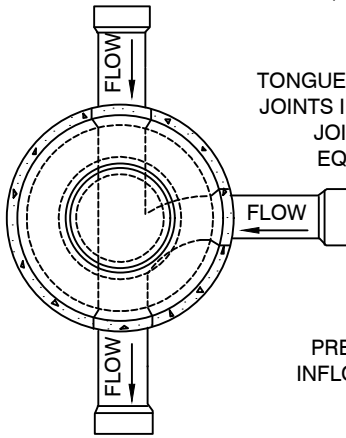


NOTE:
FOR USE WHEN MANHOLE IS NOT
LOCATED IN PAVEMENT.

FIELD COLLAR DETAIL

6" MIN. CONCRETE COLLAR
2" BELOW MIN. TOP OF CONE
5.0' MIN. DIA.



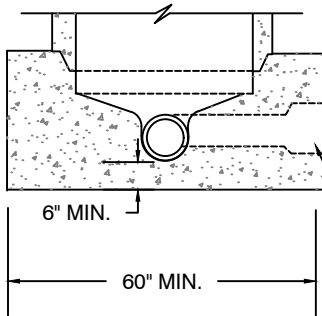
TOP VIEW

PRECAST R.C. CONCENTRIC CONE
(ECCENTRIC CONE FOR DIA. 60"
OR LARGER)

TONGUE & GROOVE JOINTS, SET ALL
JOINTS IN "RAMNECK" OR "CONSEAL"
JOINT SEALING COMPOUND OR
EQUAL (PER MANUFACTURER'S
RECOMMENDATIONS)

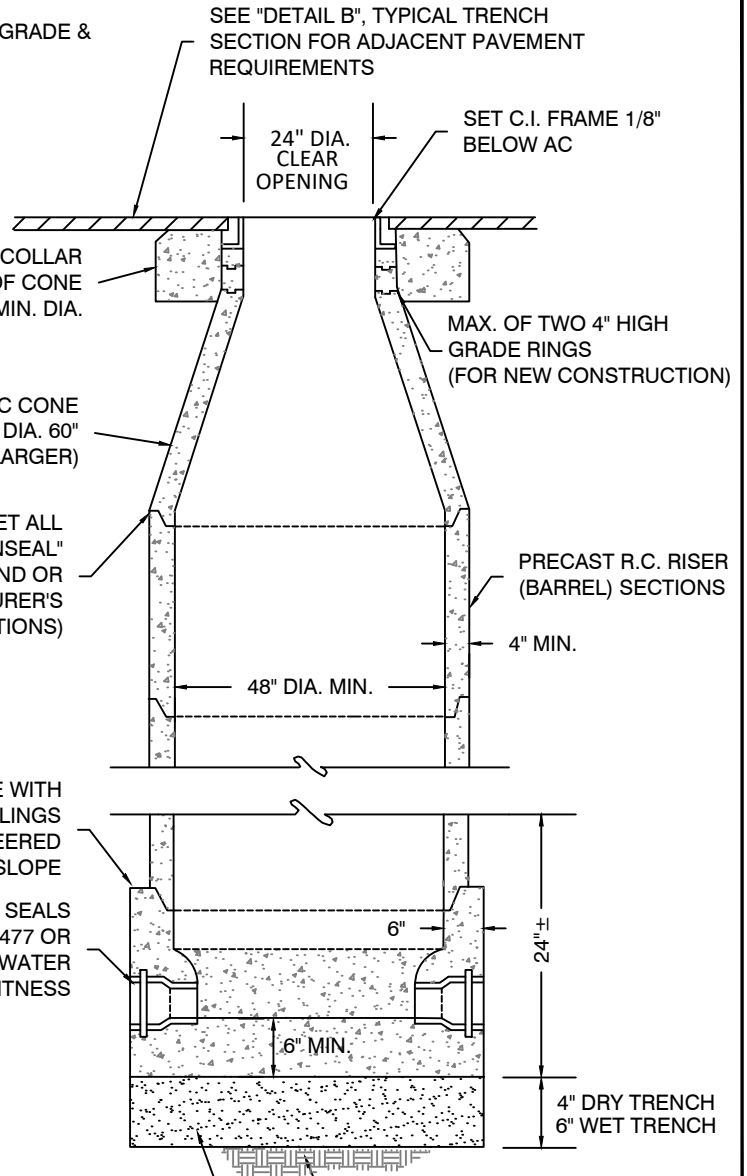
PRECAST MANHOLE BASE WITH
INFLOW & OUTFLOW COUPLINGS
CAST IN AT ENGINEERED
INVERTS, ANGLE & SLOPE

APPROVED ELASTOMERIC SEALS
CONFORMING TO ASTM F-477 OR
ASTM C923 TO ENSURE WATER
TIGHTNESS



**SECTION
SIDE VIEW**

SMALLER LATERAL SEWER FLOW
CHANNELS ARE TO BE BROUGHT
INTO MAIN LINE CHANNELS WITH
THE ELEVATION OF PIPE CROWN
MATCHING THE CROWN OF THE MAIN
INFLOW



TYPICAL SECTION

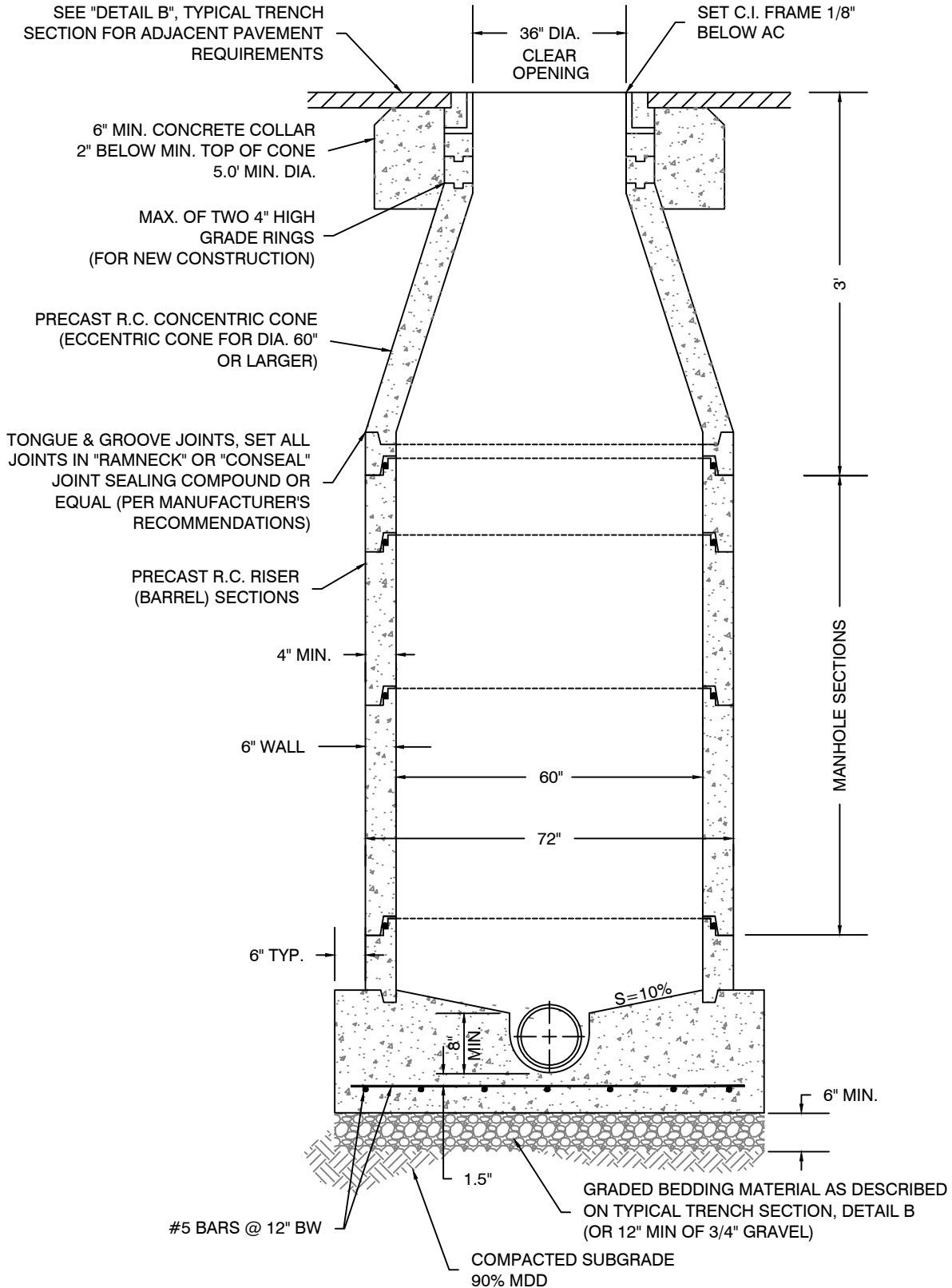
NOTE: SEE "DETAIL A-3", STANDARD MANHOLE
NOTES.

**DETAIL A-1
STANDARD MANHOLE**

(≤ 15" GRAVITY SEWER)

MINDEN - GARDNERVILLE SANITATION DISTRICT





SEE "DETAIL A-3" STANDARD MANHOLE NOTES.

DETAIL A-2 CONCENTRIC MANHOLE

(≥ 15" GRAVITY SEWER)

MINDEN - GARDNERVILLE SANITATION DISTRICT

DATE: JULY 2022

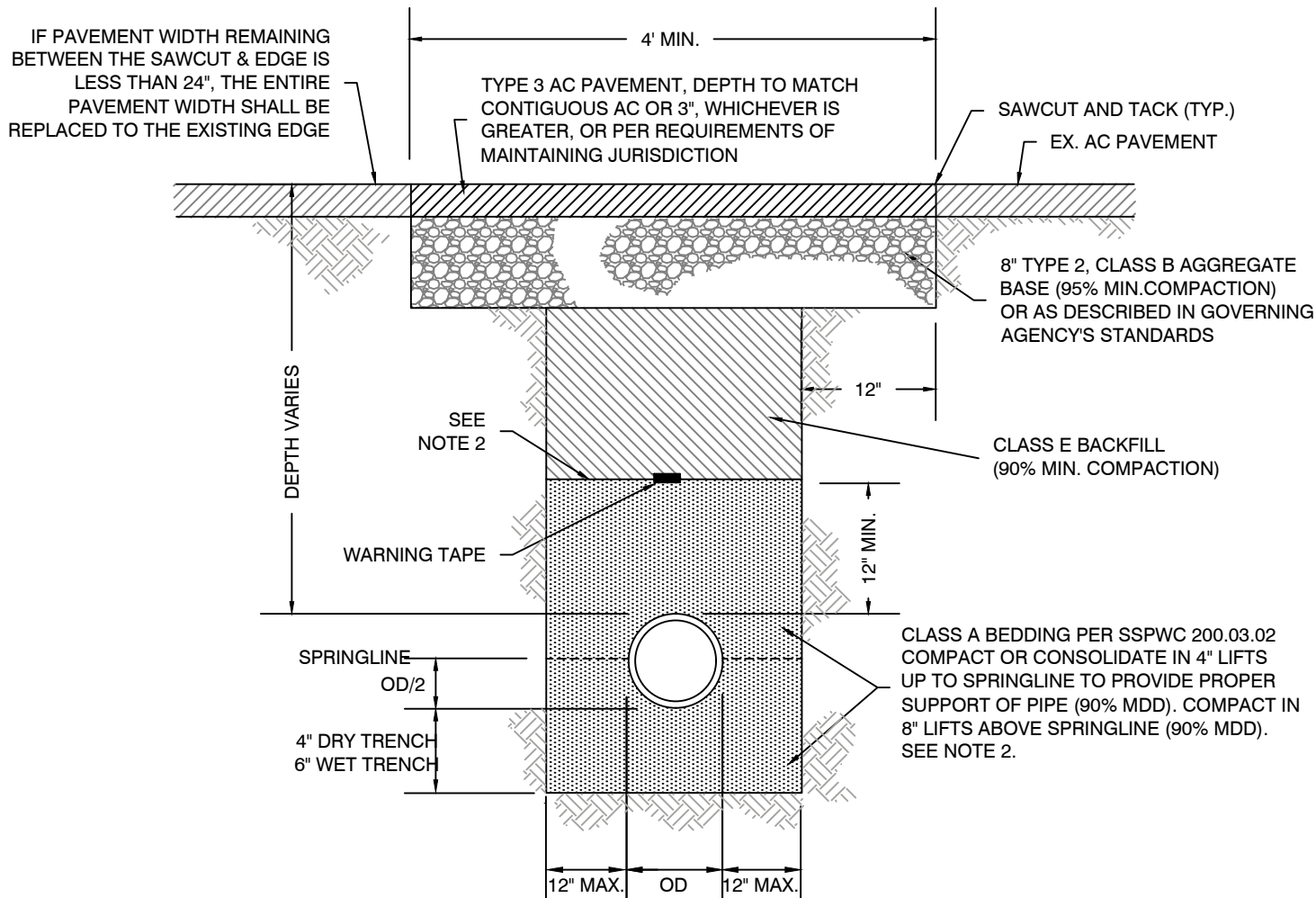


NOTES:

1. CONTRACTOR SHALL CONTACT AND COORDINATE WITH M.G.S.D. AND ALL OTHER UTILITIES 48 HOURS PRIOR TO CONSTRUCTION.
2. ALL CONSTRUCTION SHALL CONFORM TO M.G.S.D. STANDARDS AND NO BACKFILLING WILL BE ALLOWED UNTIL INSPECTED AND APPROVED BY M.G.S.D.
3. MANHOLE SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE SECTIONS CONFORMING TO ASTM DESIGNATION C478 AND FULLY SEALED TO BE WATERTIGHT.
4. EXCAVATION FOR MANHOLE MUST BE MADE TO A MINIMUM OF ONE FOOT OUTSIDE OF THE MANHOLE WALL TO PROVIDE FOR ADEQUATE WORKSPACE. SPACE OUTSIDE OF THE MANHOLE SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 8" IN DEPTH. EACH LAYER SHALL BE THOROUGHLY COMPACTED TO THE DENSITY OF THE EARTH IN THE ADJACENT TRENCH SECTIONS (MIN. 90% IN EXISTING OR PROPOSED STREET OR ALLEY RIGHTS-OF-WAY).
5. CAST IRON FRAME AND COVER SHALL BE 24-INCH DIAMETER (CLEAR OPENING) AND SHALL BE MANUFACTURED FROM GRAY CAST IRON CONFORMING TO ASTM DESIGNATION: A-48, CLASS 30, AND DESIGNED FOR A MINIMUM HS-20 TRAFFIC LOADING. COVERS AND FRAMES SHALL BE MATCH-MARKED IN PAIRS AND SEATING SURFACES MACHINED SO THAT COVER IS NON-ROCKING. COVERS SHALL HAVE TWO PICK HOLES, NO "THRU" HOLES, AND BE IDENTIFIED WITH "SEWER" CLEARLY DISPLAYED ON COVER.
6. ALL BASES MUST BE PRECAST UNLESS OTHERWISE APPROVED BY M.G.S.D.
7. CONCRETE FOR CAST-IN-PLACE MANHOLE BASE, IF APPROVED BY M.G.S.D. FOR USE, SHALL BE A MINIMUM 4000 PSI 28 DAY STRENGTH CLASS AA OR DA CONCRETE.
8. SEWER STUBS FOR FUTURE EXTENSION SHALL BE NO LESS THAN 18" AND NO MORE THAN 5 FEET IN LENGTH.
9. THE TOP OF INCOMING LATERAL SEWERS SHALL ENTER THE MANHOLE AT AN ELEVATION EQUAL TO THE TOP OF THE MAIN LINE. EXCEPTIONS ONLY BY PRIOR M.G.S.D. APPROVAL.
10. INVERTS SHALL BE FORMED DIRECTLY IN CONCRETE OF MANHOLE BASE AND SHALL BE SMOOTH AND ACCURATELY SHAPED TO A SEMI-CIRCULAR BOTTOM CONFORMING TO THE INSIDE OF THE ADJACENT SEWER SECTION.
11. WHERE MANHOLES ARE NOT LOCATED IN STREETS, PLACE TOP OF MANHOLE A MINIMUM OF 6" ABOVE EXISTING GROUND AS REQUIRED BY M.G.S.D., MGSD MAY REQUIRE DIFFERENT STANDARDS IN FLOOD PLAIN OR OTHER SPECIAL CIRCUMSTANCES. INSTALL THE CONCRETE COLLAR FROM A POINT 6" OUTSIDE THE TOP OF THE COVER FRAME AND EXTEND A MINIMUM OF 6 INCHES BELOW THE SURROUNDING GROUND OR 2" BELOW THE TOP OF THE CONE, WHICHEVER IS MORE RESTRICTIVE. TAPER THE CONCRETE COLLAR FROM TOP TO BOTTOM AT A 1:1 SLOPE OR FLATTER.
12. ALTERNATIVE METHODS OF RAISING THE LID & FRAME TO GRADE, OTHER THAN CONCRETE GRADE RINGS, SHALL BE APPROVED BY THE DISTRICT ON A CASE BY CASE BASIS PRIOR TO CONSTRUCTION.
13. CONCRETE COLLAR MATERIAL SHALL MEET REQUIREMENTS FOR CONCRETE EXPOSED TO FREEZE-THAW ENVIRONMENTS.
14. ALL JOINTS, COVERS, AND CONNECTIONS TO NEW OR EXISTING MANHOLES SHALL BE WATERTIGHT. MANHOLES SHALL BE VACUUM TESTED FROM TOP OF CONE PRIOR TO PAVING IN AREAS OF HIGH GROUNDWATER.
15. USE DETAIL A-2, CONCENTRIC MANHOLE, WHERE PIPE IS LARGER THAN 15" OR DEPTH TO INVERT EXCEEDS 15'.
16. USE OF A NON-STANDARD MANHOLE (ECCENTRIC OR DROP MANHOLE) OR CAST-IN-PLACE MANHOLE REQUIRES MGSD REVIEW AND APPROVAL.
17. POLYMER MANHOLES MAY BE REQUIRED IN FORCE MAIN APPLICATIONS.

DETAIL A-3
STANDARD MANHOLE NOTES
MINDEN - GARDNERVILLE SANITATION DISTRICT





NOTES:

1. ALL REQUIREMENTS OF THE M.G.S.D. ORDINANCE MUST BE MET. SEE M.G.S.D. ORDINANCE FOR BACKFILL OF TRENCHES IN NON-TRAFFIC AREAS.
2. IN AREAS OF HIGH GROUND WATER, CLASS B, C, OR D BACKFILL CAN BE UTILIZED (WRAPPED ON ALL SIDES WITH MIRAFI 140N FILTER FABRIC, OR APPROVED EQUAL) IN LIEU OF CLASS A BEDDING. ANY OTHER VARIATION IN BEDDING GRADATIONS OR FILTER FABRIC INSTALLATION SHALL ONLY BE ALLOWED IF GRADATION OF ALTERNATIVE MATERIAL OR OTHER PROPOSED VARIATION IS SUBMITTED TO AND APPROVED BY THE M.G.S.D. ENGINEER PRIOR TO CONSTRUCTION.
3. TYPE 2 CLASS B AGGREGATE BASE SHALL CONFORM TO SECTION 200 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED IN CONFORMANCE WITH SECTION 305.01 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. IF GOVERNING AGENCY REQUIRES MORE STRINGENT AC PAVEMENT OR AGGREGATE BASE, FOLLOW REQUIREMENTS FOR AGENCY MAINTAINING PAVEMENT.
4. ALL BACKFILL AND BEDDING MATERIAL SHALL CONFORM TO SECTION 200 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. BEDDING AND BACKFILL SHALL BE MECHANICALLY COMPACTED IN CONFORMANCE WITH SECTION 305.10 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

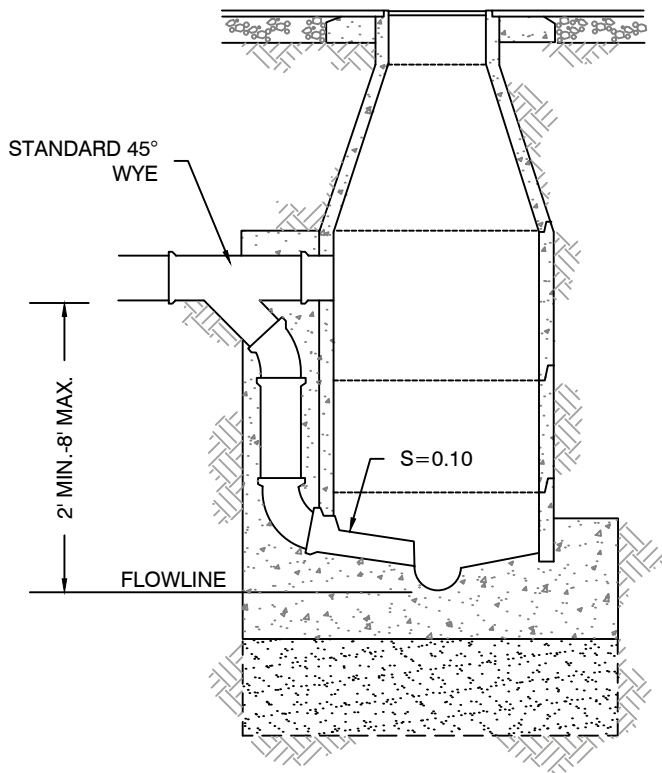
DETAIL B

TYPICAL TRENCH SECTION

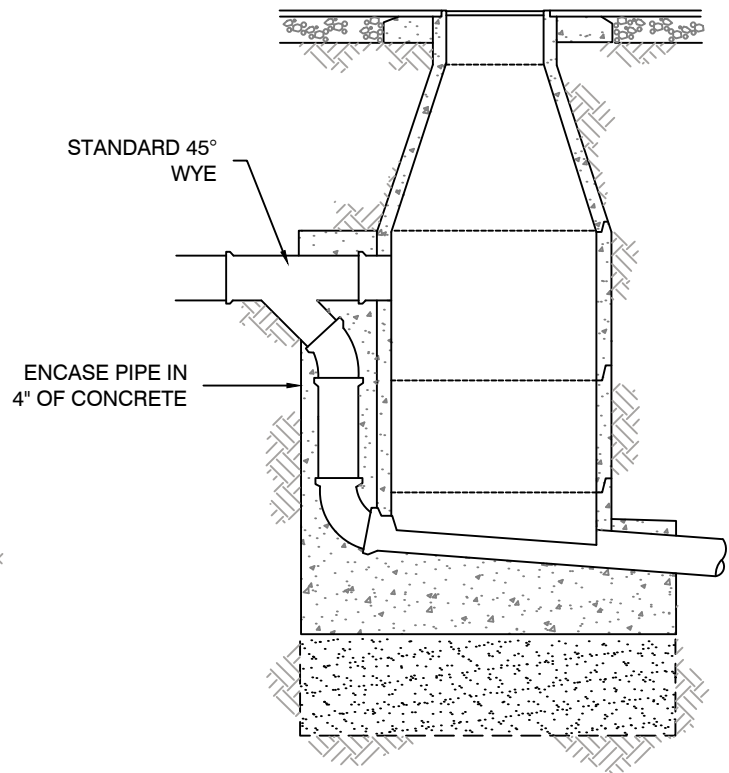
MINDEN - GARDNERVILLE SANITATION DISTRICT

DATE: JULY 2022





LATERAL TO MAIN



MAIN TO MAIN

NOTES:

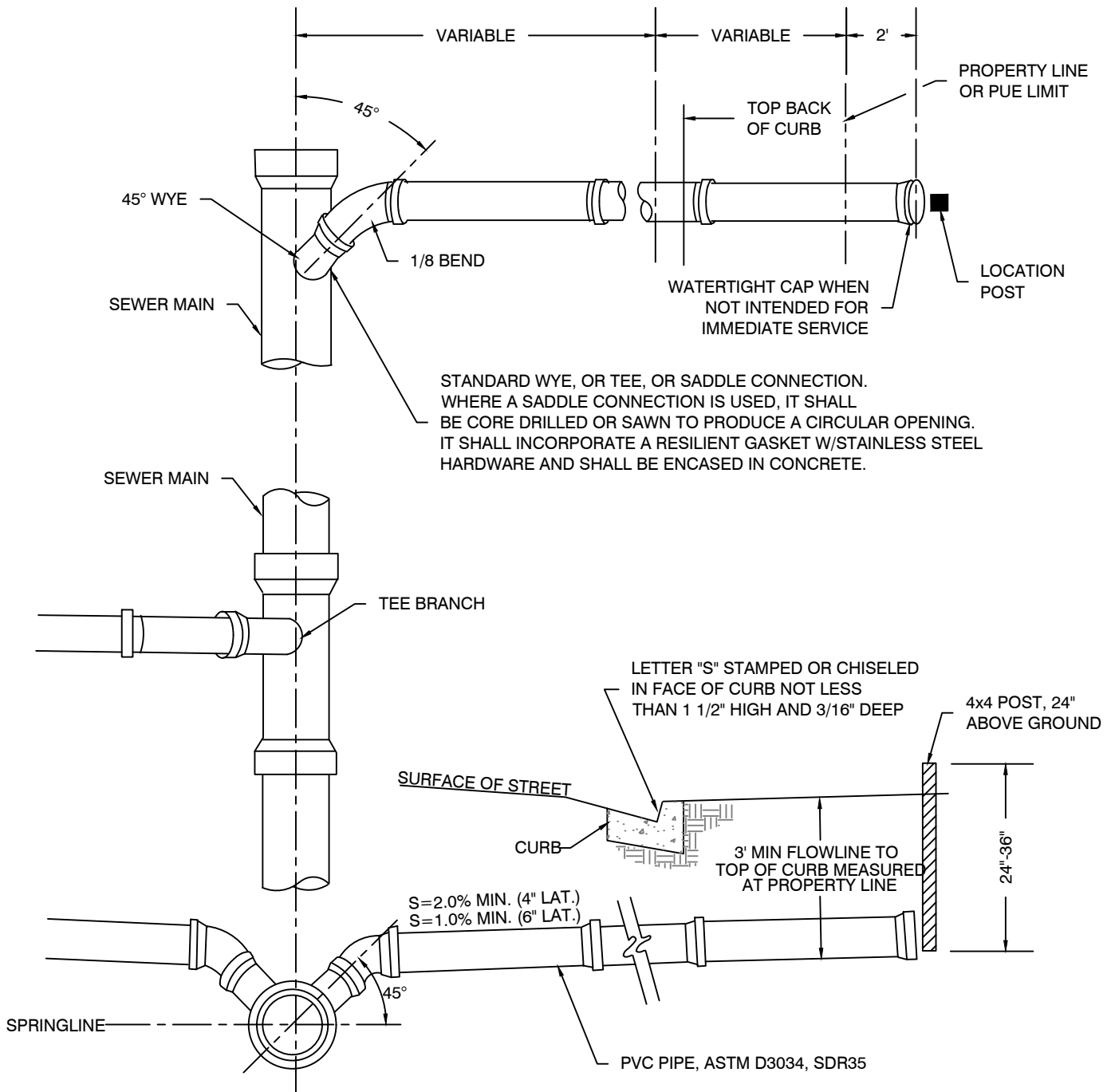
1. THE USE OF DROP MANHOLES IS NOT PREFERRED BY MGSD AND THE USE OF A DROP MANHOLE IS SUBJECT TO MGSD APPROVAL. SEWER INFRASTRUCTURE IS TO BE DESIGNED TO AVOID THE USE OF DROP MANHOLES WHENEVER POSSIBLE.
2. DROP MANHOLES ARE TO BE USED ON ALL SANITARY SEWERS WITH MORE THAN 2 FEET VERTICAL DROP AT MANHOLE (DROP SHALL NOT EXCEED 8 FEET AT ANY MANHOLE).
3. MAINS SHALL BE SLOPED TO FALL AT LEAST 0.1 FEET ACROSS MANHOLE SECTION.
4. ALL OTHER DIMENSIONS, NOTES AND REQUIREMENTS AS SHOWN ON THE STANDARD MANHOLE DETAIL SHALL APPLY TO DROP MANHOLES.
5. DIMENSIONS NOT SHOWN ARE DELINEATED ON STANDARD MANHOLE DETAIL.
6. ALL JOINTS AND CONNECTIONS TO NEW OR EXISTING MANHOLES SHALL BE WATERTIGHT.

DETAIL C DROP MANHOLE

MINDEN - GARDNERVILLE SANITATION DISTRICT

DATE: JULY 2022





NOTES:

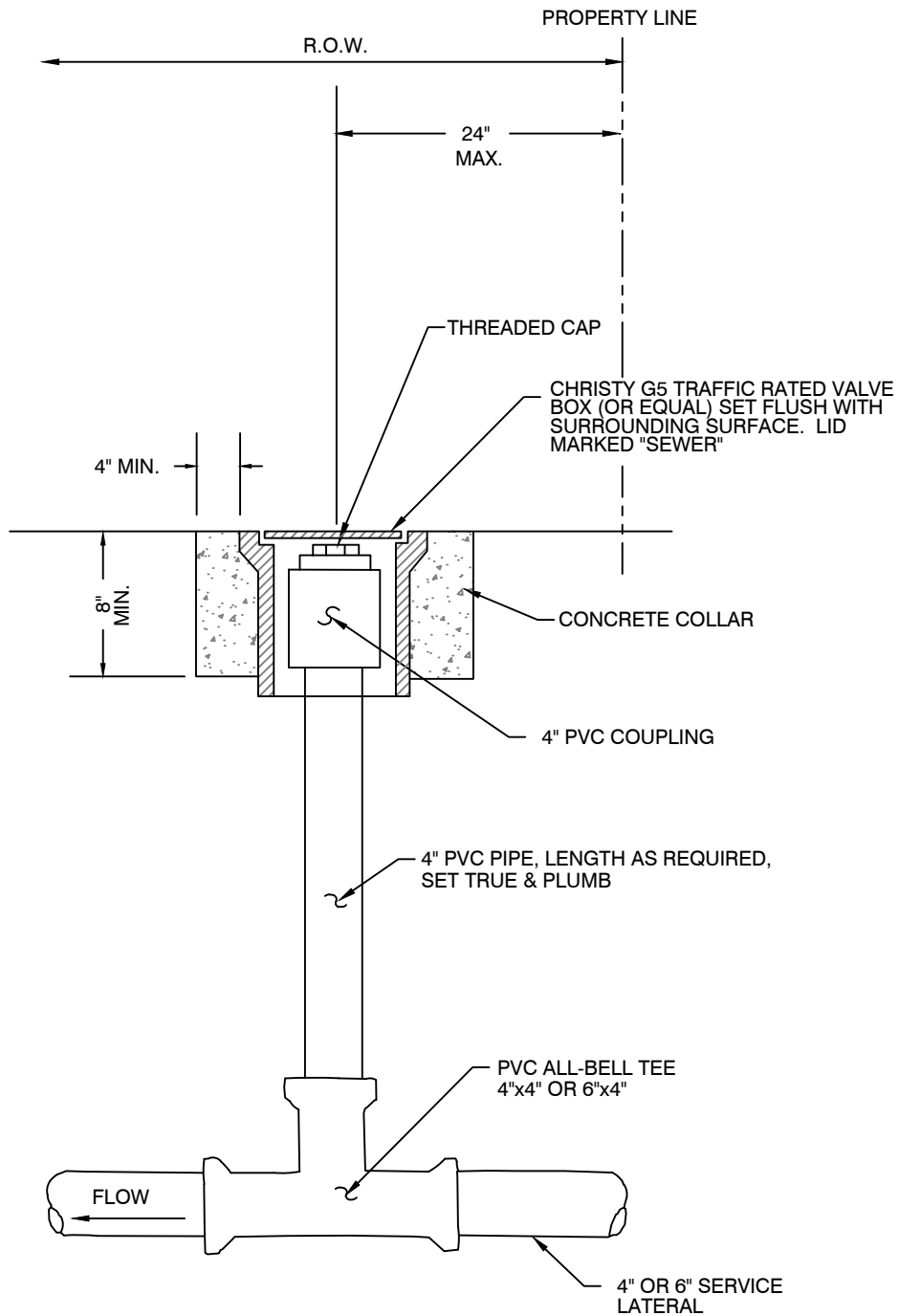
1. ALL JOINTS AND CONNECTIONS SHALL BE WATERTIGHT.
2. ALL BUILDING SEWERS SHALL HAVE A MINIMUM GROUND COVER OF THREE FEET (3') OVER THE TOP OF THE PIPE UNLESS SPECIFICALLY APPROVED BY MGSD.
3. LATERALS SHALL NOT CONNECT TO THE SEWER MAIN DIRECTLY ON TOP, NOR SHALL THE LATERAL FLOWLINE BE SITUATED BELOW THE SPRINGLINE OF THE MAIN.

DETAIL D

TYPICAL SEWER LATERAL

MINDEN - GARDNERVILLE SANITATION DISTRICT



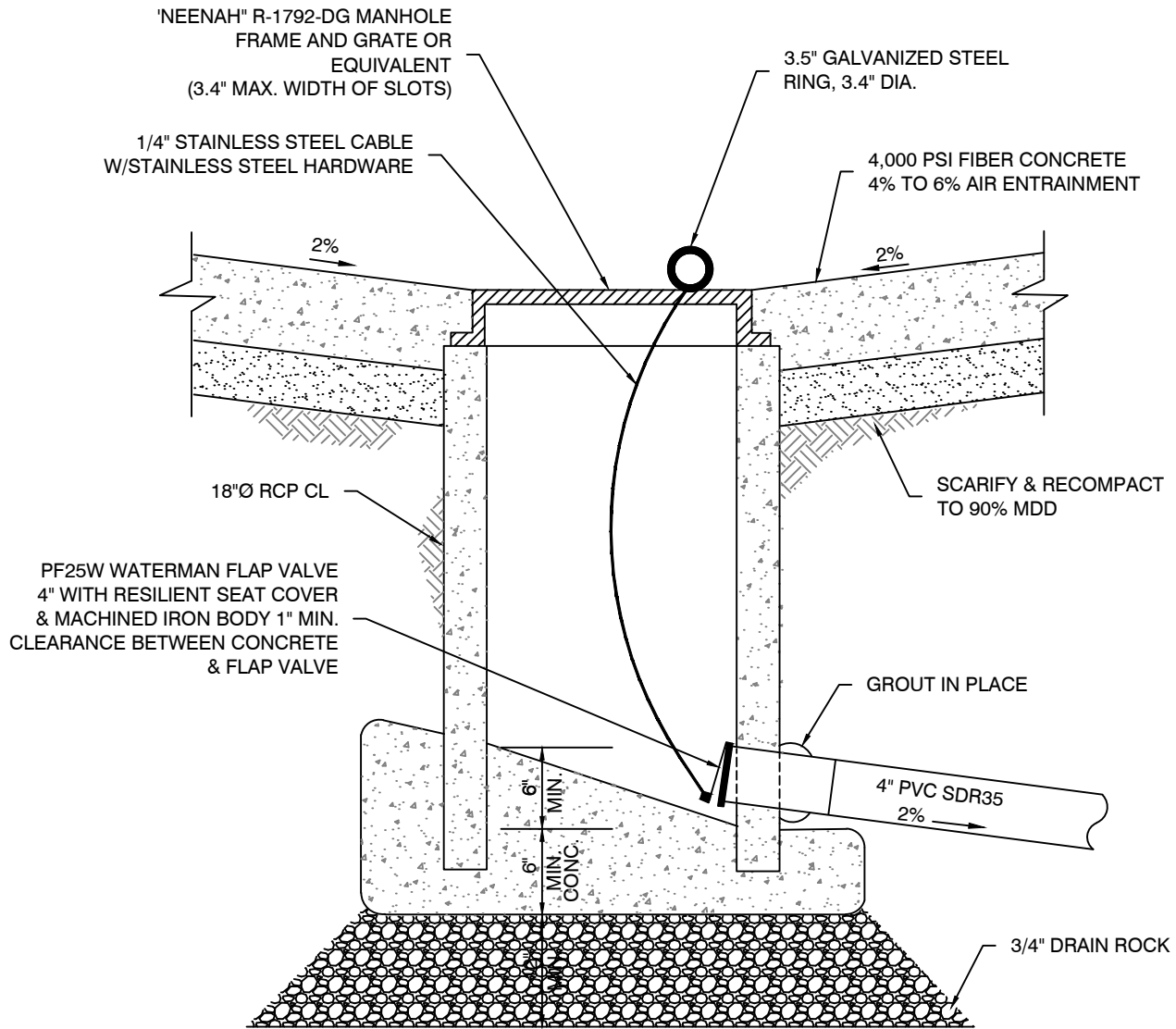


NOTE: ALL JOINTS AND CONNECTIONS SHALL BE WATERTIGHT.

DETAIL E LATERAL OBSERVATION TEE

MINDEN - GARDNERVILLE SANITATION DISTRICT





NOTES:

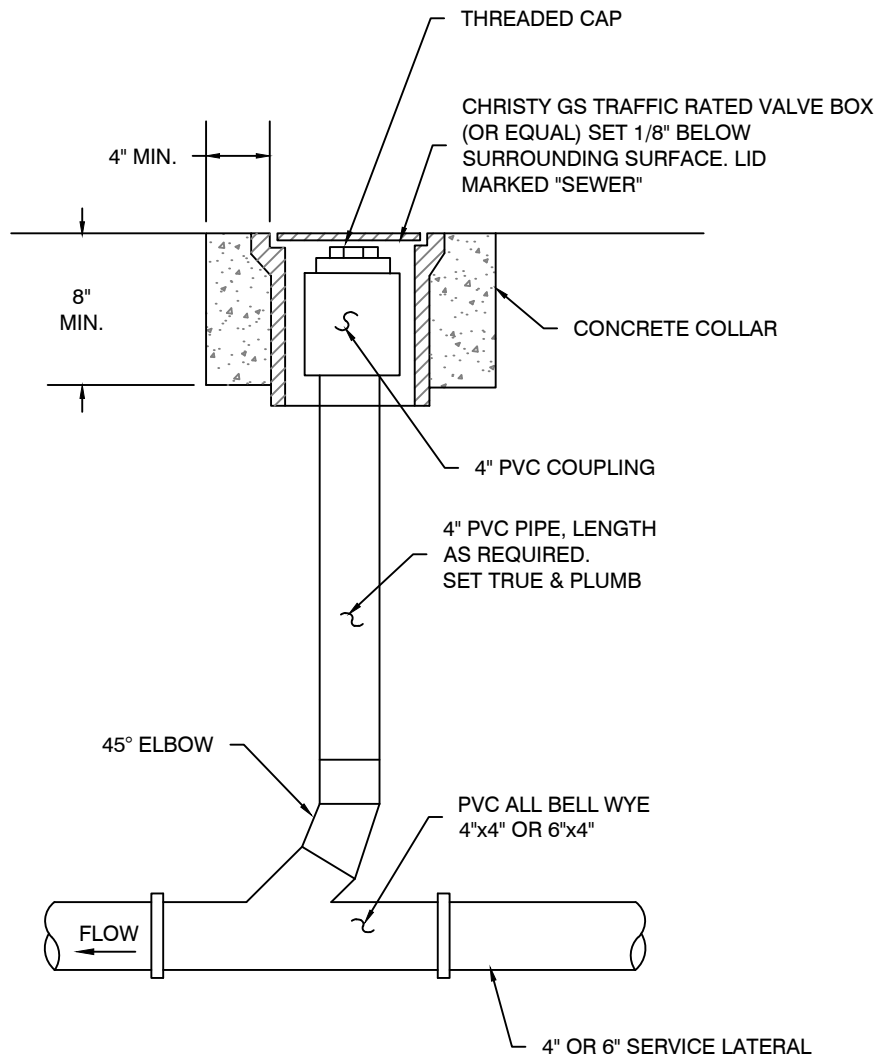
1. DUMPSTER PAD DRAINS SHALL BE ROUTED THROUGH A GREASE INTERCEPTOR PRIOR TO DISCHARGE TO THE SANITARY SEWER WHEN A GREASE INTERCEPTOR IS REQUIRED ON THE SEWER SERVICE.

DETAIL F

DUMPSTER PAD DRAIN

MINDEN - GARDNERVILLE SANITATION DISTRICT





NOTES:

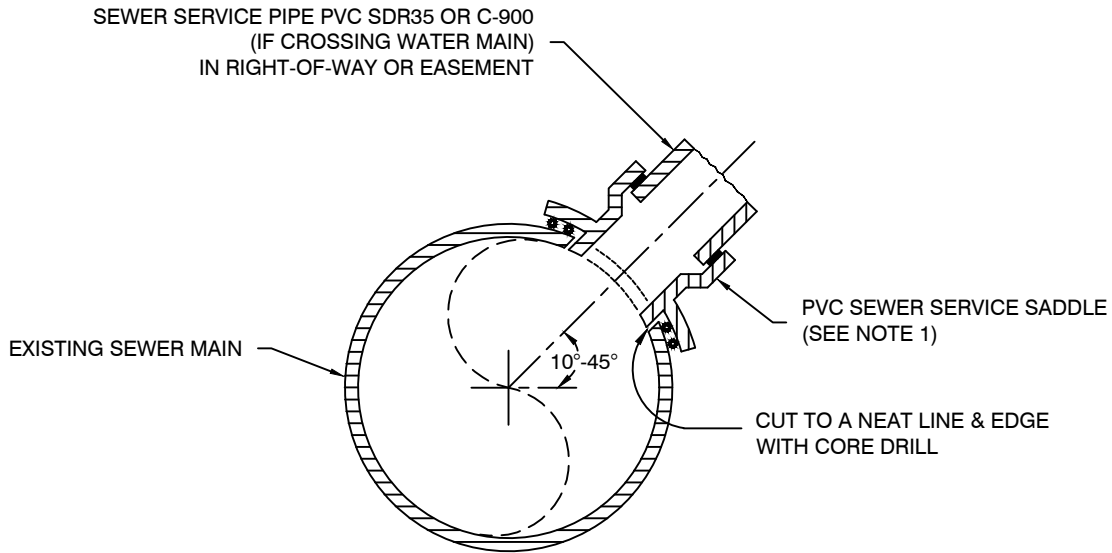
1. ALL JOINTS AND CONNECTIONS SHALL BE WATERTIGHT.
2. CLEANOUTS TO BE PLACED AT EVERY ANGLE GREATER THAN, OR EQUAL TO 45°, EVERY 150' OF LATERAL, AND WITHIN 5' OF BUILDING AND IN ACCORDANCE WITH THE CURRENT EDITION OF THE UNIFORM BUILDING CODE. CLEANOUTS INSTALLED AT ANGLES SHALL BE LOCATED ON THE UPSTREAM SIDE OF THE ANGLE. CLEANOUTS SHALL BE LOCATED AS CLOSE AS PRACTICAL TO THE ANGLE BUT SHALL NOT EXCEED A DISTANCE OF 5' FROM THE ANGLE.
3. WHERE CLEANOUTS ARE NOT LOCATED IN STREETS, PLACE TOP OF CLEANOUT ABOVE EXISTING GROUND. UNLESS OTHERWISE REQUIRED BY M.G.S.D. INSTALL THE CONCRETE COLLAR FROM A POINT 4" OUTSIDE THE TOP OF THE COVER AND EXTEND A MINIMUM OF 8" BELOW THE SURROUNDING GROUND SURFACE.

DETAIL G

SEWER LATERAL CLEANOUT

MINDEN - GARDNERVILLE SANITATION DISTRICT

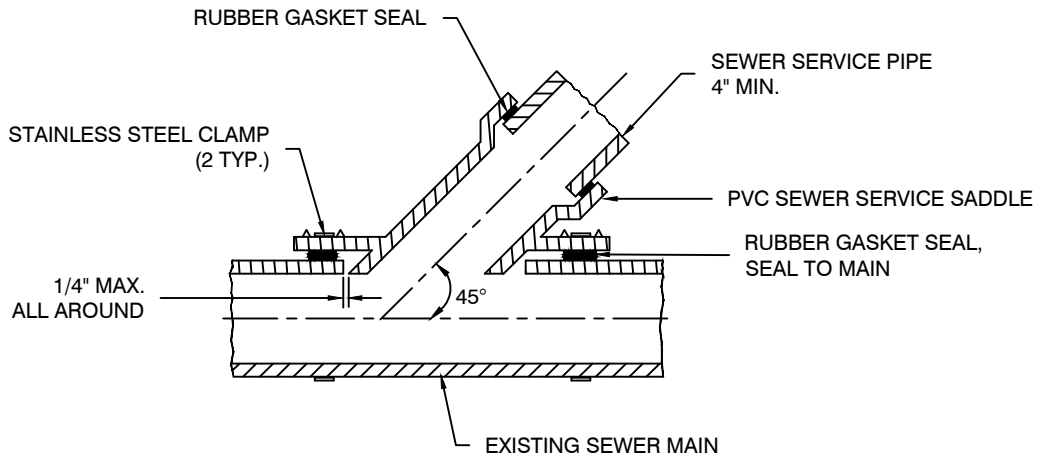




NOTES:

1. TO BE USED ONLY WHEN CONNECTING TO EXISTING MAIN..
2. ROMAC "CB" SEWER SADDLES OR EQUAL MAY BE USED ON SEWER MAINS.
3. SEWER SERVICE SADDLE SHALL BE ENCASED IN CONCRETE.

FRONT VIEW

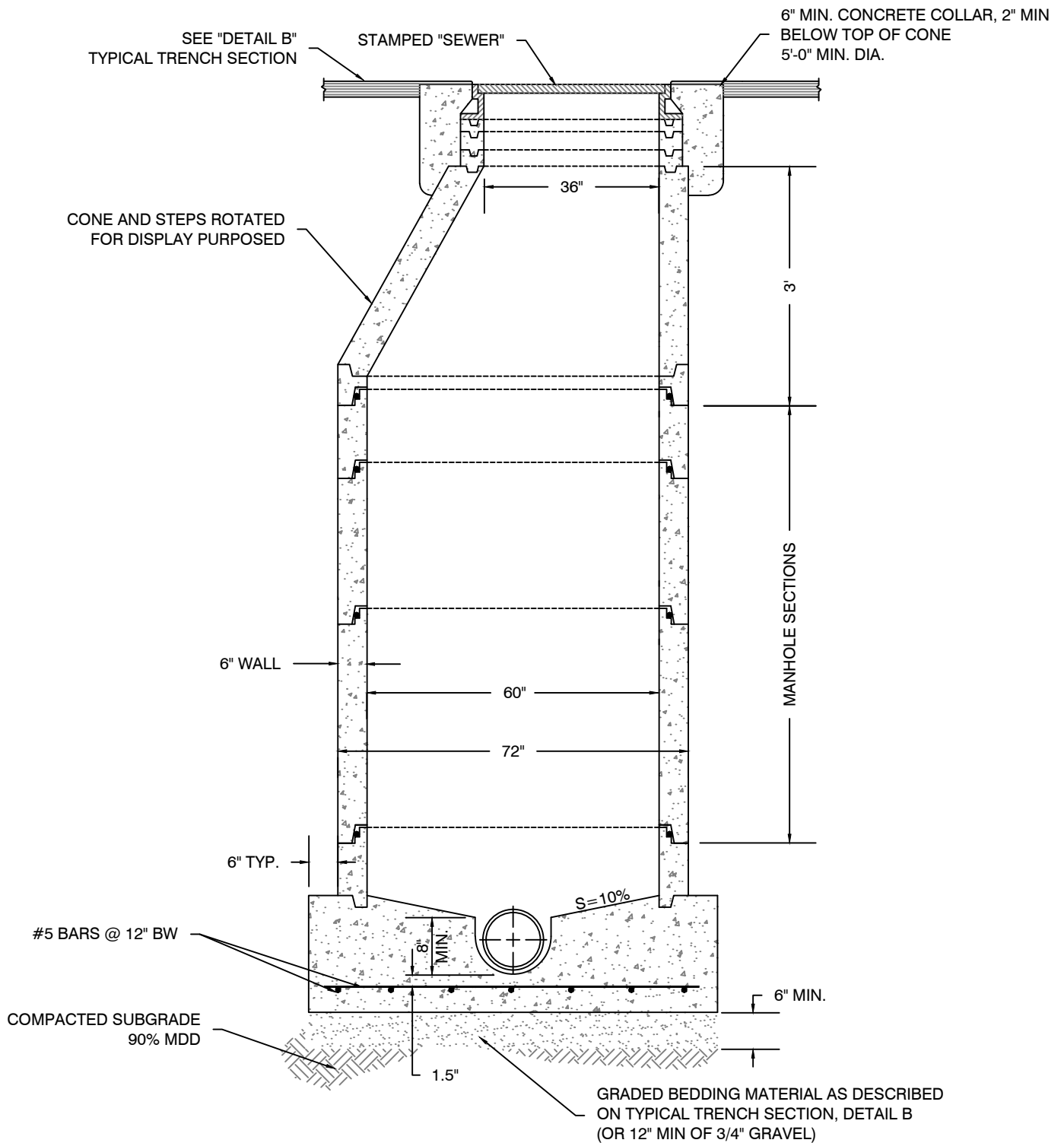


SIDE VIEW

DETAIL H
SEWER SERVICE SADDLE
MINDEN - GARDNERVILLE SANITATION DISTRICT

DATE: JULY 2022





NOTES:

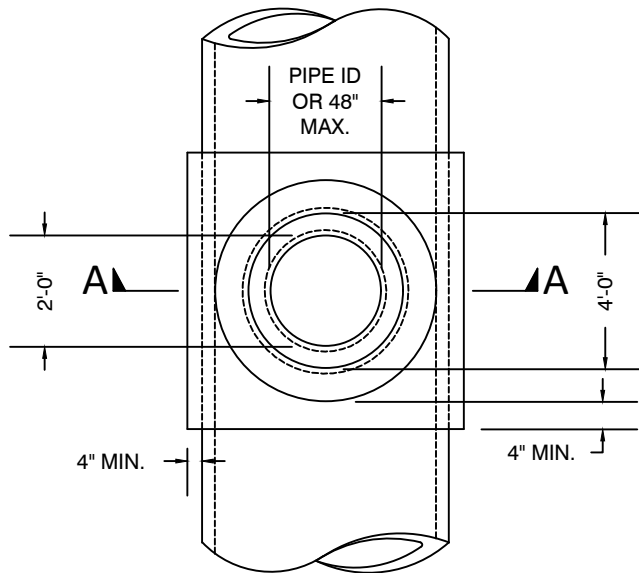
1. THE USE OF ECCENTRIC MANHOLES IS SUBJECT TO MGSD APPROVAL AND WILL ONLY BE APPROVED SHOULD THERE BE A SITE CONSTRAINT THAT PREVENTS THE USE OF A CONCENTRIC MANHOLE.
2. SEE "DETAIL A-3" STANDARD MANHOLE NOTES.

DETAIL I ECCENTRIC MANHOLE

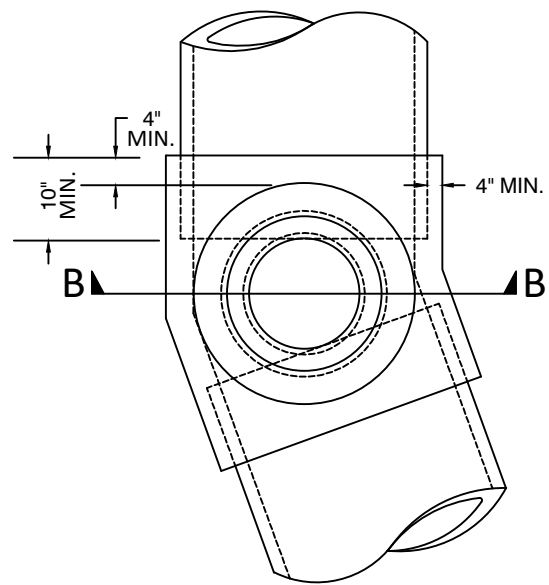
(≥ 15" GRAVITY SEWER)

MINDEN - GARDNERVILLE SANITATION DISTRICT

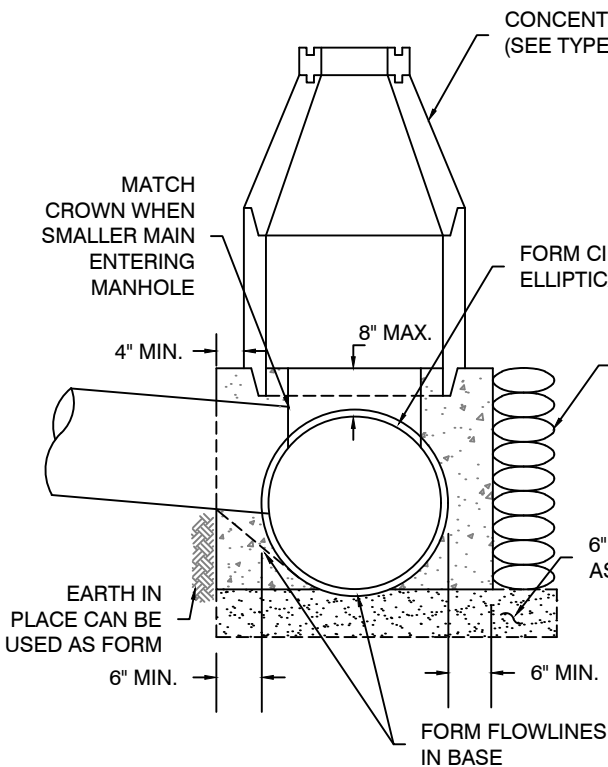




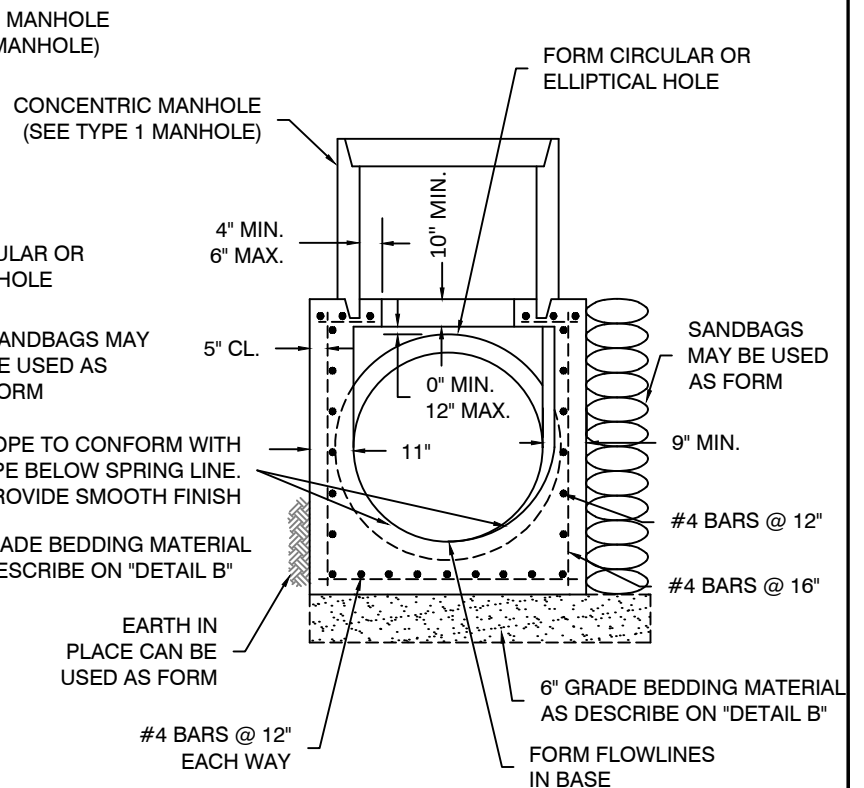
PLAN



PLAN



SECTION A - A
TANGENT



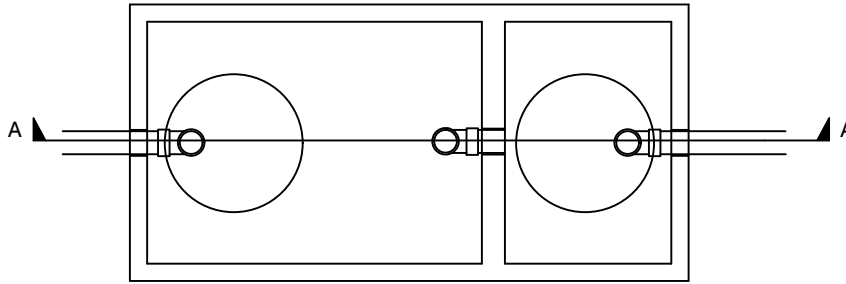
SECTION B - B
ANGLE POINT

NOTES:

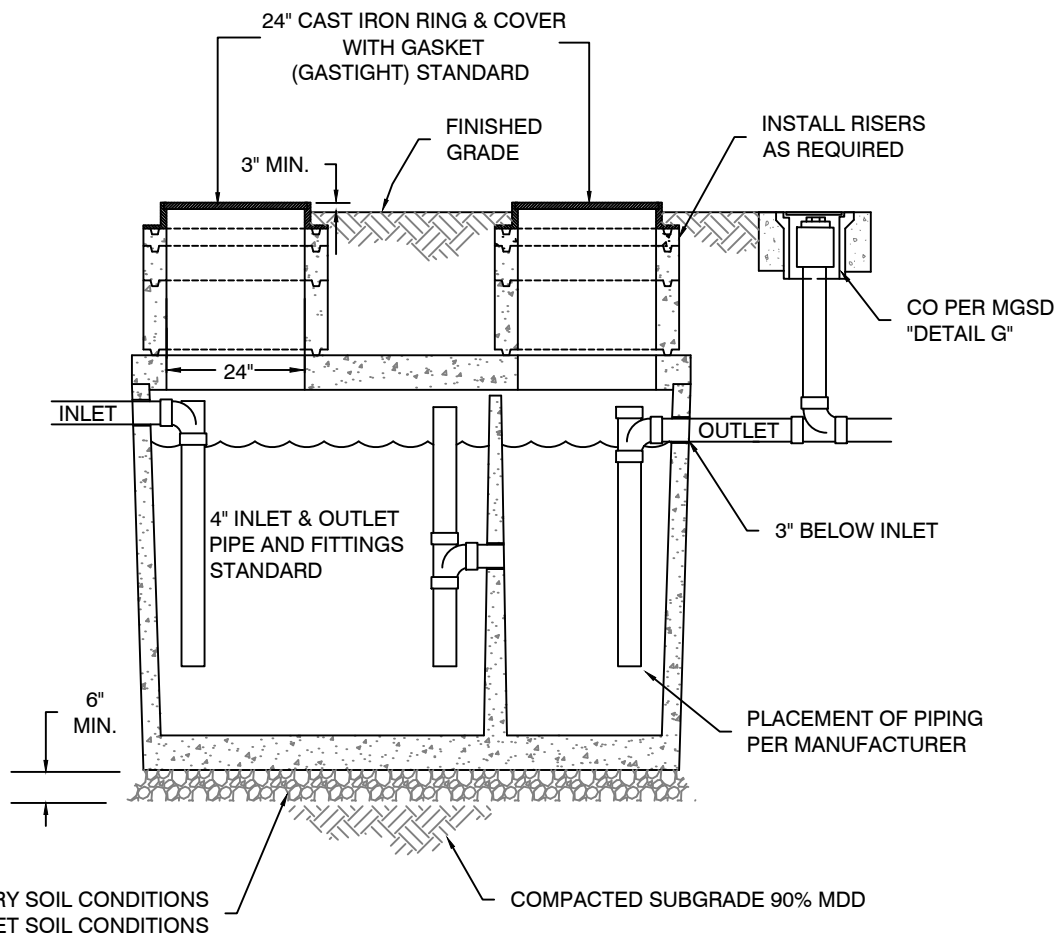
1. SEE "DETAIL A-3" STANDARD MANHOLE NOTES.

DETAIL J TYPE 4 MANHOLE

MINDEN - GARDNERVILLE SANITATION DISTRICT



PLAN VIEW
(COVERS & RISERS REMOVED)



SECTION A-A

DETAIL K
GREASE INTERCEPTOR
MINDEN - GARDNERVILLE SANITATION DISTRICT



NOTES:

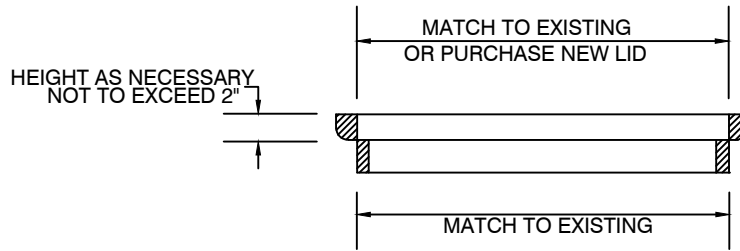
1. THE CONTRACTOR SHALL CONDUCT A PRECONSTRUCTION MEETING WITH AN MGSD REPRESENTATIVE PRESENT.
2. CONTRACTOR SHALL CONTACT AND COORDINATE WITH MGSD AND ALL OTHER UTILITIES 48 HOURS PRIOR TO CONSTRUCTION. ALL CONSTRUCTION SHALL CONFORM TO MGSD STANDARDS AND NO BACKFILLING WILL BE ALLOWED UNTIL INSPECTED AND APPROVED BY MGSD.
3. NEW SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE MGSD ORDINANCE AND REQUIRED AIR TEST FOR ACCEPTANCE SHALL BE CONDUCTED AFTER ALL UTILITIES ARE INSTALLED.
4. ALL SANITARY SEWER LINES SHALL BE PVC SDR35. ALL SANITARY SEWER SERVICES SHALL BE 4" PVC SDR35 UNLESS OTHERWISE NOTED.
5. AN "S" SHALL BE STAMPED OR CHISELED IN THE CONCRETE CURB WHERE THE LATERAL CROSSES UNDER IT FROM THE MAIN..
6. UPON COMPLETION OF IMPROVEMENTS, REPRODUCIBLE RECORD DRAWINGS SHALL BE SUBMITTED TO MGSD AND APPROVED BY THE MGSD BOARD.
7. MGSD SHALL BE NOTIFIED PRIOR TO POURING CONCRETE COLLARS ON MANHOLE INSTALLATIONS OR MODIFICATIONS.

DETAIL L GENERAL NOTES

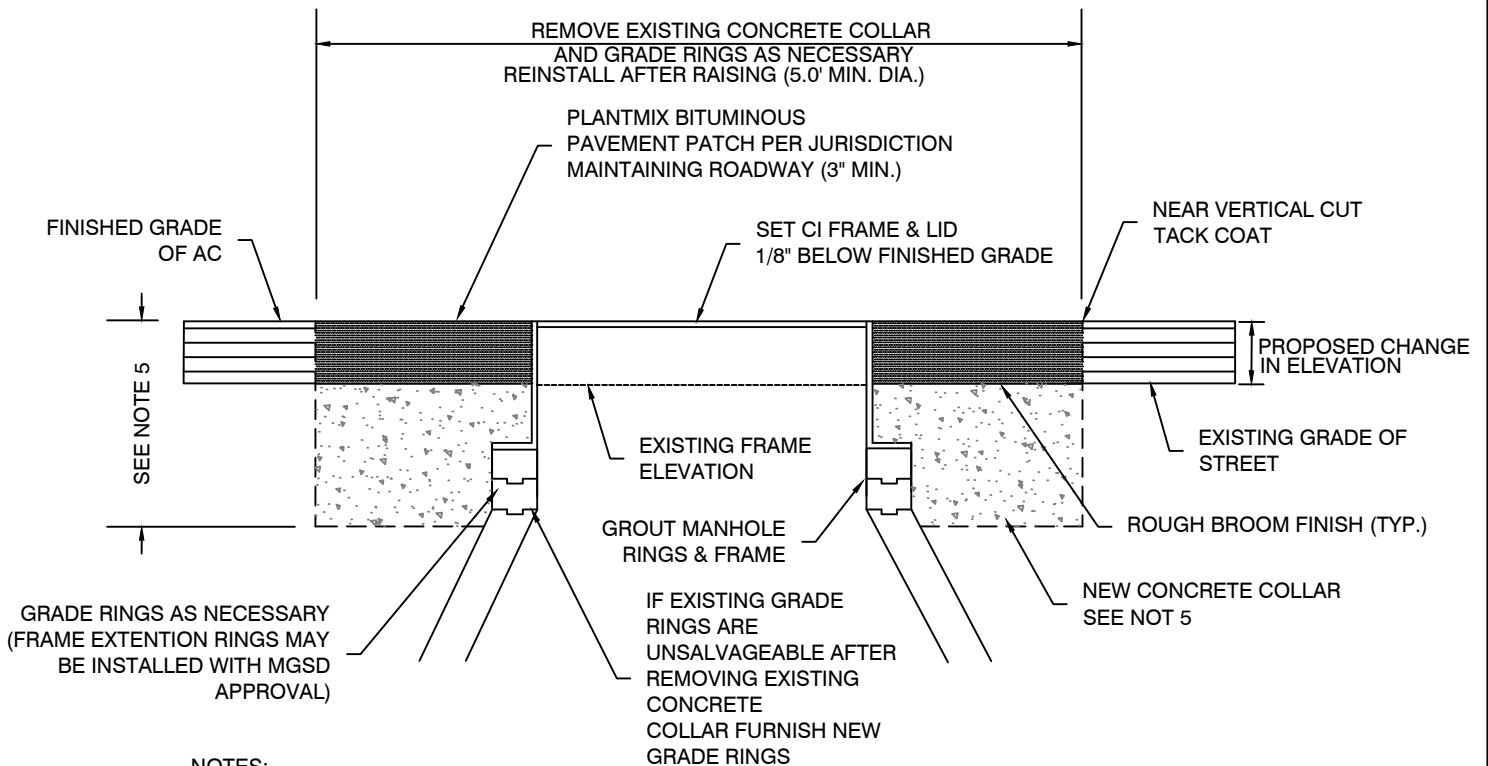
MINDEN - GARDNERVILLE SANITATION DISTRICT

DATE: JULY 2022





ELEVATION
D&L FOUNDRY - SUBMIT PRIOR TO CONSTRUCTION
MANHOLE ADAPTER RING (RISER)



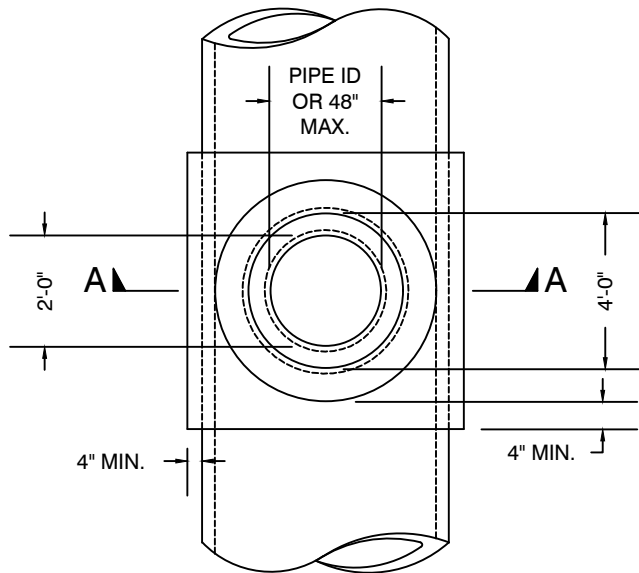
NOTES:

1. CONCRETE SHALL BE 4000 PSI AT 28 DAYS MIX.
2. CONTRACTOR MAY RAISE LIDS BEFORE OR AFTER OVERLAY AT HIS OPTION.
3. IF NEW BARREL SECTION IS ADDED ALL WORK SHALL CONFORM TO MGSD'S STANDARD MANHOLE "DETAIL A."
4. CONTRACTOR SHALL PREVENT DEBRIS FROM FALLING INTO SEWER AT ALL TIMES AND SHALL CLEAN ANY DEBRIS FROM MANHOLE AND LINES WHICH DOES FALL IN.
5. DEPTH OF CONCRETE COLLAR SHALL CONFORM TO MGSD'S STANDARD MANHOLE "DETAIL A."
6. THIS DETAIL IS NOT FOR NEW CONSTRUCTION. THIS DETAIL IS ONLY FOR RAISING EXISTING MANHOLES.
7. INTERIOR OF GRADES RINGS SHALL BE GROUTED TO THE TOP OF THE CONE SECTION.

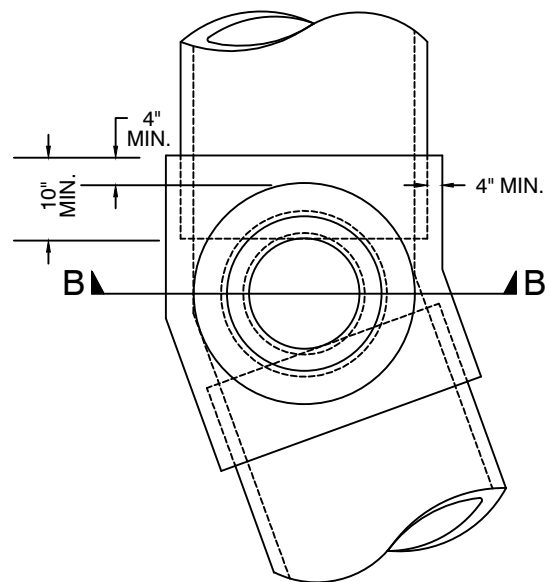
DETAIL M
SANITARY SEWER
MANHOLE RAISING

MINDEN - GARDNERVILLE SANITATION DISTRICT

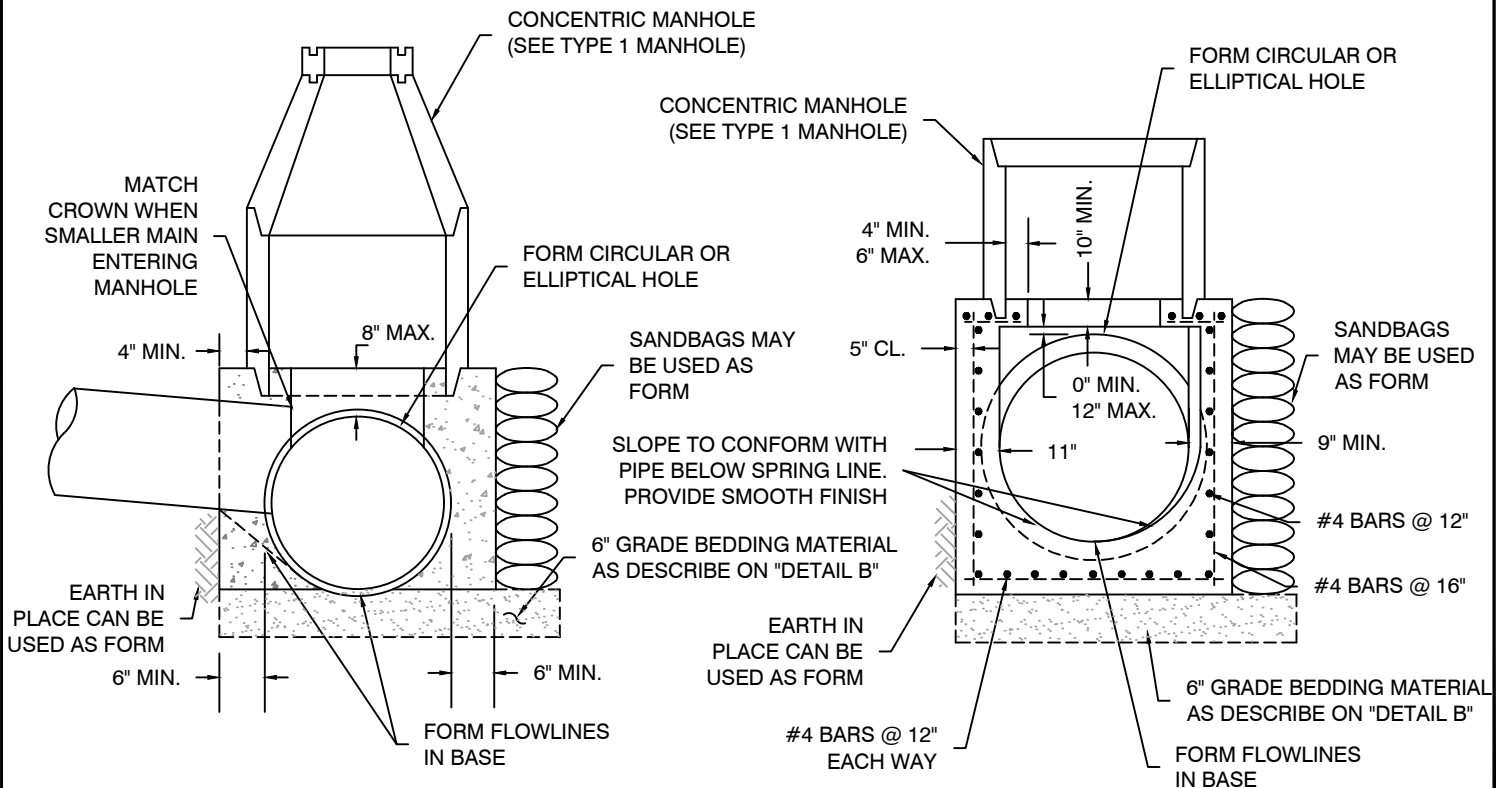




PLAN



PLAN



SECTION A - A
TANGENT

SECTION B - B
ANGLE POINT

NOTES:

1. SEE "DETAIL A-3" STANDARD MANHOLE NOTES.
2. APPROVED ELASTOMERIC SEALS CONFORMING TO ASTM F-477 OR C923 TO ENSURE WATER TIGHTNESS.
3. THE THICKNESS OF CONCRETE BENEATH THE PIPE ON THE BEDDING SHALL BE 8" MINIMUM.

DETAIL N

MANHOLE CONNECTION INTO EXISTING SEWER MAIN

MINDEN - GARDNERVILLE SANITATION DISTRICT

