

DOUGLAS COUNTY SEWER DISTRICT NO.1

Douglas County, Washington

STANDARD DETAILS FOR SANITARY SEWER

ADOPTED OCTOBER 28, 2014

SHEET INDEX

| DESCRIPTION | DWG NO. | DESCRIPTION | DWG NO. |
|-----------------------------------|---------|--------------------------------------|---------|
| COVER | DCSD00 | FORCE MAIN TRANSITION MANHOLE | DCSD12 |
| CONSTRUCTION NOTES PAGE 1 OF 3 | DCSD01 | INTERNAL DROP CONNECTION | DCSD13 |
| CONSTRUCTION NOTES PAGE 2 OF 3 | DCSD02 | IRRIGATION CANAL CROSSING | DCSD14 |
| CONSTRUCTION NOTES PAGE 3 OF 3 | DCSD03 | ROADWAY UTILITY ADJUSTMENT | DCSD15 |
| GRAVITY SEWER TRENCH | DCSD04 | ABANDONMENT OF TERMINATED FACILITIES | DCSD16 |
| TRENCH RESTORATION | DCSD05 | SIDE SEWERS | DCSD17 |
| MANHOLE TYPE 1 | DCSD06 | PRIVATE SIDE SEWERS | DCSD18 |
| MANHOLE TYPE 3 | DCSD07 | LOW PRESSURE CONNECTION | DCSD19 |
| TOP SLAB AND GRADE RING | DCSD08 | GRAVITY AND FORCE MAIN SEWER REPAIR | DCSD20 |
| FRAME AND COVER | DCSD09 | GREASE INTERCEPTOR | DCSD21 |
| RING, COVER AND STEPS ORIENTATION | DCSD10 | SIDE SEWER PROFILE | DCSD22 |
| 8" CLEANOUT | DCSD11 | EXTERNAL DROP CONNECTION | DCSD23 |

CONTACT INFORMATION

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CALL 48 HOURS BEFORE YOU DIG
ONE CALL 1-800-424-5555

REPORT ALL SPILLS
DEPT. OF ECOLOGY 1-800-258-5990

ABBREVIATIONS

| | | | | | |
|------|-------------------------------|-------|---------------------------|----------|---|
| CB | CATCH BASIN | GALV | GALVANIZED | PROP | PROPOSED |
| CONC | CONCRETE | HDPE | HIGH-DENSITY POLYETHYLENE | PSI | POUNDS PER SQUARE INCH |
| CL | CONSTRUCTION CENTERLINE | HMA | HOT MIXED ASPHALT | PVC | POLYVINYL CHLORIDE |
| CSBC | CRUSHED SURFACING BASE COURSE | ID | INSIDE DIAMETER | SPEC | SPECIFICATIONS |
| CSTC | CRUSHED SURFACING TOP COURSE | IE | INVERT ELEVATION | SS | SANITARY SEWER |
| DI | DUCTILE IRON | J-BOX | JUNCTION BOX | SSMH | SANITARY SEWER MANHOLE |
| DIAM | DIAMETER | LF | LINEAR FEET | SST | STAINLESS STEEL |
| DWG | DRAWING | MH | MANHOLE | STD | STANDARD |
| E | EASTING | MJ | MECHANICAL JOINT FITTING | STL | STEEL |
| EG | EXISTING GROUND | NO | NUMBER | TEL | TELEPHONE |
| ELEV | ELEVATION | OC | ON CENTER | TEMP | TEMPORARY |
| EX | EXISTING | OD | OUTSIDE DIAMETER | TYP | TYPICAL |
| EW | EVEN WIDTH | P | POWER | WSDOT SS | WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS |
| FG | FINISHED GRADE | PE | PLAIN END | | |

DEVELOPED BY RH2 ENGINEERING, INC.

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

SEWER STANDARD DETAILS

COVER

FILE:GEN-D-COV.DWG

REVISED:09/21/2023

DRAWING NO.: DCSD00

1. CONSTRUCTION OF IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE DOUGLAS COUNTY SEWER DISTRICT NO. 1 (DCSD) DEVELOPER EXTENSION AGREEMENT (AS APPLICABLE), DCSD STANDARD DETAILS, DCSD SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, MOST CURRENT EDITION, AS ISSUED BY THE WA. STATE DEPT. OF TRANSPORTATION (WSDOT SS).
2. A PRECONSTRUCTION CONFERENCE IS REQUIRED PRIOR TO CONSTRUCTION AND 48 HOURS ADVANCE NOTIFICATION OF THE LOCAL MUNICIPALITY, THE DCSD AND ALL AFFECTED UTILITY COMPANIES PRIOR TO THE ACTUAL START OF WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE PROVISIONS OF THE RIGHT-OF-WAY /STREET CONSTRUCTION PERMIT AS ISSUED BY DOUGLAS COUNTY LAND AND TRANSPORTATION SERVICES, CITY OF EAST WENATCHEE, AND/OR WA. STATE DEPARTMENT OF TRANSPORTATION FRANCHISE FOR THIS PROJECT.
4. LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE ESTIMATED UNLESS STATED OTHERWISE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY, LOCATE AND PROTECT ALL UTILITIES WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR REPAIRING ANY UTILITIES DAMAGED DURING CONSTRUCTION. SHOW ENCOUNTERED UTILITIES ON THE AS-BUILTS.
5. LOCATION AND EXTENT OF IRRIGATION PIPELINES WITHIN THE PROJECT LIMITS ARE UNKNOWN. CONTRACTOR SHALL CONTACT PROPERTY OWNERS ADJACENT TO THE PROJECT FOR LOCATING PRIVATE IRRIGATION SYSTEMS. CONTRACTOR IS RESPONSIBLE FOR LOCATING IRRIGATION MAINS AND REPLACING OR REPAIRING PIPELINES DAMAGED DURING CONSTRUCTION. SHOW THESE PIPELINES ON THE AS-BUILTS.
6. SEWER TRENCH SECTION AND ALL EXCAVATED AREAS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE STANDARD DETAILS AND WITH WSDOT SS 7-08. COMPACTION TESTING IS REQUIRED DURING BACKFILLING OPERATIONS AT THE DISCRETION OF THE DCSD. IF TRENCH BACKFILL DOES NOT MEET COMPACTION REQUIREMENTS, CONTRACTOR SHALL EXCAVATE, RECOMPACT AND RETEST MATERIAL AT CONTRACTOR'S EXPENSE
7. RESTORATION OF DAMAGED ROAD SURFACING SHALL BE IN ACCORDANCE WITH THE LOCAL MUNICIPALITY'S REQUIREMENTS. ALL OTHER AREAS SHALL BE RESTORED TO ORIGINAL CONDITION OR AS DIRECTED BY THE DCSD. THIS INCLUDES SHOULDERS, LANDSCAPING, WALLS, FENCES AND OTHER IMPROVEMENTS.
8. GRAVITY SEWER SHALL BE INSTALLED WITH A MINIMUM OF 6 FEET OF COVER. FORCE MAIN SEWER SHALL BE INSTALLED WITH A MINIMUM OF 4 FEET OF COVER. ALL SERVICES, FORCE MAIN, LIFT STATION CONNECTIONS AND THRUST BLOCKING SHALL BE INSPECTED BY THE DCSD BEFORE BURY.
9. DCSD APPROVED THRUST RESTRAINTS ARE REQUIRED FOR ALL UNRESTRAINED FORCE MAIN FITTINGS. THRUST BLOCKING IS TYPICALLY THE PREFERRED METHOD. RESTRAINED JOINTS ARE ALLOWED FOR VERTICAL BENDS, WHERE BLOCKING IS NOT PRACTICAL AND ARE REQUIRED FOR FORCE MAINS THAT WILL BE EXTENDED.
10. GRAVITY SEWERS SHALL BE PRESSURED TESTED PRIOR TO OPERATION PER WSDOT SS 7-17.3(2)E AND WSDOT SS 7-17.3(2)F. PRESSURE FORCE MAIN SEWERS SHALL BE HYDROSTATICALLY TESTED PER ASTM F2164. IN ADDITION THERMOPLASTIC PIPE SHALL BE DEFLECTION TESTED PRIOR TO OPERATION PER WSDOT SS 7-17.3(2)G.
11. NO OTHER UTILITIES SHALL BE INSTALLED WITHIN 36" HORIZONTALLY OF ANY ACTIVE SEWER LINE UNLESS OTHERWISE PRE-APPROVED BY THE DCSD.
12. CONTRACTOR SHALL POTHOLE A SUFFICIENT DISTANCE AHEAD OF PIPELAYING TO VERIFY DEPTH OF EXISTING UTILITIES AND CROSSING UTILITIES AND TO ANTICIPATE ANY NECESSARY CHANGES IN FITTINGS OR ALIGNMENT.

CONTINUED ON DCSD02...

DOUGLAS COUNTY SEWER DISTRICT NO. 1

SEWER STANDARD DETAILS

CONSTRUCTION NOTES PAGE 1 OF 3

FILE:GEN-D-CNOTE1.DWG

REVISED:09/21/2023

DRAWING NO.: DCSD01

13. ALL METAL PRODUCTS AND FITTING COMPONENTS (E.G. BOLTS, GASKETS, ETC) ARE TO BE OF DOMESTIC FABRICATION & CONSTRUCTION UNLESS OTHERWISE AUTHORIZED BY THE DISTRICT.
14. AN ELECTRONIC AS-BUILT RECORD MUST BE SUBMITTED TO THE DISTRICT BEFORE SEWER SERVICE WILL BE PROVIDED, SEE DEVELOPER AGREEMENT.
15. FOR DCSD PROJECTS, CONTRACTOR SHALL ONLY DISPOSE OF WASTE MATERIAL AT APPROVED SITES. STOCKPILE MATERIALS ONLY ON DCSD APPROVED SITES.
16. CASINGS SHALL BE NEW STEEL, DI OR C900 PVC; MATERIAL AND WALL THICKNESS AT THE DISCRETION OF THE DCSD. PIPE THROUGH CASINGS SHALL BE SUPPORTED WITH RUNNERS SPACED NO FARTHER THAN 6 FEET APART. RUNNERS SHALL BE MANUFACTURED PRODUCTS (PSI, CALPICO, OR APPROVED EQUAL), NO BLOCKS AND STRAPS. PIPE LINE AND GRADE SHALL BE MAINTAINED THROUGH THE CASING. RESTRAIN PIPE AS REQUIRED. CASING ENDS SHALL BE CAPPED WITH MANUFACTURED CASING END SEALS.
17. CONTRACTORS WORKING WITHIN THE RIGHT OF WAY OR ON EXISTING DCSD INFRASTRUCTURE SHALL BE LICENSED, BONDED AND HAVE EXPERIENCE INSTALLING PUBLIC SEWER SYSTEMS AND BE PREPARED TO PRESENT EXAMPLES OF 5 SUCH PROJECTS UPON REQUEST BY THE DCSD.
18. REPAIR OF EXISTING IRRIGATION SYSTEMS DAMAGED DURING CONSTRUCTION MUST USE PRODUCTS OF NO LESSER QUALITY THAN SCH 40 PVC.
19. CONTRACTOR TO PROVIDE NO LESS THAN 48 HOURS NOR MORE THAN 72 HOURS NOTICE TO THE DISTRICT PRIOR TO ANY SHUTDOWN OR CUSTOMER SERVICE OUTAGE. DISTRICT WILL PROVIDE NOTICE TO CUSTOMERS 24 HOURS IN ADVANCE OF OUTAGE.
20. NO RESTRAINTS, GASKETS, OR PIPES (PORTIONS AFFECTED) MAY BE REUSED ONCE ASSEMBLED.
21. NEW GRAVITY MAIN SEWER MATERIAL SHALL BE PVC, INTEGRAL WALL BELL AND SPIGOT, RUBBER GASKET JOINT, UNPLASTICIZED POLYVINYL CHLORIDE (PVC) PIPE. ALL PIPES SHALL BE MARKED BY MANUFACTURE WITH MANUFACTURES IDENTIFICATION, YEAR AND CLASS OF PIPE. PIPE JOINTS SHALL USE FLEXIBLE ELASTOMERIC GASKETS CONFORMING TO ASTM D3212. PVC FITTINGS FOR SANITARY SEWER PIPE SHALL BE RATED EQUAL TO OR GREATER THAN THE RATING OF THE PIPE ON WHICH THEY ARE USED. FITTINGS CONNECTING DISSIMILAR SIZE PIPES WITH DIFFERENT RATINGS SHALL BE RATED TO THE GREATER OF THE TWO RATINGS. ALL FITTINGS AND ACCESSORIES SHALL BE MANUFACTURED AND FURNISHED BY THE PIPE SUPPLIER, OR SHALL BE DISTRICT APPROVED EQUAL. NEW FORCE MAIN SEWERS SHALL BE HDPE. THE DCSD MAY AUTHORIZE OTHER PIPE MATERIALS UPON REQUEST.
22. NEW SEWER MAIN DESIGN SHALL LIMIT THE DISTANCE BETWEEN MANHOLES TO A MAXIMUM OF 400' OR LESS.

| PIPE SIZE AND CLASS | |
|---|--|
| GRAVITY SIDE SEWER: DIAMETER ≤ 6-INCH PIPE | ASTM D3034, SDR 35 |
| GRAVITY SEWER: DIAMETER 8-INCH TO 15-INCH | ASTM D3034, SDR 26 |
| GRAVITY SEWER: DIAMETER 18-INCH TO 48-INCH | ASTM F679, PIPE STIFFNESS OF 115 PSI (PS115) |
| FORCE MAIN SEWER: ALL SIZES | HDPE, IPS PIPE SIZE SHALL BE REVIEWED FOR PRESSURE CLASS AND SHALL BE NO LESS THAN SDR 17 |

CONTINUED ON DCSD03...

| | | | |
|--|-------------------------------|--------------------|---------------------|
| DOUGLAS COUNTY SEWER DISTRICT NO. 1 | SEWER STANDARD DETAILS | | |
| | CONSTRUCTION NOTES | | |
| | PAGE 2 OF 3 | | |
| | FILE:GEN-D-CNOTE2.DWG | REVISED:09/21/2023 | DRAWING NO.: DCSD02 |

23. ALL PROPOSED DEVELOPMENT PLANS SUBMITTED TO THE DISTRICT FOR REVIEW SHALL INCLUDE THE LOWEST FINISHED FLOOR ELEVATION FOR EACH LOT THAT IS SERVICEABLE BY GRAVITY SEWER. PLANS SHALL ALSO PROVIDE ELEVATION AND OFFSET CALLOUTS FOR EACH SIDE SEWER SERVICE CLEANOUT.
24. ALL 8-INCH OR LARGER DISTRICT-OWNED LINES SHALL BE INSTALLED AT A MINIMUM SLOPE OF 0.50%. ANY 8-INCH OR LARGER LINE THAT IS THE FURTHEST UPSTREAM SEGMENT OF PIPE ON A DEAD-END LINE SHALL BE INSTALLED AT A MINIMUM SLOPE OF 1.00% .
25. ALL MANHOLES SHALL HAVE UNRESTRICTED ACCESS VIA A PAVED OR COMPACTED GRAVEL ACCESS ROADWAY, MIN. 10' WIDE. BOTH THE BEGINNING AND END OF ACCESS ROADWAY SHALL CONNECT TO ROW.
26. NEW DEVELOPMENTS SHALL EXTEND SEWER TO THE OUTER LIMITS OF THE SUBJECT PROPERTY ALONG TWO OF ITS FOUR SIDES WHERE THE TOPOGRAPHY MAKES SUCH EXTENSIONS REASONABLE TO CONSTRUCT AND BENEFICIAL FOR PROVIDING FUTURE GRAVITY SEWER SERVICE BEYOND CURRENT DEVELOPMENT.

DOUGLAS COUNTY
SEWER DISTRICT NO. 1

SEWER STANDARD DETAILS

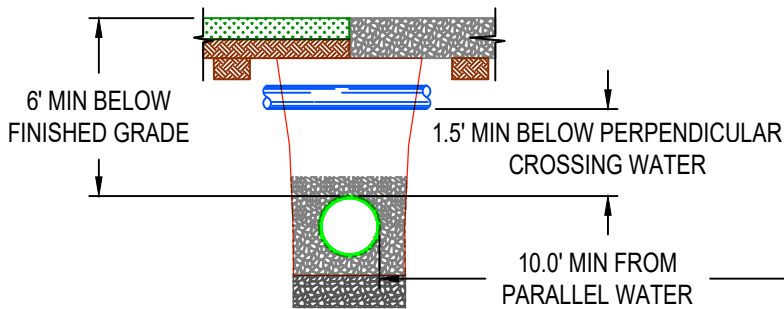
**CONSTRUCTION NOTES
PAGE 3 OF 3**

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

FILE: GEN-D-CNOTE3.DWG

REVISED: 09/21/2023

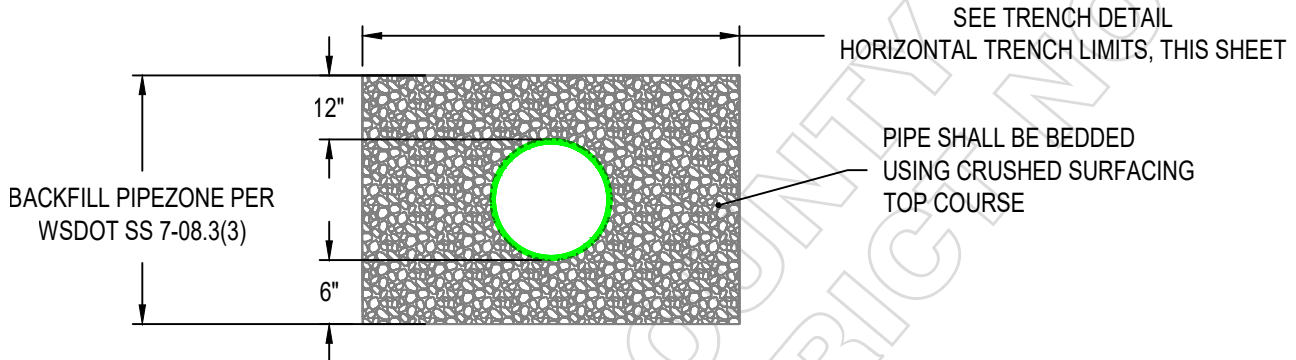
DRAWING NO.: DCSD03



IF 1.5' VERTICAL CLEARANCE IS AVAILABLE BELOW PARALLEL WATER, SEPARATION MAY BE REDUCED TO 5 FT HORIZONTAL, WALL TO WALL, ONLY IF APPROVED BY THE DISTRICT. D.O.H. *WATER SYSTEM DESIGN MANUAL* SECTION 8.4 AND D.O.E. *CRITERIA FOR SEWAGE WORKS DESIGN* SECTION C1-9 SHALL BE ADHERED TO FOR CLEARANCES AND FOR MITIGATION METHODS.

CLEARANCE DETAIL

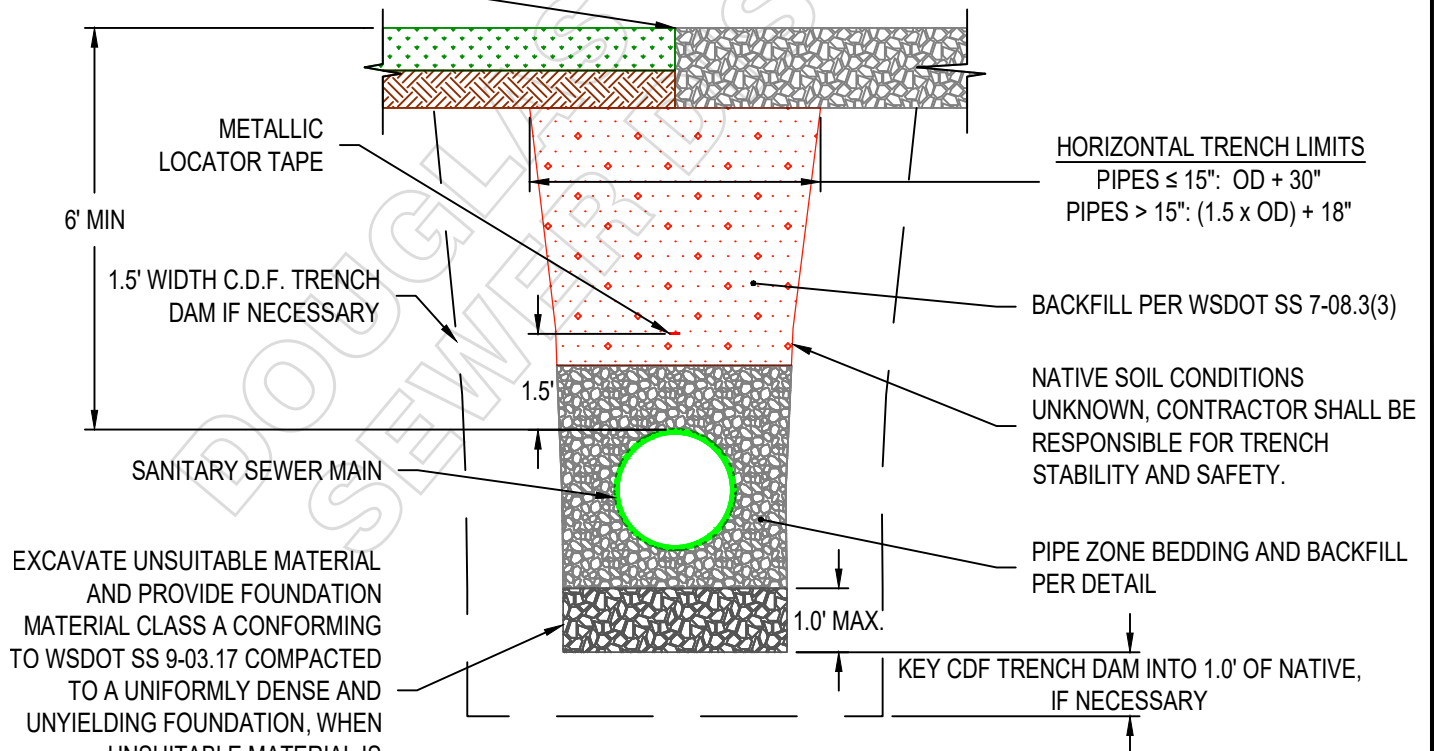
NOT TO SCALE



PIPE ZONE BEDDING DETAIL

NOT TO SCALE

RESTORE SURFACE, SEE DCSD05



TRENCH DETAIL

NOT TO SCALE

ALL FORCE MAINS SHALL HAVE TRACER WIRE

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

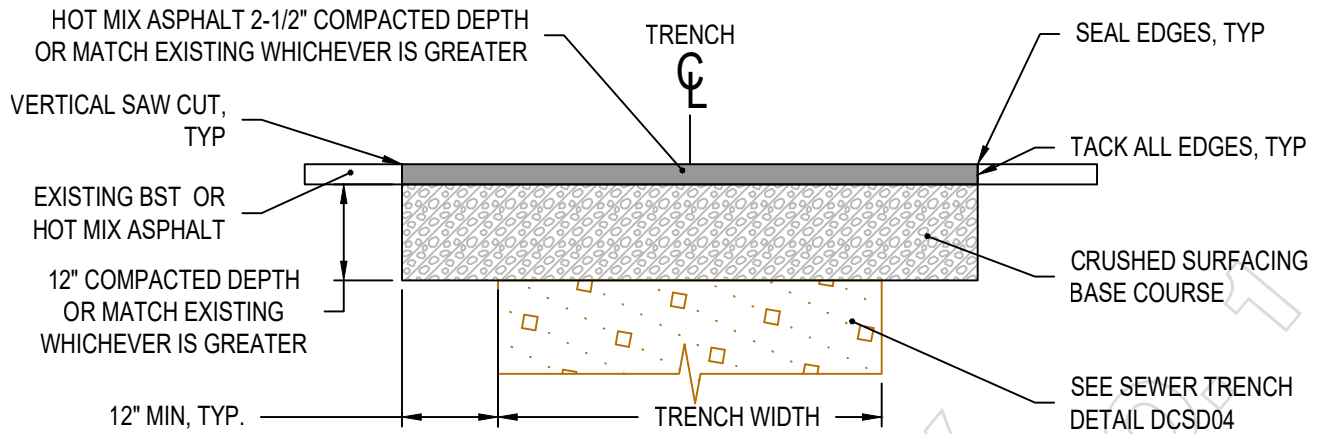
SEWER STANDARD DETAILS

GRAVITY SEWER TRENCH

FILE: GEN-D-TRENCH.DWG

REVISED: 09/21/2023

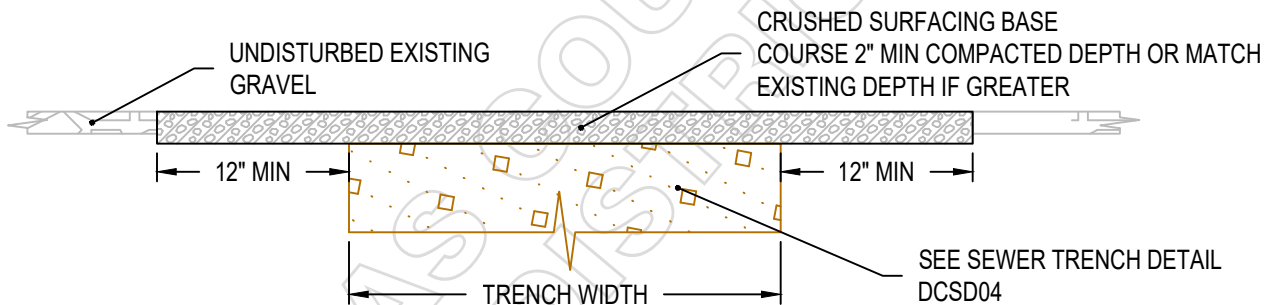
DRAWING NO.: DCSD04



CUT AND PATCH ALL PAVEMENT DAMAGED DURING CONSTRUCTION. CDF MAY BE USED IN UNDERMINED AREAS ONLY WITH THE DCSD AND LOCAL STREET AGENCY APPROVAL.

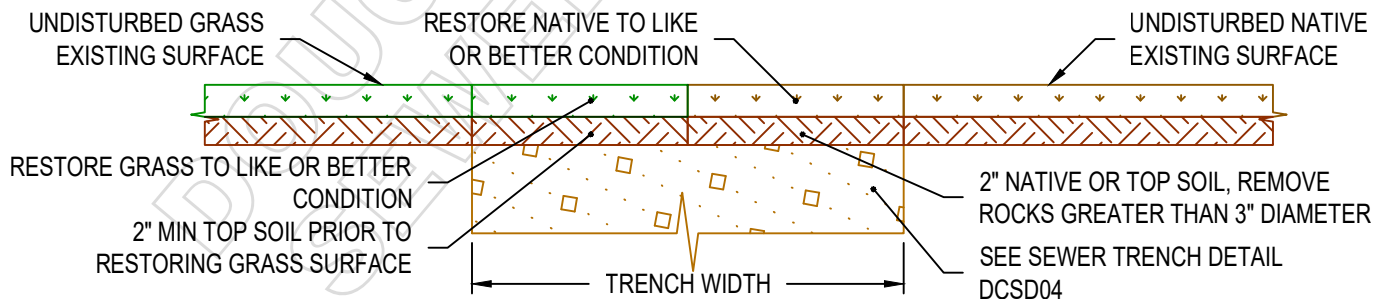
PAVEMENT

NOT TO SCALE



GRAVEL ROAD OR SHOULDER

NOT TO SCALE



UNTRAVELED WAY

NOT TO SCALE

NOTES:

1. SAWCUT EXISTING ASPHALT BEFORE EXCAVATION BEGINS
2. REMOVE ADDITIONAL 12" OF ASPHALT OUTSIDE OF DISTURBED AREAS
3. PRIOR TO PAVING PREPARE SURFACE PER WSDOT SS 5-04.3(5)A
4. OUTSIDE OF TRAVELED WAY RESTORE TO LIKE OR BETTER CONDITION

SEWER STANDARD DETAILS

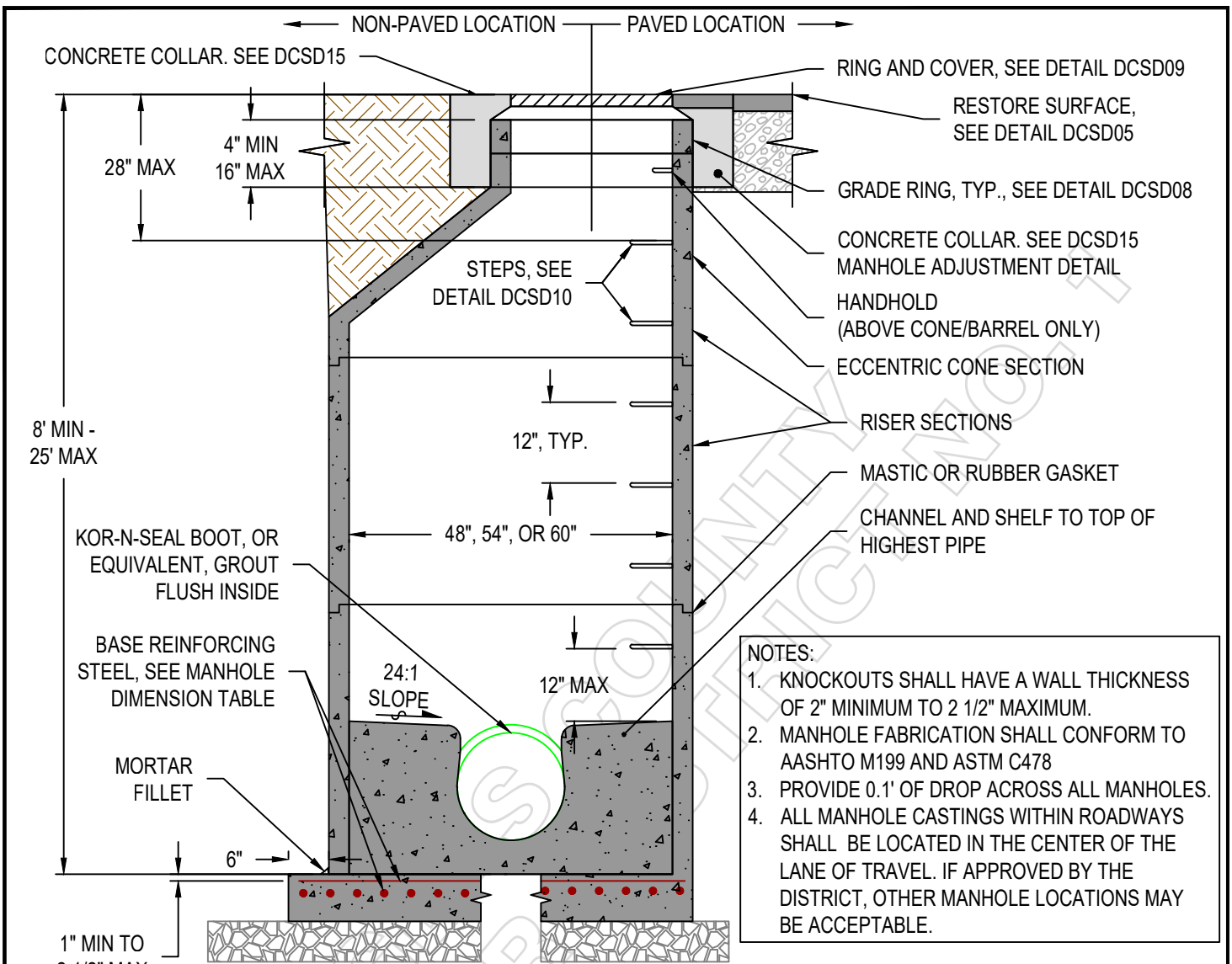
TRENCH RESTORATION

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

FILE:GEN-D-RIGHTOFWAY.DWG

REVISED:09/21/2023

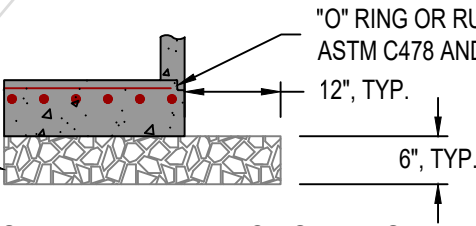
DRAWING NO.: DCSD05



SEPARATE CAST IN PLACE BASE

PRECAST BASE WITH INTEGRAL RISER

MIN. 6" BEDDING FOR PIPE
ZONE COMPACTED TO 95%
OF MODIFIED PROCTOR



SEPARATE PRECAST BASE

| MANHOLE DIMENSION TABLE | | | | | | |
|-------------------------|------------------------|------------------------|-----------------------|------------------------------------|---|------------------|
| DIA. | MINIMUM WALL THICKNESS | MINIMUM BASE THICKNESS | MAXIMUM KNOCKOUT SIZE | MINIMUM DISTANCE BETWEEN KNOCKOUTS | BASE REINFORCING STEEL PER 6" THICKNESS | |
| | | | | | INTEGRAL BASE | SEPARATE BASE |
| 48" | 4" | 6" | 36" | 8" | NO. 5 @ 12" O.C. | NO. 5 @ 12" O.C. |
| 54" | 4 1/2" | 8" | 42" | 8" | | |
| 60" | 5" | 8" | 48" | 8" | | |

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

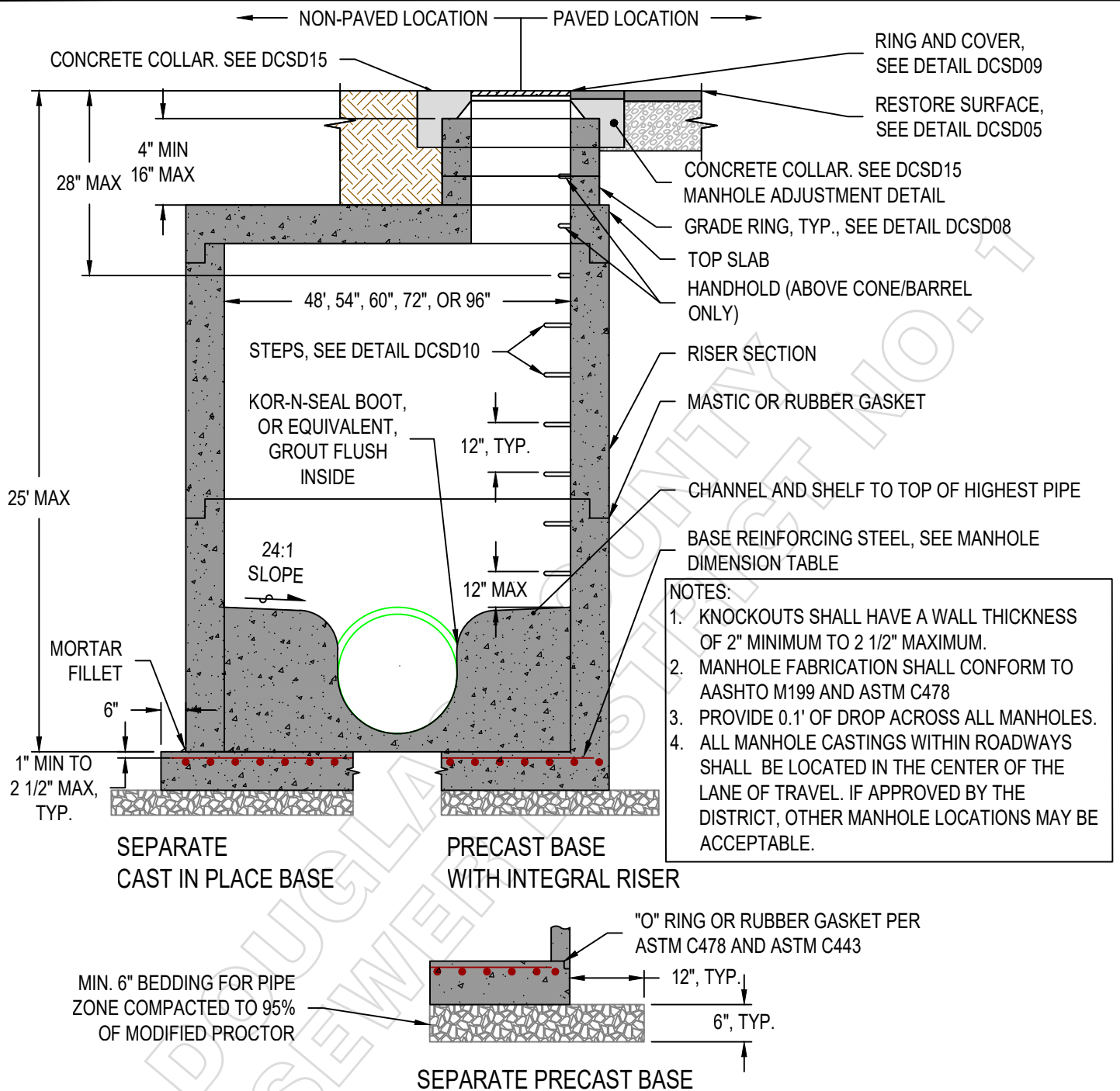
SEWER STANDARD DETAILS

MANHOLE TYPE 1

FILE: GEN-D-MHTYPE1.DWG

REVISED: 09/21/2023

DRAWING NO.: DCSD06



MANHOLE DIMENSION TABLE

| DIA. | MINIMUM WALL THICKNESS | MINIMUM BASE THICKNESS | MAXIMUM KNOCKOUT SIZE | MINIMUM DISTANCE BETWEEN KNOCKOUTS | BASE REINFORCING STEEL PER 6" THICKNESS | |
|------|------------------------|------------------------|-----------------------|------------------------------------|---|------------------|
| | | | | | INTEGRAL BASE | SEPARATE BASE |
| 48" | 4" | 6" | 36" | 8" | NO. 5 @ 12" O.C. | NO. 5 @ 12" O.C. |
| 54" | 4 1/2" | 8" | 42" | 8" | | |
| 60" | 5" | 8" | 48" | 8" | | |
| 72" | 6" | 8" | 60" | 12" | | |
| 96" | 8" | 12" | 84" | 12" | | |

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

SEWER STANDARD DETAILS

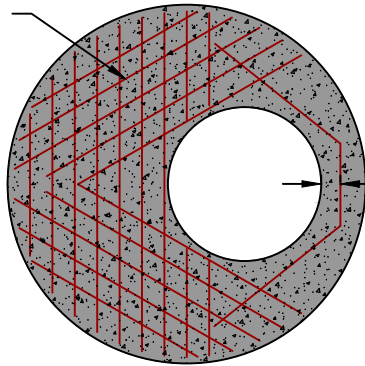
MANHOLE TYPE 3

FILE:GEN-D-MHTYPE3.DWG

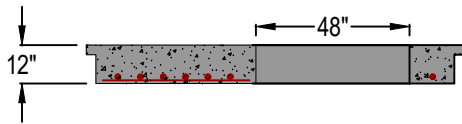
REVISED:09/21/2023

DRAWING NO.: DCSD07

#6 BARS AT 6" CENTERS
BOTTOM FACE WITH
1" MIN. COVER

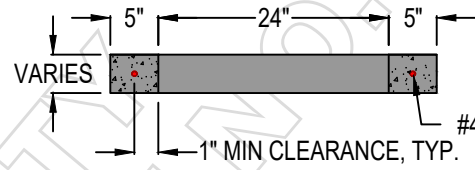
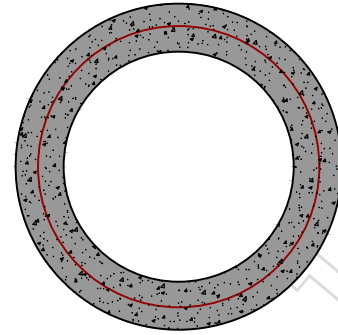


2" CLEARANCE, TYP.



96" TOP SLAB

NOT TO SCALE

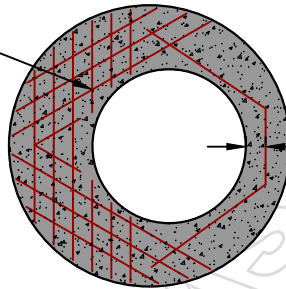


#4 REBAR

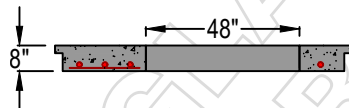
GRADE RING

NOT TO SCALE

#5 BARS AT 6" CENTERS
BOTTOM FACE WITH
1" MIN COVER



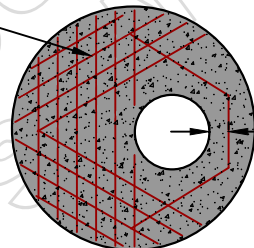
2" CLEARANCE, TYP.



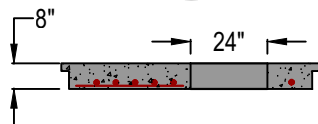
72" TOP SLAB

NOT TO SCALE

#4 BARS AT 6" CENTERS
BOTTOM FACE WITH
1" MIN COVER



2" CLEARANCE, TYP.



48", 54" AND 60" TOP SLAB

NOT TO SCALE

NOTE: MANUFACTURER TO PROVIDE STAMPED SHOP DRAWINGS OF ALL TOP SLABS.

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

**SEWER STANDARD DETAILS
TOP SLAB AND GRADE RING**

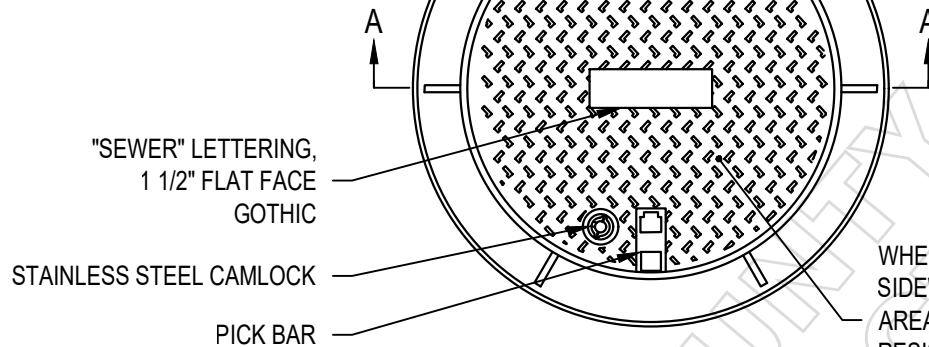
FILE: GEN-D-SLABGRADING.DWG

REVISED: 09/21/2023

DRAWING NO.: DCSD08

24" DUCTILE IRON MANHOLE FRAME
AND COVER ASSEMBLY, EAST JORDAN
ERGO ASSEMBLY PRODUCT NO.
00104043L04 OR EQUAL

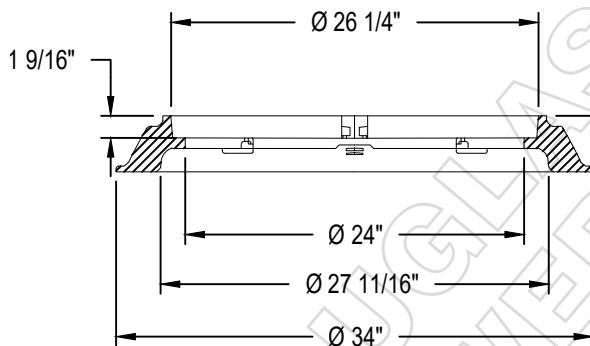
INTEGRAL HINGE WITH SAFETY CATCH
AT 90°. HINGE TO ALLOW COVER
REMOVAL WITHOUT TOOLS



WHEN MANHOLES ARE LOCATED WITHIN THE
SIDEWALK OR PEDESTRIAN ACCESSIBLE
AREAS, AN EPOXY-BASED NON-SKID, SLIP
RESISTANT COATING SHALL BE APPLIED TO
THE COVER. SEE NOTE 3.

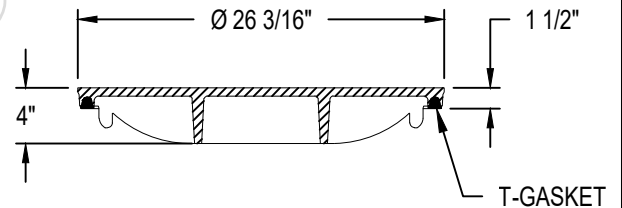
FRAME AND COVER ASSEMBLY

NOT TO SCALE



FRAME SECTION A-A

NOT TO SCALE



COVER SECTION A-A

NOT TO SCALE

NOTES:

1. MANHOLE FRAME AND COVER SHALL MEET THE REQUIREMENTS OF AASHTO STANDARD M306 AND ASTM STANDARD A536 80-55-06.
2. GASKET SHALL BE INTEGRATED INTO COVER GROOVE AND SHALL BE COMPOSED OF EPDM.
3. EPOXY-BASED NON-SKID, SLIP RESISTANT COATING SHALL BE FOR OUTDOOR USE WITH A MINIMUM 0.6 COEFFICIENT OF FRICTION. IT SHALL BE DESIGNED FOR INDUSTRIAL APPLICATIONS AND BE DARK GREY IN COLOR. APPROVAL OF THE MATERIAL WILL BE BY THE ENGINEER.

SEWER STANDARD DETAILS

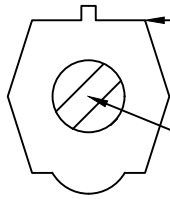
FRAME AND COVER

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

FILE: GEN-D-RINGANDCOVER.DWG

REVISED: 09/21/2023

DRAWING NO.: DCSD09

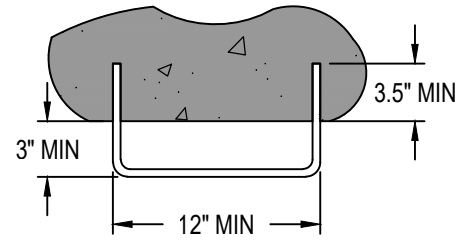


COPOLYMER
POLYPROPYLENE
PLASTIC

1/2" GRADE
60 STEEL
REINFORCEMENT

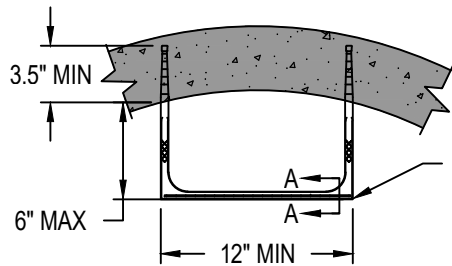
STEP SECTION A-A

NOT TO SCALE



HANDHOLD

NOT TO SCALE



'MA INDUSTRIES, INC.'
1/2 " GRADE 60 STEEL
REINFORCED COPOLYMER
POLYPROPYLENE PLASTIC
PS2-PF MANHOLE STEPS
OR APPROVED EQUAL

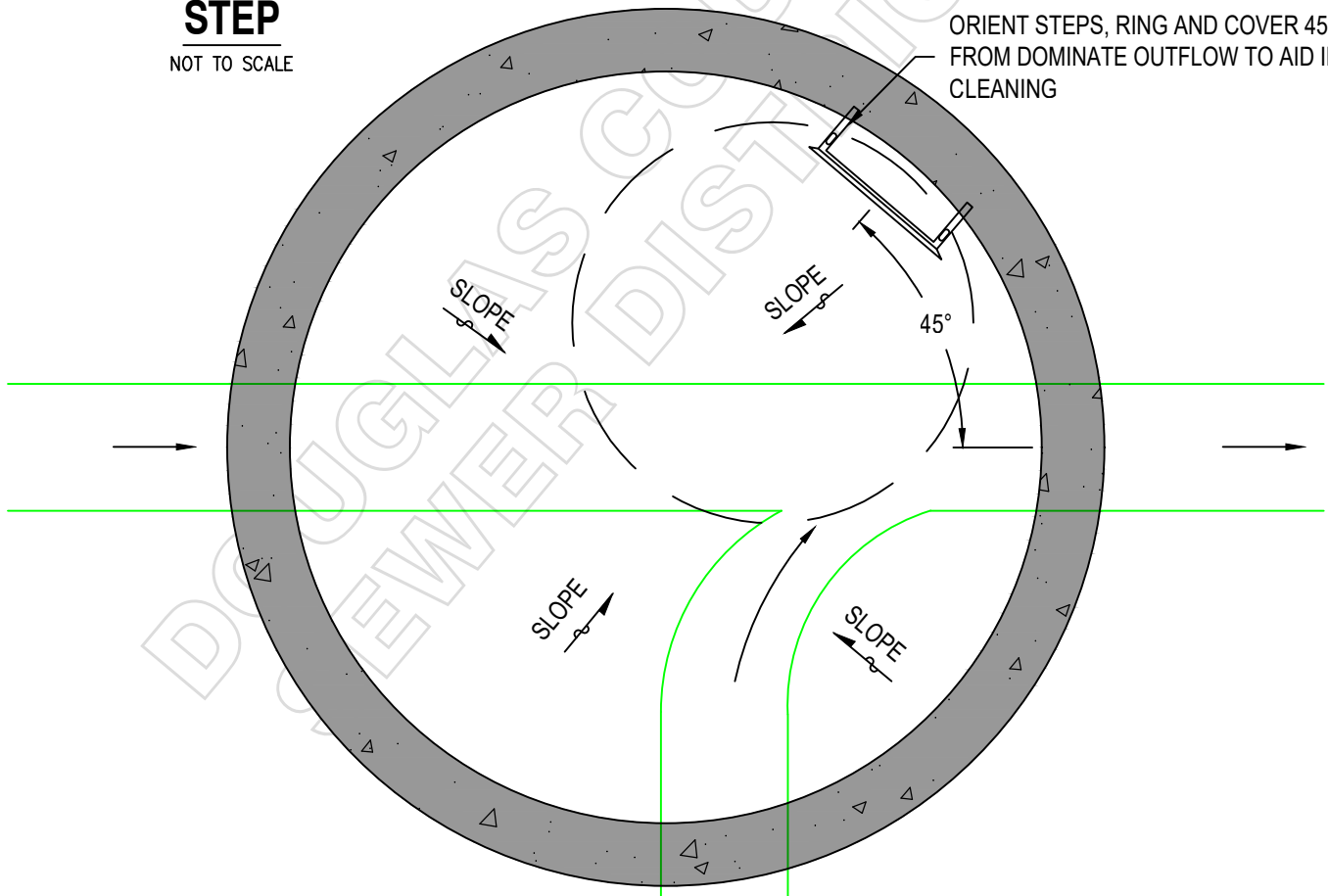
STEP

NOT TO SCALE

NOTES:

1. PROPRIETARY MANHOLE STEPS ARE ACCEPTABLE, PROVIDED THAT THEY CONFORM TO AASHTO M199 (ASTM C 478) AND MEET ALL WISHA REQUIREMENTS.
2. MANHOLE STEP LEGS SHALL BE PARALLEL OR APPROXIMATELY RADIAL AT THE OPTION OF THE MANUFACTURER, EXCEPT THAT ALL STEPS IN ANY MANHOLE SHALL BE SIMILAR. PENETRATION OF OUTER WALL IS PROHIBITED.

ORIENT STEPS, RING AND COVER 45°
FROM DOMINATE OUTFLOW TO AID IN
CLEANING



MANHOLE ACCESS ORIENTATION

NOT TO SCALE

SEWER STANDARD DETAILS

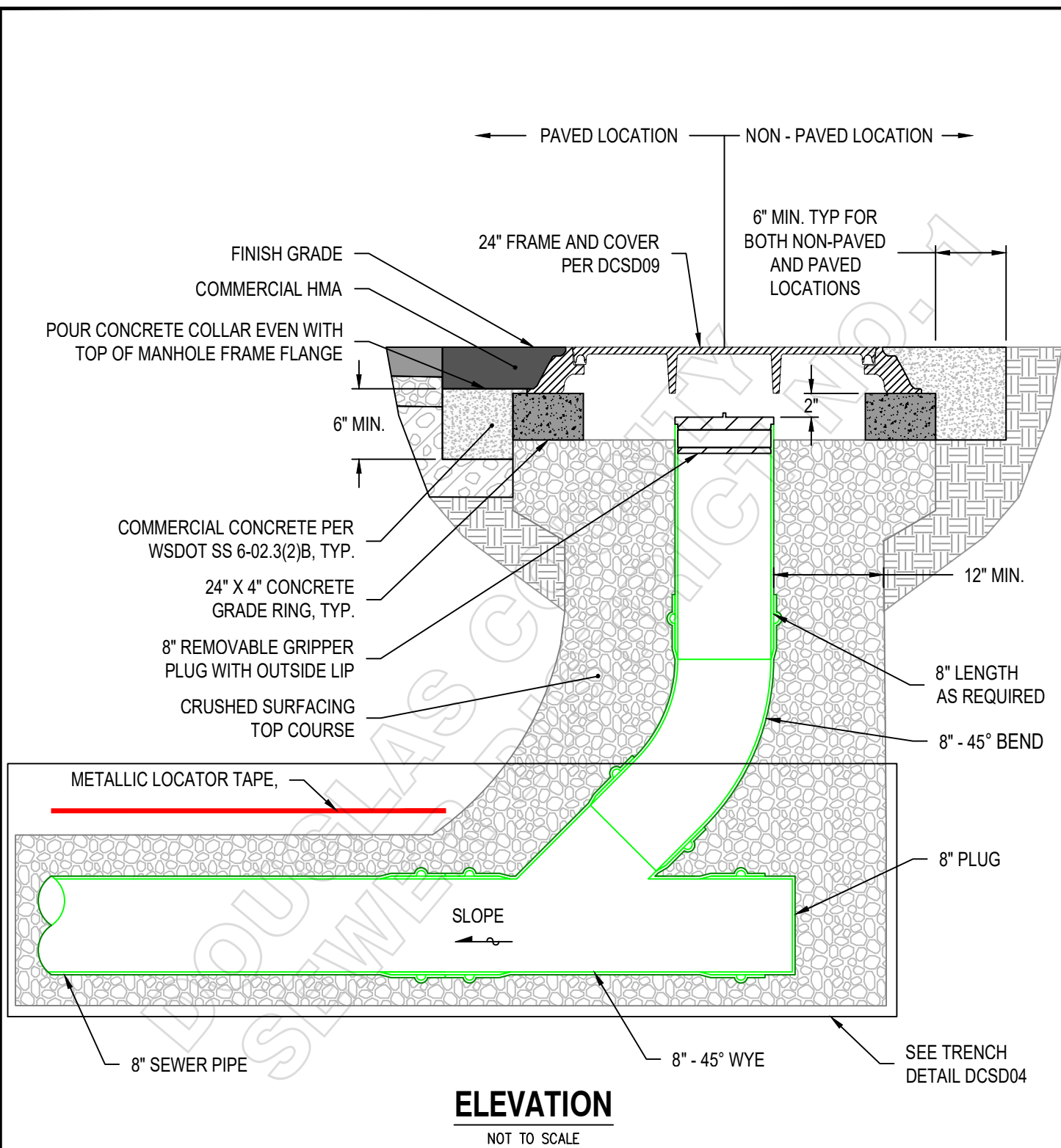
RING , COVER AND STEPS
ORIENTATION

DOUGLAS COUNTY
SEWER DISTRICT NO. 1

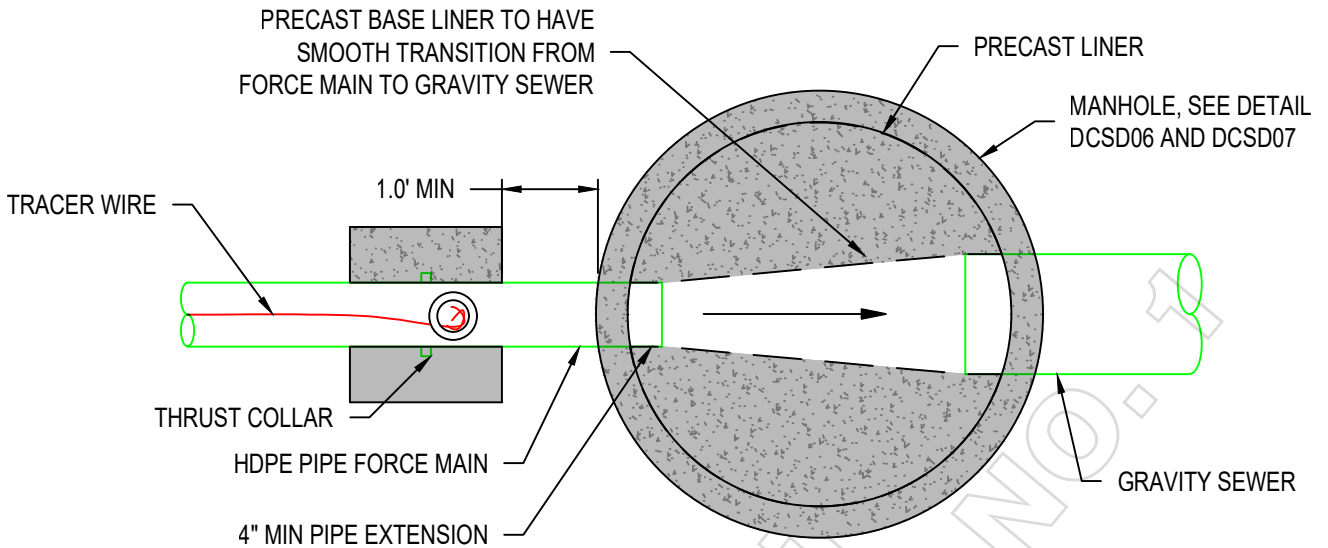
FILE:GEN-D-RINGCOVERSTEPS.DWG

REVISED:09/21/2023

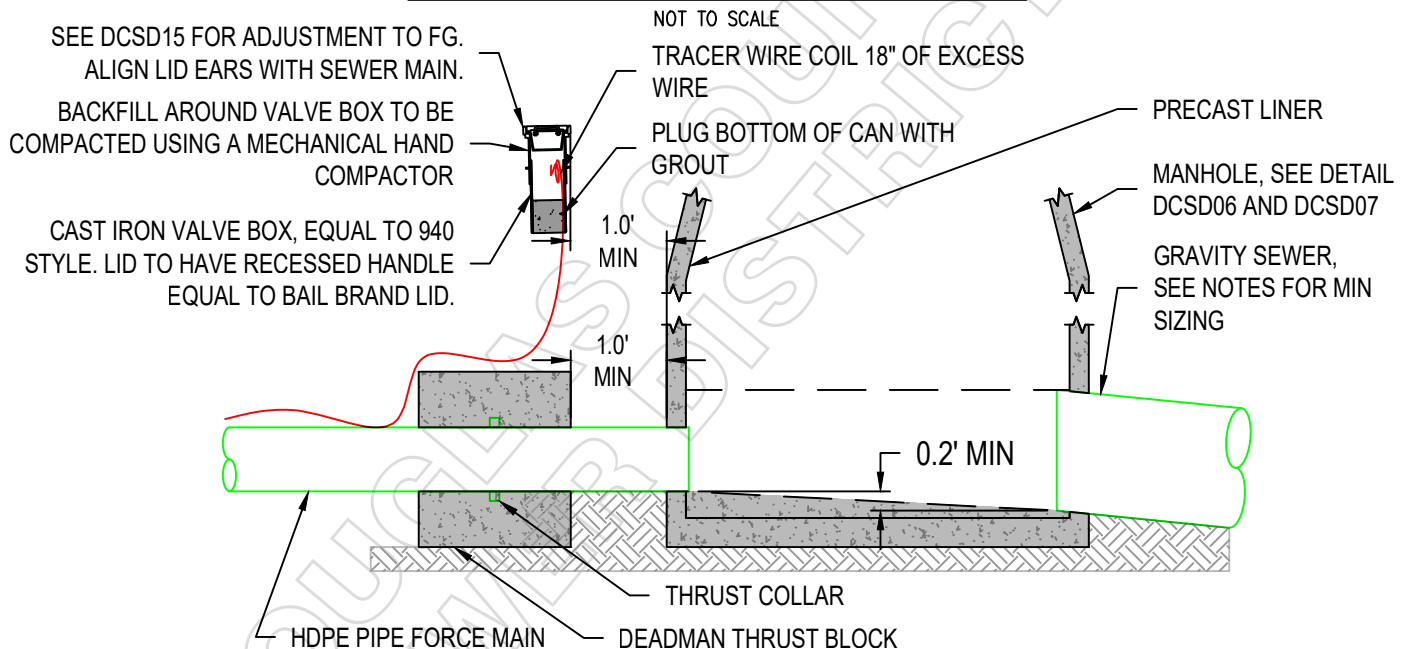
DRAWING NO.: DCSD10



| | | | |
|--|------------------------|---------------------|--|
| DOUGLAS COUNTY SEWER DISTRICT NO. 1 | SEWER STANDARD DETAILS | | |
| | 8" CLEANOUT | | |
| FILE:GEN-D-CLEANOUT.DWG | REVISED:09/21/2023 | DRAWING NO.: DCSD11 | |



TRANSITION MANHOLE PROFILE



TRANSITION MANHOLE PLAN

NOT TO SCALE

NOTES:

1. DIAMETER OF GRAVITY LATERAL SHALL BE 2" MIN LARGER THAN FORCE MAIN (E.G. FOR 8" FORCE MAIN SHALL DISCHARGE TO 10" MIN GRAVITY SEWER).
2. FORCE MAIN SHALL DISCHARGE INTO A MANHOLE FOR TRANSITIONING FROM FORCE MAIN TO GRAVITY SEWER.
3. FORCE MAIN SHALL BE INSTALLED AT A SLOPE CONTINUALLY RISING FROM THE LIFT STATION TO THE DISCHARGE MANHOLE. WHERE THE DCSD DETERMINES A REVERSAL OF GRADE IS NECESSARY A COMBINATION AIR/VACUUM VALVE SHALL BE INSTALLED AT THE HIGH POINT.
4. MATERIALS FOR FORCE MAINS SHALL BE HDPE. ALTERNATIVE MATERIALS FOR EXISTING FORCE MAINS MAY BE APPROVED BY THE DCSD.
5. ALL FORCE MAIN DISCHARGE MANHOLES SHALL HAVE PRECAST LINER SYSTEM.

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

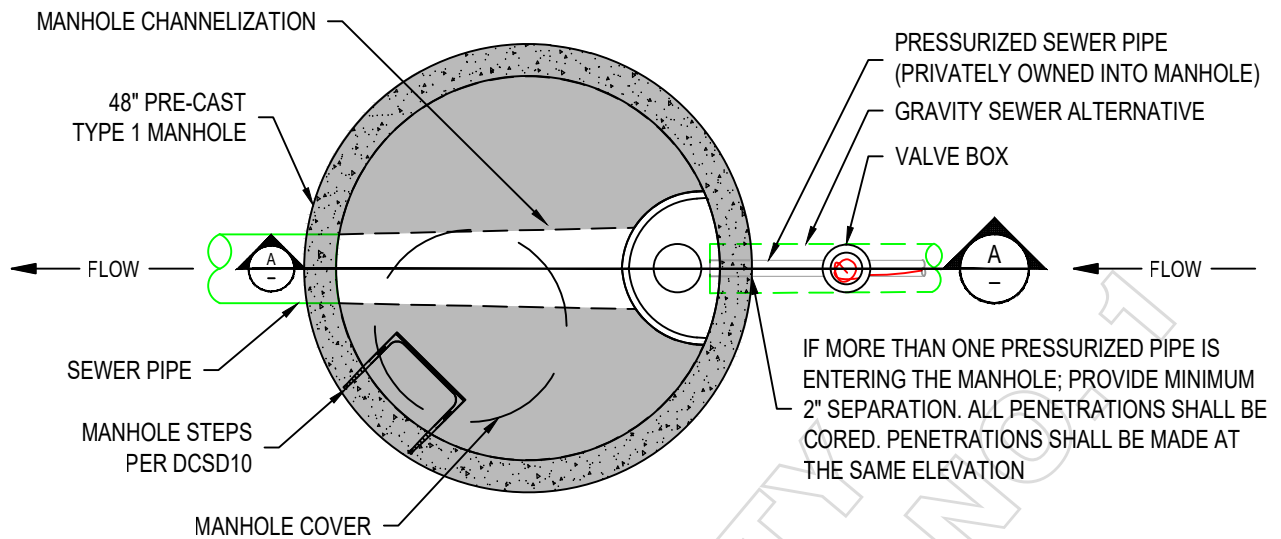
SEWER STANDARD DETAILS

**FORCE MAIN TRANSITION
MANHOLE**

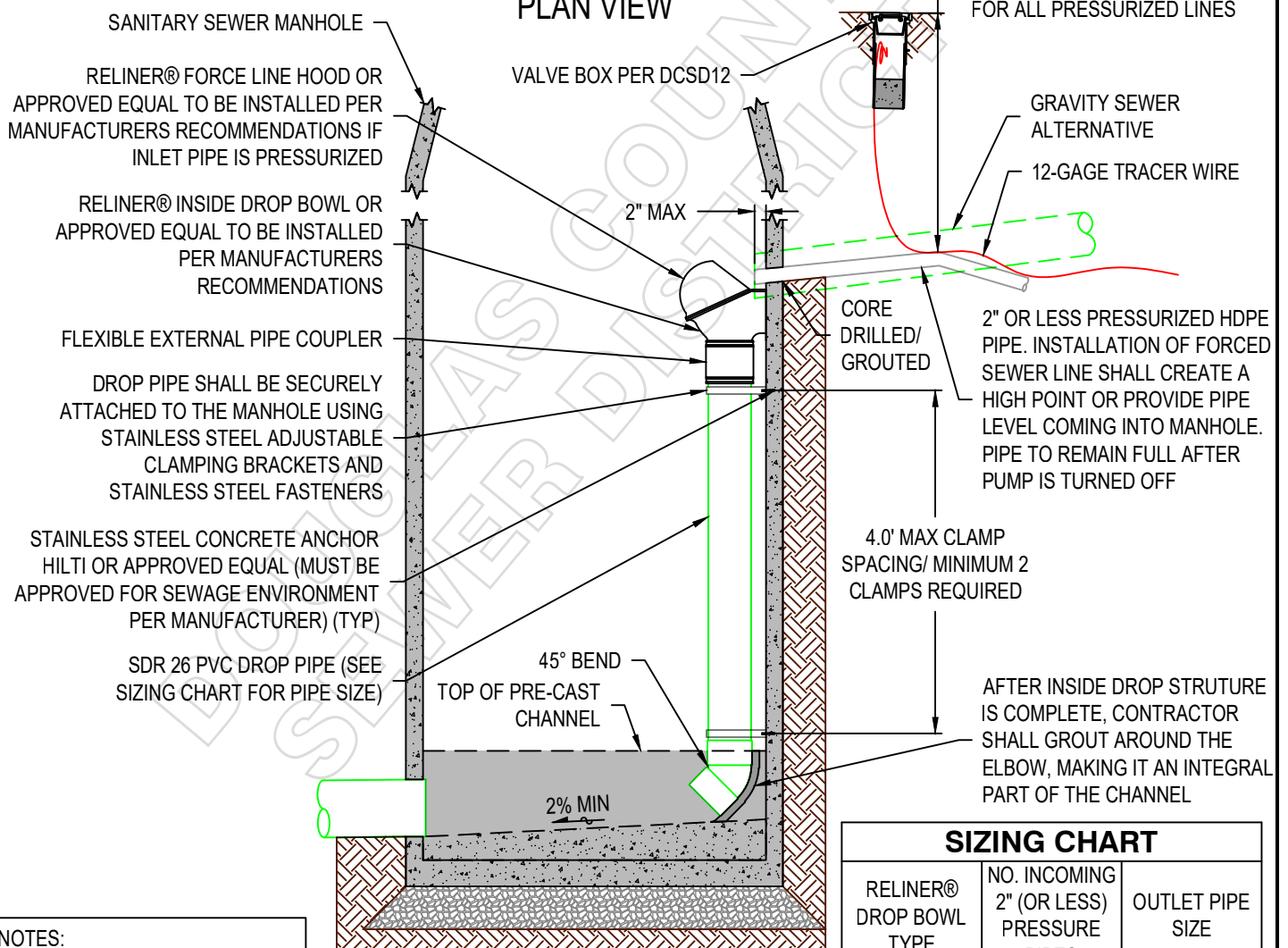
FILE:GEN-D-FM.DWG

REVISED:09/21/2023

DRAWING NO.: DCSD12



PLAN VIEW



NOTES:

1. CUSTOM SIZING AVAILABLE THROUGH RELINER® AS DIRECTED BY PROJECT ENGINEER.

SIZING CHART

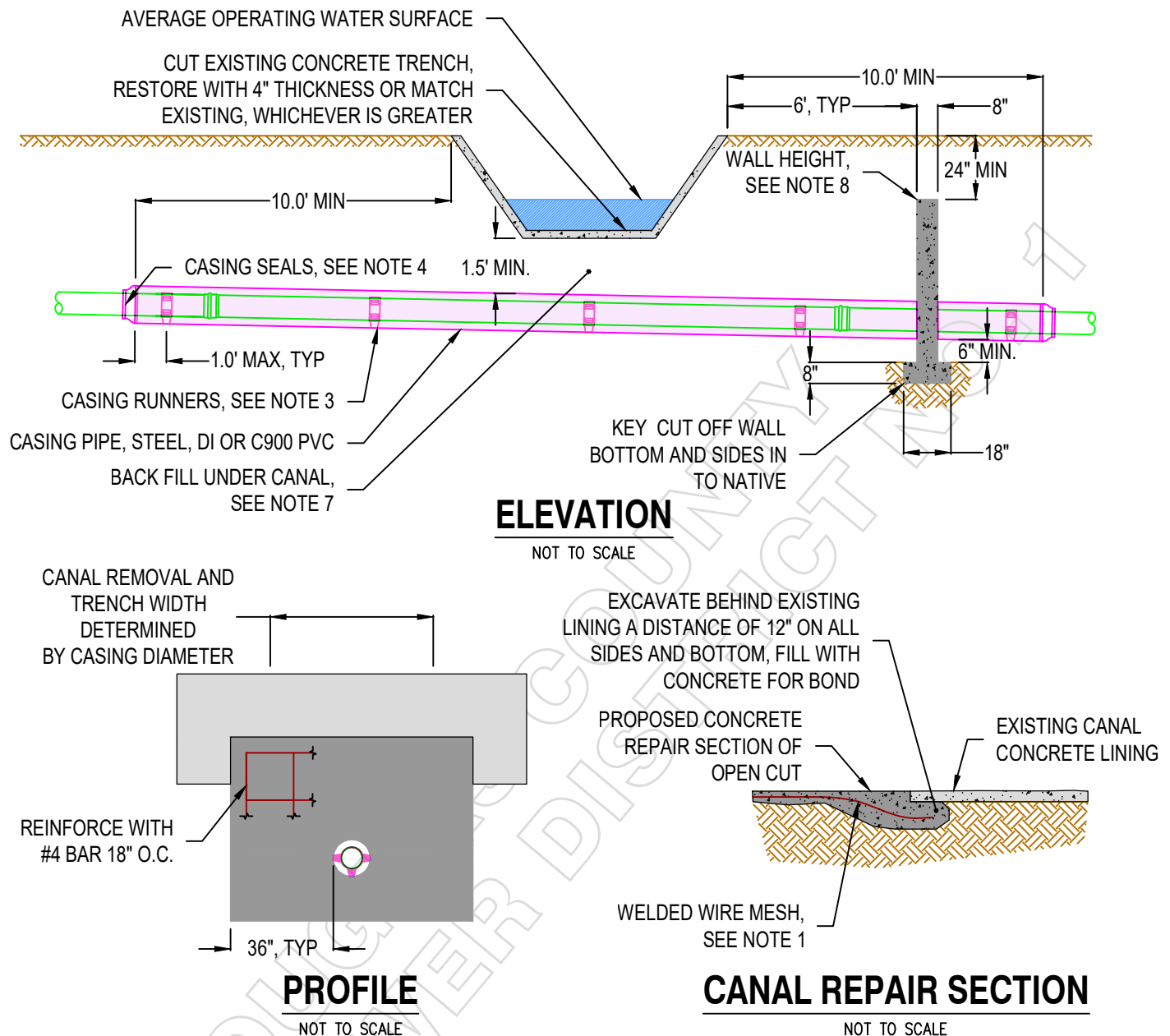
| RELINER® DROP BOWL TYPE | NO. INCOMING 2" (OR LESS) PRESSURE PIPES | OUTLET PIPE SIZE |
|-------------------------|--|------------------|
| A-4 | ≤ 3 | 4" |
| A-6 | 4 | 6" |
| B-8 | 5 | 8" |

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

SEWER STANDARD DETAILS

INTERNAL DROP CONNECTION

FILE: GEN-D-INTERNALDROP.DWG REVISED:09/21/2023 DRAWING NO.: DCSD13



NOTES:

1. CANAL REPLACEMENT TO BE COMPLETED WITH 2" x 4" x 1/4" MESH STEEL WIRE O.C.
2. CASING PIPE ID SHALL BE 6" MINIMUM LARGER THAN SEWER PIPE.
3. PREMANUFACTURED CASING RUNNERS BY CALPICO OR ENGINEER APPROVED EQUAL. SPACE PER MANUFACTURER'S RECOMMENDATIONS, BUT NOT LESS THAN 3 PER PIPE LENGTH.
4. PREMANUFACTURED CASING END SEALS, CALIPICO OR ENGINEER APPROVED EQUAL. CLAMPS SHALL BE STAINLESS STEEL.
5. TRENCH CUTOFF WALL TO BE LOCATED ON SEWER DOWNSLOPE SIDE OF CANAL.
6. ALL COMMERCIAL CONCRETE SHALL CONFORM TO WSDOT SS 6-02.3(2)B.
7. BACKFILL AND MECHANICALLY COMPACT (6" LIFTS) IMPORT SELECT BACKFILL OR NATIVE MATERIAL WITH DISTRICT APPROVAL TO 95% OF THE MODIFIED PROCTOR. CONFIRM BACKFILL MATERIAL, DISTRICT MAY REQUIRE CDF.
8. TOP OF THE CUT OFF WALL SHALL BE AT THE ELEVATION OF THE CANALS AVERAGE OPERATING WATER SURFACE OR 24" BELOW FG WHICHEVER ELEVATION IS LOWER.
9. ALL CANAL CROSSINGS ARE SUBJECT TO IRRIGATION DISTRICT APPROVAL

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

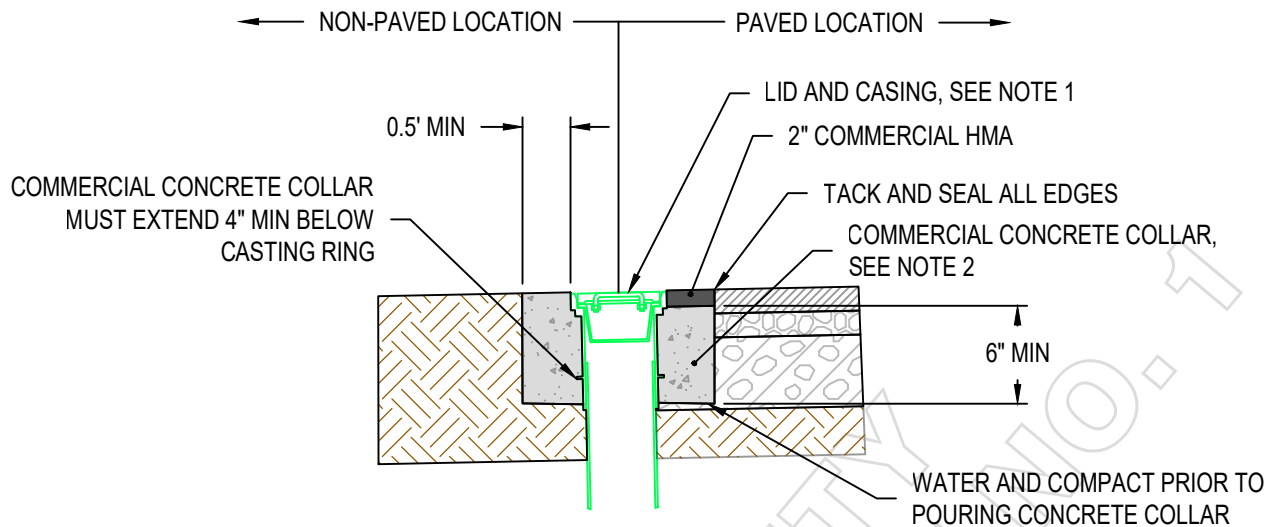
SEWER STANDARD DETAILS

**IRRIGATION CANAL
CROSSING**

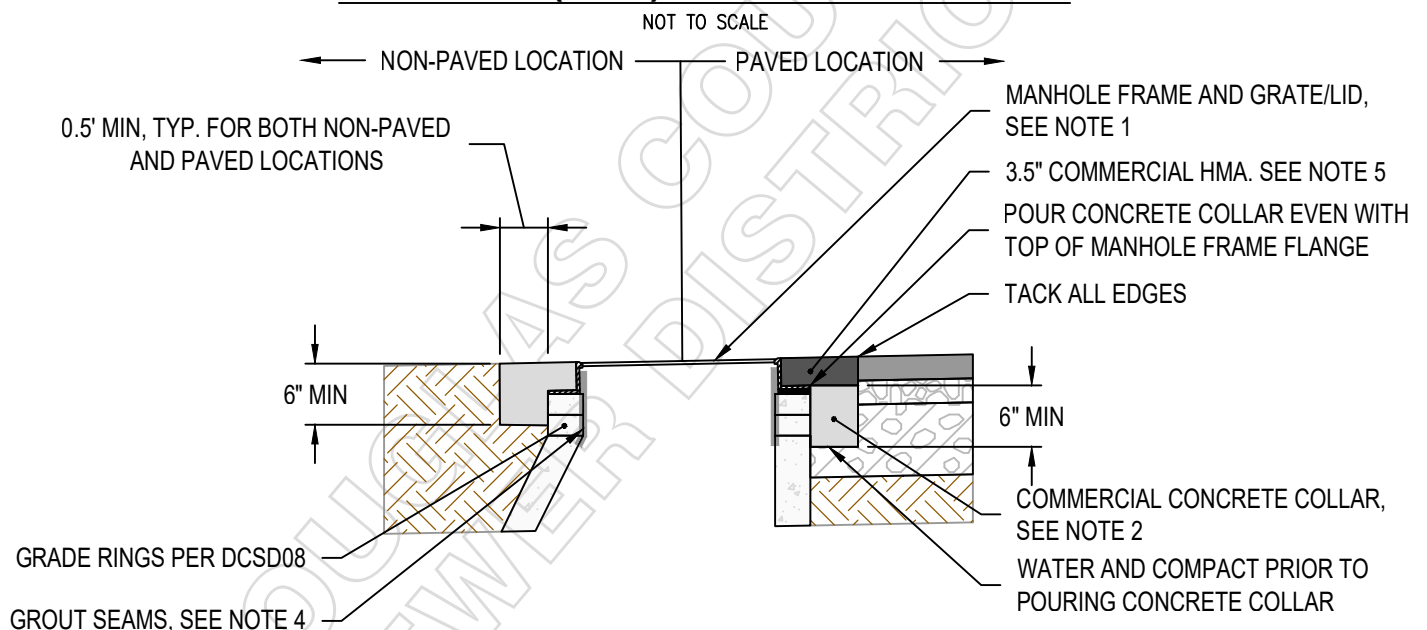
FILE:GEN-D-CANALCROSSING.DWG

REVISED:09/21/2023

DRAWING NO.: DCSD14



ROADWAY (HMA) VALVE ADJUSTMENT



ROADWAY (HMA) MANHOLE OR CLEANOUT ADJUSTMENT

NOTES:

1. THE HIGHEST POINT ON THE CASING, RING, OR COVER SHALL BE NO HIGHER THAN FLUSH AND NO LESS THAN 1/8" BELOW ASPHALT SURFACE.
2. COMMERCIAL CONCRETE COLLAR MUST BE GIVEN 3 DAYS CURE TIME PRIOR TO ASPHALT CAP PLACEMENT. WITH ENGINEER APPROVAL, TIME MAY BE REDUCED TO 24 HOURS IF "HIGH EARLY" CONCRETE IS USED.
3. REMOVE ASPHALT AS NECESSARY IN CIRCULAR PATTERN WITH A MINIMUM OF 8 EDGES.
4. SEAMS BETWEEN GRADE RINGS AND THE SEAM BETWEEN THE MANHOLE FRAME AND UPPER GRADE RING SHALL BE GROUTED WITH NON-SHRINK GROUT, MIN. 3000 PSI COMPRESSION STRENGTH IN 24 HOURS AND 6000 PSI IN 28 DAYS. COAT THE INTERIOR SURFACE OF MANHOLE FRAME WITH GROUT, BUT DO NOT INHIBIT ABILITY TO OPEN OR SEAL THE MANHOLE LID.
5. COMMERCIAL HMA RING SHALL BE COMPACTED WITH A PLATE WHACKER. AFTER COMPACTION, NO PART OF THE ASPHALT RING SHALL BE HIGHER THAN 1/4" ABOVE AND NO LOWER THAN FLUSH WITH THE EXISTING ASPHALT SURFACE.

SEWER STANDARD DETAILS

ROADWAY UTILITY ADJUSTMENT

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

FILE: GEN-D-UTILADJUST.DWG

REVISED: 09/21/2023

DRAWING NO.: DCSD15

ABANDONMENT AND TERMINATION NOTES

DCSD SHALL BE SOLE DETERMINER OF APPROPRIATE ABANDONMENT PROCEDURES AND METHODS. RESTORE ALL DISTURBED SURFACES TO ORIGINAL CONDITION AND TO THE SATISFACTION OF THE DCSD. RETURN ALL REMOVED FACILITIES TO THE DCSD, AT THE DISCRETION OF THE DCSD. UNUSABLE EQUIPMENT SHALL BE DISPOSED OF BY THE CONTRACTOR. THE FOLLOWING METHODS ARE APPROVED ABANDONMENT PROCEDURES FOR TERMINATED FACILITIES.

ABANDONED SEWERS, SIDE SEWERS AND FORCE MAINS, ETC. SHALL BE TERMINATED AT THE FACILITY LOCATION AND AT THE MAINLINE.

VALVES

1. REMOVE VALVES AND VALVE BOXES. PLUG OR BLIND FLANGE THE FORCE MAIN.
2. AN ALTERNATIVE METHOD OF ABANDONMENT IS ACCEPTABLE IF, AT THE DISCRETION OF THE DCSD, THE VALVE CANNOT BE REMOVED. PLUG AND CLOSE THE VALVE, THEN REMOVE THE VALVE BOX.

MANHOLES

1. SALVAGE MANHOLE FRAME AND COVER; RETURN TO DCSD YARD.
2. PLUG ALL CONNECTIONS.
3. ABANDON PER WSDOT SS 7-05.3(2).

FORCE OR GRAVITY SEWERS

1. DRAIN AND PROPERLY DISPOSE OF WASTE WATER PRIOR TO CUTTING THE ABANDONED MAIN WHERE EXPOSED DURING CONSTRUCTION.
2. REMOVE SEWERS IN THE WAY OF NEW CONSTRUCTION. SAW CUT AND REMOVE SHORT SECTIONS OF PIPE. PIPE SHALL NOT BE FORCIBLY REMOVED WITH HEAVY EQUIPMENT DUE TO POTENTIAL DAMAGE TO SURROUNDING UTILITIES.
3. SEWERS THAT WILL BE TERMINATED BUT NOT ENCOUNTERED DURING NEW TRENCHING MAY BE LEFT IN PLACE, BUT ALL VALVES AND MANHOLES MUST BE ABANDONED AS DESCRIBED UNDER "VALVES" AND "MANHOLES" RESPECTIVELY.
4. PLUG ENDS OF ALL ABANDONED SEWERS EXPOSED DURING CONSTRUCTION PER WSDOT SS 7-08.3(4).

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

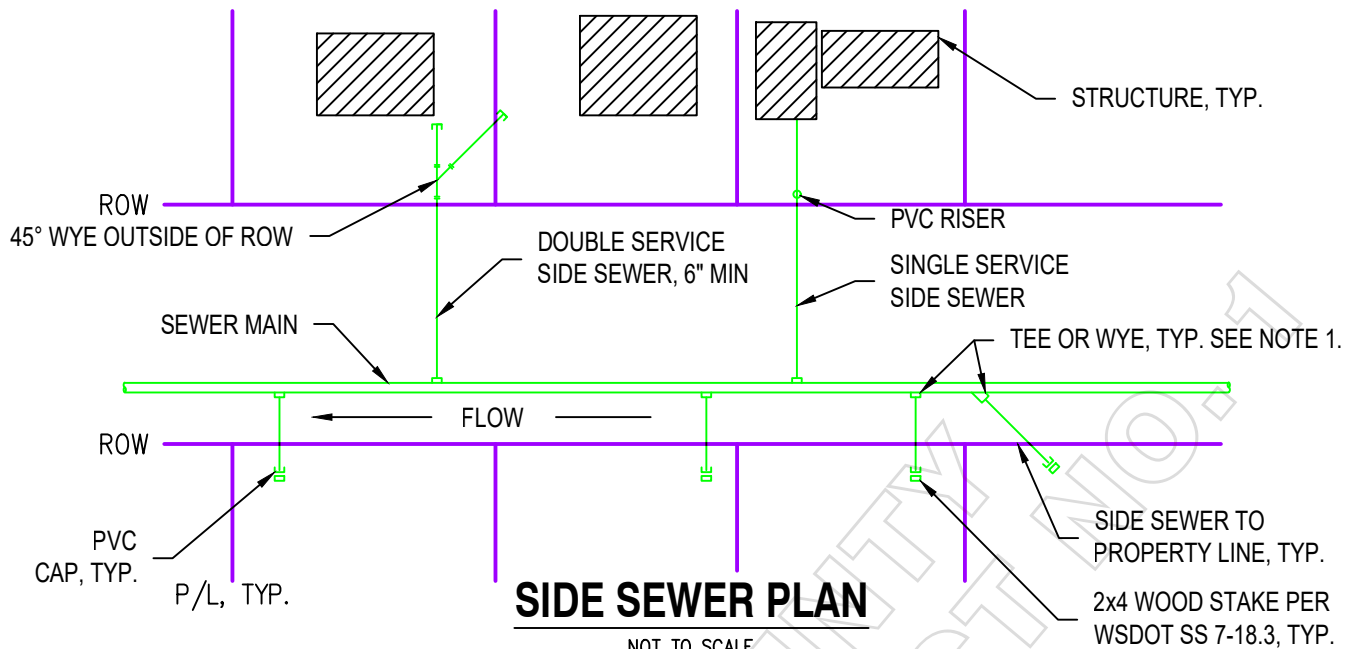
SEWER STANDARD DETAILS

ABANDONMENT OF TERMINATED FACILITIES

FILE: GEN-D-ABAN.DWG

REVISED: 09/21/2023

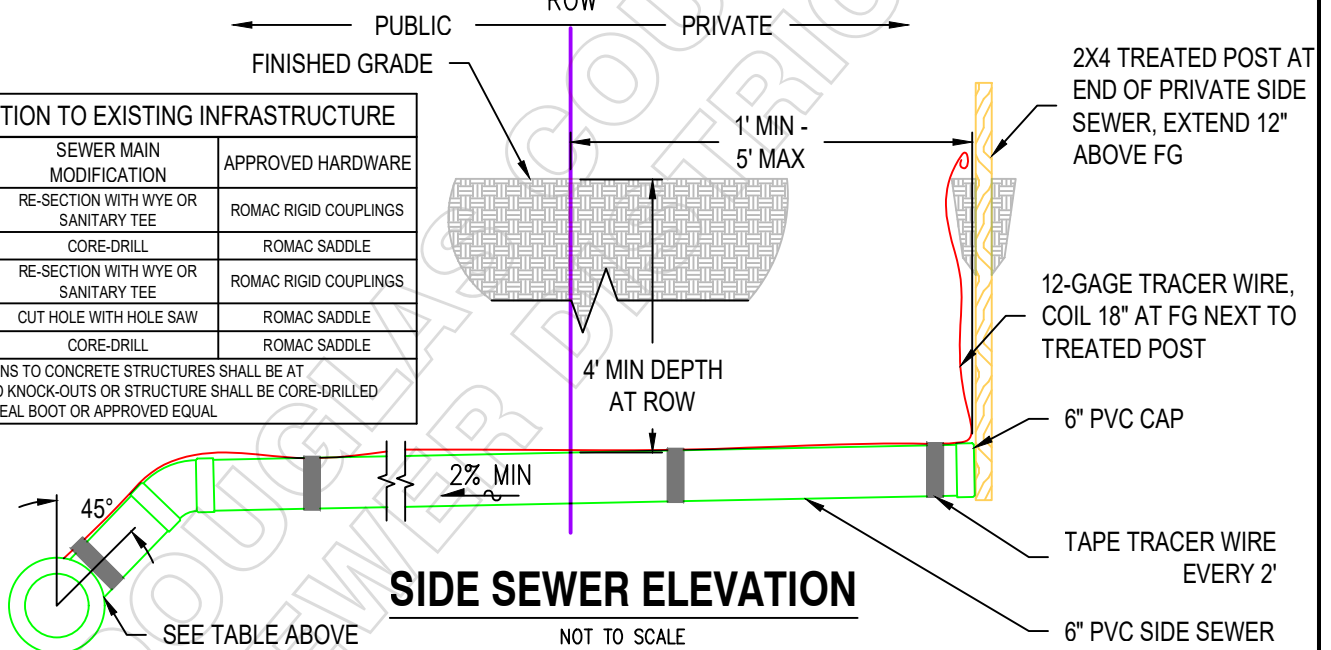
DRAWING NO.: DCSD16



SIDE SEWER PLAN

NOT TO SCALE

| CONNECTION TO EXISTING INFRASTRUCTURE | | |
|--|-------------------------------------|-----------------------|
| SEWER MAIN TYPE | SEWER MAIN MODIFICATION | APPROVED HARDWARE |
| CLAY | RE-SECTION WITH WYE OR SANITARY TEE | ROMAC RIGID COUPLINGS |
| CONCRETE | CORE-DRILL | ROMAC SADDLE |
| PVC | RE-SECTION WITH WYE OR SANITARY TEE | ROMAC RIGID COUPLINGS |
| | CUT HOLE WITH HOLE SAW | ROMAC SADDLE |
| DUCTILE IRON | CORE-DRILL | ROMAC SADDLE |
| ALL CONNECTIONS TO CONCRETE STRUCTURES SHALL BE AT MANUFACTURED KNOCK-OUTS OR STRUCTURE SHALL BE CORE-DRILLED WITH A KOR-N-SEAL BOOT OR APPROVED EQUAL | | |



SIDE SEWER ELEVATION

NOT TO SCALE

NOTES CONNECTING TO MAIN:

1. SIDE SEWER ALIGNMENT SHALL EITHER BE AT 90° OR AT 45° TO THE NEW SEWER MAIN ALIGNMENT. ALL CONNECTIONS TO EXISTING SIDE SEWERS OR MAIN LINES SHALL BE WITH "RIGID TYPE" COUPLERS; SEE TABLE ABOVE. ANY DEVIATION FROM THIS SHALL BE APPROVED BY THE DISTRICT.

2. IF HOLE IS REQUIRED IN MAIN FOR CONNECTION IT SHALL BE CUT WITH A HOLE SAW.

3. CONNECTIONS MUST BE INSPECTED AND APPROVED BY DISTRICT AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

SIDE SEWER NOTES:

1. PIPE AND FITTING MATERIAL SHALL BE PVC SDR35 GASKETED SEWER PIPE.
2. CONTRACTOR SHALL PROVIDE RESIDENT 24 HOURS ADVANCED NOTICE BEFORE SERVICE OUTAGE. NOTICE OUTAGE TO BE LESS THAN 4 HOURS.
3. PROVIDE CLEAN OUT EVERY 100' OR AT ALL CHANGES OF DIRECTION.
4. MAXIMUM BEND SHALL BE 45 DEGREES.

SEWER STANDARD DETAILS

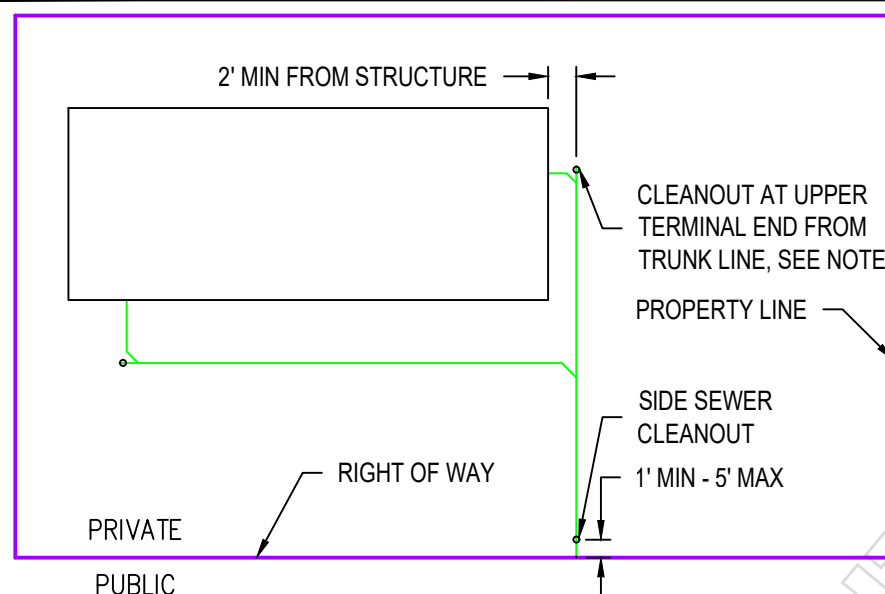
SIDE SEWERS

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

FILE: GEN-D-SIDSEWERS.DWG

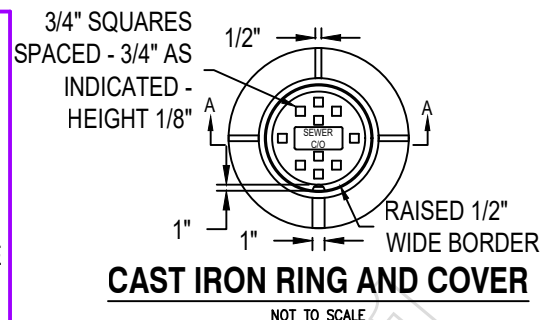
REVISED: 09/21/2023

DRAWING NO.: DCSD17

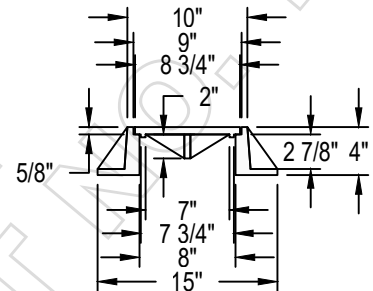


PRIVATE SIDE SEWER PLAN

NOT TO SCALE

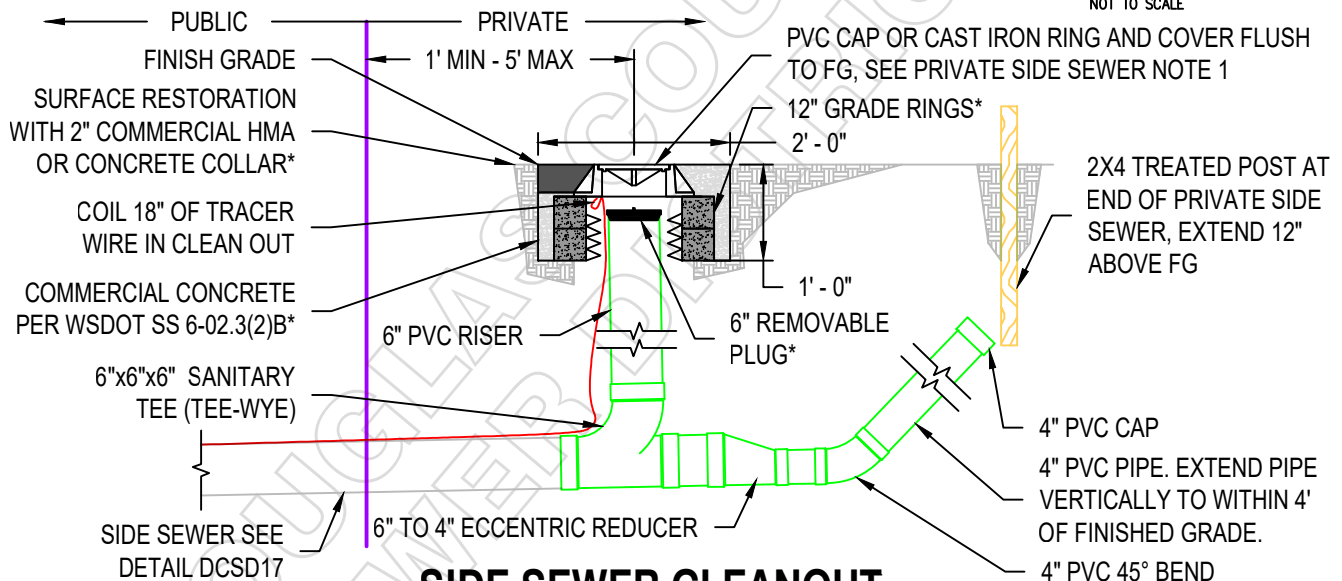


NOT TO SCALE



SECTION A-A

NOT TO SCALE



SIDE SEWER CLEANOUT

NOT TO SCALE

*IF RING AND COVER IS REQUIRED

PRIVATE SIDE SEWER NOTES:

1. CLEAN OUTS LOCATED IN DRIVING OR PEDESTRIAN WAY SHALL USE CAST IRON RING AND COVER
2. CONTRACTOR SHALL PROVIDE RESIDENT 24 HOURS ADVANCED NOTICE BEFORE CONSTRUCTION. NOTICE OUTAGE TO BE LESS THAN 4 HOURS.
3. PROVIDE CLEANOUT EVERY 100' OF STRAIGHT PIPE. ADDITIONAL CLEANOUTS ARE REQUIRED FOR EACH CHANGE OF DIRECTION IF THE TOTAL AGGREGATE CHANGE EXCEEDS 135 DEGREES PER UNIFORM PLUMBING CODE.
4. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. ALL CHANGES IN GRADE OR LINE SHALL BE WITH SWEEPS OR LARGE RADIUS WYES PER UNIFORM PLUMBING CODE.
5. 4" AND 6" SEWER PIPE: 2% MIN GRADE AND 100% (I.E. 45°) MAX GRADE.
6. ALL SIDE SERVICES SHALL BE TESTED PER THE UNIFORM PLUMBING CODE.
7. DCSD TO INSPECT PRIOR TO BACK FILLING.
8. SIDE SEWER PERMITS AND INSPECTIONS SHALL BE ON FILE WITH DCSD PRIOR TO SERVICE BEING ACCEPTED.
9. 90 DEGREE PVC ELBOWS SHALL BE LONG RADIUS SWEEPS.

SEWER STANDARD DETAILS

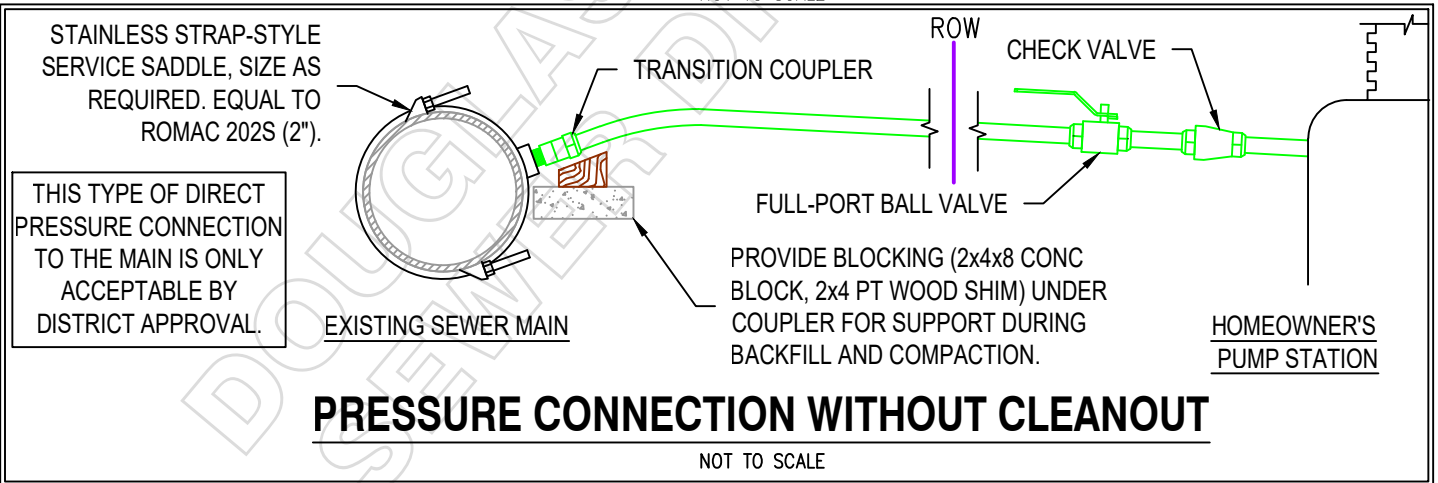
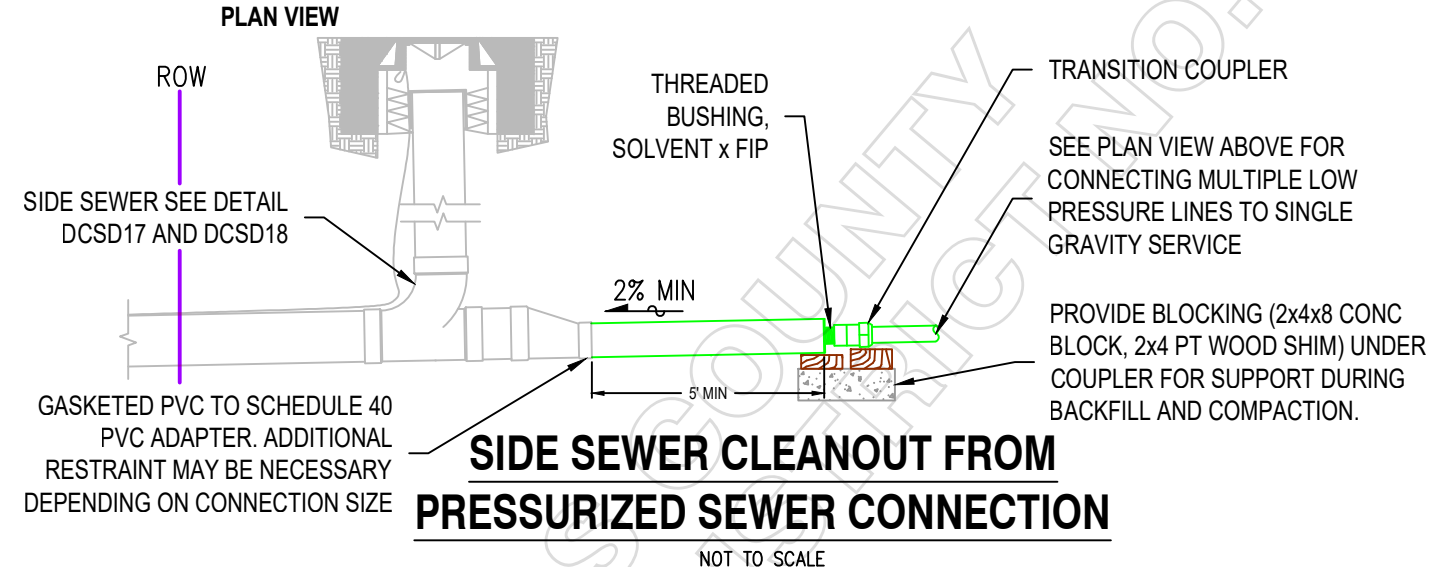
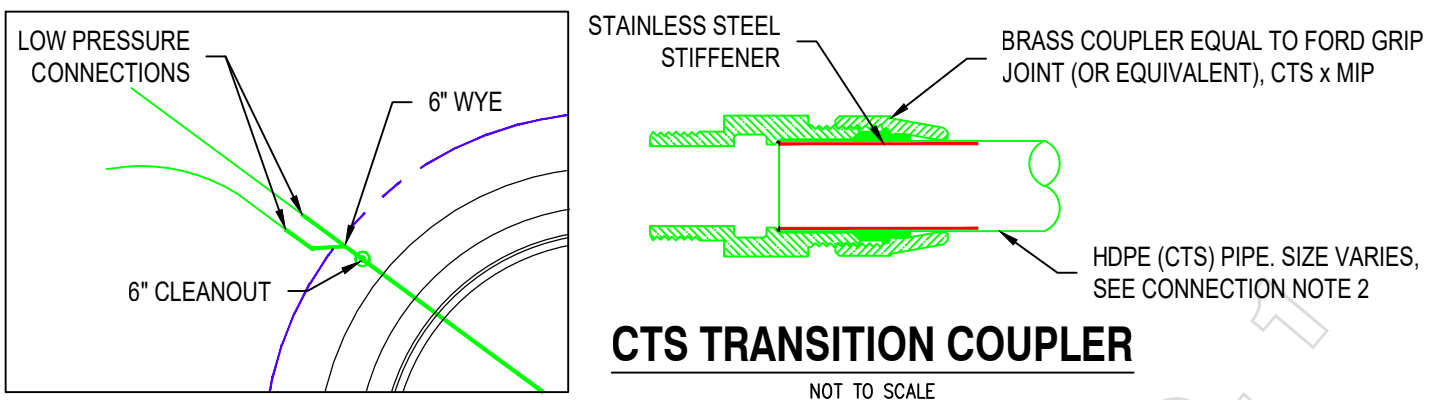
PRIVATE SIDE SEWERS

FILE:GEN-D-PRIVATESS.DWG

REVISED:09/21/2023

DRAWING NO.: DCSD18

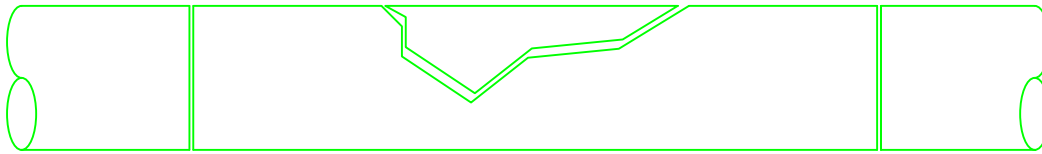
**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**



- LOW PRESSURE CONNECTION NOTES:
1. PRESSURE PIPE MAY BE HDPE CTS SDR 9 OR PRESSURE RATED SCHEDULE 40 PVC. (PVC FORCEMAIN CONNECTION DETAILS ARE NOT SHOWN IN DRAWING)
 2. PRESSURE PIPE FOR SINGLE DWELLINGS SHALL HAVE AN ID OF 1.25" MIN, FOR OTHER THAN SINGLE DWELLINGS UNITS SHALL HAVE AN ID OF 2" MIN PER UNIFORM PLUMBING CODE.
 3. PRESSURE LINE SHALL HAVE AN ACCESSIBLE CHECK VALVE AND FULL-PORT BALL VALVE. CHECK AND BALL VALVE SHALL BE STAINLESS STEEL, SINGLE ASSEMBLY AS MANUFACTURED BY 'E ONE' OR ENGINEER APPROVED EQUAL.
 4. PUMPS SHALL PROVIDE ADEQUATE FLOW TO MEET MINIMUM FLUSHING VELOCITY IN PIPELINE.
 5. INSTALL AND TEST PER UNIFORM PLUMBING CODE.

| | | | |
|--|------------------------------------|--------------------|---------------------|
| DOUGLAS COUNTY SEWER DISTRICT NO. 1 | SEWER STANDARD DETAILS | | |
| | LOW PRESSURE CONNECTION | | |
| | FILE:GEN-D-PRESSURE.DWG | REVISED:09/21/2023 | DRAWING NO.: DCSD19 |

CUT PIPE SQUARE
1' MIN FROM BREAK, TYP.



DAMAGED GRAVITY SEWER

NOT TO SCALE

ALIGN PIPE INVERTS, CREATE
SMOOTH TRANSITION

STAINLESS STEEL HARDWARE

NEW PIPE WITH SAME ID AS
EXISTING

REPAIR COUPLER, SEE NOTE 1

MINIMIZE GAP,
1/4" MAX, TYP.

REPAIRED GRAVITY SEWER (SAME MATERIAL OR OD)

NOT TO SCALE

ALIGN PIPE INVERTS, CREATE
SMOOTH TRANSITION

COUPLER ADAPTER SPECIFIED BY
MANUFACTURER FOR PIPE OD DIFFERENCE

STAINLESS STEEL
HARDWARE

NEW PIPE WITH SAME ID AS EXISTING

SHEAR RESISTANT COUPLER

REPAIRED GRAVITY SEWER (DIFFERENT MATERIAL OR OD)

NOT TO SCALE

SEWER REPAIR NOTES:

1. REPAIRS SHALL BE MADE WITH SHEAR RESISTANT COUPLINGS, MISSION ARC, FERNCO 5000 RC SERIES OR EQUAL. COUPLER SHALL HAVE WATER TIGHT SEAL. DCSD MAY ALLOW TEMPORARY OPEN TRENCH REPAIRS TO BE MADE WITH FLEXIBLE COUPLINGS IF SHEAR RESISTANT COUPLINGS ARE NOT ON HAND.
2. COUPLING BETWEEN DIFFERENT PIPE MATERIALS OR OUTSIDE DIAMETERS SHALL BE MADE USING ADAPTERS SPECIFIED BY THE COUPLER MANUFACTURER.
3. ALL REPAIRS SHALL MAINTAIN EXISTING GRADE.
4. ALL HARDWARE (INCLUDING BANDING) SHALL BE STAINLESS STEEL.
5. IN THE CASE OF A DAMAGED PIPE THE DCSD SHALL BE IMMEDIATELY NOTIFIED. DCSD SHALL INSPECT AND APPROVE REPAIR BEFORE BACKFILLED.
6. HDPE SHALL BE REPAIRED WITH ELECTROFUSION COUPLINGS.

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

SEWER STANDARD DETAILS

**GRAVITY AND FORCE MAIN
SEWER REPAIR**

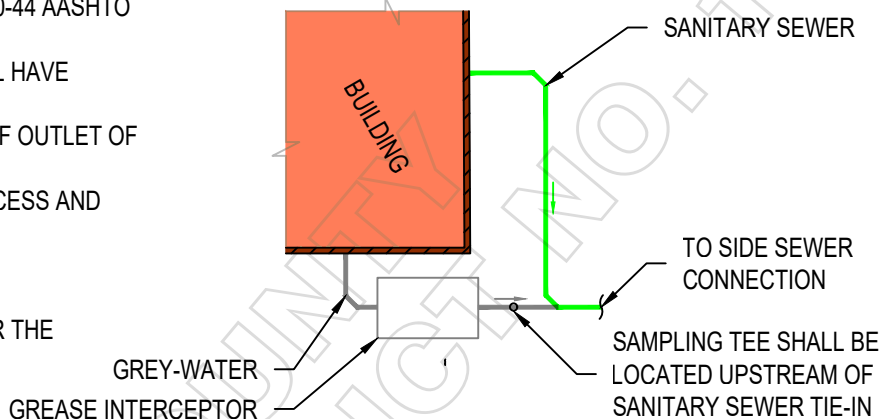
FILE:GEN-D-REPAIR.DWG

REVISED:09/21/2023

DRAWING NO.: DCSD20

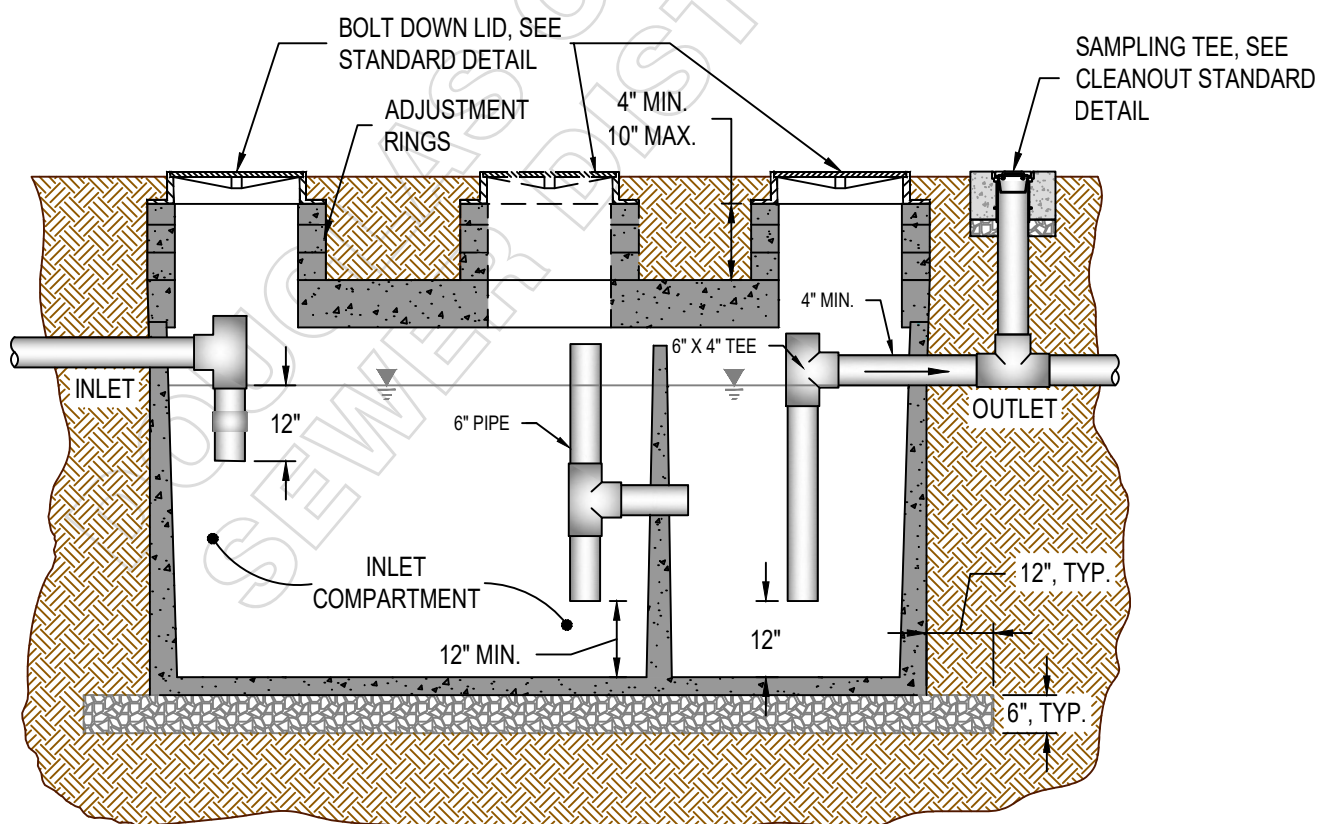
NOTES:

1. ALL INTERCEPTORS SHALL BE SIZED ACCORDING TO THE UNIFORM PLUMBING CODE, SECTION 1014.3.
 2. ESTABLISHMENTS REQUIRING GREASE INTERCEPTORS ARE LISTED IN DCSD ADMIN CODE, SECTION 3.12.
 3. INTERCEPTOR SHALL BE A MINIMUM SIZE OF 500 GALLONS OF LIQUID CAPACITY. THE INLET COMPARTMENT SHALL HAVE $\frac{2}{3}$ THE TOTAL CAPACITY OF THE INTERCEPTOR.
 4. PLACE INTERCEPTOR IN LOCATION THAT ALLOWS FOR PUMP TRUCK MAINTENANCE ACCESS.
 5. SANITARY SEWER SHALL BE CONVEYED BY A SEPARATE LINE DOWNSTREAM OF THE INTERCEPTOR. ONLY GREY-WATER SHALL BE ROUTED THROUGH THE INTERCEPTOR.
 5. INTERCEPTOR UNIT SHALL BE RATED FOR H20-44 AASHTO LOADING. (CERTIFIED)
 6. A CENTER MANHOLE IS REQUIRED AND SHALL HAVE STANDARD 24" BOLT DOWN LID.
 7. SAMPLING TEE SHALL BE PLACED WITHIN 5' OF OUTLET OF THE VAULT.
 8. POSITION ADJUSTMENT RINGS TO ALLOW ACCESS AND ENTRY.
 9. INTERCEPTOR SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS
 10. CENTER MANHOLE MUST BE CENTERED OVER THE CROSSOVER TEE.
-
- The diagram illustrates the installation of a grease interceptor. An orange rectangle labeled 'BUILDING' is shown with two lines extending from its base to a white rectangular 'GREASE INTERCEPTOR' unit. A green line, labeled 'SANITARY SEWER', branches off from the main line before the interceptor and runs vertically down. A grey line, labeled 'GREY WATER', enters the interceptor from the bottom left. The line exits the interceptor to the right, where a 'SAMPLING TEE' is indicated. The line then continues to the right, labeled 'TO SIDE SEWER CONNECTION'.



SITE PLUMBING

NOT TO SCALE



GREASE INTERCEPTOR DETAIL

NOT TO SCALE

SEWER STANDARD DETAILS

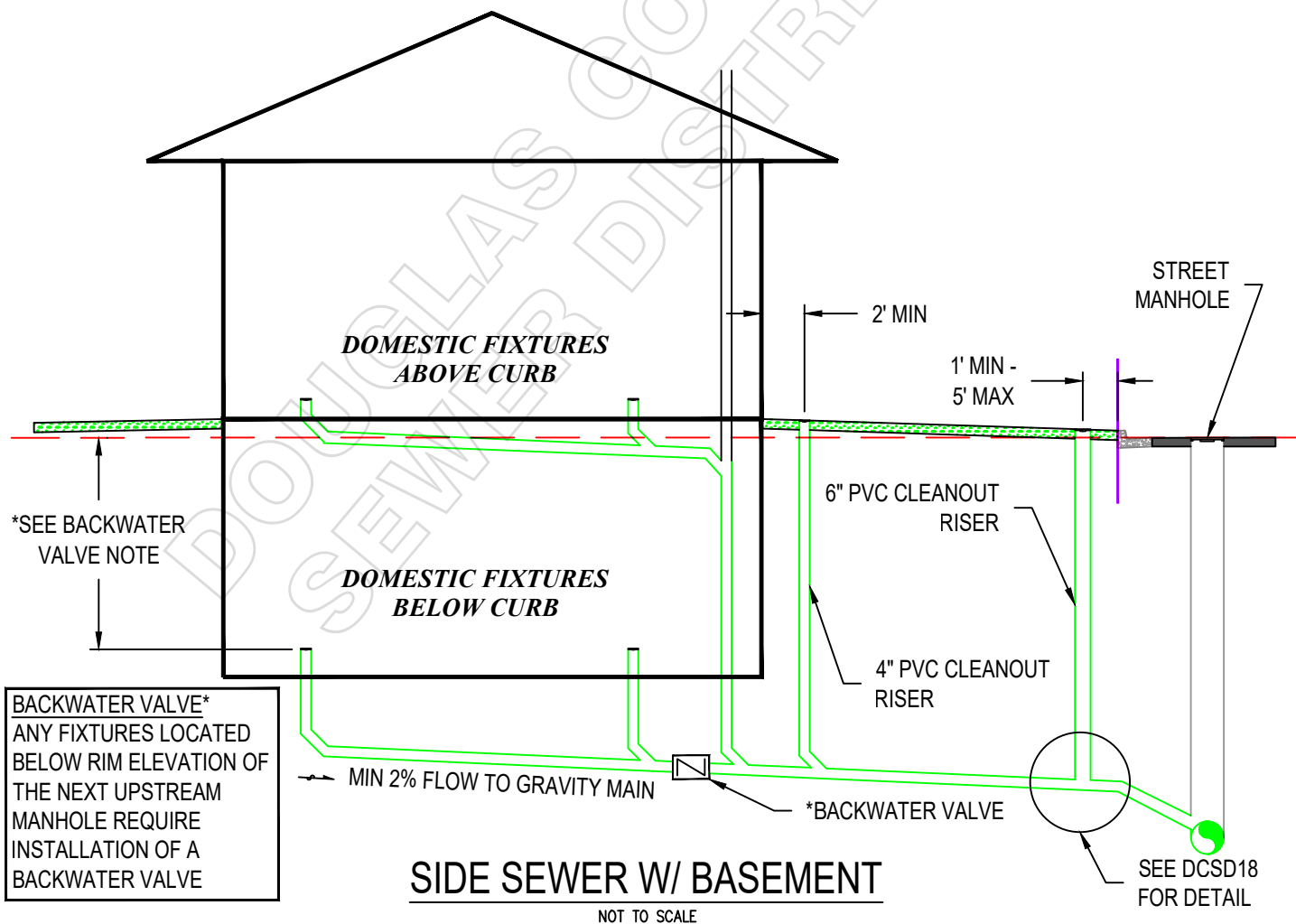
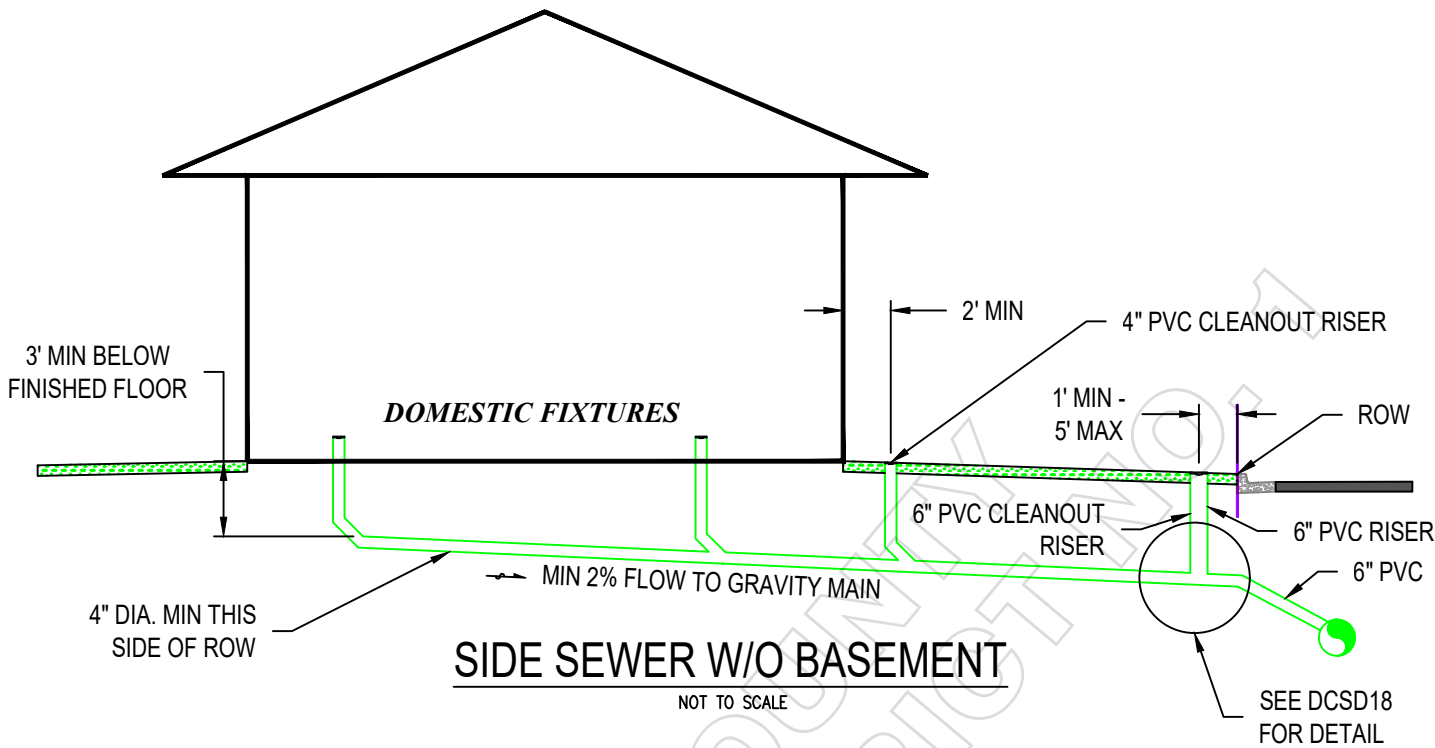
GREASE INTERCEPTOR

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

FILE:GEN-D-GREASETRAP.DWG

REVISÉ:09/21/2023

DRAWING NO.: DCSD21



BACKWATER VALVE*
ANY FIXTURES LOCATED BELOW RIM ELEVATION OF THE NEXT UPSTREAM MANHOLE REQUIRE INSTALLATION OF A BACKWATER VALVE

SEWER STANDARD DETAILS

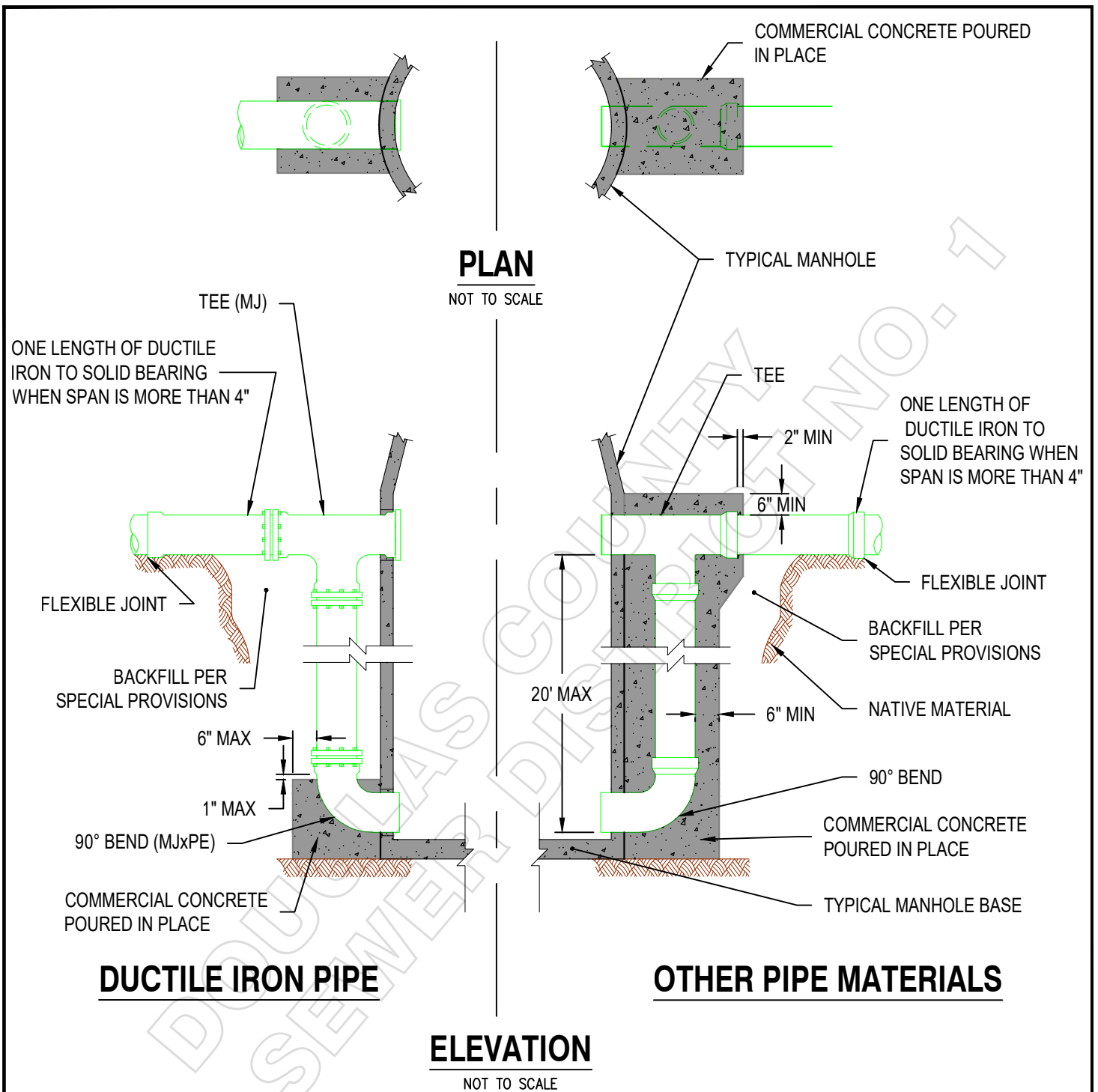
SIDE SEWER PROFILE

FILE: GEN-D-SIDSEWERPROF.DWG

REVISED: 09/21/2023

DRAWING NO.: DCSD22

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**



NOTES:

1. ALL PIPE EXCEPT DUCTILE IRON SHALL BE CONCRETE ENCASED
2. UPPER AND LOWER PIPE INVERTS PER PLAN.
3. PIPE DIAMETER PER PLAN.
4. ALL COMMERCIAL CONCRETE SHALL CONFORM TO WSDOT SS 6-02.3(2)B.
5. ALL DUCTILE IRON PIPE SHALL BE CLASS 50. ALL PVC SHALL BE C900.
6. MANHOLE SHALL CONFORM TO WSDOT SS 7-05
7. INTERNAL DROPS REQUIRED UNLESS EXTERNAL DROP IS SPECIFICALLY AUTHORIZED BY THE DISTRICT.

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

**SEWER STANDARD DETAILS
EXTERNAL DROP CONNECTION**

FILE: GEN-D-DROPCONNECTION.DWG | REVISED: 09/21/2023 | DRAWING NO.: DCSD23

REVISIONS:

DECEMBER 2014

- WATERMARK ADDED TO ALL DETAILS
- DCSD18 - ADDED NOTE ABOUT VAPOR TIGHT SEWER CAP. UPDATED PVC CAP NOTE TO REFERENCE NOTE 1. ADJUSTED NUMBERING OF PRIVATE SIDE SEWER NOTES. (PNY)

FEBRUARY 2015

- ADDED DCSD21 - GREASE INTERCEPTOR DETAIL. UPDATED SHEET INDEX. (JRS)

MAY 2015

- ADDED DCSD22 - SIDE SEWER PROFILE DETAIL. UPDATED SHEET INDEX. (JRS)

JULY 2015

- DCSD03 - CHANGED PIPE CLASS FROM SDR 26 TO SDR 35 ON GRAVITY SEWER LINES \leq 15-INCH DIA (JRS)
- DCSD06 - ADDED CONCRETE COLLAR CALLOUT. (JRS)
- DCSD07 - ADDED CONCRETE COLLAR CALLOUT. FIXED SPELLING ON GRADE RING CALLOUT. (JRS)
- DCSD17 - ADDED "CONNECTION TO EXISTING INFRASTRUCTURE" TABLE. MODIFIED LAYOUT TO ACCOMMODATE TABLE. UNDER "NOTES CONNECTING TO MAIN", ADDED TABLE REFERENCE TO NOTE 1 AND REMOVED NOTE 2. ADDED NOTE 5 UNDER "SIDE SEWER NOTES". (JRS)
- DCSD18 - MINOR MODIFICATIONS TO PRIVATE SIDE SEWER PLAN. (JRS)
- DCSD21 - MINOR MODIFICATIONS TO SITE PLUMBING SCHEMATIC. ADDED NOTE TO SITE PLUMBING SCHEMATIC DESCRIBING LOCATION OF SAMPLING TEE. (JRS)

OCTOBER 2015

- DCSD03 - MODIFIED PIPE CLASS REQUIREMENTS. ADDED ROW IN TABLE FOR GRAVITY SIDE SEWER. CHANGED REQUIREMENT FOR 8-INCH TO 15-INCH DIAMETER PIPE FROM "ASTM D3034, SDR 35" TO "ASTM D3034, SDR 26". (JRS)

JANUARY 2016

- DCSD03 - ADDED NOTE 22. (JKK)

MARCH 2016

- DCSD03 - ADDED NOTE 23. (JRS)
- DCSD19 - MODIFICATIONS TO EXISTING DETAIL CALLOUTS, ORIENTATION, AND DESIGN. ADDED "PRESSURE CONNECTION WITHOUT CLEANOUT" DETAIL. MODIFICATIONS TO CONNECTION NOTES 1, 3, AND 4. (JRS)

JULY 2017

- DCSD06 - ADDED NOTE TO PROVIDE 0.2' OF DROP ACROSS ALL MANHOLES. (JKK)
- DCSD07 - ADDED NOTE TO PROVIDE 0.2' OF DROP ACROSS ALL MANHOLES. (JKK)
- DCSD09 - ADDED NOTES 5 AND 6. ADDED SLIP RESISTANT COATING NOTE TO COVER DETAIL. (JKK)
- RENUMBERED REVISION PAGE TO DCSD24. (JKK)
- ADDED STANDARD DETAIL "INDIVIDUAL PRESSURE SEWER CONNECTION TO MANHOLE" AS DCSD23 AND UPDATED TABLE OF CONTENTS ON COVER PAGE. (JKK)

**DOUGLAS COUNTY
SEWER DISTRICT NO. 1**

SEWER STANDARD DETAILS

REVISIONS

FILE:GEN-D-REV.DWG

REVISED:09/21/2023

DRAWING NO.: DCSD24

REVISIONS, CONTINUED:

JULY 2023

- CHANGED NUMBERING OF DRAWINGS TO BEGIN WITH DCSD00 (COVER), ALLOWING ADDITION OF CONSTRUCTION NOTES DRAWING 3 of 3 AS DCSD03. CHANGED NUMBERING OF CONSTRUCTION NOTES DRAWINGS 1 & 2 TO DCSD01 & DCSD02. (JRS)
- DCSD02 - UPDATED NOTE 21 TO INCLUDE FITTINGS CLASS. (JRS)
- DCSD02 - REFORMATTED DRAWING, MOVING NOTES 23 - 28 TO DCSD03. (JRS)
- DCSD02 - EDITED NOTE 13 TO ALLOW NON-DOMESTIC METAL PRODUCTS AND FITTING COMPONENTS WITH DISTRICT AUTHORIZATION. EDITED NOTE 15 TO SPECIFY DISTRICT PROJECTS ONLY. EDITED NOTE 22 TO INCREASE MAXIMUM MANHOLE DISTANCE FROM 300' TO 400'. (JG)
- DCSD03 - ADDED NOTES 24, 25, AND 26, DESCRIBING PIPE SLOPE, MANHOLE ACCESS, AND SEWER EXTENSION REQUIREMENTS. (JRS)
- DCSD04 - REVISED PIPE ZONE BEDDING DETAIL TO ADD A DIMENSION OF 6" BELOW PIPE, UPDATED BEDDING MATERIAL TO CSTC, REARRANGED CALLOUTS. (JG)
- DCSD06 & DCSD07 - CHANGED MANHOLE DROP REQUIREMENT IN NOTE 3. (JRS)
- DCSD06 & DCSD07 - ADDED NOTE 4 DESCRIBING LOCATION OF MANHOLES IN ROADWAYS. (JRS)
- DCSD06, DCSD07, & DCSD15 - CHANGED DRAWING AND CALLOUTS TO SHOW CONCRETE COLLAR REQUIREMENT IN BOTH PAVED AND UNPAVED LOCATIONS. (JRS)
- DCSD06 & DCSD07 - REVISED NOTE 4 TO INCLUDE DISTRICT APPROVAL FOR PROPOSED MANHOLE LOCATIONS DIFFERING FROM THE CENTER OF THE LANE OF TRAVEL. REVISED SEPARATE PRECAST BASE DETAIL CALLOUT TO INCLUDE 6" MIN. BEDDING FOR PIPE. REVISED BASE REINFORCING STEEL TABLE TO REFERENCE REBAR NO. AND O.C. DIMENSION. (JG)
- DCSD08 - REVISED GRADE RING HEIGHT DIMENSION FROM 4" TO VARIES. (JG)
- DCSD11 - REMOVED THE CAST IRON RING AND COVER DETAILS. UPDATED AND REVISED 8" CLEANOUT ELEVATION DETAIL TO INCLUDE THE PROPOSED 24" MANHOLE FRAME AND COVER, GRADE RING, UPDATED CONCRETE COLLAR METHOD AND REMOVAL OF THE CDF. (JG)
- DCSD13 - REVISED SEWER STANDARD DETAIL TITLE AND DWG NO. INCLUDED ALTERNATIVE GRAVITY SEWER PIPE INLET TO BOTH PLAN AND PROFILE VIEW. REVISED CALLOUT TO USE RELINER FORCE LINE HOOD ONLY WHEN INLET PIPE IS PRESSURIZED. (JG)
- DCSD14 - ADDED DIMENSION BETWEEN CONCRETE TRENCH WALL AND CASING. (JG)
- DCSD17 - EDITED NOTE 1 TO SPECIFY ALLOWED HORIZONTAL ANGLES FOR CONNECTION AT MAINLINE. (JRS)
- DCSD17 - DELETED NOTE 5. (JRS)
- DCSD19 - ADDED PLAN VIEW SHOWING CONNECTION OF MULTIPLE SERVICES TO DISTRICT GRAVITY CLEANOUT. (JRS)
- DCSD19 - REVISED NOTE 2 TO UPDATE PRESSURE PIPE ID FOR SINGLE DWELLING. REVISED NOTE 3 TO SPECIFY CHECK AND BALL VALVE MATERIAL AND ASSEMBLY MANUFACTURER. (JG)
- DCSD23 - REVISED SEWER STANDARD DETAIL DWG NO. REVISED NOTE 7 TO REQUIRE INTERNAL DROPS WHILE EXTERNAL DROPS TO BE USED ONLY WITH DISTRICT AUTHORIZATION. (JG)

SEPTEMBER 2023

- DCSD15 - REVISED DETAIL TO CLARIFY GROUTING REQUIREMENTS FOR MANHOLE FRAME.
- DCSD18 - UPDATED DETAIL TO CLARIFY RING AND COVER REQUIREMENTS AND TERMINATION OF STUB ON PRIVATE PROPERTY.

DOUGLAS COUNTY SEWER DISTRICT NO. 1

SEWER STANDARD DETAILS

REVISIONS

FILE:GEN-D-REV2.DWG

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