

UTILITIES PROVIDING SERVICE:

WATER AND SEWER:

LEE COUNTY UTILITIES
1500 MONROE ST
FORT MYERS, FLORIDA 33901
PHONE: (239) 533-8181

TELEPHONE:

CENTURYLINK
1520 LEE STREET
FORT MYERS, FLORIDA 33901
PHONE: (239) 336-2030

GARBAGE COLLECTION:

WASTE PRO
13110 RICKENBACKER PARKWAY
FORT MYERS, FLORIDA 33913
PHONE: (239) 337-0800
FAX: (239) 225-2758

CABLE:

CENTURYLINK
1520 LEE STREET
FORT MYERS, FLORIDA 33901
PHONE: (239) 336-2030

ELECTRIC:

FLORIDA POWER & LIGHT COMPANY
15834 WINKLER ROAD
FORT MYERS, FLORIDA 33908
PHONE: (239) 415-1326
FIRE CONTROL DISTRICT:

SOUTH TRAIL FIRE DISTRICT
5531 HALIFAX AVENUE
FORT MYERS, FLORIDA 33912
PHONE: (239) 433-0080
FAX: (239) 433-1941

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FOR

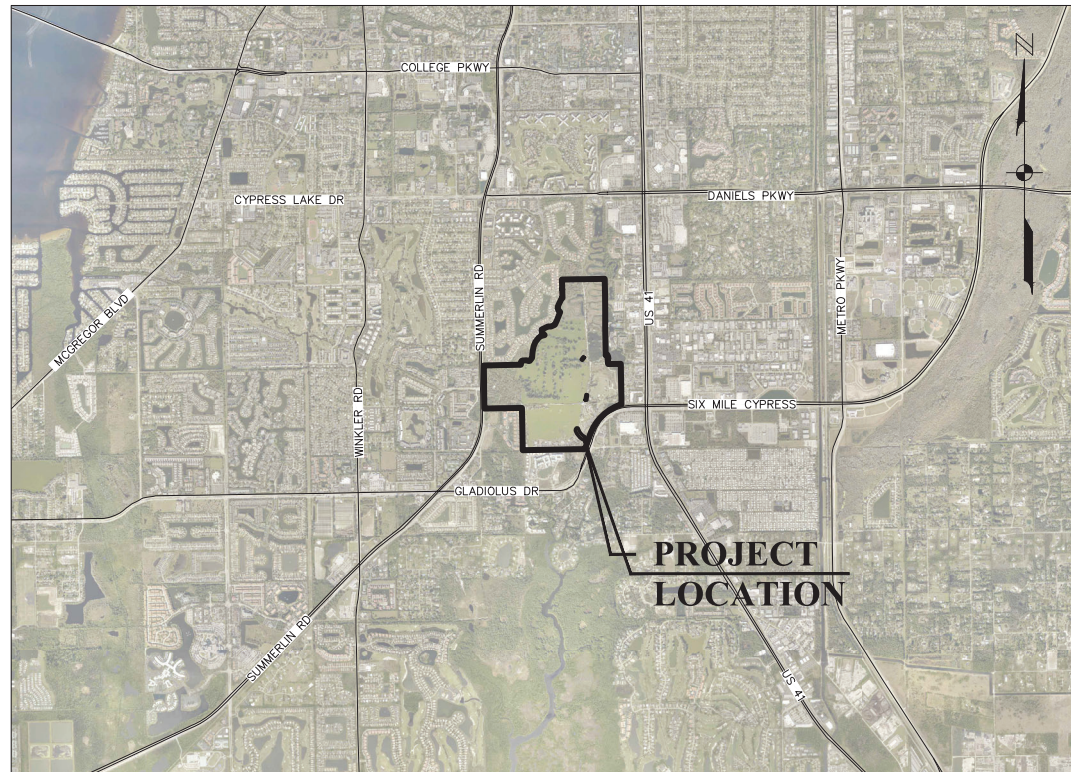


Lee County
Southwest Florida

LAKES PARK WATER QUALITY - PHASE 3

SECTION 26, TOWNSHIP 45 S., RANGE 24 E.

LEE COUNTY FLORIDA



LOCATION MAP



MARCH 2024

This item has been digitally signed and sealed by Jordan L. Varble, 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.

OWNER

LEE COUNTY
2115 SECOND ST
FORT MYERS, FL 33901
PHONE: (239) 533-2221
FAX: (239) 485-2262

STRAP NUMBER

26-45-24-00-00008.0000

SIZE OF PROJECT

1.43 ACRES

ZONING

CF

BOARD OF COUNTY COMMISSIONERS

KEVIN RUANE	DISTRICT 1
CECIL PENDERGRASS	DISTRICT 2
RAY SANDELLI	DISTRICT 3
BRIAN HAMMAN	DISTRICT 4
FRANK MANN	DISTRICT 5

COUNTY MANAGER

DAVE HARNER

ASSISTANT COUNTY MANAGER

PETER WINTON
CHRISTINE BRADY
GLEN SALYER
MARC MORA
ROBERT CODIE

DIVISION OF NATURAL RESOURCES

ROLAND OTTOLINI, P.E.



ENVIRONMENTAL RESEARCH & DESIGN, INC.
3419 TRENTWOOD BLVD.,
SUITE 102
BELLE ISLE, FLORIDA 32812
PHONE: (407) 855-9465
E.B. #6244



JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
FORT MYERS, FLORIDA 33901
PHONE: (239) 334-0046
E.B. #642 & L.B. #642



NOTICE TO ALL CONTRACTORS
IT'S THE LAW IN FLORIDA 2 BUSINESS DAYS BEFORE YOU DIG CALL SUNSHINE 1-800-432-4770 STATE, COUNTIES & CITIES ARE "NOT" PART OF THE ONE CALL SYSTEM. THEY MUST BE CALLED INDIVIDUALLY.

ABBREVIATIONS

AC	ACRE
ALT	ALTERNATE
APPROX.	APPROXIMATE
ASB	ASBESTOS
BM	BENCH MARK
BLDG	BUILDING
BOT	BOTTOM
CB	CATCH BASIN
CF	CUBIC FEET PER MINUTE
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CIP	CAST IRON PIPE
CJ	CONSTRUCTION JOINT
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CV	CHECK VALVE
CF	CUBIC FOOT
CY	CUBIC YARD
CL	CENTER LINE
CLKG	CAULKING
CLF	CHAIN LINK FENCE
COL	COLUMN, COLOR
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CTRS	CENTERS
CU	COPPER
CU IN.	CUBIC INCH
DIA.	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIST.	DISTANCE
DIP	DUCTILE IRON PIPE
DE	DRAINAGE EASEMENT
DWG	DRAWING
E	EAST
EL/ELEV	ELEVATION
EQUIP	EQUIPMENT
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
ESMT	EASEMENT
EX	EXISTING
FF	FINISHED FLOOR
FEE	FINISHED FLOOR ELEVATION
FM	FORCE MAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FIN	FINISH
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET
FT	NATURAL GAS
GC	GENERAL CONTRACTOR
GI	GALVANIZED IRON
GPM	GALLONS PER MINUTE
GV	GATE VALVE
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GR	GRADE
HDPE	HIGH DENSITY POLYETHYLENE
HOR	HORIZONTAL
HYD	HYDRANT
ID	INSIDE DIAMETER
IDD	IONA DRAINAGE DISTRICT
INV	INVERT
IRR	IRRIGATION
LAE	LAKE ACCESS EASEMENT
LCUE	LEE COUNTY UTILITY EASEMENT
LF	LINEAL FEET
LME	LAKE MAINTENANCE EASEMENT
LMT	LAKE MAINTENANCE TRACT
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MJ	MECHANICAL JOINT
MAX	MAXIMUM
MECH	MECHANICAL
MES	MITERED END SECTION
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NE	NORTHEAST
NW	NORTHWEST
NV	NON POTABLE WATER
N/S	NOT TO SCALE
NUM/#	NUMBER
NOM	NOMINAL
NG	NATURAL GAS
OC	ON CENTERS
OCEW	ON CENTER EACH WAY
OD	OUTSIDE DIAMETER
PCF	POUNDS PER CUBIC FOOT
PSF	POUNDS PER SQUARE FOOT
PV	PLUG VALVE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
POLY	POLYETHYLENE
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PGL	PROPOSED GRADE LINE
PL	PROPERTY LINE
PLBG	PLUMBING
PLWD	PLYWOOD
PW	POTABLE WATER
PT	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVI	POINT OF VERTICAL INTERSECTION
QUAN	QUANTITY
RD	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
ROW	RIGHT OF WAY
RU	REUSE LINE
R/W	RIGHT OF WAY
S	SOUTH
SE	SOUTHEAST
SW	SOUTHWEST
SS	SANITARY SEWER
SAN	SANITARY
SCH	SCHEDULE
SECT	SECTION
SEW	SEWER
SH	SHEET
SPEC	SPECIFICATION
SO	SQUARE
ST	STREET
STA	STATION
STL	STEEL
STD	STANDARD
SUR	SURFACE
SYM	SYMMETRICAL
TOE	TOE OF SLOPE
TOB	TOP OF BANK
THK	THICK
TEL	TELEPHONE
TEMP	TEMPERATURE
TRANS	TRANSFORMER
TYP	TYPICAL
UE	UTILITY EASEMENT
VERT	VERTICAL
W	WATER
WM	WATER MAIN
W/W	WITH
W/O	WITHOUT
WD	WOOD
WT	WEIGHT
WV	WATER VALVE
WH	WALL HYDRANT

SYMBOLS

	GATE VALVE		IRRIGATION SERVICE (DOUBLE)
	TEE ASSEMBLY		IRRIGATION SERVICE (SINGLE)
	REDUCER		SEWER SERVICE (DOUBLE)
	BLOW OFF		SEWER SERVICE (SINGLE)
	FIRE HYDRANT		WATER SERVICE (DOUBLE)
	FIRE HYDRANT ASSEMBLY W/ GATE VALVE		WATER SERVICE (SINGLE)
	MITERED END SECTION		HEADWALL
	MANHOLE W/ NUMBER		DRAINAGE INLET (SEE PLAN FOR TYPES)
	PLUG VALVE		THROAT INLET
			FLARED END SECTION

HATCH PATTERNS

	WETLAND		EXISTING LAKE TO BE FILLED
	UPLAND BUFFER		PROPOSED LAKE
	UPLAND PRESERVE		LITTORAL SHELF AREA
	INDIGENOUS AREA		COMPENSATING LITTORAL PLANTING AREA
	NATURAL AREA		RIPRAP / GRAVEL
	FILTER MARSH		BRICK PAVERS
	EXISTING LAKE		

NOTE:
HATCH PATTERNS ARE FOR ILLUSTRATIVE PURPOSES
ONLY. ACTUAL HATCH PATTERNS ON DRAWING MAY
VARY IN SCALE & ANGLE

LINETYPES

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE	---	---
CENTER LINE	---	---
LAKE MAINTENANCE EASEMENT	---	---
PUBLIC UTILITY EASEMENT	---	---
DRAINAGE EASEMENT	---	---
WETLAND BOUNDARY	---	---
FORCE MAIN	---	---
SANITARY SEWER	---	---
WATER MAIN	---	---
IRRIGATION MAIN	---	---
RE-USE MAIN	---	---
PERIMETER BERM	---	---
FENCE LINE	---	---
SILT FENCE	---	---
BULKHEAD	---	---
STRUCTURAL BUFFER	---	---

NOTICE TO ALL CONTRACTORS
IT'S THE LAW IN FLORIDA
2 BUSINESS DAYS BEFORE
YOU DIG
CALL SUNSHINE
1-800-432-4770



SITE DEMOLITION:

1. ANY SITE DEMOLITION IS BASED ON AVAILABLE INFORMATION PROVIDED TO ENGINEER AND MAY NOT COVER ALL ASPECTS OF THE PROJECT, INCLUDING BUT NOT LIMITED TO IRRIGATION LINES/SERVICES AND ELECTRICAL SERVICES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COVER ALL EXISTING INFRASTRUCTURE TO BE REMOVED IN THEIR DEMOLITION BUDGET.

EXISTING UTILITY NOTE:

1. CONTRACTOR TO CONTACT "SUNSHINE 811" FOR LOCATES TWO BUSINESS DAYS BEFORE YOU DIG, 1-800-432-4770. STATE, COUNTIES, AND CITIES ARE NOT PART OF THE ONE CALL SYSTEM, THEY MUST BE CALLED INDIVIDUALLY.

GENERAL NOTES:

- ELEVATIONS REFERENCE TO NAVD 1988. CONVERSION TO NGVD 1929 IS: NAVD 1988 + 1.18 = NGVD 1929.
- THE GENERAL NOTES MUST BE PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN AND MUST BE REFERRED TO BY THE CONTRACTOR. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL THE GENERAL NOTES AND ALL OF THE PLANS SPECIFICATION NOTES.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND QUANTITIES INCLUDED WITHIN THE PLAN SET AND SHOULD NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS ARE TO BE CHECKED AND CONFIRMED BY THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, FABRICATION/ORDERING OF PARTS AND MATERIALS AND START OF SITE WORK.
- JOHNSON ENGINEERING, INC. IS NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY, JOB SITE SUPERVISION, OR ANYTHING RELATED TO THE SAME. JOHNSON ENGINEERING, INC. IS NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES OR ANY JOB SITE CONDITIONS, AT ANY TIME.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, STANDARD PLANS (LATEST EDITION), LEE COUNTY DEVELOPMENT STANDARDS AND SPECIFICATIONS AND LEE COUNTY UTILITIES REQUIREMENTS.
- CONTRACTOR SHALL RETAIN, ON THE WORK SITE, COPIES OF ANY PERMITS NECESSARY FOR CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY REQUIRED TREE REMOVAL PERMITS.
- THE SITE CONTRACTOR SHALL BECOME FAMILIAR WITH THE GEOTECHNICAL REPORT IF ONE WAS PREPARED. THE CONTRACTOR SHALL COMPLY WITH ALL THE SITE PREPARATION AND OTHER SITE RELATED ITEMS, RECOMMENDATIONS AND PROCEDURES.
- THIS PROJECT WILL NOT ADVERSELY IMPACT ANY SURFACE WATER OR GROUNDWATER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND USAGE OF THE EXISTING STREETS ADJACENT TO THE PROJECT. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH FOOT STANDARD PLANS INDEX 102-100 THRU 102-670, OR THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), (LATEST EDITION).
- CONTRACTOR IS REQUIRED TO OBTAIN FROM THE ENGINEER AND OWNER WRITTEN APPROVAL FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
- EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING CONSTRUCTION.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHOULD NOTIFY THE OWNER/ENGINEER WITHOUT DELAY.
- THE LOCATION OF EXISTING UTILITIES, PAVEMENT, VEGETATION, AND MISCELLANEOUS IMPROVEMENTS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- CONTRACTOR SHALL NOTIFY THE LEE COUNTY UTILITIES ENGINEER A MINIMUM OF 72 HOURS PRIOR TO ALL REQUIRED INSPECTIONS.
- CONTRACTOR TO PROVIDE SILT FENCE AND OTHER APPROPRIATE MEASURES TO AFFECT THE FILTRATION OF SURFACE WATER FLOWS AND TO PROVIDE EROSION PROTECTION DURING CONSTRUCTION ACTIVITIES. PROTECTION IS TO BE MAINTAINED DURING THE CONSTRUCTION PERIOD UNTIL DISTURBED SOILS HAVE BEEN STABILIZED WITH GRASS OR SUITABLE EROSION PROTECTION TREATMENT.
- DURING CONSTRUCTION, GRATE INLET AND JUNCTION BOX OPENINGS SHALL BE COVERED WITH FILTER FABRIC (MIRAFI 140N OR APPROVED EQUAL) TO PREVENT DEBRIS AND FILL FROM FALLING INTO THE INLET.
- CONTRACTOR SHALL REMOVE ALL MUCK AND OTHER UNSUITABLE MATERIAL FROM FILL AREAS PRIOR TO PLACEMENT OF FILL. ALL MUCK AND OTHER UNSUITABLE MATERIAL EXCAVATED FROM LAKES OR REMOVED FROM FILL AREAS SHALL BE STOCKPILED AT THE PROPOSED PROJECT AS DETERMINED BY THE OWNER.
- ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATION.
- CONTRACTOR SHALL PROMPTLY REPORT ALL FIELD CHANGES TO THE ENGINEER.
- HORIZONTAL LOCATIONS OF INLETS AND STORM DRAINS MAY BE FIELD ADJUSTED TO PRESERVE EXISTING VEGETATION WITH PERMISSION OF ENGINEER. IN ADDITION, SITE GRADES MAY BE ADJUSTED IN FIELD BY ENGINEER.
- THE CONTRACTOR IS REQUIRED TO ADJUST ALL VALVE BOXES, MANHOLE RIMS, GRATES, ETC. AS NECESSARY TO MATCH PROPOSED GRADES.
- EXISTING FACILITIES SHALL BE RESTORED TO A CONDITION EQUIVALENT TO THAT WHICH EXISTED PRIOR TO COMMENCING CONSTRUCTION, AT NO ADDITIONAL COST TO OWNER.
- ALL UNPAVED AREAS DISTURBED DURING CONSTRUCTION, INCLUDING THOSE WITHIN SILT FENCE, SHALL BE SODED UNLESS NOTED OTHERWISE.
- ALL CONCRETE SIDEWALKS SHALL HAVE CONTROL JOINTS CUT ON 5-FOOT CENTERS AND EXPANSION JOINTS PLACED ON 60-FOOT CENTERS, CHANGES IN DIRECTION, AND ABUTTING SEPARATE POURS.
- THE CONTRACTOR SHALL ACCURATELY PLOT THE LOCATIONS AND DEPTHS OF ALL IMPROVEMENTS INSTALLED ON A FINAL SET OF RECORDED DRAWINGS WHICH SHALL BE DELIVERED TO THE ENGINEER.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL FACILITIES AS SHOWN ON THE DRAWINGS, OR AS REASONABLY IMPLIED TO PROVIDE COMPLETE AND OPERATIONAL ALUM TREATMENT.
- THE CONTRACTOR SHALL LIMIT ALL LAY-DOWN AND STORAGE AREAS FOR THIS PROJECT TO THE AREA SHOWN. THE ENTRANCE TO THE SITE MUST NOT BE BLOCKED. COUNTY WILL PROVIDE ROUTINE PERIODIC MOWING IN AREAS ACCESSIBLE BY MOWING EQUIPMENT. CONSTRUCTION AREA NOT ACCESSIBLE BY MOWING EQUIPMENT WILL BE MAINTAINED BY CONTRACTOR IN A NEAT AND TIDY FASHION.

SIGNING AND PAVEMENT

MARKING NOTES:

- ALL SIGNING AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT STANDARD PLANS (LATEST EDITION), THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), (LATEST EDITION) AND THE CURRENT LEE COUNTY DEPARTMENT OF TRANSPORTATION REQUIREMENTS.
- MATCH EXISTING PAVEMENT MARKINGS AT EXISTING ROADS.
- TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE FDOT STANDARD PLANS INDEX 102-100 THRU 102-670 (LATEST EDITION), OR THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), (LATEST EDITION).
- CONTRACTOR SHALL SET ROADWAY GROUND MOUNT SIGNS AT PROPER DEFLECTION ANGLE TO THE ROADWAY IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX NUMBER 700-101.
- SEE FDOT INDEX NUMBERS 711-001 AND 706-001 FOR ADDITIONAL SIGNING AND MARKING DETAILS.
- ALL STOP SIGN LOCATIONS SHALL INCLUDE A 24" PAINTED WHITE STOP BAR. AS AN ALTERNATIVE, ROADS WITH BRICK SURFACES MAY UTILIZE CONTRASTING COLOR PAVERS IN LIEU OF PAINT.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL BLUE/BLUE REFLECTIVE PAVEMENT MARKERS AT THE CENTER OF THE TRAFFIC LANE NEAREST ALL PROPOSED FIRE HYDRANTS.

ACCESSIBILITY DESIGN

GUIDELINES:

- ALL ACCESSIBLE (A.K.A. ADA) COMPONENTS AND ACCESSIBLE ROUTES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM THE MOST STRINGENT OF: (A) THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 ET SEQ. AND 42 U.S.C. § 4151 ET SEQ.); AND (B) ANY APPLICABLE LOCAL AND STATE GUIDELINES, AND ANY ALL AMENDMENTS TO BOTH, WHICH ARE IN EFFECT AT THE TIME OF CONSTRUCTION.
- THIS SITE CAN BE UTILIZED SAFELY FOR BUILDING PURPOSES WITHOUT UNDUE DANGER FROM FLOODING OR ADVERSE SOIL CONDITIONS.
- LENGTH OF STORM DRAIN PIPES ARE APPROXIMATE AND ARE MEASURED FROM CENTER OF STRUCTURE.
- CONTRACTOR SHALL NOTIFY THE OWNER AND CONTACT ALL UTILITY COMPANIES FOR LOCATIONS OF EXISTING UTILITIES IN THE AREA 72 HOURS (MIN.) PRIOR TO COMMENCING CONSTRUCTION.
- PLACE 200 S.F. OF SOD AROUND ALL INLETS, HEADWALLS, AND CONTROL STRUCTURES. USE ARGENTINE BAHIA AND CONFORM TO FDOT SECTION 575, UNLESS OTHERWISE NOTED.
- PLACE 18" OF SOD CONTINUOUS ALONG EDGES OF PAVEMENT OF ALL ROADS AND/OR CURB, LAYING PARALLEL WITH THE ROAD MAINTAINING 3" BELOW FINISHED PAVEMENT GRADE, UNLESS OTHERWISE NOTED.
- THE STORM DRAINAGE PIPING AND FILTRATION SYSTEM SHALL BE SUBJECTED TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL. CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCED TO SCHEDULE INSPECTION.
- THE CONTRACTOR SHALL MAINTAIN THE STORM DRAINAGE SYSTEM UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE STORM SYSTEM WILL BE INSPECTED BY THE OWNER'S ENGINEER PRIOR TO FINAL ACCEPTANCE.
- ALL RCP/ERCP STORM DRAIN JOINTS SHALL BE WRAPPED IN MARAFI FABRIC.

WATER LINE NOTES:

- THE ENDS OF ALL CAPPED IRRIGATION AND POTABLE WATERLINES SHALL BE MARKED WITH ELECTRONIC MARKERS AND 2'x4' STAKES 5' IN LENGTH WITH 2' ABOVE GROUND.
- ALL POTABLE & IRRIGATION LINES (4" OR LARGER) SHALL BE AWWA C-900, DR18, CLASS 150. ALL POTABLE & IRRIGATION LINES (SMALLER THAN 4") SHALL BE SCH80. POTABLE WATERLINES LOCATED UNDER PROPOSED PAVEMENT SHALL BE AWWA DIP CL50.
- ALL WATERLINES SHALL HAVE A MINIMUM COVER OF 30" AND A MAXIMUM OF 48" BELOW FINISHED GRADE.
- CONTRACTOR SHALL USE 45° BENDS WITH MEGA LUGS AT CONFLICTS.
- NOT ALL PROPOSED BENDS ARE SHOWN IN WATERLINE. ADDITIONAL FITTINGS MAY BE REQUIRED TO BEND WATERLINE AS SHOWN.
- THE CONTRACTOR SHALL PLACE PROPOSED VALVES AS SHOWN. THE VALVE BOX SHALL NOT BE LOCATED IN PAVEMENT OR DRIVEWAY AREAS.
- THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINTS FOR THE INSTALLATION OF THE WATER MAIN.

SANITARY SEWER /

FORCE MAIN NOTES:

- ALL PIPE LENGTHS ARE APPROXIMATE AND ARE MEASURED FROM CENTER OF STRUCTURE OR FITTINGS.
- ALL GRAVITY SEWER LINES SHALL BE PVC (SDR-26) UNLESS NOTED OTHERWISE.
- MANHOLE TOP ELEVATIONS ARE APPROXIMATE AND SHOULD BE ADJUSTED TO FINAL PAVEMENT ELEVATION.
- U.S. FOUNDRY CLEAN OUT RING AND COVER IS REQUIRED IN ALL AREAS, INCLUDING GREEN AREAS.
- ALL PVC FORCE MAINS TO BE CONSTRUCTED USING C-900, DR18 PVC
- ALL PVC FORCE MAINS UNDER PAVEMENT OR WITHIN 5' OF A CURB, OR AT DEFLECTIONS WHERE SPECIFICALLY SHOWN, SHALL BE CONSTRUCTED USING C-900, DR14 PVC
- PROVIDE 5' MINIMUM CLEARANCE BETWEEN THE PROPOSED FORCE MAIN AND THE BACK OF CURB, INCLUDING HORIZONTAL DEFLECTIONS.
- THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINTS FOR THE INSTALLATION OF THE FORCE MAIN.
- CONTACT THE FOLLOWING LCU STAFF FOR ANY FURTHER DIRECTION/MEETINGS RELATING TO THE FM. NOTIFICATION TO THESE STAFF IS REQUIRED ON WHEN THE WORK WILL COMMENCE (AND DURATION) BY THE CONTRACTOR.
 - DEWAYNE TAGG
 - JUSTIN DODD
 - LARRY (LEE) BLOOMFIELD
 - JASON BROWN

LEE COUNTY UTILITIES

STANDARD PLAN NOTES:

- 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.LEEGEO.COM/UTILITIES/DESIGN-MANUAL](https://www.leegeo.com/utilities/design-manual)
- ALL REGULATORY AND PERMITTING AGENCIES' REQUIREMENTS SHALL BE COMPLIED WITH AS WELL.
- ANY QUANTITIES SHOWN ON PLANS ARE NOT VERIFIED BY LCU.
- THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS THAT MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
- ALL WORK AND MATERIALS, WHICH DO NOT CONFORM TO LCU SPECIFICATIONS, ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- ANY WORK PERFORMED 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 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 ONE-WEEK NOTICE.
- THE CONTRACTOR IS TO UNCOVER ALL EXISTING LINES BEING TIED INTO AND VERIFY GRADES BEFORE BEGINNING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND TAKE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO ALL UNDERGROUND PIPELINES, TELEPHONE, CABLE TV, ELECTRIC LINES/CONDUITS AND STRUCTURES IN ADVANCE OF ANY CONSTRUCTION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT MAY OCCUR DUE TO HIS FAILURE TO EXACTLY LOCATE AND PROTECT EXISTING UTILITIES AND STRUCTURES.
- THE CONTRACTOR SHALL CONTACT THE ENGINEER AND LCU IMMEDIATELY CONCERNING ANY CONFLICTS WITH LCU UTILITIES/STRUCTURES ARISING DURING CONSTRUCTION OF ANY FACILITIES SHOWN ON THESE DRAWINGS.
- APPROPRIATE TURBIDITY CONTROL DEVICES (E.G. SILT FENCES, HAY BALES) WILL BE UTILIZED DURING ALL PHASES OF INSTALLATION AND GRADING. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE NOTICE OF INTENT AND NOTICE OF TERMINATION TO THE EPA IN COMPLIANCE WITH LEE COUNTY'S NPDES PERMIT.
- CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORM WATER POLLUTION PREVENTION PLAN.
- LCU REQUIRES 30° OF COVER FOR ALL UNDERGROUND PIPING EXCEPT UNDER PAVEMENT. WHERE 36° OF COVER IS REQUIRED, IF LCU REQUIRED COVER CANNOT BE MAINTAINED, THE CONTRACTOR SHALL PROVIDE OTHER METHODS OF PROTECTION OR PIPE PROTECTION, WHICH SHALL FIRST 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, STRUCTURE(S), 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 BETWEEN LCU INFRASTRUCTURE AND DRAINAGE INFRASTRUCTURE, MITERED END SECTIONS, INLETS, ETC. LCU ALSO REQUIRES MINIMUM OF FIVE (5) FEET HORIZONTAL SEPARATION BETWEEN LCU INFRASTRUCTURE AND ALL NEW LIGHT POLE FOUNDATIONS.
- THE ROOT BALL OF PALM TREES SHALL BE A MINIMUM OF FIVE (5) FEET AND THE ROOT BALL OF SHADE TREES SHALL BE A MINIMUM OF TEN (10) FEET FROM ANY EXISTING OR PROPOSED LCU OWNED AND MAINTAINED PIPE/INFRASTRUCTURE.

ALUM TREATMENT

SYSTEM NOTES:

- ALL MATERIALS IN CONTACT WITH ALUM OR ALUM TREATED WATER IN BUILDING OR AROUND TANK OF FLOC COLLECTION AREA SHALL BE PVC, HDPE, FRP OR 316 STAINLESS STEEL (S.S.)
- ALL PVC MATERIAL SHALL BE THE SAME COLOR GRAY SCHEDULE 80 PIPE UNLESS OTHERWISE NOTED. PIPING WILL BE GLUED JOINT UNLESS OTHERWISE NOTED.
- ALL STAINLESS STEEL MATERIALS SHALL BE 316 S.S. UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PERMANENT POWER TO ALL FACILITIES.

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E.B.#6244

Lee County
Southwest Florida
JORDAN LEVI VARBLE, PE
FL License No. 81414

LAKES PARK WATER
QUALITY - PHASE 3
LEE COUNTY FLORIDA

NO.	DATE	DESCRIPTION

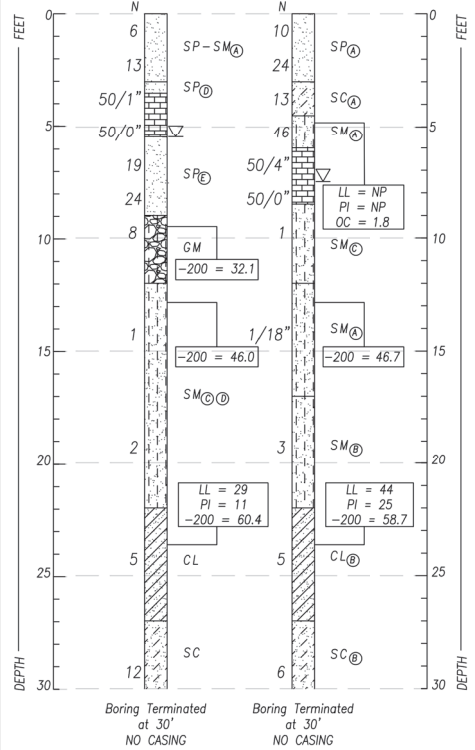
DATE: MARCH 2024
PROJECT NO. 20214150-000
FILE NO. 26-45-24
SCALE: AS SHOWN

GENERAL NOTES & ABBREVIATIONS

SHEET NUMBER

C02

BORING: B-01 B-02
 DATE: 01/24/2022 01/24/2022
 LATITUDE: N26°31'33.83" N26°31'30.99"
 LONGITUDE: W81°52'40.60" W81°52'38.48"
 HAMMER: AUTO AUTO



- LEGEND**
- SAND: Sand with ≤ 12% fines
 - Silty SAND: Sand with 12% to 50% Silt
 - Sandy CLAY: Clay with > 30% Sand
 - Clayey SAND: Sand with 12% to 50% Clay
 - HARD LIMESTONE: Limestone with N > 50
 - Silty GRAVEL: Gravel with 12% to 50% Silt

- ADDITIONAL SOIL COMPONENTS**
- (A) Trace of Rock
 - (B) Trace of Shell
 - (C) Some Rock
 - (D) Some Shell
 - (E) Gravelly

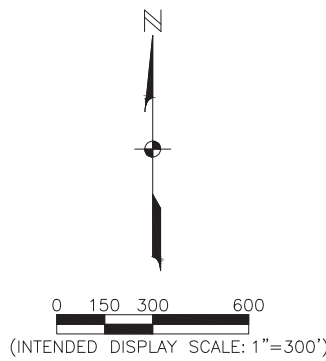
SM UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) GROUP SYMBOL
 (A) SUBSCRIPT INDICATING ADDITIONAL COMPONENTS OF SOIL SAMPLE
 N SPT N-VALUE IN BLOWS PER FOOT
 50/4" NUMBER OF BLOWS FOR GIVEN PENETRATION (I.E. 50 BLOWS FOR 4 INCHES)
 ▽ GROUNDWATER LEVEL MEASURED ON DATE DRILLED
 OC ORGANIC CONTENT (%)
 -200 % PASSING #200 SIEVE
 LL LIQUID LIMIT (%)
 PI PLASTICITY INDEX (%)

SOIL BORING PROFILES

Ardaman & Associates, Inc.
 Geotechnical, Environmental and
 Materials Consultants

LAKES PARK WATER QUALITY IMPROVEMENTS
 PHASE 3
 FORT MYERS, LEE COUNTY, FLORIDA

DATE: 02/08/2022
 CHECKED BY: IS
 APPROVED BY: IS



Soils Code	Description	Status
6	Brynwood fine sand, wet, 0 to 2 percent slopes	H
7	Mattacha gravelly fine sand-Urban land complex, 0 to 2 percent slopes	N
13	Cypress Lake fine sand, 0 to 2 percent slopes	H
36	Immokalee sand-Urban land complex, 0 to 2 percent slopes	N
59	Urban land, 0 to 2 percent slopes	N
64	Brynwood fine sand, wet-Urban land complex, 0 to 2 percent slopes	H
99	Water	N
102	Cypress Lake fine sand-Urban land complex, 0 to 2 percent slopes	H
116	Isles fine sand, ponded-Urban land complex, 0 to 1 percent slopes	H
138	Wabasso sand, limestone substratum-Urban land complex, 0 to 2 percent slopes	N
Total		

LEGEND
 N = Non-Hydric
 H = Hydric Soil



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Lee County
 Southwest Florida

LAKES PARK WATER
 QUALITY - PHASE 3
 LEE COUNTY FLORIDA

NO.	DESCRIPTION	DATE

DATE: MARCH 2024
 PROJECT NO. 20214150-000
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 SCALE: AS SHOWN

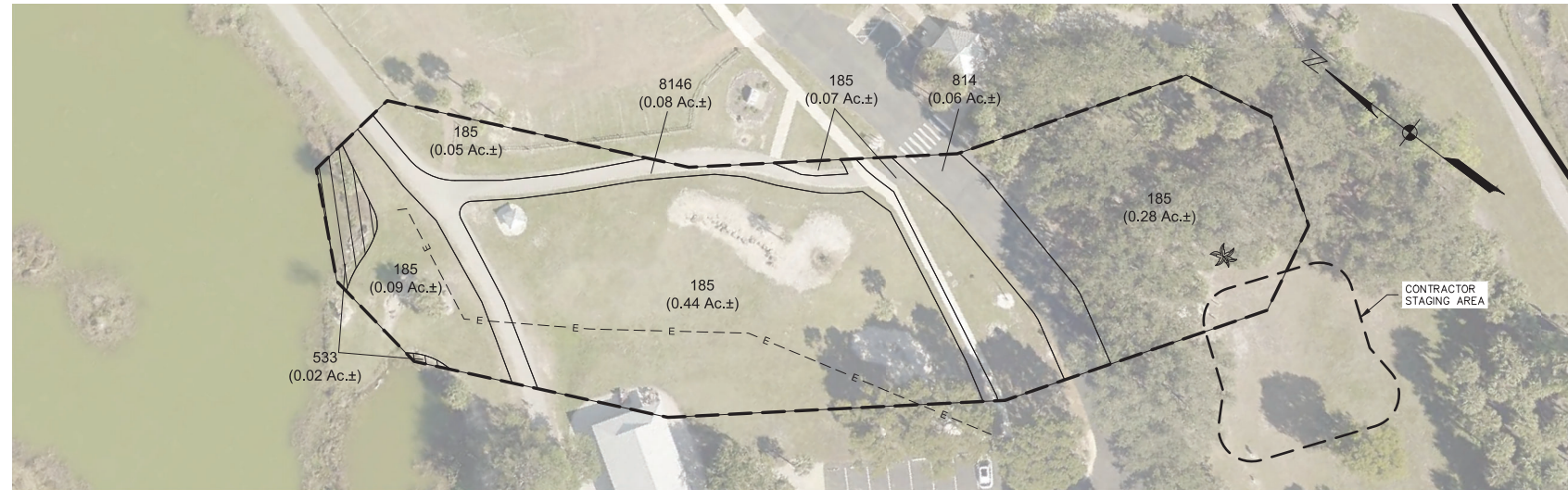
AERIAL PHOTOGRAPHY & SOILS MAP

SHEET NUMBER
C03



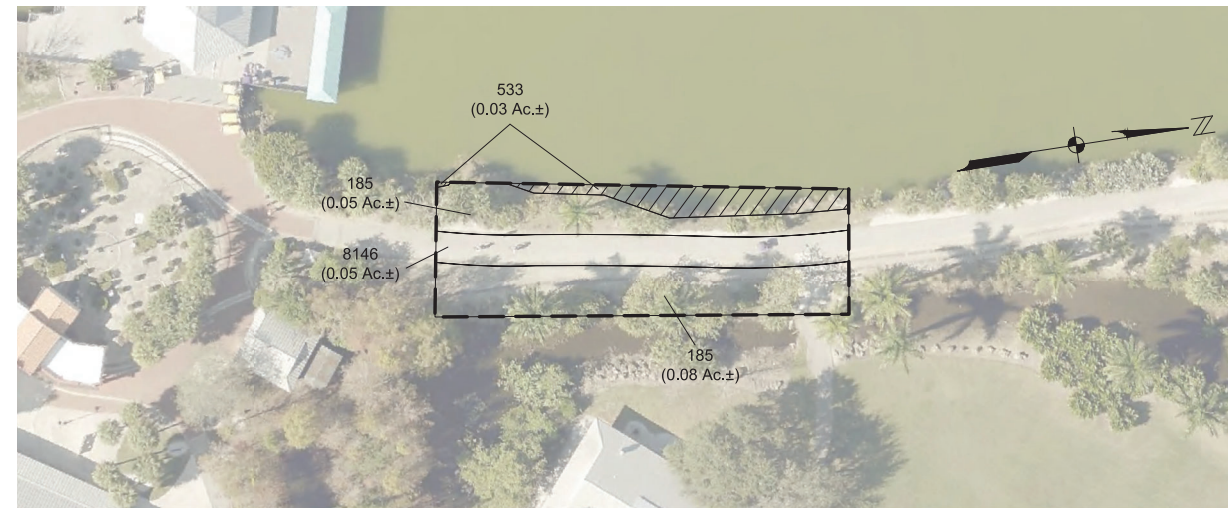
NO.	DESCRIPTION	DATE
1	CONDUIT	7-17-23

DATE: MARCH 2024
PROJECT NO. 20214150-000
FILE NO. 26-45-24
SCALE: AS SHOWN



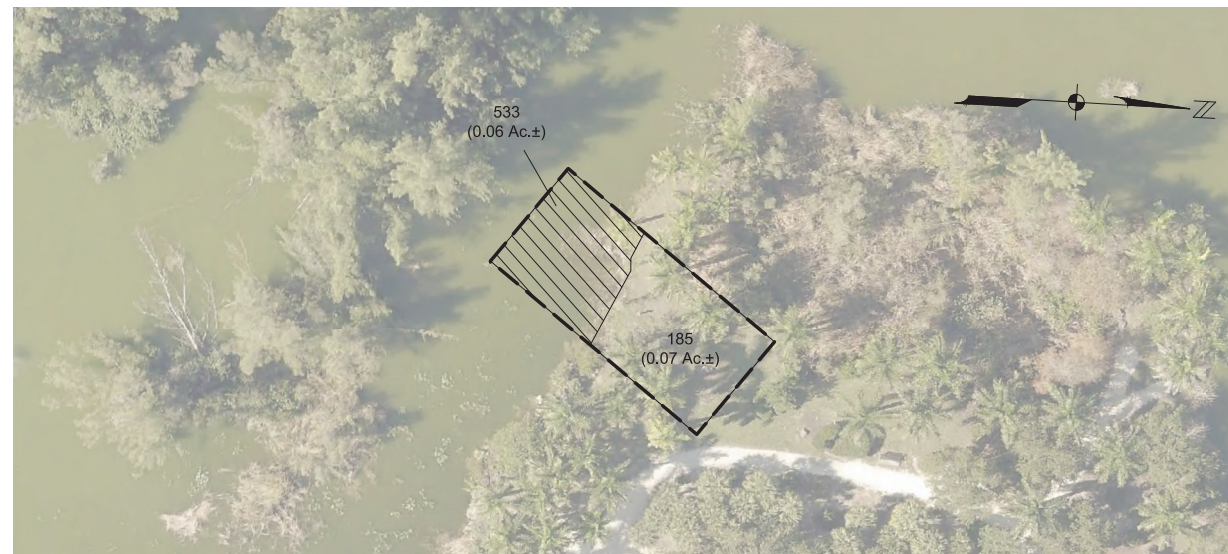
PROJECT LIMITS A

SCALE: 1" = 40'



PROJECT LIMITS B

SCALE: 1" = 40'



PROJECT LIMITS C

SCALE: 1" = 40'

Legend	
	Surface Waters (0.28± Ac)

- Notes:
1. Nomenclature and delineations as per the Florida Land Use Cover and Forms Classification System (FLUCFCS) (FDOT, 1999).
 2. These drawings are for permitting purposes only and are not intended for construction.
 3. Aerial photograph was acquired from Lee County and has a flight date of 2021.

FLUCFCS Table						
FLUCFCS Code	DESCRIPTION	PROJECT LIMITS A	PROJECT LIMITS B	PROJECT LIMITS C	TOTAL	STATUS
185	Parks and Zoos (Lakes Park)	0.93± Ac.	0.13± Ac.	0.07± Ac.	1.13± Ac.	N
533	Reservoirs larger than 10 acres, but less than 100 acres	0.02± Ac.	0.03± Ac.	0.06± Ac.	0.11± Ac.	SW
814	Roads	0.06± Ac.	-	-	0.06± Ac.	N
8146	Trails	0.08± Ac.	0.05± Ac.	-	0.13± Ac.	N
		1.09± Ac.	0.21± Ac.	0.13± Ac.	1.43± Ac.	

Legend	
SW	Surface Water
N	Non-Wetlands

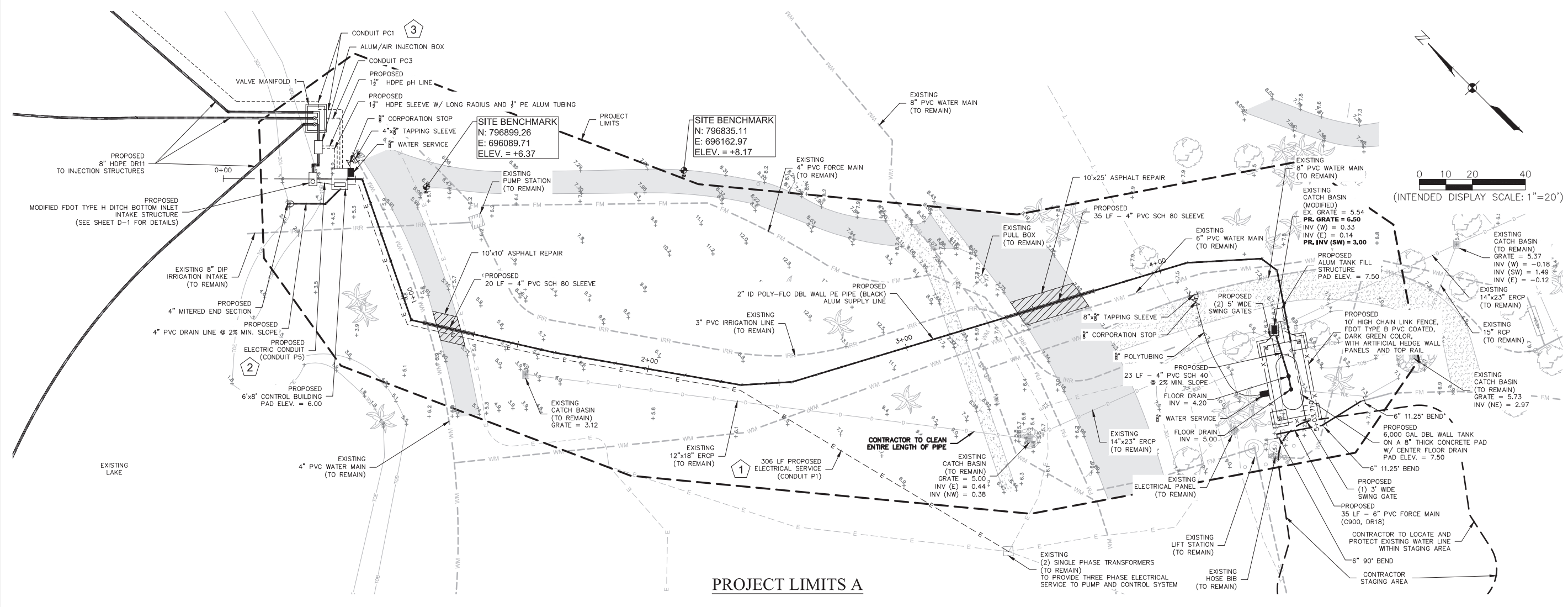
NO.	DESCRIPTION	DATE

DATE: MARCH 2024
PROJECT NO. 20214150-000
FILE NO. 26-45-24
SCALE: AS SHOWN

FLUCFCS MAP

SHEET NUMBER

C05



PROJECT LIMITS A

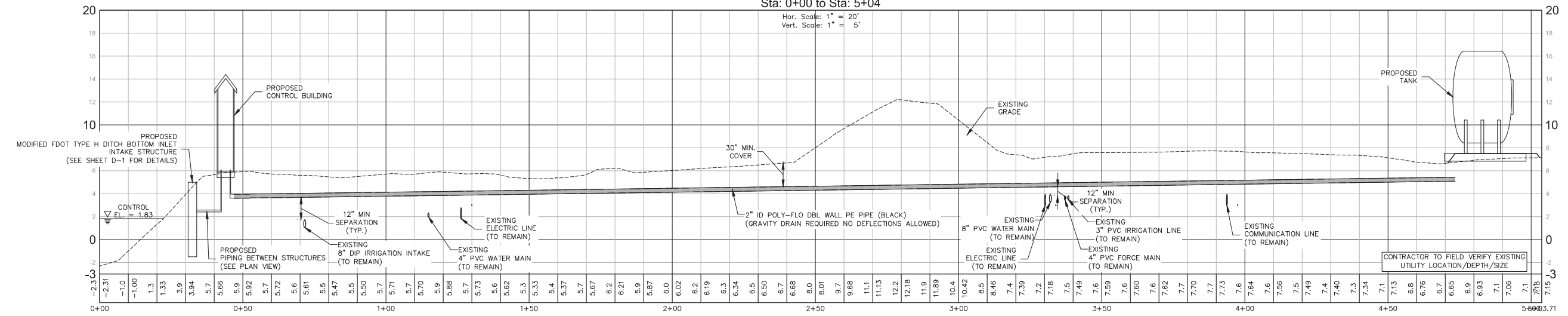
Land Coverage Table

	Existing		Proposed	
	(S.F.)	(%)	(S.F.)	(%)
Open Space	40,932	85.5%	40,684	85.0%
Concrete/Asphalt	6,528	13.6%	6,728	14.1%
Building	23	0.0%	71	0.1%
Lake	363	0.8%	363	0.8%
Total	47,846	100.0%	47,846	100.0%

NOTES:

- CONTRACTOR TO TRIM CANOPY AS NECESSARY TO BUILD STRUCTURE. TREES SHALL NOT BE REMOVED WITHOUT WRITTEN PRIOR AUTHORIZATION FROM OWNER.
- PROVIDE NEW HOSE BIB CONNECTIONS AT PROPOSED CONTROL BUILDING AND PROPOSED TANK STRUCTURE.

Profile View of Proposed Intake
Sta: 0+00 to Sta: 5+04



ELEVATIONS REFERENCE NAVD 1988.
CONVERSION TO NGVD IS:
NAVD 1988 + 1.18 = NGVD 1929

REVISIONS

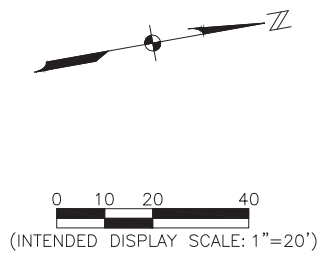
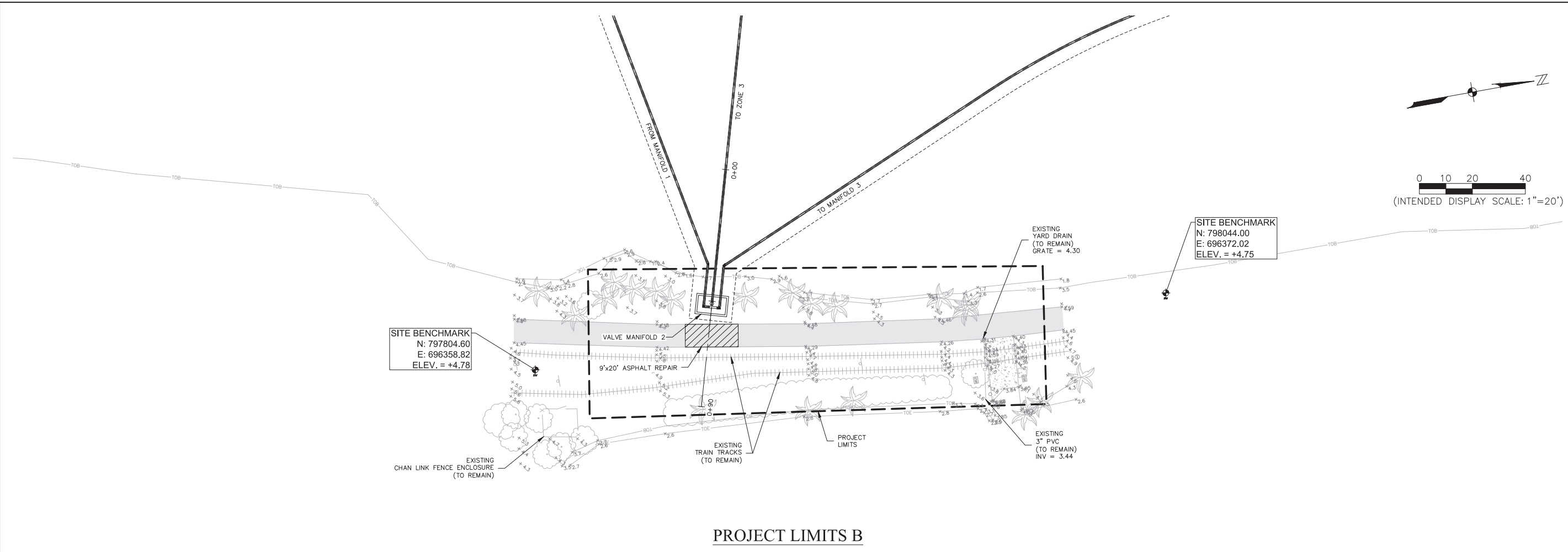
NO.	DESCRIPTION	DATE
1	ELECTRICAL SERVICE	6-26-23
2	CONDUIT	7-17-23
3	CONDUIT	7-17-23

DATE: MARCH 2024
PROJECT NO. 20214150-000
FILE NO. 26-45-24
SCALE: AS SHOWN

SITE PLAN

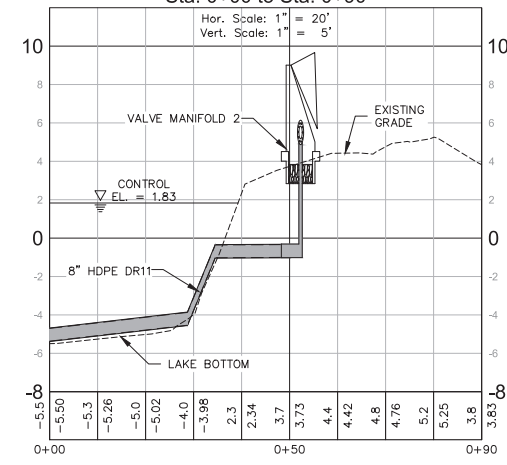
SHEET NUMBER

C08



PROJECT LIMITS B

Profile View of Valve Manifold 2 Distribution
Sta: 0+00 to Sta: 0+90



ELEVATIONS REFERENCE NAVD 1988.
CONVERSION TO NGVD IS:
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LAKES PARK WATER
QUALITY - PHASE 3
LEE COUNTY FLORIDA

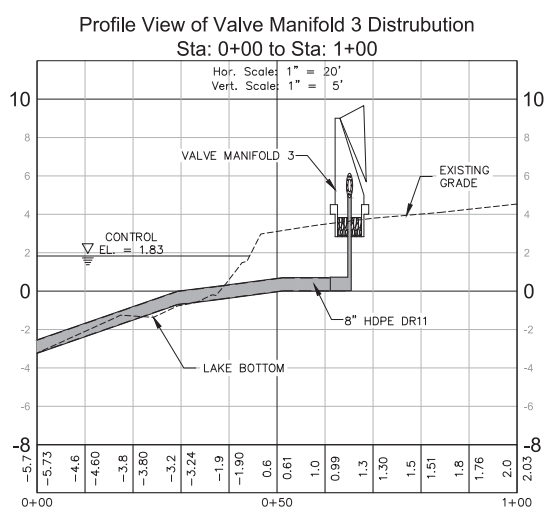
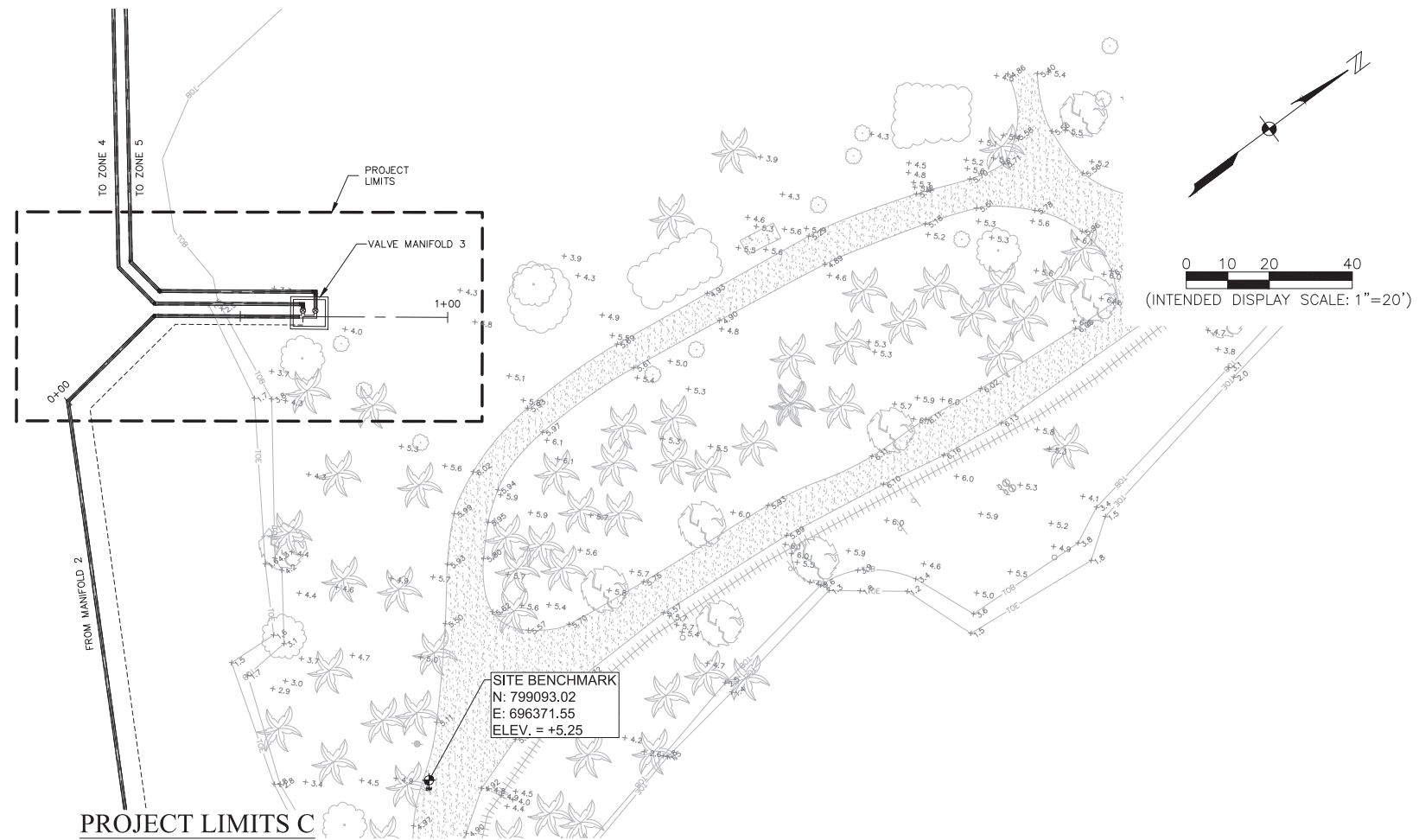
NO.	REVISIONS DESCRIPTION	DATE

DATE: MARCH 2024
PROJECT NO. 20214150-000
FILE NO. 26-45-24
SCALE: AS SHOWN

SITE PLAN

SHEET NUMBER

C09



ELEVATIONS REFERENCE NAVD 1988.
CONVERSION TO NGVD IS:
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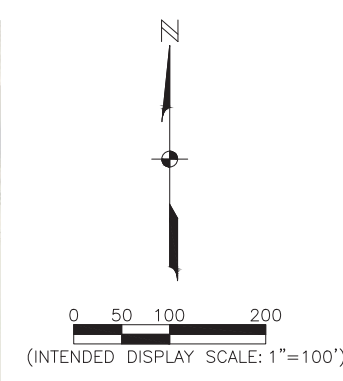
LAKES PARK WATER
 QUALITY - PHASE 3
 LEE COUNTY FLORIDA

NO.	REVISIONS DESCRIPTION	DATE

DATE: MARCH 2024
 PROJECT NO. 20214150-000
 FILE NO. 26-45-24
 SCALE: AS SHOWN

SITE PLAN

SHEET NUMBER
C10



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LAKES PARK WATER QUALITY - PHASE 3
LEE COUNTY FLORIDA

NO.	DESCRIPTION	DATE

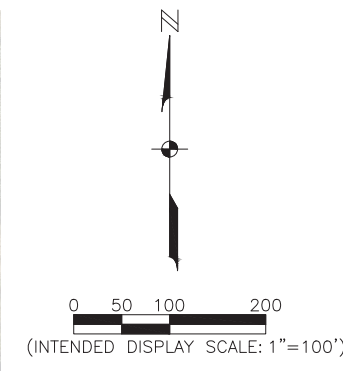
DATE: MARCH 2024
 PROJECT NO. 20214150-000
 FILE NO. 26-45-24
 SCALE: AS SHOWN

DISTRIBUTION SYSTEM

SHEET NUMBER
C11

NOTE:
 ALL HDPE DISTRIBUTION PIPING TO BE DIPS DR11

ELEVATIONS REFERENCE NAVD 1988.
 CONVERSION TO NGVD IS:
 NAVD 1988 + 1.18 = NGVD 1929



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**LAKES PARK WATER QUALITY - PHASE 3
 LEE COUNTY FLORIDA**

NO.	DESCRIPTION	DATE

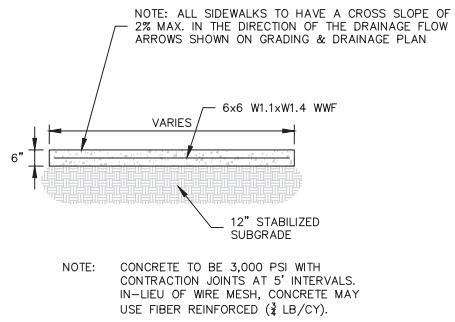
DATE: MARCH 2024
 PROJECT NO. 20214150-000
 FILE NO. 26-45-24
 SCALE: AS SHOWN

DISTRIBUTION SYSTEM

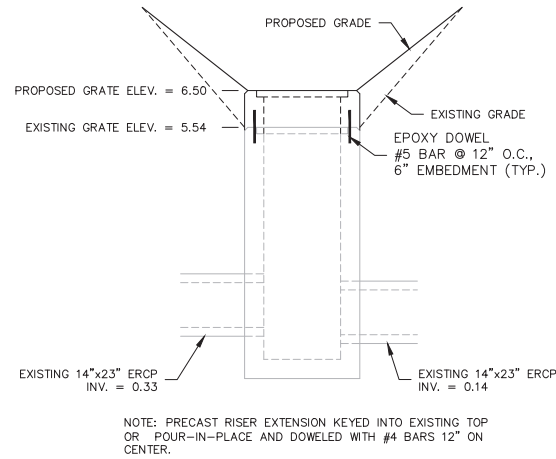
SHEET NUMBER
C12

NOTE:
 ALL HDPE DISTRIBUTION PIPING TO BE DIPS DR11

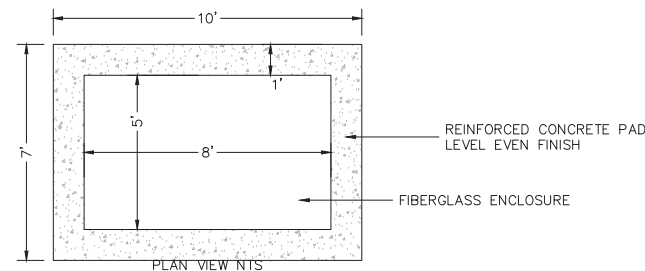
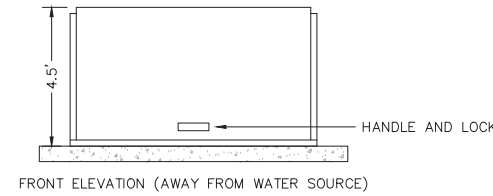
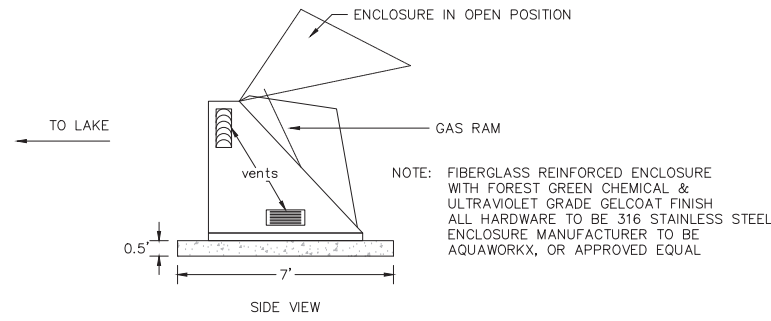
ELEVATIONS REFERENCE NAVD 1988.
 CONVERSION TO NGVD IS:
 NAVD 1988 + 1.18 = NGVD 1929



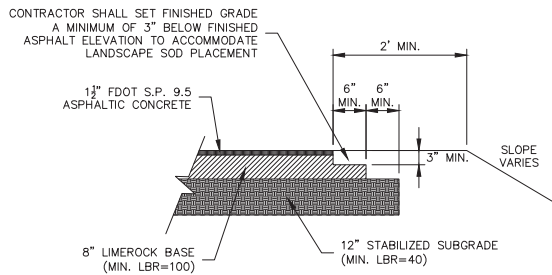
TYPICAL SIDEWALK REPLACEMENT DETAIL
N.T.S.



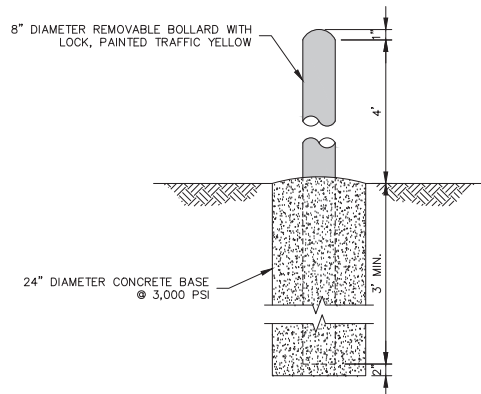
INLET RISER DETAIL
N.T.S.



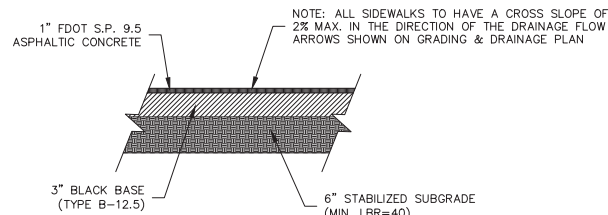
5x8 FIBERGLASS ENCLOSURE DETAIL



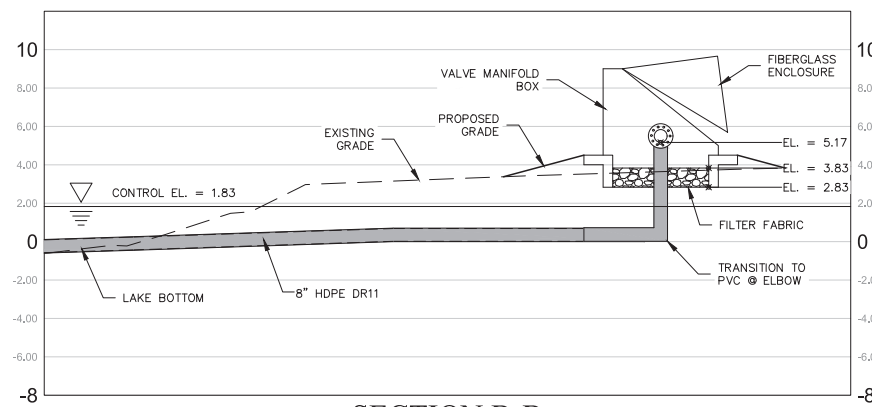
TYPICAL ROADWAY REPLACEMENT SECTION
N.T.S.



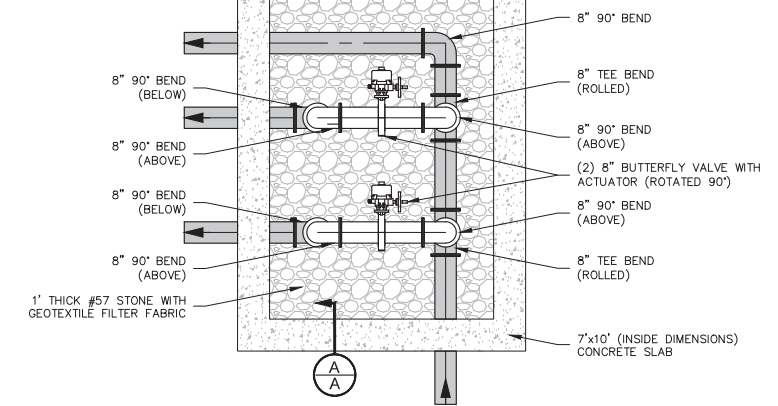
BOLLARD DETAIL
N.T.S.



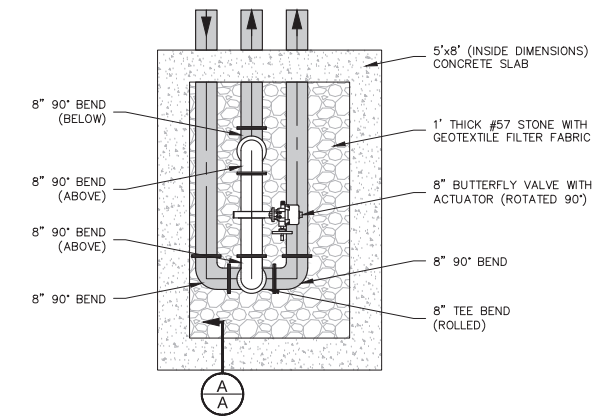
TYPICAL MULTI-USE PATH REPLACEMENT SECTION
N.T.S.



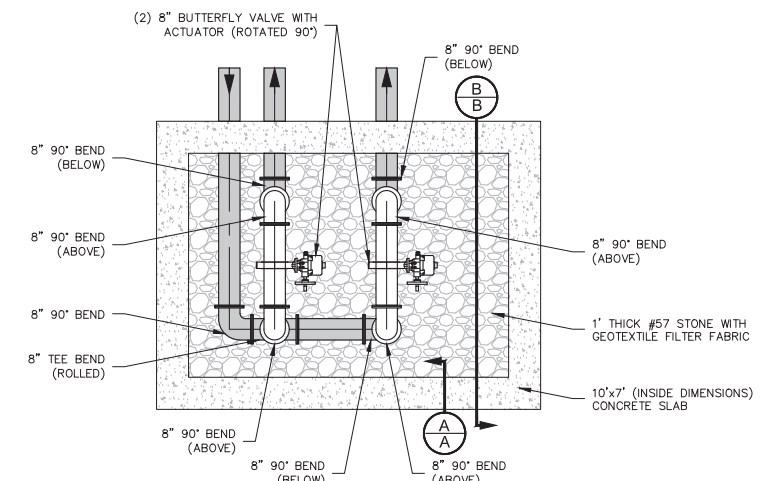
SECTION B-B
N.T.S.



VALVE MANIFOLD 1 DETAIL
N.T.S.



VALVE MANIFOLD 2 DETAIL
N.T.S.



VALVE MANIFOLD 3 DETAIL
N.T.S.

- NOTES:
1. A MINIMUM OF 16" SPACING MUST BE UPHELD BETWEEN THE TOP OF STONE AND BOTTOM OF PIPING.
 2. CONTRACTOR SHALL ADJUST CONCRETE BOX DIMENSIONS AS NEEDED TO UPHOLD SPACING REQUIREMENTS AND SUPPORT FIBERGLASS ENCLOSURE.
 3. TRANSITION TO PVC INSIDE VALVE MANIFOLD USING FLANGED CONNECTIONS.
 4. EACH MANIFOLD SHALL HAVE A FIBERGLASS ENCLOSURE OF CORRESPONDING DIMENSIONS.

NO.	DESCRIPTION	DATE

DATE: MARCH 2024
PROJECT NO. 20214150-000
FILE NO. 26-45-24
SCALE: AS SHOWN

NP 3171 HT 3~454

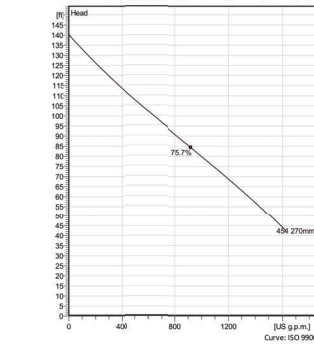
Patented self cleaning semi-open channel impeller, ideal for pumping in waste water applications. Modular based design with high adaptation grade.



Technical specification



Curves according to: Water, pure Water, pure [100%], 39.2 °F, 62.42 lb/ft³, 1.6891E-5 ft³



Configuration

Motor number N3171.660 25-19-4AA-W 34hp
 Installation type P- Sem permanent, Wet
 Impeller diameter 270 mm
 Discharge diameter 4 inch

Pump information

Impeller diameter 270 mm
 Discharge diameter 4 inch
 Inlet diameter 150 mm
 Maximum operating speed 1765 rpm
 Number of blades 2

Materials

Impeller Stainless steel

Max. fluid temperature 40 °C

Project	Created by	Chris Stewart
Block	Created on	7/26/2022 Last update 7/26/2022

NP 3171 HT 3~454

Technical specification



Motor - General

Motor number N3171.660 25-19-4AA-W 34hp	Phases 3~	Rated speed 1765 rpm	Rated power 34 hp
ATEX approved No	Number of poles 4	Rated current 83 A	Stator variant 7
Frequency 60 Hz	Rated voltage 230 V	Insulation class II	Type of Duty S1
Version code 660			

Motor - Technical

Power factor - 1/1 Load 0.85	Motor efficiency - 1/1 Load 90.5 %	Total moment of inertia 4.16 lb ft ²	Starts per hour max. 30
Power factor - 3/4 Load 0.80	Motor efficiency - 3/4 Load 91.3 %	Starting current, direct starting 585 A	
Power factor - 1/2 Load 0.69	Motor efficiency - 1/2 Load 91.1 %	Starting current, star-delta 195 A	

Project	Created by	Chris Stewart
Block	Created on	7/26/2022 Last update 7/26/2022

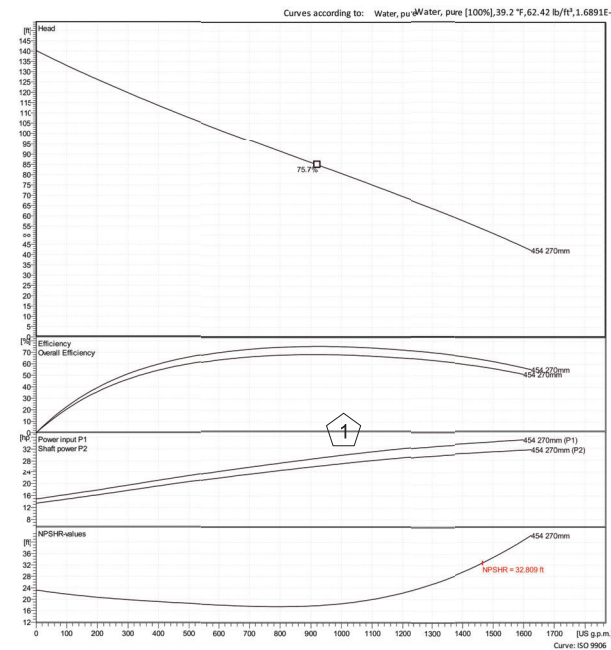
NP 3171 HT 3~454

Performance curve



Duty point

Flow Head



Project	Created by	Chris Stewart
Block	Created on	7/26/2022 Last update 7/26/2022

TurboMix®

TurboMix® Eductor Mixing Nozzle

DESIGN FEATURES

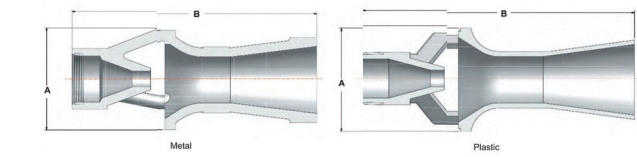
- Effective, economical way to circulate liquids in closed or open tanks
- No moving parts
- Inherently clog resistant
- Requires minimal maintenance
- Nozzle operation creates multiplying effect on fluid flow
- The volume of discharge liquid will be 3-5 times greater than the motive

liquid pumped

SPRAY CHARACTERISTICS

- Cone-shaped plume

Flow rates: 7 to 3'80 gpm (motive)



Dimensions are approximate. Check with BETE for critical dimension applications.

TurboMix® in Molded Plastic

NPT or BSP Connection Size	TurboMix Number	K Factor	Motive Flow Rate GALLONS PER MINUTE @ PSI*							Dimensions (in.)		Wt. (lbs)
			10 PSI	15 PSI	20 PSI	25 PSI	30 PSI	40 PSI	50 PSI	A	B	
Male	3/8 TM73	2.3	7.3	8.9	10.3	11.5	12.6	14.6	16.3	2.13	4.5	1.06
	1/2 TM120	3.8	12	14.7	17	19	20.8	24	26.8	2.5	6.5	1.08
	3/4 TM137	4.3	13.7	16.8	19.4	21.7	23.7	27.4	30.6	2.88	6.38	1.14
	1 TM240	7.6	24	29.4	33.9	37.9	41.6	48	53.7	3.5	9.5	1.32
1 1/2 TM340	10.8	34	41.6	48.1	53.8	58.9	68.3	76.4	4.5	9.75	1.46	

Standard Material: Glass-filled Polypropylene *PSI = supply pressure at the TurboMix minus the pressure in the tank

TurboMix® in Metal

NPT or BSP Connection Size	TurboMix Number	K Factor	Motive Flow Rate GALLONS PER MINUTE @ PSI*							Dimensions (in.)		Wt. (lbs)
			10 PSI	15 PSI	20 PSI	25 PSI	30 PSI	40 PSI	50 PSI	A	B	
Male	3/8 TM70	2.2	7	8.8	10.1	11.3	12.5	14.5	16.2	1.69	4.25	1.50
	1/2 TM110	3.5	11	13.6	15.1	17	18.9	22	24.9	2.16	5.25	1.75
	3/4 TM150	4.7	15	18.2	20.7	22.7	25.7	29.7	32.4	2.63	6.25	1.90
	1 TM230	7.3	23	28.5	33.8	37.8	41.5	48	52.7	3.25	7.88	1.76
Female	1 1/2 TM220	10.1	32	39.3	44.4	48.9	53.8	60.5	66.5	3.81	9.19	1.50
	2 TM320	19.6	62	77.7	87.4	95.2	104.5	117.5	129	4.75	11.25	2.5
100# Flange	3 TM1500	47.4	150	182	200	216	230	260	287	4.74	19.38	0.0
	4 TM2510	79.4	251	305	335	352	370	415	450	7.10	29.00	0.0
	6 TM4010	190	601	720	790	840	890	1000	1090	12.63	52	0.0
8 TM10050	318	1005	1200	1350	1440	1500	1650	1800	1950	16.38	68	0.0

Motive Flow Rate (GPM) = K * √PSI *PSI = supply pressure at the TurboMix minus the pressure in the tank

Standard Material: Brass up to 3" Inclusive, Carbon Steel 316 Stainless Steel

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SPECIAL PURPOSE

CALL 413-772-0846

NOTE: EDUCTORS TO BE 316SS OR POLYPROPYLENE

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LAKES PARK WATER QUALITY - PHASE 3 LEE COUNTY FLORIDA

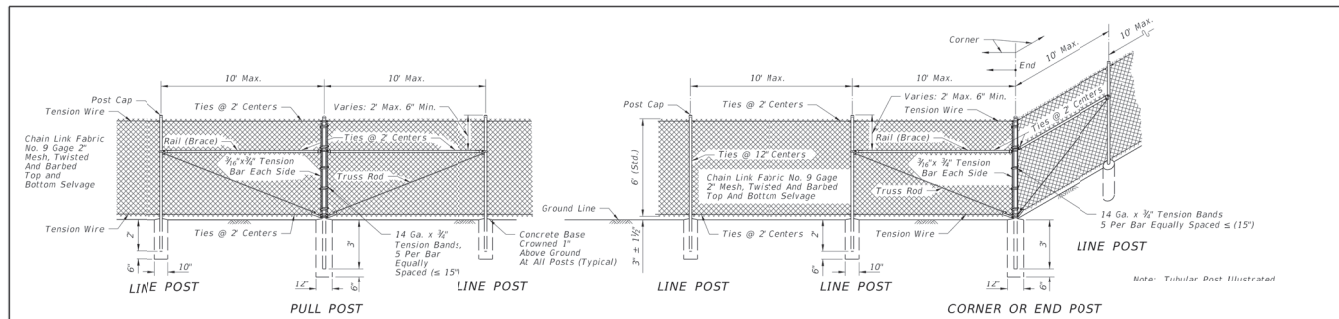
NO.	REVISIONS DESCRIPTION	DATE
1	CONDUIT	7-17-23

DATE: MARCH 2024
 PROJECT NO. 20214150-000
 FILE NO. 26-45-24
 SCALE: AS SHOWN

PUMP & NOZZLE DETAILS

SHEET NUMBER

C14



GENERAL NOTES

- This fence to be used generally in urban areas.
 - For supplemental information refer to Specification 550.
 - Chain link fabric, post, truss rods, tension wires, tie wires, stretcher bars, gates and all miscellaneous fittings and hardware shall meet the requirements of AASHTO and ASTM signify current reference.
 - Fence Component Options:
 - Line post options:
 - Galvanized steel pipe, Schedule 40- 1 1/2" nominal dia, zinc galvanized at the rate of 1.8 oz./ft.²; ASTM A53 Table 2 (Grade A or B), ASTM F1083, and AASHTO M111.
 - Aluminum coated steel pipe; ASTM A53, Table 2 (Grade A or B); Schedule 40- 1 1/2" nominal dia., 1.90" OD; coated at the rate 0.40 oz./ft.²; AASHTO M111.
 - Aluminum alloy pipe- 2" nominal dia.; ASTM B241 or B221, Alloy 6063, T6.
 - Steel H-Beam- 1 1/2" x 1 1/2"; Zinc Galv. 1.8 oz./ft.²; AASHTO M111 and Detail.
 - Aluminum alloy H-Beam- 1 1/2" x 1 1/2" Detail.
 - Steel C- 1 1/2" x 1 1/2"; Galv.; 1.8 oz./ft.²; AASHTO M111; OR, 0.9 oz./ft.²; zinc-5% aluminum-miscellaneous; ASTM F1043 and Detail.
 - Resistance welded steel pipe; 50,000 psi min. yield strength ASTM A569/A569M, A653/A653M or uncoated stock of discontinued A446/A446M base materials; ASTM F669 Group IV (Alternative Design); fence industry 2" OD, 1 1/2" NPS, 1,900' dec. equiv., 0.120" min. wall thick. and min. wt. 3.75 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15µg/in² min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.
 - Chain link fabric options (2" mesh with twisted and barbed selvage top and bottom for all options except as described in Note 10):
 - AASHTO M181 Type I - Zinc Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 1.8 oz./ft.²; (M181 Class D 2.0 oz./ft.² modifier to 1.4 oz./ft.²).
 - AASHTO M181 Type II - Aluminum Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 0.40 oz./ft.².
 - AASHTO M181 Type IV - Polyvinyl Chloride (PVC) Coated Steel, No. 9 gage (coated core wire diameter), core min. wt. 3.75 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15µg/in² min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.
- Corner, end, and pull post options:
 - Galvanized steel pipe, Schedule 40- 2" nominal dia, zinc galvanized at the rate of 1.8 oz./ft.²; ASTM A53 Table 2, ASTM F1083, and AASHTO M111.
 - Aluminum coated steel pipe; ASTM A53, Table 2 (Grade A or B); Schedule 40- 2" nominal dia., 2.375" OD; coated at the rate 0.40 oz./ft.²; AASHTO M111.
 - Aluminum alloy pipe- 2 1/2" nominal dia.; ASTM B241 or B221, Alloy 6063, T6.
 - Resistance welded steel pipe; 50,000 psi min. yield strength ASTM A569/A569M, A653/A653M or uncoated stock of discontinued A446/A446M base materials; ASTM F669 Group IV (Alternative Design); fence industry 2 1/2" OD, 2" NPS, 2,375' dec. equiv., 0.130" min. wall thick. and min. wt. 3.17 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15µg/in² min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.

LAST REVISION 11/01/17	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	FENCE TYPE B	INDEX 550-002	SHEET 1 of 3
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GENERAL NOTES CONTINUED

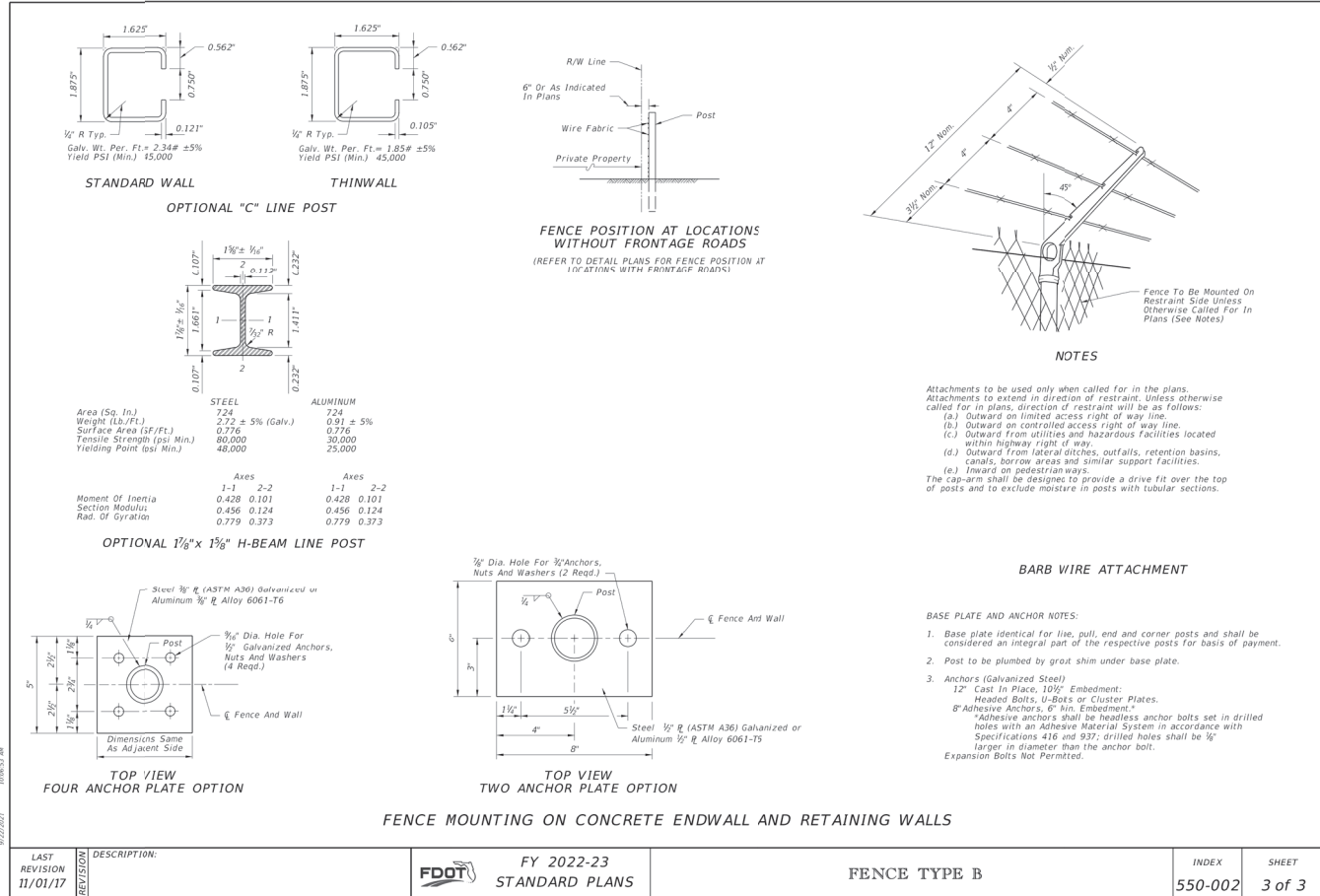
- Unless a specific material is called for in the plans the Contractor may elect to use either a single type of material or a combination of material types from the component options listed in note 4. Combinations of optional materials are restricted as follows:
 - Only one fabric optional material will be permitted between corner and/or end post assemblies.
 - Only one line post optional material will be permitted between corner and/or end post assemblies.
 - Pull post assemblies shall be optional materials identical to either the line post optional material or the corner and end post assembly optional material; but, pull post assemblies shall be the same optional material between any set of corner and/or end post assemblies.
- Concrete for bases shall be Class NS concrete as specified in Specification 347 or a packaged, dry material meeting the requirements for a concrete under ASTM C-309. Materials for Class NS concrete may be proportioned by volume and/or by weight.
- Line post shall be 8'-6" long (Standard). Line post are to be set in concrete as described above or by the following methods:
 - In accordance with special details and/or as specifically described in the Contract Plans and Specifications.
 - In accordance with ASTM F567 Subsections 5.4 through 5.10 as approved by the Engineer. Line post installed in accordance with Section 5.8 shall be 9'-6" long.
 - Post mounted on concrete structure or solid rock shall be mounted in accordance with the base plate detail "Fence Mounting On Concrete Endwalls And Retaining Wall", Sheet 3, or, by embedment in accordance with ASTM F567 Subsection 5.5.

TYPE IV VINYL COATED FABRIC		AASHTO M181 Table 4 Redefined As Follows						
Specified Diameter Of Metallic Coated Core Wire	Minimum Weight Of Zinc Coating	PVC Thickness Range						
		M181 Class A (Extruded Or Extruded And Bonded Coating)		M181 Class B (Bonded Coating)				
in.	mm	page	oz./ft. ²	g/m ²	in.	mm		
0.148	3.77	9	0.30	92	0.015 to 0.025	0.38 to 0.64	0.006 to 0.010	0.15 to 0.25

DESIGN NOTE

This index details fencing that is constructed with chain link fabric 6' (nominal) in height and with specific ground clearance. For fencing of different height or installation details, the fence shall be fully detailed in the Contract plans.

LAST REVISION 11/01/17	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	FENCE TYPE B	INDEX 550-002	SHEET 2 of 3
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LAST REVISION 11/01/17	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	FENCE TYPE B	INDEX 550-002	SHEET 3 of 3
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LAKES PARK WATER
 QUALITY - PHASE 3
 LEE COUNTY FLORIDA

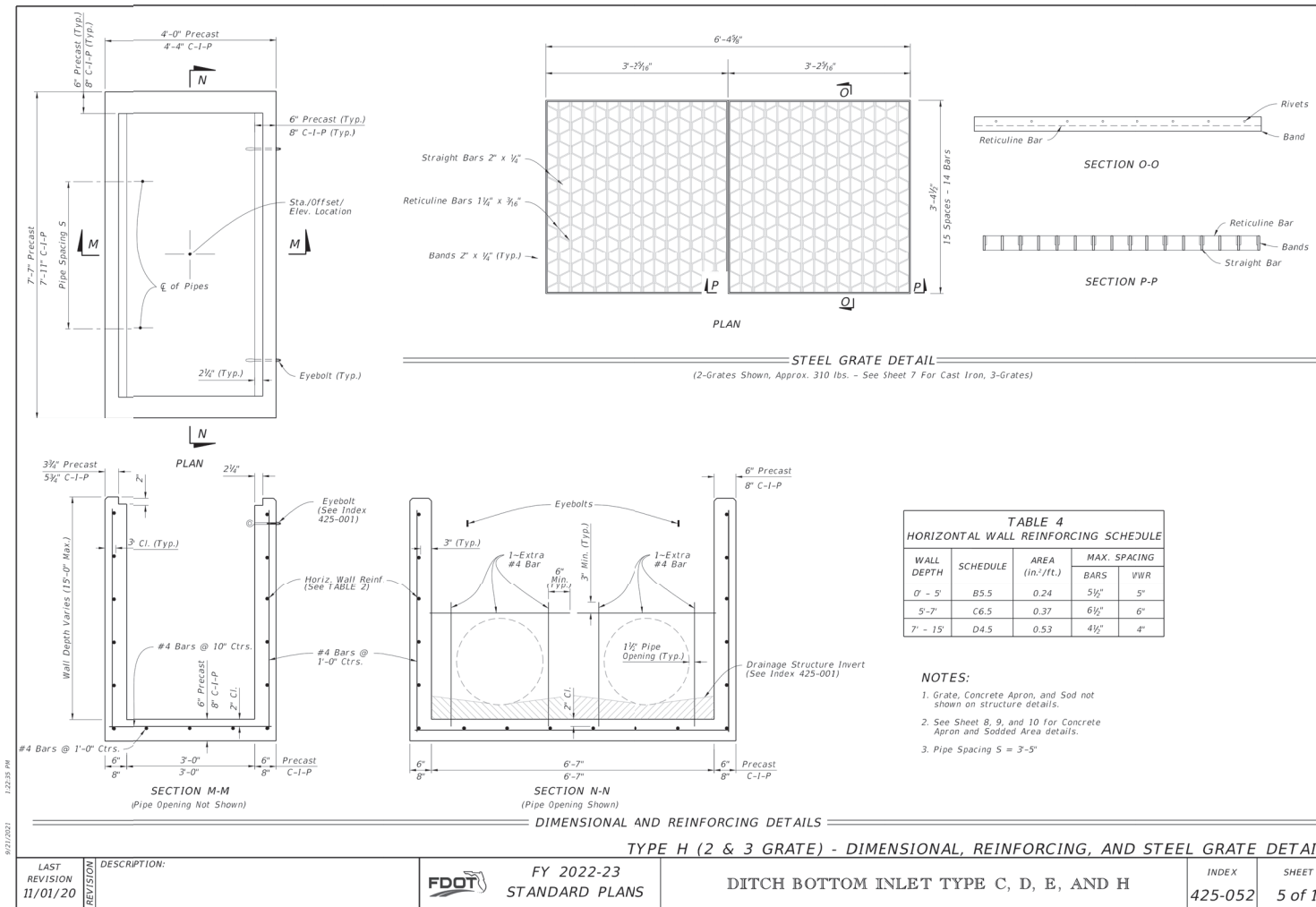
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FDOT DETAILS

SHEET NUMBER

C15



NOTE: ALL GRATING SHALL BE RATED FOR H-20 TRAFFIC LOADING

LAST REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	DITCH BOTTOM INLET TYPE C, D, E, AND H	INDEX	SHEET
11/01/20					425-052	5 of 14

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LAKES PARK WATER QUALITY - PHASE 3
 LEE COUNTY FLORIDA

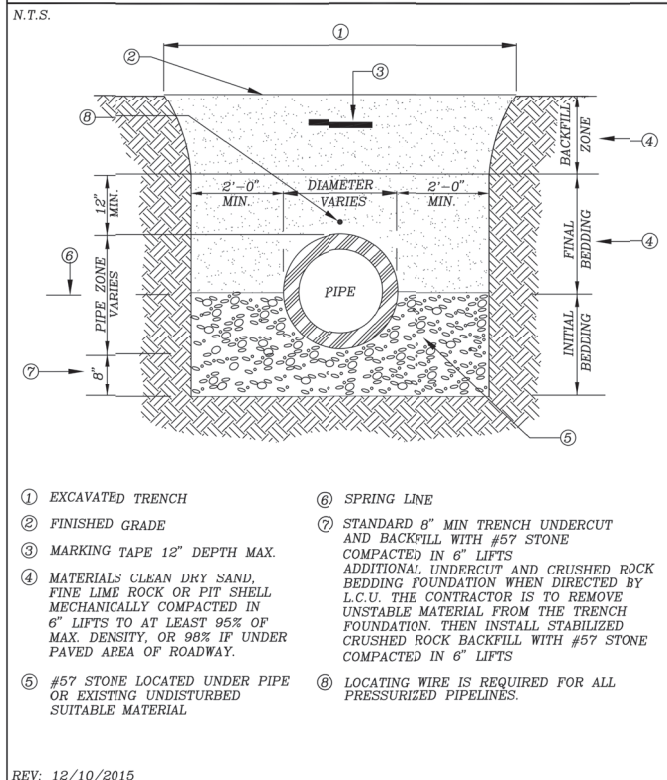
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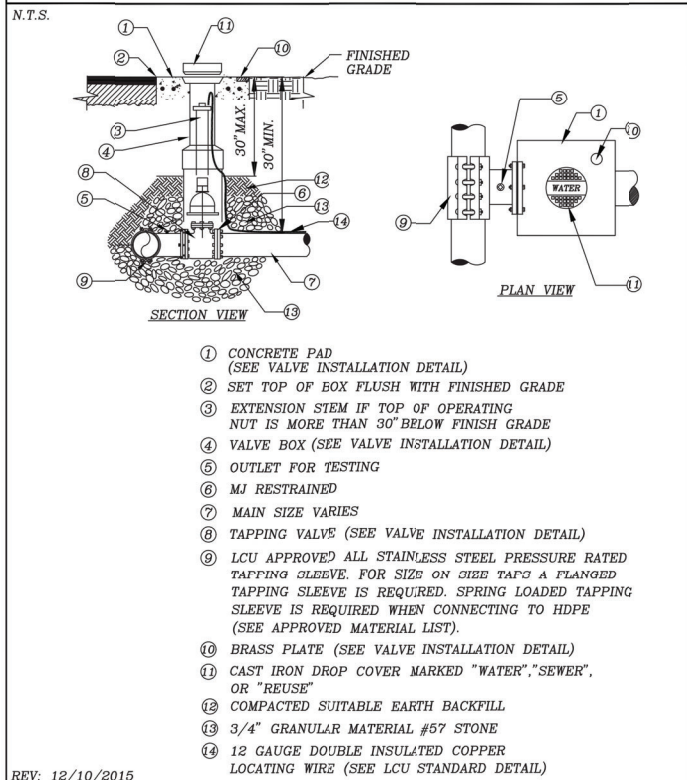
FDOT DETAILS

SHEET NUMBER
C16

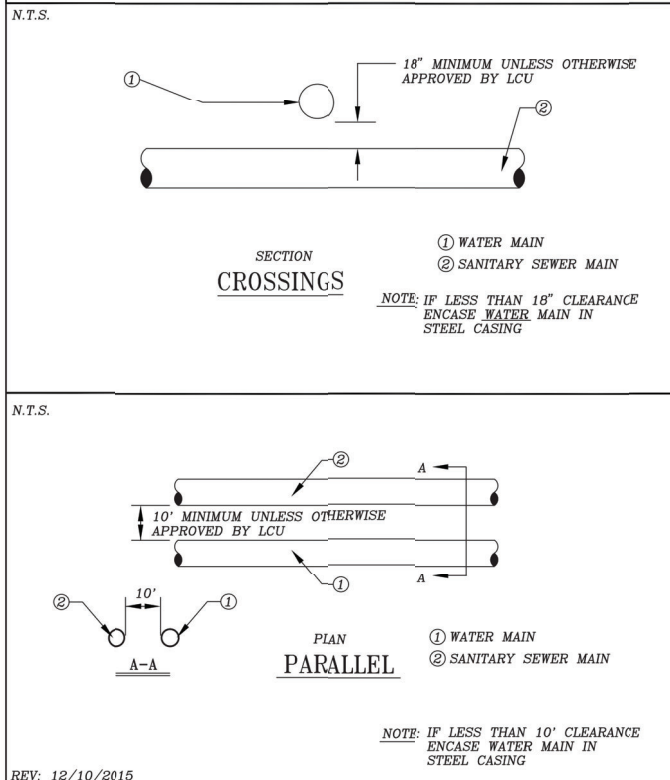
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LEE COUNTY UTILITIES
TRENCH CROSS SECTION**



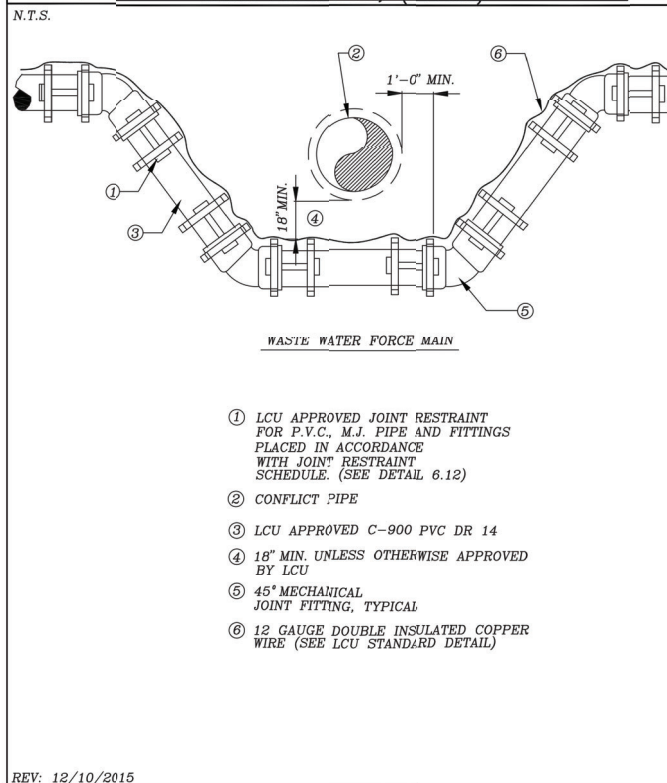
**STANDARD DETAIL NO. 6.1
LEE COUNTY UTILITIES
TAPPING SLEEVE AND VALVE**



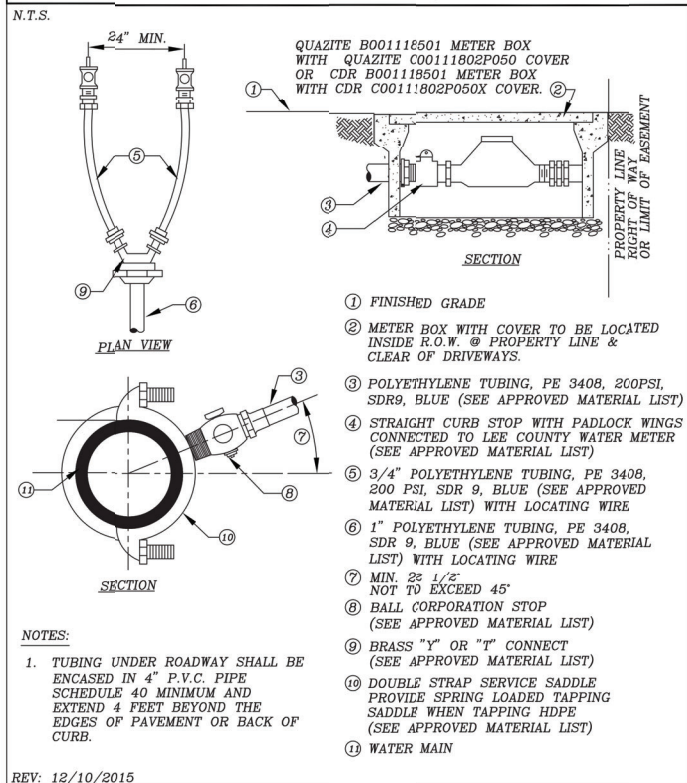
**STANDARD DETAIL NO. 6.8
LEE COUNTY UTILITIES
WATER AND SEWER CROSSING DETAIL**



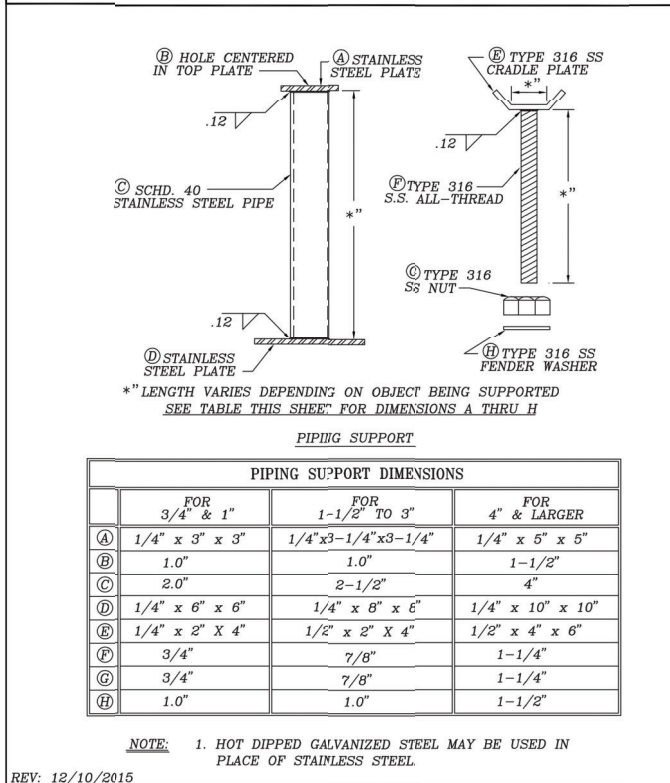
**STANDARD DETAIL NO. 6.11
LEE COUNTY UTILITIES
WASTE WATER FORCE MAIN
VERTICAL OFFSET WITH FITTINGS, (P.V.C.)**



**STANDARD DETAIL NO. 6.16
LEE COUNTY UTILITIES
WATER SERVICE INSTALLATION 5/8" THROUGH 1"**



**STANDARD DETAIL NO. 6.22
LEE COUNTY UTILITIES
PIPING SUPPORT**



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