LONG RADIUS 90° BEND
- 15 PLUG VALVE (PAINT BLACK)
- 16 SWING FLEX CHECK VALVE (PAINT BLACK)
- 17 2" AUTOMATIC AIR RELEASE VALVE; (SEE LCU APPROVED MATERIAL LIST) ON EACH DISCHARGE PIPE
- 18 2" STAINLESS STEEL BALL VALVE (SEE APPROVED MATERIAL LIST)
- 19 HDPE BRANCH SADDLE DE 3408 ASTM D3350 (BLACK) WITH FEMALE THREADED INSERT BRASS ALLOY
- 20 STAINLESS STEEL PIPE SUPPORT (SEE DETAIL "C")
- 21 NEOPRENE GASKET
- 22 STAINLESS STEEL FLANGE RING
- 23 HDPE RIM (FUSED TO HDPE PIPE)
- 24 LINER OR COATING (SEE LCU APPROVED MATERIAL LIST)
- 25 ALUMINUM HATCH (SEE DETAIL D)
- 26 COAL TAR EPOXY (BELOW FINISHED GRADE)
- 27 SENSOR CABLE
- 28 SERIES 316 STAINLESS STEEL 1/4" CABLE
- 29 SERIES 316 STAINLESS STEEL PIPE SUPPORT
- 30 2" SERIES 316 STAINLESS STEEL GUIDE RAILS
- 31 HIGH WATER ALARM SIGNAL ON
- 32 SUBMERSIBLE LEVEL TRANSMITTER
- 33 CAST IN PLACE FLEXIBLE PIPE CONNECTION WITH SERIES 316 STAINLESS STEEL CLAMP, C-923, CHARDON RUBBER, O/E (TYP.) WALL THICKNESS 8" MIN.
- 34 STEEL REINFORCEMENT
- 35 RAM-NEK BLANKET OUTER SIDE OF WET WELL
- 36 RAM-NEK OR EQUAL PREFORMED PLASTIC GASKET MATERIAL BETWEEN PRECAST UNITS (TYP.)
- 37 AUTOMATIC DISCHARGE CONNECTION TO SUIT PUMP
- 38 SUBMERSIBLE PUMPS
- 39 #5 AT 8" CENTER
- 40 SERIES 316 STAINLESS STEEL 3/8" CHAIN (1'-6" LONG)
- 41 #4 AT 8" CENTER
- 42 CONC. OR PORTLAND TYPE II & SAND MIX
- 43 3/4" DIA. x 8" STAINLESS STEEL WEDGE BOLT SCREW ANCHORS, 8 EA. REFER TO LCU STANDARD DETAIL
- 44 BASE SECTION TO BE A MONOLITHIC CASTING
- 45 12" MIN. COMPACTED #57 STONE
- 46 CAM LOCK COUPLING ON EMERGENCY PUMP OUT
- 47 STAINLESS STEEL BOLTS
- 48 BLIND FLANGE
- 49 STAINLESS STEEL CLAMP
- 50 STAINLESS STEEL SCREEN CLOTH
- 51 STAINLESS STEEL CONCRETE BOLTS
- 52 3/8" STAINLESS STEEL
- 53 4" THICK 3,000 P.S.I. CONCRETE SLAB
- 54 AIR VENT TO BE 2 PIPE SIZES LARGER THAN EMERGENCY PUMP OUT. THE ACTUAL LOCATION IS TO BE DETERMINED IN THE FIELD.
- 55 LCU PREFERRED THE LIFT STATION FENCE TO HAVE DARK GREEN VINYL COATING. HOWEVER, BLACK VINYL IS ACCEPTABLE.
- 56 PUMP DISCHARGE BASE PLATE, REFER TO LCU STANDARD DETAIL

NUMBER OF PUMPS	# 1	# 2	# 3
PUMP MANUFACTURER	FLYGT	FLYGT	
PUMP MODEL NUMBER	CP3127	CP3127	
IMPELLER NUMBER	481	481	
TYPE OF PUMP	SUBMERSIBLE		
DESIGN CAPACITY PER PUMP	480	480	(GPM)
TOTAL DYNAMIC HEAD	88	88	(FEET)
SHUT-OFF HEAD	103	103	(FEET)
DESIGN SPEED	1735	1735	(PRM)
MIN. HORSEPOWER PER PUMP	10	10	(HP)
VOLTS	230	230	(VOLTS)
PHASE POWER	3	3	(PH)
PUMP DISCHARGE SIZE	6	6	(INCHES)
DIAMETER RISER PIPE	6	6	(INCHES)
PUMP ON ELEVATION	-1.63	-1.13	(FEET)
HIGH WATER ALARM	-0.63		(FEET)
PUMP OFF ELEVATION	-1.88		(FEET)
DIAMETER PIPE AFTER RISER	6		(INCHES)
DIAMETER WETWELL (I.D.)	6.0		(FEET)
TOP OF WETWELL ELEVATION	15.00		(FEET)
BOTTOM ELEVATION	-3.38		(FEET)
INFLUENT GRAVITY PIPE ELEVATION	2.74		(FEET)

BASIS OF DESIGN	BASIS OF DESIGN		
	ADF (gpm)	PHF (gpm)	EDU (1 EDU=250 gpd)
EXISTING			
INTERIM			
FUTURE			



PUMP STATION ELECTRICAL
FOR PUMP STATION ELECTRICAL DETAILS SEE ATTACHMENTS TO PLAN SET

PROJECT DATUM
NAVD
DATUM CONVERSION
NAVD + 1.20 = NGVD

FILE: S:\ENGINEERING\CAD\LCU-CDD-STD\LCU STD DETAILS\CAD FILES
SCALE: NTS
DATE: 12/10/2015
DRAWN: _____
DATE: _____
REMARKS: _____
DATE: _____

LEE COUNTY UTILITIES ENGINEERING
SOUTHWEST FLORIDA
1500 Monroe St., Fort Myers, Florida 33901
Ph. (239) 533-9181 Fax. (239) 485-5385

STANDARD DETAIL NO. 6.42
PUMP STATION DETAIL
USING ABOVE GROUND
DISCHARGE PIPING

SHEET: 1 OF 2

DELISI FITZGERALD, INC.
Planning - Engineering - Project Management
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ENGINEER OF RECORD:
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941 N. MEDAN STREET
INDIANAPOLIS, IN 46209
(317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
INFRASTRUCTURE**

PLAN REVISIONS	DESCRIPTION
#	DATE

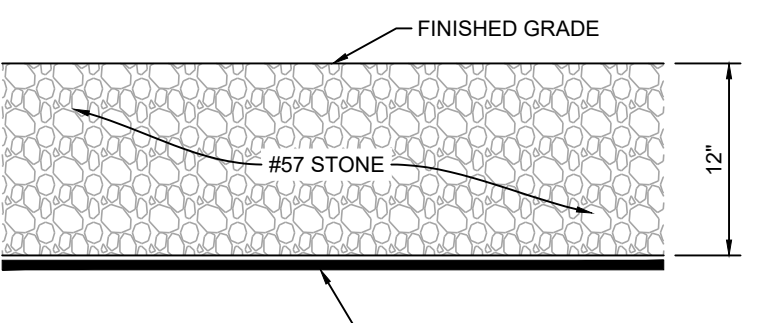
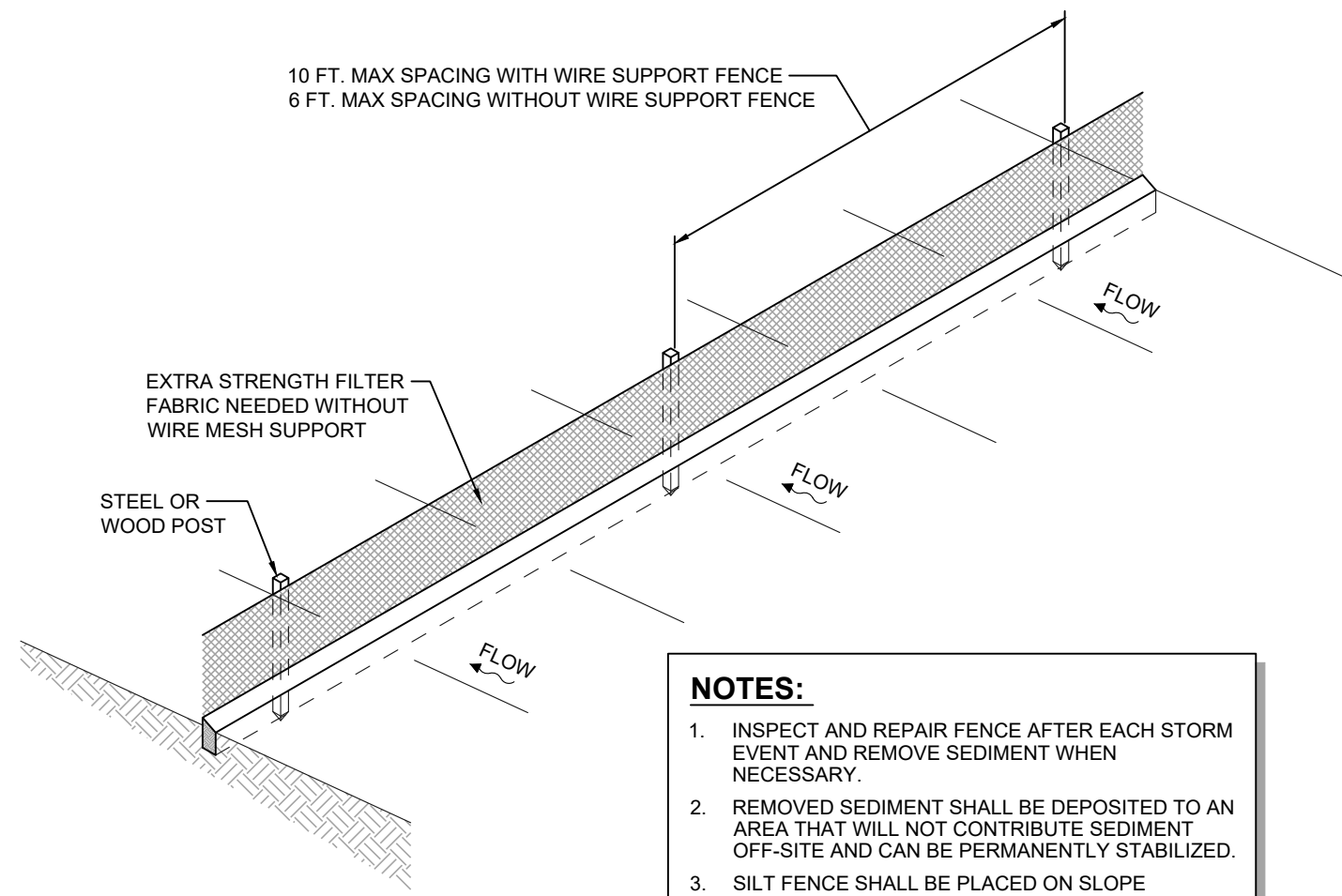
LEE COUNTY UTILITIES
PUMP STATION DETAILS

Project Manager: JTW
Drawn By: CAS
Checked By: JTW
Project Number: 21521
Located in Section(s): 28
Township: 46 S | Range: 25 E
County, State: LEE COUNTY, FL

Status:
FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

Sheet Number: 23

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21521-23-PS-23



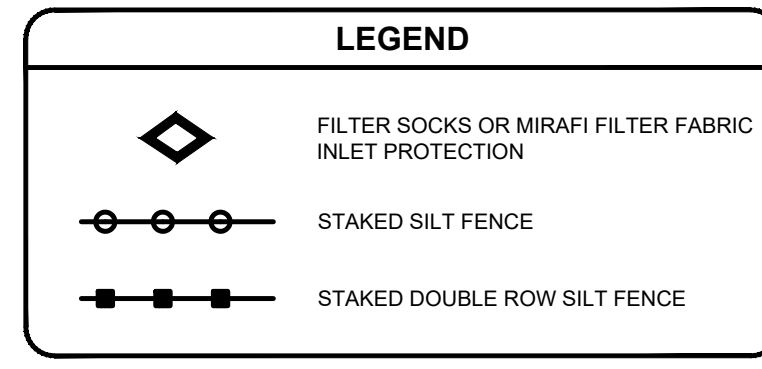
TEMPORARY CONSTRUCTION ENTRANCE SECTION
NTS

EROSION CONTROL NOTES:

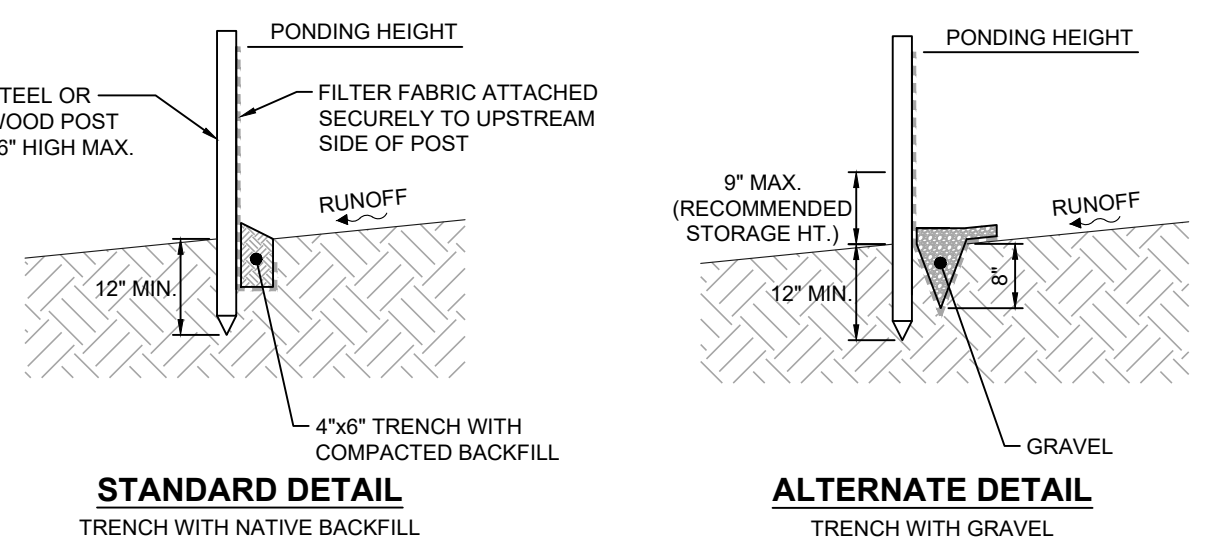
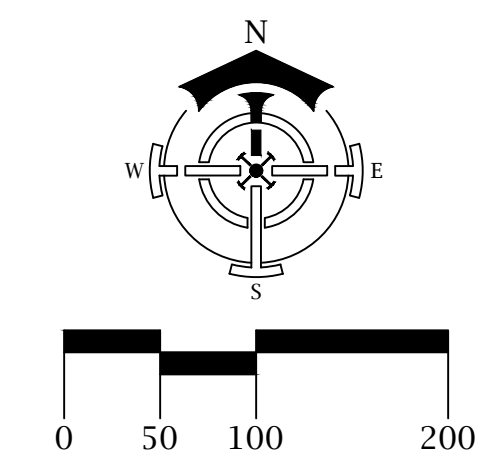
1. THESE DETAILS REPRESENT TYPICAL BEST MANAGEMENT PRACTICES FOR SOIL EROSION CONTROL.
2. PRIOR TO COMMENCEMENT OF CONSTRUCTION APPROPRIATE EROSION CONTROL DEVICES SHALL BE INSTALLED TO CONTROL AND REDUCE SOIL EROSION AND SEDIMENT TRANSPORT TO OFF SITE AREAS. THE CONTRACTOR SHALL MAINTAIN THESE DEVICES THROUGHOUT THE DURATION OF CONSTRUCTION. ALL DEVICES SHALL REMAIN IN PLACE UNTIL PERMANENT EROSION CONTROL IS ESTABLISHED.
3. AREAS LOCATED ADJACENT TO UNDEVELOPED AREAS SHALL BE STABILIZED WITH SOD IMMEDIATELY UPON REACHING FINAL GRADE.
4. THE CONTRACTOR SHALL SUPPLEMENT THIS PLAN AS MAY BE REQUIRED TO CONTROL AND REDUCE SOIL EROSION BASED ON THE CONTRACTORS MEANS, METHODS AND TECHNIQUE OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO FILE A NOTICE OF INTENT WITH THE EPA AND THE VILLAGE OF ESTERO AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
5. DURING CONSTRUCTION, ALL INLET OPENINGS SHALL BE COVERED WITH FILTER FABRIC (MIRAFI 140N, OR APPROVED EQUAL) TO PREVENT DEBRIS FROM FALLING INTO THE INLET. FILTER FABRIC TO BE REMOVED FROM ALL INLETS IMMEDIATELY UPON PROPER STABILIZATION OF CONSTRUCTED IMPROVEMENTS.
6. THE CONSTRUCTION OF THIS PROJECT WILL BE IN COMPLIANCE WITH SEE TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS AND THE STANDARD MANATEE CONDITIONS FOR IN WATER WORK.
7. CONSTRUCTION DEBRIS FROM THE PROJECT WILL BE REMOVED FROM THE SITE BY TRUCK.
8. TURBIDITY SCREENS WILL BE UTILIZED AND REMAIN IN PLACE THROUGHOUT CONSTRUCTION.
9. SILT FENCE WILL BE UTILIZED AND REMAIN IN PLACE THROUGHOUT CONSTRUCTION.
10. TURBIDITY SCREENS AND SILT FENCE WILL BE INSPECTED DAILY.

NOTES:

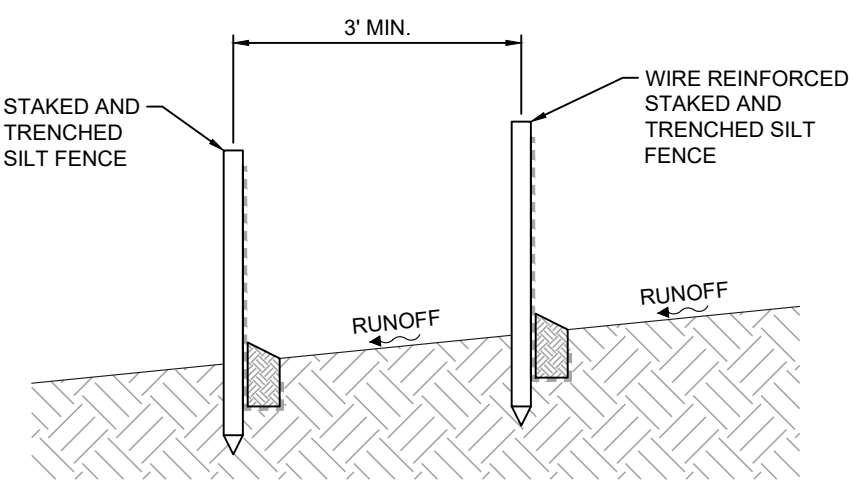
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.



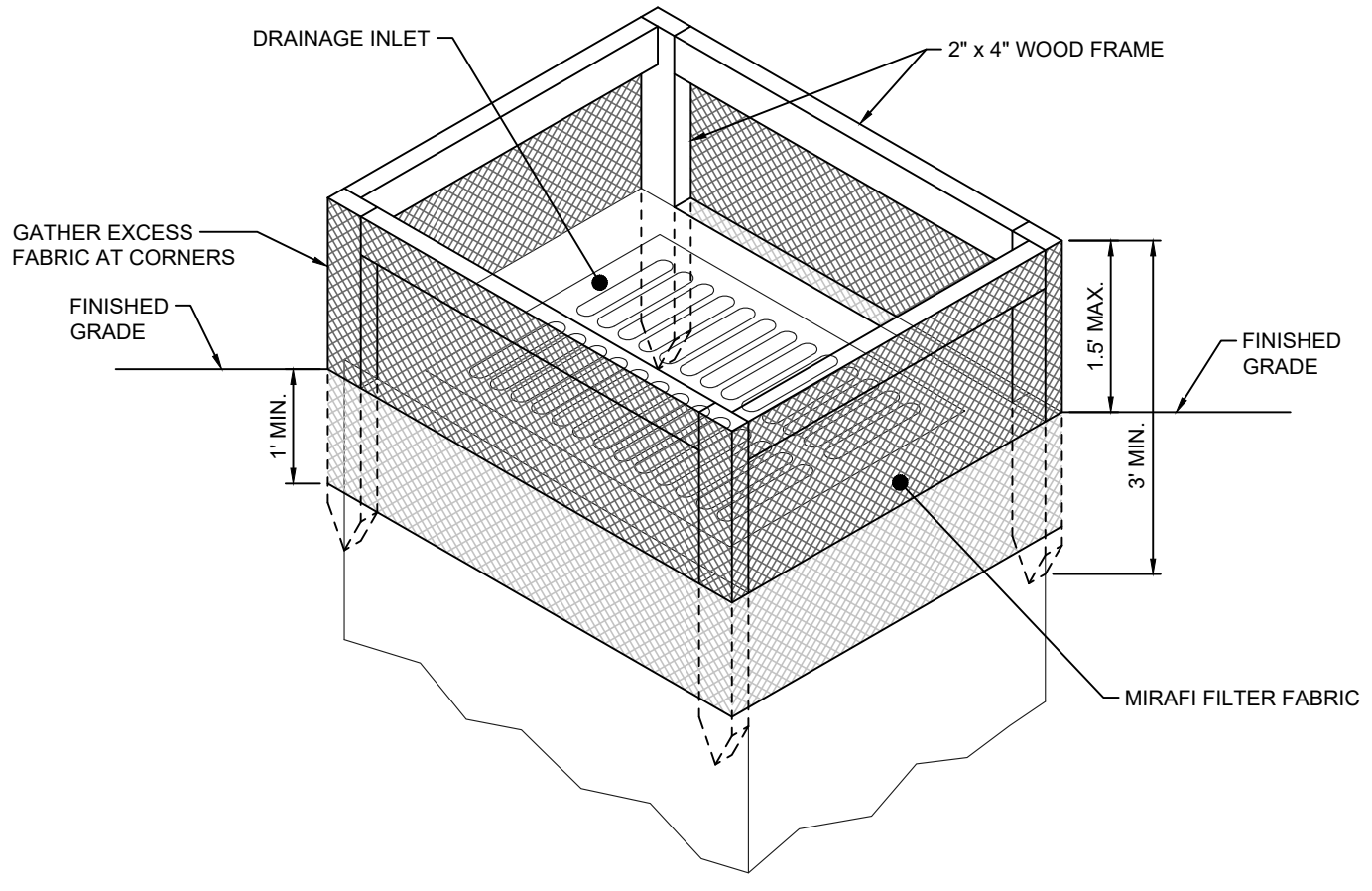
EX. CYPRESS BEND RV RESORT



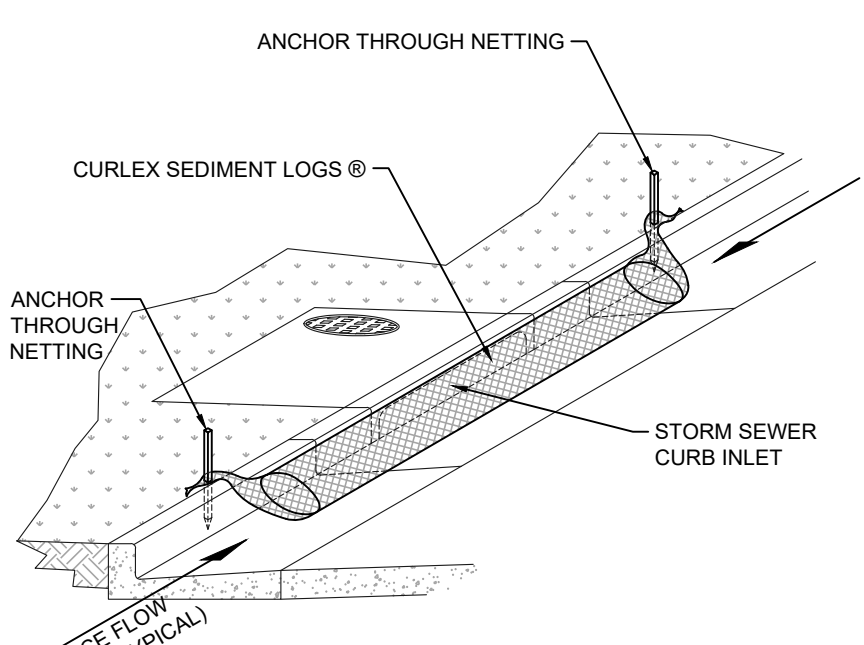
SILT FENCE DETAIL
NTS



DOUBLE ROW SILT FENCE DETAIL
NTS



MIRAFI FILTER FABRIC INLET PROTECTION DETAIL
NTS

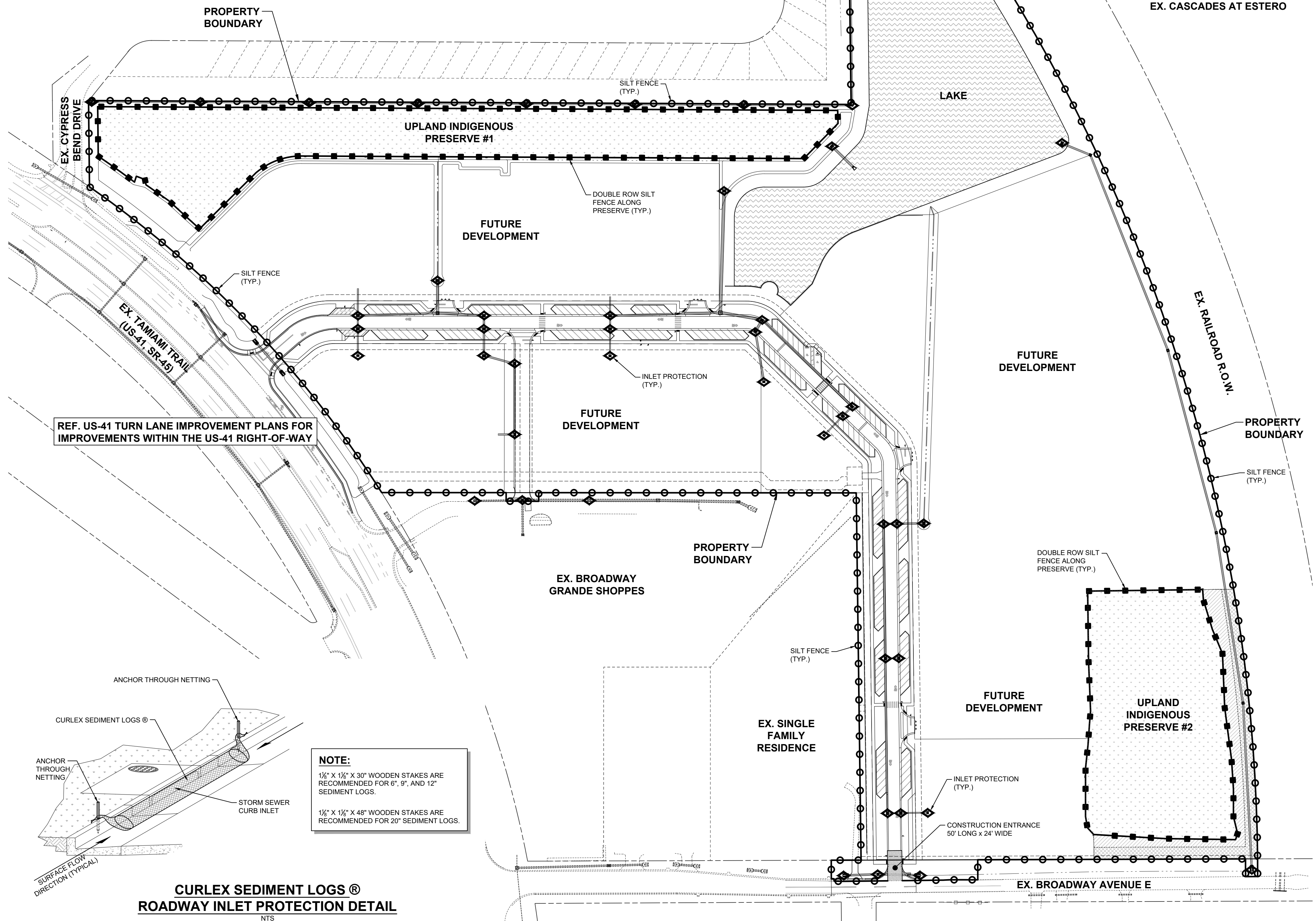


CURLEX SEDIMENT LOGS® ROADWAY INLET PROTECTION DETAIL
NTS

NOTE:

1 1/2" X 1 1/4" X 30" WOODEN STAKES ARE RECOMMENDED FOR 6", 9", AND 12" SEDIMENT LOGS.

1 1/2" X 1 1/4" X 48" WOODEN STAKES ARE RECOMMENDED FOR 20" SEDIMENT LOGS.



REF. US-41 TURN LANE IMPROVEMENT PLANS FOR IMPROVEMENTS WITHIN THE US-41 RIGHT-OF-WAY

DELISI FITZGERALD, INC.
Planning - Engineering - Project Management
a Division of RESPEC Company LLC

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(239) 418-0691
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Florida
Registry License
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ENGINEER OF RECORD:
JOHN T. WOODAK, P.E. (FOR THE FIRM)
FLORIDA P.E. NO. 58217

NOT VALID WITHOUT SEAL, SIGNATURE AND DATE

OWNER / DEVELOPER:
BUCKINGHAM COMPANIES
941 N. MEDIAN STREET
INDIANAPOLIS, IN 46209
(317) 974-1234

PROJECT:
DOWNTOWN ESTERO INFRASTRUCTURE

PLAN REVISIONS	DESCRIPTION
#	DATE

EROSION CONTROL PLAN

Project Manager: JTW
 Drawn By: CAS
 Checked By: JTW
 Project Number: 21521
 Located in Section(s): 28
 Township: 46 S | Range: 25 E
 County, State: LEE COUNTY, FL

Status:
FOR CONSTRUCTION
SUBJECT TO ALL PERMIT APPROVALS

Sheet Number: 24

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21521-24-EROSION.DWG

LAKE MAINTENANCE PLAN

1. THE PROPERTY OWNER SHALL BE THE ENTITY RESPONSIBLE FOR MAINTENANCE OF THE LAKE AREA, SHORELINE AND DESTRATIFICATION SYSTEM.
2. LAKE BANKS SHALL SODDED AND MAINTAINED WITH REGULAR MOWING. BARE AREAS SHALL BE RESODDED TO AVOID EROSION.
3. THE LAKE AREA AND LITTORAL VEGETATION SHALL BE MAINTAINED IN A HEALTHY AND VIGOROUS STATE IN PERPETUITY IN ACCORDANCE WITH LDC 5-411.E. THE USE OF TRIMMING, MOWING AND/OR HERBICIDES TO REMOVE LITTORAL PLANTS IS PROHIBITED.
4. RUNOFF FROM ALL COMMERCIAL AREAS SHALL BE ROUTED TO DRY DETENTION AREAS PRIOR TO DISCHARGE IN THE LAKE.
5. OPEN SPACE AREAS THAT DISCHARGE DIRECTLY INTO THE LAKE SHALL HAVE A GRADUAL SLOPE (6:1 MAX.) TO REDUCE OVER LAND FLOW VELOCITIES.
6. ANY ROOF DRAINS ROUTED TO THE LAKE SHALL BE PIPED BELOW GRADE AND ENTER THE LAKE AT AN ELEVATION MINIMUM 2' BELOW CONTROL ELEVATION.
7. THE DESTRATIFICATION SYSTEM SHALL BE TESTED ANNUALLY. THIS INCLUDES TESTING ELECTRICAL EQUIPMENT, DIFFUSER AND ELECTRICAL AND AIR LINES.

DEEP LAKE MANAGEMENT PLAN

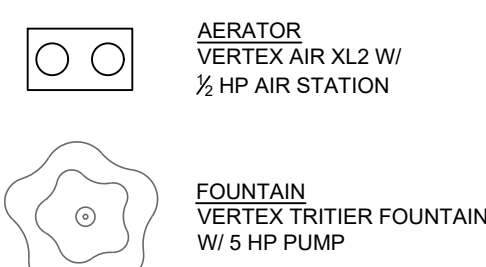
1. THE PROPERTY OWNER SHALL BE THE ENTITY RESPONSIBLE FOR MAINTENANCE OF THE LAKE AREA AND SHORELINE.
2. PRIOR TO ISSUANCE OF CERTIFICATE OF COMPLIANCE, A POST CONSTRUCTION BATHYMETRIC SURVEY, SIGNED AND SEALED BY A PROFESSIONAL SURVEYOR AND MAPPER, SHALL BE SUBMITTED.
3. A DESTRATIFICATION SYSTEM SHALL BE INSTALLED AND MAINTAINED IN PERPETUITY. THE SYSTEM SHALL BE DESIGNED TO TURN OVER THE ENTIRE LAKE VOLUME A MINIMUM OF 2 TIMES PER DAY. DESTRATIFICATION SYSTEM SHALL BE AIR LIFT STATION OR APPROVED EQUIVALENT.
4. NATIVE SHADE TREES MEETING THE SPECIFICATIONS OF LDC 5-403.B. SHALL BE PLANTED AROUND THE LAKE PERIMETER. SEE LANDSCAPE PLANS FOR PLANTING CALCULATIONS.

DEWATERING NOTE

REFERENCE SFWMD PERMIT 'TBD' FOR SITE DEWATERING REQUIREMENTS

PROJECT DATUM
NAVD
DATUM CONVERSION
NAVD + 1.20 = NGVD

LEGEND



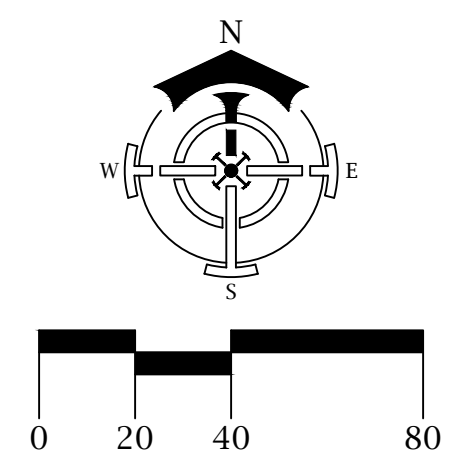
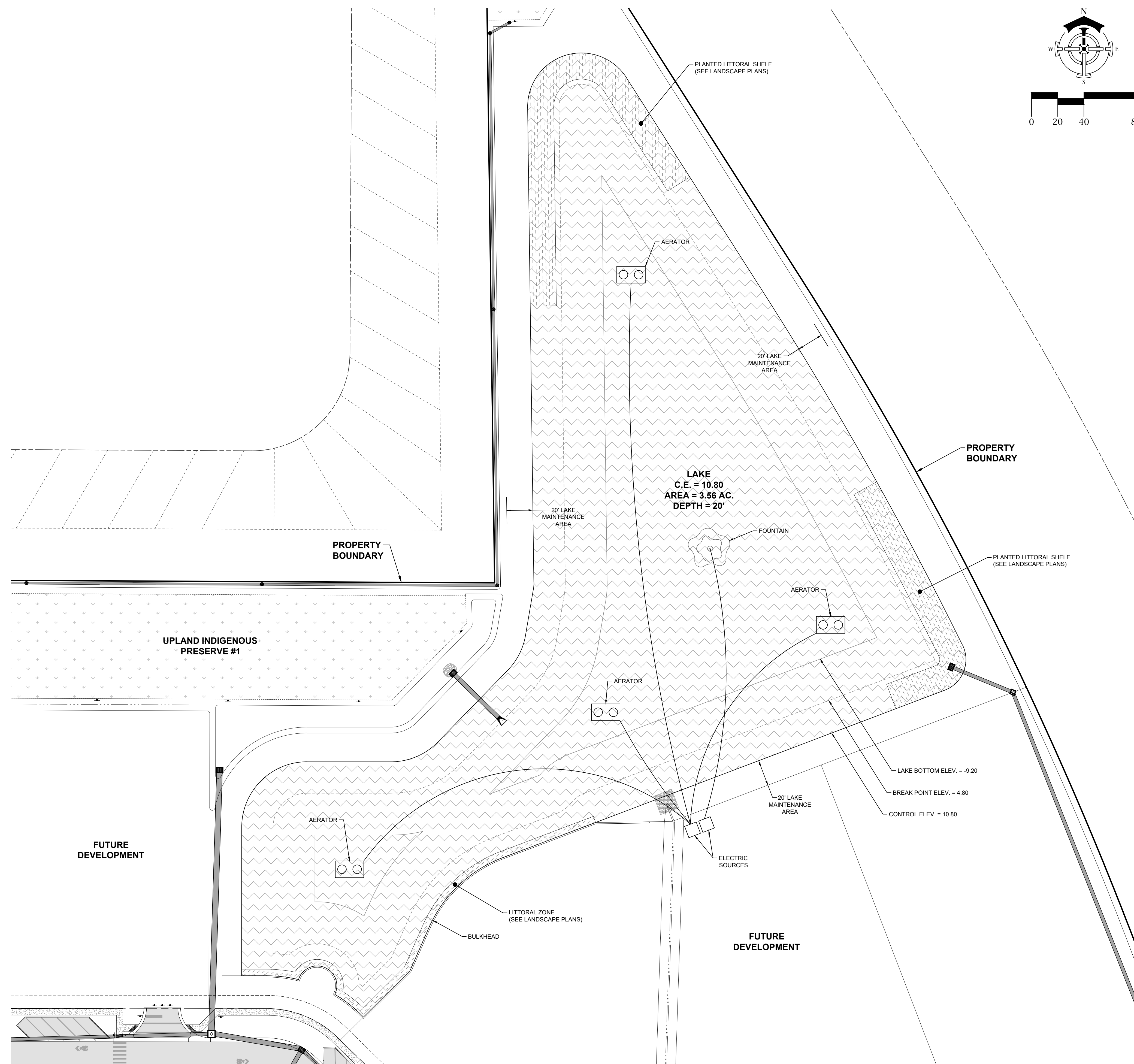
Your Custom Vertex Aeration System Design Specifications
Lake Solutions Ver. 17 May 2016

Customer Name:	DeLisi Fitzgerald, Inc.
Contact Name:	John T. Wojdak, P.E.
Site Name/Number:	Downtown Estero
Date:	August 22, 2022
Vertex Biologist:	Sue Pinage!
Surface Acres:	3.56
Perimeter Feet:	2,108
Slope Ratio Relative to 1:	2.0
Average Center Depth:	20.0
Average Depth:	14.6
Calculation Constraint Percentage:	0.0
Total Acre Feet:	51.8
Lake Volume (Gallons):	16,892,596
Monthly Influent Volume (Gallons):	0
Total Volume Requiring Aeration (Gallons):	16,892,596
GPM Per Air Station:	4,878
Gallons Pumped / Day:	28,096,146
System Working Pressure (PSI):	11.6
Air Delivery Per Air Station at Depth (CFM):	2.1
Number of CoActive Air Stations Specified:	4
Complete Turnovers / Day:	1.66

Terminology

Surface Acres:	Total Surface Acres of Entire Water Body
Perimeter Feet:	Distance in Feet Along The Shoreline Around the Water Body
Bottom Slope Ratio:	Distance in Feet from Shoreline For Each Foot Increase in Depth
Average Center Depth:	Average of Depth Readings in Deepest Areas
Average Depth:	Average Depth of Entire Lake in Feet
Circulation Constraint %:	Reduced Circulation Due to Narrow Lake Areas, Islands, Etc.
Total Acre Feet:	An Acre Foot Equals One Acre One Foot Deep
Lake Volume:	Volume of The Entire Water Body Expressed in U.S. Gallons
Influent Volume:	Water Flowing into Lake that Requires Additional Aeration Capacity
GPM:	Gallons of Water Pumped Per Minute
Gallons Pumped / Day:	Total Gallons of Water Pumped by All Air Stations Per Day
PSI:	Pounds Per Square Inch
CFM:	Cubic Feet Per Minute
# CoActive Air Stations:	Recommended Number of Air Stations For Proper Aeration
Turnovers / Day:	Number of Times Per Day the Entire Volume of The Water Body is Pumped From the Lake Bottom to The Lake's Surface

Vertex Water Features
2100 NW 33rd Street, Pompano Beach, Florida 33069
Tel: 904-432-4302 / Fax: 954-977-7877
www.vertexwaterfeatures.com
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(317) 974-1234

PROJECT:
**DOWNTOWN ESTERO
INFRASTRUCTURE**

PLAN REVISIONS	DESCRIPTION	DATE
#		

DEEP LAKE MANAGEMENT AND LAKE MAINTENANCE PLAN

Project Manager: JTW
Drawn By: CAS
Checked By: JTW
Project Number: 21521
Located in Section(s): 28
Township: 46 S Range: 25 E
County, State: LEE COUNTY, FL

Status:
FOR CONSTRUCTION
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Sheet Number: 25

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