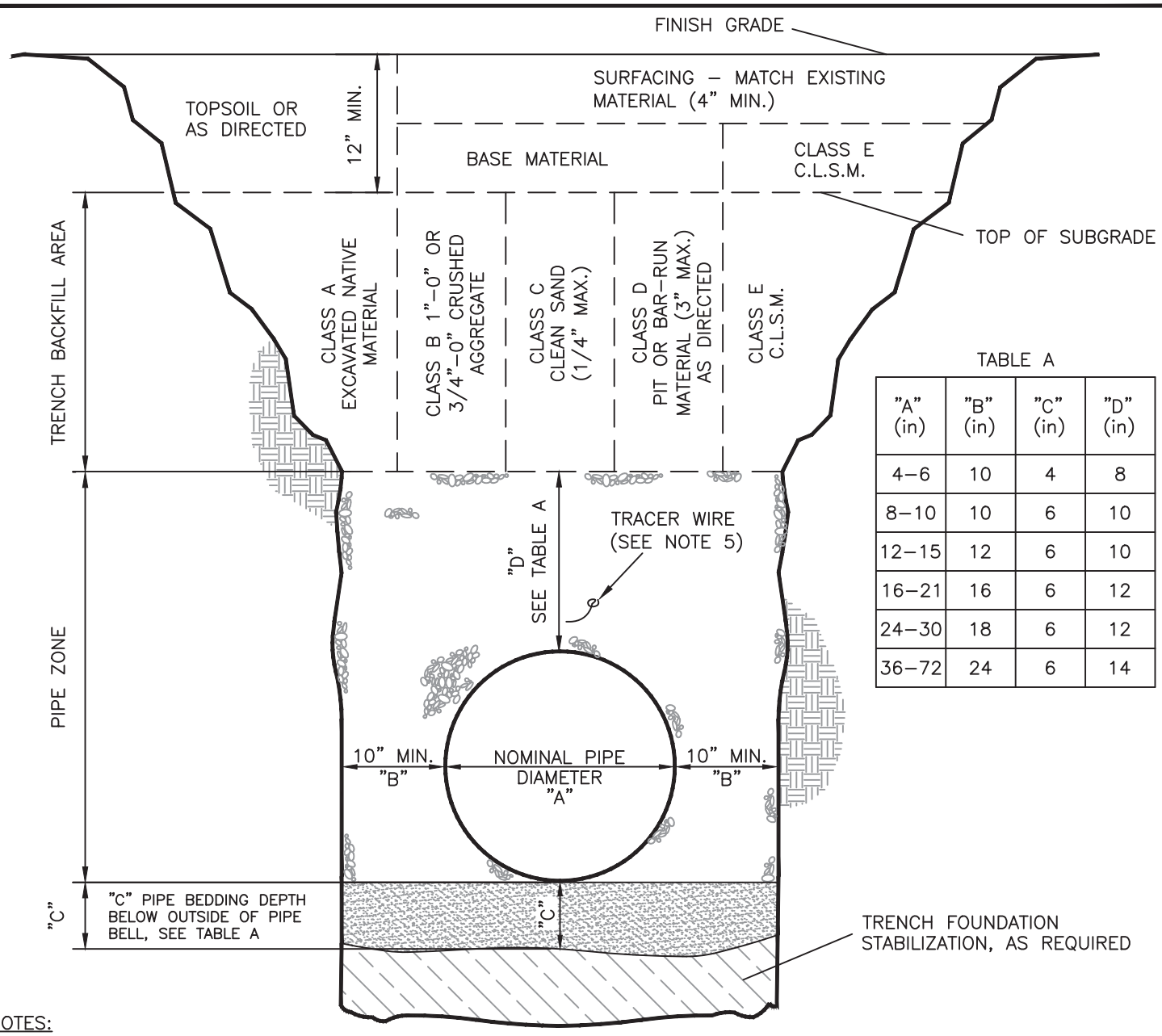

TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4–6	10	4	8
8–10	10	6	10
12–15	12	6	10
16–21	16	6	12
24–30	18	6	12
36–72	24	6	14

NOTES:

1. BACKFILL IN PIPE ZONE SHALL NOT EXCEED 6 INCH LIFTS NOR SHALL SUBSEQUENT LIFTS EXCEED 12 INCHES.
2. TWO COMPACTION TESTS SHALL BE PERFORMED FOR EVERY 25 LINEAR FEET OF TRENCH. A MINIMUM OF ONE TEST IS REQUIRED FOR TRENCH LENGTHS LESS THAN 25 LINEAR FEET.
3. SURFACING OF PAVED AREAS SHALL COMPLY WITH STREET CUT (SEE SUPP. STD. DWG. 00400–02).
4. FOR PIPE INSTALLATION IN EMBANKMENT AREAS WHERE THE TRENCH METHOD WILL NOT BE USED AND THE PIPE IS GREATER THAN OR EQUAL TO 36" DIAMETER, INCREASE DIMENSION "B" TO NOMINAL PIPE DIAMETER.
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE. SEE SECTION 00445.48 FOR MORE INFORMATION.
6. ALL PUBLIC AND PRIVATE UTILITY INSTALLATIONS WITHIN ROADWAY SECTIONS REQUIRE CLASS "B" TRENCH BACKFILL.
7. PIPES OVER 72" DIAMETER ARE CONSIDERED STRUCTURES, AND ARE NOT COVERED BY THIS DRAWING.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon

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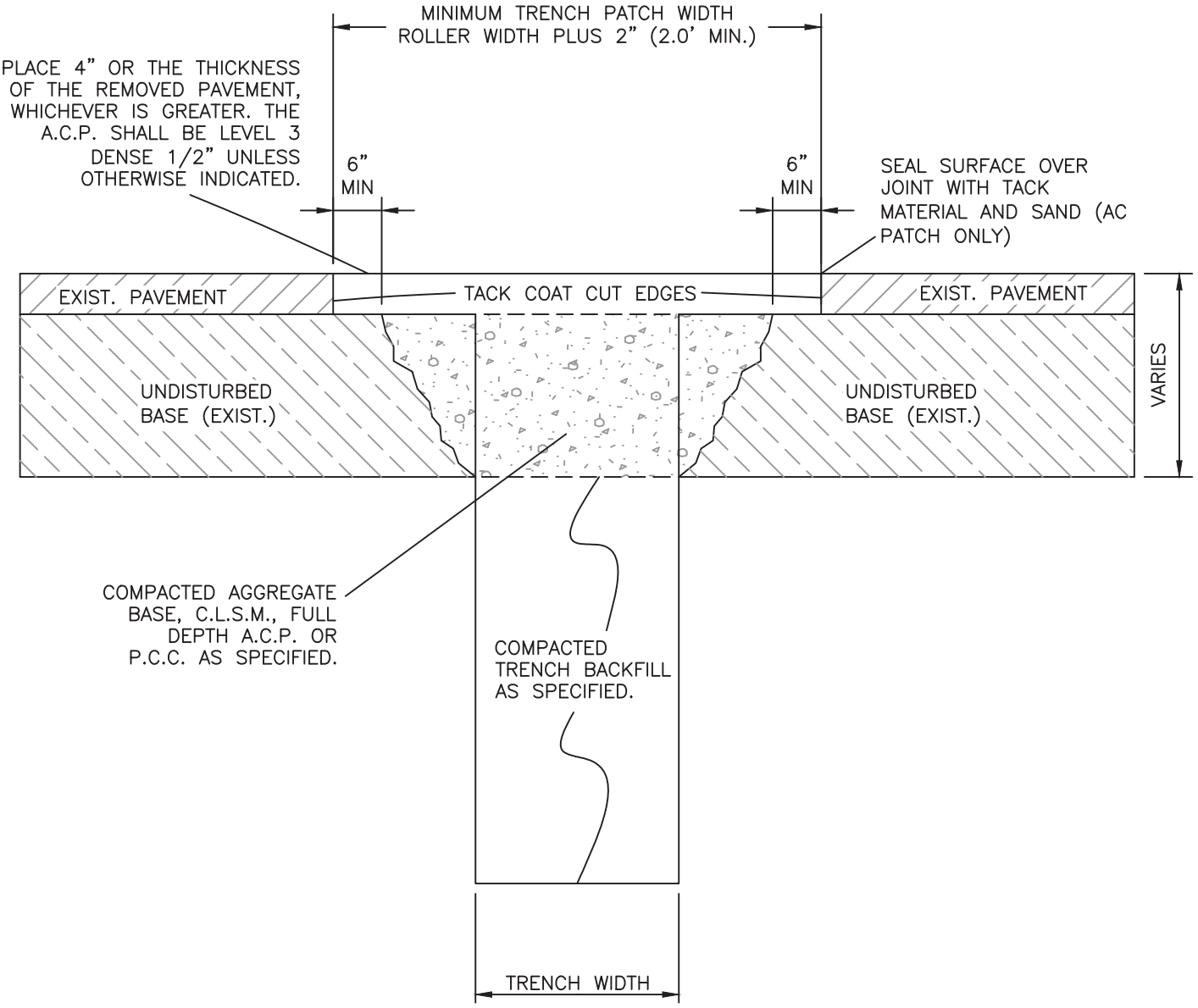
CITY ENGINEER

December, 2021

DATE

TRENCH BACKFILL, PIPE BEDDING AND PIPE ZONE

DRAWING NO: 00400-01



NOTES:

1. ALL EXISTING A.C.P. OR P.C.C. PAVEMENT SHALL HAVE A CLEAN, SAWCUT EDGE PRIOR TO REPAVING.
2. FOR P.C.C. PAVING, PAVEMENT SHALL BE REPLACED TO THE NEAREST FULL PANEL. A MINIMUM THICKNESS OF 6", OR THE THICKNESS OF THE EXISTING PAVEMENT (WHICHEVER IS GREATER) IS REQUIRED. REPLACEMENT P.C.C. PANELS SHALL BE DOWELED TO THE EXISTING P.C.C. PAVEMENT (SEE SUPP. STD. DWG. 00700–02).
3. ASPHALT PAVEMENT SHALL BE PLACED WITHIN 30 DAYS OF WORK COMPLETION. COLD MIX SHALL BE PLACED WITHIN 24 HOURS AS A TEMPORARY MEASURE ONLY.
4. TWO ROCK COMPACTION TESTS SHALL BE PERFORMED FOR EVERY 25 LINEAR FEET OF TRENCH BACKFILL, OR AS DIRECTED BY THE ENGINEER. A MINIMUM OF ONE TEST IS REQUIRED FOR STREET CUTS LESS THAN 25 LINEAR FEET IN LENGTH.
5. PLACE A.C.P. MIX A MINIMUM THICKNESS OF 4 INCHES OR THE THICKNESS OF THE REMOVED PAVEMENT, WHICHEVER IS GREATER. COMPACT AS SPECIFIED.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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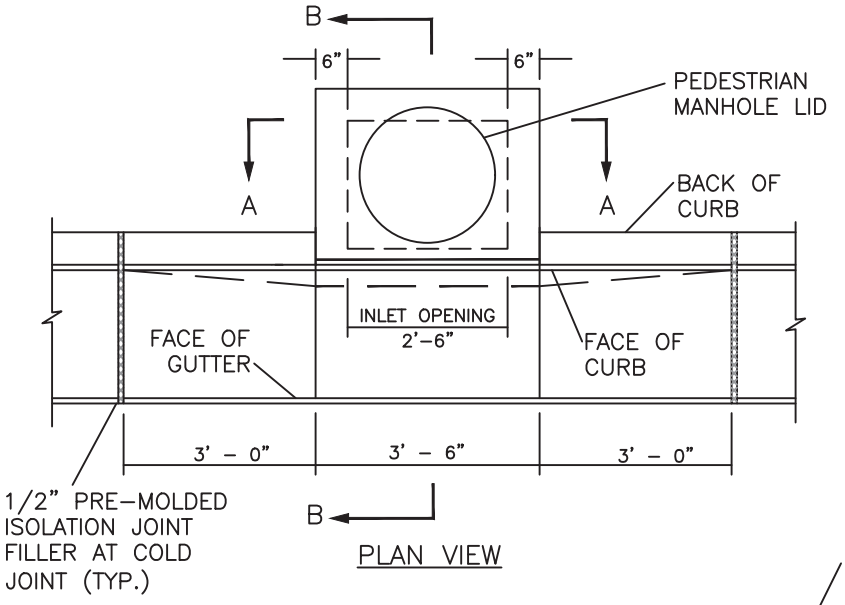
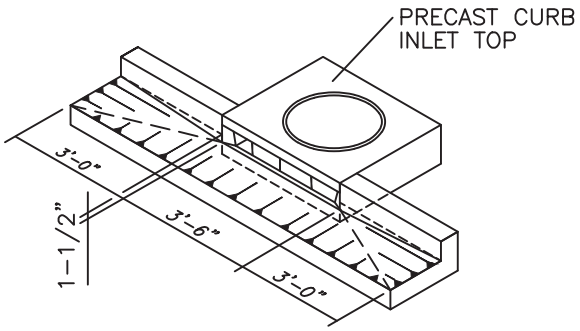
STANDARD STREET CUT

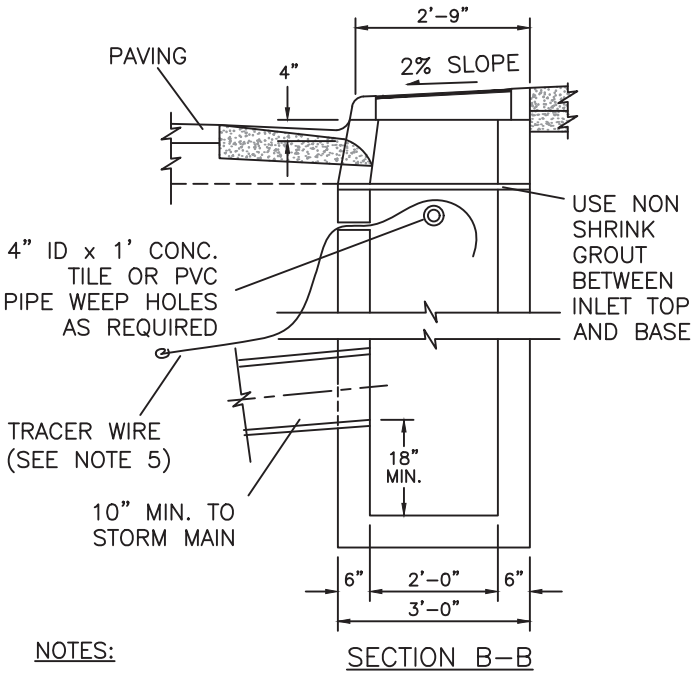
DRAWING NO: 00400-02



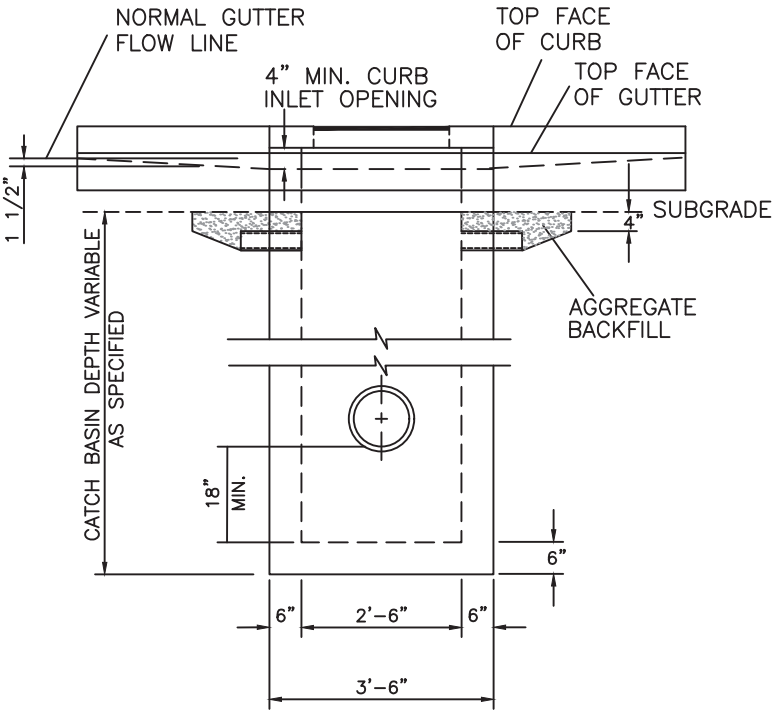
PLAN VIEW



PERSPECTIVE VIEW SHOWING DEPRESSED GUTTER AT CURB INLET



SECTION B-B



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 PSI (MIN.).
2. ALL FABRICATED METAL PARTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
3. INLET BASE MAY BE CAST IN PLACE OR PRECAST. ALL PRECAST INLETS SHALL CONFORM TO REQUIREMENTS OF A.S.T.M. C913.
4. IF PRECAST INLET BASE IS TO BE USED AS AN ALTERNATE, A 4" COMPACTED LEVELING BED OF SAND OR 1/4"-0" CRUSHED AGGREGATE SHALL BE PROVIDED.
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE TERMINATED WITHIN 18 INCHES OF CATCH BASIN RIM. SEE SECTION 00445.48 FOR MORE INFORMATION.
6. ALL REINFORCING SHALL BE PLACED 2" CLEAR OF THE NEAREST FACE OF CONCRETE, UNLESS OTHERWISE SHOWN.

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OREGON Lebanon

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December, 2021

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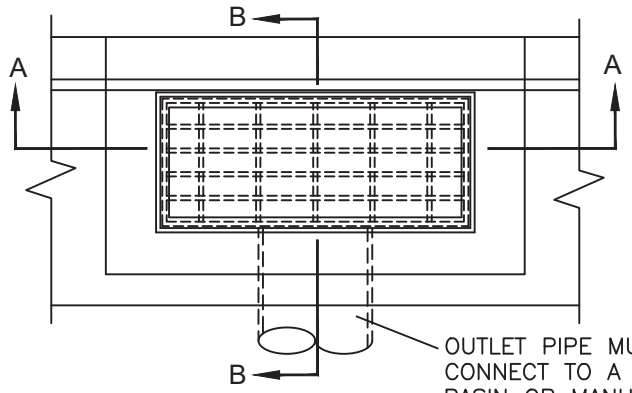
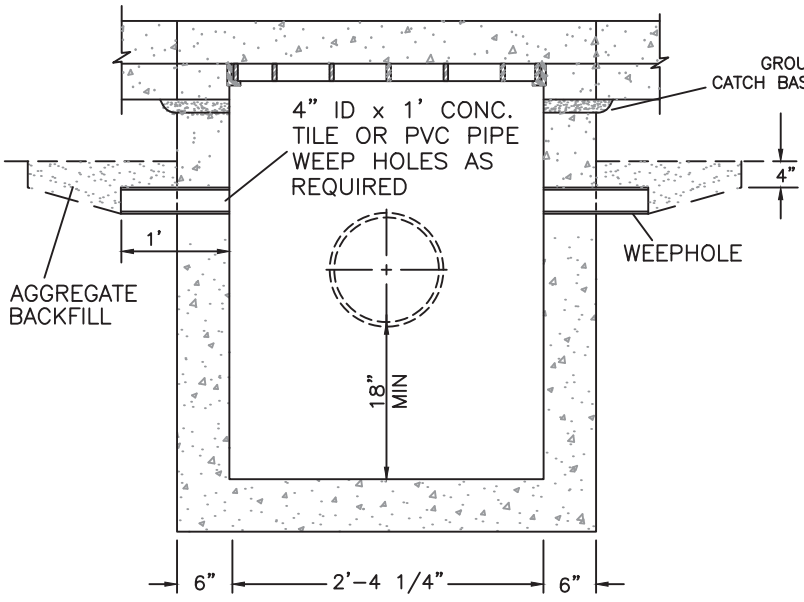
MODIFIED TYPE CG-3 INLET

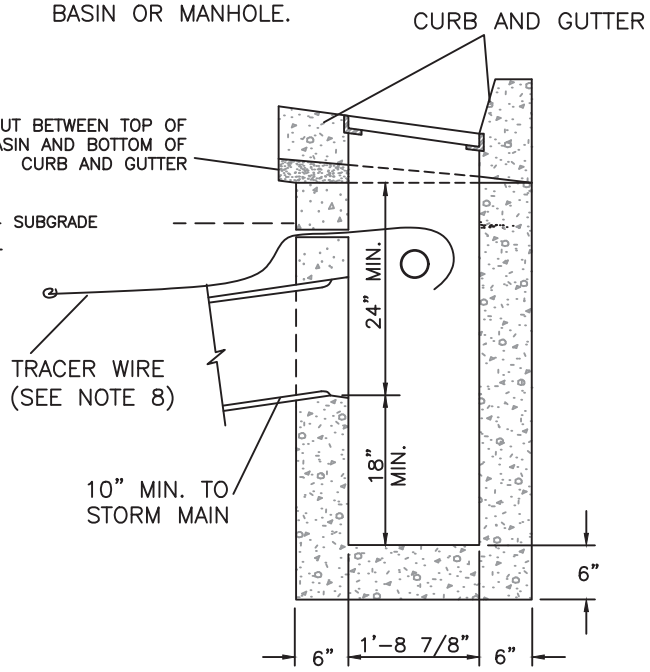
DRAWING NO: 00400-03



PLAN



SECTION A–A



SECTION B–B

NOTES:

1. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 P.S.I. (MIN).
2. ALL FABRICATED METAL PARTS SHALL BE HOT–DIPPED GALVANIZED AFTER FABRICATION.
3. INLET BASE MAY BE CAST–IN–PLACE OR PRECAST. WHERE PRECAST INLET BASE IS TO BE USED AS AN ALTERNATE, A 4" COMPACTED LEVELING BED OF SAND OR 1/4"–0" CRUSHED AGGREGATE SHALL BE PROVIDED.
4. SEE SUPP. STD. DWG. 00400–09 FOR FRAME AND GRATE DETAILS.
5. SEE SUPP. STD. DWG. 00700–03 FOR CURB DETAILS.
6. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.
7. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
8. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE TERMINATED WITHIN 18 INCHES OF CATCH BASIN RIM. SEE SECTION 00445.48 FOR MORE INFORMATION.
9. 3/4" PREFORMED FILLER (IN CONCRETE PAVEMENT OR GUTTER ONLY) TO EXTEND THROUGH THICKNESS REQUIRED.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon

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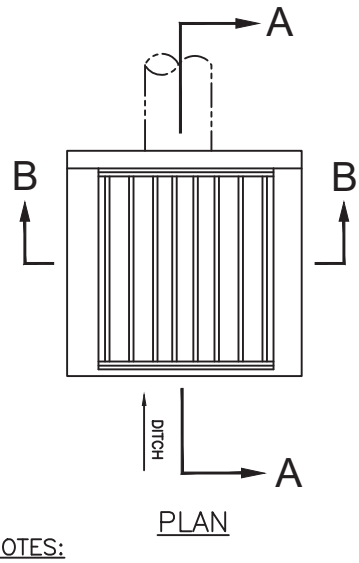
December, 2021

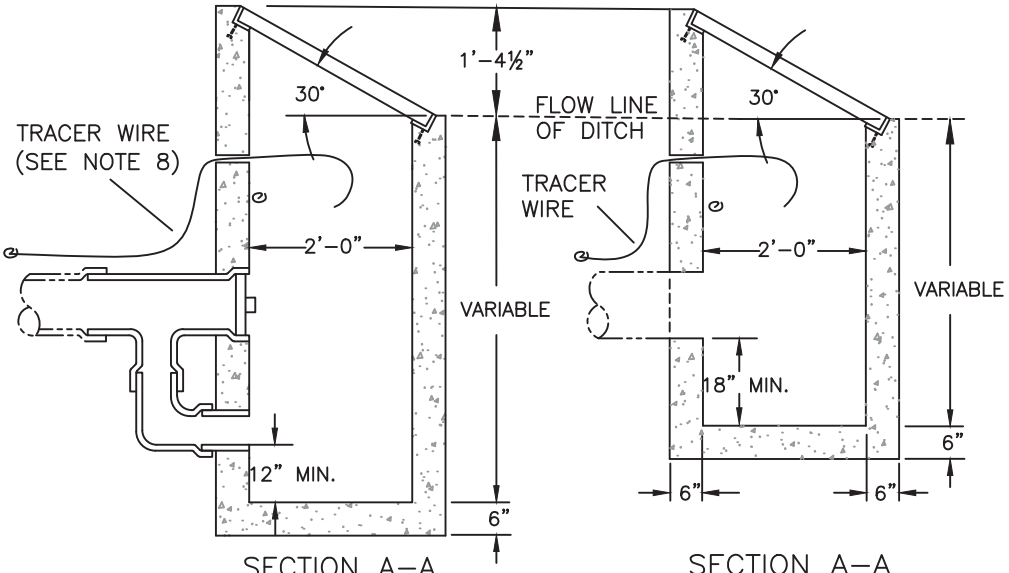
DATE

MODIFIED TYPE G-1 INLET

DRAWING NO: 00400-04



PLAN

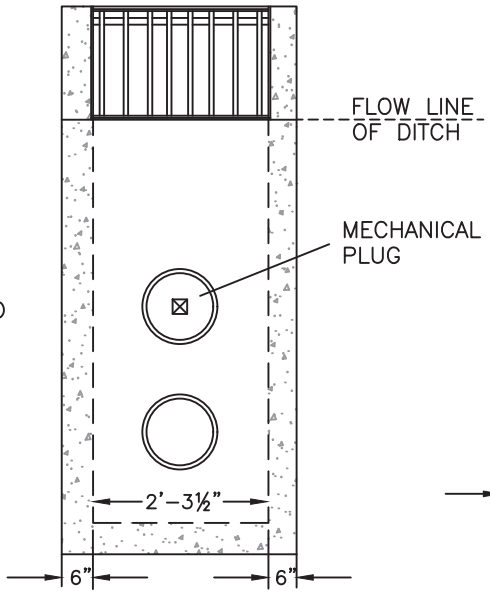


SECTION A–A
POLLUTION CONTROL

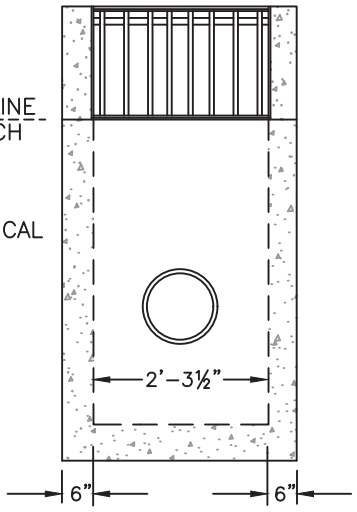
SECTION A–A

NOTES:

1. CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 P.S.I. (MIN.).
2. PRECAST CONCRETE CATCH BASINS MAY BE USED WHEN SPECIFIED OR APPROVED.
3. USE POLLUTION CONTROL INLET AS REQUIRED OR DIRECTED.
4. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
5. INLET BASE MAY BE CAST–IN–PLACE OR PRECAST. WHERE PRECAST INLET BASE IS USED AS AN ALTERNATE, A 4" COMPACTED LEVELING BED OF SAND OR 1/4"–0" CRUSHED AGGREGATE SHALL BE PROVIDED.
6. SEE SUPP. STD. DWG. 00400–09 FOR GRATE DETAILS.
7. CATCH BASIN, FRAME, AND GRATES SHALL MEET H20 LOADING.
8. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE TERMINATED WITHIN 18 INCHES OF CATCH BASIN RIM. SEE SECTION 00445.48 FOR MORE INFORMATION.
9. 5/8" CROSS BARS SHALL BE FLUSH WITH THE GRATE SURFACE AND MAY BE FILLET WELDED, RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS.
10. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
11. DO NOT USE IN LOCATIONS WHERE INLET CAN BE STRUCK BY AN ERRANT VEHICLE, OR PROVIDE SHIELDING OF INLET.
12. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.



SECTION B–B
POLLUTION CONTROL



SECTION B–B

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

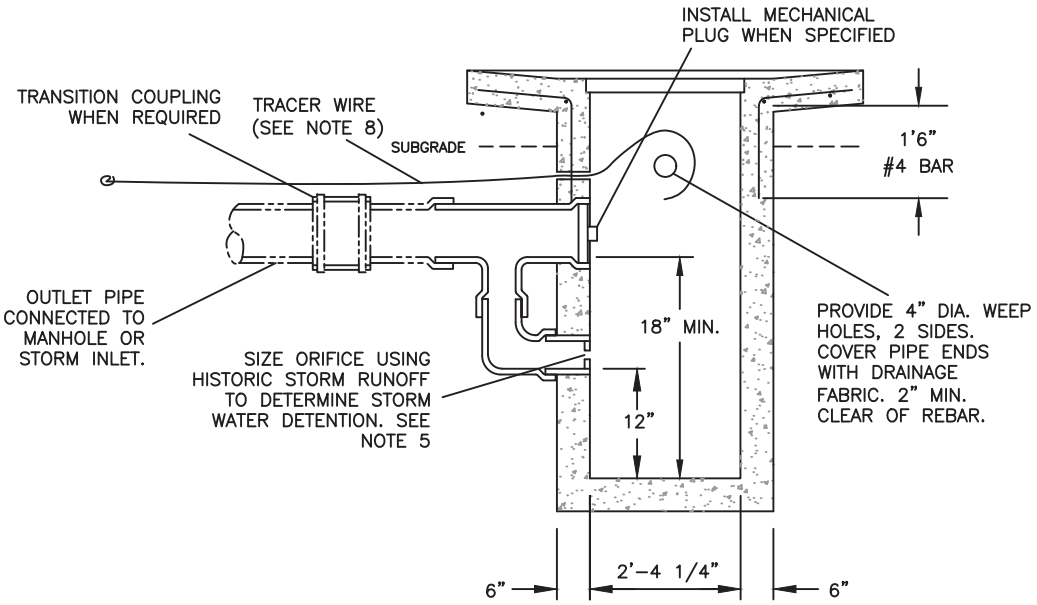
APPROVED

CITY ENGINEER

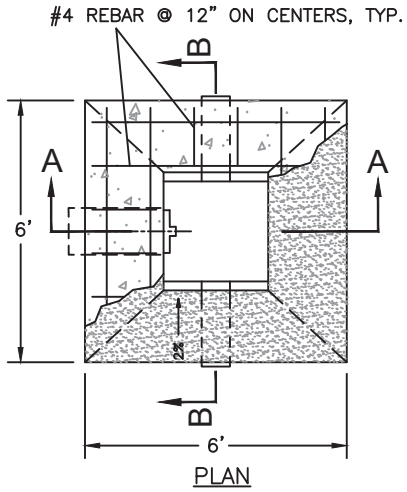
December, 2021
DATE

TYPE D DITCH INLET

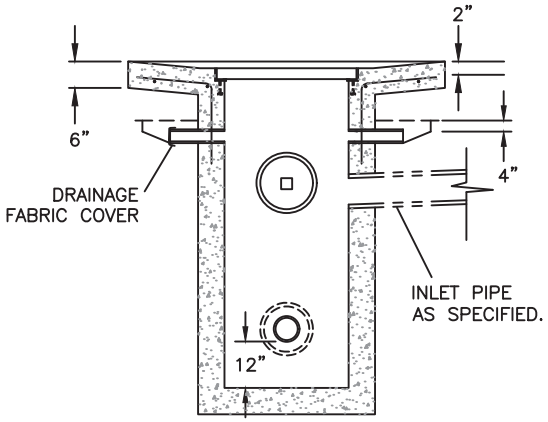
DRAWING NO: 00400-05



SECTION A–A



PLAN



SECTION B–B

NOTES:

1. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 P.S.I. (MIN.).
2. PRECAST CONCRETE CATCH BASINS MAY BE USED WHEN SPECIFIED OR APPROVED.
3. FOR GRATE DETAILS SEE SUPP. STD. DWG. 00400–09.
4. APRON REINFORCEMENT SHALL CONSIST OF #4 REBAR @ 12" ON CENTER (TYP.) MAINTAIN 2" COVER ON ALL BARS.
5. RUNOFF DETENTION REQUIRED ON PRIVATE INLETS CONNECTED DIRECTLY TO THE CITY STORM SYSTEM.
6. INLET BASE MAY BE CAST–IN–PLACE OR PRECAST. WHERE PRECAST INLET BASE IS USED AS AN ALTERNATE, A 4" COMPACTED LEVELING BED OF SAND OR 1/4"–0" CRUSHED AGGREGATE SHALL BE PROVIDED.
7. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
8. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE TERMINATED WITHIN 18 INCHES OF CATCH BASIN RIM. SEE SECTION 00445.48 FOR MORE INFORMATION.
9. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.
10. SEE SUPP. STD. DWG. 00700–03 FOR CURB DETAILS.
11. 3/4" PREFORMED FILLER (IN CONCRETE PAVEMENT OR GUTTER ONLY) TO EXTEND THROUGH THICKNESS OF CONCRETE.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon

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December, 2021

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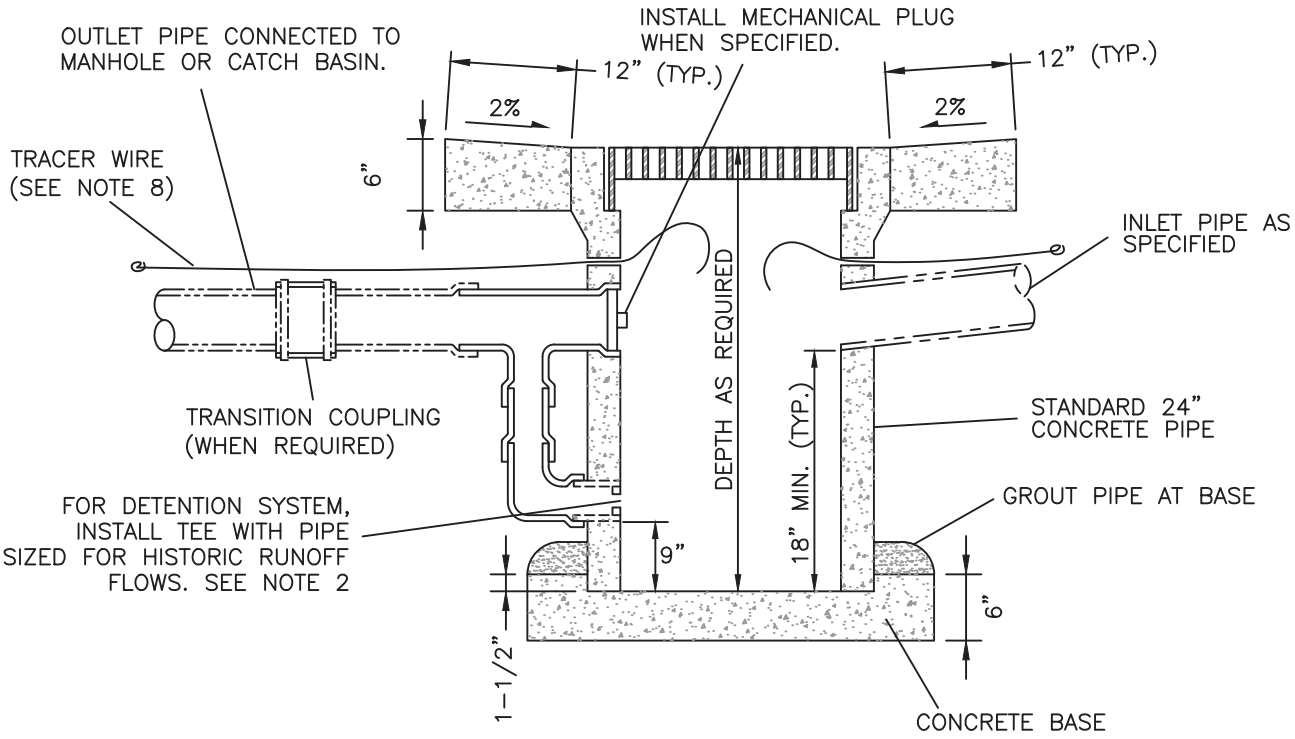
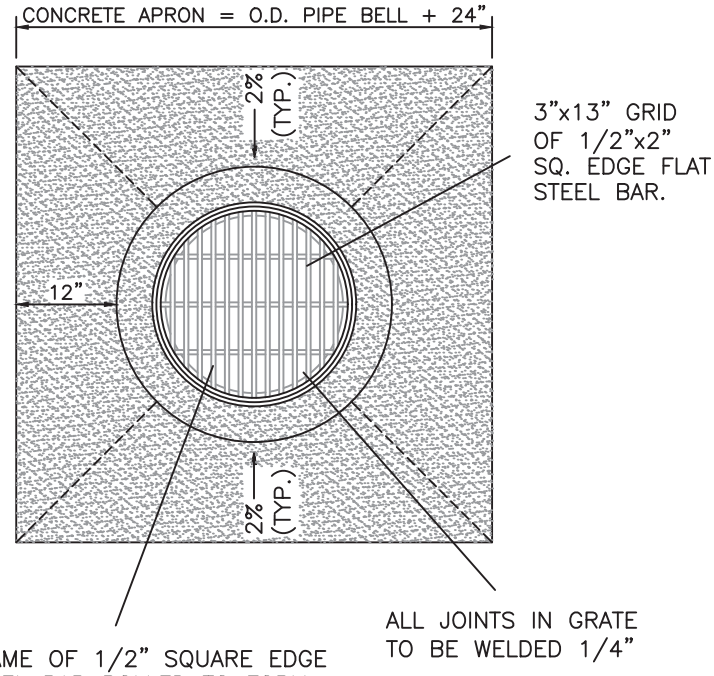
MODIFIED TYPE G-2MA INLET FOR TRAFFIC AREAS

DRAWING NO: 00400-06



NOTES:

1. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 P.S.I. (MIN.).
2. RUNOFF DETENTION REQUIRED ON PRIVATE INLETS CONNECTED DIRECTLY TO THE CITY STORM DRAINAGE SYSTEM.
3. PRECAST CONCRETE INLETS MAY BE USED WHEN SPECIFIED OR APPROVED. ALL PRECAST INLETS SHALL CONFORM TO REQUIREMENTS OF ASTM C913.
4. ANCHOR VERTICAL LEG OF INLET PIPE IF JOINTS ARE NOT GLUED.
5. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
6. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.
7. GRATES SHALL BE BICYCLE-SAFE.
8. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE TERMINATED WITHIN 18 INCHES OF CATCH BASIN RIM. SEE SECTION 00445.48 FOR MORE INFORMATION.
9. ALL REINFORCEMENTS SHALL BE 2" CLEAR OF THE NEAREST FACE OF CONCRETE UNLESS OTHERWISE SHOWN.



CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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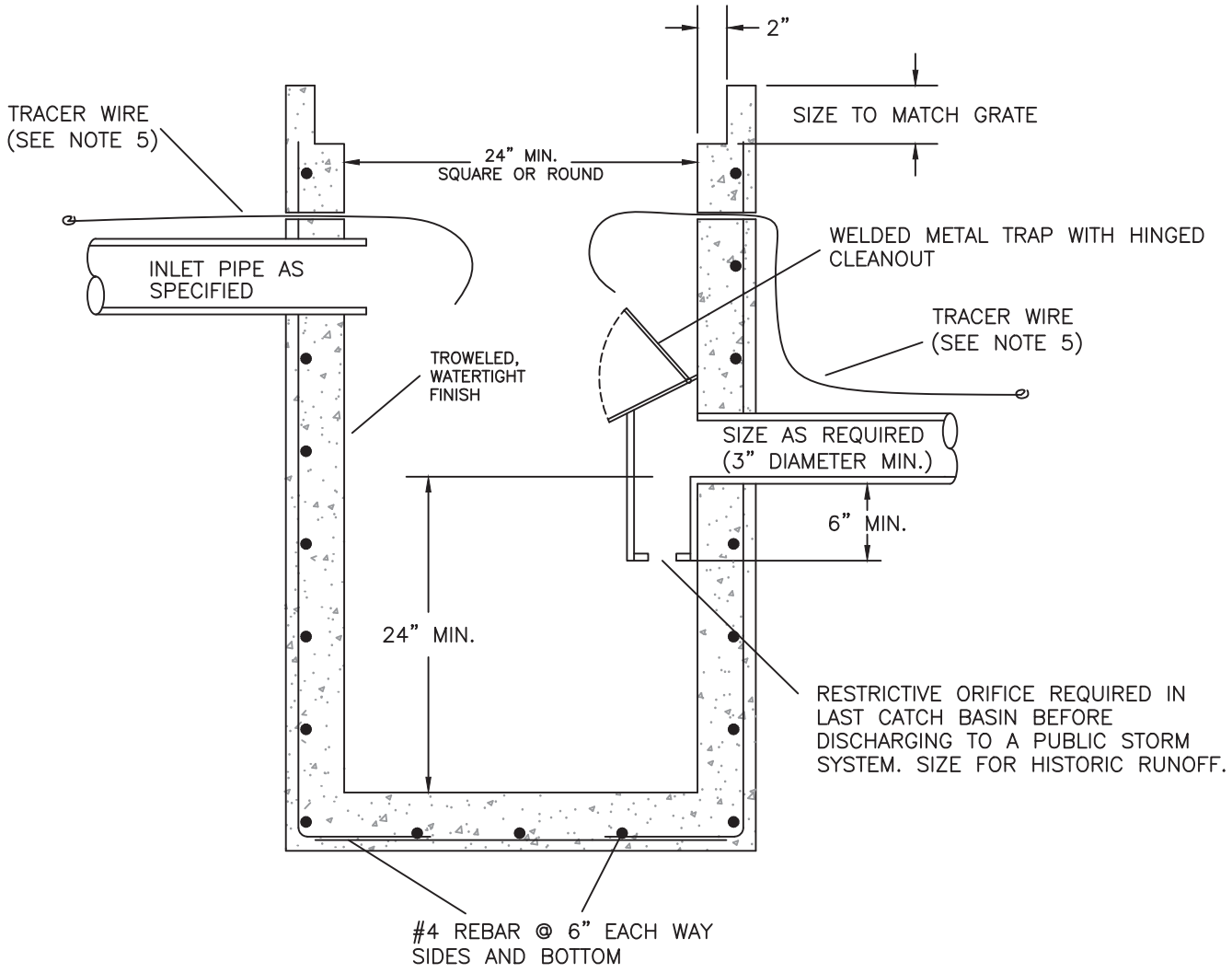
DATE

AREA DRAINAGE BASIN FOR NON-TRAFFIC AREAS

DRAWING NO: 00400-07



NOTES

1. THIS DRAWING PROVIDES BASIC REQUIREMENTS FOR PRIVATE CATCH BASIN CONSTRUCTION IN COMPLIANCE WITH SECTION 1408 OF THE UNIFORM PLUMBING CODE.
2. THE ABOVE DETAIL APPLIES TO CONCRETE CATCH BASINS. CAST IRON AND STEEL ARE ALSO APPROVED MATERIALS. SEE INTERNATIONAL CODE FOR DETAILS.
3. GRATES SHALL BE MADE OF APPROVED MATERIALS AND SHALL BE CAPABLE OF SUPPORTING THE ANTICIPATED LOAD. GRATE TO BE DESIGNED TO PREVENT WHEELS AND TIRES FROM BECOMING ENTRAPPED.
4. DETENTION SYSTEM REQUIRED ON PRIVATE INLETS CONNECTED DIRECTLY TO THE CITY STORM SYSTEM.
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE TERMINATED WITHIN 18 INCHES OF CATCH BASIN RIM. SEE SECTION 00445.48 FOR MORE INFORMATION.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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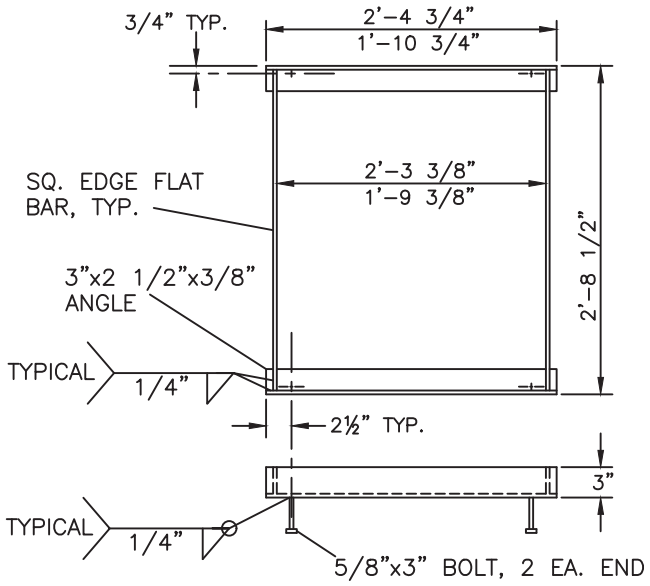
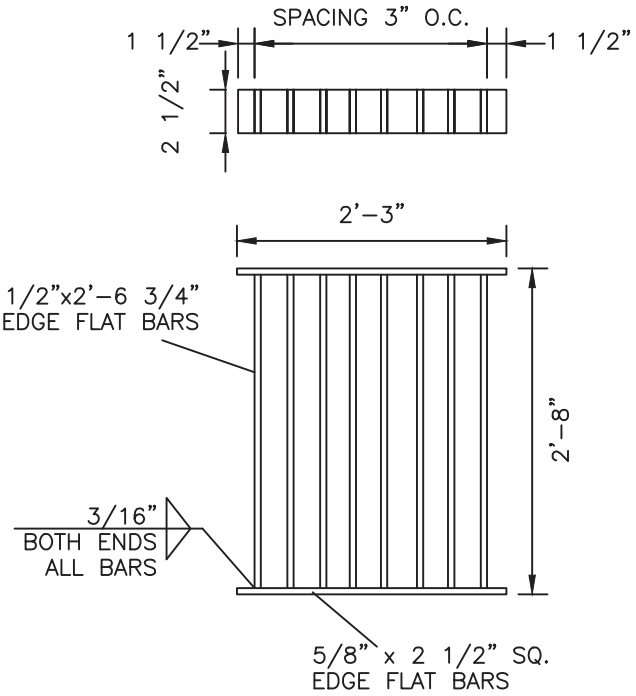
CATCH BASIN FOR PRIVATE DEVELOPMENT

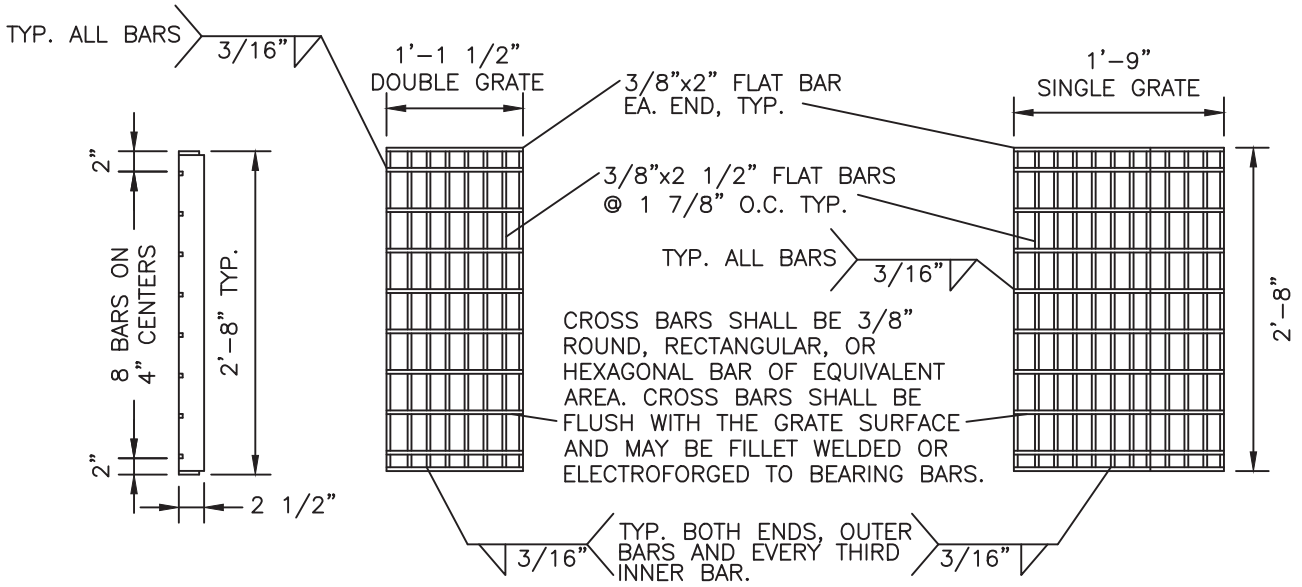
DRAWING NO: 00400-08



CATCH BASIN FRAME
TYPE 1 & TYPE 2 GRATES



GRATE – TYPE 1



GRATE – TYPE 2

NOTES:

1. FOR INLET DETAILS, SEE SUPP. STD. DWG. 00400–04, 00400–05 & 00400–06.
2. TYPE 1 GRATE ALLOWED ONLY IN LOCATIONS NOT SUBJECT TO BICYCLE OR PEDESTRIAN USE.
3. HOT DIP GALVANIZE AFTER FABRICATION.
4. CAST IRON GRATES AND FRAMES ARE ACCEPTABLE ALTERNATIVES.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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December, 2021
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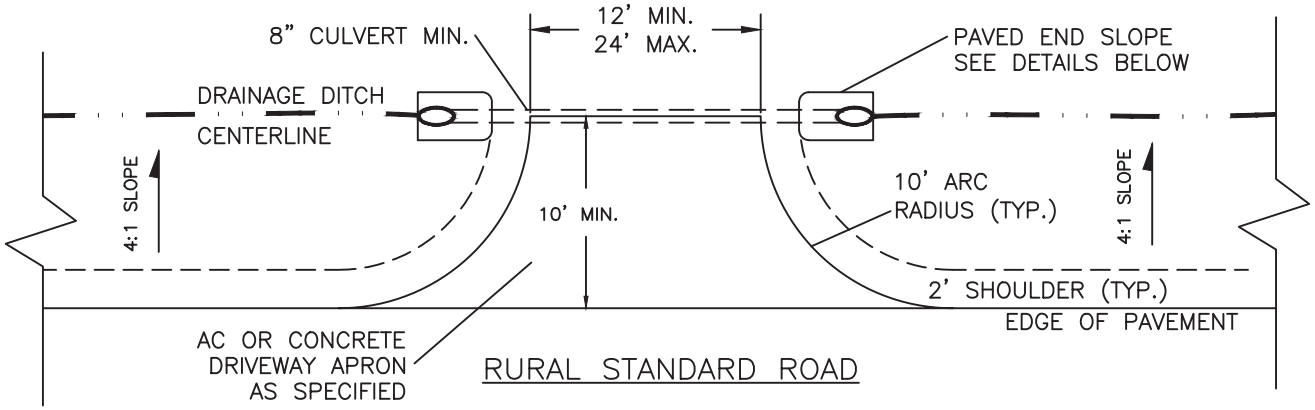
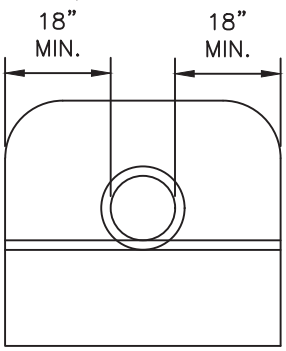
CATCH BASIN FRAME AND GRATE

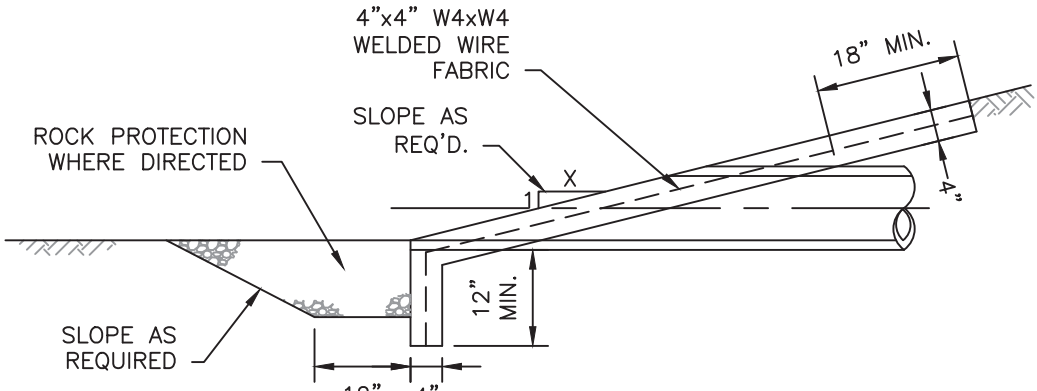
DRAWING NO: 00400-09



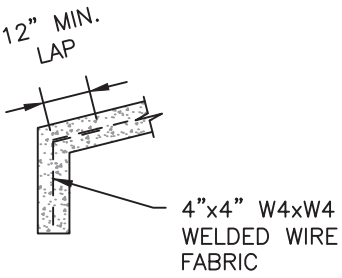
RURAL STANDARD ROAD



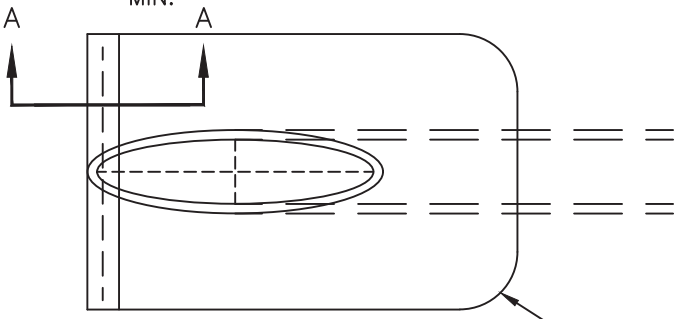
END VIEW



SIDE VIEW



SECTION A–A



TOP VIEW

NOTES:

1. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4" UNLESS NOTED OTHERWISE. SLOPE PAVING SURFACE VARIATIONS SHALL NOT EXCEED 3/8" IN 10'.
2. ALL METAL REINFORCEMENT SHALL BE PLACED 2" CLEAR OF NEAREST FACE OF CONCRETE UNLESS SHOWN OR NOTED OTHERWISE.
3. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 P.S.I. (MIN.).
4. CLEAR SPACING FOR MULTIPLE PIPE INSTALLATIONS SHALL BE ONE HALF THE DIAMETER OF SPAN BUT NOT LESS THAN 18".
5. WHEN ROCK IS ENCOUNTERED, CUT OFF WALL DEPTH D/2 OR SPAN/2 MAY BE REDUCED TO ROCK LINE BUT NOT LESS THAN 12".
6. WHEN USING PERVIOUS BEDDING AND BACKFILL, PREVENT SEEPAGE AND PIPING BY PLACING IMPERVIOUS MATERIAL AT THE INLET. CUTOFF COLLARS MAY BE USED IN LIEU OF IMPERVIOUS MATERIAL.
7. OPEN ENDS OF PIPES NORMALLY REQUIRE A SITE SPECIFIC DESIGN, AND MAY REQUIRE SPECIAL TREATMENT.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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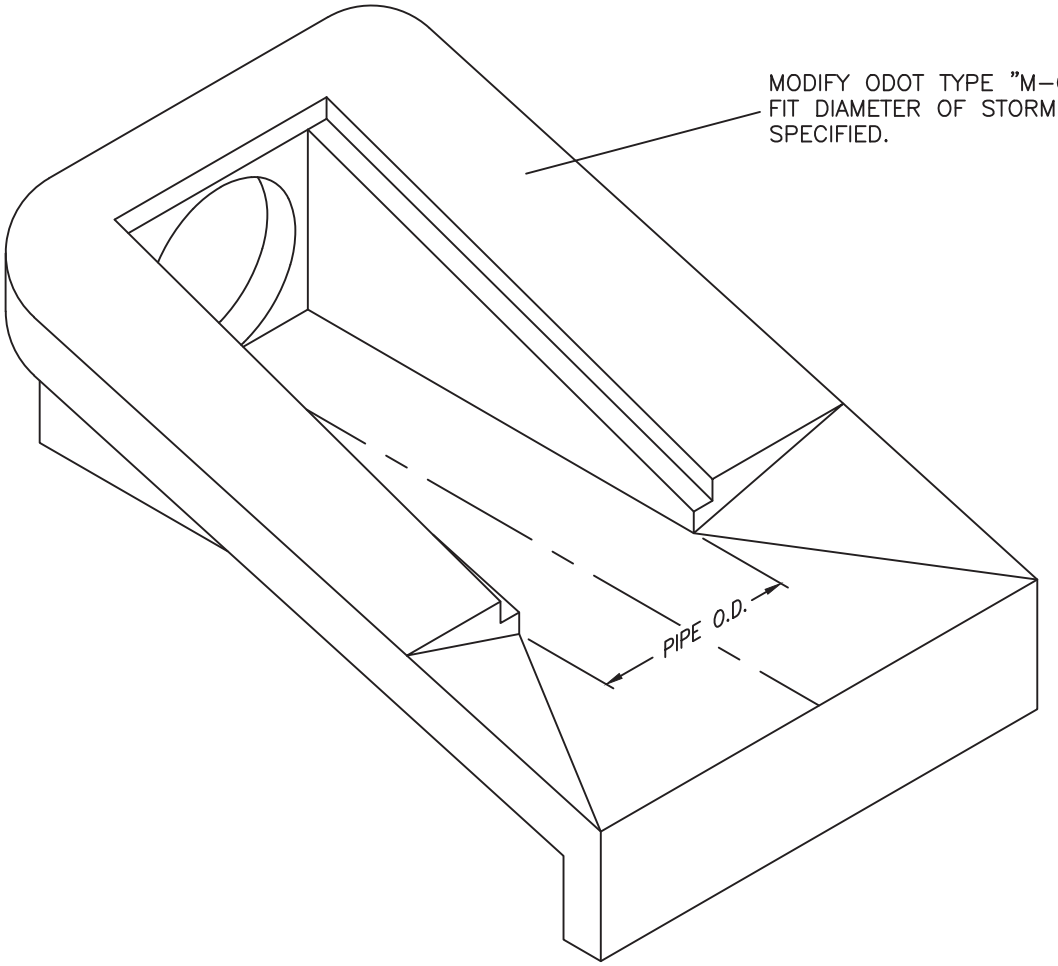
PAVED END SLOPE

DRAWING NO: 00400-10



NOTES:

1. CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 P.S.I. (MIN.).
2. PRECAST CONCRETE STRUCTURES MAY BE USED WHEN SPECIFIED OR APPROVED.
3. SEE ODOT STD. DWG. RD368 (TYPE M–O) FOR ADDITIONAL DETAILS.
4. SIZE GRATES AND FRAMES AS NECESSARY.
5. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
6. ALL REINFORCEMENT TO BE PLACED A MINIMUM OF 2" CLEAR OF NEAREST FACE OF CONCRETE UNLESS OTHERWISE SHOWN OR NOTED. REINFORCEMENT TO BE LAPPED 20 BAR DIAMETERS AT SPLICES.
7. ALL PRECAST STRUCTURES SHALL CONFORM TO REQUIREMENTS OF ASTM C913.
8. WHEN UNCOATED METAL PIPE OR ARCH PIPE IS USED, AN ASPHALTIC OR SIMILAR TYPE PROTECTIVE COATING SHALL BE APPLIED TO THE EXTERIOR SURFACE.

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December, 2021

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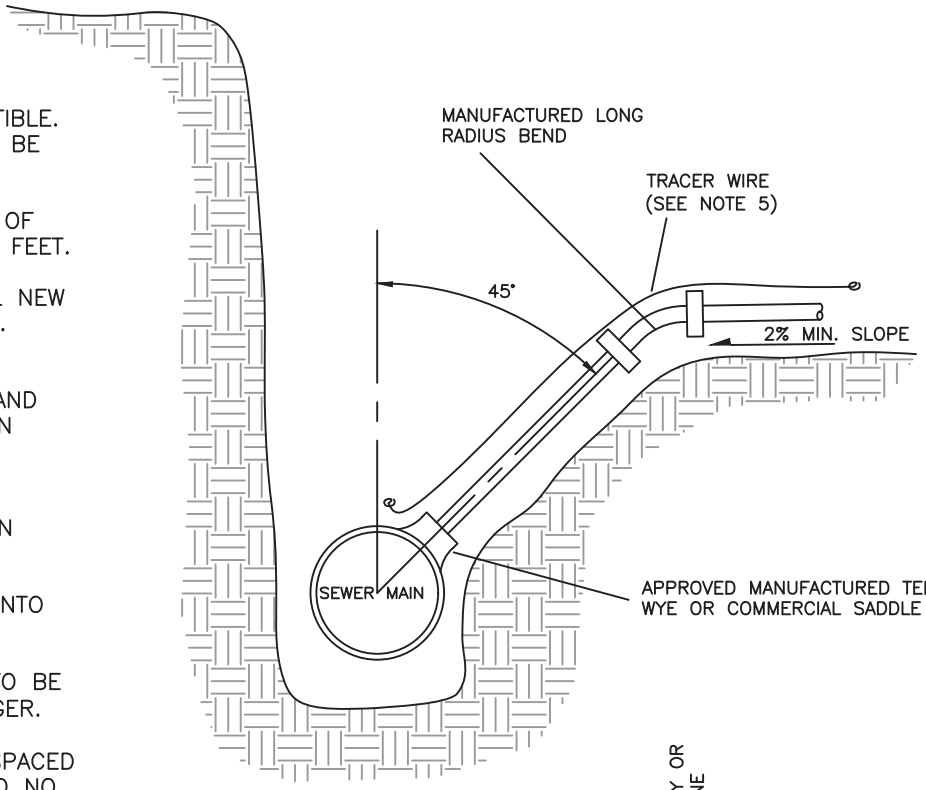
MODIFIED TYPE M-O OUTFALL STRUCTURE

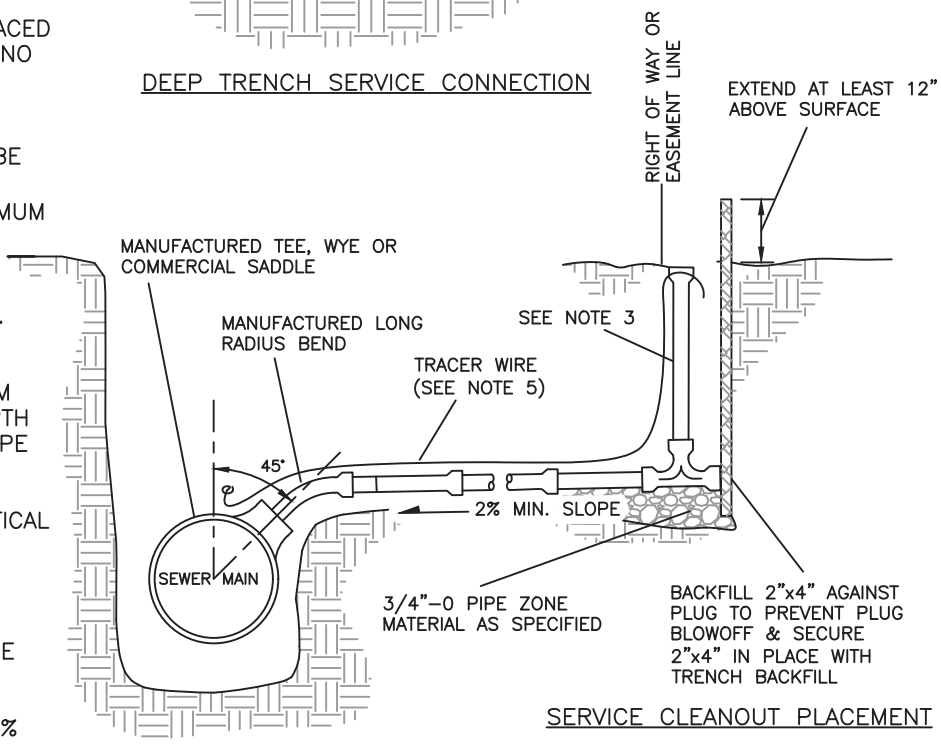
DRAWING NO: 00400-11

NOTES:

1. PIPE AND FITTINGS SHALL BE COMPATIBLE. ONLY MANUFACTURED FITTINGS SHALL BE USED.
2. MINIMUM DEPTH OF COVER AT RIGHT OF WAY OR EASEMENT LINE SHALL BE 4 FEET.
3. SERVICE CLEANOUT REQUIRED ON ALL NEW CONSTRUCTION. SEE SUPP. STD. DWG. 00400–13.
4. TAPPING TEE SHALL BE WATERTIGHT AND CONFORM TO STANDARD SPECIFICATION REQUIREMENTS.
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE. SEE SECTION 00445.48 FOR MORE INFORMATION.
6. TAPPING TEE SHALL NOT PROTRUDE INTO THE SANITARY MAIN.
7. INSERTA TEE® OR APPROVED EQUAL TO BE USED ON SEWER MAINS 12" OR LARGER.
8. TAPS OR INSERTA TEE®S SHALL BE SPACED A MINIMUM OF 18 INCHES APART AND NO LESS THAN 18 INCHES FROM ANY PIPE JOINT OR FITTING.
9. MARKER POSTS AND BLOCKING SHALL BE TREATED WOOD. POST SHALL BE 2"x4" (NOM.) FIR. POST TO EXTEND 12" MINIMUM ABOVE FINISH GRADE; EXPOSED AREA SHALL BE PAINTED GREEN.
10. FOR BEDDING AND BACKFILL SEE SUPP. STD. DWG. 00400–01.
11. LAY BUILDING SEWER AT MAX. 45° FROM HORIZONTAL TO ACHIEVE REQUIRED DEPTH AT PROPERTY LINE WHEN MINIMUM SLOPE RESULTS IN EXCESSIVE DEPTH.
12. FOR DEEP SERVICE CONNECTIONS, VERTICAL TRENCH WALLS ARE REQUIRED. IF IT IS NOT POSSIBLE TO MAINTAIN VERTICAL TRENCH WALLS, USE ALTERNATE CONNECTION METHOD TO MAINTAIN 6" MAXIMUM DISTANCE BETWEEN RISER PIPE AND TRENCH WALLS. REPLACE ALL EXCAVATED MATERIAL WITH FULL DEPTH GRANULAR BACKFILL COMPACTED TO 95% RELATIVE DENSITY.
13. WHERE DEEP CONNECTION IS AT AN ANGLE LESS THAN 45° FROM VERTICAL, DUCTILE IRON PIPE AND FITTINGS SHALL BE USED.



DEEP TRENCH SERVICE CONNECTION



SERVICE CLEANOUT PLACEMENT

SHALLOW TRENCH SERVICE CONNECTION

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

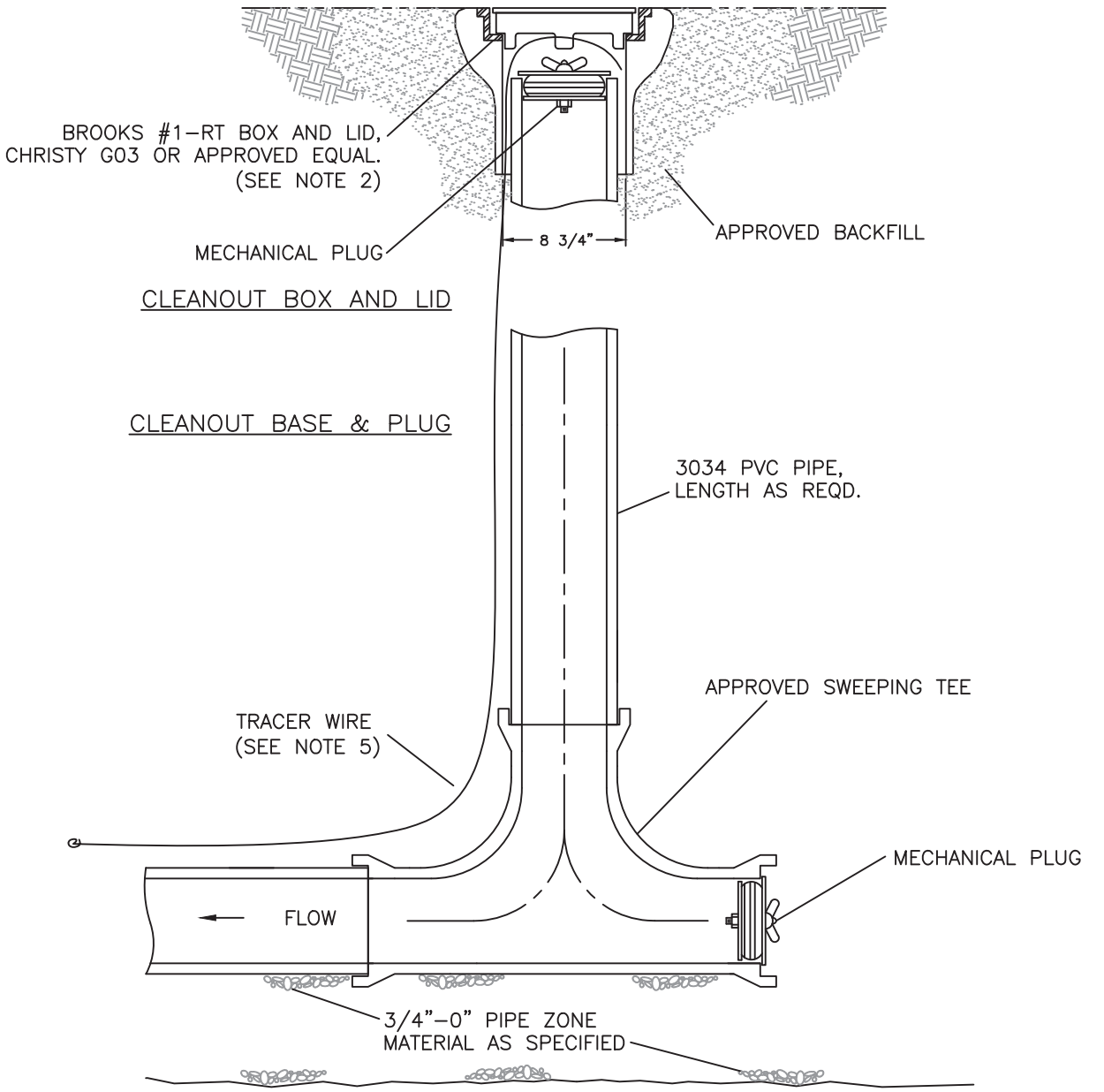
APPROVED

December, 2021

CITY ENGINEER — DATE

SANITARY SERVICE CONNECTION

DRAWING NO: 00400-12



NOTES:

1. ALL CLEANOUT FITTINGS SHALL BE THE SAME MATERIAL AS THE CARRIER PIPE.
2. PROVIDE A BROOKS #1–RT BOX, CHRISTY G03 OR APPROVED EQUAL, WITH A CAST IRON COVER MARKED "CO" OR "SEWER".
3. CLEANOUT LOCATION SHALL BE PLACED BEHIND RIGHT OF WAY OR EASEMENT LINE.
4. MECHANICAL PLUG TO BE DESIGNED FOR END OF PIPE INSTALLATION TO PREVENT PLUG FROM FALLING INTO PIPE.
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE. SEE SECTION 00445.48 FOR MORE INFORMATION.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon

APPROVED

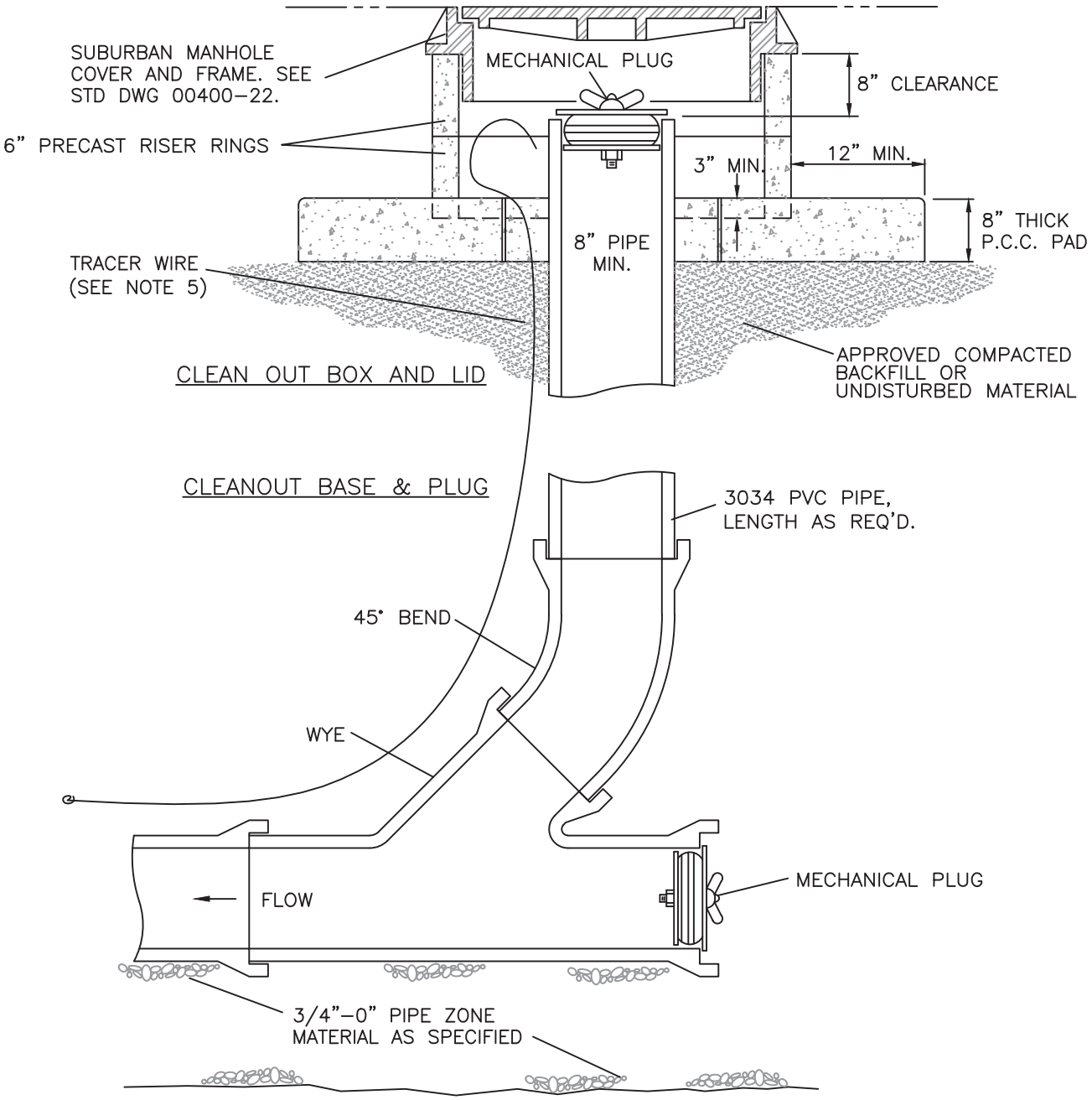
CITY ENGINEER

December, 2021

DATE

SERVICE CLEANOUT

DRAWING NO: 00400-13



NOTES:

1. CLEANOUT ALLOWED ONLY WITH APPROVAL OF THE ENGINEER.
2. MANHOLE FRAME AND RISERS SHALL BE SEALED WITH NON-SHRINK GROUT.
3. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 PSI (MIN.).
4. MECHANICAL PLUGS SHALL BE DESIGNED FOR END OF PIPE INSTALLATION TO PREVENT PLUG FROM FALLING INTO PIPE.
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE. SEE SECTION 00445.48 FOR MORE INFORMATION.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon

APPROVED

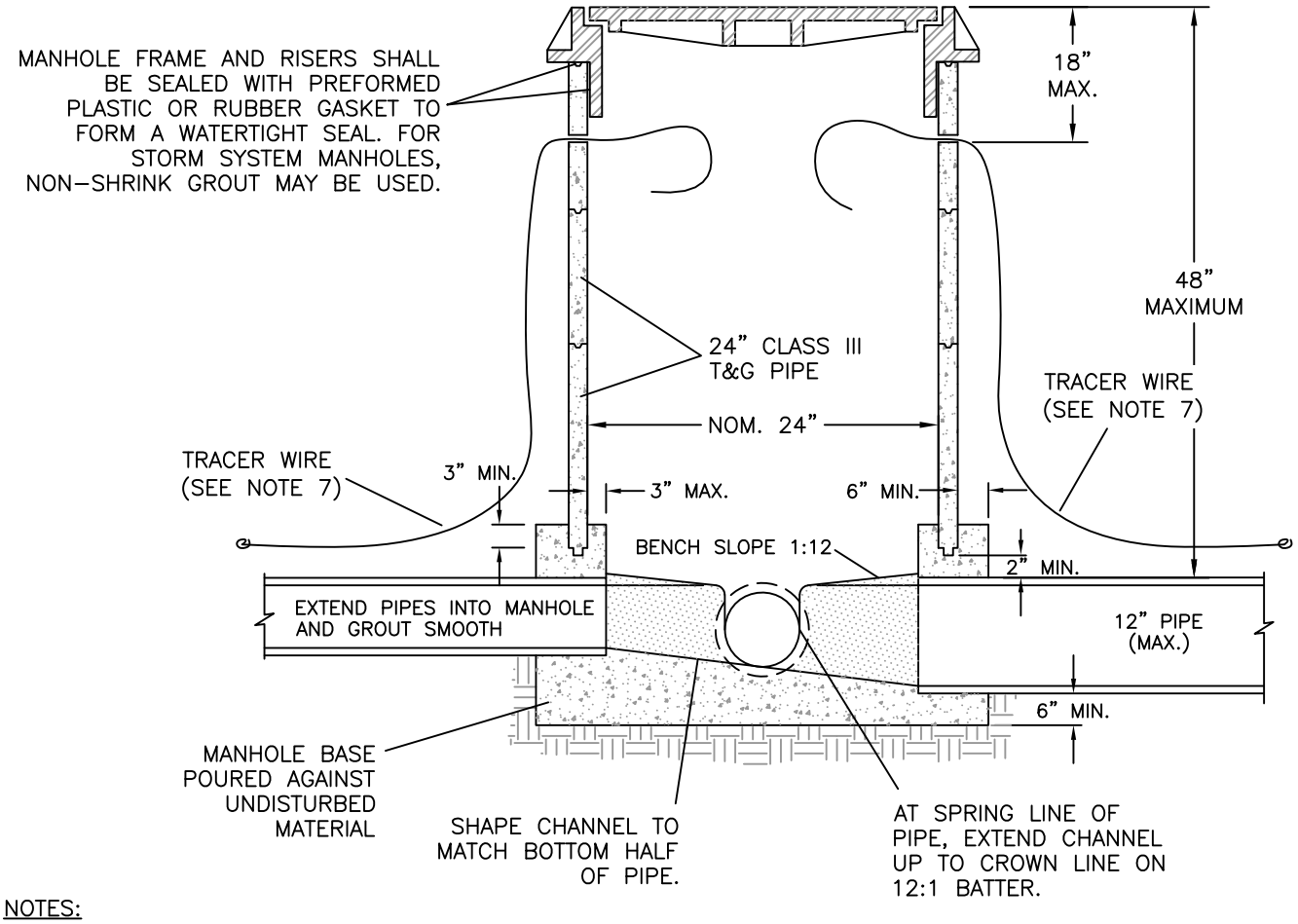
CITY ENGINEER

December, 2021

DATE

MAIN LINE CLEANOUT

DRAWING NO: 00400-14

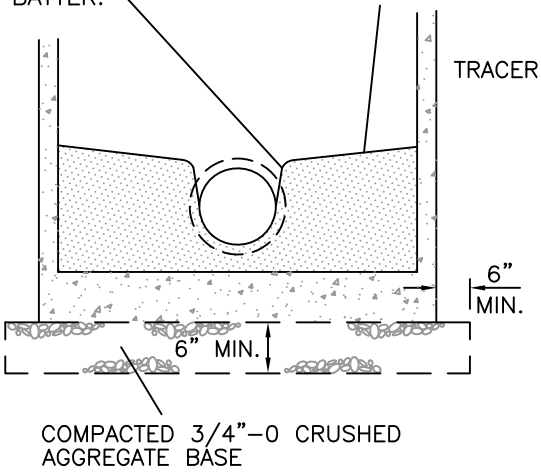


NOTES:

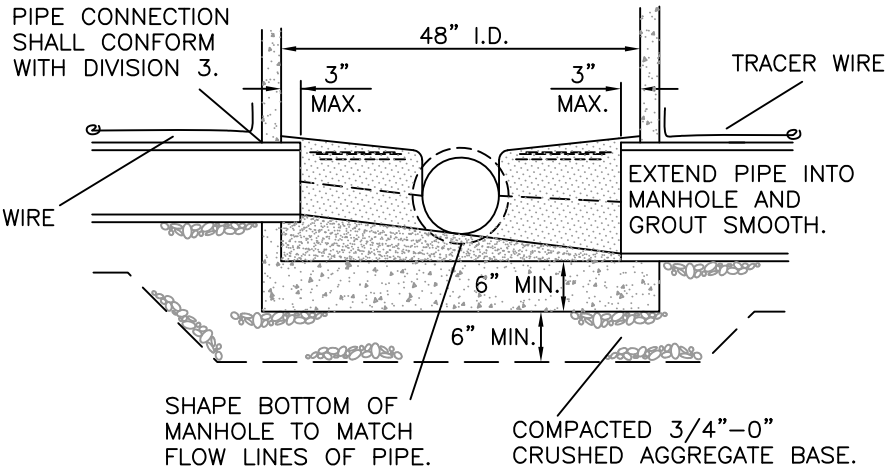
1. 24" MANHOLE ALLOWED ONLY WITH APPROVAL OF THE ENGINEER.
2. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 PSI (MIN).
3. CHANNELS SHALL BE CONSTRUCTED TO PROVIDE SMOOTH SLOPES AND RADII TO OUTLET.
4. PIPE CONNECTIONS SHALL CONFORM TO SECTION 00445.
5. BASE MAY BE PRECAST OR CAST-IN-PLACE.
6. ALL PRECAST PRODUCTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478.
7. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE TERMINATED WITHIN 18 INCHES OF MANHOLE RIM. SEE SECTION 00445.48 FOR MORE INFORMATION.
8. SEE SUPP. STD. DWG. 00400-16 FOR MANHOLE BASE SECTION.
9. SEE SUPP. STD. DWG. 00400-22 FOR MANHOLE COVERS AND FRAMES.
10. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
11. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.
12. FOLLOWING CONSTRUCTION, MODIFICATION, OR REPAIR, ALL SANITARY SEWER MANHOLES SHALL BE CLEANED AND LINED WITH AN APPROVED EPOXY CORROSION BARRIER COATING. SEE CITY SUPPLEMENTAL SPECIFICATIONS SECTION 00475.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

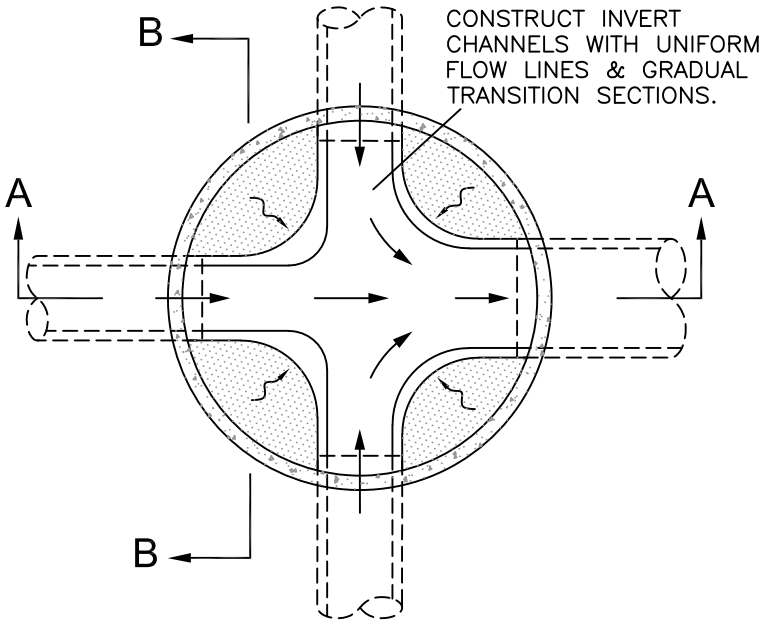
Lebanon OREGON	APPROVED		24" SHALLOW MANHOLE CAST-IN-PLACE
	Dec., 2021	Aug., 2023	
	CITY ENGINEER / DATE	REVISIONS	DRAWING NO: 00400-15



SECTION B–B



SECTION A–A



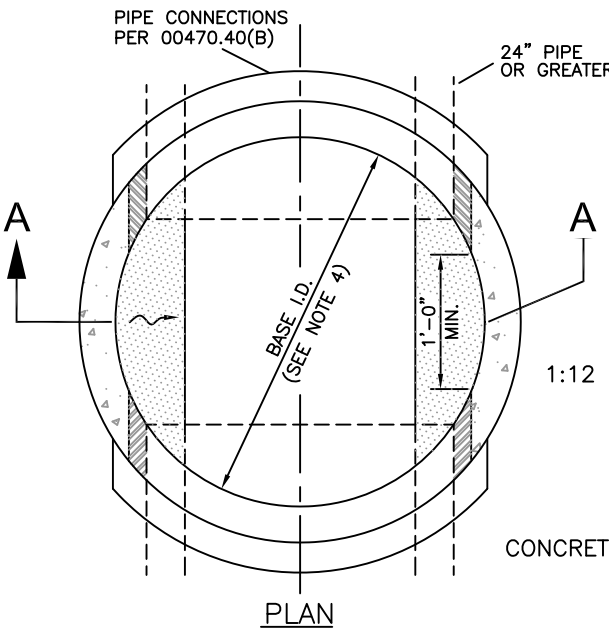
PLAN

NOTES:

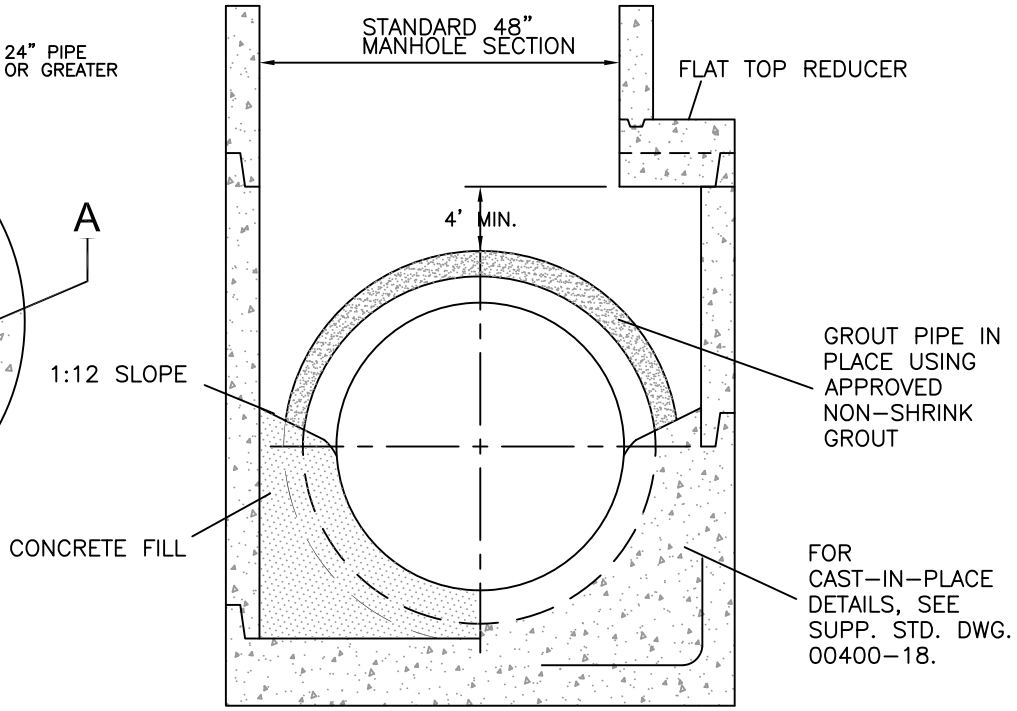
1. BASES SHALL BE PRECAST.
2. CHANNELS SHALL BE CONSTRUCTED TO PROVIDE SMOOTH SLOPES AND RADII TO OUTLET PIPE.
3. KOR–N–SEAL® BOOT OR APPROVED EQUAL REQUIRED.
4. THIS MANHOLE BASE SECTION SHALL BE USED FOR PIPE SIZES UP TO AND INCLUDING 24", UNLESS OTHERWISE SPECIFIED.
5. GROUT MAY BE USED FOR CREATING CHANNELS. THE PRECAST BASE SHALL BE SCARIFIED PRIOR TO PLACING A 2" THICK (MIN.) GROUT CHANNEL.
6. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 4000 PSI (MIN).
7. EXTEND PIPE INTO MANHOLE AND GROUT SMOOTH. PIPE(S) MAY EXTEND 3" MAX. BEYOND THE INTERIOR MANHOLE WALL.
8. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.
9. A MINIMUM OF 0.10 FEET FALL BETWEEN INLET PIPES AND OUTLET ELEVATION IS REQUIRED UNLESS OTHERWISE SHOWN IN THE PROJECT PLANS.
10. ALL PRECAST PRODUCTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478.
11. AT SPRING LINE OF PIPE, EXTEND CHANNEL UP TO CROWN LINE ON 12:1 BATTER.
12. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
13. FOLLOWING CONSTRUCTION, MODIFICATION, OR REPAIR, ALL SANITARY SEWER MANHOLES SHALL BE CLEANED AND LINED WITH AN APPROVED EPOXY CORROSION BARRIER COATING. SEE CITY SUPPLEMENTAL SPECIFICATIONS SECTION 00475.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

APPROVED			STANDARD MANHOLE BASE SECTION (48")
CITY ENGINEER	DATE: Dec., 2021	REVISIONS: Aug., 2023	DRAWING NO: 00400-16



PLAN



PRECAST CAST-IN-PLACE

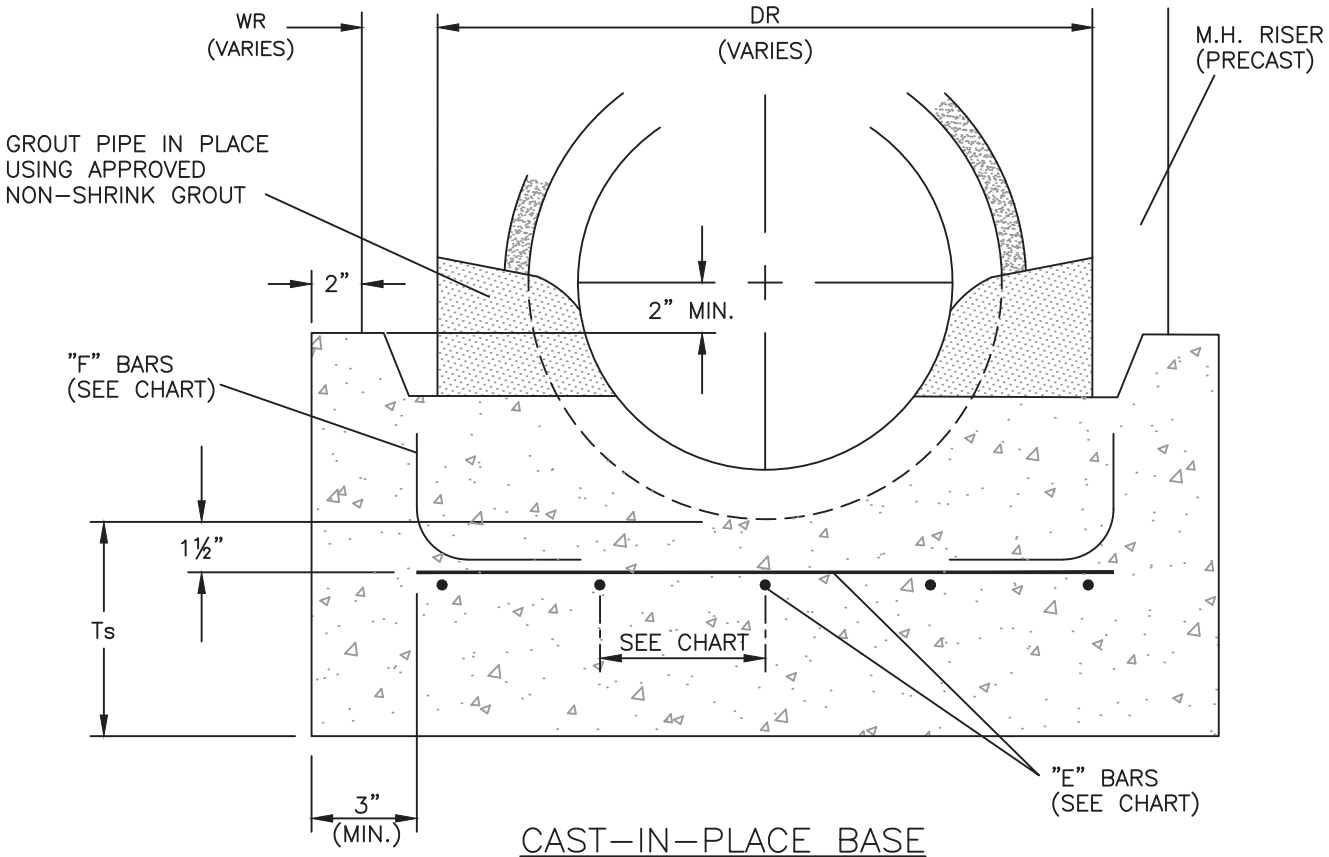
BASE SECTION A–A

NOTES:

1. MANHOLES MAY HAVE EITHER PRECAST OR CAST–IN–PLACE BASES.
2. ALL CONCRETE SHALL BE CLASS 4000. ALL PRECAST PRODUCTS SHALL CONFORM TO REQUIREMENTS OF ASTM C478.
3. LARGE CONCRETE MANHOLE BASES SHALL BE USED FOR PIPE SIZES LARGER THAN 24".
4. BASE INSIDE DIAMETER SHALL BE CALCULATED USING THE SIZE AND NUMBER OF PIPES AND THE MINIMUM SPACING REQUIREMENTS (SEE SUPP. STD. DWG. 00400–20).
5. ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A706 OR AASHTO M31 (ASTM A615) GRADE 60.
6. ALL REINFORCING SHALL BE PLACED 2" CLEAR OF THE NEAREST FACE OF THE CONCRETE UNLESS OTHERWISE SHOWN.
7. ECCENTRIC REDUCING CONES OR ECCENTRIC REDUCING FLAT SLABS DESIGNED IN ACCORDANCE WITH AASHTO M199 SHALL BE PLACED ON TOP OF THE BASE RISER AS REQUIRED BY THE CONTRACT PLANS. ECCENTRIC REDUCING FLAT SLABS SHALL BE DESIGNED TO SUPPORT A LOAD OF 120 LB/SF IN ADDITION TO THE DEAD LOAD OF THE SLAB, THE RISER ABOVE THE SLAB, AND THE EARTH OVERBURDEN ABOVE THE SLAB.
8. BASE RISER TO BE PRE–CAST UNLESS OTHERWISE SHOWN ON THE PLANS.
9. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
10. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.
11. NO MANHOLE STEPS SHALL BE INSTALLED IN ANY MANHOLE.
12. ALL INTERIOR PICK AND STEP HOLES, SECTION JOINTS AND LARGE VOIDS SHALL BE SEALED WITH NON–SHRINK GROUT CONFORMING TO 02080.30, PER 00470.42(B)(2).
13. FOLLOWING CONSTRUCTION, MODIFICATION, OR REPAIR, ALL SANITARY SEWER MANHOLES SHALL BE CLEANED AND LINED WITH AN APPROVED EPOXY CORROSION BARRIER COATING. SEE CITY SUPPLEMENTAL SPECIFICATIONS SECTION 00475.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon	APPROVED		LARGE MANHOLE BASE SECTION (54" AND LARGER)
	CITY ENGINEER	DATE: Dec., 2021	REVISIONS: Aug., 2023
			DRAWING NO: 00400-17



CAST–IN–PLACE BASE

REINFORCEMENT CHART

BASE DR	54" & 60"		72"		84"		96"	
DEPTH*	0'–15'	15'–30'	0'–15'	15'–30'	0'–15'	15'–30'	0'–15'	15'–30'
Ts	7.0"	9.0"	7.0"	9.0"	8.0"	10.0"	9.0"	11.0"
E BARS	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4 @ 7"	#5 @ 8"
F BARS	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4 @ 7"	#5 @ 8"

*INVERT TO STREET GRADE

NOTES:

1. CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 4000 PSI (MIN).
2. REINFORCING STEEL SHALL BE GRADE 60.
3. ALL REBAR SPACING IS MEASURED CENTER TO CENTER.
4. FOR DETAILS NOT SHOWN HERE, SEE SUPP. STD. DWG. 00400–17.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon

APPROVED

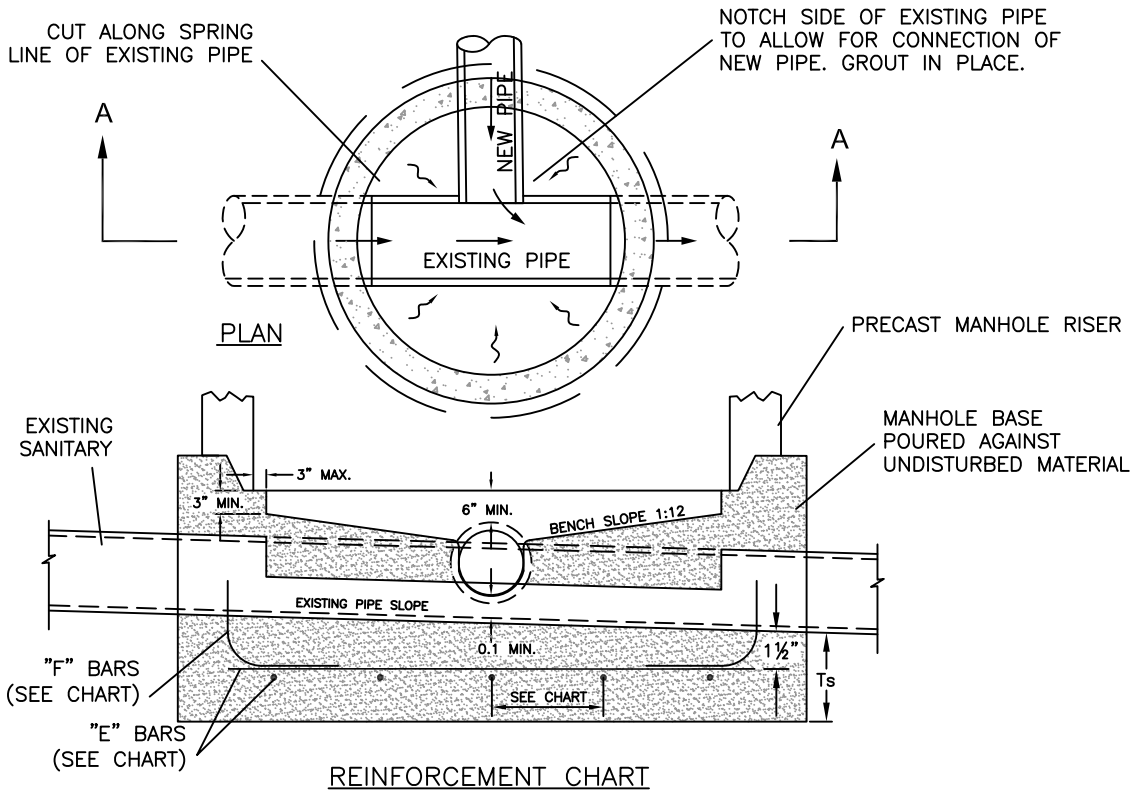
CITY ENGINEER

December, 2021

DATE

LARGE MANHOLE BASE SECTION REINFORCING

DRAWING NO: 00400-18



REINFORCEMENT CHART

BASE DR	54" & 60"		72"		84"		96"	
DEPTH*	0'–15'	15'–30'	0'–15'	15'–30'	0'–15'	15'–30'	0'–15'	15'–30'
Ts	7.0"	9.0"	7.0"	9.0"	8.0"	10.0"	9.0"	11.0"
E BARS	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4 @ 7"	#5 @ 8"
F BARS	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4 @ 7"	#5 @ 8"

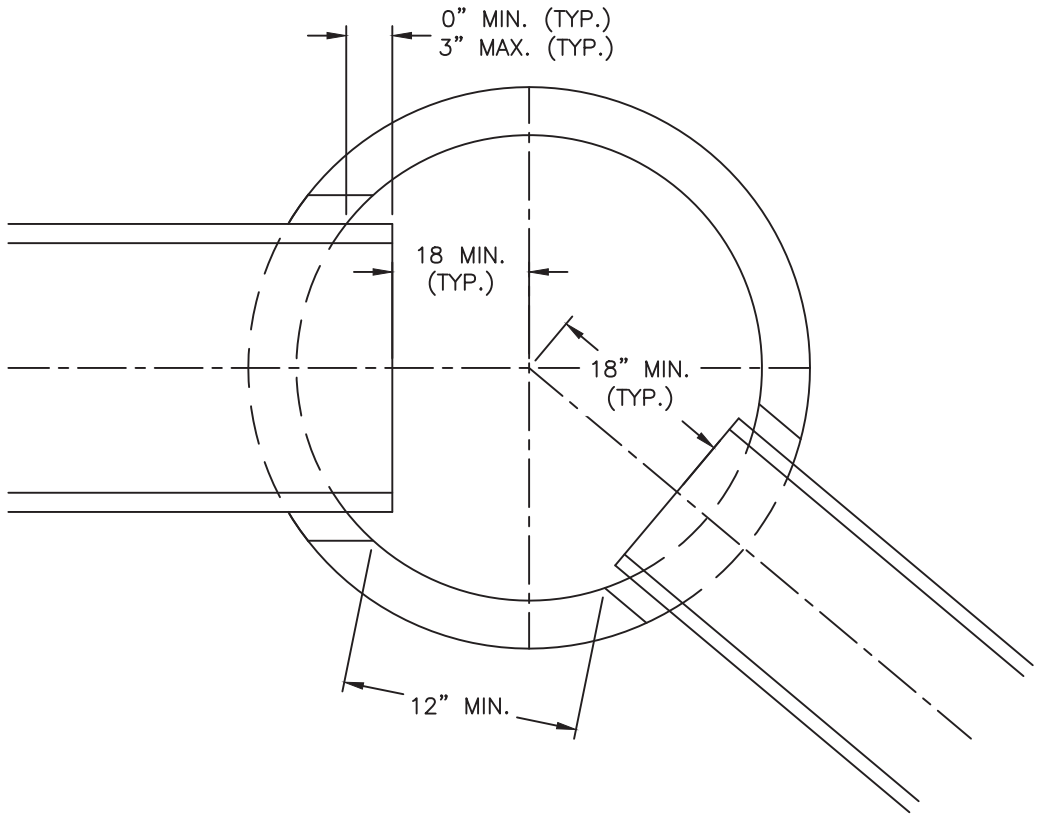
*INVERT TO STREET GRADE

NOTES:

1. FOR USE ON 48" AND LARGER DIAMETER MANHOLES; 24" MANHOLE ALLOWED ONLY WITH APPROVAL OF THE ENGINEER.
2. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 4000 PSI (MIN.).
3. CHANNELS SHALL BE CONSTRUCTED TO PROVIDE SMOOTH SLOPES AND RADII FROM INLET TO OUTLET.
4. PIPE CONNECTIONS SHALL CONFORM TO SECTION 00400 IN THE SUPPLEMENTAL STANDARD SPECIFICATIONS. PIPE(S) MAY EXTEND 3" MAX. BEYOND INTERIOR MANHOLE WALL.
5. MAX. PIPE DIAMETER VARIES WITH PIPE MATERIAL.
6. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.
7. ALL PRECAST PRODUCTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478.
8. AT SPRING LINE OF PIPE, EXTEND CHANNEL UP TO CROWN LINE ON 12:1 BATTER.
9. FOLLOWING CONSTRUCTION, MODIFICATION, OR REPAIR, ALL SANITARY SEWER MANHOLES SHALL BE CLEANED AND LINED WITH AN APPROVED EPOXY CORROSION BARRIER COATING. SEE CITY SUPPLEMENTAL SPECIFICATIONS SECTION 00475.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

Lebanon OREGON	APPROVED		LIVE SEWER CAST-IN-PLACE MANHOLE BASE
	CITY ENGINEER	DATE: Dec., 2021	REVISIONS: Aug., 2023
			DRAWING NO: 00400-19



NOTES:

1. MANHOLES SHALL BE SIZED TO ENSURE ALL CORES FOR PIPE PENETRATIONS SHALL HAVE A 12" MINIMUM SEPARATION (BOTH HORIZONTAL AND VERTICAL).
2. MANHOLE BASES MAY BE PRECAST OR CAST–IN–PLACE. PRECAST SECTIONS SHALL CONFORM TO ASTM C478. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 4000 PSI (MIN.).
3. PIPE ENDS SHALL BE, AT MINIMUM, FLUSH WITH THE INTERIOR FACE OF THE MANHOLE AT THE 3 AND 9 O'CLOCK POSITIONS. MAXIMUM PENETRATION INTO THE MANHOLE AT THESE LOCATIONS IS 3".
4. PIPE ENDS SHALL BE POSITIONED A MINIMUM OF 18" FROM CENTER OF MANHOLE.
5. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon

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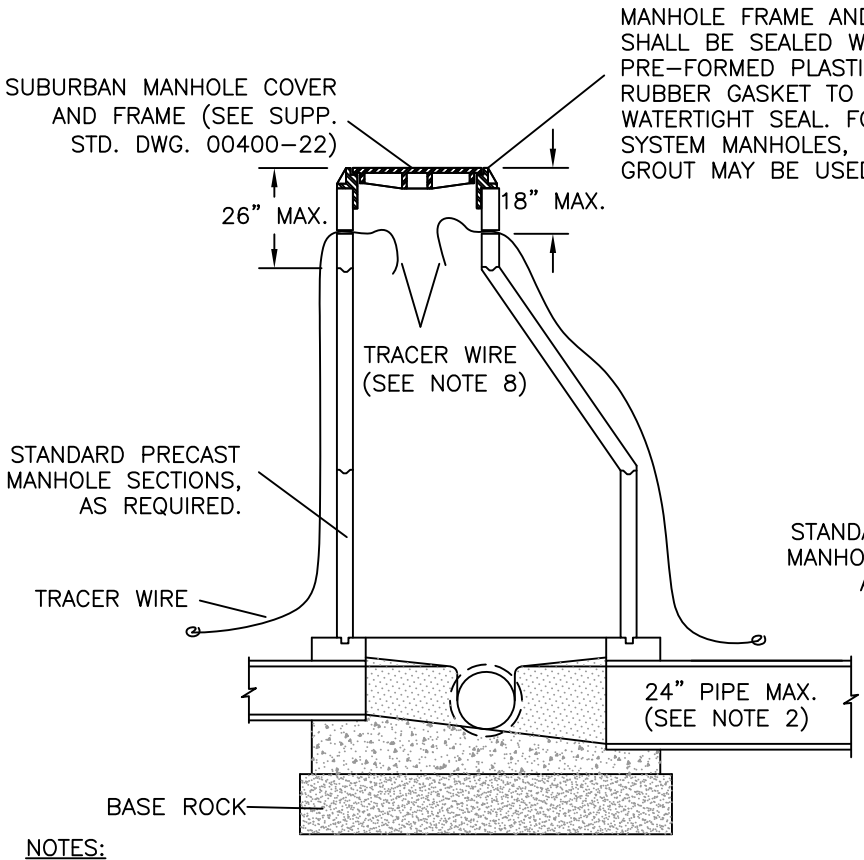
CITY ENGINEER

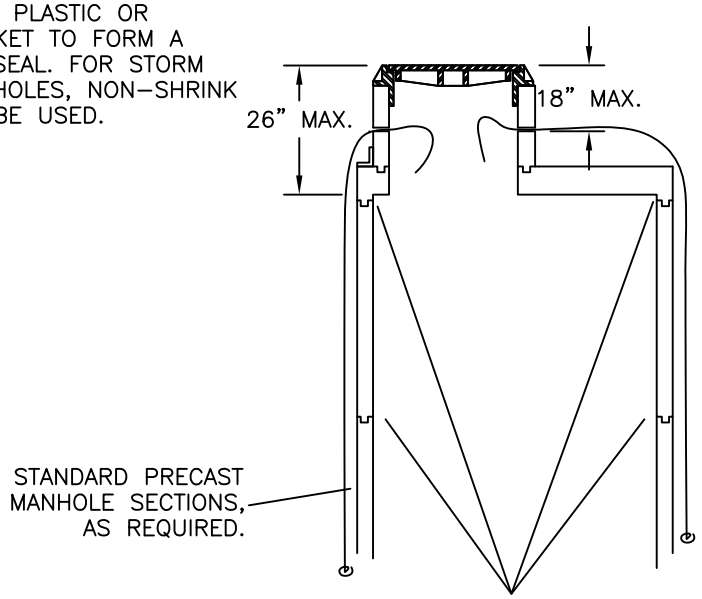
December, 2021

DATE

MANHOLE PIPE ALIGNMENT

DRAWING NO: 00400-20





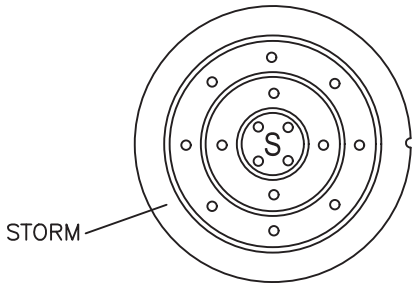
OPTIONAL FLAT TOP

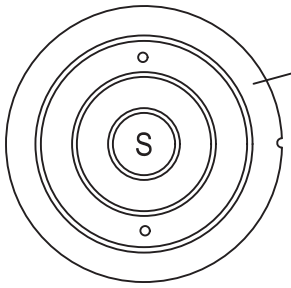
NOTES:

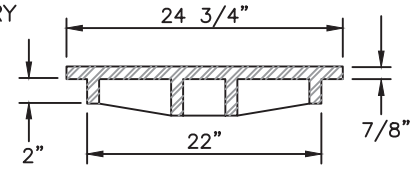
1. STANDARD PRECAST MANHOLE SECTION DIAMETER SHALL BE 48".
2. SEE SUPP. STD. DWG. 00400-17, 18 & 20 FOR PIPE SIZES GREATER THAN 24".
3. REPLACE CONE WITH 8" THICK FLAT TOP SLAB AS REQUIRED FOR DEPTH.
4. NO MANHOLE STEPS SHALL BE INSTALLED IN ANY MANHOLE.
5. ROTATE CONE OR SLAB TO POSITION MANHOLE COVER AND FRAME OUT OF WHEEL PATH. DO NOT PLACE FRAMES WITHIN 12 INCHES OF CENTERLINE AT AN INTERSECTION OR CHANGE IN STREET ALIGNMENT (ORS 092.060 (2)). WHEN MANHOLE IS NOT LOCATED IN A TRAFFIC AREA, POSITION COVER AND FRAME OVER A FLOW CHANNEL BENCH.
6. ALL PRECAST PRODUCTS SHALL CONFORM TO ASTM C478 REQUIREMENTS.
7. SEE SUPP. STD. DWGS. 00400-16 THROUGH 19 FOR MANHOLE BASE SECTION DETAILS.
8. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE TERMINATED WITHIN 18 INCHES OF MANHOLE RIM. SEE SECTION 00445.48 FOR MORE INFORMATION.
9. SEE SUPP. STD. DWG. 00400-22 & 23 FOR MANHOLE COVERS, FRAMES, AND ADJUSTMENT RINGS.
10. MAXIMUM PIPE DIAMETER VARIES WITH PIPE MATERIAL.
11. SEE SUPP. STD. DWG. 00400-15 FOR SHALLOW MANHOLES.
12. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS.
13. THIS DETAIL LIMITED TO INTERIOR DROP OF 24" OR LESS. SEE SUPP. STD. DWG. 00400-25 OR 00400-26 FOR DROPS IN EXCESS OF 24".

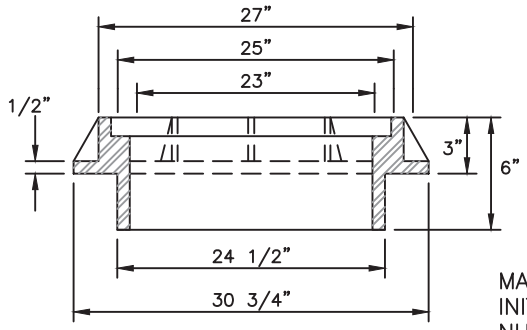
CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

Lebanon OREGON	APPROVED		MANHOLE RISERS & TOPS
	CITY ENGINEER	DATE: Dec., 2021	REVISIONS: Aug., 2023
			DRAWING NO: 00400-21

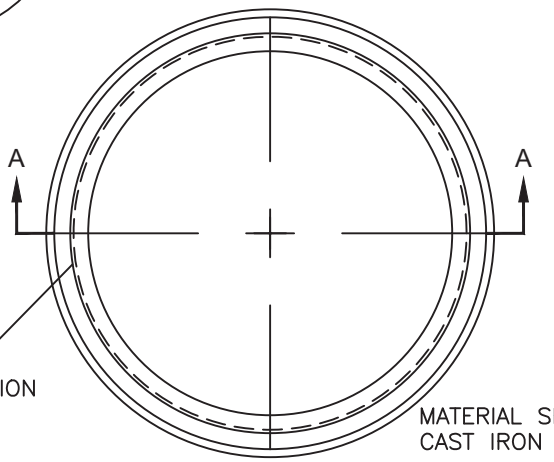




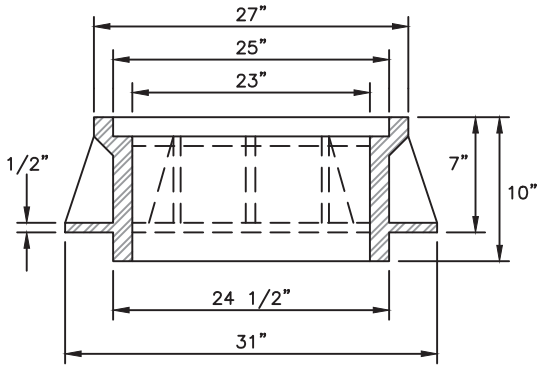




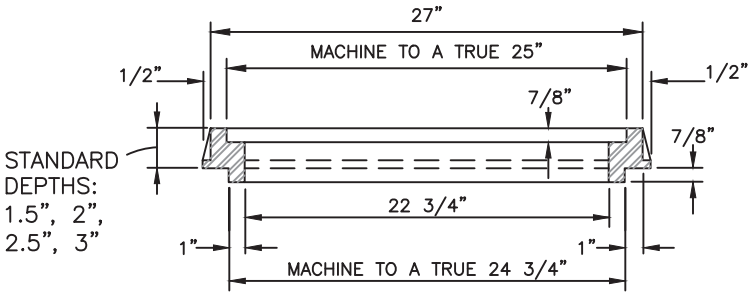
CAST IRON SUBURBAN
(APPROX. WT. – 305 LBS.)



MANHOLE ADJUSTMENT RINGS



CAST IRON STANDARD
(WITH APPROVAL OF THE ENGINEER)
(APPROX. WT. – 387 LBS.)



SECTION A–A

NOTES:

1. MANHOLE ADJUSTMENT RINGS ALLOWED ONLY WHEN PROPERLY SEATED INTO EXISTING MANHOLE. APPLY APPROVED BONDING AGENT TO SECURE RINGS PROPERLY TO MANHOLE.
2. CAST IRON COVERS AND FRAMES ARE TO BE DOMESTIC OR AN APPROVED EQUAL.
3. IF MANHOLE ADJUSTMENT RINGS ARE USED, PROVIDE A 1/4 INCH FILLET WELD AROUND INSIDE OF RIM.
4. TAMPERPROOF COVERS REQUIRED ON SANITARY OR STORM DRAIN MANHOLES WHERE LOCATED IN PEDESTRIAN OR EASEMENT AREAS.
5. COVERS FOR SANITARY MANHOLES SHALL HAVE 2 HOLES MAXIMUM.
6. WATERTIGHT COVERS (NO HOLES) REQUIRED IF LOCATED WHERE COVERS MAY BE SUBMERGED.
7. COVER AND FRAMES SHALL BE STAMPED WITH MANUFACTURER'S INITIALS, HEAT NUMBER AND POINT OF ORIGIN.
8. MANHOLE GRATES ALLOWED ONLY IN LOCATIONS NOT SUBJECT TO BICYCLE OR PEDESTRIAN USE.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

OREGON Lebanon

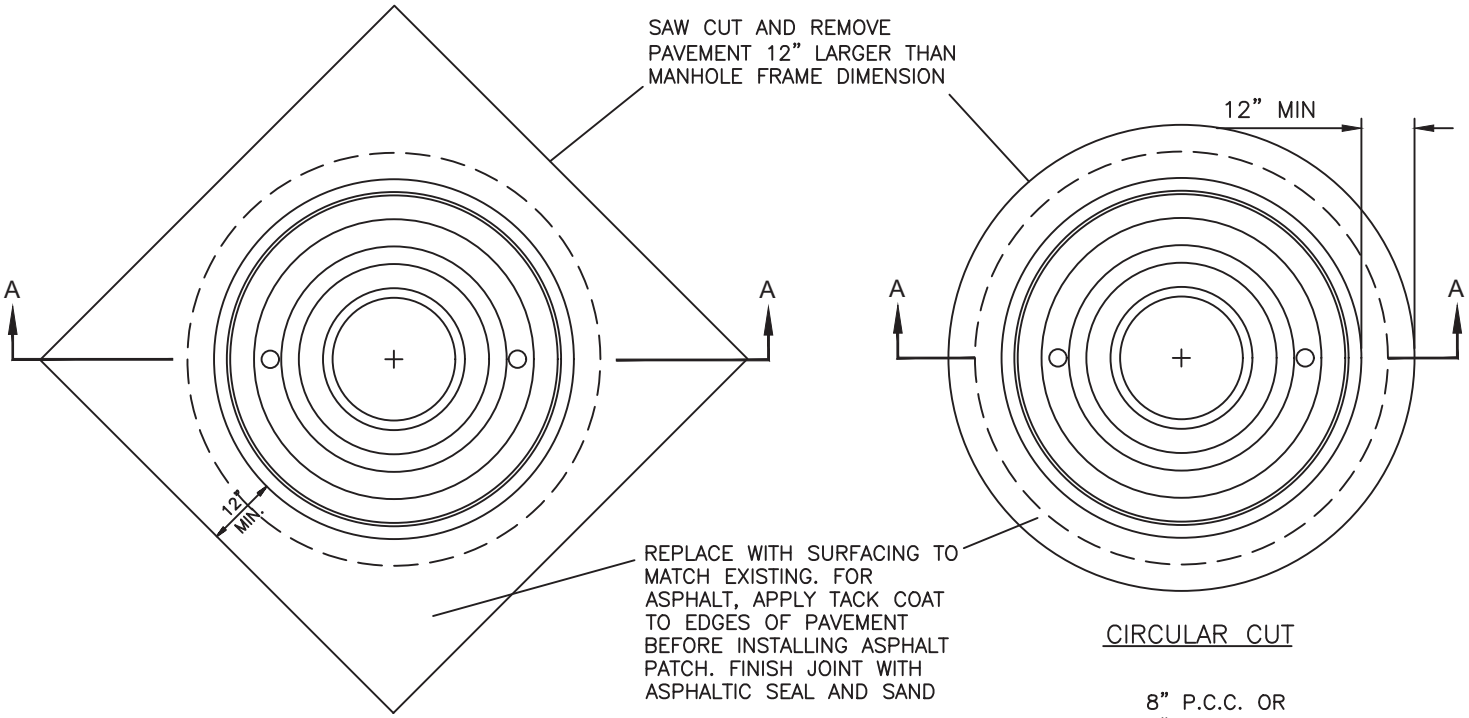
APPROVED

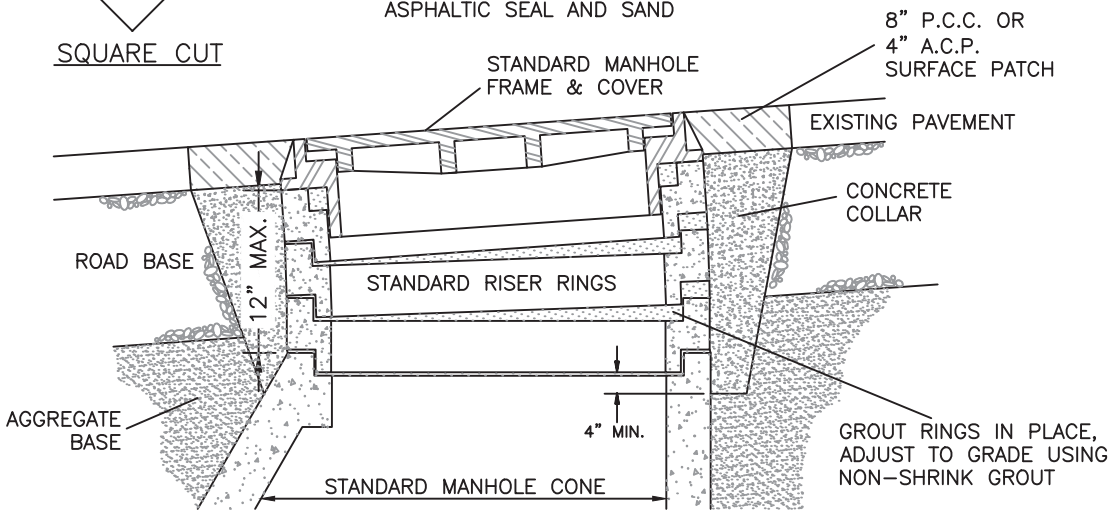
CITY ENGINEER

December, 2021
DATE

MANHOLE COVERS AND FRAMES

DRAWING NO: 00400-22





MANHOLE STREET GRADE ADJUSTMENT
SECTION A–A

NOTES:

1. COVER MANHOLE WITH BUILDING PAPER AND CONSTRUCT A.C.P. BASE COURSE AND WEARING COURSES.
2. RAISE MANHOLE COVER AND FRAME TO FINISH GRADE BY INSTALLING CONCRETE MANHOLE ADJUSTMENT RINGS AND LEVELING MORTAR.
3. BACKFILL WITH EARLY STRENGTH P.C.C.; ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE 3000 PSI (MIN.).
4. PROTECT FROM TRAFFIC LOADING UNTIL CONCRETE HAS FULLY CURED.
5. SEE SUPP. STD. DWG. 00400–22 FOR MANHOLE COVERS AND FRAMES.
6. USE EPOXY FOR SYNTHETIC GRADE RINGS.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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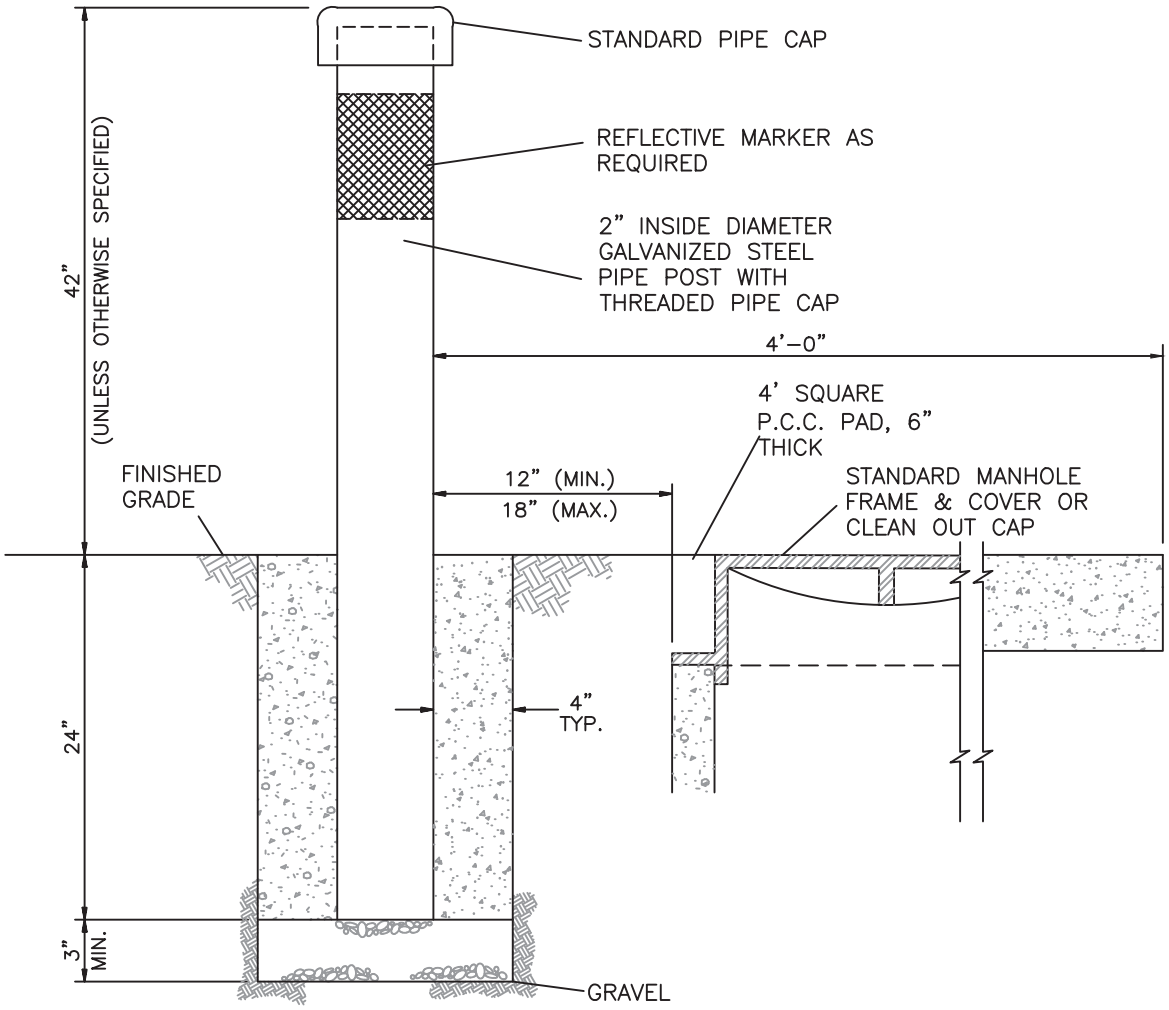
MANHOLE ADJUSTMENT RINGS & CUTOUTS

DRAWING NO: 00400-23



MARKER POST AT MANHOLE OR CLEANOUT

NOTES:

1. POSTS SHALL BE LOCATED ON THE NORTH SIDE OF MANHOLE LIDS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. POSTS SHALL BE SET IN COMMERCIAL GRADE CONCRETE 3000 PSI (MIN).
3. WITH ENGINEER'S APPROVAL, A TREATED 4"x4" POST WITH TAPERED TOP, A 4" CONCRETE FILLED PVC PIPE POST OR A FLEXIBLE, DURABLE, PLASTIC MARKER MAY BE SUBSTITUTED.
4. POSTS/MARKERS SHALL BE PAINTED WHITE.

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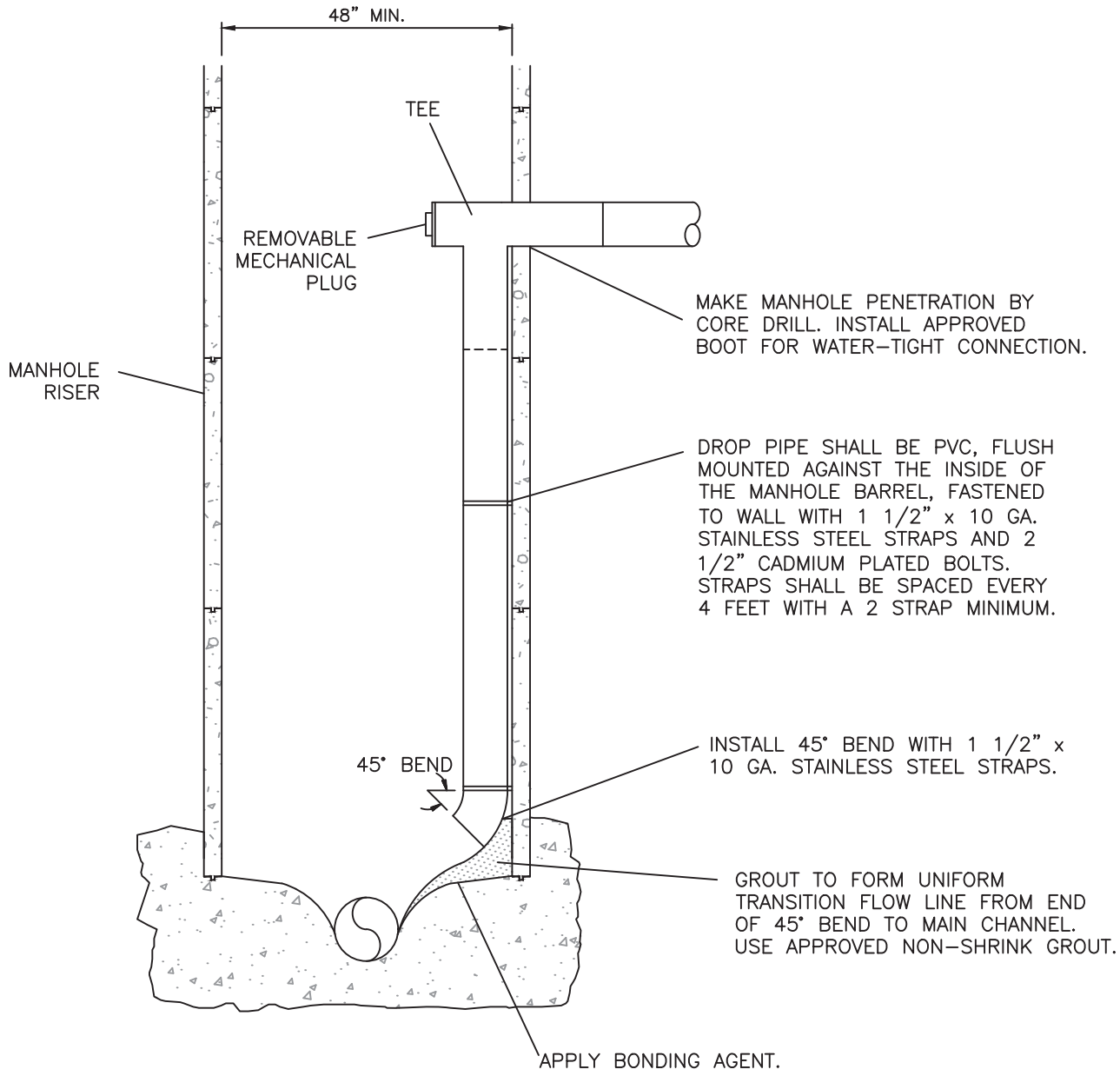
MANHOLE MARKER POST

DRAWING NO: 00400-24



NOTES:

1. ONLY ONE INSIDE DROP CONNECTION ALLOWED PER MANHOLE.
2. INSIDE DROP MANHOLES ALLOWED ONLY WITH APPROVAL OF THE ENGINEER.
3. ALL PVC SHALL CONFORM TO ASTM D3034 SDR35.
4. MAX. INCOMING PIPE DIAMETER IS 8". DROP PIPE AND FITTINGS SHALL MATCH INCOMING PIPE SIZE.
5. LOCATION, ELEVATION, DIAMETER, AND SLOPE OF INCOMING PIPE VARIES, SEE PROJECT PLANS.

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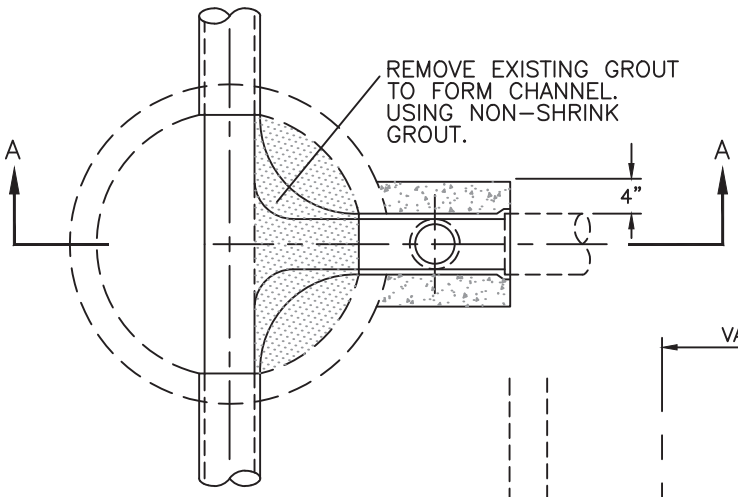
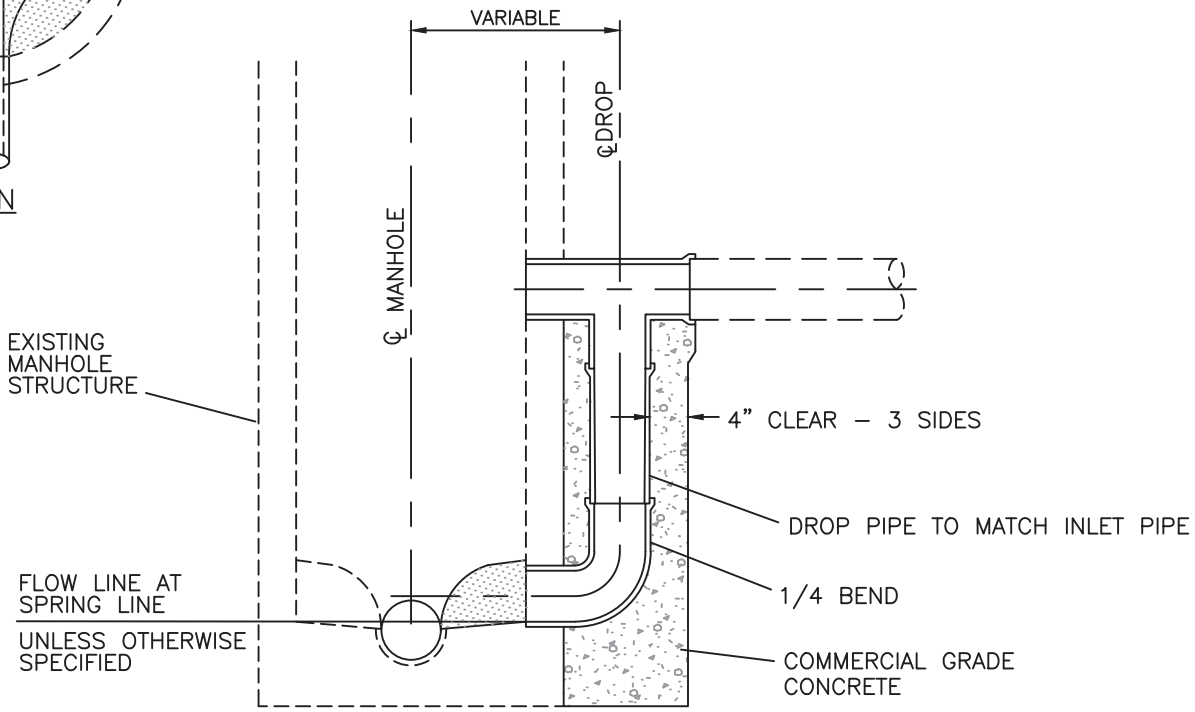
INSIDE DROP CONNECTION FOR MANHOLES

DRAWING NO: 00400-25



PLAN



SECTION A–A

NOTES:

1. OUTSIDE DROP MANHOLES ALLOWED ONLY WITH APPROVAL OF THE ENGINEER.
2. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS. ONLY ONE OUTSIDE DROP PIPE ALLOWED PER MANHOLE. SEE PROJECT PLANS FOR PIPE MATERIAL.
3. INLET PIPE MAY BE RIGID OR FLEXIBLE, WITH A MAXIMUM DIAMETER OF 18". THE CONNECTING PIPE SHALL HAVE A FLEXIBLE, GASKETED AND UNRESTRAINED JOINT WITHIN 18" OF PIPE TEE.
4. DROP PIPE, TEE, AND ELBOW MATERIAL SHALL MATCH THE INLET PIPE.
5. OUTLET PIPE(S) MAY BE RIGID OR FLEXIBLE, SEE PROJECT PLANS. MAXIMUM OUTLET PIPE DIAMETER VARIES WITH PIPE.
6. CONCRETE ENCASEMENT SHALL BE COMMERCIAL GRADE CONCRETE. PROVIDE 4" MINIMUM COVER OVER OUTERMOST PARTS OF PIPE FITTINGS.
7. PIPE ZONE VARIES, SEE SUPP. STD. DWG. 00400–01.
8. INVERT CHANNELS SHALL BE CONSTRUCTED TO PROVIDE SMOOTH SLOPES AND RADII TO THE OUTLET PIPE.

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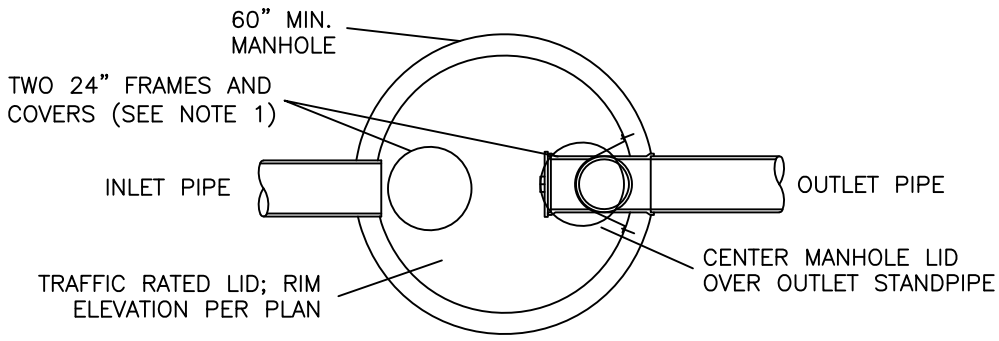
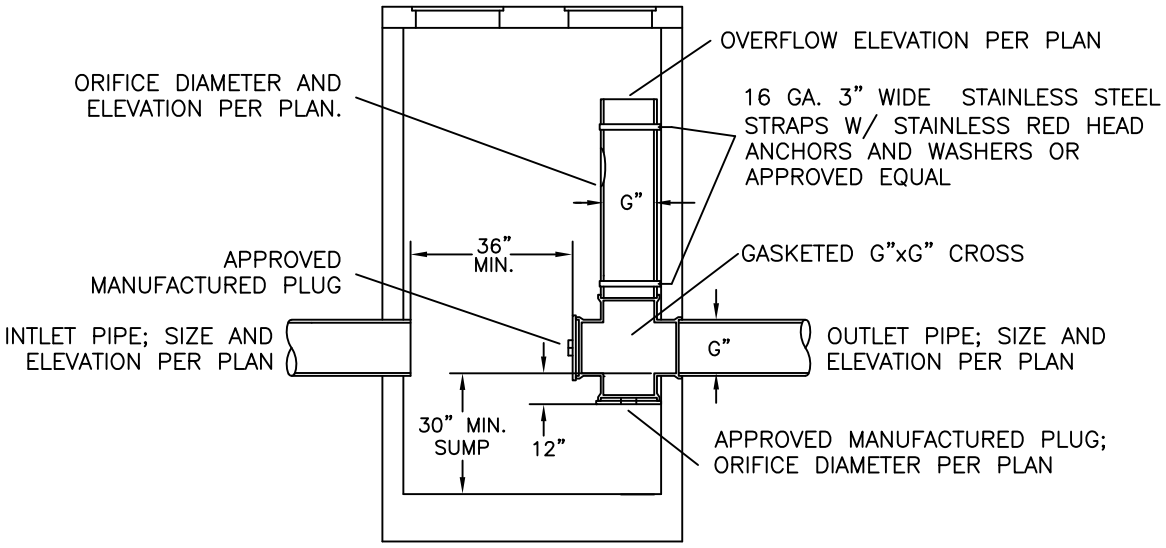
OUTSIDE DROP CONNECTION FOR MANHOLES

DRAWING NO: 00400-26



PLAN



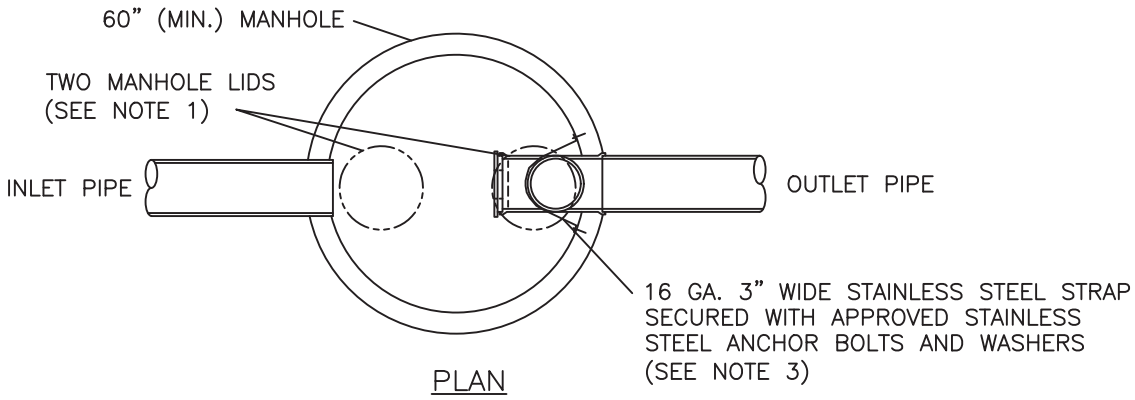
SECTION

NOTES:

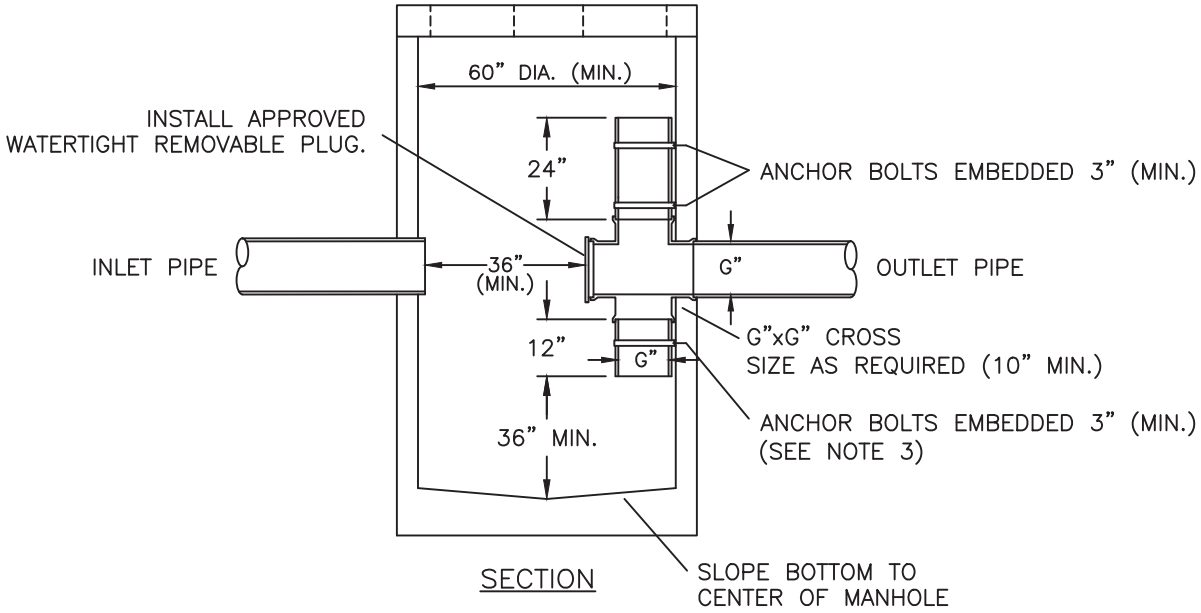
1. MINIMUM FLOW CONTROL MANHOLE DIAMETER IS 60". PROVIDE A PRECAST FLAT TOP MANHOLE LID WITH TWO ACCESS OPENINGS FOR FRAMES AND COVERS. ONE OPENING SHALL BE PLACED OVER THE OVERFLOW STAND PIPE, THE OTHER OVER THE INLET ON THE OPPOSITE SIDE.
2. 36" OF CLEARANCE MUST BE PROVIDED BETWEEN THE MECHANICAL PLUG AND THE OPPOSITE MANHOLE WALL OR INLET PIPE.
3. USE APPROVED FASTENERS FOR STAINLESS STEEL STRAPS. STRAP ANCHORS MUST BE EMBEDDED 3" MINIMUM.
4. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS FOR PIPE MATERIAL.
5. CARRY THROUGH PIPE OR SLEEVE SHALL BE DUCTILE IRON, CLASS AS SPECIFIED. NO JOINTS ALLOWED ON THE CARRY THROUGH PIPE OR SLEEVE INSIDE THE MANHOLE.
6. PIPE ZONES VARY, SEE SUPP. STD. DWG. 00400–01.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

APPROVED			FLOW CONTROL MANHOLE
CITY ENGINEER	DATE: Dec., 2021	REVISIONS: Aug., 2023	DRAWING NO: 00400-27



PLAN



SECTION

NOTES:

1. MINIMUM POLLUTION CONTROL MANHOLE DIAMETER IS 60". PROVIDE A PRECAST FLAT TOP MANHOLE LID WITH TWO ACCESS OPENINGS FOR FRAMES AND COVERS. ONE OPENING SHALL BE PLACED OVER THE OVERFLOW STAND PIPE, THE OTHER OVER THE INLET ON THE OPPOSITE SIDE.
2. 36" OF CLEARANCE MUST BE PROVIDED BETWEEN THE MECHANICAL PLUG/ORIFICE AND THE OPPOSITE MANHOLE WALL OR INLET PIPE.
3. USE APPROVED FASTENERS AND STAINLESS STEEL STRAPS. STRAPS SHALL BE A MINIMUM OF 3" DIAMETER, 16 GA STAINLESS STEEL. FASTENERS SHALL BE 3" X 1/2" EXPANSION ANCHORS, MINIMUM OF 2 ANCHORS PER STRAP.
4. LOCATION, ELEVATION, DIAMETER, SLOPE, AND NUMBER OF PIPE(S) VARIES, SEE PROJECT PLANS. SEE PROJECT PLANS FOR PIPE MATERIAL.
5. MAINTAIN 0.10' DROP BETWEEN LOWEST INLET AND OUTLET INVERTS.
6. PIPE ZONES VARY, SEE SUPP. STD. DWG. 00400–01.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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December, 2021

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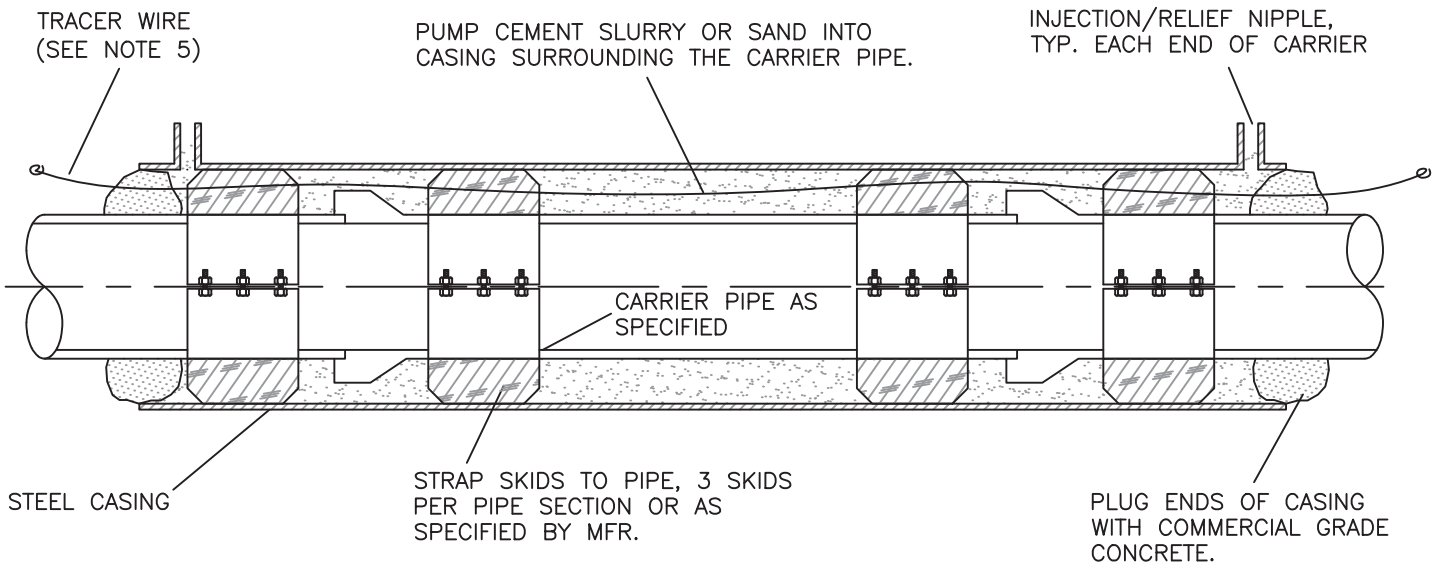
POLLUTION CONTROL MANHOLE

DRAWING NO: 00400-28



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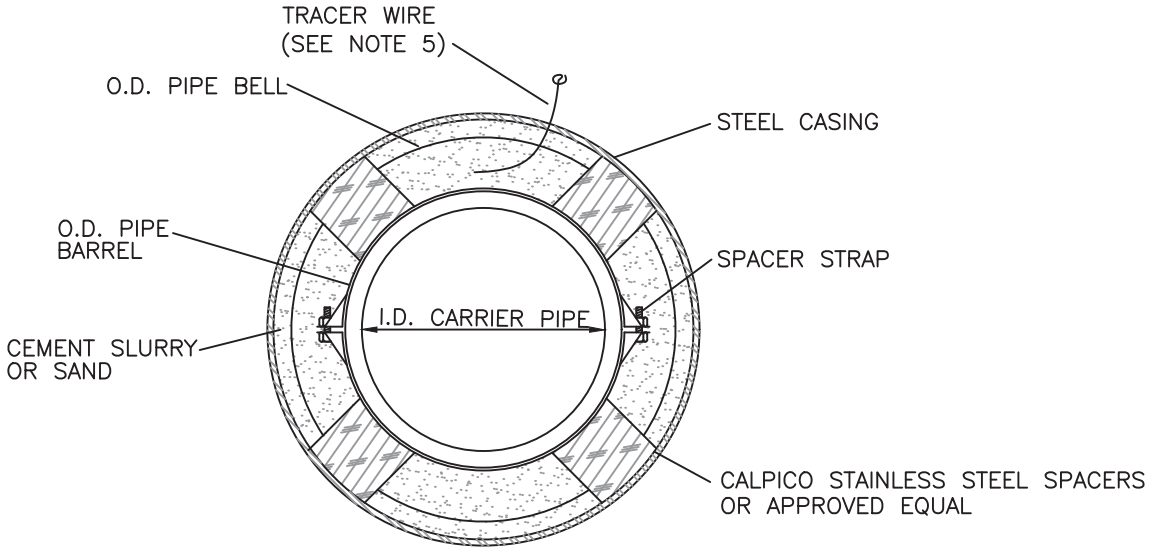

SECTION

NOTES:

1. TYPE, SIZE, AND LOCATION(S) OF CASING, CARRIER PIPE, SKIDS, PIPE NIPPLES, ETC. ARE AS REQUIRED BY THE ENGINEER TO MEET SITE CONDITIONS.
2. BORE CASING DESIGNS TO BE APPROVED BY THE ENGINEER.
3. BLOCK CARRIER PIPE DOWN OR FLOOD TO RESIST FLOTATION WHEN FILLING ANNULAR SPACE.
4. PROVIDE PIPE NIPPLE AT TOP OF CASING AT EACH END OF CASING, FOR FILLING AND RELIEF. SIZE TO ACCOMMODATE VOLUME OF GROUT OR SAND AND SITE CONDITIONS (4" DIAMETER MINIMUM).
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE. SEE SECTION 00445.48 FOR MORE INFORMATION.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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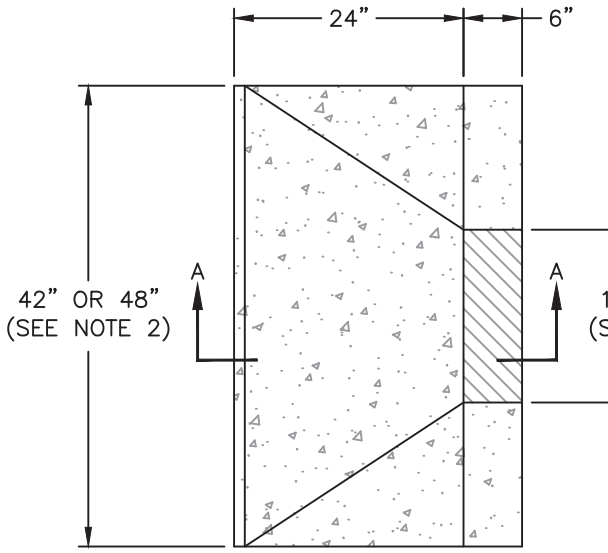
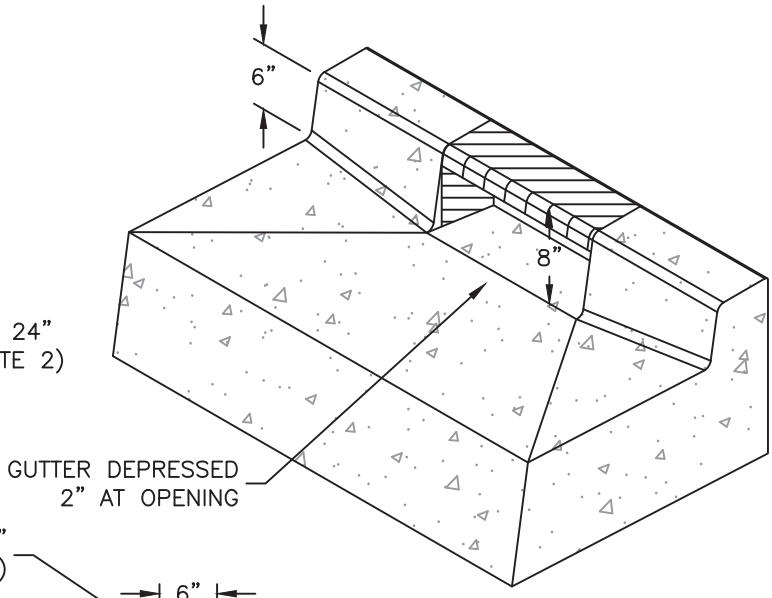
BORE CASING AND SPACERS

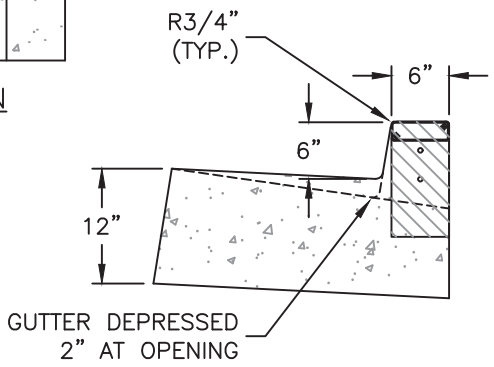
DRAWING NO: 00400-29



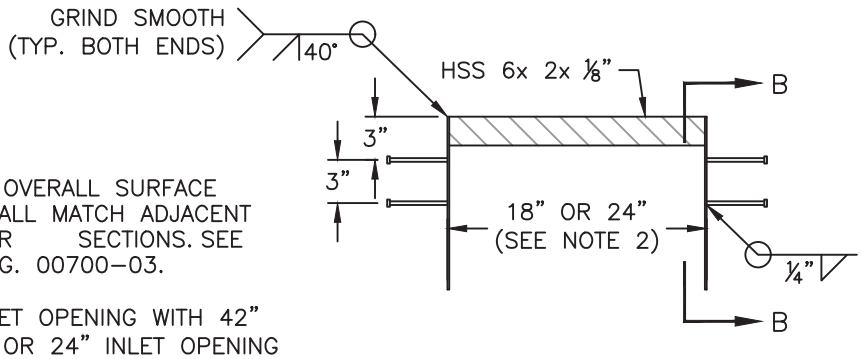
CURB PLAN



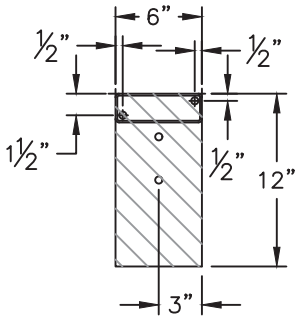
CURB ISOMETRIC



CURB SECTION A–A



INLET ELEVATION



INLET SECTION B–B

NOTES:

1. CURB SECTION OVERALL SURFACE DIMENSIONS SHALL MATCH ADJACENT CURB & GUTTER SECTIONS. SEE SUPP. STD. DWG. 00700–03.
2. EITHER 18" INLET OPENING WITH 42" CURB SECTION OR 24" INLET OPENING WITH 48" CURB SECTION SHALL BE REQUIRED, DEPENDING ON PROJECT REQUIREMENTS.
3. HEADED CONCRETE ANCHORS SHALL BE 1/2" X 4" F500 HEADED CONCRETE ANCHORS, MEETING ASTM A–108 REQUIREMENTS.
4. HSS 6" X 2" X 1/8" TUBE STEEL SHALL MEET ASTM A–500 GRADE B REQUIREMENTS.
5. END PLATES SHALL MEET ASTM A–36 REQUIREMENTS
6. ENTIRE INLET ASSEMBLY SHALL BE HOT–DIP GALVANIZED TO MEET ASTM A–123 REQUIREMENTS.

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December, 2021

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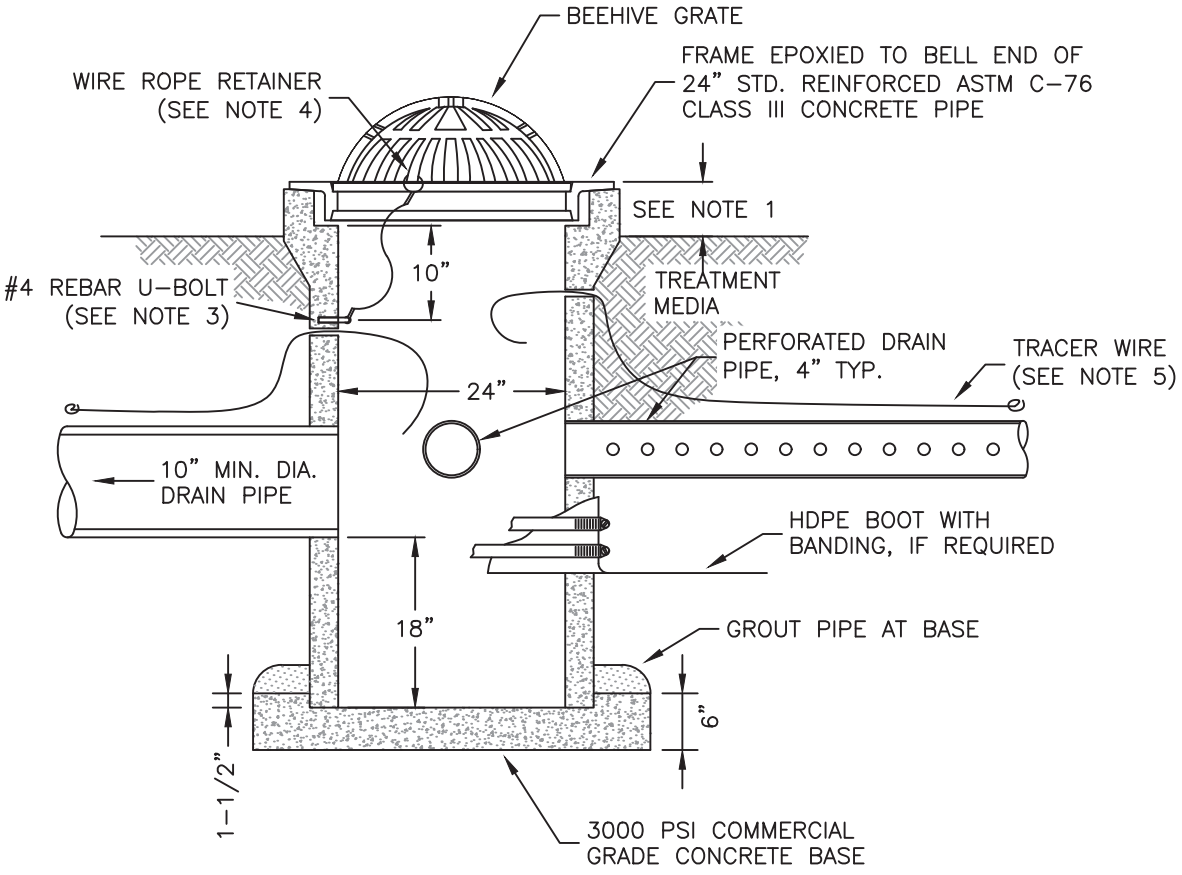
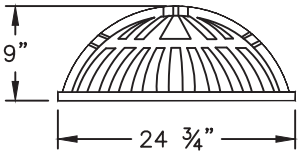
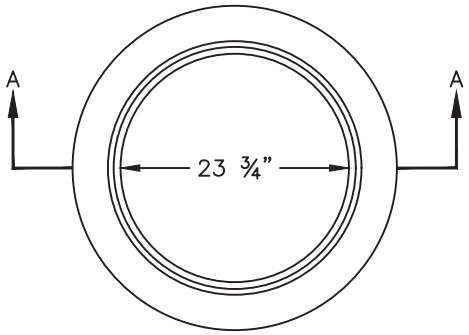
STORM WATER SWALE INLET

DRAWING NO: 00400-30

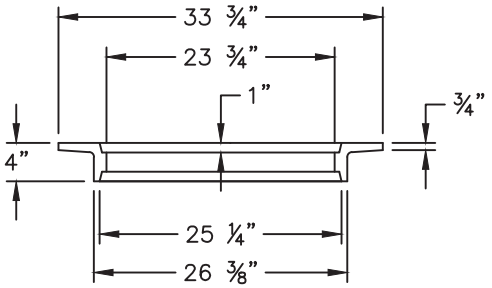




BEEHIVE GRATE



24"X4" REVERSIBLE MANHOLE FRAME



SECTION A-A

NOTES:

1. RIM ELEVATION MUST PROVIDE FOR DESIGN PONDING DEPTH BEFORE ALLOWING OVERFLOW AND WILL BE SPECIFIED IN THE PLANS.
2. CASTING SHALL BE PACIFIC MARINE MODEL R-2510-A BEEHIVE GRATE WITH MODEL R-1761 HEAVY DUTY FRAME, OR APPROVED EQUAL.
3. DRILL 2" DEEP HOLES INTO PIPE WALL AND EPOXY #4 REBAR U-BOLT (2"X4") IN HOLES.
4. SECURE GRATE IN PLACE WITH 54" OF 3/16" DIA. STAINLESS STEEL WIRE ROPE. LOOP ENDS OF WIRE ROPE AROUND U-BOLT AND GRATE. CRIMP EACH END OF WIRE ROPE WITH 3" OVERLAP.
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE. SEE SECTION 00445.48 FOR MORE INFORMATION.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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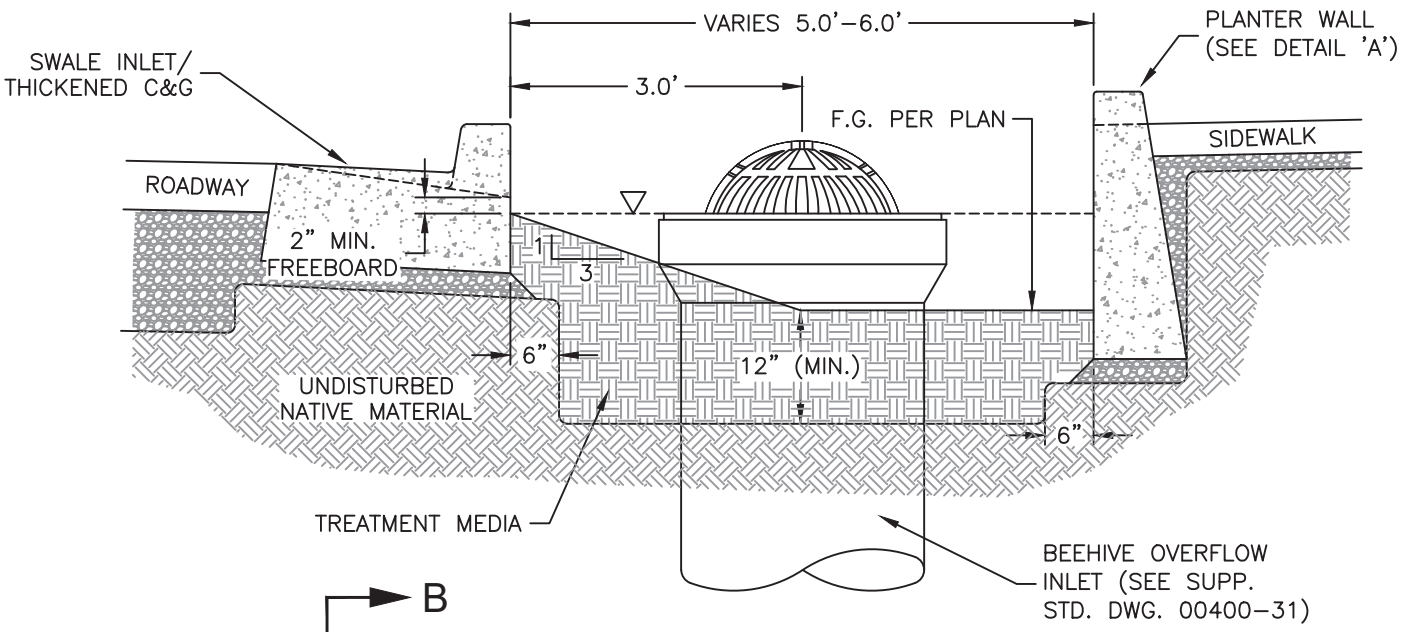
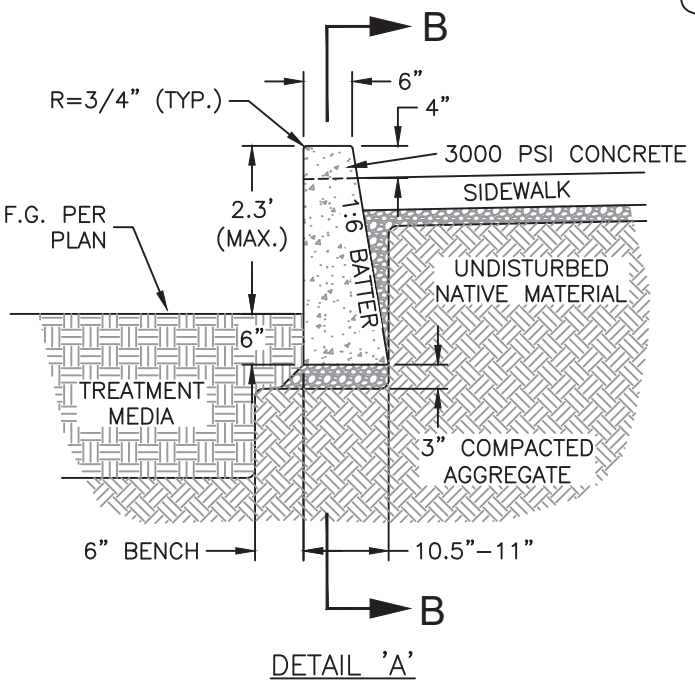
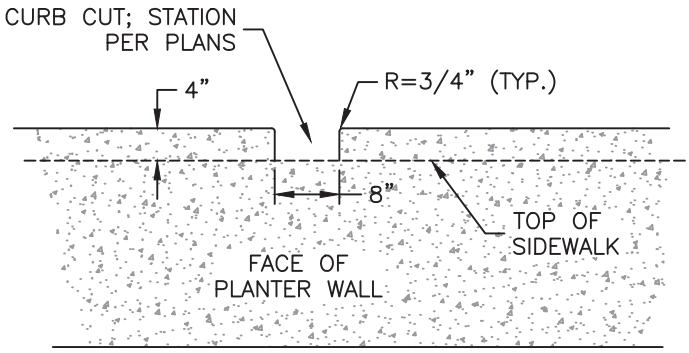
BEEHIVE OVERFLOW INLET

DRAWING NO: 00400-31





DETAIL 'A'



SECTION B–B – SIDEWALK CURB NOTCH

NOTES:

1. OVERFLOW AND SWALE INLETS ARE REQUIRED AT INTERVALS SPECIFIED IN THE PROJECT PLANS. SEE SUPP. STD. DWG. 00400–30 AND 31.
2. A MINIMUM OF 2" OF FREEBOARD MUST BE MAINTAINED BETWEEN THE LOW POINT OF THE SWALE INLET AND THE OVERFLOW ELEVATION OF BEEHIVE INLETS.
3. TREATMENT MEDIA SHALL MEET APPLICABLE SPECIFICATION REQUIREMENTS; SEE SUPP. STD. SPECIFICATION 00431.
4. UNLESS OTHERWISE INDICATED IN THE PROJECT PLANS, TREATMENT MEDIA SHALL BE PLACED AT A FLAT GRADE (LONGITUDINALLY) WITH CHECK DAMS AS REQUIRED (SEE SUPP. STD. DWG. 00400–34). TREATMENT MEDIA SHALL BE SLOPED TO CENTER OF THE SWALE AS SHOWN ABOVE.
5. THE STORM WATER QUALITY FEATURE SHOWN HERE IS ONE EXAMPLE OF A STORM WATER QUALITY FEATURE. OTHER FEATURES SUCH AS SPECIALIZED CATCH BASINS OR MANHOLES MAY BE ACCEPTED ON A CASE BY CASE BASIS.

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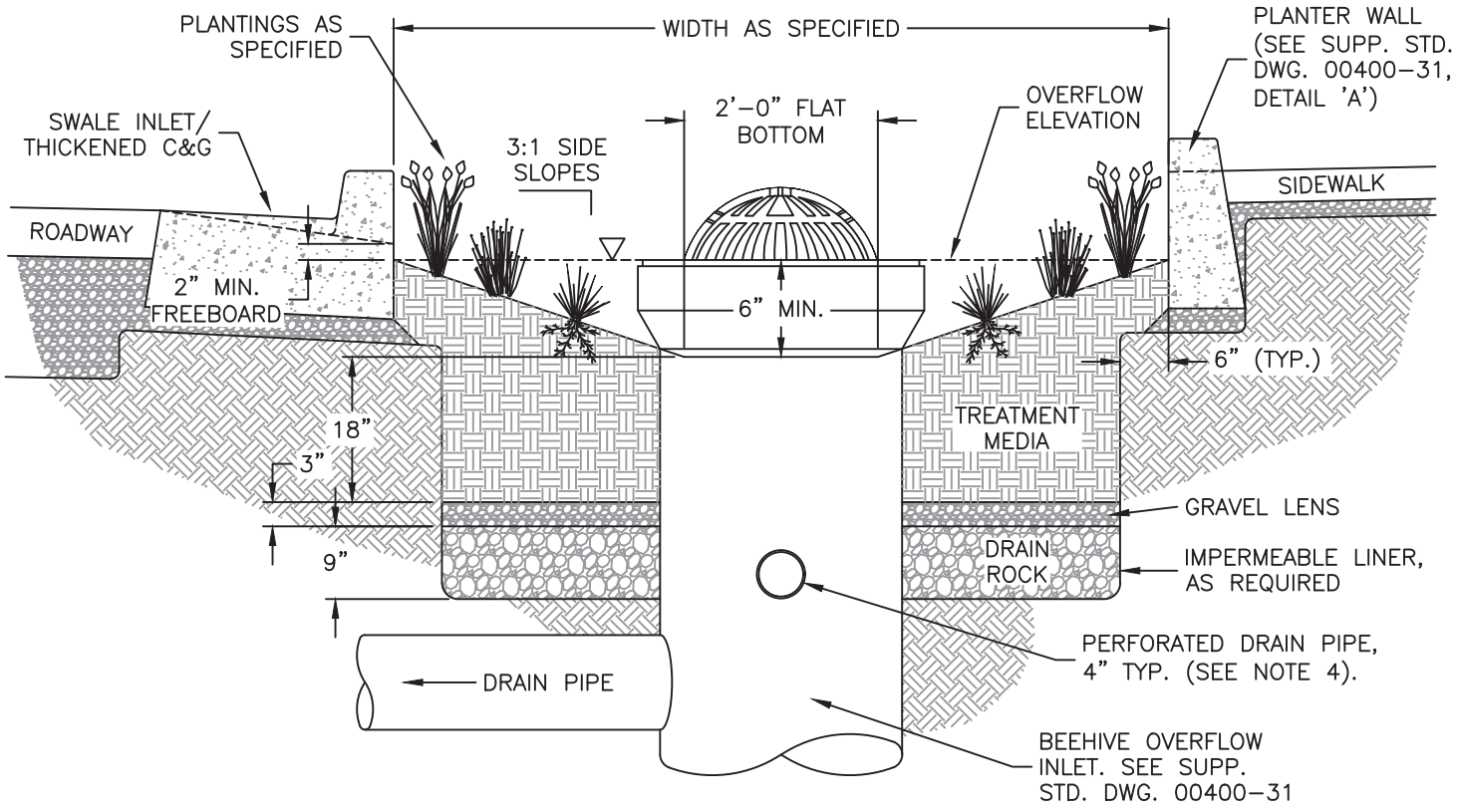
STORM WATER QUALITY PLANTER

DRAWING NO: 00400-32



NOTES:

1. OVERFLOW AND SWALE INLETS ARE REQUIRED AT INTERVALS SPECIFIED IN THE PROJECT PLANS. SEE SUPP. STD. DWG. 00400-30 AND 31.
2. A MINIMUM OF 2" OF FREEBOARD MUST BE MAINTAINED BETWEEN THE LOW POINT OF THE SWALE INLET AND THE OVERFLOW ELEVATION OF THE BEEHIVE INLET.
3. ALL MATERIALS USED (PLANTINGS, TREATMENT MEDIA, GRAVEL LENS, DRAIN ROCK AND IMPERMEABLE LINER) SHALL MEET APPLICABLE SPECIFICATION REQUIREMENTS. SEE SUPP. STD. SPECIFICATION 00431.
4. IN UNLINED SWALES, THE BOTTOM OF THE PERFORATED DRAIN PIPE SHALL BE SET AT 2 1/2" ABOVE BOTTOM OF DRAIN ROCK LAYER. FOR LINED SWALES, THE PERFORATED PIPE SHALL BE SET AT THE BASE OF THE DRAIN ROCK LAYER.
5. UNLESS OTHERWISE INDICATED IN THE PROJECT PLANS, TREATMENT MEDIA, DRAIN ROCK, AND PERFORATED DRAIN PIPE SHALL BE PLACED AT A FLAT GRADE (LONGITUDINALLY) WITH CHECK DAMS AS REQUIRED (SEE SUPP. STD. DWG. 00400-34). TREATMENT MEDIA SHALL BE SLOPED TO CENTER OF THE SWALE AS SHOWN ABOVE.
6. THE STORM WATER QUALITY FEATURE SHOWN HERE IS ONE EXAMPLE OF A STORM WATER QUALITY FEATURE. OTHER FEATURES SUCH AS SPECIALIZED CATCH BASINS OR MANHOLES MAY BE ACCEPTED ON A CASE BY CASE BASIS.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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December, 2021

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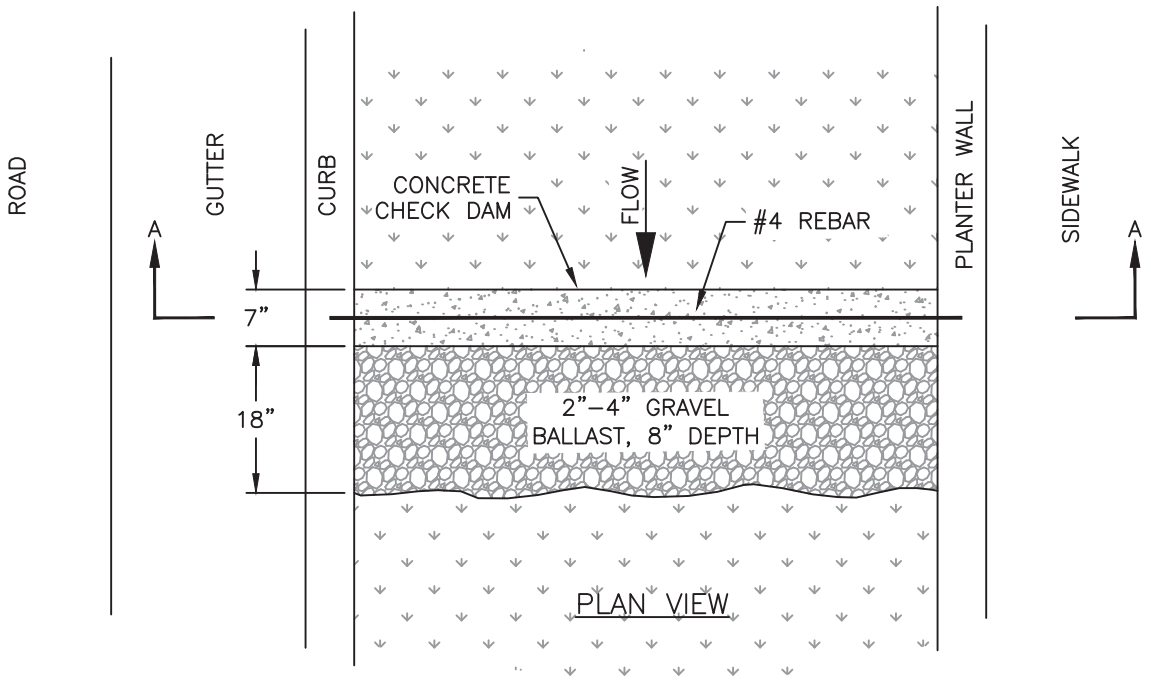
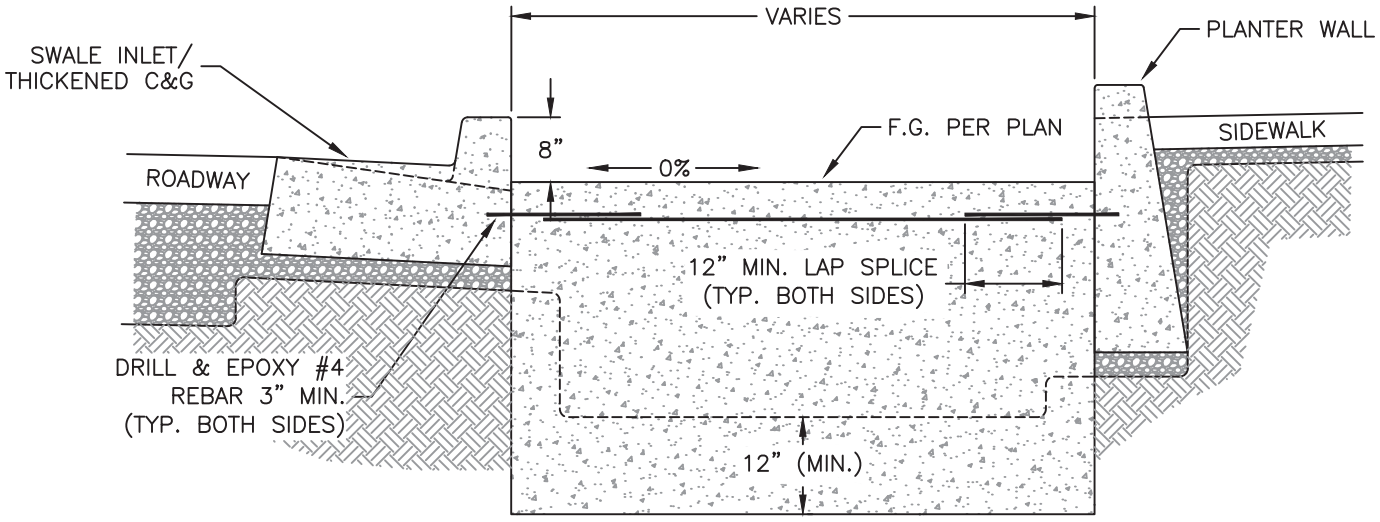
STORM WATER QUALITY SWALE

DRAWING NO: 00400-33





SECTION A–A

NOTES:

1. CONCRETE SHALL BE 3000 PSI (SEE SECTION 00440).
2. REBAR SHALL BE GRADE 60 (SEE SECTION 02510).
3. GRAVEL BALLAST SHALL BE CRUSHED, OPEN GRADED 2"–4" (SEE SECTION 02650).
4. STATIONING AND FINISH GRADE ELEVATION FOR CHECK DAMS WILL BE PER PLANS.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING

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STORM WATER QUALITY FEATURE CHECK DAM

DRAWING NO: 00400-34