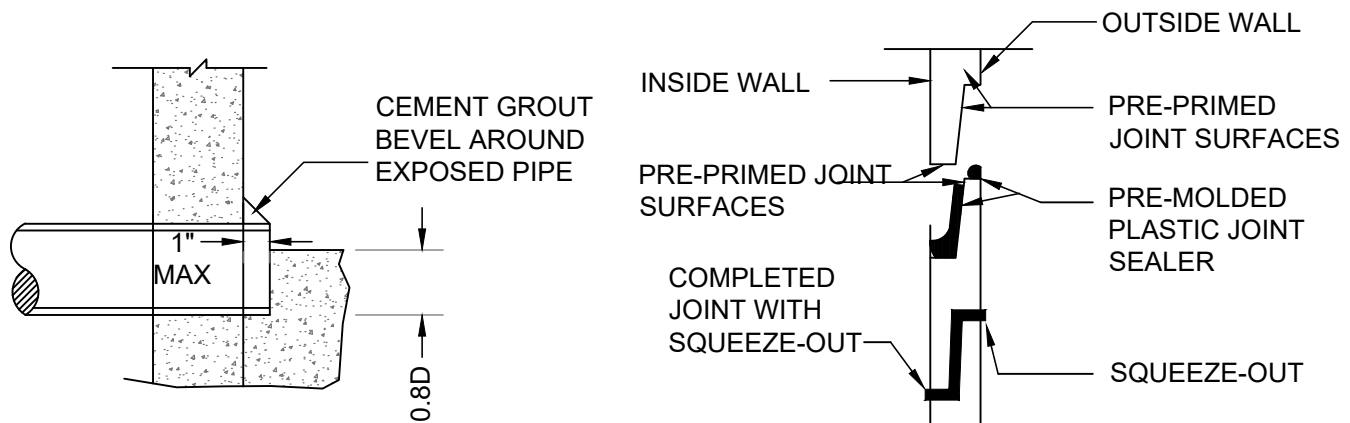


NOT TO SCALE



NOTES:

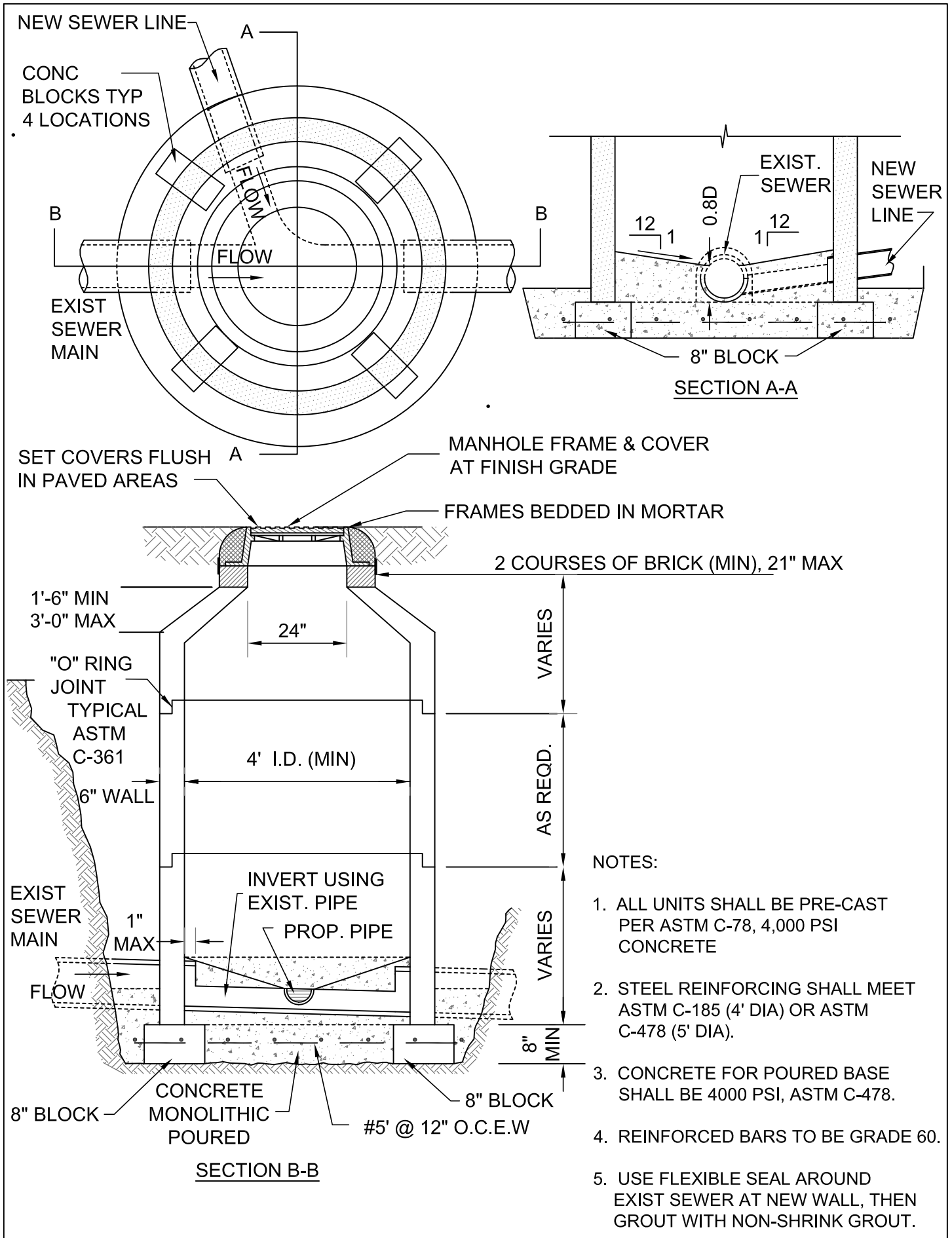
1. INTERIOR DROP CONNECTIONS ARE REQUIRED WHENEVER THE INVERT OF THE INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE. THE DIAMETER OF THE DROP MANHOLE SHALL BE 5'-0".
2. ECCENTRIC CONE DESIGN MAY BE USED AS AN ALTERNATIVE, AS APPROVED.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. LIFT HOLES THROUGH STRUCTURE ARE NOT PERMITTED.
5. HDPE ADJUSTING RINGS MAY BE SUBSTITUTED FOR BRICK RISERS.
6. MASTER MANHOLES SHALL BE 5'-0" DIAMETER.
7. MANHOLE DIAMETER SHALL BE 4'-0" MIN FOR MAINS 8" TO 24" (STD), 5'-0" MIN FOR MAINS 24" TO 36" AND 6'-0" MIN FOR SEWER 36" AND LARGER.
8. TOP OF CONE TO TOP OF COVER SHALL BE 21" OR LESS.

PRECAST CONCRETE MANHOLE (TYPICAL)

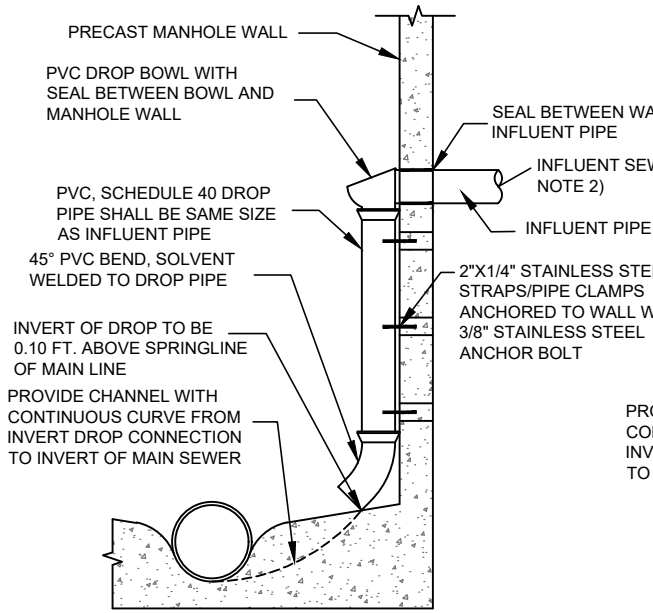
**FIGURE
WW-01-1**

POLK COUNTY UTILITIES, FLORIDA

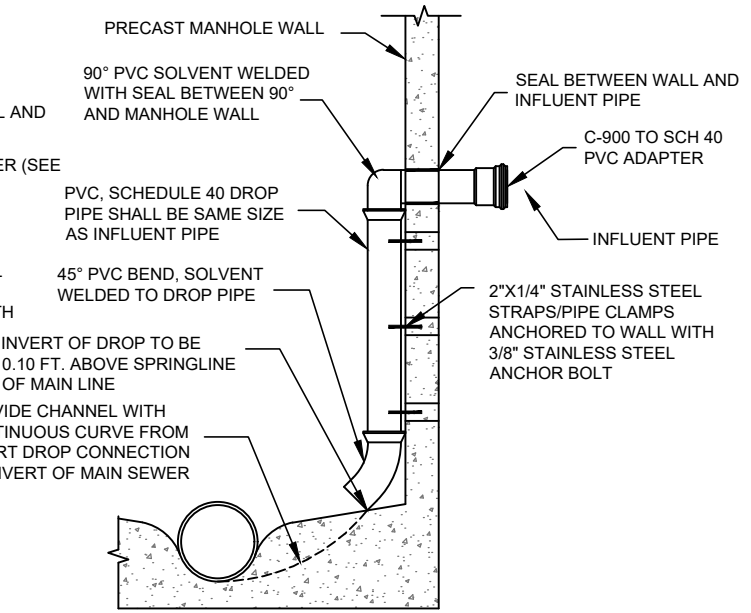
APRIL, 2017



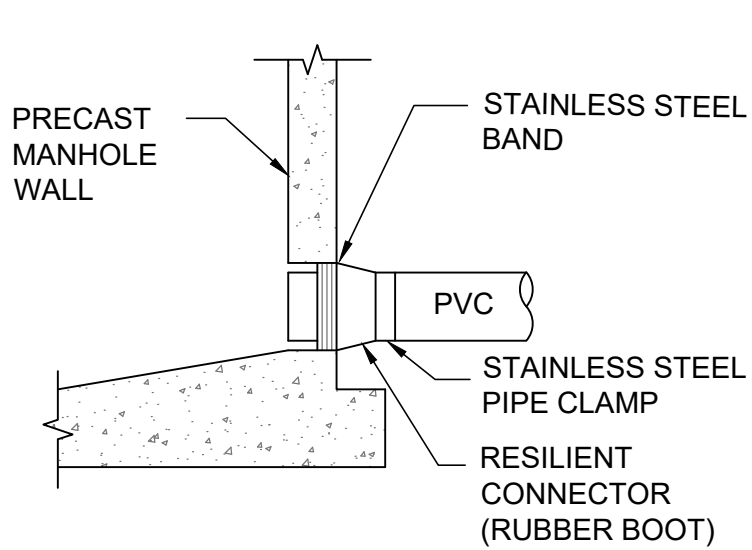
DOGHOUSE CONCRETE MANHOLE CONNECTION	FIGURE WW-01-2
POLK COUNTY UTILITIES, FLORIDA	JULY, 2018



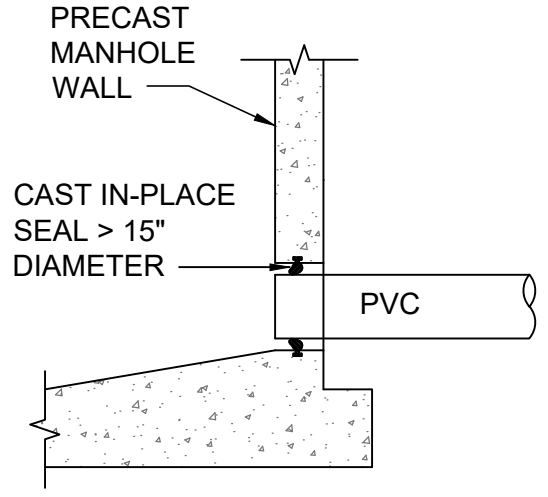
MANHOLE STANDARD INTERIOR DROP CONNECTION



MANHOLE FORCE MAIN DROP CONNECTION



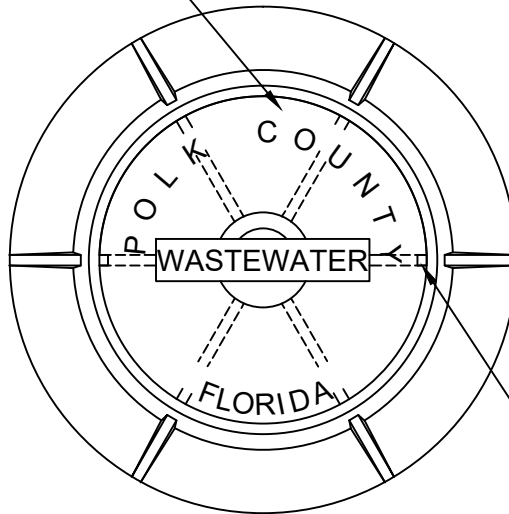
STANDARD PRECAST MANHOLE PIPE CONNECTION



NOTES:

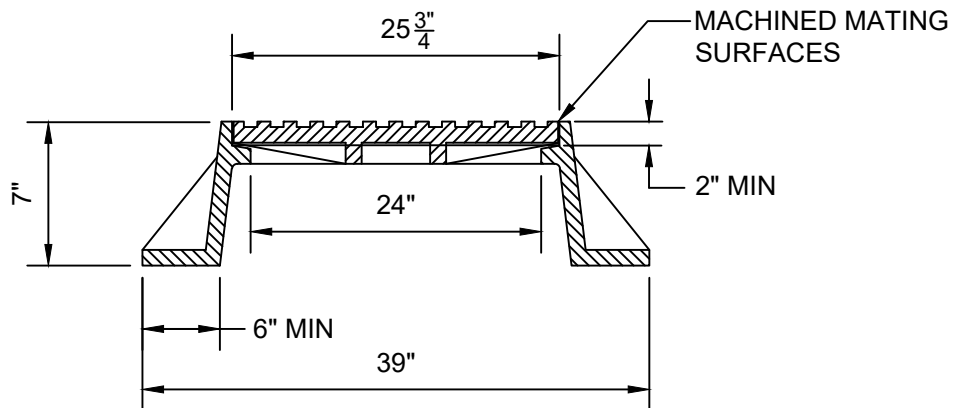
1. DROP PIPE AND FITTINGS SHALL BE OF EQUAL SIZE AS THE INFLUENT SEWER.
2. INSIDE DROP CONNECTIONS SHALL BE REQUIRED FOR ALL INFLUENT LINES WHICH HAVE AN INVERT 2' OR MORE ABOVE THE MANHOLE INVERT.
3. ALTERNATE WATER TIGHT CONNECTION DETAILS FOR CONNECTION OF 24" DIAMETER PIPES AND LARGER MUST BE APPROVED BY PCU.

RAISED 1-1/2" LETTERS
FLUSH WITH TOP OF COVER



NON PENETRATING
PICK HOLES

PLAN



ELEVATION
(MANHOLE INSERT NOT SHOWN)

NOTES:

1. THE WORDS 'POLK COUNTY' SHALL NOT BE USED ON PRIVATE MANHOLES.
2. RING SHALL RECEIVE 2 COATS OF BITUMINOUS (COAL TAR) EPOXY PRIOR TO INSTALLATION.
3. ALL MANHOLE COVER AND FRAME SETS SHALL INCLUDE AN APPROPRIATE SIZED INSERT.
4. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE APPROVED MATERIALS CHECKLIST.

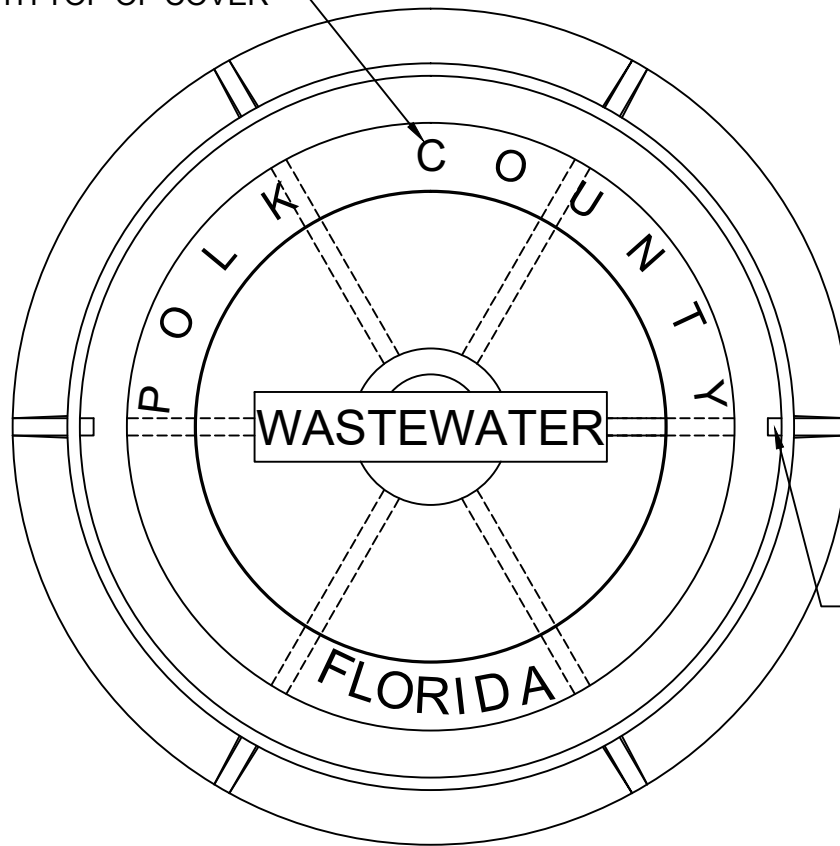
**STANDARD MANHOLE FRAME AND COVER SET
(FOUR FOOT INSIDE DIAMETER MANHOLE)**

POLK COUNTY UTILITIES, FLORIDA

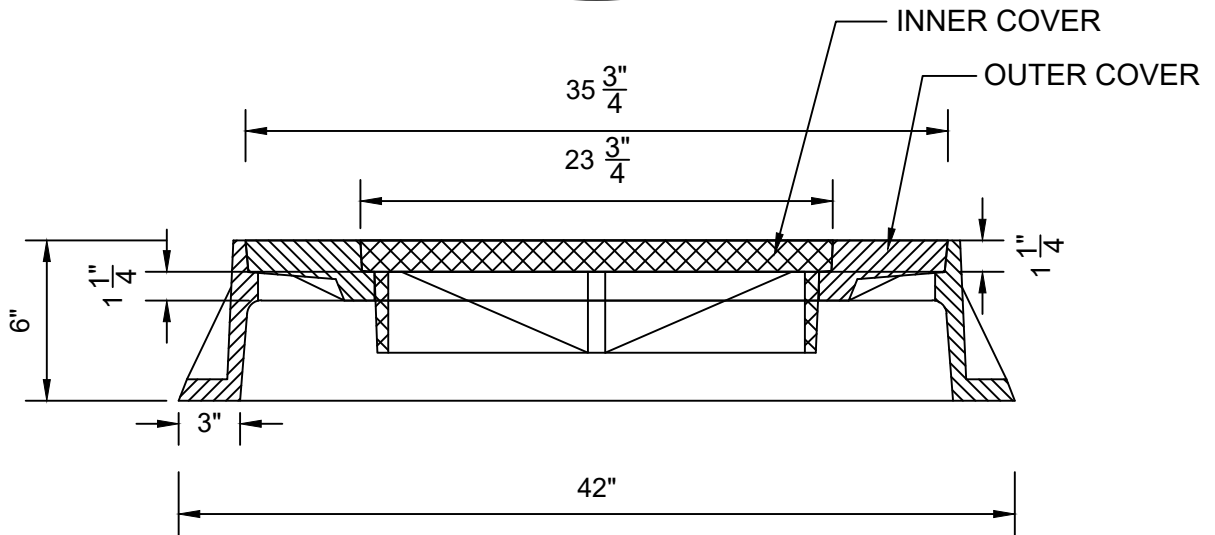
**FIGURE
WW-03-1**

APRIL, 2017

RAISED 1-1/2" LETTERS
FLUSH WITH TOP OF COVER



NON PENETRATING
PICK HOLES



ELEVATION

NOTES:

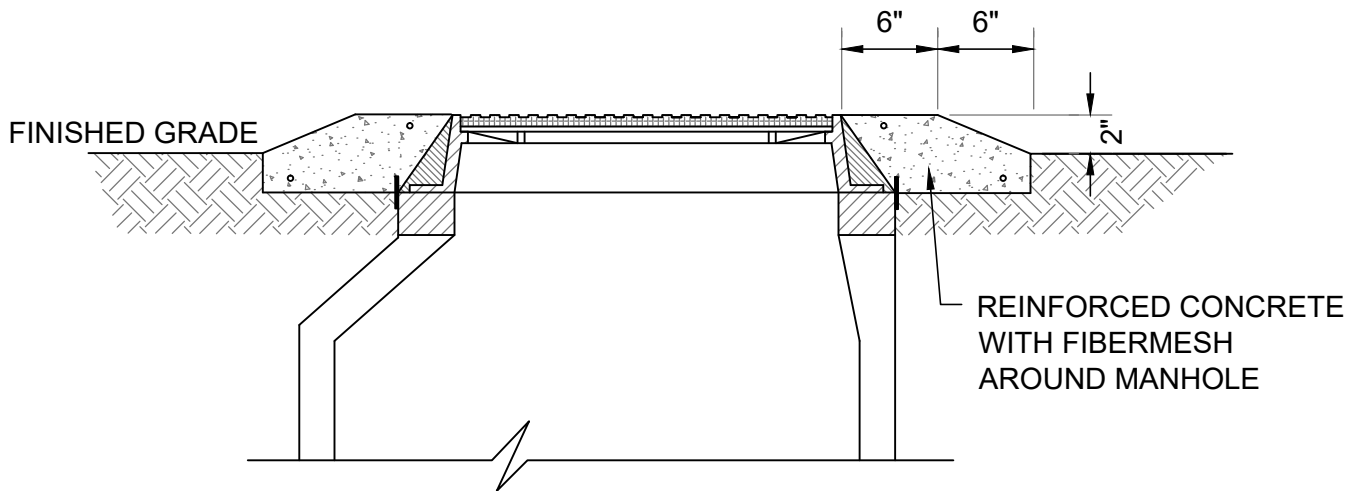
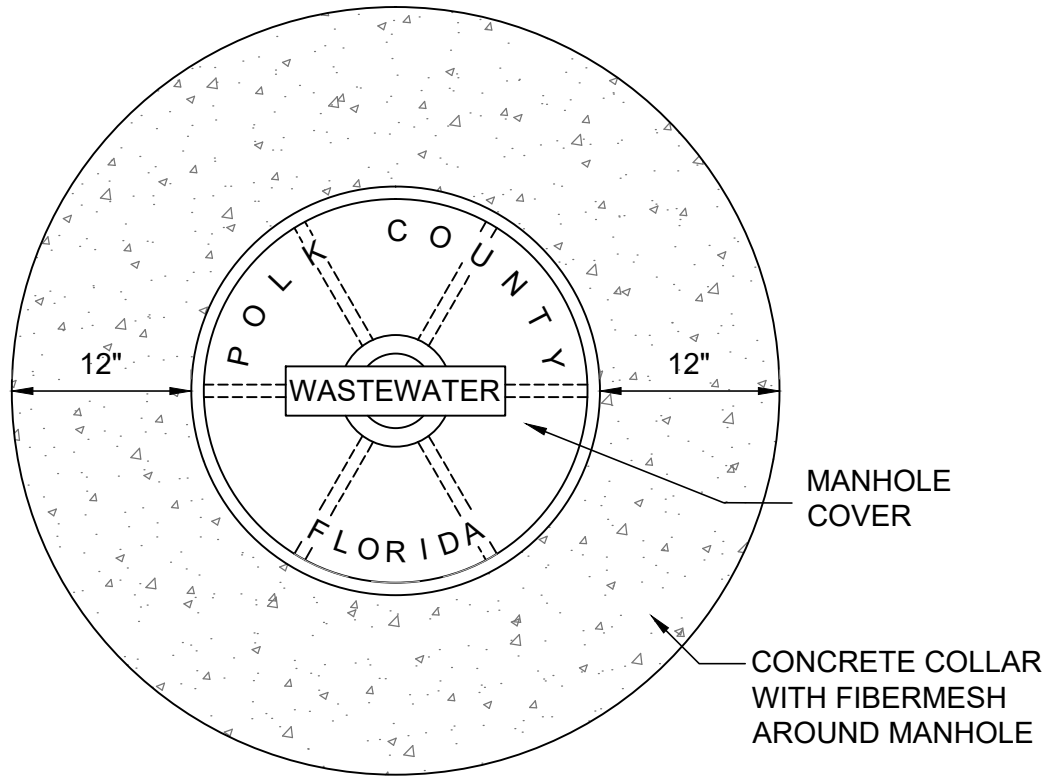
1. THE WORDS 'POLK COUNTY' SHALL NOT TO USED ON PRIVATE MANHOLES.
2. RING SHALL RECEIVE 2 COATS OF BITUMINOUS (COAL TAR) EPOXY PRIOR TO INSTALLATION.
3. ALL MH COVERS AND FRAME SETS SHALL INCLUDE AN APPROPRIATE SIZED INSERT.
4. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE APPROVED MATERIALS CHECKLIST.

**LARGE MANHOLE FRAME AND COVER SET
(LARGE MANHOLES - FIVE FOOT AND LARGER INSIDE DIAMETER)**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-03-2**

APRIL, 2017



NOTES:

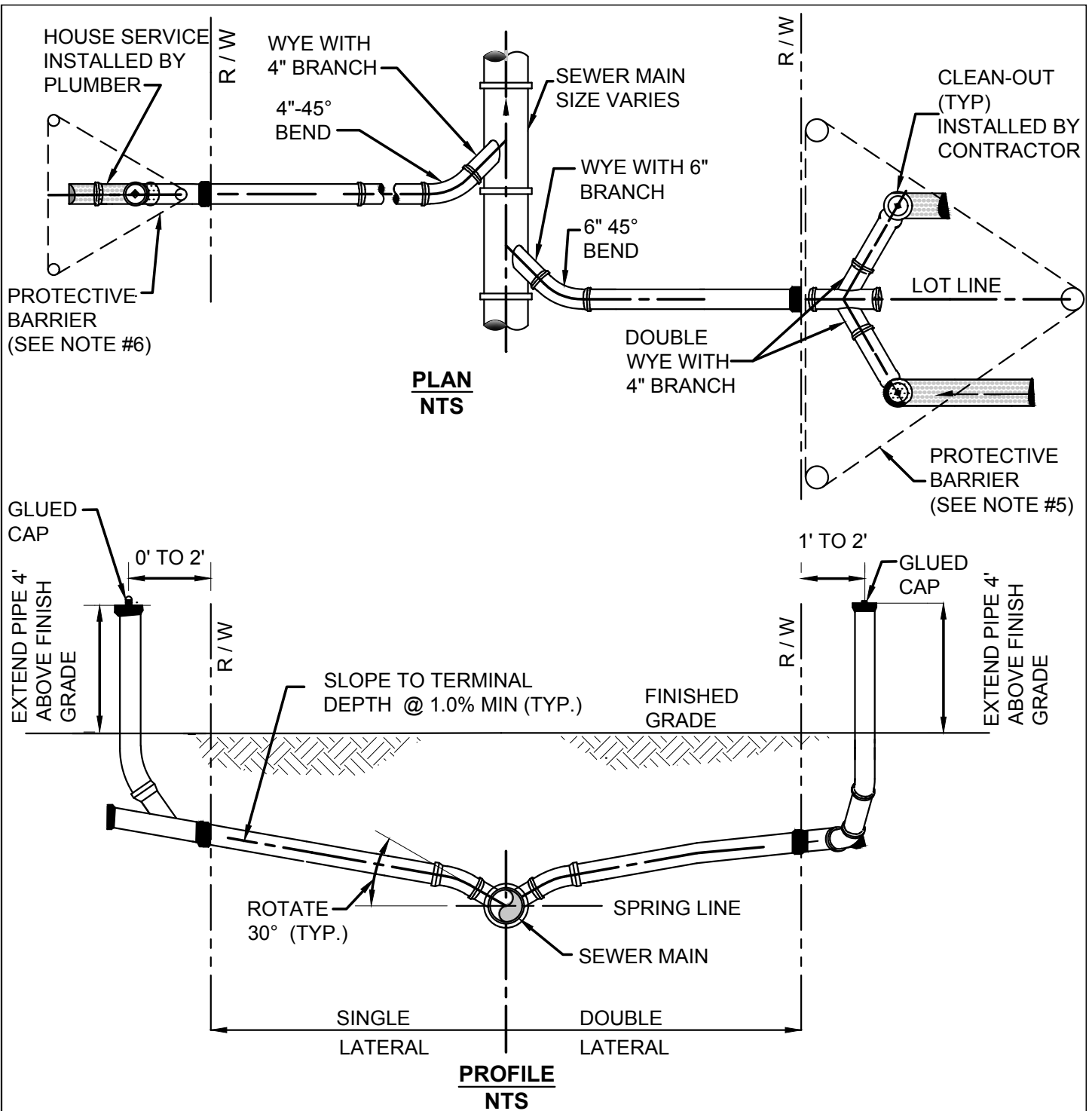
1. THE WORDS 'POLK COUNTY' SHALL NOT APPEAR ON PRIVATE MANHOLES.
2. AREAS SUPPORTING CONCRETE COLLAR SHALL BE PROPERLY COMPACTED, TO 95 % MAXIMUM DENSITY PER AASHTO T-180 FOR FIRST 6" UNDER THE COLLAR AREA.

MANHOLE IN NON-PAVED AREA

**FIGURE
WW-04**

POLK COUNTY UTILITIES, FLORIDA

DECEMBER, 2010



NOTES:

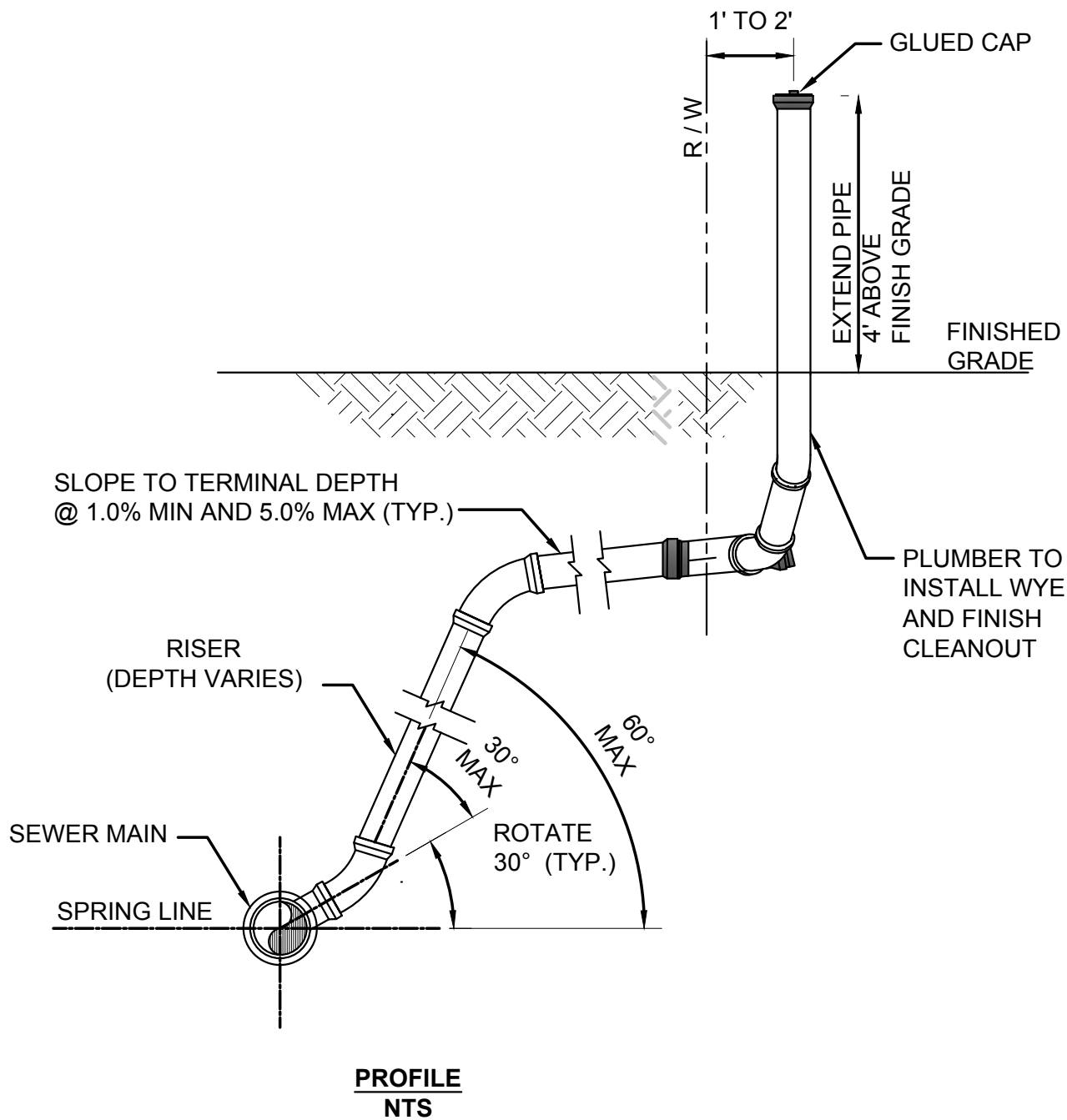
1. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
2. SERVICE LATERAL CLEAN OUT PIPE SHALL BE EXTENDED AND CAPPED BY CONTRACTOR.
3. ALL FITTINGS SHOWN ARE TO BE INSTALLED.
4. BUILDER'S PLUMBER WILL REMOVE PLUG, ADJUST CLEAN OUT PIPE TO GRADE, AND CONNECT SERVICE LATERAL TO HOUSE.
5. PROTECTIVE BARRIER TO BE 3-2" x4" or 2" POLES w/ WITH ORANGE CONSTRUCTION WARNING FENCE.

SERVICE LATERAL (STANDARD)

**FIGURE
WW-05-1**

POLK COUNTY UTILITIES, FLORIDA

JULY, 2019



NOTES:

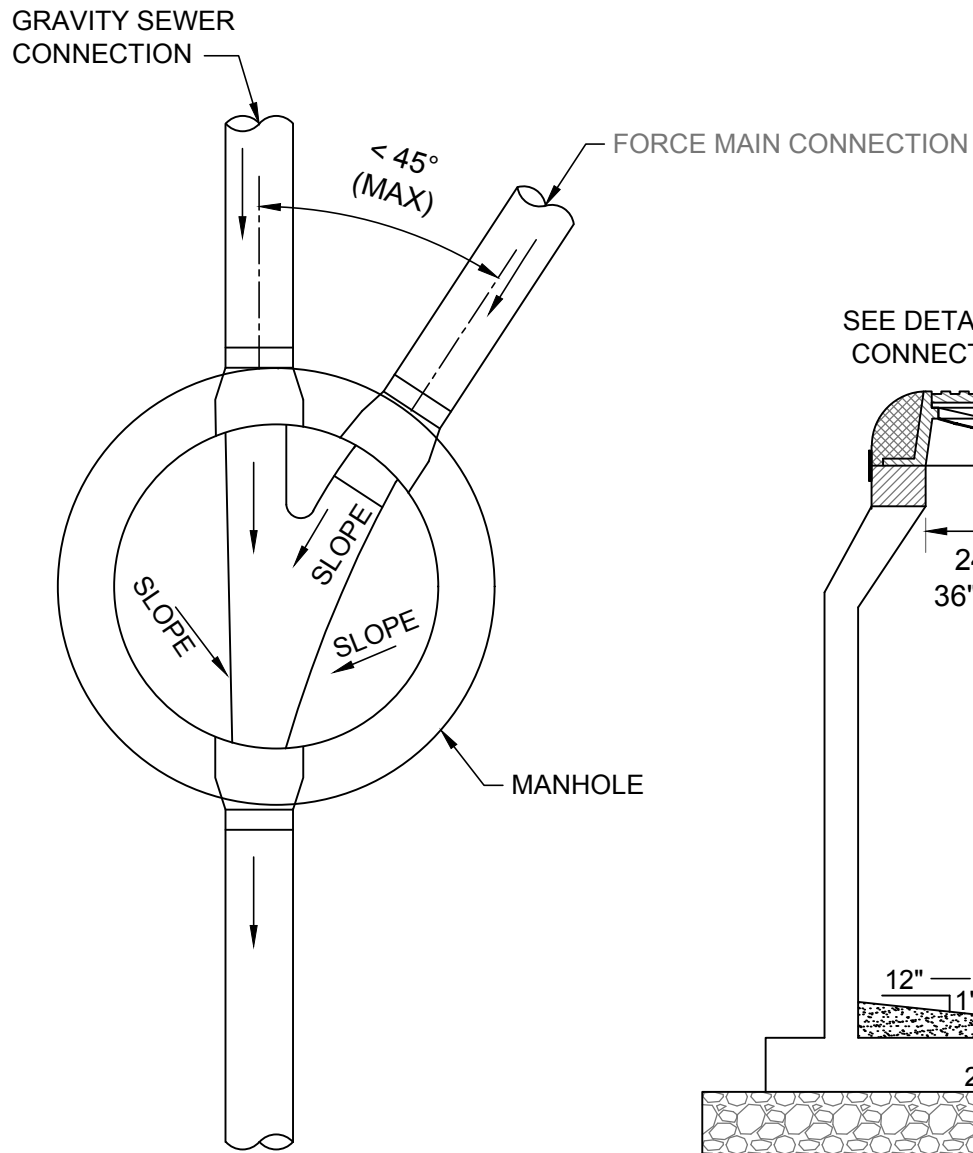
1. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
2. SERVICE LATERAL CLEAN OUT PIPE SHALL BE EXTENDED AND CAPPED BY CONTRACTOR.
3. ALL FITTINGS SHOWN ARE TO BE INSTALLED.

SEWER SERVICE (DEEP) (TYPICAL)

**FIGURE
WW-05-2**

POLK COUNTY UTILITIES, FLORIDA

JULY, 2019



PLAN VIEW

PROFILE VIEW

NOTES:

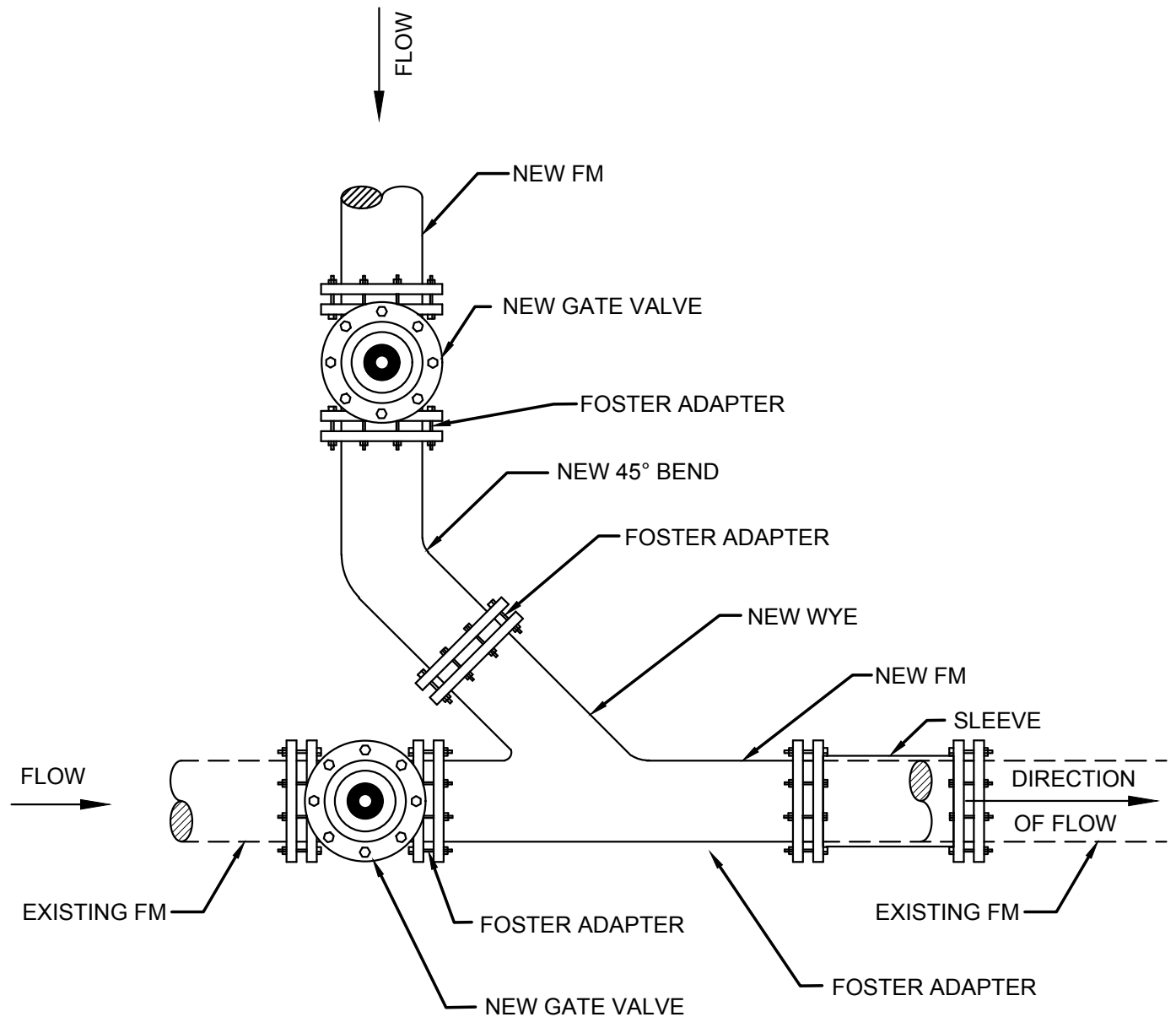
1. FORCE MAIN SHALL BE ORIENTED NORMALLY 45° OR LESS TO FLOW TO FACILITATE FLOW AND SHALL ENTER MANHOLE AT THE FLOW LINE.
2. PROVIDE BENCHING AS REQUIRED FOR FORCE MAIN.
3. MANHOLE RECEIVING FORCE MAIN SHALL BE COATED WITH SPECIALIZED COATING OR FACTORY INSTALLED LINING.
4. FORCE MAIN CONNECTION DESIGN SHALL BE AS APPROVED BY PCU.

**FORCE MAIN TO GRAVITY SEWER MANHOLE CONNECTION
(TYPICAL)**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-06-1**

JULY, 2019



PLAN VIEW

NOTES:

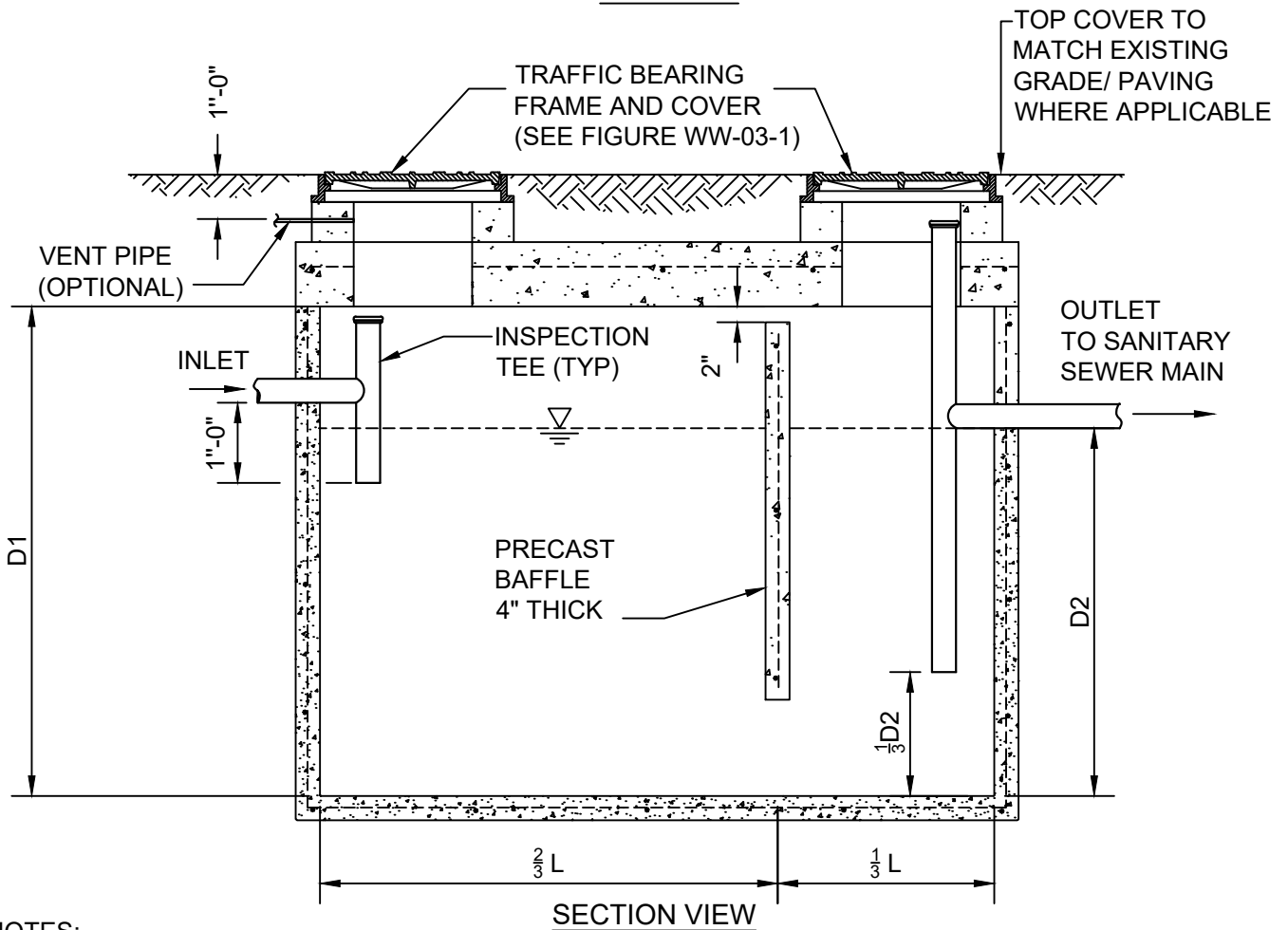
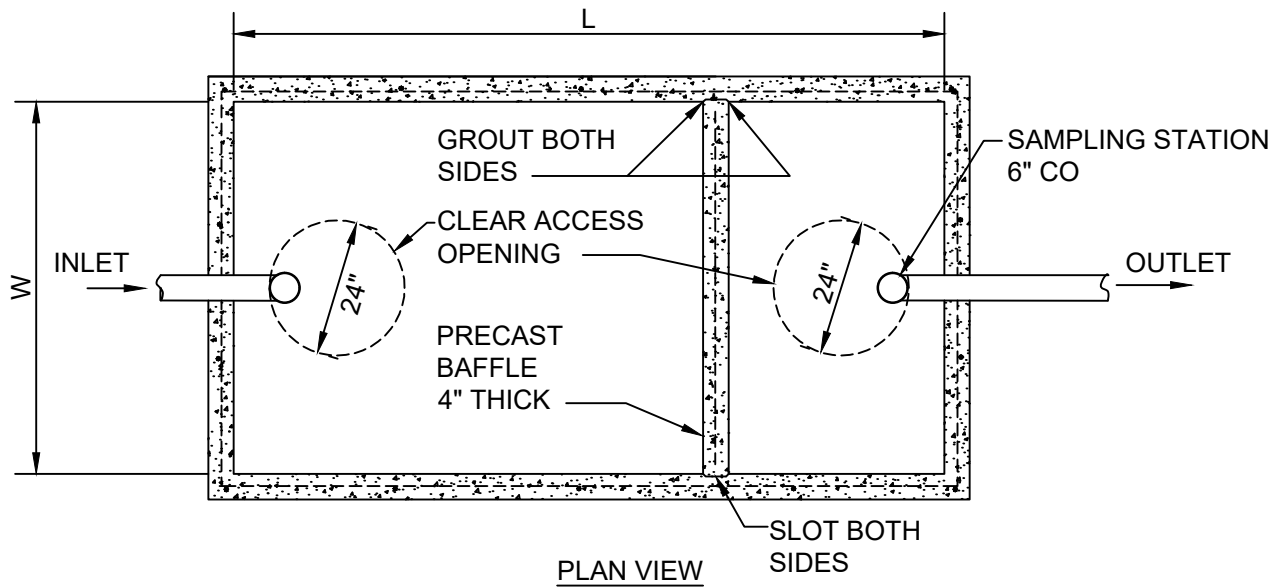
1. ALL JOINTS (INCLUDING JOINTS ON EXISTING MAINS) SHALL BE RESTRAINED IN ACCORDANCE WITH USSM CHAPTER 3. ENGINEER SHALL VERIFY DESIGN ASSUMPTIONS AND INCREASE RESTRAINED LENGTHS AS REQUIRED.

**FORCE MAIN MANIFOLD CONNECTION
(TYPICAL)**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-06-2**

JULY, 2019



NOTES:

1. SIZE AND DIMENSIONS OF GREASE INTERCEPTOR SHALL BE IN ACCORDANCE WITH THE UTILITIES STANDARDS AND SPECIFICATIONS MANUAL.
2. LOADS: H-20 TRUCK WHEELS WITH 30% IMPACT PER AASHTO.

LEGEND :

L = INSIDE LENGTH

W = INSIDE WIDTH

$D1$ = DISTANT FROM INSIDE TOP OF STRUCTURE TO INSIDE BOTTOM OF STRUCTURE

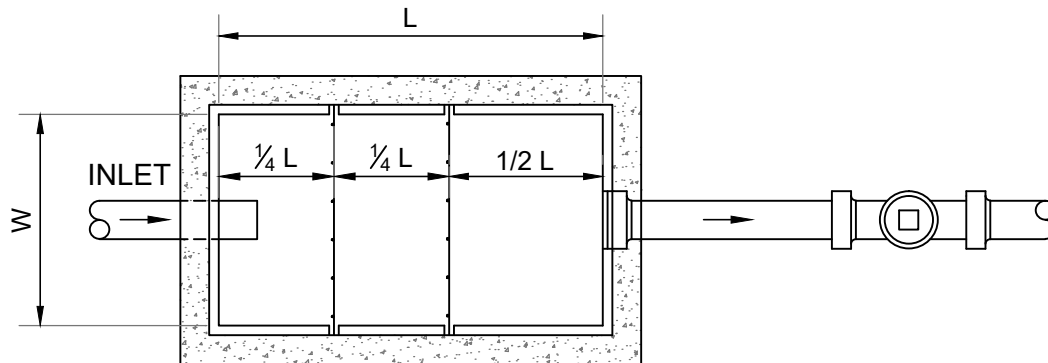
$D2$ = DISTANT FROM OUTLET INVERT TO STRUCTURE INVERT

GREASE INTERCEPTOR (TYPICAL)

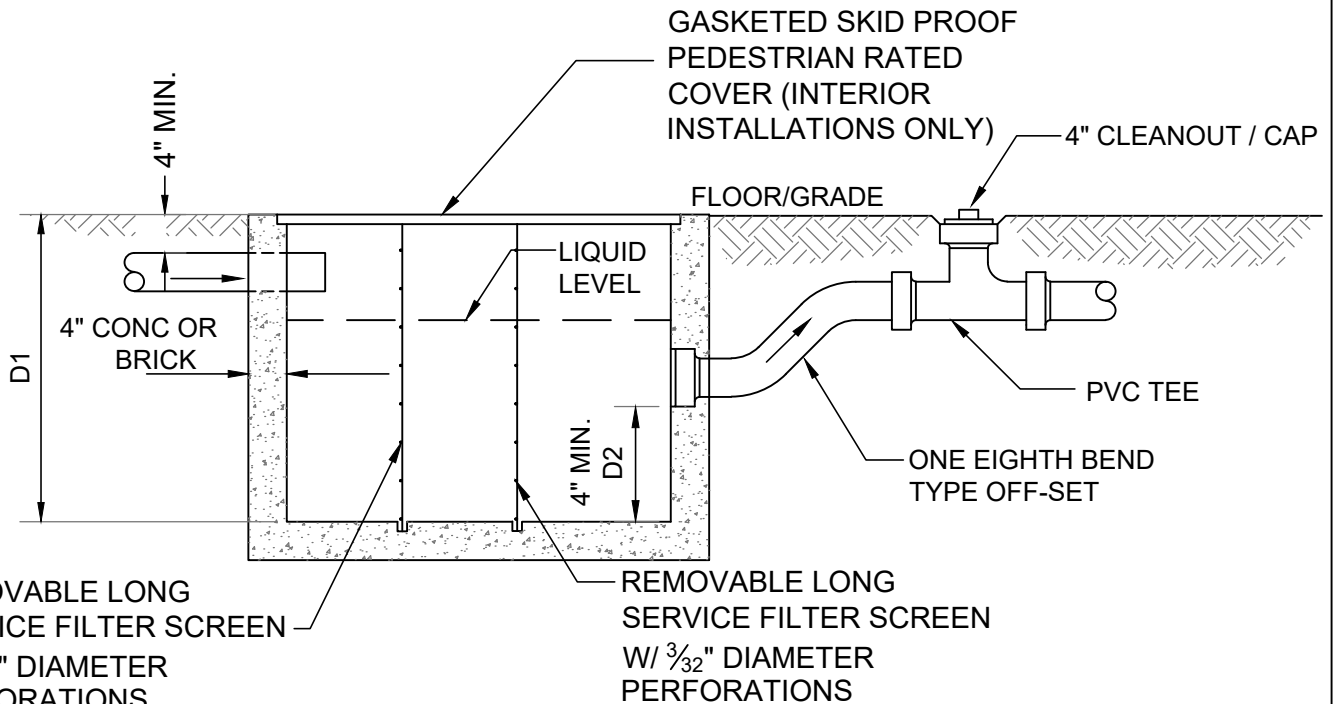
**FIGURE
WW-07**

POLK COUNTY UTILITIES, FLORIDA

APRIL, 2017



PLAN



SECTION

NOTES:

1. EXTERIOR INSTALLED TRAPS SHALL BE DESIGNED FOR HS-20 TRAFFIC LOADS.

LEGEND :

- L = INSIDE LENGTH
- W = INSIDE WIDTH
- D1 = DISTANT FROM INSIDE TOP OF STRUCTURE TO INSIDE BOTTOM OF STRUCTURE
- D2 = DISTANT FROM OUTLET INVERT TO STRUCTURE INVERT

**LINT / HAIR TRAP INTERCEPTOR
(TYPICAL)**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-08**

DECEMBER, 2010

GENERAL NOTES:

1. ALL INTERIOR METAL SURFACES SHALL BE PAINTED WITH 2 COATS OF BITUMINOUS EPOXY PAINT.
2. EXTERIOR OF WET WELL SHALL RECEIVE TWO (2) COATS BITUMINOUS EPOXY.
3. INTERIOR OF WET WELL SHALL HAVE PCU APPROVED FACTORY INSTALLED LINER OR FIELD COATING.
4. VALVE VAULTS ARE ONLY TO BE USED WITH PRIOR PCU APPROVAL.
5. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL SHALL BE MADE WATER TIGHT BY USE OF A RUBBER TYPE PIPE BOOT w/ NON-SHRINK GROUT.
6. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES EXCEPT FLOAT CABLES IN WET WELL.
7. WET WELL COVERS THAT ARE NOT SUBJECT TO VEHICULAR TRAFFIC SHALL BE (300 PSF RATED) ALUMINUM WITH 316 S.S. HARDWARE AND LOCK BRACKET. IF SUBJECT TO VEHICULAR TRAFFIC, WET WELL COVERS SHALL BE H-20 RATED. SIZE OF WET WELL COVER AS REQUIRED BY PUMP MANUFACTURER AND AS APPROVED BY PCU.
8. PUMPS 25 H.P. AND LARGER SHALL BE 240V/480V, 3-PHASE, W/ SOFT STARTS, SMALLER PUMPS SHALL BE 240V/480V, 3-PHASE, 60 Hz MOTOR, SUBMERSIBLE PUMP AS MANUFACTURED BY HYDROMATIC OR FLYGT ONLY. PUMP MUST BE CAPABLE OF PASSING 3" SOLIDS. ROTO PHASE POWER UNITS ARE STRICTLY PROHIBITED.
MANUFACTURER: _____ MODEL: _____ IMP: _____ DIA: _____
SPEED: _____ RPM, DISCHARGE SIZE: _____ IN., VOLTAGE _____, PHASE: 3Ø
H.P. _____, MIN. SOLID SIZE: _____ IN., CURVE: _____
9. OPERATING CONDITIONS SHALL BE _____ GPM AT _____ FEET TDH.
10. ALL HARDWARE IN WET WELL TO BE 316 STAINLESS STEEL.
11. 4" PLUG VALVES MAY HAVE LEVERS, ALL OTHERS SHALL HAVE GEARBOX W/ HAND WHEELS.
12. WET WELL SHALL BE PROVIDED WITH A GRATE BASED FALL PROTECTION SYSTEM.
13. ALL LOCATIONS WHERE GRAVITY PIPES ENTER OR LEAVE THE WET WELL SHALL BE MADE WATERTIGHT WITH AN APPROVED BOOT.

CONTINUED FIGURE WW-10

LIFT STATION NOTES POLK COUNTY UTILITIES, FLORIDA	FIGURE WW-09
POLK COUNTY UTILITIES, FLORIDA	OCTOBER, 2015

GENERAL NOTES (CONTINUED):

(SEE FIGURE WW-09 FOR NOTES 1 TO 13)

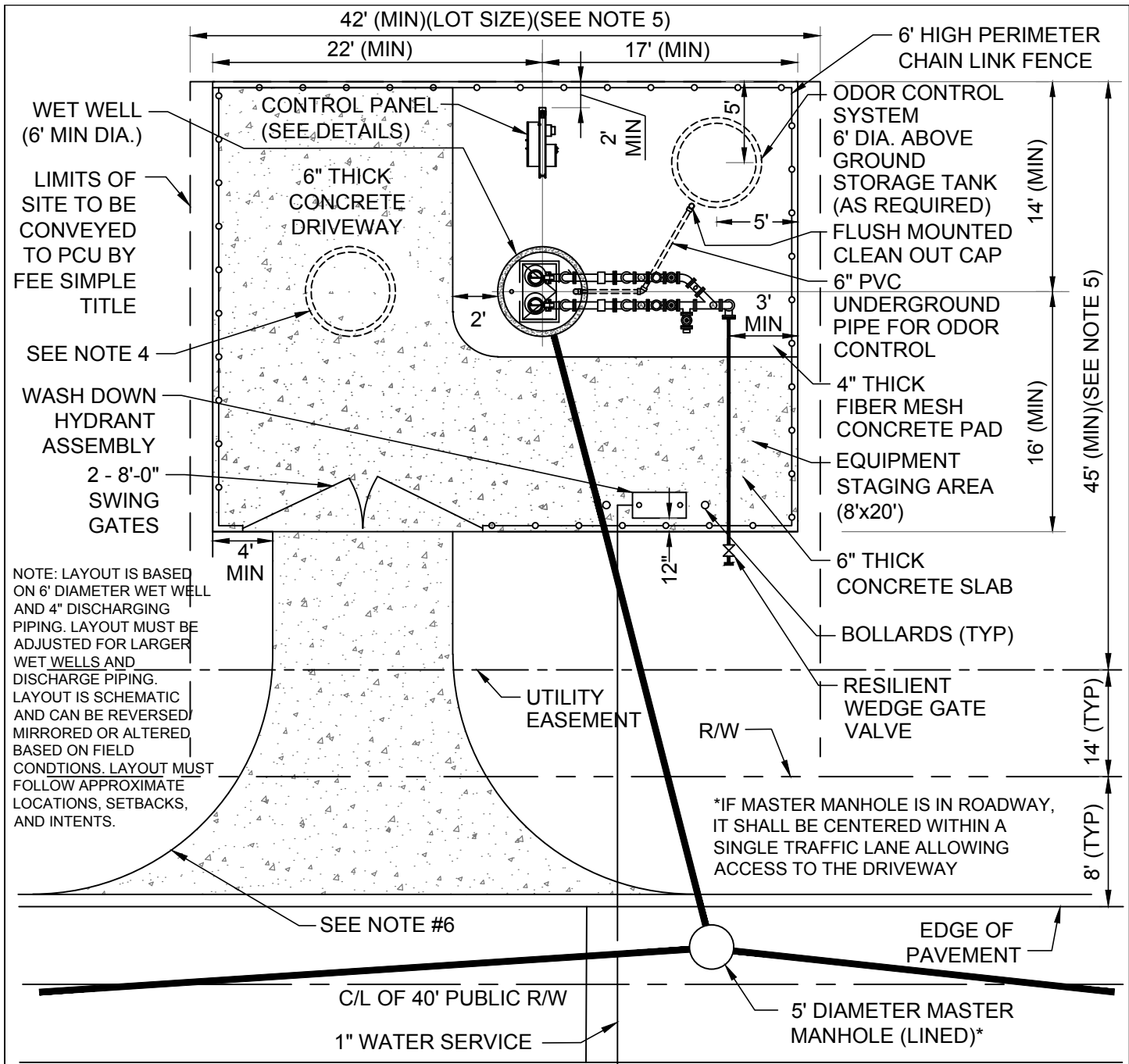
14. ALL LOCATIONS WHERE PRESSURE PIPES ENTER THE WET WELL SHALL BE MADE WATERTIGHT WITH A WALL SLEEVE AND SEAL OR NON-SHRINKAGE GROUT.
15. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES EXCEPT FLOAT CABLES IN THE WET WELL.
16. ALL HARDWARE IN WET WELL SHALL BE 316 STAINLESS STEEL.
17. ALL CONNECTIONS IN THE WET WELL SHALL BE FLANGED JOINTS. ALL REMAINING CONNECTIONS BETWEEN THE WET WELL AND THE CONNECTION TO THE EXISTING FORCE MAIN SHALL BE RESTRAINED MECHANICAL JOINTS.
18. CHECK VALVE ARM SHALL BE LOCATED WITH THE SAME ORIENTATION (i.e. ALL ARMS ON THE LEFT SIDE OF VALVE).
19. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE " APPROVED MATERIALS CHECKLIST".

**LIFT STATION NOTES
(CONTINUED)**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-10**

OCTOBER, 2015



NOTE: LAYOUT IS BASED ON 6' DIAMETER WET WELL AND 4" DISCHARGING PIPING. LAYOUT MUST BE ADJUSTED FOR LARGER WET WELLS AND DISCHARGE PIPING. LAYOUT IS SCHEMATIC AND CAN BE REVERSED/ MIRRORED OR ALTERED BASED ON FIELD CONDITIONS. LAYOUT MUST FOLLOW APPROXIMATE LOCATIONS, SETBACKS, AND INTENTS.

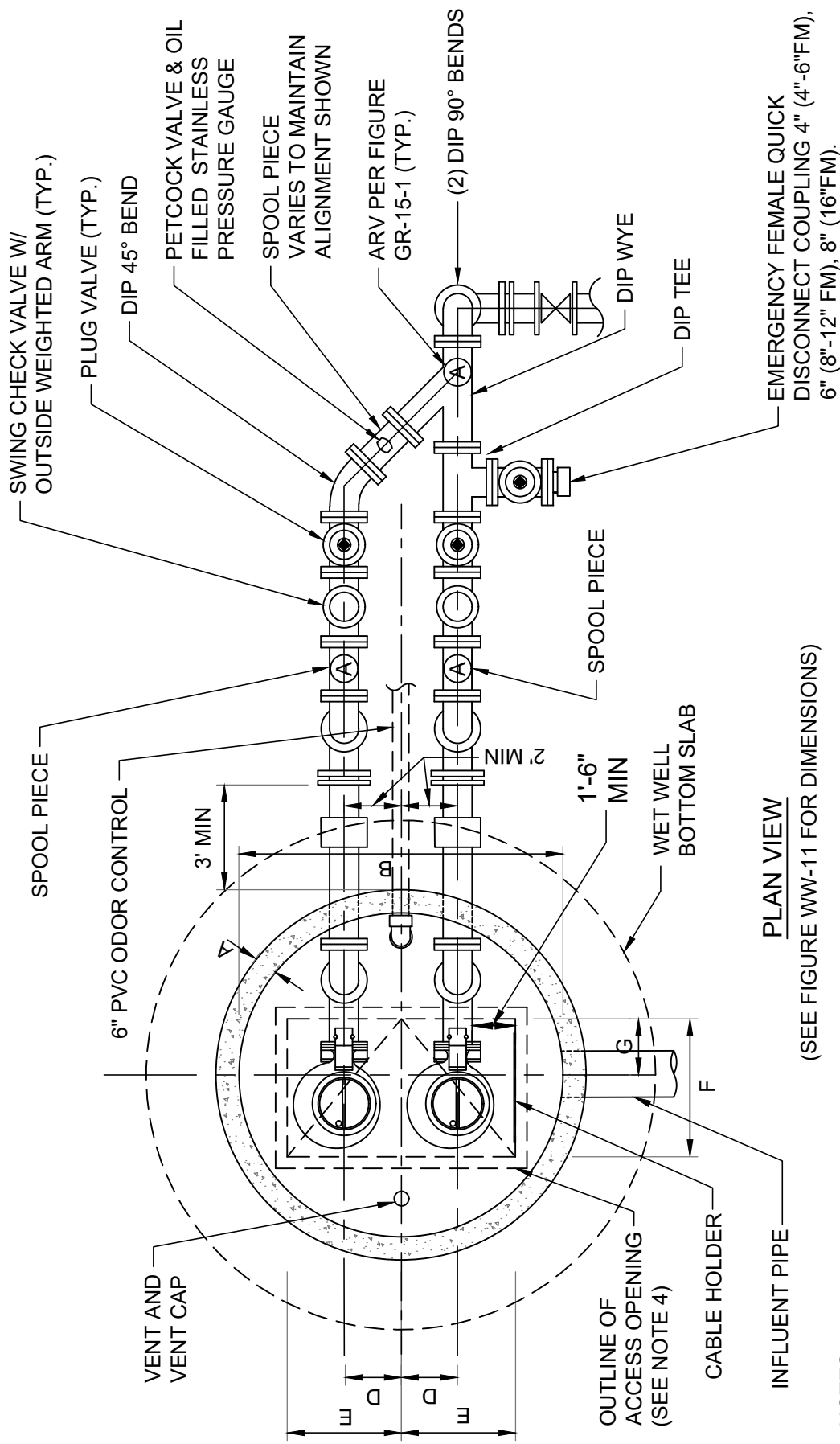
- NOTES:
1. WET WELL OPENINGS SHALL BE PROVIDED WITH FALL PREVENTION DEVICES AS SPECIFIED IN THE "APPROVED MATERIALS CHECK LIST".
 2. FENCING MAY BE REPLACED WITH OPTIONAL CONCRETE MASONRY WALL (SEE FIGURE WW-17-1)
 3. SLOPE OF STATION PAD AND DRIVEWAY SHALL BE 1/8" PER 1' DOWN SLOPE (1.0%) FROM CENTER OF WET WELL TO PERIMETER OF STATION.
 4. IF MORE THAN 400 PEAK HOUR TRIPS PASSING MASTER MANHOLE, IT SHALL BE LOCATED ON SITE
 5. THIS DIMENSION SHALL INCREASE 2.0' FOR EACH FOOT OF ADDITIONAL WET WELL DEPTH OVER 15'.
 6. USE OF 25' RADIUS DRIVEWAY AT ROADWAY SHALL BE PROVIDED.
 7. ENGINEER SHALL PROVIDE A SCALED (1" = 20' MIN) SITE SPECIFIC DETAIL.
 8. DISTANCE OF 5' SHALL BE MAINTAINED FROM THE OUTSIDE EDGE OF THE WET WELL AND THE OUTSIDE EDGE OF THE SUPPORT POSTS FOR THE CONTROL PANEL STRUCTURE.
 9. IF GENERATOR REQUIRED IN ACCORDANCE WITH CODE REQUIREMENTS, THE DESIGN OF THE LIFT STATION IS SUBJECT TO PCU APPROVAL.
 10. GRADE CHANGES SHALL BE DESIGNED IN ACCORDANCE WITH FDOT DESIGN MANUAL 214, FIGURE 214.4.2/3: COMMERCIAL WITH A MAXIMUM GRADE OF 10% AND A MAXIMUM GRADE CHANGE OF 14%.

**DUPLEX LIFT STATION (TYPICAL)
SITE PLAN**

**FIGURE
WW-11**

POLK COUNTY UTILITIES, FLORIDA

SEPTEMBER, 2019



PLAN VIEW

(SEE FIGURE WW-11 FOR DIMENSIONS)

NOTES :

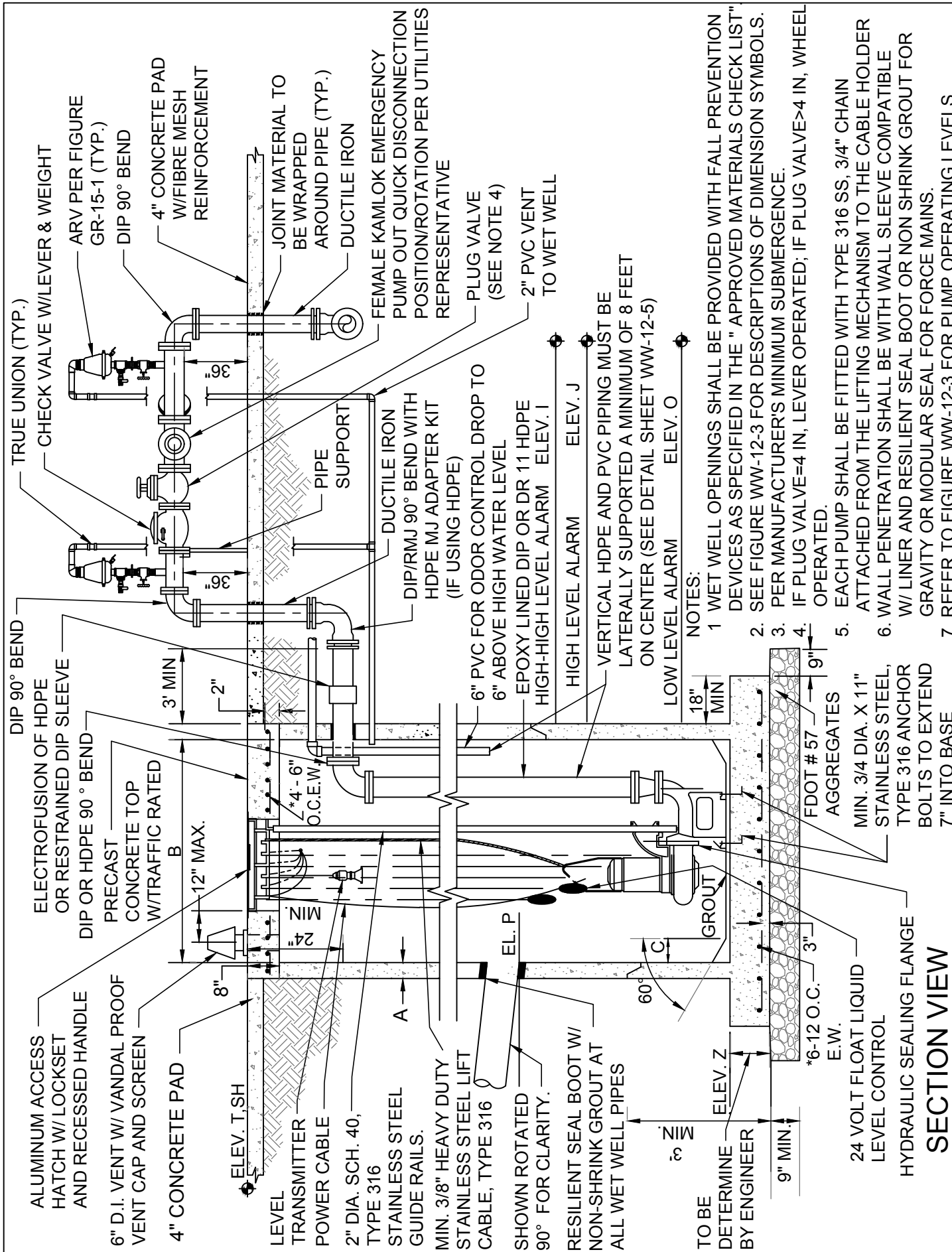
1. WET WELL OPENINGS SHALL BE PROVIDED WITH FALL PREVENTION DEVICES AS SPECIFIED IN THE " APPROVED MATERIALS CHECK LIST".
2. BACKFILL UNDER AND WITHIN 10' OF WET WELL CENTER AND UNDER AND WITHIN 5' OF VAULT SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO 95% MAX DENSITY PER AASHTO T-180, DENSITY TEST RESULTS SHALL BE PROVIDED TO INSPECTOR PRIOR TO PLACEMENT OF SLAB.
3. VALVE BOX SHALL BE ENLARGED IF FLOW METER REQUIRED.
4. HATCH DOOR HINGES FOR WET WELL ACCESS ARE TO BE LOCATED ON OPPOSITE SIDE FROM GUIDE RAILS.
5. ALL ABOVE GROUND PIPE AND APPURTENANCES SHALL BE PAINTED GREEN (RBG: 0, 255, 0).

**DUPLEX LIFT STATION
PLAN VIEW**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-12-1**

JUNE, 2022



**DUPLEX LIFT STATION
SECTION VIEW**

**FIGURE
WW-12-2**

POLK COUNTY UTILITIES, FLORIDA

SEPTEMBER, 2019

- NOTES:
- 1 WET WELL OPENINGS SHALL BE PROVIDED WITH FALL PREVENTION DEVICES AS SPECIFIED IN THE "APPROVED MATERIALS CHECK LIST". SEE FIGURE WW-12-3 FOR DESCRIPTIONS OF DIMENSION SYMBOLS.
 - 2 SEE FIGURE WW-12-3 FOR DESCRIPTIONS OF DIMENSION SYMBOLS.
 - 3 PER MANUFACTURER'S MINIMUM SUBMERGENCE.
 - 4 IF PLUG VALVE=4 IN, LEVER OPERATED; IF PLUG VALVE>4 IN, WHEEL OPERATED.
 - 5 EACH PUMP SHALL BE FITTED WITH TYPE 316 SS, 3/4" CHAIN ATTACHED FROM THE LIFTING MECHANISM TO THE CABLE HOLDER
 - 6 WALL PENETRATION SHALL BE WITH WALL SLEEVE COMPATIBLE W/ LINER AND RESILIENT SEAL BOOT OR NON SHRINK GROUT FOR GRAVITY OR MODULAR SEAL FOR FORCE MAINS.
 7. REFER TO FIGURE WW-12-3 FOR PUMP OPERATING LEVELS

SECTION VIEW

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL (8" MIN.)	A		—
DIAMETER OF WET WELL (6' MIN.)	B		—
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	—
C/L TO C/L OF PUMPS	D	SEE NOTE 1	—
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	—
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	—
BASE ELBOW TO EDGE OF PIT	G	SEE NOTE 1	—
TOP OF WET WELL	T	—	
FINISHED GRADE	U	—	
INVERT OF GRAVITY PIPE	P	—	
FLOOR OF WET WELL	Z	—	
SEASONAL HIGH WATER ELEVATION (SEE NOTE 3)	SH	—	

NOTE:

1. PER PUMP MANUFACTURER'S REQUIREMENTS
2. TOP OF PUMP STATION SHALL BE NO LOWER THAN THE 25 YEAR FLOOD 24 HOUR ELEVATION. THE BOTTOM OF STATION CONTROL AND ELECTRICAL BOXES SHALL BE NO LOWER THAN THE 100 YEAR 24-HOUR FLOOD ELEVATION.
3. SEASONAL HIGH GROUND WATER ELEVATION 'SH' SHALL BE CONSIDERED THE SAME AS THE TOP OF WET WELL ELEVATION.

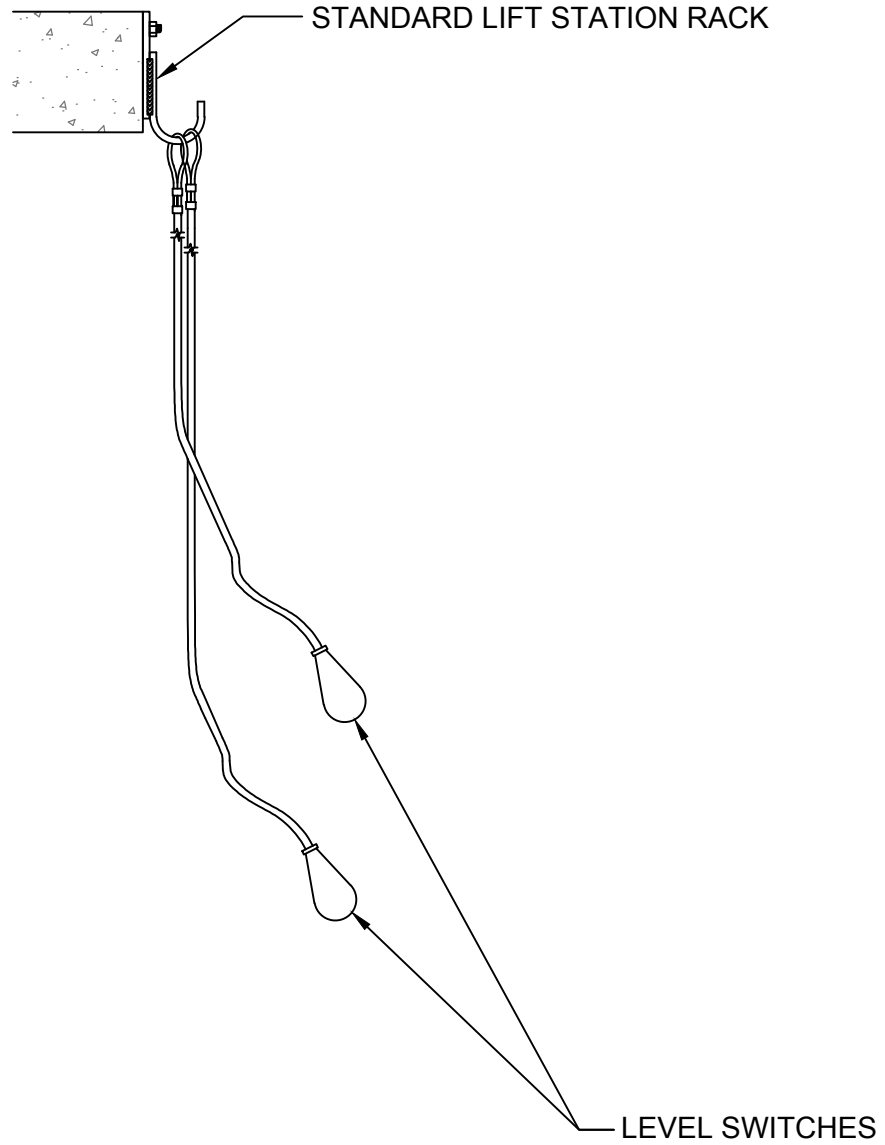
DESCRIPTION	SYMBOL	TRANSMITTER ELEVATION	FLOAT ELEVATION
VALVE HIGH-HIGH LEVEL ALARM	I		
HIGH LEVEL ALARM	J		
LAG PUMP ON	L		----
LEAD PUMP ON	M		----
BOTH PUMPS OFF	N		----
LOW LEVEL ALARM	O		

**DUPLEX LIFT STATION
DIMENSIONS AND ELEVATIONS TABLE**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-12-3**

OCTOBER, 2015



NOTES:

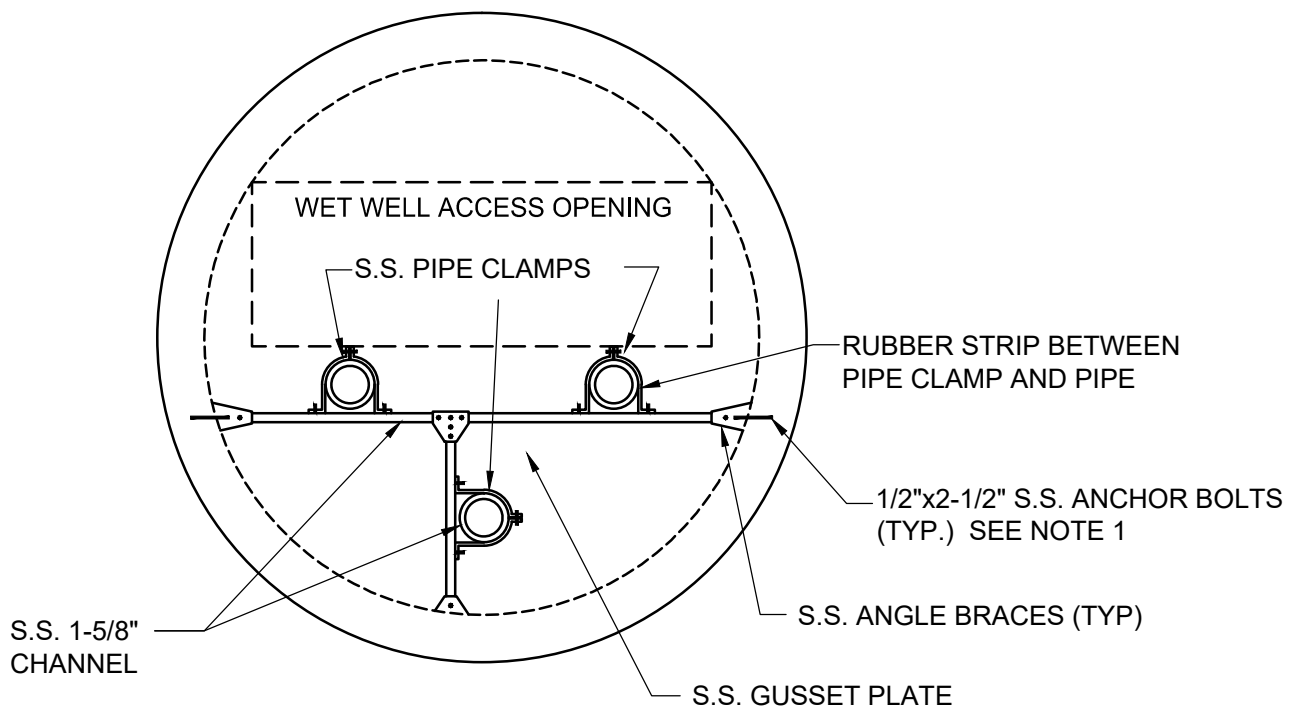
1. HANG FROM STANDARD LIFT STATION RACK

TYPICAL FLOAT TYPE LEVEL SWITCH INSTALLATION

**FIGURE
WW-12-4**

POLK COUNTY UTILITIES, FLORIDA

SEPTEMBER, 2019



NOTE:

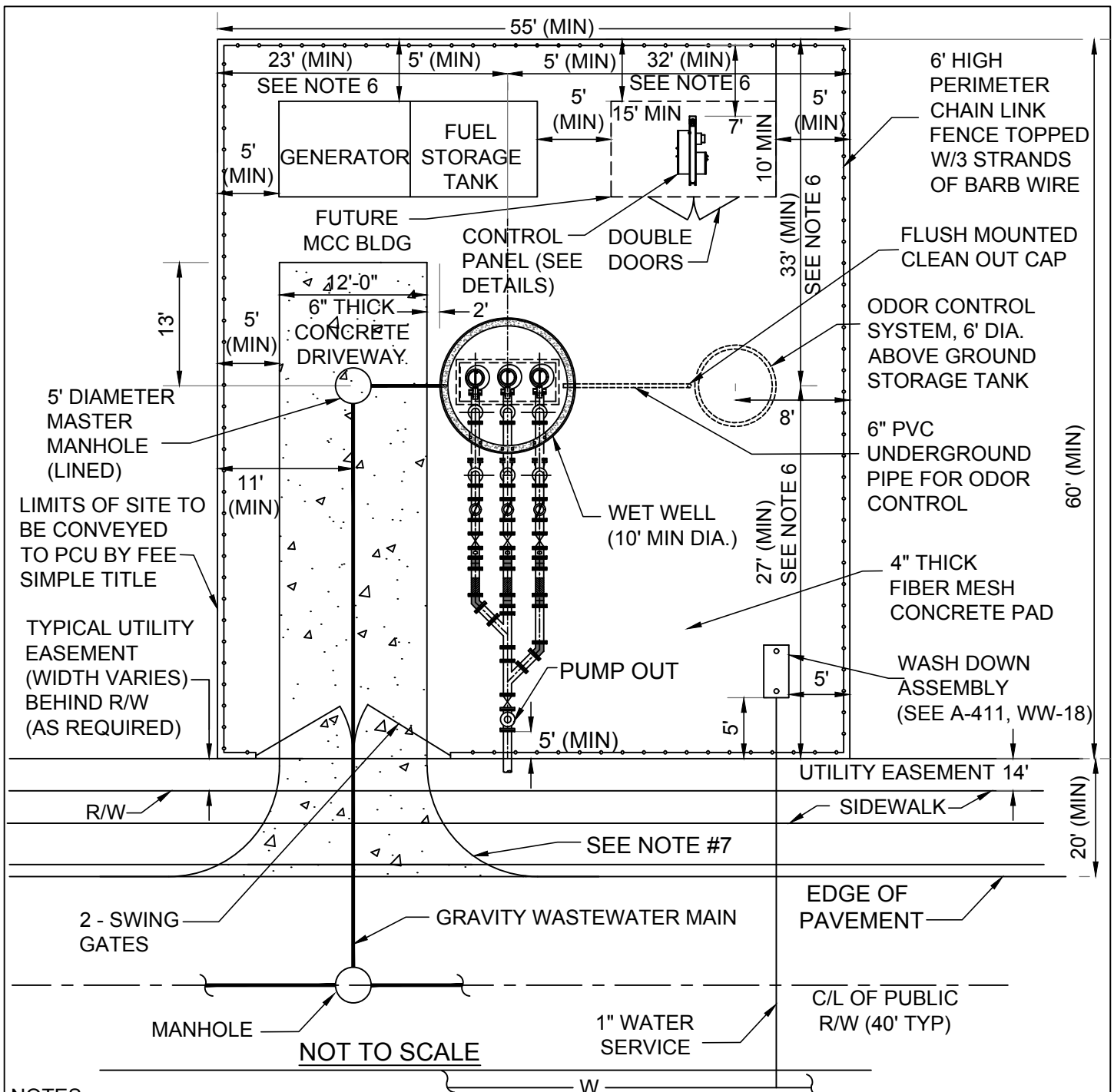
1. BOND ANCHOR BOLTS USING HIGH STRENGTH ANCHORING EPOXY FOR CONCRETE.

**TYPICAL LIFT STATION
HDPE PIPE BRACING**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-12-5**

OCTOBER, 2015



NOTES:

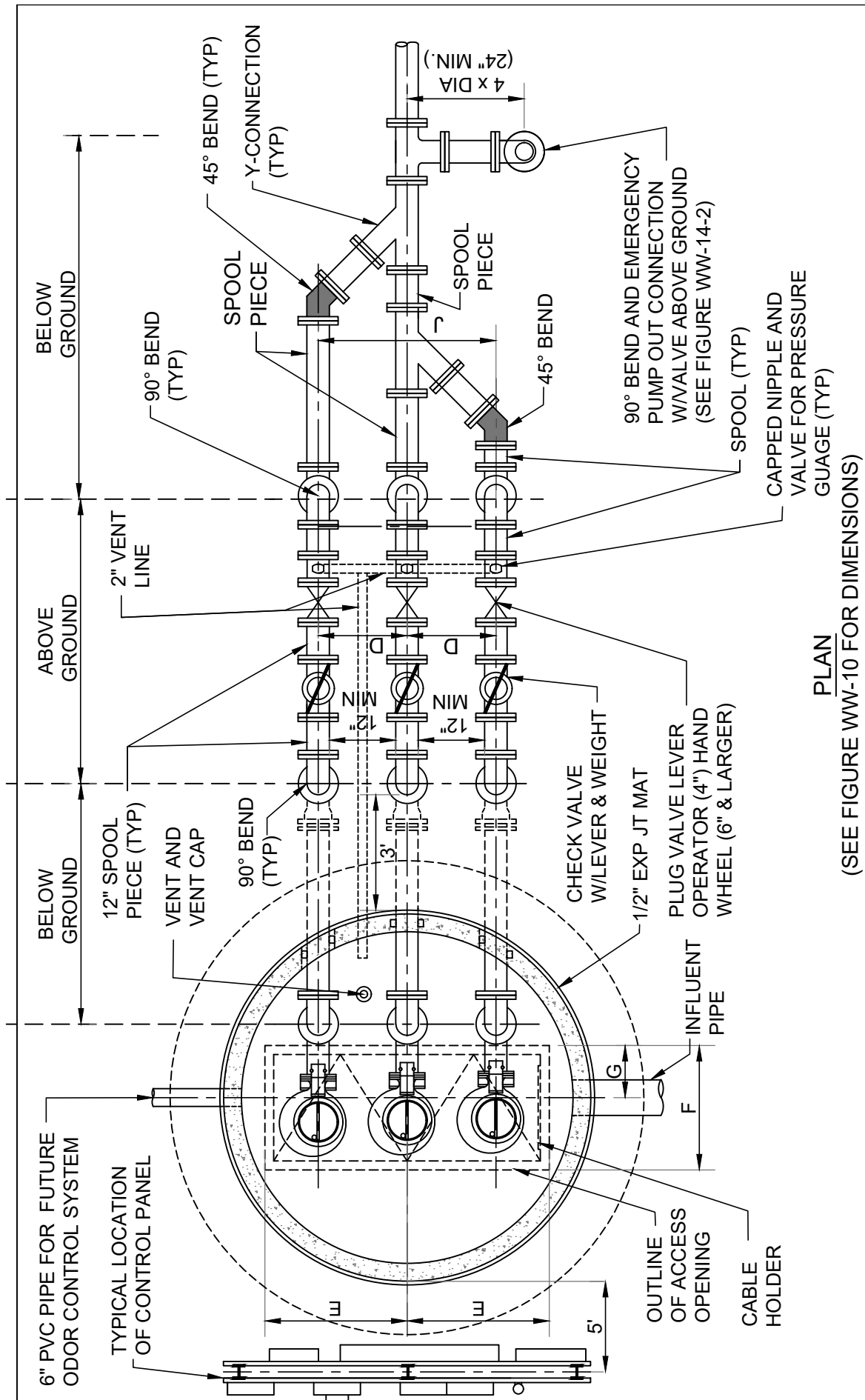
1. WET WELL OPENINGS SHALL BE PROVIDED WITH FALL PREVENTION DEVICES AS SPECIFIED IN THE "APPROVED MATERIALS CHECK LIST".
2. FENCING MAY BE REPLACED WITH OPTIONAL CONCRETE MASONRY WALL (SEE FIGURE WW-17-1 + 2)
3. SLOPE OF STATION PAD AND DRIVEWAY SHALL BE 1/8" PER 1' DOWN SLOPE (1.0%), NO LESS OR MORE, FROM CENTER OF WET WELL TO PERIMETER OF STATION.
4. ENGINEER SHALL PROVIDE A SCALED (1" = 20' MIN) SITE SPECIFIC DETAIL.
5. MINIMUM DISTANCE BETWEEN FENCE AND ALL INSTALLED EQUIPMENT SHALL BE 5.0'.
6. THIS DIMENSION SHALL INCREASE 1.0' FOR EACH FOOT OF ADDITIONAL WET WELL DEPTH OVER 15'.
7. USE OF 25' RADIUS DRIVEWAY AT ROADWAY SHALL BE PROVIDED.
8. MINIMUM DRIVEWAY LENGTH FROM LIFT STATION'S GATES TO THE ADJACENT ROADWAY'S EDGE OF PAVEMENT OR BACK OF CURB SHALL BE 20' ALONG LOW TRAFFIC VOLUME TWO LANE RESIDENTIAL ROADWAYS. DRIVEWAY LENGTH ALONG ALL OTHER ROADWAYS SHALL NOT BE LESS THAN 45'.
9. GRADE CHANGES SHALL BE DESIGNED IN ACCORDANCE WITH FDOT DESIGN MANUAL 214, FIGURE 214.4.2/3: COMMERCIAL WITH A MAXIMUM GRADE OF 10% AND A MAXIMUM GRADE CHANGE OF 14%.

**TRIPLEX LIFT STATION (TYPICAL)
SITE PLAN**

**FIGURE
WW-13**

POLK COUNTY UTILITIES, FLORIDA

SEPTEMBER, 2019



PLAN
(SEE FIGURE WW-10 FOR DIMENSIONS)

NOTES :

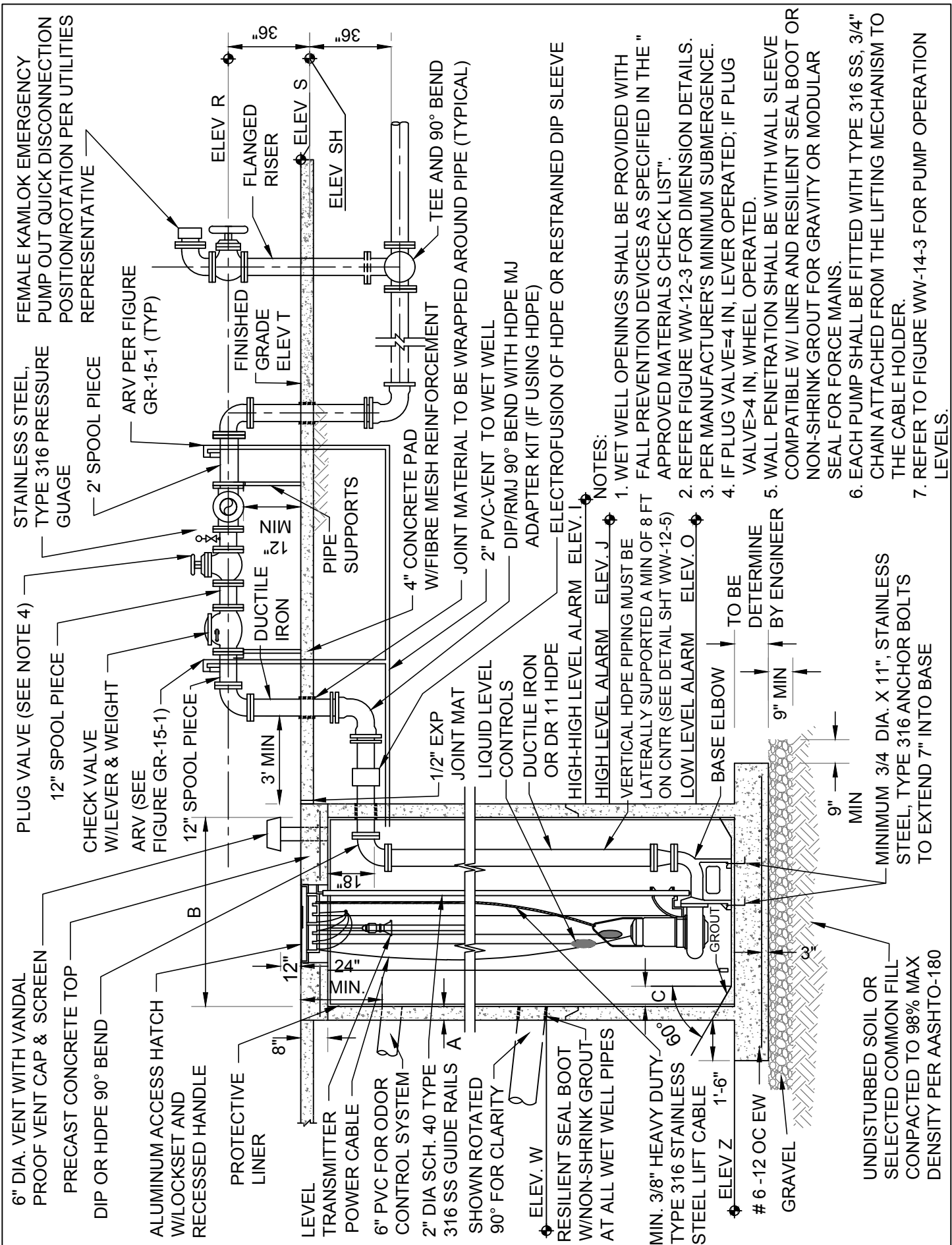
1. WET WELL OPENINGS SHALL BE PROVIDED WITH FALL PREVENTION DEVICES AS SPECIFIED IN THE " APPROVED MATERIALS CHECK LIST".
2. PROVIDE SUFFICIENT CLEARANCE BETWEEN PARALLEL PIPES TO REMOVE CHECK VALVE ARMS WITHOUT REMOVING VALVE.
3. BACKFILL UNDER AND WITHIN 10' OF WET WELL CENTER SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO 95% MAX DENSITY PER AASHTO T-180, DENSITY TEST RESULTS SHALL BE PROVIDED TO INSPECTOR PRIOR TO PLACEMENT OF SLAB.
4. HATCH DOOR HINGES FOR WET WELL ACCESS ARE TO BE LOCATED ON OPPOSITE SIDE FROM GUIDERAILS.

**TRIPLEX LIFT STATION
PLAN VIEW**

POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-14-1**

JUNE, 2022



6" DIA. VENT WITH VANDAL PROOF VENT CAP & SCREEN
 PRECAST CONCRETE TOP
 DIP OR HDPE 90° BEND
 ALUMINUM ACCESS HATCH W/LOCKSET AND RECESSED HANDLE
 PROTECTIVE LINER
 LEVEL
 TRANSMITTER
 POWER CABLE
 6" PVC FOR ODOR CONTROL SYSTEM
 2" DIA SCH. 40 TYPE 316 SS GUIDE RAILS A
 SHOWN ROTATED 90° FOR CLARITY
 ELEV. W
 RESILIENT SEAL BOOT W/NON-SHRINK GROUT AT ALL WET WELL PIPES
 PLUG VALVE (SEE NOTE 4)
 12" SPOOL PIECE
 CHECK VALVE W/LEVER & WEIGHT
 ARV (SEE FIGURE GR-15-1)
 12" SPOOL PIECE
 3" MIN
 6" DIA. VENT WITH VANDAL PROOF VENT CAP & SCREEN
 PRECAST CONCRETE TOP
 DIP OR HDPE 90° BEND
 ALUMINUM ACCESS HATCH W/LOCKSET AND RECESSED HANDLE
 PROTECTIVE LINER
 LEVEL
 TRANSMITTER
 POWER CABLE
 6" PVC FOR ODOR CONTROL SYSTEM
 2" DIA SCH. 40 TYPE 316 SS GUIDE RAILS A
 SHOWN ROTATED 90° FOR CLARITY
 ELEV. W
 RESILIENT SEAL BOOT W/NON-SHRINK GROUT AT ALL WET WELL PIPES

STAINLESS STEEL, TYPE 316 PRESSURE GAUGE
 2" SPOOL PIECE
 ARV PER FIGURE GR-15-1 (TYP)
 FINISHED GRADE ELEV T
 FLANGED RISER
 ELEV R
 ELEV S
 ELEV SH
 TEE AND 90° BEND
 JOINT MATERIAL TO BE WRAPPED AROUND PIPE (TYPICAL)

PIPE SUPPORTS
 4" CONCRETE PAD W/FIBRE MESH REINFORCEMENT
 JOINT MATERIAL TO BE WRAPPED AROUND PIPE (TYPICAL)
 2" PVC-VENT TO WET WELL
 DIP/RMJ 90° BEND WITH HDPE MJ ADAPTER KIT (IF USING HDPE)
 ELECTROFUSION OF HDPE OR RESTRAINED DIP SLEEVE
 HIGH-HIGH LEVEL ALARM ELEV. I
 HIGH LEVEL ALARM ELEV. J
 VERTICAL HDPE PIPING MUST BE LATERALLY SUPPORTED A MIN OF 8 FT ON CNTR (SEE DETAIL SHT WW-12-5)
 LOW LEVEL ALARM ELEV. O
 TO BE DETERMINE BY ENGINEER
 9" MIN
 9" MIN
 MINIMUM 3/4 DIA. X 11", STAINLESS STEEL, TYPE 316 ANCHOR BOLTS TO EXTEND 7" INTO BASE
 UNDISTURBED SOIL OR SELECTED COMMON FILL COMPACTED TO 98% MAX DENSITY PER AASHTO-180

1/2" EXP JOINT MAT
 LIQUID LEVEL CONTROLS
 DUCTILE IRON OR DR 11 HDPE
 BASE ELBOW
 # 6-12 OC EW
 GRAVEL
 9" MIN
 9" MIN

NOTES:
 1. WET WELL OPENINGS SHALL BE PROVIDED WITH FALL PREVENTION DEVICES AS SPECIFIED IN THE "APPROVED MATERIALS CHECK LIST".
 2. REFER FIGURE WW-12-3 FOR DIMENSION DETAILS.
 3. PER MANUFACTURER'S MINIMUM SUBMERGENCE.
 4. IF PLUG VALVE=4 IN, LEVER OPERATED; IF PLUG VALVE>4 IN, WHEEL OPERATED.
 5. WALL PENETRATION SHALL BE WITH WALL SLEEVE COMPATIBLE W/ LINER AND RESILIENT SEAL BOOT OR NON-SHRINK GROUT FOR GRAVITY OR MODULAR SEAL FOR FORCE MAINS.
 6. EACH PUMP SHALL BE FITTED WITH TYPE 316 SS, 3/4" CHAIN ATTACHED FROM THE LIFTING MECHANISM TO THE CABLE HOLDER.
 7. REFER TO FIGURE WW-14-3 FOR PUMP OPERATION LEVELS.

6" DIA. VENT WITH VANDAL PROOF VENT CAP & SCREEN
 PRECAST CONCRETE TOP
 DIP OR HDPE 90° BEND
 ALUMINUM ACCESS HATCH W/LOCKSET AND RECESSED HANDLE
 PROTECTIVE LINER
 LEVEL
 TRANSMITTER
 POWER CABLE
 6" PVC FOR ODOR CONTROL SYSTEM
 2" DIA SCH. 40 TYPE 316 SS GUIDE RAILS A
 SHOWN ROTATED 90° FOR CLARITY
 ELEV. W
 RESILIENT SEAL BOOT W/NON-SHRINK GROUT AT ALL WET WELL PIPES

MIN. 3/8" HEAVY DUTY TYPE 316 STAINLESS STEEL LIFT CABLE
 1'-6"
 ELEV Z
 # 6-12 OC EW
 GRAVEL
 9" MIN
 9" MIN
 MINIMUM 3/4 DIA. X 11", STAINLESS STEEL, TYPE 316 ANCHOR BOLTS TO EXTEND 7" INTO BASE
 UNDISTURBED SOIL OR SELECTED COMMON FILL COMPACTED TO 98% MAX DENSITY PER AASHTO-180

TRIPLEX LIFT STATION (ABOVE GROUND PIPING)
SECTION VIEW
FIGURE WW-14-2
SEPTEMBER, 2019
POLK COUNTY UTILITIES, FLORIDA

DESCRIPTION	SYMBOLS	DIMENSIONS	ELEVATIONS
THICKNESS OF WALL 8" (MIN)	A		----
DIAMETER OF WET WELL 10' (MIN)	B		----
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	----
C/L TO C/L OF PUMPS	D	SEE NOTE 1	----
LENGTH OF PUMP ACCESS	E	SEE NOTE 1	----
WIDTH OF PUMP ACCESS	F	SEE NOTE 1	----
BASE ELBOW TO EDGE OF PIT	G	SEE NOTE 1	----
CENTERLINE OF HEADER PIPE	R	----	
TOP OF WELL	S	----	
FINISH GRADE	T	----	
INVERT OF GRAVITY PIPE	P	----	
FLOOR OF WET WELL	Z	----	
SEASONAL HIGH WATER ELEVATION (SEE NOTE 3)	SH	----	

NOTE :

1. THESE DIMENSIONS SHALL BE SET AS PER PUMP MANUFACTURERS REQUIREMENTS.
2. TOP OF PUMP STATION SHALL BE NO LOWER THAN THE 25 YEAR 24 HOUR FLOOD ELEVATION. THE BOTTOM OF STATION CONTROL AND ELECTRICAL BOXES SHALL BE NO LOWER THAN THE 100 YEAR 24 HOUR FLOOD ELEVATION.
3. SEASONAL HIGH GROUND WATER ELEVATION (SH) SHALL BE CONSIDERED THE SAME AS THE TOP OF WET WELL ELEVATION.

DESCRIPTION	SYMBOL	TRANSMITTER ELEVATION	FLOAT ELEVATION
VALVE HIGH-HIGH LEVEL ALARM	I		
HIGH LEVEL ALARM	J		
LAG-LAG PUMP ALARM	L-1		----
LAG PUMP ON	L-2		----
LEAD PUMP ON	M		----
BOTH PUMPS OFF	N		----
LOW LEVEL ALARM	O		

**TRIPLEX LIFT STATION
DIMENSIONS AND ELEVATIONS TABLE**

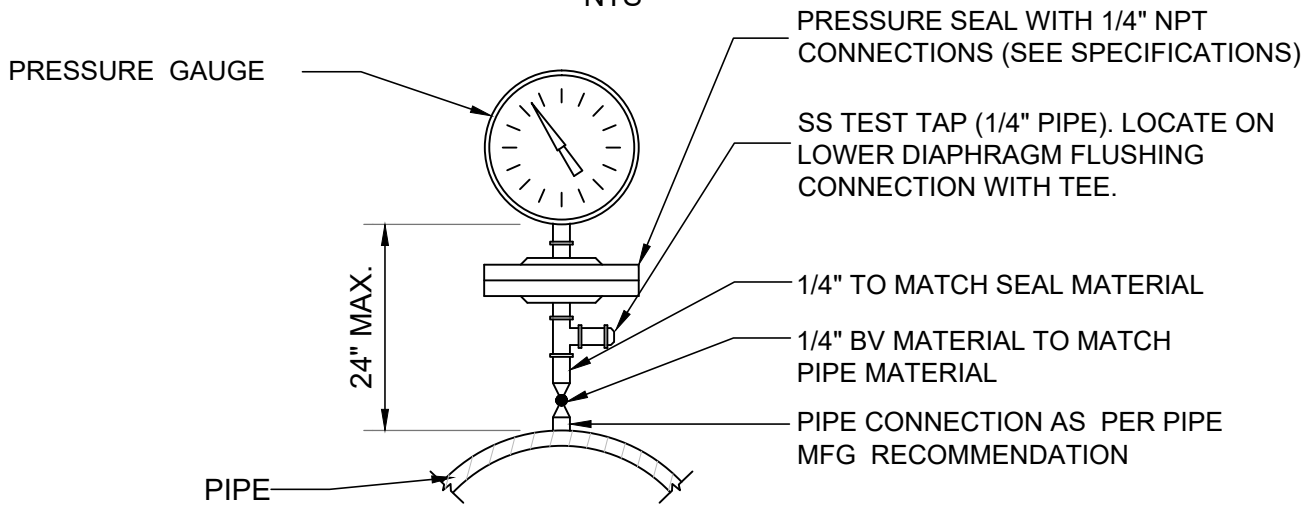
POLK COUNTY UTILITIES, FLORIDA

**FIGURE
WW-14-3**

OCTOBER, 2015

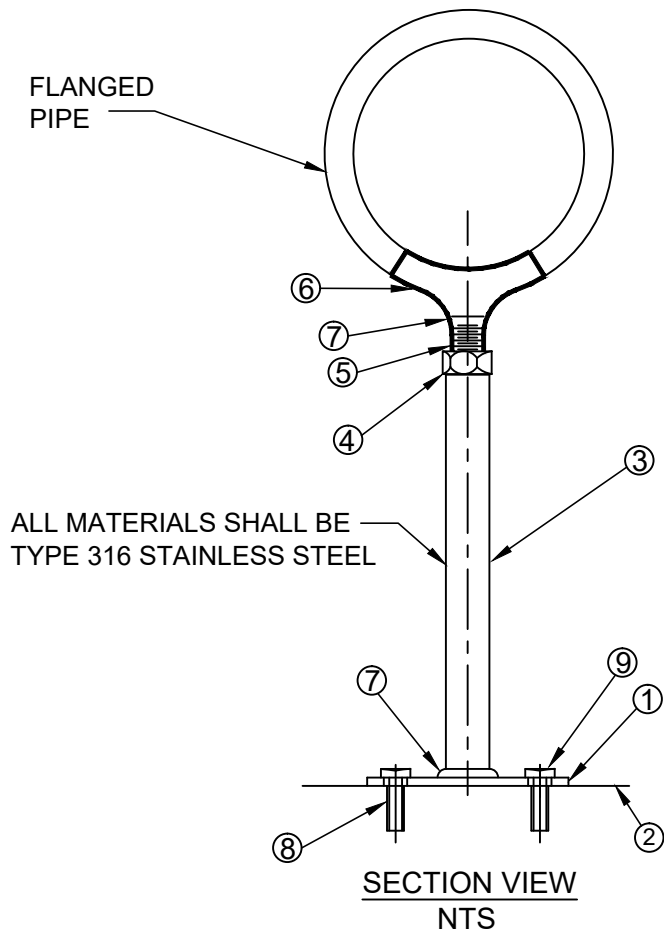
GAUGE/DIAPHRAGM ASSEMBLY

NTS



FLANGE PIPE SUPPORT DETAIL

NTS



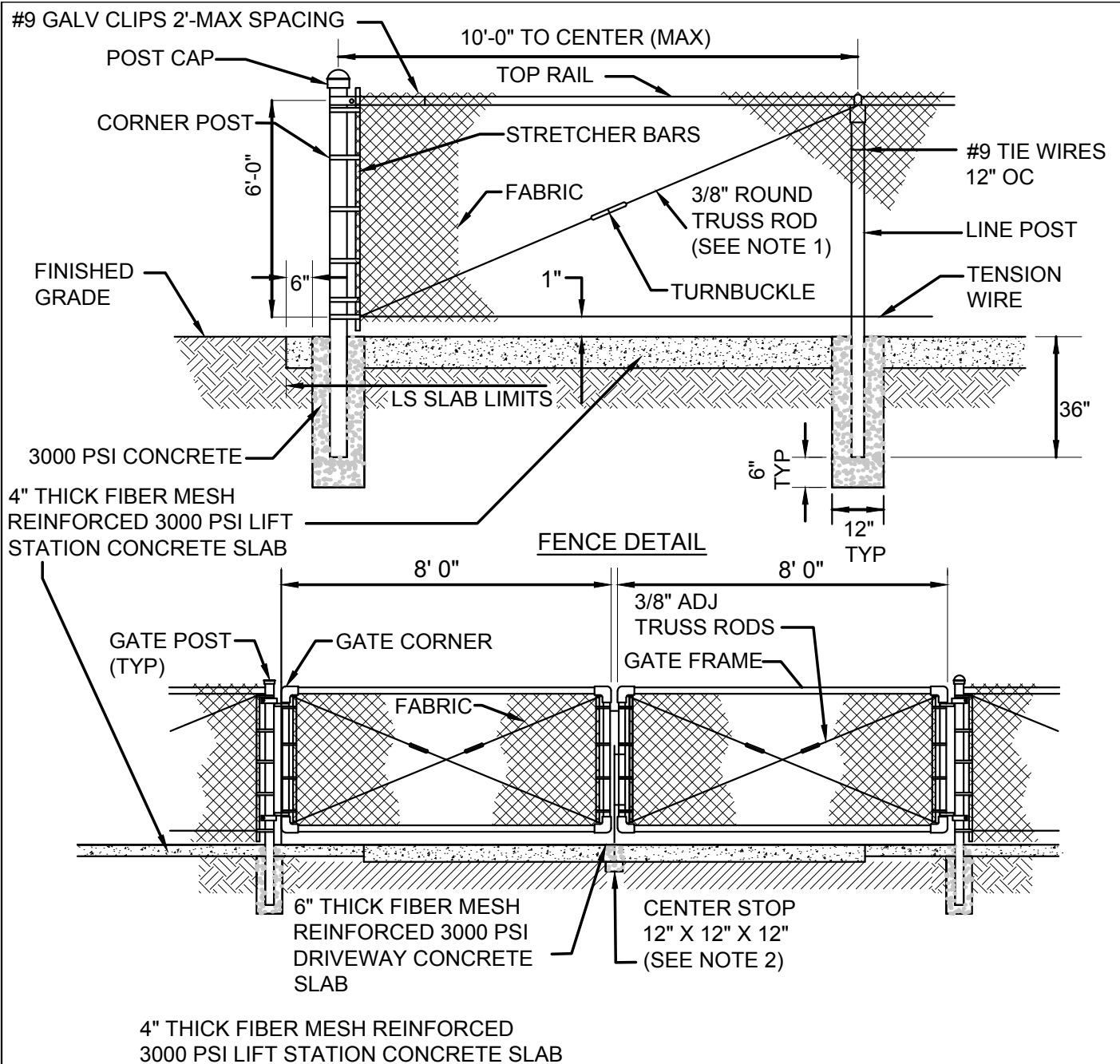
LEGEND

- 1. BASE
- 2. CONCRETE PAD
- 3. SUPPORT COLUMN
- 4. HEIGHT ADJUSTMENT NUT
- 5. SUPPORT SHAFT - THREADED
- 6. MANUFACTURED PIPE SUPPORT CRADLE
- 7. WELD
- 8. ANCHOR (4-TYP)
- 9. LAG BOLT (4-TYP)

SECTION VIEW
NTS

**PIPE SUPPORT AND GAUGE / DIAPHRAGM ASSEMBLY
(TYPICAL)**

**FIGURE
WW-15**



DOUBLE SWING GATE DETAIL

NOTES:

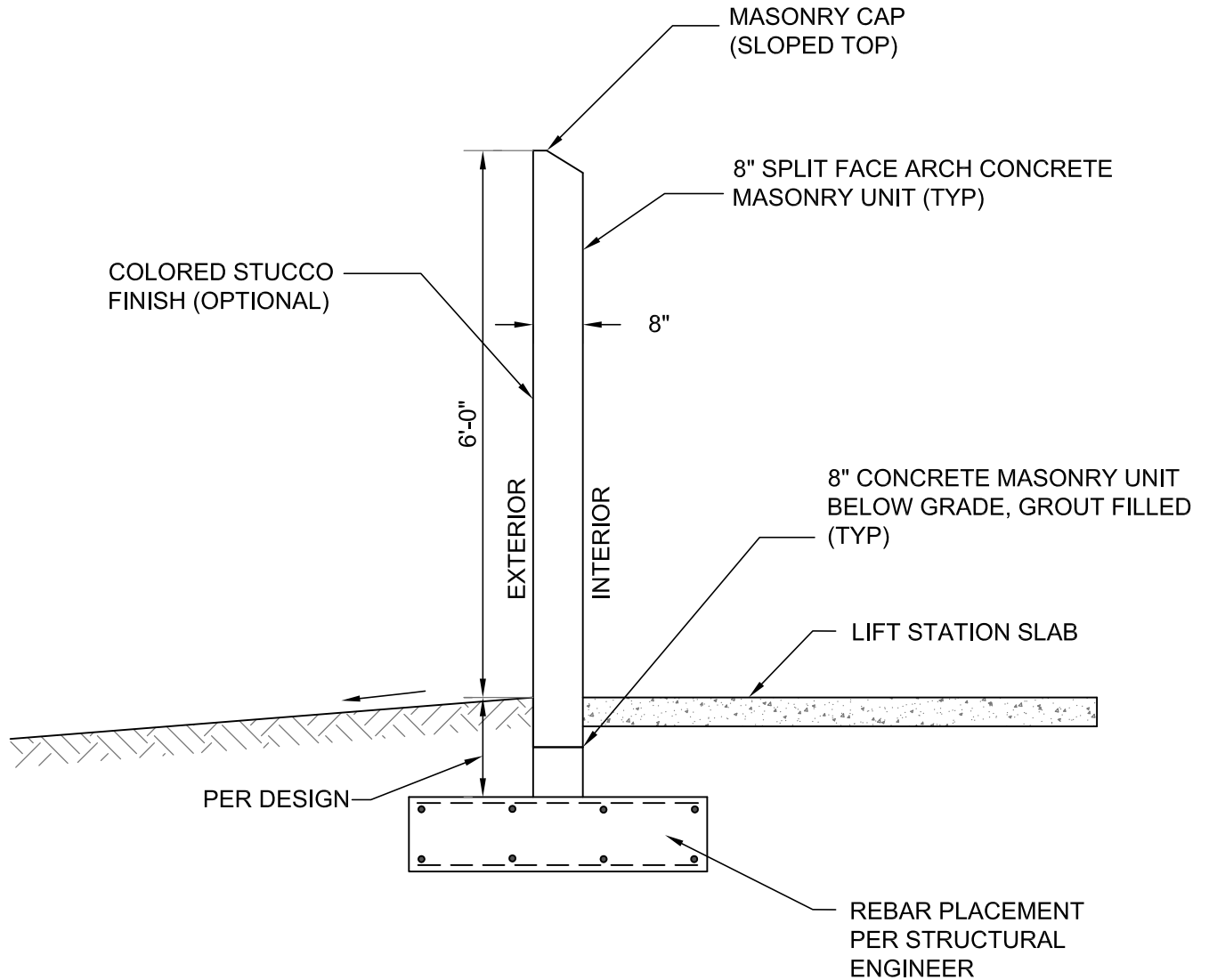
1. TRUSS RODS ARE REQUIRED FOR EACH GATE SECTION AND THE FIRST SPAN ON EACH SIDE OF A GATE AND EACH SIDE OF A CORNER POST ONLY.
2. GATE SHALL BE CAPABLE OF BEING LOCKED SECURELY WITH MINIMUM SPACE BETWEEN GATES.
3. FENCING SHALL BE BLACK, FACTORY APPLIED VINYL CLAD.
4. THREE STRANDS OF BARBED WIRE SHALL BE INSTALLED ON TOP ONLY IF APPROVED BY PCU. 2' FENCE AND GATE POST CAP EXTENSION SHALL BE INCORPORATED INTO FENCE AND/OR GATE DESIGN ACCORDINGLY. BARBED WIRE SHALL BE INSTALLED VERTICALLY AT GATE.
5. MINIMUM 15' COMPLETELY CLEAR OPENING REQUIRED TO ACCOMMODATE HEAVY EQUIPMENT AND/OR EMERGENCY VEHICLES.

CHAIN LINK FENCE (TYPICAL)

**FIGURE
WW-16**

POLK COUNTY UTILITIES, FLORIDA

JULY, 2019



SECTION VIEW

NOTES:

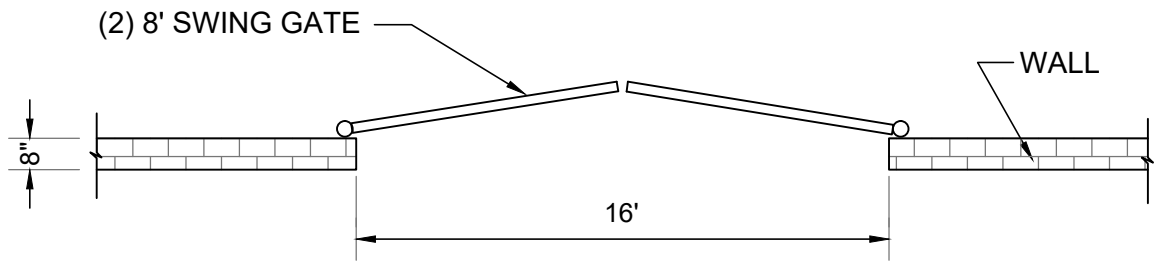
- ENGINEER TO PROVIDE SIGNED AND SEALED STRUCTURAL WALL DESIGN. WALL PERMIT REQUIRED BY THE POLK COUNTY BUILDING DEPARTMENT.

**LIFT STATION WALL (TYPICAL)
SECTION VIEW**

POLK COUNTY UTILITIES, FLORIDA

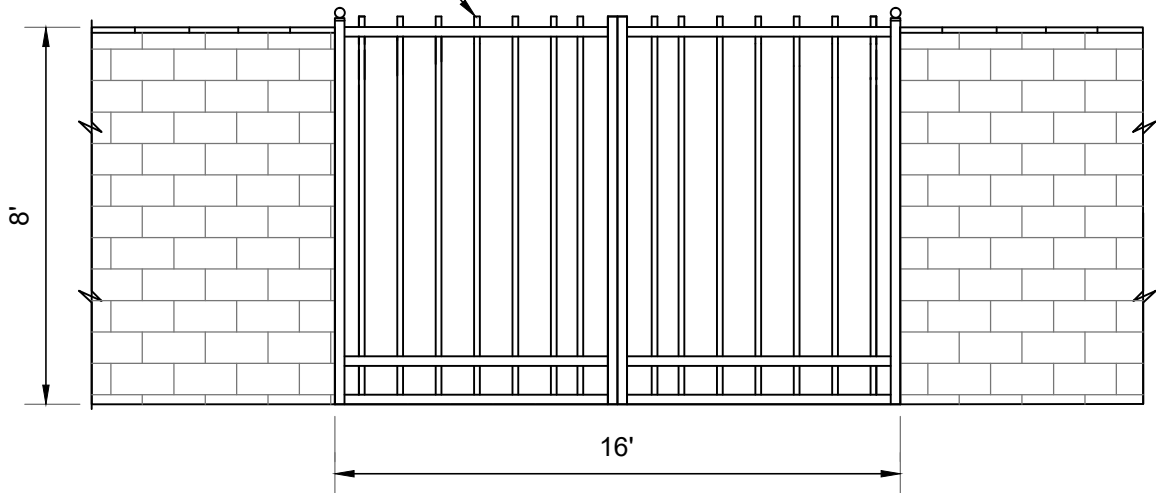
**FIGURE
WW-17-1**

OCTOBER, 2013



PLAN VIEW

BLACK ANODIZED ALUMINUM
ARCH SWING GATES



GATE ELEVATION

NOTE:

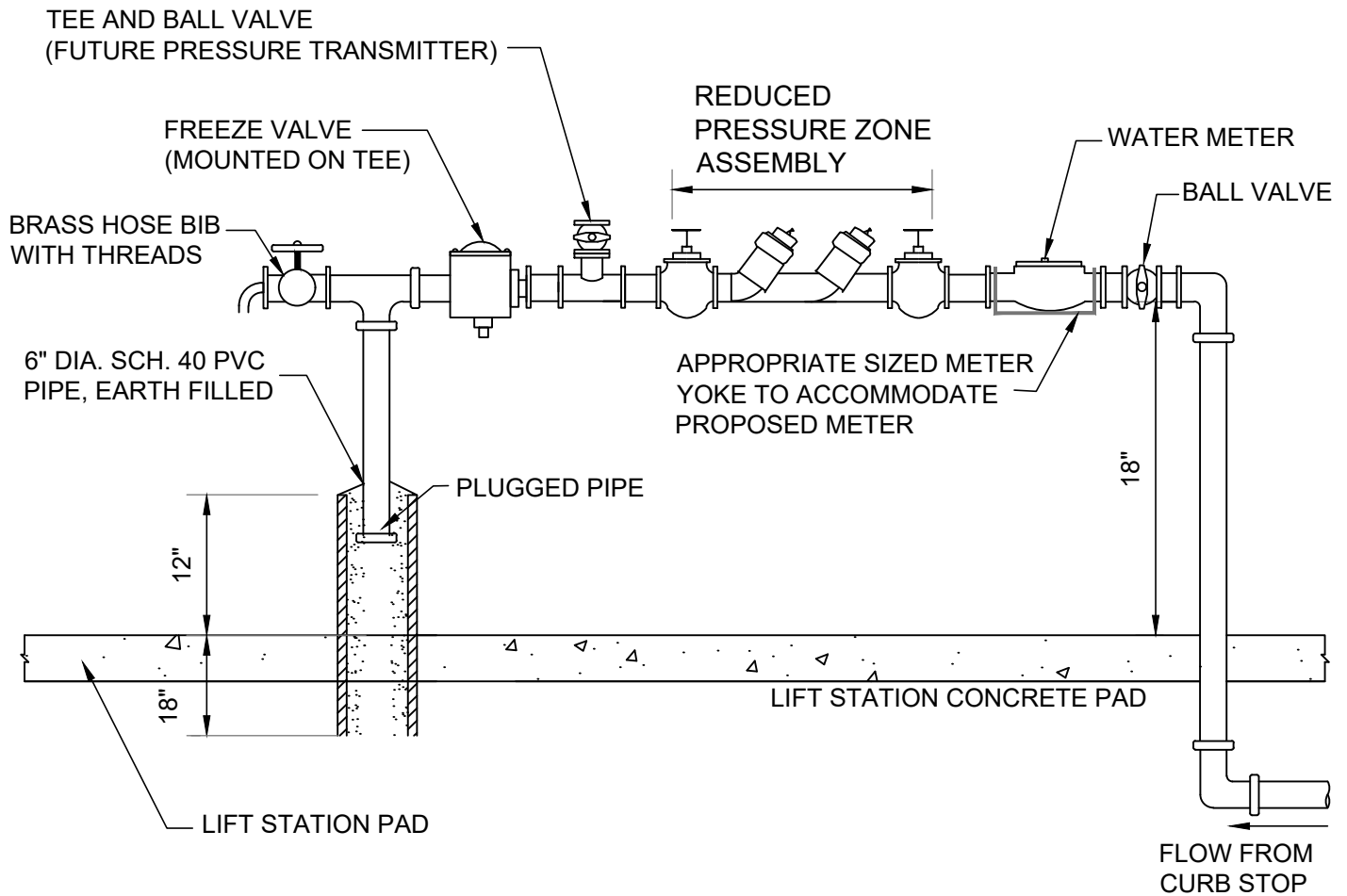
1. A ROLLER TYPE GATE MAY BE SUBSTITUTED TOR SWING GATES AS APPROVED OR REQUESTED BY PCU.

CANTILEVER SWING GATE (TYPICAL)

**FIGURE
WW-17-2**

POLK COUNTY UTILITIES, FLORIDA

DECEMBER, 2010



NOTES:

1. ALL ABOVE GROUND PIPING AND APPURTENANCES SHALL BE 3/4" SCH 40 BRASS PIPE.
2. AN APPROVED REDUCED PRESSURE ZONE ASSEMBLY SHALL BE SELECTED IN ACCORDANCE WITH PCU'S " APPROVED CROSS CONNECTION CONTROL ASSEMBLY LIST"
3. UNDERGROUND PIPING SHALL CONFORM TO POTABLE WATER SERVICE LATERAL SPECIFICATIONS FOR PE PIPE.
4. ALL ABOVE GRADE PIPING SHALL RECEIVE TWO COATS OF BLUE (RGB: 0, 204, 255) EPOXY PAINT.
5. METER SHALL BE FURNISHED AND INSTALLED BY PCU.
6. THE CONTRACTOR SHALL FURNISH AND INSTALL ENTIRE ASSEMBLY, INCLUDING METER YOKE.

**LIFT STATION WASH DOWN ASSEMBLY
(TYPICAL)**

**FIGURE
WW-18**

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	FIGURE WW-19
POLK COUNTY UTILITIES, FLORIDA	DECEMBER, 2010

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**FIGURE
WW-21**

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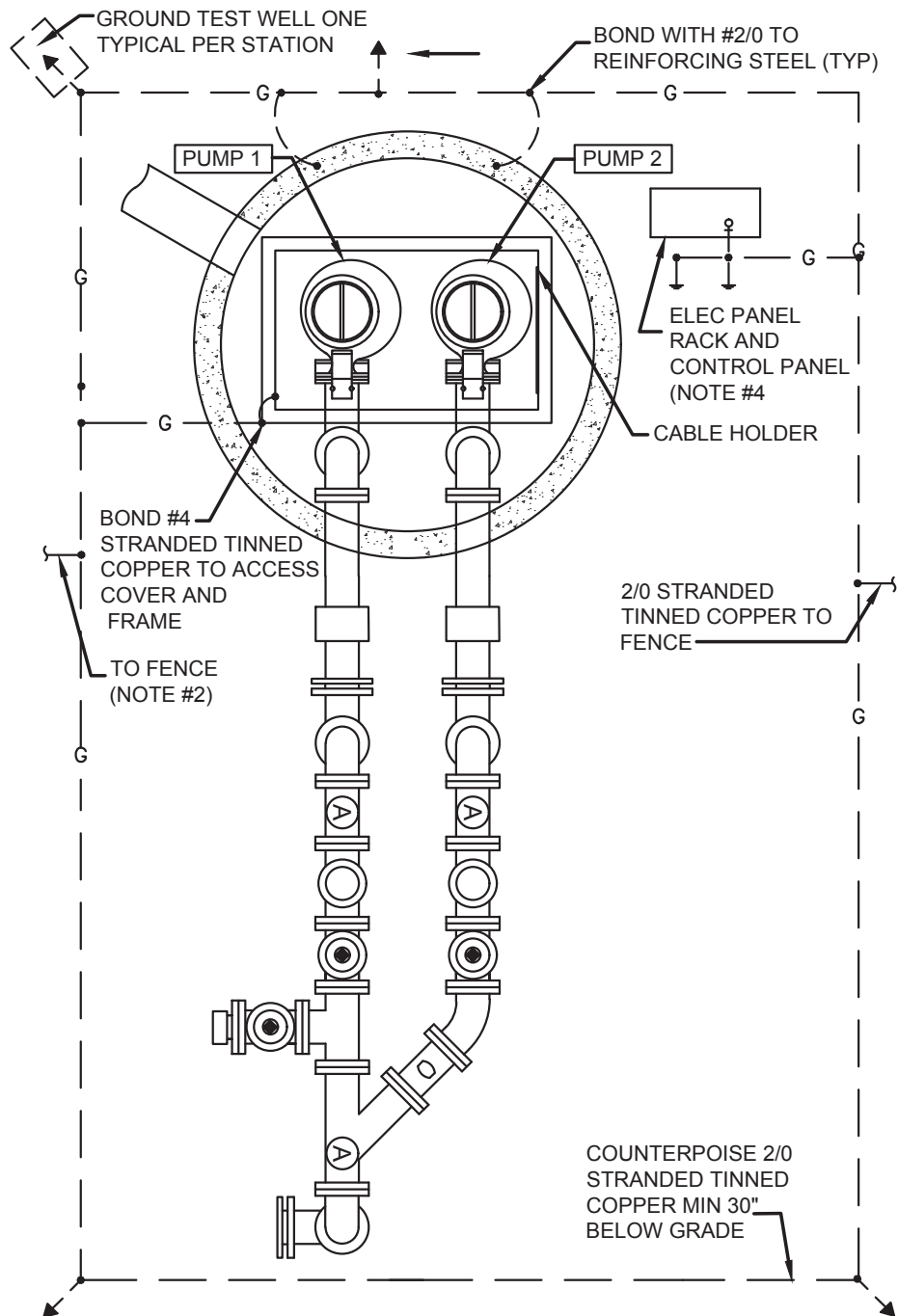
**FIGURE
WW-23**

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**FIGURE
WW-24**

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**FIGURE
WW-25**

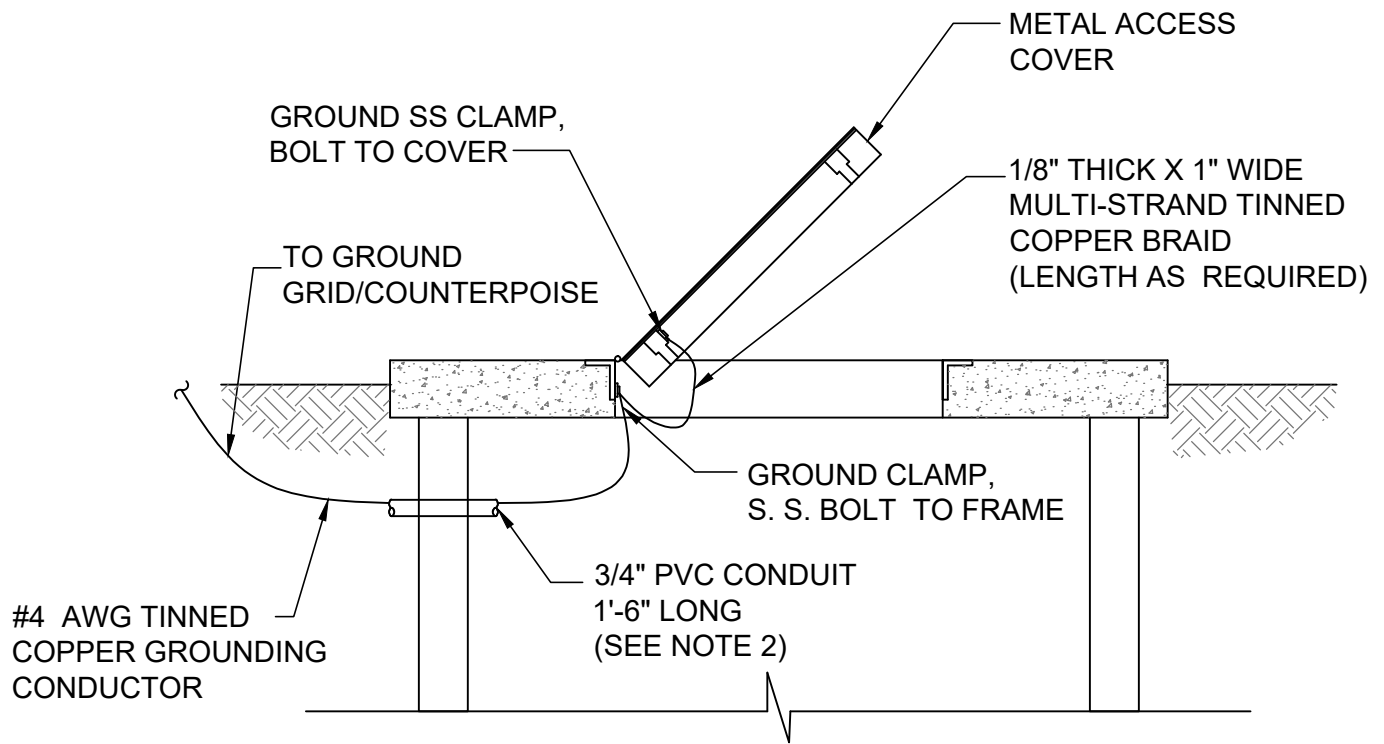


NOTES:

1. DETAIL IS GENERIC. SPECIFIC LOCATIONS OF EQUIPMENT MAY VARY.
2. TIE TO FENCE, MINIMUM 2 LOCATIONS. NOT REQUIRED WHERE BLOCK WALL OR WOOD FENCE IS INSTALLED.
3. PROVIDE EXOTHERMIC WELDS FOR ALL BELOW GRADE AND STRUCTURAL STEEL CONNECTIONS UNLESS NOTED OTHERWISE.
4. PROVIDE MINIMUM # 6 AWG XHHW INSULATED COPPER GROUND WIRE IN CONDUIT TO ALL ENCLOSURE BUS BARS FOR ENCLOSED GROUNDING. BOND MINIMU #2 TINNED COPPER GROUND WIRE TO ALL ELECTRICAL SUPPORT RACKS.

LIFT STATION GROUNDING (TYPICAL)

**FIGURE
WW-26-1**

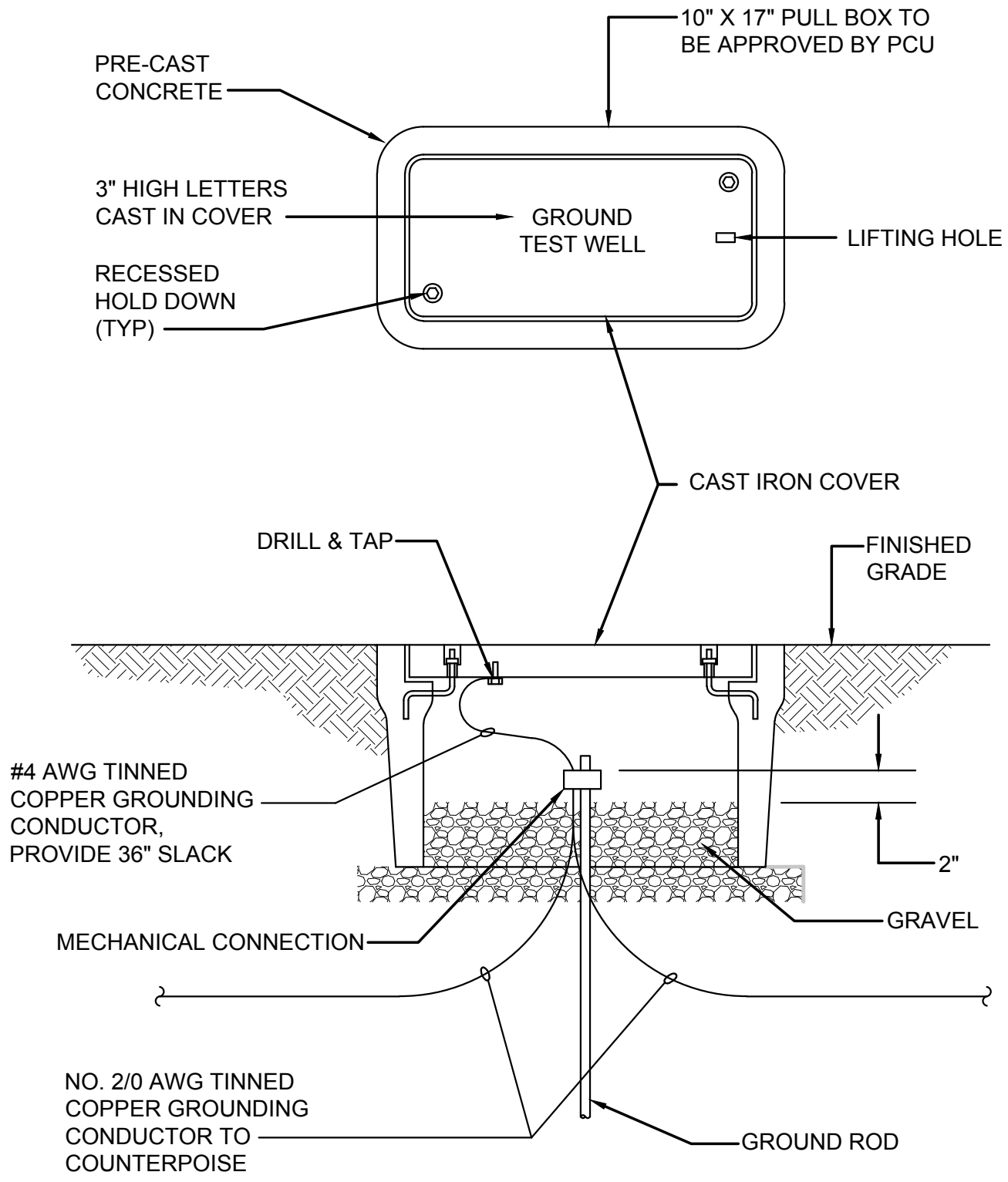


NOTES:

1. ON COVERS WITH MULTIPLE DOORS, PROVIDE BRAID FROM FRAME TO DOOR ON EACH DOOR PROVIDE WATERPROOF CAULKING WHERE GROUND CABLE AND CONDUIT PENETRATES WETWELL TO PREVENT INTRUSION OF GROUNDWATER AND ESCAPE OF VAPORS FROM WETWELL.
2. INSTALL GROUND WIRE SO THAT IT WILL NOT CROSS CLEAR OPENING OR PREVENT OR IMPEDE NORMAL METHOD OF REMOVING FLOATS OR PUMPS.

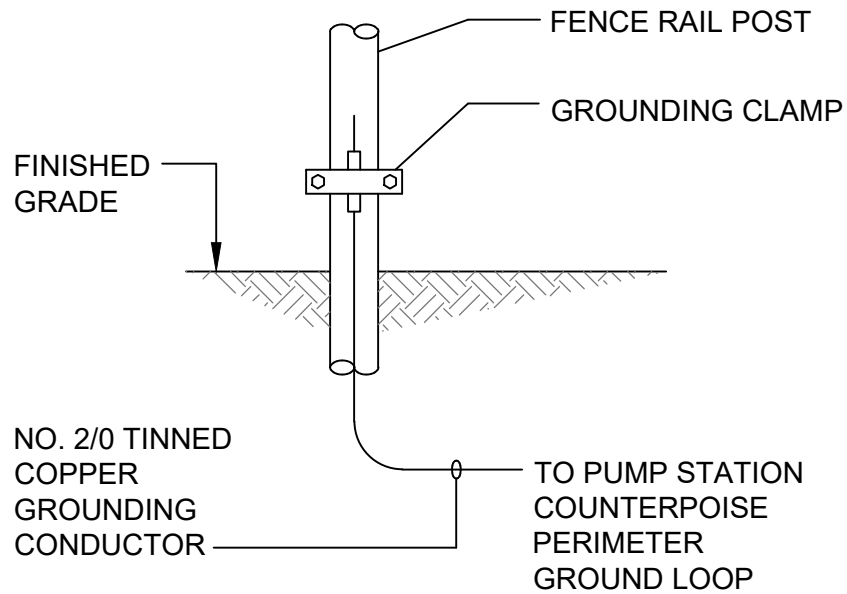
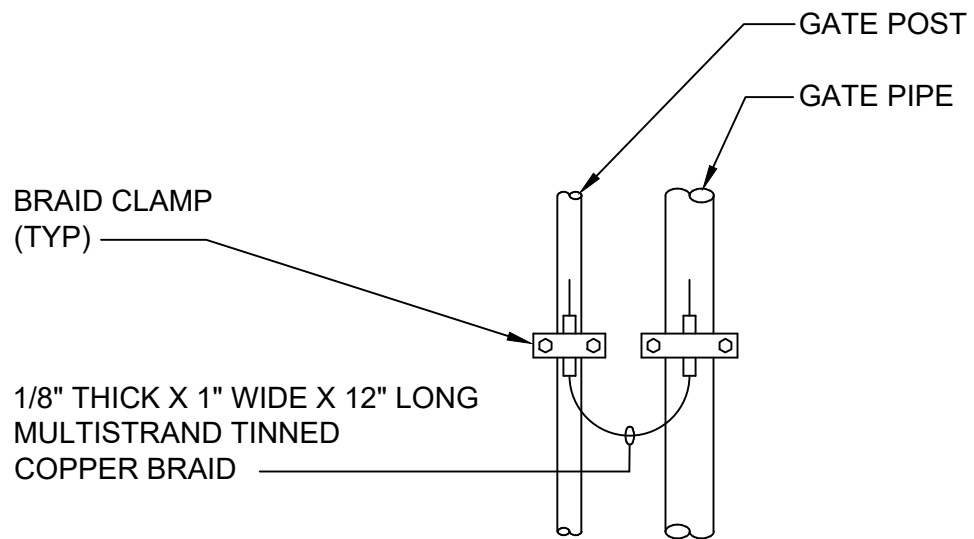
LIFT STATION COVER AND DOOR GROUNDING (TYPICAL)

**FIGURE
WW-26-2**



LIFT STATION GROUND TEST WELL

**FIGURE
WW-26-3**



LIFT STATION FENCE POST GROUNDING (TYPICAL)

**FIGURE
WW-26-4**

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