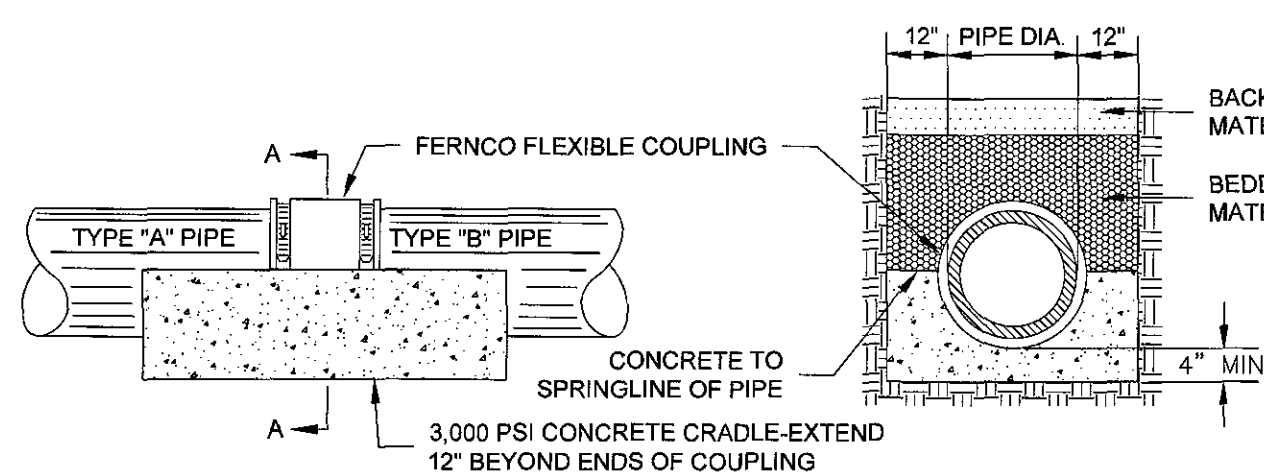


-
- SOLID GLUE CAP
- PRIVATE PROPERTY
- RIGHT OF WAY OR LIMITS OF EASEMENT
- CLEAN OUT BOX AND LID (SET TO FINISHED GRADE)
- FINISHED GRADE
- PLASTIC BODY CLEAN-OUT & CAP
- CLEAN-OUT STACK (SEE NOTES #2 & #8)
- 45° OR 22.5° BELL & SPIGOT BEND (IF NEEDED)
- 1/4" PER 1'-0" MINIMUM GRADE
- HORIZONTAL SECTION SHALL EXTEND A MINIMUM OF 5' OR AS DIRECTED BY THE PARTICIPATING UTILITY
- (SEE NOTE #5)
- 4" MINIMUM GRAVEL BEDDING #57 OR EQUIVALENT
- 45° WYE (TEE NOT ACCEPTABLE) (SEE NOTE #2)
- 45° MAX
- SEWER MAIN
- TEE, WYE, TEE/WYE OR COMBINATION OF WYE & 45° BEND FITTINGS SHALL BE SIZED AS REQUIRED
- 2'-0" MIN.
- 2'-0" MIN.
- 45° MAX
- 11.25° OR 22.5° BEND (SEE NOTE #2)
- SANITARY SEWER LATERAL FOR DEEP SEWER
- SAME AS ABOVE

SANITARY SEWER LATERAL

01/01/14



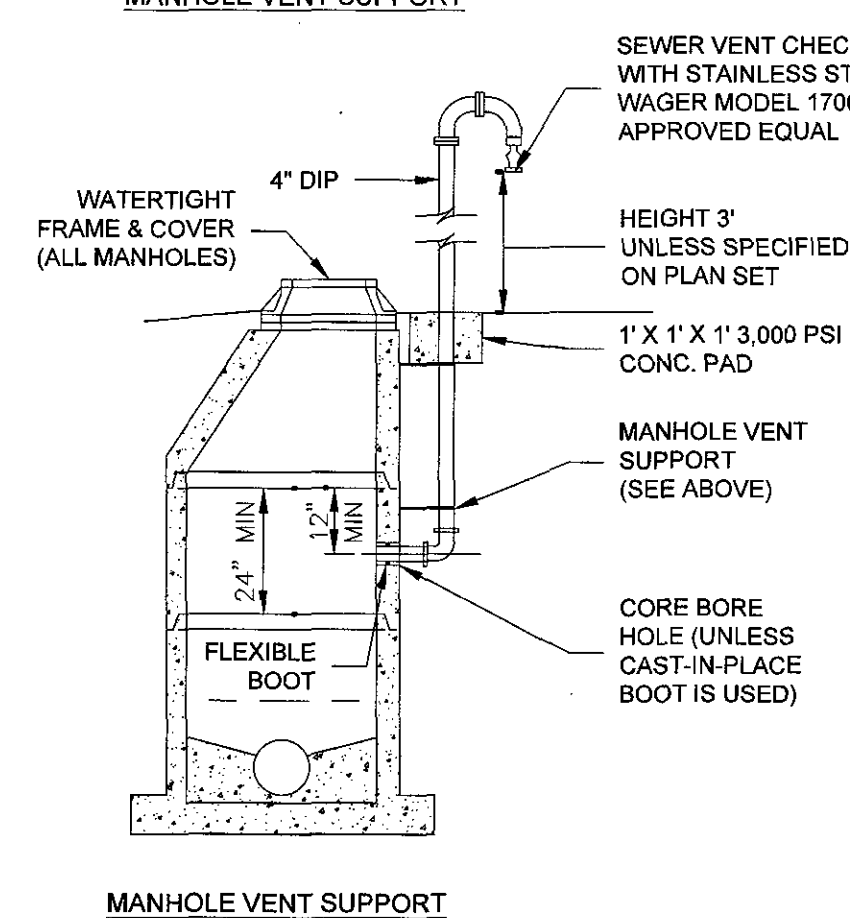
JOINING DISSIMILAR PIPE FOR USE WITH EXISTING PIPE

01/01/14

-
- 4" DIP
- SEWER VENT CHECK VALVE WITH STAINLESS STEEL SCREEN
WAGER MODEL 1700 OR APPROVED EQUAL
- HEIGHT 2" UNLESS SPECIFIED ON PLAN SET
- 9" MAX.
- SS NUTS
- 2" X 1/4" SS CLAMP
- 4" Ø VENT PIPE
- 1/2" Ø SS ALL-THREAD ROD
- THREADED ANCHOR
- NOTE:
1. ANCHOR HOLES SHALL NOT EXTEND THROUGH MANHOLE WALL.
- SIPHON BOX VENT

MANHOLE VENT - ADJACENT

01/01/1.



MANHOLE VENT - ADJACENT

01/01/1.

-
- Diagram illustrating a method for disconnecting a pipe from an existing manhole structure. The diagram shows a cross-section of the manhole and the pipe to be disconnected. Key components and dimensions are labeled:
- EXISTING MANHOLE TO REMAIN:** The upper structure of the manhole.
 - EXISTING PIPE TO MANHOLE CONNECTION TO REMAIN:** The section of pipe that stays connected to the manhole.
 - 2" MINIMUM THICKNESS:** The thickness of the remaining pipe section.
 - 20" MINIMUM:** The length of the remaining pipe section.
 - PIPE TO BE ABANDONED:** The section of pipe to be removed.
 - MECHANICAL PLUG:** A plug installed in the abandoned pipe section.
 - DISCONNECT PIPE:** The pipe section to be removed.
 - (REMOVE A MINIMUM OF TWO FEET OF EXISTING PIPE):** The section of pipe to be removed.
 - READY MIX CONCRETE 3000 PSI IN 28 DAYS:** The concrete used to fill the abandoned pipe section.
 - 20" MINIMUM:** The length of the concrete plug.
 - PIPE TO REMAIN:** The section of pipe that stays connected to the manhole.

SANITARY SEWER PIPE ABANDONMENT AT A MANHOLE

01/01/14

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SANITARY SEWER MANHOLE ABANDONMENT

01/01/1.

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- The diagrams illustrate the installation of spacers within a casing pipe. The top diagram is a side view showing the arrangement of spacers and joints. Key dimensions and components include:
- Two spacers placed at each end of casing (typ):** Indicated by arrows pointing to the end spacers.
 - Casing pipe:** The outermost pipe.
 - Restrained joints:** Joints between casing pipes.
 - 6.5' ± between spacers:** The distance between individual spacers.
 - 2' from bell end:** The distance from the bell end of the casing pipe to the first spacer.
 - Carrier pipe:** The inner pipe being transported.
 - Casing spacers shall be spaced a maximum of 1' from each side of the pipe joint:** A note indicating the maximum spacing from the joint.
 - Rubber end seal with stainless steel bands, pipeline seal & insulator inc., model "C", "R", "S" or approved equal:** The seal used at the end of the casing.
- Below the side view, a note states: *** ADDITIONAL SPACING ALLOWED AS RECOMMENDED BY PIPE MANUFACTURER.**
- The bottom diagrams show cross-sectional views of the casing pipe assembly:
- Left cross-section:** Shows the casing pipe with HDPE casing spacers placed around the carrier pipe.
 - Right cross-section:** Shows the casing pipe with a carrier pipe, casing spacers (spiders), and a polyethylene runner.

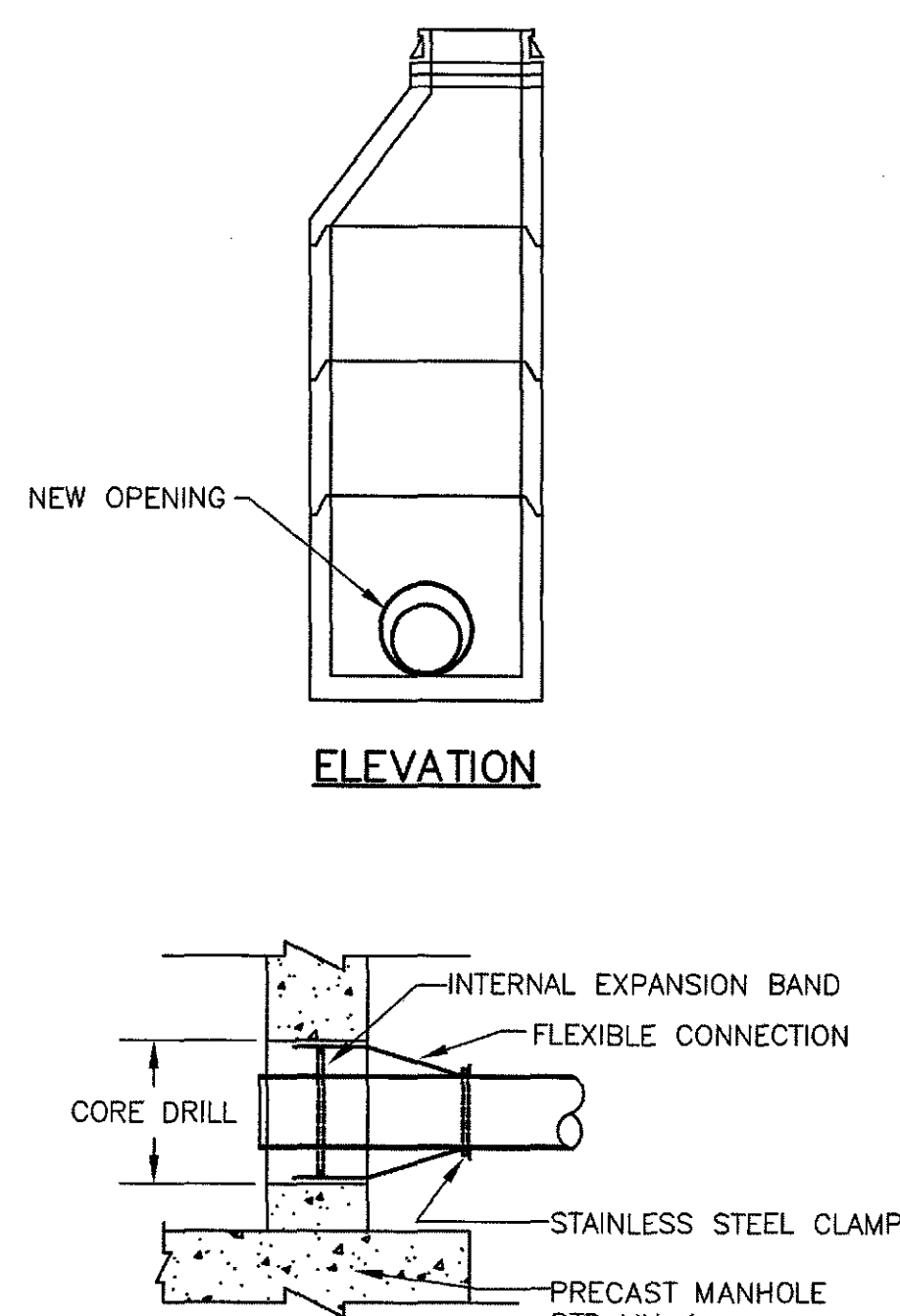
PIPE SUPPORT IN CASING PIPE

01/01/14

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- Technical drawing showing the cross-section and side elevation of a concrete pipe installation.
- Cross-Section View (Left):**
- Overall width: 9" + 1'-0"
 - Overall height: 3'-0" MIN.
 - Top concrete layer thickness: 1'-5"
 - Bottom concrete layer thickness: 1'-3"
 - Inner pipe diameter: 2'-6"
 - Reinforcement: NO. 4 REBAR
 - Material: READY MIX CONCRETE, 3,000 P.S.I. @ 28 DAYS
- Side Elevation View (Right):**
- Top concrete layer thickness: 8"
 - Bottom concrete layer thickness: 9"
 - Inner pipe diameter: 1'-0"
 - Reinforcement: NO. 4 REBAR
 - Material: READY MIX CONCRETE, 3,000 P.S.I. @ 28 DAYS
- Labels and Dimensions:**
- FINISHED GRADE
 - PIPE SIZE VARIES
 - UNDISTURBED SOIL

ANCHOR BLOCK

01/01/1.



- NOTES:**
1. CORE DRILL NEW PIPE OPENING.
 2. INSERT NEW FLEXIBLE CONNECTOR.
 3. PROVIDE RESHAPING OF INVERT IN

EXISTING MANHOLE CONNECTION DETAIL

S-19

No.	Submittal / Revision	App'd.	By	Date
1	50% SUBMITTAL		DBH	11/26/16
2	100% CLIENT SUBMITTAL		DBH	10/23/16
3	BID ISSUE		DBH	11/15/16
6	CONSTRUCTION ISSUE		DBH	03/02/17

CIVIL DETAILS

Designed By: JRM	Drawn By: GLM	Checked By: DBH
Issue Date: 10-23-17	Project No: 31237	Scale: AS NOTED