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JOHNSON COUNTY
SPECIAL UTILITY DISTRICT

Standard Wastewater Details

October 2023

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The following design drawings are intended to aide Johnson County Special Utility District (JCSUD) in arriving at a uniform design for the construction of water and wastewater utilities in the JCSUD service area. In most cases, there are circumstances that will be considered should the designer see a need to vary from these standards. Request for variances from these standards shall be presented to JCSUD for consideration. Variance consideration by JCSUD does not constitute or guarantee acceptance or approval.

Reviewed & Approved By:

Tyler Lyles
Water Operations Manager

James Lyles
Wastewater Operations Manager

Dana Collier
Deputy General Manager
System Development & Operations

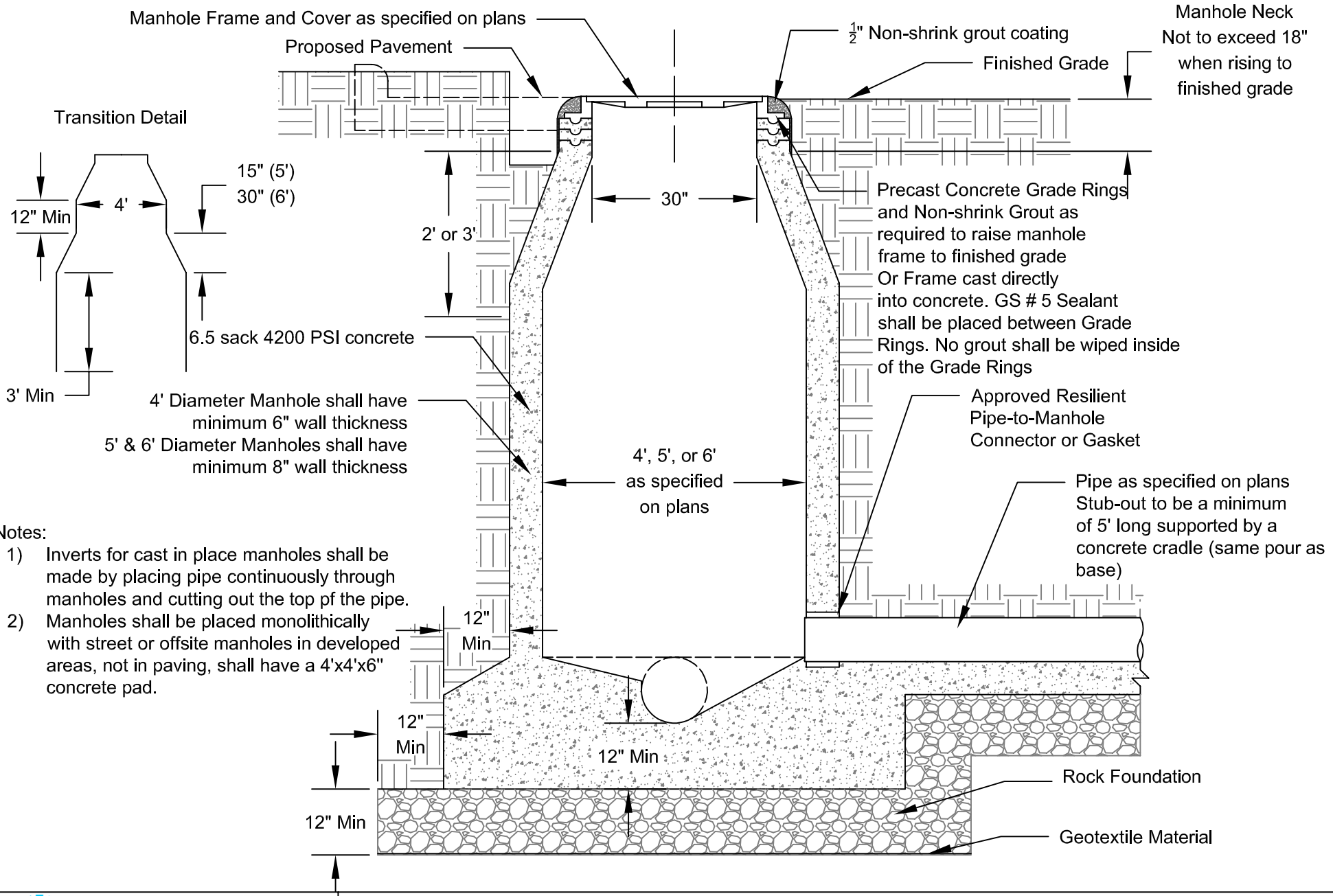
Jeremiah Bihl, P.E.
District Engineer

Revisions

Date	Revision
04/22/2022	MH-204 Added
02/10/2023	TR-100 & T-101 Updated
10/18/2023	Large scale wording update

Standard Wastewater Details

Sheet ID	Detail Name
MH-100	Pour-In-Place Manhole
MH-101	Precast Manhole
MH-200	Typical Manhole Invert Slope
MH-201	Typical Invert Channel Intersection
MH-202	Drop Manhole - Interior Connection
MH-203	Drop Manhole - Exterior Connection
MH-204	Drop Manhole - Force Main Connection
MH-300	Manhole Cover
MH-301	Watertight Manhole Cover
MH-400	Manhole and Line Abandonment
MH-401	Manhole Abandonment
SV-100	Typical Lateral Crossing
SV-101	Existing Tie-in Lateral Crossing
SV-200	Typical Grease Interceptor
SV-201	Typical Grease Interceptor Sampling Well
TR-100	Sewer Line Class H Embedment
TR-101	Sewer Line Cement Stabilized Sand Encasement



Notes:

1) Inverts for cast in place manholes shall be made by placing pipe continuously through manholes and cutting out the top pf the pipe.
2) Manholes shall be placed monolithically with street or offsite manholes in developed areas, not in paving, shall have a 4'x4'x6" concrete pad.

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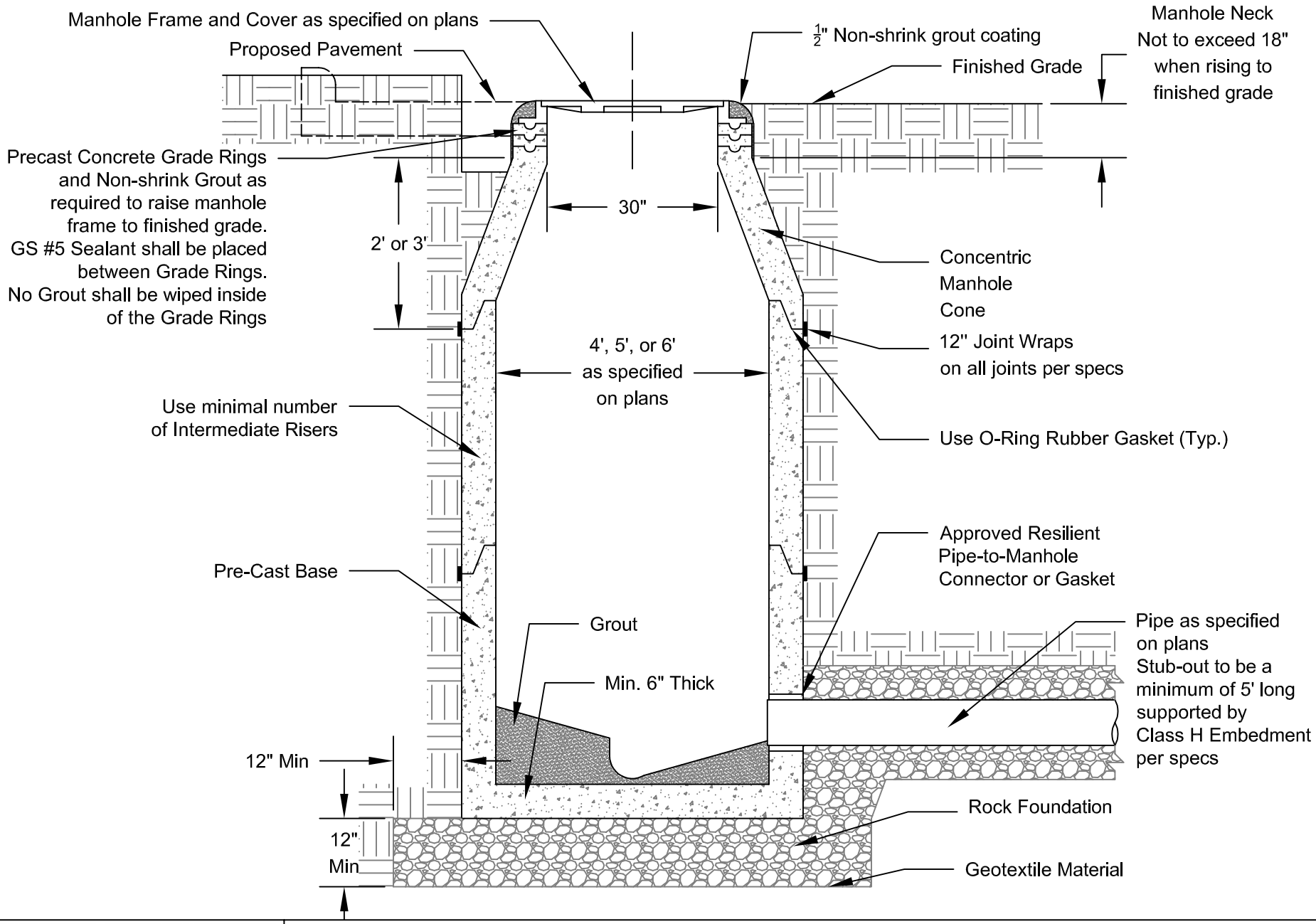
Pour in Place Manhole

Standard Detail	Not To Scale	MH-100



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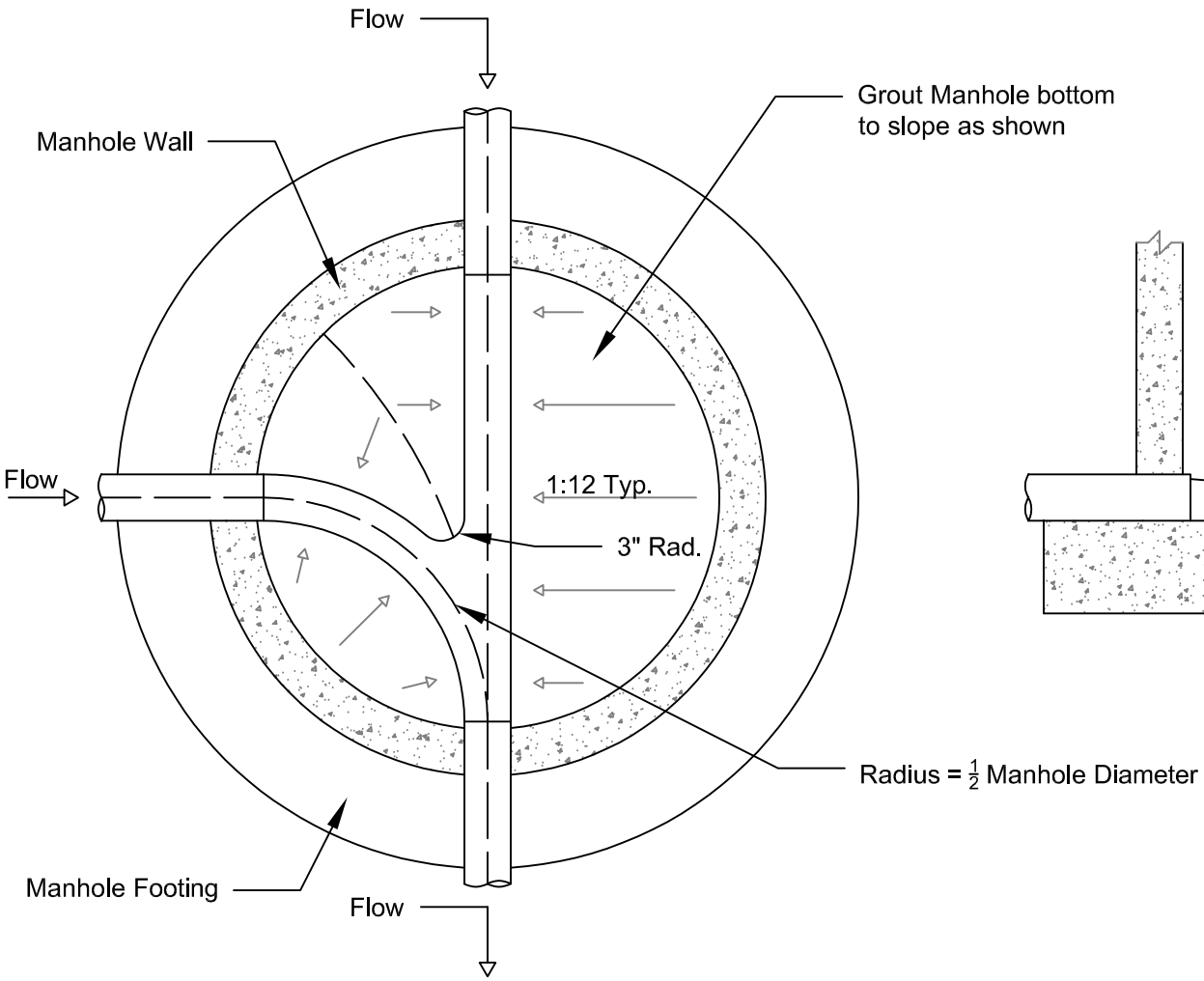
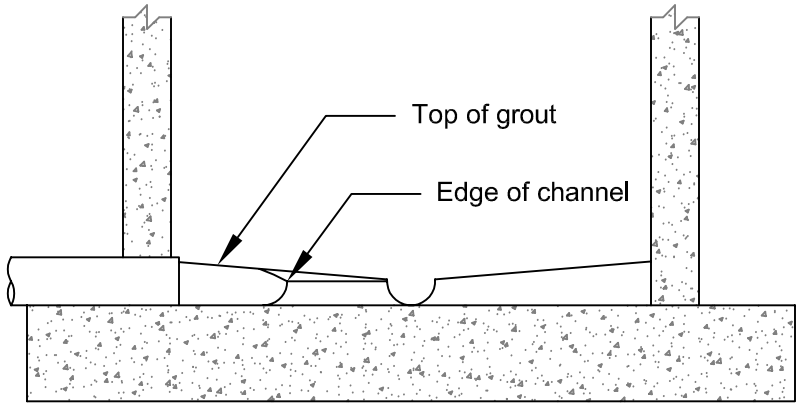
Precast Manhole

Standard Detail	Not To Scale	MH-101





Notes:

1) Refer to manhole standard drawings for additional detail of manhole

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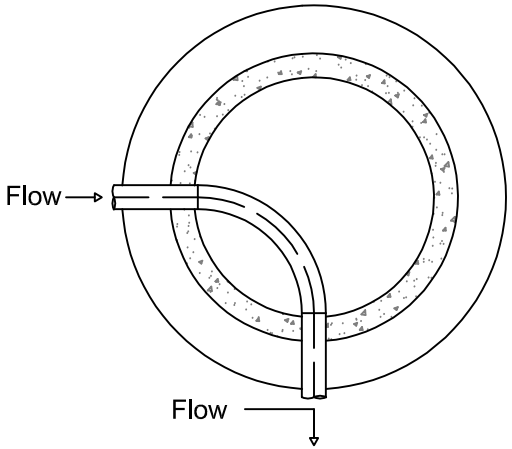
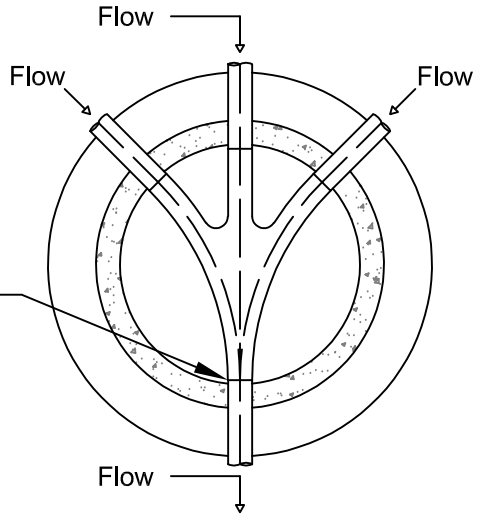
Typical Manhole Invert Slope

Standard Detail	Not To Scale	MH-200

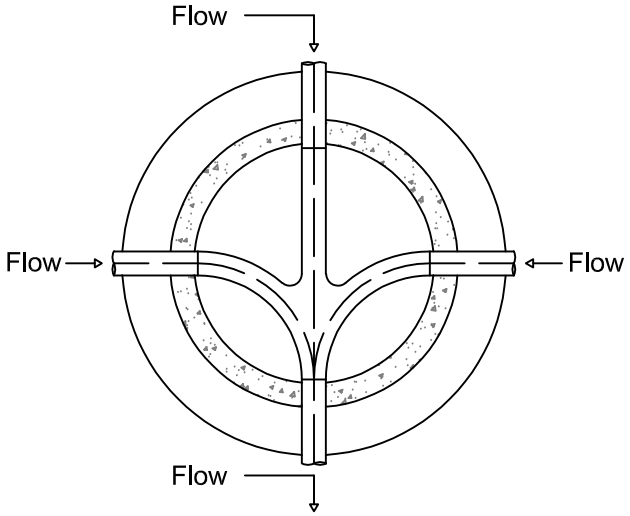


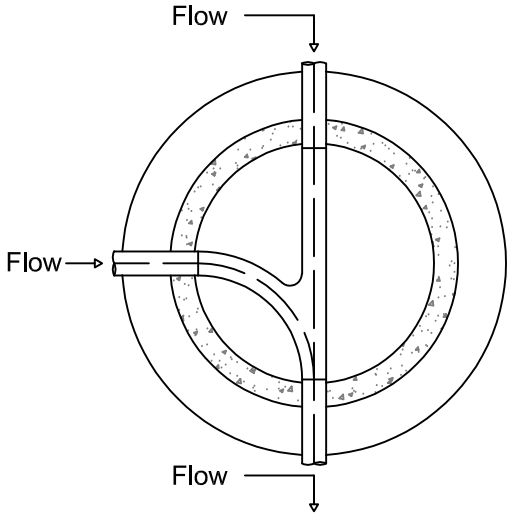


Smooth Transition required between Pipe and Channel

Notes:

1) Width of channel shall match the inside diameter of incoming and outgoing pipes.
2) Blend channel lining for smooth contours between pipes.
3) All invert Elevations shall be shown on record drawings.





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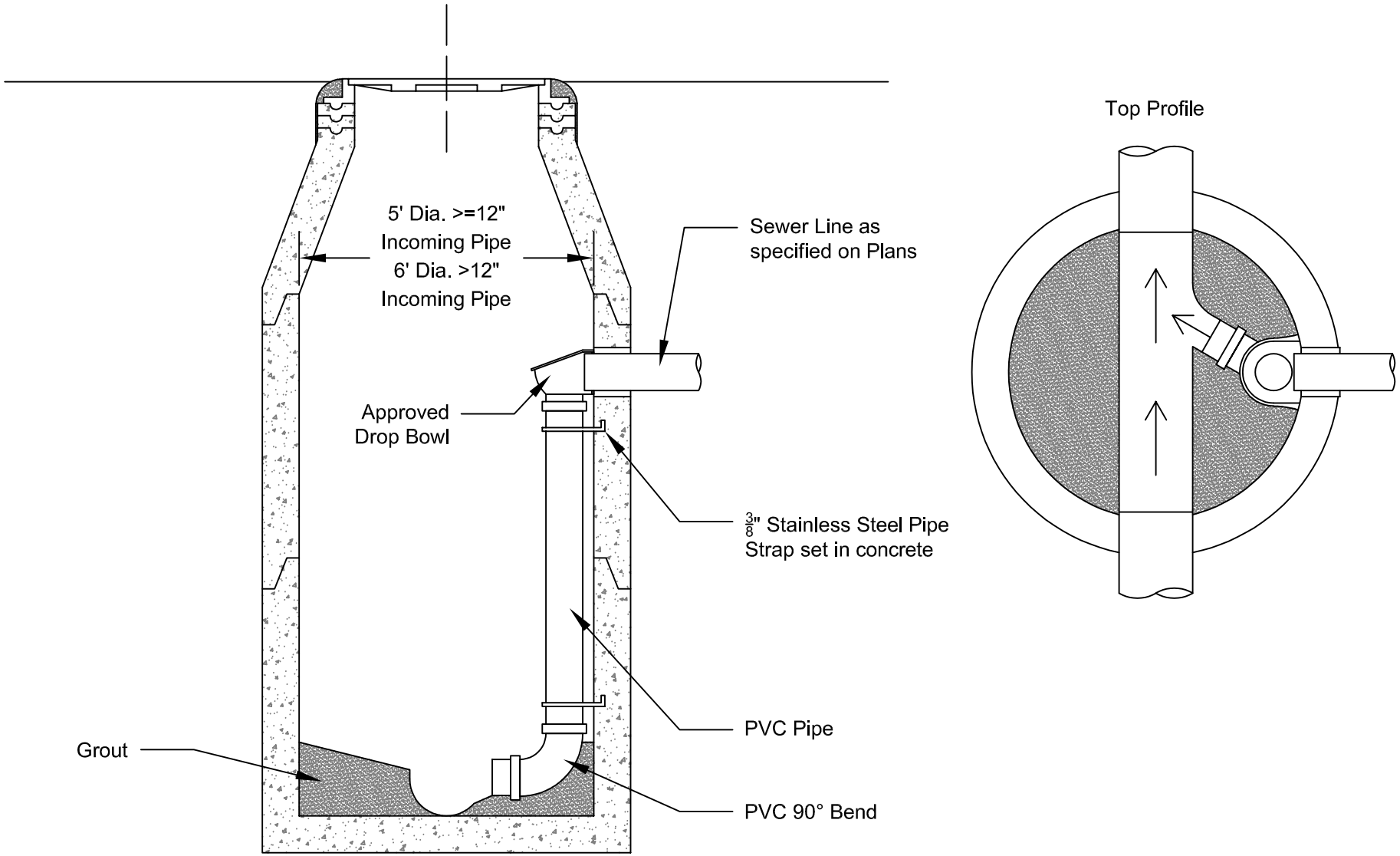
Typical Invert Channel Intersections

Standard Detail	Not To Scale	MH-201



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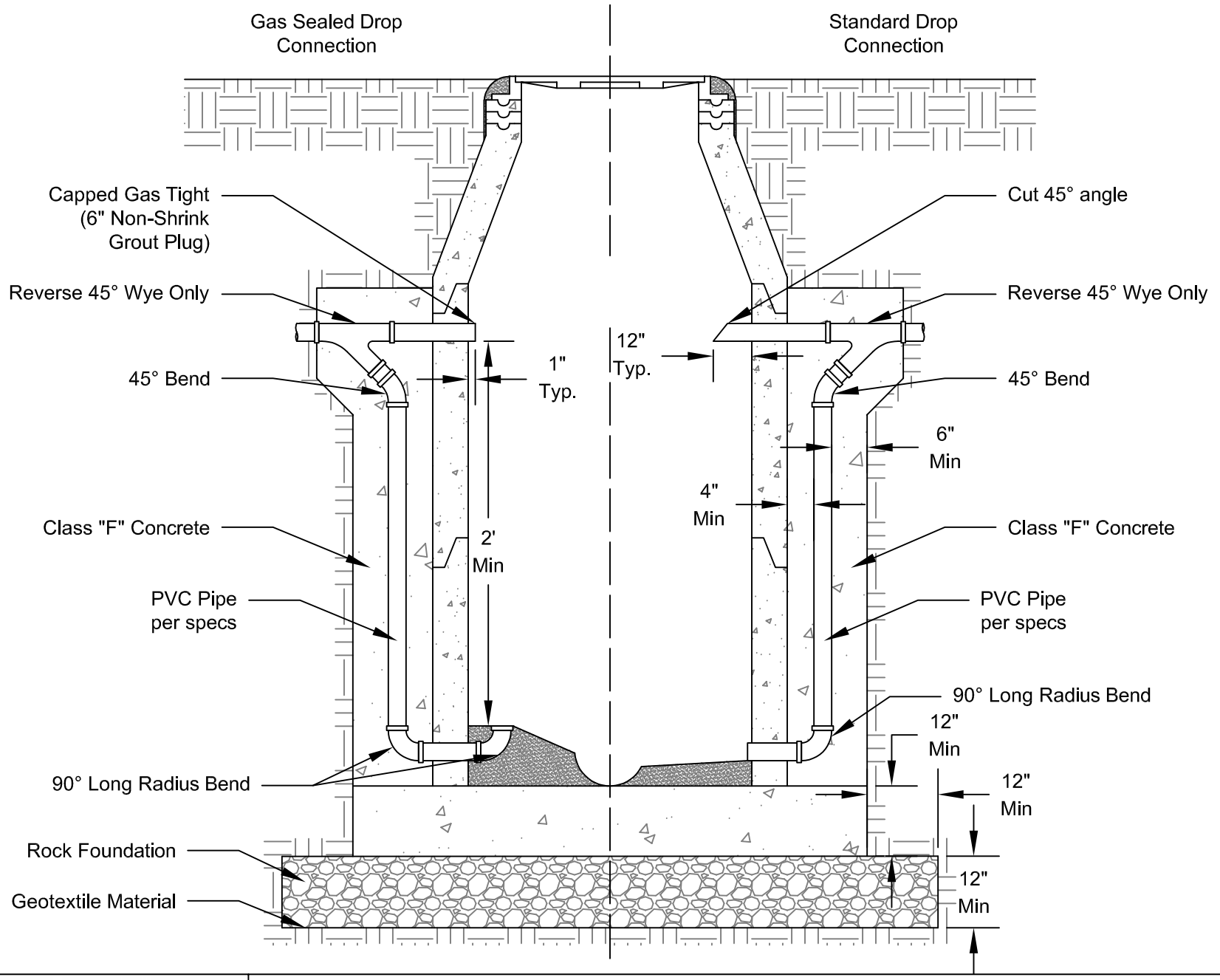
Drop Manhole - Interior Connection

Standard Detail	Not To Scale	MH-202



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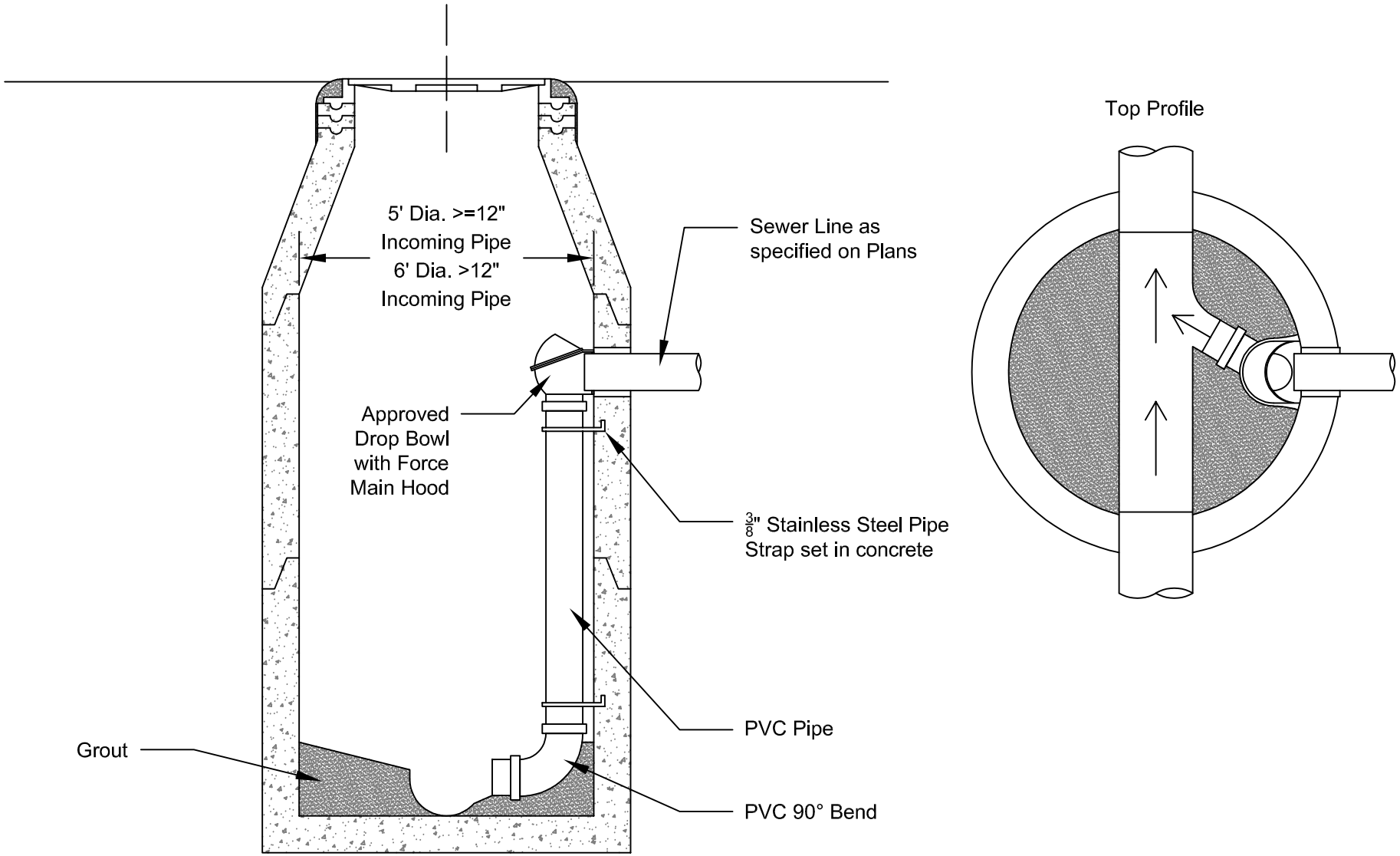
Drop Manhole - Exterior Connection

Standard Detail	Not To Scale	MH-203



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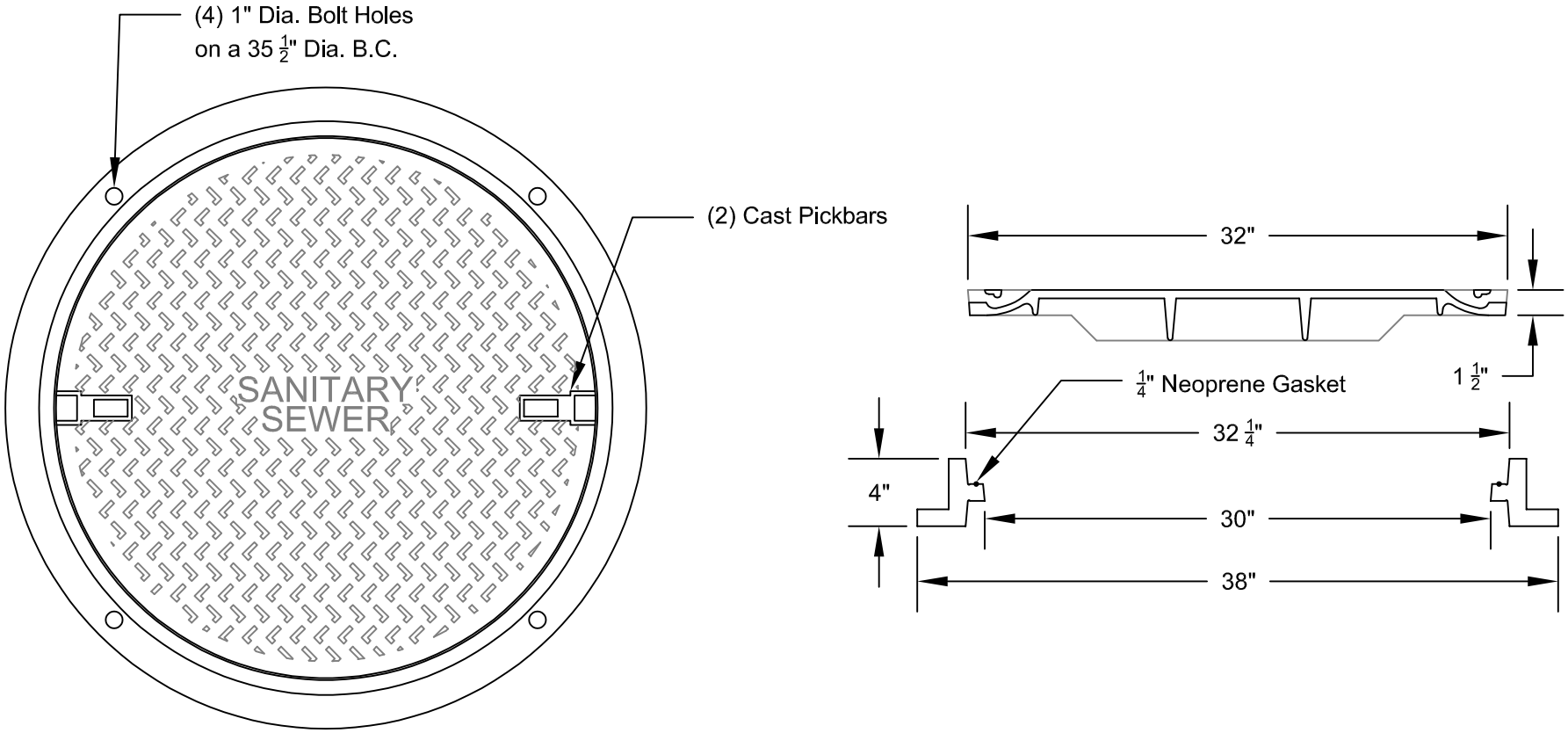
Drop Manhole - Force Main Connection

Standard Detail	Not To Scale	MH-204



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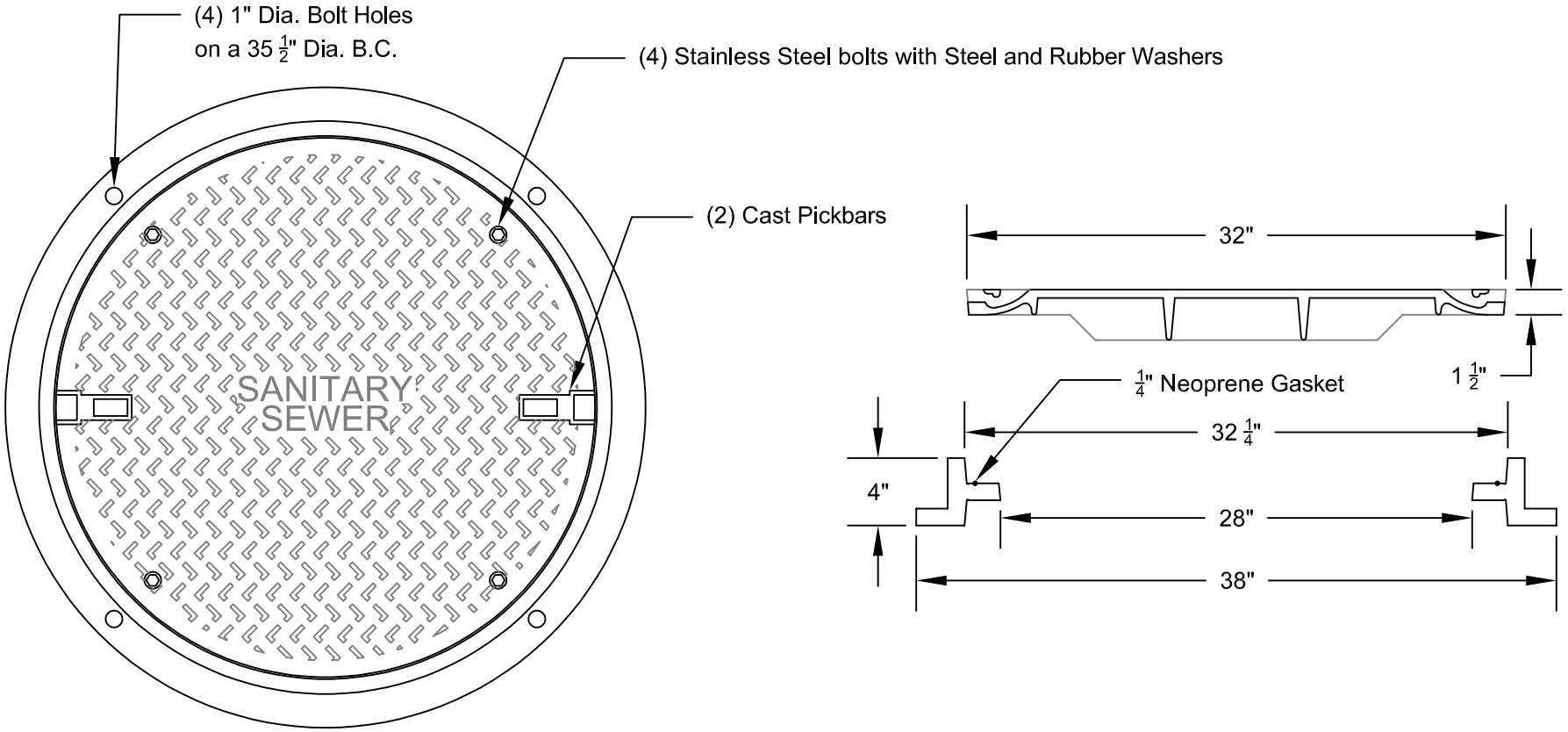
Manhole Ring & Cover

Standard Detail	Not To Scale	MH-300



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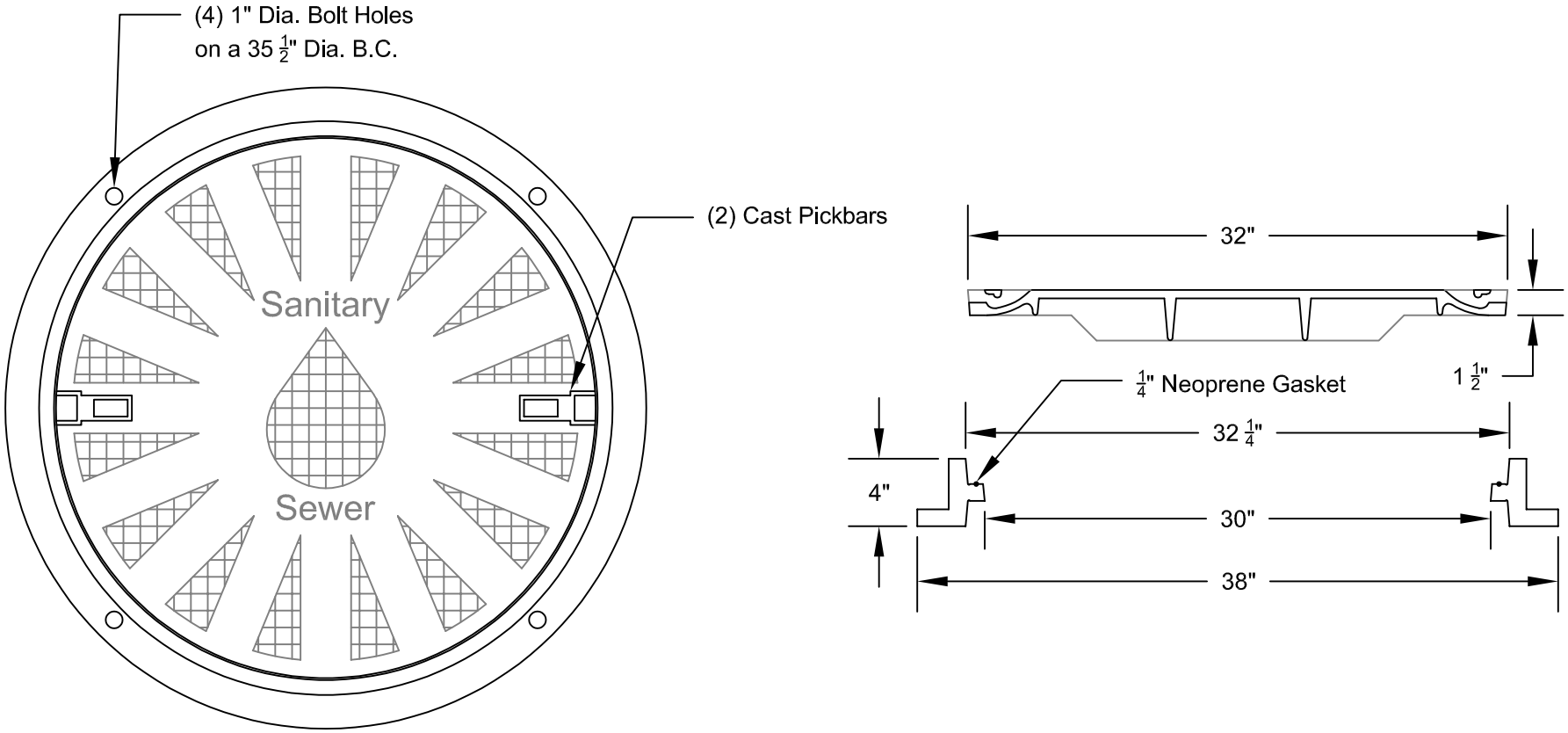
Watertight Manhole Ring & Cover

Standard Detail	Not To Scale	MH-301



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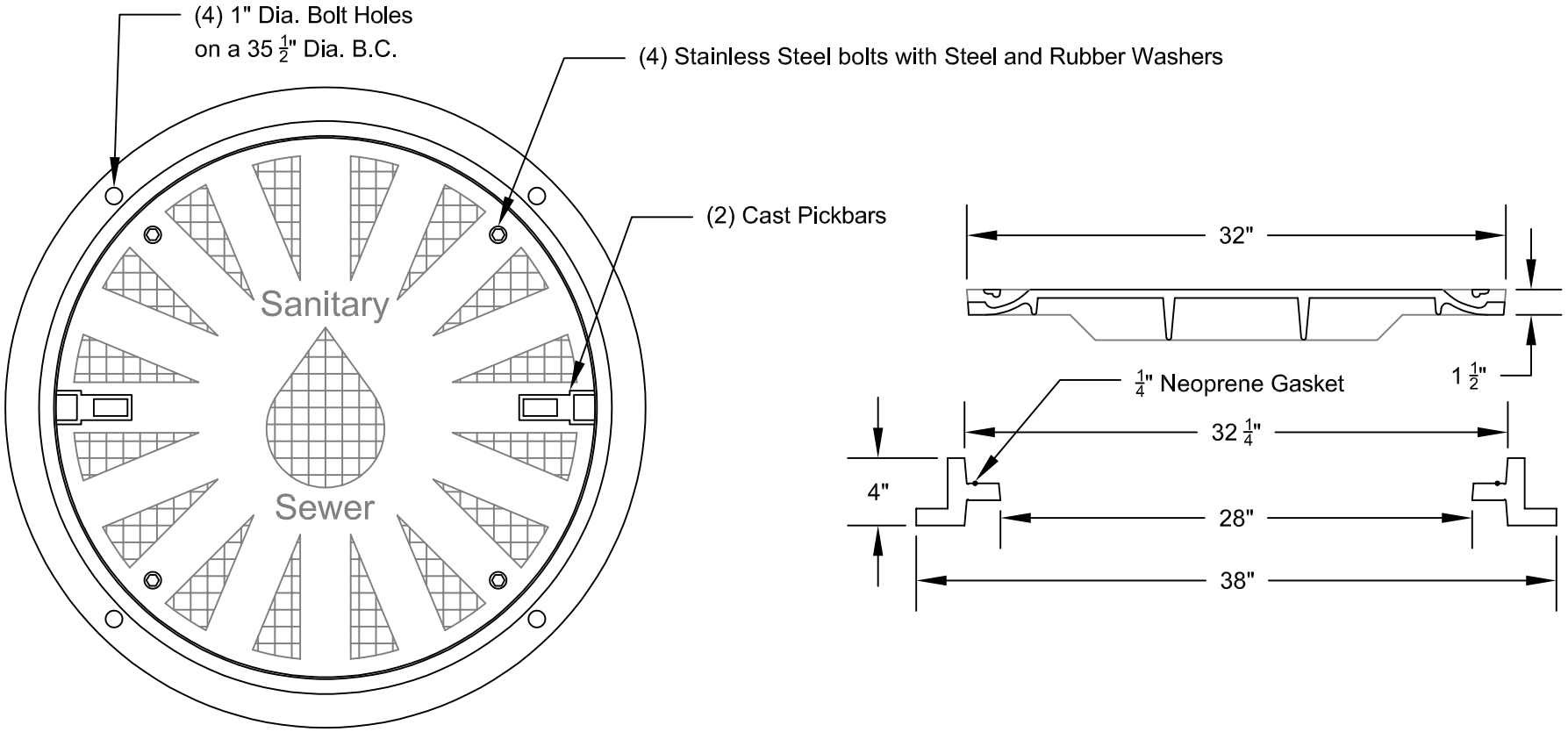
Manhole Ring & Cover

Standard Detail	Not To Scale	MH-300



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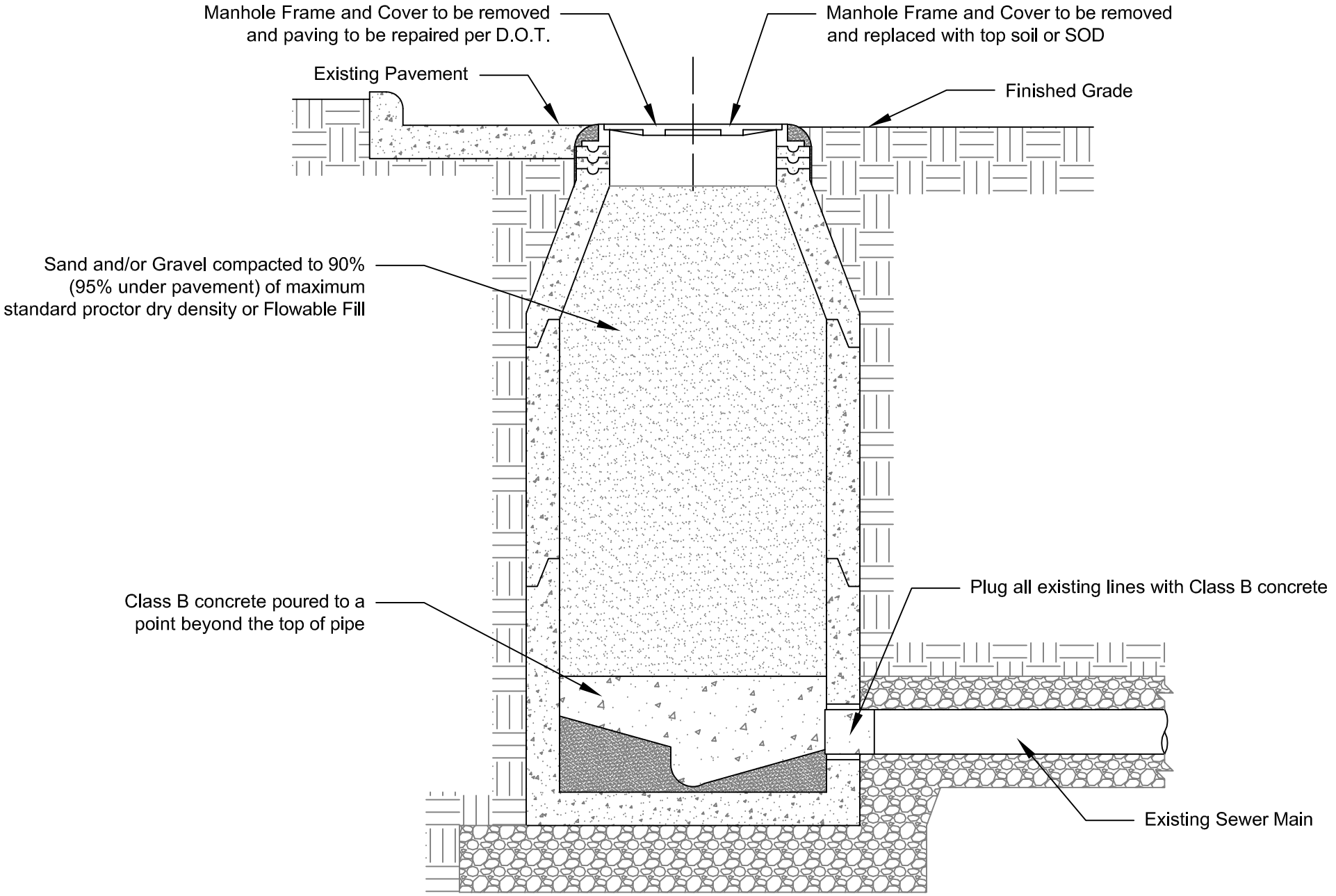
Watertight Manhole Ring & Cover

Standard Detail	Not To Scale	MH-301



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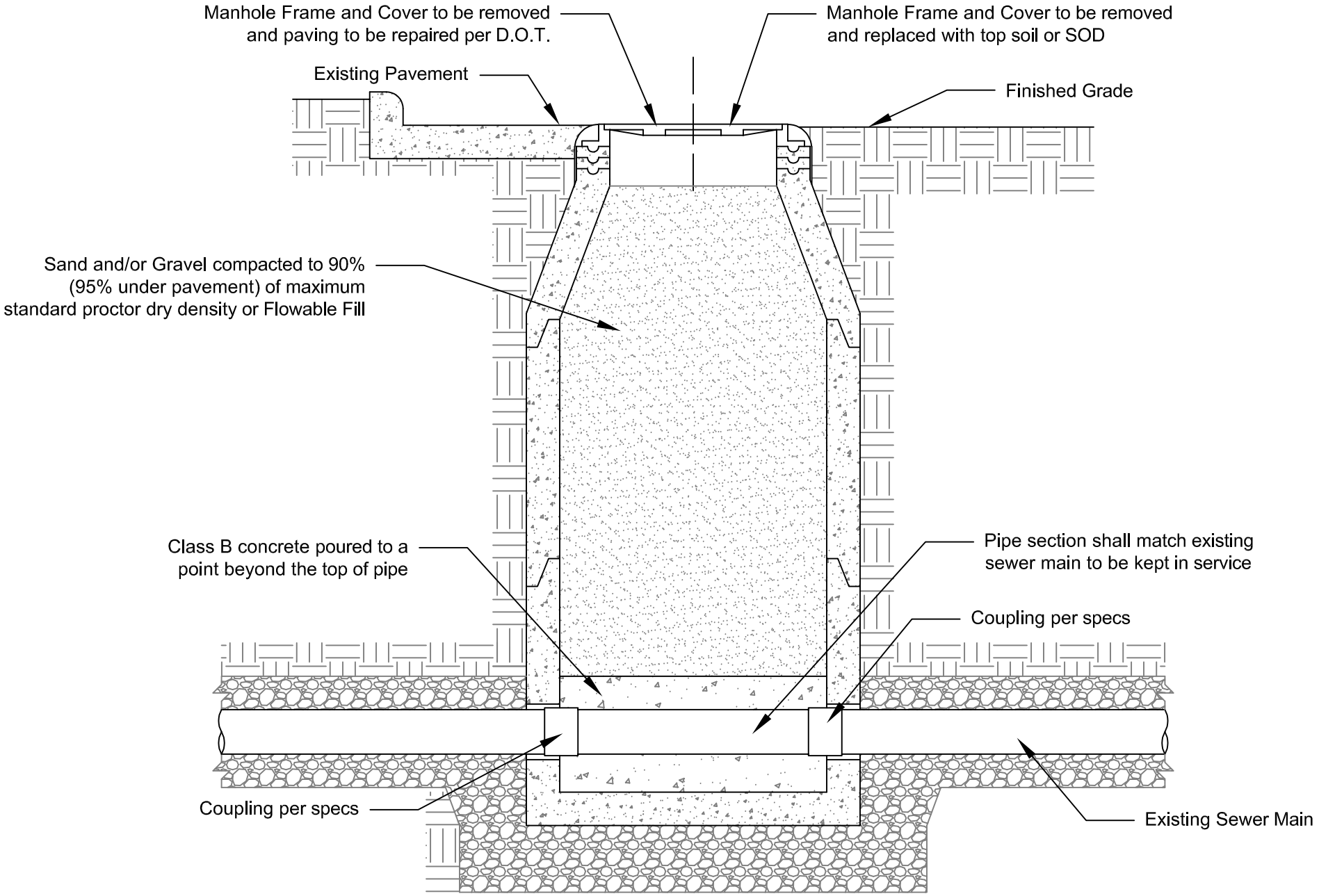
Manhole and Line Abandonment

Standard Detail	Not To Scale	MH-400



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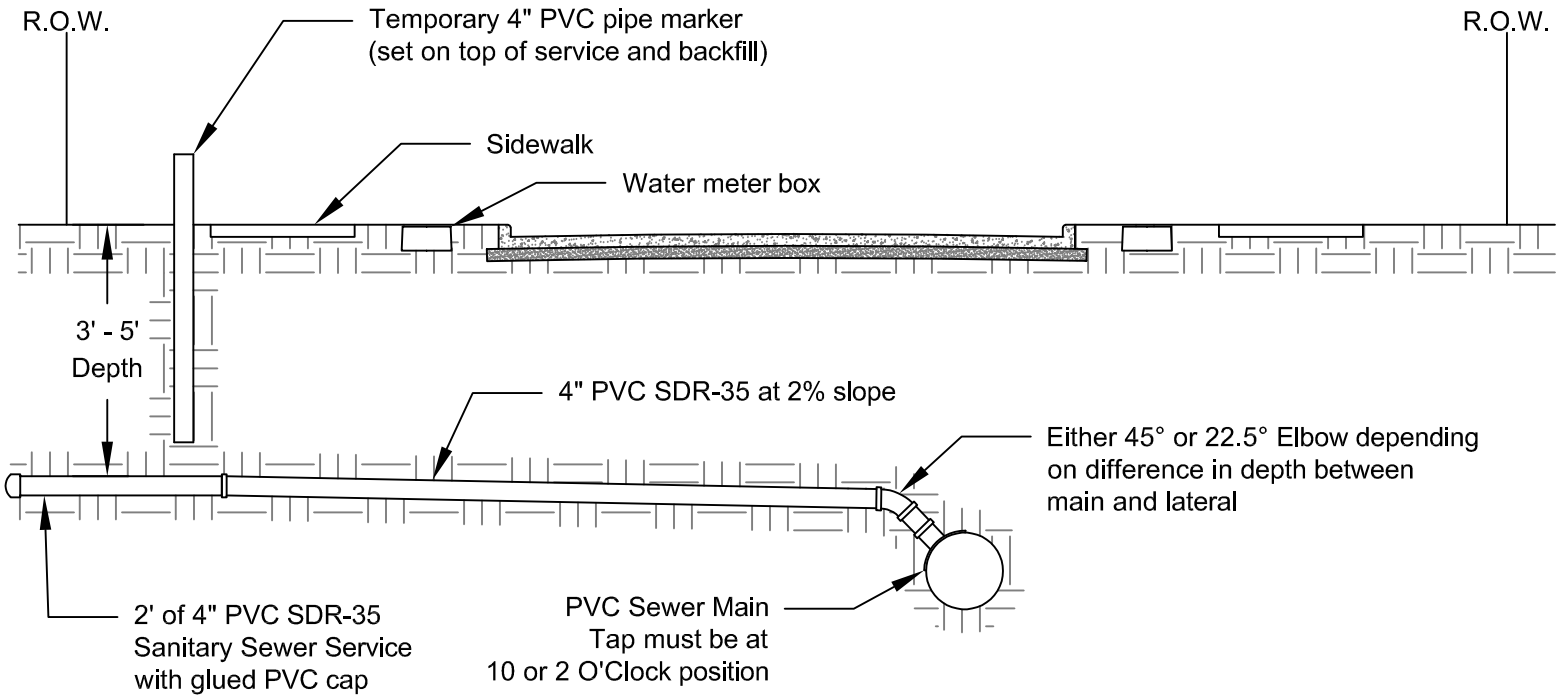
Manhole Abandonment

Standard Detail	Not To Scale	MH-401



Notes:

1) Pipe Marker shall be removed when service is connected and clean-out installed
2) Pipe Marker shall not be connected to service

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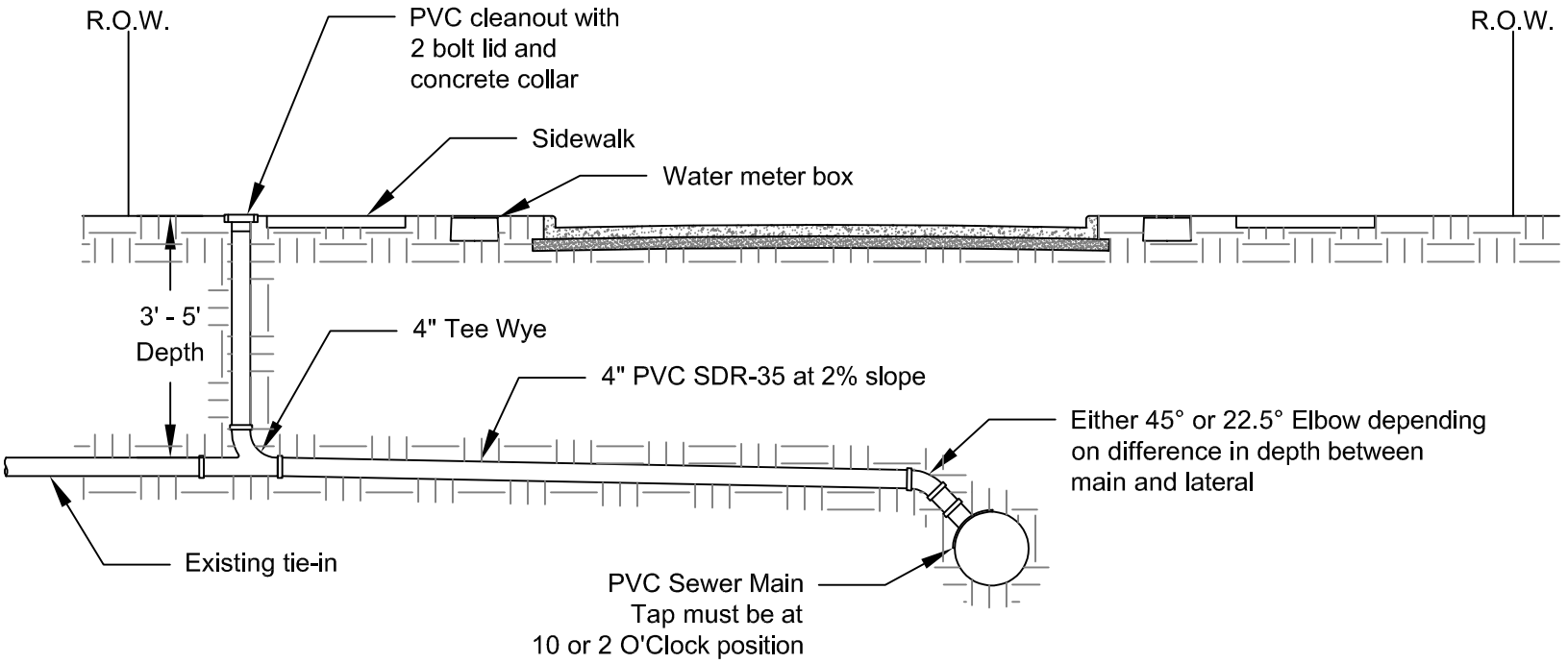
Typical Lateral Crossing

Standard Detail	Not To Scale	SV-100



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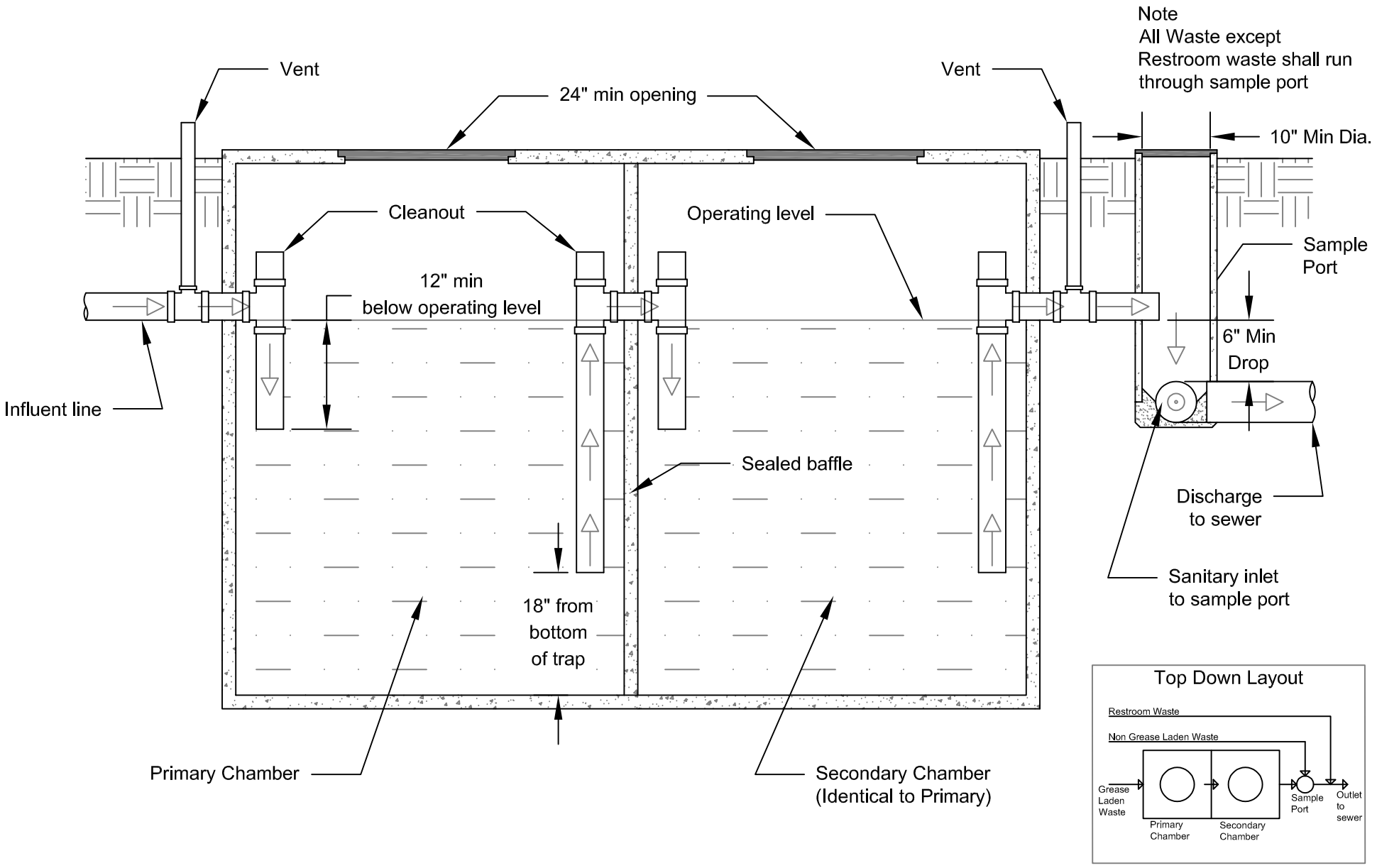
Existing Tie-in Lateral Crossing

Standard Detail	Not To Scale	SV-101



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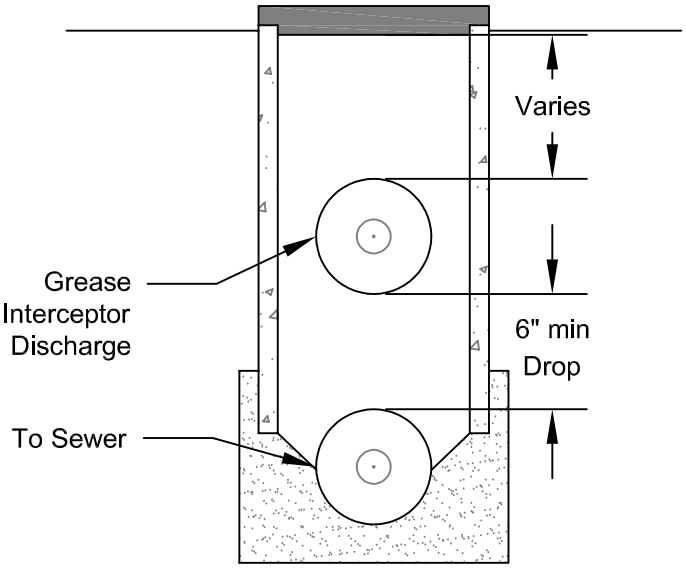
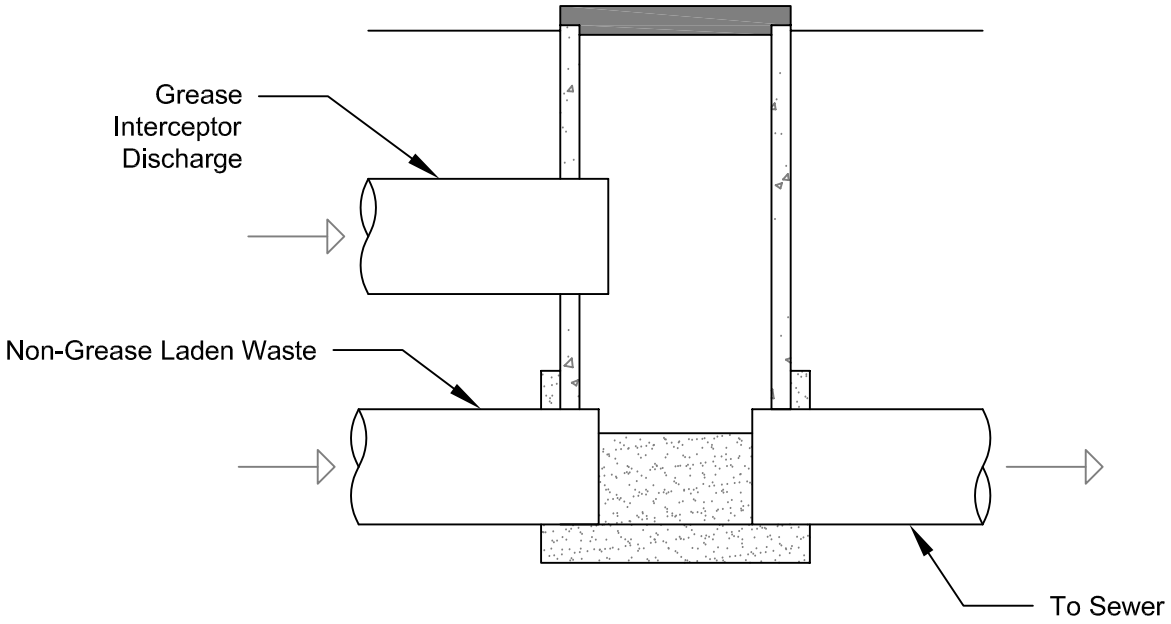
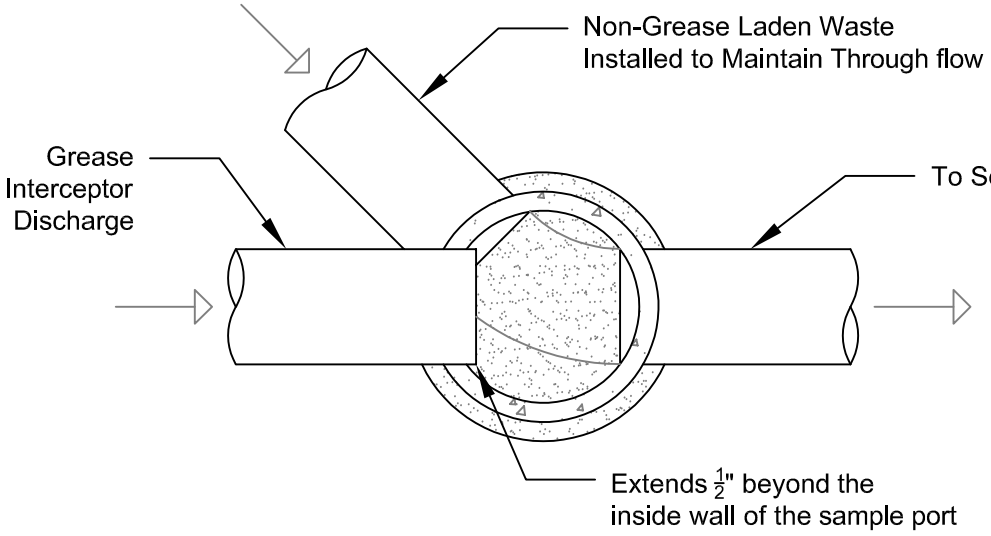
Typical Grease Interceptor

Standard Detail	Not To Scale	SV-200







Notes:

1) Grout sloped so that Sample Port will drain completely. Sample Ports that hold water will not be approved

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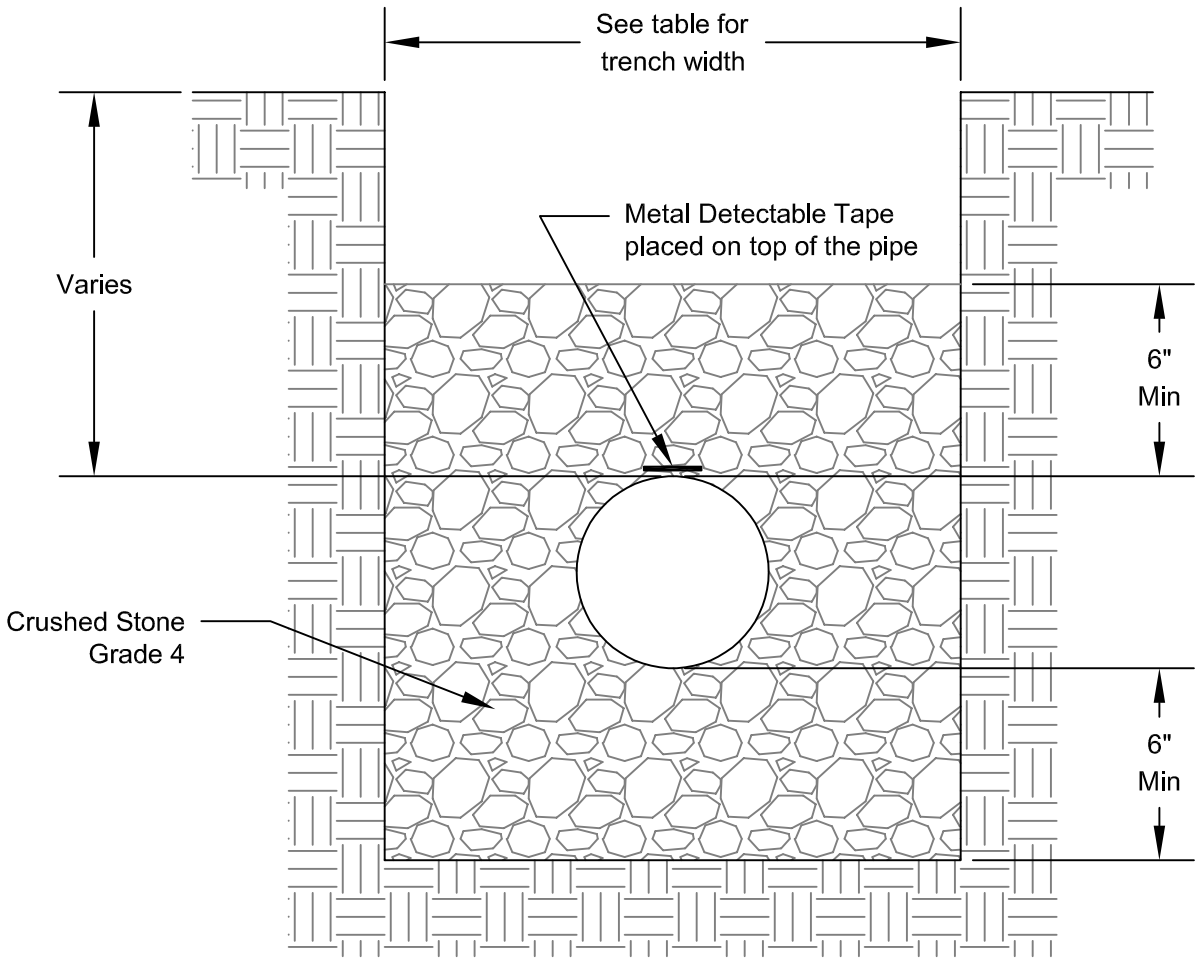
Typical Grease Interceptor Sample Well

Standard Detail	Not To Scale	SV-201



Trench Width		
Pipe Diameter	Minimum Trench Width (Inches)	Maximum Trench Width (Inches)
4	18	24
6	20	24
8	24	25
10	28	28
12	30	30
15	33	33

Tape Width	2"	3"	6"	12" or wider
Tape Bury Depth	6"-18"	6"-28"	6"-36"	6"-45"

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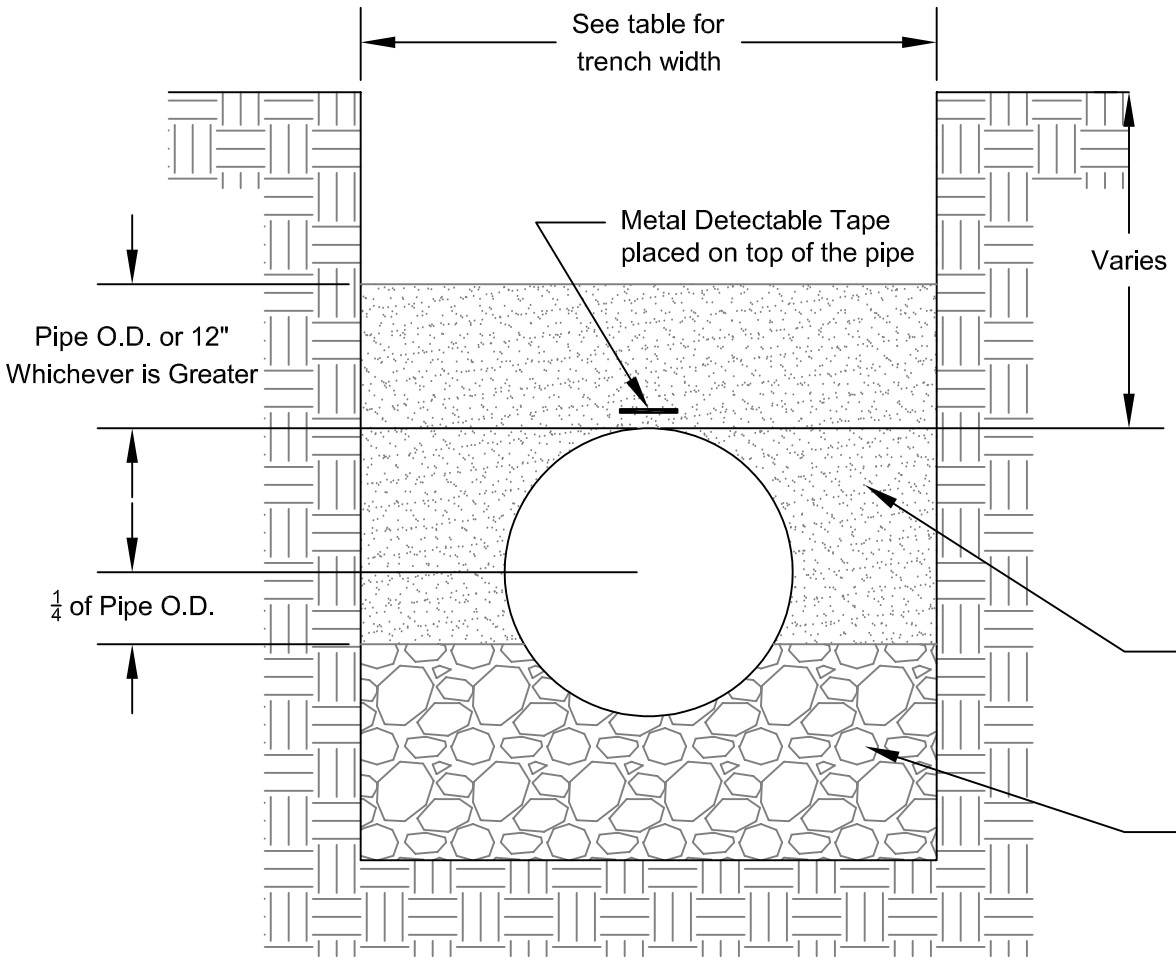
Sewer Line Class H Embedment

Standard Detail	Not To Scale	TR-100



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4	18	24
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Tape Width	2"	3"	6"	12" or wider
Tape Bury Depth	6"-18"	6"-28"	6"-36"	6"-45"

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Sewer Line Cement-Stabilized Sand Encasement

Standard Detail	Not To Scale	TR-101