CONSTRUCTION STANDARDS & DETAILS FOR PUBLIC WORKS CONSTRUCTION

Approved by Moore City Council on September 18, 2023

Revision 1: Rural Residential Street Section, Approved July 7, 2025

www.cityofmoore.com

2023

City of Moore- Community Development Department
ROW Division
301 N. Broadway
Moore, OK 73160
405-793-5051
ROWPermits@cityofmoore.com

100 SERIES – GENERAL INFORMATION

200 SERIES – STREET INFORMATION

200 SERIES – STREET INFORMATION (CONT'D)

DETAIL NUMBER	TITLE
219–1	ALTERNATE CURB INLET NO. 1 (1 OF 4)
219–2	ALTERNATE CURB INLET NO. 1 (2 OF 4)
219–3	ALTERNATE CURB INLET NO. 1 (3 OF 4)
219–4	ALTERNATE CURB INLET NO. 1 (4 OF 4)
220–1	ALTERNATE CURB INLET NO. 2 (1 OF 4)
220–2	ALTERNATE CURB INLET NO. 2 (2 OF 4)
220–3	ALTERNATE CURB INLET NO. 2 (3 OF 4)
220–4	ALTERNATE CURB INLET NO. 2 (4 OF 4)

300 SERIES – WATER INFORMATION

DETAIL NUMBER	TITLE
300	GENERAL NOTES
301–1	INSTALLATION OF HYDRANT ON EXISTING MAIN
301–2	INSTALLATION OF HYDRANT ON NEW MAIN
303	FIRE HYDRANT NOZZLE THREADS
304	TRACER WIRE WEATHER HEAD DETAILS
305	AIR VACUUM AND RELEASE VALVES
306	2–IN BLOW OFF
307	STANDARD DETAIL FOR BORING UNDER ARTERIAL STREETS
310	CAST IRON VALVE BOX AND LID
311–1	METER PIT FRAME AND COVER (1 of 2)
311–2	METER PIT FRAME AND COVER (2 of 2)
312	DETAIL OF 4–IN AIR VACUUM AND RELEASE VALVE
313	FIRE HYDRANT PROTECTION
314	TYPICAL METER SETTING
315–1	WATER LINE DETAIL & METER PIT (1 OF 3)
315–2	WATER LINE DETAIL & METER PIT (2 OF 3)
315–3	WATER LINE DETAIL & METER PIT (3 OF 3)
316–1	RESTRAINED JOINT DETAILS (1 OF 5)
316–3	RESTRAINED JOINT DETAILS (2 OF 5)
316–4	RESTRAINED JOINT DETAILS (3 OF 5)
316–5	RESTRAINED JOINT DETAILS (4 OF 5)
316–6	RESTRAINED JOINT DETAILS (5 OF 5)

400 SERIES – SEWER INFORMATION

DETAIL NUMBER	TITLE
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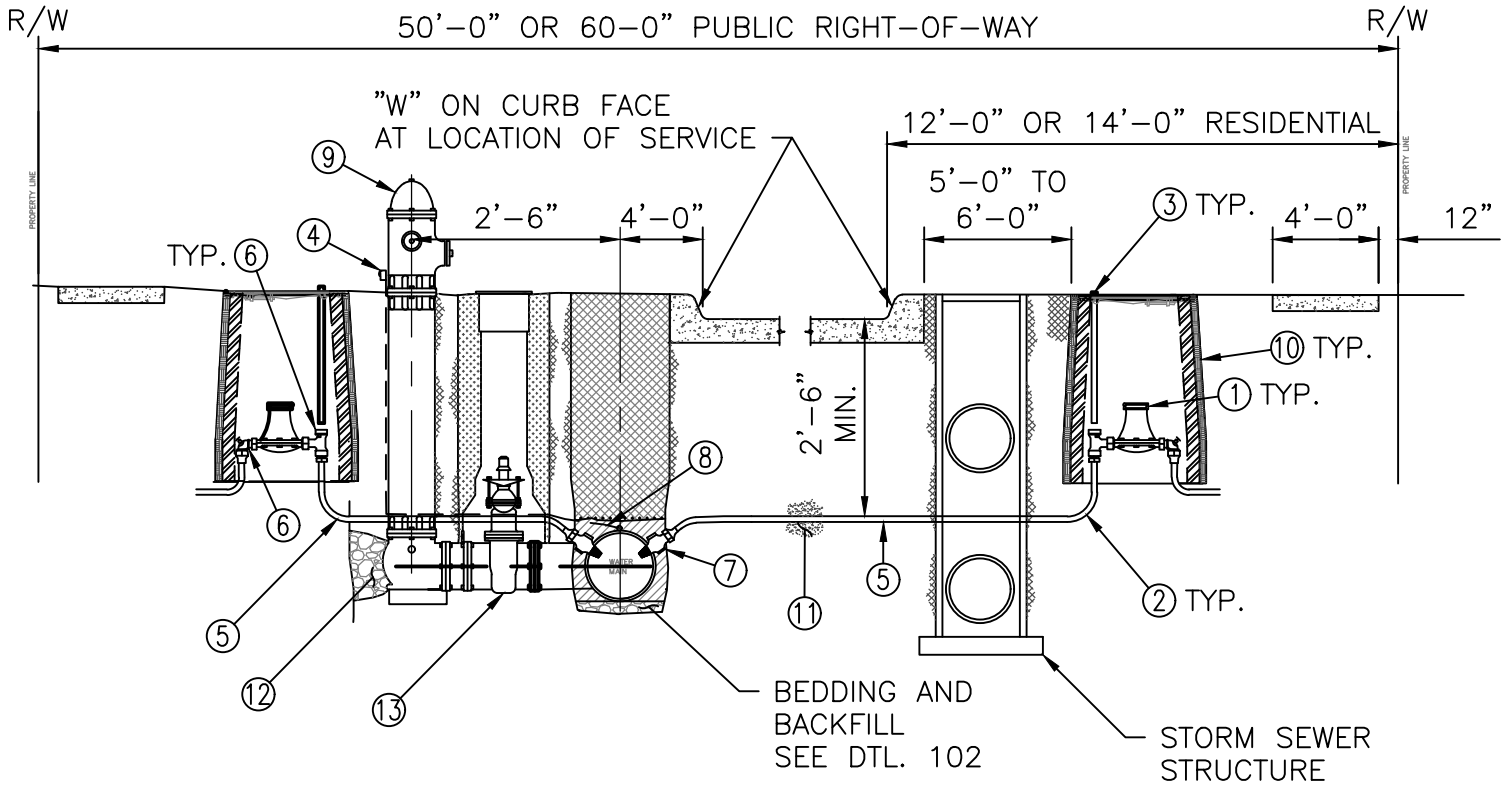
400–2	SANITARY SEWER MANHOLE (2 OF 10)
400–3	SANITARY SEWER MANHOLE (3 OF 10)
400–4	SANITARY SEWER MANHOLE (4 OF 10)
400–5	SANITARY SEWER MANHOLE (5 OF 10)
400–6	SANITARY SEWER MANHOLE (6 OF 10)
400–7	SANITARY SEWER MANHOLE (7 OF 10)
400–8	SANITARY SEWER MANHOLE (8 OF 10)
400–9	SANITARY SEWER MANHOLE (9 OF 10)
400–10	SANITARY SEWER MANHOLE (10 OF 10)
401–1	MANHOLE RING & COVER (1 OF 4)
401–2	MANHOLE RING & COVER (2 OF 4)
401–3	MANHOLE RING & COVER (3 OF 4)
401–4	MANHOLE RING & COVER (4 OF 4)
402	STANDARD DETAIL FOR ABANDONING MANHOLES
404–1	SERVICE CONNECTION INSTALLATION (1 of 2)
404–2	SERVICE CONNECTION INSTALLATION (2 of 2)
405	CONCRETE CRADLE AND ARCH FOR RIGID PIPES

UTILITY LOCATION STANDARD



① CITY PROVIDED WATER METER.

② 1" SERVICE LINE FOR DOUBLE SERVICE 3/4" LINE FOR SINGLE SERVICE CONNECTION.

③ 2"x4"x4' BOARD LOCATE END OF SERVICE LINE (TEMPORARY).

④ TRACER WIRE WEATHER HEAD.

⑤ WATER SERVICE PIPING PER SEC. 966.

⑥ METER STOP. FOR METERS LARGER METER STOP TO BE PLACED ON CUSTOMER SIDE OF METER.

⑦ CORPORATION STOP.

⑧ TRACER WIRE PER SEC. 971.

⑨ FIRE HYDRANT PER SEC. 516.

⑩ PLASTIC METER BOX.

⑪ SAND BACKFILL IN SERVICE LINE TRENCH.

⑫ TYPE A AGGREGATE PER SEC. 923.

⑬ 6" GATE VALVE AND BOX PER SEC. 520.

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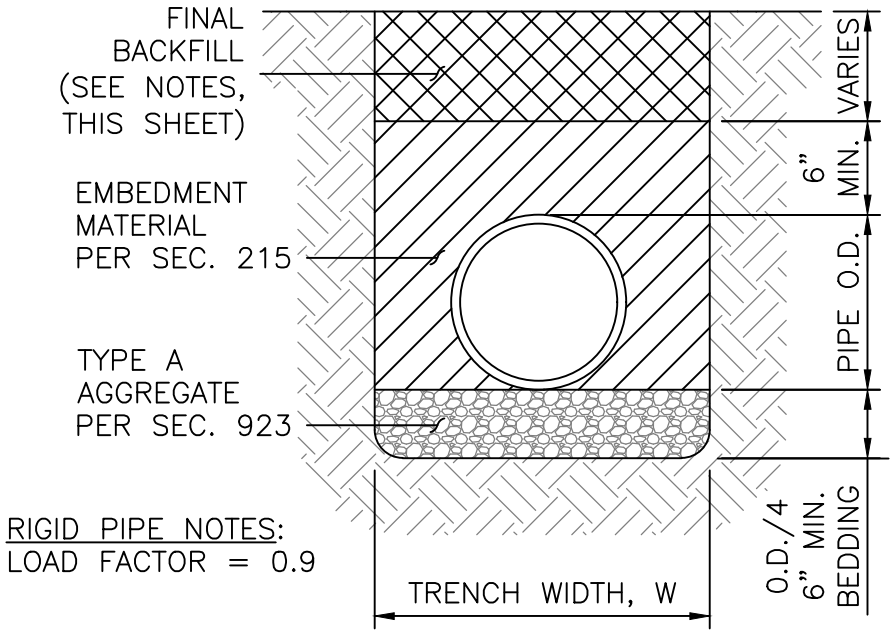
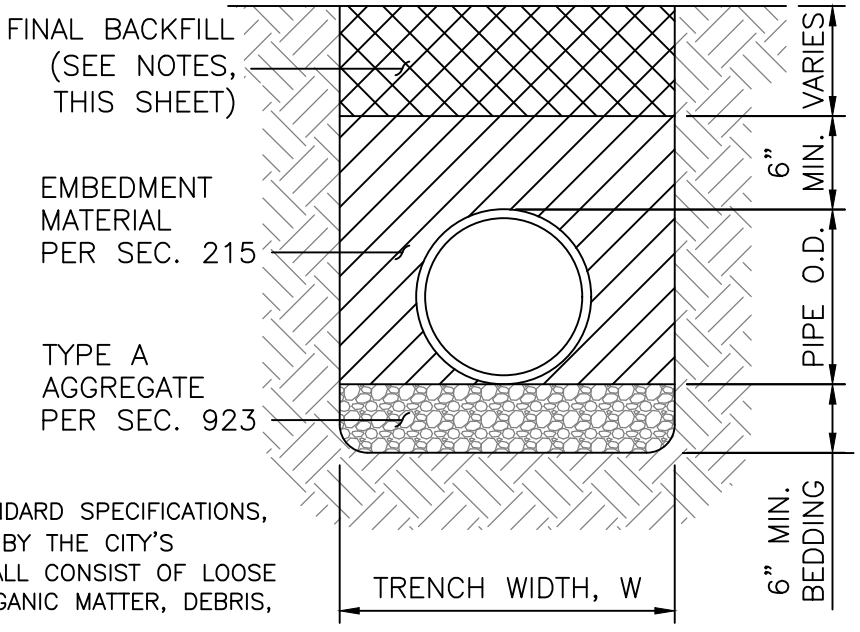
DETAIL NO.
101

TRENCH WIDTH TABLE		
NOM. PIPE DIA. (IN.)	TRENCH WIDTH (FT.)	
	MIN.	MAX.
£12	3.00	5.00
15	3.25	5.00
18	3.50	5.00
21	3.75	5.25
24	4.00	6.00
27	4.25	6.25
30	4.50	6.75
33	4.75	8.25
36	5.25	9.00
42	6.25	9.50
48	7.00	10.00
54	8.00	10.50
60	9.00	11.00
66	9.75	11.50
72	10.50	12.00
78	10.50	12.50
84	11.00	13.00
90	11.50	13.50
96	12.00	14.00
102	12.50	14.50



RIGID PIPE NOTES:
LOAD FACTOR = 0.9

RIGID PIPE



FLEXIBLE PIPE

GENERAL NOTES:

1. PER SECTION 212.04.04 OF THE STANDARD SPECIFICATIONS, FINAL BACKFILL SHALL BE APPROVED BY THE CITY'S DESIGNATED REPRESENTATIVE AND SHALL CONSIST OF LOOSE EARTH, FREE OF CLODS, STONES, ORGANIC MATTER, DEBRIS, OR OTHER OBJECTIONABLE MATERIAL.

2. FOR INSTALLATIONS BENEATH ROADWAYS AND OTHER PAVED AREAS, FINAL BACKFILL SHALL BE TYPE A AGGREGATE PER SECTION 923 OF THE STANDARD SPECIFICATIONS.

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TRENCH DETAILS

DETAIL NO.
102

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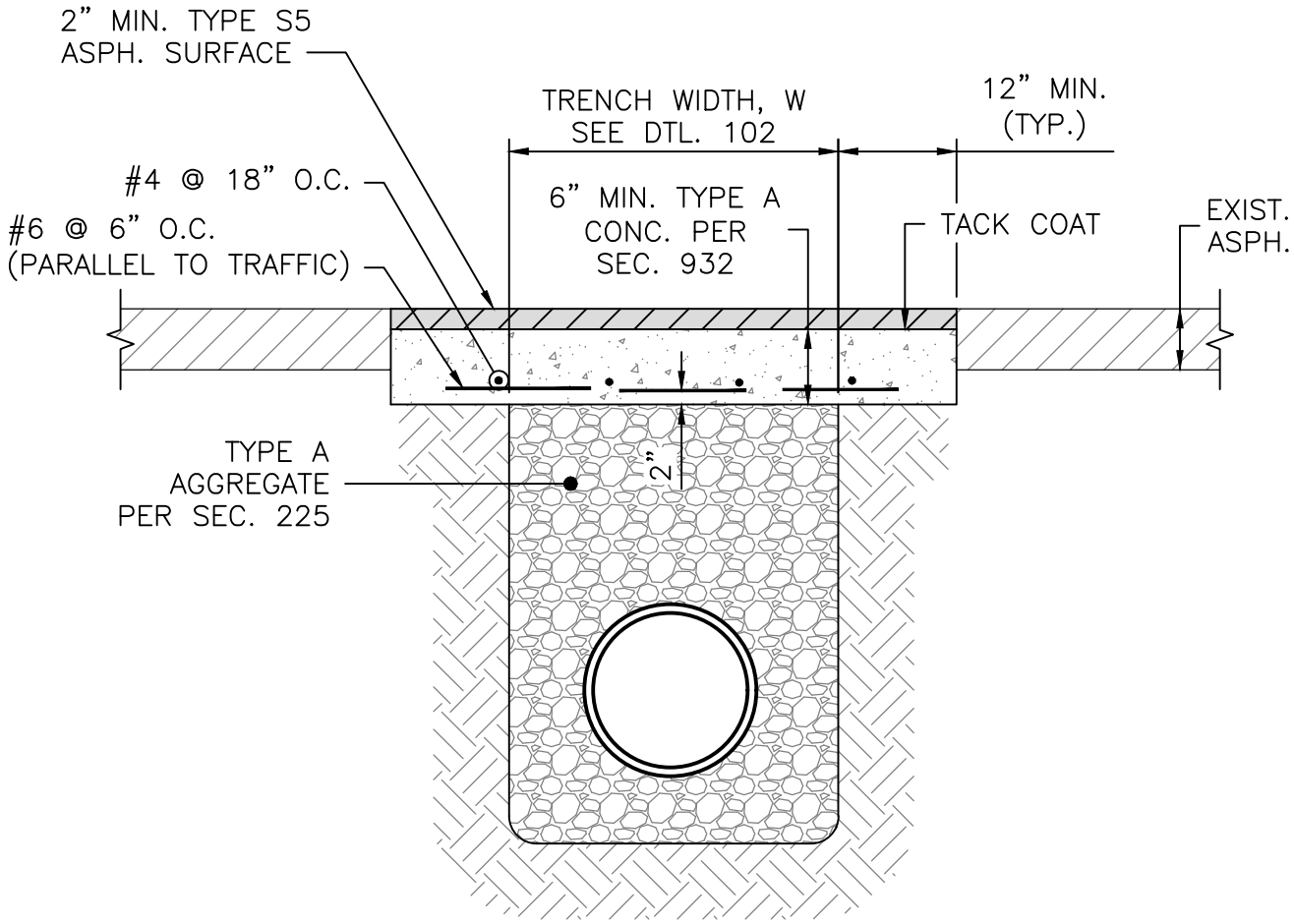
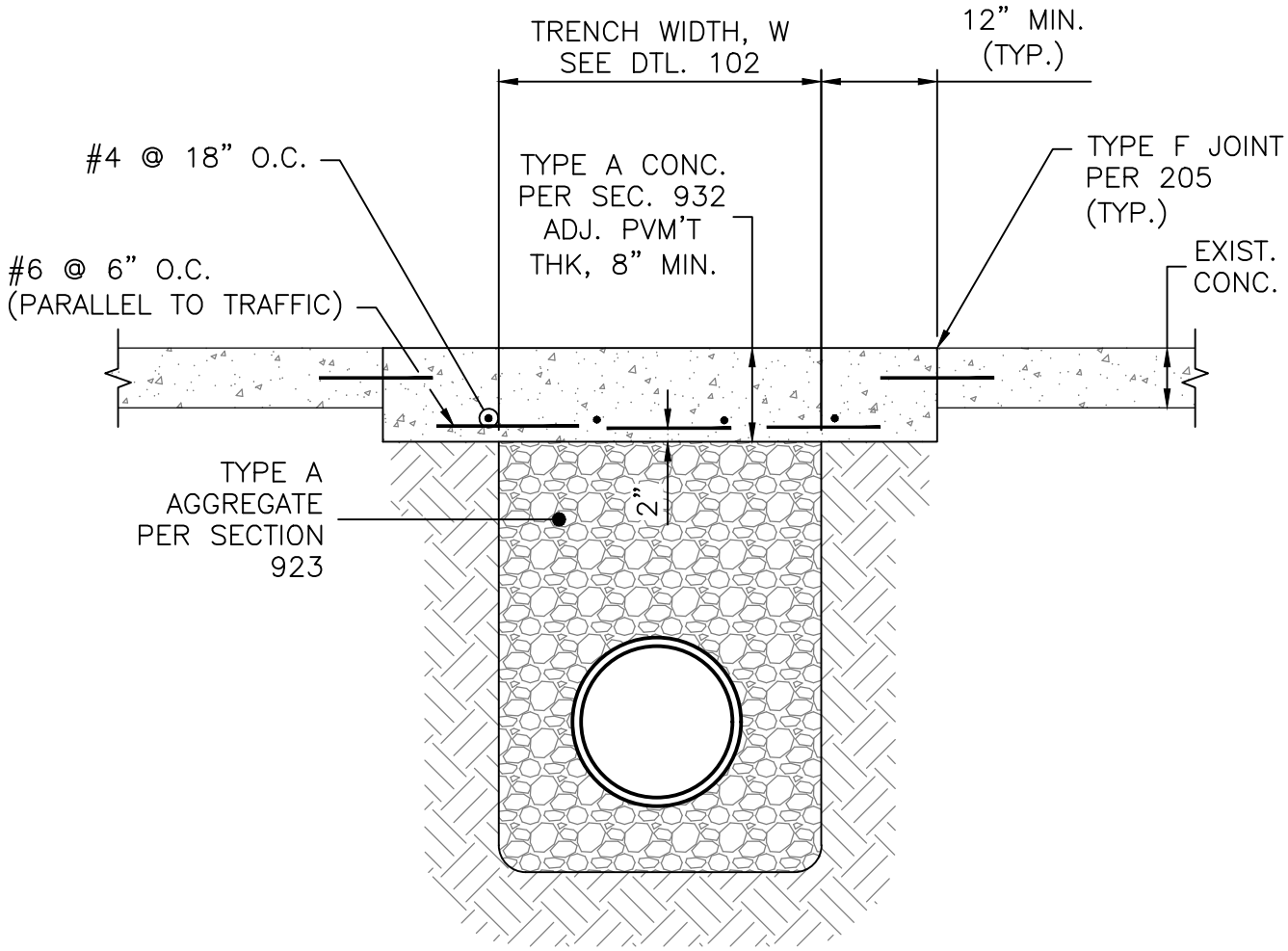


ASPHALT PAVEMENT

CITY of MOORE OKLAHOMA	FLEXIBILE PAVEMENT REPAIR	DETAIL NO. 103-1 APPROVED 09/18/2023

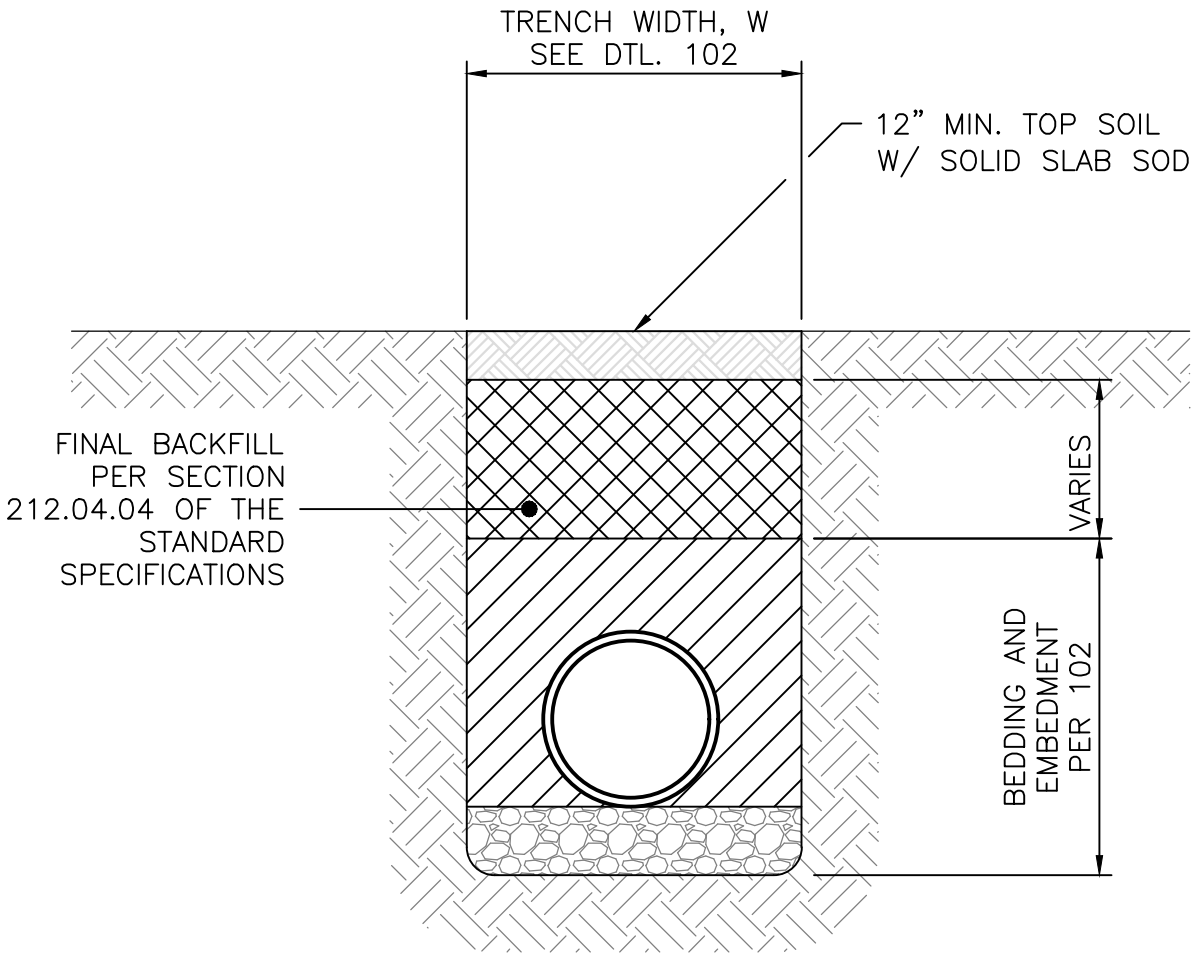


CONCRETE PAVEMENT

NOTES:

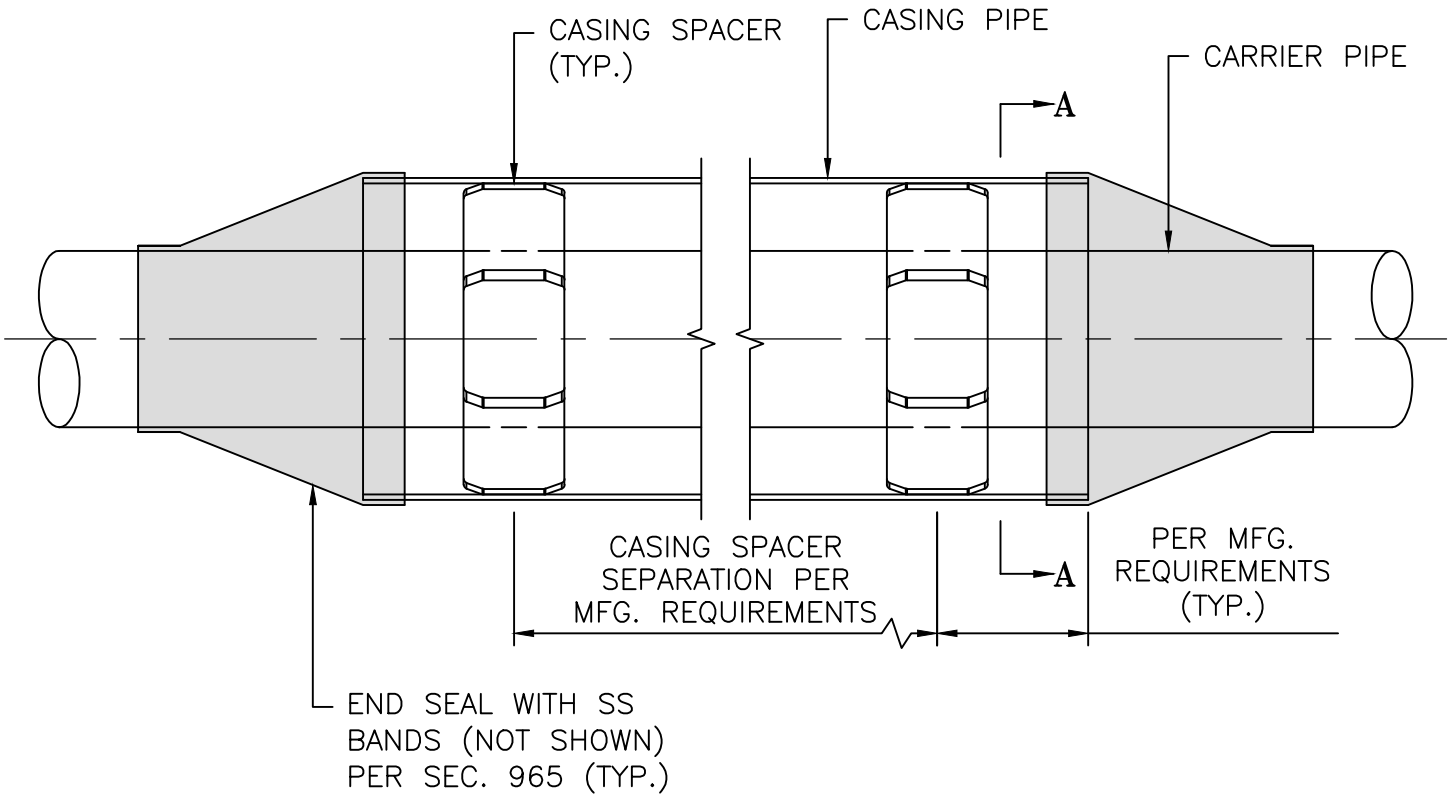
1. ALL CONCRETE SHALL BE TYPE A PER SECTION 932.
2. STEEL SHALL BE PER SECTION 941.
3. FOR ASPHALT ROADWAYS, ALL SURFACES IN CONTACT WITH NEW ASHPALT PAVEMENT SHALL BE TACK COATED PER SECTION 313.

CITY of MOORE OKLAHOMA	RIGID PAVEMENT REPAIR	DETAIL NO. 103-2 APPROVED 09/18/2023

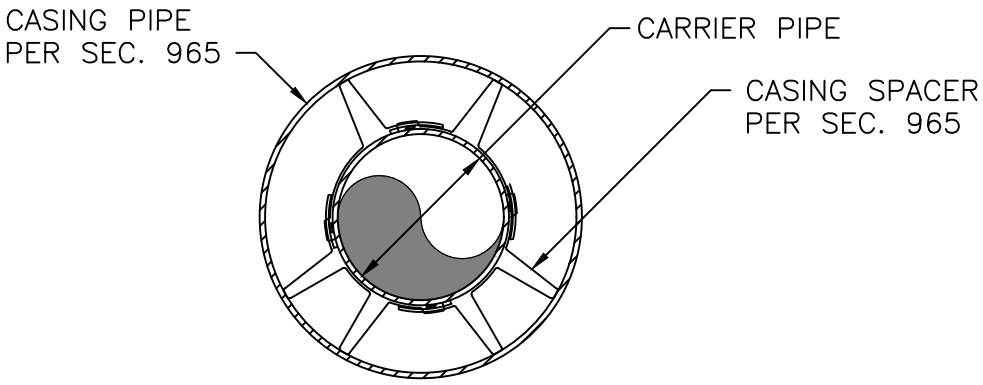


FRONT YARD SEWERS

CITY of MOORE OKLAHOMA	YARD REPAIR	DETAIL NO. 103-3 APPROVED 09/18/2023



NOTE:
1. CASING PIPE DIAMETERS PER SEC. 965.



SECTION A–A

CITY of MOORE OKLAHOMA

STANDARD DETAIL FOR BORING

DETAIL NO.
104-1

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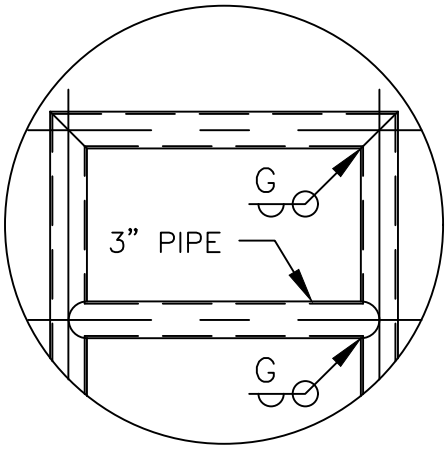
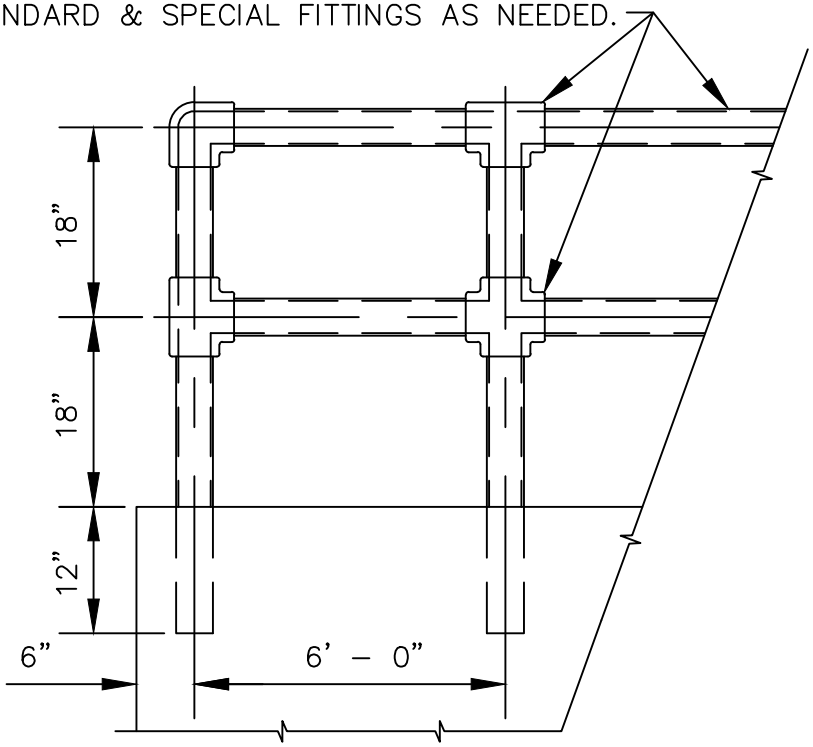


ALTERNATE DETAIL

(USING WELD CONNECTIONS ON PIPE GUARDRAILS)

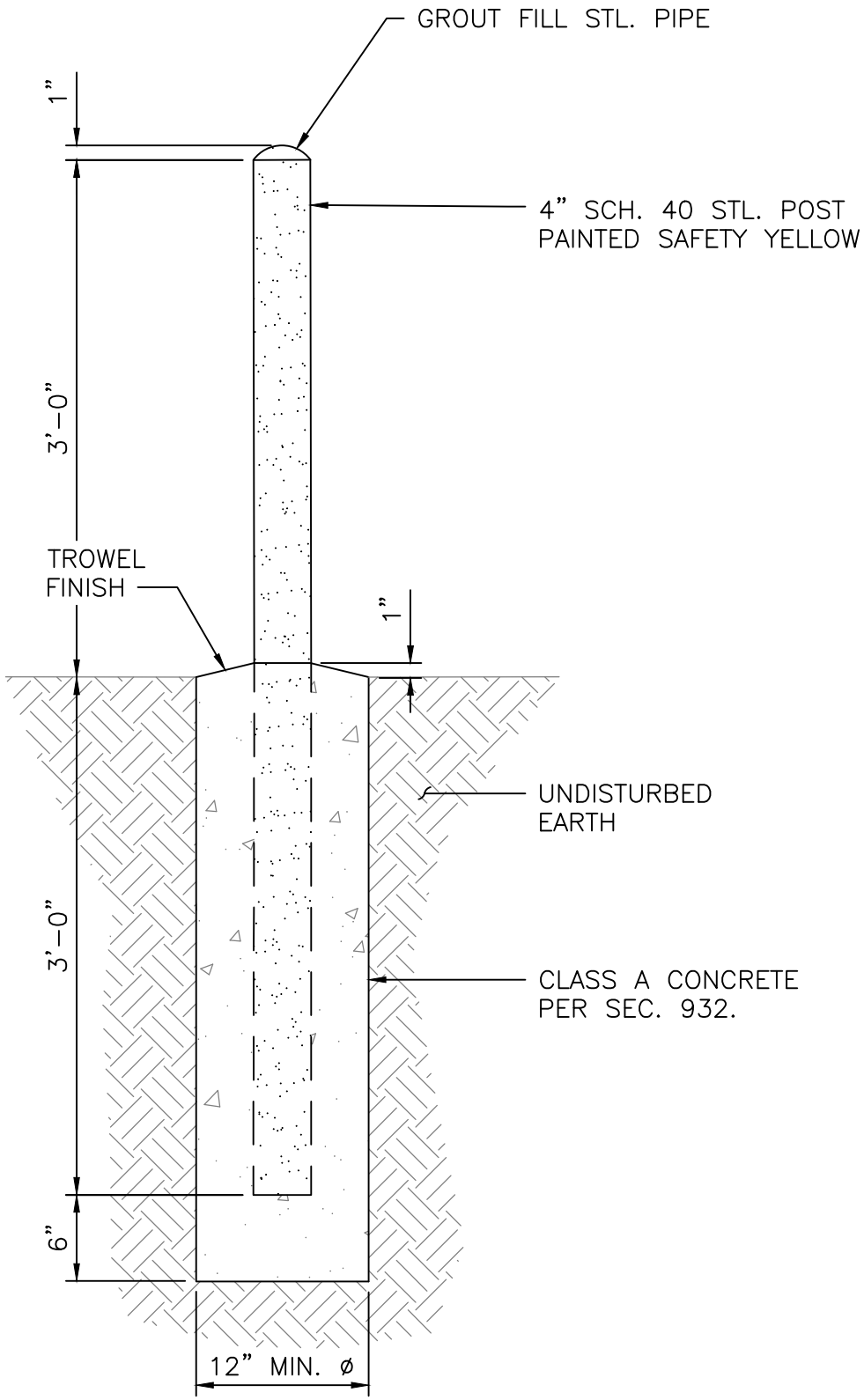
3" I.D. GALV. STEEL PIPE WITH PLAIN GALV. FITTINGS.
USE STANDARD & SPECIAL FITTINGS AS NEEDED.



PIPE GUARDRAIL DETAIL

NOTES:

1. WELD CONNECTIONS MAY BE USED FOR PIPE HANDRAIL. WELD CONNECTIONS SHALL BE THOROUGHLY CLEANED OF ALL LOOSE SCALE, GROUND SMOOTH & SPOT POINTED WITH TWO COATS OF ALUMINUM PAINT.



GUARD POST DETAIL

DETAIL NO.
106

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09/18/2023

PAVING NOTES

GENERAL:

A. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE CITY OF MOORE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

B. TRENCHES UNDER PROPOSED PAVING SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH COMPACTED TYPE A AGGREGATE PER SECTION 923.

C. TYPE A AGGREGATE BASE COURSE (MATERIALS AND CONSTRUCTION METHODS) SHALL CONFORM TO SECTION 225 AND SECTION 923.

D. GUTTER SLOPES SHALL NOT BE LESS THAN 0.5%

E. THESE TYPICAL SECTIONS ARE MINIMUM DESIGNS. ACTUAL PAVING SECTIONS SHALL BE DETERMINED BY A QUALIFIED TESTING LAB OR GEOTECHNICAL ENGINEER. IN NO CASE SHALL THE PAVING SECTION BE LESS THAN THAT SHOWN ON THIS STANDARD.

F. ACCEPTABLE MATERIALS FOR SUBGRADE STABILIZATION INCLUDE FLY ASH, CEMENT, CEMENT SLURRY OR CEMENT KILN DUST (CKD), AND LIME PER CHAPTER 900. THE SELECTION OF STABILIZATION MATERIAL SHALL BE DETERMINED BY A QUALIFIED TESTING LAB AND SUBMITTED TO THE CITY FOR APPROVAL. CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF MOORE STANDARD SPECIFICATIONS.

G. A PRIME COAT SHALL BE APPLIED TO APPROVED OR ACCEPTED ASPHALT LAYERS, AGGREGATE BASE COURSE, OR TREATED SUBGRADE PER SECTION 302. TACK COAT MAY BE USED WHEN APPROVED BY THE CITY.

H. TYPICAL SECTIONS SHALL CONTROL WHEN THERE IS A CONFLICT WITH TYPICAL NOTES.

CONCRETE PAVING:

A. JOINT LAYOUT PLANS SHALL INDICATE AND DESCRIBE IN DETAIL THE PROPOSED JOINTING PLAN FOR CONTRACTION JOINTS, EXPANSION JOINTS, TIE JOINTS, AND CONSTRUCTION JOINTS, IN ACCORDANCE WITH THE FOLLOWING:

   1. INDICATE LOCATIONS OF CONTRACTION JOINTS, CONSTRUCTION JOINTS, TIE JOINTS, AND EXPANSION JOINTS. SPACING BETWEEN JOINTS SHALL NOT EXCEED THE LESSER OF 24 TO 30 TIMES THE PAVEMENT THICKNESS OR 15 FEET, UNLESS NOTED OTHERWISE OR APPROVED BY THE CITY'S DESIGNATED REPRESENTATIVE.

   2. THE LARGER DIMENSION OF A PANEL SHALL NOT BE GREATER THAN 125% OF THE SMALLER DIMENSION.

   3. THE ANGLE BETWEEN TWO INTERSECTING JOINTS SHALL BE NO LESS THAN 80 DEGREES, UNLESS NOTED OTHERWISE OR APPROVED BY THE CITY'S DESIGNATED REPRESENTATIVE.

   4. JOINTS SHALL INTERSECT PAVEMENT–FREE EDGES AT A 90–DEGREE ANGLE THE PAVEMENT EDGE AND SHALL EXTEND STRAIGHT FOR A MINIMUM OF 1.5–FEET FROM THE PAVEMENT EDGE, WHERE POSSIBLE.

PAVING NOTES (2 OF 2)

CONCRETE PAVING (CONT'D):

5. ALIGN JOINTS OF ADJACENT PANELS, WHERE POSSIBLE.
6. ALL TRANSVERSE JOINTS SHALL EXTEND THROUGH THE CURBS AND SHALL BE CONTINUOUS ACROSS PAVEMENTS.
7. WHEN A JOINT FALLS WITHIN 5 FT. OF, OR CONTACTS BASINS, MANHOLES, OR OTHER STRUCTURES, SHORTEN ONE OR MORE PANELS EITHER SIDE OF THE OPENING TO PERMIT JOINT TO FALL ON THE ROUND STRUCTURES AND AT CORNERS OF RECTANGULAR STRUCTURES.
8. EXPANSION JOINT MATERIAL PER SECTION 932.08 WILL NOT BE REQUIRED EXCEPT AT LOCATIONS WHERE PAVEMENT ABUTS BUILDINGS, FOUNDATIONS, MANHOLES, AND OTHER FIXED OBJECTS UNLESS OTHERWISE NOTED SHOWN ON THE JOINT LAYOUT PLAN. EXPANSION JOINT MATERIAL SHALL EXTEND COMPLETELY THROUGH THE CURB AND SLAB.
9. ODD-SHAPED PANELS OR PANELS NOT MEETING THE ABOVE DIMENSIONAL REQUIREMENTS SHALL BE REINFORCED WITH DEFORMED REBAR. MAXIMUM DEFORMED BAR SPACING SHALL MEET ACI 318 REQUIREMENTS FOR MINIMUM. REINFORCEMENT AREA TO GROSS CONCRETE AREA. AREA OF STEEL PER LINEAR FOOT SHALL BE GREATER THAN OR EQUAL TO PAVEMENT THICKNESS (IN INCHES) TIMES 12-INCHES TIMES 0.0018.
10. ALL JOINTS SHALL BE CONSTRUCTED ACCORDING TO THESE STANDARD DETAILS.

B. TRANSVERSE GROOVING (TINED FINISH) WILL NOT BE REQUIRED EXCEPT ON ARTERIAL STREETS.

ASPHALT PAVING

A. DENSITY TESTS OF ASPHALT WILL BE REQUIRED AS OUTLINED IN THE CITY OF MOORE STANDARD SPECIFICATIONS AND SUBDIVISION REGULATIONS.

B. ALL NEW CONCRETE, INCLUDING CURB FACES, EXISTING ASPHALT, OR EXISTING CONCRETE SURFACES, THAT WILL BE IN CONTACT WITH NEW ASPHALT, SHALL BE TACK COATED PER SECTION 302 PRIOR TO LAYING ASPHALT.

SIDEWALK NOTES

CURB RAMP NOTES:

A. THE STANDARD CURB–RAMP LAY–OUT SHALL BE USED WHENEVER POSSIBLE. ANY DEVIATION FROM THE STANDARD CURB–RAMP PLANS SHALL BE APPROVED BY THE CITY ON A CASE BY CASE BASIS.

B. THE STANDARD CURB–RAMP DRAWINGS SUPERSEDE ALL PREVIOUS DRAWINGS AND SHALL BE PART OF THE NEW CURB RAMP STANDARD DRAWINGS.

C. ALL ALTERNATE RAMPS SHALL BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.

D. CURB RAMP IS DEFINED AS THE ENTIRE CONCRETE SURFACE WHICH INCLUDES THE RAMP & FLARED SIDES. THE 4'–0" WIDE CENTER PORTION, INCLUDING THE DETECTABLE SURFACE, SHALL HAVE THE SLOPED PLANE OF 8.33% (1:12) MAXIMUM, AND CROSS SLOPE, NOT TO EXCEED 2%. THE "FLARED SIDE" OF THE RAMP AND SHALL LIE ON A SLOPE OF 10% (1:10) MAXIMUM MEASURED ALONG THE CURB. THE CURB RAMP SHALL HAVE A SURFACE TOLERANCE OF 1/4" PER 10 FOOT STRAIGHT EDGE MAXIMUM.

E. THE RAMP CENTER LINE AND PATH OF TRAVEL MUST BE PARALLEL TO THE SIDEWALK. THE FULL WIDTH OF THE RAMP SHALL LIE WITHIN THE CROSSWALK AREA. IT IS DESIRABLE THAT THE LOCATION OF THE RAMP BE AS CLOSE AS POSSIBLE TO THE CENTER OF THE CROSSWALK.

F. THE 4'–0" MIN. DISTANCE BETWEEN FLARED SIDES OF THE TWO ADJACENT CURB RAMPS MAY BE REDUCED TO 3'–0" WITH DOCUMENTATION OF HARDSHIP INDICATING LEGAL AND OR PHYSICAL CONSTRAINTS PROVIDED TO THE CITY ENGINEER.

G. EXISTING UTILITY BOXES AND COVERS SHALL BE ADJUSTED FLUSH WITH THE CURB RAMP SURFACE AND SHALL NOT STRADDLE ANY CHANGE IN PLANE OR MATERIAL. EXISTING UTILITY BOX FRAMES AND COVERS SHALL HAVE MATCHING SURFACE FINISH ON THE ENTIRE FRAME AND COVER. NEW UTILITY BOXES SHALL NOT BE PLACED WITHIN THE DETECTABLE BORDER.

H. THE SURFACE OF THE CURB RAMP AND DETECTABLE SURFACE MATERIAL SHALL BE STABLE, FIRM AND SLIP RESISTANT. THE CONCRETE CURB RAMP SURFACE SHALL BE BROOM FINISHED TRANSVERSE TO THE AXIS OF THE RAMP AND SHALL BE SLIGHTLY ROUGHER THAN THE FINISH OF THE ADJACENT SIDEWALK SURFACE.

I. A LEVEL LANDING 5'–0" DEEP, WITH A 2% MAXIMUM SLOPE IN EACH DIRECTION SHALL BE PROVIDED AT THE UPPER END OF EACH CURB RAMP TO ALLOW SAFE EGRESS FROM THE RAMP SURFACES. THE WIDTH OF THE LEVEL LANDING SHALL BE AT LEAST AS WIDE AS THE WIDTH OF THE RAMP.

J. WHEN VERTICAL OBSTRUCTIONS ARE PRESENT NEAR THE CURB AT THE END OF THE FLARED SIDE OR WHEN THE CURB–RAMP IS DIAGONAL TO THE CURB WHICH WILL RESULT IN AN EXTREMELY LONG FLARED SIDE SURFACE, THE AFFECTED FLARED SIDE MAY BE CUT AND TERMINATED PERPENDICULAR TO THE CURB, PROVIDED THAT THE MAXIMUM SLOPE OF 10% IS ACHIEVED ON EACH OF THE RESULTING PLANES.

CURB RAMP NOTES (CONT'D):

K. THE LENGTH OF RAMP MAY BE CONSTRUCTED UP TO 30 FEET LONG TO ACHIEVE THE SLOPE REQUIREMENT.

L. EXISTING VERTICAL UTILITY POLES OR STREET LIGHT POLES MAY BE INCORPORATED INTO THE FLARED SIDES, IF NECESSARY. THE VERTICAL OBSTRUCTION SHALL BE A MINIMUM OF 6 INCHES AWAY FROM THE EDGE OF THE RAMP. PEDESTRIAN CROSSWALK PUSH BUTTON POLES, FIRE DEPARTMENT CALL BOX POLES AND OTHER POLES WITH ACTIVATED DEVICES, MAY NOT BE PLACED IN THE CURB–RAMP AT ANY TIME. NO NEW VERTICAL OBSTRUCTIONS MAY BE LOCATED IN THE CURB RAMP OR THE GROOVED BORDER.

SIDEWALK NOTES:

A. MINIMUM SIDEWALK WIDTH SHALL BE 4'–0" FOR RESIDENTIAL; 5'–0" FOR COLLECTOR; 6'–0" FOR COMMERCIAL, INDUSTRIAL AND ARTERIAL; AND 6'–0" FROM BACK OF CURB TO EDGE OF SIDEWALK WHENEVER ADJACENT TO SECTION LINE STREETS, UNLESS APPROVED BY THE CITY OF MOORE.

B. SIDEWALK SLOPE SHALL BE MAXIMUM OF 2% CROSS SLOPE.

C. WHENEVER THE WIDTH OF THE SIDEWALK IS LESS THAN 5'–0", A 5' X 5' PASSING AREA WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION AT INTERVALS OF 100' SHALL BE INSTALLED.

D. WHENEVER CHANGING DIRECTION IN A SIDEWALK, INSTALL A 5' X 5' PASSING AREA WITH MAXIMUM 2% SLOPE IN ANY DIRECTION.

E. OBJECTS SUCH AS TREE BRANCHES, SIGNS, WATER FOUNTAINS, ETC. SHALL NOT PROTRUDE INTO THE SIDEWALK MORE THAN 4" AT THE HEIGHTS BETWEEN 27" AND 80".

RAMP NOTES:

A. WHEN THE RISE IN ELEVATION IS GREATER THAN 30" A SERIES OF RAMPS AND LANDINGS WILL BE REQUIRED.

B. LANDING SHALL BE 5'–0" IN LENGTH AND NO GREATER THAN 2% IN ANY DIRECTION.

C. THE MAXIMUM OF A RUN IS DETERMINED BY THE RISE (30" MAXIMUM) AND SLOPE, AS SHOWN IN THE FOLLOWING TABLE:

MAX. RISE	SLOPE	MAX. LENGTH	MAX. RISE	SLOPE	MAX. LENGTH
30–IN.	1:12	30.0–FT	30–IN.	1:16	40.0–FT.
30–IN.	1:13	32.5–FT.	30–IN.	1:17	42.5–FT.
30–IN.	1:14	35.0–FT.	30–IN.	1:18	45.0–FT.
30–IN.	1:15	37.5–FT.	30–IN.	1:19	47.5–FT.

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SIDEWALK NOTES CONT.

DETAIL NO.
201–2

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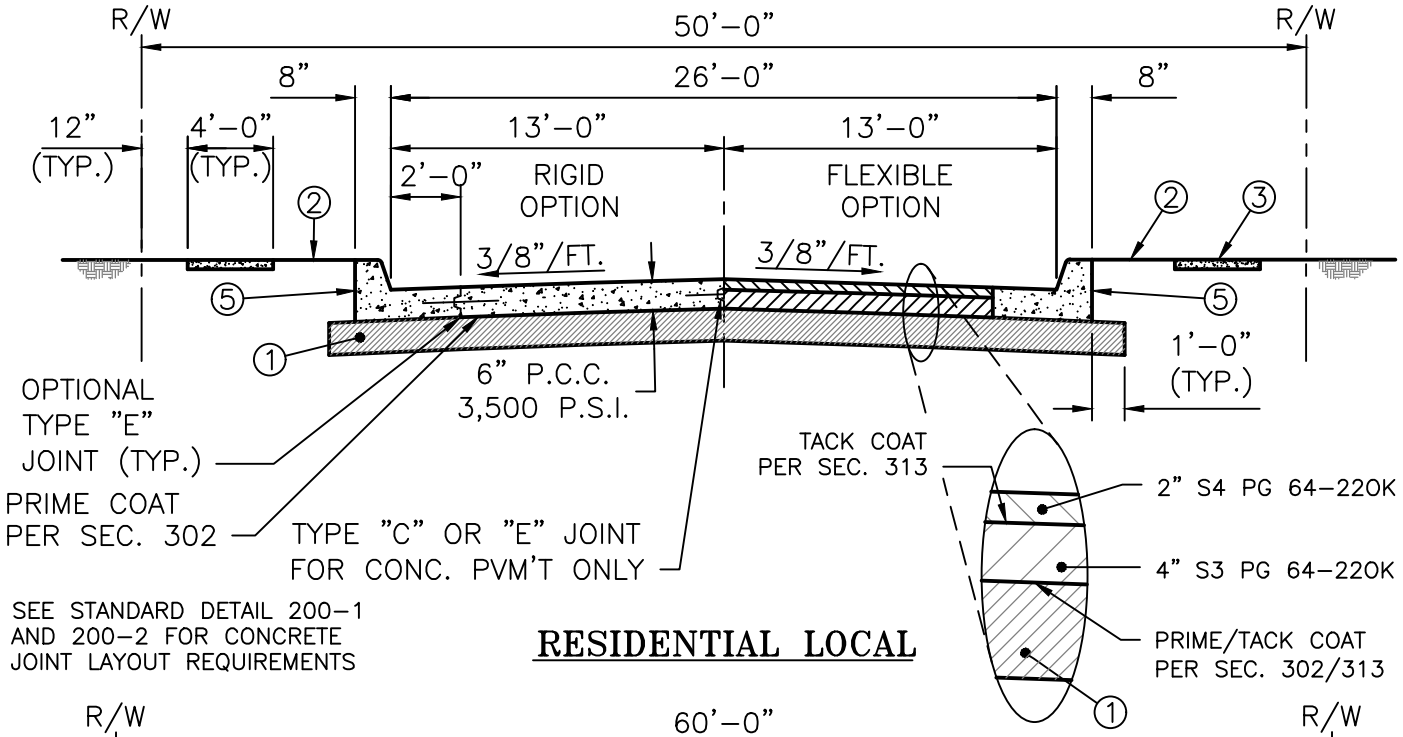
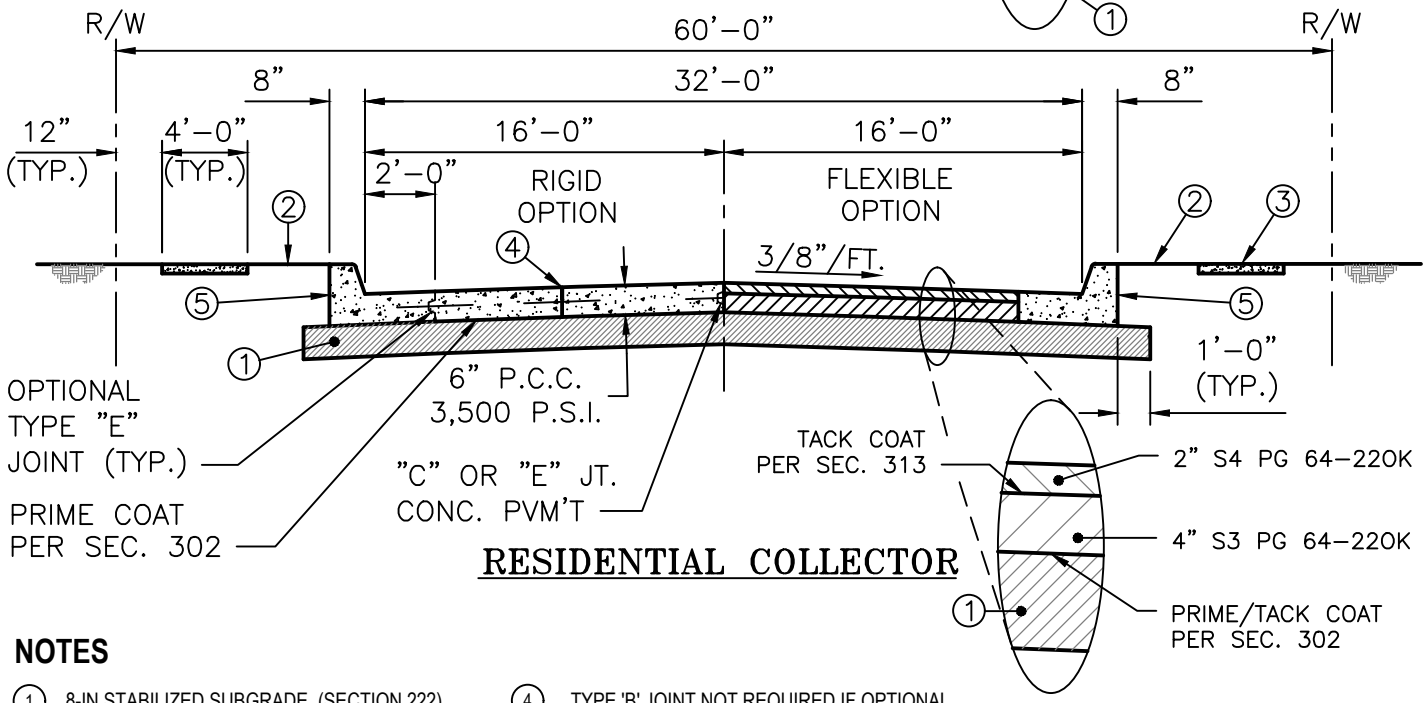


SEE STANDARD DETAIL 200–1 AND 200–2 FOR CONCRETE JOINT LAYOUT REQUIREMENTS

RESIDENTIAL LOCAL



RESIDENTIAL COLLECTOR

NOTES

1. 8-IN STABILIZED SUBGRADE (SECTION 222) COMPACTED TO 95% STANDARD DENSITY. ADDITIONAL SUBGRADE REQUIREMENTS: CBR ≥ 8, PI < 14.
2. SLOPE DOWN TO TOP OF CURB FROM EDGE OF SIDEWALK AT 25:1 (MIN) TO 3:1 (MAX).
3. 4-IN THICK CONCRETE SIDEWALK PER SECTION 823. CROSS SLOPE 2.0% (MAX).
4. TYPE 'B' JOINT NOT REQUIRED IF OPTIONAL TYPE 'E' JOINT CONSTRUCTED.
5. 6-IN VERTICAL CURB PER AND GUTTER STANDARD DETAIL 204-1.

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TYPICAL SECTIONS (1 OF 3) – LOCAL ROAD

DETAIL NO.
202–1

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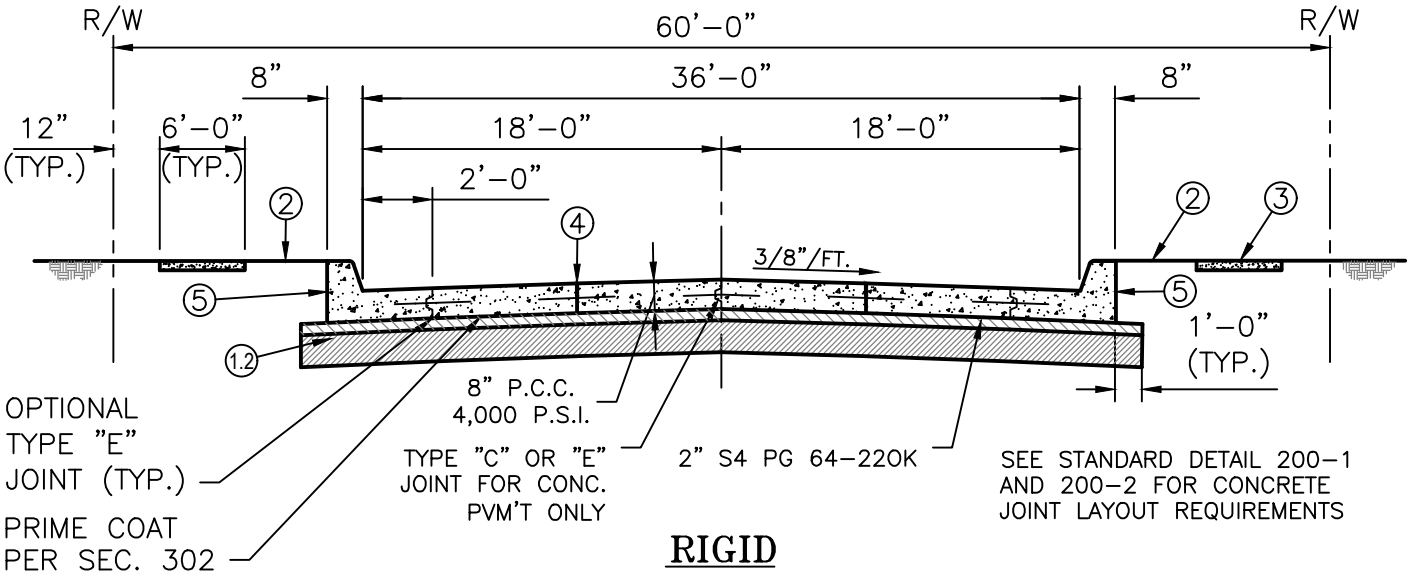
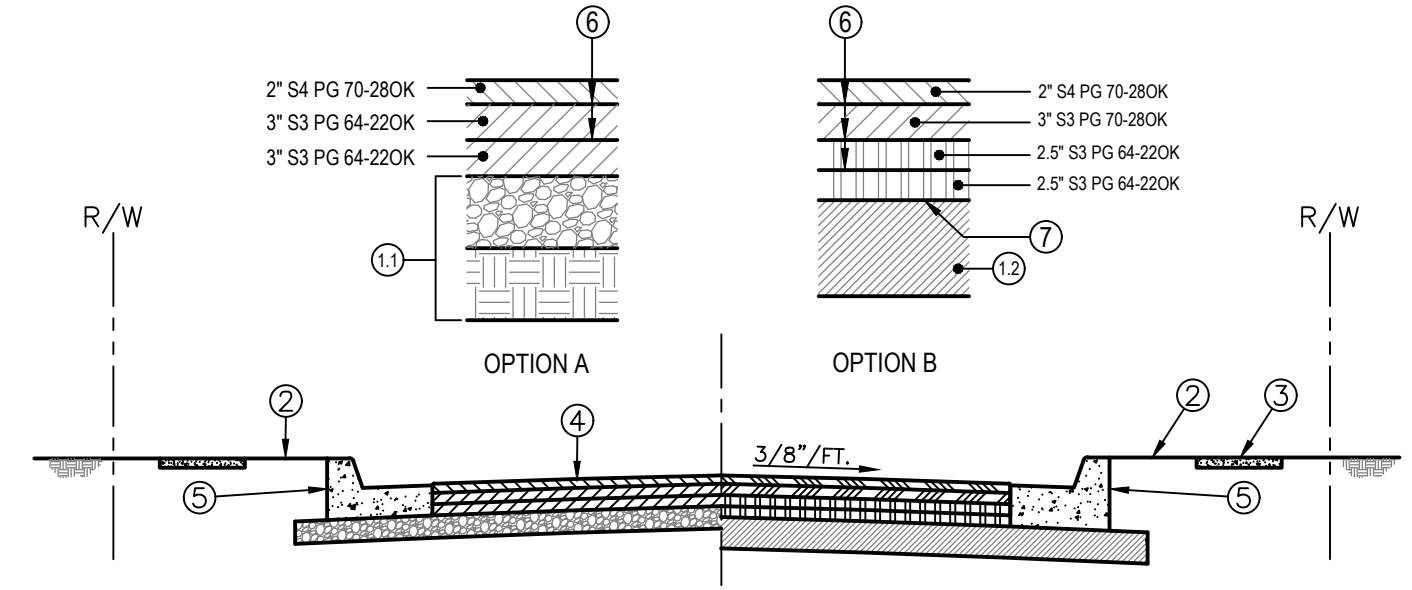


RIGID



FLEXIBLE

NOTES

1. SUBGRADE SHALL BE ONE OF THE FOLLOWING:
   - 1.1 6-IN TYPE A AGGREGATE BASE (SECTION 225) OVER 8-OZ SEPARATOR FABRIC (SECTION 988.03(B)) OVER 8-IN SUBGRADE METHOD B (SECTION 226)
   - 1.2 8-IN STABILIZED SUBGRADE (SECTION 222) COMPACTED TO 95% STANDARD DENSITY. ADDITIONAL SUBGRADE REQUIREMENTS: CBR $\geq$ 8, PI < 14.
2. SLOPE DOWN TO TOP OF CURB FROM EDGE OF SIDEWALK AT 25:1 (MIN) TO 3:1 (MAX).
3. 4-IN THICK CONCRETE SIDEWALK PER SECTION 823. CROSS SLOPE 2.0% (MAX).
4. TYPE 'B' JOINT
5. 6-IN VERTICAL CURB AND GUTTER PER STANDARD DETAIL 204-1.
6. TACK COAT PER SECTION 313.
7. PRIME/TACK COAT PER SECTION 302.

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TYPICAL SECTIONS (2 OF 3) – COMMERCIAL AND INDUSTRIAL

DETAIL NO.
202–2

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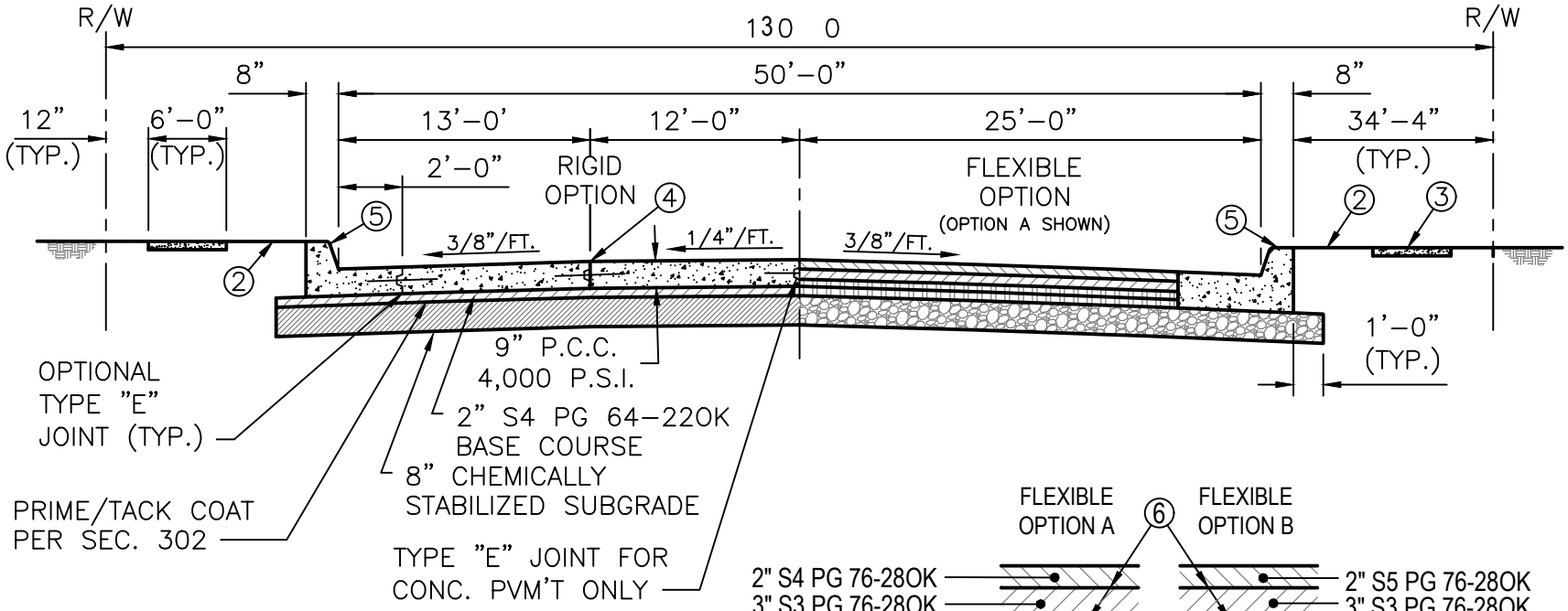
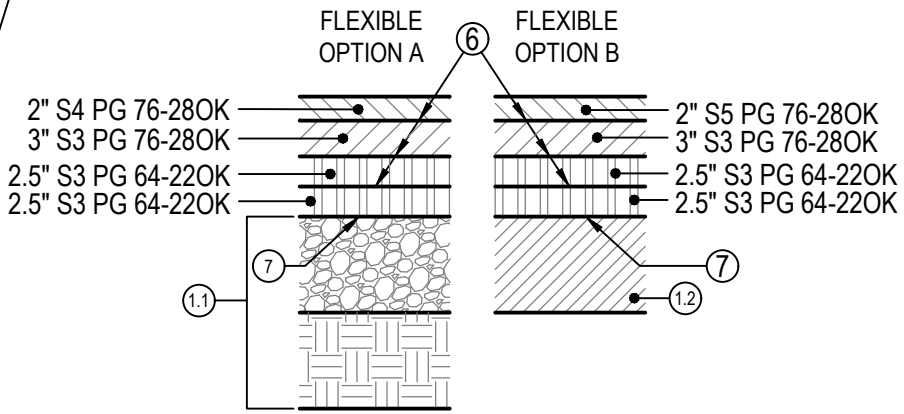
TYPICAL SECTIONS (3 OF 3) - ARTERIAL





GENERAL NOTES:

1. SEE DET-200-1 AND DET-200-2 FOR CONCRETE JOINT LAYOUT REQUIREMENTS.
2. PAVEMENT SECTION TO BE VERIFIED BY GEOTECHNICAL ENGINEER.

NOTES

(1) SUBGRADE SHALL BE ONE OF THE FOLLOWING:

- (1.1) 8-IN TYPE A AGGREGATE BASE (SECTION 225) OVER 8-OZ SEPARATOR FABRIC (SECTION 988.03(B)) OVER 8-IN SUBGRADE METHOD B (SECTION 226)
- (1.2) 8-IN STABILIZED SUBGRADE (SECTION 222) COMPACTED TO 95% STANDARD DENSITY. ADDITIONAL SUBGRADE REQUIREMENTS: CBR $\geq$ 8, PI < 14.

(2) SLOPE DOWN TO TOP OF CURB FROM EDGE OF SIDEWALK AT 25:1 (MIN) TO 3:1 (MAX).

(3) 4-IN THICK CONCRETE SIDEWALK PER SECTION 823. CROSS SLOPE 2.0% (MAX). RAIL IMPROVEMENTS MAY BE REQUIRED. SEE CITY OF MOORE COMP PLAN FOR ADDITIONAL GUIDANCE.

(4) TYPE 'B' JOINT

(5) 6-IN VERTICAL CURB AND GUTTER PER STANDARD DETAIL 204-1.

(6) TACK COAT PER SECTION 313.

(7) PRIME/TACK COAT PER SECTION 302.

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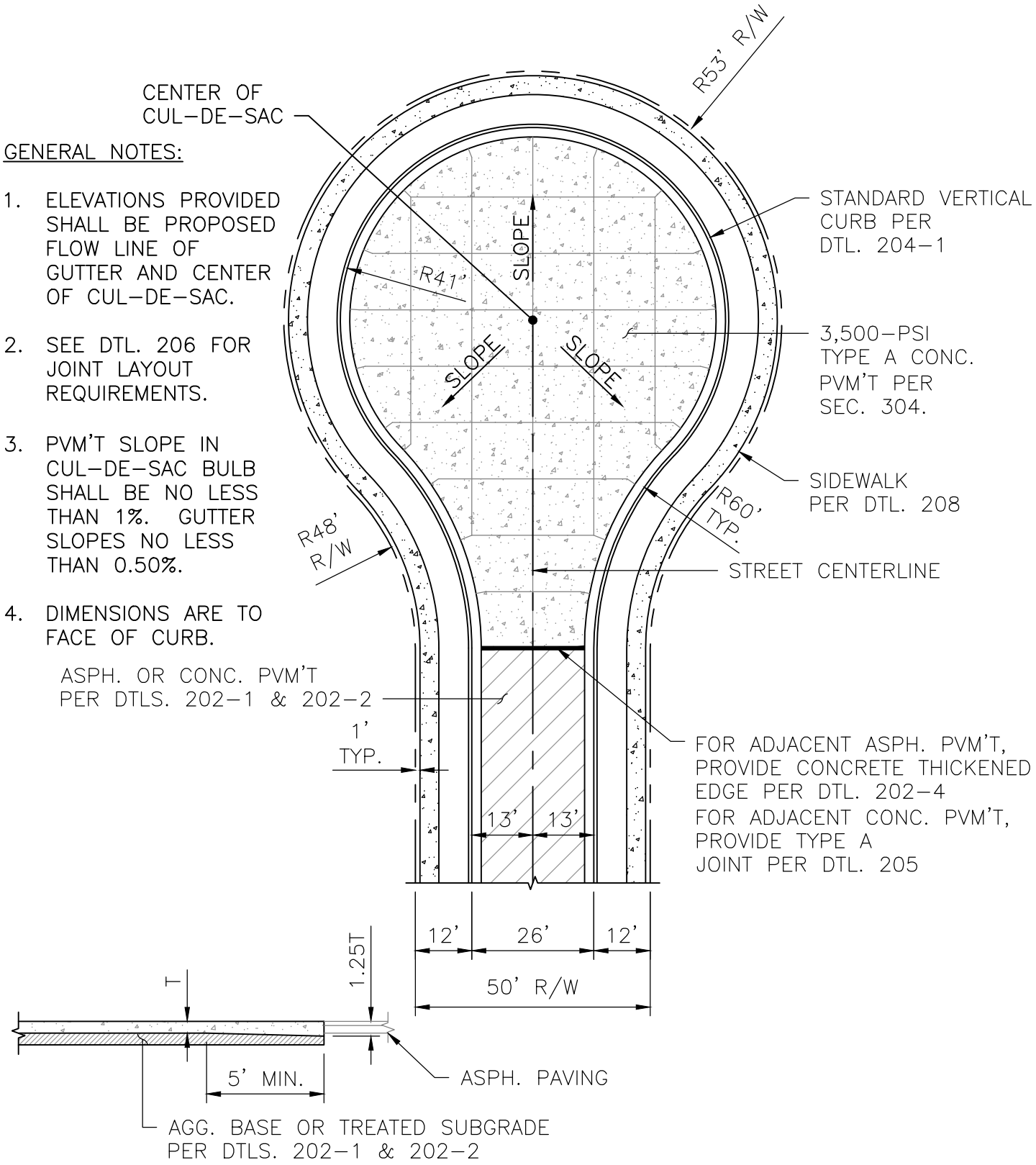
09/18/2023

DETAIL NO. 202-3



GENERAL NOTES:

1. ELEVATIONS PROVIDED SHALL BE PROPOSED FLOW LINE OF GUTTER AND CENTER OF CUL-DE-SAC.
2. SEE DTL. 206 FOR JOINT LAYOUT REQUIREMENTS.
3. PVM'T SLOPE IN CUL-DE-SAC BULB SHALL BE NO LESS THAN 1%. GUTTER SLOPES NO LESS THAN 0.50%.
4. DIMENSIONS ARE TO FACE OF CURB.

CONCRETE PVM'T THICKENED EDGE

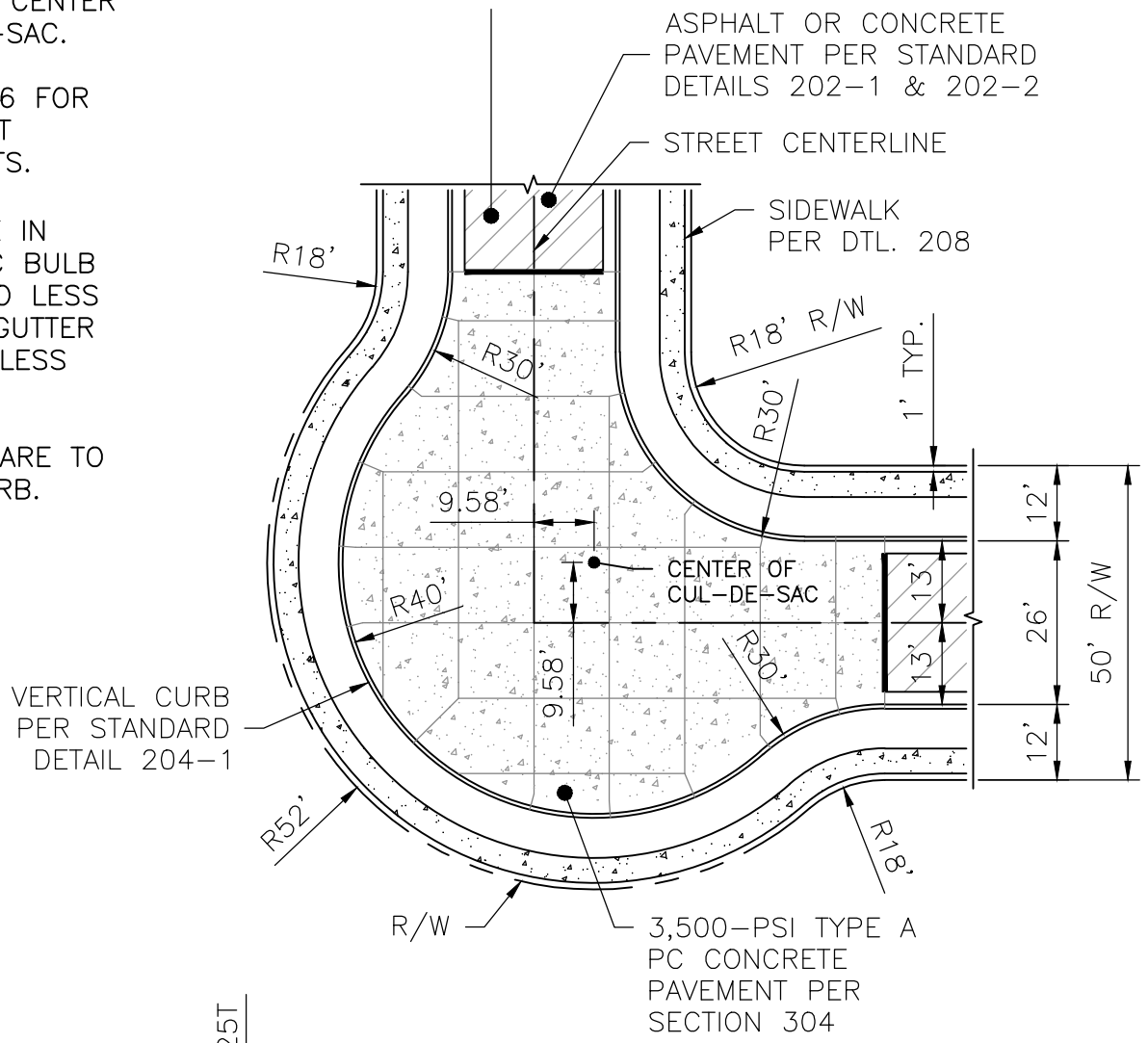
CITY of MOORE OKLAHOMA	RESIDENTIAL CUL-DE-SAC	DETAIL NO. 202-4 APPROVED 09/18/2023

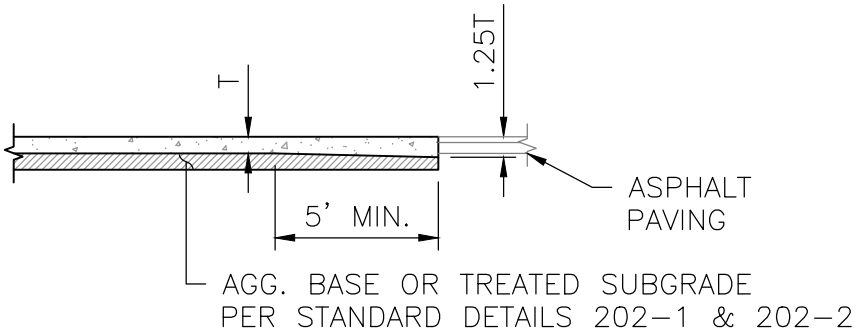
GENERAL NOTES:

1. ELEVATIONS PROVIDED SHALL BE PROPOSED FLOW LINE OF GUTTER AND CENTER OF CUL–DE–SAC.
2. SEE DTL. 206 FOR JOINT LAYOUT REQUIREMENTS.
3. PVM'T SLOPE IN CUL–DE–SAC BULB SHALL BE NO LESS THAN 1%. GUTTER SLOPES NO LESS THAN 0.50%.
4. DIMENSIONS ARE TO FACE OF CURB.

FOR ADJACENT ASPHALT PAVEMENT: PROVIDE CONCRETE THICKENED EDGE PER STANDARD DETAIL 202–4

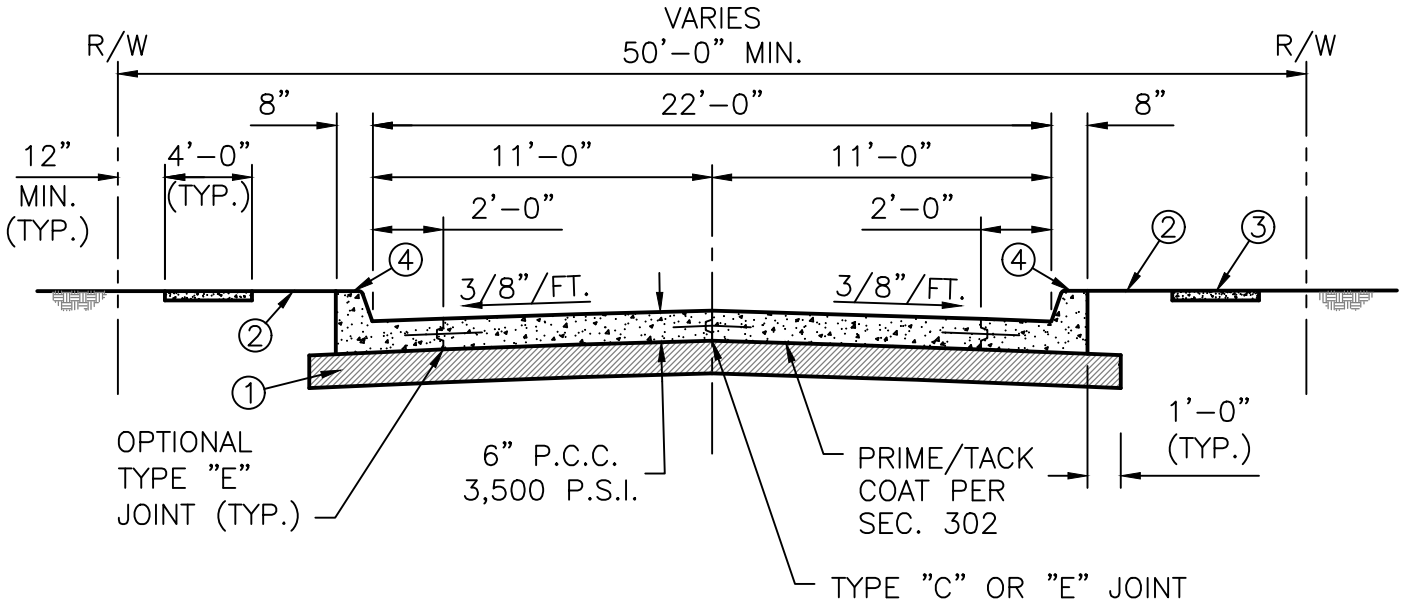
FOR ADJACENT CONCRETE PAVEMENT: PROVIDE TYPE A JOINT PER STANDARD DETAIL 205





CONCRETE PAVEMENT THICKENED EDGE

CITY of MOORE OKLAHOMA	RESIDENTIAL KNUCKLE	DETAIL NO. 202–5 APPROVED 09/18/2023



LOCAL STREET WITHOUT BIKE LANES

① 6–IN TYPE A AGGREGATE BASE (SEC 225) OVER 6–IN SUBGRADE METHOD B (SEC 226) OR 6–IN STABILIZED SUBGRADE (SEC 222) COMPACTED TO 95% STANDARD DENSITY. ADDITIONAL SUBGRADE REQUIREMENTS: CBR ≥ 8, PI < 14.

② SLOPE DOWN TO TOP OF CURB FROM EDGE OF SIDEWALK AT 25:1 MIN. TO 3:1 MAX.

③ 4" THICK CONC. SIDEWALK PER SEC. 823. SLOPE 2.0% MAX.

④ 6" VERTICAL CURB AND GUTTER PER DET–204–1

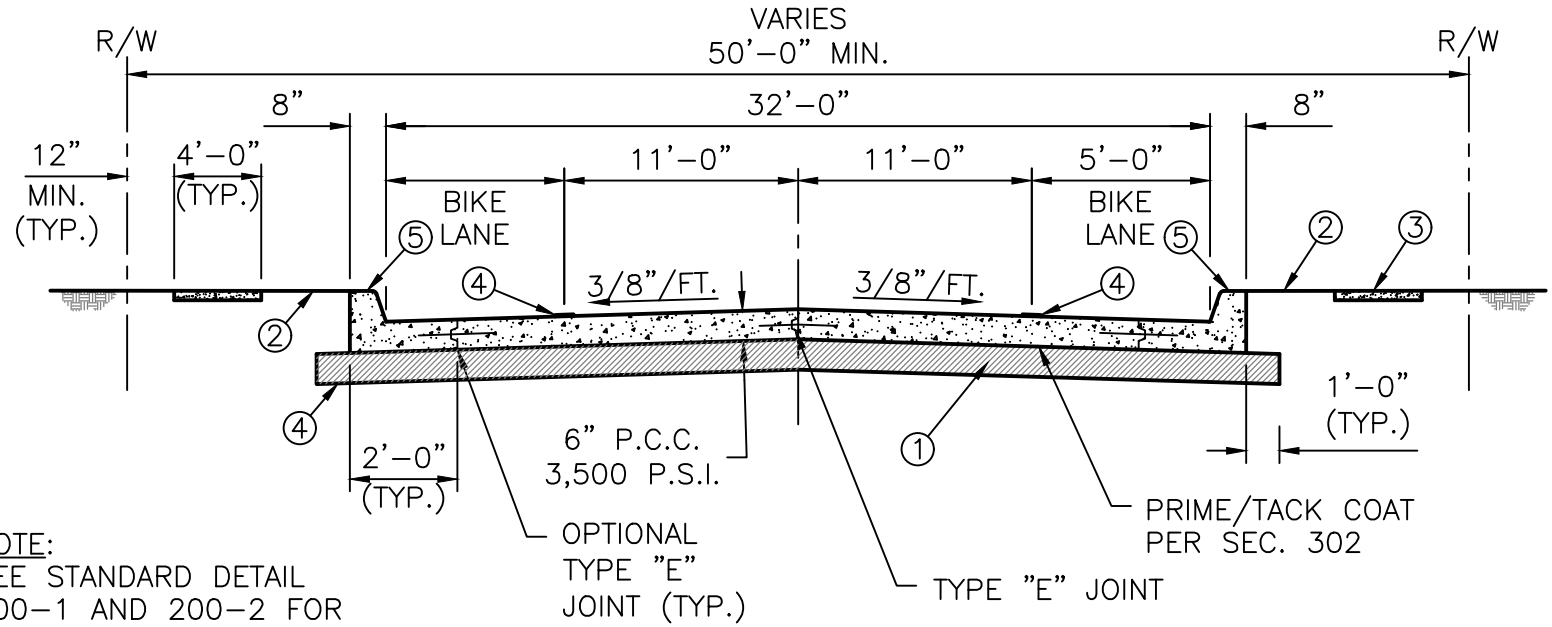
NOTE:
1. SEE DET–200–1 & DET–200–2 FOR CONC. JOINT LAYOUT REQUIREMENTS.

CITY of MOORE OKLAHOMA	OLD TOWN TYPICAL SECTIONS (1 OF 4) – LOCAL WITHOUT BIKE LANES	DETAIL NO. 203–1 APPROVED 09/18/2023

OLD TOWN TYPICAL SECTIONS (2 OF 4) - LOCAL WITH BIKE LANES

DETAIL NO. 203-2

APPROVED 09/18/2023



NOTE:
SEE STANDARD DETAIL 200–1 AND 200–2 FOR CONCRETE JOINT LAYOUT REQUIREMENTS.

LOCAL STREET WITH BIKE LANES

① 6–IN TYPE A AGGREGATE BASE (SEC 225) OVER 6–IN SUBGRADE METHOD B (SEC 226) OR 6–IN STABILIZED SUBGRADE (SEC 222) COMPACTED TO 95% STANDARD DENSITY. ADDITIONAL SUBGRADE REQUIREMENTS: CBR ≥ 8, PI < 14.

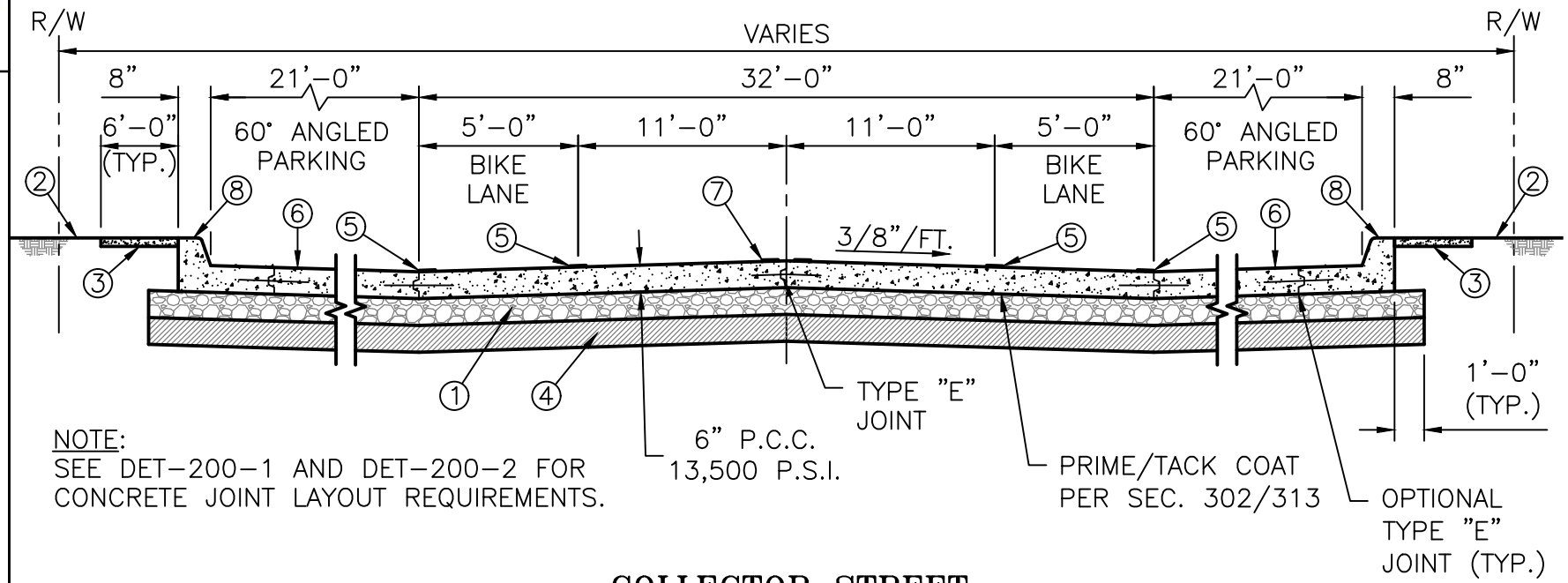
② SLOPE DOWN TO TOP OF CURB FROM EDGE OF SIDEWALK AT 25:1 MIN. TO 3:1 MAX.

③ 4" THICK CONC. SIDEWALK PER SEC. 823. SLOPE 2.0% MAX.

④ 4" WIDE SOLID WHITE PAVEMENT STRIPE PER CHAPTER 1000

⑤ 6" VERTICAL CURB AND GUTTER PER DET–204–1

OLD TOWN TYPICAL SECTIONS (3 OF 4) - COLLECTOR



NOTE:
SEE DET–200–1 AND DET–200–2 FOR CONCRETE JOINT LAYOUT REQUIREMENTS.

COLLECTOR STREET

① 6–IN TYPE A AGGREGATE BASE (SEC 225) OVER 6–IN SUBGRADE METHOD B (SEC 226) OR 6–IN STABILIZED SUBGRADE (SEC 222) COMPACTED TO 95% STANDARD DENSITY. ADDITIONAL SUBGRADE REQUIREMENTS: CBR ≥ 8, PI < 14.

② SLOPE DOWN TO TOP OF CURB FROM EDGE OF SIDEWALK AT 25:1 MIN. TO 3:1 MAX.

③ 4" THICK CONC. SIDEWALK PER SEC. 823. SLOPE 2.0% MAX.

④ 6" MIN. COMPACTED SUBGRADE PER SEC. 220. COMPACTED TO 95% STANDARD DENSITY, CBR ≥8, PI ≤14.

⑤ 4" WIDE SOLID WHITE PAVEMENT STRIPE PER CHAPTER 1000

⑥ 0.5% MIN. TO 4% MAX. ACCESSIBLE PARKING SHALL MEET ADA REQUIREMENTS AND NOT TO EXCEED 2% IN ANY DIRECTION

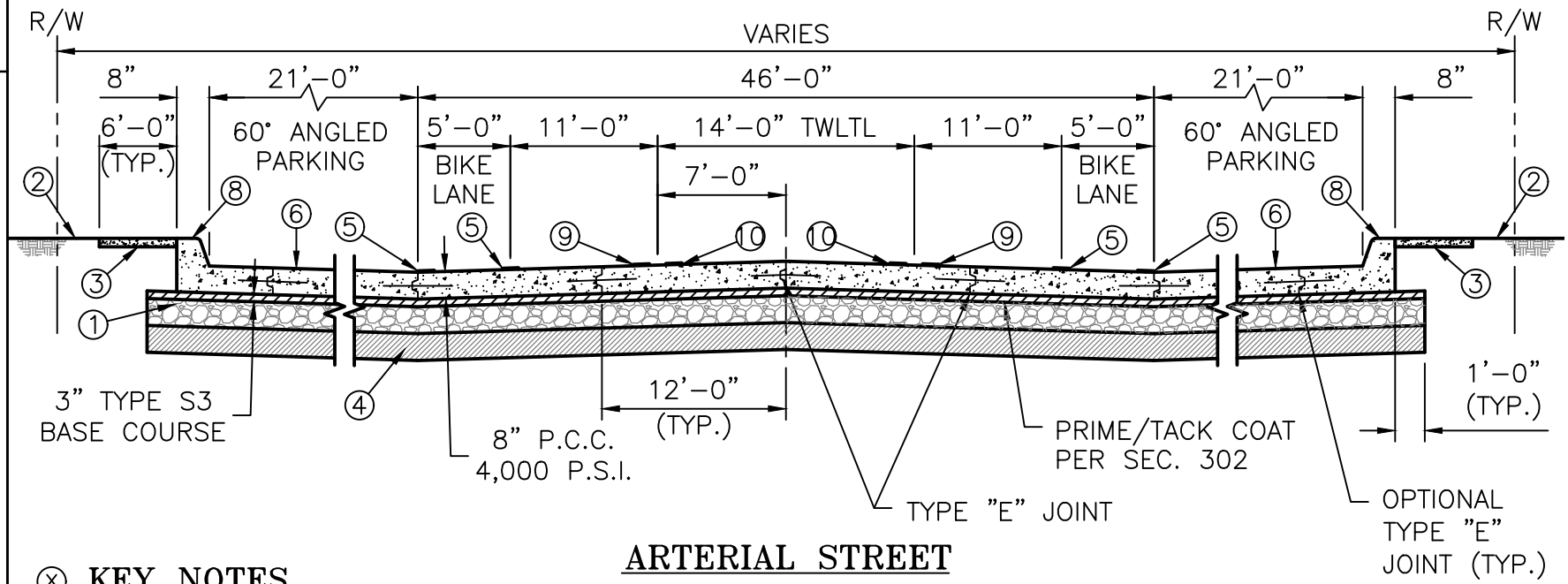
⑦ 4" SOLID DOUBLE YELLOW CENTERLINE

⑧ 6" VERTICAL CURB AND GUTTER PER DET–204–1

APPROVED
09/18/2023

DETAIL NO. 203–3

OLD TOWN TYPICAL SECTIONS (4 OF 4) – ARTERIAL



ARTERIAL STREET

⊗ KEY NOTES

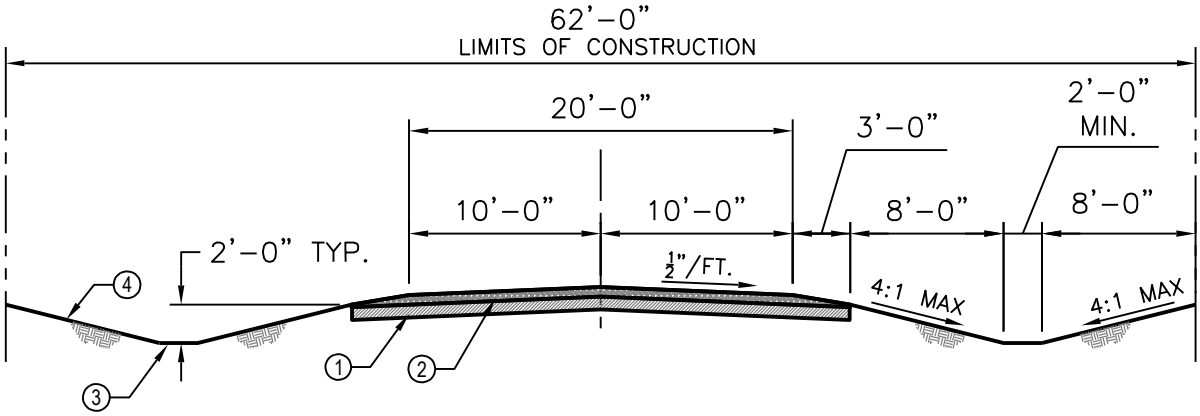
1. 6–IN TYPE A AGGREGATE BASE (SEC 225) OVER 6–IN SUBGRADE METHOD B (SEC 226) OR 6–IN STABILIZED SUBGRADE (SEC 222) COMPACTED TO 95% STANDARD DENSITY. ADDITIONAL SUBGRADE REQUIREMENTS: CBR > 8, PI < 14.
2. SLOPE DOWN TO TOP OF CURB FROM EDGE OF SIDEWALK AT 25:1 MIN. TO 3:1 MAX.
3. 4" THICK CONC. SIDEWALK PER SEC. 823. SLOPE 2.0% MAX.
4. 6" MIN. COMPACTED SUBGRADE PER SEC. 220. COMPACTED TO 95% STANDARD DENSITY, CBR ≥8 PI ≤14.
5. 4" WIDE SOLID WHITE PAVEMENT STRIPE PER CHAPTER 1000
6. 0.5% MIN. TO 4% MAX. ACCESSIBLE PARKING SHALL MEET ADA REQUIREMENTS AND NOT TO EXCEED 2% IN ANY DIRECTION
7. 4" SOLID DOUBLE YELLOW CENTERLINE PER SEC. 1000.
8. 6" VERTICAL CURB AND GUTTER PER DET–204–1.
9. 4" SOLID YELLOW LINE PER PER SEC. 1000.
10. 4" BROKEN YELLOW LINE WITH 10' LINE SEGMENT AND 30' GAP PER SEC. 1000.

GENERAL NOTES:

1. SEE DET–200–1 AND DET–200–2 FOR CONCRETE JOINT LAYOUT REQUIREMENTS.
2. PAVEMENT SECTION TO BE VERIFIED BY GEOTECHNICAL ENGINEER.
3. WITHIN THE TWO–WAY LEFT TURN LANE (TWLTL), LEFT TURN ARROWS PER ODOT DETAIL T–106 SHALL BE PAIRED AND PLACED OPPOSITE EACH OTHER, 8–FT APART. PAIRS SHALL BE SPACED ONE PER BLOCK.
4. ROADWAY CROSS SLOPE SHALL BE 3/8–IN PER FOOT.

APPROVED
09/18/2023

DETAIL NO.
203–4



TRAFFIC BOUND SURFACE COURSE (TBSC)

NOTES

① 6-IN SUBGRADE, METHOD A (ODOT SPEC 310) COMPACTED TO 95% STANDARD DENSITY. ADDITIONAL SUBGRADE REQUIREMENTS: CBR > 8, PI < 14.

SHAPE AND CROWN THE ROADBED USING A BLADE GRADER TO ACHIEVE THE SPECIFIED GRADE. REMOVE UNSTABLE SOIL AND ROCKS LARGER THAN 3 INCHES (75 MM) AND REPLACE WITH ACCEPTABLE MATERIAL. EACH SUBGRADE LAYER SHALL BE FINISHED TO A SMOOTH, UNIFORM SURFACE AND MAINTAINED IN THIS CONDITION UNTIL THE NEXT LAYER IS PLACED.

② 8-IN TRAFFIC BOUND SURFACE COURSE (T.B.S.C.)

MATERIAL SHALL BE ODOT TYPE E AGGREGATE AS DESCRIBED BY TABLE 703:7 FROM THE ODOT STANDARD SPECIFICATION MANUAL, SHOWN ON THE LOWER RIGHT.

OR

8-IN THICKNESS OF 1.5-IN CRUSHER RUN

THE MATERIAL SHALL BE SHAPED AND COMPACTED IN TWO 4" COURSES EACH COMPACTED TO 95% STANDARD PROCTOR DENSITY, CORRECTING ANY IRREGULARITIES AND ENSURING THE SURFACE IS COMPACTED AND FREE OF DEFECTS. EXCESS MATERIAL SHOULD BE REMOVED AND STOCKPILED AS APPROVED. TRAFFIC CONTROL MEASURES SHOULD AVOID CLOSING THE ROAD TO TRAFFIC, MINIMIZE INTERFERENCE, AND MAINTAIN SAFETY MEASURES SUCH AS WARNING SIGNS AND LIGHTS. AT THE END OF THE WORKDAY, MATERIAL WINDROWS OR PILES SHOULD BE PLACED ON THE SHOULDERS AND OFF THE TRAVELED ROADWAY.

③ LONGITUDINAL SLOPE OF DRAINAGE DITCH SHALL BE A MINIMUM OF 1% AND MAXIMUM OF 5%. FOR GREATER RUNNING SLOPES, PERMANENT EROSION CONTROL MEASURES SUCH AS FLEXIBLE CONCRETE EROSION CONTROL MATS SHALL BE INCORPORATED. MINIMUM 2'-0" DITCH BOTTOM WIDTH.

④ SALVAGE NATURAL TOPSOIL FROM AREAS OF EXCAVATION AND EMBANKMENT FILL. STOCKPILE AND REPLACE TOPSOIL ON COMPLETED AREAS AND REESTABLISH VEGETATIVE COVER. STORAGE STOCKPILES SHALL BE A MINIMUM OF 50' FROM A BLUE LINE STREAM DEPICTED ON THE USGS 7.5 MINUTE QUADRANGLE MAP.

Table 703:7
Aggregate Gradation

Sieve Size	Percent Passing per Type of Aggregate					
	Type A	Type B [a]	Type C	Type D	Type E [b]	Type F [c]
1½ in [37.5 mm]	—	—	—	100	100	100
1 in [25.4 mm]	100	100	100	90 — 100	—	—
¾ in [19.0 mm]	95 – 100	95 – 100	—	—	40 – 100	—
½ in [12.5 mm]	—	—	—	25 – 60	—	—
⅜ in [9.5 mm]	—	—	—	—	30 – 75	—
No. 4 [4.75 mm]	5.0 – 75	0 – 85	40 – 75	0 – 5.0	25 – 60	35 – 80
No. 10 [2.5 mm]	—	—	—	—	20 – 43	—
No. 20 [850 µm]	0 – 30	—	—	—	—	—
No. 40 [425 µm]	—	—	20 – 40	—	8.0 – 26	—
No. 200 [75 µm]	0 – 10	0 – 20	8.0 – 25	—	4.0 – 12	0 – 20
Other Requirements:						
Plasticity Index	—	—	8 — 18	—	≤ 6	—
Liquid Limit	—	—	≤35	—	≤25	—

[a] Type B material consists of disintegrated granite with natural binder.

[b] Type E material meets the requirements for Aggregate Base Type A in accordance with Subsection 703.01, "Aggregate for Aggregate Base."

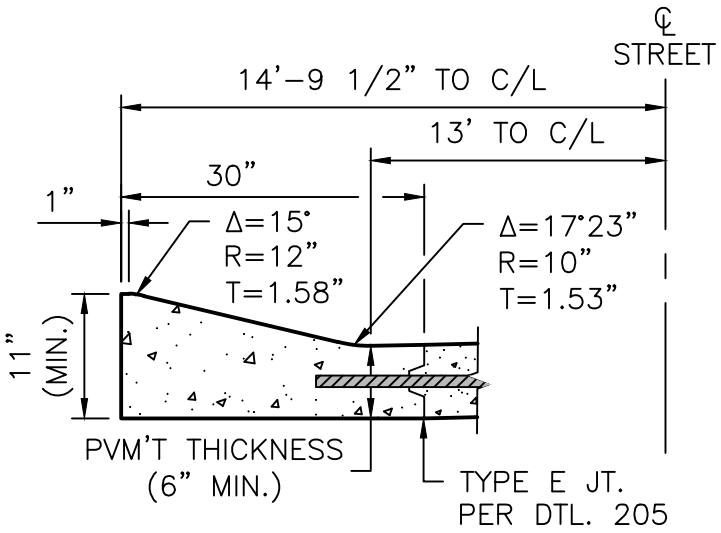
[c] Type F material only temporarily, in light traffic situations. The Los Angeles Abrasion Test requirement does not apply to this material.

CITY of MOORE • OKLAHOMA • INCORPORATED 1893

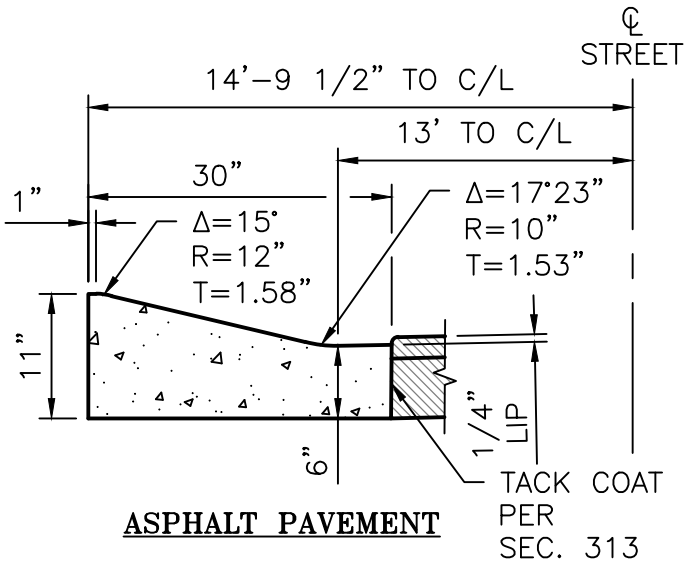
TYPICAL SECTION
RURAL RESIDENTIAL

DETAIL NO.
203–5

APPROVED
07/07/2025



P.C.C. PAVEMENT

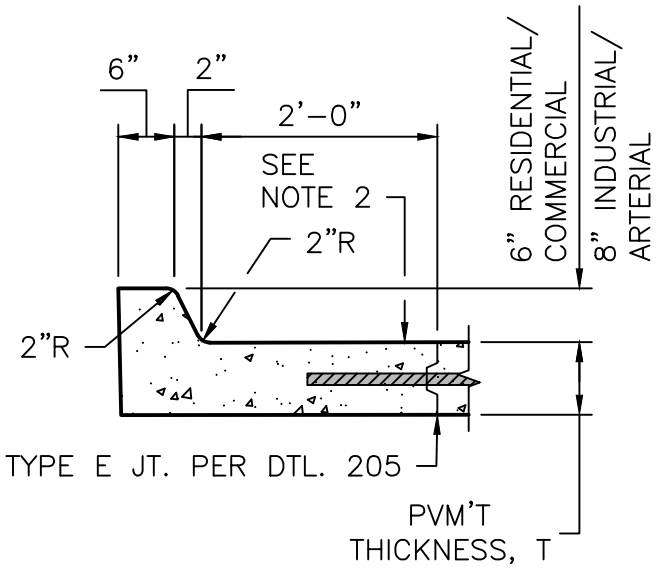


ASPHALT PAVEMENT

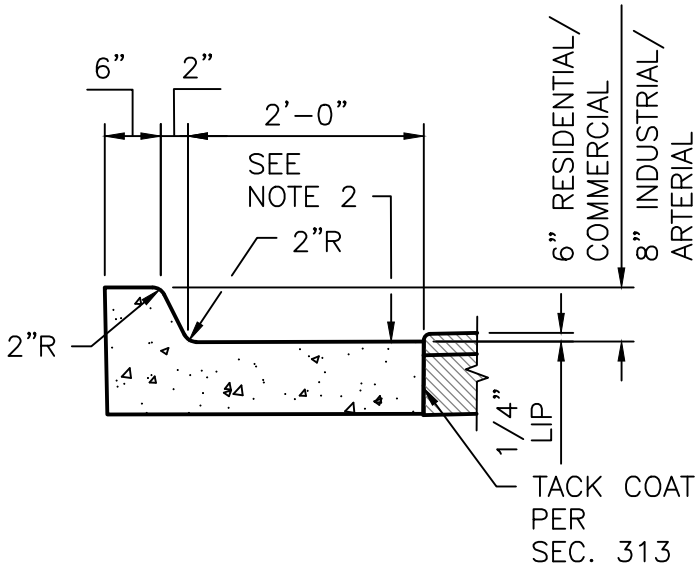
STANDARD MOUNTABLE CURB

(SEE NOTE 3)

RESIDENTIAL STREET ONLY



P.C.C. PAVEMENT



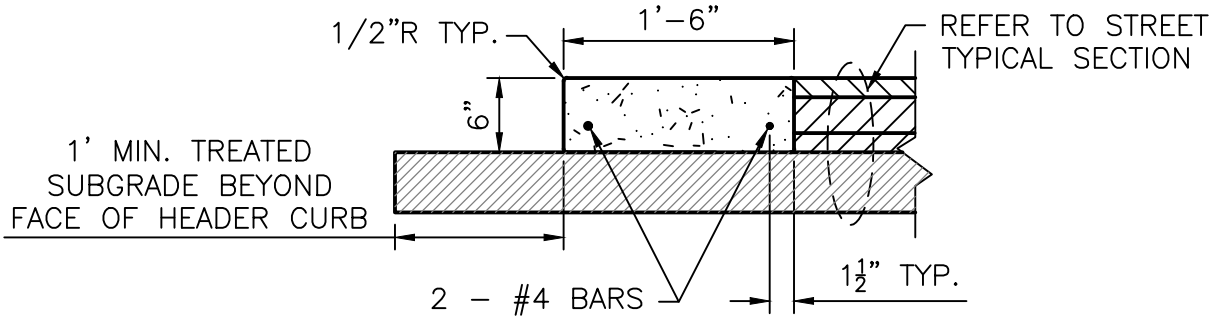
ASPHALT PAVEMENT

STANDARD VERTICAL CURB

NOTES:

1. CONCRETE SHALL BE CLASS A PER SECTION 932. FOR P.C.C. PAVEMENTS, CONCRETE SHALL MATCH ADJACENT P.C.C. STRENGTH
2. GUTTER PAN SHALL BE SLOPED 3/8" PER FOOT TO THE GUTTER EXCEPT WHERE NOTED IN THE PLANS.
3. MOUNTABLE CURB MAY ONLY BE CONSTRUCTED IN A–1 THROUGH RE ZONING DISTRICTS.

CITY of MOORE OKLAHOMA	CURB DETAILS	DETAIL NO. 204–1 APPROVED 09/18/2023



CONCRETE HEADER CURB
(CONTINUOUS)

NOTES:

1. CONCRETE SHALL BE CLASS A PER SECTION 932.

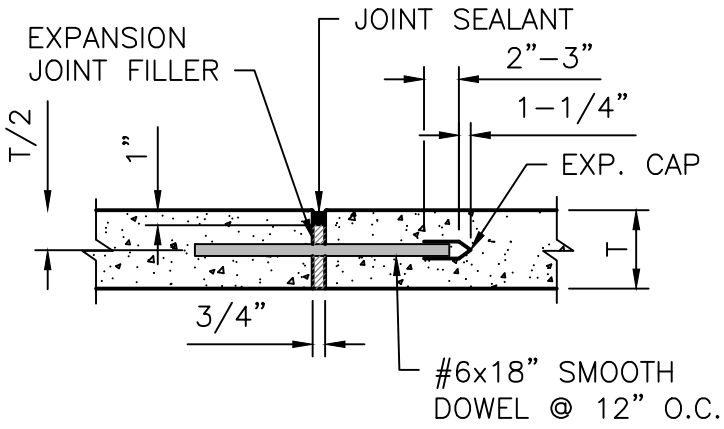
CITY of MOORE OKLAHOMA

CURB DETAILS

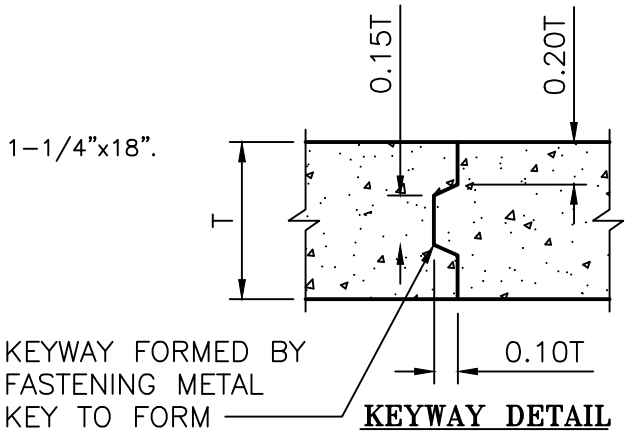
DETAIL NO.
204-2

APPROVED
09/18/2023

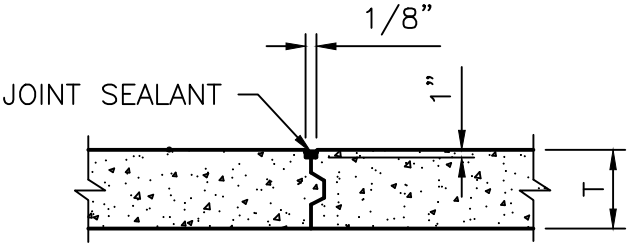
NOTES:
1. JOINT CONSTRUCTION PER SECTION 304.04
2. JOINT FILLER/SEALANT MATERIALS PER SECTION 932.
3. VERIFY RESERVOIR DIMENSIONS WITH JOINT SEALANT MFG.
4. BACKER ROD NOT SHOWN.
5. DOWELS FOR ARTERIALS AND INDUSTRIAL STREETS SHALL BE 1–1/4"x18".



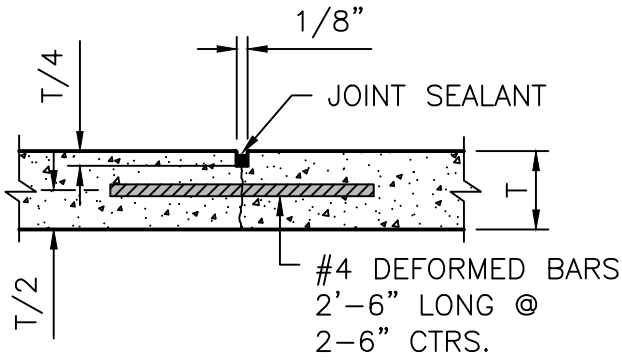
EXPANSION JOINT
TYPE "A"



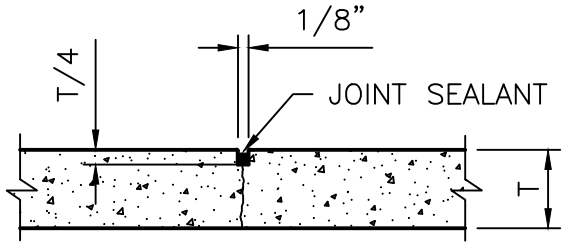
KEYWAY DETAIL



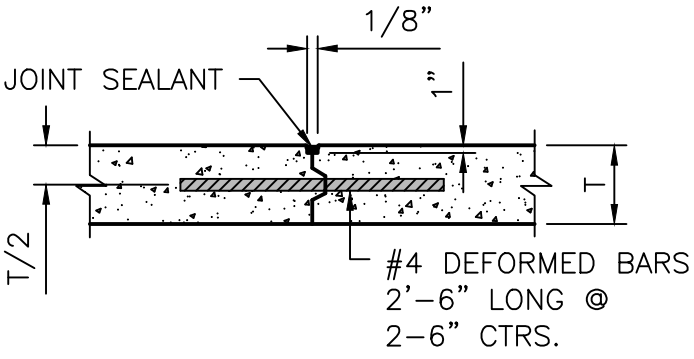
TONGUE AND GROOVE JOINT
TYPE "C'



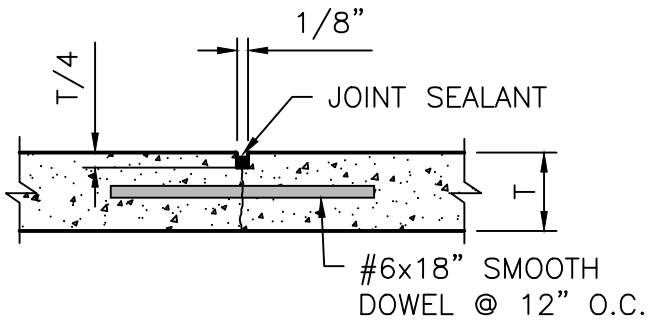
TIED CONTRACTION JOINT
TYPE "B"



SAWED CONTRACTION JOINT
TYPE "D"



TIED LONGITUDINAL JOINT
TYPE "E"



DOWELED CONTRACTION
OR CONSTRUCTION JOINT
TYPE "F"

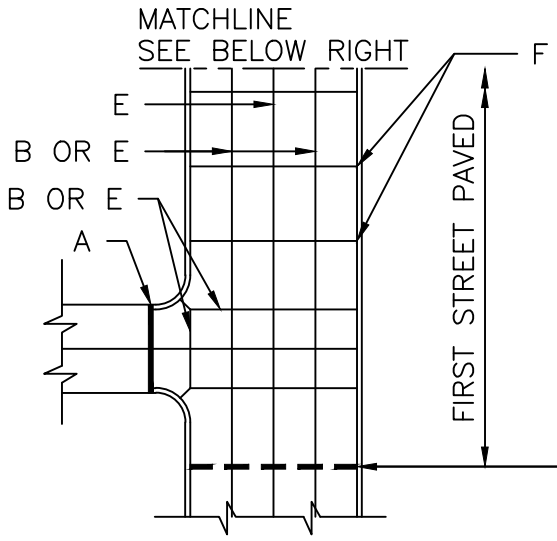
PORTLAND CEMENT CONCRETE JOINT DETAILS

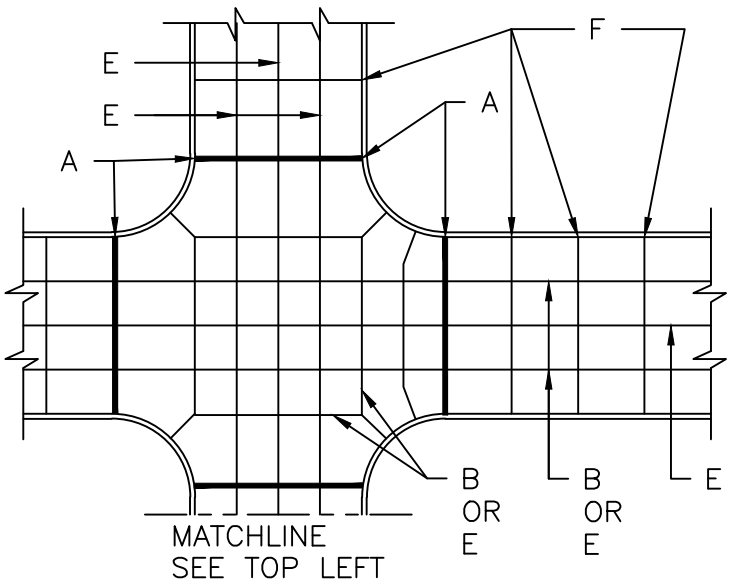
DETAIL NO.
205

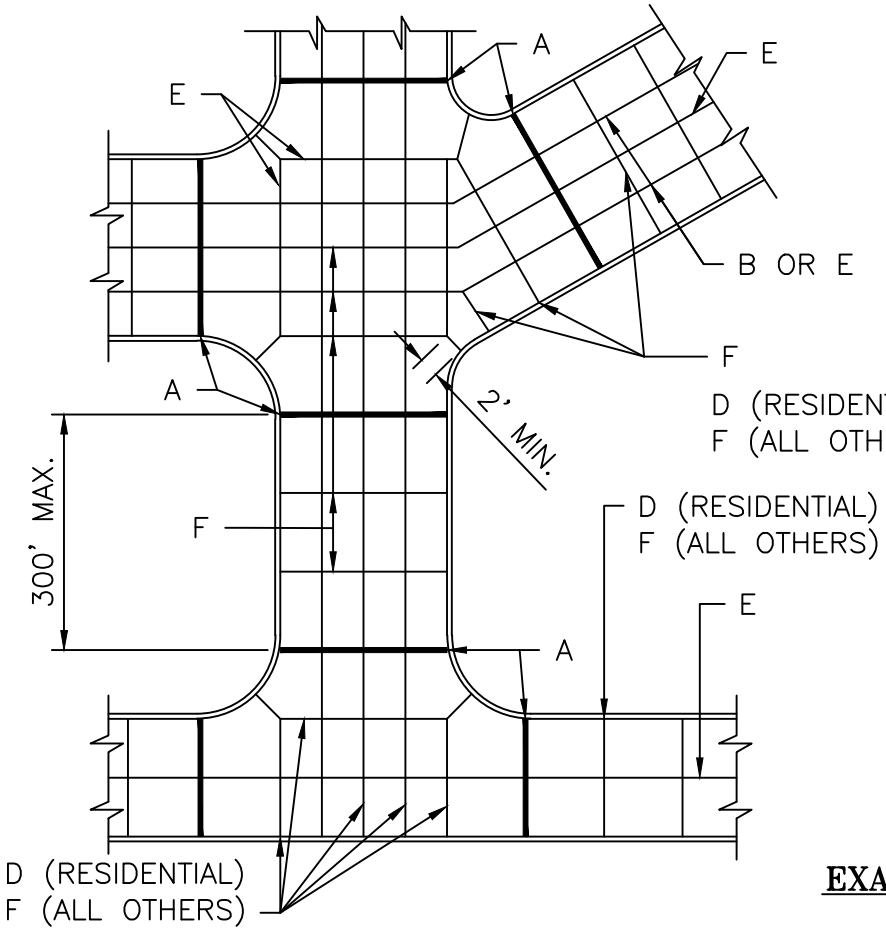
APPROVED
09/18/2023

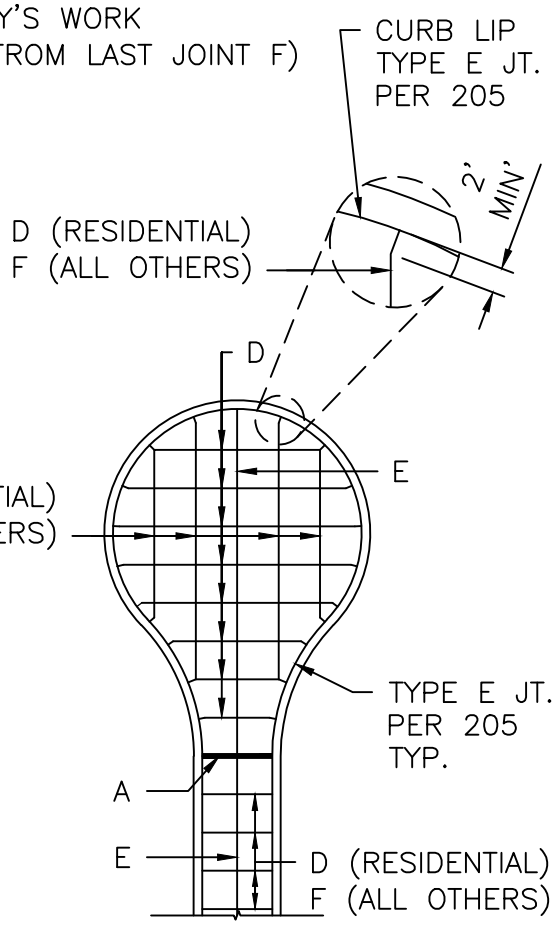
NOTE:

1. SEE CONCRETE PAVING NOTES FOR JOINT LAYOUT REQUIREMENTS.









EXAMPLE JOINT LOCATION

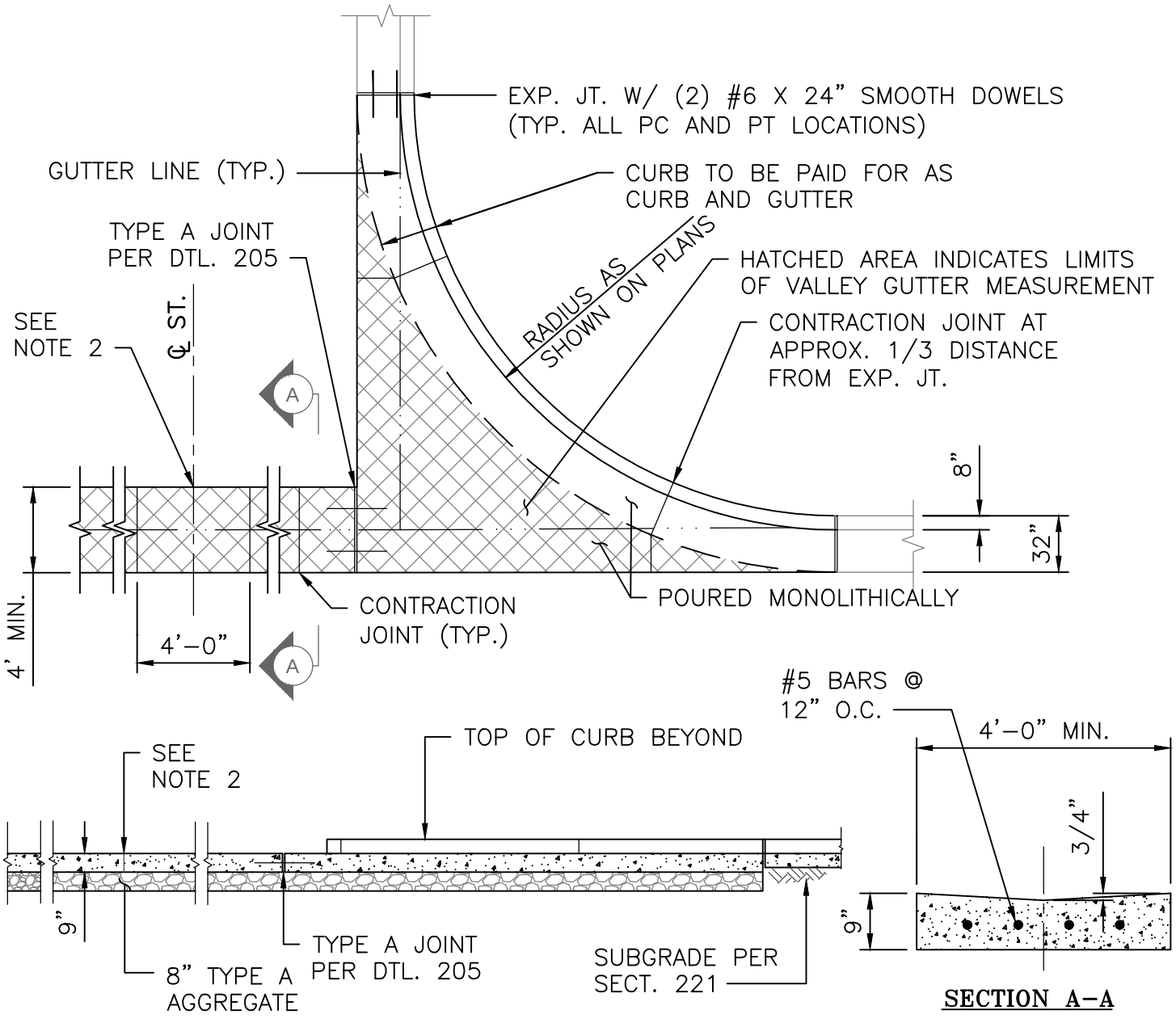
TYPICAL JOINT LAYOUT FOR PC CONCRETE STREETS

DETAIL NO.
206

APPROVED
09/18/2023

NOTES:

1. ALL CONCRETE TO BE CLASS 'A' 3,500 P.S.I. UNLESS OTHERWISE APPROVED.
2. EITHER A CONSTRUCTION JOINT OR CONTRACTION JOINT IS REQUIRED AT THE STREET CENTERLINE.
3. EXPANSION JOINTS SHALL CONFORM TO SECTION 304.04.03.
4. CONTRACTION JOINTS SHALL SEPARATE LARGE AGGREGATE BY MOVING THE AGGREGATE TO EITHER 1 SIDE OF THE JOINT FOR A MINIMUM DEPTH OF 2". THE FINISHED JOINT SHALL HAVE 1/4" MAXIMUM RADII AT THE TOP SURFACE AND BE A MINIMUM OF 3/4" DEPTH.
5. VALLEY GUTTER SHALL BE CONSTRUCTED PRIOR TO ASPHALT PAVING. CONTRACTOR SHALL PROTECT THE VALLEY GUTTER FROM DAMAGE DURING PAVING OPERATIONS. DAMAGE SHALL BE REPAIRED TO THE CITY DESIGNATED REPRESENTATIVE'S SATISFACTION AT THE CONTRACTOR'S EXPENSE. TACK COAT ALL SURFACES IN CONTACT WITH ASPHALT PRIOR TO ASPHALT PAVING.

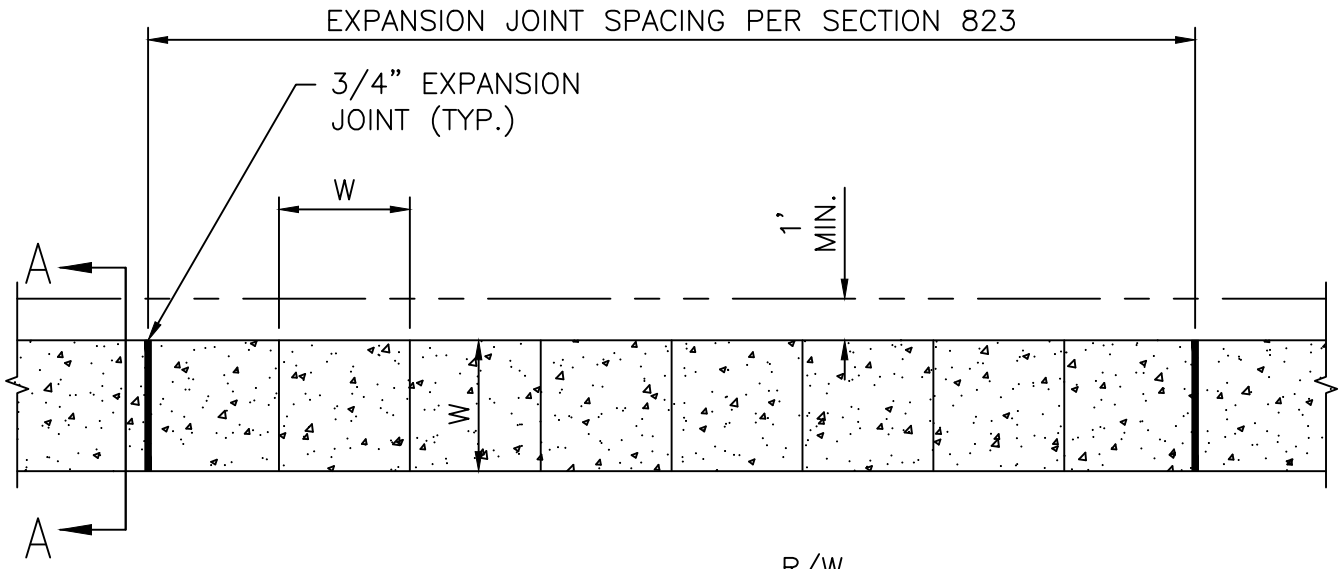


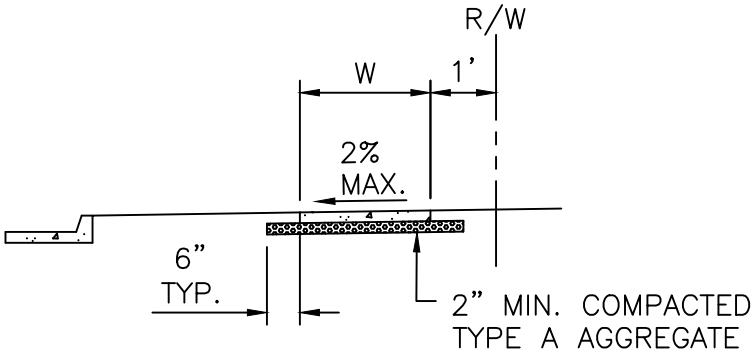
SECTION A-A

CITY STANDARD VALLEY GUTTER

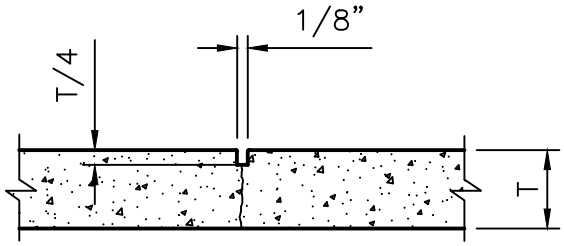
DETAIL NO.
207

APPROVED
09/18/2023

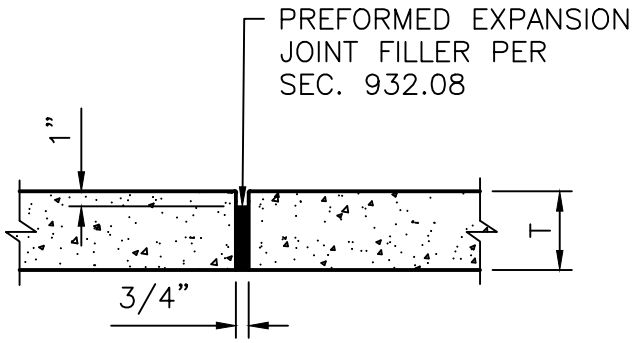




SECTION A–A



CONTRACTION JOINT

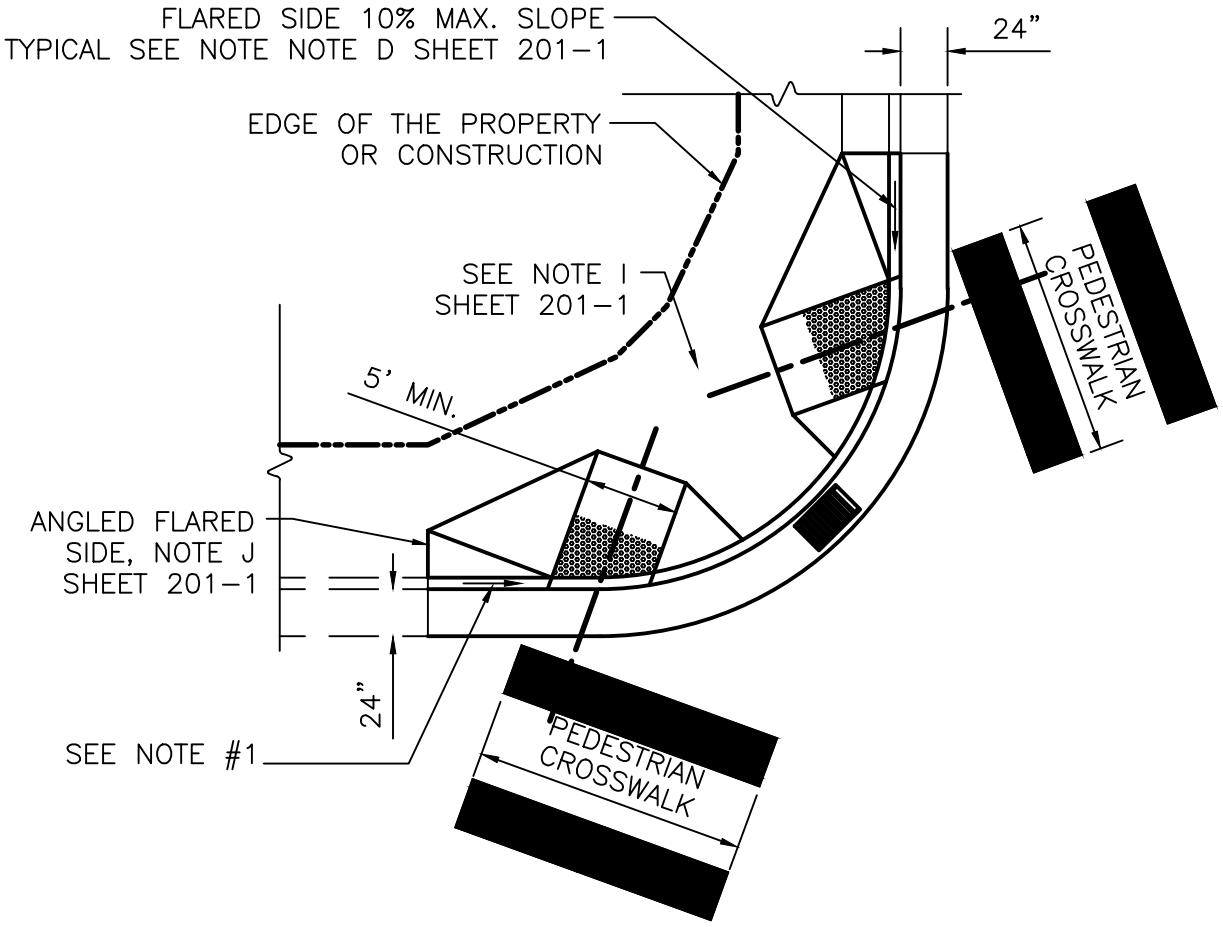


EXPANSION JOINT

NOTES:

1. SIDEWALK CONSTRUCTION PER SECTION 823.
2. SEE DTL. 201–1 & 201–2 FOR ADDITIONAL SIDEWALK REQUIREMENTS, INCLUDING REQUIRED SIDEWALK WIDTHS PER STREET CLASSIFICATION.

CITY of MOORE OKLAHOMA	SIDEWALKS	DETAIL NO. 208 APPROVED 09/18/2023



NOTE:

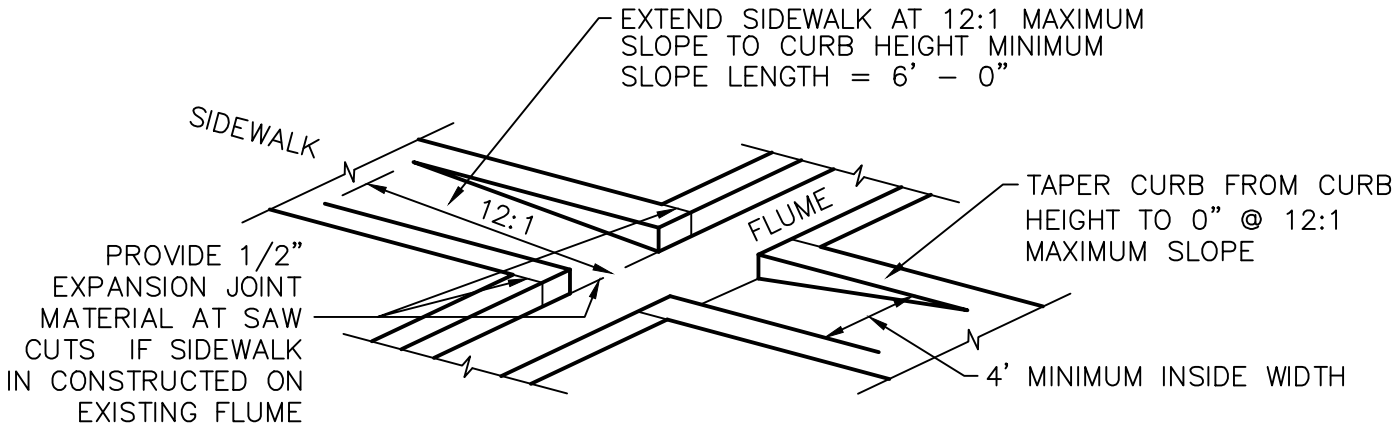
1. WHEN VERTICAL OBSTRUCTIONS ARE PRESENT NEAR THE CURB AT THE END OF THE FLARED SIDE OR WHEN THE CURB–RAMP IS DIAGONAL TO THE CURB WHICH WILL RESULT IN EXTREMELY LONG FLARED SIDE SURFACE, THE AFFECTED FLARED SIDE MAY BE CUT AND TERMINATED PERPENDICULAR TO THE CURB, PROVIDED THAT THE MAXIMUM SLOPE OF 10% IS ACHIEVED ON EACH OF THE RESULTING PLANES.

CITY of MOORE OKLAHOMA

STANDARD CURB RAMP DIAGONAL

DETAIL NO.
209

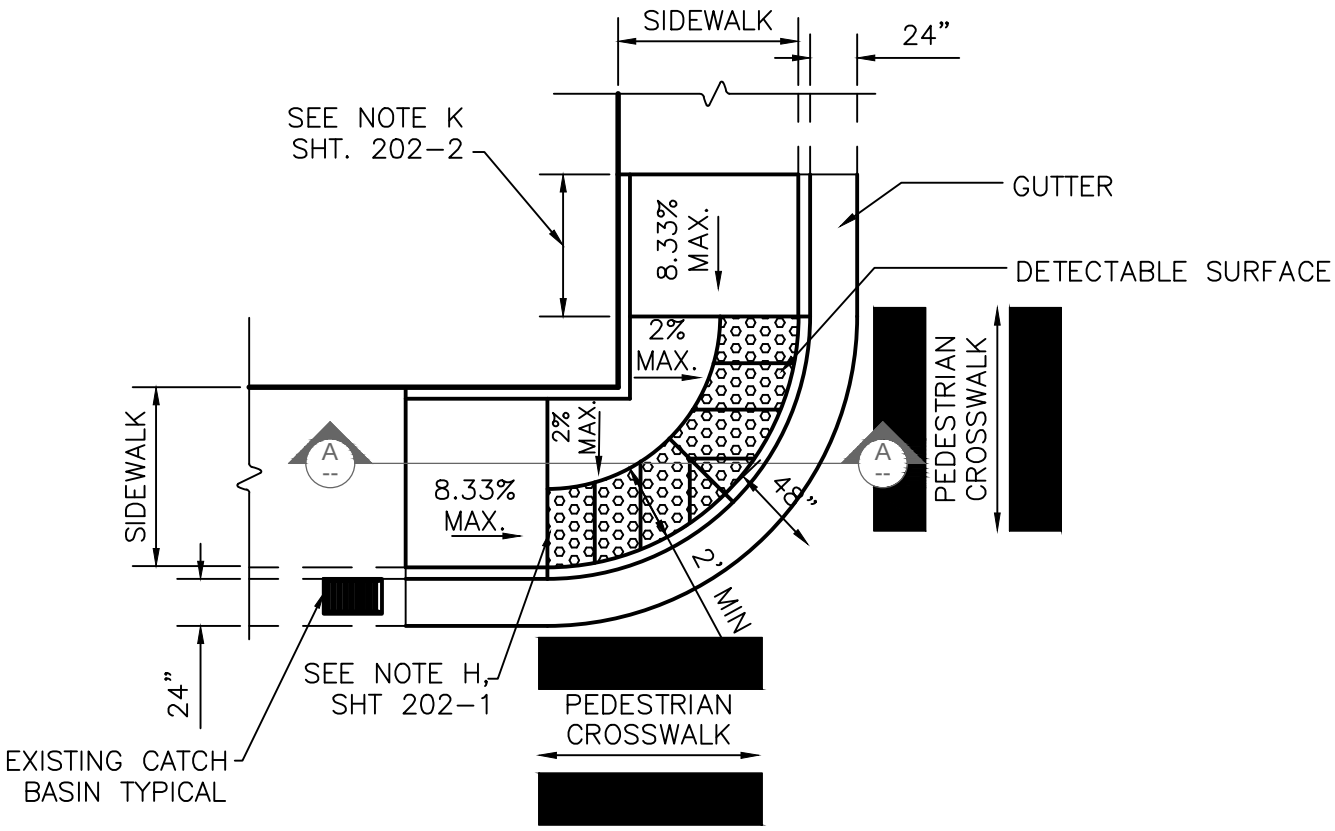
APPROVED
09/18/2023



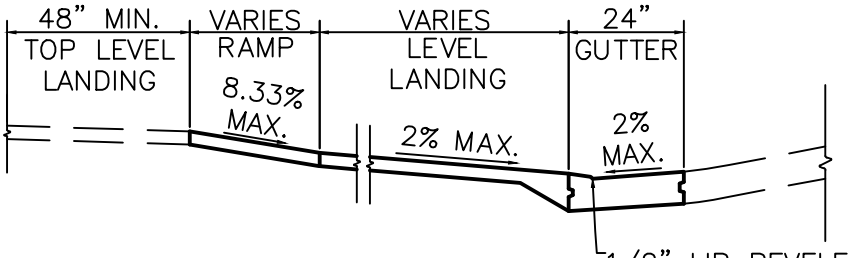
SIDEWALK RAMP AT FLUME CROSSING

DETAIL NO.
210

APPROVED
09/18/2023



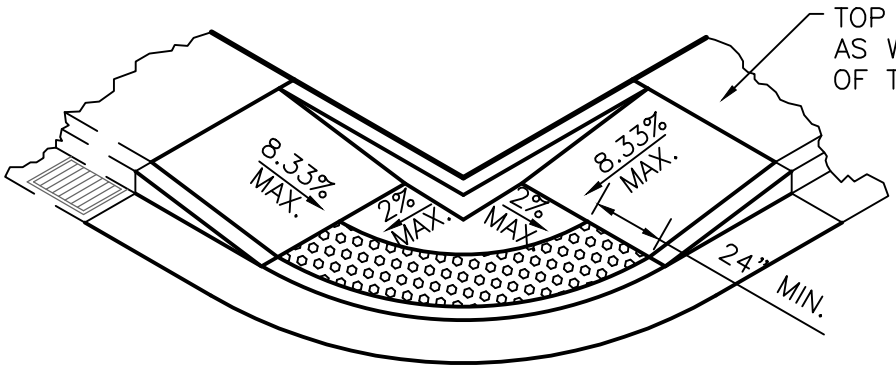
ALTERNATIVE 'A' BLENDED TRANSITION RAMP



1/2" LIP BEVELED AT 45° FOR FULL WIDTH OF THE RAMP

SECTION A-A

ALL NOTES ON SHEETS 201-1 & 201-2 STANDARD CURB RAMP APPLY TO ALL ALTERNATES (A, B, C).



ISOMETRIC

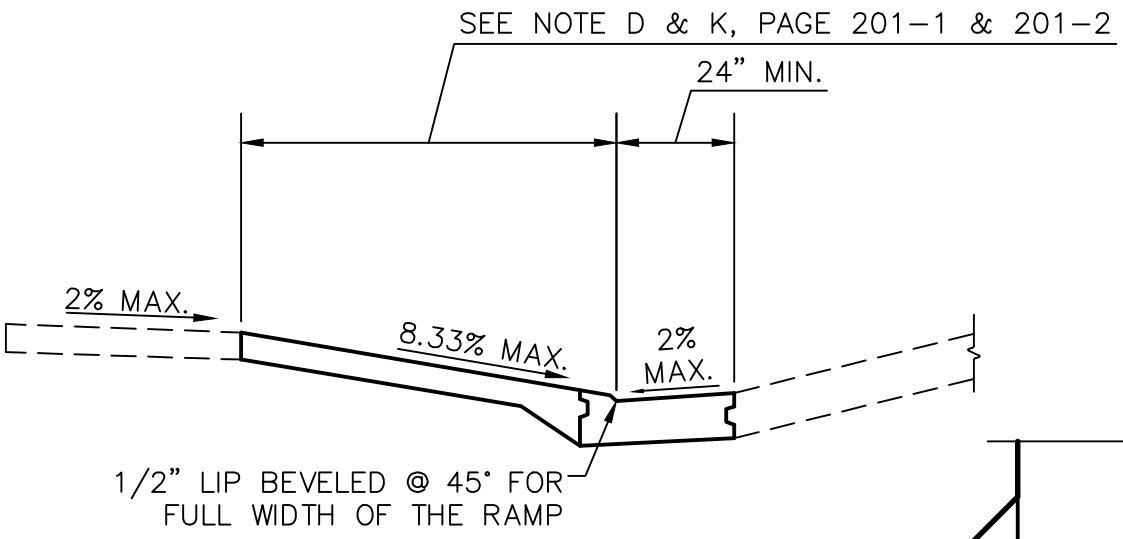
SEE GENERAL NOTES, PAGE 201-1 & 201-2 FOR ALL CURB RAMP ALTERNATES (A, B, C)

CITY of MOORE OKLAHOMA

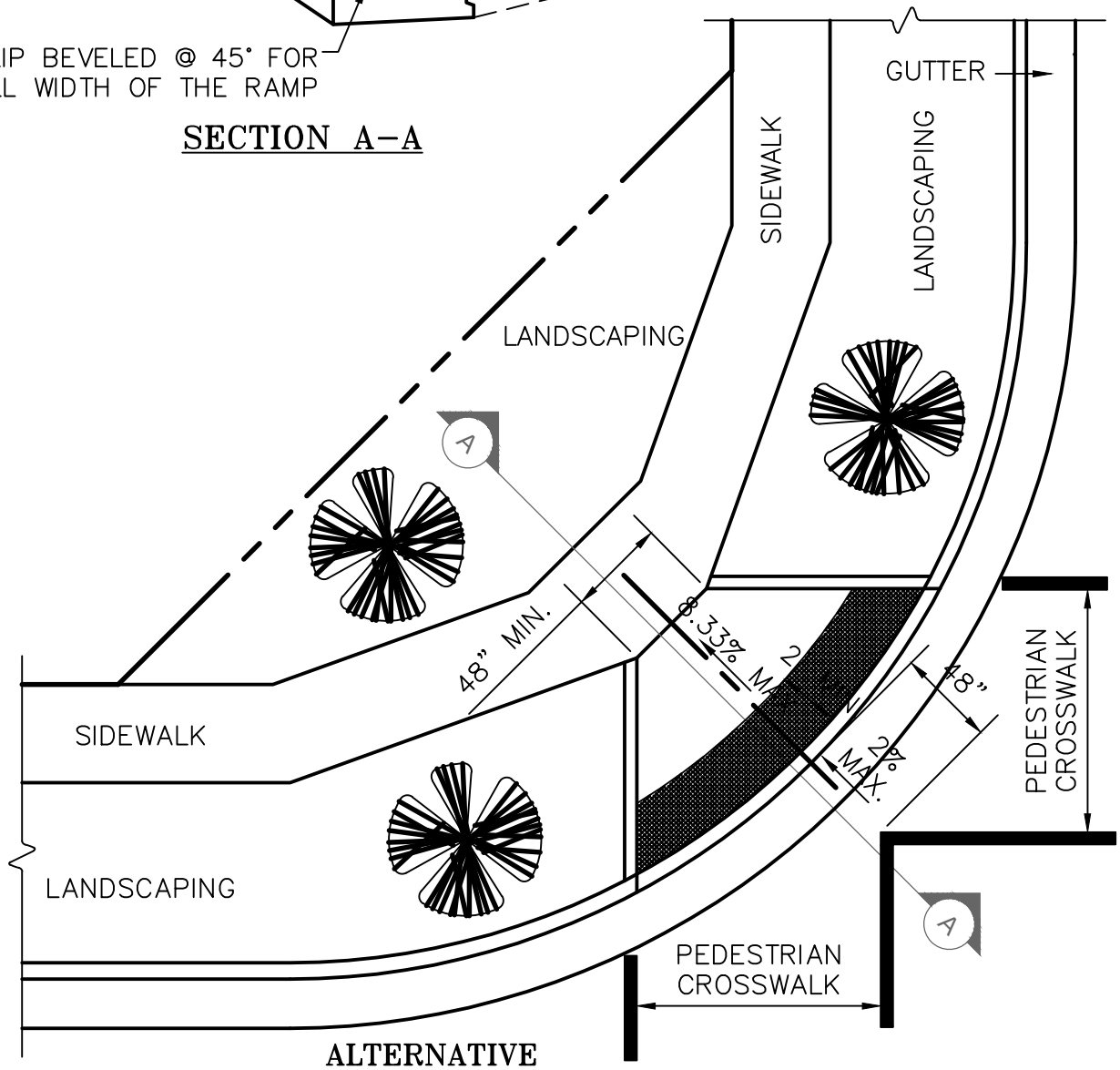
BLENDED ALTERNATE RAMP A

DETAIL NO.
211

APPROVED
09/18/2023



SECTION A–A



ALTERNATIVE "D" CURB RAMP

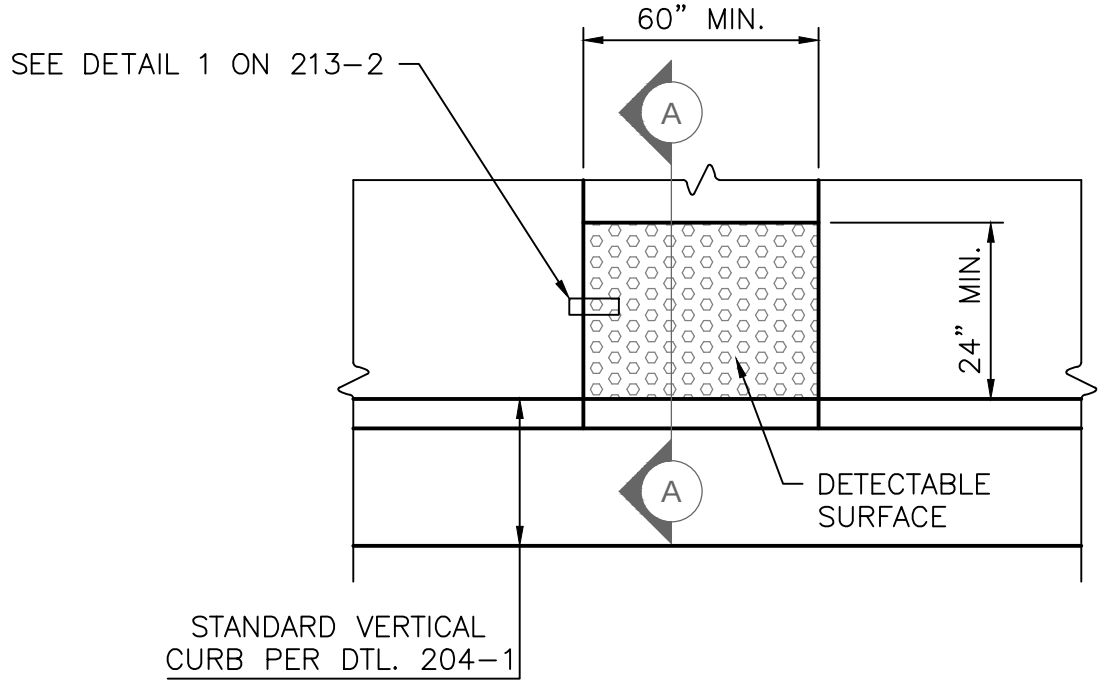
CITY of MOORE OKLAHOMA	ALTERNATIVE CURB RAMP FOR SETBACK SIDEWALK	DETAIL NO. 212 APPROVED 09/18/2023

DETECTABLE TRUNCATED DOME SPECIFICATIONS:

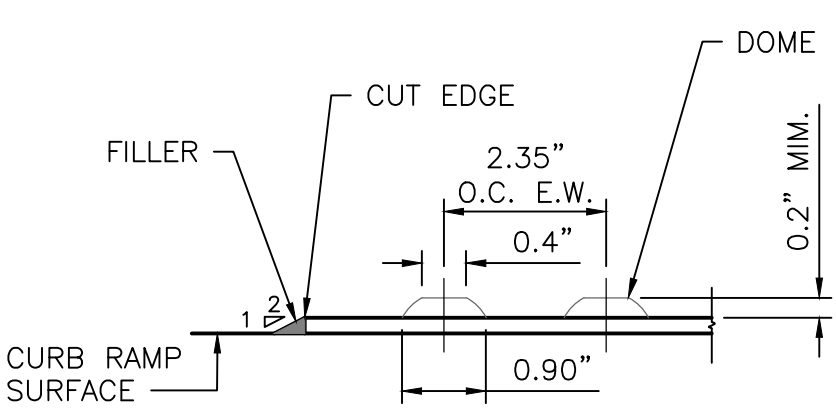
- BOTTOM DIAMETER OF 0.9 IN.
- TOP DIAMETER OF 0.4 IN.
- HEIGHT OF 0.2 IN.
- CENTER-TO-CENTER SPACING OF 2.35 IN.
- VICUAL CONTRAST.

NOTE:

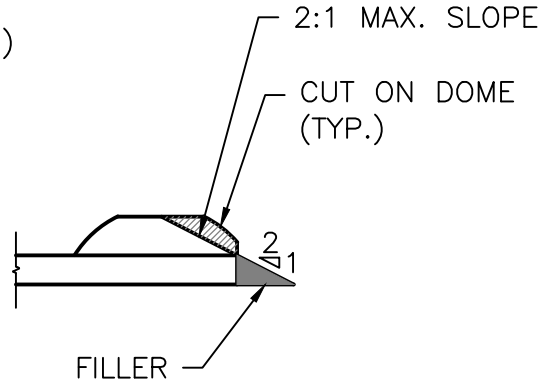
1. DETECTABLE SURFACE FOR RAMPS ONLY REQUIRED AT PUBLIC ROAD RAMPS.



DETECTABLE SURFACE LAYOUT
RAMP ON STRAIGHT EDGE

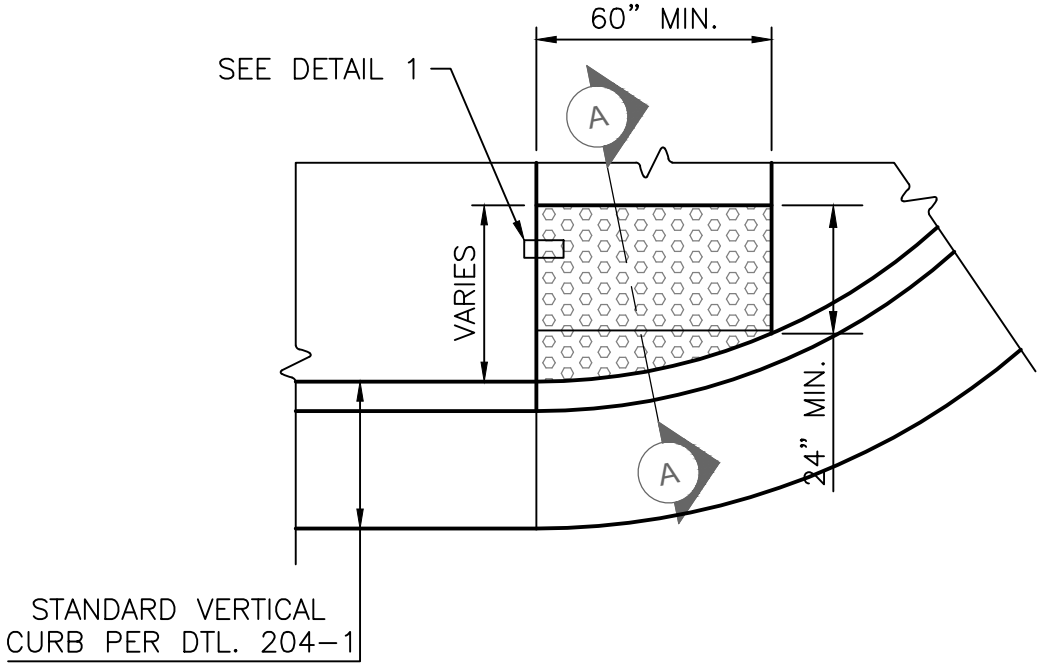


SECTION A-A

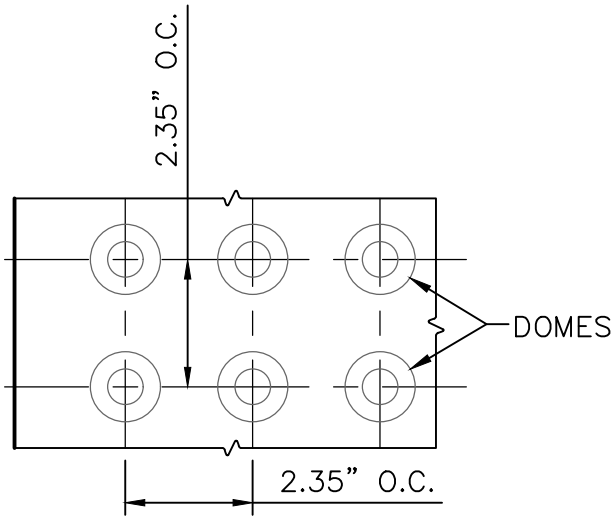


DETAIL AT CUT DOME

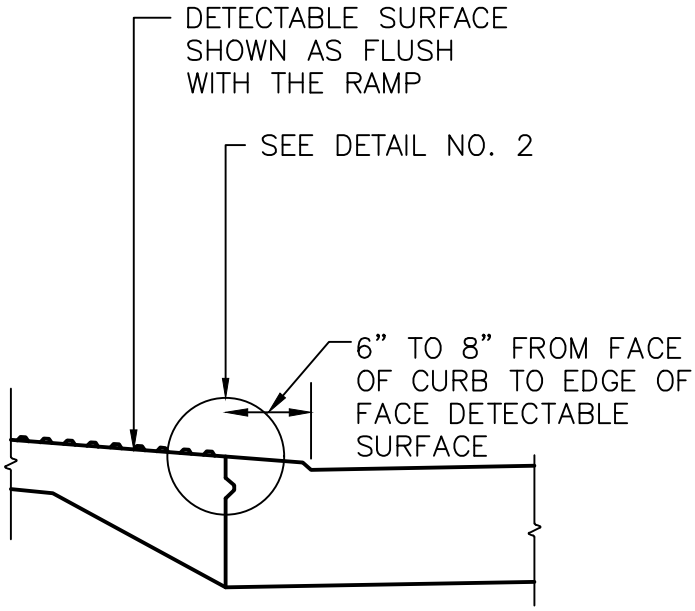
CITY of MOORE OKLAHOMA	DETECTABLE SURFACE FOR RAMPS (1 OF 2)	DETAIL NO. 213-1 APPROVED 09/18/2023



DETECTABLE SURFACE LAYOUT
RAMP ON CURVED EDGE

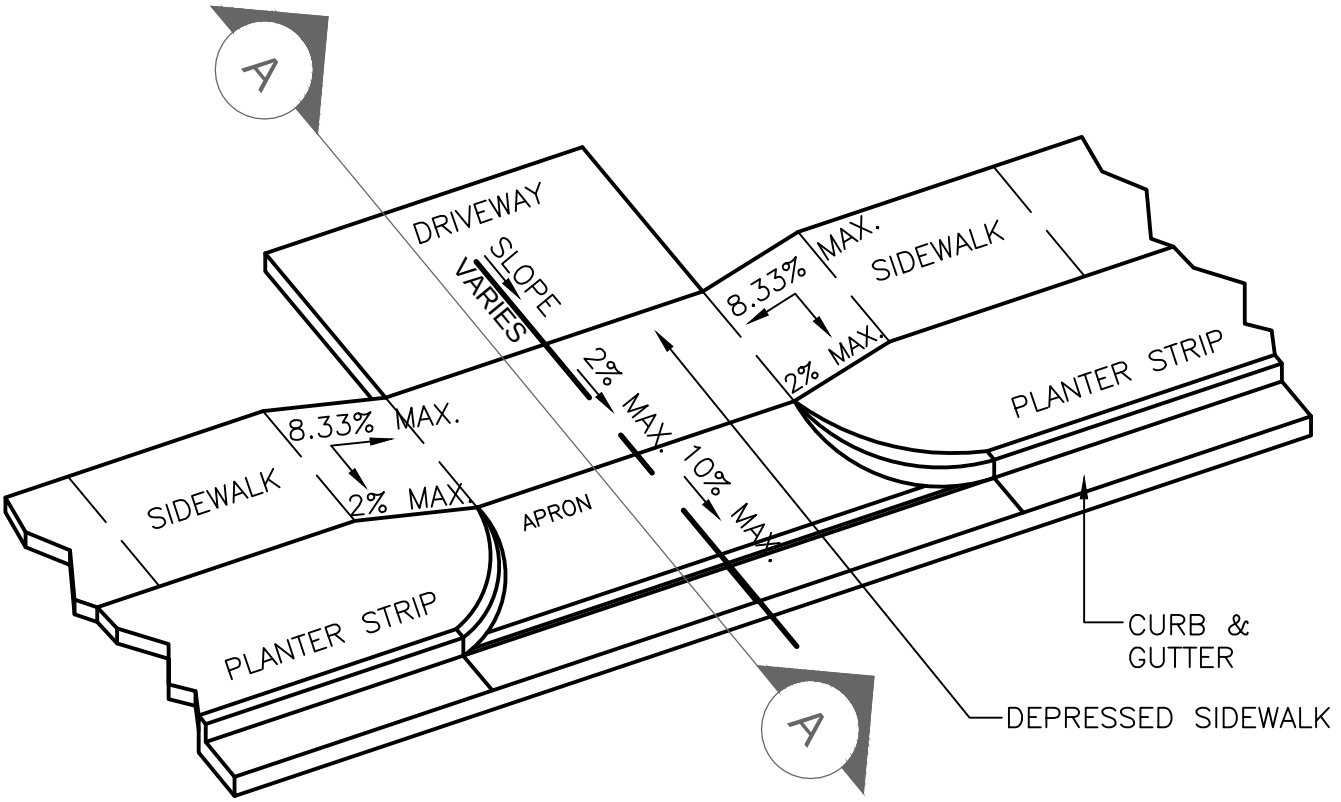


DETAIL 1

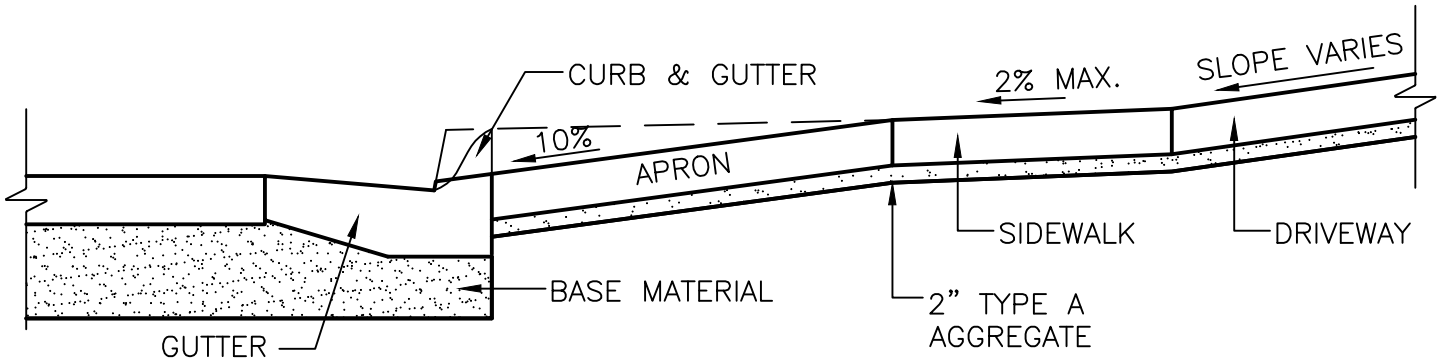


SECTION A-A

CITY of MOORE OKLAHOMA	DETECTABLE SURFACE FOR RAMPS (2 OF 2)	DETAIL NO. 213-2 APPROVED 09/18/2023



PLAN



SECTION A–A

CITY of MOORE OKLAHOMA	STANDARD DRIVEWAY DETAILS FOR EXISTING PAVING (1 OF 2)	DETAIL NO. 214-1 APPROVED 09/18/2023

NOTES:

1. A 5'–0" MINIMUM RADIUS IS APPROVED FOR ONE & TWO FAMILY RESIDENCES NOT ABUTTING A LIMITED ACCESS OR MAJOR STREET. ALL OTHER DRIVEWAYS WILL HAVE A 10'–0" MINIMUM RADIUS.

2. THE DRIVEWAY CONTRACTOR MAY SAW CUT & REMOVE THE COMPLETE CURB & GUTTER SECTION OR THE CURB ONLY. SAW CUTS SHALL BE 2" OR 1/3 THE DEPTH OF THE GUTTER, WHICH EVER IS GREATER. SAW CUTS SHALL INCLUDE THE TOP & FACE OF CURB AS WELL AS THE GUTTER. SAW CUTS SHALL BE MADE PRIOR TO THE REMOVAL OF CONCRETE.

3. IF A GUTTER HOLDS WATER PRIOR TO ANY CONSTRUCTION BY DRIVEWAY CONTRACTOR, HE SHALL NOTIFY THE CITY'S DESIGNATED REPRESENTATIVE OF THE SITUATION BEFORE DOING ANY WORK. THE COMPLETED DRIVEWAY WORK WILL NOT BE ACCEPTED IF THE GUTTER HOLDS WATER DUE TO POOR CONSTRUCTION BY THE CONTRACTOR.

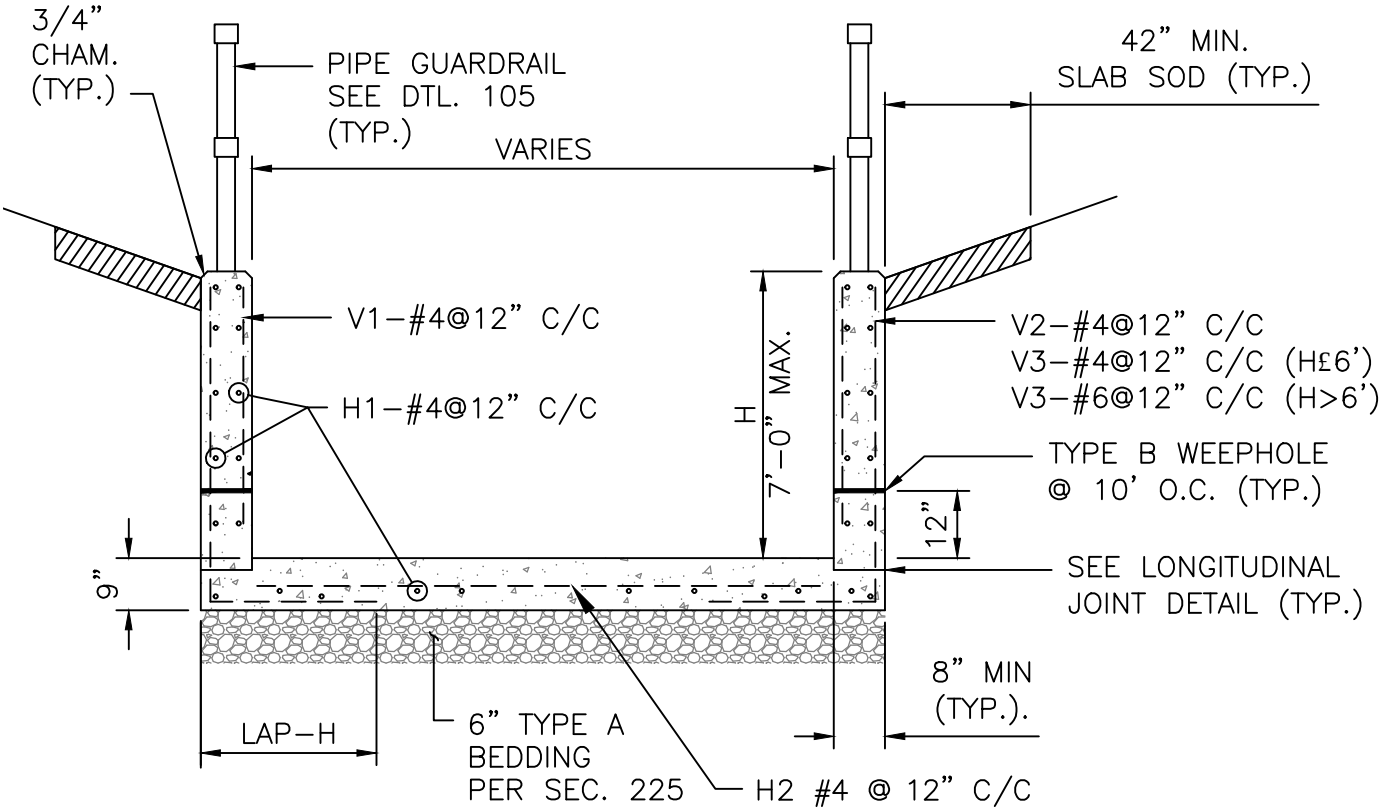
4. IT IS RECOGNIZED THAT THIS DRIVEWAY DETAIL WILL NOT COVER EVERY POSSIBLE SITUATION ENCOUNTERED IN CONSTRUCTION. ADDITIONAL EXPANSION JOINTS WILL BE REQUIRED AS NEEDED.

5. CLEAN AND SEAL ALL JOINTS AND SAW CUTS IN ACCORDANCE WITH SECTION 300 OF THE CITY OF MOORE STANDARD SPECIFICATIONS.

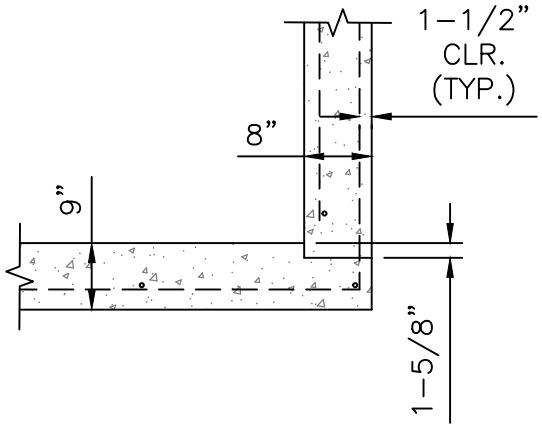
6. DO NOT TURN RADIUS IN FRONT OF ADJACENT PROPERTY WITHOUT WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNER.

7. CURB CUTS EXCEEDING 30' MUST BE APPROVED BY THE CITY'S DESIGNATED REPRESENTATIVE.

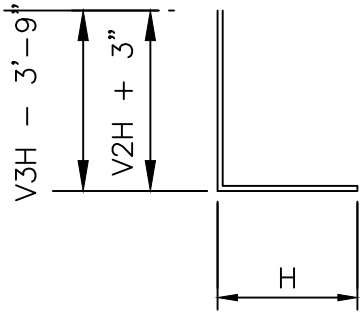
CITY of MOORE OKLAHOMA	STANDARD DRIVEWAY DETAILS FOR EXISTING PAVING (2 OF 2)	DETAIL NO. 214-2 APPROVED 09/18/2023



CHANNEL LINING WITH VERTICAL WALLS



LONGITUDINAL CONSTRUCTION JOINT



BAR BENDING DIAGRAM

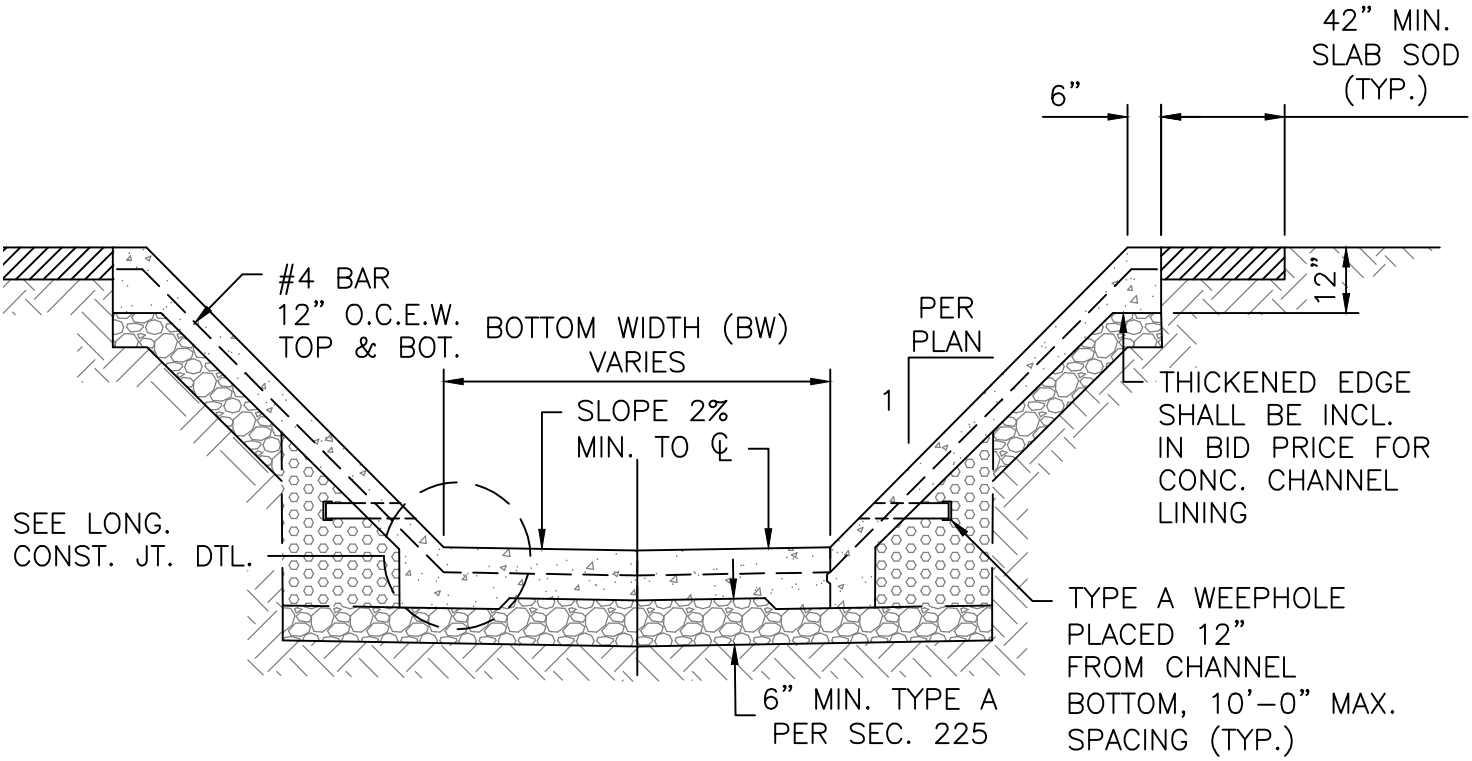
NOTE:
1. DETAIL BASED ON ODOT TYPE II–C RETAINING WALL.
2. WALL BACKFILL MATERIAL AND LIMITS PER PLAN.
3. TRANSVERSE JOINT SPACING PER PLAN. ALL JOINTS SHALL BE SEALED PER SEC. 932.
4. USE CLASS A CONC. PER SEC. 932.

CITY of MOORE OKLAHOMA

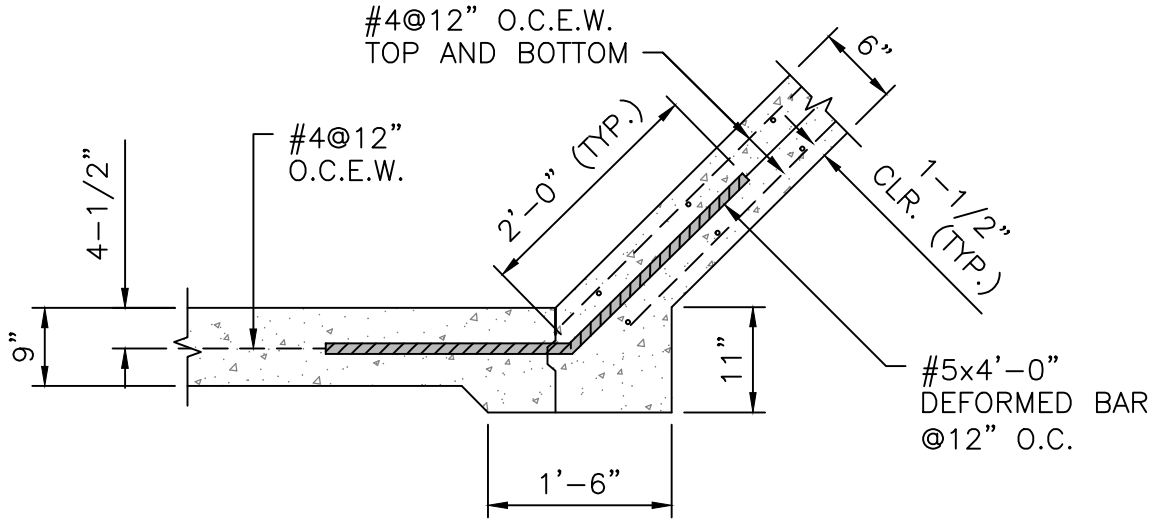
CONC. CHANNEL LINER DETAILS (1 OF 3)

DETAIL NO.
215–1

APPROVED
09/18/2023



CHANNEL LINING WITH SLOPED WALLS

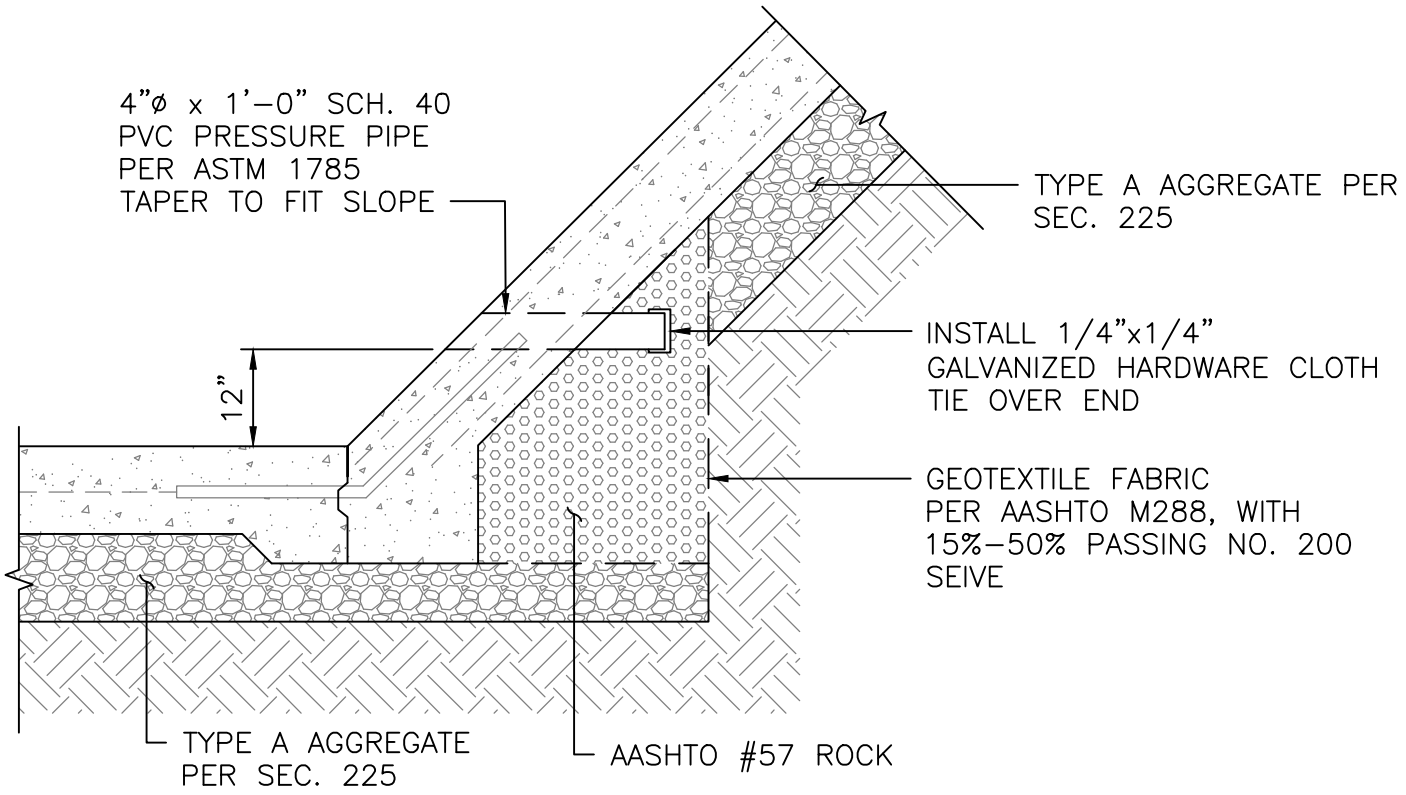


LONGITUDINAL JOINT DETAIL

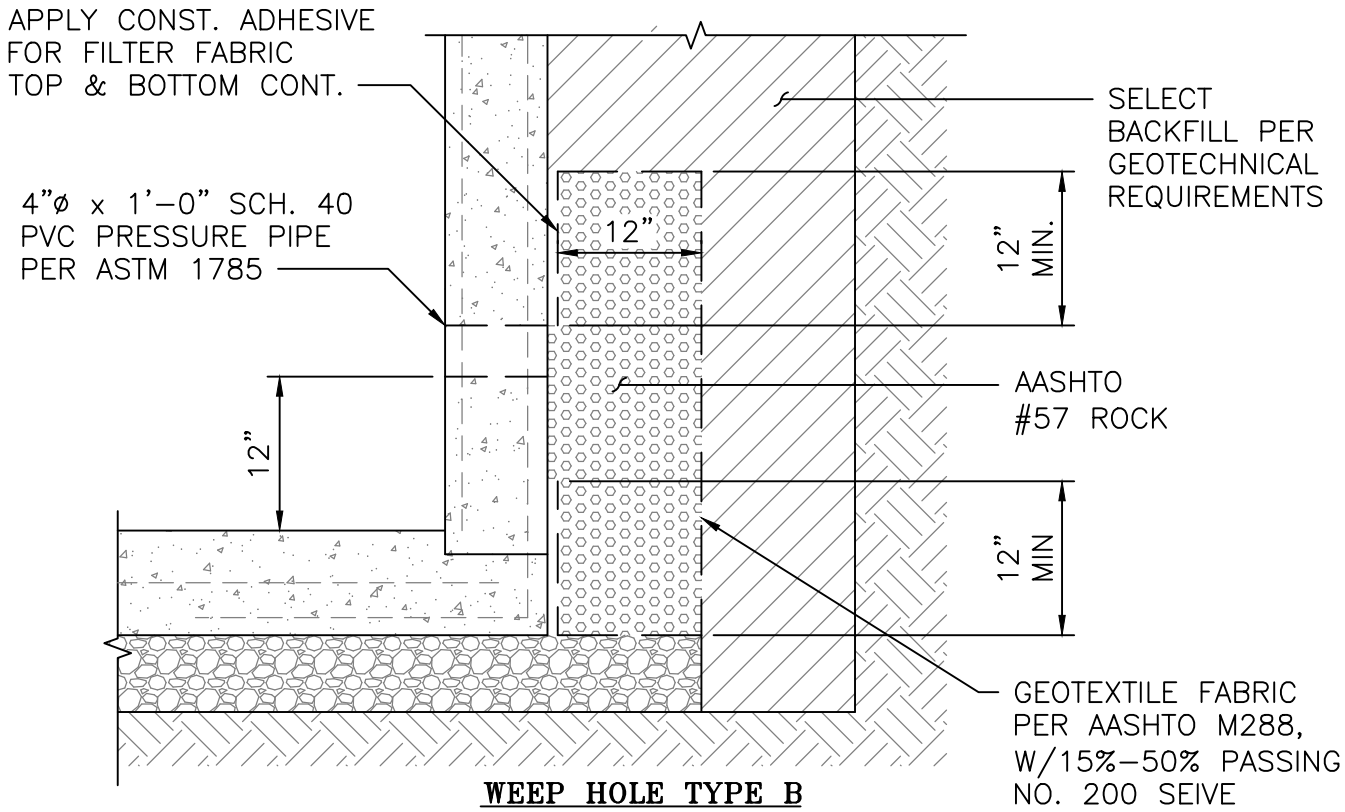
NOTE:
1. USE CLASS A CONC. PER SEC. 932.

2. MAX. SIDE SLOPE SHALL BE 1:1.

CITY of MOORE OKLAHOMA	CONC. CHANNEL LINER DETAILS (2 OF 3)	DETAIL NO. 215-2 APPROVED 09/18/2023

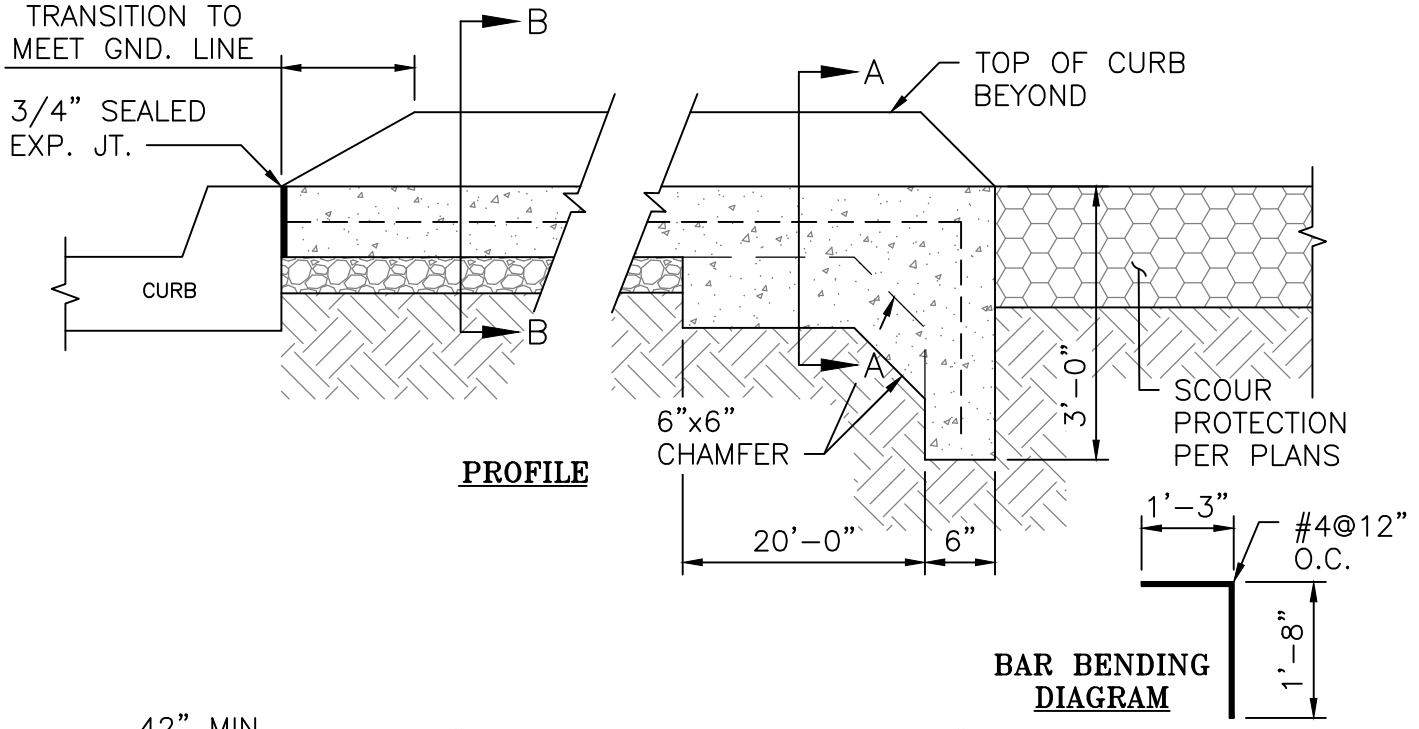


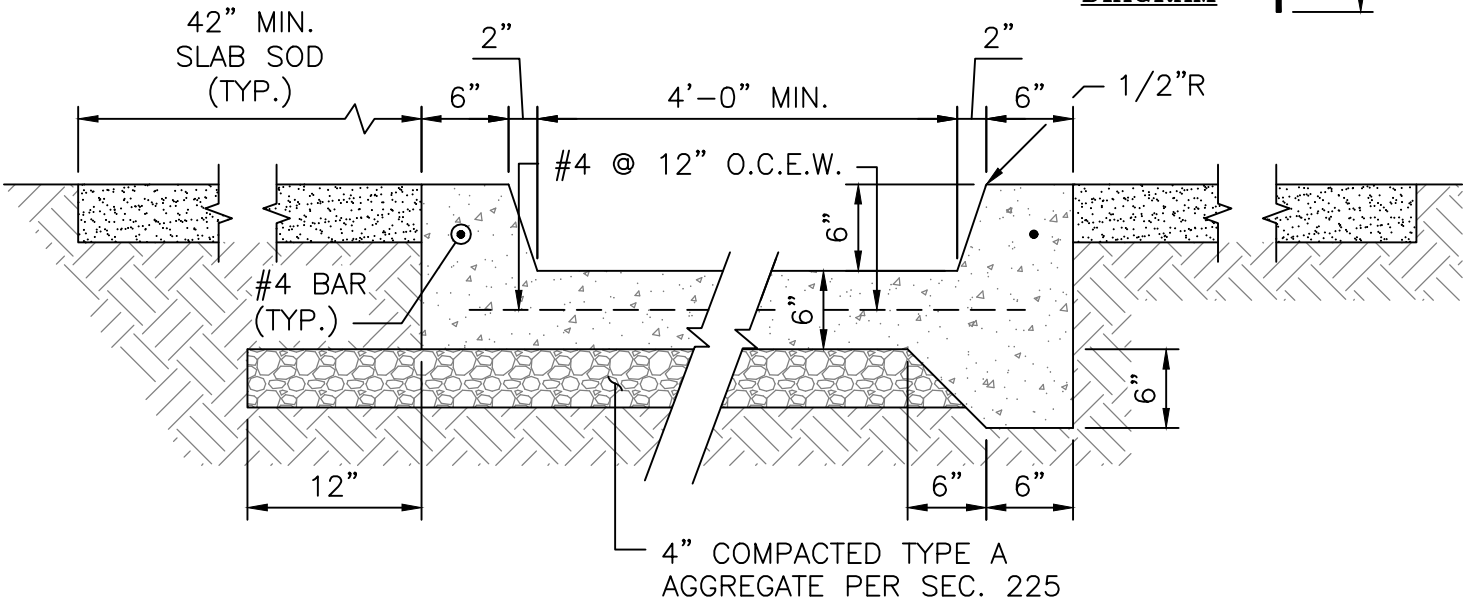
WEEP HOLE TYPE A



WEEP HOLE TYPE B

CITY of MOORE OKLAHOMA	CONC. CHANNEL LINER DETAILS (3 OF 3)	DETAIL NO. 215–3 APPROVED 09/18/2023





SECTION A–A (SYMMETRICAL)

SECTION B–B (SYMMETRICAL)

FLUME NOTES:

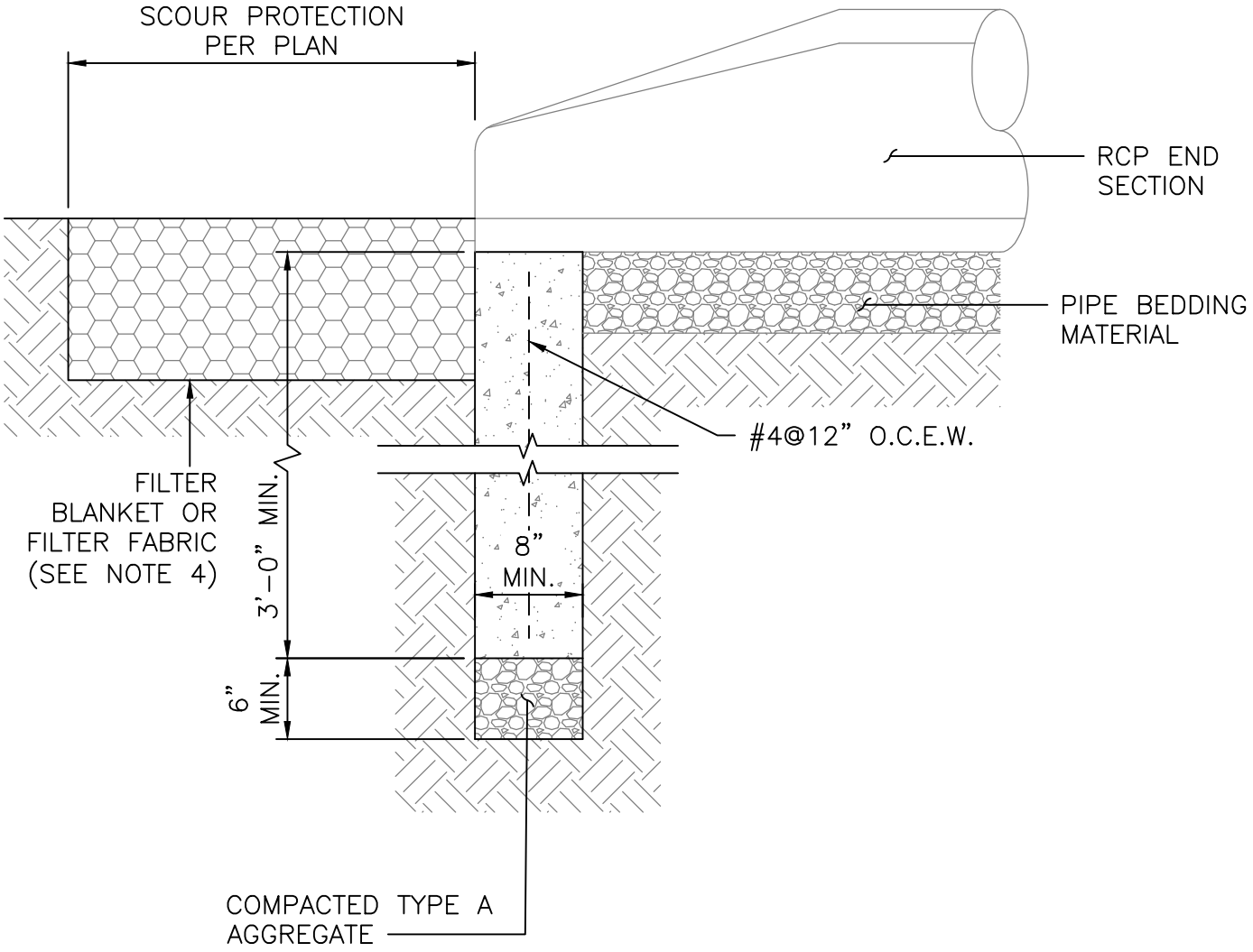
1. CLASS A CONCRETE PER SEC. 932.
2. 3/4" EXPANSION JOINT @ 100' MAX. SPACING.
3. TRANSVERSE CONTRACTION JOINTS (TYPE "D") @ 15' MAX. SPACING.
4. LONGITUDINAL CONTRACTION JOINT @ FLUME CENTERLINE FOR FLUME WIDTHS GREATER THAN OR EQUAL TO 12'.
5. ALL JOINTS SHALL BE SEALED PER SEC. 932.

CITY of MOORE OKLAHOMA

TYPICAL FLUME DETAILS (1 OF 2)

DETAIL NO. 216-1

APPROVED 09/18/2023



TOE WALL NOTES:

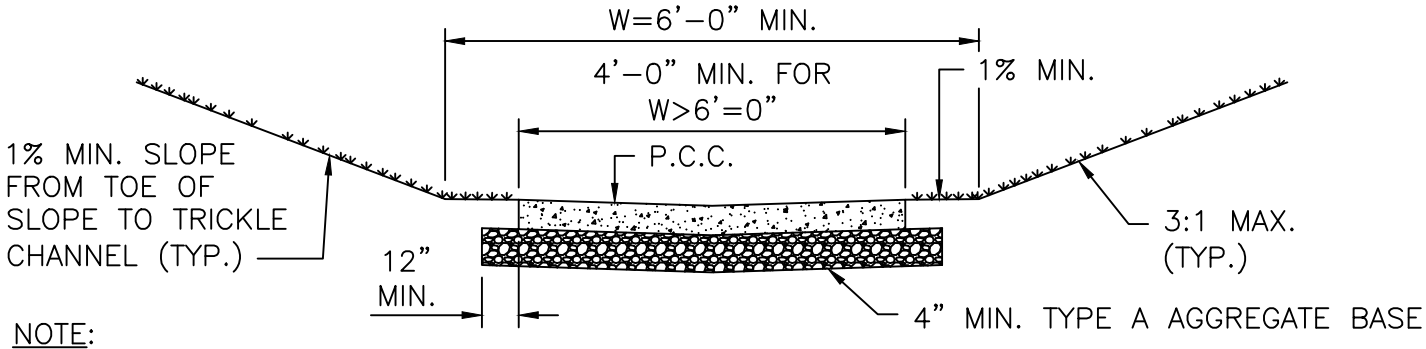
1. CLASS A CONCRETE PER SEC. 932.

2. TOE WALL LENGTH, PERP. TO THE PIPE CENTERLINE, SHALL BE A MIN. OF 12" LONGER THAN THE END SECTION WIDTH. THE END SECTION SHALL BE CENTERED ON TOE WALL.

3. CONC. FLARED END SECTION SHOWN. FOR HDPE AND CMP END SECTIONS, EMBED TOE PLATE INTO FRESH CONCRETE.

4. ALL RIPRAP INSTALLATIONS SHALL BE COMPLETED OVER A FILTER BLANKET (SECTION 981.06) OR A GEOTEXTILE FILTER FABRIC (SECTION 988.02) MEETING THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

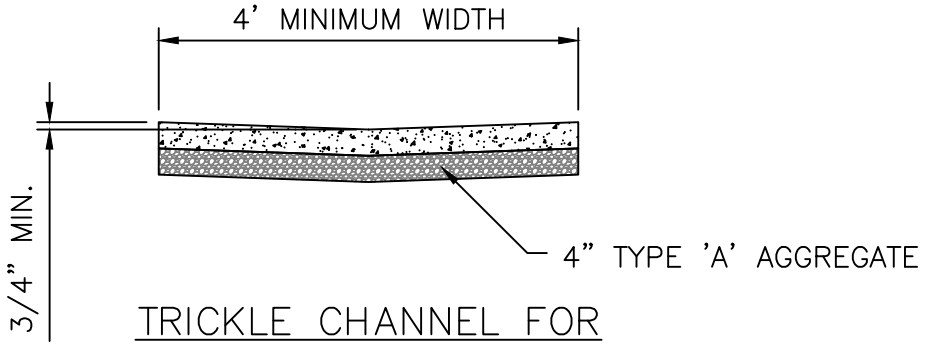
CITY of MOORE OKLAHOMA	CUT OFF WALL DETAIL	DETAIL NO. 217 APPROVED 09/18/2023



NOTE:

1. CHANNEL BOTTOM WIDTHS OF MORE THAN 6 FEET SHALL HAVE 30% OF THE BOTTOM PAVED, BUT NOT LESS THAN 4 FEET. CHANNELS OF LESS THAN 6 FEET SHALL HAVE THE ENTIRE BOTTOM PAVED.

TYPICAL WIDTH		
BOTTOM WIDTH	FACTOR	WIDTH OF CONCRETE
10 FEET	N/A	MIN. 6 FEET
20 FEET	30%	6 FEET
30 FEET	30%	9 FEET
40 FEET	30%	12 FEET
50 FEET	30%	15 FEET



TRICKLE CHANNEL FOR DETENTION BASIN

NOTE:

1. CHANNEL BOTTOM WIDTHS OF MORE THAN 6 FEET SHALL HAVE 30% OF THE BOTTOM PAVED, BUT NOT LESS THAN 4 FEET. CHANNELS OF LESS THAN 6 FEET SHALL HAVE THE ENTIRE BOTTOM PAVED.
2. TRANSVERSE TYPE "D" JOINTS SPACED 0.80 TO 1.25 TIMES THE THE TRICKLE CHANNEL WIDTH OR 15' MAX.
3. LONGITUDINAL JOINTS SHALL NOT BE PLACED IN THE GUTTER OF THE TRICKLE CHANNEL.

CITY of MOORE OKLAHOMA

EARTHEN CHANNEL TYPICAL SECTION

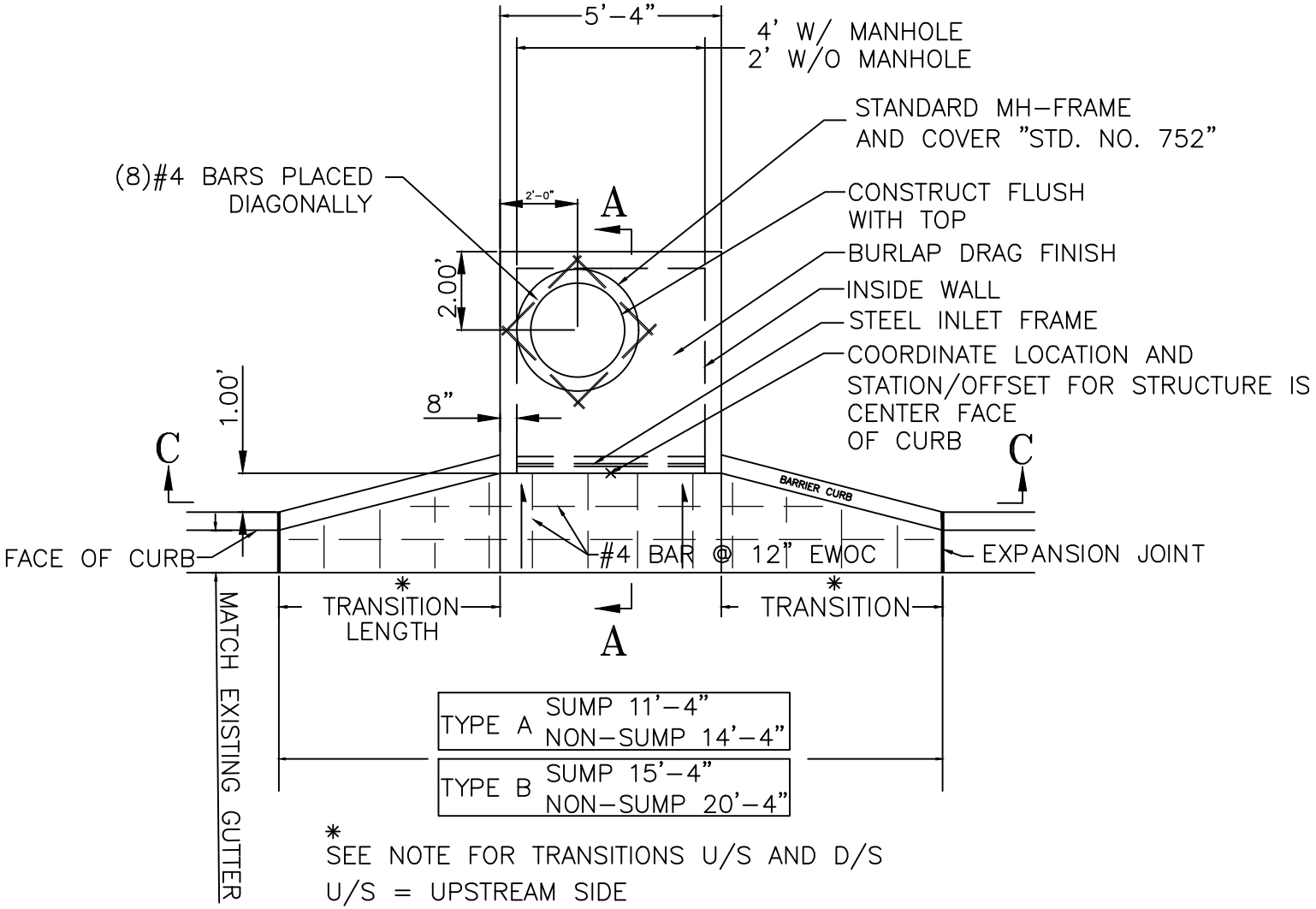
DETAIL NO. 218

APPROVED 09/18/2023

NOTE:
DETAIL SHOWN
WITH MANHOLE

TRANSITION LENGTHS (FT.)				
TYPE	SUMP		ON-GRADE	
	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM
A	3	3	6	3
B	5	5	10	5

INLET TYPE DESIGNATIONS	
TYPE	THROAT HEIGHT (IN.)
A	6
B	10



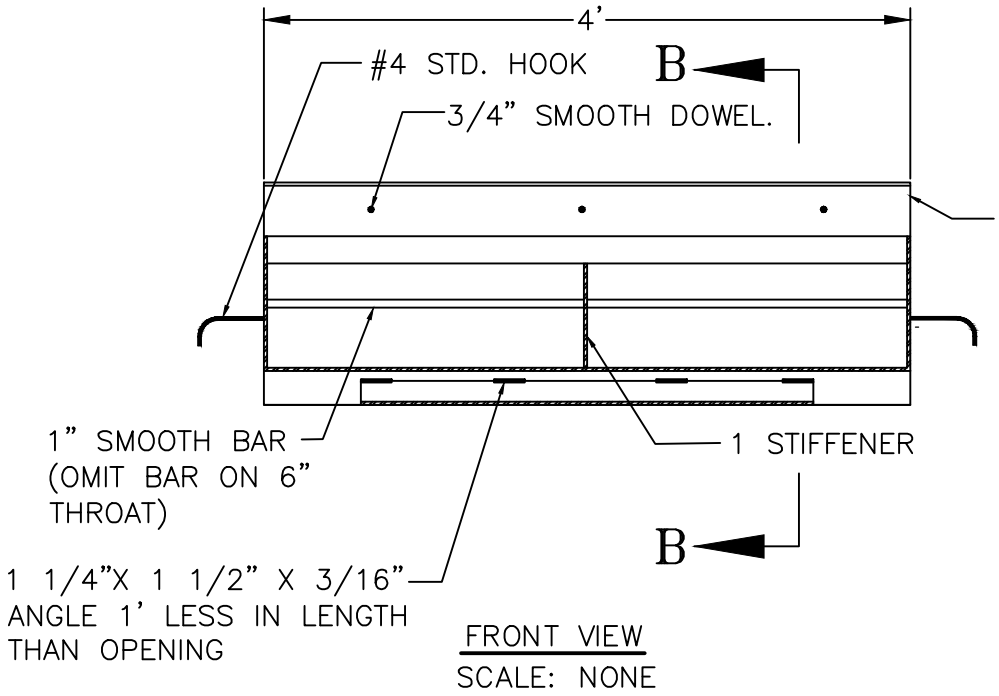
* SEE NOTE FOR TRANSITIONS U/S AND D/S
U/S = UPSTREAM SIDE
D/S = DOWNSTREAM SIDE

ALTERNATE CURB INLET NO. 1 (1 OF 4)

APPROVED
09/18/2023

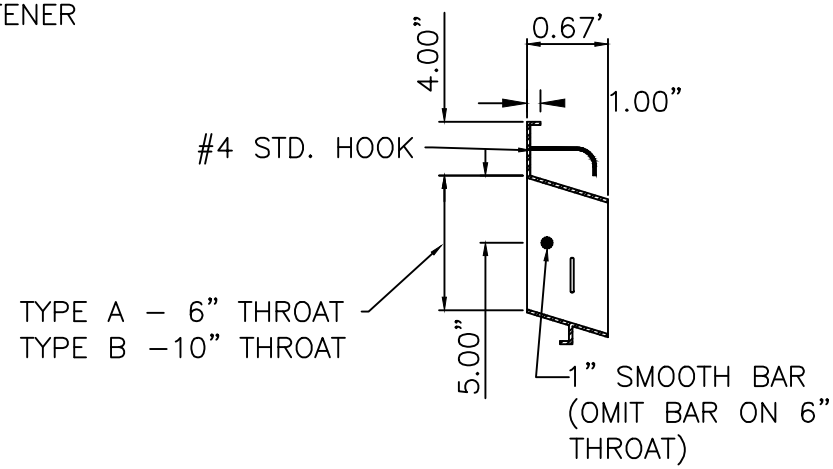
DETAIL NO.
219-1

ALTERNATE CURB INLET NO. 1 (2 OF 4)



FRONT VIEW
SCALE: NONE

TYPE A & TYPE B STEEL INLET INSERT DETAIL



SECTION B–B
SCALE: NONE

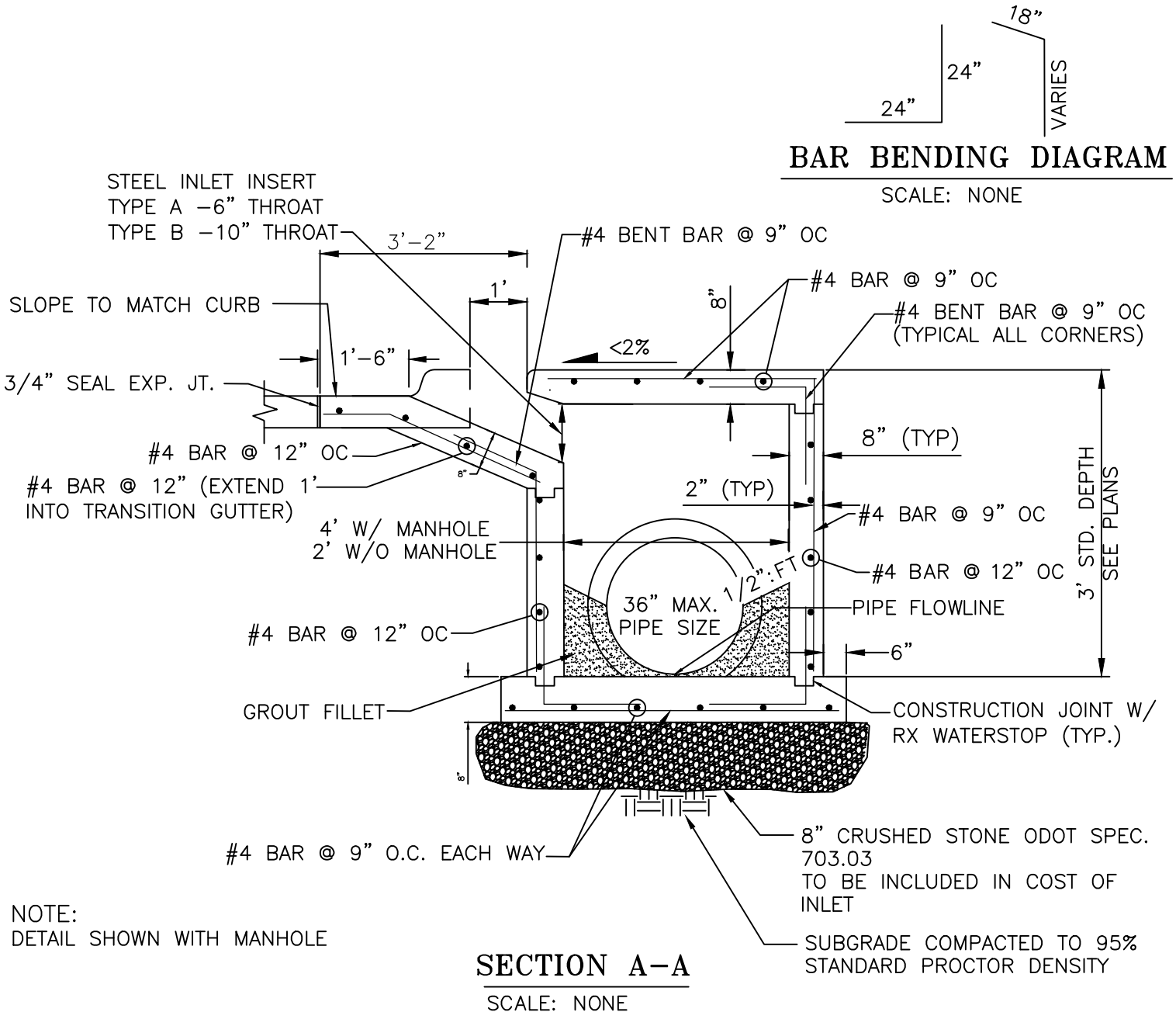
STEEL INLET FRAME NOTES

1. STEEL INLET INSERT SHALL BE AS MANUFACTURED BY SHAWNEE STEEL & WELDING, INC. OF MERIAM, KS. OR APPROVED EQUAL.
2. COST OF INLET INSERT SHALL BE INCLUDED IN THE PRICE BID FOR TYPE "A" OR TYPE "B" INLETS.
3. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
4. ALL STEEL SHALL BE 7 GAGE OR 3/16" THICK.
5. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
6. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A–123.

APPROVED
09/18/2023

DETAIL NO. 219-2

ALTERNATE CURB INLET NO. 1 (3 OF 4)

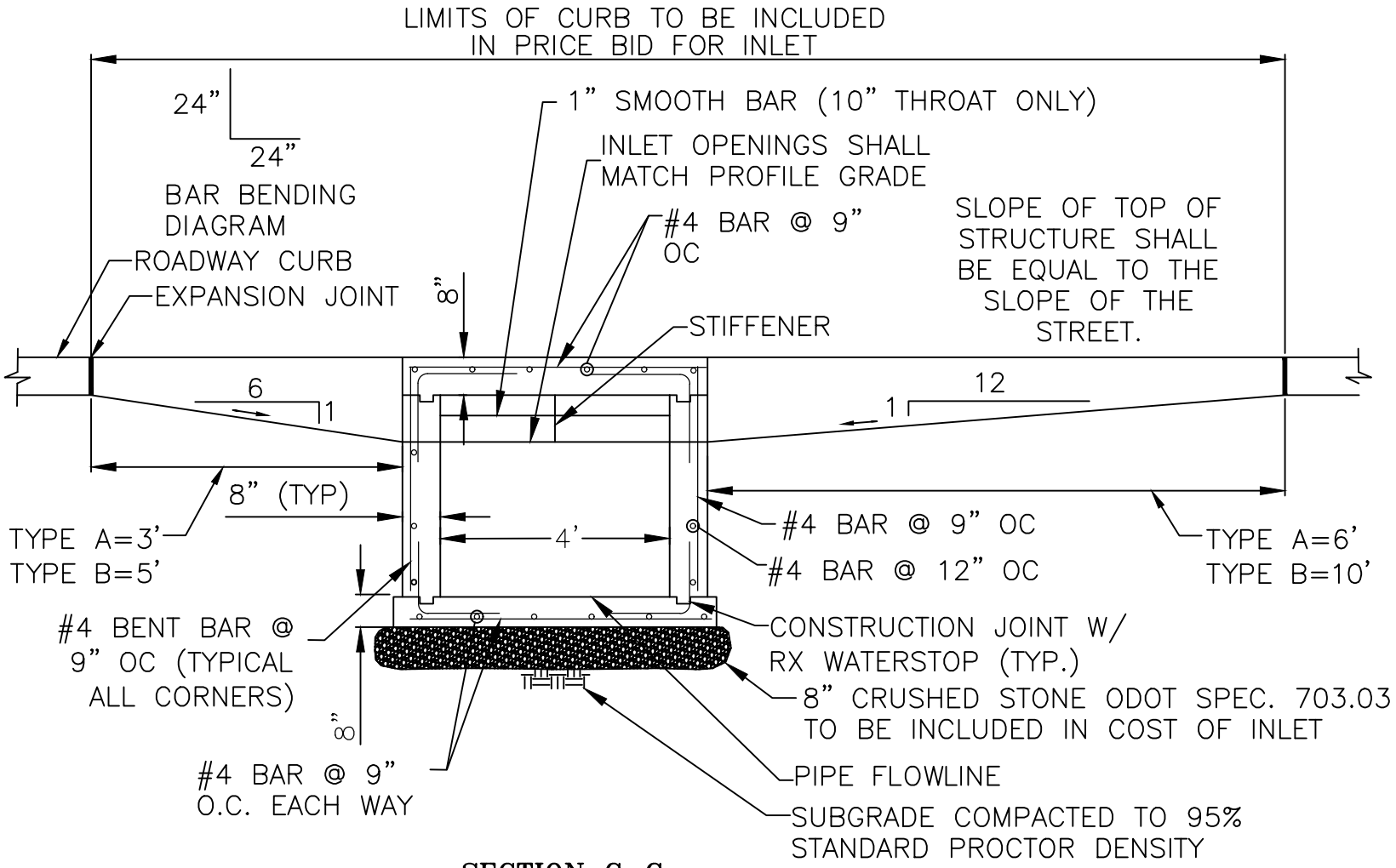


NOTE:
DETAIL SHOWN WITH MANHOLE

APPROVED
09/18/2023

DETAIL NO. 219-3

ALTERNATE CURB INLET NO. 1 (4 OF 4)



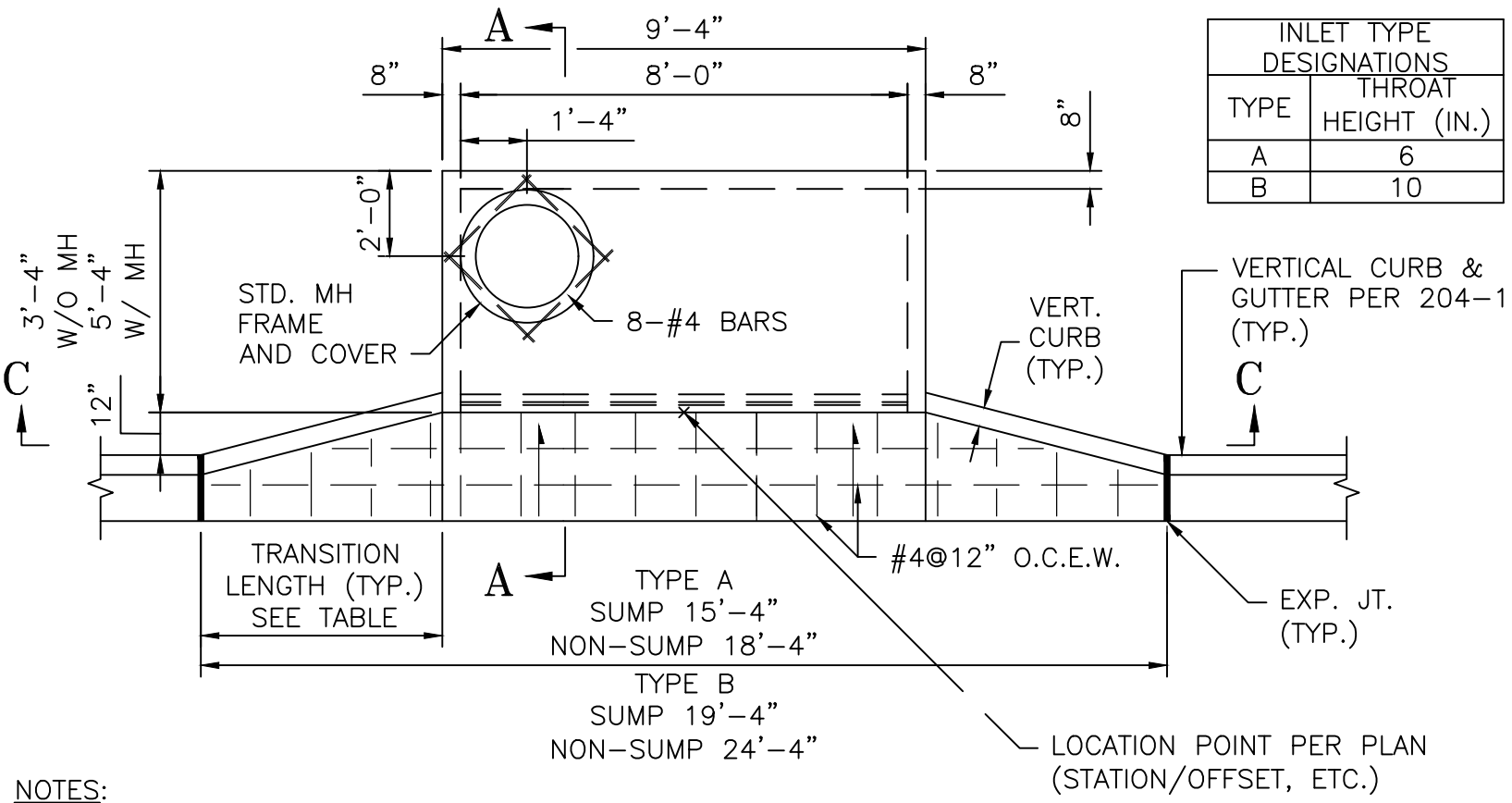
SECTION C–C

SCALE: NONE

APPROVED
09/18/2023

DETAIL NO. 219-4

ALTERNATE CURB INLET NO. 2 (1 OF 4)



INLET TYPE DESIGNATIONS	
TYPE	THROAT HEIGHT (IN.)
A	6
B	10

NOTES:

1. ALL CONC. SHALL BE CLASS A PER SEC. 932.
2. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4".
3. CLR. DISTANCES FROM CAST–IN–PLACE CONC. SURFACES TO REINF. SHALL BE 2" FOR WALLS, 1–1/2" FOR SUPPORT SLABS, 3" FROM THE BOT. OF FTGS., AND 2" FROM TOP OF SLABS, UNLESS OTHERWISE NOTED.
4. REINFORCING STEEL PER AASHTO M 31, GRADE 60 OR ASTM A615, GRADE 60.
5. ALL BARS SHALL LAP A MIN. OF 30 BAR DIAMETERS OR 18", WHICHEVER IS GREATER.
6. ALL EXPOSED CONCRETE SURFACES SHALL HAVE ALL VOIDS FILLED WITH GROUT. BURS AND FINS REMOVED.
7. MIN. CONC. COVER OVER STEEL SHALL CONFORM TO ACI STANDARDS.
8. MH LID SHALL BE FLUSH WITH INLET TOP.
9. BURLAP FINISH INLET TOP.
10. ALL CONC. JOINTS SHALL BE SEALED.

TRANSITION LENGTHS (FT.)				
TYPE	SUMP		ON–GRADE	
	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM
A	3	3	6	3
B	5	5	10	5

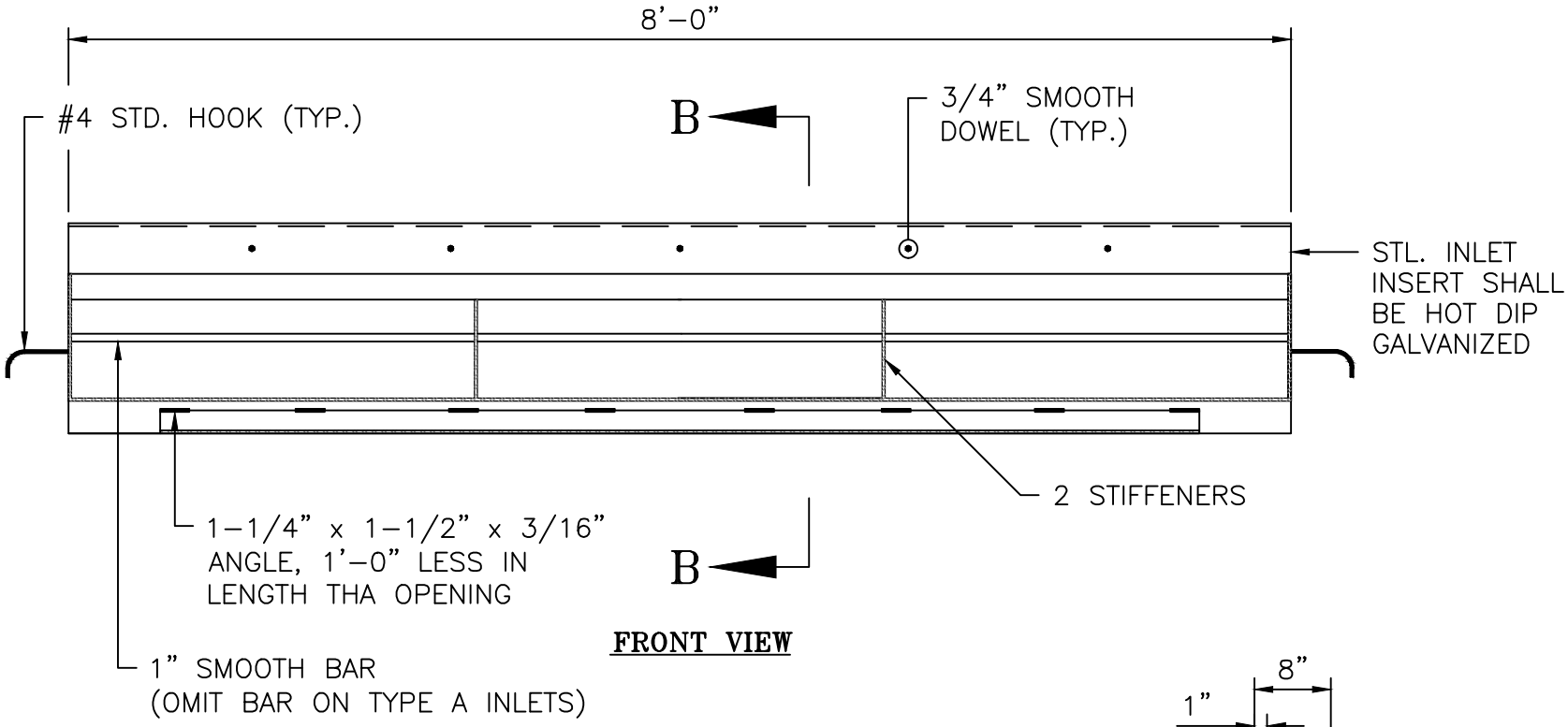
APPROVED
09/18/2023

DETAIL NO. 220–1

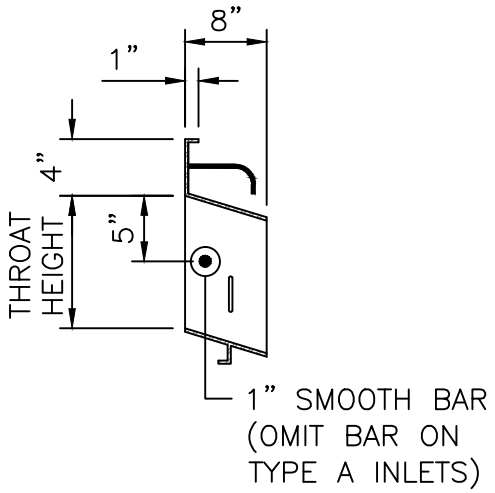
ALTERNATE CURB INLET NO. 2 (2 OF 4)

DETAIL NO. 220-2

APPROVED 09/18/2023



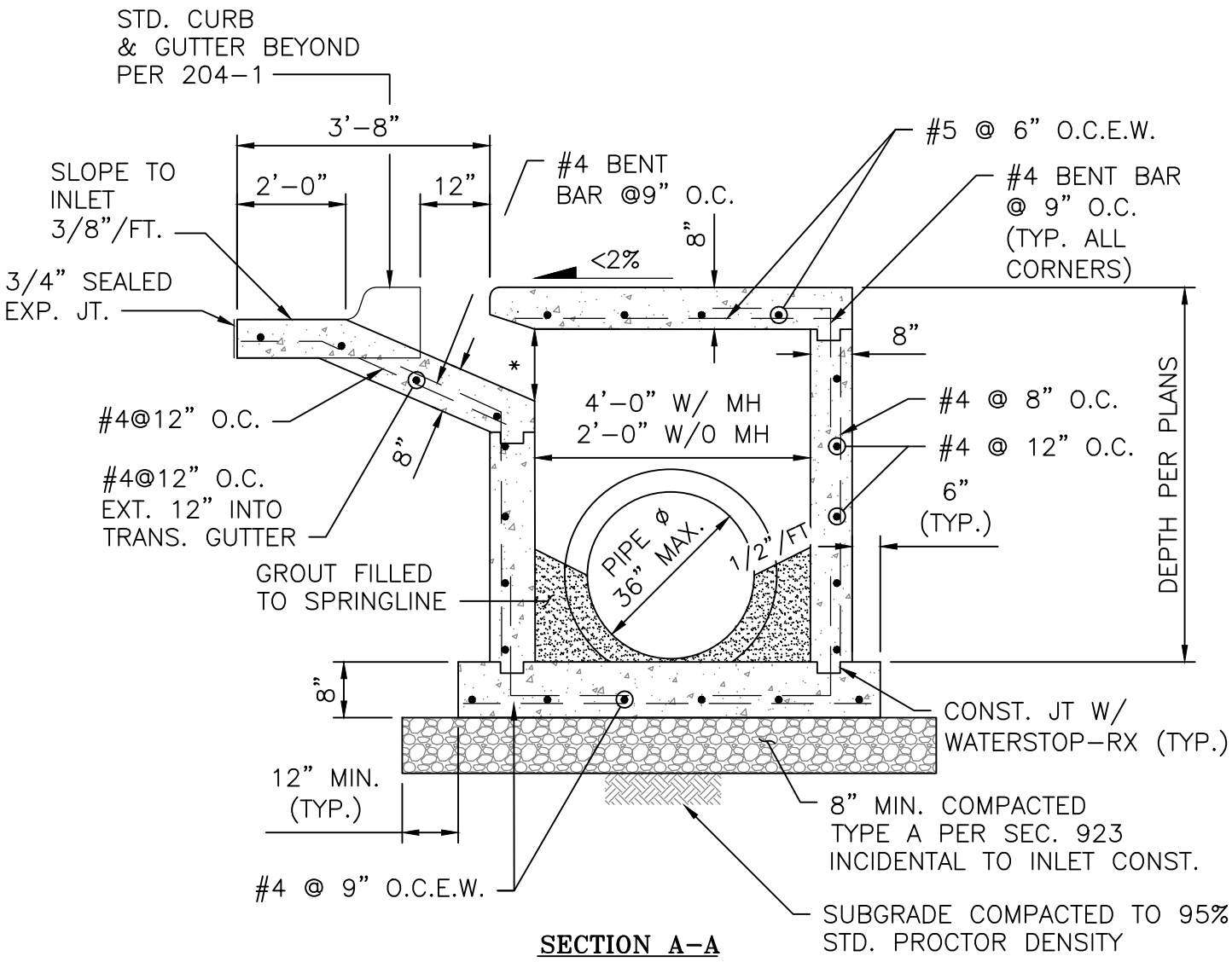
FRONT VIEW



SECTION B-B

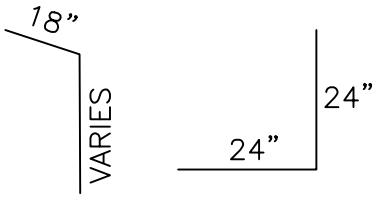
STEEL INLET FRAME NOTES:

1. STEEL INLET INSERT SHALL BE AS MANUFACTURED BY SHAWNEE STEEL & WELDING, INC. OF MERIAM, KS. OR APPROVED EQUAL.
2. COST OF INLET INSERT SHALL BE INCLUDED IN THE PRICE BID FOR TYPE "A" OR TYPE "B" INLETS.
3. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
4. ALL STEEL SHALL BE 7 GAGE OR 3/16" THICK.
5. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
6. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.



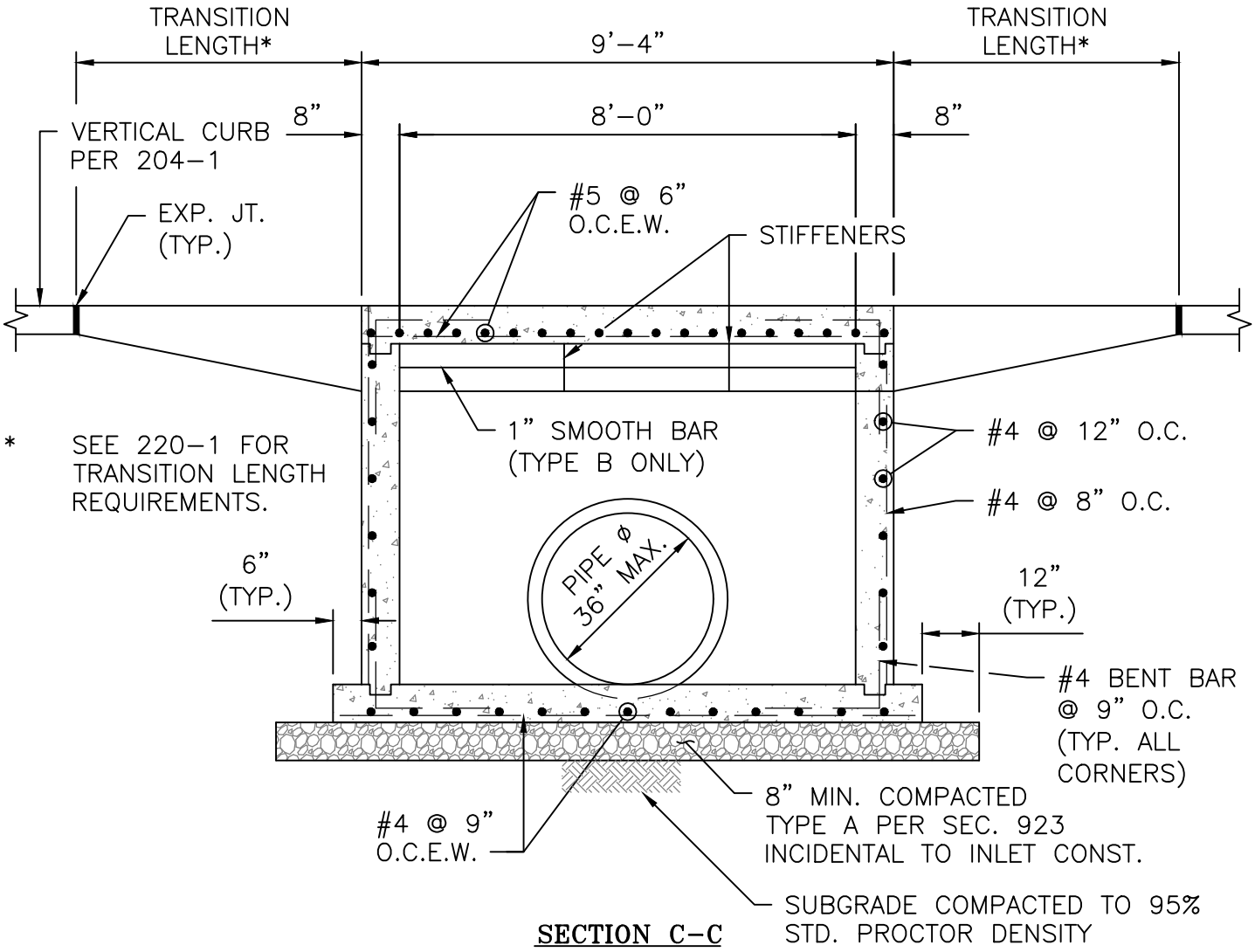
SECTION A-A

* 6" THROAT FOR TYPE A INLET
10" THROAT FOR TYPE B INLET

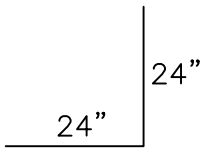


BAR BENDING DIAGRAM

CITY of MOORE OKLAHOMA	ALTERNATE CURB INLET NO. 2 (3 OF 4)	DETAIL NO. 220-3 APPROVED 09/18/2023



SECTION C–C



BAR BENDING DIAGRAM

NOTES:
1. FOR ON–GRADE INLETS, TOP OF INLET SHALL MATCH THE LONGITUDINAL SLOPE OF THE ADJACENT ROADWAY

CITY of MOORE OKLAHOMA	ALTERNATE CURB INLET NO. 2 (4 OF 4)	DETAIL NO. 220–4 APPROVED 09/18/2023

WATER NOTES

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH CITY OF MOORE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS.

2. ALL FIRE HYDRANTS & VALVE BOXES TO BE SET TO PROPOSED FINAL GRADE WITH 4 1/2" STEAMER NOZZLE A MINIMUM AT 18" & A MAXIMUM OF 24" ABOVE GROUND LEVEL. ALL FIRE HYDRANTS TO HAVE DUCTILE IRON LEADS.

3. ALL EXISTING WATER MAINS BEING ABANDONED BY THIS PROJECT ARE TO REMAIN THE PROPERTY OF THE CITY OF MOORE AND SHALL BE SALVAGED BY THE WATER/WASTEWATER DEPARTMENT AT THEIR DISCRETION. HOWEVER, ITEMS IN THE WAY OF CONSTRUCTION MAY BE REMOVED AND DELIVERED TO THE WATER DEPARTMENT WAREHOUSE.

4. IN CASES WHERE MINIMUM HORIZONTAL AND VERTICAL SEPARATION FROM ADJACENT SANITARY SEWER LINES (SEE OAC 252:626-19) CANNOT BE MAINTAINED, CONTRACTOR SHALL ENCLOSE WATER MAIN IN APPROPRIATELY SIZED STEEL CASING. CASING SHALL EXTEND A MINIMUM OF 10-FT IN EITHER DIRECTION FROM WHERE HORIZONTAL OR VERTICAL SEPARATION IS LESS THAN MINIMUM ALLOWED BY OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REGULATIONS.

5. WHEN CROSSING STREETS, DRIVEWAYS SUBJECT TO HEAVY TRAFFIC, ALLEYS AND STRUCTURES, ETC., PIPE SHALL BE INSTALLED WITH COMPACTED ODOT TYPE 'A' BACKFILL. ALL OTHER PIPE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS OR CITY SPECIFICATION.

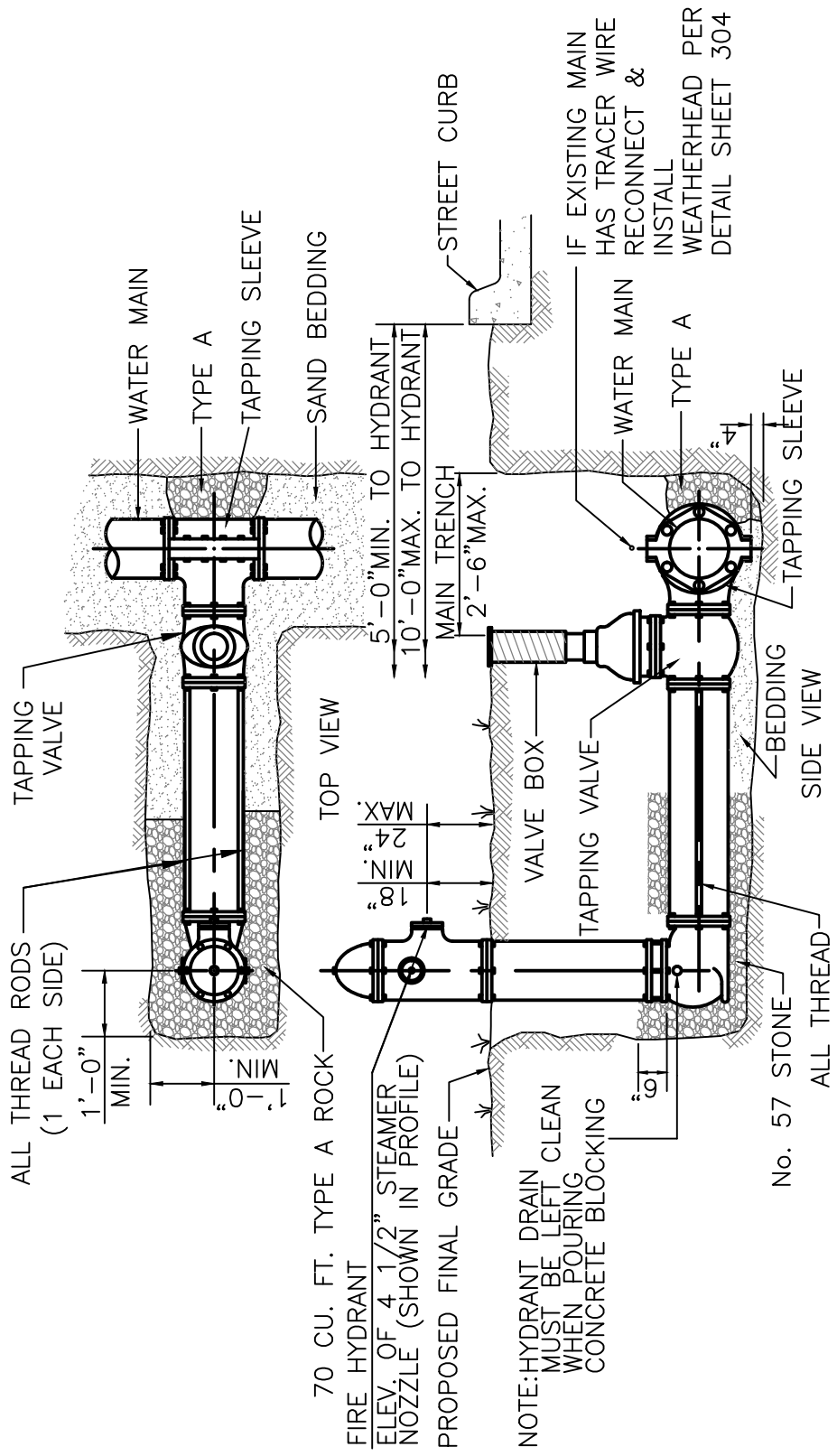
6. SET END OF MAIN STUBS IN CUL-DE-SACS AT A POINT 5.0' OFF PROPERTY LINE.THIS POINT BEING IN LINE WITH SIDE PROPERTY LINE.

7. IN INSTANCES WHERE FLOW LINES ARE NOT INDICATED ON THE DRAWINGS, MAIN SHALL BE CONSTRUCTED WITH A MINIMUM OF 4' COVER OR AS DIRECTED BY THE CITY'S DESIGNATED REPRESENTATIVE.

8. ALL STAKING FOR ALIGNMENT AND GRADE WILL BE DONE UNDER THE SUPERVISION OF LAND SURVEYOR REGISTERED IN THE STATE OF OKLAHOMA. GRADE STAKES WILL BE MARKED AND CUT SHEETS WILL BE FURNISHED TO THE CITY'S DESIGNATED REPRESENTATIVE ON THE PROJECT PRIOR TO CONSTRUCTION.

9. UNLESS SPECIFICALLY AUTHORIZED, ALL GATE VALVES ARE TO BE LOCATED AT P.C. OR P.T. OF STREET CURB. WHEN FIRE HYDRANTS ARE REQUIRED THEY SHALL BE LOCATED WITHIN 5' OF GATE VALVES.

10. POLY WRAP ALL CAST OR DUCTILE STEEL FITTINGS PRIOR TO BACKFILLING.

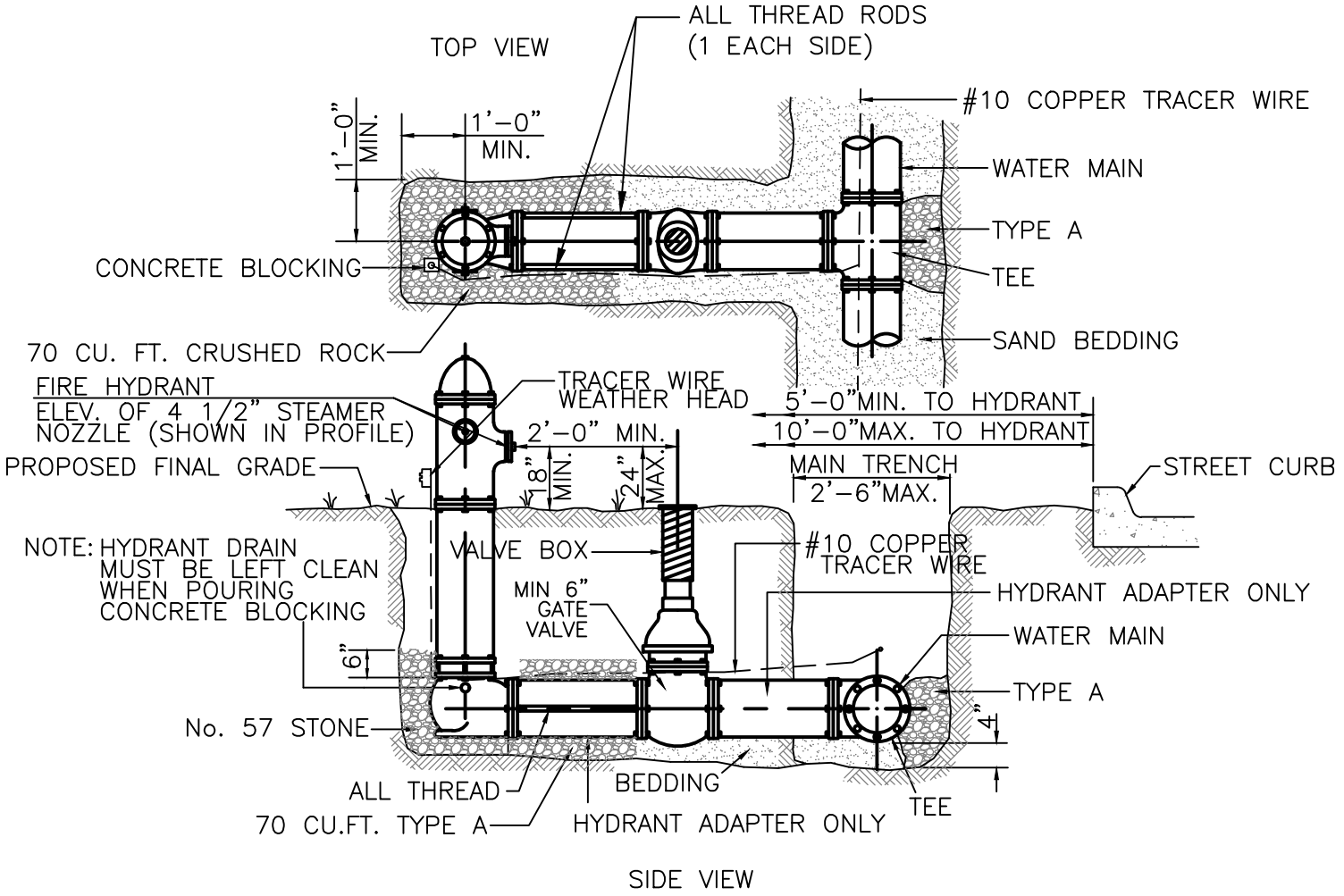


INSTALLATION OF HYDRANT ON EXISTING MAIN

DETAIL NO.
301-1

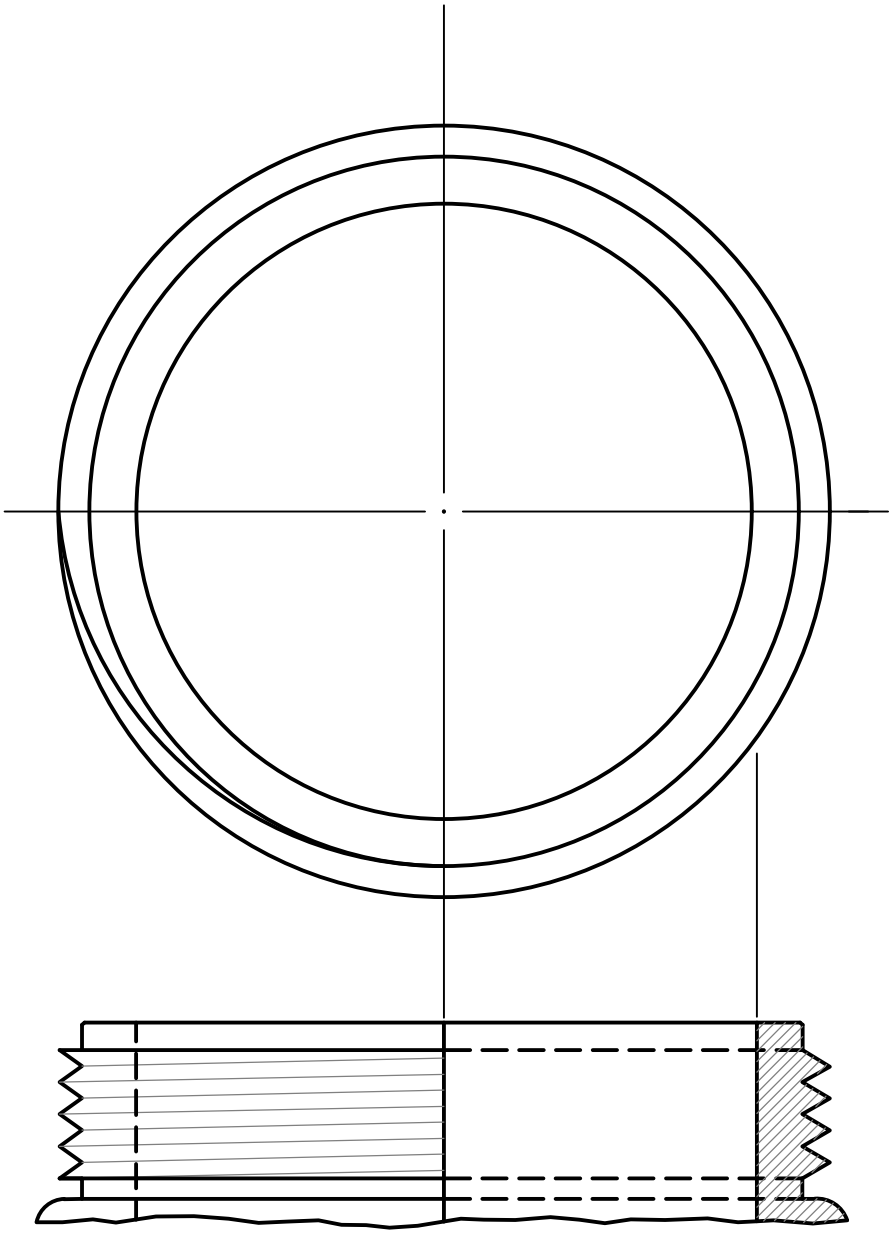
APPROVED
09/18/2023

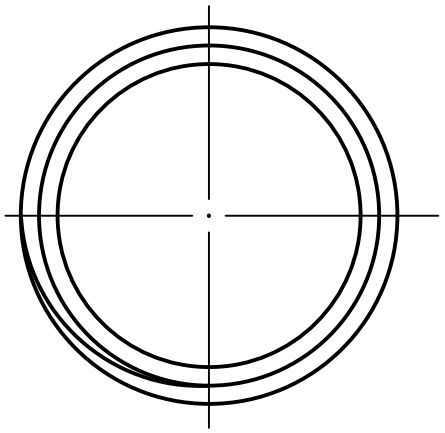
INSTALLATION OF HYDRANT ON NEW MAIN



APPROVED
09/18/2023

DETAIL NO. 301-2



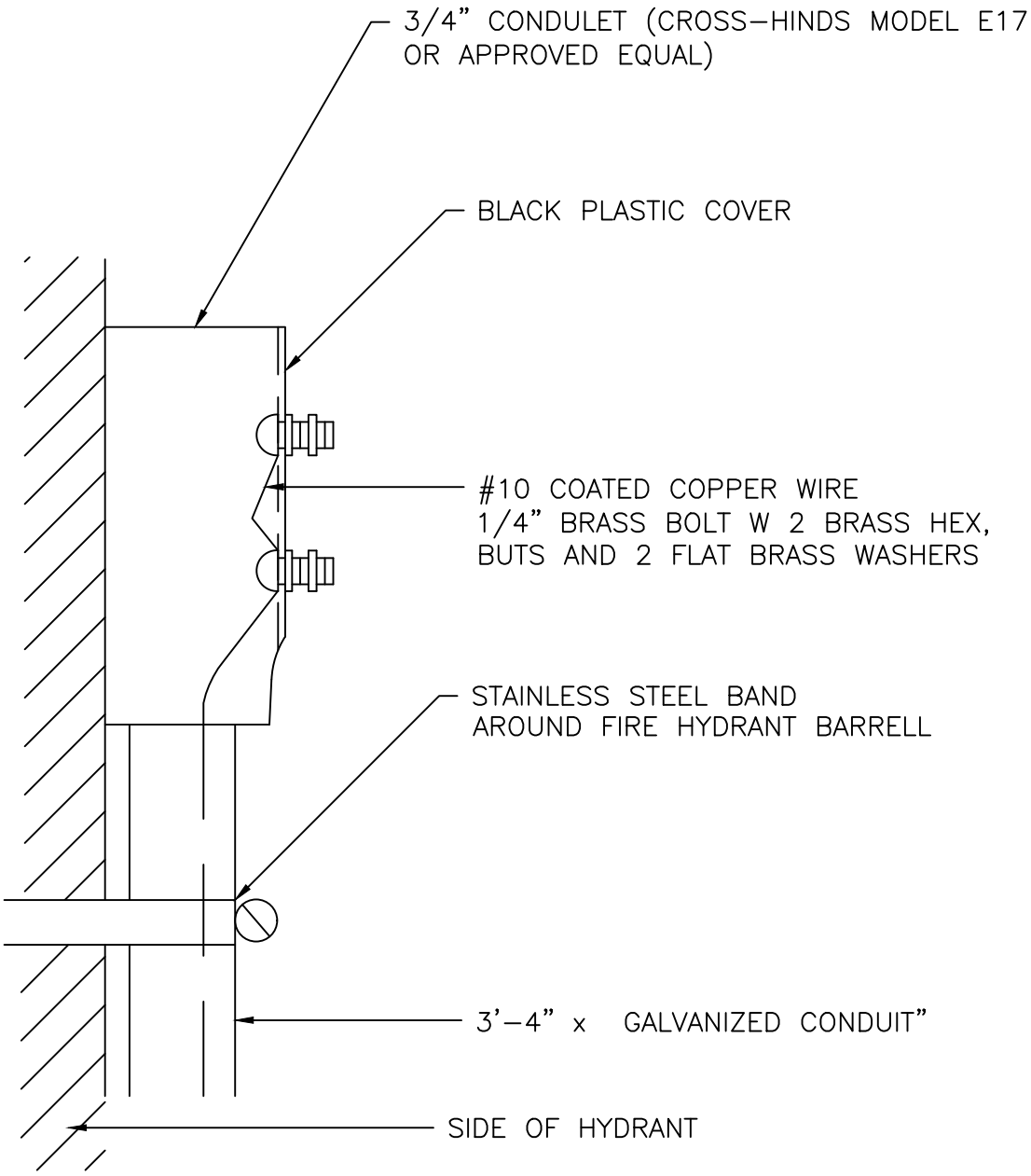


2-1/2" NOZZLE

4-1/2" NOZZLE

THREADS SHALL BE NATIONAL STANDARD THREADS

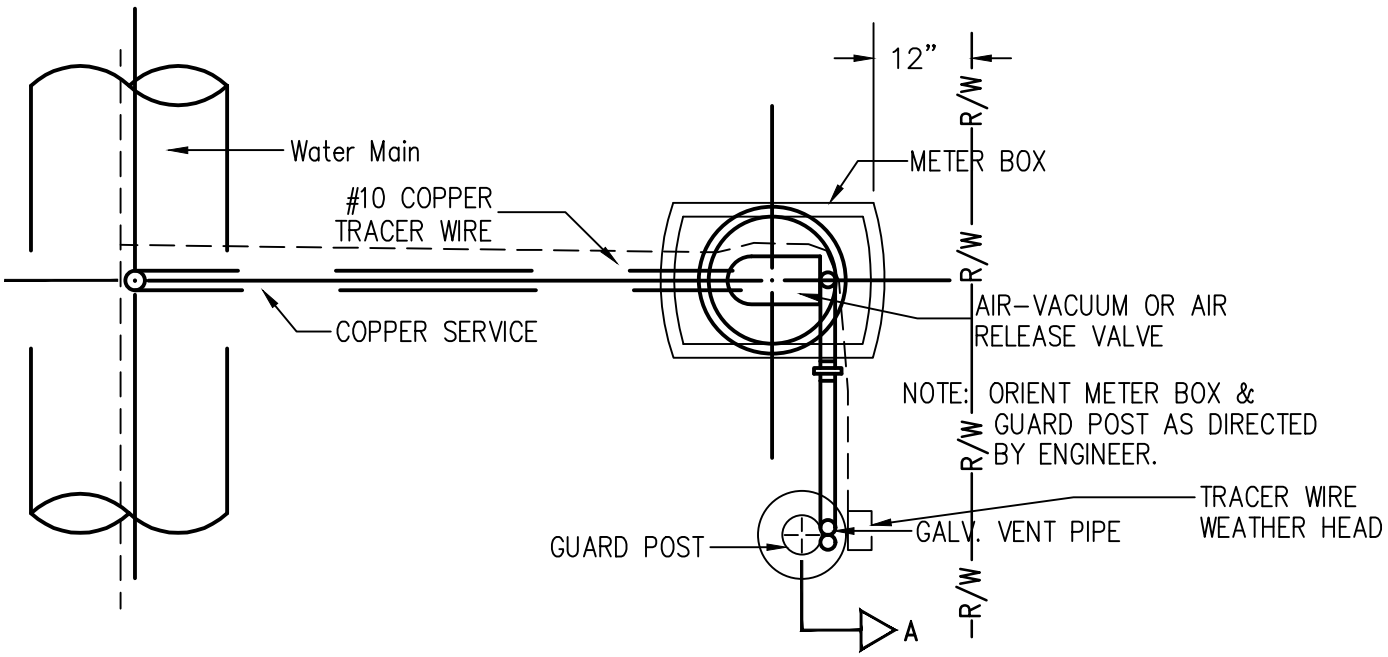
CITY of MOORE OKLAHOMA	FIRE HYDRANT NOZZLE THREADS	DETAIL NO. 303 APPROVED 09/18/2023

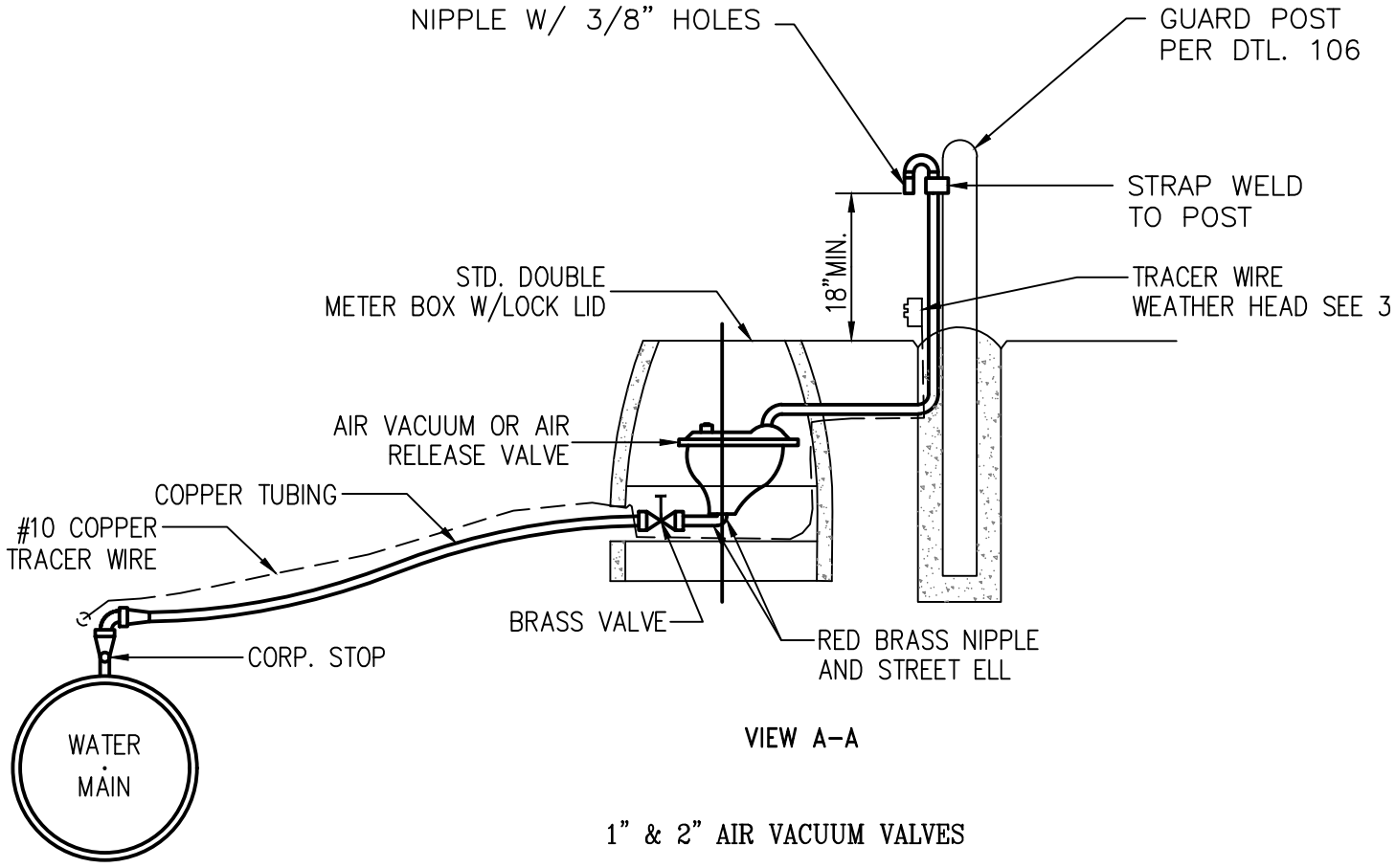


TRACER WIRE WEATHER HEAD DETAILS

DETAIL NO.
304

APPROVED
09/18/2023





VIEW A-A

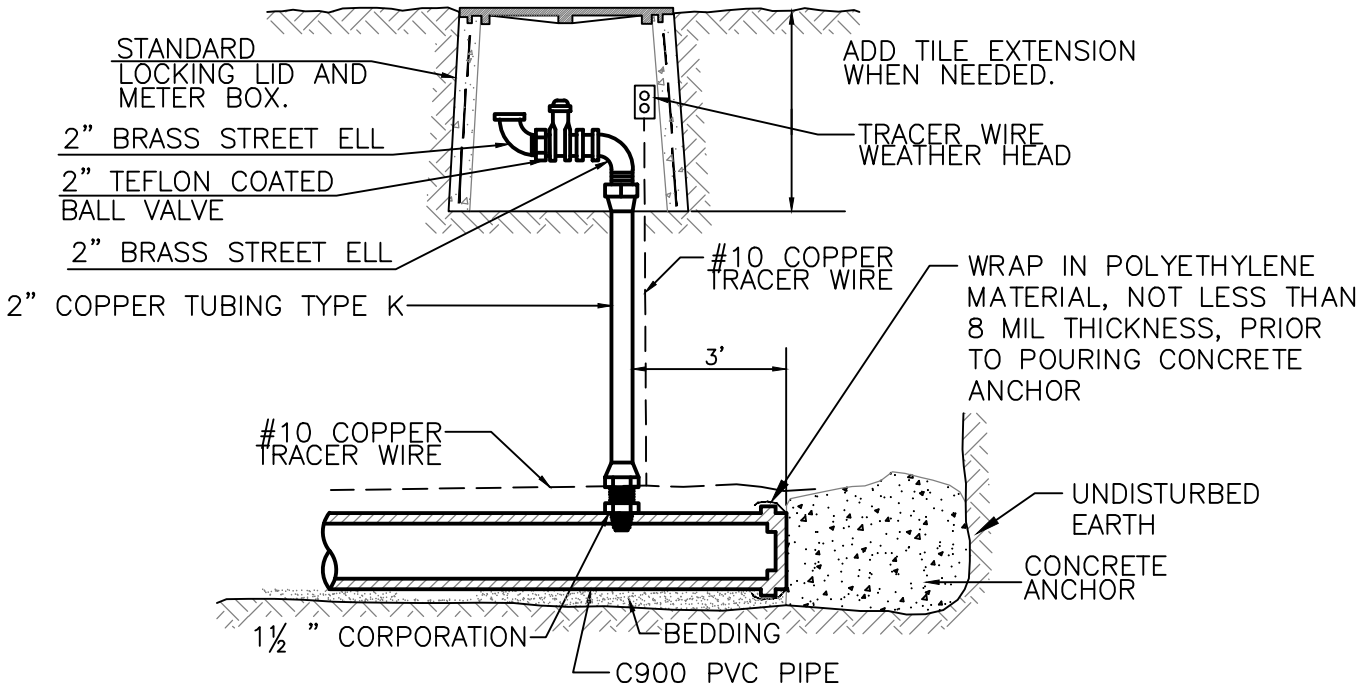
1" & 2" AIR VACUUM VALVES

3/4" AIR RELEASE VALVES

AIR VACUUM AND RELEASE VALVES

DETAIL NO.
305

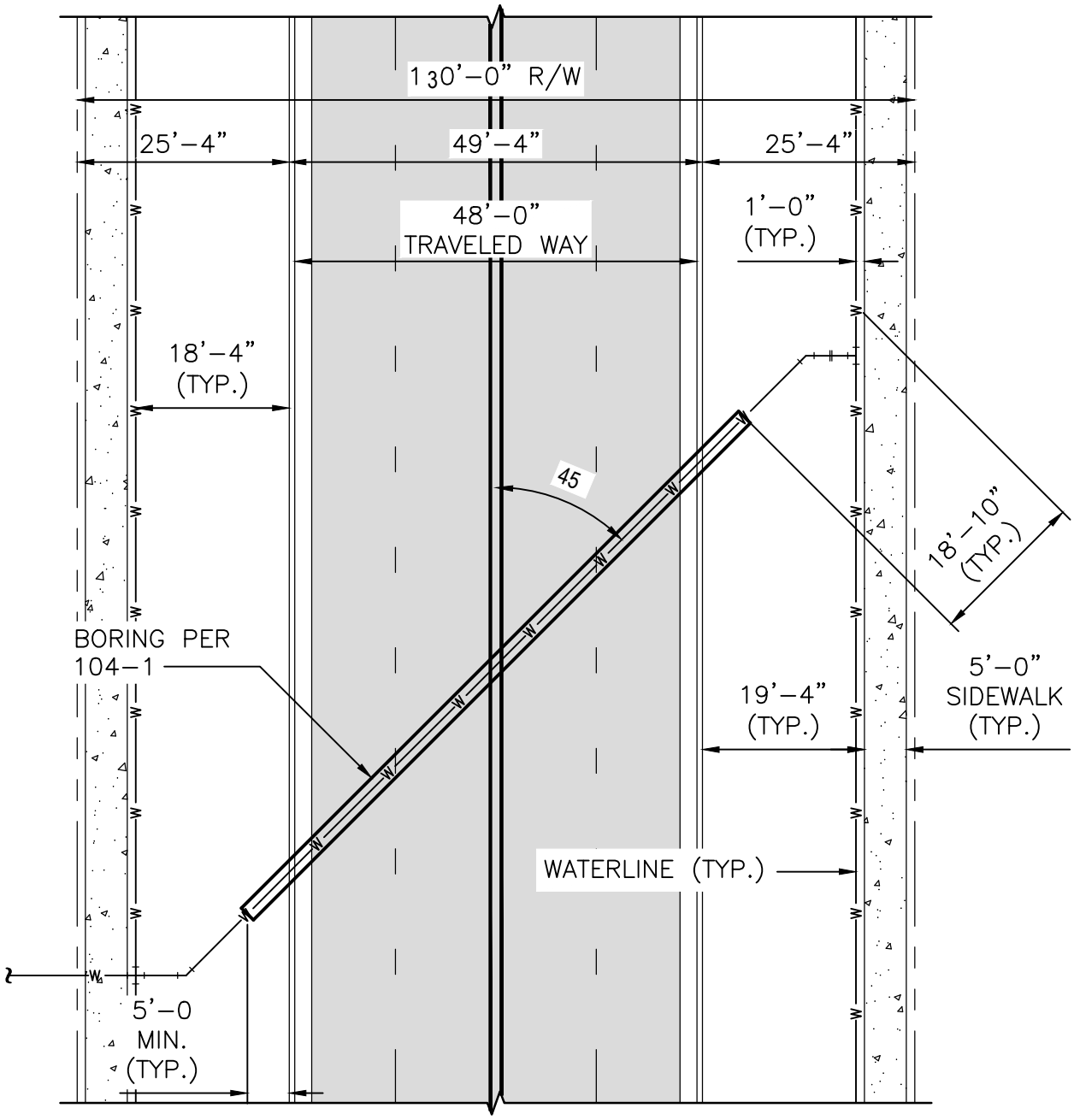
APPROVED
09/18/2023



2-IN BLOW OFF

DETAIL NO.
306

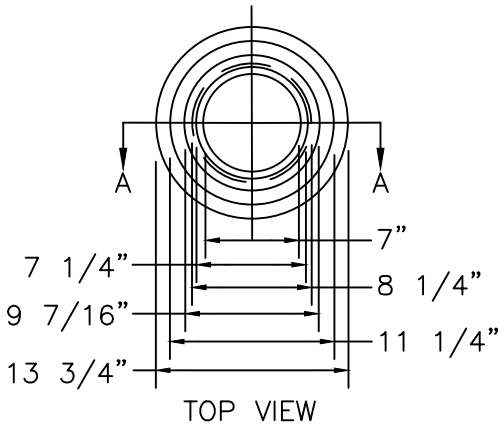
APPROVED
09/18/2023



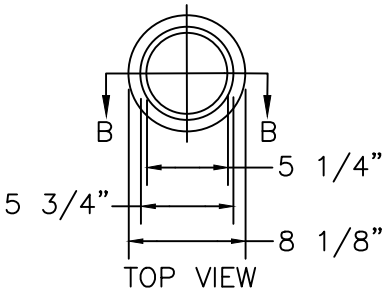
TYPICAL ARTERIAL ROAD BORING PLAN

NOTES:
1. SEE 202–3 FOR TYPICAL ARTERIAL ROADWAY SECTION.
2. BORE LENGTH MAY REQUIRE ADJUSTMENT FOR OTHER ROADWAY CLASSIFICATIONS.

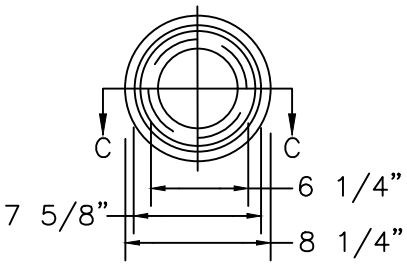
CITY of MOORE OKLAHOMA	STANDARD DETAIL FOR BORING UNDER ARTERIAL STREETS	DETAIL NO. 307 APPROVED 09/18/2023



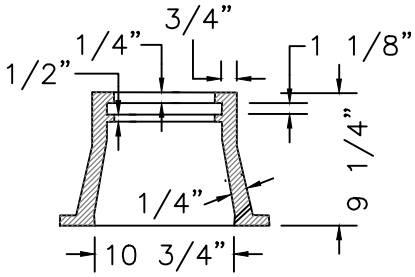
TOP VIEW



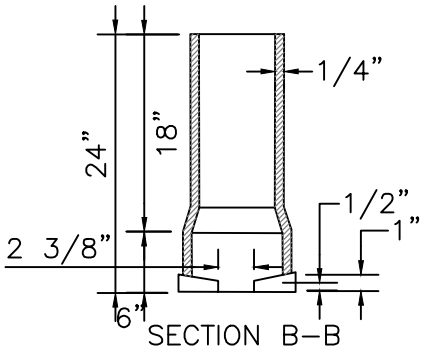
TOP VIEW



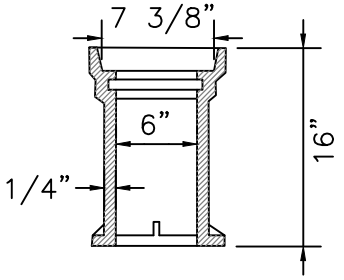
TOP VIEW



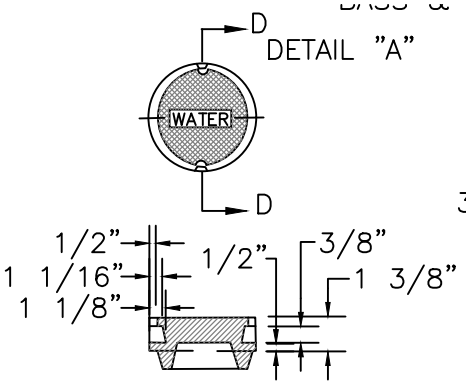
SECTION A–A
BASE SECTION
WEIGHT 35 LBS.



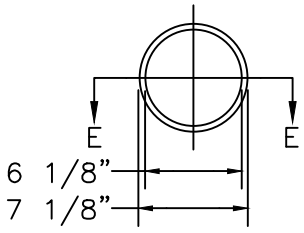
SECTION B–B
EXTENSION SECTION
WEIGHT 30 LBS.

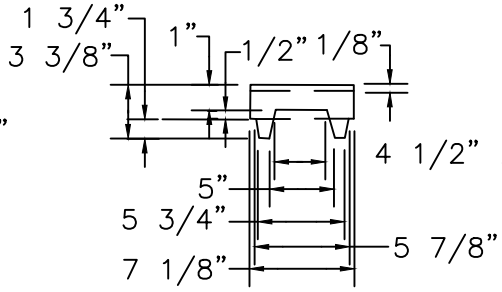


SECTION C–C
TOP SECTION
WEIGHT 45 LBS.

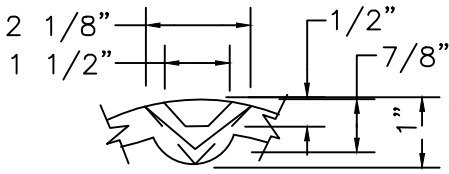


SECTION D–D
TOP VIEW

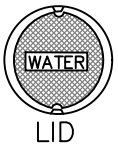




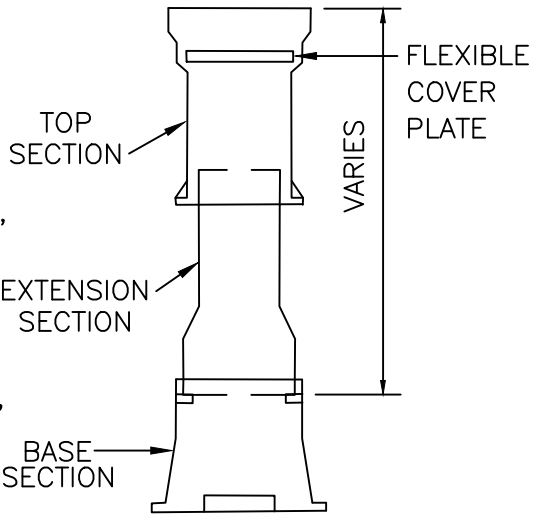
SECTION E–E
TOP VIEW



LIFT RECESS
DETAIL "A"



LID



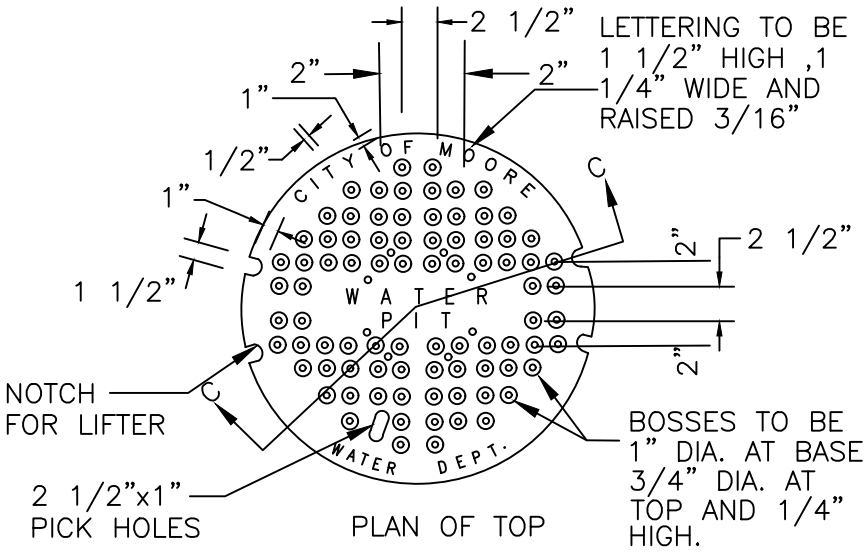
ASSEMBLED VALVE BOX
ASSEMBLED CASTING
WEIGHT 110 LBS.

APPROVED ALTERNATES FOR
VALVE BOX ASSEMBLIES
TYLER PIPE 562–S 80LBS.
BASS & HAYS 2436–S 80LBS.

CAST IRON VALVE BOX AND LID

DETAIL NO.
310

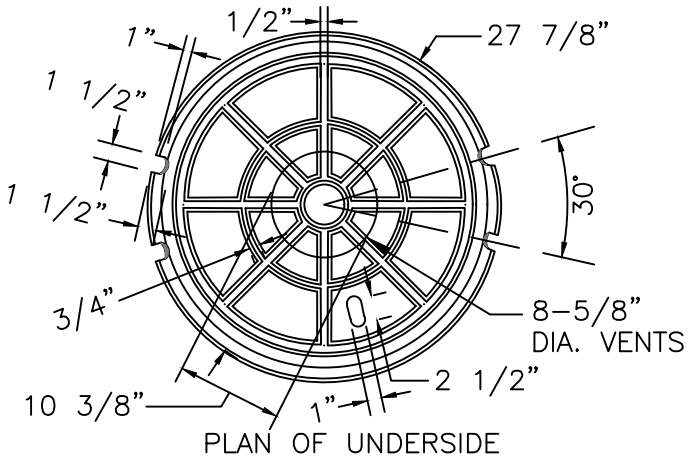
APPROVED
09/18/2023



PLAN OF TOP

GENERAL NOTES

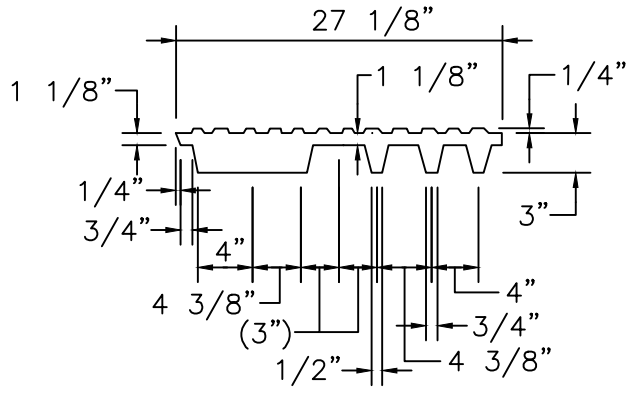
1. CASTINGS SHALL CONFORM TO THE A.S.T.M. SPECIFICATIONS FOR GRAY IRON CASTINGS SERIAL WHEN EACH COVER IS PLACED IN DESIGNATION A 48–29.
2. ANY POSITION IN ITS ASSOCIATED FRAME, THE SIDE PLAY IN ANY DIRECTION SHALL NOT EXCEED NO WORDING OR MARKINGS OF ANY ONE–EIGHTH (1/8) INCH.
3. KIND, OTHER THAN THOSE SHOWN ON THE PLAN WILL BE PERMITTED ON THESE CASTINGS.



PLAN OF UNDERSIDE

THE AVERAGE WEIGHT OF CASTINGS WILL NOT BE LESS THAN 98% OF WEIGHTS SHOWN BELOW. WEIGHTS OF INDIVIDUAL CASTINGS WILL NOT BE LESS THAN 95% OF WEIGHTS SHOWN BELOW.

Ring only	392 lbs.
Cover only	251 lbs.
Total	643 lbs.



SECTION C–C
STANDARD COVER

CITY of MOORE OKLAHOMA

METER PIT FRAME AND COVER (1 OF 2)

DETAIL NO.
311–1

APPROVED
09/18/2023

GENERAL NOTES

1. CASTINGS SHALL CONFORM TO THE A.S.T.M. SPECIFICATIONS FOR GRAY IRON CASTINGS SERIAL WHEN EACH COVER IS PLACED IN DESIGNATION A 48–29.
2. ANY POSITION IN ITS ASSOCIATED FRAME, THE SIDE PLAY IN ANY DIRECTION SHALL NOT EXCEED NO WORDING OR MARKINGS OF ANY ONE–EIGHTH (1/8) INCH.
3. KIND, OTHER THAN THOSE SHOWN ON THE PLAN WILL BE PERMITTED ON THESE CASTINGS.

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Ring only	392 lbs.
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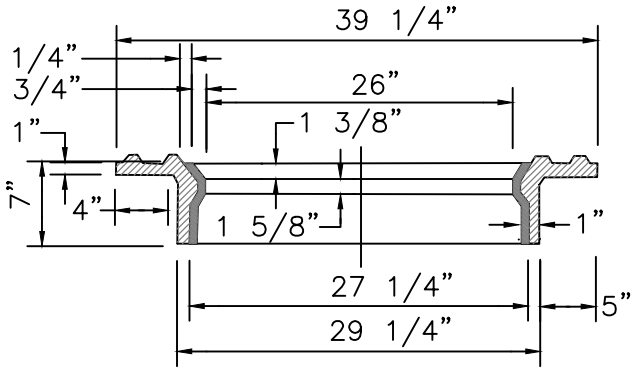
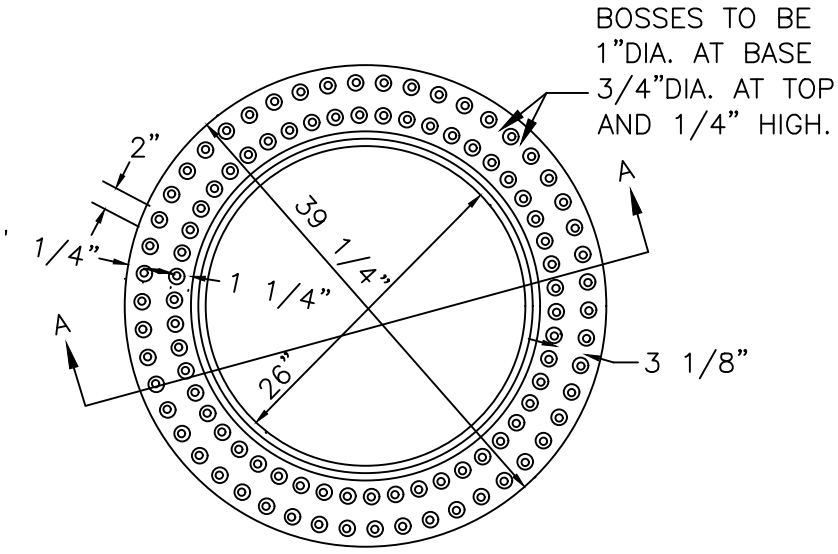


SECTION A–A
STANDARD FRAME



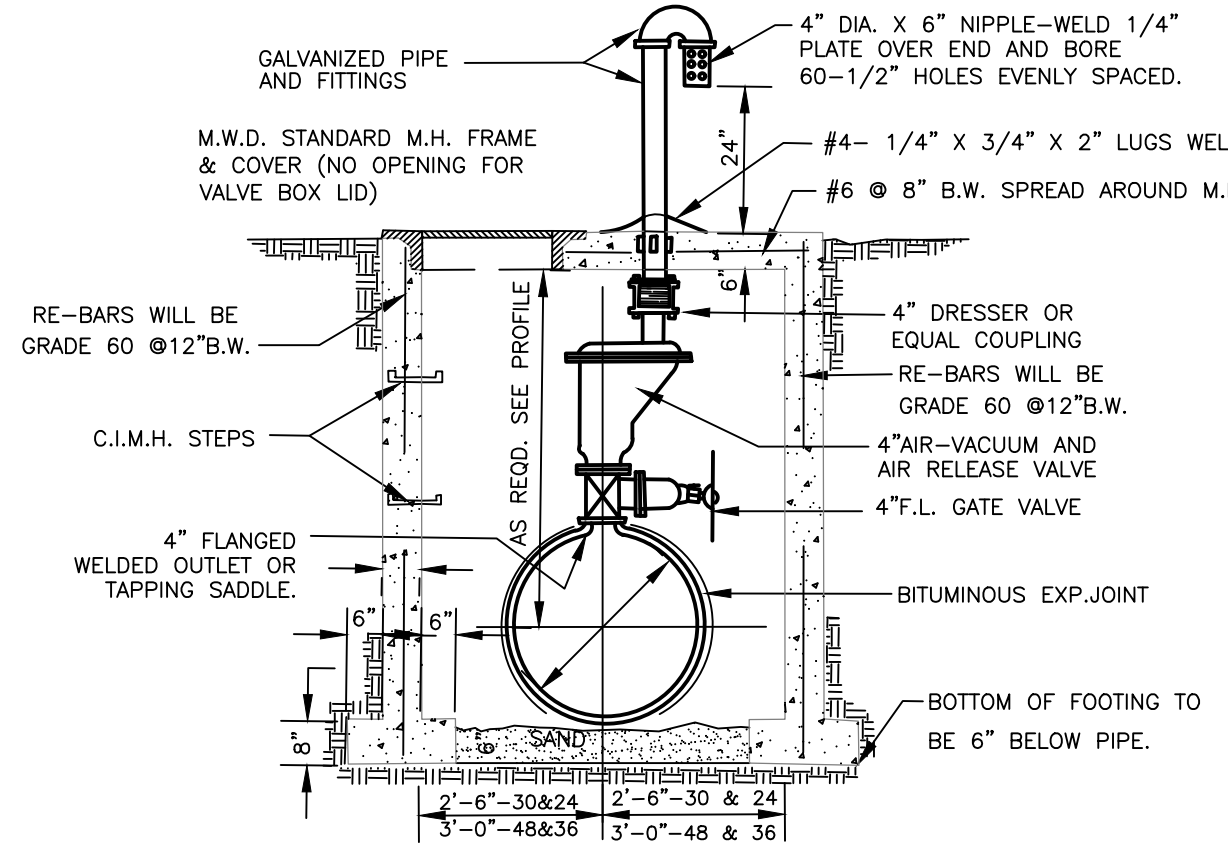
PLAN OF TOP

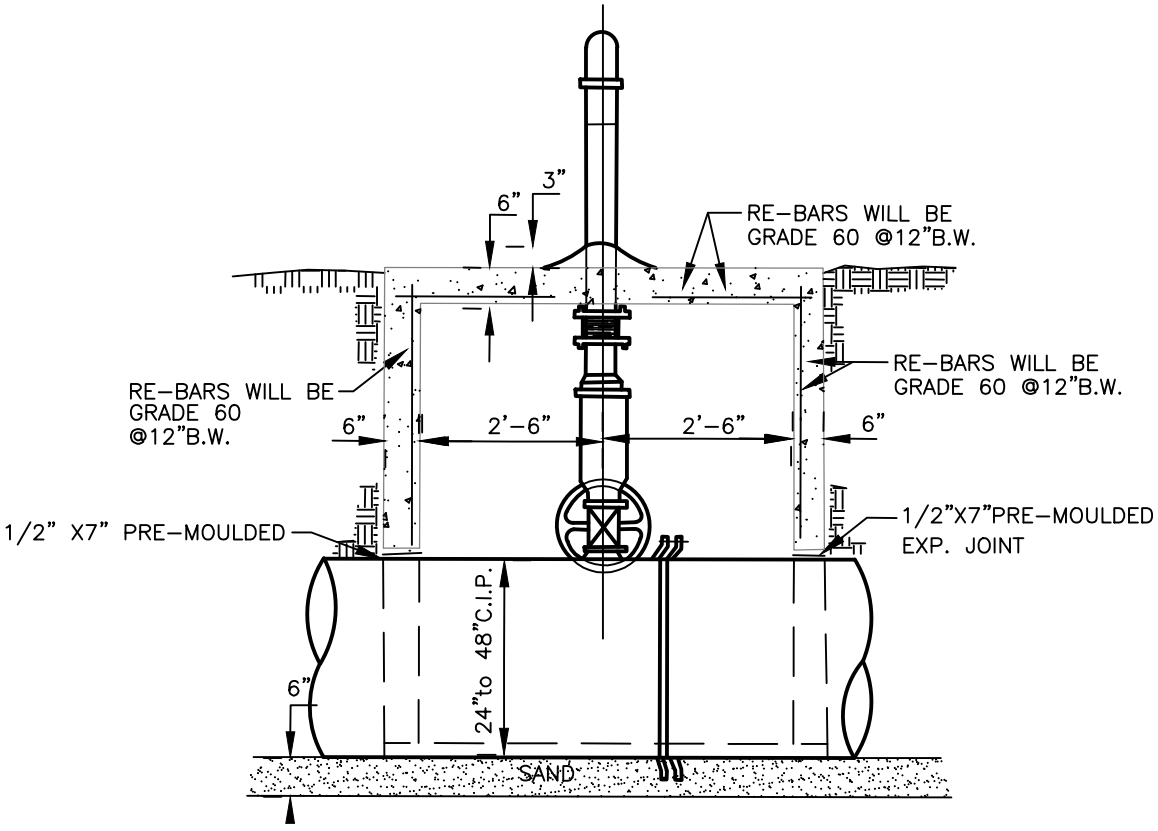
CITY of MOORE · OKLAHOMA · INCORPORATED 1893

METER PIT FRAME AND COVER (2 OF 2)

DETAIL NO.
311–2

APPROVED
09/18/2023

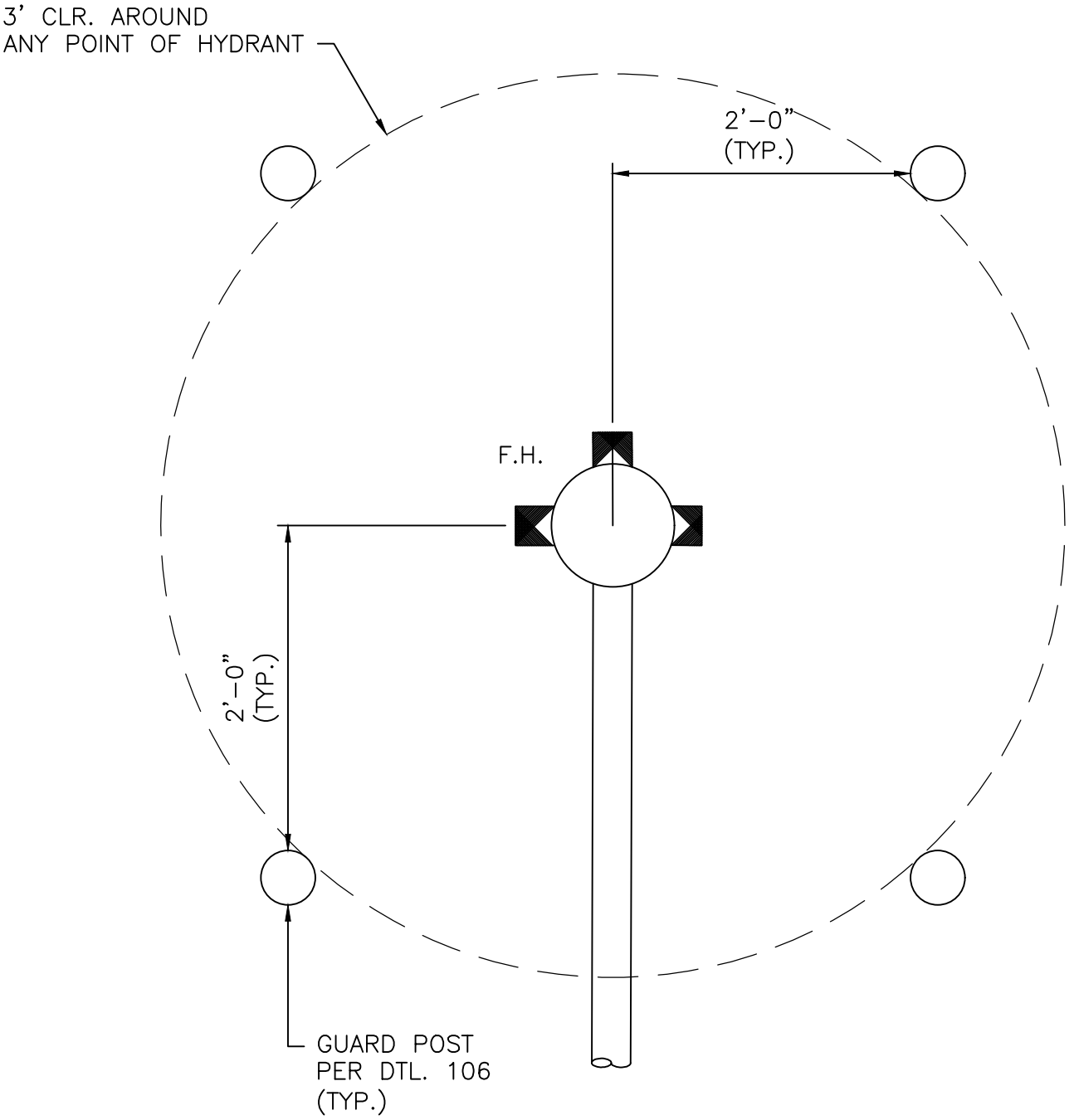




DETAIL OF 4–IN AIR VACUUM AND RELEASE VALVE

DETAIL NO.
312

APPROVED
09/18/2023

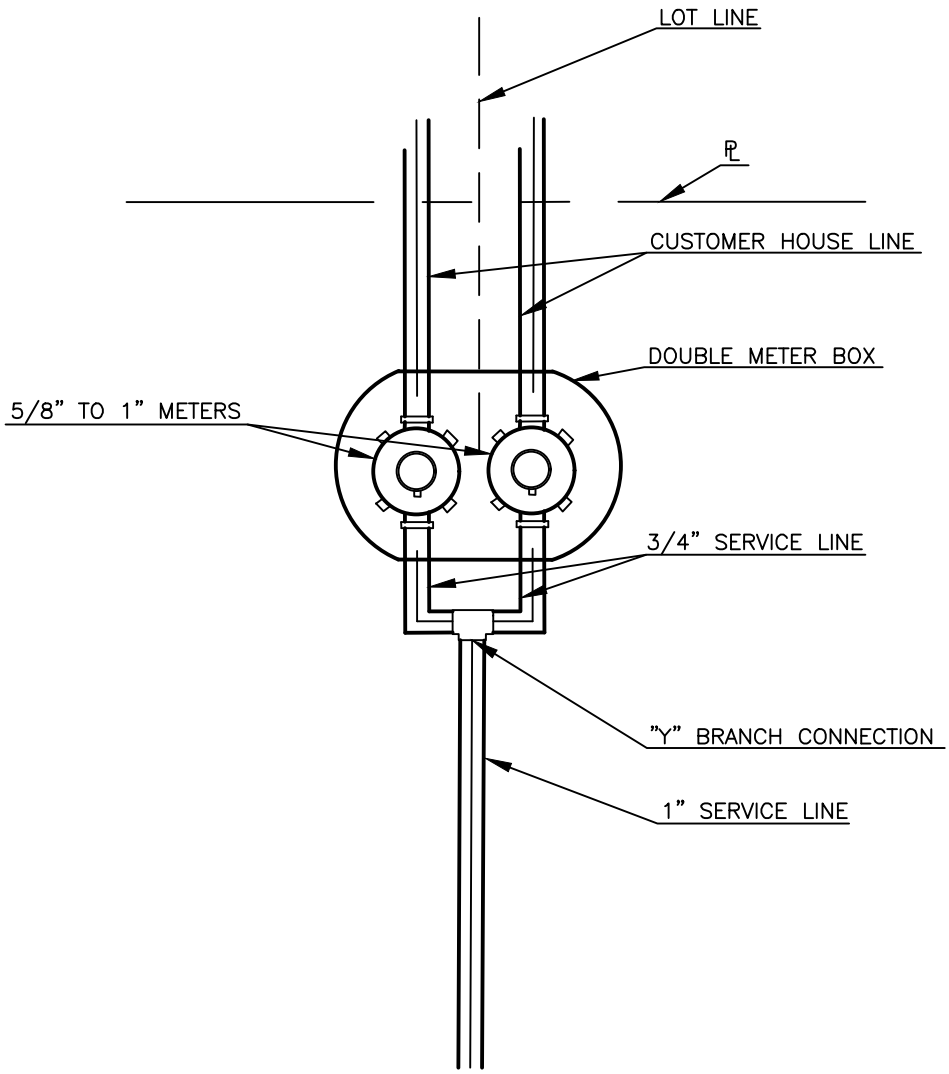


NOTE:
1. DETAIL TYPICAL FOR ALL HYDRANTS LOCATED IN TRAFFIC AREAS.

FIRE HYDRANT PROTECTION

DETAIL NO.
313

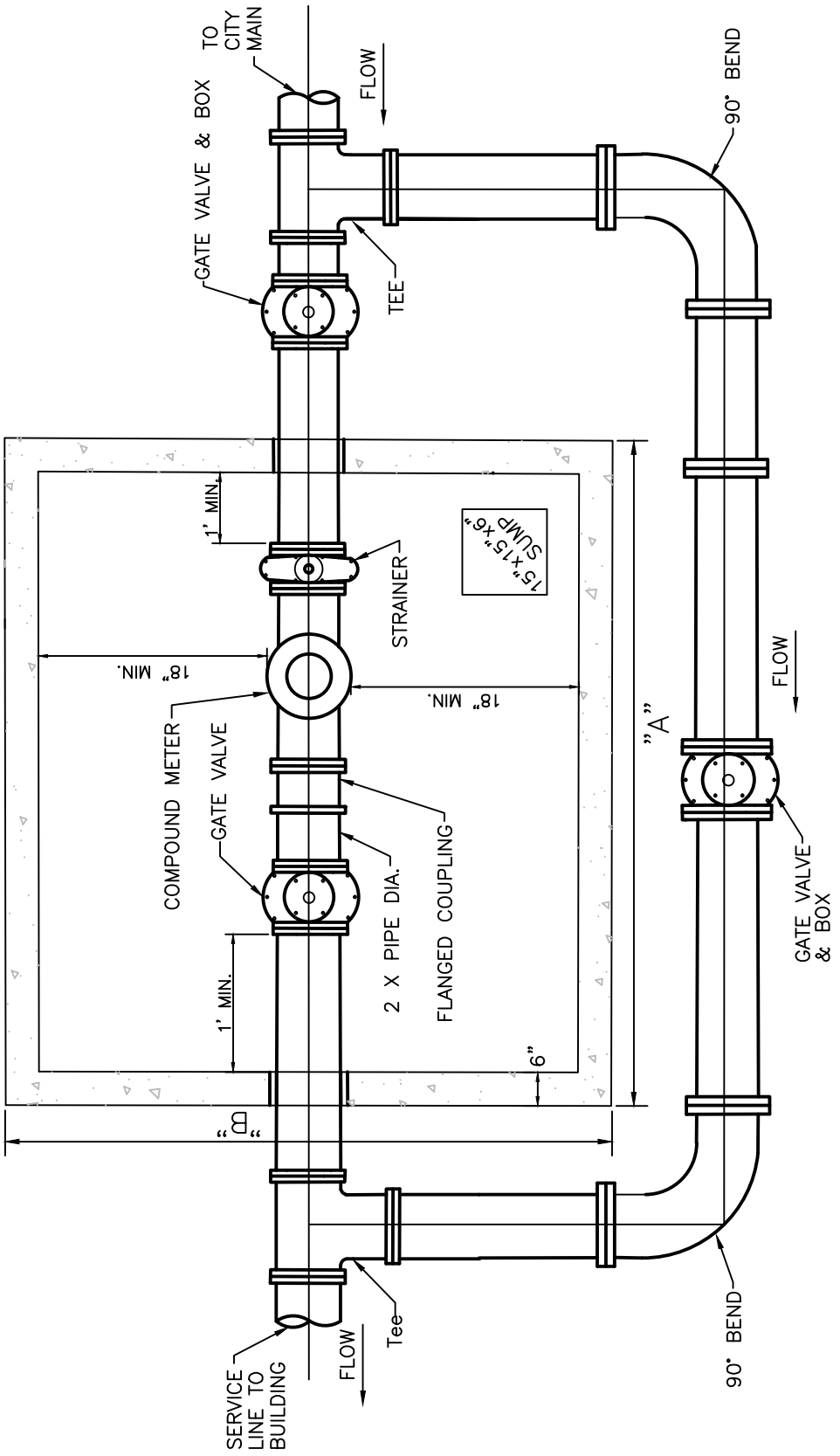
APPROVED
09/18/2023



TYPICAL METER SETTING

DETAIL NO.
314

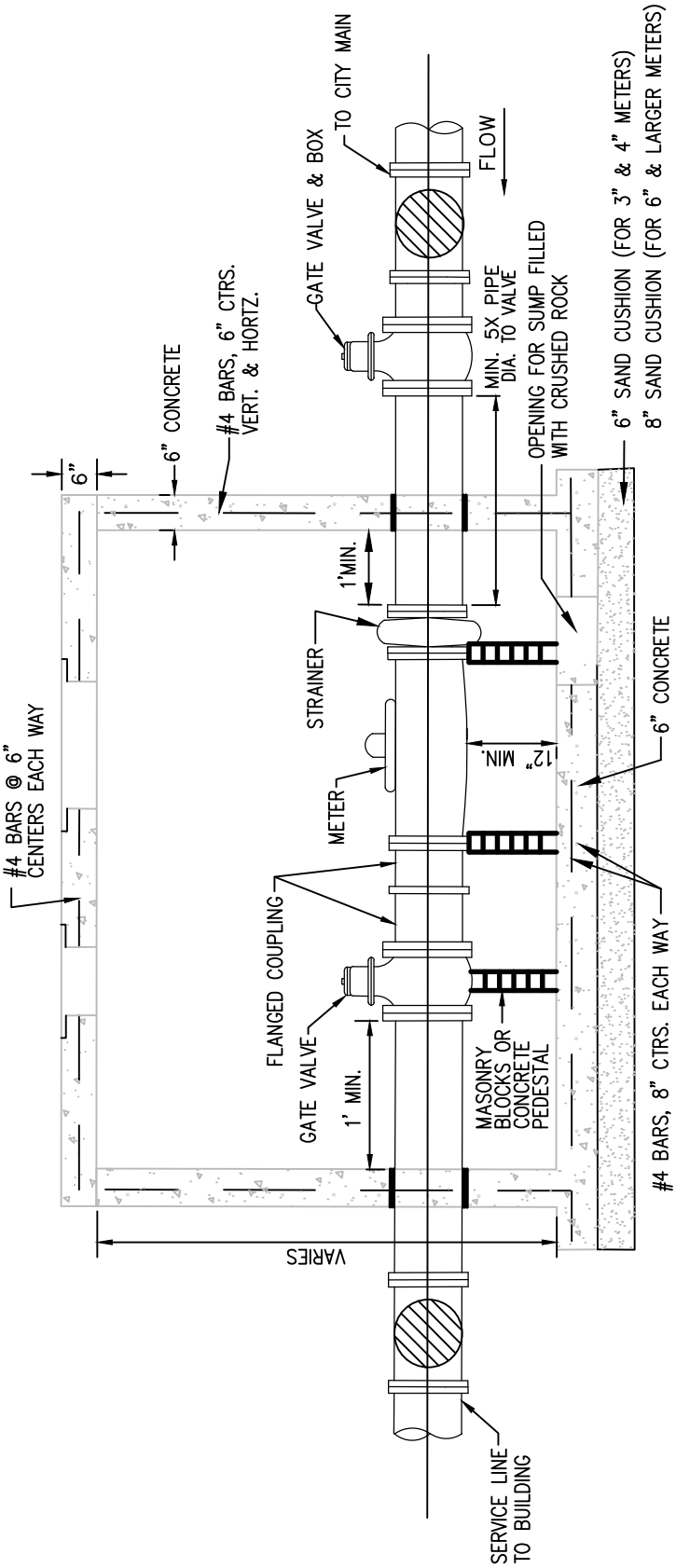
APPROVED
09/18/2023



WATER LINE DETAIL & METER PIT (1 OF 3)

DETAIL NO.
315-1

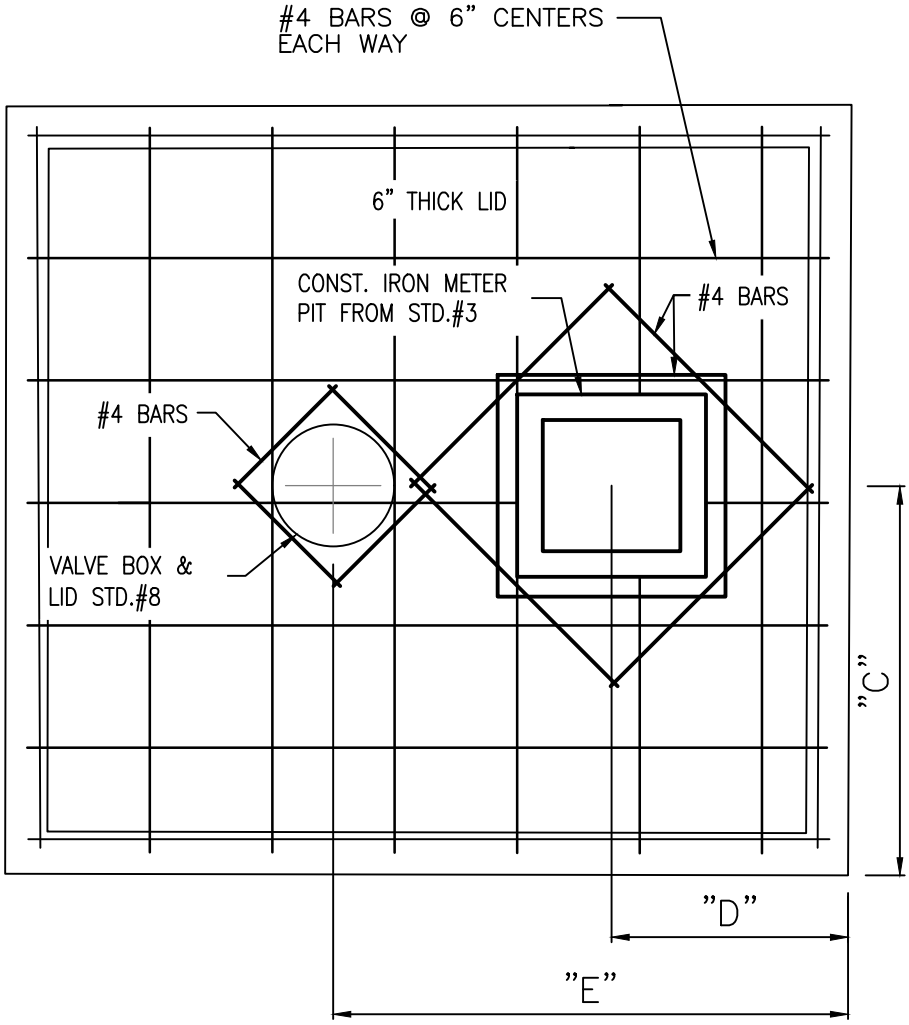
APPROVED
09/18/2023



WATER LINE DETAIL & METER PIT (2 OF 3)

DETAIL NO.
315-2

APPROVED
09/18/2023



WATER LINE DETAIL & METER PIT (LID REQUIREMENTS)

METER PIT	A	B	C	D	E
0'–3"	7'–0"	5'–0"	2'–6"	2'–8"	4'–9"
0'–4"	7'–3"	5'–0"	2'–6"	2'–11"	5'–4"
0'–6"	8'–3"	5'–6"	2'–9"	3'–3"	6'–2"
0'–8"	13'–0"	6'–0"	3'–0"	5'–6"	10'–11"

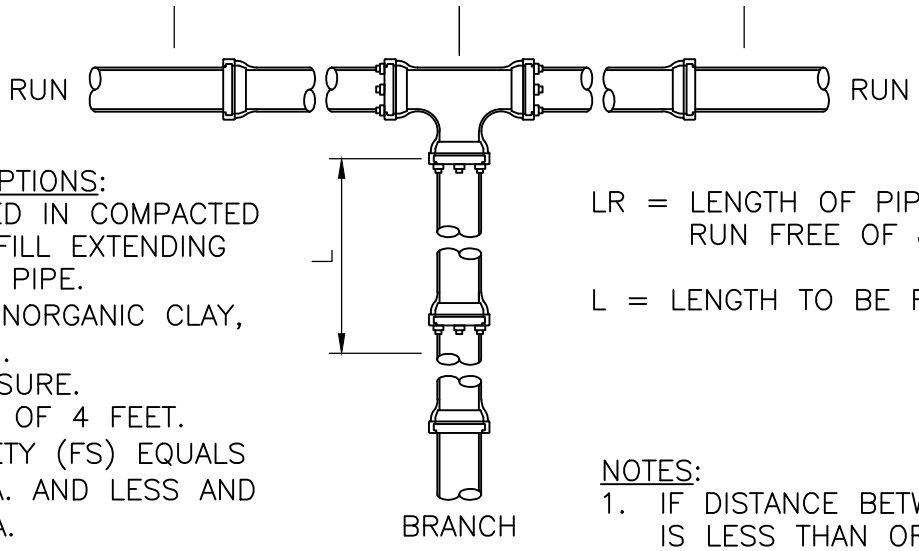
*DIMENSION ARE APPROXIMATE. OPENING MUST BE CENTERED OVER RESPECTIVE DEVICES.

CITY of MOORE OKLAHOMA

WATER LINE DETAIL & METER PIT (3 OF 3)

DETAIL NO.
315–3

APPROVED
09/18/2023



CALCULATION ASSUMPTIONS:

1. PVC PIPE BEDDED IN COMPACTED GRANULAR BACKFILL EXTENDING TO THE TOP OF PIPE.
2. SOIL TYPE CH (INORGANIC CLAY, HIGH PLASTICITY).
3. MAX. PIPE PRESSURE.
4. DEPTH OF BURY OF 4 FEET.
5. FACTOR OF SAFETY (FS) EQUALS 1.5 FOR 12" DIA. AND LESS AND 2.0 FOR 16" DIA.

LR = LENGTH OF PIPE ALONG THE RUN FREE OF JOINTS.

L = LENGTH TO BE RESTRAINED.

NOTES:

1. IF DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO RESTRAINED LENGTH, ALL JOINTS BETWEEN FITTINGS MUST BE RESTRAINED.

RESTRAINED LENGTHS FOR TEES			
PIPE SIZE (IN.)	BRANCH SIZE (IN.)	LR (FT.)	RESTRAINED LENGTH, L (FT.)
6	6	0	90
6	6	5	64
6	6	10	38
6	6	15	12
6	6	20	1
8	6	0	90
8	6	5	56
8	6	10	22
8	6	15	1
8	8	0	118
8	8	5	92
8	8	10	66
8	8	15	40
8	8	20	14
12	6	0	90
12	6	5	38
12	6	10	1
12	8	0	118
12	8	5	78
12	8	10	38

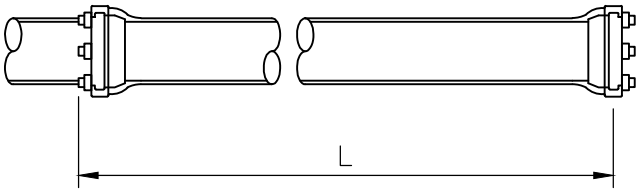
RESTRAINED LENGTHS FOR TEES			
PIPE SIZE (IN.)	BRANCH SIZE (IN.)	LR (FT.)	RESTRAINED LENGTH, L (FT.)
12	8	15	1
12	12	0	167
12	12	10	114
12	12	15	88
12	12	20	61
16	6	0	92
16	6	5	1
16	12	0	172
16	12	5	123
16	12	10	75
16	12	15	26
16	12	20	1
16	16	0	222
16	16	5	186
16	16	10	150
16	16	15	114
16	16	20	78

CITY of MOORE OKLAHOMA

RESTRAINED JOINT DETAILS (1 OF 5)

DETAIL NO.
316-1

APPROVED
09/18/2023



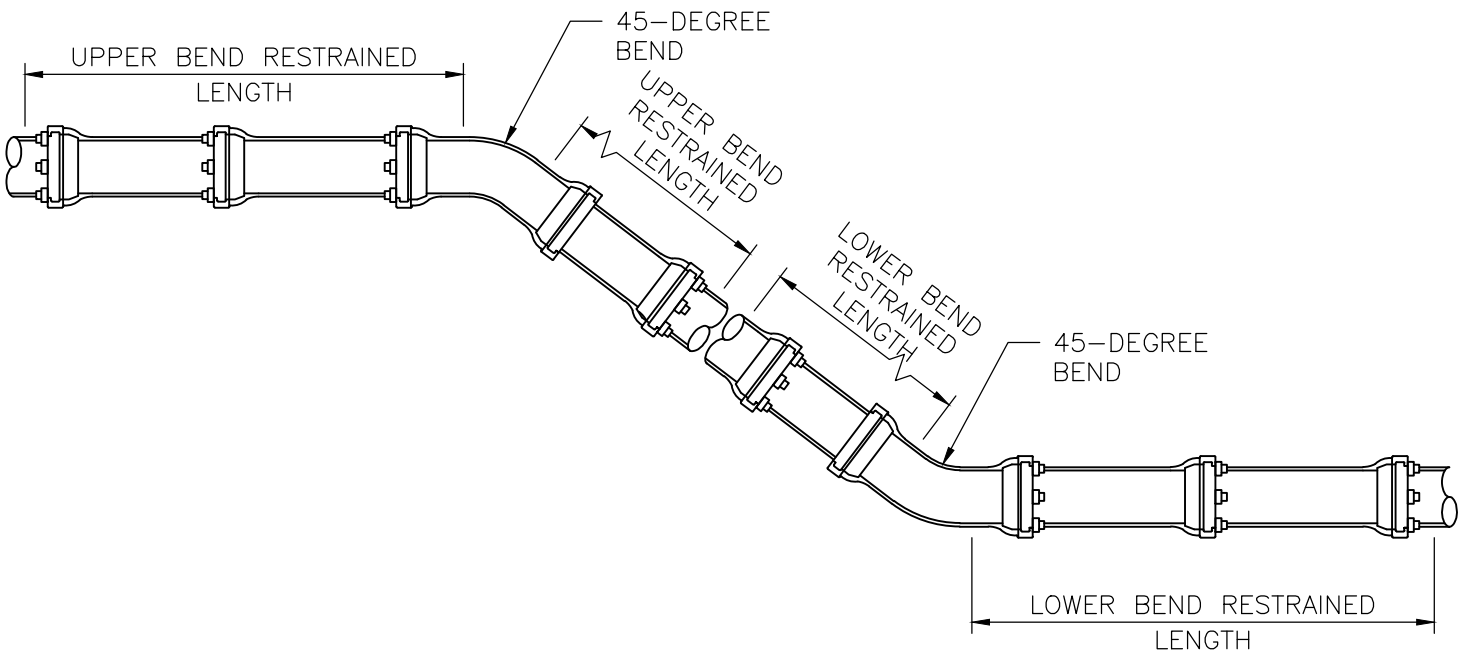
L = LENGTH TO BE RESTRAINED.

RESTRAINED LENGTHS FOR DEAD ENDS	
PIPE SIZE (INCH)	RESTRAINED LENGTH (FT)
6	90
8	118
12	167
16	222

RESTRAINED JOINT DETAILS (2 OF 5)

DETAIL NO.
316-2

APPROVED
09/18/2023



RESTRAINED LENGTHS FOR VERTICAL OFFSETS		
PIPE SIZE (INCH)	UPPER BEND RESTRAINED LENGTH (FT)	LOWER BEND RESTRAINED LENGTH (FT)
6	38	10
8	49	13
12	70	18
16	92	23

NOTES:
1. IF DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO RESTRAINED LENGTH, ALL JOINTS BETWEEN FITTINGS MUST BE RESTRAINED.

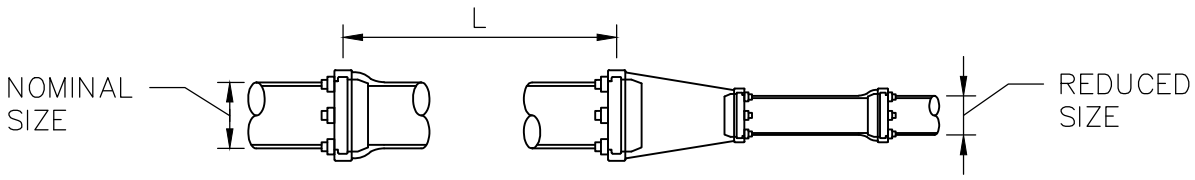
CALCULATION ASSUMPTIONS:
1. PVC PIPE BEDDED IN COMPACTED GRANULAR BACKFILL EXTENDING TO THE TOP OF PIPE.
2. SOIL TYPE CH (INORGANIC CLAY, HIGH PLASTICITY).
3. MAX. PIPE PRESSURE.
4. DEPTH OF BURY FOR UPPER BEND IS 4 FEET. LOWER DEPTH OF 6 FEET.
5. FACTOR OF SAFETY (FS) EQUALS 1.5 FOR 12" DIA. AND LESS AND 2.0 FOR 16" DIA.

CITY of MOORE OKLAHOMA

RESTRAINED JOINT DETAILS (3 OF 5)

DETAIL NO.
316-3

APPROVED
09/18/2023



L = LENGTH TO BE RESTRAINED.

RESTRAINED LENGTHS FOR REDUCERS		
NOMINAL SIZE (INCH)	REDUCED SIZE (INCH)	RESTRAINED LENGTH (FT)
8	6	50
12	6	122
16	6	187
12	8	89
16	6	187
16	8	162
16	12	94

NOTES:
1. IF DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO RESTRAINED LENGTH, ALL JOINTS BETWEEN FITTINGS MUST BE RESTRAINED.

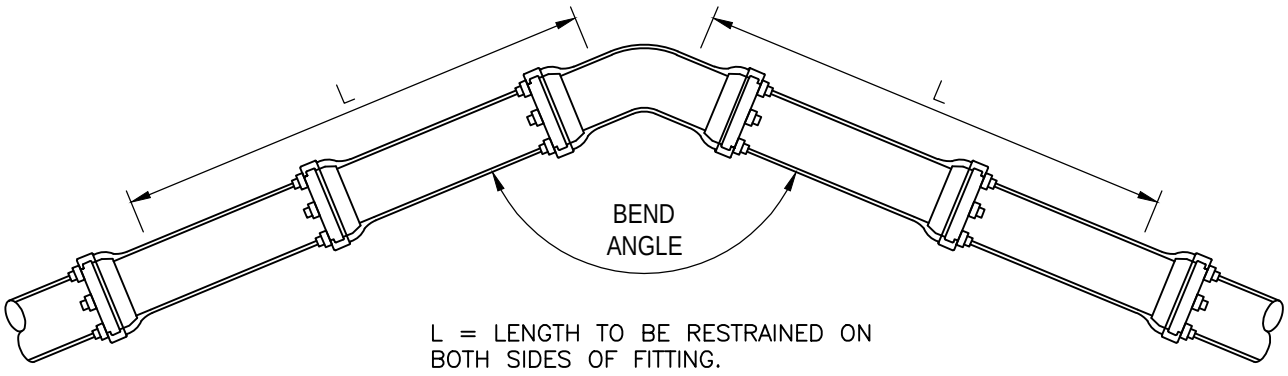
CALCULATION ASSUMPTIONS:
1. PVC PIPE BEDDED IN COMPACTED GRANULAR BACKFILL EXTENDING TO THE TOP OF PIPE.
2. SOIL TYPE CH (INORGANIC CLAY, HIGH PLASTICITY).
3. MAX. PIPE PRESSURE.
4. DEPTH OF BURY OF 4 FEET.
5. FACTOR OF SAFETY (FS) EQUALS 1.5 FOR 12" DIA. AND LESS AND 2.0 FOR 16" DIA.

CITY of MOORE OKLAHOMA

RESTRAINED JOINT DETAILS (4 OF 5)

DETAIL NO.
316-4

APPROVED
09/18/2023



L = LENGTH TO BE RESTRAINED ON BOTH SIDES OF FITTING.

RESTRAINED LENGTHS FOR HORIZONTAL BENDS		
PIPE SIZE (INCH)	BEND ANGLE (DEG)	RESTRAINED LENGTH (FT)
6	45	14
8	45	18
12	45	25
16	45	33
6	22.5	7
8	22.5	9
12	22.5	12
16	22.5	16
6	11.25	4
8	11.25	5
12	11.25	6
16	11.25	8
6	90	44
8	90	58
12	90	81
16	90	80

NOTES:
1. IF DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO RESTRAINED LENGTH, ALL JOINTS BETWEEN FITTINGS MUST BE RESTRAINED.

CALCULATION ASSUMPTIONS:
1. PVC PIPE BEDDED IN COMPACTED GRANULAR BACKFILL EXTENDING TO THE TOP OF PIPE.
2. SOIL TYPE CH (INORGANIC CLAY, HIGH PLASTICITY).
3. MAX. PIPE PRESSURE.
4. DEPTH OF BURY OF 4 FEET.
5. FACTOR OF SAFETY (FS) EQUALS 1.5 FOR 12" DIA. AND LESS AND 2.0 FOR 16" DIA.

CITY of MOORE OKLAHOMA

RESTRAINED JOINT DETAILS (5 OF 5)

DETAIL NO.
316-5

APPROVED
09/18/2023

SANITARY MANHOLE NOTES:

GENERAL:

A. MATERIALS FOR CONCRETE SHALL CONFORM, AS A MINIMUM TO CHAPTER 600 OF THE STANDARD SPECIFICATIONS.

B. THE BASE SHALL BE CONSTRUCTED OF CONCRETE HAVING A MINIMUM 3500 PSI COMPRESSIVE STRENGTH AT 28 DAYS AND WITH A MAXIMUM SLUMP OF 4 INCHES, VIBRATED OR TAMPED. THE BASE SHALL HAVE A MINIMUM DIAMETER OF 8 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE MANHOLE.

C. THE INVERT FLOW CHANNEL SHALL BE FORMED DURING OR IMMEDIATELY AFTER THE POURING OF THE MANHOLE BASE AND BRUSH FINISHED AS SOON AS THE CONCRETE HAS SUFFICIENTLY SET. THE FLOW CHANNEL THROUGH MANHOLES SHALL BE MADE TO CONFORM IN SHAPE AND IN SLOPE TO THAT OF THE SEWERS. SEWER PIPE, WITH THE TOP HALF REMOVED, SHALL BE LAID THROUGH THE MANHOLE FOR POURED–IN–PLACE MANHOLES WHENEVER POSSIBLE.

D. THE INSIDE BOTTOM OF THE MANHOLE SHALL RISE A MINIMUM OF 1 INCH PER FOOT FROM THE SIDE OF THE PIPE OR THE FLOW CHANNEL TO THE WALL OF THE MANHOLE. DIPS OR PROJECTIONS CAPABLE OF HOLDING WATER OR SOLID MATERIALS WILL NOT BE PERMITTED. THE CONCRETE SHALL SET FOR 24 HOURS BEFORE ANY PIPE INSIDE THE MANHOLE IS TRIMMED.

E. MANHOLES SHALL CONFORM TO THE REQUIREMENTS OF OKLAHOMA STATE DEPARTMENT OF ENVIRONMENTAL QUALITY. THE MORE RESTRICTIVE REQUIREMENT BETWEEN THE CITY OF MOORE AND THE ODEQ SHALL GOVERN IN CASES WHERE THERE ARE DISCREPANCIES.

F. THE INTERIOR OF ALL MANHOLES (BOTH PRE–CAST AND CAST–IN–PLACE) SHALL BE COATED WITH A PROTECTIVE COATING PER SECTION 626.02 OF THE STANDARD SPECIFICATIONS. COLOR SHALL BE WHITE AND SHALL BE SELECTED FROM MANUFACTURER'S PRODUCT LINE. CONTRACTOR SHALL PROVIDE SUBMITTAL TO CITY FOR REVIEW AND APPROVAL PRIOR TO PROCUREMENT AND INSTALLATION.

PRE–CAST MANHOLES:

A. THE MINIMUM SHELL THICKNESS FOR PRE–CAST CONCRETE REINFORCED MANHOLES SHALL BE:

1. AT A DEPTH OF 0 TO 16 FEET, ONE–TWELFTH INTERNAL SHELL DIAMETER OR 4 INCHES, WHICHEVER IS GREATER. AT A DEPTH GREATER THAN 16 FEET, ONE–TWELFTH INTERNAL SHELL DIAMETER OR 5 INCHES, WHICHEVER IS GREATER.

2. ANY PRE–CAST REINFORCED CONCRETE SECTION WHICH HAS BEEN DAMAGED IN TRANSIT OR ON SITE SUCH THAT THE WATER TIGHTNESS OF THE SECTION HAS BEEN AFFECTED ADVERSELY SHALL NOT BE UTILIZED IN THE CONSTRUCTION OF THE MANHOLES.

CITY of MOORE OKLAHOMA	SANITARY SEWER MANHOLE (1 OF 10)	DETAIL NO. 400–1 APPROVED 09/18/2023

SANITARY MANHOLE NOTES (CONT'D):

B. ANY PRE-CAST CONCRETE REINFORCED SECTION WHICH HAS BEEN DAMAGED IN TRANSIT OR ON SITE SUCH THAT THE WATER TIGHTNESS OF THE SECTION HAS BEEN AFFECTED AVERSELY SHALL NOT BE UTILIZED IN THE CONSTRUCTION OF MANHOLES.

POURED-IN-PLACE MANHOLES:

A. WALL THICKNESS UNIFORMITY SHALL BE OBTAINED THROUGH THE USE OF SPACERS LOCATED AT THE TOP AND BOTTOM OF THE MANHOLE. FOR DEEP MANHOLES, SPACERS LOCATED AT A DEPTH OF ONE-HALF THE MANHOLE DEPTH SHALL ALSO BE UTILIZED. WALL THICKNESS SHALL BE 6" FOR MANHOLES 0' TO 12' DEEP AND WALL THICKNESS SHALL BE 8" FOR MANHOLES GREATER THAN 12' DEEP.

B. THE BASE MAY BE POURED MONOLITHICALLY WITH THE REST OF THE MANHOLE. THE BASE SHALL HAVE A MINIMUM THICKNESS UNDER THE PIPE AS FOLLOWS:

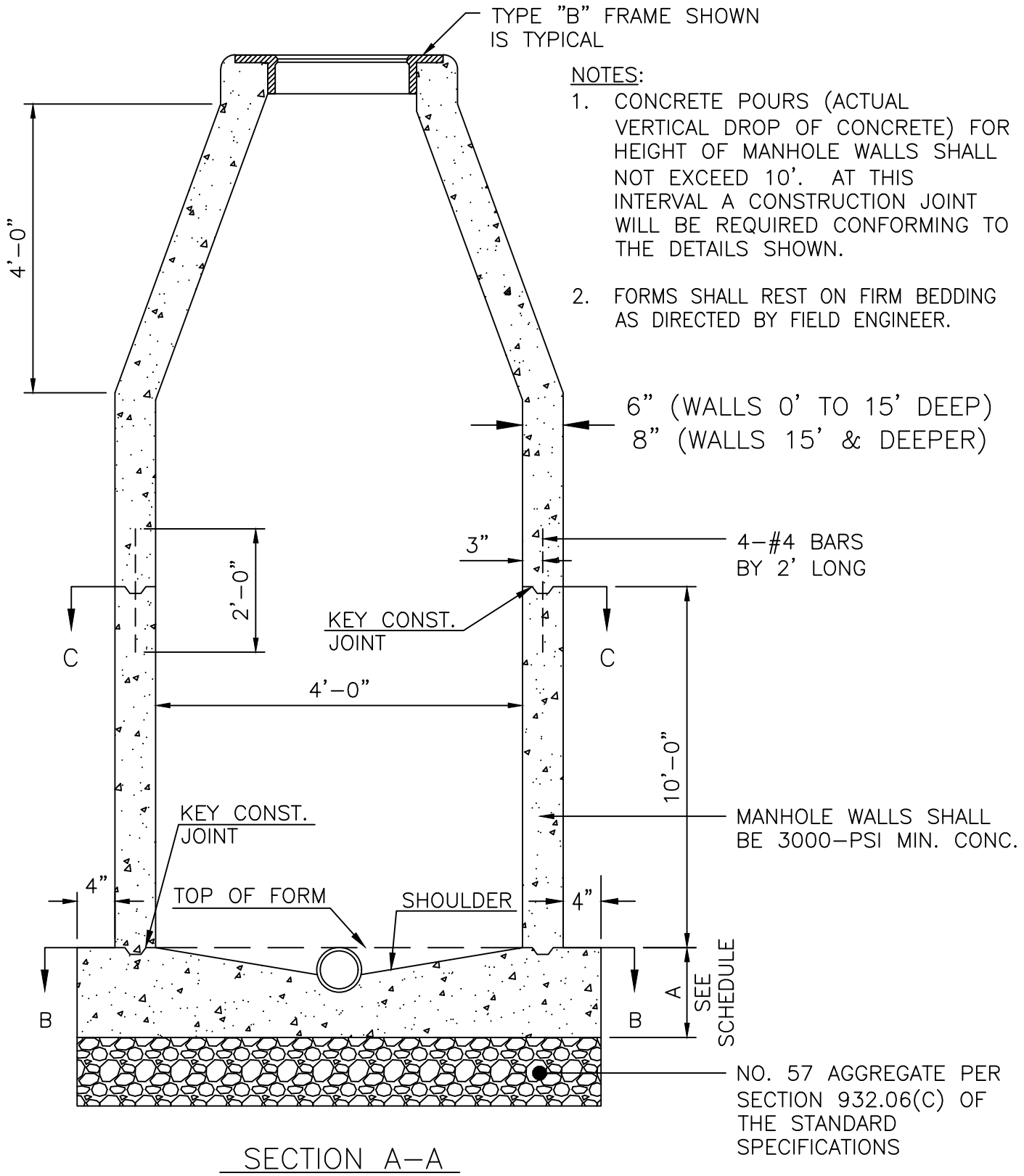
0 FT. TO 8 FT. MANHOLE HEIGHTS	8 INCHES
8 FT. TO 12 FT. MANHOLE HEIGHTS	10 INCHES
12 FT. AND ABOVE MANHOLE HEIGHTS	12 INCHES

C. THE CONSTRUCTION JOINT SHALL BE INSPECTED AND CLEANED OF ANY EXCESS FOREIGN MATTER PRIOR TO APPLICATION OF CONCRETE JOINT SEALER. CONCRETE JOINT SEALER SHALL COMPLY WITH ASTM D1850-67.

D. FORMS SHALL BE PROVIDED FOR THE SHAPING AND FINISHING OF THE MANHOLE BOTTOMS. A MINIMUM INTERVAL OF 24 HOURS SHALL ELAPSE PRIOR TO POURING OF MANHOLE WALLS. CONSTRUCTION OF MANHOLE BOTTOMS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF SANITARY SEWERS AND APPURTENANCES.

E. MORTAR FOR FINISHING AND SEALING SHALL BE CLASS "C". ANY HONEYCOMBING OF CONCRETE LESS THAN 2" DEEP IN 6" MANHOLE WALLS MAY BE REPAIRED USING CLASS "D" MORTAR.

F. THIS MANHOLE IS STANDARD ONLY FOR SEWER PIPE 36" IN DIAMETER OR LESS PROVIDED THAT AT JUNCTION POINTS, SPECIAL MANHOLES MAY BE REQUIRED FOR SEWERS LARGER THAN 36" IN DIAMETER.



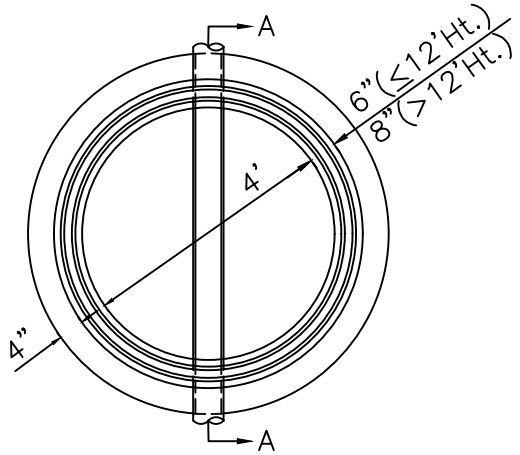
SECTION A-A

CITY of MOORE OKLAHOMA

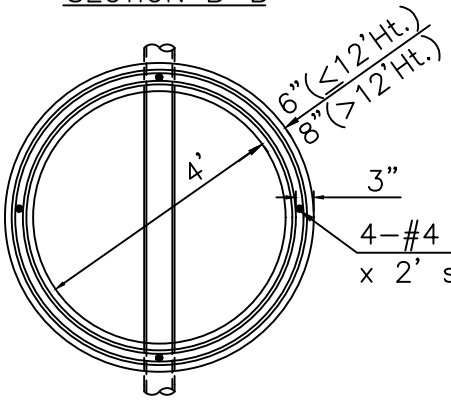
SANITARY SEWER MANHOLE (3 OF 10)

DETAIL NO.
400-3

APPROVED
09/18/2023

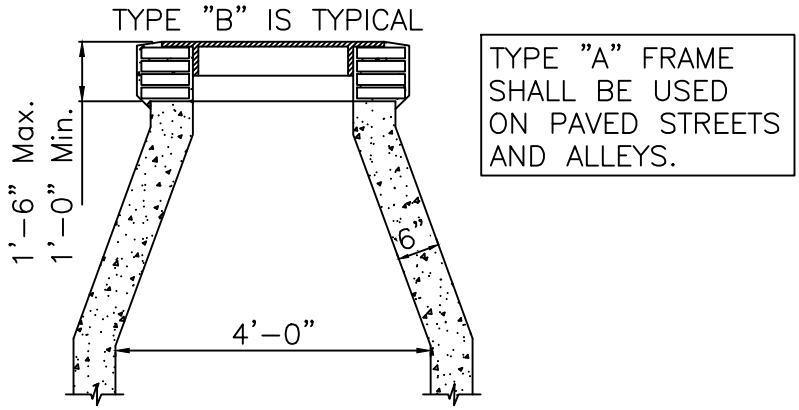


SECTION B–B



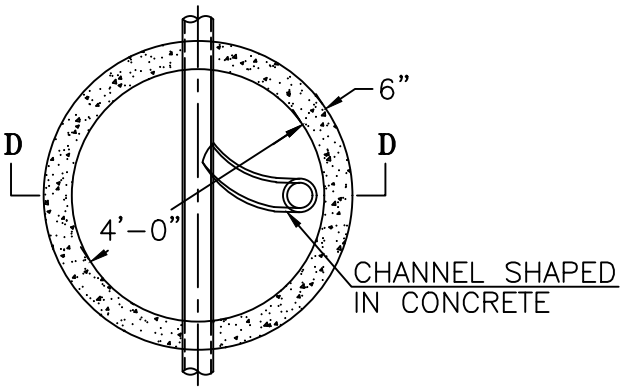
SECTION C–C

POURED–IN–PLACE
STANDARD MANHOLE
N.T.S.

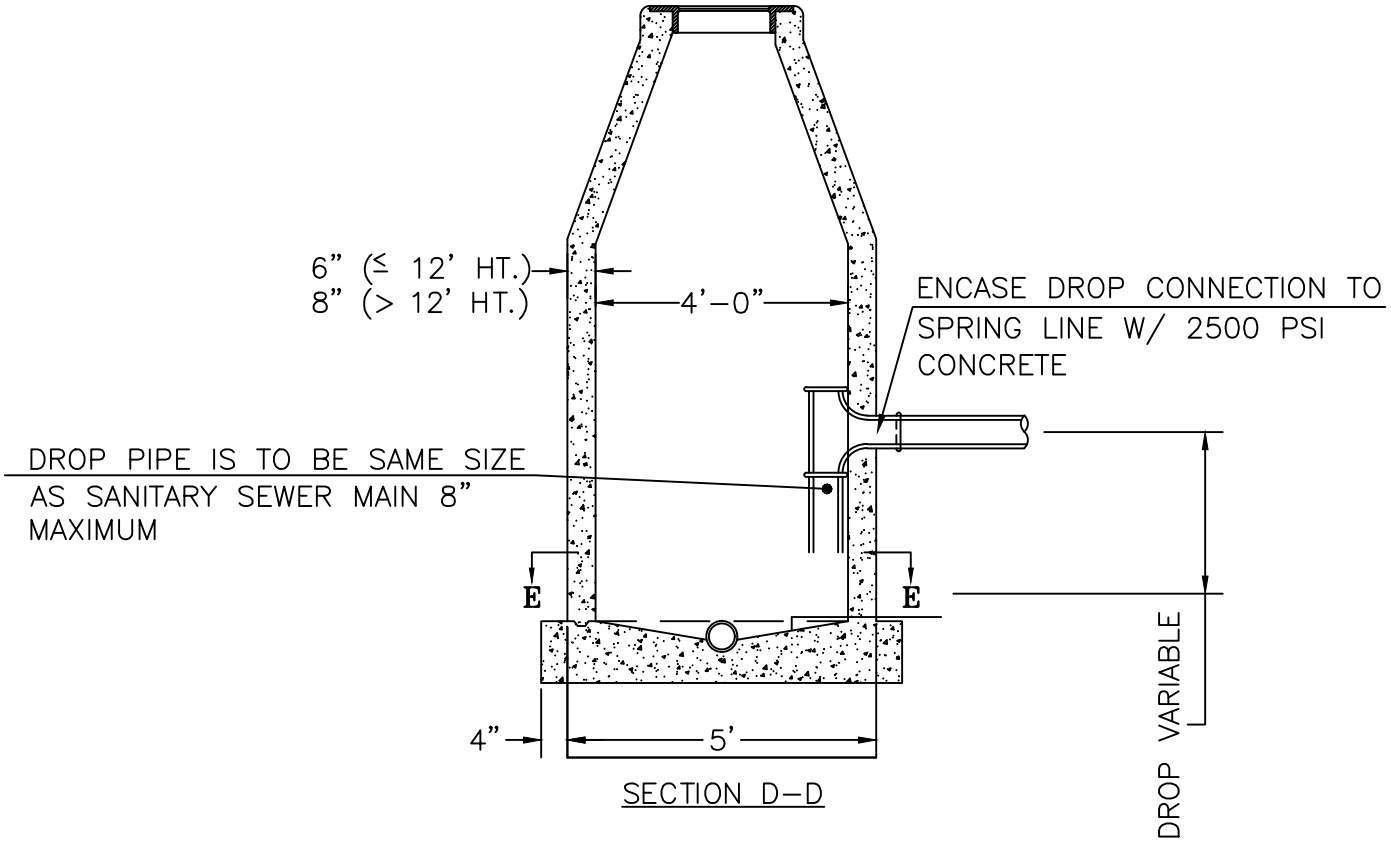


TYPICAL SECTION
TO BE USED WITHIN
STREET RIGHT–OF–WAY
N.T.S.

CITY of MOORE OKLAHOMA	SANITARY SEWER MANHOLE (4 OF 10)	DETAIL NO. 400–4 APPROVED 09/18/2023



SECTION E–E

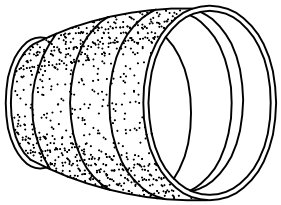


SECTION D–D

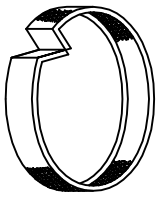
POURED–IN–PLACE
DROP MANHOLE
N.T.S.

CITY of MOORE OKLAHOMA	SANITARY SEWER MANHOLE (5 OF 10)	DETAIL NO. 400–5 APPROVED 09/18/2023

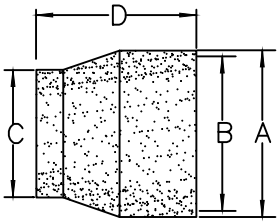
PIPE CLAMP



NEOPRENE–EPDM BLENDED COMPOUND BOOT, MEETING ASTM C 923

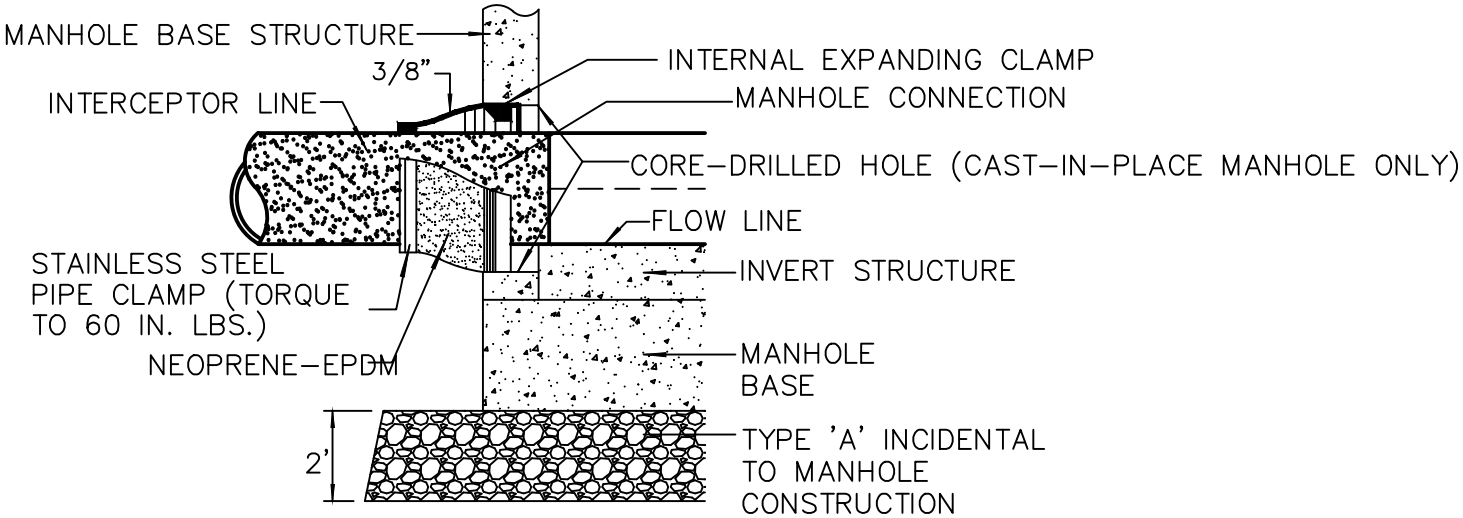


INTERNAL EXPANDING CLAMP



NOTE: ALL CLAMPS SHALL BE STAINLESS STEEL

SUGGESTED PIPE O.D. RANGE	HOLE & BOOT DIAMETER DIMENSIONS			
	A (IN.)	B (IN.)	C (IN.)	D (IN.)
3 ½" – 4 ½"	0'–7"	0'–6 1/8"	0'–4 1/4"	0'–6"
5 ⅜" – 7"	1'–0"	0'–10 7/8"	0'–6 1/2"	0'–8"
7" – 8 ½"	1'–0"	0'–10 7/8"	0'–8"	0'–8"
8 3/16" – 9 ¾"	1'–0"	0'–10 7/8"	0'–9 1/4"	0'–8"
9 ¼" – 11"	1'–4"	1'–2 7/8"	0'–10 1/2"	0'–8"
10 ¾" – 12 ½"	1'–4"	1'–2 7/8"	1'–0"	0'–8"
12" – 13 ¾"	1'–4"	1'–2 7/8"	1'–1 1/4"	0'–8"
14 ½" – 16 ¼"	1'–8"	1'–6 7/8"	1'–3 3/4"	0'–8"
15 ¾" – 17 ½"	1'–8"	1'–6 7/8"	1'–5"	0'–8"
19 ½" – 21 ¼"	2'–0"	1'–10 7/8"	1'–8 3/4"	0'–8"



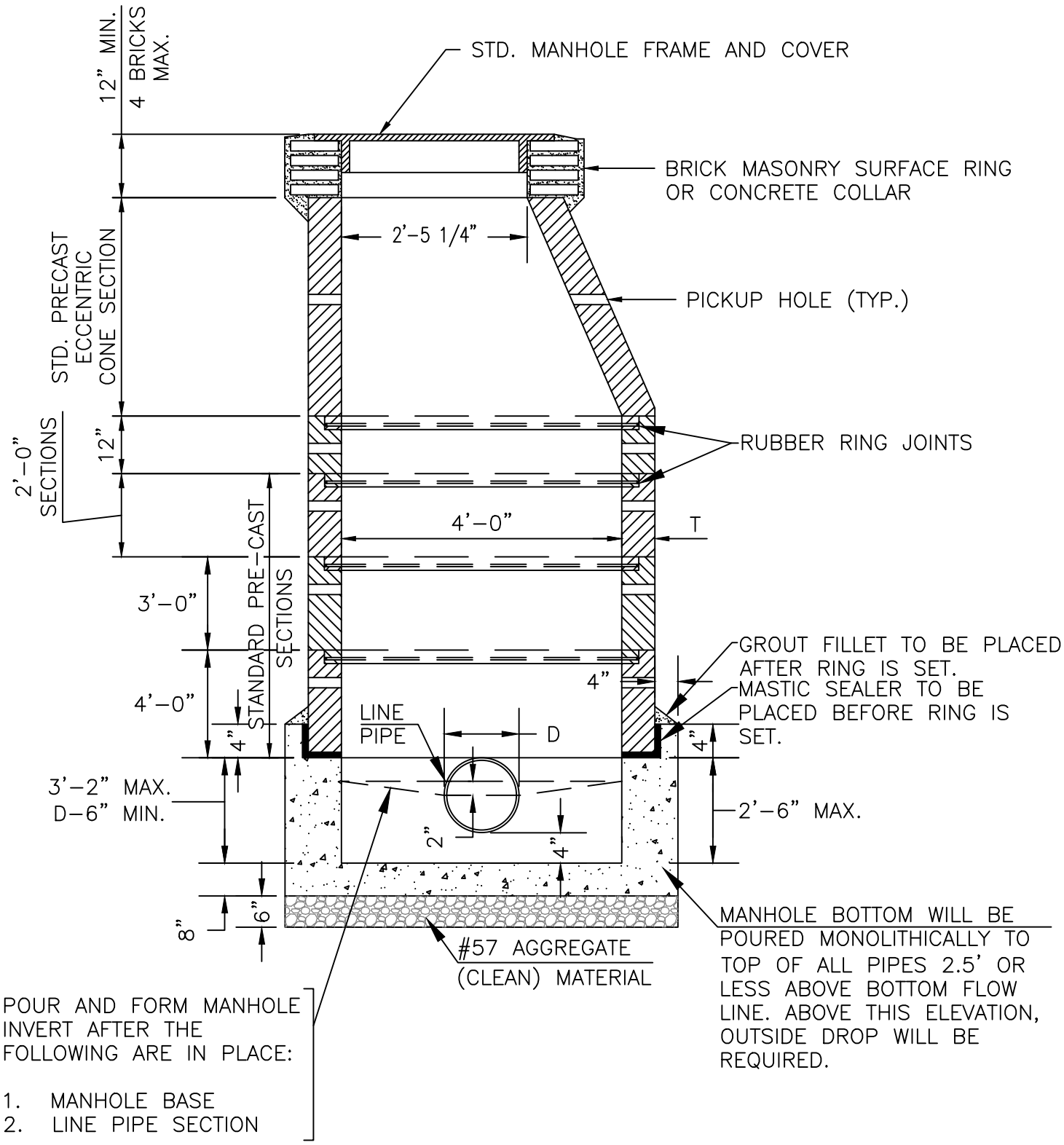
STANDARD DETAIL FOR MANHOLE–PIPE CONNECTION

CITY of MOORE OKLAHOMA

SANITARY SEWER MANHOLE (6 OF 10)

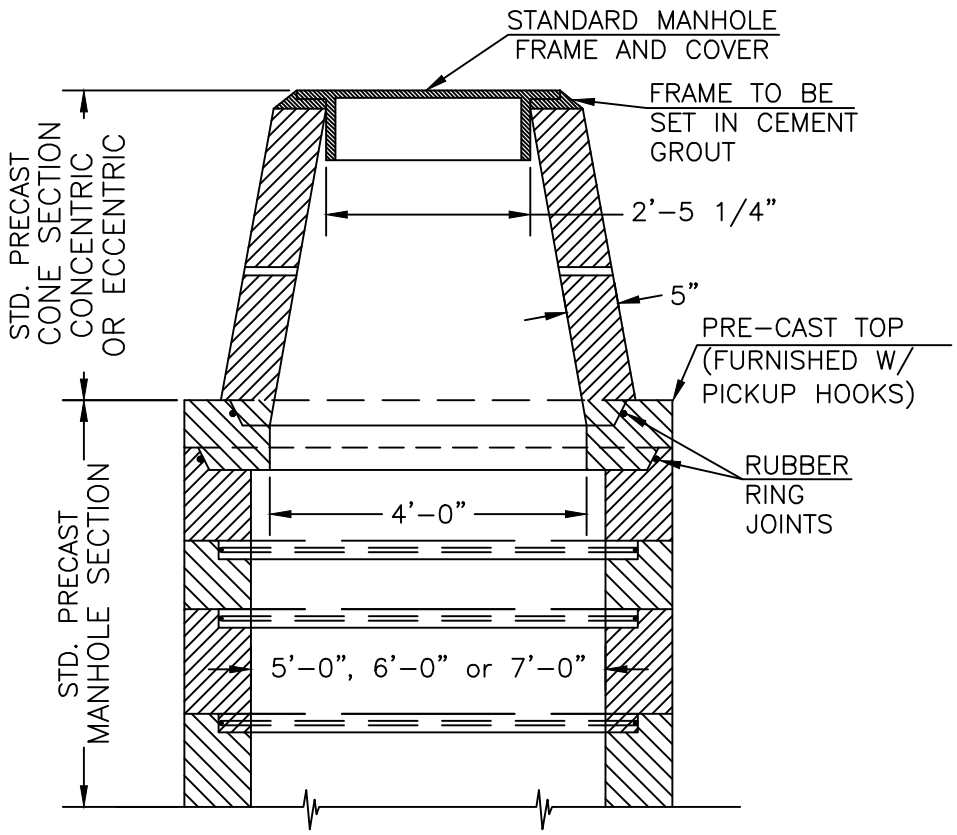
DETAIL NO.
400–6

APPROVED
09/18/2023



TYPICAL BASE DETAIL 4-FT DIAMETER MANHOLE

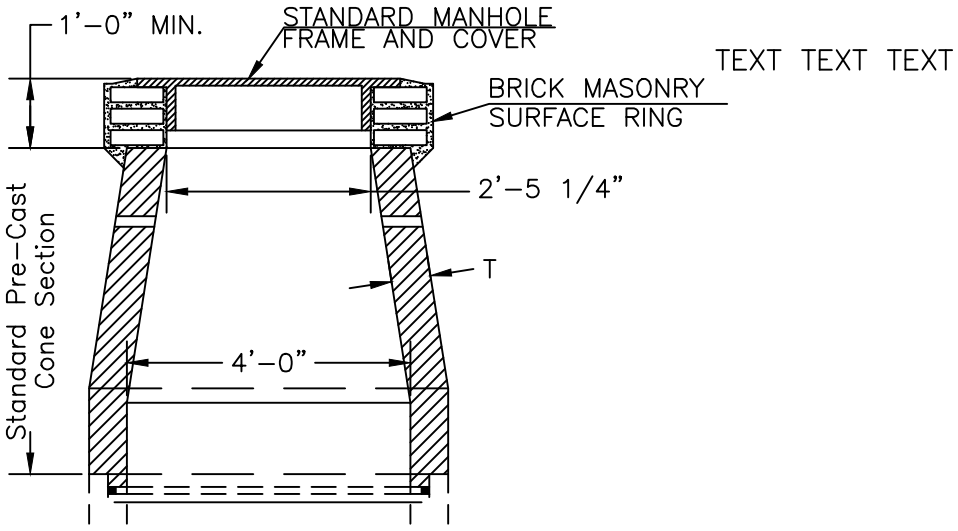
CITY of MOORE OKLAHOMA	SANITARY SEWER MANHOLE (7 OF 10)	DETAIL NO. 400-7 APPROVED 09/18/2023



NOTE: TYPE "B" FRAME SHOWN IS TYPICAL

5'-0", 6'-0" & 7'-0" DIAMETER PRECAST MANHOLE

N.T.S.

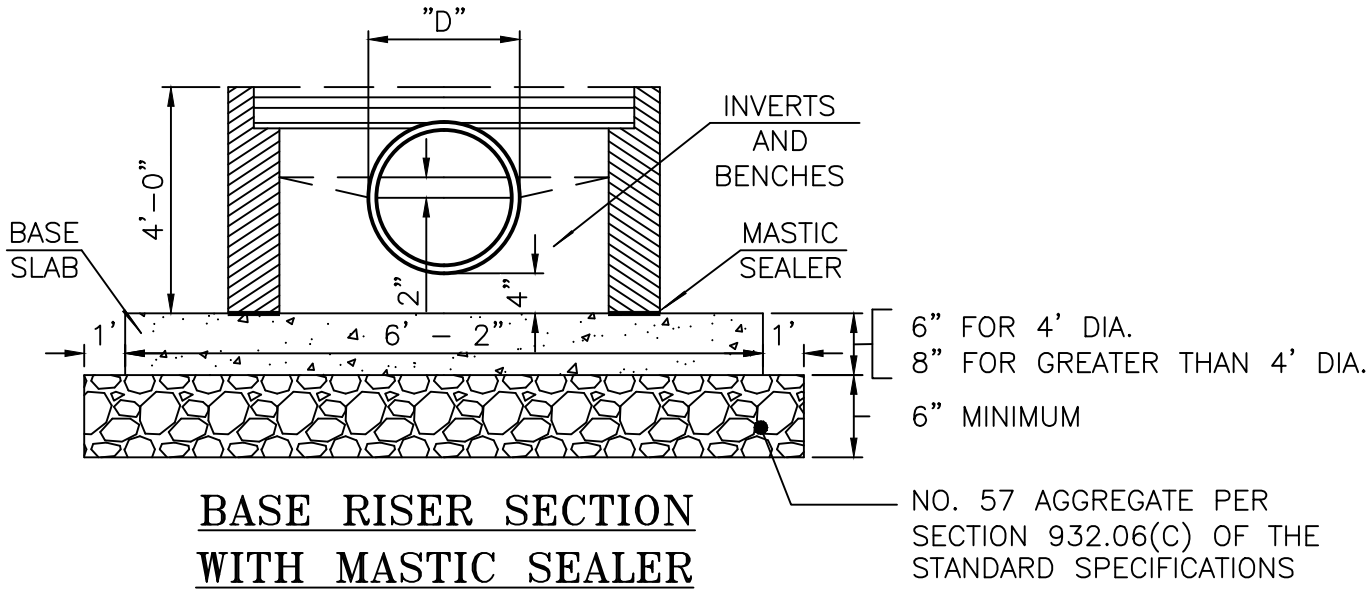


4'-0" DIAMETER MANHOLE

N.T.S.

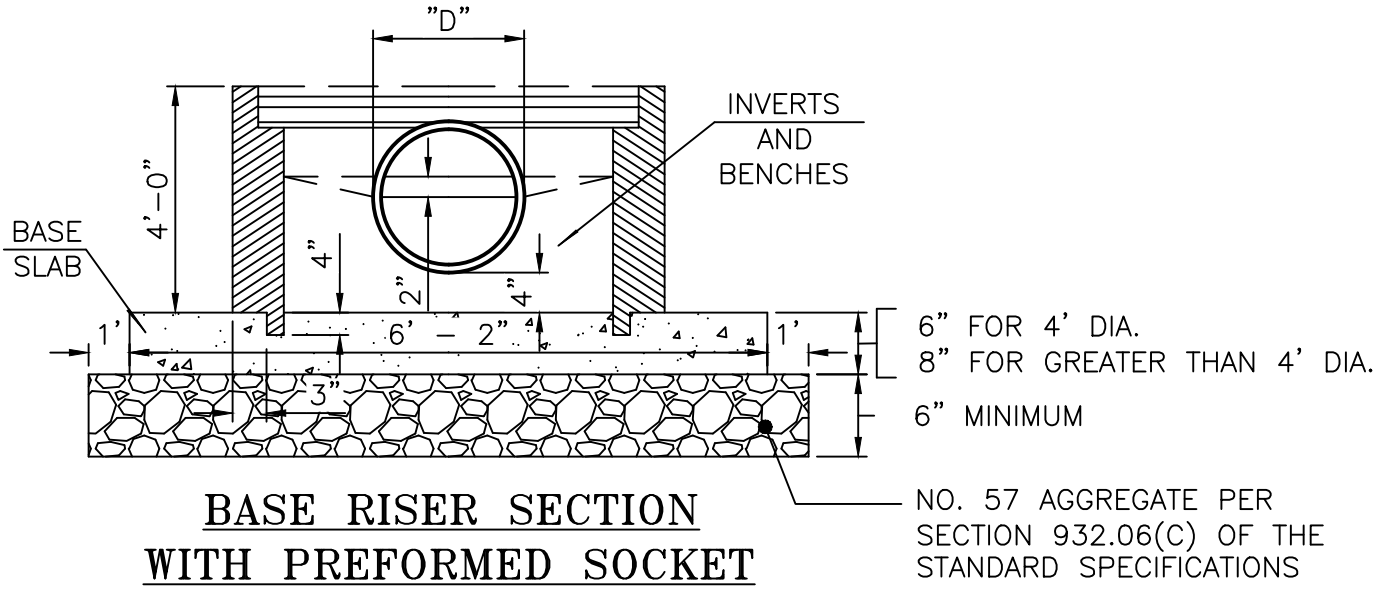
(CONCENTRIC CONE)
BUILT IN STREET R/W

CITY of MOORE OKLAHOMA	SANITARY SEWER MANHOLE (8 OF 10)	DETAIL NO. 400-8 APPROVED 09/18/2023



BASE RISER SECTION WITH MASTIC SEALER

OPTION "A"

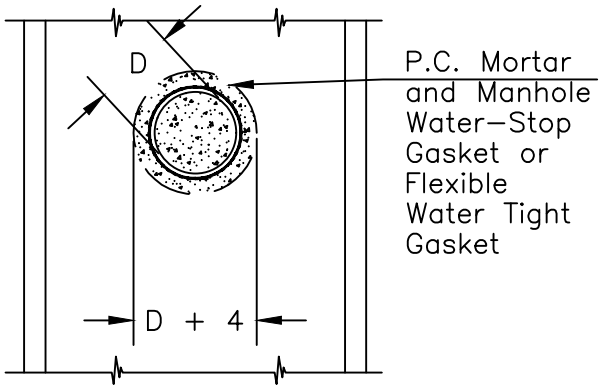


BASE RISER SECTION WITH PREFORMED SOCKET

OPTION "B"

STANDARD DETAIL FOR BASE SECTIONS

CITY of MOORE OKLAHOMA	SANITARY SEWER MANHOLE (9 OF 10)	DETAIL NO. 400-9 APPROVED 09/18/2023



SHOP SHALL SCORE CONCRETE WALLS TO DIMENSIONS SHOWN. REINFORCING TO BE CUT ON JOB SITE.

PIPE CONNECTION DETAILS

CITY of MOORE OKLAHOMA	SANITARY SEWER MANHOLE (10 OF 10)	DETAIL NO. 400-10 APPROVED 09/18/2023

GENERAL NOTES FOR MANHOLE RING AND COVER

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE CITY OF MOORE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS.

2. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.

3. COVERS SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M–105, CLASS 45B OR ASTM A–48–76, CLASS 35B. FRAME SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M–105, CLASS 30B OR ASTM 4–48–76, CLASS 30B FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE, DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD.

4. ALL CASTINGS SHALL BE MANUFACTURED TRUE TO PATTERN, COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER. WHERE INDICATED, MACHINED SURFACES SHALL BE FURNISHED.

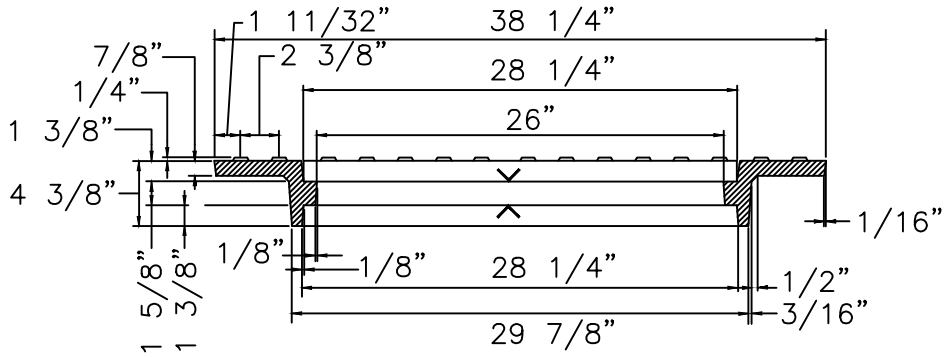
5. WEIGHTS ARE APPROXIMATE AND AVERAGE DEVIATION FROM THE WEIGHTS SHOWN SHALL NOT EXCEED 5% PLUS OR MINUS.

6. CASTINGS SHALL BE UNPAINTED.

7. NO WORDING OR MARKINGS OF ANY KIND, OTHER THAN THOSE SHOWN ON THE PLAN WILL BE PERMITTED ON THESE CASTINGS.

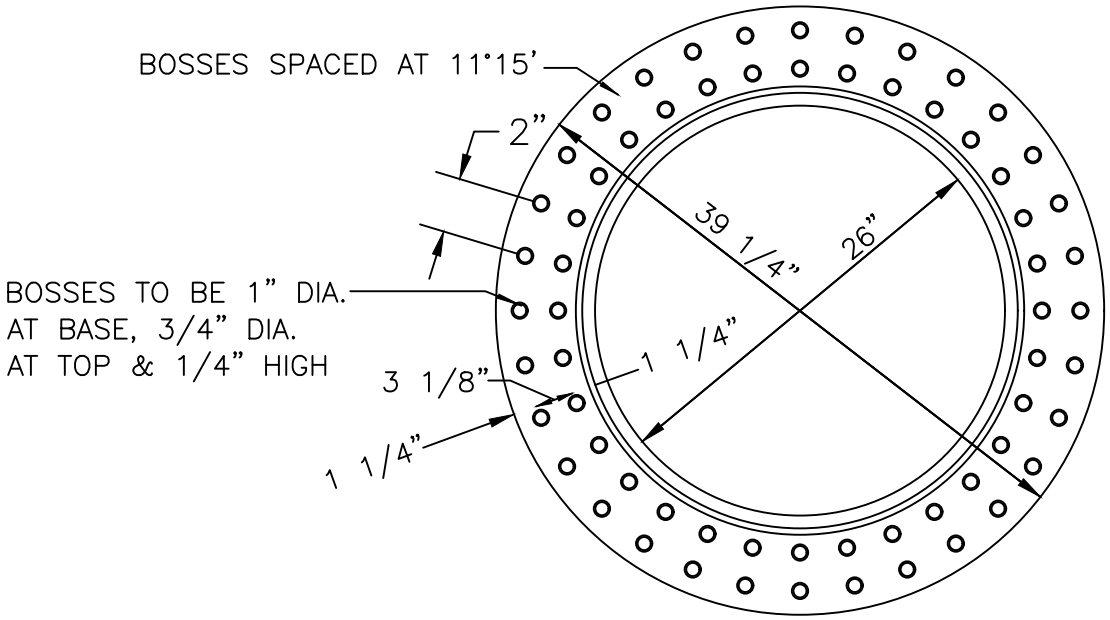
8. ALL TYPE "A" INSTALLATIONS SHALL HAVE SELF–SEALING FEATURE AS SHOWN.

9. ONLY INVERTED LIDS TO BE USED IN ROADWAYS.



SECTION

AS SHOWN FOR "OUT OF PAVING" INSTALLATION TYPE "B"
REVERSED FOR "IN PAVING" INSTALLATION TYPE "A"



REVERSIBLE FRAME FOR TYPE "A" OR TYPE "B" INSTALLATION

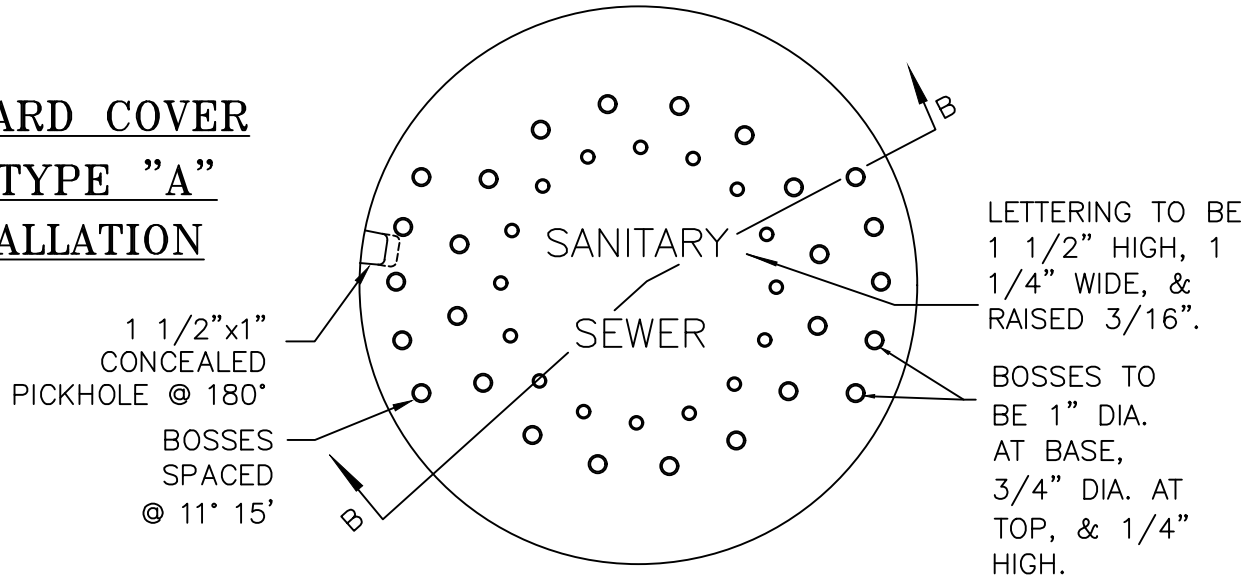
N.T.S.

CASTING WEIGHTS

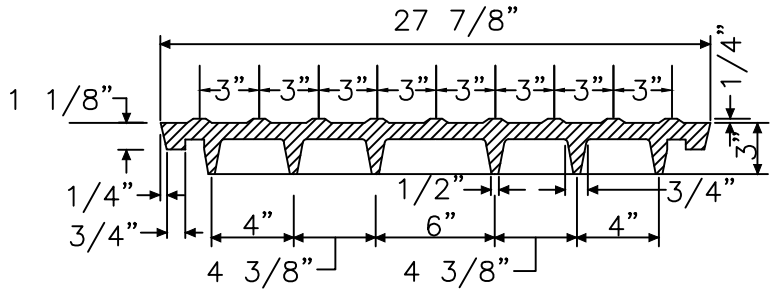
REVERSIBLE FRAME: 35 LB.
STANDARD TYPE "B" FRAME: 300 LB.
COVERS FOR REVERSIBLE FRAME: 195 LB.
STANDARD TYPE "B" COVER: 251 LB.

CITY of MOORE OKLAHOMA	MANHOLE RING & COVER (2 OF 4)	DETAIL NO. 401-2 APPROVED 09/18/2023

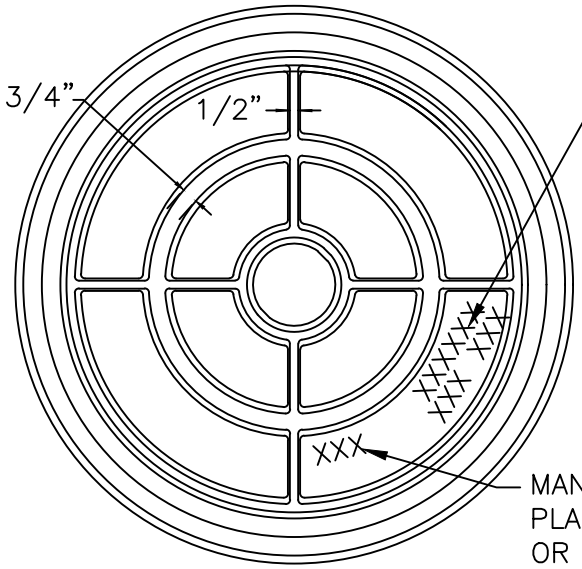
STANDARD COVER FOR TYPE "A" INSTALLATION



PLAN OF TOP



SECTION B–B

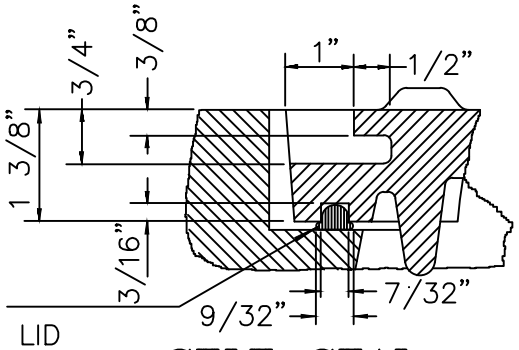


PLAN OF UNDERSIDE

STANDARD COVER FOR TYPE "A" INSTALLATION

N.T.S.

7/32" X 5/32" MACHINED GROOVE IN LID SEAT FOR 1/4" DIA. X 84" POLYHISOPRENE SELF-SEAL CONTINUOUS GASKET (40 DUROMETER)



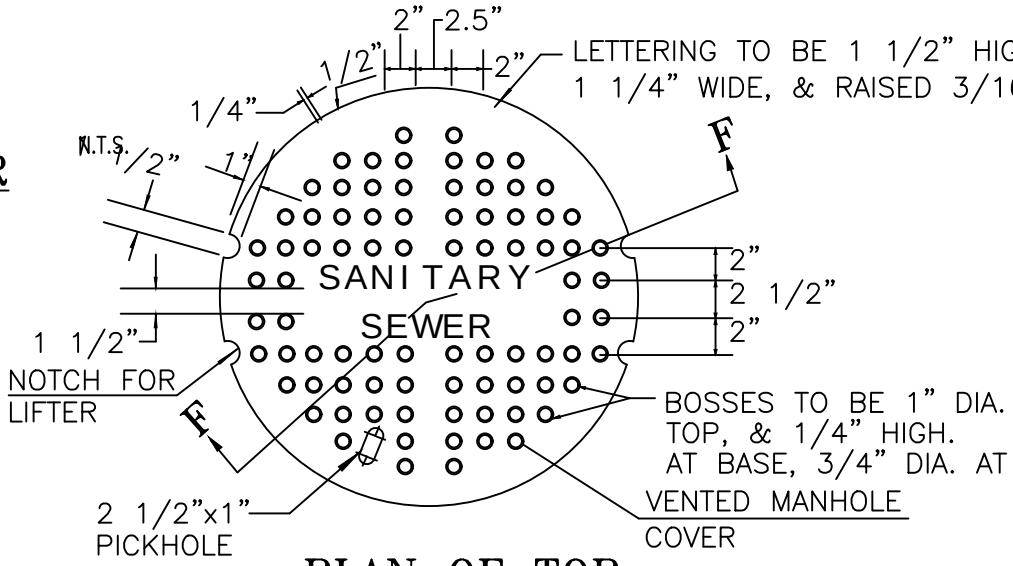
MACHINED DOVETAIL GROOVE IN LID SEAT FOR 1/4" DIA. X 83" POLYISOPRENE CONTINUOUS GASKET (40 DUROMETER)

SELF-SEAL DETAIL FOR TYPE "A" INSTALLATION

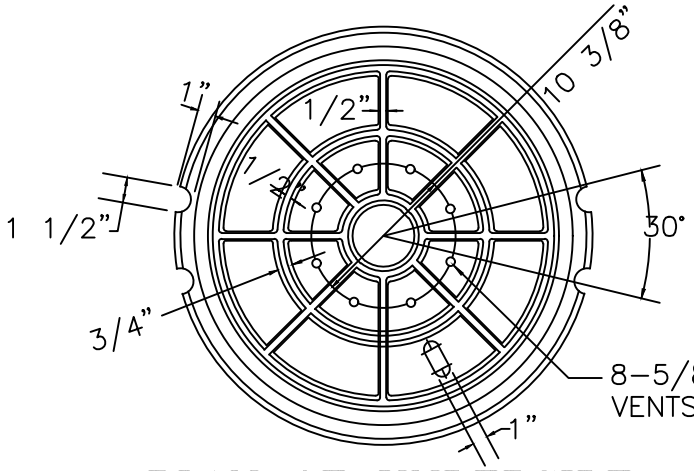
N.T.S.

CITY of MOORE OKLAHOMA	MANHOLE RING & COVER (3 OF 4)	DETAIL NO. 401-3 APPROVED 09/18/2023

STANDARD COVER FOR TYPE "B" INSTALLATION



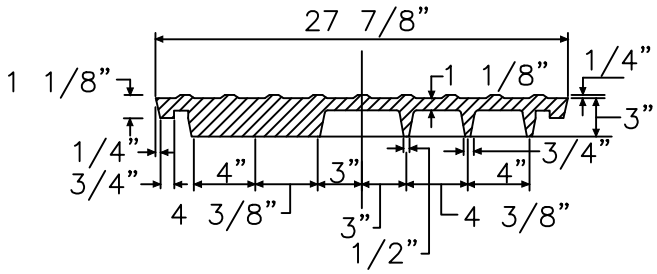
PLAN OF TOP
N.T.S.



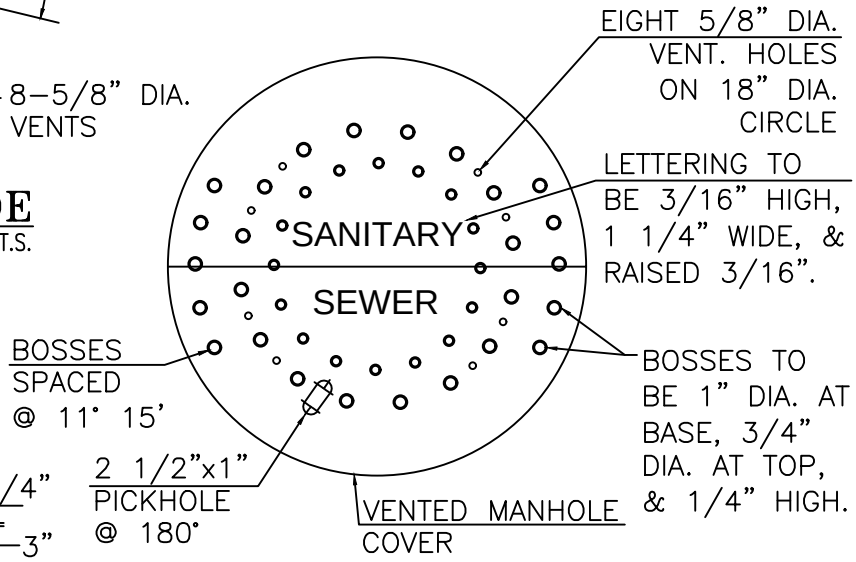
PLAN OF UNDERSIDE
N.T.S.

CASTING WEIGHTS

REVERSIBLE FRAME: 235 LB.
STANDARD TYPE "B" FRAME: 300 LB.
COVERS FOR REVERSIBLE FRAME: 195 LB.
STANDARD TYPE "B" COVER: 251 LB.

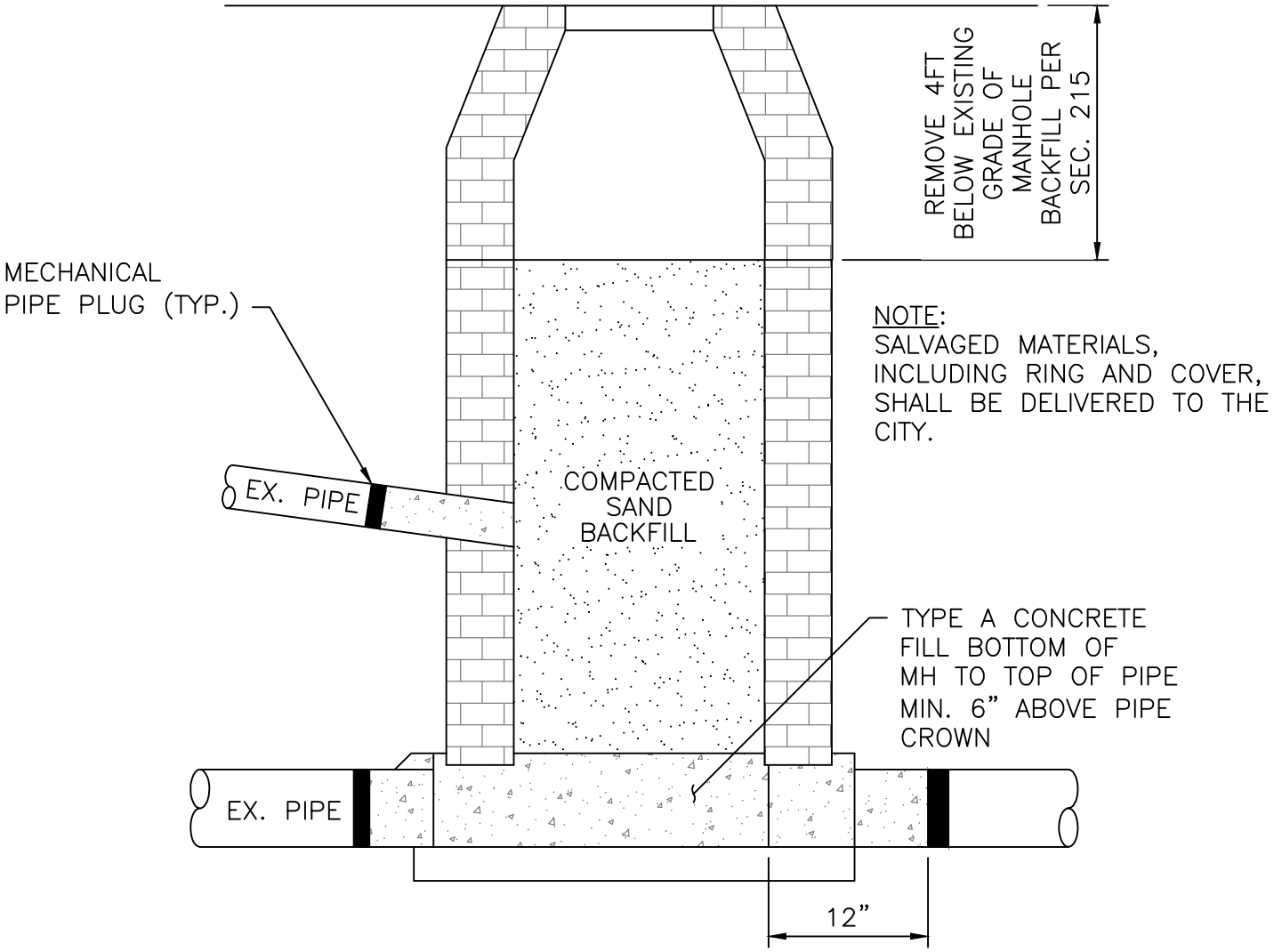


SECTION F-F



PLAN OF TOP OPTIONAL COVER FOR TYPE "B" INSTALLATION

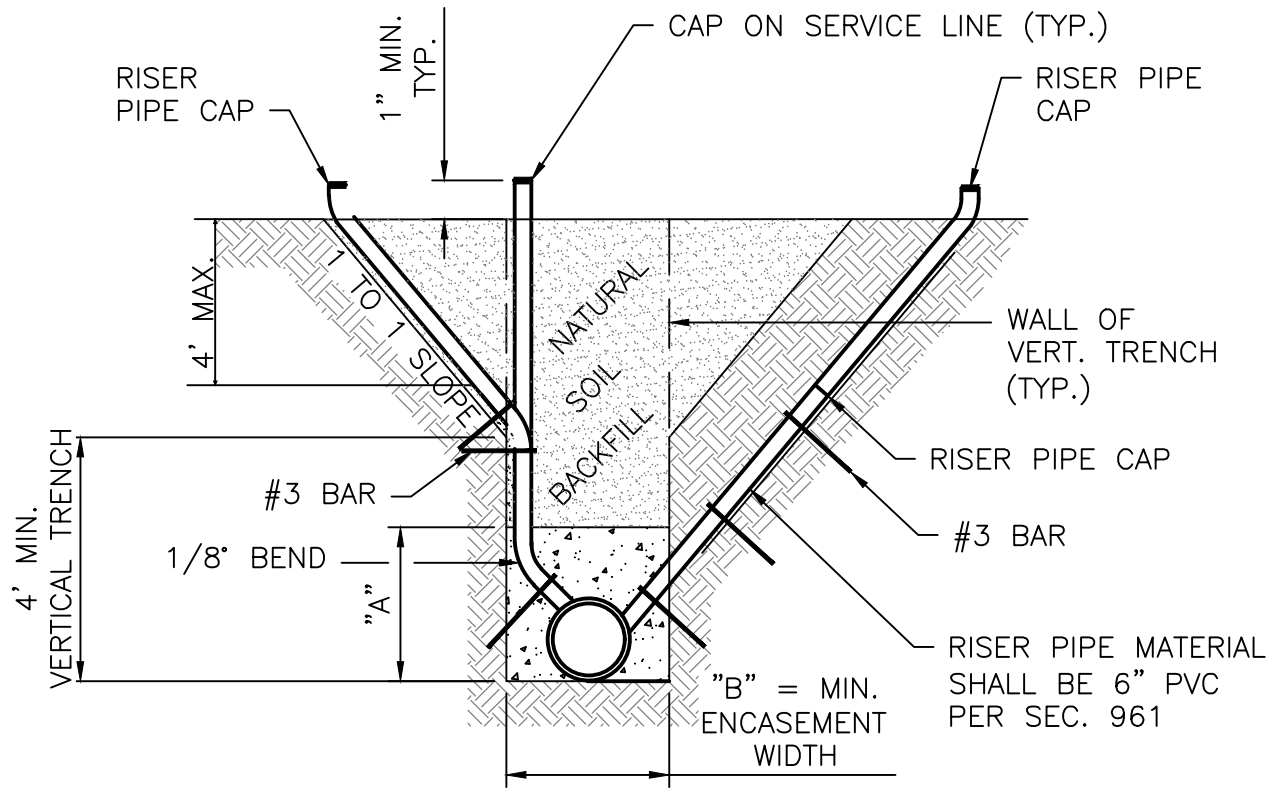
CITY of MOORE OKLAHOMA	MANHOLE RING & COVER (4 OF 4)	DETAIL NO. 401-4 APPROVED 09/18/2023



STANDARD DETAIL FOR ABANDONING MANHOLES

DETAIL NO.
402

APPROVED
09/18/2023



SERVICE CONNECTION INSTALLATION (1 OF 2)

DETAIL NO.
404-1

APPROVED
09/18/2023

SERVICE CONNECTION NOTES:

1. EXTERNAL CONNECTIONS FOR NEW CONSTRUCTION

   WYE BRANCHES – FOR NEW CONSTRUCTION THERE SHALL BE INSTALLED WYE BRANCHES OF SIZE AND TYPE SHOWN ON THE PLANS WITH SIX (6") INCH OPENINGS AT LOCATIONS SHOWN ON THE PLANS OR AS DESIGNATED BY THE CITY'S DESIGNATED REPRESENTATIVE.

2. EXTERNAL CONNECTION TO EXISTING MAIN – CONNECTIONS TO EXISTING MAIN MAY BE ACCOMPLISHED AS FOLLOWS:

   A. SADDLES – CONNECTIONS MAY BE MADE BY EXCAVATING TO THE EXISTING MAIN AND CUTTING A HOLE USING APPROVED EQUIPMENT AND INSTALLING A SADDLE. SEWER SERVICE CONNECTIONS CONSTRUCTED WITH SADDLES SHALL INCLUDE STRAPS, A ONE–EIGHTH (1/8°) DEGREE BEND, AND A CLOSURE PIECE. WHEN EXISTING MAIN HAS BEEN REHABILITATED BY TRENCHLESS METHOD OF CONSTRUCTION, THE SADDLE CONNECTION SHALL BE MADE TO THE TRENCHLESS PIPE AND/OR LINER.

   B. TEES – CONNECTIONS MAY BE MADE BY REMOVING A SECTION OF THE EXISTING PIPE AND INSTALLING A TEE. SEWER SERVICE CONNECTIONS CONSTRUCTED WITH TEES SHALL INCLUDE A ONE–EIGHTH (1/8°) BEND, AND WHEN REQUIRED, AN ELBOW AND A CLOSURE PIECE.

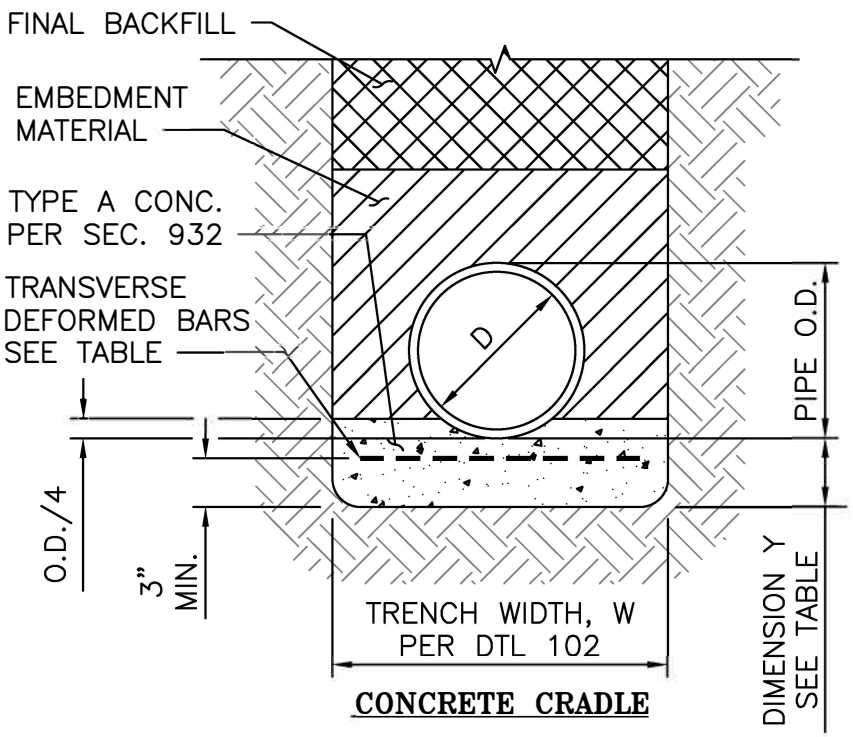
   C. WYE BRANCHES – CONNECTIONS MAY BE MADE BY REMOVING A SECTION OF EXISTING PIPE AND INSTALLING A WYE BRANCH. FITTINGS, RISER AND CLOSURE ASSEMBLY SHALL BE USED TO MAKE THE CONNECTION AND SHALL BE SUPPLIED IN A NOMINAL DIAMETER OF SIX (6") INCHES. THE EXTERNAL CONNECTIONS SHALL BE CONSIDERED COMPLETE WHEN BACKFILLING AND SUBSEQUENT SURFACE RESTORATION IS COMPLETE. SERVICE CONNECTIONS CONSTRUCTED WITH WYE BRANCHES SHALL INCLUDE A ONE–EIGHTH (1/8°) DEGREE BEND, ELBOW, AND WHEN REQUIRED, A CLOSURE PIECE.

3. RISER

   A. INSTALLATION – THE RISER PIPE MAY BE INSTALLED IN ONE OF THE THREE WAYS SHOWN ON DTL. 404–1.

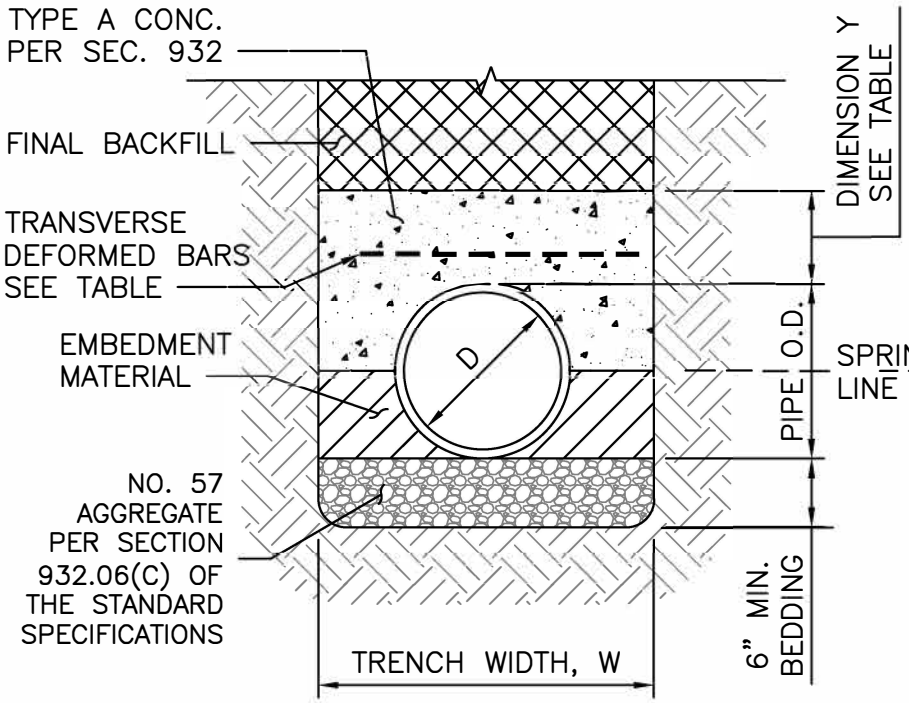
   B. SIZE & MATERIAL – RISER PIPE SHALL BE SIX INCH (6") OR FOUR INCH (4") SCHEDULE 40 PVC AS SHOWN ON THE PLANS.

   C. CONCRETE ENCASEMENT – CONCRETE ENCASEMENT AROUND RISER SHALL MEET THE REQUIREMENT ESTABLISHED ON DTL. 404–1.



CONCRETE CRADLE

CONCRETE CRADLE		
PIPE DIA. (IN.)	Y (IN.)	REINFORC–ING
8	6	#4@10"
10	6	#4@10"
12	6	#4@10"
18	6	#4@10"
24	6	#4@10"
30	8	#5@11"
36	9	#6@11"
42	11	#6@8"
48	12	#6@7"
54	15	#8@9"
60	15	#8@9"
72	15	#8@9"
84	15	#8@9"
96	15	#8@9"



CONCRETE ARCH

NOTES:

1. SEE DETAIL 102 FOR TYPICAL TRENCH DIMENSIONS.
2. CONTRACTOR SHALL INCORPORATE METHODS TO PREVENT THE PIPE FROM FLOATING OFF LINE AND GRADE DURING PLACEMENT OF CONCRETE AT THE CONTRACTOR'S EXPENSE.
3. DETAIL(S) BASED ON ASCE'S "GRAVITY SANITARY SEWER DESIGN AND CONSTRUCTION" MANUAL NO. 60, 2ND EDITION.
4. CRADLE OR ARCH SHALL BE CONSTRUCTED UNDER OR OVER RIGID PIPES, TO INCREASE LOAD BEARING CAPACITY OF PIPE–SOIL EMBEDMENT SYSTEM.

CONCRETE CRADLE AND ARCH FOR RIGID PIPES

DETAIL NO. 405

APPROVED 09/18/2023