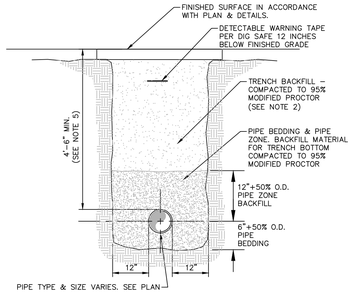


PIPE TYPE & SIZE VARIES. SEE PLAN

NOTES:

1. PIPE BEDDING & PIPE ZONE BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) SAND OR A MIXTURE OF CRUSHED STONE AND GRAVEL, FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. BEDDING GRADATIONS SHALL BE APPROVED BY THE SUPERINTENDENT OF SEWERS AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
3/4"	100%
NO. 40	0–70%
NO. 200	0–10%

2. TRENCH BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) OR PROCESSED GRAVEL, OR EXCAVATED MATERIAL FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. TRENCH BACKFILL GRADATIONS SHALL BE APPROVED BY THE SUPERINTENDENT OF SEWERS AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
2"	100%
¾"	30–65%
NO. 40	5–40%
NO. 200	0–15%

BEDDING AND BACKFILL MATERIAL SHALL BE STOCKPILED IN AMOUNTS NECESSARY FOR REASONABLE BACKFILLING REQUIREMENTS. A SIEVE ANALYSIS OF BEDDING OR BACKFILL MAY BE REQUIRED AT THE REQUEST OF THE TOWN OF POUGHKEEPSIE.

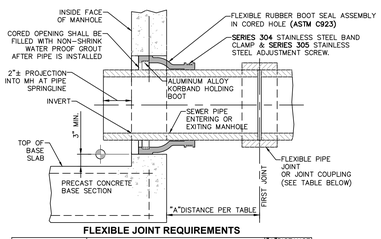
3. INSTALL CONTINUOUS DETECTABLE MARKING TAPE DURING BACKFILLING OF TRENCH FOR UNDERGROUND PIPING. LOCATE TAPE 12" BELOW FINISHED GRADE, DIRECTLY OVER PIPING, EXCEPT 6" BELOW SUBGRADE UNDER PAVEMENTS & SLAB.

4. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.

5. 4'-6" MIN COVER SHALL BE APPLIED TO SANITARY SEWER GRAVITY LINES AND FORCE MAINS ONLY.

6. SANITARY SEWER PIPE SHALL BE SDR35. BELL AND SPIGOT OF SEWER PIPE SHALL BE JOINED USING GASKETED JOINT PVC PIPE. INTEGRAL BELLS SHALL INCORPORATE GASKETS MEETING THE REQUIREMENTS OF ASTM F477 AND BE LOCKED INTO THE BELL.

1 PIPE TRENCH DETAIL (TYPICAL)
SCALE: NOT TO SCALE

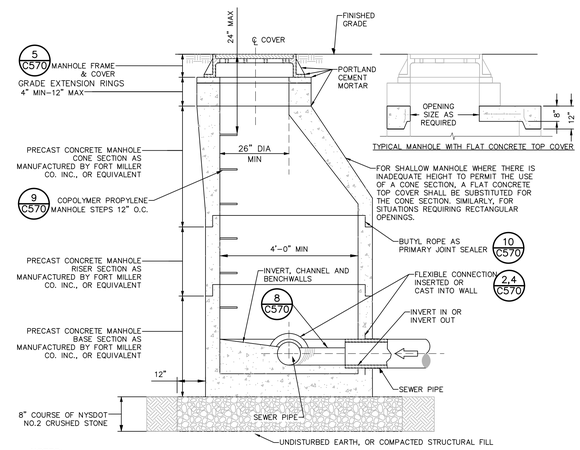


FLEXIBLE JOINT REQUIREMENTS

SEWER PIPE TYPE	FLEXIBLE JOINT TYPE IN & OUT	"A" DISTANCE (FEET)
DUCTILE IRON	STD RUBBER GASKET PIPE JOINT ONLY	10' MAX
PVC	STD RUBBER GASKET PIPE JOINT ONLY	3' MAX

NOTE:
REFERENCE MANHOLE DETAIL(S) FOR REQUIRED INVERT CHANNEL CONFIGURATION.

2 PIPE CONNECTION TO MANHOLE- PRECAST OR CORED HOLE W/ INSERTED FLEXIBLE BOOT
SCALE: NOT TO SCALE



NOTES: USE ONLY WET-CAST UNITS. DRY-CAST NOT ACCEPTABLE

1.

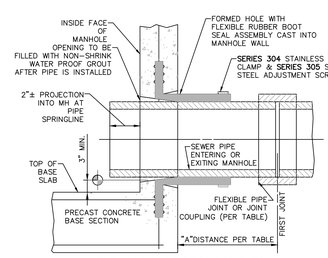
CONE DIMENSIONS	
DIAM. OPENING	HEIGHT
24"	24" OR 42"

2. INVERT SHALL BE FILLETED.
3. REINFORCEMENT FOR MANHOLE COMPONENTS SHALL BE DESIGNED BY A LICENSED NEW YORK STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. STRUCTURE SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING PLUS 25% IMPACT.
4. CONCRETE TO TEST **4,500 PSI** AT 28 DAYS IN CONFORMANCE WITH **A.S.T.M. C-478.**
5. BENCH SHALL BE BUILT FOR FLOW BETWEEN INLET AND OUTLET.
6. EACH MANHOLE EXTERIOR SHALL RECEIVE TWO BITUMINOUS COATS.

3 PRECAST CONCRETE MANHOLE
SCALE: NOT TO SCALE

MANHOLES AND OTHER BELOW GRADE STRUCTURES:

1. STRUCTURAL DESIGN FOR MANHOLES AND OTHER BELOW-GRADE PRECAST CONCRETE STRUCTURES:
   A. NON-TRAFFIC LOADS:
      BELOW GRADE PRECAST CONCRETE STRUCTURES SHALL BE DESIGNED TO WITHSTAND LOADS IMPOSED BY STRUCTURE WEIGHT, EARTH COVER, LATERAL PRESSURE FROM EARTH AND GROUND WATER, AND LIVE LOADS SUCH AS PEDESTRIAN TRAFFIC OR MACHINERY ON OR ABOVE THE STRUCTURE; AND
   B. TRAFFIC LOADS:
      BELOW GRADE PRECAST CONCRETE STRUCTURES SHALL BE DESIGNED TO ALSO WITHSTAND TRAFFIC LOADS CREATED BY AN HS20-44 TRUCK PLUS 25% IMPACT AS DEFINED IN THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) DESIGN STANDARDS.
2. MATERIAL WHICH SHALL BE UTILIZED IN THE CONSTCI RUCTION OF PRECAST CONCRETE STRUCTURES:
   CEMENT: ASTM C-150, TYPES I,II,III,IV,V
   SAND: NYSDOT STD. SPEC. SECTION NO. 703-0 CONCRETE SAND
   STONE: NYSDOT STD. SPEC. SECTION NO. 703-02 COARSE AGGREGATE
   STEEL BAR REINFORCEMENT: ASTM A615, GRADE 60
   WIRE MESH REINFORCEMENT: ASTM A1C 85 PLAIN
   CONCRETE STRENGTH (28 DAY): 4,500 PSI (F'C)
   ENTRAINED AIR: 5% MIN.
3. ALL CASTINGS (FRAMES AND COVERS, FRAMES AND GRATES, ETC.) FOR USE IN CONJUNCTION WITH MANHOLES AND OTHER BELOW GRADE STRUCTURES SHALL BE MANUFACTURED FROM GRAY IRON OR DUCTILE IRON. GRAY IRON SHALL CONFORM WITH ASTM A 48, CLASS 30B AND DUCTILE IRON SHALL CONFORM WITH ASTM A 536 AND BE OF A GRADE APPROPRIATE TO ITS INTENDED USE.
4. ALL CASTINGS (FRAMES AND COVERS, FRAMES AND GRATES, ETC.) FOR USE IN CONJUNCTION WITH MANHOLES AND OTHER BELOW GRADE STRUCTURES SHALL BE DESIGNED TO WITHSTAND AASHTO HS 20-44 HIGHWAY LOADING PLUS 25% IMPACT.
5. ALL ASTM REFERENCES SHALL BE FOR THE LATEST ACTIVE STANDARD.

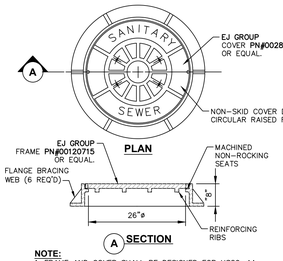


FLEXIBLE JOINT REQUIREMENTS

SEWER PIPE TYPE	FLEXIBLE JOINT TYPE IN & OUT	"A" DISTANCE (FEET)
DUCTILE IRON	STD RUBBER GASKET PIPE JOINT ONLY	10' MAX
PVC	STD RUBBER GASKET PIPE JOINT ONLY	3' MAX

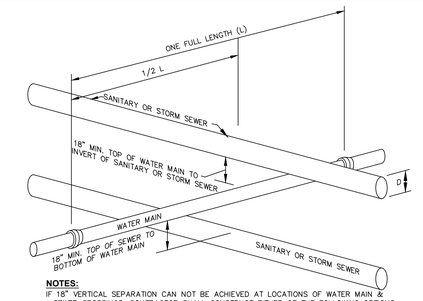
NOTE:
REFERENCE MANHOLE DETAIL(S) FOR REQUIRED INVERT CHANNEL CONFIGURATION.

4 PIPE CONNECTION TO MANHOLE- FLEXIBLE RUBBER BOOT CAST INTO MANHOLE WALL
SCALE: NOT TO SCALE



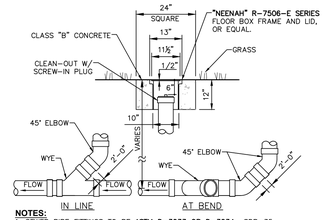
NOTE:
1. FRAME AND COVER SHALL BE DESIGNED FOR HS20-44 VEHICLE LOADING AND 25% IMPACT.

5 HEAVY DUTY STANDARD CAST IRON MH COVER
SCALE: NOT TO SCALE



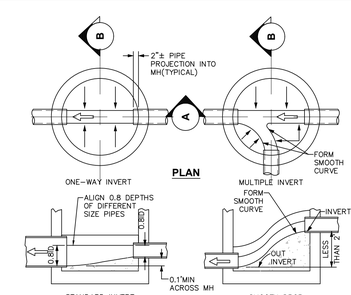
NOTES:
IF 18" VERTICAL SEPARATION CAN NOT BE ACHIEVED AT LOCATIONS OF WATER MAIN & SEWER CROSSINGS, CONTRACTOR SHALL CONSTRUCT EITHER OF THE FOLLOWING OPTIONS:
1. CONSTRUCT SEWER OF PVC WATERWORKS GRADE PRESSURE PIPE MATERIAL 10' ON EACH SIDE OF THE WATER MAIN AND TEST TO 150PSI TO ASSURE TIGHTNESS.
2. EITHER THE WATER MAIN OR THE SEWER LINE MAY BE ENCASED IN A WATER TIGHT CARRIER PIPE WHICH EXTENDS 10 FEET ON BOTH SIDES OF THE CROSSING. THE CARRIER PIPE SHALL BE OF MATERIAL APPROVED FOR THE USE IN WATER MAIN CONSTRUCTION.

6 SECTION WATER/SEWER SEPARATION REQUIREMENTS
SCALE: NOT TO SCALE



NOTES:
1. SEWER PIPE FITTINGS TO BE **ASTM D-3033 OR D-3034** SDR-35.
2. TO BE USED FOR GRAVITY PORTION OF SANITARY SYSTEM AS WELL AS THE STORM ROOF DRAINAGE SYSTEM.

7 CLEAN OUT - NON TRAFFIC AREAS
SCALE: NOT TO SCALE



NOTE:
INLET AND OUTLET OF PIPES SHOWN ON PLAN VIEW OF BASE ARE NOT NECESSARILY TYPICAL OF ALL MANHOLES. REFER TO UTILITY PLAN FOR INLET AND OUTLET DIRECTIONS.

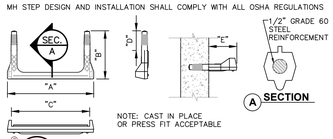
8 INVERT, CHANNEL AND BENCHWALLS
SCALE: NOT TO SCALE

ACCEPTABLE MANHOLE STEPS

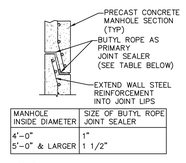
MANUFACTURER	PATTERN NUMBER	"A" STEP WIDTH	"B" LEG LENGTH	"C" RUNG CLEAR	"D" EMBED-MENT	"E" RUNG CLEAR
M.A. INDUSTRIES INC*	PS2-PF	14 3/4	9 1/4	13 3/4	3 3/8	5 7/8
M.A. INDUSTRIES INC*	PS2-PFS	14 3/4	8 1/4	13 3/4	3 3/8	4 7/8

* OR EQUIVALENT

MH STEP DESIGN AND INSTALLATION SHALL COMPLY WITH ALL OSHA REGULATIONS

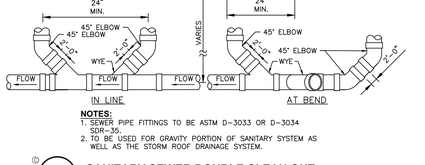


9 COPOLYMER POLYPROPYLENE MH STEP
SCALE: NOT TO SCALE



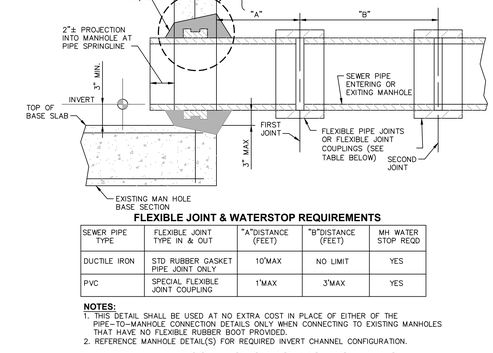
MANHOLE INSIDE DIAMETER	SIZE OF BUTYL ROPE JOINT SEALER
4'–0"	1"
5'–0" & LARGER	1 1/2"

10 MANHOLE JOINT
SCALE: NOT TO SCALE



NOTES:
1. SEWER PIPE FITTINGS TO BE ASTM D-3033 OR D-3034 SDR-35.
2. TO BE USED FOR GRAVITY PORTION OF SANITARY SYSTEM AS WELL AS THE STORM ROOF DRAINAGE SYSTEM.

11 SANITARY SEWER DOUBLE CLEAN OUT
SCALE: NOT TO SCALE



FLEXIBLE JOINT & WATERSTOP REQUIREMENTS

SEWER PIPE TYPE	FLEXIBLE JOINT TYPE IN & OUT	"A" DISTANCE (FEET)	"B" DISTANCE (FEET)	MH WATER STOP REQD
DUCTILE IRON	STD RUBBER GASKET PIPE JOINT ONLY	10'MAX	NO LIMIT	YES
PVC	SPECIAL FLEXIBLE JOINT COUPLING	1'MAX	3'MAX	YES

NOTES:
1. THIS DETAIL SHALL BE USED AT NO EXTRA COST IN PLACE OF EITHER OF THE PIPE-TO-MANHOLE CONNECTION DETAILS ONLY WHEN CONNECTING TO EXISTING MANHOLES THAT HAVE NO FLEXIBLE RUBBER BOOT PROVIDED.
2. REFERENCE MANHOLE DETAIL(S) FOR REQUIRED INVERT CHANNEL CONFIGURATION.

12 PIPE CONNECTION TO EXISTING MANHOLE- CEMENT GROUT SEAL WITH WATER STOP
SCALE: NOT TO SCALE

ISSUED FOR SITE PLAN APPROVAL

0 1 2 3
ORGINAL SCALE IN INCHES

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rev.	date	description
1	03/28/22	REVISED PER TOWN COMMENTS

1998 SOUTH ROAD - STORAGE FACILITY

SANITARY SEWER DETAILS & NOTES

TOWN OF POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

designed	checked
LTN	CPL
date	scale
11/22/21	AS SHOWN
project no.	
82133.00	
sheet no.	
C542	

Drawing Name: Z:\Projects\82100-82199\82133.00 Diamond Point Development - OSHO\DWG\01_C542_82133-00_SAND.dwg
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