CITY OF ALBERTVILLE

STANDARD CONSTRUCTION DETAILS

SEPTEMBER 2021

ALBERTVILLE PUBLIC WORKS
11822 63RD STREET NE
ALBERTVILLE, MN 55301

TYPICAL SECTIONS

Plate #	Subject
ALBT_1-001	Typical Street Section Residential
ALBT_1-004	Bituminous Trail
ALBT_1-100	Bituminous Patch
ALBT_1-101	Concrete Driveway Pavement
ALBT_1-102	Crack Sealing Typical Section
ALBT_1-300	Minimum Street Standards
ALBT_1-400	Temporary Bituminous Cul-De-Sac
ALBT_1-600	Bituminous Driveway
ALBT_1-700	Concrete Walk

EROSION CONTROL

Plate #	Subject
ALBT_3-001	Ditch Check - Rip Rap
ALBT_3-002	Ditch Check - Bioroll
ALBT_3-004	Velocity Check - Heavy Duty Silt Fence
ALBT_3-101	Inlet Protection - Perforated Wall
ALBT_3-102	Inlet Protection - Road Drain Curb and Gutter
ALBT_3-200	Erosion Control Blanket Installation
ALBT_3-201	Erosion Control Blanket at Pond EOF
ALBT_3-202	Skimmer Weir (Pond or Wide Channel)
ALBT_3-203	Skimmer Weir (Narrow Channel)
ALBT_3-204	Silt Fence - Heavy Duty
ALBT_3-205	Silt Fence - Preassembled
ALBT_3-206	Silt Fence - Machine Sliced
ALBT_3-207	Silt Fence - Super Heavy Duty
ALBT_3-404	Silt Fence - Floatation Silt Curtain
ALBT_3-405	Silt Fence - Floatation Silt Curtain (Still Water)
ALBT_3-500	Typical Sediment Basin Cross Section
ALBT_3-502	Rock Construction Entrance
ALBT_3-600	Riprap at RCP Culvert End
ALBT_3-700	Construction Site Erosion Control

STORM SEWER

Plate #	Subject
ALBT_4-001	RC Pipe Class "B" Bedding
ALBT_4-002	PVC Storm Sewer Trench Detail
ALBT_4-101	Catch Basin - Design "H"
ALBT_4-105	Storm Sewer Structure - Design 4020
ALBT_4-107	Precast Shallow Depth MH/CB - Design SD
ALBT_4-108	Drainage Structure with Sump
ALBT_4-200	Precast Concrete Pond Skimmer Structure
ALBT_4-201	Precast Concrete Pond Skimmer Structure W/Rate Control Baffle
ALBT_4-303	Subsurface Edge Drain PVC Pipe
ALBT_4-304	Subsurface Edge Cleanout under Sidewalk
ALBT_4-305	Subsurface Edge Cleanout
ALBT_4-306	Sump Pump Discharge Requirements (2 Sheets)
ALBT_4-307	Precast Concrete Headwall for Subsurface Drains
ALBT_4-601	RC Apron Trash Rack
ALBT_4-800	Pond Detail

SANITARY SEWER

Plate #	Subject
ALBT_5-000	Sanitary Manhole
ALBT_5-002	Sanitary Manhole with Outside Drop
ALBT_5-008	Sanitary Sewer Exterior Joint Seal
ALBT_5-019	Casting and Grading Adjustment Ring Detail
ALBT_5-020	Casting and Grade Adjustment Ring Exterior Seal
ALBT_5-101	Sanitary Sewer Service
ALBT_5-104	Sanitary Sewer Riser
ALBT_5-107	Sanitary Sewer Service and Service Riser – Reconstruction
ALBT_5-110	Sanitary Sewer Cleanout
ALBT_5-200	PVC Sanitary Sewer Trench
ALBT_5-202	Insulation Sanitary Sewer

WATERMAIN

Plate #	Subject
ALBT_6-000	Hydrant
ALBT_6-101A	Water Service Installation
ALBT_6-200	PVC Watermain Trench
ALBT_6-201	DIP Watermain Trench
ALBT_6-202	Watermain Insulation
ALBT_6-203	Watermain Offset
ALBT_6-204	Watermain Pipe Support in Casing – Plastic Spacers
ALBT_6-205	Concrete Thrust Blocks
ALBT_6-206	Concrete Thrust Blocking
ALBT_6-301	Tracer Wire Pedestal PVC Pipe
ALBT_6-302	Tracer Wire Pedestal Valve Box
ALBT_6-303	Adjustable Tracer Wire Access Box
ALBT_6-304	Tracer Wire Access at Hydrant
ALBT_6-400	Gate Valve Adaptor
ALBT_6-402	Gate Valve Installation

CURB & GUTTER, SIDEWALKS AND RETAINING WALLS

Plate #	Subject
ALBT_7-000	Concrete Curb & Gutter
ALBT_7-001	Transition to B618 Curb at Catch Basin
ALBT_7-002	Concrete Curb Reinforcement
ALBT_7-100	Concrete Valley Gutter
ALBT_7-101	Concrete Drainage Pan
ALBT_7-102	Commercial Concrete Driveway Apron
ALBT_7-201	Ped Ramp with Truncated Domes in Curb Radius
ALBT_7-202	Ped Ramp with Truncated Domes in Straight Curb Sections
ALBT_7-204	Concrete Steps

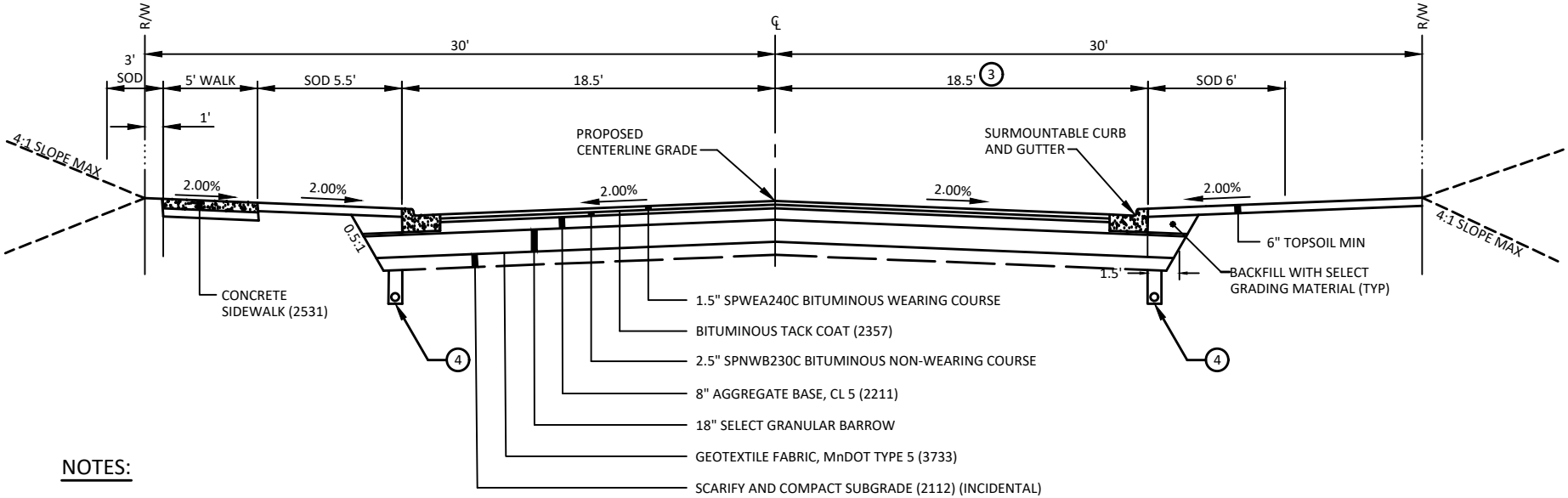
SIGNS, TRAFFIC SIGNALS AND MARKERS

Plate #	Subject
ALBT_8-100	Traffic Sign Installation
ALBT_8-101	Street Name Blade Installation w/Traffic Sign
ALBT_8-102	Sign Post Break-Away Assembly
ALBT_8-110	Manhole Marker Sign
ALBT_8-111	Structure Marker Signs
ALBT_8-114	Street Name Sign
ALBT_8-115	Street Sign Post Installation
ALBT_8-116	Street Signs
ALBT_8-118	Wetland Buffer Zone Sign Installation

MISCELLANEOUS

Plate #	Subject
ALBT_9-003	Tree Preservation Fence
ALBT_9-300	Bollard Guard Post
ALBT_9-301	Mailbox Installation Detail
ALBT_9-600	Sewer & Water Service Record Drawing

TYPICAL STREET SECTION
RESIDENTIAL



NOTES:

1. SEE STANDARD DETAIL 1-300 FOR STREET CLASSIFICATION MINIMUM ROADWAY SECTIONS.

2. THE PAVEMENT SECTION SHOWN IS A MINIMUM. TYPE OF BITUMINOUS MIXTURE AND THE SECTION MAY BE INCREASED BY THE CITY ENGINEER BASED ON A SOILS REPORT AND PROJECTED TRAFFIC VOLUMES.

3. STREET WIDTH TO BE DETERMINED BY THE CITY ENGINEER. STREETS MUST BE PAVED IN NO MORE THEN TWO PASSES.

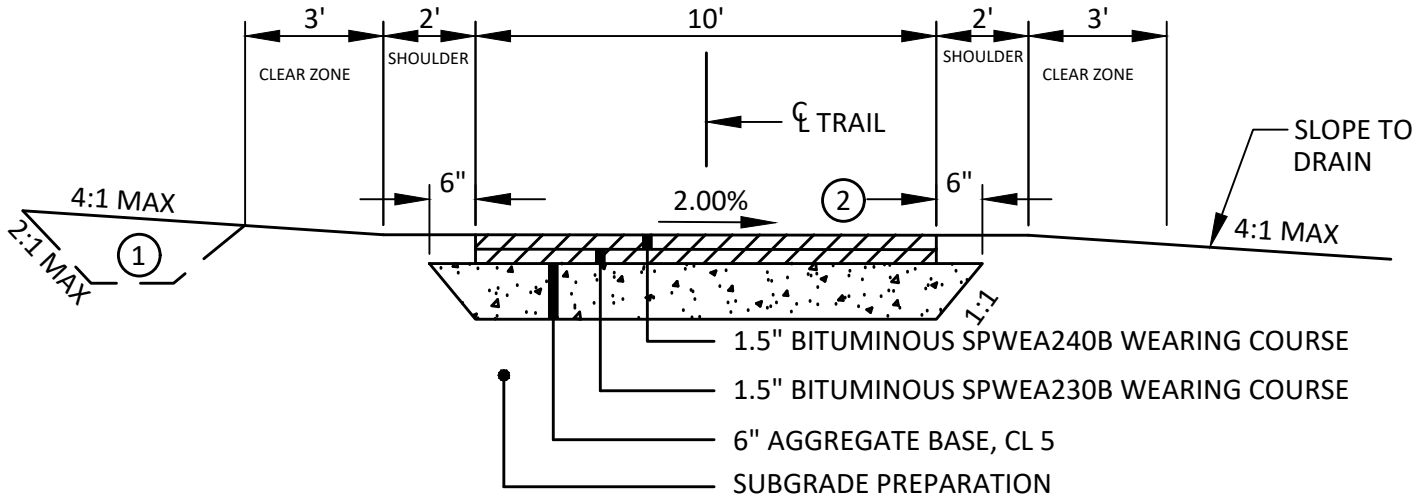
4. 4" PERFORATED PIPE. INSTALL WHERE CLAY SOILS ARE ENCOUNTERED IN THE ROADWAY SUBGRADE AS DIRECTED BY THE CITY ENGINEER.

Albertville
Small Town Living. Big City Life.

TYPICAL STREET SECTION
RESIDENTIAL

DATE:
02/2020

STD. DETAIL
1-001



(1) DITCH IF REQUIRED FOR DRAINAGE

(2) SLOPE TOWARDS INSIDE OF CURVE

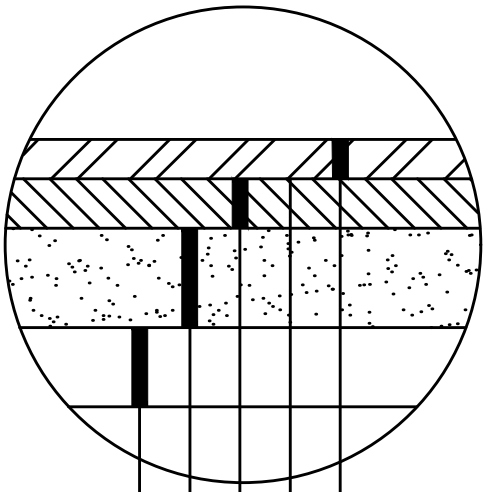
BITUMINOUS TRAIL

NOT TO SCALE

NOTE:

PROVIDE 10' MINIMUM RADIUS AT ALL TRAIL INTERSECTIONS.

Albertville Small Town Living. Big City Life.	BITUMINOUS TRAIL		DATE: 02/2020
			STD. DETAIL 1-004



1.5" SPWEA240B BITUMINOUS WEARING COURSE

BITUMINOUS TACK COAT (2357)

2.5" SPNWB230B BITUMINOUS NON-WEARING COURSE

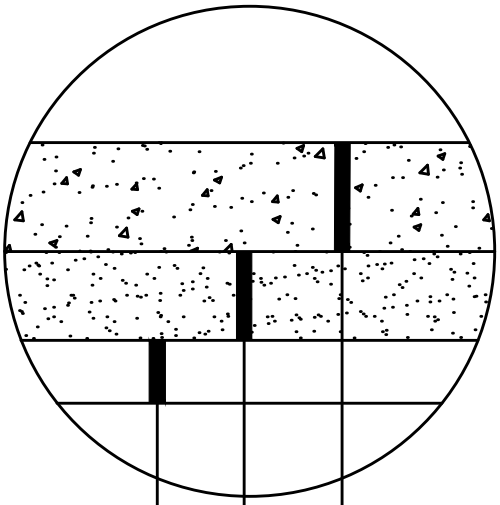
8" AGGREGATE BASE, CL 5 (2211)

SUBGRADE PREPARATION (2112) (INCIDENTAL)

BITUMINOUS PATCH

NOT TO SCALE

Albertville Small Town Living. Big City Life.	BITUMINOUS PATCH		DATE: 02/2020 STD. DETAIL 1-100



6" MIN. FOR RESIDENTIAL CONC. DWY/APRON
10" MIN. FOR COMMERCIAL CONC. DWY/APRON
CONCRETE DRIVEWAY PAVEMENT (2531)

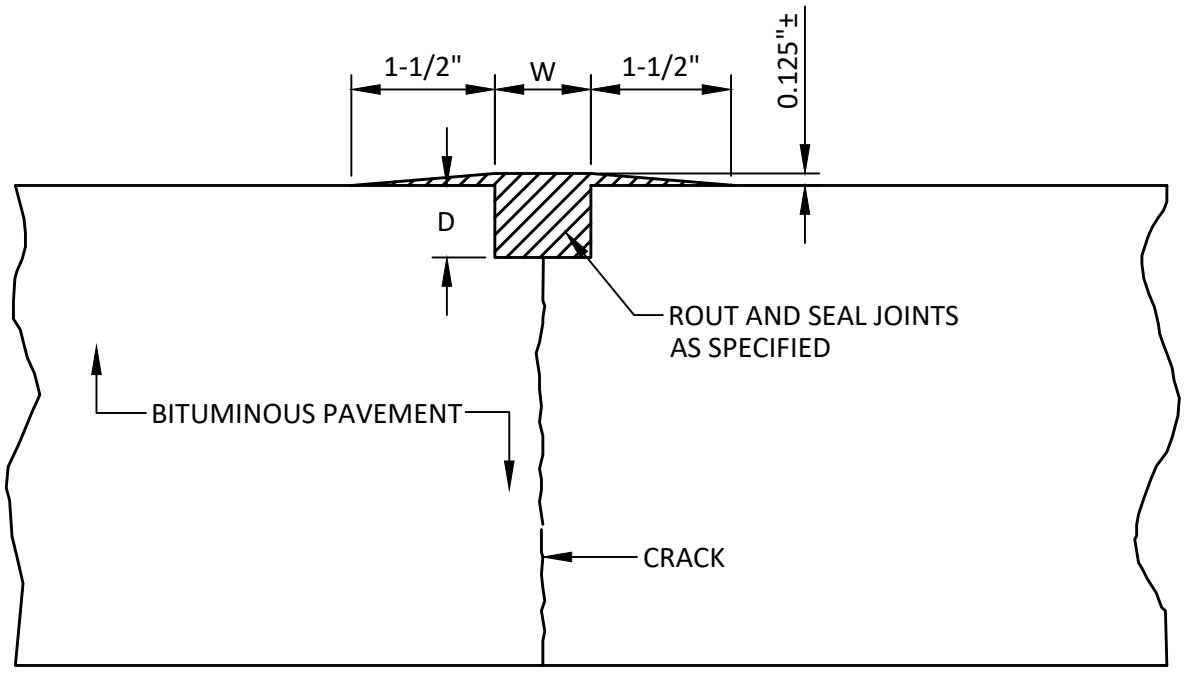
8" AGGREGATE BASE, CL 5 (2211)

SUBGRADE PREPARATION (2112)

CONCRETE DRIVEWAY PAVEMENT

NOT TO SCALE

Albertville Small Town Living. Big City Life.	CONCRETE DRIVEWAY PAVEMENT		DATE: 02/2020 STD. DETAIL 1-101



W	D
1"	0.75"
2"	1.25"

CRACK SEALING TYPICAL SECTION

NOT TO SCALE

Albertville Small Town Living. Big City Life.	CRACK SEALING TYPICAL SECTION		DATE: 02/2020 STD. DETAIL 1-102

FUNCTIONAL CLASSIFICATION	B-B WIDTH (FT)	ROW WIDTH	MINIMUM ROADWAY SECTION
COMMERCIAL / INDUSTRIAL	45'	80'	2" SPWEA340C 3" SPNWB330C 10" CLASS 5 AGGREGATE BASE 18.0" SELECT GRANULAR GEOTEXTILE FABRIC
LOCAL	37'	60'	1.5" SPWEA240C 2.5" SPNWB230C 8" CLASS 5 AGGREGATE BASE 18.0" SELECT GRANULAR GEOTEXTILE FABRIC
LOCAL (WITH SIDEWALK IN ROW)	35'	60'	1.5" SPWEA240C 2.5" SPNWB230C 8" CLASS 5 AGGREGATE BASE 18.0" SELECT GRANULAR GEOTEXTILE FABRIC
MINOR COLLECTOR	37'-45'	66'-80'	2" SPWEA340C 3" SPNWB330C 10" CLASS 5 AGGREGATE BASE 18.0" SELECT GRANULAR GEOTEXTILE FABRIC
COLLECTOR	45'	80'	AS DETERMINED BY TRAFFIC NEEDS
ARTERIAL	VARIES	100'+	AS DETERMINED BY TRAFFIC NEEDS

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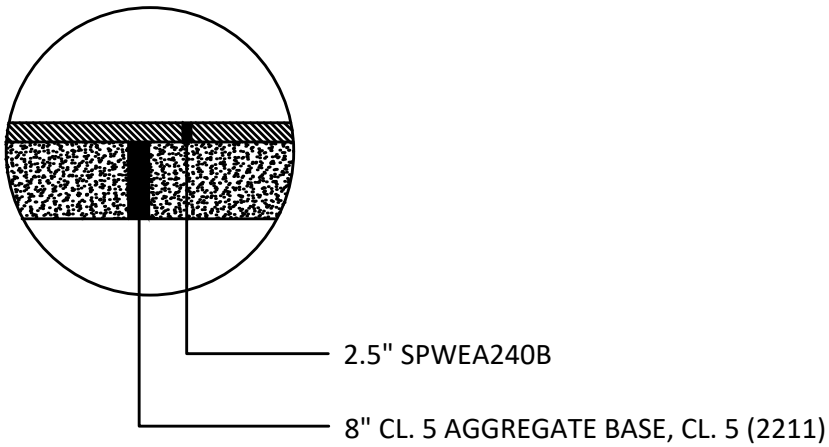
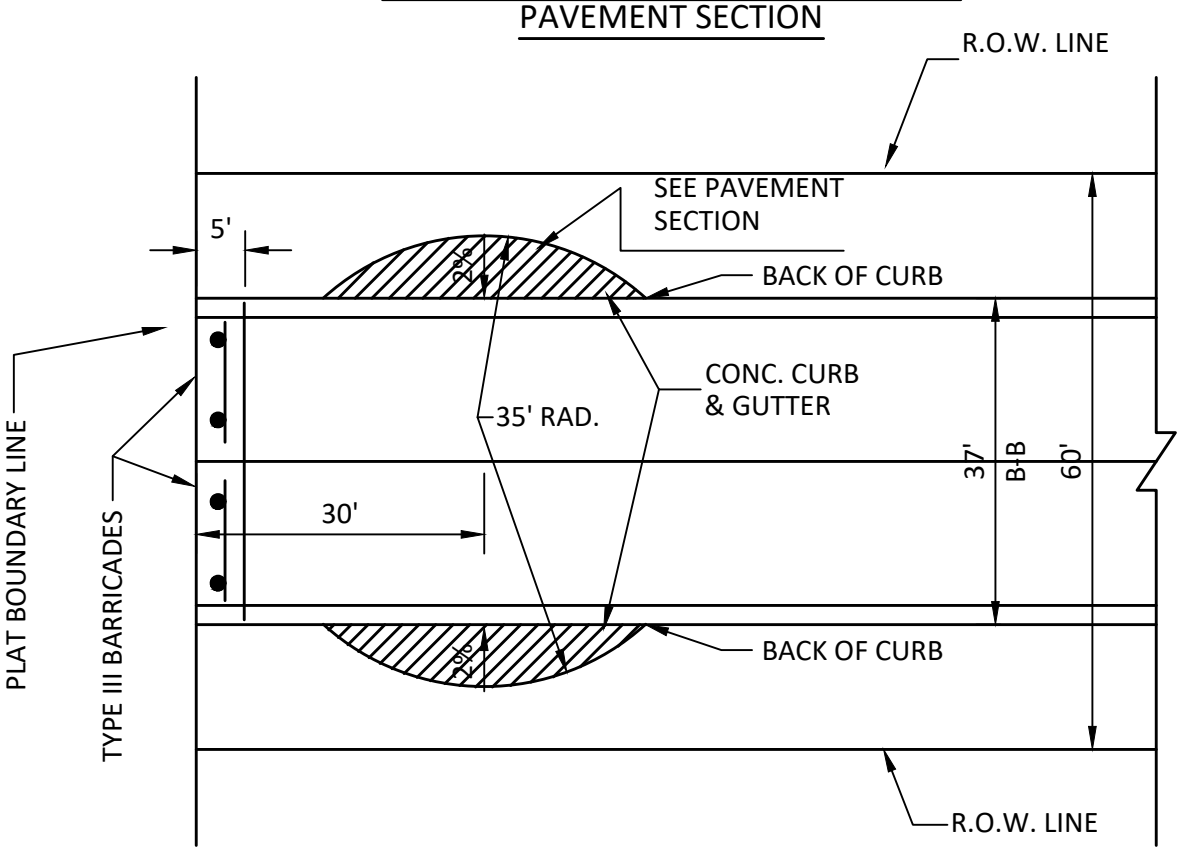
MINIMUM STREET STANDARDS

DATE:
03/2021

STD. DETAIL
1-300

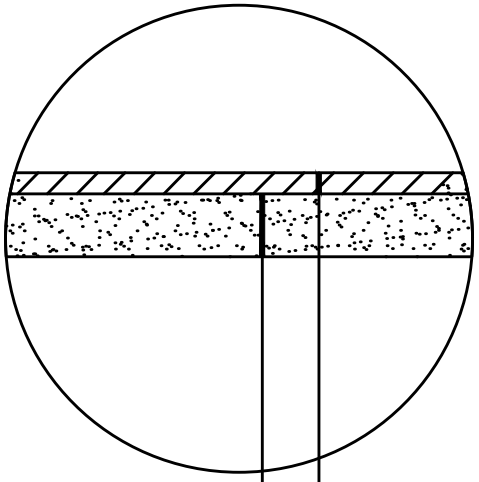


TEMPORARY BITUMINOUS CUL-DE-SAC
PAVEMENT SECTION



TEMPORARY BITUMINOUS CUL-DE-SAC
PLAN VIEW

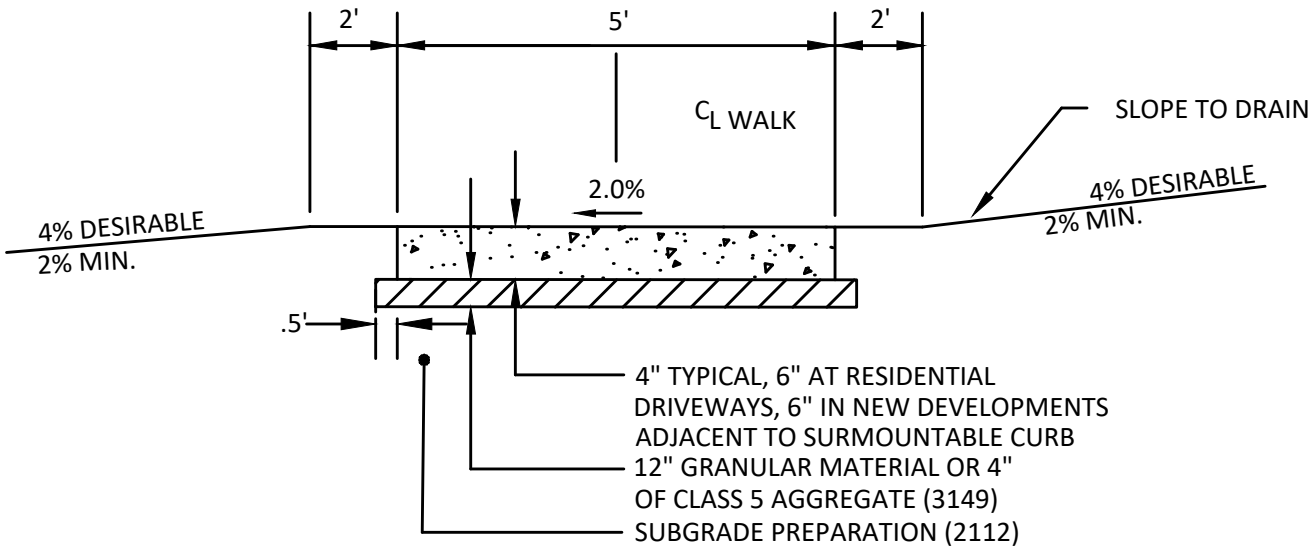
Albertville Small Town Living. Big City Life.	TEMPORARY BITUMINOUS CUL-DE-SAC		DATE: 02/2020 STD. DETAIL 1-400



BITUMINOUS DRIVEWAY

NOT TO SCALE

Albertville Small Town Living. Big City Life.	BITUMINOUS DRIVEWAY		DATE: 02/2020 STD. DETAIL 1-600



NOTE:

CONCRETE MIX SHALL BE 3A32 WHERE HAND PLACED AND 3A22 WHERE MACHINED PLACED.

GRANULAR BASE SHALL BE SELECT GRANUAL (MNDOT 3149-B2).

WITHIN ONE HOUR AFTER THE CONCRETE IS FINISHED, ALL EXPOSED SURFACES; FRONT, TOP, AND BACK, SHALL BE SPRAYED WITH MEMBRANE CURING COMPOUND CONFORMING TO MNDOT 3754 AT A RATE OF NOT LESS THAN 1 GALLON PER 150 SF.

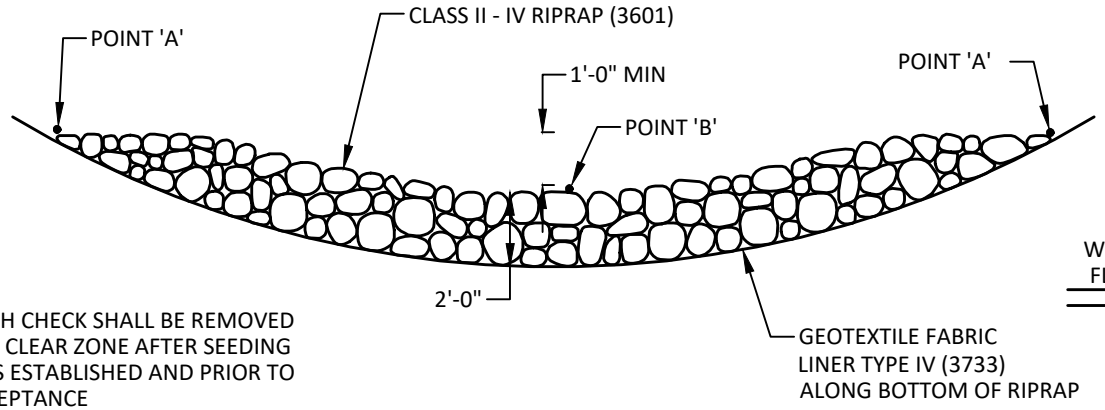
EXPANSION JOINT SPACING SHALL BE 100'. (MAX)
CONTRACTION JOINT SPACING SHALL BE 5'. (APPOX)

AT COMMERCIAL ENTRANCE AND DWY CROSSINGS, SECTION SHALL BE MODIFIED TO 7" CONCRETE AND 6" CLASS 5 AGG.

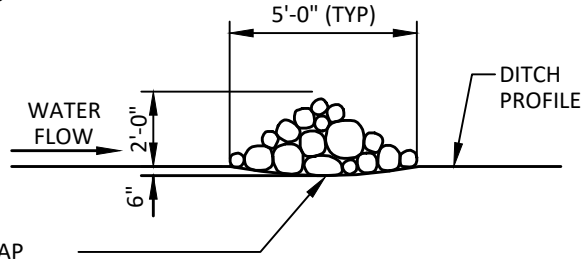
CONCRETE WALK

NOT TO SCALE

Albertville Small Town Living. Big City Life.	CONCRETE WALK		DATE: 02/2020 STD. DETAIL 1-700



CROSS SECTION



PROFILE VIEW

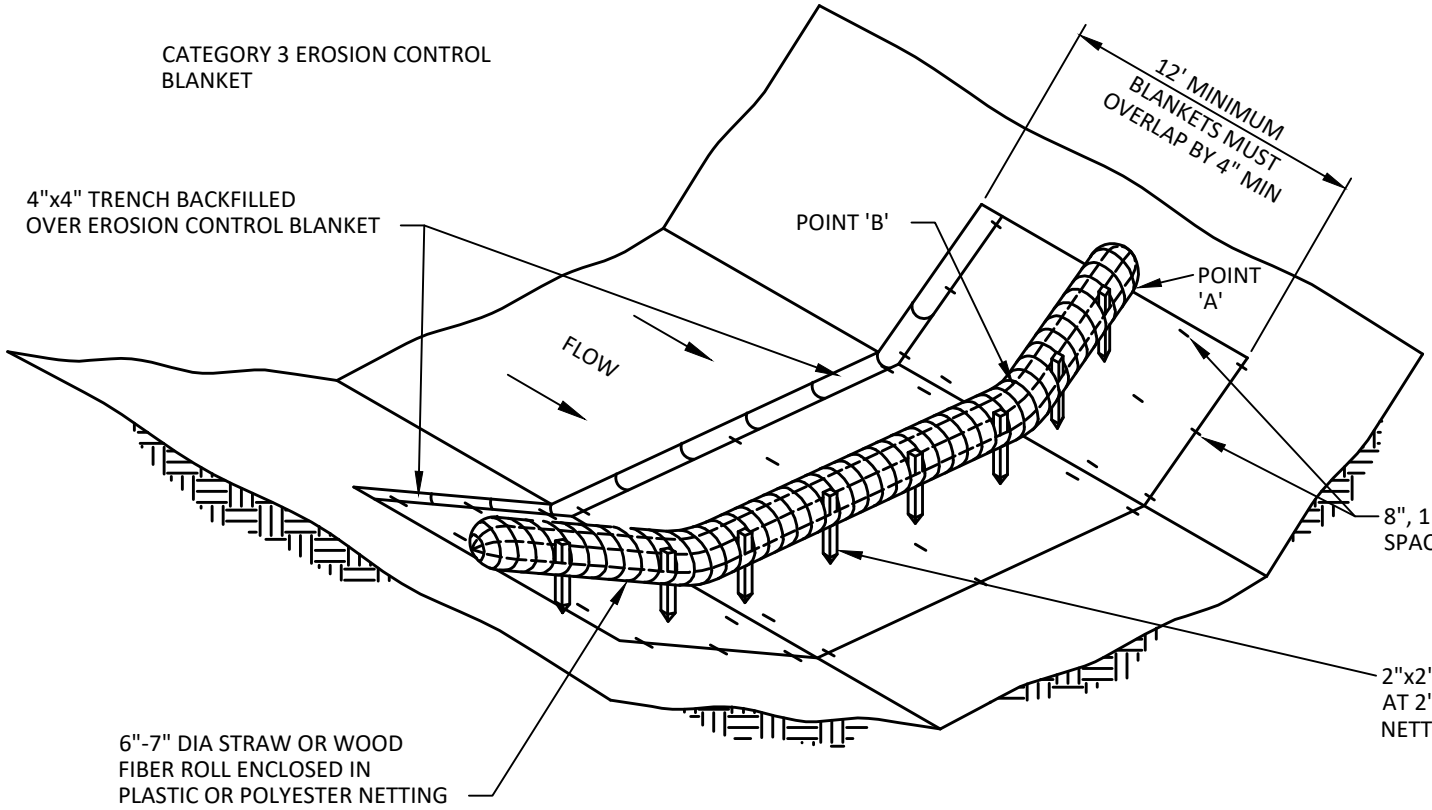
NOTE:
ROCK DITCH CHECK SHALL BE REMOVED FROM THE CLEAR ZONE AFTER SEEDING OR TURF IS ESTABLISHED AND PRIOR TO FINAL ACCEPTANCE

POINT 'A' MUST BE 1'-0" MINIMUM HIGHER THAN POINT 'B' TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

DITCH CHECK - RIPRAP

NOT TO SCALE

Albertville Small Town Living. Big City Life.	DITCH CHECK - RIPRAP		DATE: 02/2020 STD. DETAIL 3-001

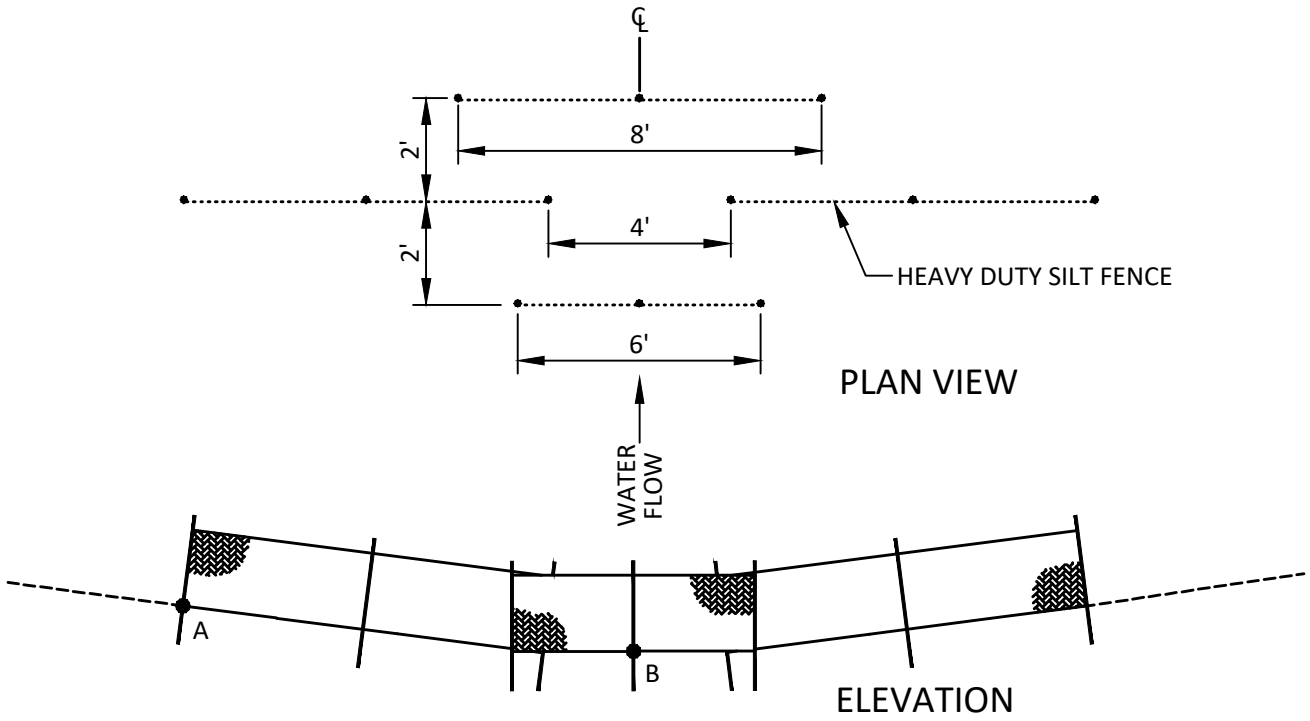


DITCH CHECK - BIOROLL

NOT TO SCALE

NOTE:
POINT 'A' MUST BE 1'-0" MINIMUM HIGHER THAN POINT 'B' TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

Albertville Small Town Living. Big City Life.	DITCH CHECK - BIOROLL		DATE: 02/2020
			STD. DETAIL 3-002



NOTES:

1. POINT A MUST BE A MINIMUM OF 12 INCHES HIGHER THAN POINT B.

2. HEAVY DUTY SILT FENCE SHALL CONFORM TO THE REQUIREMENTS OF MnDOT SPECIFICATION 3886.

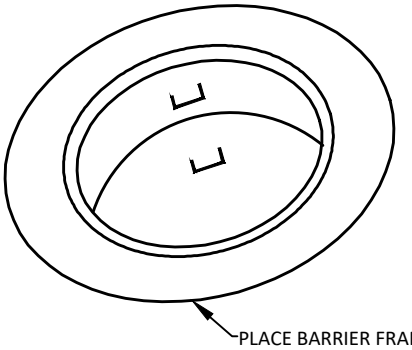
3. DIMENSIONS SHOWN ARE FOR TYPICAL 8' DITCH BOTTOM. MODIFICATIONS MAY BE NECESSARY FOR VARYING SLOPES AND DITCH WIDTHS.

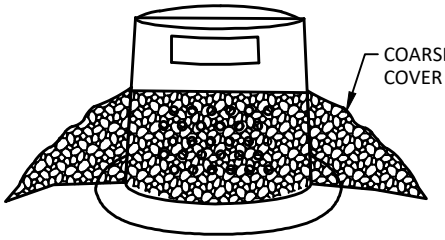
4. REFER TO PLAN OR MnDOT EROSION CONTROL MANUAL FOR SPACING INTERVALS OF CHECKS.

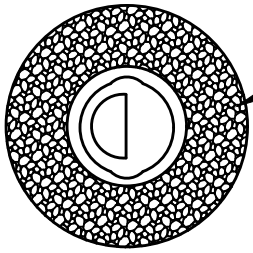
VELOCITY CHECK
HEAVY DUTY SILT FENCE

NOT TO SCALE

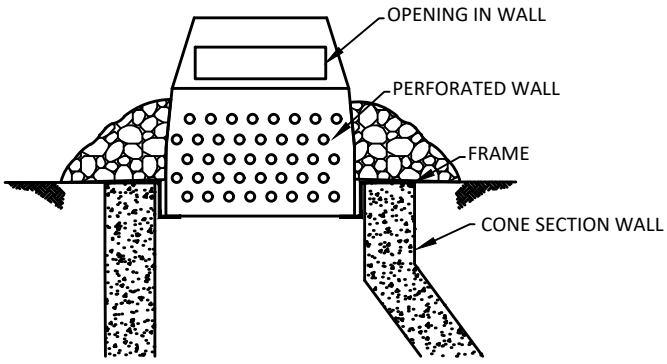
Albertville Small Town Living. Big City Life.	VELOCITY CHECK HEAVY DUTY SILT FENCE		DATE: 02/2020
			STD. DETAIL 3-004







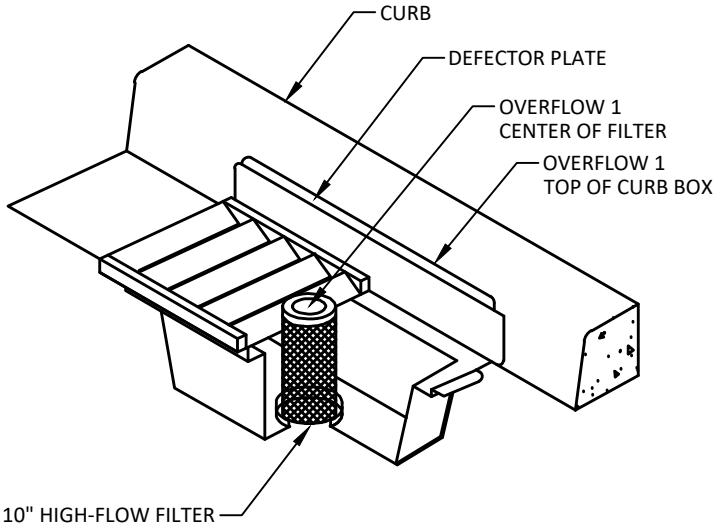
TOP VIEW



INLET PROTECTION
PERFORATED WALL

NOT TO SCALE

Albertville Small Town Living. Big City Life.	INLET PROTECTION PERFORATED WALL		DATE: 02/2020 STD. DETAIL 3-101



NOTE: WIMCO CG MODEL OR APPROVED EQUAL TO MATCH CASTING

INLET PROTECTION
ROAD DRAIN

NOT TO SCALE

NOTES:

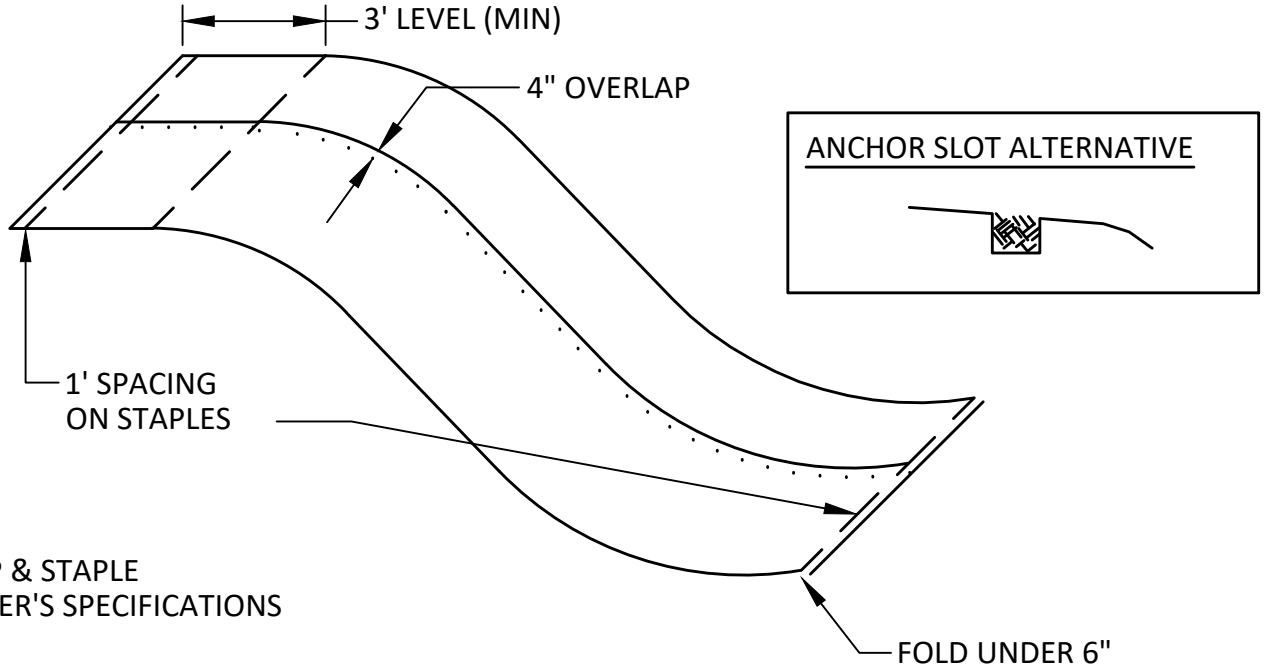
1. ROAD DRAIN DEVICE FITS NEENAH R-3067 CASTINGS.
2. PLACE THE ROAD DRAIN-TOP SLAB MODEL DIRECTLY INTO THE CASTING.
3. INSTALL GASKET AND COVER CENTER OF GASKET WITH PIPE GREASE OR OTHER APPROVED LUBRICATION.
4. PLACE THE FILTER MEDIA ONTO THE RISER PIPE.
5. ADJUST FILTER MEDIA PROPER HEIGHT FOR OVERFLOW.
6. CHECK RISER TUBE TO MAKE SURE IT IS FULLY EXTENDED AND ALL FILTER HOLES ARE EXPOSED.
7. CHECK FILTER MEDIA AFTER EACH RAIN EVENT. CLEAN OR REPLACE IF SEDIMENT CLOGS FILTER.
8. REMOVE SEDIMENT AND DEBRIS FROM THE BASE OF THE RISER PIPE TO THE WIDTH EQUAL TO THE SIZE OF THE TOP SLAB MODEL.

Albertville
Small Town Living. Big City Life.

INLET PROTECTION
ROAD DRAIN
CURB AND GUTTER

DATE:
02/2020

STD. DETAIL
3-102

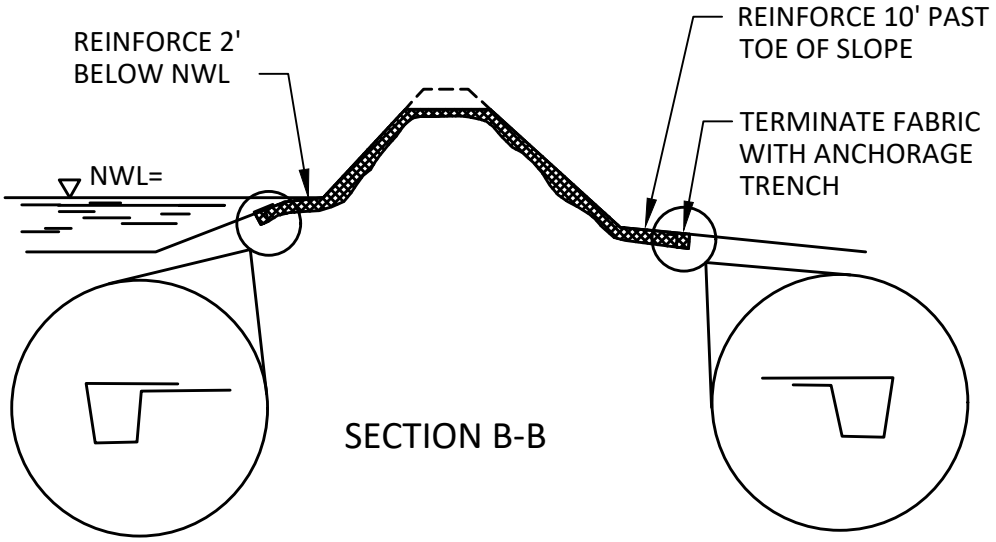


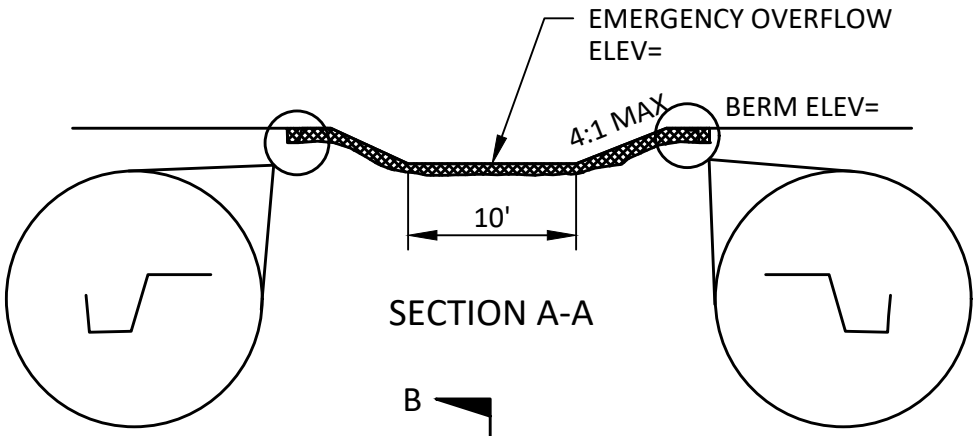
NOTE:
ANCHOR, OVERLAP & STAPLE
PER MANUFACTURER'S SPECIFICATIONS

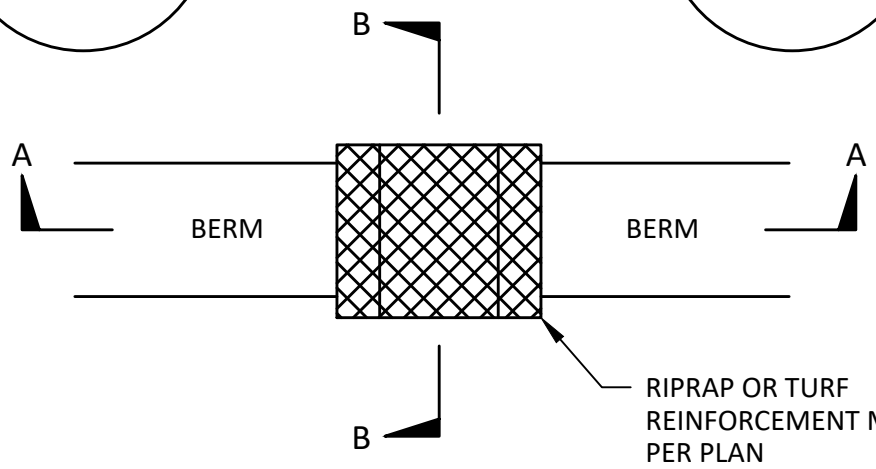
EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE

Albertville Small Town Living. Big City Life.	EROSION CONTROL BLANKET INSTALLATION		DATE: 02/2020 STD. DETAIL 3-200



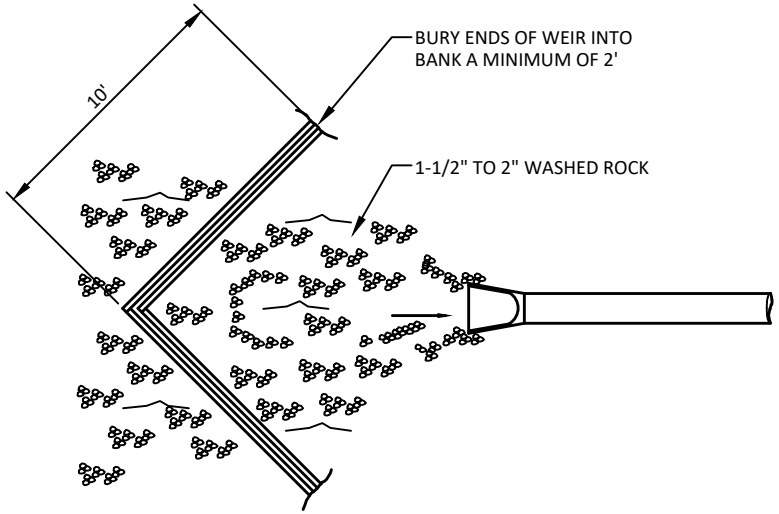




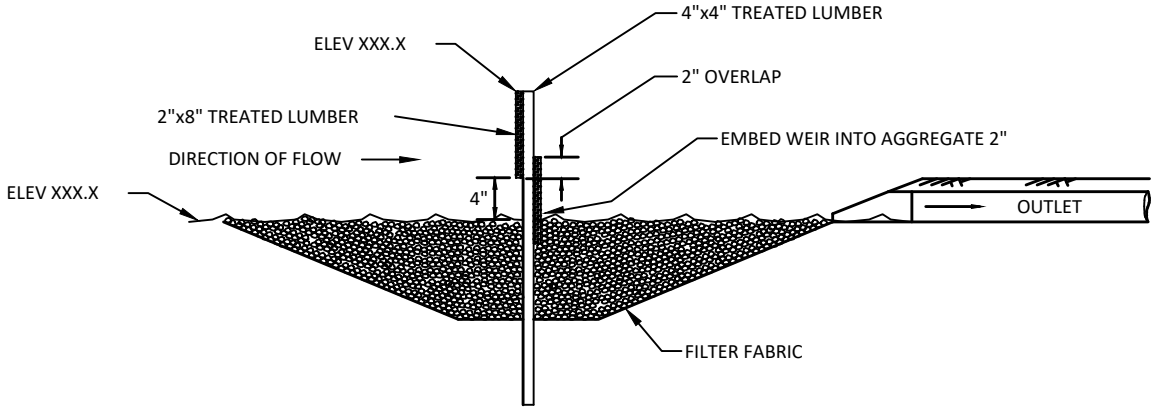
EROSION CONTROL BLANKET AT POND EOF

NOT TO SCALE

Albertville Small Town Living. Big City Life.	EROSION CONTROL BLANKET AT POND EOF		DATE: 02/2020 STD. DETAIL 3-201



PLAN



SKIMMER WEIR (POND OR WIDE CHANNEL)

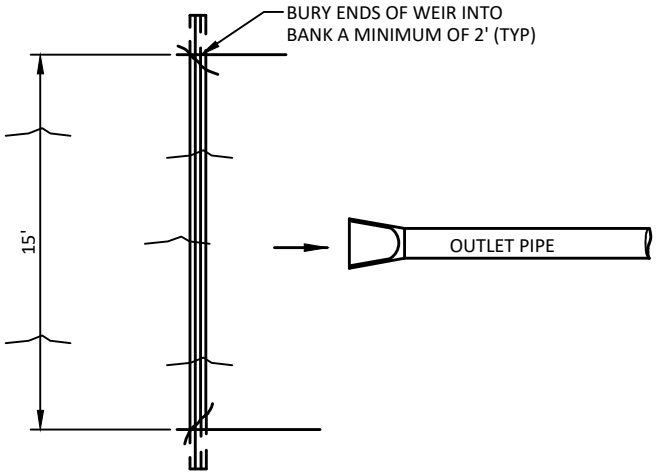
NOT TO SCALE

Albertville
Small Town Living. Big City Life.

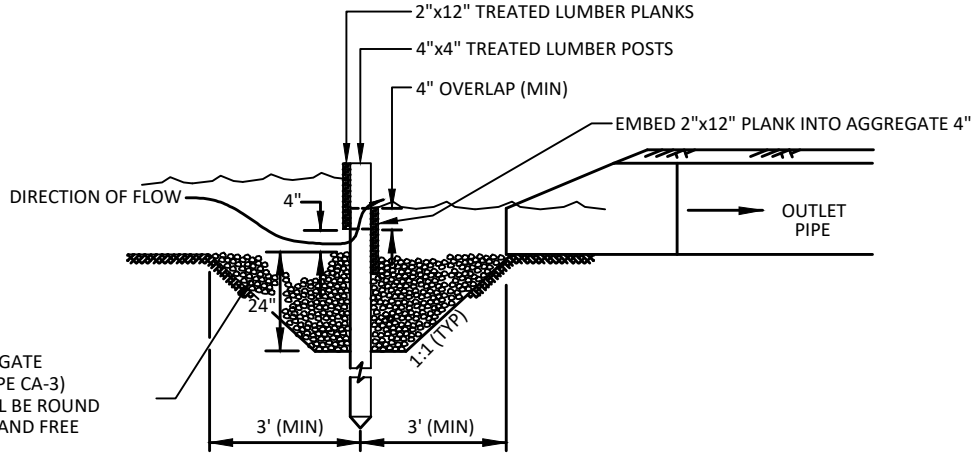
SKIMMER WEIR
(POND OR WIDE CHANNEL)

DATE:
02/2020

STD. DETAIL
3-202



PLAN

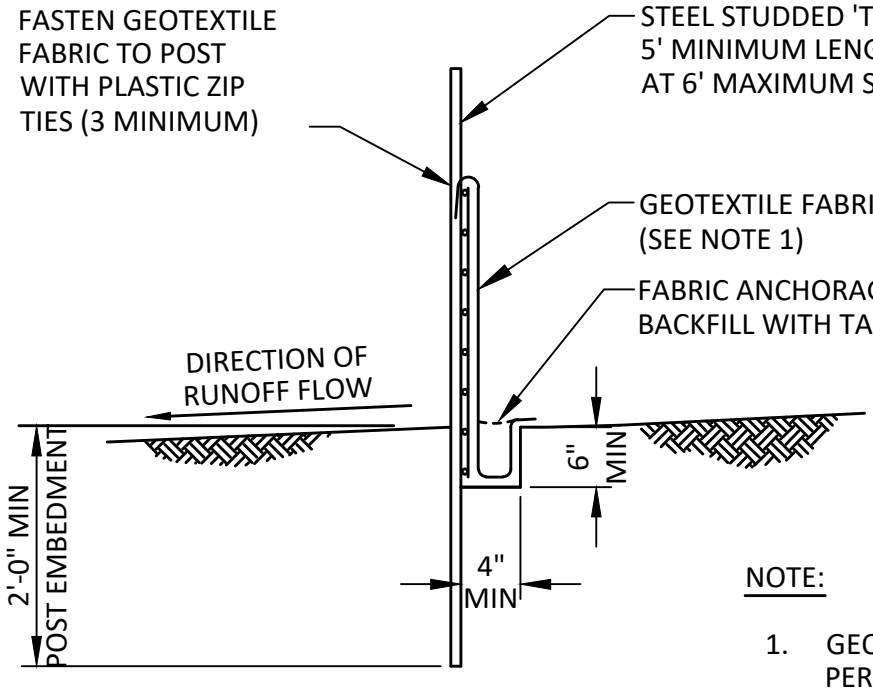


COARSE FILTER AGGREGATE
(MnDOT SPEC 3137 TYPE CA-3)
THE AGGREGATE SHALL BE ROUND
RIVER ROCK, WASHED AND FREE
OF FINE PARTICLES.

SKIMMER WEIR (NARROW CHANNEL)

NOT TO SCALE

Albertville Small Town Living. Big City Life.	SKIMMER WEIR (NARROW CHANNEL)		DATE: 02/2020 STD. DETAIL 3-203



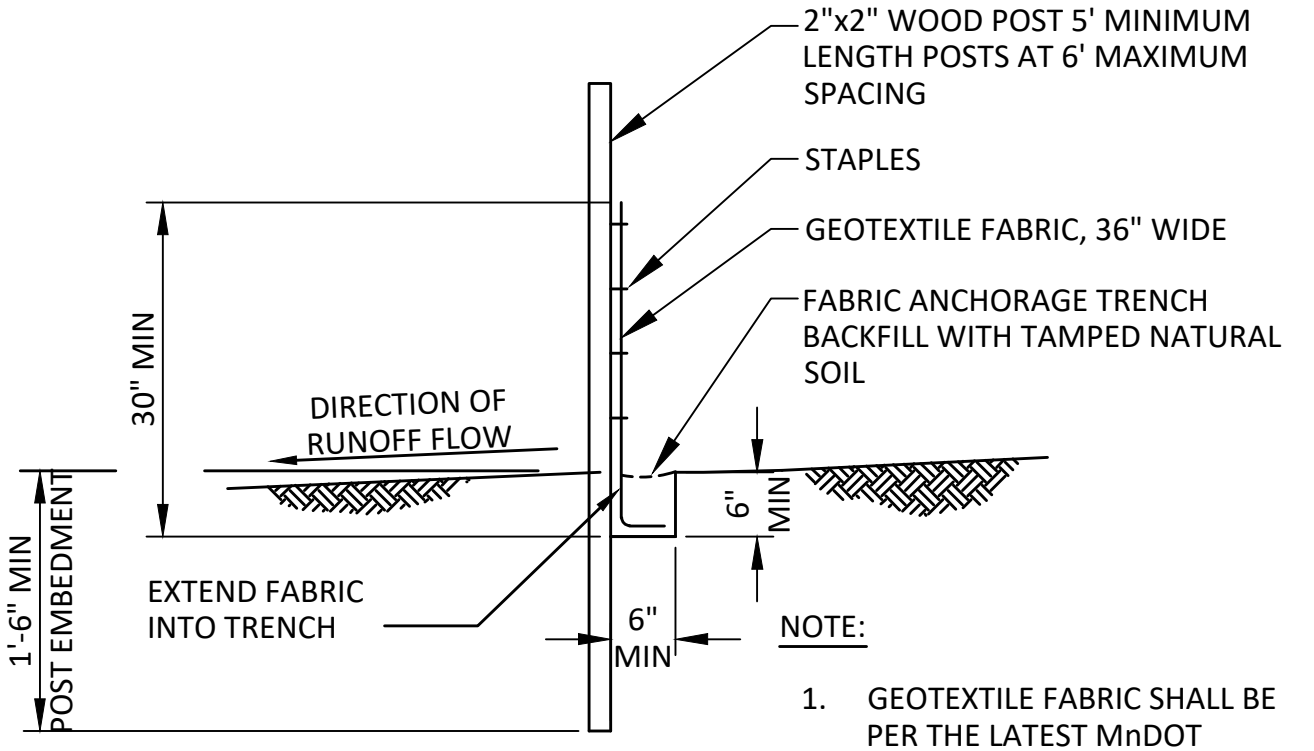
NOTE:

1. GEOTEXTILE FABRIC SHALL BE PER THE LATEST MnDOT SPECIFICATION OR TECH MEMO

SILT FENCE - HEAVY DUTY

NOT TO SCALE

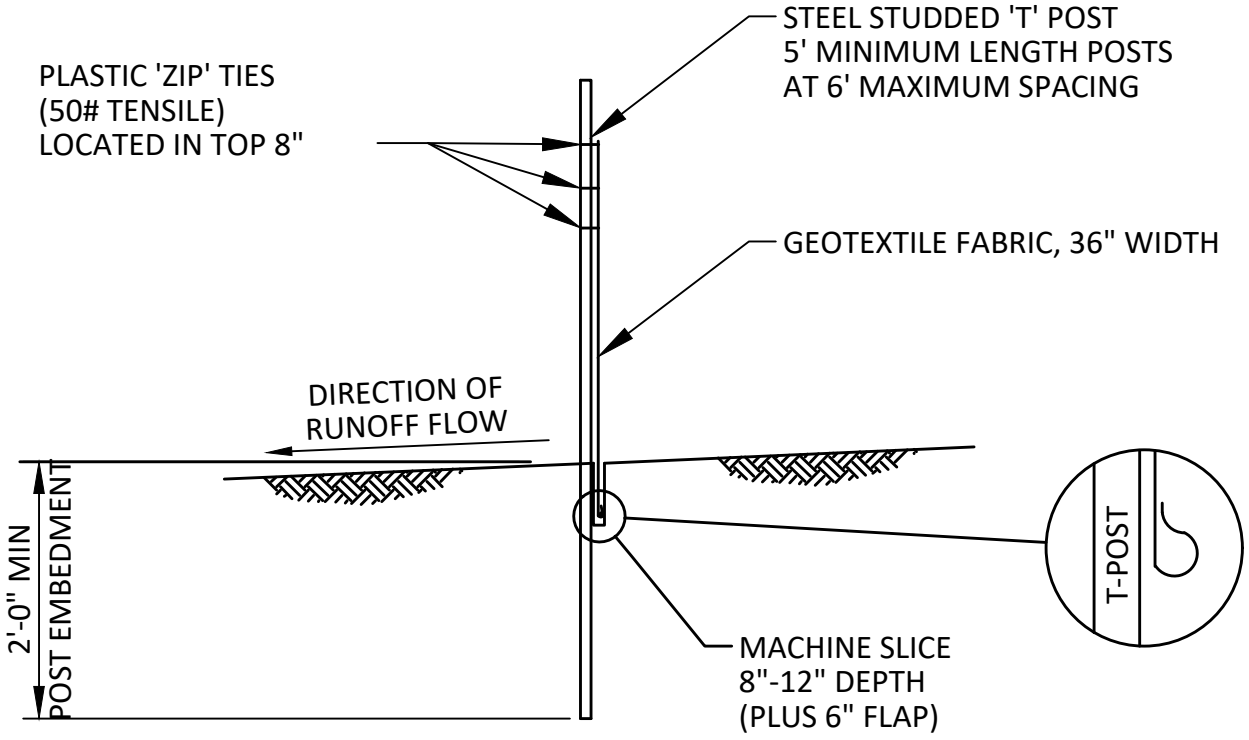
Albertville Small Town Living. Big City Life.	SILT FENCE HEAVY DUTY		DATE: 02/2020 STD. DETAIL 3-204



SILT FENCE - PREASSEMBLED

NOT TO SCALE

Albertville Small Town Living. Big City Life.	SILT FENCE PREASSEMBLED		DATE: 02/2020
			STD. DETAIL 3-205



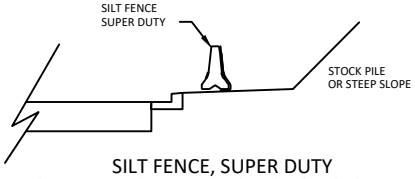
SILT FENCE - MACHINE SLICED

NOT TO SCALE

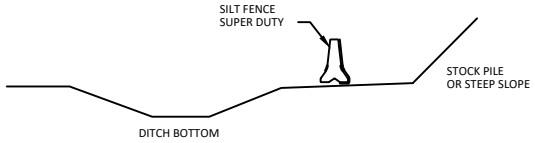
NOTE:

1. GEOTEXTILE FABRIC SHALL BE PER THE LATEST MnDOT SPECIFICATION OR TECH MEMO

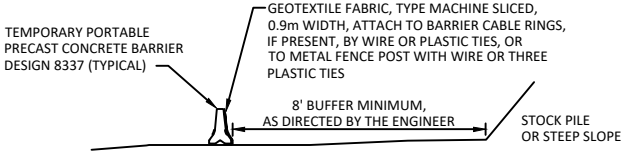
Albertville Small Town Living. Big City Life.	SILT FENCE MACHINE SLICED		DATE: 02/2020 STD. DETAIL 3-206



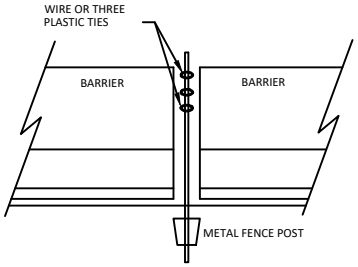
SILT FENCE, SUPER DUTY
CURB AND GUTTER PROTECTION SYSTEM



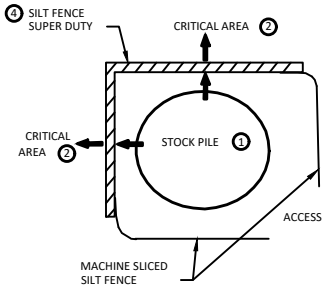
SILT FENCE, SUPER DUTY
DITCH PROTECTION SYSTEM

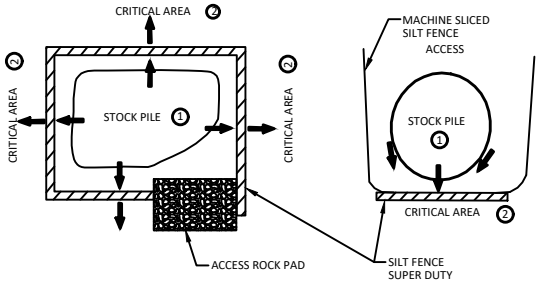


SILT FENCE, SUPER DUTY
STOCKPILE SEDIMENT CONTROL

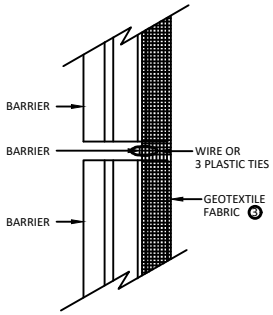


BARRIER WITHOUT CABLE RINGS
SIDE VIEW

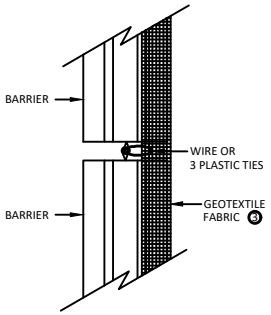




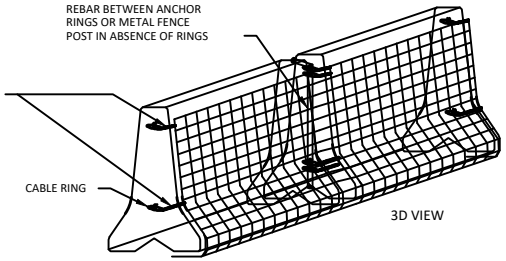
SILT FENCE, SUPER DUTY
STOCK PILE CONTAINMENT



BARRIER WITHOUT CABLE RINGS
TOP VIEW



BARRIER WITH CABLE RINGS
TOP VIEW



3D VIEW

NOTES:

1. PLACING STOCK PILES NEXT TO AN ENVIRONMENTALLY SENSITIVE AREA IS NOT RECOMMENDED. WHEN THERE ARE NO FEASIBLE ALTERNATIVES, THE SUPER DUTY SILT FENCE IS TO BE USED AS SHOWN OR AS DIRECTED BY THE ENGINEER.
2. CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES, AND OTHER AREAS REQUIRING PROTECTION.
3. GEOTEXTILE FABRIC, TYPE WOVEN MONOFILAMENT CONFORMING TO SPEC 3886, TABLE 3886-1.
4. INSTALL TO FIT LAND FORM AND ITEM TO PROTECT.

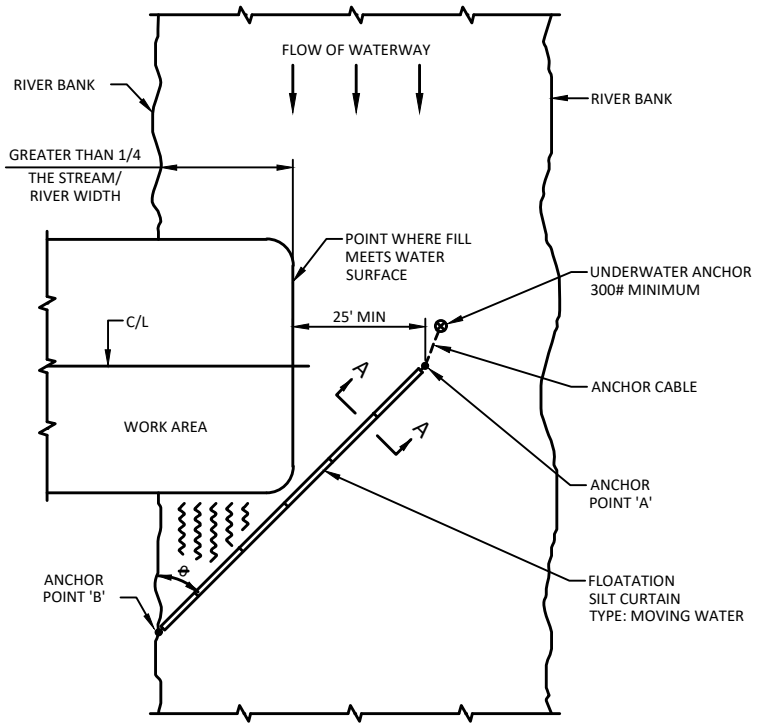
SILT FENCE
TEMPORARY SEDIMENT CONTROL

Albertville
Small Town Living. Big City Life.

SILT FENCE
SUPER HEAVY DUTY

DATE:
02/2020

STD. DETAIL
3-207

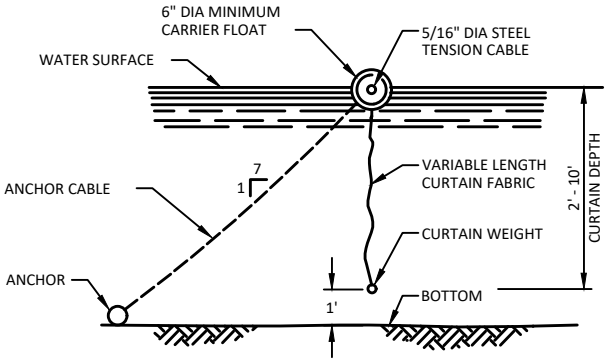


∠ θ	RIVER VELOCITY
45°	SLOW, LESS THAN 3 FT/SEC
35°	MODERATE, 3 - 5 FT/SEC

PLAN VIEW

DESIGN GUIDELINES:
WHEN TEMPORARY FILL ENCROACHES MORE THAN 1/4 BUT LESS THAN 1/3 THE WIDTH OF THE STREAM

MAXIMUM WATER DEPTH: 11 FT
MINIMUM WATER DEPTH: 3 FT
MAXIMUM WATER VELOCITY: 5 FT/SEC



SECTION A-A

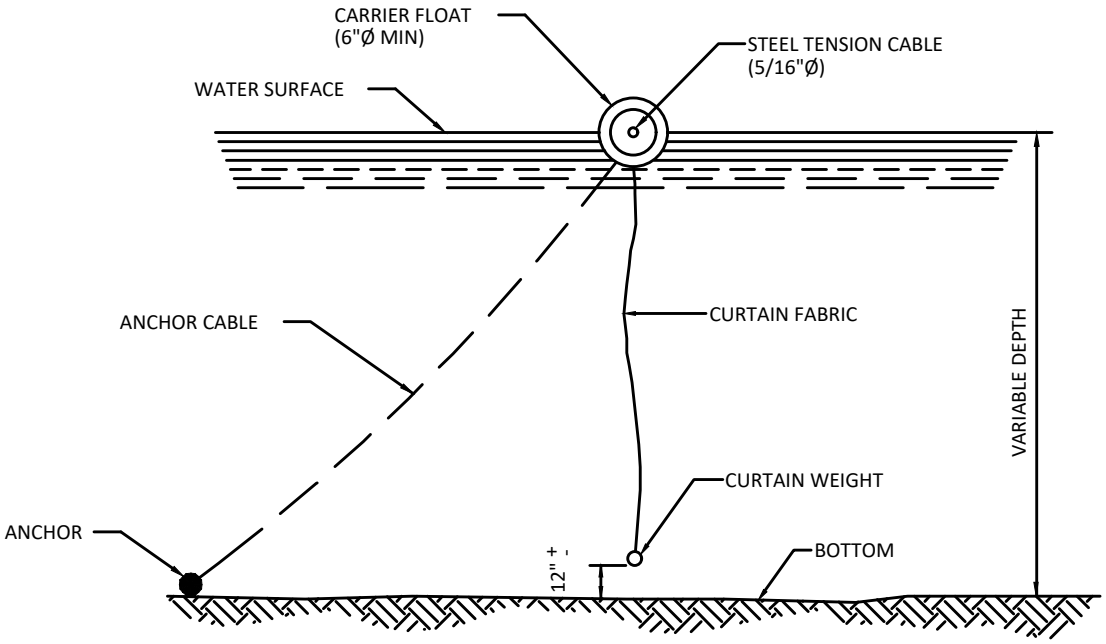
SILT FENCE - FLOTATION SILT CURTAIN
NOT TO SCALE

Albertville
Small Town Living. Big City Life.

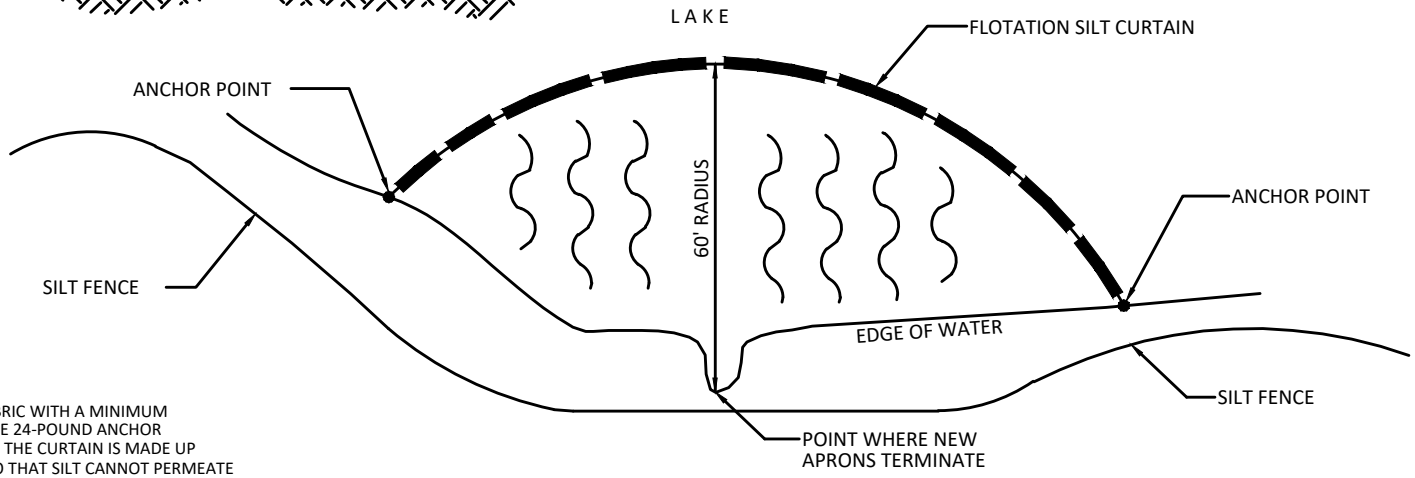
SILT FENCE FLOTATION SILT CURTAIN

DATE: 02/2020

STD. DETAIL 3-404



PROFILE VIEW



PLAN VIEW

NOTE: CURTAIN SHALL BE CONSTRUCTED OF A NYLON FABRIC WITH A MINIMUM TENSILE STRENGTH OF 300 LBS./IN. OF FABRIC. ONE 24-POUND ANCHOR SHALL BE USED PER 100 FEET OF CURTAIN. WHERE THE CURTAIN IS MADE UP OF SECTIONS, THE SECTIONS SHOULD BE JOINED SO THAT SILT CANNOT PERMEATE THROUGH THE CONNECTION.

FLOTATION SILT CURTAIN - STILL WATER

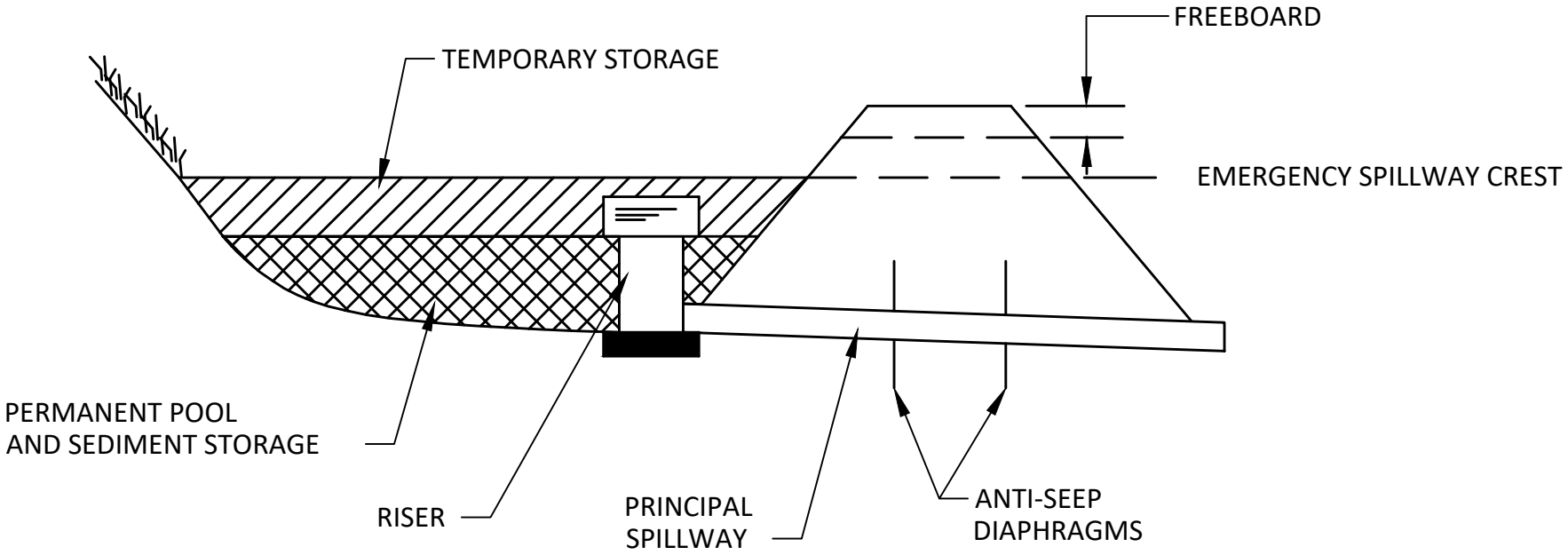
N.T.S.

Albertville
Small Town Living. Big City Life.

SILT FENCE
FLOTATION SILT CURTAIN
(STILL WATER)

DATE:
02/2020

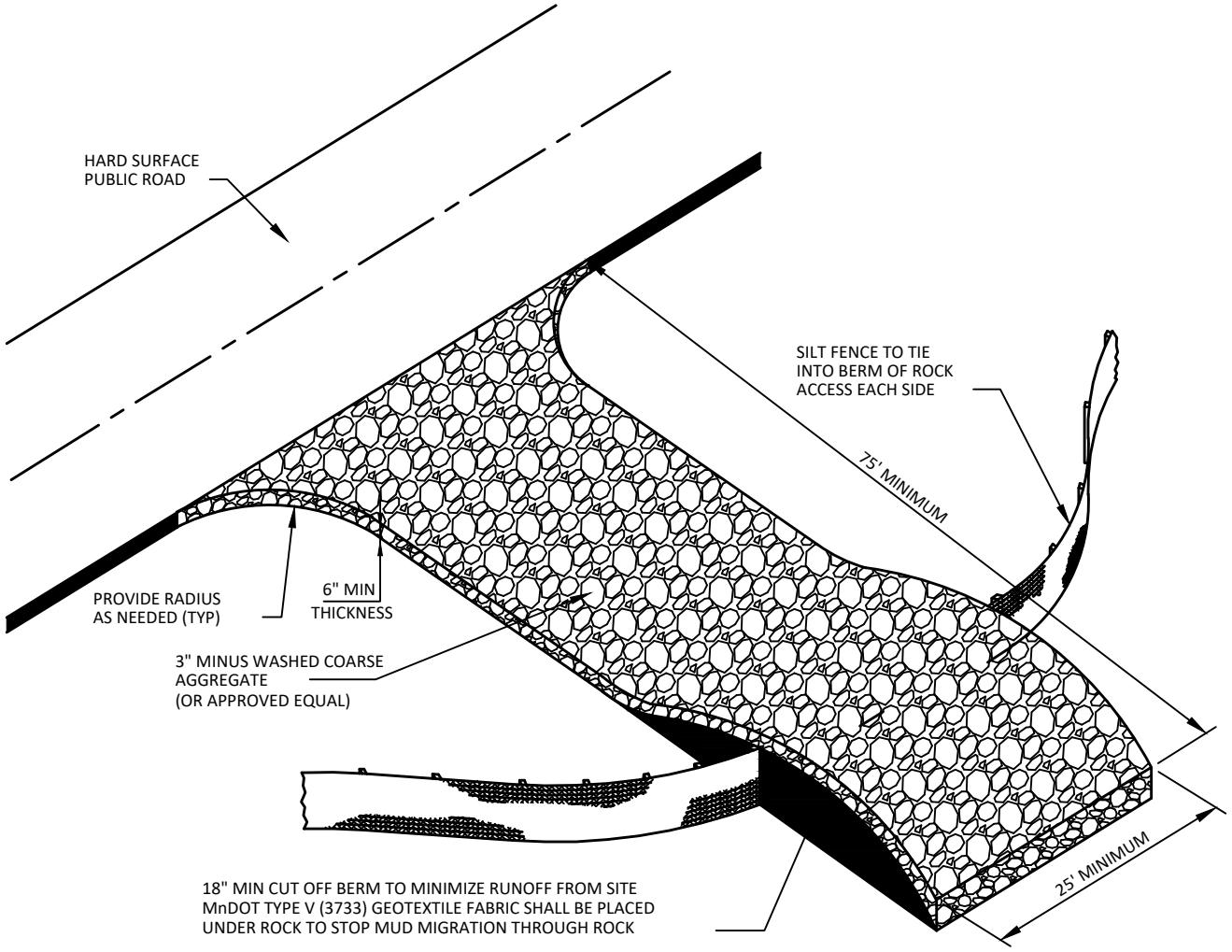
STD. DETAIL
3-405



TYPICAL SEDIMENT BASIN CROSS SECTION

NOT TO SCALE

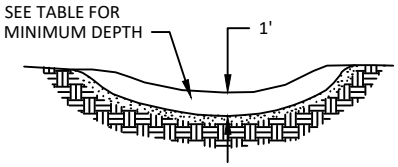
Albertville Small Town Living. Big City Life.	TYPICAL SEDIMENT BASIN CROSS SECTION		DATE: 02/2020 STD. DETAIL 3-500



ROCK CONSTRUCTION ENTRANCE

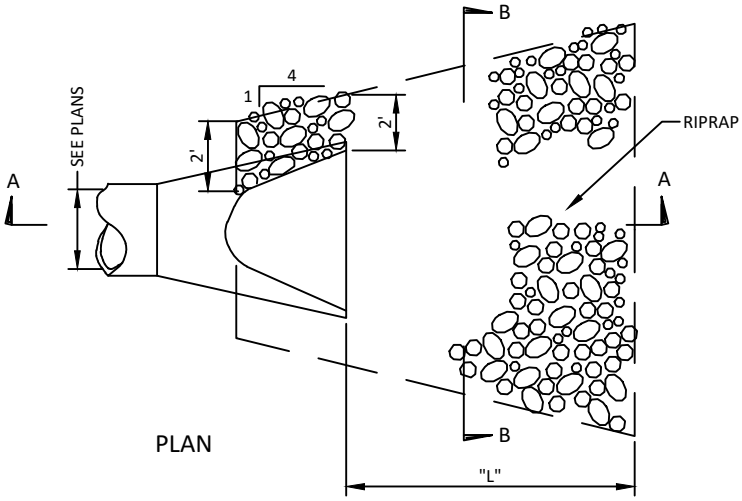
NOT TO SCALE

Albertville Small Town Living. Big City Life.	ROCK CONSTRUCTION ENTRANCE		DATE: 02/2020
			STD. DETAIL 3-502

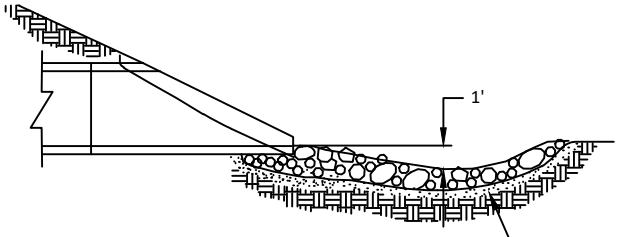


SECTION B-B

		CLASS III d50=9"	CLASS IV d50=12"
DIA OF ROUND PIPE (IN)	L (FT)	18" DEPTH RIPRAP (CU YD)	24" DEPTH RIPRAP (CU YD)
12	8	8	10
15	8	8	10
18	10	10	15
21	10	15	15
24	12	15	20
27	12	15	20
30	14	20	25
36	16	25	30
42	18	30	40
48	20	40	50



PLAN



GEOTEXTILE FABRIC, PER Mn/DOT SPEC 3733;
THE FABRIC SHOULD COVER THE AREA
OF THE RIPRAP AND EXTEND UNDER
THE CULVERT APRON THREE FEET

SECTION A-A

RIPRAP AT RCP CULVERT END

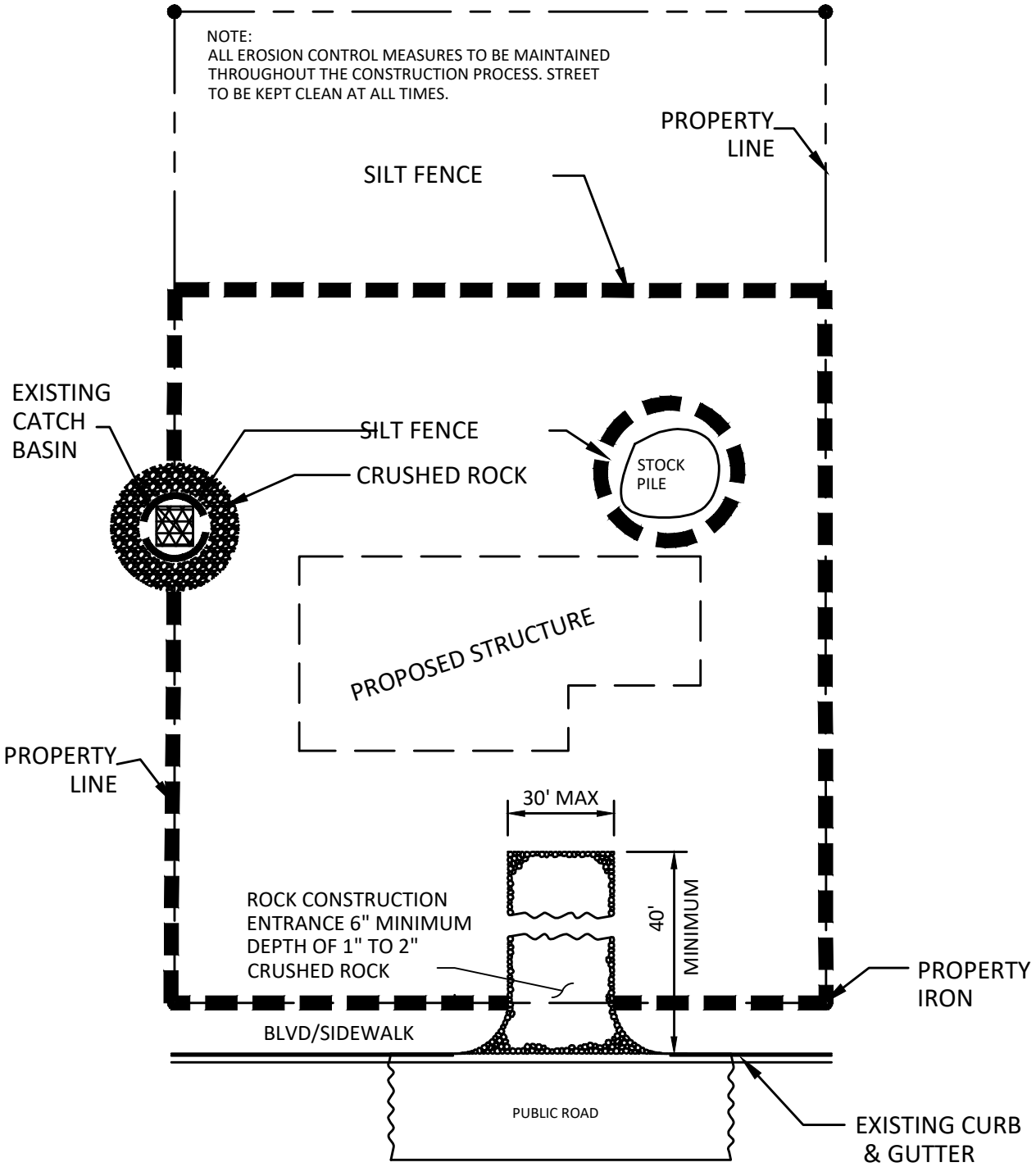
NOT TO SCALE

Albertville
Small Town Living. Big City Life.

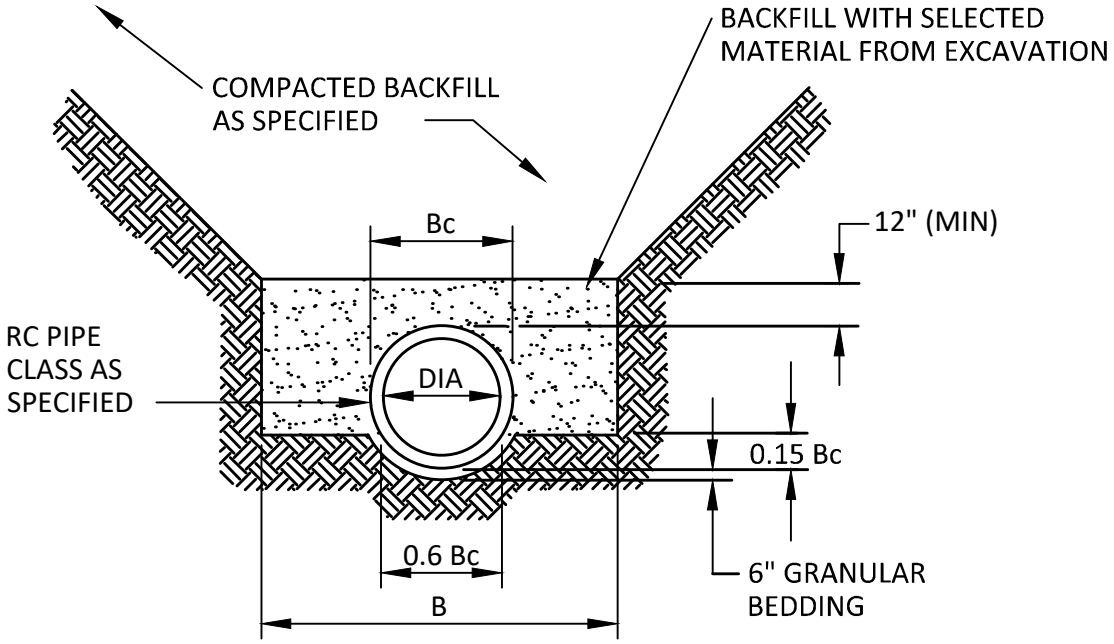
RIPRAP AT RCP CULVERT END

DATE: 02/2020

STD. DETAIL 3-600



Albertville Small Town Living. Big City Life.	CONSTRUCTION SITE EROSION CONTROL		DATE: 02/2020 STD. DETAIL 3-700

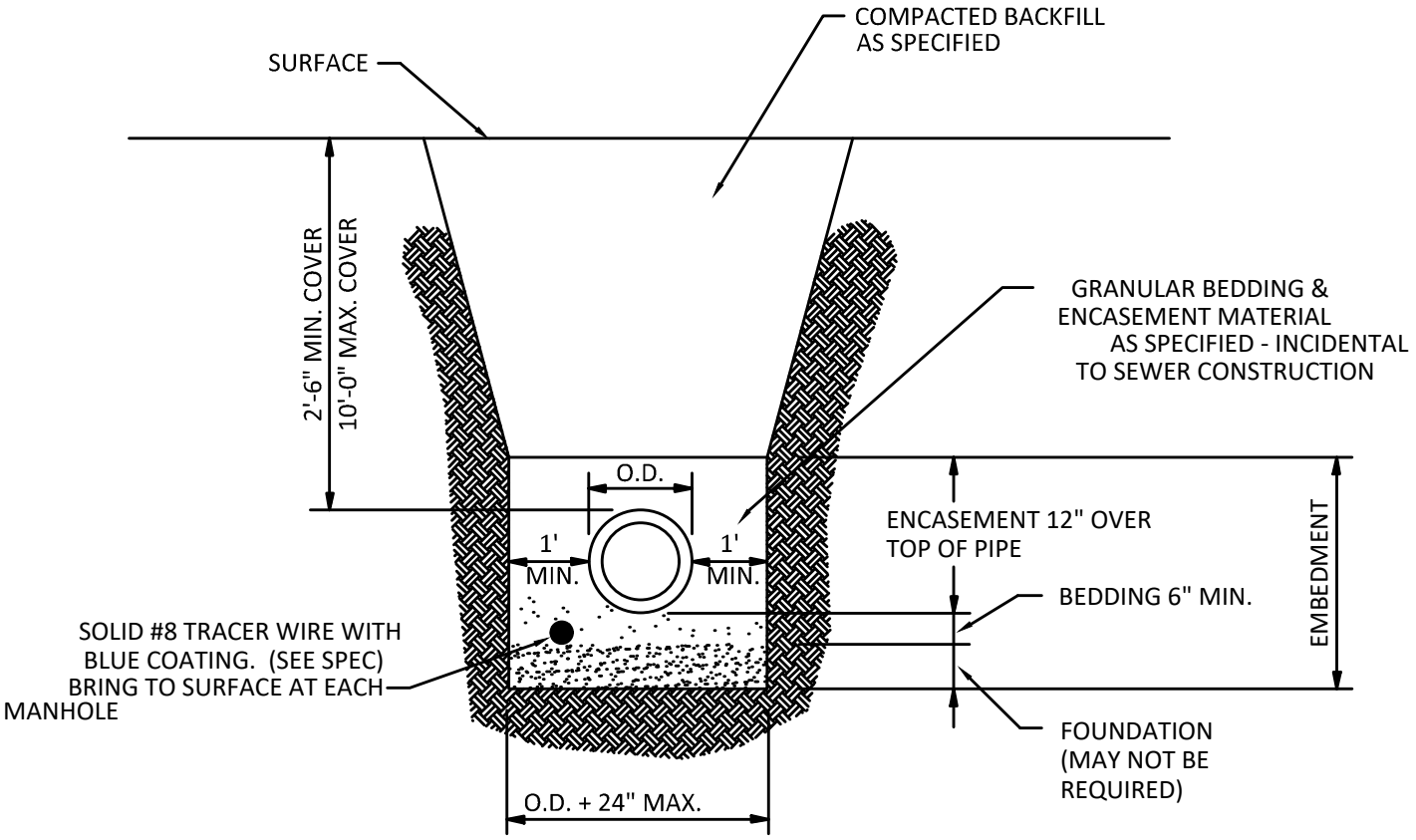


PIPE DIA	B
36" OR LESS	B_C + 24"
42" TO 54"	1.5 x Bc
60" OR OVER	B_C + 36"

RC PIPE
CLASS "B" BEDDING

NOT TO SCALE

Albertville Small Town Living. Big City Life.	RC PIPE CLASS "B" BEDDING		DATE: 02/2020 STD. DETAIL 4-001



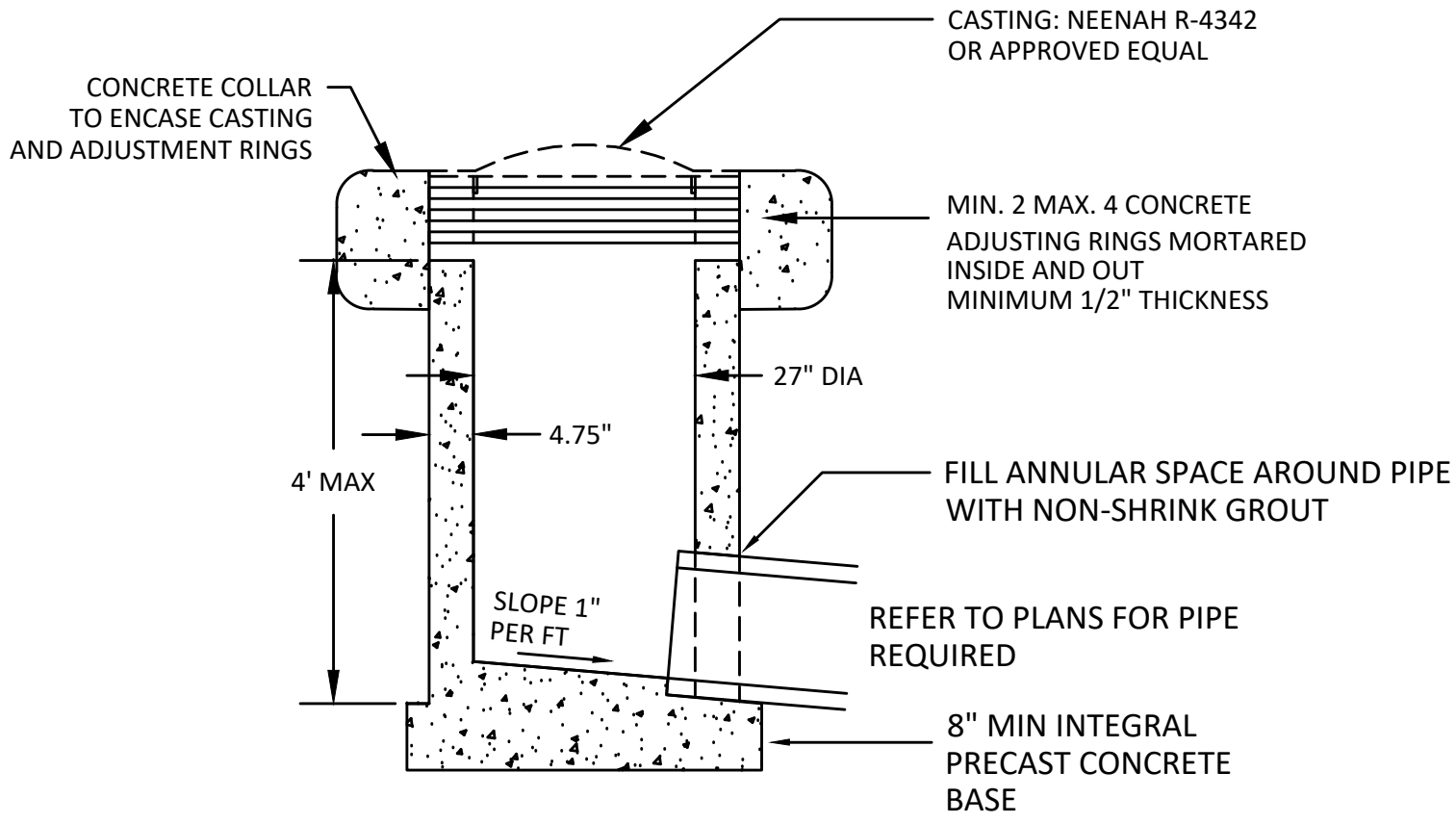
NOTES:

1. THIS PLASTIC PIPE INSTALLATION DETAIL APPLIES ONLY TO STORM SEWER.
2. MAXIMUM PIPE DIAMETER IS 24".
3. PIPE MATERIAL REQUIREMENTS PER CURRENT AASHTO REQUIREMENTS.
4. EMBEDMENT MATERIAL PER SPEC. 3149.2D MODIFIED TO 100% PASSING THE 1" SIEVE.
5. CONSTRUCTION REQUIREMENTS PER SPEC. 2451 MODIFIED SO THAT EMBEDMENT MATERIAL IS COMPACTED IN UNIFORM LIFTS, 8" OR LESS IN DEPTH, LOOSE MEASURE, TO 95% STANDARD PROCTOR DENSITY FROM THE BEDDING TO A MIN. DEPTH OF AT LEAST 12" ABOVE THE CROWN OF THE PIPE.
6. BEDDING TO BE CLASS C PER SPEC. 2451.3.
7. TRENCH WIDTH PER ASTM D2321 EXCEPT AS MODIFIED TO PROVIDE A MINIMUM OF 1-FOOT ON EACH SIDE OF THE PIPE TO ALLOW FOR COMPACTION.
8. COST FOR FURNISHING AND INSTALLING GRANULAR BEDDING AND ENCASEMENT MATERIALS SHALL BE INCLUDED IN THE PRICE BID FOR OPEN PROFILE WALL POLYVINYL CHLORIDE (PVC) PIPE

PVC STORM SEWER TRENCH DETAIL

NOT TO SCALE

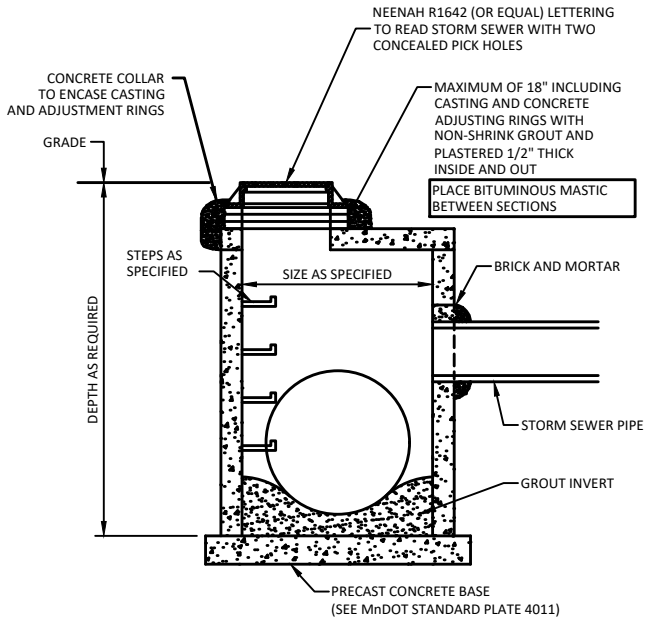
Albertville Small Town Living. Big City Life.	PVC STORM SEWER TRENCH DETAIL		DATE: 02/2020 STD. DETAIL 4-002



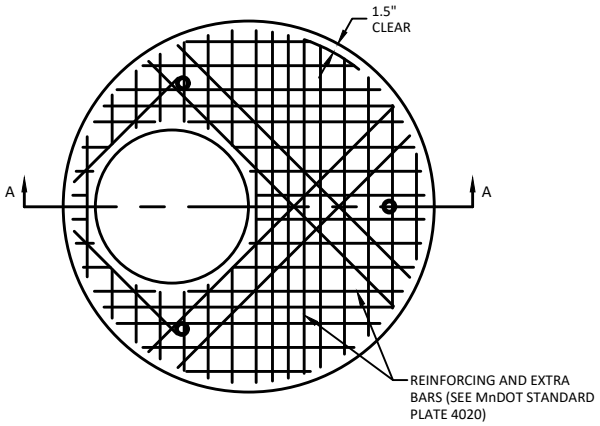
CATCH BASIN
DESIGN H

NOT TO SCALE

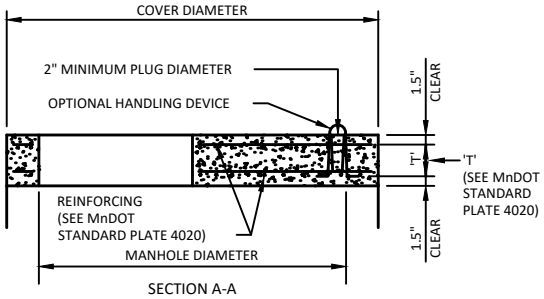
Albertville Small Town Living. Big City Life.	CATCH BASIN DESIGN H		DATE: 02/2020 STD. DETAIL 4-101



TYPICAL DESIGN 4020 MANHOLE/CATCH BASIN



PLAN OF COVER
TOP BARS NOT SHOWN



SECTION A-A

DESIGNATION:
DESIGN: STANDARD PLATE #-DESIGN
DESIGN 4020-48

NOTES:

1. AASHTO HS 25 LOADING MAXIMUM FILL HEIGHT 15'.
2. THE No 4020 SHALL BE PERMANENTLY MARKED ON THE TOP COVER.
3. EQUIVALENT STEEL AREAS IN WIRE MESH MAY BE USED.
4. REINFORCEMENT PER SPEC 3301, GRADE 60 A SINGLE HOOP OF 8ga STEEL WIRE.

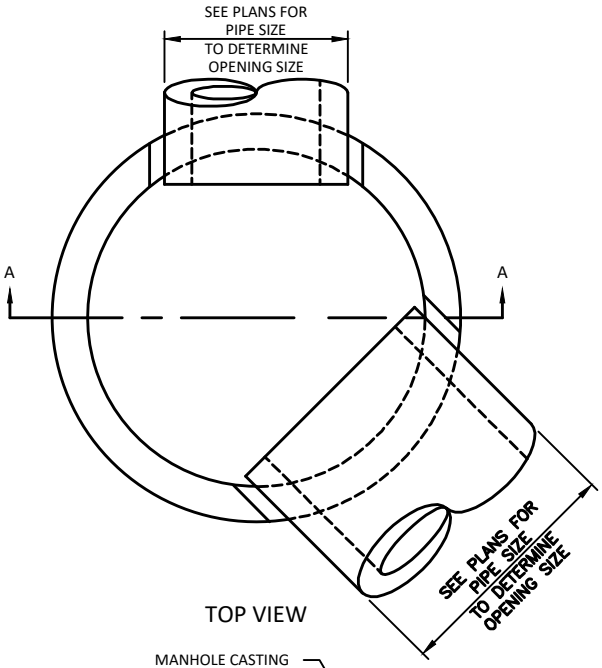
STORM SEWER STRUCTURE
DESIGN 4020
NOT TO SCALE

Albertville
Small Town Living. Big City Life.

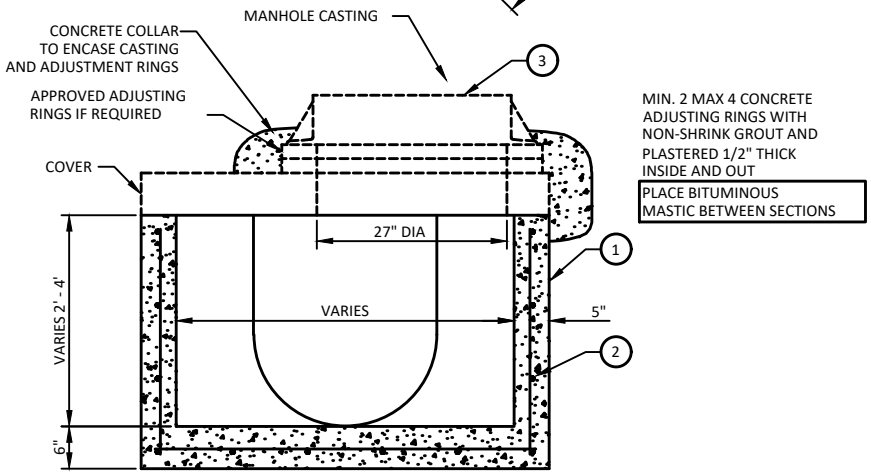
STORM SEWER STRUCTURE DESIGN 4020

DATE: 02/2020

STD. DETAIL 4-105



TOP VIEW



SECTION A-A

STANDARD OPENINGS	
PIPE DIA (INCHES)	OPENING SIZE (INCHES)
12	20
15	24
18	26
21	30
24	34

NOTES:

1. BRICK OR CONCRETE BLOCK MASONRY MAY BE USED. AS APPROVED BY THE ENGINEER. FOR MATERIALS AND CONSTRUCTION METHODS, SEE STANDARD PLATE NO 4-001 DO NOT APPLY.
2. REINFORCING: SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ IN PER FOOT.
3. COVER AND CASTING AS SPECIFIED.

PRECAST SHALLOW DEPTH MANHOLE/CATCH BASIN, DESIGN SD

NOT TO SCALE

Albertville
Small Town Living. Big City Life.

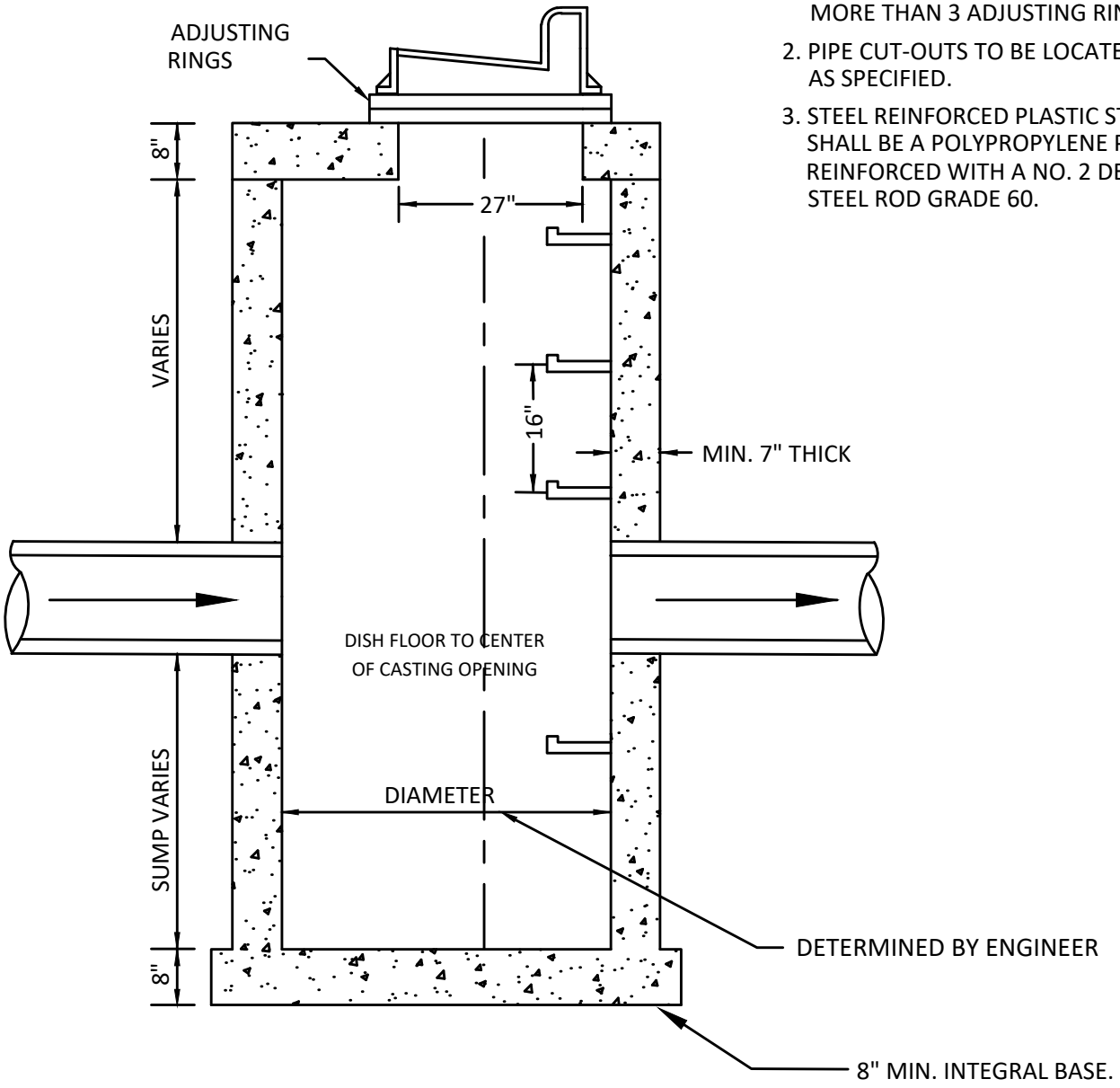
PRECAST SHALLOW DEPTH MH/CB DESIGN SD

DATE: 02/2020

STD. DETAIL 4-107

NOTES:

1. ECCENTRIC CONE SECTION MAY BE USED IN DEEP STRUCTURES TO AVOID MORE THAN 3 ADJUSTING RINGS.
2. PIPE CUT-OUTS TO BE LOCATED AS SPECIFIED.
3. STEEL REINFORCED PLASTIC STEPS SHALL BE A POLYPROPYLENE PLASTIC REINFORCED WITH A NO. 2 DEFORMED STEEL ROD GRADE 60.

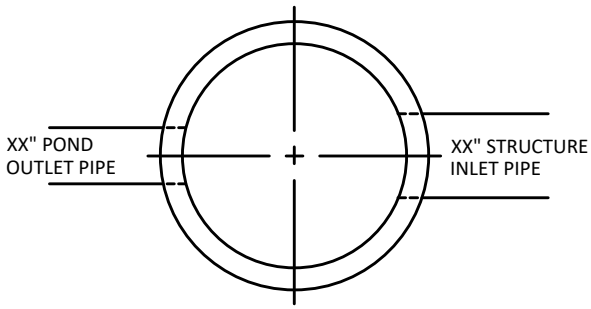


SECTIONAL VIEW

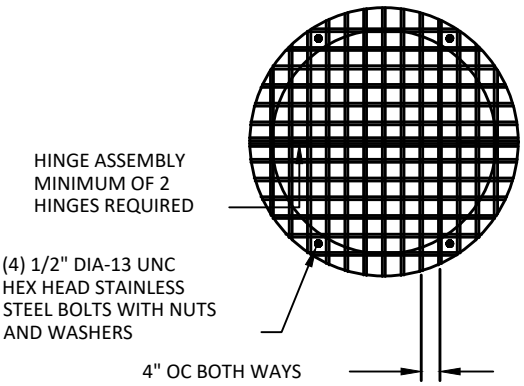
DRAINAGE STRUCTURE WITH SUMP

NOT TO SCALE

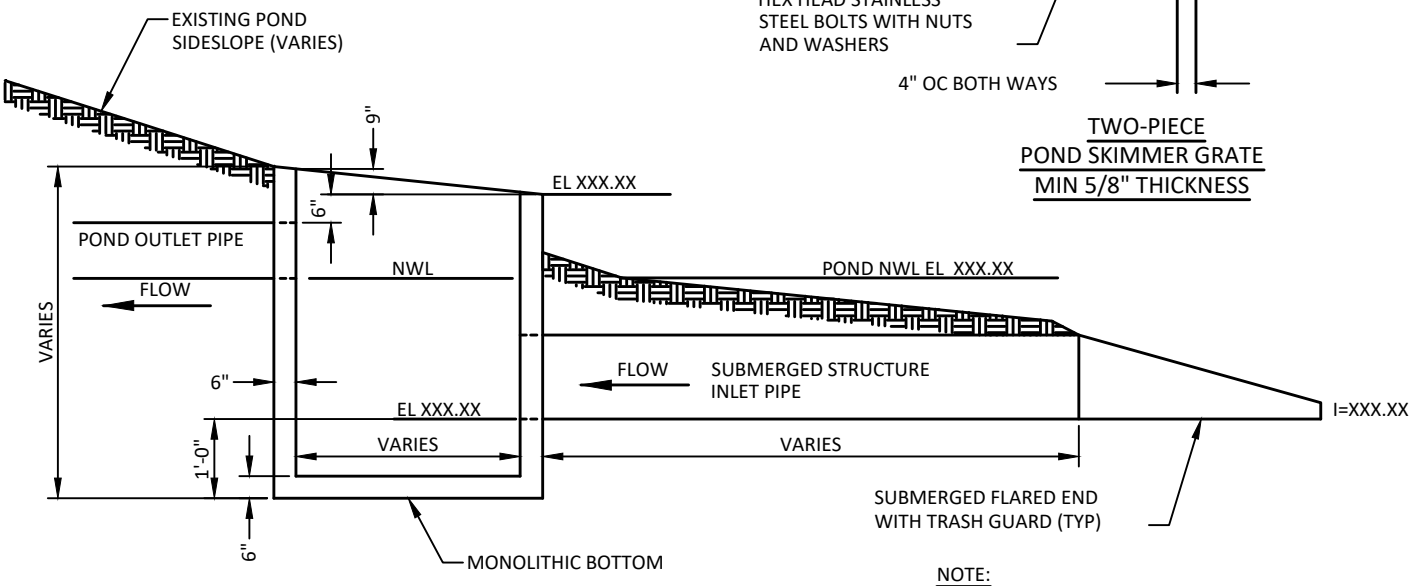
Albertville Small Town Living. Big City Life.	DRAINAGE STRUCTURE WITH SUMP		DATE: 02/2020 STD. DETAIL 4-108



GRATE NOTES:
1. GRATE TO BE MADE IN TWO (2) PIECES
2. ALL METAL SHALL BE HOT-DIPPED GALVANIZED



TWO-PIECE
POND SKIMMER GRATE
MIN 5/8" THICKNESS



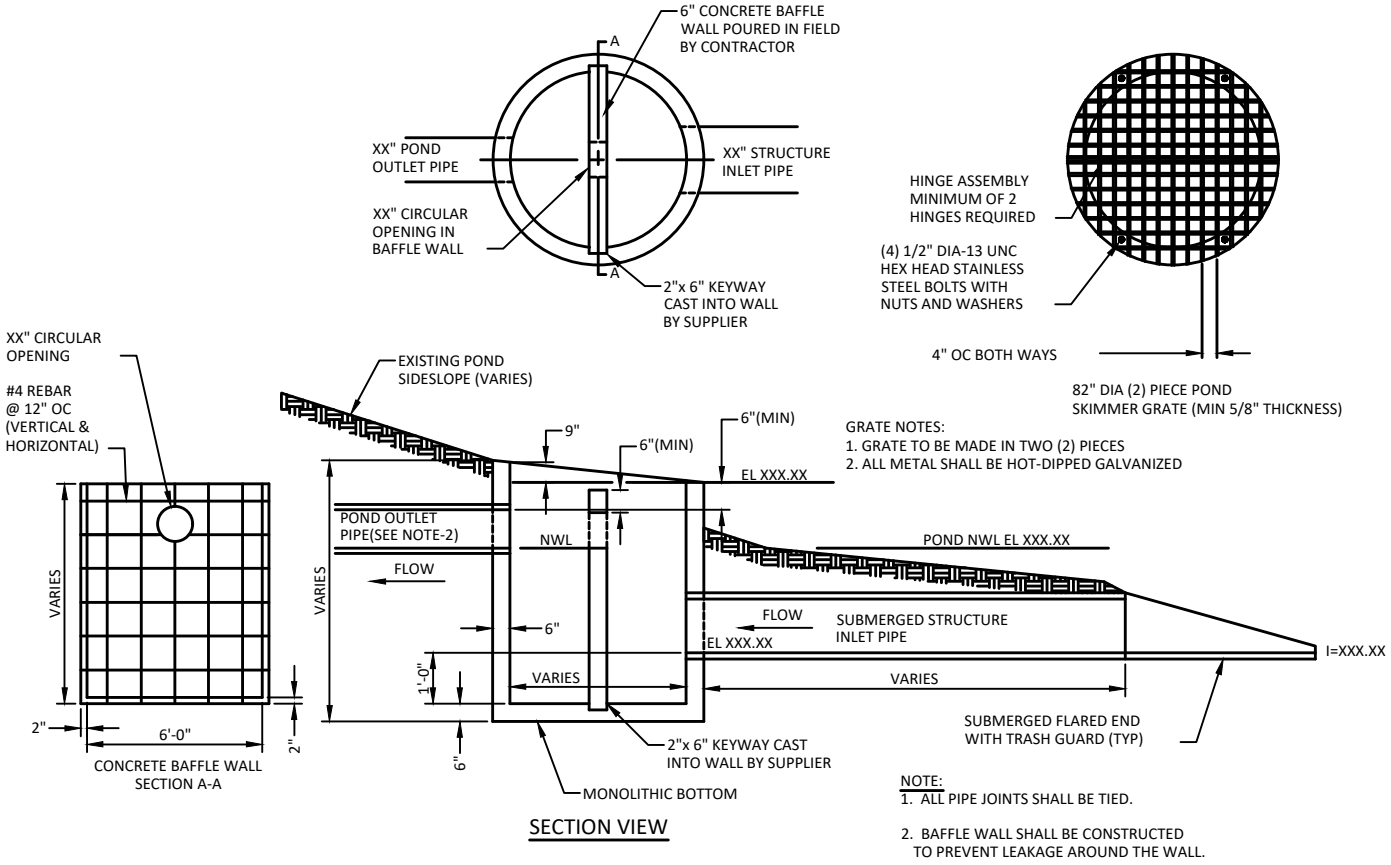
NOTE:
1. ALL PIPE JOINTS SHALL BE TIED.

SECTION VIEW

PRECAST CONCRETE POND SKIMMER STRUCTURE

NOT TO SCALE

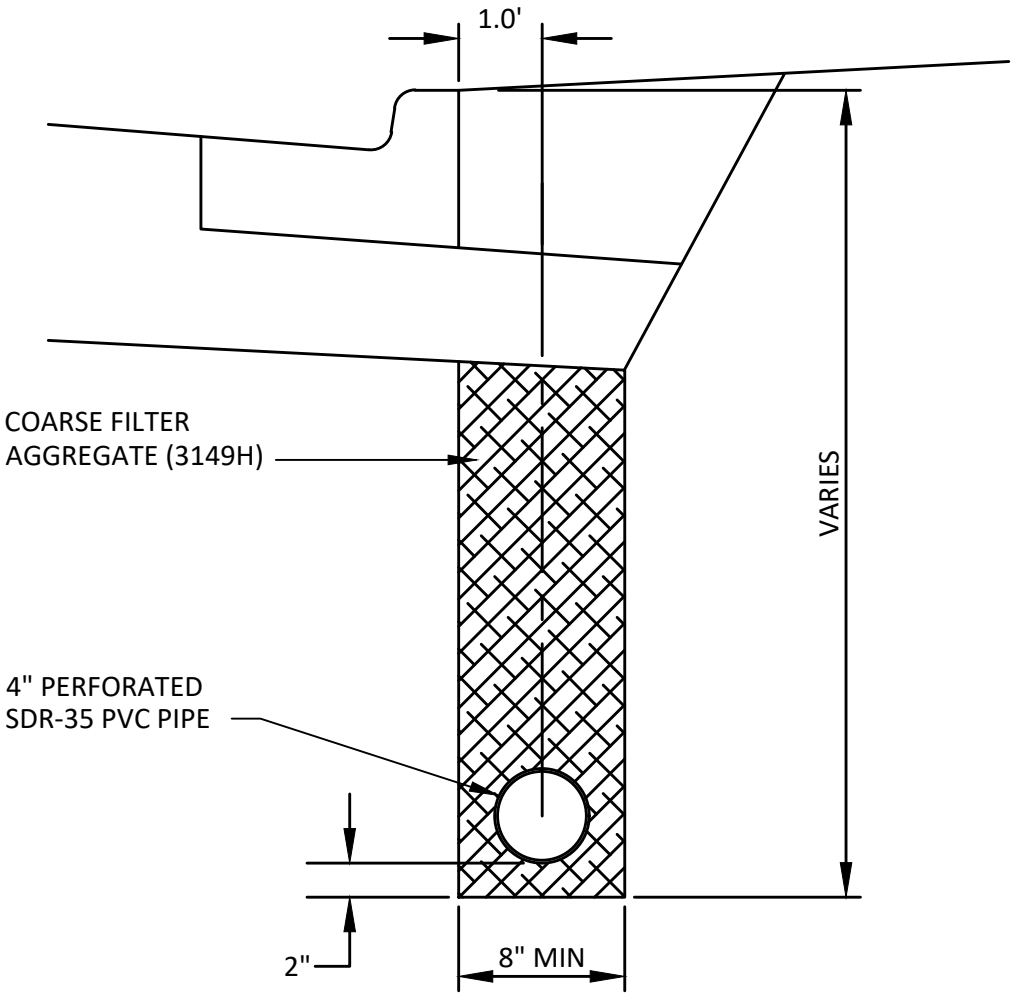
Albertville Small Town Living. Big City Life.	PRECAST CONCRETE POND SKIMMER STRUCTURE		DATE: 02/2020 STD. DETAIL 4-200



PRECAST CONCRETE POND SKIMMER STRUCTURE WITH RATE CONTROL BAFFLE

NOT TO SCALE

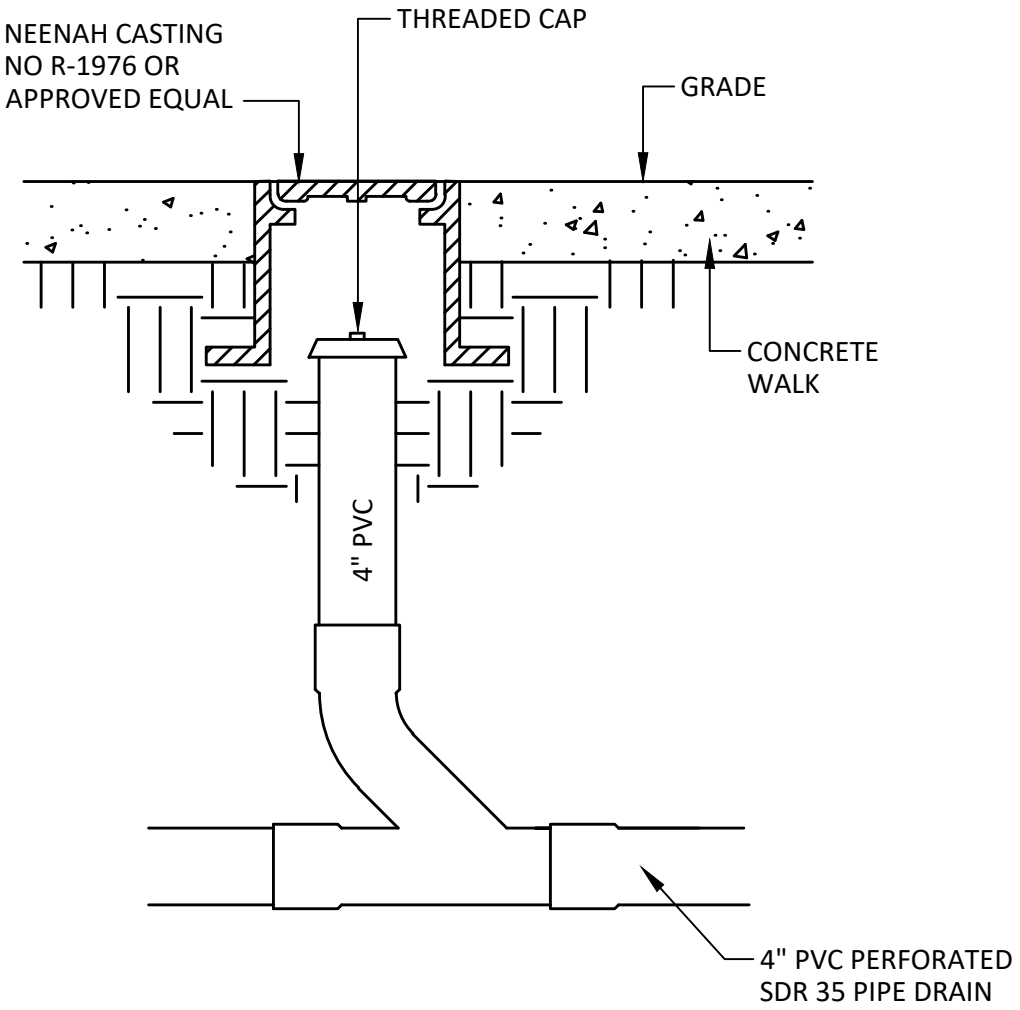
Albertville Small Town Living. Big City Life.	PRECAST CONCRETE POND SKIMMER STRUCTURE W/RATE CONTROL BAFFLE		DATE: 02/2020 STD. DETAIL 4-201



SUBSURFACE EDGE DRAIN
PVC PIPE

NOT TO SCALE

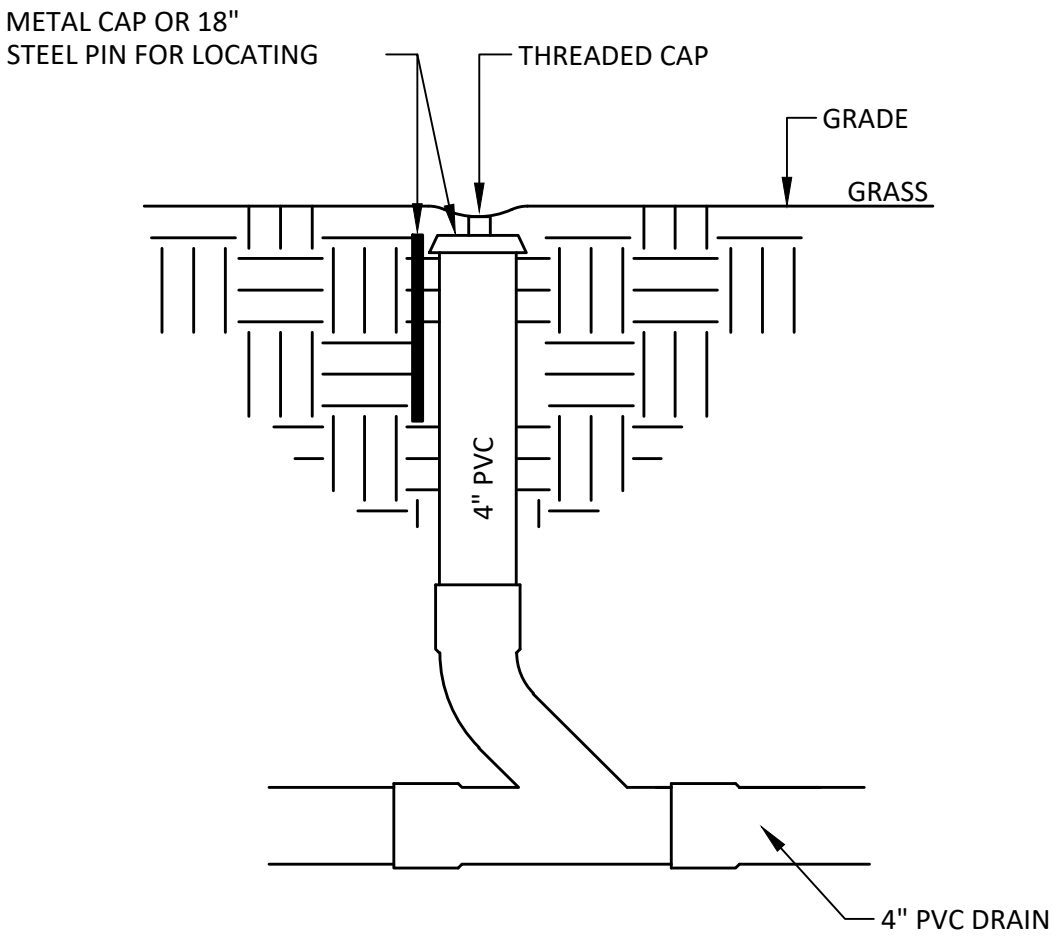
Albertville Small Town Living. Big City Life.	SUBSURFACE EDGE DRAIN PVC PIPE		DATE: 02/2020 STD. DETAIL 4-303



SUBSURFACE DRAIN
CLEANOUT UNDER SIDEWALK

NOT TO SCALE

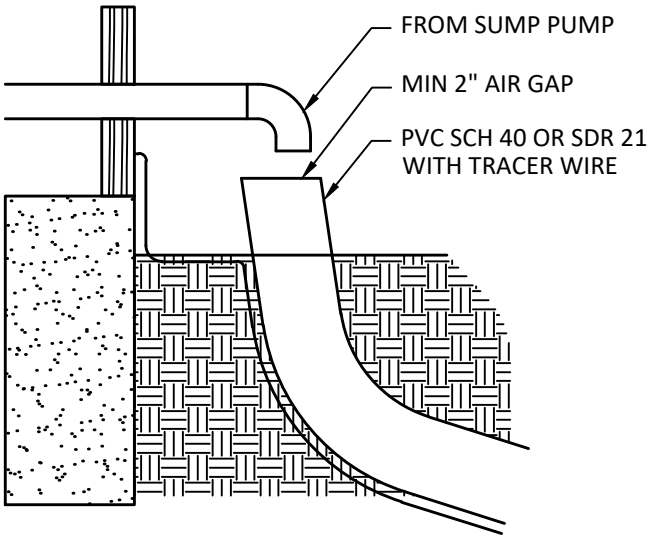
Albertville Small Town Living. Big City Life.	SUBSURFACE DRAIN CLEANOUT UNDER SIDEWALK		DATE: 02/2020 STD. DETAIL 4-304



SUBSURFACE DRAIN CLEANOUT

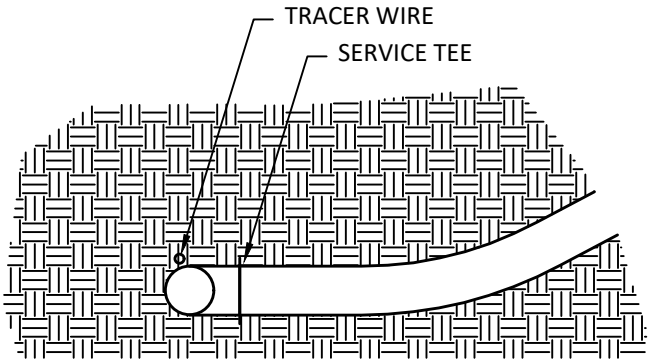
NOT TO SCALE

Albertville Small Town Living. Big City Life.	SUBSURFACE DRAIN CLEANOUT		DATE: 02/2020 STD. DETAIL 4-305



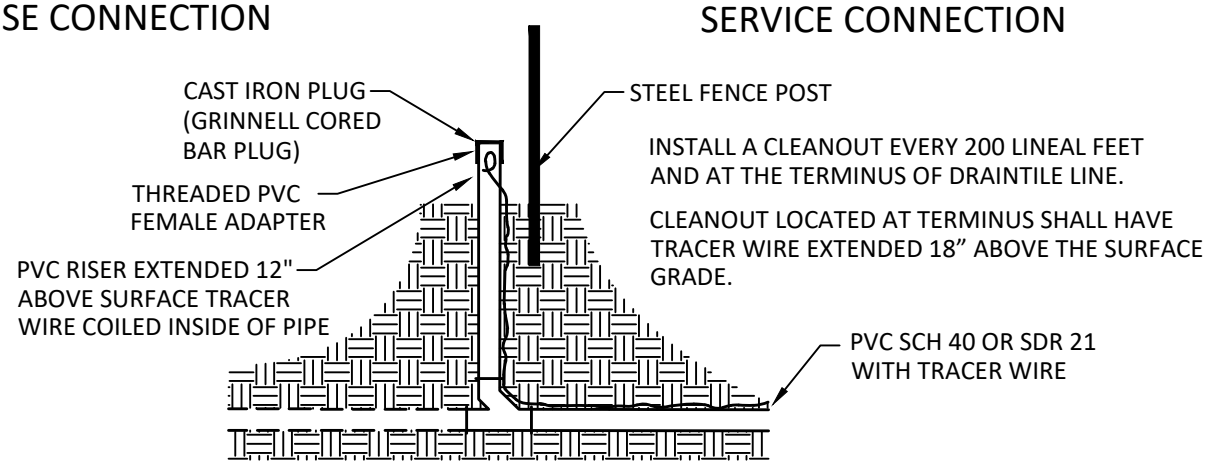
INSTALL DISCHARGE PIPE FROM HOUSE TO DAYLIGHT OUTLET, STORM SEWER STRUCTURE OR WATERBODY.

HOUSE CONNECTION

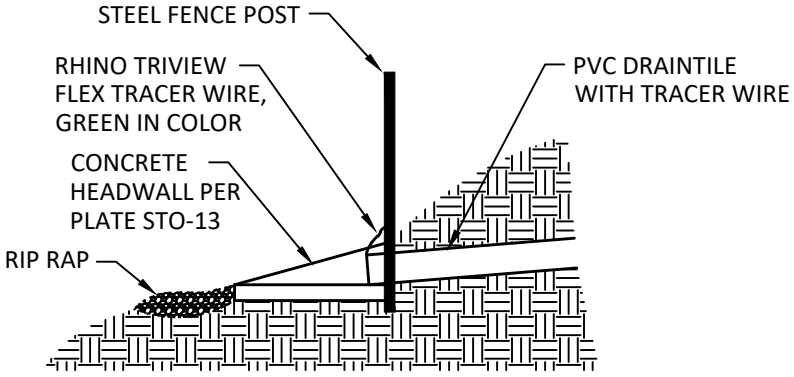


ALL COMMON DRAIN TILE SHALL HAVE A MINIMUM OF 18" COVER. ALL SERVICE DRAINTILE SHALL HAVE A MINIMUM OF 12" COVER TO TOP OF PIPE. BUILDER SHALL REMOVE CAP AT SERVICE AND MAKE CONNECTION TO DRAIN TILE.

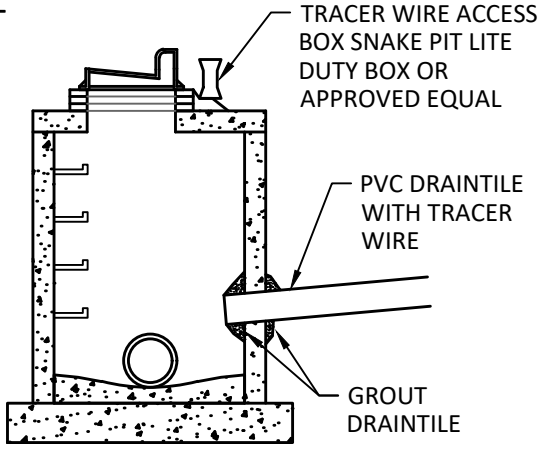
SERVICE CONNECTION



DRAINTILE CLEANOUT



DRAINTILE OUTLET TO WATERBODY



CONNECTION TO STORM SEWER

Albertville Small Town Living. Big City Life.	SUMP PUMP DISCHARGE REQUIREMENTS		DATE: 02/2020 STD. DETAIL 4-306 (1 OF 2)

MINIMUM DRAINTILE REQUIREMENTS

- PIPE SIZE - 4” MIN NON PERFORATED PIPE.
- TYPE OF PIPE - SCH 40 OR SDR 21 NON PERFORATED
- DEPTH OF PIPE - 12” TO TOP OF PIPE FROM FINISH GRADE
- TRACER WIRE - MINIMUM GAUGE #12 COPPERHEAD COPPER CLAD STEEL TRACER WIRE, GREEN IN COLOR.

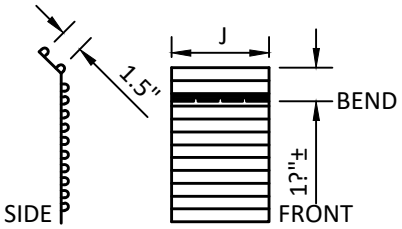
NOTE:

CORRECT FITTINGS MUST BE USED WITH ALL PIPE, NO TAPING OR SPLICING WILL BE ACCEPTED. A TRACER WIRE SHALL BE INSTALLED ALONG WITH THE PIPE, THIS WIRE MUST BE COPPERHEAD #12 AWG CCS #1230HS COMPLYING WITH ASTM-D-1248, 30 VOLT RATING BE EXPOSED A MINIMUM LENGTH OF 12 INCHES AT THE HOUSE AND SHALL DEAD END AT THE CONNECTION OR TILE DISCHARGE. NO WIRE SHALL BE ACCEPTED EXCEPT AS SPECIFIED ABOVE.

NOTE:

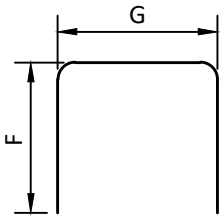
NOTE: THE TRENCH MUST BE LEFT OPEN AT ALL CONNECTIONS FOR INSPECTION PURPOSES. IF A TILE LINE IS TO DEAD END INTO A POND OR WET LAND A FENCE POST SHALL CLEARLY MARK ITS END. ALL INSPECTIONS SHALL REQUIRE A 24 HOUR NOTICE. ALL TRENCHES MUST BE BACK FILLED WITHIN 24 HOURS. IT IS RECOMMENDED THAT A REPRESENTATIVE OF THE BUILDER BE PRESENT AT ALL INSPECTIONS.

Albertville Small Town Living. Big City Life.	SUMP PUMP DISCHARGE REQUIREMENTS		DATE: 02/2020 STD. DETAIL 4-306 (2 OF 2)

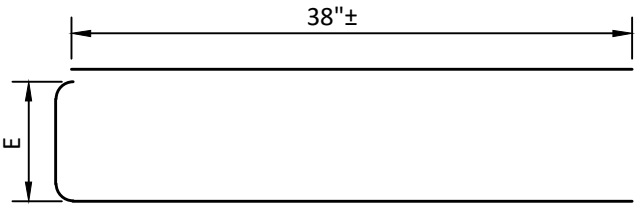


RODENT SHIELD Ⓡ

DIMENSIONS ARE APPROXIMATE TO ALLOW FOR BEND AND A SNUG FIT IN SLOT IN HEADWALL



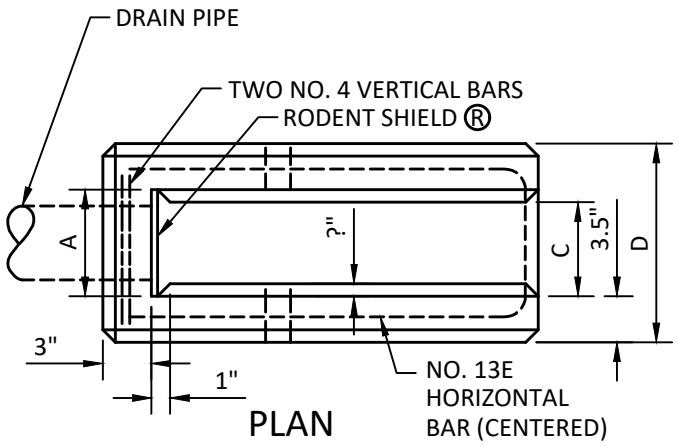
NO. 4 VERTICAL BAR (2 REQUIRED)



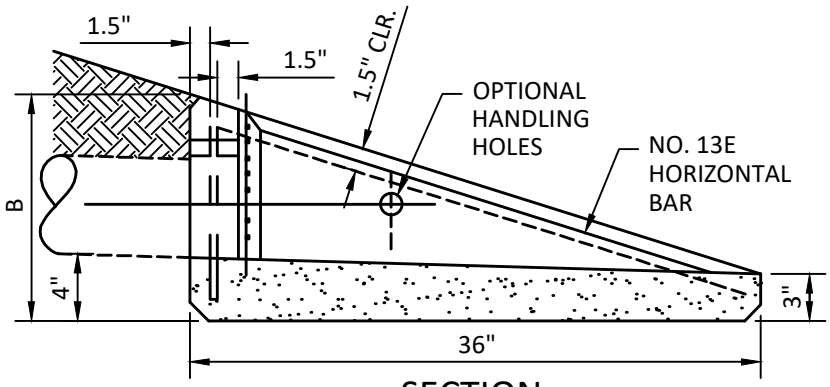
NO. 4 HORIZONTAL BAR

DIMENSION	4" DIA. PIPE	6" DIA. PIPE	8" DIA. PIPE
A	6.5"	8.5"	10.5"
B	12"	14"	16"
C	5"	7"	9"
D	12"	14"	16"
E	8.5"	10.5"	12.5"
F	9"	11"	13"
G	9.5"	11.5"	13.5"
HΔ	5"	7"	9.5"
I	11"	14"	15"
J	5 7/8"	7 7/8"	10"
APPROX. WT.	209 LBS	254 LBS	298 LBS

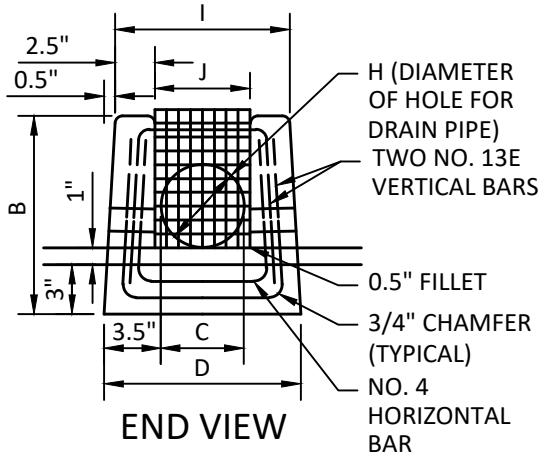
Δ EXACT DIMENSION DEPENDENT ON COUPLING METHOD.



PLAN



SECTION



END VIEW

NOTES:

1. CONCRETE FOR THE HEADWALLS SHALL HAVE A MAXIMUM WATER TO CEMENT (W/C) RATIO OF 4.0, AN AIR CONTENT OF APPROXIMATELY 5% AND A COMPRESSIVE STRENGTH OF 34.5 MPA PRIOR TO SHIPPING. THE MAXIMUM AMOUNT OF FLY ASH SUBSTITUTED FOR CEMENT ALLOWED IN THE MIX SHALL BE 15% BY WEIGHT. NO SUBSTANCE OTHER THAN CEMENT, FLY ASH, WATER, AGGREGATE AIR ENTRAINING AGENT AND TYPE A, C, E OR F ADMIXTURES WILL BE ALLOWED IN THE MIX. ALL CONCRETE MATERIALS SHALL MEET THE REQUIREMENTS OF SPEC. 2461. THE EPOXY BARS SHALL BE SECURELY RETAINED SO THEY ARE NOT DISPLACED DURING CONCRETE PLACEMENT. TIE WIRE SHALL BE EPOXY COATED. WELDING WILL NOT BE PERMITTED. THE FABRICATOR SHALL PROVIDE A QUALITY CONTROL PROGRAM APPROVED BY THE MATERIALS ENGINEER.

2. THE RODENT SHIELD SHALL BE FABRICATED FROM CARBON STEEL FLATTENED EXPANDED METAL, STYLE 13 MM NO. 13F. IT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION. ACTUAL SCREEN DIMENSIONS SHALL BE SUCH AS WILL SNUGLY FIT THE PROVIDED SLOT (TAPERED IF NECESSARY), WITH THE SCREEN LIP FITTING FLUSH WITH THE CASTING TOP AND THE BOTTOM FITTING TIGHT TO THE FLOW LINE.

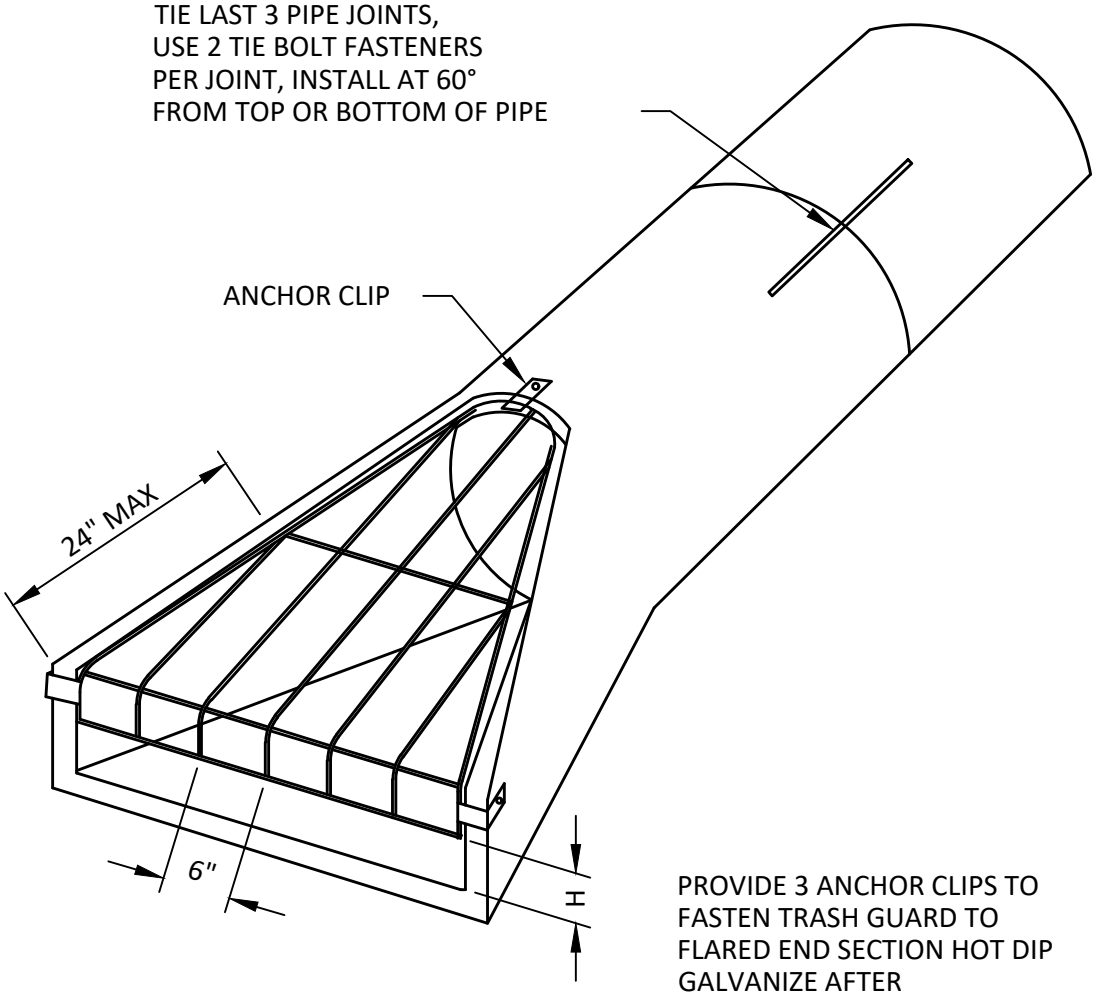
Albertville
Small Town Living. Big City Life.

PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS

DATE: 02/2020

STD. DETAIL 4-307

TIE LAST 3 PIPE JOINTS,
USE 2 TIE BOLT FASTENERS
PER JOINT, INSTALL AT 60°
FROM TOP OR BOTTOM OF PIPE



PROVIDE 3 ANCHOR CLIPS TO FASTEN TRASH GUARD TO FLARED END SECTION HOT DIP GALVANIZE AFTER FABRICATION

ANCHOR BOTH SIDES

TRASH GUARD SIZES			
PIPE SIZE	BARS	"H"	BOLTS
12"-18"	3/4"Ø	4"	5/8"
21"-42"	1"Ø	6"	3/4"
42"-72"	1 1/4"Ø	12"	1"

RC APRON TRASH RACK

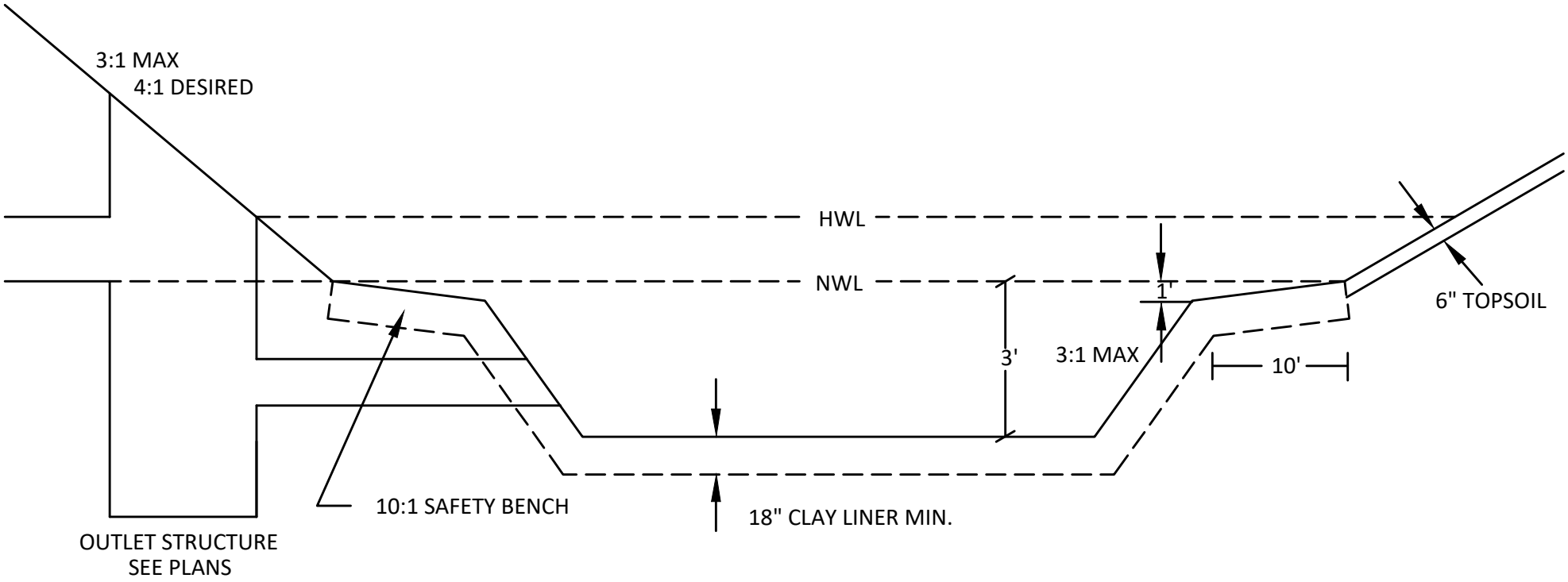
NOT TO SCALE

Albertville
Small Town Living. Big City Life.

RC APRON
TRASH RACK

DATE:
02/2020

STD. DETAIL
4-601



NOTE: PLANT POND SLOPES WITH WILDFLOWER MIX TO BE APPROVED BY ENGINEER

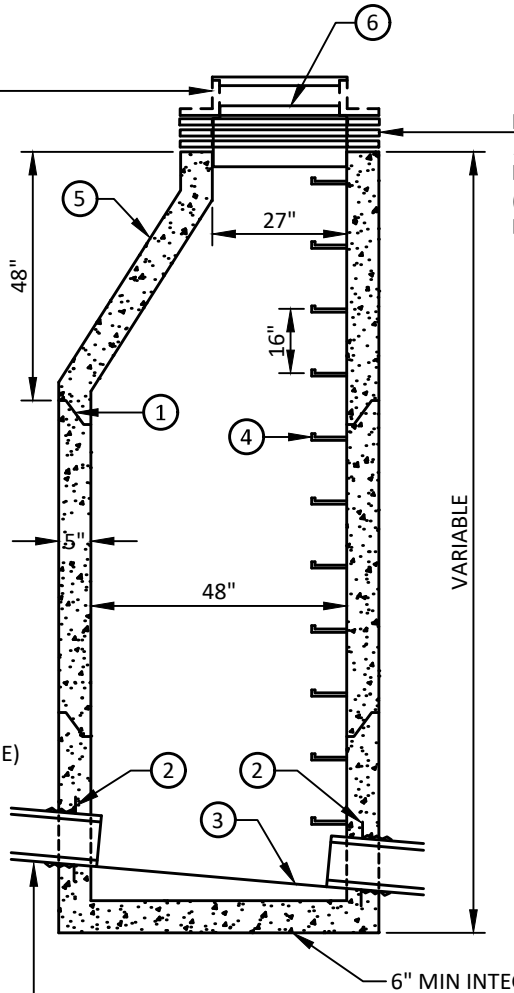
POND DETAIL

NOT TO SCALE

Albertville Small Town Living. Big City Life.	POND DETAIL		DATE: 02/2020
			STD. DETAIL 4-800

NEENAH 1642 FRAME WITH SELF SEAL LID LETTERED "SANITARY SEWER" WITH TWO CONCEALED PICKHOLES AND NO LUG

1. RUBBER GASKET (TYP)
2. FLEXIBLE WATERTIGHT SEAL TO BE APPROVED BY ENGINEER
3. SHAPE, DEPTH AND SLOPE OF INVERT TO BE APPROVED BY ENGINEER
4. STEEL REINFORCED PLASTIC STEPS SHALL BE A POLYPROPYLENE PLASTIC REINFORCED WITH A NO 2 DEFORMED STEEL ROD GRADE 60
5. MnDOT TYPE "B" ECCENTRIC PRECAST CONCRETE CONE SECTION TYPICAL FOR ALL MANHOLES
6. PLACE INTERIOR CHIMNEY SEAL (STRIKE I & I BARRIER WITH DRIP EDGE)
7. PLACE EXTERIOR JOINT SEAL (WITHIN 2 FEET OF WATER TABLE)
8. ALL CONNECTIONS TO EXISTING MANHOLE WILL BE CORE CUT WITH GASKET. NO JACK HAMMER ALLOWED.

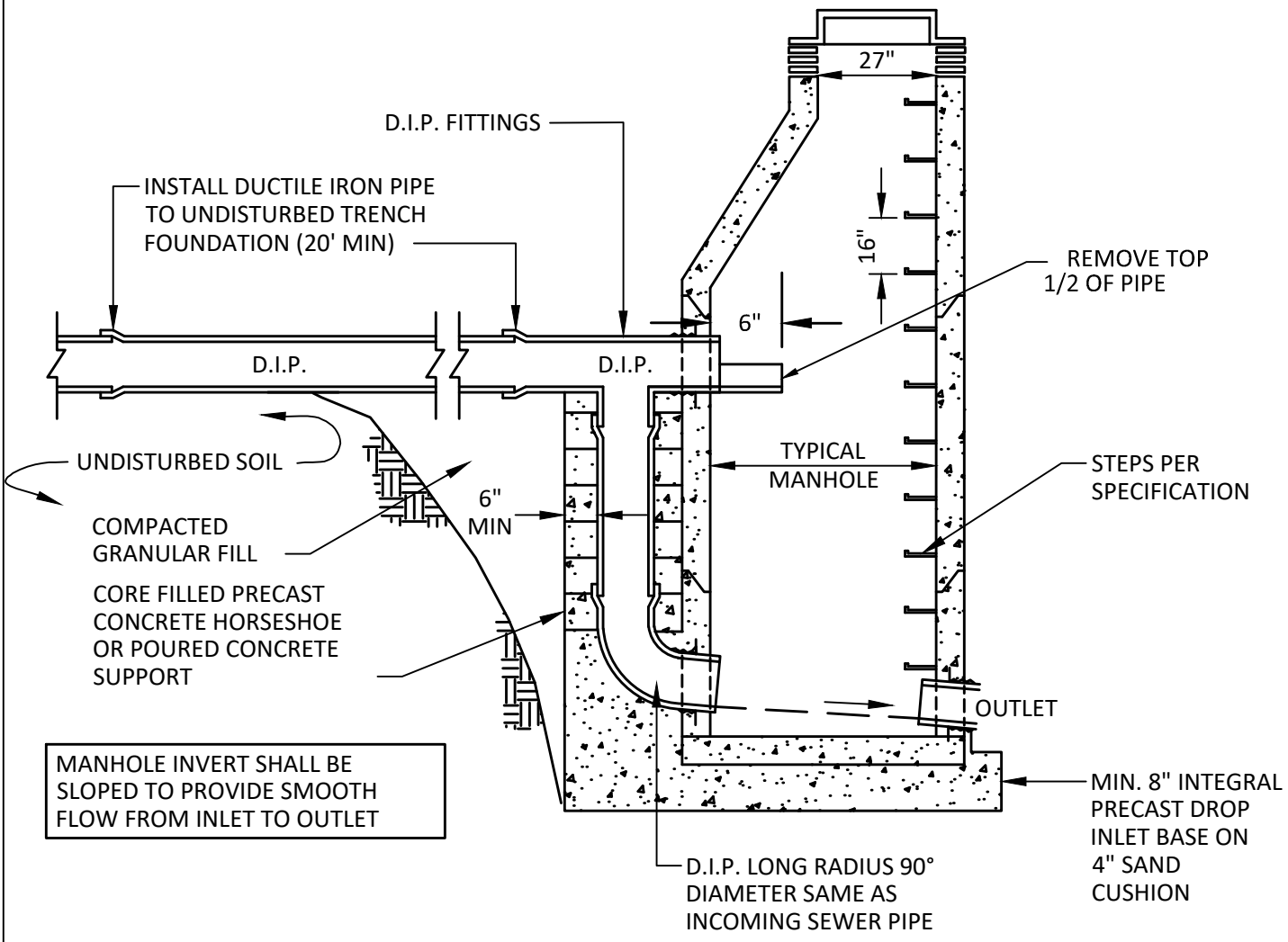


PLAN VIEW

SANITARY MANHOLE

NOT TO SCALE

Albertville Small Town Living. Big City Life.	SANITARY MANHOLE		DATE: 02/2020 STD. DETAIL 5-000



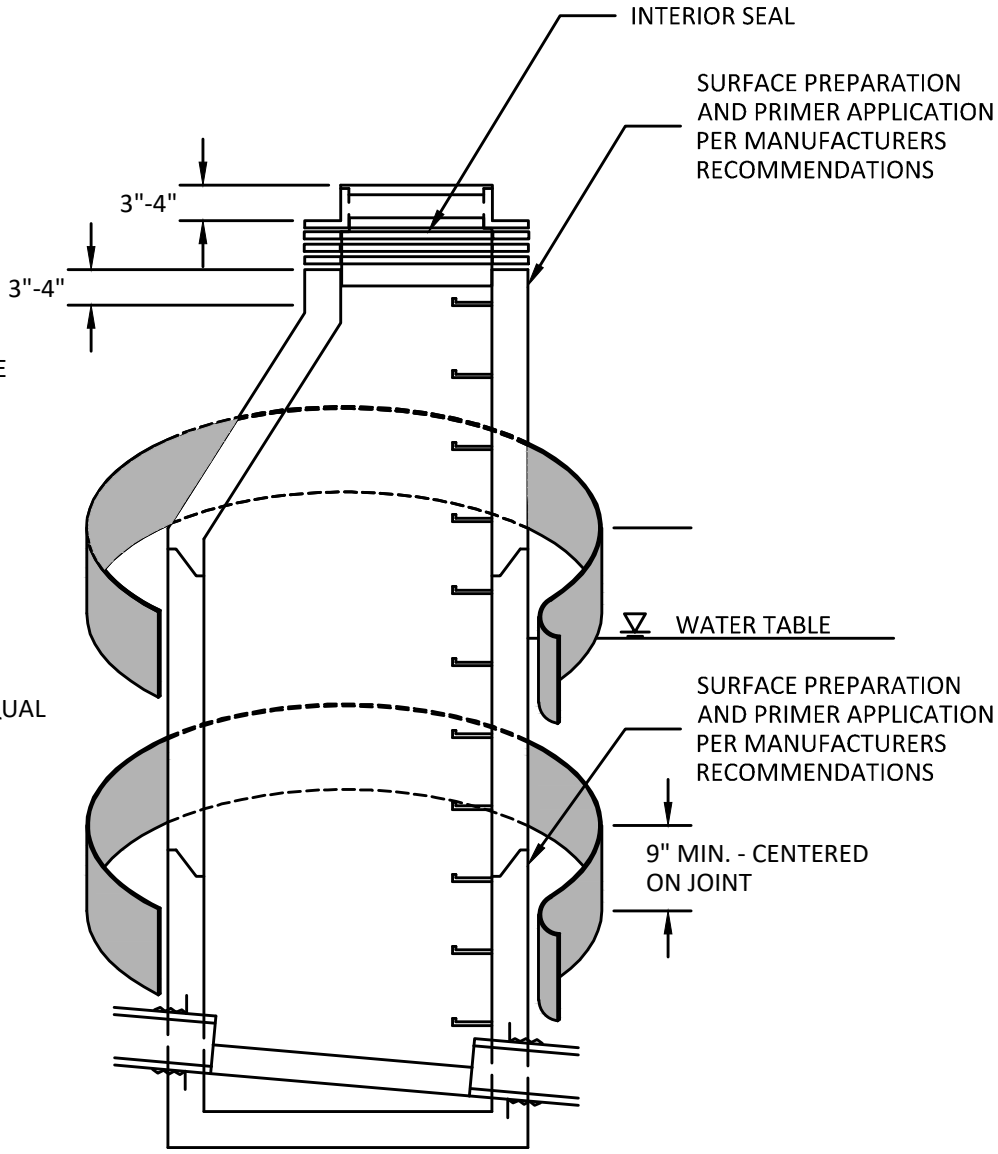
SANITARY MANHOLE WITH OUTSIDE DROP

NOT TO SCALE

Albertville Small Town Living. Big City Life.	SANITARY MANHOLE WITH OUTSIDE DROP		DATE: 02/2020 STD. DETAIL 5-002

NOTE:

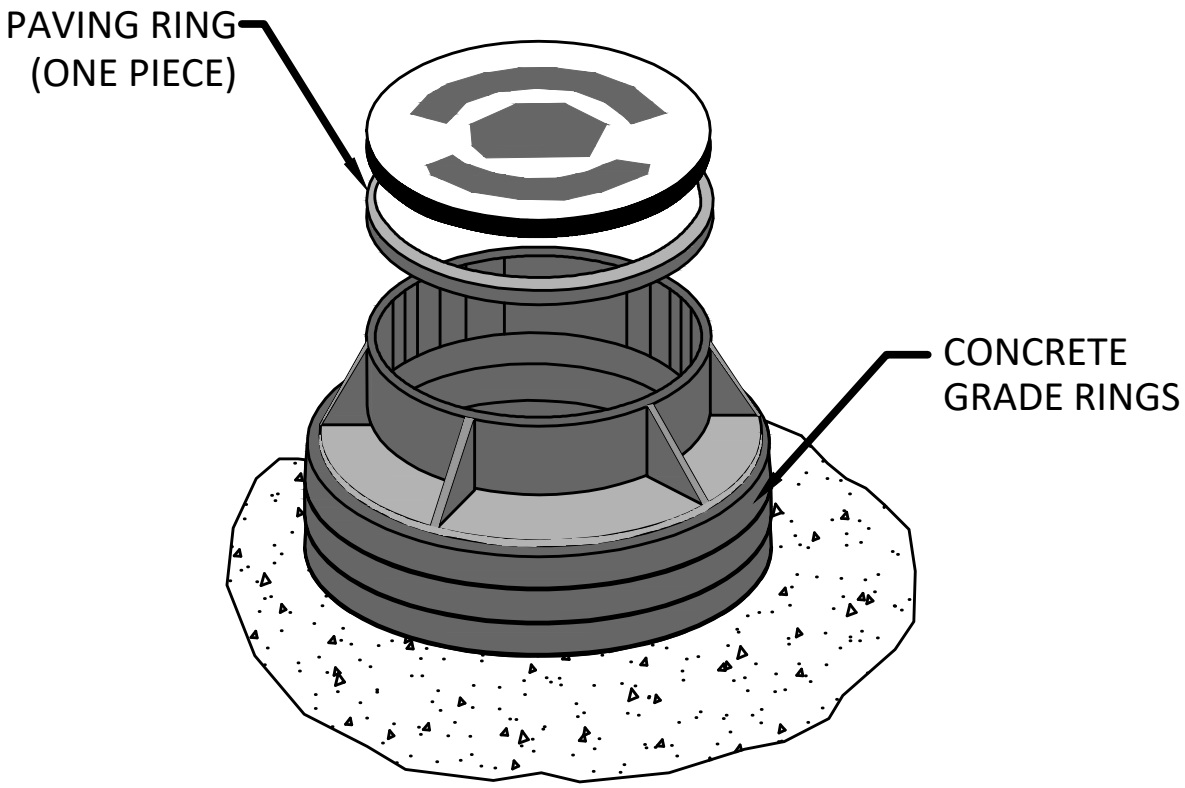
1. ALL JOINTS WITHIN 2 FT ABOVE THE WATER TABLE SHALL BE SEALED.
2. ALL MANHOLES INSTALLED IN AREAS SUBJECT TO FLOODING SHALL HAVE RINGS AND CASTING SEALED.
3. JOINT SEALS SHALL BE CRETEX EXTERNAL MANHOLE JOINT SEALS OR APPROVED EQUAL



SANITARY SEWER EXTERIOR JOINT SEAL

NOT TO SCALE

Albertville Small Town Living. Big City Life.	SANITARY SEWER EXTERIOR JOINT SEAL		DATE: 02/2020 STD. DETAIL 5-008

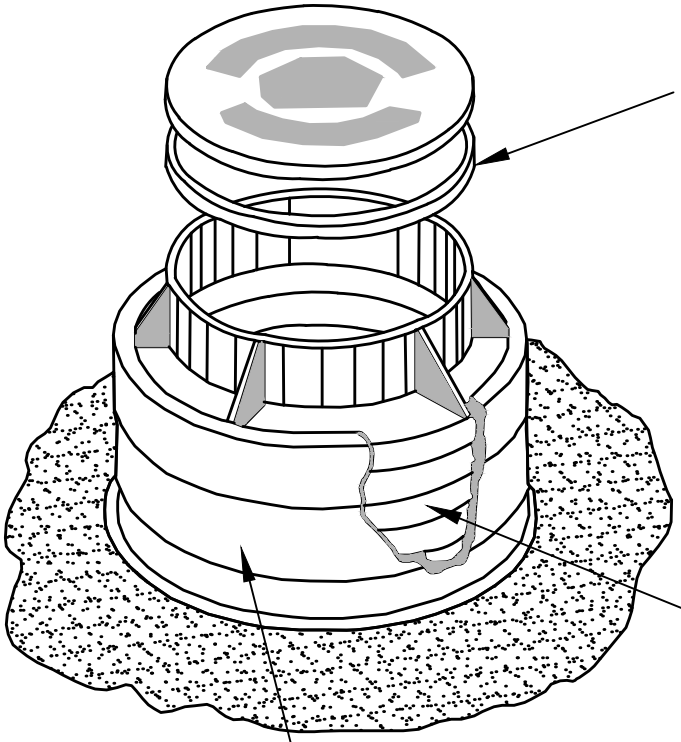


NOTE: A FIVE HUNDRED DOLLAR ($500) PENALTY WILL BE ENFORCED FOR EACH CASTING NOT PROPERLY ADJUSTED REQUIRING A PATCH IN THE BITUMINOUS WEARING COURSE.

CASTING AND GRADE ADJUSTMENT RING DETAIL

NOT TO SCALE

Albertville Small Town Living. Big City Life.	CASTING AND GRADE ADJUSTMENT RING DETAIL		DATE: 02/2020 STD. DETAIL 5-019

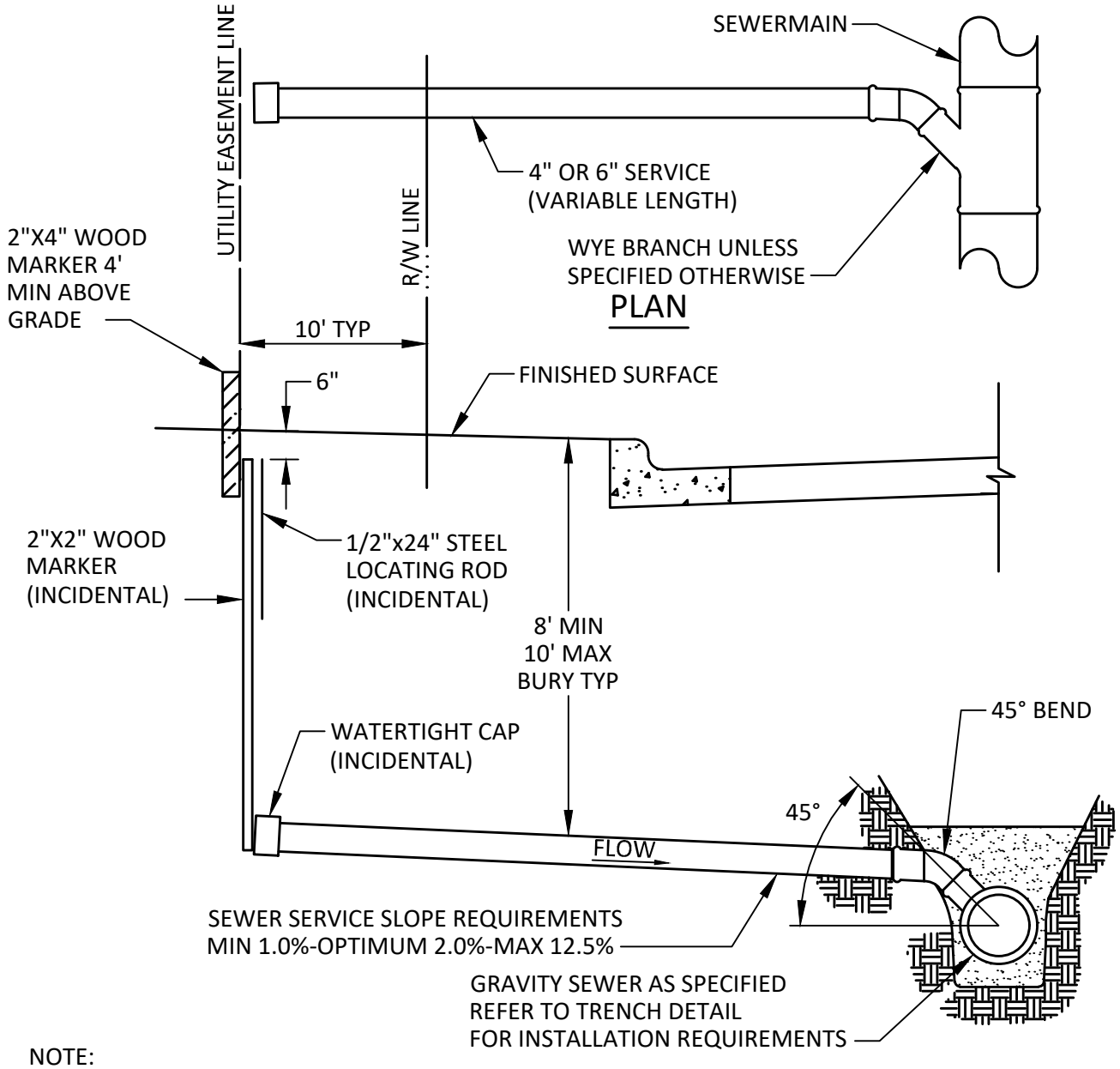


ONE PIECE MOLDED SEAL.
INFI-SHIELD UNI-BAND EXTERNAL RUBBER
FRAME SEAL AS MANUFACTURED BY SEALING
SYSTEMS, INC. OR APPROVED EQUAL.

CASTING AND GRADE ADJUSTMENT RING EXTERIOR SEAL

NOT TO SCALE

Albertville Small Town Living. Big City Life.	CASTING AND GRADE ADJUSTMENT RING EXTERIOR SEAL		DATE: 02/2020 STD. DETAIL 5-020



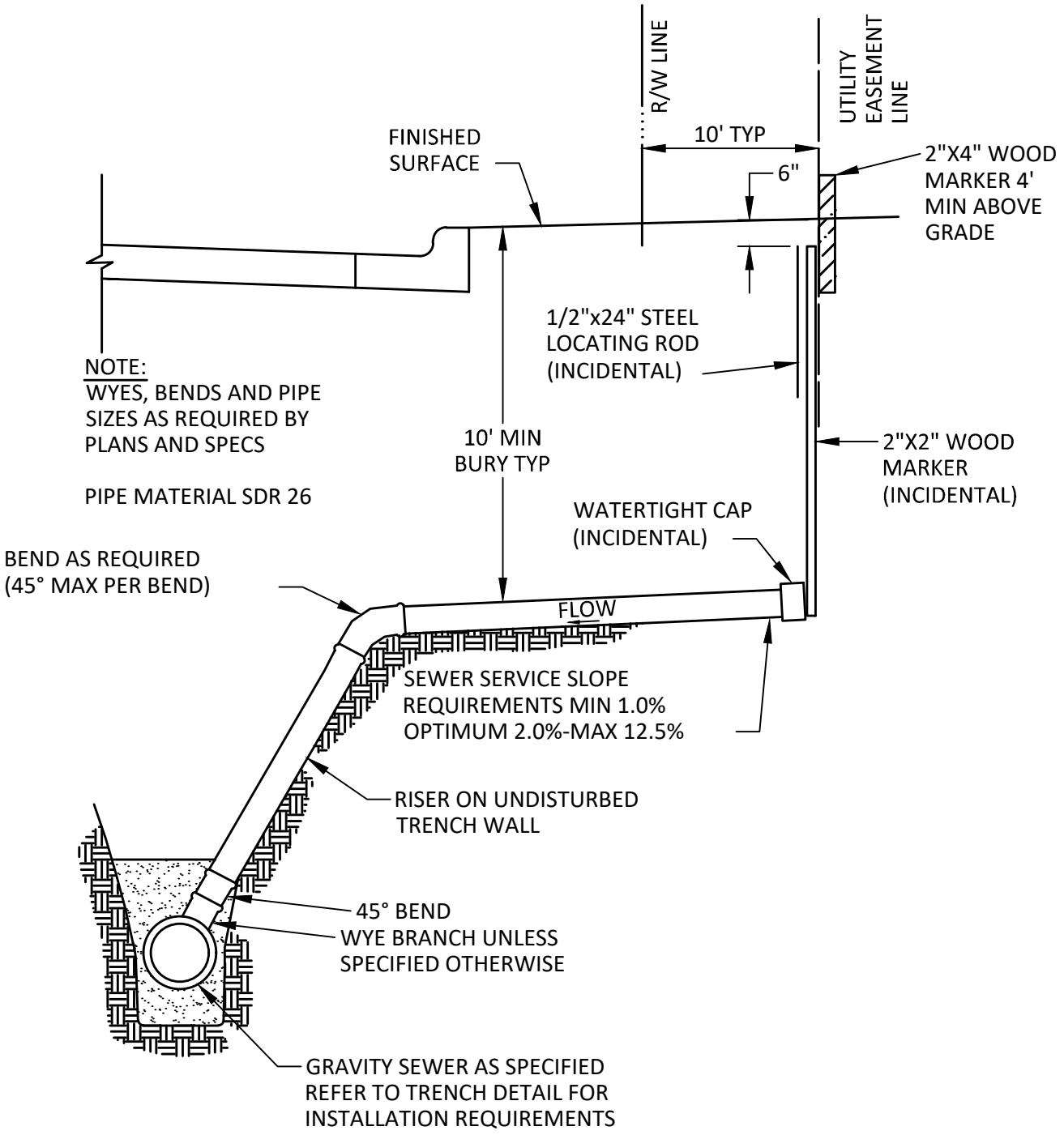
NOTE:
WYES, BENDS AND PIPE SIZES
AS REQUIRED BY PLANS AND SPECS

PIPE MATERIAL SDR 26

SANITARY SEWER SERVICE

NOT TO SCALE

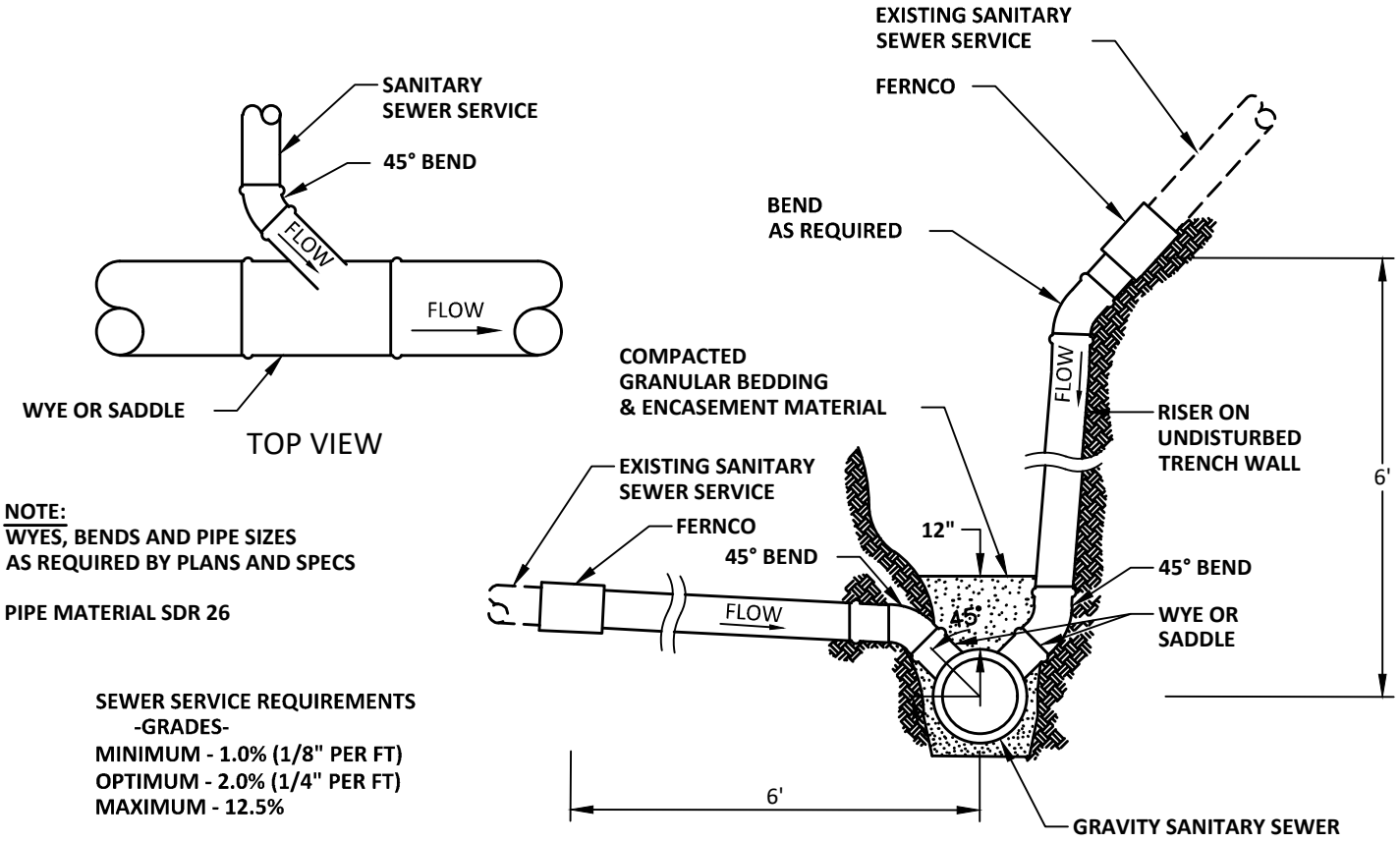
Albertville Small Town Living. Big City Life.	SANITARY SEWER SERVICE		DATE: 02/2020 STD. DETAIL 5-101



SANITARY SEWER SERVICE RISER

NOT TO SCALE

Albertville Small Town Living. Big City Life.	SANITARY SEWER SERVICE RISER		DATE: 02/2020 STD. DETAIL 5-104



NOTE:
WYES, BENDS AND PIPE SIZES AS REQUIRED BY PLANS AND SPECS

PIPE MATERIAL SDR 26

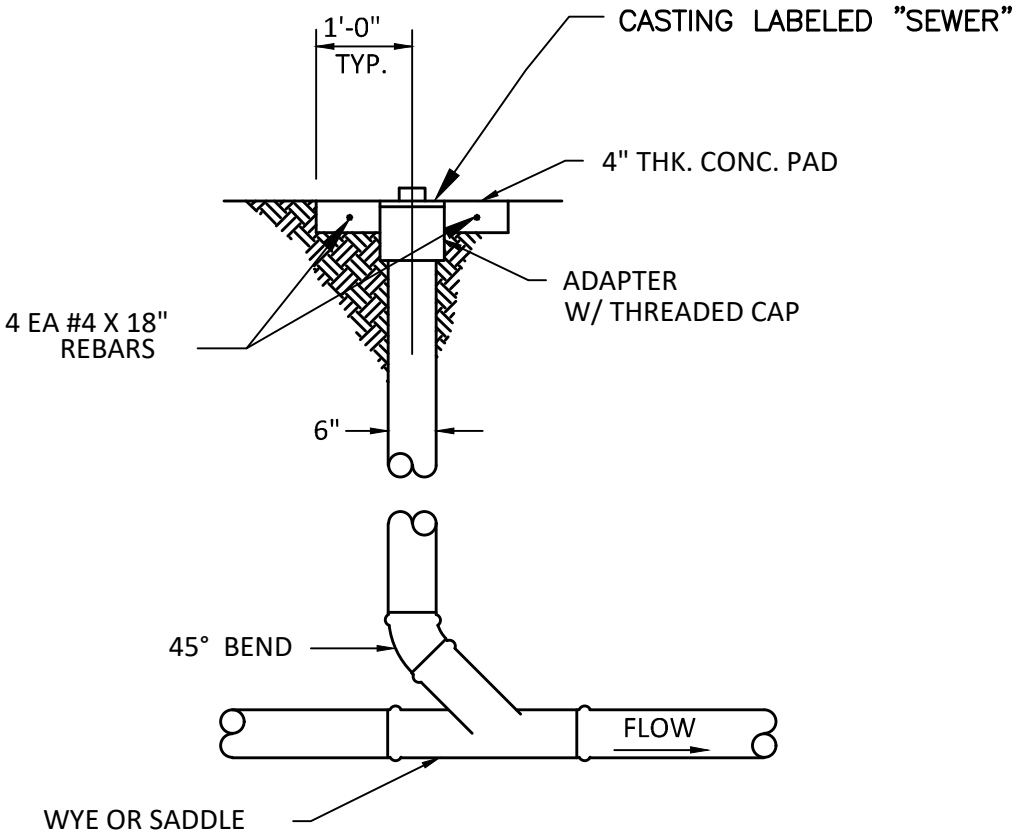
SEWER SERVICE REQUIREMENTS
-GRADES-
MINIMUM - 1.0% (1/8" PER FT)
OPTIMUM - 2.0% (1/4" PER FT)
MAXIMUM - 12.5%

NOTE:
WHERE NO EXISTING SEWER IS IN PLACE, INSTALL PVC CAP AND MARK LOCATION WITH 4"X4"X6' TIMBER & 3/8" X 4' STEEL ROD BURY 6" BELOW FINISHED GRADE.

SANITARY SEWER SERVICE AND SERVICE RISER, RECONSTRUCTION

NOT TO SCALE

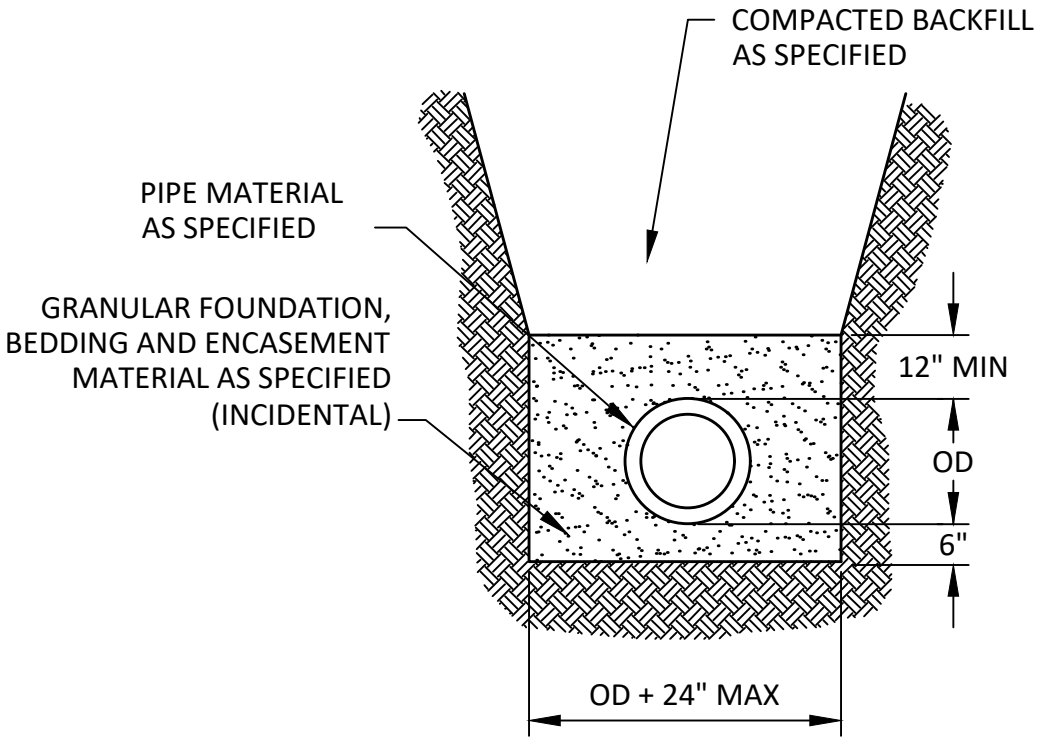
Albertville Small Town Living. Big City Life.	SANITARY SEWER SERVICE AND SERVICE RISER, RECONSTRUCTION		DATE: 02/2020 STD. DETAIL 5-107



SANITARY SEWER CLEANOUT

NOT TO SCALE

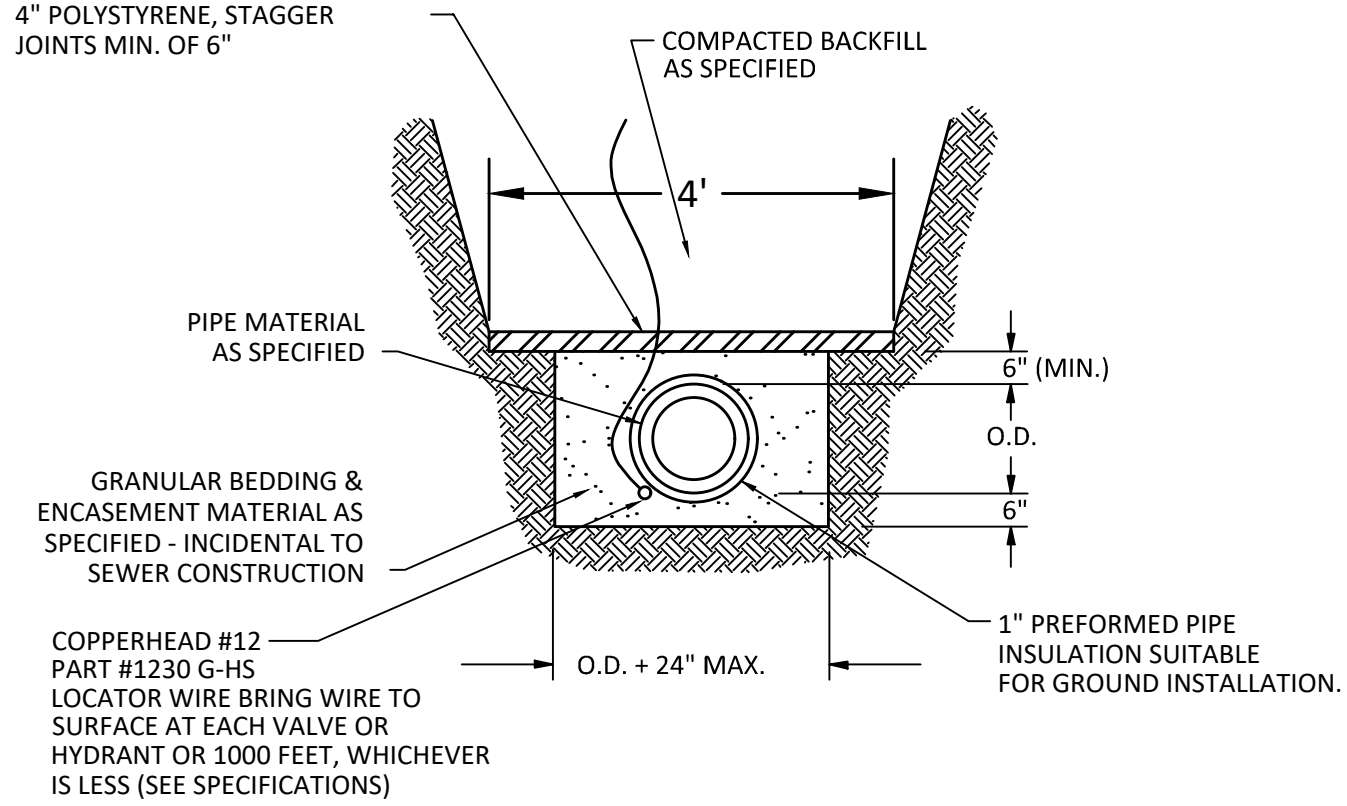
Albertville Small Town Living. Big City Life.	SANITARY SEWER CLEANOUT		DATE: 02/2020 STD. DETAIL 5-110



PVC SANITARY SEWER TRENCH

NOT TO SCALE

Albertville Small Town Living. Big City Life.	PVC SANITARY SEWER TRENCH		DATE: 02/2020 STD. DETAIL 5-200



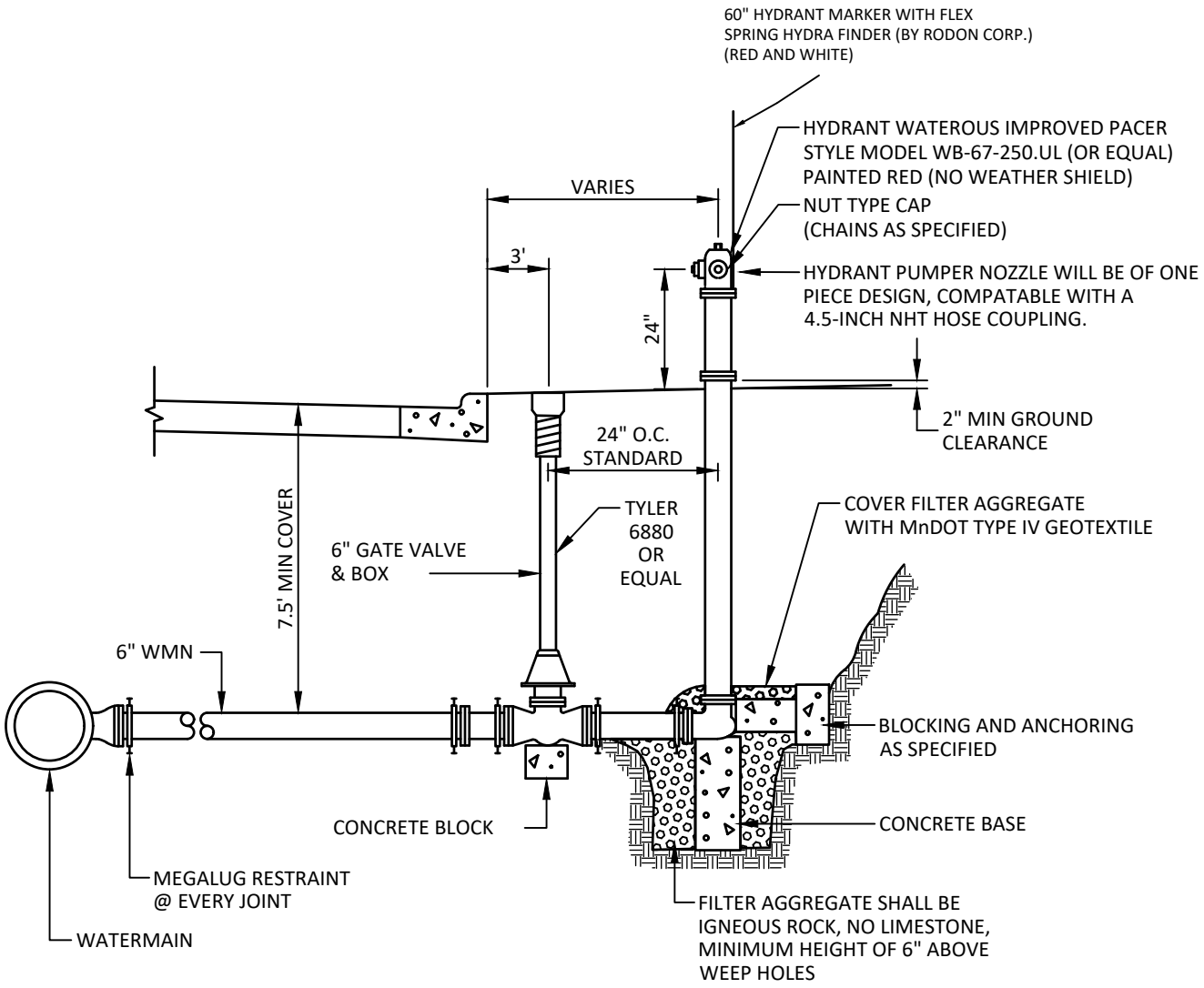
NOTE: IF SERVICE LINE HAS LESS THAN 7' OF COVER INSULATION WIDTH SHALL INCREASE AS FOLLOWS:

DEPTH OF COVER	WIDTH OF INSULATION
6 FT.	6 FT.
5 FT.	8 FT.
4 FT.	10 FT.

INSULATION DETAIL
SANITARY SEWER

NOT TO SCALE

Albertville Small Town Living. Big City Life.	INSULATION SANITARY SEWER		DATE: 02/2020
			STD. DETAIL 5-202

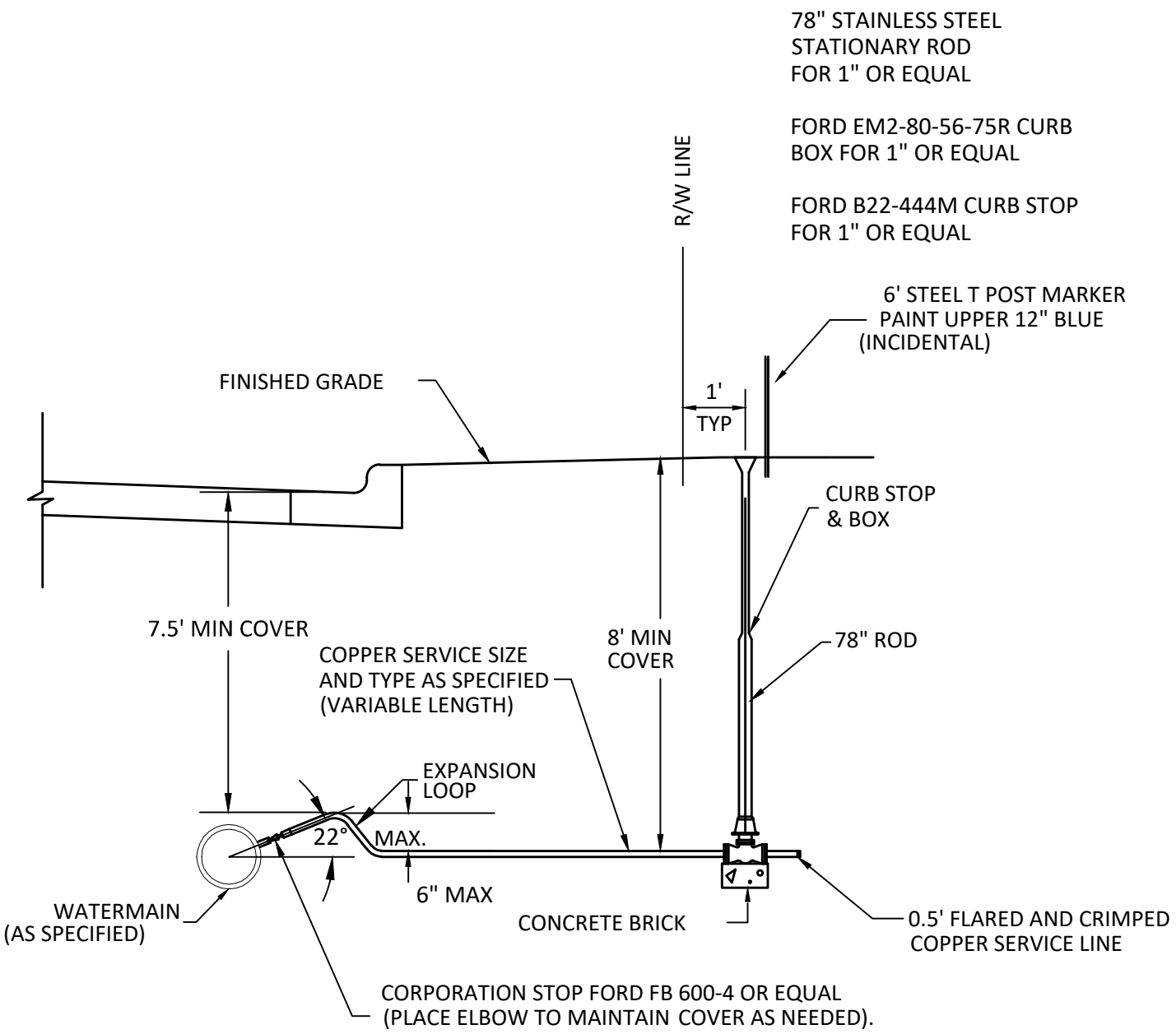


HYDRANTS LOCATED WHERE THE GROUNDWATER TABLE IS ABOVE THE DRAIN OUTLET SHALL HAVE THE OUTLET DRAIN PLUGGED AND SHALL BE EQUIPPED WITH A TAG STATING "PUMP AFTER USE." PUMPER NOZZLE SHALL BE PAINTED BLACK.

HYDRANT

NOT TO SCALE

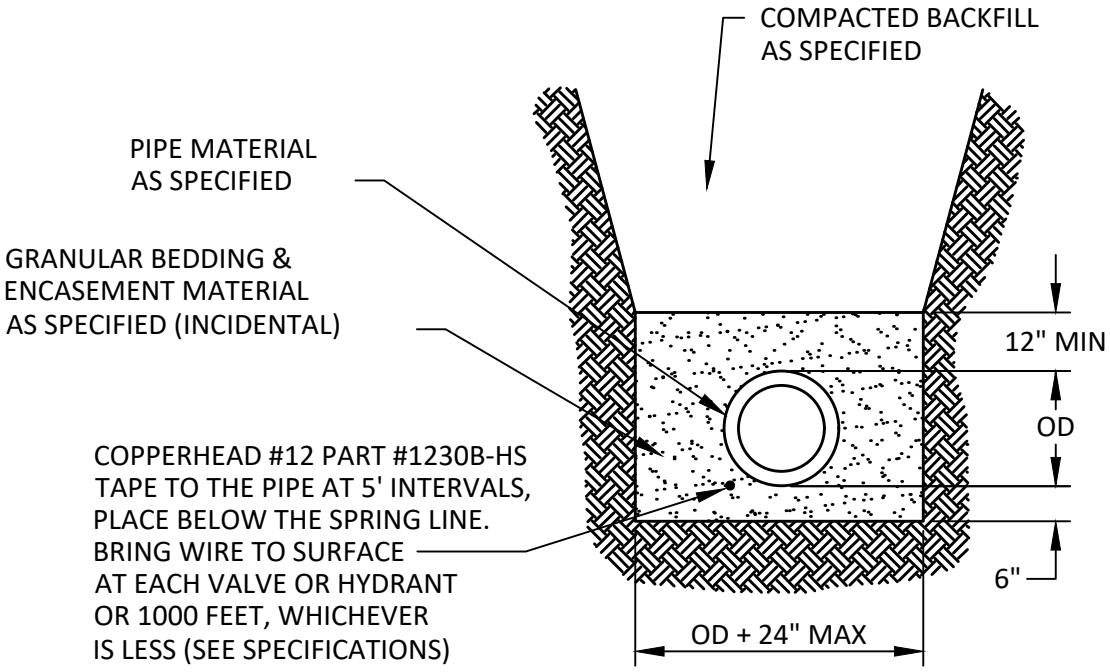
Albertville Small Town Living. Big City Life.	HYDRANT		DATE: 02/2020 STD. DETAIL 6-000



WATER SERVICE INSTALLATION

NOT TO SCALE

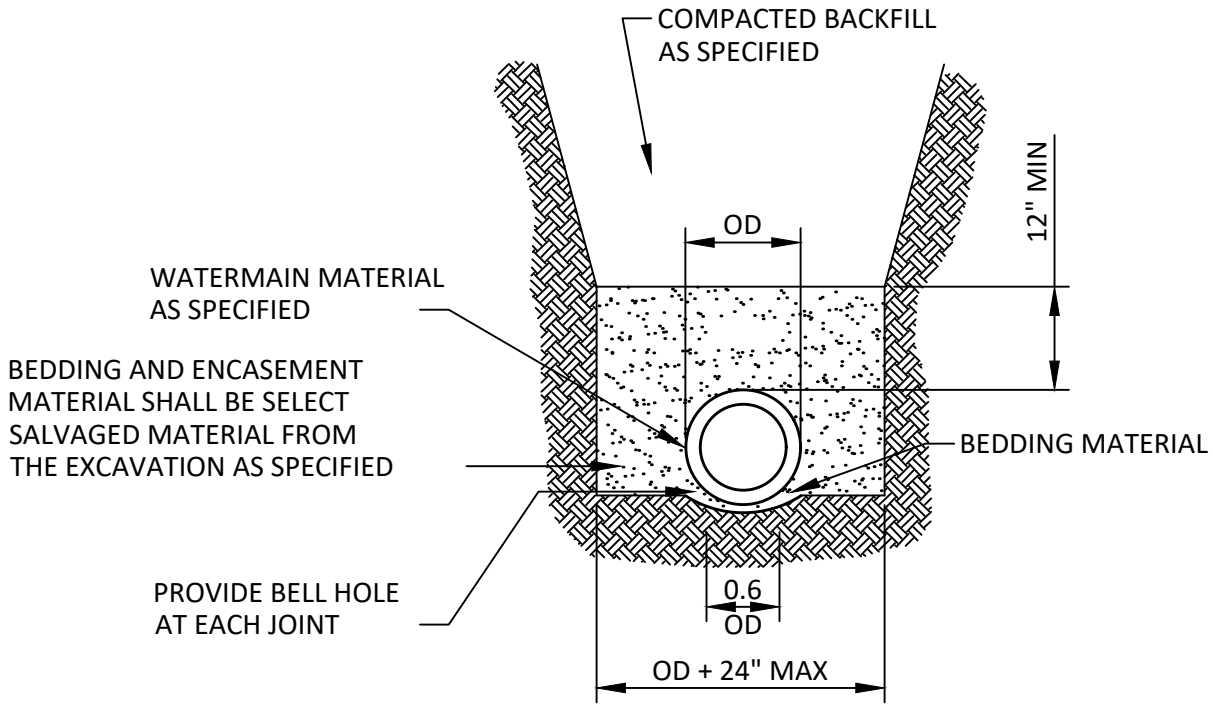
Albertville Small Town Living. Big City Life.	WATER SERVICE INSTALLATION		DATE: 02/2020 STD. DETAIL 6-101A



PVC WATERMAIN TRENCH

NOT TO SCALE

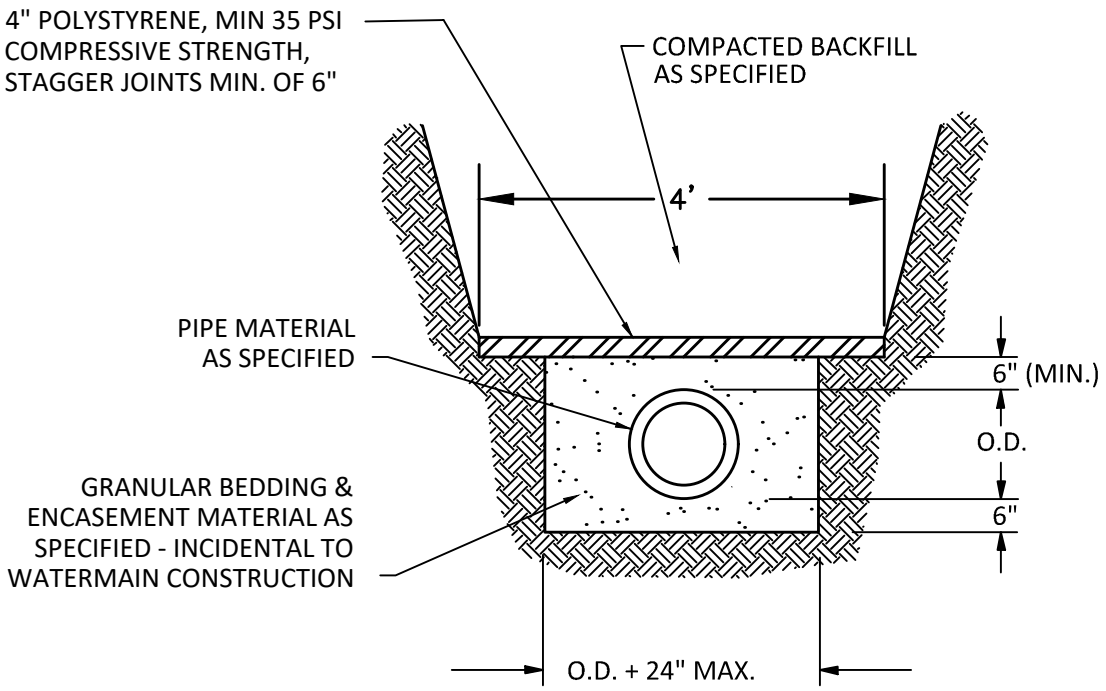
Albertville Small Town Living. Big City Life.	PVC WATERMAIN TRENCH		DATE: 02/2020 STD. DETAIL 6-200



DIP WATERMAIN TRENCH

NOT TO SCALE

Albertville Small Town Living. Big City Life.	DIP WATERMAIN TRENCH		DATE: 02/2020 STD. DETAIL 6-201



NOTE: IF WATER LINE HAS LESS THAN 7.5' OF COVER
INSULATION WIDTH SHALL INCREASE AS FOLLOWS:

DEPTH OF COVER	WIDTH OF INSULATION
7.4-6.5 FT.	4 FT.
6.5-4.0 FT.	6 FT.
3 FT.	8 FT.
2 FT.	10 FT.

WATERMAIN INSULATION

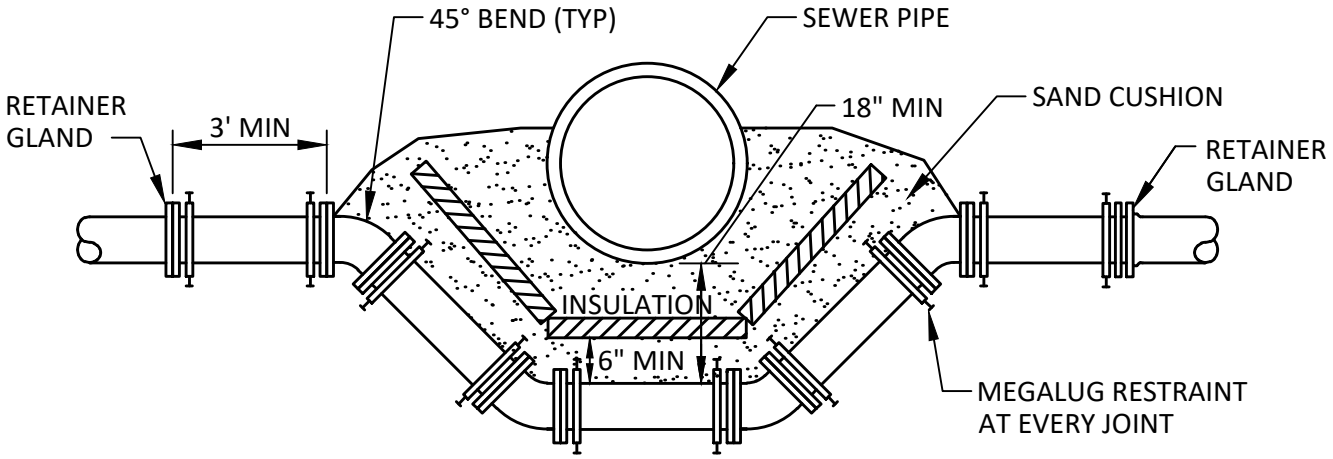
NOT TO SCALE

Albertville
Small Town Living. Big City Life.

WATERMAIN
INSULATION

DATE:
02/2020

STD. DETAIL
6-202



NOTES:

1. PROVIDE MEGALUG RESTRAINT AT JOINT ON BENDS AND AS SHOWN THIS DETAIL

2. COAT ALL ANCHORAGE AS PER SPECS

3. PROVIDE SAND CUSHION BETWEEN TOP OF WATERMAIN AND BOTTOM OF SEWER PIPE, MIN DIMENSIONS AS SHOWN THIS DETAIL (INCIDENTAL)

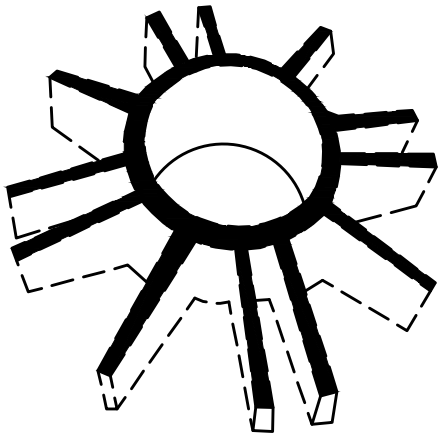
4. INSULATION TO BE 4" THICK POLYSTYRENE

5. IN AREAS OF GREATER LONGITUDINAL SPACE, THE WATERMAIN SHALL BE GRADUALLY LOWERED AND RAISED, USING NO BENDS, OVER A DISTANCE OF 200'.

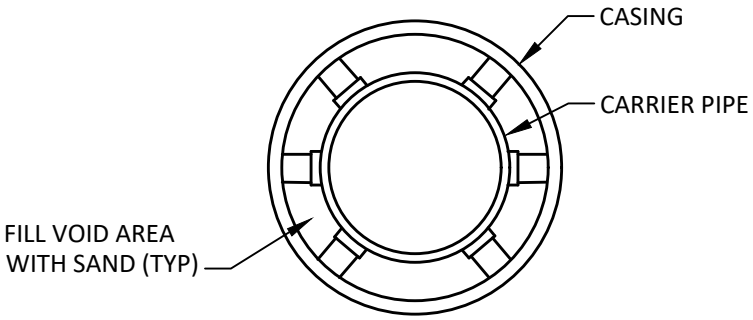
WATERMAIN OFFSET

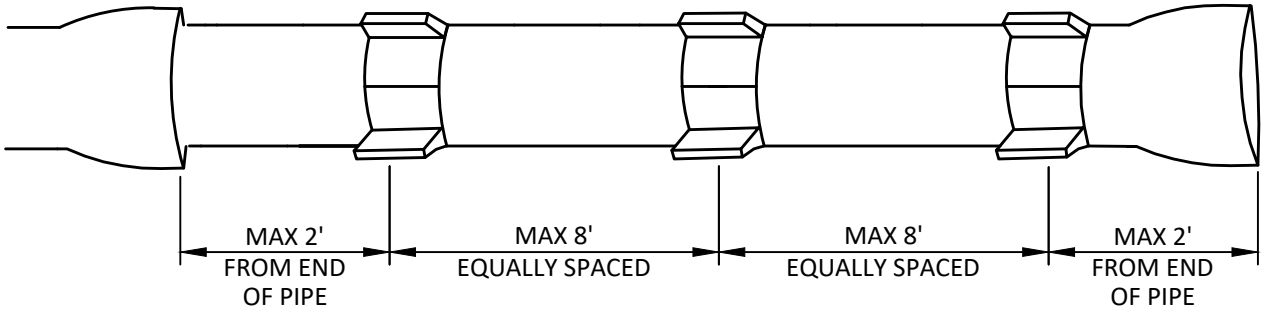
NOT TO SCALE

Albertville Small Town Living. Big City Life.	WATERMAIN OFFSET		DATE: 02/2020
			STD. DETAIL 6-203



PHOENIX PLASTIC CASING SPACER
OR APPROVED EQUAL

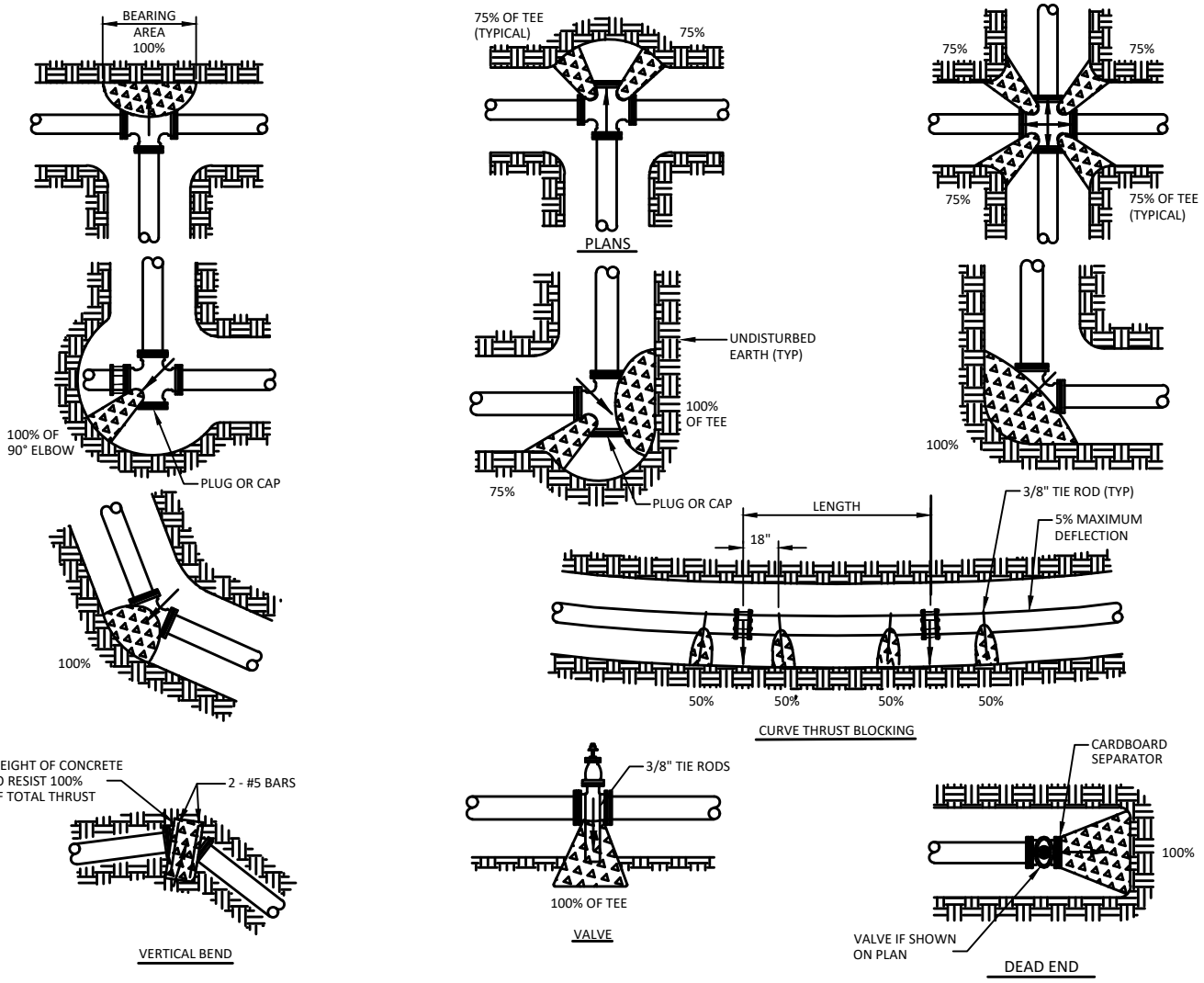




WATERMAIN PIPE SUPPORT IN CASING, PLASTIC SPACERS

NOT TO SCALE

Albertville Small Town Living. Big City Life.	WATERMAIN PIPE SUPPORT IN CASING PLASTIC SPACERS		DATE: 02/2020 STD. DETAIL 6-204



100% BEARING AREA (SQ FT)				
PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
4	2.4	3.4	1.9	0.9
6	4.9	6.9	3.8	1.9
8	8.4	11.8	6.4	3.4
10	13.7	19.3	10.5	5.4
12	19.4	27.3	14.9	7.7
14	26.3	37.0	20.1	10.3
16	34.0	47.9	26.2	13.3
18	43.9	61.8	33.7	17.2
20	54.3	76.4	41.7	21.2
24	77.9	109.8	59.8	30.5

NOTE:
BEARING AREAS ARE BASED ON 250 LB MAXIMUM PRESSURE AND SOIL BEARING STRENGTH OF 2000 LB/SQ FT.

ARROWS (⟝) INDICATE THRUST DIRECTION

NOTES:

1. FIGURE (100%) AT THRUST BLOCK INDICATES PER CENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA.
2. CONCRETE FOR THRUST BLOCKS TO BE 2000 PSI.
3. RESTRAINING RODS ARE REQUIRED AT ALL TEES AND AT BENDS DEFLECTING 22-1/2° OR MORE.
4. WRAP THE PIPE WITH POLYETHYLENE WRAPPING PRIOR TO POURING THE THRUST BLOCK.
5. SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL. IN ABSENCE OF A SOILS REPORT, AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 2000 PSI.
6. THRUST BLOCKS ARE NOT REQUIRED ON PVC WITH SOLVENT WELDED JOINTS.

SIDE THRUST PER 100 LB/SQ IN PRESSURE PER DEGREE OF DEFLECTION			
PIPE SIZE	SIDE THRUST-LB	PIPE SIZE	SIDE THRUST-LB
4	35	14	377
6	72	16	486
8	122	18	665
10	197	20	790
12	278	24	1150

MULTIPLY THRUST BY DEGREE OF DEFLECTION TO OBTAIN TOTAL THRUST

CONCRETE THRUST BLOCKS

NOT TO SCALE

Albertville
Small Town Living. Big City Life.

CONCRETE THRUST BLOCKS

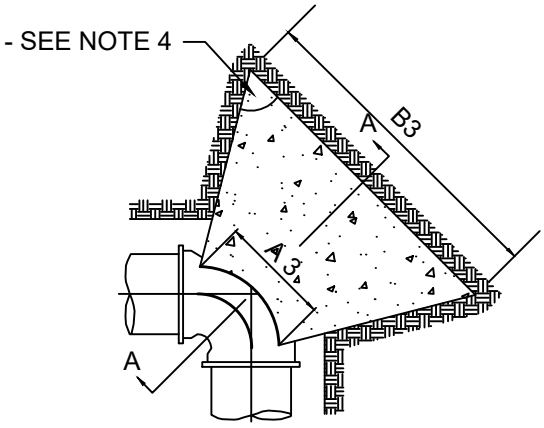
DATE: 02/2020

STD. DETAIL 6-205

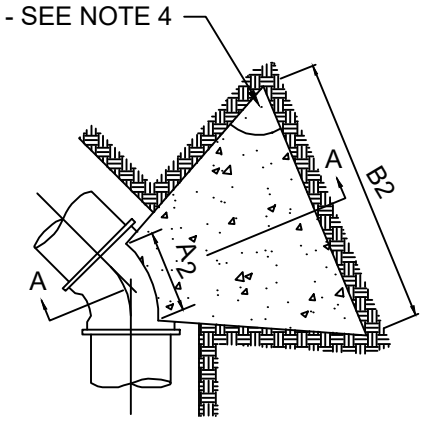
NOTES:

1. SHAPE OF BACK OF BUTTRESS MAY VERY AS LONG AS POURED AGAINST FIRM UNDISTURBED EARTH.
2. DIMENSION C1,C2,C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE EQUAL TO OR LARGER THAN 45°.
3. DIMENSION A1,A2,A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.
4. = 45° MINIMUM.
5. PLACE POLYETHYLENE BETWEEN CONCRETE & PIPE.

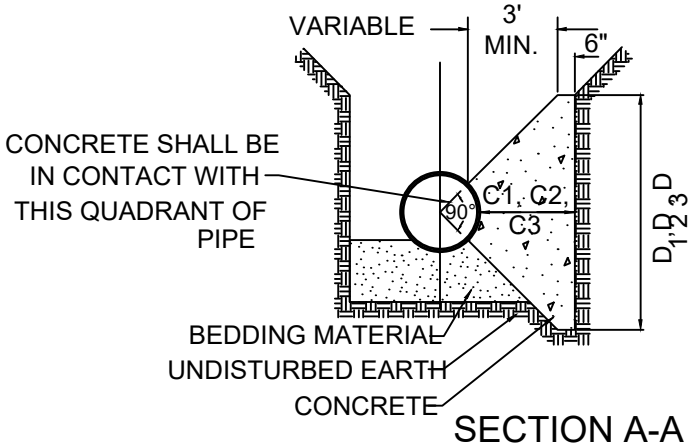
BUTTRESS DIMENSIONS						
PIPE SIZE	22 1/2° BEND		45° BEND		90° BEND	
	B1	D1	B 2	D2	B 3	D3
6"	1'-5"	1'-5"	1'-5"	1'-5"	2'-1"	1'-6"
8"	1'-5"	1'-5"	2'-1"	1'-6"	2'-8"	2'-0"
12"	1'-10"	1'-10"	3'-4"	2'-0"	4'-9"	2'-6"
16"	3'-0"	2'-0"	3'-10"	3'-0"	6'-2"	3'-6"
20"	3'-6"	2'-8"	5'-6'	3'-4"	8'-4"	4'-0"
24"	4'-4"	3'-0"	6'-10"	3'-10"	9'-8"	5'-0"
30"	-	-	9'-3"	6'-0"	17'-0"	6'-0"



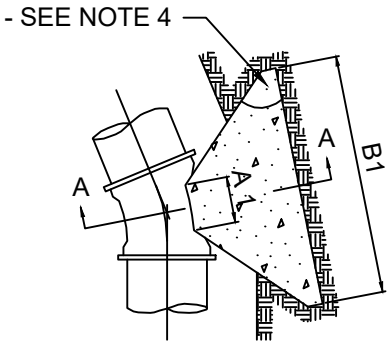
PLAN 90° BENDS



PLAN 45° BENDS



SECTION A-A



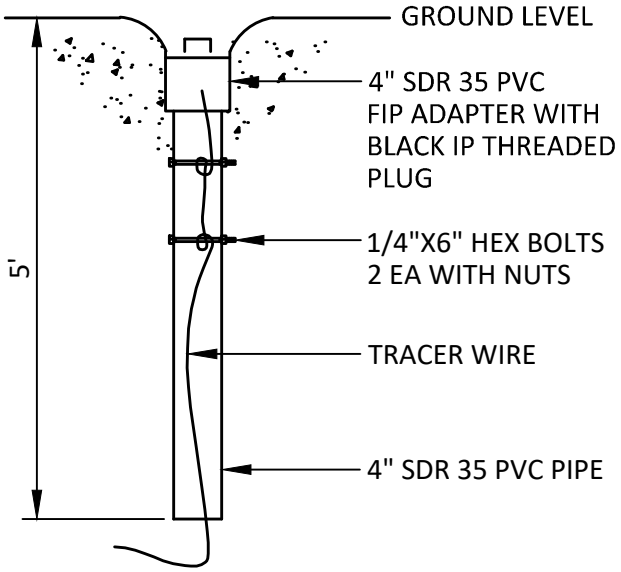
PLAN 22 1/2° BENDS

Albertville
Small Town Living. Big City Life.

CONCRETE THRUST BLOCKING

DATE: 02/2020

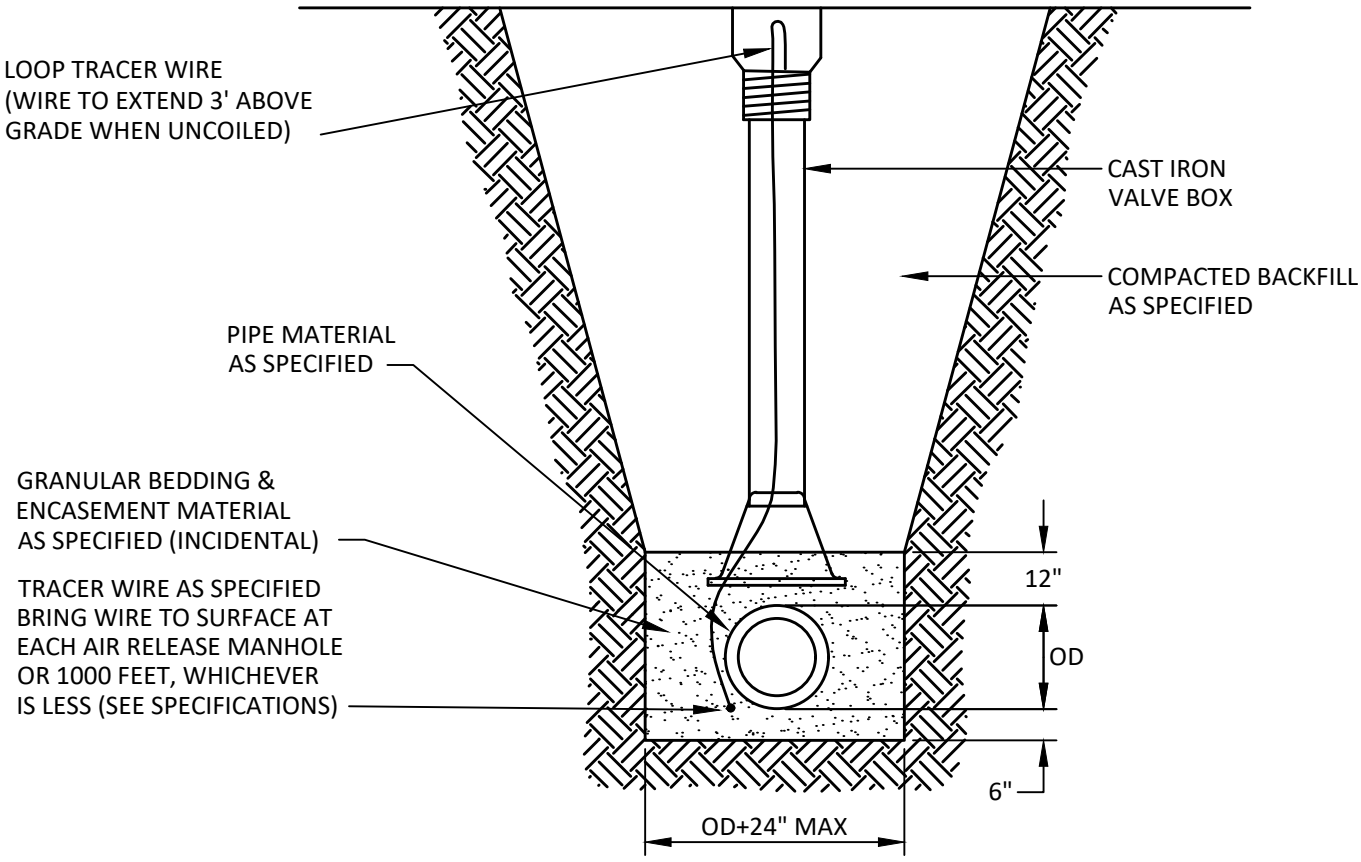
STD. DETAIL 6-206



TRACER WIRE PEDESTAL, PVC PIPE

NOT TO SCALE

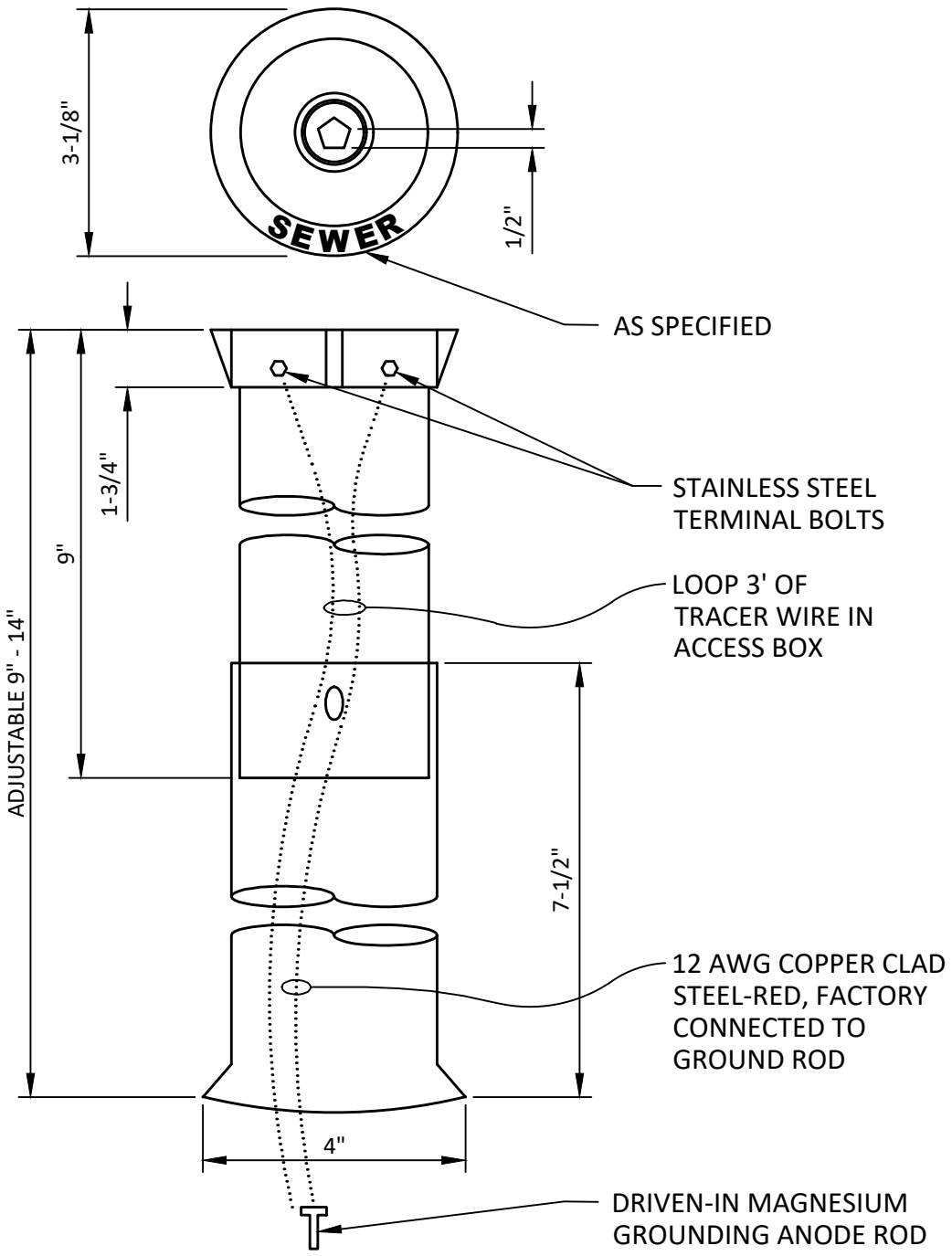
Albertville Small Town Living. Big City Life.	TRACER WIRE PEDESTAL PVC PIPE		DATE: 02/2020 STD. DETAIL 6-301



TRACER WIRE PEDESTAL VALVE BOX

NOT TO SCALE

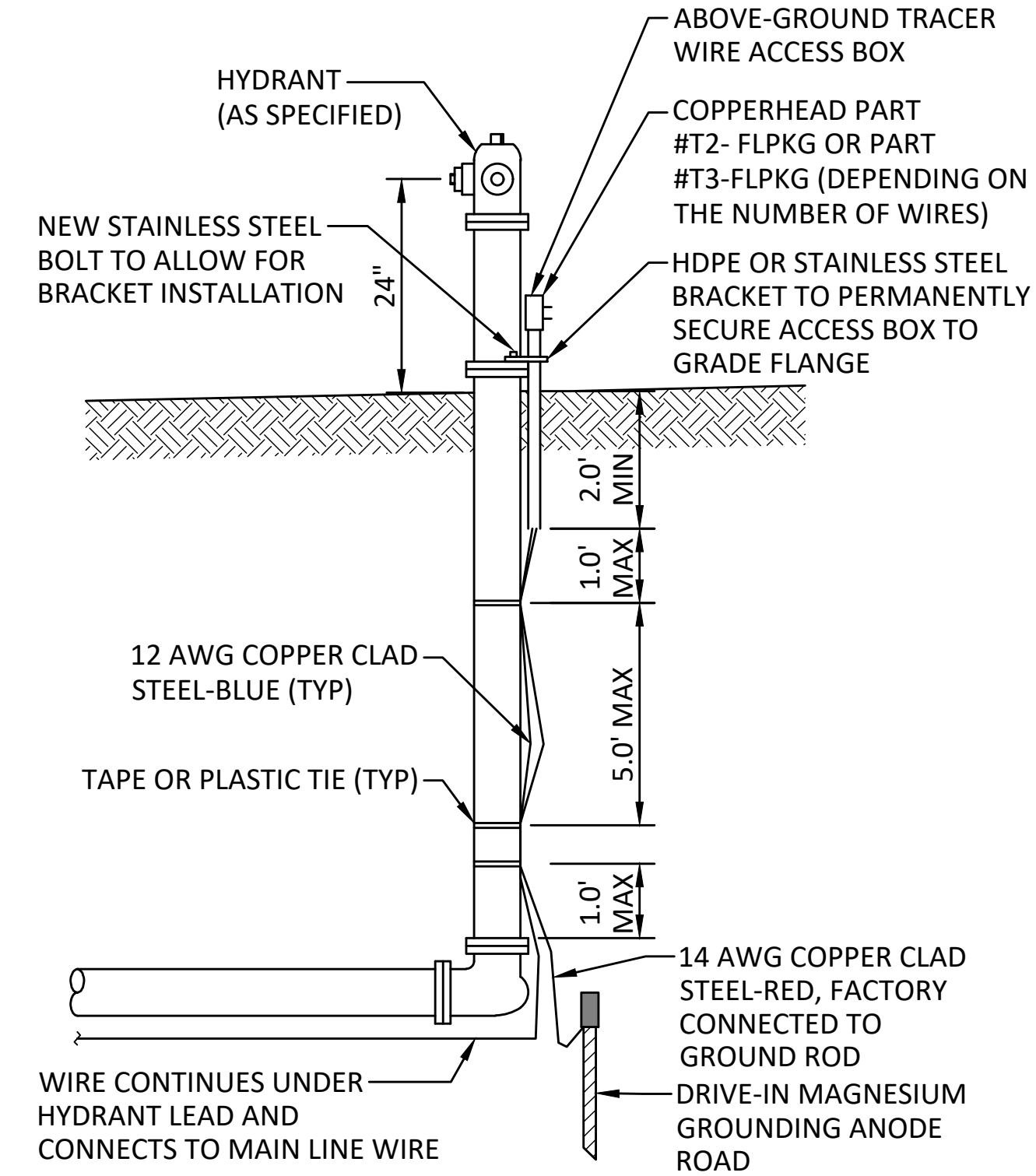
Albertville Small Town Living. Big City Life.	TRACER WIRE PEDESTAL VALVE BOX		DATE: 02/2020 STD. DETAIL 6-302



ADJUSTABLE
TRACER WIRE ACCESS BOX

NOT TO SCALE

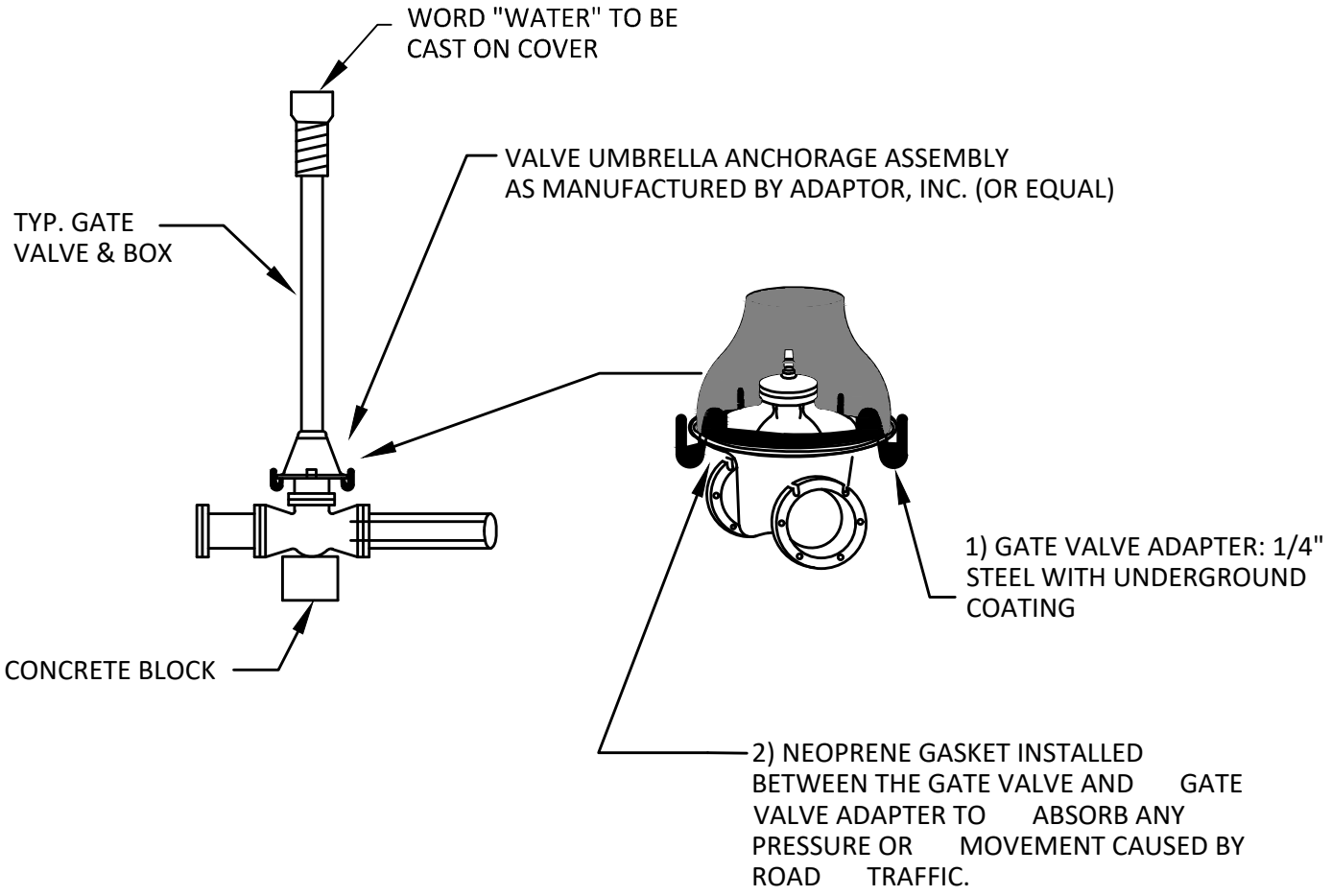
Albertville Small Town Living. Big City Life.	ADJUSTABLE TRACER WIRE ACCESS BOX		DATE: 02/2020 STD. DETAIL 6-303



TRACER WIRE ACCESS AT HYDRANT

NOT TO SCALE

Albertville Small Town Living. Big City Life.	TRACER WIRE ACCESS AT HYDRANT		DATE: 02/2020 STD. DETAIL 6-304



GATE VALVE ADAPTOR

NOT TO SCALE

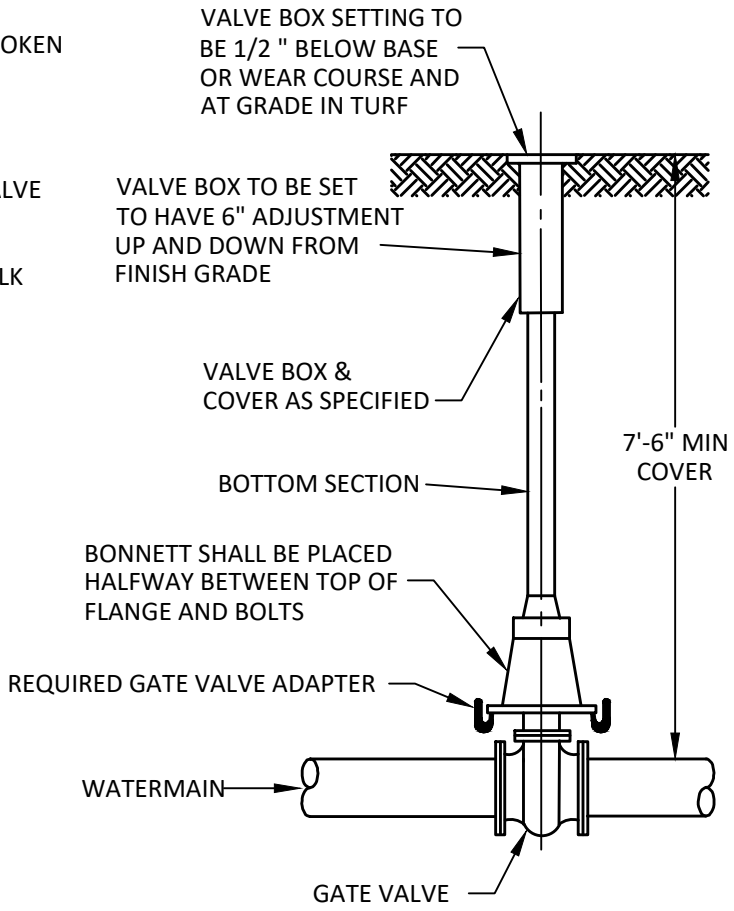
Albertville Small Town Living. Big City Life.	GATE VALVE ADAPTOR		DATE: 02/2020 STD. DETAIL 6-400

NOTES:

1. VALVE BOX SHALL BE CENTERED ON OPERATING NUTS, STRAIGHT, FREE FROM DEBRIS, AND ALL SECTIONS UNBROKEN
2. VALVES IN EASEMENTS SHALL HAVE CHANNEL POST WITNESS MARKERS WITH REFLECTIVE "GV" SIGN
3. DEEP VALVES SHALL HAVE NUT EXTENSIONS INSTALLED TO ELEVATION TO ACCOMMODATE STANDARD 10' KEY.
4. COMPACTION WITH MECHANICAL TAMPER AROUND VALVE BOX SHALL BE PLACED AND COMPACTED WITH 2' LIFTS TO ACHIEVE 95% COMPACTION
5. GATE VALVES LOCATED WITHIN THE CONCRETE SIDEWALK SHALL INCLUDE A METAL SEPARATOR BETWEEN THE VALVE BOX AND THE CONCRETE

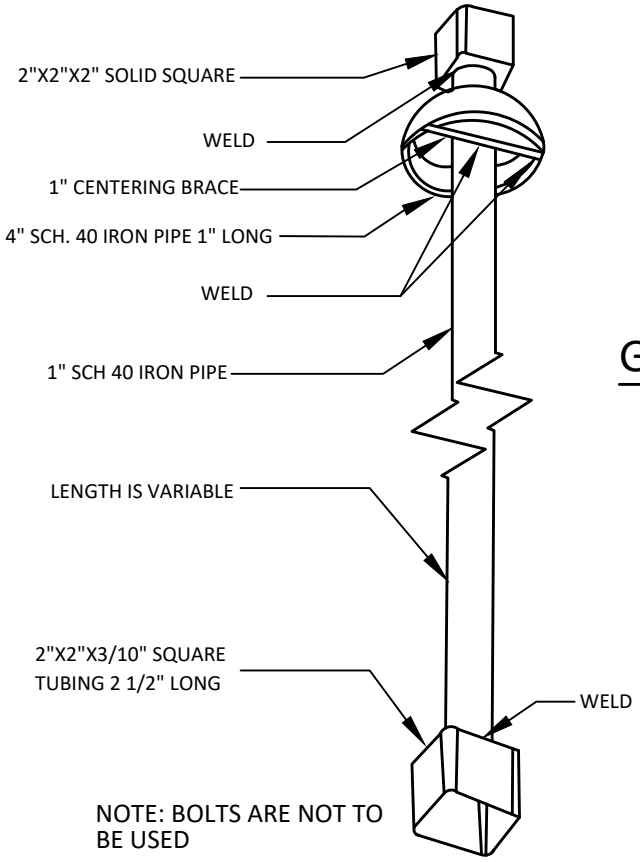
AMERICAN - 80 KENNEDY KEN-SEAL, CLOW 2832 RESILIENT SEAT VALVE OR EQUAL, CONFORMING TO AWWA C-515 STANDARDS

VALVES LARGER THAN 12" SHALL BE BUTTERFLY VALVES



GATE VALVE BOX INSTALLATION

NOT TO SCALE



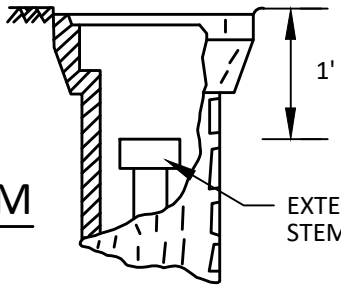
NOTE: BOLTS ARE NOT TO BE USED

AFTER FABRICATION, THE ENTIRE GATE VALVE EXTENSION STEM SHALL BE PAINTED WITH A SHOP APPLIED PRIMER AND EXTERIOR EPOXY PAINT

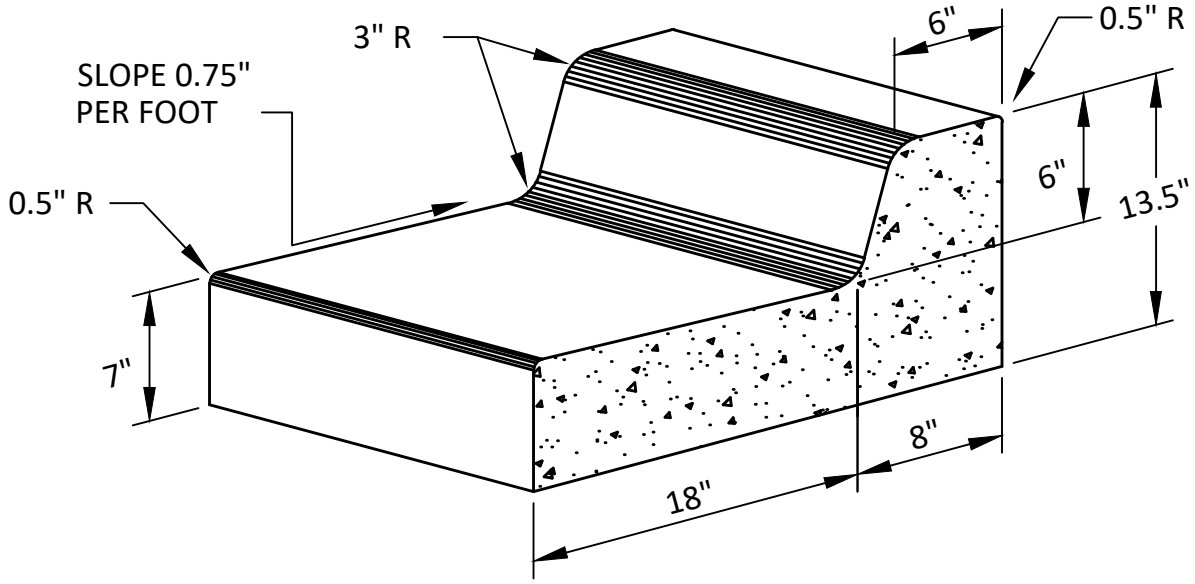
GATE VALVE EXTENSION STEM

NOT TO SCALE

GATE VALVE BOX

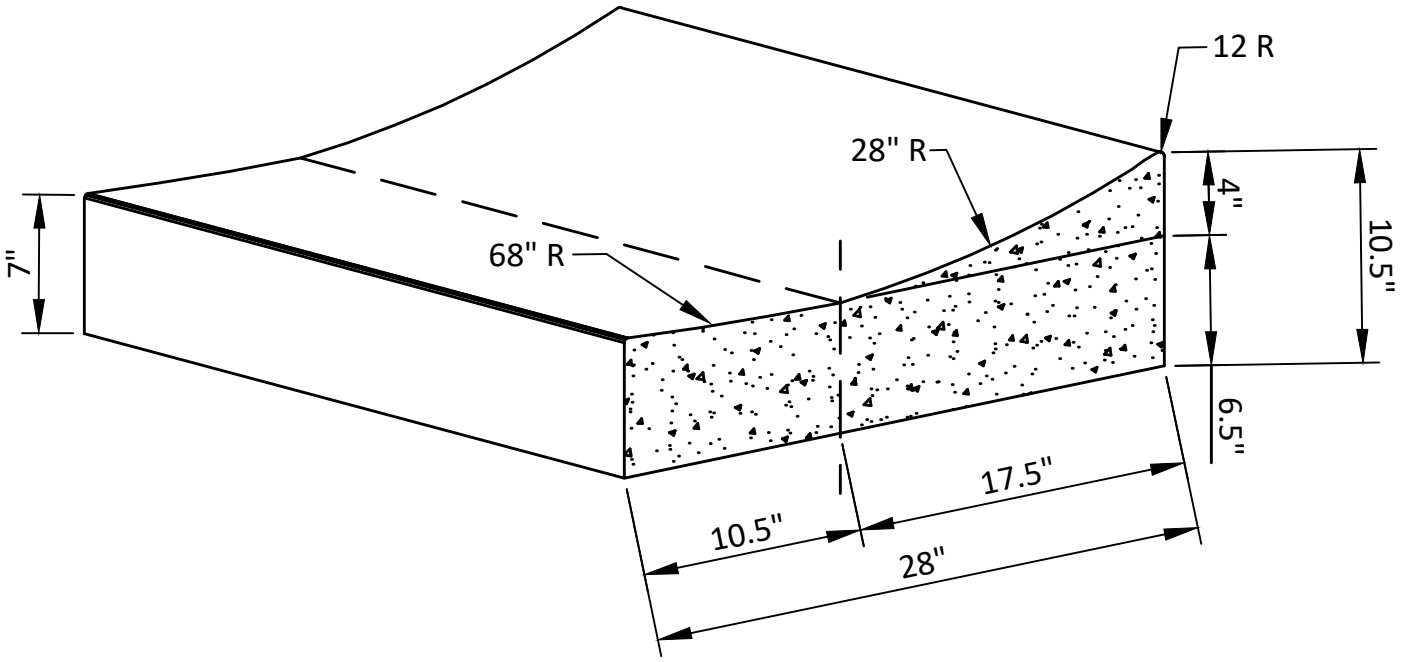


Albertville Small Town Living. Big City Life.	GATE VALVE INSTALLATION		DATE: 02/2020
			STD. DETAIL 6-402



CONCRETE CURB & GUTTER
DESIGN B618

NOT TO SCALE

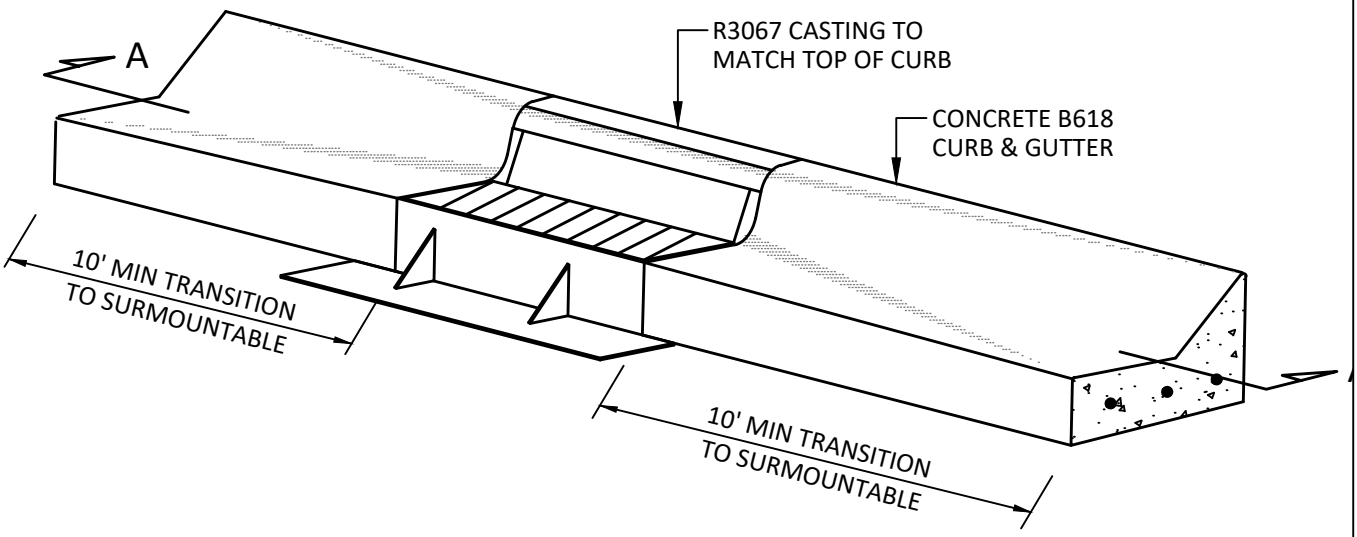


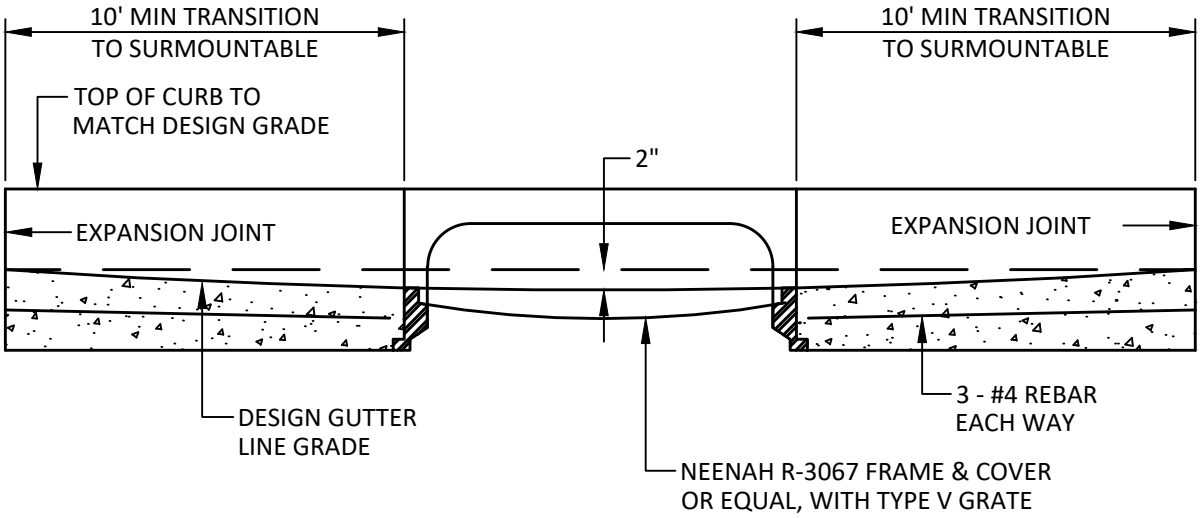
SURMOUNTABLE
CURB & GUTTER

NOT TO SCALE

Albertville Small Town Living. Big City Life.	CONCRETE CURB & GUTTER		DATE: 02/2020 STD. DETAIL 7-000

NOTE:
SURMOUNTABLE CURB & GUTTER TO BE FORMED INTO A B618 TYPE AT CATCHBASIN



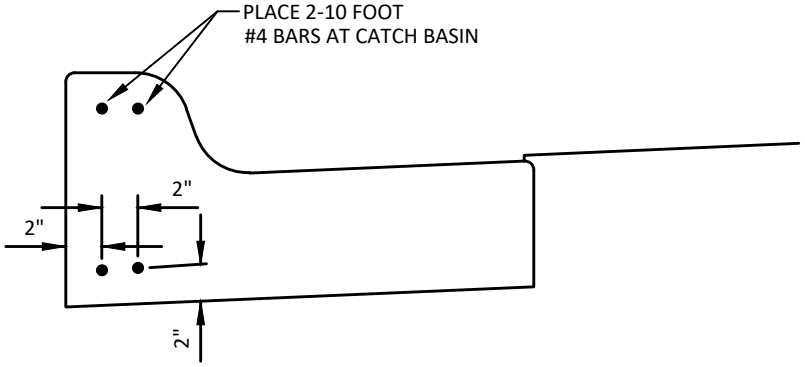


SECTION A-A

TRANSITION TO B618 CURB AT CATCHBASIN

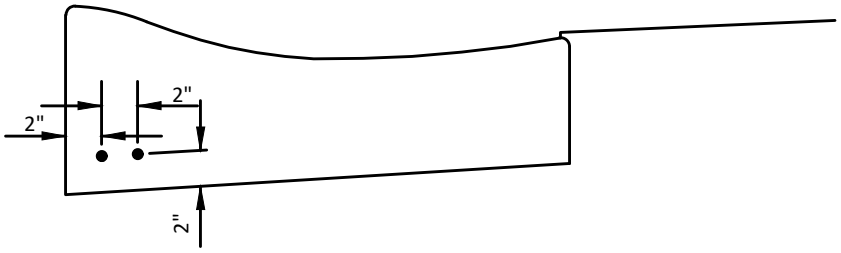
NOT TO SCALE

Albertville Small Town Living. Big City Life.	TRANSITION TO B618 CURB AT CATCHBASIN		DATE: 02/2020 STD. DETAIL 7-001



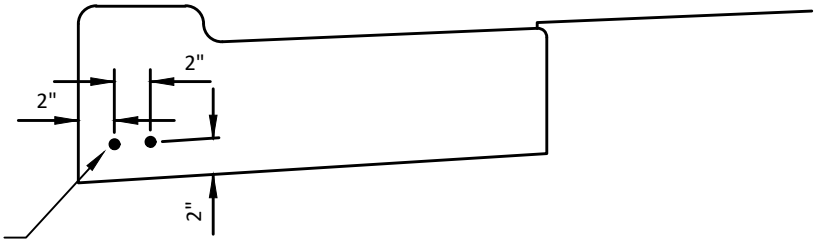
BXXX CONCRETE CURB & GUTTER

NOT TO SCALE



SURMOUNTABLE CONCRETE CURB & GUTTER

NOT TO SCALE



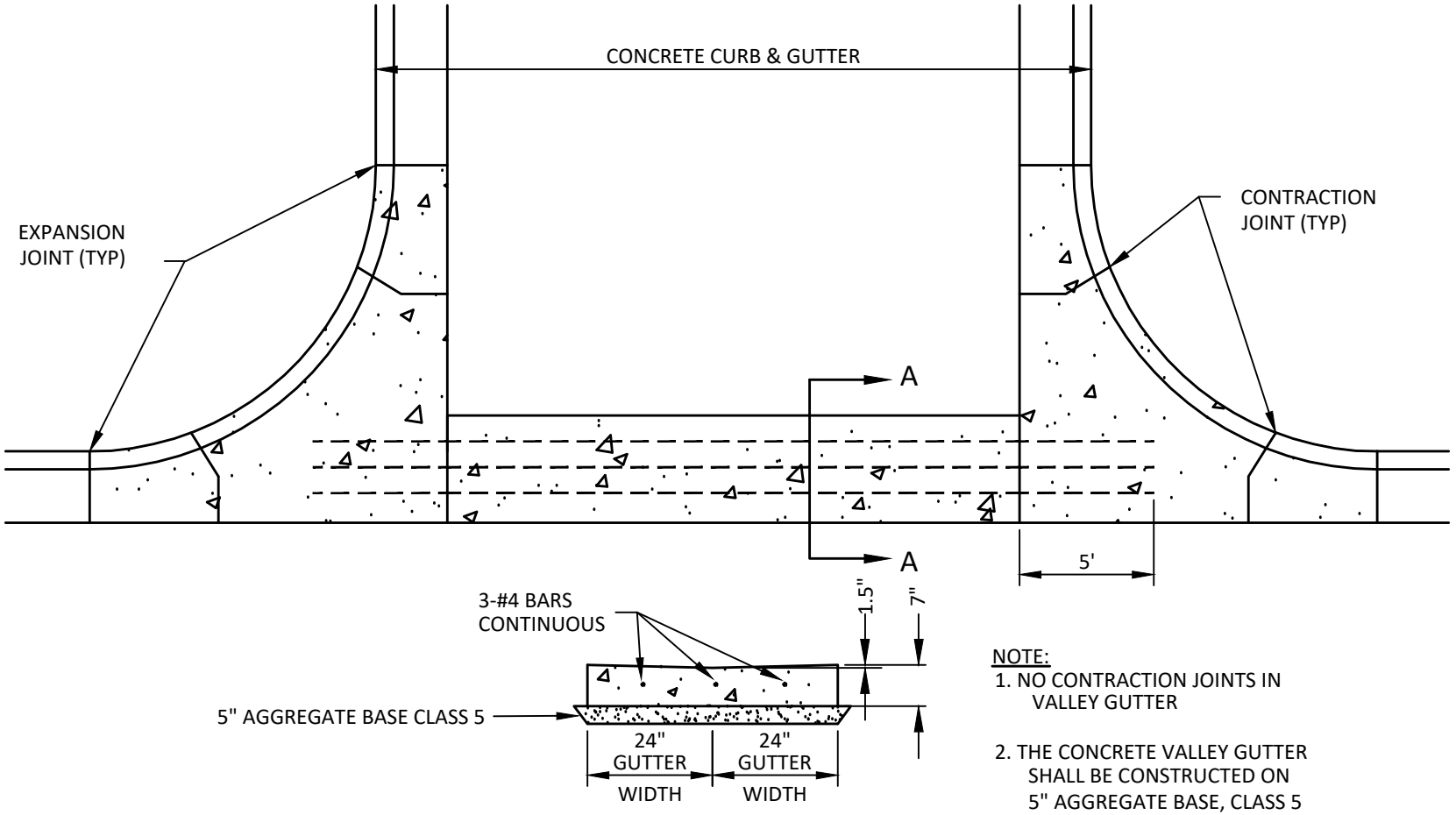
2-#4 BARS EXTENDED
TO 5' BEYOND
DRIVEWAY CURB CUT

NOTE:
PLACE 2 - 20 FOOT # 4 BARS IN
THE LOWER PORTION OF THE CURB
AT ALL SERVICE TRENCH LOCATIONS

CONCRETE DRIVEWAY SECTION

NOT TO SCALE

Albertville Small Town Living. Big City Life.	CONCRETE CURB REINFORCEMENT		DATE: 02/2020 STD. DETAIL 7-002



NOTE:
1. NO CONTRACTION JOINTS IN VALLEY GUTTER

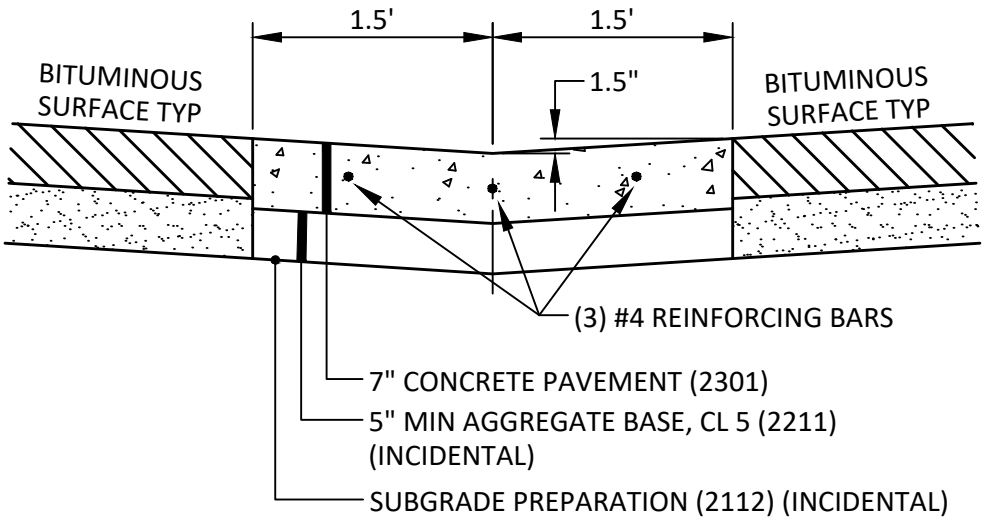
2. THE CONCRETE VALLEY GUTTER SHALL BE CONSTRUCTED ON 5" AGGREGATE BASE, CLASS 5

SECTION A

CONCRETE VALLEY GUTTER

NOT TO SCALE

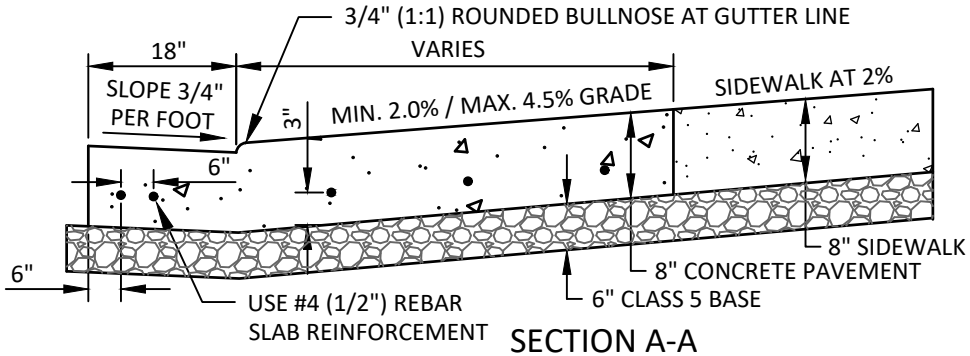
Albertville Small Town Living. Big City Life.	CONCRETE VALLEY GUTTER		DATE: 02/2020 STD. DETAIL 7-100



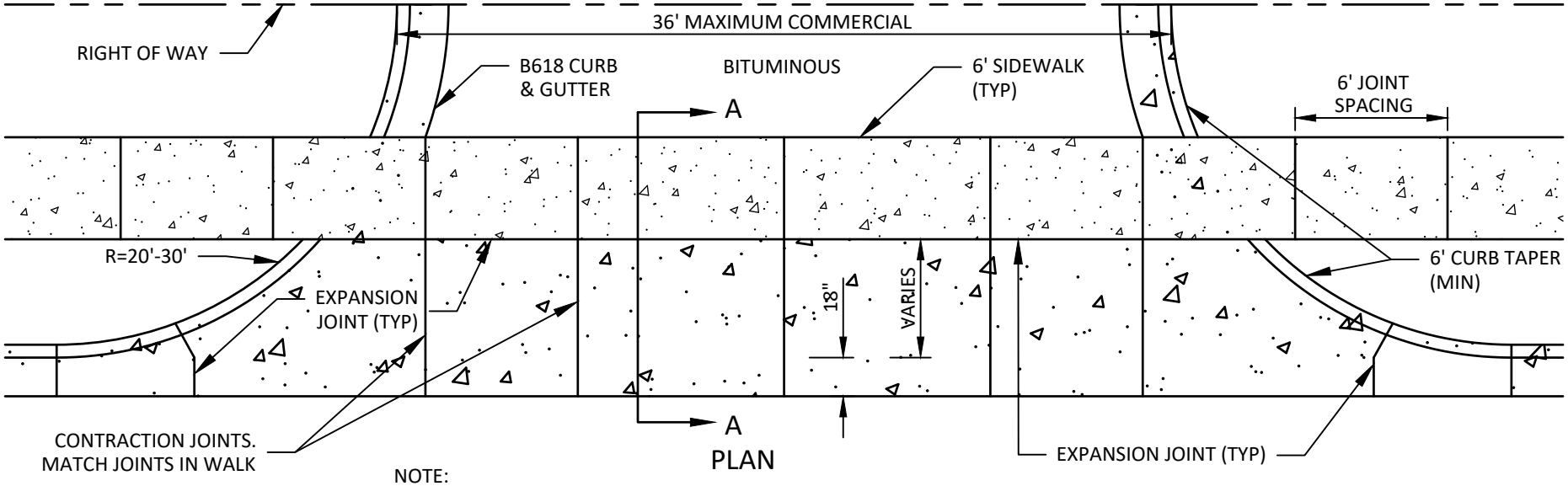
CONCRETE DRAINAGE PAN

NOT TO SCALE

Albertville Small Town Living. Big City Life.	CONCRETE DRAINAGE PAN		DATE: 02/2020 STD. DETAIL 7-101



SECTION A-A



PLAN

NOTE:

1. USE #4 (1/2") REBAR SLAB REINFORCEMENT IN R.O.W. PLACED @ 6" FROM EACH EDGE. REBAR TO BE 2' ON CENTER, BEING 6" ON CENTER IN THE GUTTER.
2. CONTRACTION JOINTS SHALL BE 1/3 THE DEPTH OF THE SLAB.
3. MAXIMUM PAVEMENT SLOPE ALLOWED WITHIN 30' OF THE STREET IS 4.5%.
4. AGGREGATE USED IN THE CONCRETE MIX SHALL BE GRANITE.
5. HIGHBACK CURB MUST BE POURED MONOLITHICALLY WITH DRIVEWAY, SURMOUNTABLE CURB MAY BE POURED SEPARATELY.

COMMERCIAL CONCRETE DRIVEWAY APRON

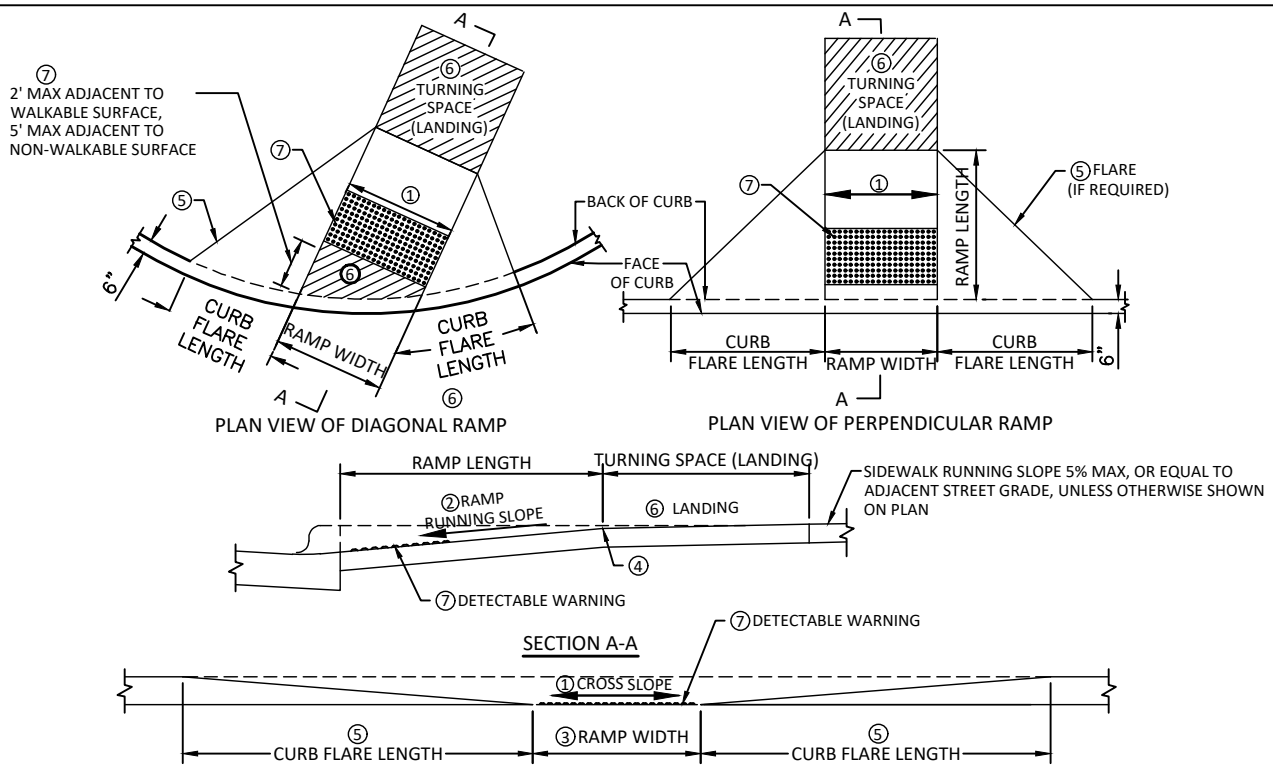
NOT TO SCALE

Albertville
Small Town Living. Big City Life.

COMMERCIAL CONCRETE DRIVEWAY APRON

DATE: 09/2021

STD. DETAIL 7-102



NOTES:

① CROSS SLOPE: THE MAXIMUM CROSS SLOPE IS 2.0% WITH A TARGET VALUE OF 1.5% EXCEPT FOR CROSSINGS THAT DO NOT HAVE FULL STOP OR YIELD CONTROL FOR VEHICULAR TRAFFIC THE CURB RAMP CROSS SLOPE MAY MATCH THE SLOPE OF THE CROSSING STREET.

② RUNNING SLOPE: CURB RAMPS SHALL HAVE A TARGET RUNNING SLOPE OF 5.0% AND A MAXIMUM SLOPE OF 8.3%.

③④ RAMP WIDTH: THE MINIMUM WIDTH OF A CURB RAMP IS 4 FEET EXCLUDING CURBS AND FLARES. IF THE SIDEWALK FACILITY IS WIDER THAN 4 FEET, THE TARGET VALUE FOR THE CURB RAMP IS EQUAL TO THE WIDTH OF THE SIDEWALK.

⑤ GRADE BREAKS: GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS MUST BE PERPENDICULAR TO THE DIRECTION OF THE CURB RAMP RUN. GRADE BREAKS ARE NOT ALLOWED ON THE SURFACE OF CURB RAMP RUNS AND TURNING SPACES.

⑥ FLARED SIDES: WHERE THE SURFACE ADJACENT TO THE SIDEWALK IS A HARD (I.E. WALKABLE) SURFACE, THE FLARES ALONG THE SIDES OF THE CURB RAMP SHALL BE CONSTRUCTED AT 10% OR FLATTER. WHERE THE SURFACE ADJACENT TO THE SIDEWALK IS UNPAVED (TURF OR OTHER), CONCRETE FLARES ARE NOT REQUIRED UNLESS SHOWN ON THE PLAN. IF CONCRETE FLARES ARE NOT REQUIRED, GRADED FLARES WITH A MAX SLOPE OF 1:6 MAY BE USED.

TURNING SPACE (LANDINGS):

A. PLACEMENT: A TURNING SPACE IS REQUIRED AT THE TOP OF PERPENDICULAR CURB RAMPS WHEN THE RAMP RUNNING SLOPE EXCEEDS 5%, AT THE TOP OF ALL RAMPS WHERE A CHANGE IN DIRECTION FOR USERS IS ANTICIPATED, AND AT THE BOTTOM OF PARALLEL (SIDEWALK PARALLELING BACK OF CURB) CURB RAMPS.

⑦ B. SLOPE: THE MAXIMUM SLOPE IN ANY DIRECTION IS 2.0% WITH A TARGET VALUE OF 1.5%. WHEN TURNING SPACES ARE AT THE BACK OF CURB, CROSS SLOPES MAY BE INCREASED TO MATCH ALLOWABLE VALUES IN THE PEDESTRIAN STREET CROSSING SECTION.

C. SIZE: THE TURNING SPACE SHALL BE A MINIMUM OF 4 FEET BY 4 FEET. WHERE THE TURNING SPACE IS ADJACENT TO A FIXED OBJECT OR CONSTRAINED ON ONE OR MORE SIDES, PROVIDE 5 FEET IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.

DETECTABLE WARNINGS:

A. THE DETECTABLE WARNING SHALL CONTRAST VISUALLY (LIGHT ON DARK OR DARK ON LIGHT) FROM THE SURROUNDING PAVED SURFACES.

B. LOCATION: DETECTABLE WARNINGS SHALL BE INSTALLED AT ALL PEDESTRIAN STREET CROSSINGS, PUBLIC PARKING LOT ACCESS POINTS, AT-GRADE RAIL CROSSINGS, AND COMMERCIAL/INDUSTRIAL DRIVEWAYS THAT HAVE YIELD CONTROL, STOP CONTROL, OR TRAFFIC SIGNALS. DETECTABLE WARNING SURFACES SHOULD ONLY BE PROVIDED AT CROSSINGS OF COMMERCIAL/INDUSTRIAL ENTRANCES NOT MEETING THE ABOVE CRITERIA WHEN SHOWN IN THE PLAN. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNING SHALL BE SETBACK 3" MIN. TO 6" MAX. FROM THE BACK OF CURB.

⑧ C. SIZE: DETECTABLE WARNING SURFACES SHALL EXTEND A MINIMUM OF 2 FEET IN THE DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR PEDESTRIAN ACCESS ROUTE.

⑨⑩ D. DOME ORIENTATION: ON CURB RAMPS, THE ROWS OF TRUNCATED DOMES SHOULD BE ALIGNED IN THE DIRECTION OF TRAVEL TOWARD THE CURB RAMP OPPOSITE THE STREET CROSSING ("DIRECTIONAL ALIGNMENT"). WHERE A DIRECTIONAL ALIGNMENT PRODUCES A GAP EQUAL TO OR GREATER THAN 2' OR 5' (SEE DETAIL ABOVE) BETWEEN THE TRUNCATED DOME AND THE NEAREST BACK OF CURB, THE DOMES SHALL BE ALIGNED ALONG THE BACK OF CURB AND RADIAL DOMES SHOULD BE CONSIDERED. DOMES MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL TRUNCATED DOMES.

E. PARALLEL CURB RAMPS: ON PARALLEL CURB RAMPS, DETECTABLE WARNING SHALL BE PLACED ON THE TURNING SPACE 3" FROM THE BACK OF CURB.

CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY OF THE ABOVE REQUIREMENTS CANNOT BE MET DUE TO SITE CONSTRAINTS.

REFER TO MnDOT PEDESTRIAN CURB RAMP DETAILS, STANDARD PLAN S-297.250 (5 SHEETS) FOR ADDITIONAL DETAILS AND RAMP OPTIONS

ALL PEDESTRIAN RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MNDOT STANDARD PLANS 5-297.250 (5 SHEETS) WITH LATEST REVISION. ANY VARIANCE FROM THE STANDARD PLANS AND THIS DETAIL SHALL BE RESOLVED IN FAVOR OF THE STANDARD PLAN

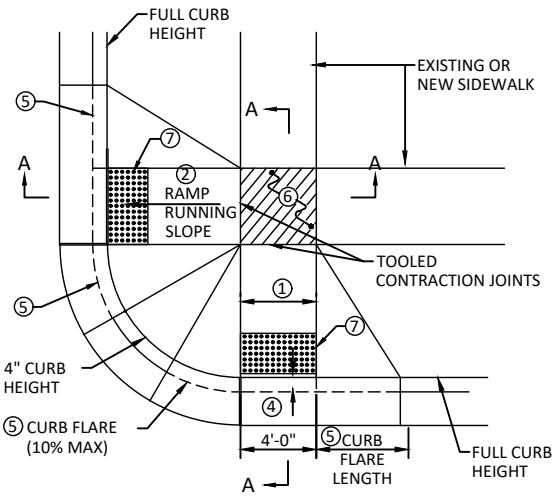
PED RAMP, WITH TRUNCATED DOMES, IN CURB RADIUS

Albertville
Small Town Living. Big City Life.

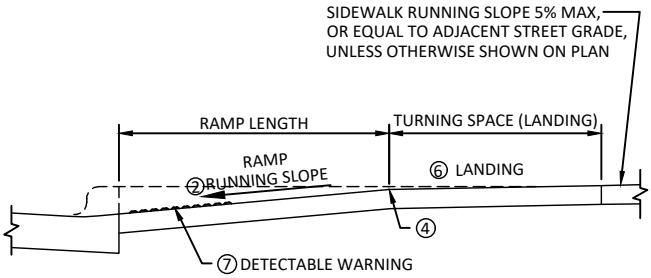
PED RAMP WITH TRUNCATED DOMES IN CURB RADIUS

DATE: 02/2020

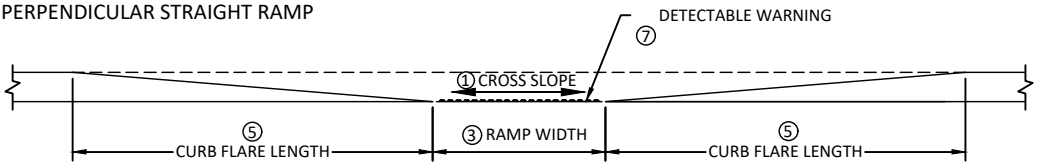
STD. DETAIL 7-201



PLAN VIEW OF PERPENDICULAR STRAIGHT RAMP



SECTION A-A



ELEVATION OF RAMP

NOTES:

① CROSS SLOPE:

THE MAXIMUM CROSS SLOPE IS 2.0% WITH A TARGET VALUE OF 1.5% EXCEPT FOR CROSSINGS THAT DO NOT HAVE FULL STOP OR YIELD CONTROL FOR VEHICULAR TRAFFIC THE CURB RAMP CROSS SLOPE MAY MATCH THE SLOPE OF THE CROSSING STREET.

② RUNNING SLOPE:

CURB RAMPS SHALL HAVE A TARGET RUNNING SLOPE OF 5.0% AND A MAXIMUM SLOPE OF 8.3%.

③ RAMP WIDTH:

THE MINIMUM WIDTH OF A CURB RAMP IS 4 FEET EXCLUDING CURBS AND FLARES. IF THE SIDEWALK FACILITY IS WIDER THAN 4 FEET, THE TARGET VALUE FOR THE CURB RAMP IS EQUAL TO THE WIDTH OF THE SIDEWALK.

④ GRADE BREAKS:

GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS MUST BE PERPENDICULAR TO THE DIRECTION OF THE CURB RAMP RUN. GRADE BREAKS ARE NOT ALLOWED ON THE SURFACE OF CURB RAMP RUNS AND TURNING SPACES.

⑤ FLARED SIDES:

WHERE THE SURFACE ADJACENT TO THE SIDEWALK IS A HARD (I.E. WALKABLE) SURFACE, THE FLARES ALONG THE SIDES OF THE CURB RAMP SHALL BE CONSTRUCTED AT 10% OR FLATTER. WHERE THE SURFACE ADJACENT TO THE SIDEWALK IS UNPAVED (TURF OR OTHER), CONCRETE FLARES ARE NOT REQUIRED UNLESS SHOWN ON THE PLAN. IF CONCRETE FLARES ARE NOT REQUIRED, GRADED FLARES

⑥ WITH A MAX SLOPE OF 1:6 MAY BE USED.

TURNING SPACE (LANDINGS):

A. PLACEMENT: A TURNING SPACE IS REQUIRED AT THE TOP OF PERPENDICULAR CURB RAMPS WHEN THE RAMP RUNNING SLOPE EXCEEDS 5%, AT THE TOP OF ALL RAMPS WHERE A CHANGE IN DIRECTION FOR USERS IS ANTICIPATED, AND AT THE BOTTOM OF PARALLEL (SIDEWALK PARALLELING BACK OF CURB) CURB RAMPS.

B. SLOPE: THE MAXIMUM SLOPE IN ANY DIRECTION IS 2.0% WITH A TARGET VALUE OF 1.5%. WHEN TURNING SPACES ARE AT THE BACK OF CURB, CROSS SLOPES MAY BE INCREASED TO MATCH ALLOWABLE VALUES IN THE PEDESTRIAN STREET CROSSING SECTION.

⑦

C. SIZE: THE TURNING SPACE SHALL BE A MINIMUM OF 4 FEET BY 4 FEET. WHERE THE TURNING SPACE IS ADJACENT TO A FIXED OBJECT OR CONSTRAINED ON ONE OR MORE SIDES, PROVIDE 5 FEET IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.

DETECTABLE WARNINGS:

A. THE DETECTABLE WARNING SHALL CONTRAST VISUALLY (LIGHT ON DARK OR DARK ON LIGHT) FROM THE SURROUNDING PAVED SURFACES.

B. LOCATION: DETECTABLE WARNINGS SHALL BE INSTALLED AT ALL PEDESTRIAN STREET CROSSINGS, PUBLIC PARKING LOT ACCESS POINTS, AT-GRADE RAIL CROSSINGS, AND COMMERCIAL/INDUSTRIAL DRIVEWAYS THAT HAVE YIELD CONTROL, STOP CONTROL, OR TRAFFIC SIGNALS. DETECTABLE WARNING SURFACES SHOULD ONLY BE PROVIDED AT CROSSINGS OF COMMERCIAL/INDUSTRIAL ENTRANCES NOT MEETING THE ABOVE CRITERIA WHEN SHOWN IN THE PLAN. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNING SHALL BE SETBACK 3" MIN. TO 6" MAX. FROM THE BACK OF CURB.

C. SIZE: DETECTABLE WARNING SURFACES SHALL EXTEND A MINIMUM OF 2 FEET IN THE DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR PEDESTRIAN ACCESS ROUTE.

⑧ D. DOME ORIENTATION: ON CURB RAMPS, THE ROWS OF TRUNCATED DOMES SHOULD BE ALIGNED IN THE DIRECTION OF TRAVEL TOWARD THE CURB RAMP OPPOSITE THE STREET
⑨ CROSSING ("DIRECTIONAL ALIGNMENT"). WHERE A DIRECTIONAL ALIGNMENT PRODUCES A GAP EQUAL TO OR GREATER THAN 2' OR 5' (SEE DETAIL ABOVE) BETWEEN THE TRUNCATED DOME AND THE
⑩ NEAREST BACK OF CURB, THE DOMES SHALL BE ALIGNED ALONG THE BACK OF CURB AND RADIAL DOMES SHOULD BE CONSIDERED. DOMES MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL TRUNCATED DOMES.

CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY OF THE ABOVE REQUIREMENTS CANNOT BE MET DUE TO SITE CONSTRAINTS.

REFER TO MnDOT PEDESTRIAN CURB RAMP DETAILS, STANDARD PLAN S-297.250 (5 SHEETS) FOR ADDITIONAL DETAILS AND RAMP OPTIONS

ALL PEDESTRIAN RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MNDOT STANDARD PLANS 5-297.250 (5 SHEETS) WITH LATEST REVISION. ANY VARIANCE FROM THE STANDARD PLANS AND THIS DETAIL SHALL BE RESOLVED IN FAVOR OF THE STANDARD PLANS

NOT TO SCALE

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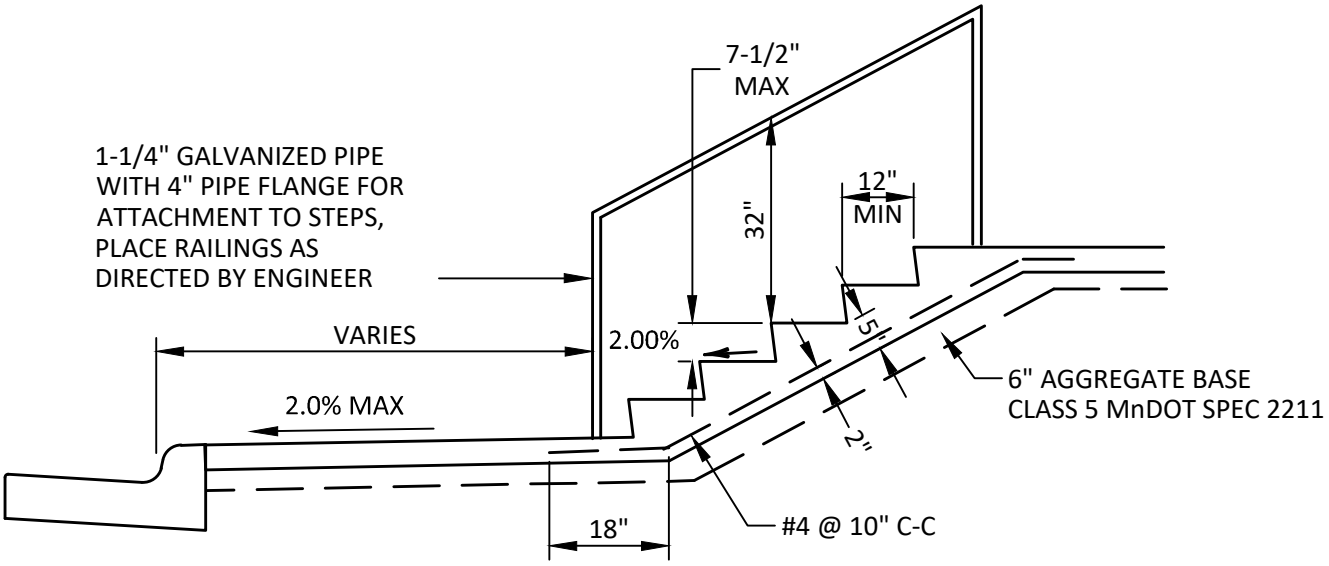
PED RAMP WITH TRUNCATED DOMES IN STRAIGHT CURB SECTIONS

DATE: 02/2020

STD. DETAIL 7-202

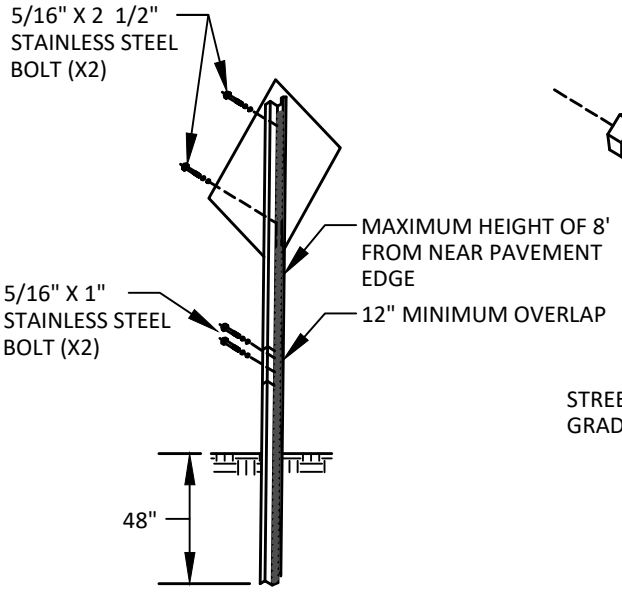


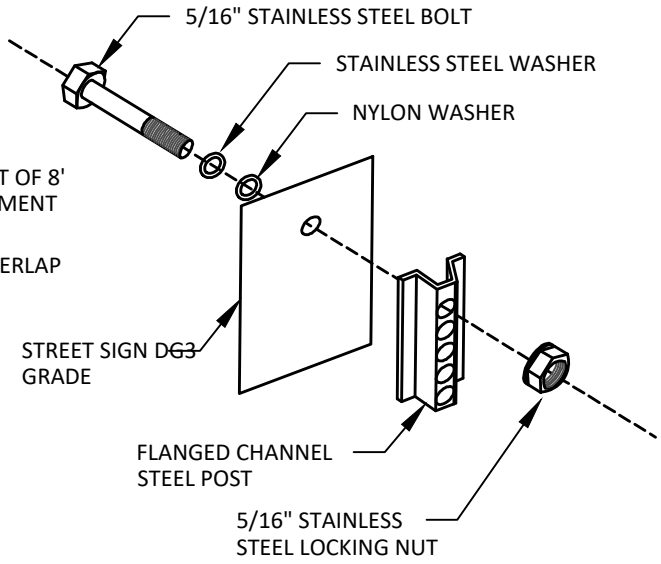
NOTE:
WIDTH TO MATCH EXISTING OR 4' MIN

CONCRETE STEPS

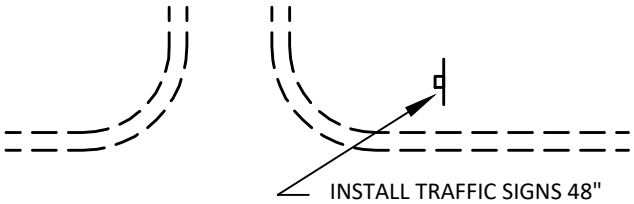
NOT TO SCALE

Albertville Small Town Living. Big City Life.	CONCRETE STEPS		DATE: 02/2020 STD. DETAIL 7-204





- 3M DIAMOND GRADE DG3 REFLECTIVE SHEETING.
- UPPER SIGN POST SHALL BE A 7' 2 LBS/FT GALVANIZED WHEN THE SIGN BEING INSTALLED IS 30" STOP SIGN OR SMALLER TRAFFIC SIGN.
- UPPER SIGN POST SHALL BE A 8' 2 LBS/FT GALVANIZED WHEN THE SIGN BEING INSTALLED IS 30" W-SERIES DIAMOND OR LARGER TRAFFIC SIGN.
- SIGN INSTALLED IN CONCRETE SHALL HAVE AN APPROVED BREAK-AWAY DEVICE. THIS DEVICE CAN BE PICK UP OR DELIVERED BY PUBLIC WORKS. CONTACT PUBLIC WORKS SIGN SHOP FOR DETAILS.
- WHEN TRAFFIC SIGNS ARE INSTALLED BETWEEN A SIDEWALK AND THE BACK OF CURB SPLIT THE DISTANCE.
- KEEP ALL TRAFFIC SIGNS 4' AWAY IN ALL DIRECTIONS FROM PEDESTRIAN RAMPS.

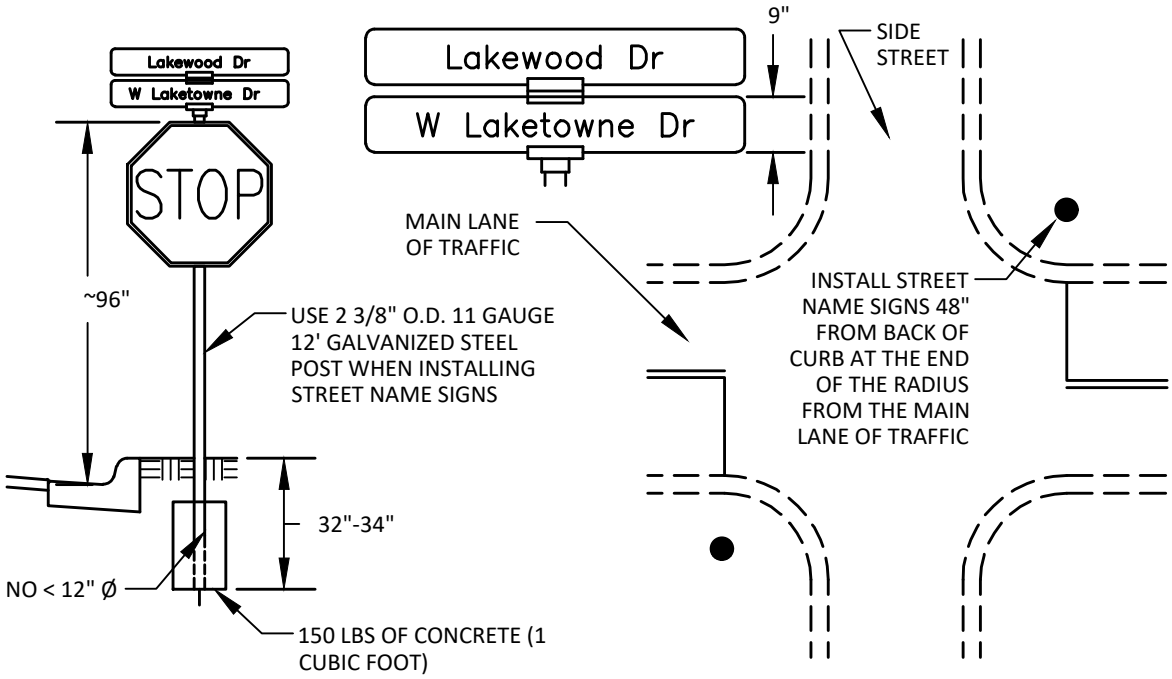


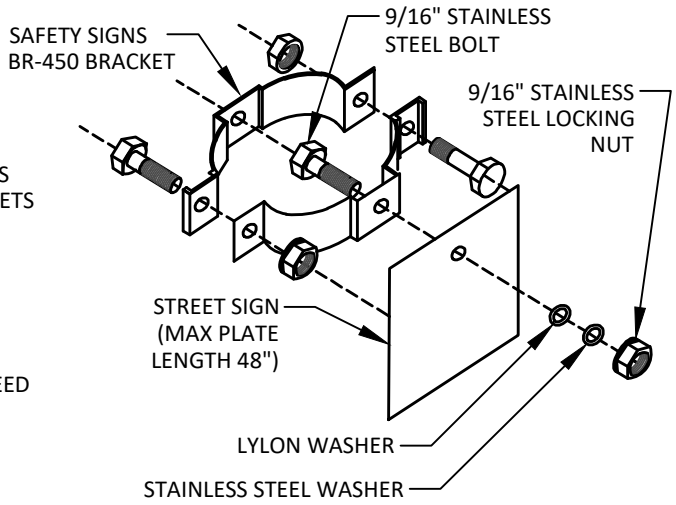
48" FROM BACK OF CURB TO CENTER OF POST OR 33" FROM BACK OF CURB TO NEAR EDGE OF SIGN WHICHEVER IS GREATER. THIS DISTANCE CAN BE LESS IN THE CASE OF A SIDEWALK RUNNING PARALLEL TO THE ROAD. IN THIS CASE THE SIGN POST SHOULD BE INSTALLED MIDWAY BETWEEN SIDEWALK EDGE AND BACK OF CURB .

NOTES:

- ALL REGULATORY AND STREET SIGNS MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. TEMPORARY SIGNAGE MAY BE REQUIRED AND IS CONSIDERED INCIDENTAL.
- ALL IN-PLACE SIGNS NOT SHOWN IN PLANS SHALL BE MAINTAINED IN-PLACE THROUGHOUT CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- LOCATION OF ALL PROPOSED SIGNS ARE APPROXIMATE AND SHALL BE LOCATED BY THE ENGINEER IN THE FIELD PRIOR TO INSTALLATION.
- SIGN PANELS-REFLECTIVE SHEETING WILL BE DG3 MATERIAL.
- ALL TYPE C SIGN PANELS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE SIGN, SIGN POST, MOUNTING HARDWARE, SIGN AND LABOR FOR THE INSTALLATION OF ALL TYPE C SIGNS.
- A SIGN PLAN SHOWING SIGN COLORS, SIZES AND LETTERING MUST BE SUBMITTED TO THE CITY OF ALBERTVILLE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO SIGN INSTALLATION.

Albertville Small Town Living. Big City Life.	TRAFFIC SIGN INSTALLATION		DATE: 02/2020 STD. DETAIL 8-100



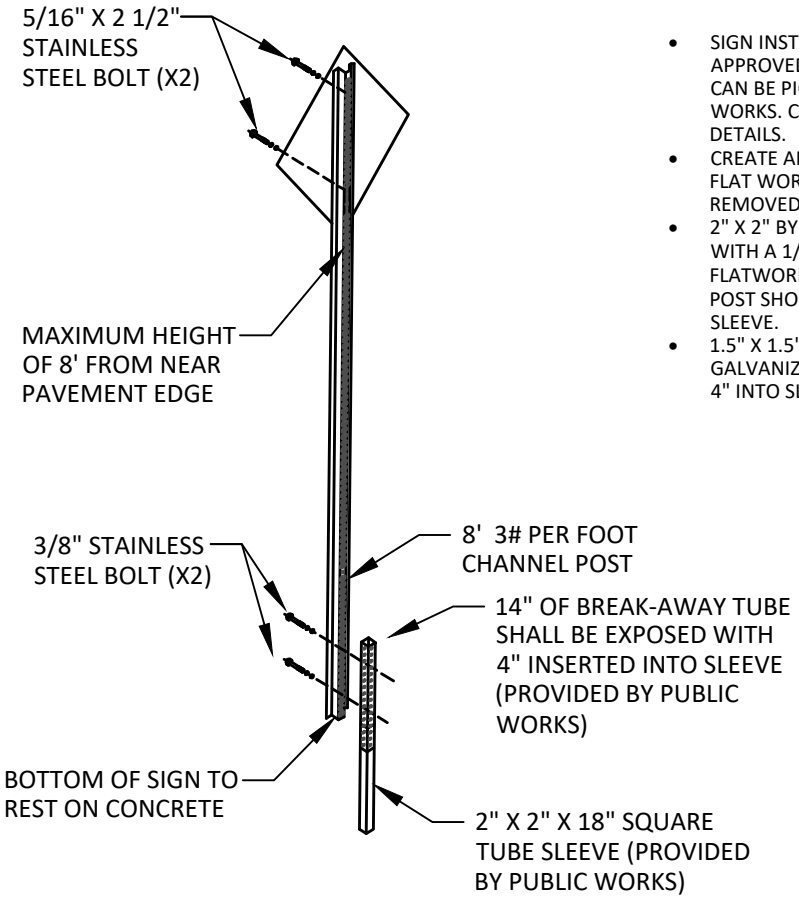


- BLADE SPECIFICATION -
- 9xL, S/F, DG3/080, WG, E450, E450, 63SP, UL
- LETTER SIZE - 6" UPPER CASE, 4" LOWER CASE
- 3M DIAMOND GRADE DG3 REFLECTIVE SHEETING
- WHITE ON MNDOT GREEN BACKGROUND FOR PUBLIC STREETS
- WHITE ON MNDOT BROWN BACKGROUND FOR PRIVATE STREETS
- STREET NAMES SHALL BE SPELLED COMPLETELY EXCEPT FOR SUFFIXES (Ave, La, Ct, Cir, Pkwy, St, Pl, Dr) WHICH MAY BE ABBREVIATED ON LONGER STREET NAMES
- FIRST LETTER OF EACH WORD TO BE "CAPITAL" LETTERS; REMAINING LETTERS OF EACH WORD TO BE LOWER CASE
- MAXIMUM OF 2 STREET NAME BLADES PER POLE. IF MORE STREET NAME BLADES ARE REQUIRED, CONTRACTOR WILL NEED TO INSTALL ANOTHER POLE ON OPPOSITE CORNER.
- ALWAYS INSTALL THE CROSS STREET NAME BLADE ON THE BOTTOM

NOTES:

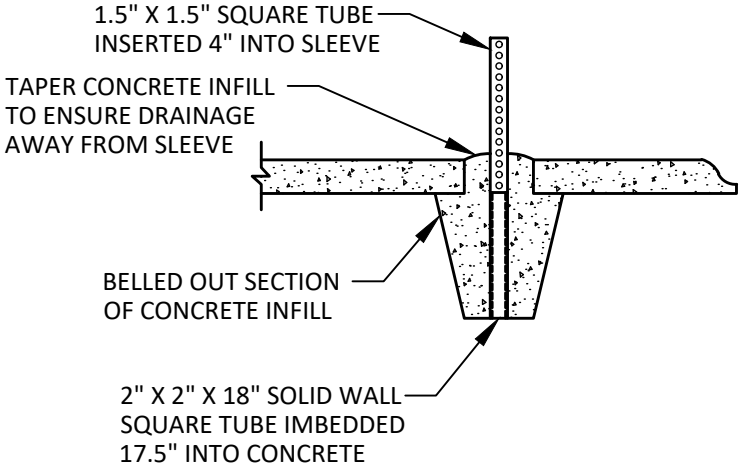
- ALL REGULATORY AND STREET SIGNS MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. TEMPORARY SIGNAGE MAY BE REQUIRED AND IS CONSIDERED INCIDENTAL.
- ALL IN-PLACE SIGNS NOT SHOWN IN PLANS SHALL BE MAINTAINED IN-PLACE THROUGHOUT CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- LOCATION OF ALL PROPOSED SIGNS ARE APPROXIMATE AND SHALL BE LOCATED BY THE ENGINEER IN THE FIELD PRIOR TO INSTALLATION.
- SIGN PANELS-REFLECTIVE SHEETING WILL BE DG3 MATERIAL.
- ALL TYPE C SIGN PANELS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE SIGN, SIGN POST, MOUNTING HARDWARE, SIGN AND LABOR FOR THE INSTALLATION OF ALL TYPE C SIGNS.
- WHEN CONTRACTOR IS INSTALLING TYPE C SIGNS THEY MUST USE A BR-450 DOUBLE-SIDED SIGN BRACKET FROM SAFETY SIGNS (OR APPROVED EQUAL)
- A SIGN PLAN SHOWING SIGN COLORS, SIZES AND LETTERING MUST BE SUBMITTED TO THE CITY OF ALBERTVILLE ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO SIGN INSTALLATION.

Albertville Small Town Living. Big City Life.	STREET NAME BLADE INSTALLATION W/ TRAFFIC SIGN		DATE: 02/2020 STD. DETAIL 8-101



- SIGN INSTALLED IN CONCRETE SHALL HAVE AN APPROVED BREAK-AWAY DEVICE. THIS DEVICE CAN BE PICKED UP OR DELIVERED BY PUBLIC WORKS. CONTACT PUBLIC WORKS SIGN SHOP FOR DETAILS.
- CREATE AN OVERSIZE CONCRETE WEDGE UNDER FLAT WORK TO PREVENT SLEEVE FROM BEING REMOVED.
- 2" X 2" BY 18" LONG SLEEVE SHALL BE INSTALLED WITH A 1/2" LIP PROTRUDING FROM TOP OF FLATWORK. CONCRETE FINISHING WORK FOR POST SHOULD PROMOTE DRAINAGE AWAY FROM SLEEVE.
- 1.5" X 1.5" BY 18" 12 GA. PRE-PUNCHED GALVANIZED SQUARE TUBE SHOULD BE INSERTED 4" INTO SLEEVE TO ENSURE PROPER BREAK-AWAY.

BREAK-AWAY/SLEEVE DETAIL



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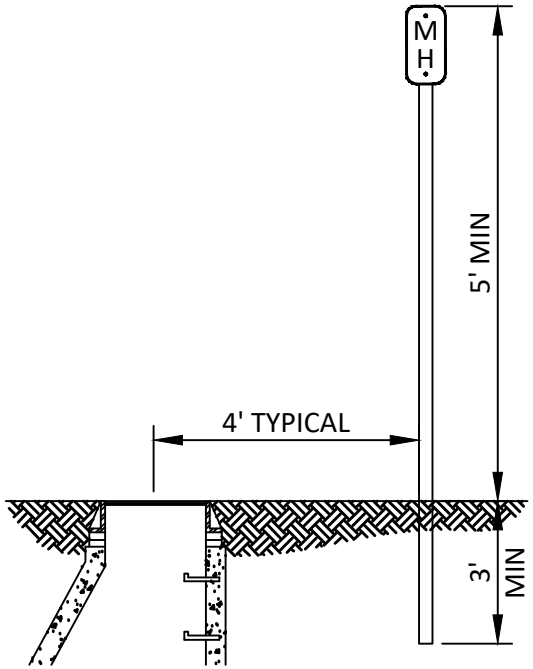
SIGN POST BREAK-AWAY ASSEMBLY

DATE: 02/2020

STD. DETAIL 8-102



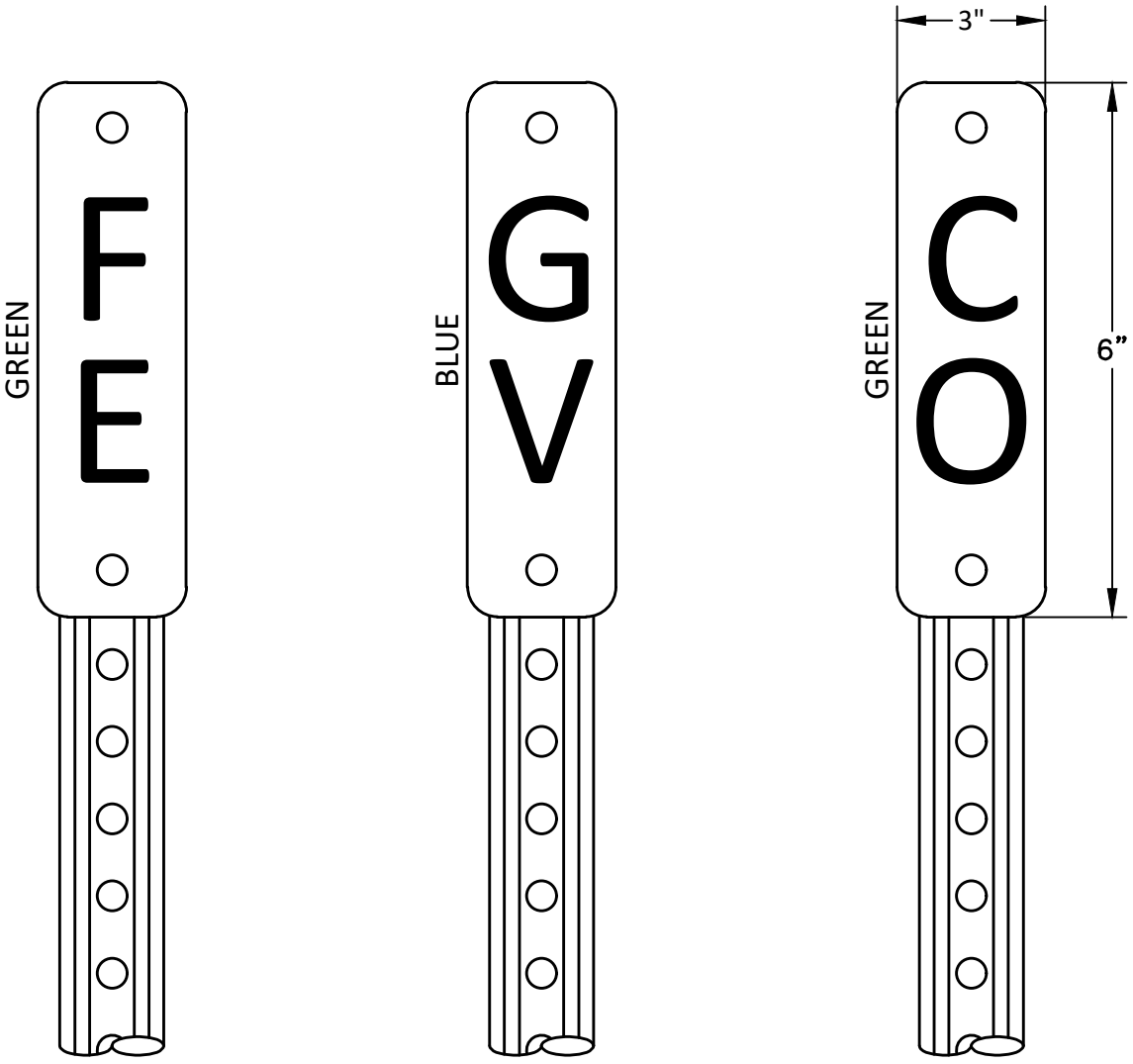
NOTES:

1. SIGNS TO BE A MIN OF 3"X6".
2. WHITE ON GREEN HIGH INTENSITY REFLECTORIZED BACK GROUND.
3. U-CHANNEL POST. MINIMUM 3LB/FT PAINTED GREEN.
4. WORDING SHALL BE:
   M
   H
5. SIGNS SHALL BE POSTED AT ALL MANHOLES IN UNIMPROVED AREAS OR AS SHOWN ON THE STRUCTURE SCHEDULE.

MANHOLE MARKER SIGN

NOT TO SCALE

Albertville Small Town Living. Big City Life.	MANHOLE MARKER SIGN		DATE: 02/2020 STD. DETAIL 8-110



NOTES:

1. 0.063" THICK ALUMINUM SIGN. WHITE LETTERS ON VIP GRADE REFLECTORIZED BACKGROUND SHEETING.

2. U-CHANNEL POST, MINIMUM 3 LB/FT 6'-6" LONG, PAINTED GREEN. 2' BURY.

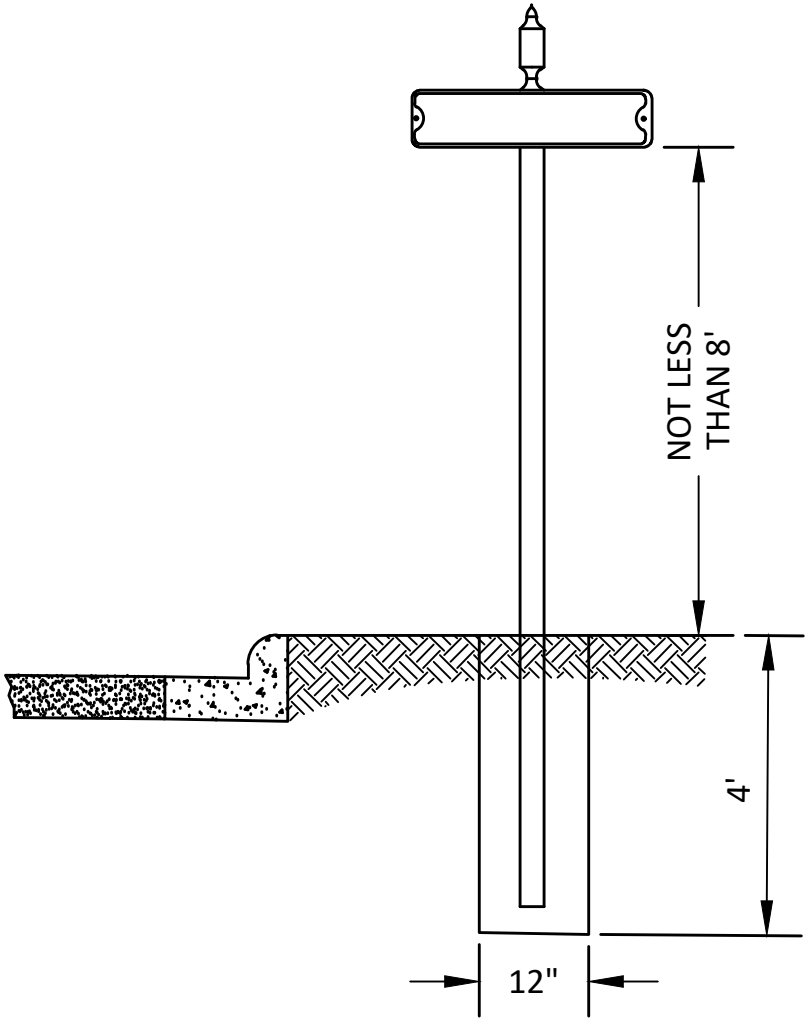
3. PLACED AS DIRECTED BY ENGINEER.

4. STRUCTURE MARKER SIGNS SHALL BE PLACED AT ALL STRUCTURES IN UNIMPROVED AREAS OR AS DIRECTED BY THE ENGINEER.

STRUCTURE MARKER SIGNS

NOT TO SCALE

Albertville Small Town Living. Big City Life.	STRUCTURE MARKER SIGNS		DATE: 02/2020 STD. DETAIL 8-111



STREET NAME SIGN

NOT TO SCALE

NOTES:

SIGN POSTS SHALL BE CYLINDRICAL TUBE STEEL POSTS. THE POST SHALL BE 12' LONG, WITH 2-3/8" OD, AND SHALL MEET THE FOLLOWING: MATERIAL: GALVANIZED FINISH, ROLL FORMED FROM 12 GAUGE (.080 U.S.S. GAUGE) COLD ROLLED STEEL, GALVANIZED MATERIAL ASTM DES. A-446 GRADE A.

THE POST AND SIGN HARDWARE SHALL INCLUDE 1 E450 SINGLE BRACKET AND 1 E450 4-WAY BRACKET.

IT SHALL HAVE A 5/8" SQUARE CENTER ROD WELDED ON TO THE TUBULAR POLE CAP AND ACCOMMODATE A ORNAMENTAL NUT ON THE TOP OF THE ROD.

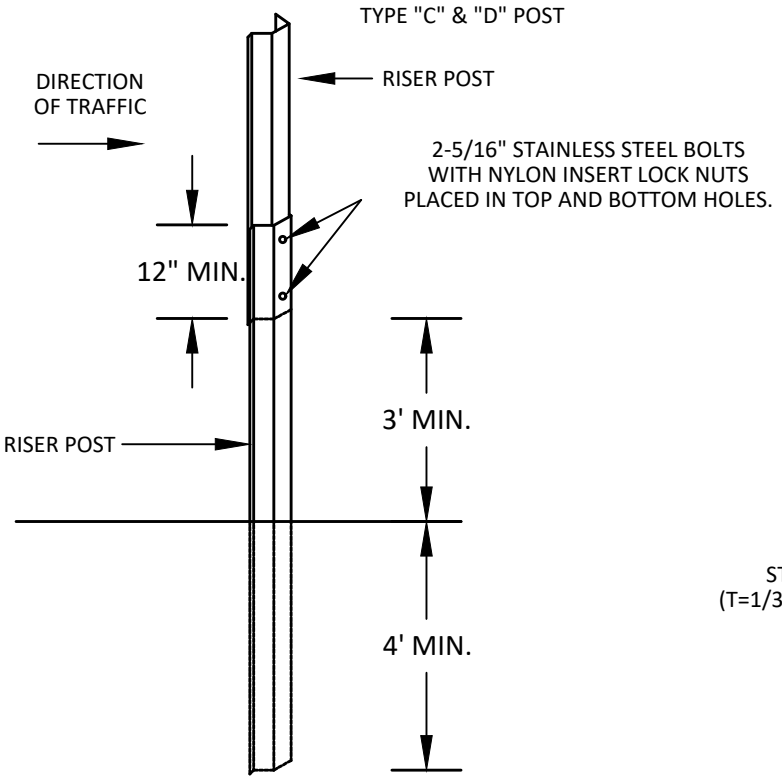
STREET SIGNS SHALL BE A 9" ALUMINUM .080 GAUGE PLATE WITH INITIAL 6" UPPERCASE WHITE LETTERS, 4.5" LOWER CASE LETTERS, NUMBERS, BORDER, AND MARKINGS, SERIES C LETTERS ON A GREEN BACKGROUND. THE REFLECTIVITY OF THE SIGN SHALL BE 3M VIP GRADE.

SIGNS AND INSTALLATION OF SIGNS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES"

SIGN BASE MATERIAL SHALL BE ALUMINUM.

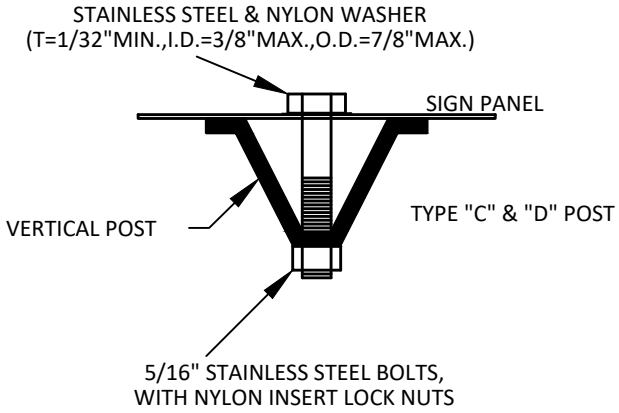
SIGN POST SHALL BE EMBEDDED IN 12" DIAMETER CONCRETE FOOTING TO A DEPTH OF 4-FEET. EARTH SHALL BE TAMPED AROUND CONCRETE ENCASEMENT.

Albertville Small Town Living. Big City Life.	STREET NAME SIGN		DATE: 02/2020
			STD. DETAIL 8-114



NOTES:

1. USE 3# GREEN STUB POSTS. DRIVEN STUB POSTS SHALL BE AT LEAST 8' LONG.
2. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
3. USE 2.0# GREEN RISER POSTS AT LEAST 7' LONG.
4. USE STAINLESS STEEL BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED SIGNS.
5. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
6. ALL SIGNS LOCATED IN CONCRETE MEDIANS SHALL HAVE AN ADDITIONAL BREAKAWAY SYSTEM APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.



STREET SIGN POST INSTALLATION

NOT TO SCALE

Albertville
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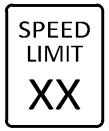
STREET SIGN
POST INSTALLATION

DATE:
02/2020

STD. DETAIL
8-115

FURNISH AND INSTALL NEW SIGNS			
SIGN NUMBER	SIGN	COLOR & SIZE	DESCRIPTION
*R1-1		30"X30" WHITE ON RED	ALUMINUM STOP SIGN
R2-1		24"X30" BLACK ON WHITE	ALUMINUM SPEED LIMIT SIGN
W11-X5		30"X30" BLACK ON YELLOW	ALUMINUM WATCH FOR CHILDREN SIGN
SPECIAL		18"X24" RED ON WHITE	ALUMINUM NO PARKING SIGN
W11-1		10"X18" BLACK ON YELLOW	ALUMINUM BICYCLE CROSSING SIGN
R5-3		24"X24" BLACK ON YELLOW	ALUMINUM NO MOTOR VEHICLES SIGN

SIGN NUMBER	SIGN	COLOR & SIZE	DESCRIPTION
W16-7		24"X18" BLACK ON YELLOW	ALUMINUM DIAGONAL ARROW SIGN
SPECIAL		18"X24" BLACK ON WHITE	ALUMINUM DOGS MUST BE LEASHED SIGN
SPECIAL		18"X24" BLACK ON WHITE	ALUMINUM PARK CLOSED SIGN
SPECIAL		18"X24" BLACK ON WHITE	ALUMINUM PARK CLOSED SIGN

NOTES:

1. SIGNS AND INSTALLATION OF SIGNS SHALL BE IN ACCORDANCE WITH MnDOT SPECIFICATION 3352 AND THE LATEST EDITION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
2. ALUMINUM SHALL MEET THE REQUIREMENTS OF ASTM B 209M FOR ALLOY 5052-H38 OR ALLOY 6061-T6
3. REFLECTIVE SHEETING SHALL BE HIGH PERFORMANCE (D63) ON THE APPROVED MnDOT PRODUCTS LIST.

STREET SIGNS

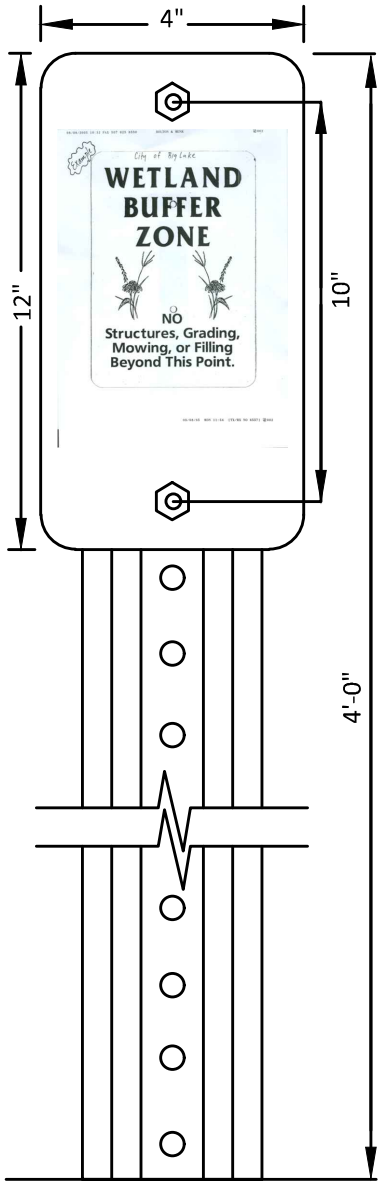
NOT TO SCALE

Albertville
Small Town Living. Big City Life.

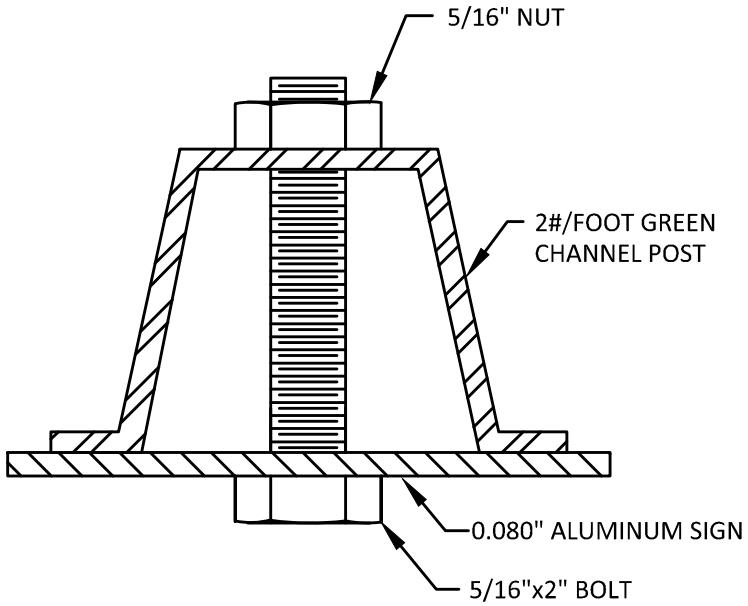
STREET SIGNS

DATE: 02/2020

STD. DETAIL 8-116



SIGN POST MUST BE ± 1/2"
OF PLUMB WHEN IT IS SET



TYPICAL SECTION

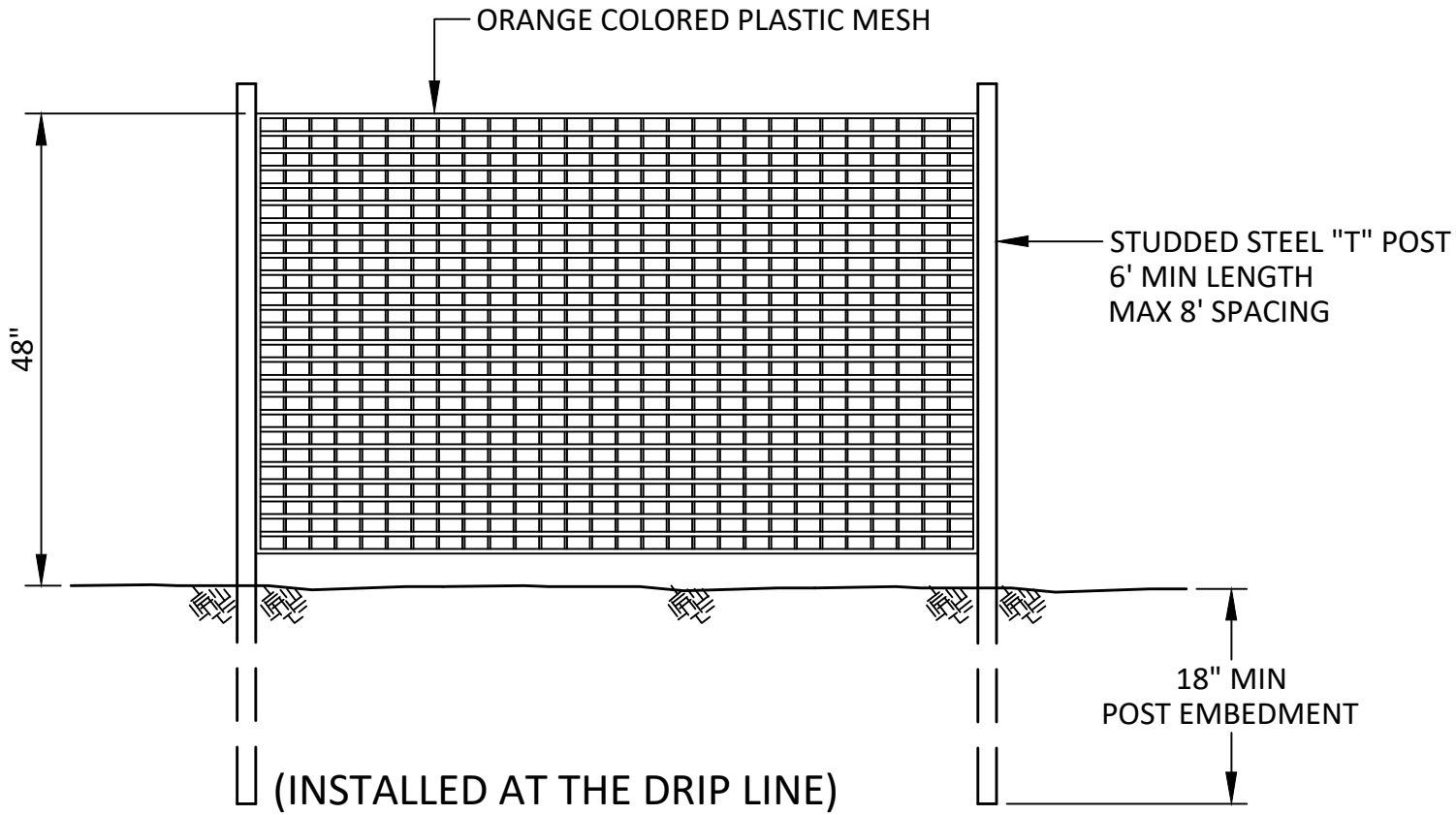
NOTES:

1. MATERIALS TO BE SUPPLIED BY THE DEVELOPER/CONTRACTOR INCLUDE THE FOLLOWING:
   (2) 4"x12"x0.080" ALUMINUM WETLAND BUFFER SIGNS
   (2) 5/16"x2" CAD PLATED BOLTS
   (4) 5/16" CAD PLATED NUTS
   (1) 7' (2#/FOOT) GREEN CHANNEL POST
2. EACH BUFFER MARKER SHALL HAVE ONE SIGN FACING PRIVATE PROPERTY.
3. SIGNS TO BE INSTALLED BY THE DEVELOPER PER THE DRAWING SHOWN AT THE LEFT.
4. AS A GENERAL RULE, WETLAND BUFFER SIGNS SHOULD BE PLACED AT EVERY OTHER LOT CORNER. HOWEVER, AT NO TIME SHOULD THERE BE MORE THAN 200' BETWEEN SIGNS IN UNFORESTED AREAS AND 150' IN FORESTED AREAS.
5. SIGN PANELS SHALL CONSIST OF BROWN BACKGROUND WITH WHITE LETTERING.

WETLAND BUFFER ZONE SIGN INSTALLATION

NOT TO SCALE

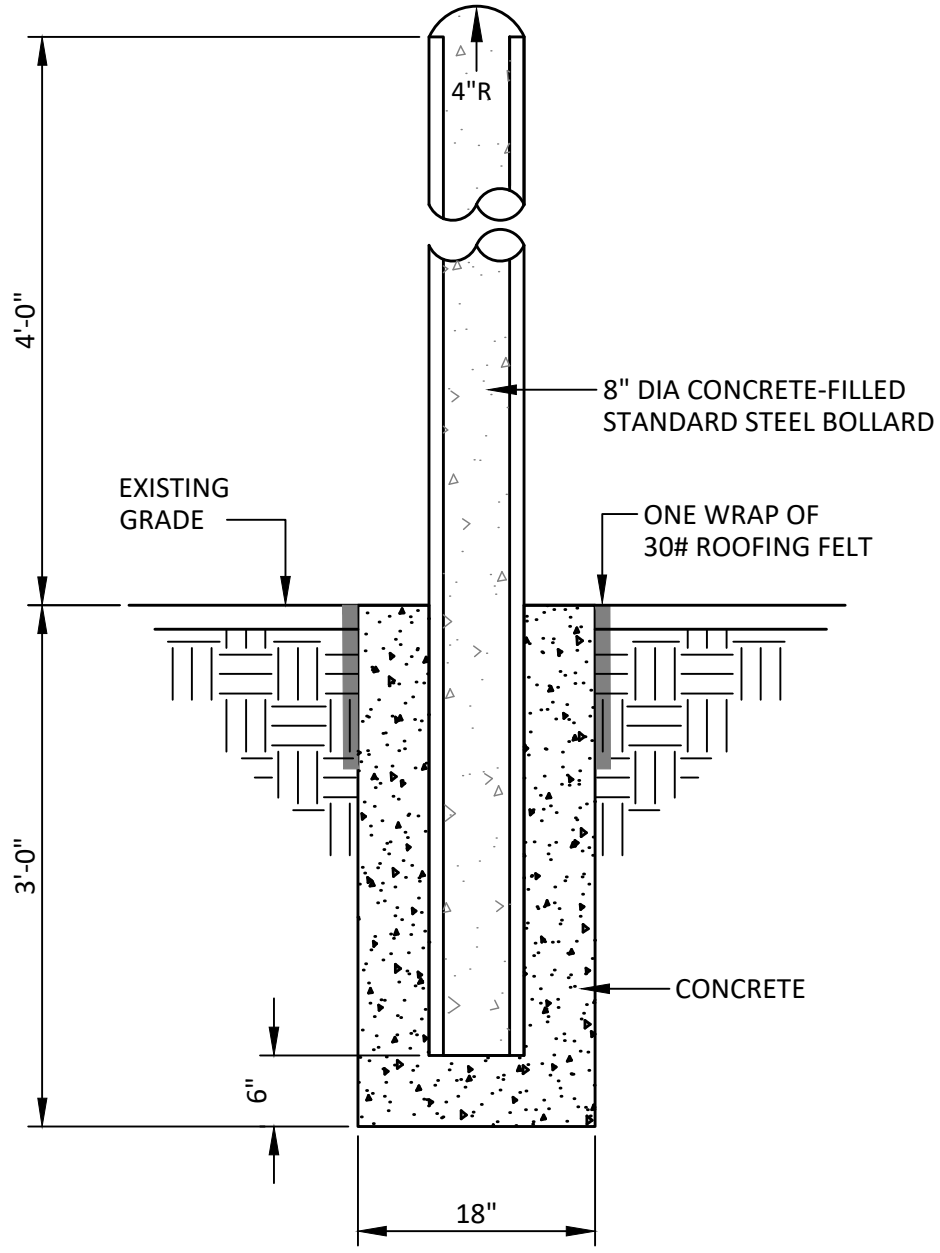
Albertville Small Town Living. Big City Life.	WETLAND BUFFER ZONE SIGN INSTALLATION		DATE: 02/2020 STD. DETAIL 8-118



TREE PRESERVATION FENCE

NOT TO SCALE

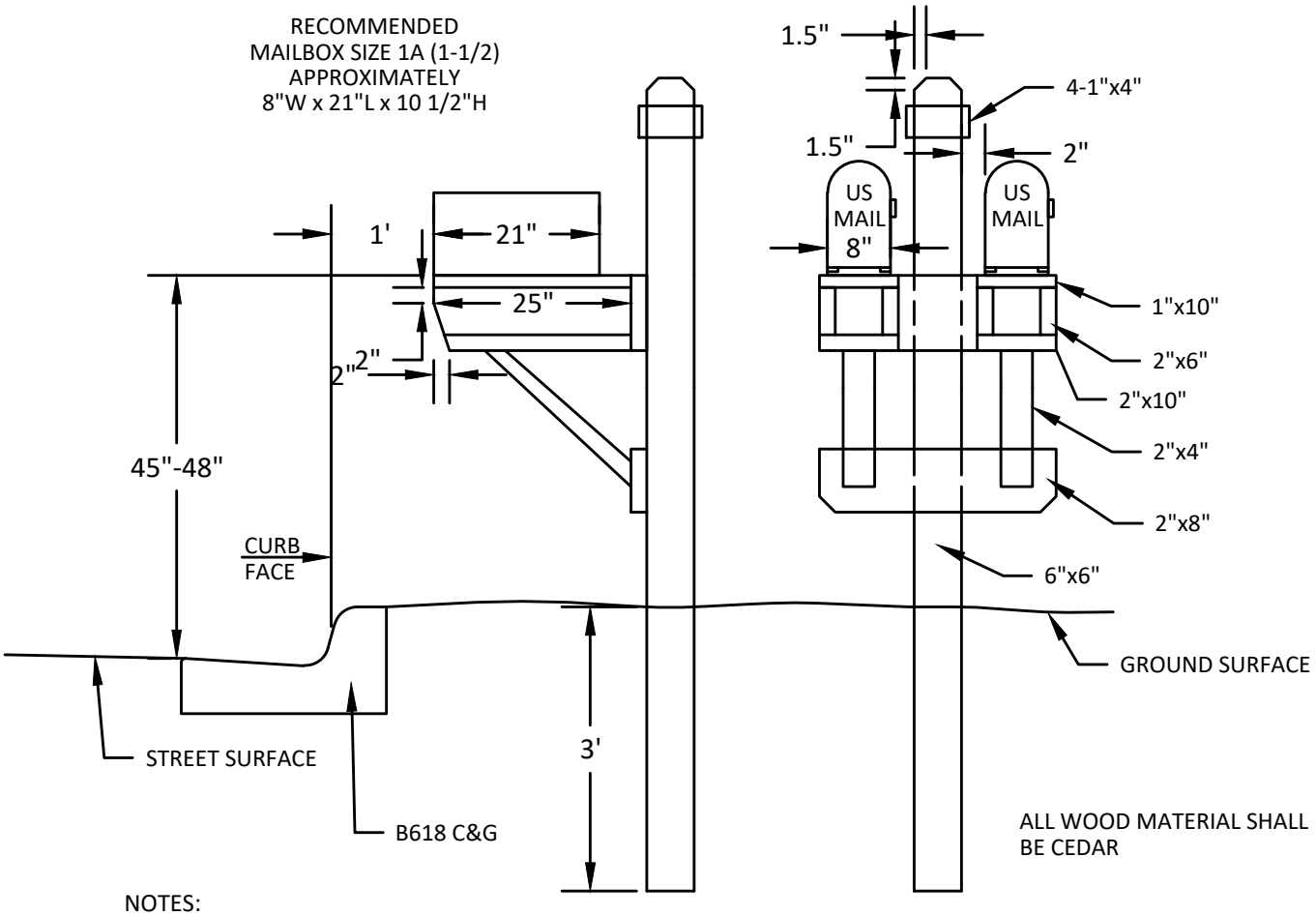
Albertville Small Town Living. Big City Life.	TREE PRESERVATION FENCE		DATE: 02/2020 STD. DETAIL 9-003



BOLLARD GUARD POST

NOT TO SCALE

Albertville Small Town Living. Big City Life.	BOLLARD GUARD POST		DATE: 02/2020 STD. DETAIL 9-300



NOTES:

FOR SINGLE OR MULTIPLE BOXES AS DIRECTED BY THE ENGINEER.

MAILBOX LOCATIONS SHOULD BE STAKED BEFORE INSTALLATION FOR PROPER HEIGHT AND DISTANCE FROM THE ROADWAY. ONCE STAKED, THE INSTALLER MUST NOTIFY THE CITY ENGINEER AND THE POST OFFICE. THE ENGINEER AND POSTMASTER/MAILCARRIER WILL BE ALLOWED 48 HOURS TO REVIEW AND MODIFY THE STAKED LOCATIONS PRIOR TO FINAL INSTALLATION.

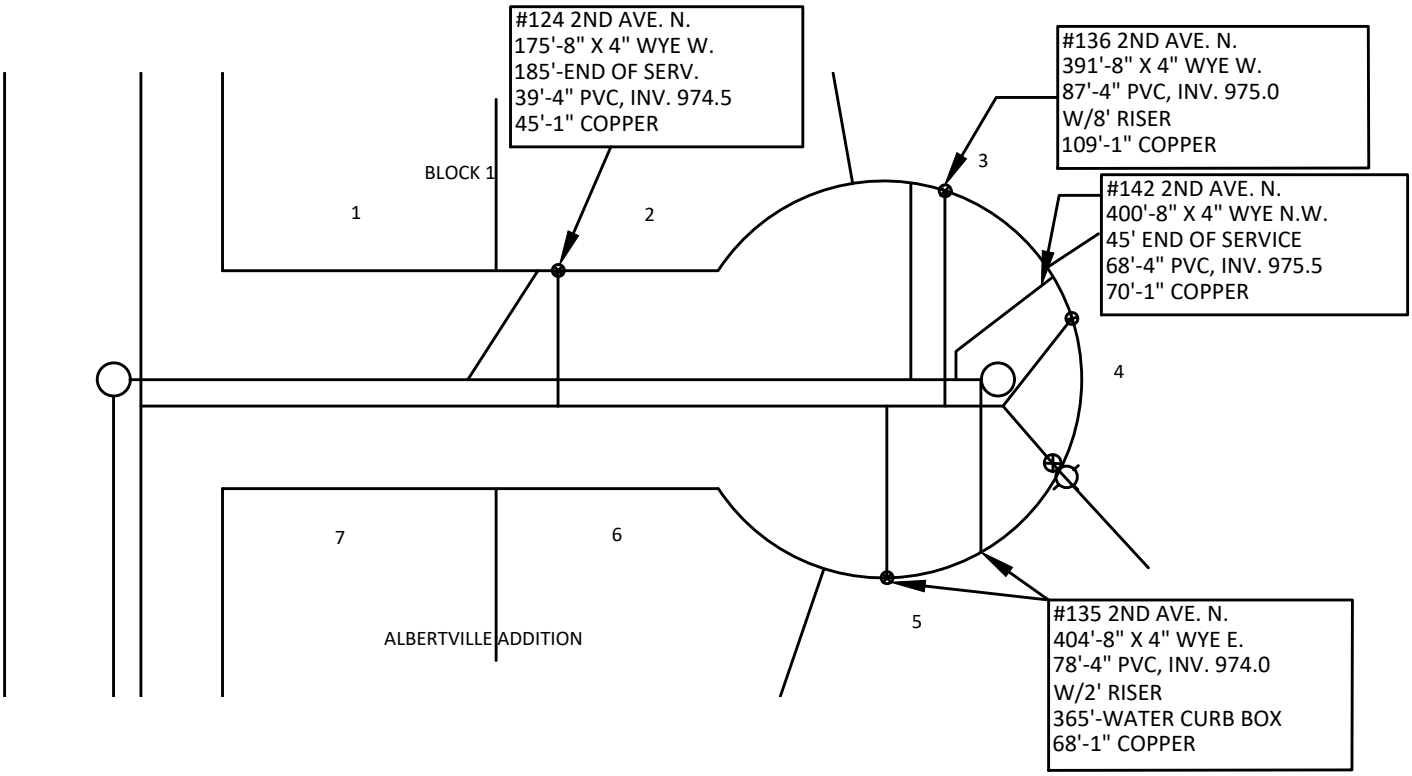
OTHER MAILBOX SUPPORT DESIGNS MAY BE USED. THE OWNER SHALL SEND THE CITY ENGINEER SHOP DRAWINGS FOR APPROVAL.

ALL MAILBOX SUPPORTS MUST BE CRASH WORTHY AND MEET MINNESOTA RULES, 8818, U.S. POST OFFICE AND FEDERAL HIGHWAY ADMINISTRATION (FHWA) STANDARDS AND RECOMMENDATIONS.

MAILBOX INSTALLATION DETAIL

NOT TO SCALE

Albertville Small Town Living. Big City Life.	MAILBOX INSTALLATION DETAIL		DATE: 02/2020 STD. DETAIL 9-301



INFORMATION NEEDED TO COMPLETE CITY RECORD DRAWINGS

1. ADDRESS, IF AVAILABLE, OR LOT AND BLOCK NO. AND NAME OF ADDITION.
2. DISTANCE TO WYE FROM NEAREST DOWNSTREAM MANHOLE.
3. DISTANCE TO END OF SERVICE FROM NEAREST DOWNSTREAM MANHOLE (IF END OF SERVICE IS SKEWED MORE THAN 3' FROM THE WYE).
4. DISTANCE FROM NEAREST DOWNSTREAM MANHOLE TO WATER SERVICE CURB BOX (IF WATER SERVICES ARE IN THE SAME TRENCH WITH SEWER SERVICES, A NOTE INDICATING THAT SHOULD BE USED).
5. SIZE AND TYPE OF WYE.
6. SIZE AND TYPE OF SERVICE (SEWER OR WATER).
7. DIRECTION OF SERVICE.
8. LENGTH OF SERVICE (SEWER OR WATER).
9. INVERT ELEVATION AT END OF SEWER SERVICE.
10. RISER LENGTH
11. IF SERVICES IN CUL-DE-SACS ARE TO THE CENTER OF THE LOTS, A NOTE INDICATING THAT SHOULD BE USED. THIS COULD TAKE THE PLACE OF AN END OF SERVICE STATION.
12. WATER SERVICES ARE IN THE SAME TRENCH WITHIN 3' UPSTREAM OF SEWER SERVICES UNLESS OTHERWISE INDICATED.
13. TABLE WITH GPS COORDINATES OF ALL CURB STOPS, SANITARY SEWER SERVICE WYES AND LOCATION OF THE SANITARY SEWER SERVICE AT THE EASEMENT LINE. COORDINATES SHALL BE ON THE MN COORDINATE SYSTEM, SOUTHERN ZONE, NAD 83, 1986 (NON HARN VALVES).

Albertville Small Town Living. Big City Life.	SEWER & WATER SERVICE RECORD DRAWING		DATE: 02/2020 STD. DETAIL 9-600