

<b>ISSUED FOR PERMITTING</b>		
DESIGNED BY: TS	ISSUE DATE: 12/07/19	
DRAWN BY: TS	JOB NO.: 19-099	
CHECKED BY: TS	APPROVED BY: LB	
NO.	DATE	REVISION DESCRIPTION
1	03/03/20	PER HILLSBOROUGH COUNTY COMMENTS
2	03/27/20	PER FOOT COMMENTS
3	05/07/20	PER HILLSBOROUGH COUNTY COMMENTS

**3 WORKING DAYS BEFORE YOU DIG**  
**BEFORE YOU DIG**  
**CALL SUNSHINE STATE**  
**ONE CALL OF FLORIDA**  
**1-800-432-4770**

FOR THE LOCATION OF UNDERGROUND UTILITIES IN AN APPROXIMATE 48 INCH DIAMETER HOLE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES WITHIN THE WORK AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE OCCURRED BY THE CONTRACTOR FAILURE TO EXACTLY LOCATE AND PREPARE ANY AND ALL UNDERGROUND UTILITIES.



Laurie S. Burcaw, PE #46064

**BEACON**  
**CIVIL ENGINEERING**

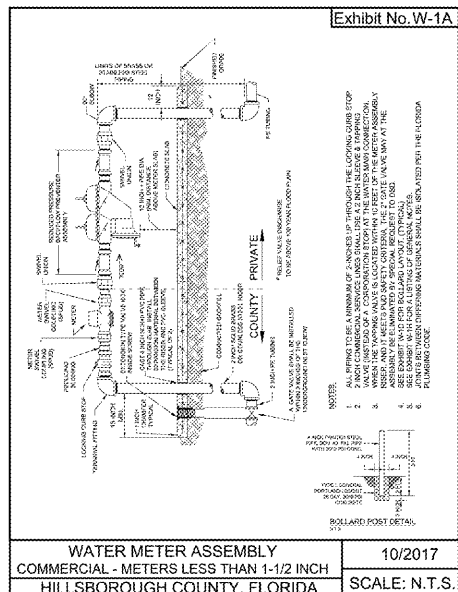
LAND DEVELOPMENT ENGINEERS  
 8345 GUNN HIGHWAY  
 TAMPA, FL 33626

**TAKE-5**  
**OIL**  
**CHANGE**  
 OF  
**SEFFNER**

11909 E DR MARTIN  
 LUTHER KING JR  
 BLVD, SEFFNER, FL.

SHEET NAME:  
**UTILITY DETAILS**

SHEET NUMBER:  
**C-11**



**WATER METER ASSEMBLY**  
**COMMERCIAL - METERS LESS THAN 1-1/2 INCH**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.

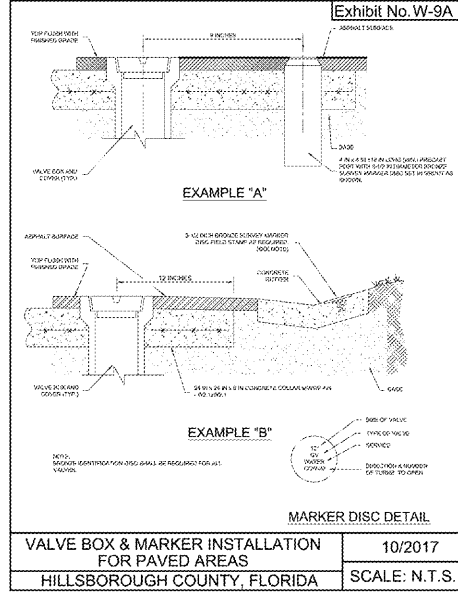
**GENERAL NOTES:**

- A MASTER METER ASSEMBLY SHALL BE DIRECTLY ACCESSIBLE BY BOOM TRUCK OFF A COUNTY ROAD, OR BY AN INTERIOR ROAD THAT IS NOT BLOCKED BY A WALL OR GATE. THE ACCESS ROAD SHALL BE 12 FT WIDE (MIN) AND PAVED (CONCRETE OR ASPHALT).
- ALL ABOVE GROUND PIPES AND FITTINGS SHALL BE CLASS 83 CLIP, FOR 4 INCH AND LARGER PIPES.
- CERTIFICATION OF PROPER OPERATION SHALL BE REQUIRED FROM A CERTIFIED BACKFLOW TESTER PRIOR TO THE WATER MAIN ACCEPTANCE BY THE HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT.
- ALL BACKFLOW ASSEMBLY OR DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH AND SHALL MEET THE REQUIREMENTS FOUND IN CHAPTER 791 OF THE HILLSBOROUGH COUNTY CODE OF ORDINANCES, PART 16, PUBLIC UTILITIES.
- THE PROPER OPERATION, MAINTENANCE, AND TESTING OF THE BACKFLOW PREVENTION ASSEMBLY SHALL BE IN ACCORDANCE WITH CHAPTER 121 OF THE HILLSBOROUGH COUNTY CODE OF ORDINANCES, PART 16, PUBLIC UTILITIES.
- THE 8 INCH CONCRETE SLAB SHALL BE REINFORCED WITH #4-RT-4 WELDED WIRE FABRIC AND SHALL BE TYPE I PORTLAND CEMENT WITH A MINIMUM 28-DAY STRENGTH OF 3000 PSI.
- SLAB WIDTH AND LENGTH SHALL VARY WITH ASSEMBLY. THE TOP OF SLAB SHALL BE 2 INCHES ABOVE FINISHED GROUND.
- THE METER ASSEMBLY AND RICHARDSON SHALL BE PAINTED IN ACCORDANCE WITH SPECIFICATION 3310D, PART 2.6.
- IF THE METER ASSEMBLY IS LOCATED WITHIN A TRAFFIC/VEHICLE AREA (PARKING LOT, DRIVEWAY, OR WITHIN 15 FT OF EDGE OF PAVEMENT/BACK OF CURB), METERS 10 TO 2 INCHES SHALL HAVE A MINIMUM OF 4 TRAFFIC RAILS AND PROTECTIVE POSTS, AND FOR METERS 3 INCHES & LARGER A MINIMUM OF 6 TRAFFIC RAILS ARE REQUIRED.

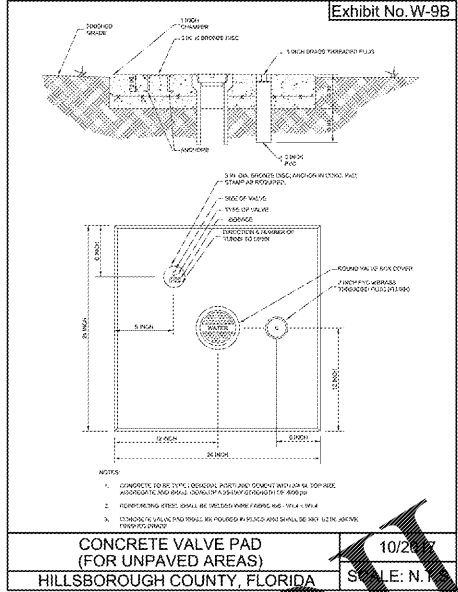
**TEMPORARY BACKFLOW ASSEMBLY NOTES:**

- THE IN-LINE VALVE IS TO REMAIN CLOSED UNTIL AFTER THE CONSTRUCTION AND ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM. NO DOWNSTREAM TIE-INS TO THE FWD WATER DISTRIBUTION SYSTEM ARE ALLOWED UNTIL AFTER FINAL ACCEPTANCE BY THE HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT (CUD) AND THE HILLSBOROUGH COUNTY DEVELOPMENT SERVICES DEPARTMENT (CSD).
- THE BACKFLOW ASSEMBLY IS TO BE REMOVED BY THE CONTRACTOR AFTER FINAL ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM BY THE HILLSBOROUGH COUNTY CUD AND HILLSBOROUGH COUNTY CSD.
- ALL CONSTRUCTION MUST MEET APPLICABLE STATE AND/OR LOCAL ROADWAY/ROADSIDE DESIGN STANDARDS INCLUDING, BUT NOT LIMITED TO, CLEAR ZONE REQUIREMENTS.

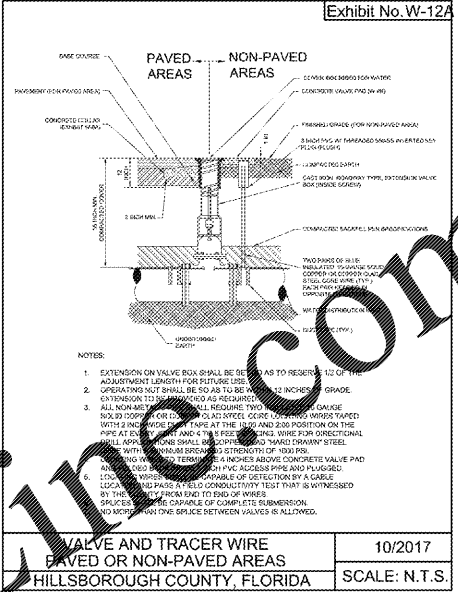
**NOTES WATER METER ASSEMBLIES**  
 HILLSBOROUGH COUNTY, FLORIDA  
 10/2017  
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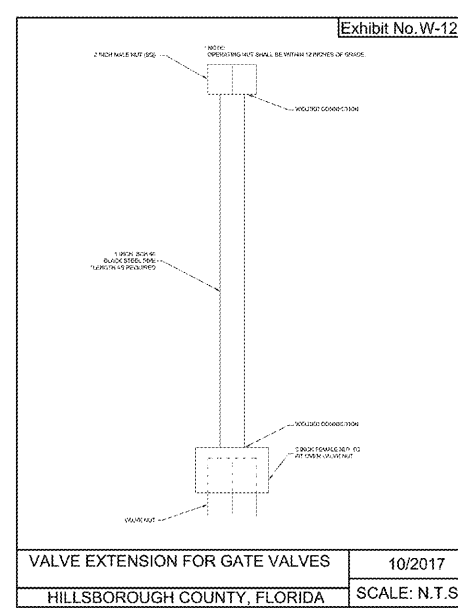
**VALVE BOX & MARKER INSTALLATION**  
**FOR PAVED AREAS**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.



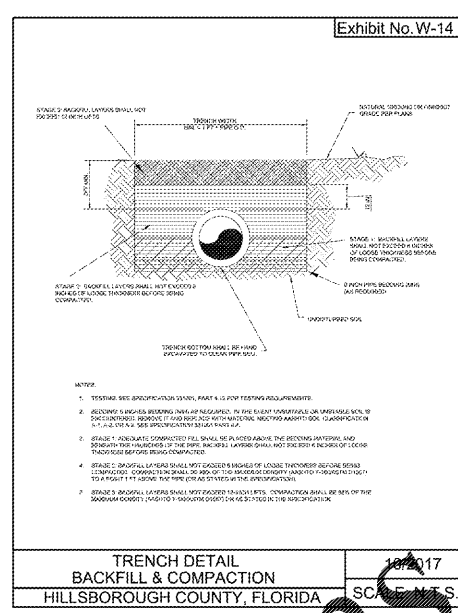
**CONCRETE VALVE PAD**  
**(FOR UNPAVED AREAS)**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.



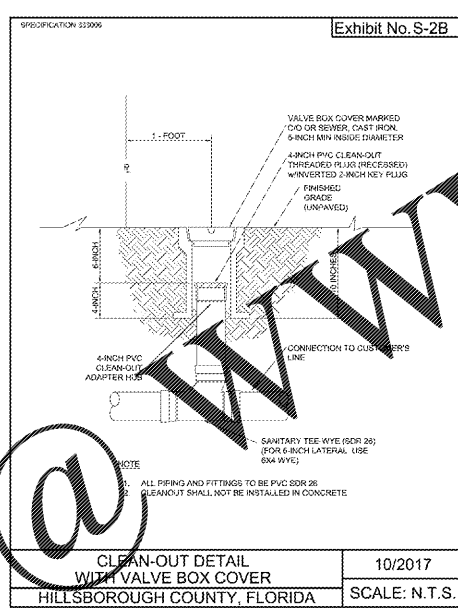
**VALVE AND TRACER WIRE**  
**PAVED OR NON-PAVED AREAS**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.



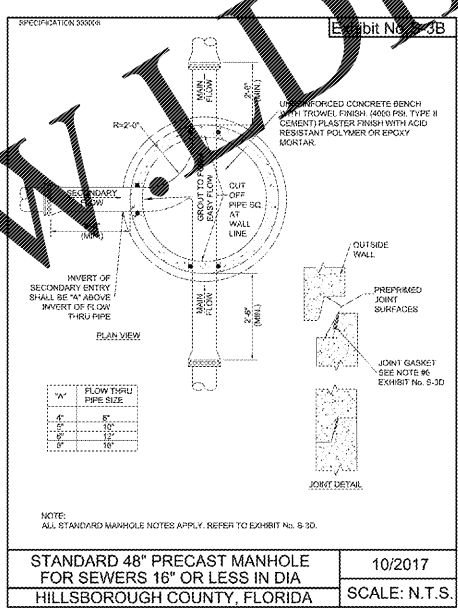
**VALVE EXTENSION FOR GATE VALVES**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.



**TRENCH DETAIL**  
**BACKFILL & COMPACTION**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.



**CLEAN-OUT DETAIL**  
**WITH VALVE BOX COVER**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.

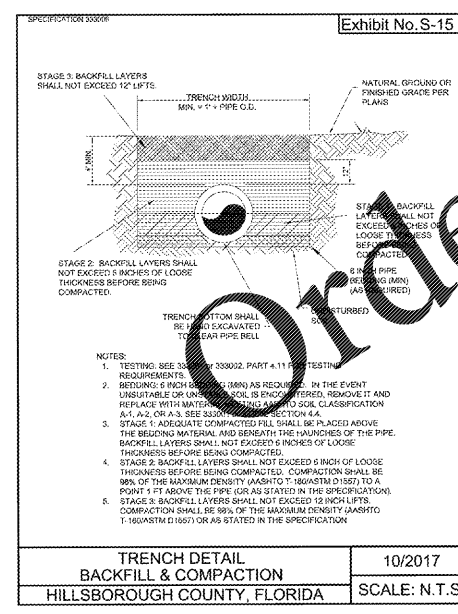


**STANDARD 48" PRECAST MANHOLE**  
**FOR SEWERS 16" OR LESS IN DIA**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.

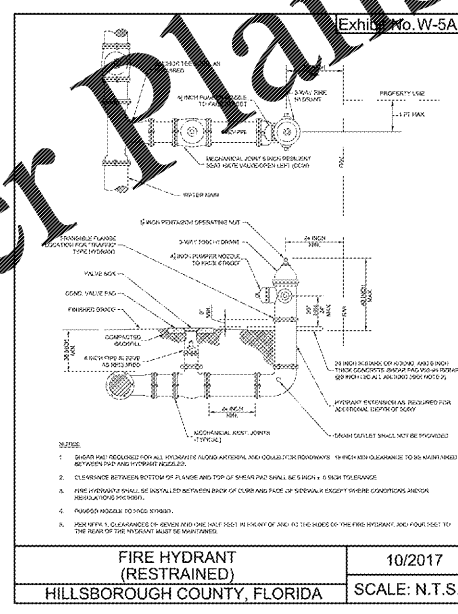
**NOTES:**

- PRECAST MANHOLE SECTIONS & BASES SHALL BE MANUFACTURED IN ACCORDANCE WITH LATEST EDITION OF ASTM C900 WITH 4000 P.S.I. TYPE II CEMENT (ASTM C150).
- CONCRETE PLACED IN MANHOLE INVERTS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. AND SHALL UTILIZE TYPE II CEMENT.
- LIFT HOLES THROUGH PRECAST STRUCTURES ARE NOT PERMITTED.
- ALL PIPE PENETRATIONS SHALL BE PRECAST OR CORE-DRILLED. THE PERIMETER OF A PENETRATION SHALL NOT BE CLOSER THAN 12 INCHES TO A BARREL SECTION JOINT.
- FLEXIBLE PIPE CONNECTORS (ASTM G282) SHALL BE USED AT ALL PIPE PENETRATIONS.
- JOINT CONTACT SURFACES SHALL BE SEALED USING A RUBBER GASKET PER THE MANUFACTURER'S RECOMMENDATION. GASKETS SHALL BE 1/2 INCH THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS.
- THE INTERIOR OF THE ADJUSTMENT SECTION (GRADE RINGS) SHALL BE PLASTERED WITH 3/4 INCH ACID RESISTANT MORTAR WHEN CONCRETE IS USED.
- THE MANHOLE COVER SHALL BE EQUIPPED WITH AN INVERT PROTECTOR AND SHALL COMPLY WITH SPECIFICATION 3330D, PART 3.3.8 THE APPROVED PRODUCTS LIST BY APP. B.
- SERVICE LATERALS SHALL NOT ENTER A MANHOLE UNLESS THE MANHOLE IS A TERMINAL MANHOLE, AND SPECIFIED ON THE PLANS. IF APPROVED, THE LATERAL MUST BE TREATED AS A MAIN SHOW ELEVATIONS, PRECAST OR CORE-DRILLED PENETRATIONS, FLOW CHANNEL CONSTRUCTION, ETC.).
- AN OUTSIDE DROP CONNECTION SHALL BE REQUIRED FOR ALL INFLUENT LINES WHICH HAVE AN INVERT 3 FEET OR MORE ABOVE THE MANHOLE INVERT.
- FOR NONSTANDARD MANHOLES, THE ENGINEER OF RECORD SHALL DESIGN ALL MANHOLE REINFORCEMENT STEEL AND JOINT DETAILS AND SHALL SUBMIT CALCULATIONS TO THE COUNTY FOR REVIEW.
- PRECAST OR CORE-DRILLED PENETRATION DIAMETERS SHALL BE PER MANUFACTURER SPECIFICATIONS OR AS FOLLOWS: 12 INCH FOR 6 INCH DIAMETER PIPE, 14 INCH TO 18 INCH FOR 10 INCH DIAMETER PIPE, 18 INCH FOR 12 INCH DIAMETER PIPE.
- MATERIALS OF CONSTRUCTION, PLACEMENT AND COMPACTION REQUIREMENTS FOR BEDDING MATERIALS SHALL BE PER COUNTY SPECIFICATIONS.
- FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT EFFLUENT INTO THE FLOW STREAM.
- PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.

**STANDARD NOTES PRECAST MANHOLES**  
 HILLSBOROUGH COUNTY, FLORIDA  
 10/2017  
 SCALE: N.T.S.



**TRENCH DETAIL**  
**BACKFILL & COMPACTION**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.



**FIRE HYDRANT**  
**(RESTRAINED)**  
**HILLSBOROUGH COUNTY, FLORIDA**  
 10/2017  
 SCALE: N.T.S.