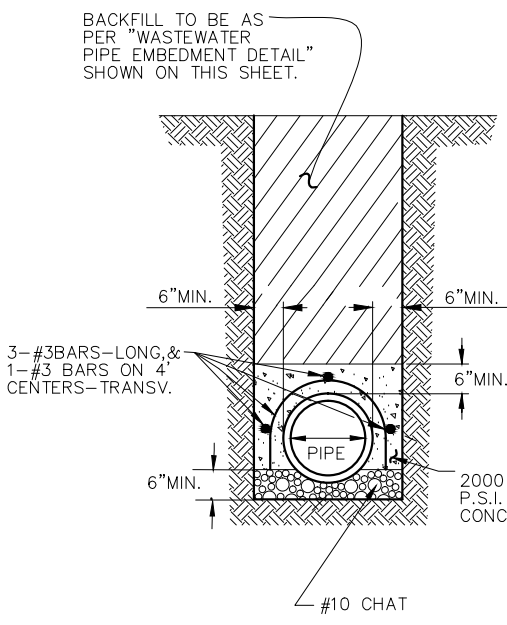


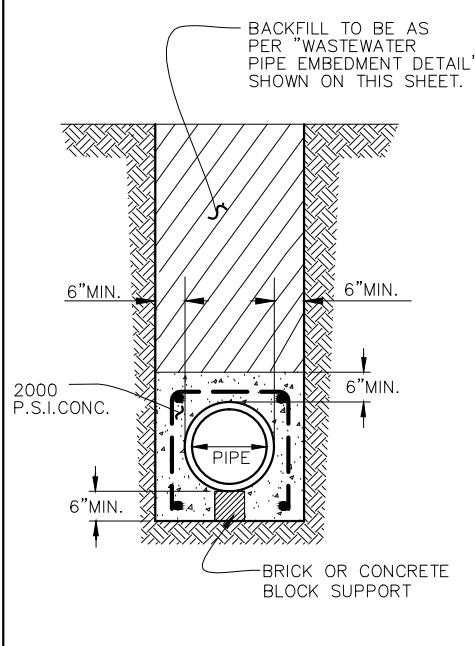
**CLAY CUT-OFF WALL NOTES:**

- CLAY CUT-OFF WALLS SHALL BE CONSTRUCTED AT 250 FOOT INTERVALS ALONG ALL WASTEWATER MAIN INSTALLATIONS BETWEEN MANHOLES
- THE CLAY CUT-OFF WALL SHALL BE PLACED AT THE MID POINT OF THE LENGTH OF THE PIPE BEING PLACED, BUT NOT AT A LOCATION WHERE A LATERAL OR SERVICE CONNECTS TO THE MAIN. THE MINIMUM CLEARING IS 10 FEET.
- MATERIAL FOR CLAY CUT-OFF WALL TO BE CLEAN MATERIAL WITH NO LUMPS LARGER THAN 3". CLAY TO HAVE P.I. OF 30 TO 40. MATERIAL TO BE PLACED IN 6" LIFTS, MOISTENED TO OPTIMUM MOISTURE CONTENT AND COMPACTED WITH HAND HELD MECHANICAL TAMPERS WITHOUT DAMAGING THE PIPE.

**CLAY CUT-OFF WALL**  
N.T.S.



**CAP DETAIL**  
N.T.S.



**ENCASEMENT DETAIL**  
N.T.S.

**SANITARY SEWER GENERAL NOTES**

**GENERAL:**

- All construction shall be in accordance with the standard specifications of the City of The Colony, which has also adopted the Fourth Edition of the "Standard Specifications for Public Works Construction - North Central Texas" herein referred to as "COG" specifications. Copies may be obtained from the North Central Texas Council of Governments, 616 Six Flags Drive, Suite 200, Arlington, Texas 76005-5888. (817) 640-3300.
- Refer to COG Division 500 specifications.

**PIPE:**

- Wastewater mains shall be Polyvinyl Chloride PVC SDR 35 for depths less than 14 feet and SDR 26 for deeper installation, unless specified and approved otherwise by the City Engineer.
- For creek crossings with a minimum cover of 5 feet to the creek flowline, the pipe shall be cement-lined ductile iron pipe with polywrap. Each joint shall be strapped to a concrete pier drilled to a depth of at least 10 feet below the flowline of the pipe.
- Embedment shall be as per the "Wastewater Pipe Embedment Detail" on this sheet.
- The minimum cover over all Wastewater mains is 4 feet, unless approved by the City Engineer. Approved mains with less than 3.5 feet of cover shall be copped as per the "Cap Detail" on this sheet.
- Clay cut-off walls shall be constructed per the details and specifications on this sheet.
- Storage: PVC wastewater pipe is allowed to be stored a maximum of six (6) months without cover. Thereafter all pipes should be covered or kept away from sunlight and to be protected from other elements.
- Casings: When PVC Wastewater pipe is installed in casing, skids must be used to prevent damage to the pipe and bell during installation. PVC pipe should not rest on the Bells. Plastic spacers such as RACI or approved equal shall be used.

**WASTEWATER SERVICE NOTES:**

- All property corners shall be staked with Iron Pins prior to the installation of any wastewater services. The locations of the wastewater service shall be staked according to the plans.
- Wastewater services to be marked with "S" stamped or cut in the curb.
- Refer to the details and notes on this sheet.

**MANHOLES:**

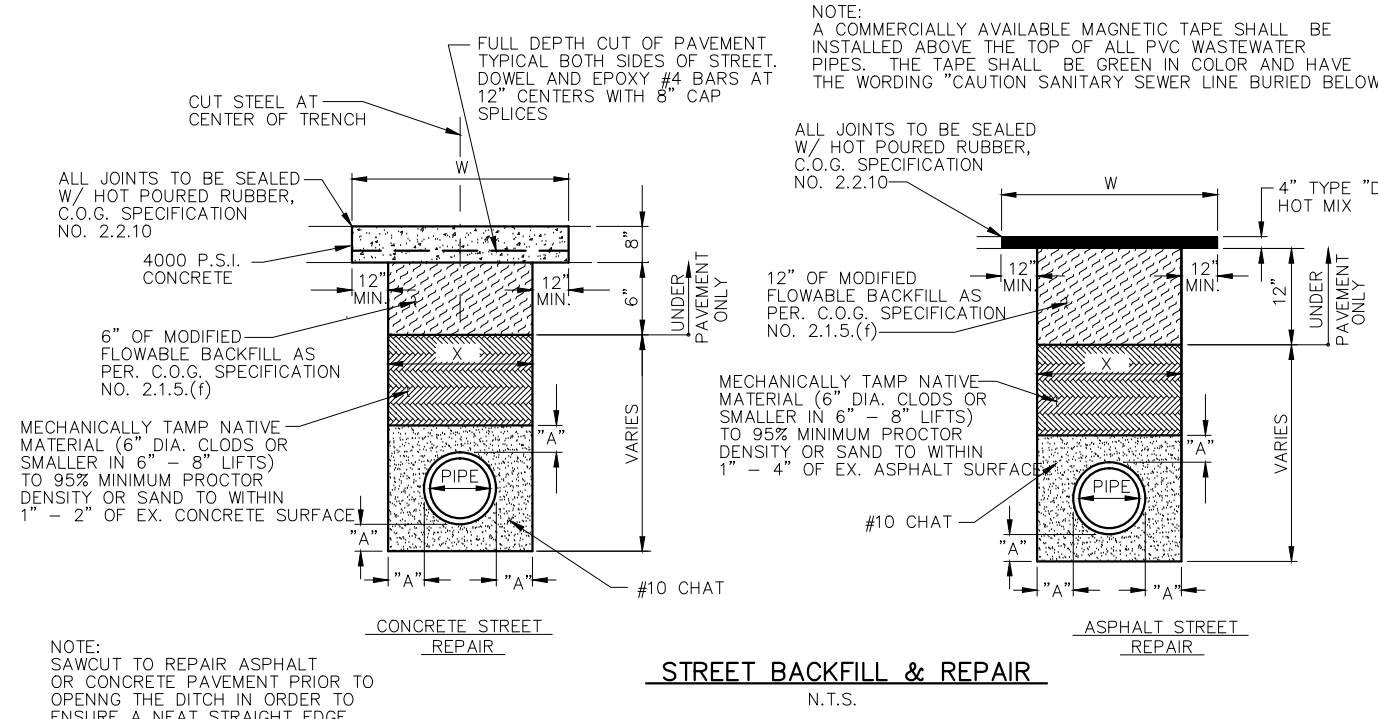
- Only concrete manholes are approved for use on the main and at the ends.
- All new manhole locations shall be marked with "MH" stamped or cut on the curb.
- Refer to the details and notes on this sheet and COG Item 502.12 specifications.
- Manholes greater than 8' deep shall have a minimum inside diameter of 60 inches.
- Manholes and/or cleanouts shall be so located that 250 feet of sewer rod can reach any point in the line. This means that manhole spacing shall be a maximum of 500 feet; that spacing between a manhole and an upstream cleanout shall be limited to 400 feet.
- In floodplains, sealed manhole covers shall be used. Cleanouts shall be placed on the ends of all lines.
- Drop manholes shall be required when the inflow elevation exceeds the outflow elevation by more than 24 inches.
- Manholes at change of pipe size and tees.

**TESTING:**

- The following tests shall be performed:
- Low Pressure Air Testing as per COG Item 507.5.1.3 specifications.
  - Deflection Test as per COG Item 502.12 specifications.
  - Television Inspection as per the City of the Colony specifications.

**BACKFILL AND COMPACTION REQUIREMENTS:**

- All ditchlines shall be mechanically tamped with the cost incidental to this bid item. Backfill, other than select fill, may consist of on-site off-site inorganic soils and should be placed in loose lifts 6-inch - 8-inch in thickness and shall be mechanically compacted to 95% of the maximum dry density as defined by ASTM D-698 (Standard Proctor) procedures under existing and proposed pavement, and to 90 percent standard proctor procedures elsewhere. The moisture content of the fill at the time of compaction should be near optimum to four percentage points above the proctor optimum value. Densities shall be taken every one (1) lift at staggered one hundred (100) foot increments.
- Densities shall also be taken under all manholes and during the backfill of each and every service lines installed.

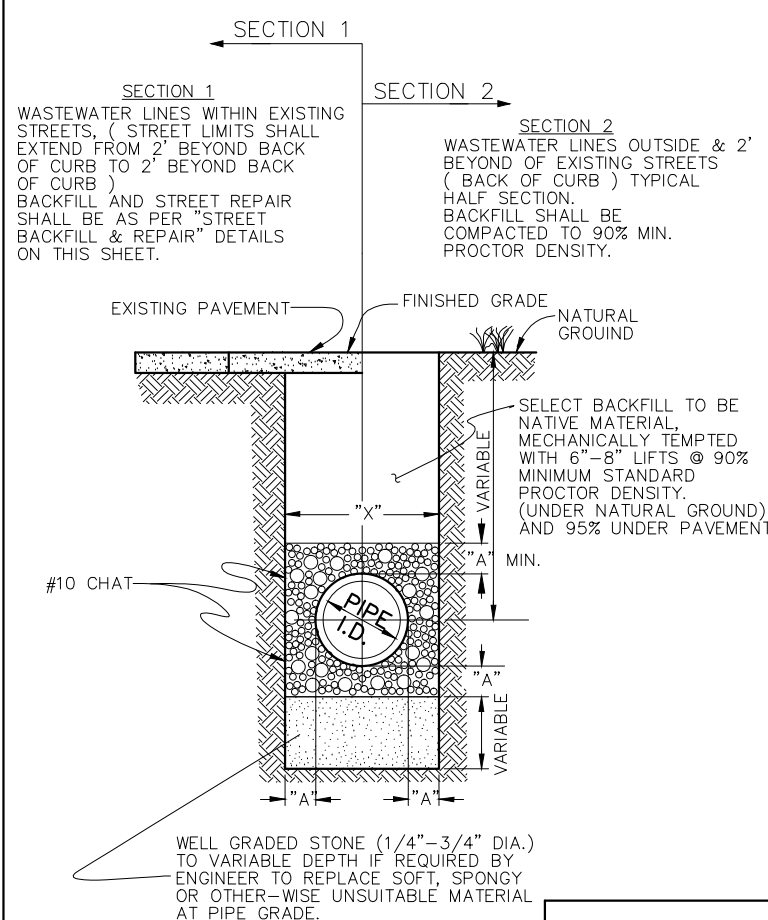


**STREET BACKFILL & REPAIR**  
N.T.S.

**TABLE OF DIMENSIONS FOR WIDTH OF TRENCH AND PAVEMENT REPLACEMENT**

NORMAL SIZE OF PIPE IN INCHES	O.D. OF PIPE BELL IN INCHES (PVC-SDR35)	MINIMUM TRENCH WALL CLEARANCE "A" IN INCHES	WIDTH OF TRENCH ("X") IN INCHES		WIDTH OF PVMT. REPLACEMENT * IN INCHES ('W') CONC. & ASPHALT **
			MAXIMUM **	MINIMUM **	
4	4.67	6	24	18	42
6	6.74	6	24	19	48
8	8.99	6	24	21	48
10	11.27	6	28	24	48
12	13.27	6	30	26	50
15	16.45	8	37	33	57
18	20.73	8	41	37	61
21	24.42	8	45	41	65
24	27.21	8	48	44	68
27	30.61	8	51	47	71

NOTE: \* REFER TO THE PLANS FOR SPECIFIED WIDTH OF REPLACEMENT.  
\*\* RECOMMENDED WIDTHS - VARIES BASED ON DEPTH, AND SOIL MATERIAL.



**WASTEWATER PIPE LINE EMBEDMENT DETAIL**  
**PVC SDR - 35**  
N.T.S.

MECHANICALLY TAMPED NATIVE MATERIAL MAY BE USED TO THE BOTTOM OF CONCRETE PAVEMENT WHEN BOTH OF THE FOLLOWING CONDITIONS ARE MET:

- THE OUTSIDE OF THE WASTEWATER PIPE MUST BE A MINIMUM OF 2 FEET BELOW THE BOTTOM OF THE PAVEMENT.
- THE STREET IS BEING COMPLETELY REPLACED OR IT IS A NEW STREET.

**CERTIFICATION:**

THIS CITY OF THE COLONY STANDARD DETAIL SHEET IS AUTHORIZED FOR USE IN THIS PROJECT BY THE ENGINEER WHOSE SEAL APPEARS ON THIS SHEET. THIS ENGINEER IS ALSO CERTIFYING THAT THE CONTENT OF THE DETAILS AND NOTES ON THIS SHEET HAVE NOT BEEN ALTERED FROM THAT RECEIVED FROM THE CITY OF THE COLONY.

**WASTEWATER STANDARD DETAILS**

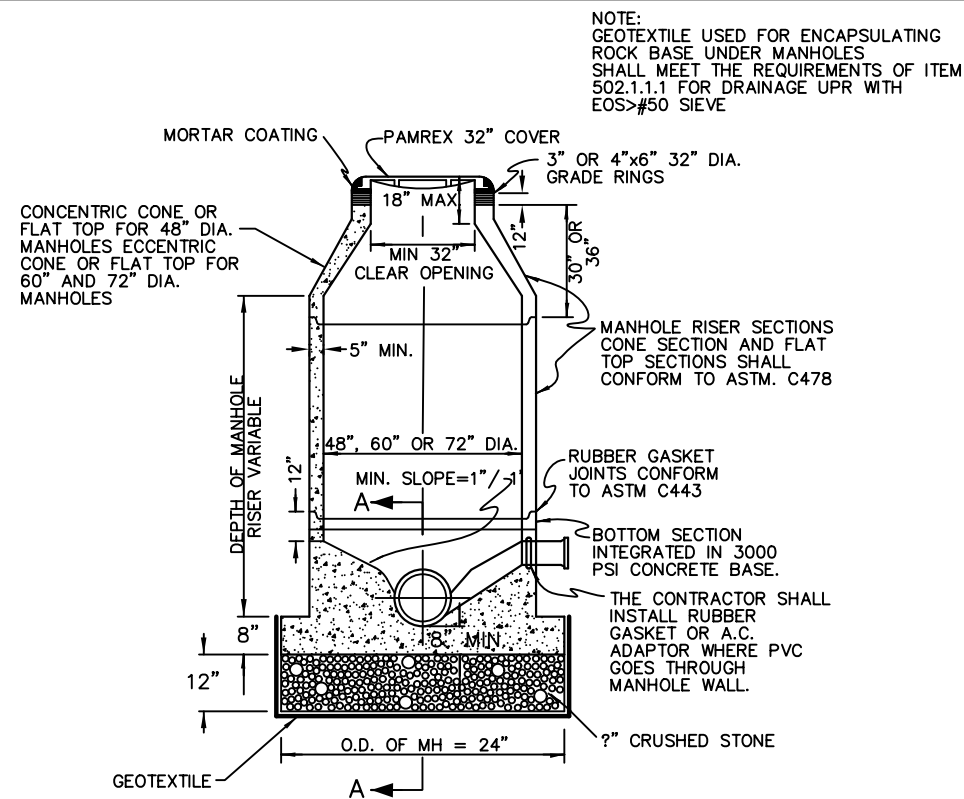
**BACKFILL / EMBEDMENT AND GENERAL NOTES**



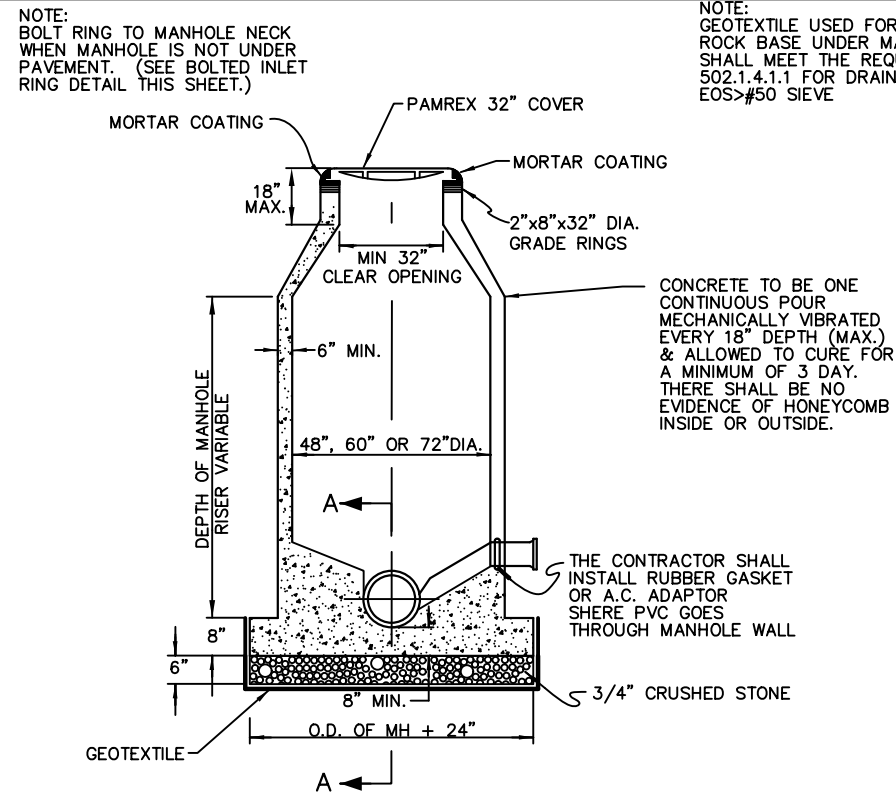
THE CITY OF THE COLONY  
TEXAS

ENGINEERING DEPARTMENT

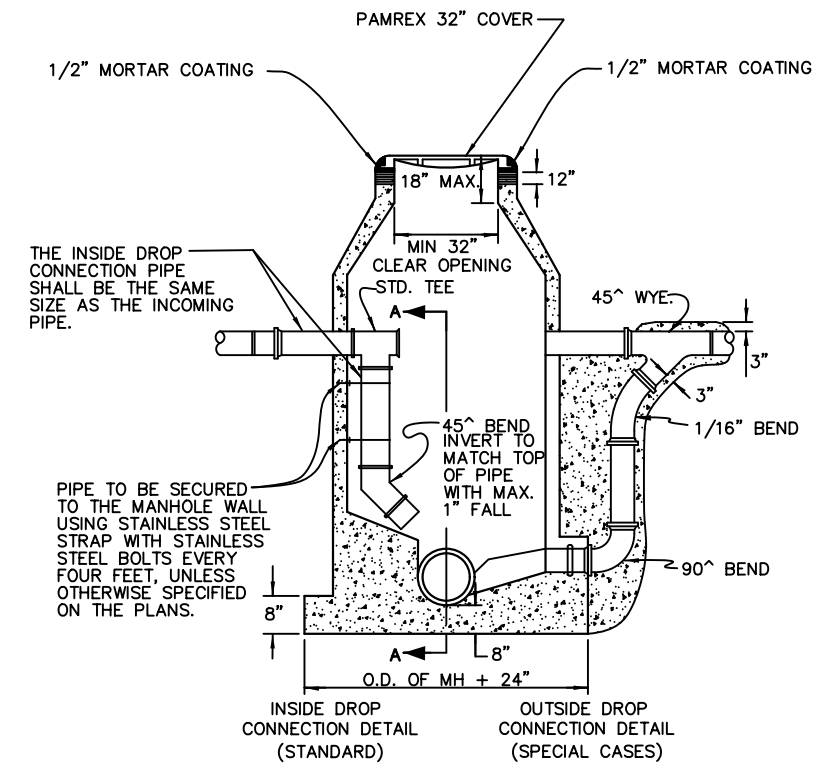
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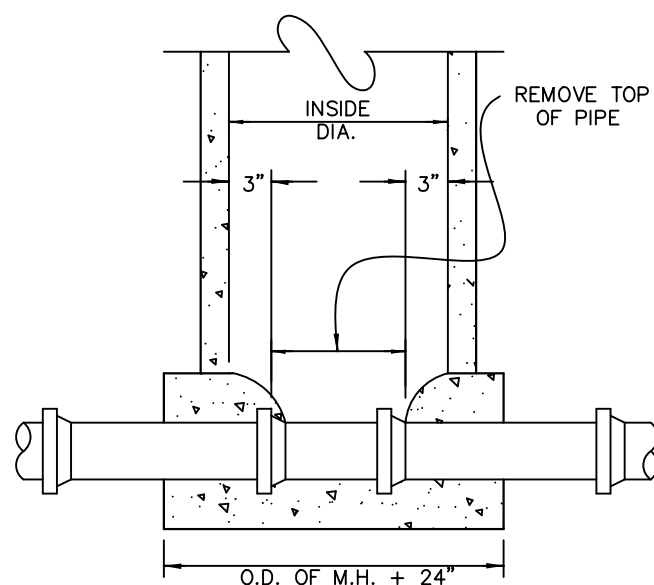
**PRECAST CONCRETE MANHOLE**  
N.T.S.  
SEE CONCRETE MANHOLE NOTES.



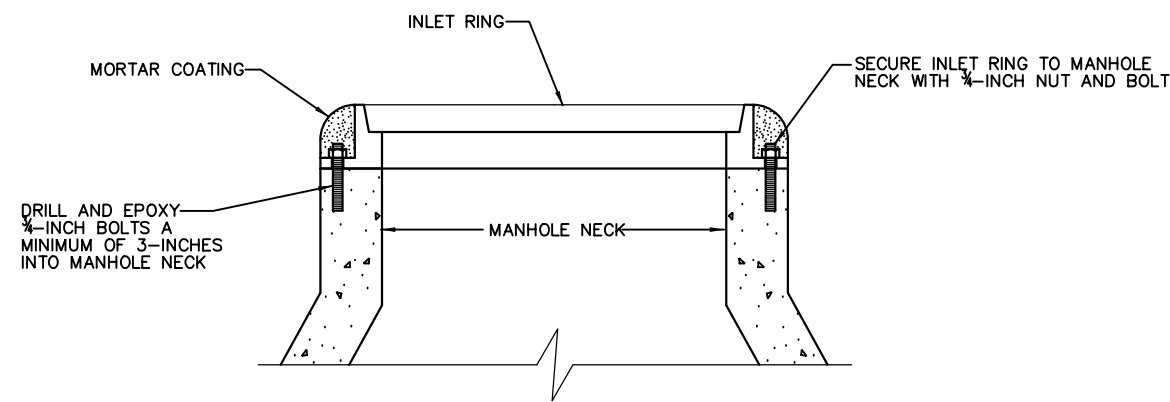
**POURED IN PLACE CONCRETE MANHOLE**  
N.T.S.  
SEE CONCRETE MANHOLE NOTES.



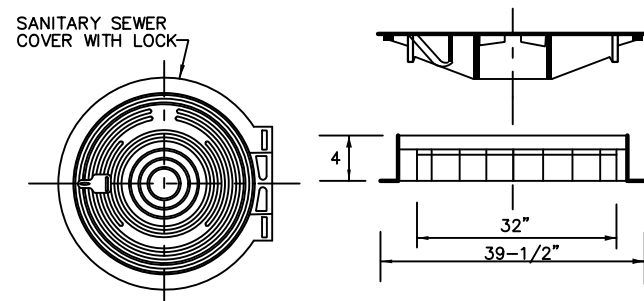
**STANDARD DROP CONNECTION TO MANHOLE**  
N.T.S.



**SECTION "A-A"**  
N.T.S.



**BOLTED INLET RING DETAIL**  
N.T.S.



**INLET RING & COVER**  
N.T.S.

**INLET RING & COVER NOTES:**

1. THE STD. INLET COVER SHALL BE PAMREX 32" RING AND COVER NO. CDPA60EHSSE OR EQUAL
2. APPROXIMATE WEIGHT OF RING=107 lbs. AND COVER=162 lbs.
3. INLET COVERS FOR LOCATIONS WHERE THE RIM ELEVATIONS ARE BELOW THE 100 YEAR FLOOD PLANE ELEVATION SHALL BE PAMTIGHT 32" BOLT DOWN RING AND COVER NO. CDPE70AF OR EQUAL APPROXIMATE WEIGHT OF BOLT DOWN RING=109 lbs. AND COVER=116 lbs.

**CERTIFICATION:**

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**CONCRETE MANHOLE NOTES:**

1. CONCRETE FOR ALL PRECAST AND POURED IN PLACE MANHOLES SHALL BE 6.5 SACK, 4200 P.S.I. SULPHATE RESISTANT CONCRETE, WITH A C3A CONTENT OF 5%.
2. THE DIAMETER OF THE CONCRETE BASE SHALL NOT BE LESS THAN THE INSIDE DIAMETER OF THE MANHOLE PLUS 2 FEET.
3. STEPS SHALL NOT BE INSTALLED IN MANHOLE.
4. ALL NEW MANHOLES SHALL BE MARKED WITH "MH" STAMPED OR CUT IN THE CURB.
5. USE DROP CONNECTIONS WHEN CONNECTING LINE EXCEEDS 24" ABOVE THE MANHOLE FLOWLINE.
6. USE INSIDE DROP CONNECTIONS UNLESS OTHERWISE SPECIFIED BY THE CITY
7. OUTSIDE DROPS ARE TO BE USED IN SPECIAL CASES ONLY AND WILL REQUIRE APPROVAL BY THE CITY

**WASTEWATER STANDARD DETAILS**

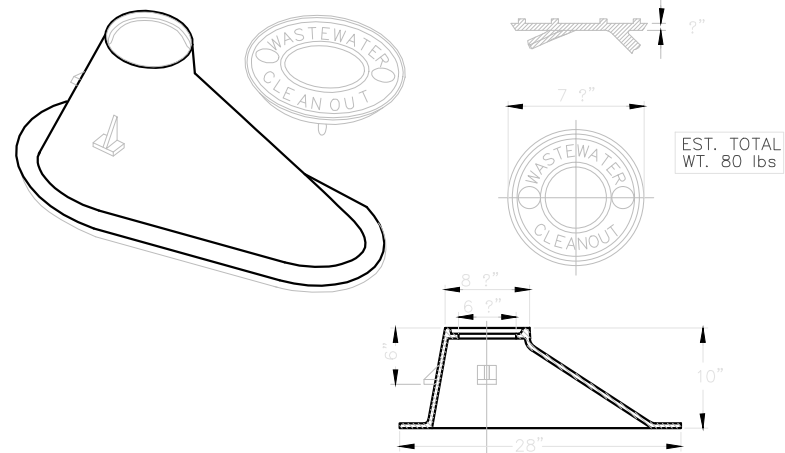
**MANHOLES**



THE CITY OF THE COLONY  
TEXAS

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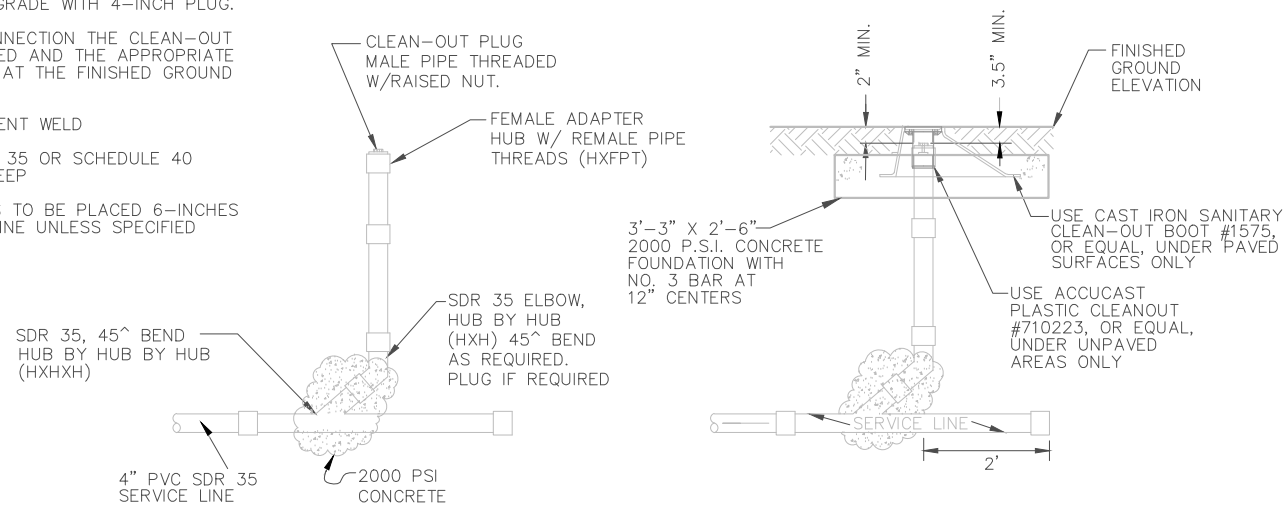


**ACCUCAST CAST IRON CLEAN-OUT BOOT**

N.T.S.  
ACCUCAST #1575 OR EQUAL  
(TO BE USED UNDER PAVED SURFACES ONLY)

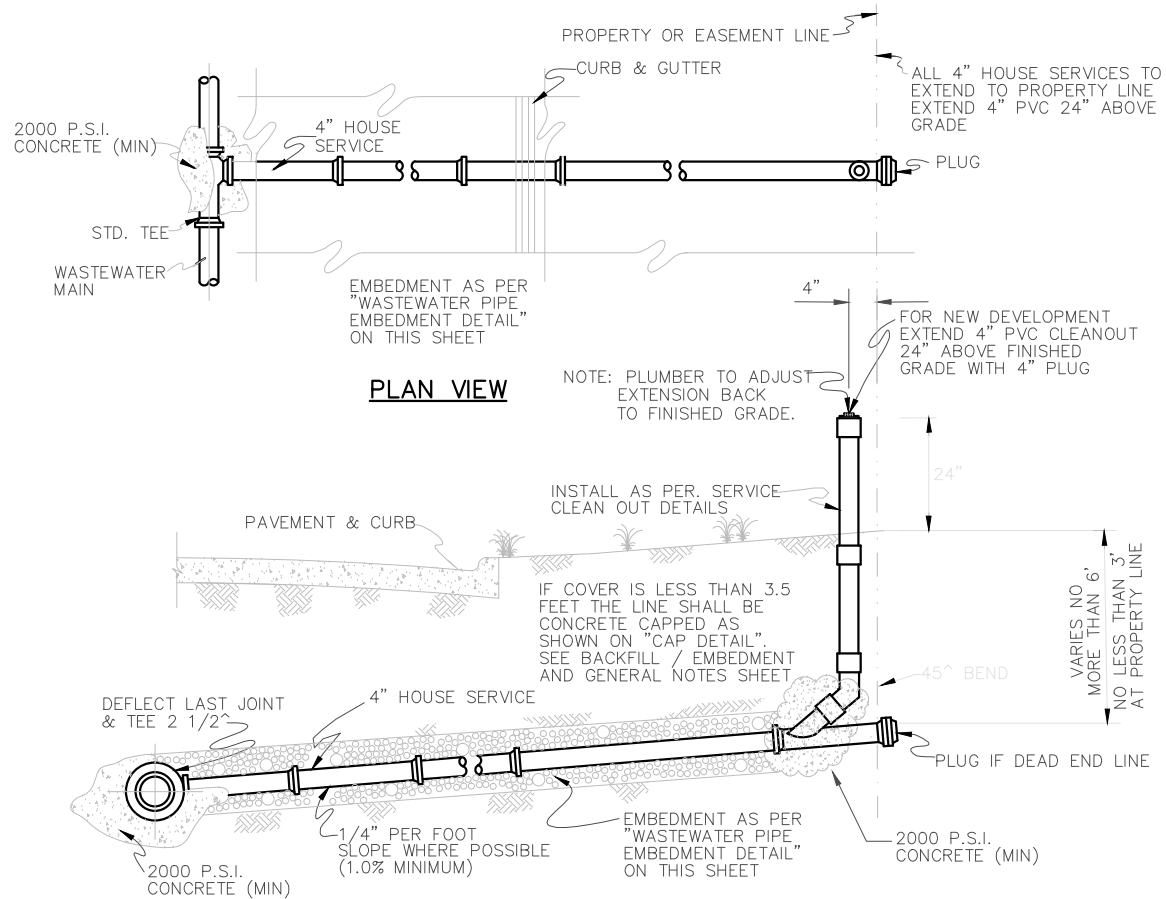
**WASTEWATER SERVICE CLEAN-OUT NOTES:**

- FOR NEW DEVELOPMENT EXTEND 4-INCH PVC CLEAN-OUT 24-INCHES ABOVE FINISHED GRADE WITH 4-INCH PLUG.
- AT THE TIME OF SERVICE CONNECTION THE CLEAN-OUT EXTENSION SHALL BE ADJUSTED AND THE APPROPRIATE CLEAN-OUT BOOT INSTALLED AT THE FINISHED GROUND ELEVATION.
- ALL FITTINGS SHALL BE SOLVENT WELD
- ALL PIPE SHALL BE PVC SDR 35 OR SCHEDULE 40 WHEN LESS THAN 14- FEET DEEP
- CENTER LINE OF CLEAN-OUTS TO BE PLACED 6-INCHES INSIDE CITY RIGHT-OF-WAY LINE UNLESS SPECIFIED OTHERWISE.



**WASTEWATER SERVICE CLEAN-OUT DETAILS**

N.T.S.

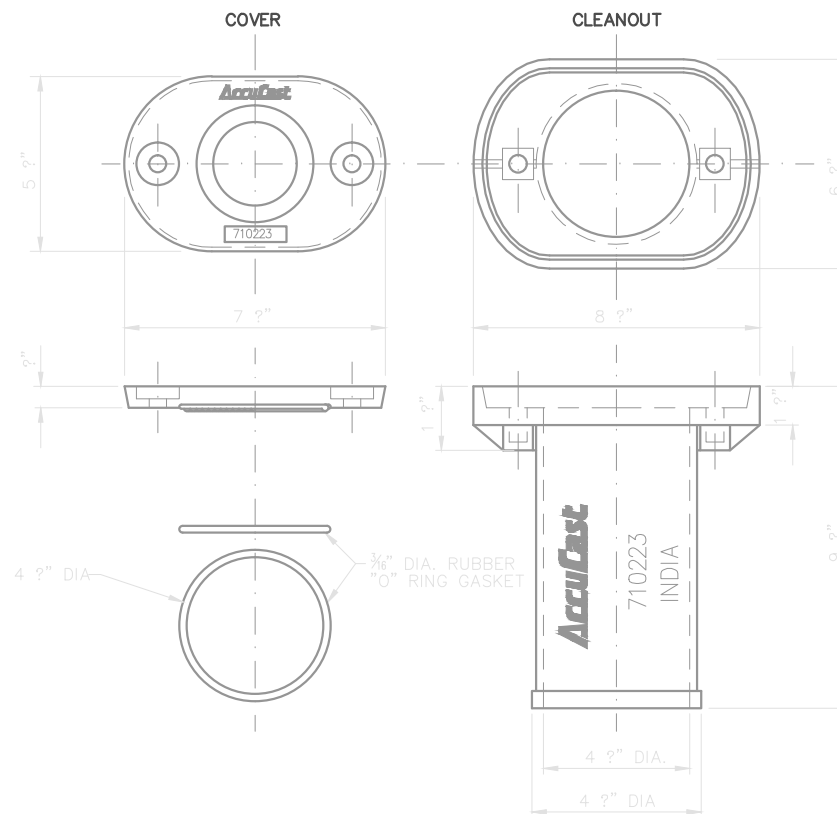


**PLAN VIEW**

**PROFILE VIEW**

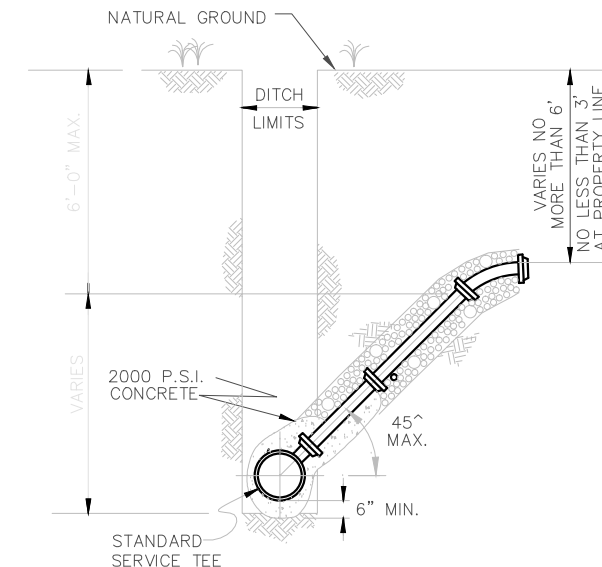
**STANDARD WASTEWATER SERVICE CONNECTION**

N.T.S.



**ACCUCAST PLASTIC SEWER CLEANOUT**

ACCUCAST #710223 OR EQUAL  
(TO BE USED UNDER UNPAVED SURFACES ONLY)  
NOT TO SCALE



**STANDARD DEEP CUT CONNECTION**

N.T.S.

NOTE: THE EXTENSION TO THE PROPERTY/EASEMENT LINE SHALL BE AS PER THE STANDARD "WASTEWATER SERVICE CONNECTION" DETAIL, ON THIS SHEET.

**CERTIFICATION:**

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**WASTEWATER STANDARD DETAILS**

**SERVICES**



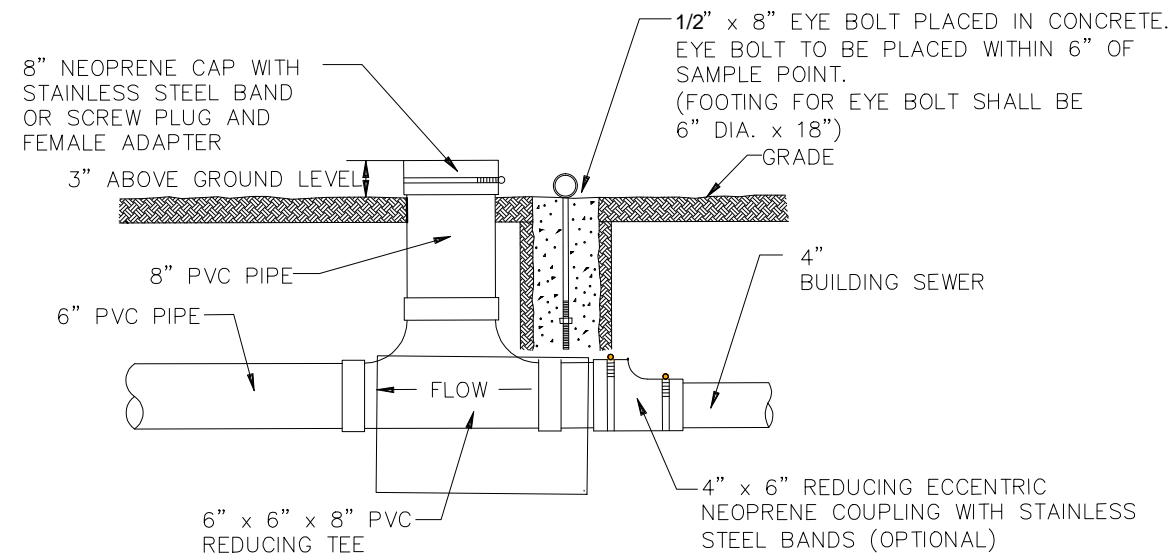
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	M.S.		JULY 7 2009	N.T.S.	S-3	

NOTE:

IF PROPOSED LOCATION IS IN PAVEMENT CONTRACTOR SHALL  
INSTALL A CLEANOUT COVER PER CLEANOUT DETAIL.



WASTE SAMPLING PORT

N.T.S.

CERTIFICATION:

THIS CITY OF THE COLONY  
STANDARD DETAIL SHEET  
IS AUTHORIZED FOR USE  
IN THIS PROJECT BY THE  
ENGINEER WHOSE SEAL  
APPEARS ON THIS SHEET.  
THIS ENGINEER IS ALSO  
CERTIFYING THAT THE  
CONTENT OF THE DETAILS  
AND NOTES ON THIS SHEET  
HAVE NOT BEEN ALTERED  
FROM THAT RECEIVED FROM  
THE CITY OF THE COLONY.

WASTEWATER STANDARD DETAILS

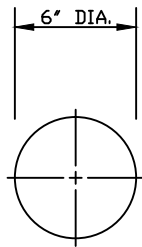
WATER SAMPLING PORT



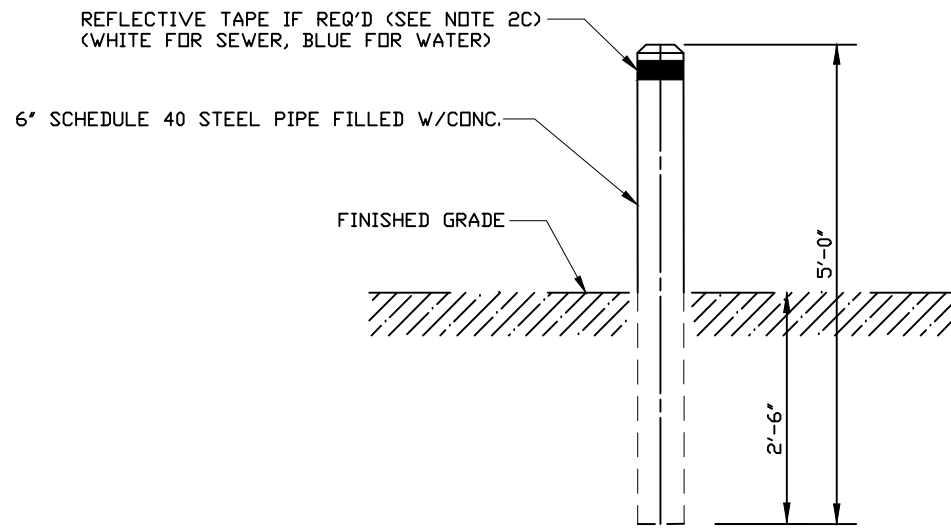
THE CITY OF THE COLONY  
TEXAS

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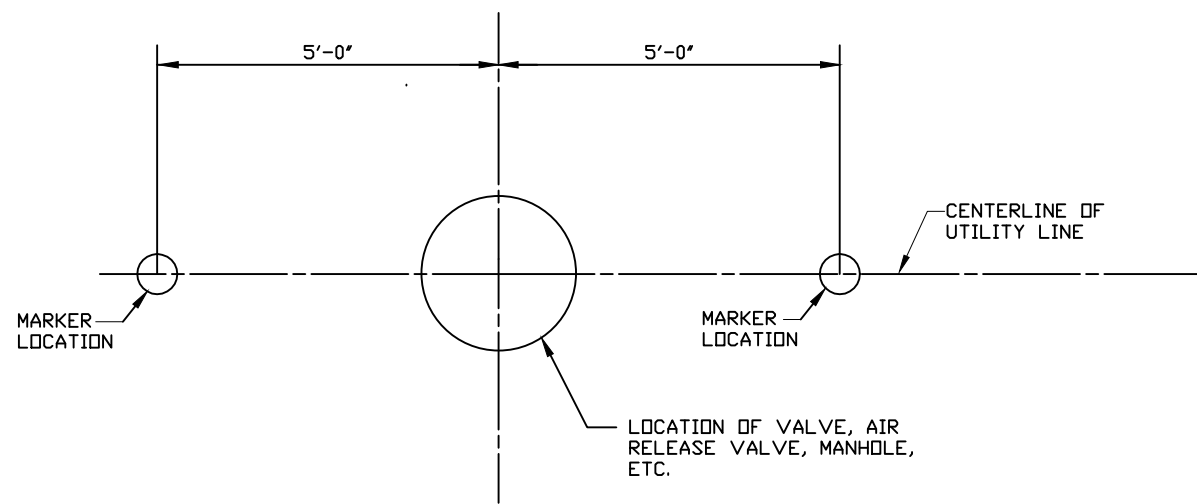
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PLAN VIEW



ELEVATION



FIELD INSTALLATION DETAIL

GENERAL NOTES

1. ALL OFFSITE UTILITIES WITH BURIED CONTROL VALVES, CLEANOUTS AND MANHOLES SHALL BE MARKED AS DETAILED ON THIS SHEET.
2. PAINTING (MINIMUM TWO (2) COATS REQUIRED):
  - A. WATER UTILITY MARKERS TO BE PAINTED WITH GLIDDEN 'GLID-GUARD' INDUSTRIAL ENAMEL No.4564 IMPERIAL BLUE OR EQUAL.
  - B. SEWER UTILITY MARKERS TO BE PAINTED WITH GLIDDEN 'GLID-GUARD' INDUSTRIAL ENAMEL No.4520 SAFETY RED OR EQUAL.
  - C. ALTERNATIVE COLORS (INCLUDING GREEN AND BROWN) MAY BE SELECTED ON A CASE-BY-CASE BASIS TO BLEND INTO SURROUNDING AREAS SUCH AS GREENBELTS. A 1' WIDE REFLECTIVE TAPE (3M TYPE 9 OR EQUAL) SHALL BE INSTALLED AROUND THE TOP OF THE MARKER IN THESE CASES.

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WASTEWATER DETAILS

OFFSITE UTILITIES CONTROL MARKER



THE CITY OF THE COLONY  
 TEXAS

ENGINEERING DEPARTMENT

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	M.S.		JULY 7 2009	N.T.S.	S-5	