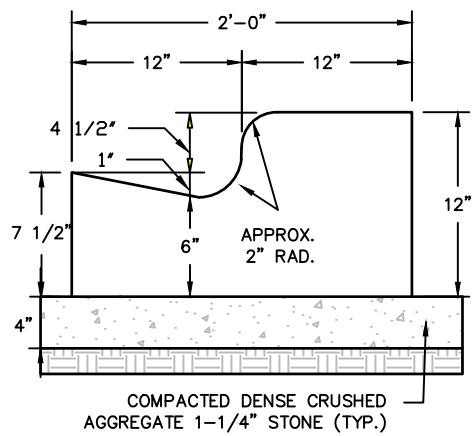
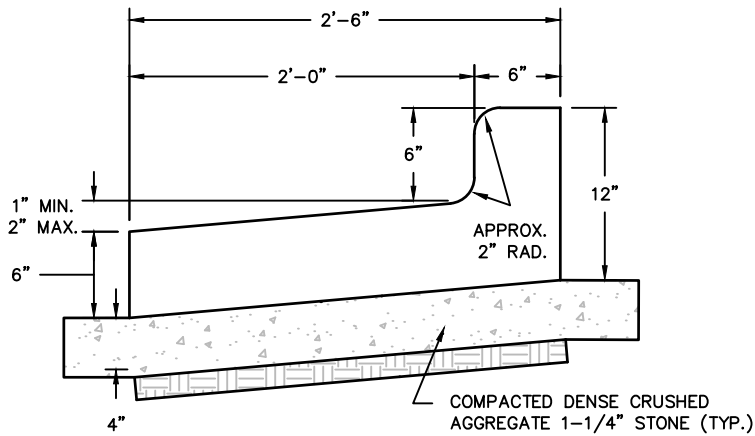


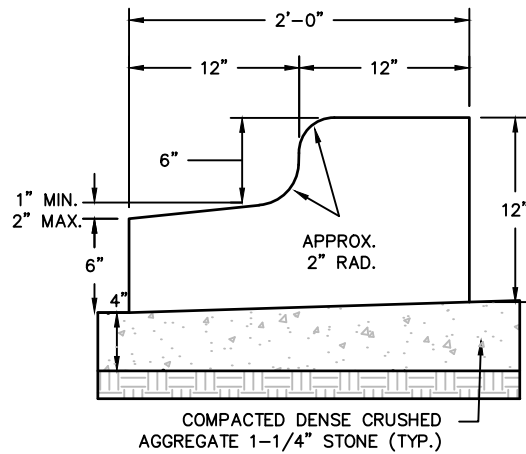
30" STANDARD SECTION  
NO SCALE



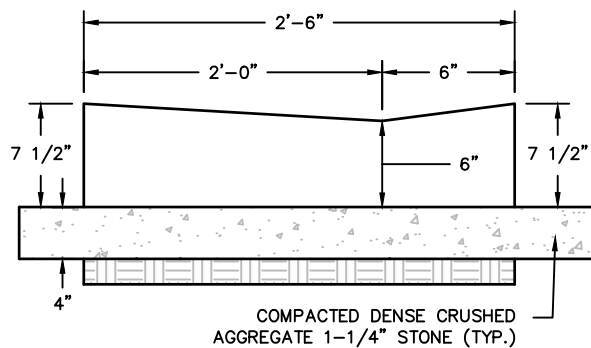
MEDIAN STANDARD SECTION  
NO SCALE



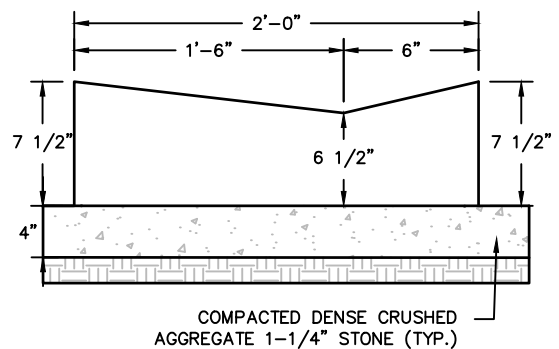
30" REJECT SECTION  
NO SCALE



MEDIAN REJECT SECTION  
NO SCALE



30" DRIVEWAY SECTION  
NO SCALE



24" DRIVEWAY SECTION  
NO SCALE

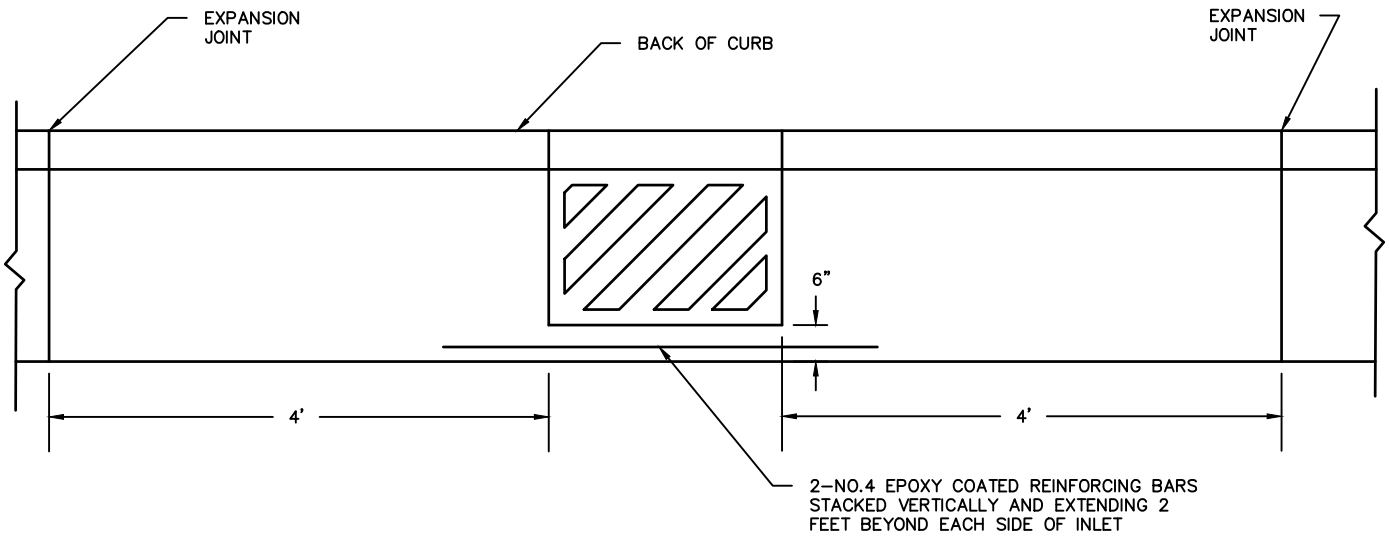
VILLAGE OF COTTAGE GROVE

CONCRETE CURB & GUTTER DETAILS

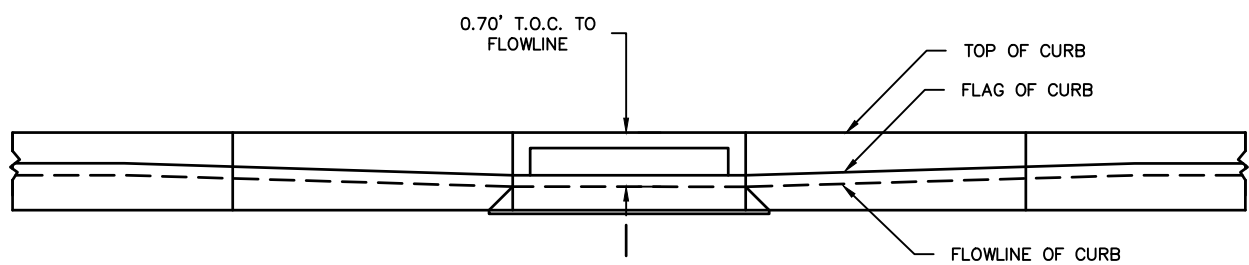
DATE: MARCH 2022

DRAWING NO.

3-1

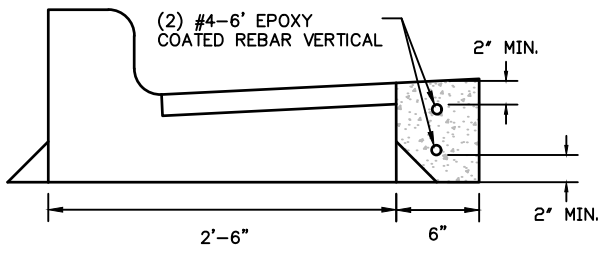


TOP VIEW  
NO SCALE

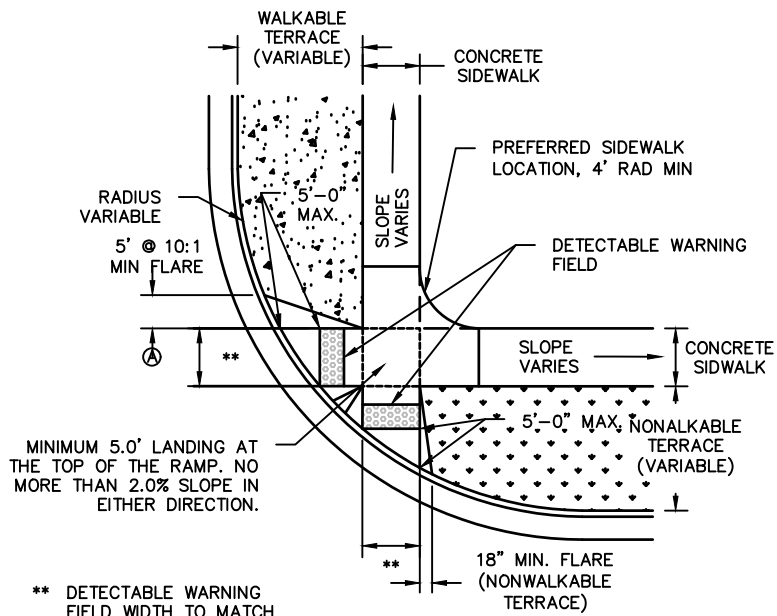


FRONT VIEW  
NO SCALE

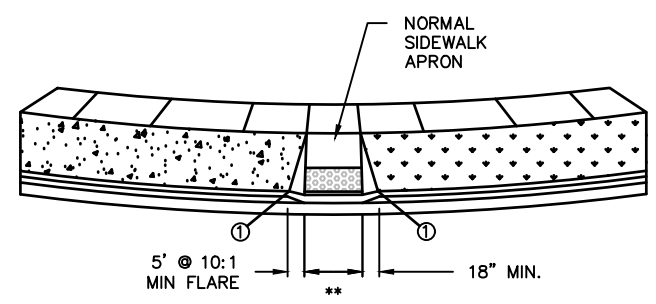
NOTE:  
EXPANSION JOINTS MATERIALS SHALL BE PLACED 4' AWAY FROM BOTH SIDES OF ANY INLET.



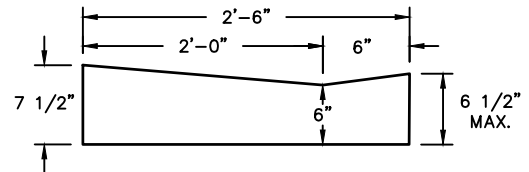
VILLAGE OF COTTAGE GROVE	
CURB & GUTTER INLET DETAIL	
DATE: MARCH 2022	DRAWING NO. 3-2



PLAN VIEW  
TYPE 1 RAMP  
(CENTER OF CORNER RADIUS)  
NO SCALE



VIEW A  
NO SCALE



PROFILE VIEW  
CURB AT RAMP  
NO SCALE

- LEGEND
- 1/2" EXPANSION JOINT—SIDEWALK
  - CONTRACTION JOINT FIELD LOCATION
  - - - - - ALTERNATE LAYOUT

NOTES:

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES SHALL BE CAST IRON NEENAH FOUNDARY, TRUNCATED DOME WARNING PANEL, OR EQUIVALENT AND MUST BE APPROVED BY THE VILLAGE ENGINEER. THE COLOR OF THE DETECTABLE WARNING FIELD SHALL BE PATINA(NO FINISH). DETECTABLE WARNING FIELD PRODUCTS SHALL MATCH THE SIDEWALK WIDTH, UNLESS THE DISTANCE BETWEEN THE CURB AND FRONT OF THE DETECTABLE WARNING FIELD IS GREATER THAN 5-FT. THEN, RADIAL DETECTABLE WARNING FIELDS SHOULD BE USED.

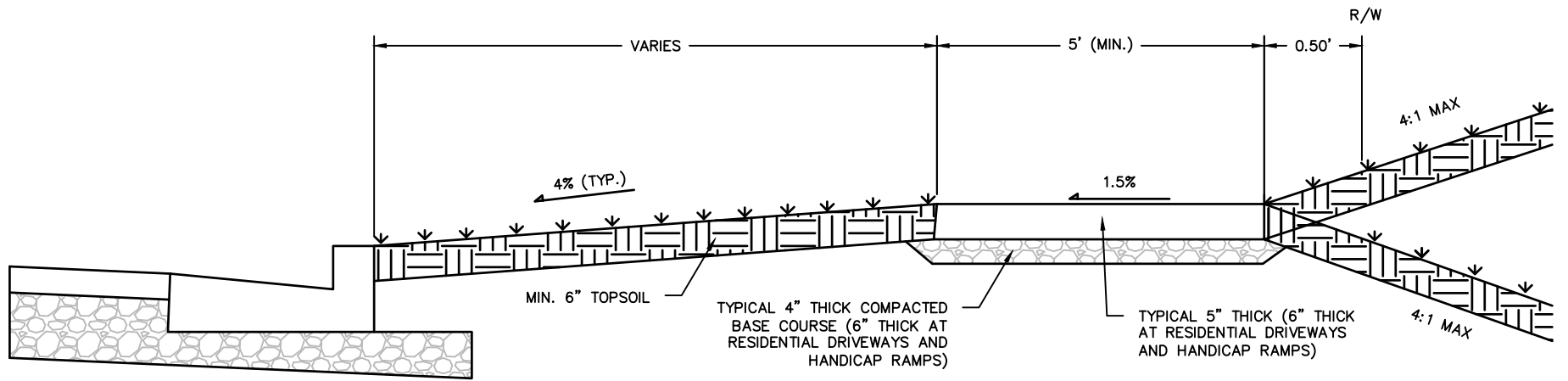
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

GRADE CHANGE BETWEEN GUTTER SLOPE AND CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER PAN SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE, OR FLATTER ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE, OR FLATTER, ON RAMP. CONSTRUCT 2" MINIMUM CURB HEIGHT BETWEEN 10:1 CONCRETE FLARES.

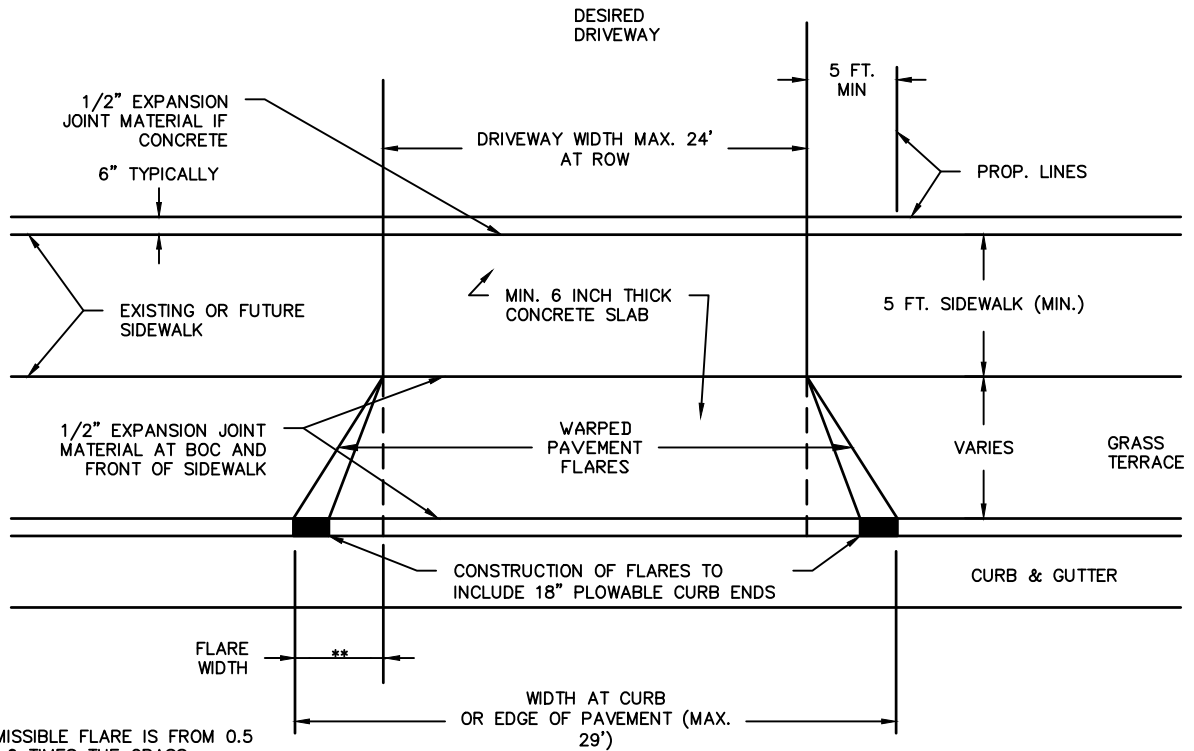
<p>VILLAGE OF COTTAGE GROVE</p> <p>CURB RAMP</p>	
<p>DATE: MARCH 2022</p>	<p>DRAWING NO. 3-3</p>



CROSS SECTION  
NO SCALE

VILLAGE OF COTTAGE GROVE  
TYPICAL SIDEWALK

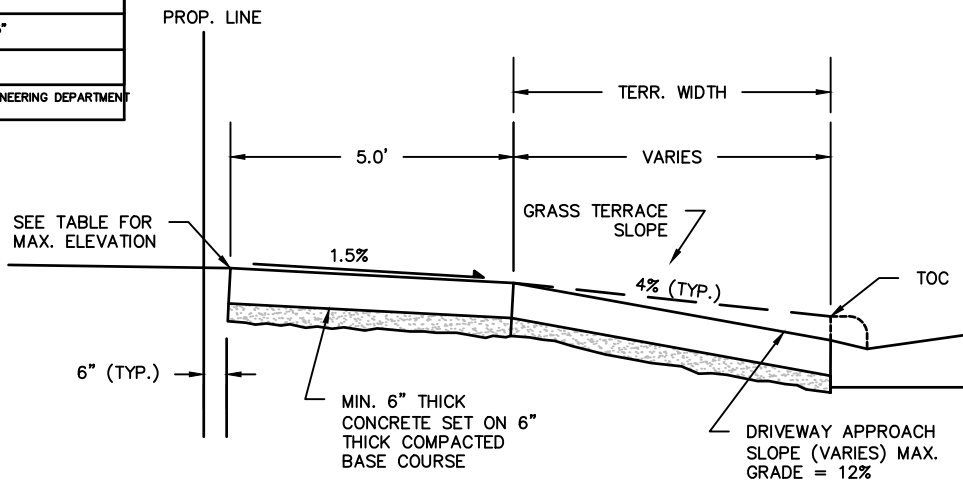
DATE: MARCH 2022	DRAWING NO. 3-4
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\*\*PERMISSIBLE FLARE IS FROM 0.5 TO 1.0 TIMES THE GRASS TERRACE WIDTH, NOT TO EXCEED 2.5 FT. ON EITHER SIDE OF DRIVEWAY

PLAN VIEW  
NO SCALE

TERR. WIDTH	MAX. ELEV. 6" FROM PROP. LINE. (ABOVE TOC)
10'	0.32' or 3.75"
11'	0.44' or 5.25"
13'	0.68' or 8"
OTHER	CONTACT ENGINEERING DEPARTMENT 825-1170



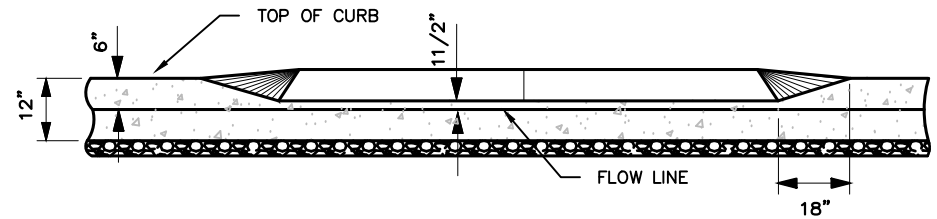
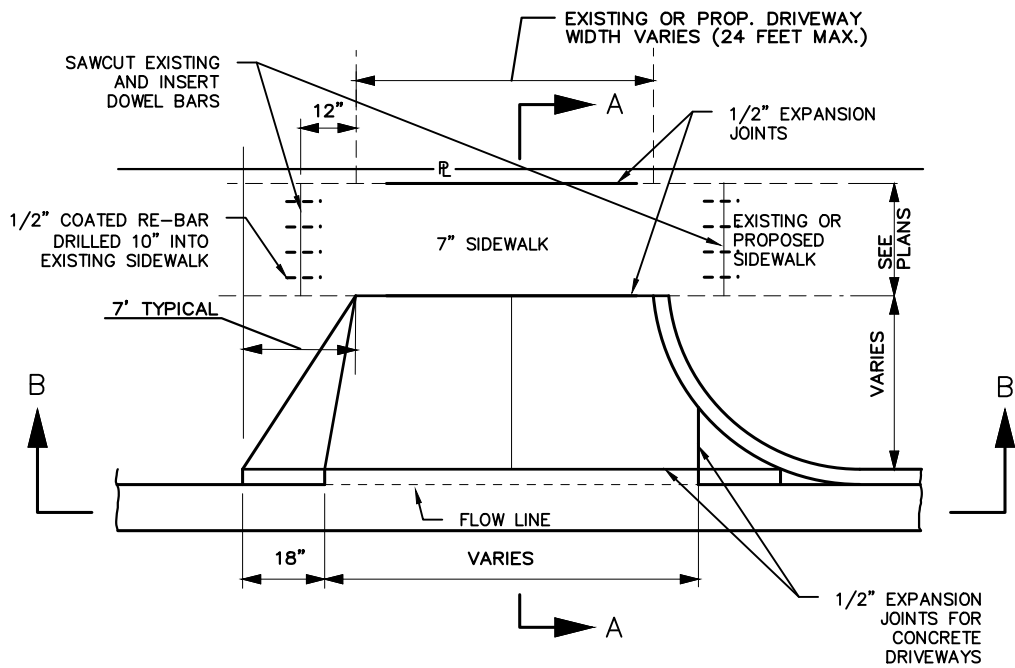
CROSS SECTION  
NO SCALE

VILLAGE OF COTTAGE GROVE  
TYPICAL RESIDENTIAL DRIVEWAY APPROACH

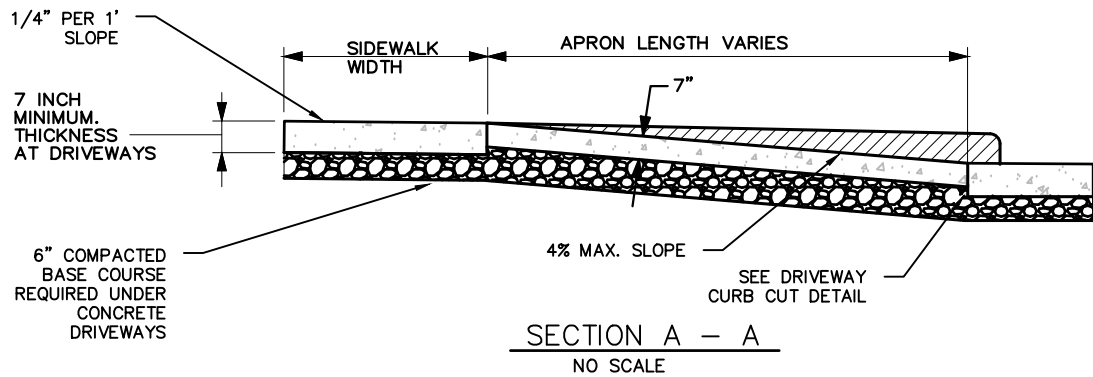
DATE: MARCH 2022

DRAWING NO.

3-5

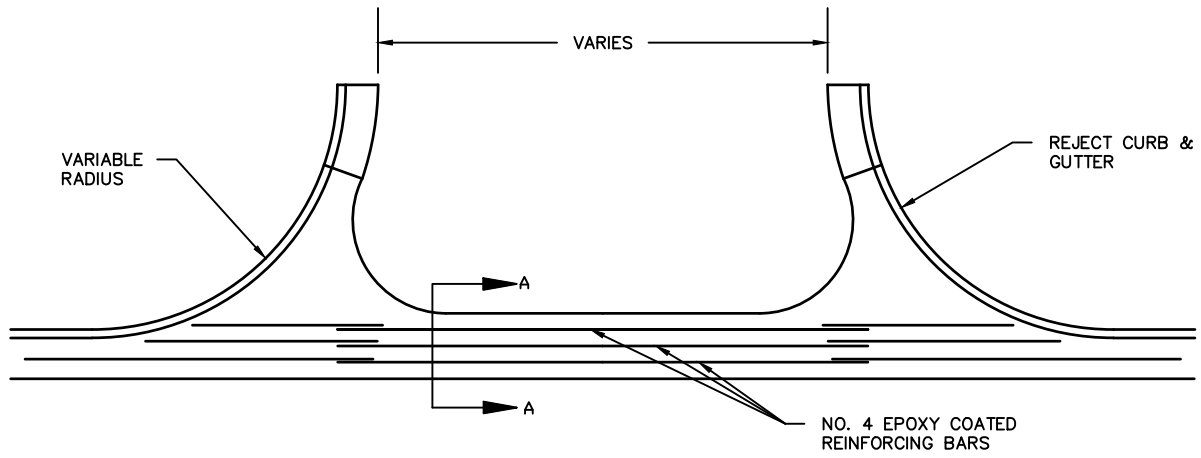


SECTION B - B  
NO SCALE



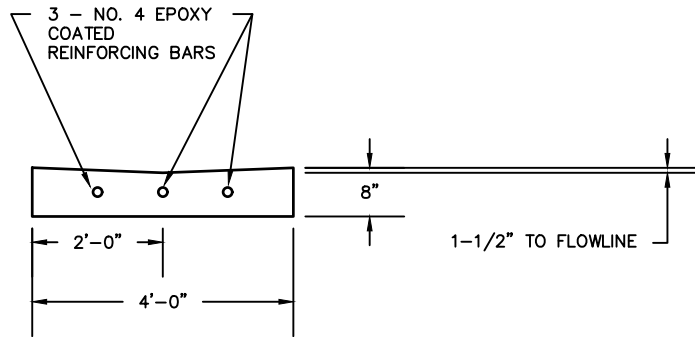
VILLAGE OF COTTAGE GROVE  
COMMERCIAL DRIVEWAY DETAIL

DATE: MARCH 2022	DRAWING NO. 3-6
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VALLEY GUTTER PLAN VIEW

NO SCALE



WATERWAY SECTION A - A

NO SCALE

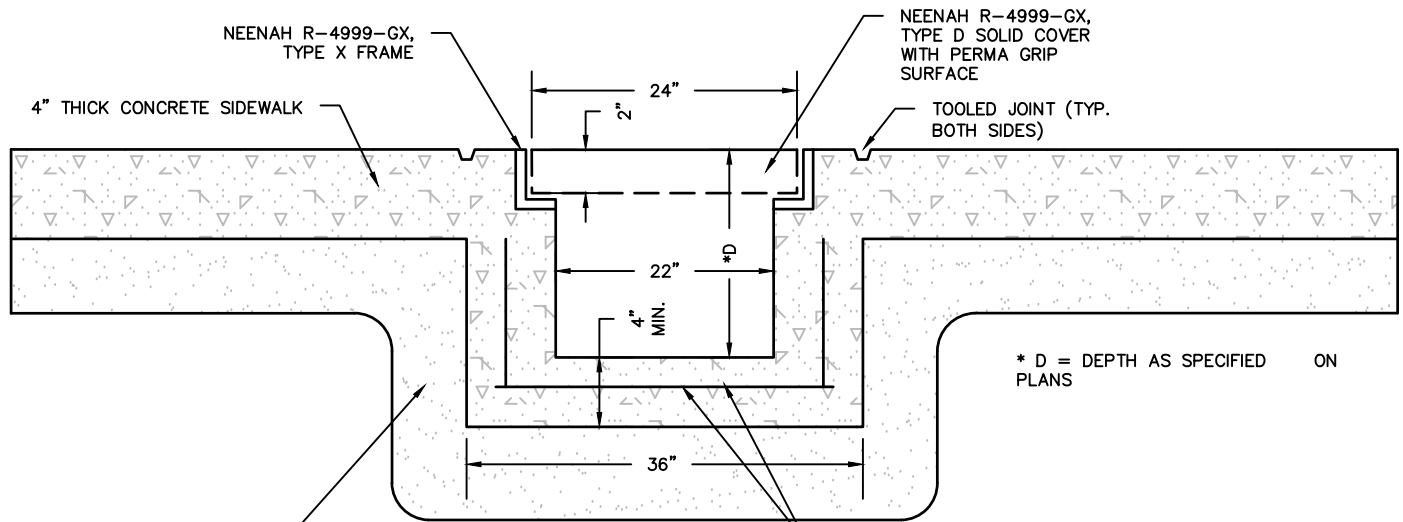
VILLAGE OF COTTAGE GROVE

VALLEY GUTTER OPENING

DATE: MARCH 2022

DRAWING NO.

3-7

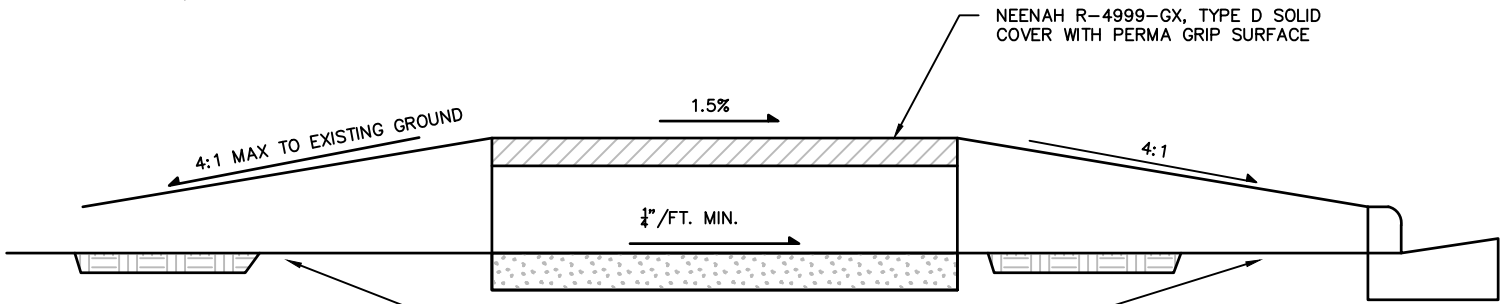


\* D = DEPTH AS SPECIFIED ON PLANS

#4 EPOXY COATED REBARS  
8" ON CENTER EACH WAY  
TYPICAL ALL SIDES  
2" CLEARANCE TO ALL BARS

END VIEW  
NO SCALE

REGRADE BOTH SIDES OF DRAINWAY TO SLOPES SHOWN.  
PROVIDE 4" TOPSOIL, SEED AND MULCH



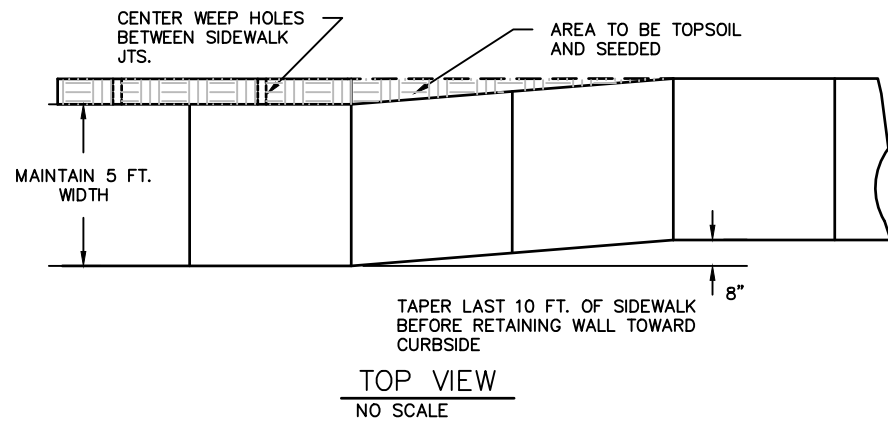
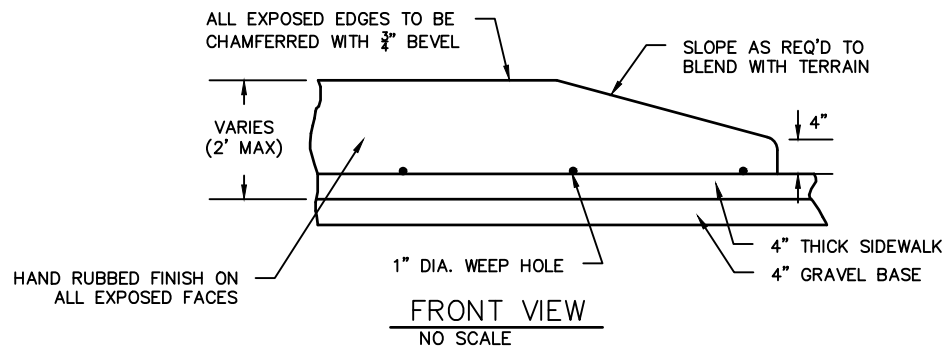
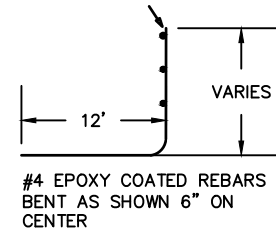
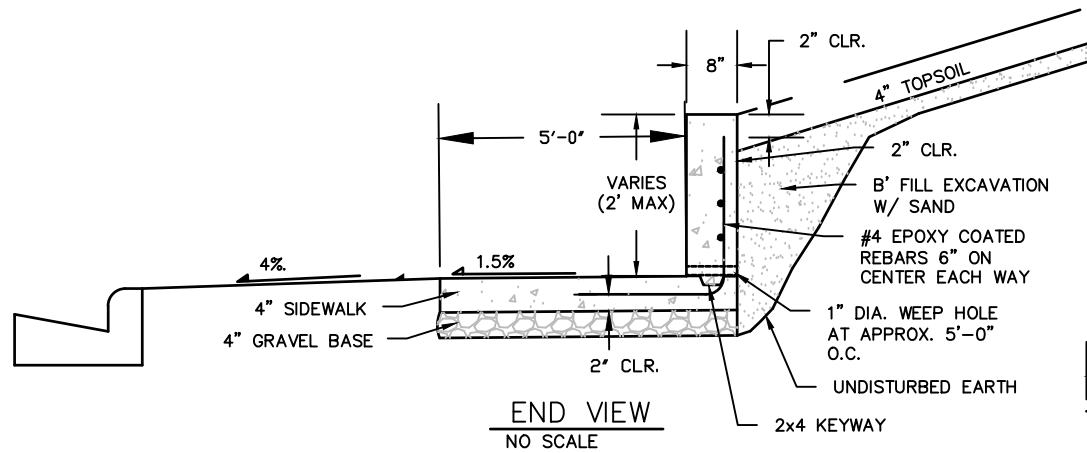
EXISTING GROUND

SIDE VIEW  
NO SCALE

VILLAGE OF COTTAGE GROVE  
SIDEWALK DRAIN WAY DETAIL

DATE: MARCH 2022

DRAWING NO.  
3-8



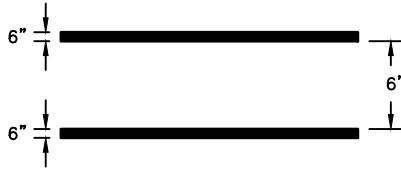
VILLAGE OF COTTAGE GROVE

CONCRETE RETAINING WALL DETAIL

DATE: MARCH 2022

DRAWING NO.  
3-9

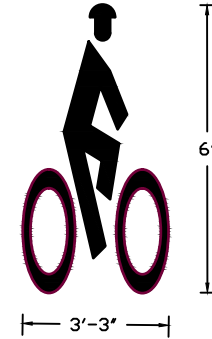
LINES SHALL BE SPACED 6' APART AND BE 6" IN WIDTH.



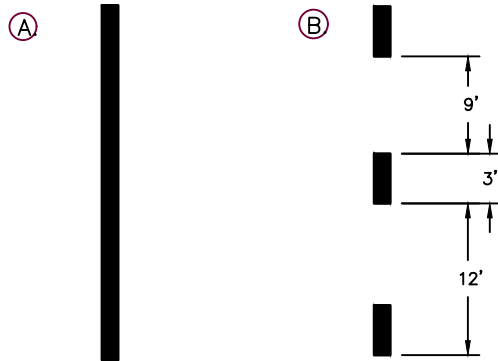
TYPICAL CONTINENTAL  
CROSSWALK



TYPICAL STOP BAR  
MUTCD 3B-16



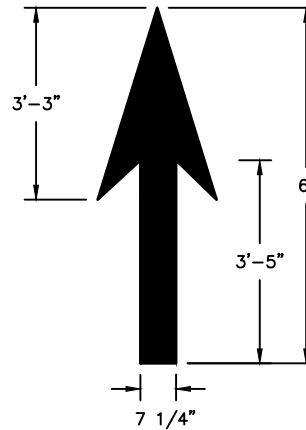
TYPICAL BIKE LANE  
DOT # S.D.D.15 C 7-14e



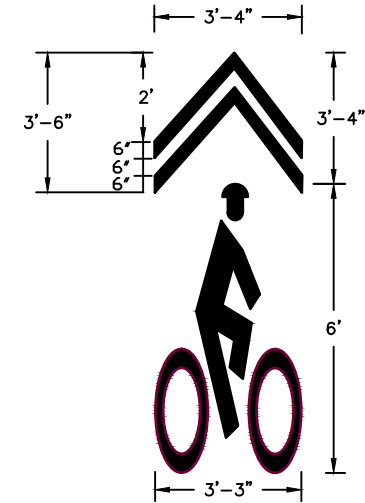
SHARED PATH PAVEMENT MARKINGS

(A) SOLID 4" YELLOW CENTERLINE FOR AREAS WHERE PASSING IS PROHIBITED

(B) BROKEN 4" YELLOW CENTERLINE FOR AREAS WHERE PASSING IS ALLOWED. BROKEN LINES SHOULD HAVE A 1:3 SEGMENT-TO-GAP RATIO. A NOMINAL 3' SEGMENT WITH A 9' GAP IS RECOMMENDED



BIKE LANE ARROW  
DOT # S.D.D.15 C 7-14e



BIKE SYMBOL FOR SHARED LANE  
DOT # S.D.D.15 C 7-14e

NOTES:

ALL PAVEMENT MARKINGS SHALL BE EPOXY.

REFER TO WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD DETAIL DRAWING, SERIES 15, AND MUTCD CHAPTER 3B FOR COMPLETE PAVEMENT MARKING DETAILS.

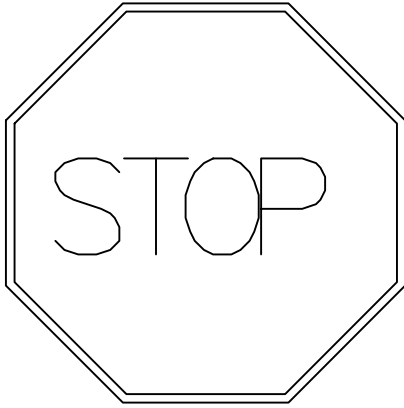
REFLECTIVE BEADS SHALL BE USED ON ALL EPOXY PAINT MARKINGS.

VILLAGE OF COTTAGE GROVE

PAVEMENT MARKING

DATE: MARCH 2022

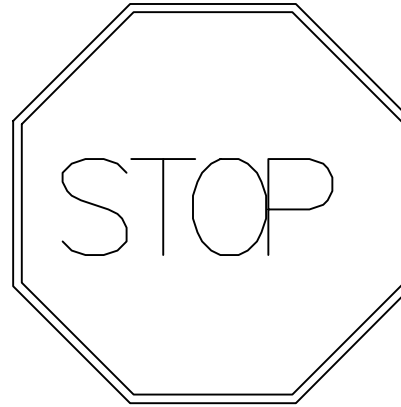
DRAWING NO.  
3-10



R1-1  
24"x24"

DIAMOND GRADE

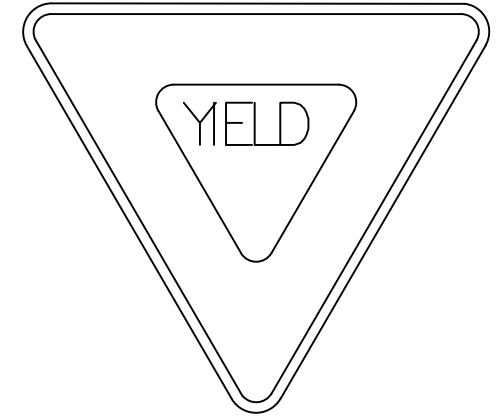
LOCAL ROADS



R1-1  
30'x30"

DIAMOND GRADE

ARTERIAL/COLLECTOR ROADS



R1-2  
24"x24"

HIGH INTENSITY SHEETING

ALL ROADS

NOTES:

POLES - 2" SQUARE TUBING, 14 GAUGE, 10' IN LENGTH. BLACK POST AND BLACK BACK OF SIGNS.

ANCHORS - 2-1/4" SQUARE, 12 GAUGE, 36" IN LENGTH.

NAME PLATES - ALL EXTRUDED, DOUBLE SIDED, 9" IN LENGTH.

CAPS FOR NAME PLATES - 12' IN LENGTH. MADE FOR EXTRUDED SIGNS. #3900 3M SHEETING. FIRST LETTER CAPITALIZED AND REMAINING IN LOWERCASE.

CROSSES - 12" IN LENGTH, MADE FOR EXTRUDED SIGNS.

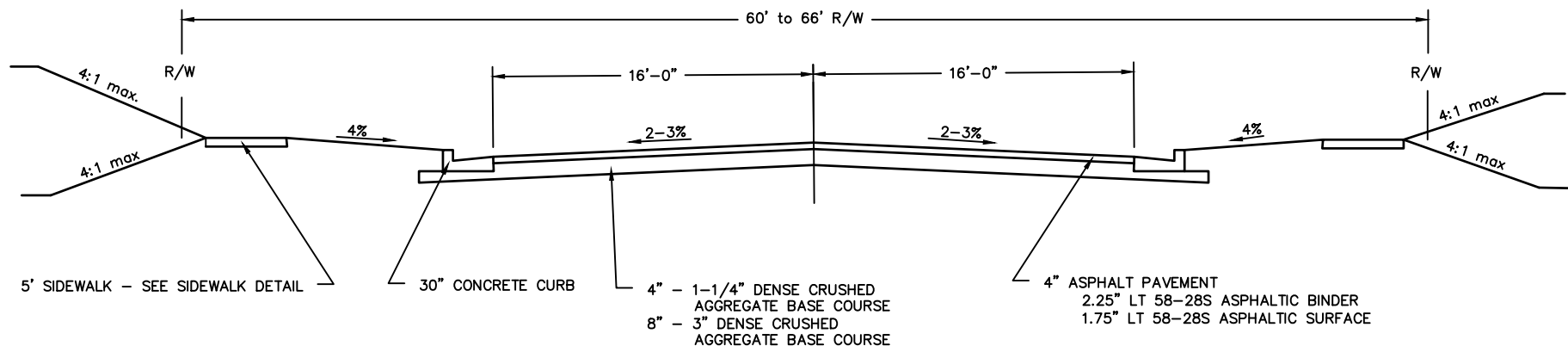
CORNER BOLTS WITH JAM NUT TO ATTACH TO POLE ANCHOR.

SIGNS SHALL BE INSTALLED WITH DRIVE RIVETS AND NYLON WASHER.

VILLAGE OF COTTAGE GROVE  
ROAD SIGNS

DATE: JULY 2020

DRAWING NO.  
3-11



NOTES:

ASPHALT CONCRETE PAVEMENT SHALL BE TYPE 3 LT S FOR BINDER COURSE AND 4 LT S FOR SURFACE COURSE ON ALL RESIDENTIAL AND COLLECTOR STREETS.

ASPHALTIC MATERIAL SHALL BE PG58-28 UNLESS OTHERWISE NOTED.

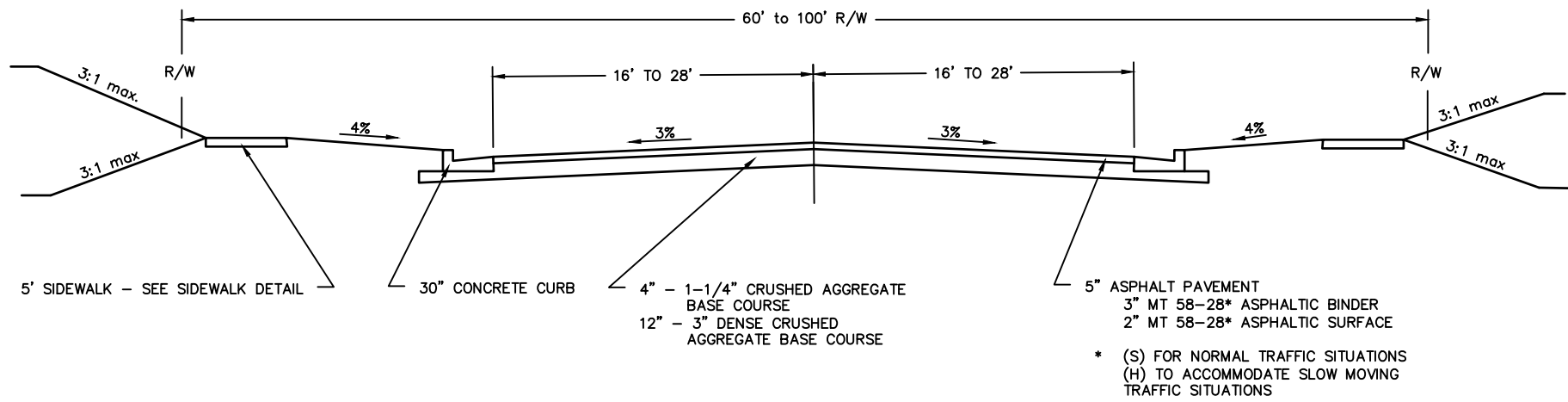
VILLAGE OF COTTAGE GROVE

RESIDENTIAL & COLLECTOR STREET SECTION

DATE: MARCH 2022

DRAWING NO.

4-1

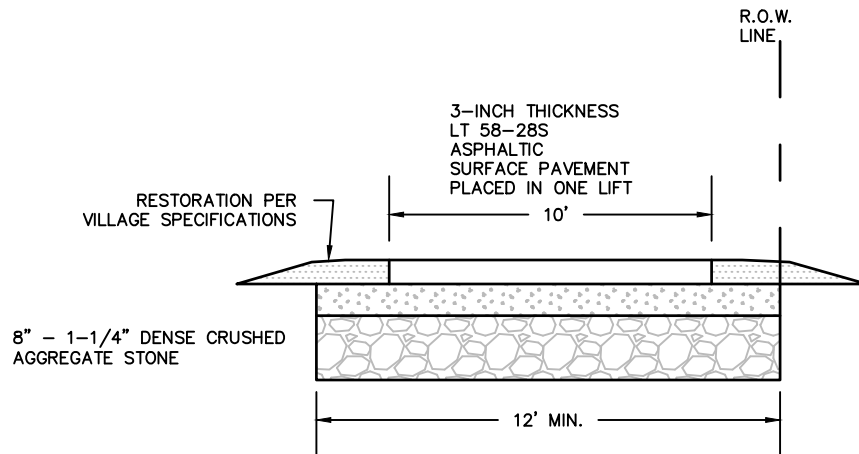


NOTES:

ASPHALT CONCRETE PAVEMENT SHALL BE 3 MT S FOR BINDER COURSE AND 4 MT S FOR SURFACE COURSE ON COMMERCIAL, INDUSTRIAL, AND ARTERIAL STREETS.

ASPHALTIC MATERIAL SHALL BE PG58-28 UNLESS OTHERWISE NOTED.

VILLAGE OF COTTAGE GROVE	
COMMERCIAL, INDUSTRIAL, AND ARTERIAL STREET SECTION	
DATE: MARCH 2022	DRAWING NO. 4-2



BIKE/PEDESTRIAN PATH  
NO SCALE

NOTES:

CROSS SLOPE OF PATH SHALL BE 1.5%

WIDTH OF BASECOURSE MATERIAL TO BE A MINIMUM OF 12'.

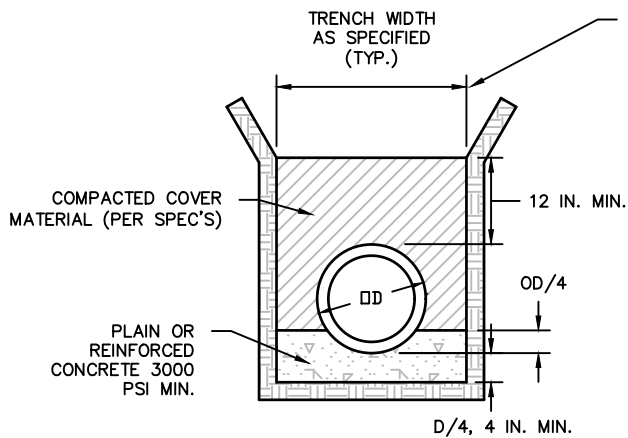
VILLAGE OF COTTAGE GROVE

TYPICAL ASPHALT BIKE/PEDESTRIAN PATH

DATE: MARCH 2022

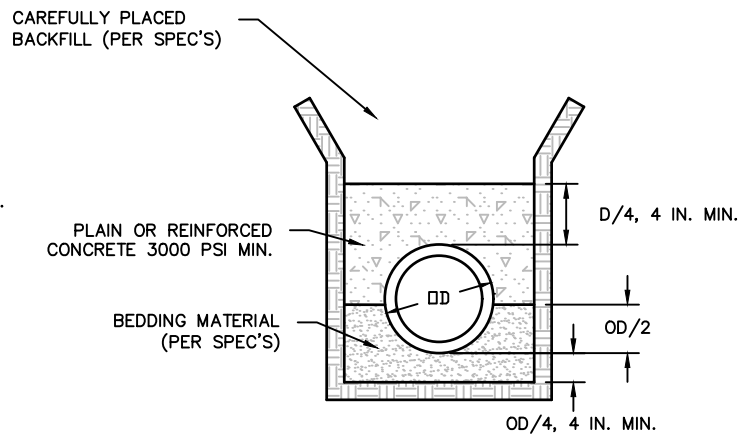
DRAWING NO.

4-3



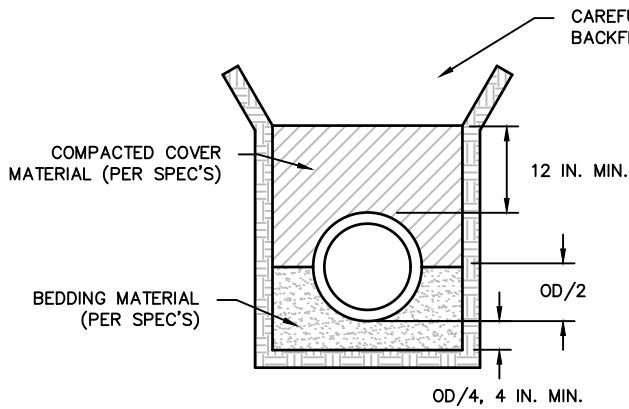
NOTE - MINIMUM WIDTH OF CONCRETE CRADLE  
= OD + 8 IN.

**CLASS A  
CONCRETE CRADLE**  
NO SCALE

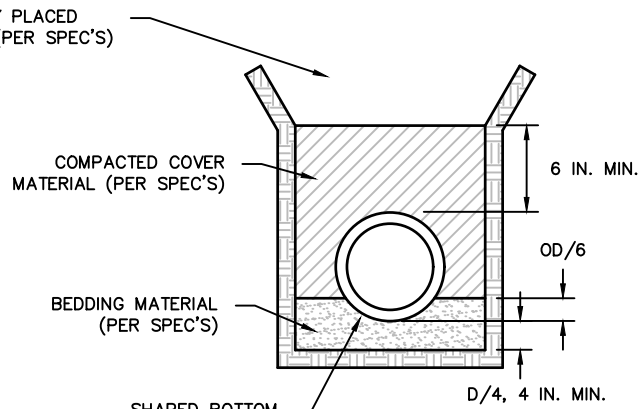


NOTE - MINIMUM WIDTH OF CONCRETE ARCH  
= OD + 8 IN.

**CLASS A-1  
CONCRETE ARCH**  
NO SCALE

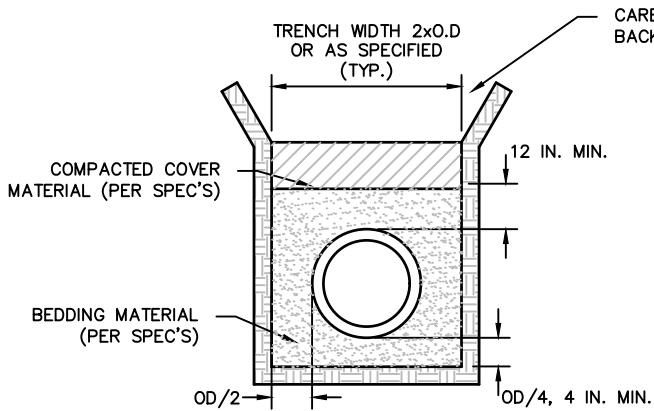


**CLASS B**  
NO SCALE

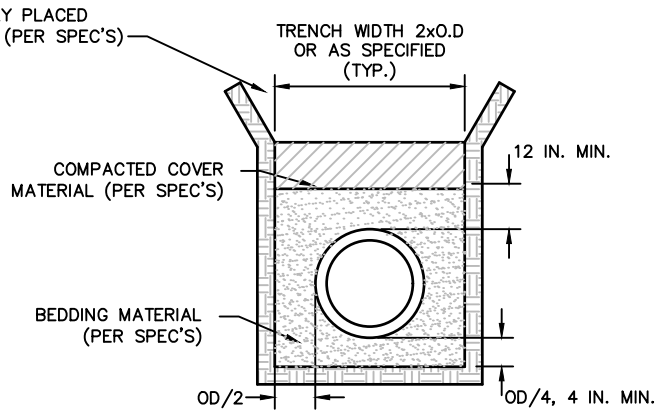


SHAPED BOTTOM  
(TYP)

**CLASS C**  
NO SCALE



**THERMOPLASTIC PIPE  
BEDDING DETAIL**  
NO SCALE



**DUCTILE IRON PIPE  
BEDDING DETAIL**  
NO SCALE

**NOTES:**

ALL PVC AND ABS SEWER MAINS AND LATERALS SHALL BE BED PER THE THERMOPLASTIC PIPE DETAIL, OR AS CALLED FOR IN THE SPECIAL PROVISIONS.

ALL BEDDING AND COVER MATERIALS SHALL BE AS SPECIFIED AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

UNDERCUT SHALL BE IN ACCORDANCE WITH SECTION 3 OF THE STORM AND SANITARY SEWER STANDARD SPECIFICATIONS.

VILLAGE OF COTTAGE GROVE  
WATER MAIN, STORM & SANITARY SEWER  
BEDDING STANDARDS

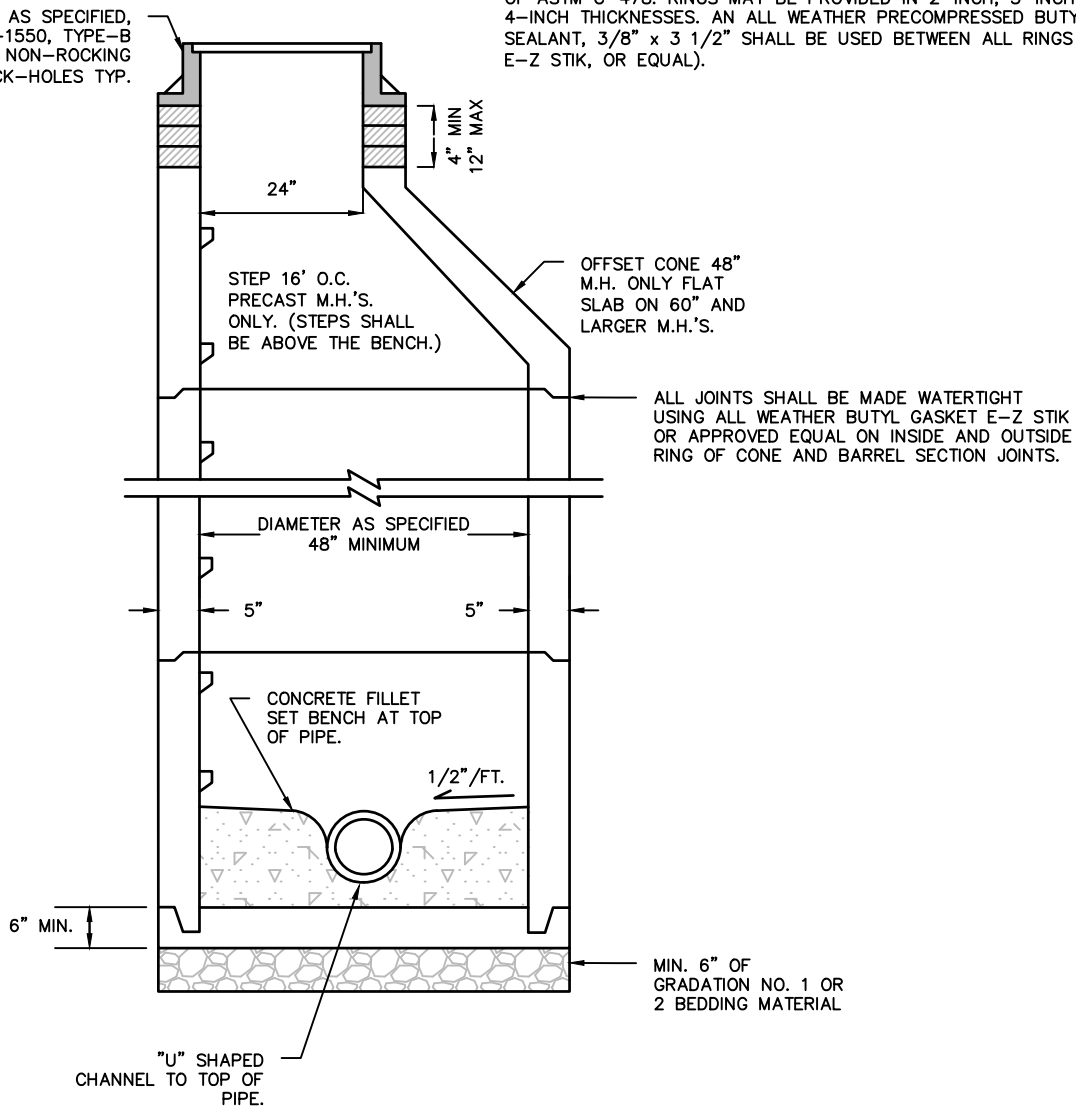
DATE: MARCH 2022

DRAWING NO.

5-1

9" CASTING AS SPECIFIED,  
NEENAH R-1550, TYPE-B  
SELF-SEALING LID, NON-ROCKING  
W/ CONCEALED PICK-HOLES TYP.

PRECAST CONCRETE ADJUSTMENT RINGS OR HDPE ADJUSTMENT RINGS SHALL BE PROVIDED. PRECAST CONCRETE RINGS SHALL MEET REQUIREMENTS OF ASTM C-478. RINGS MAY BE PROVIDED IN 2-INCH, 3-INCH, AND 4-INCH THICKNESSES. AN ALL WEATHER PRECOMPRESSED BUTYL RUBBER SEALANT, 3/8" x 3 1/2" SHALL BE USED BETWEEN ALL RINGS (KENT SEAL, E-Z STIK, OR EQUAL).



ALL JOINTS SHALL BE MADE WATERTIGHT USING ALL WEATHER BUTYL GASKET E-Z STIK OR APPROVED EQUAL ON INSIDE AND OUTSIDE RING OF CONE AND BARREL SECTION JOINTS.

MIN. 6" OF GRADATION NO. 1 OR 2 BEDDING MATERIAL

NOTES:

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS MANUFACTURED TO MEET ASTM SPECIFICATION 3-478.

THE ENGINEER MAY ALSO APPROVE THE USE OF STREET LOCATION INSTALLATIONS IN OTHER LOCATIONS.

VILLAGE OF COTTAGE GROVE  
SANITARY MANHOLES IN STREET LOCATIONS

DATE: MARCH 2022

DRAWING NO.

5-2

NEENAH R-1916-C  
CASTING AND COVER

UPPER PORTION OF CONE MUST HAVE A  
FLAT CYLINDRICAL SURFACE (MINIMUM) 4"  
TO SECURE INTERNAL RUBBER BOOT.

RAWL CAULK CONCRETE ANCHORS  
(4) AND THREADED RODS.

TOP OF CONE TO BE A  
MINIMUM OF 6" ABOVE  
FINISHED GROUND.

6" MIN.

24"

ALL WEATHER BUTYL GASKET E-Z STIK OR  
EQUAL USED BETWEEN FLAT SURFACES.

STEPS 16" O.C.  
PRECAST M.H.'S  
ONLY. (STEPS SHALL BE  
ABOVE THE BENCH.)

OFFSET CONE 48" M.H. ONLY FLAT  
SLAB ON 60" AND LARGER M.H.'S.

ALL JOINTS SHALL BE MADE  
WATERTIGHT USING ALL WEATHER  
BUTYL GASKET E-Z STIK OR APPROVED  
EQUAL ON INSIDE AND OUTSIDE RING  
OF CONE AND BARREL SECTION JOINTS.

DIAMETER AS SPECIFIED  
48" MINIMUM

5"

5"

CONCRETE FILLET  
SET BENCH AT TOP  
OF PIPE.

1/2" / FT

6" MIN.

MIN. 6" OF GRADATION  
NO.1 OR 2 BEDDING MATERIAL

"U" SHAPED CHANNEL  
TO TOP OF PIPE

NOTES:

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS MANUFACTURED  
TO MEET ASTM SPECIFICATION 3-478.

THE ENGINEER MAY ALSO APPROVE THE USE OF STREET LOCATION  
INSTALLATIONS IN OTHER LOCATIONS.

VILLAGE OF COTTAGE GROVE

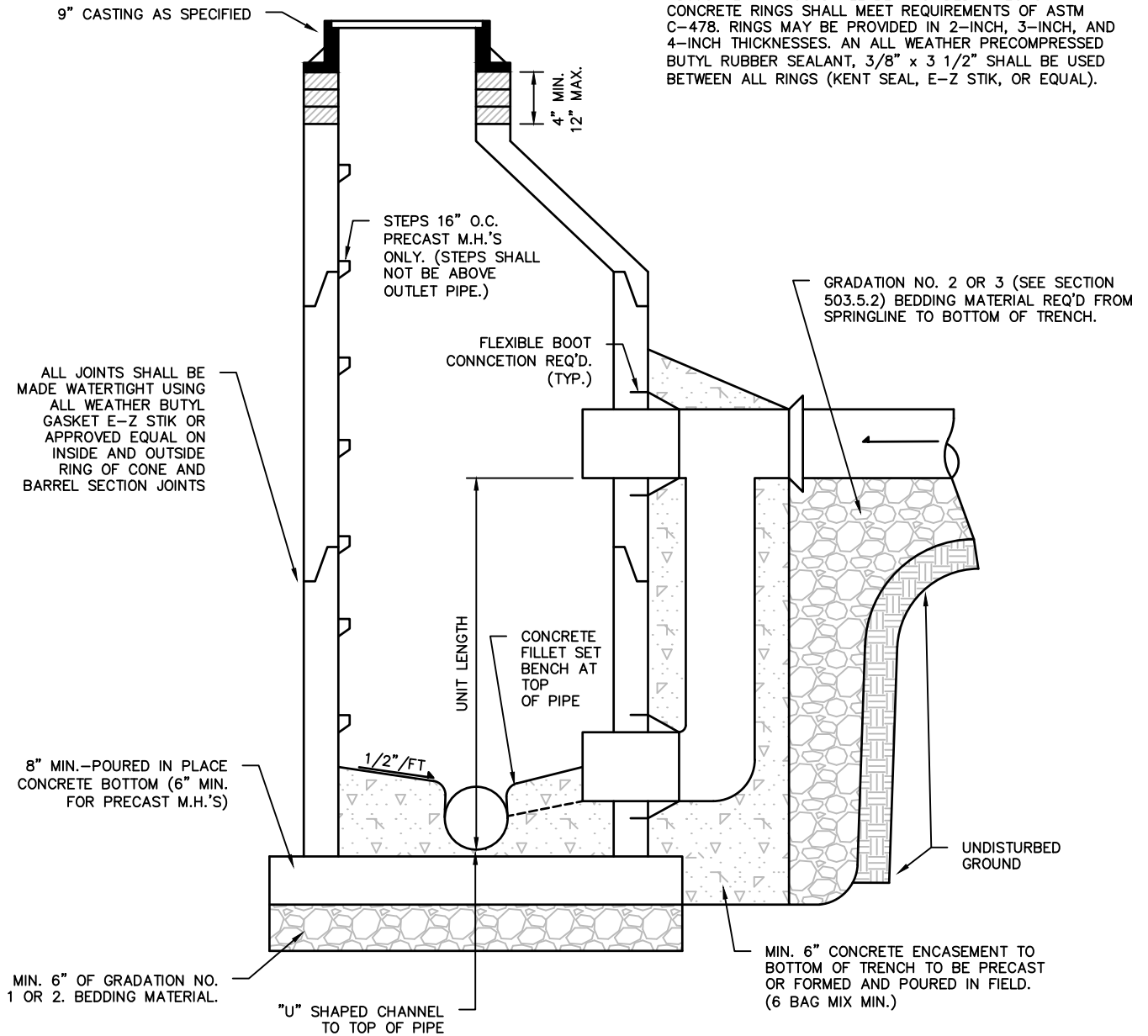
SANITARY MANHOLES IN REMOTE LOCATIONS

DATE: MARCH 2022

DRAWING NO.

5-3

PRECAST CONCRETE ADJUSTMENT RINGS OR HDPE ADJUSTMENT RINGS SHALL BE PROVIDED. PRECAST CONCRETE RINGS SHALL MEET REQUIREMENTS OF ASTM C-478. RINGS MAY BE PROVIDED IN 2-INCH, 3-INCH, AND 4-INCH THICKNESSES. AN ALL WEATHER PRECOMPRESSED BUTYL RUBBER SEALANT, 3/8" x 3 1/2" SHALL BE USED BETWEEN ALL RINGS (KENT SEAL, E-Z STIK, OR EQUAL).



ALL JOINTS SHALL BE MADE WATERTIGHT USING ALL WEATHER BUTYL GASKET E-Z STIK OR APPROVED EQUAL ON INSIDE AND OUTSIDE RING OF CONE AND BARREL SECTION JOINTS

STEPS 16" O.C. PRECAST M.H.'S ONLY. (STEPS SHALL NOT BE ABOVE OUTLET PIPE.)

FLEXIBLE BOOT CONNECTION REQ'D. (TYP.)

GRADATION NO. 2 OR 3 (SEE SECTION 503.5.2) BEDDING MATERIAL REQ'D FROM SPRINGLINE TO BOTTOM OF TRENCH.

CONCRETE FILLET SET BENCH AT TOP OF PIPE

8" MIN.—POURED IN PLACE CONCRETE BOTTOM (6" MIN. FOR PRECAST M.H.'S)

UNDISTURBED GROUND

MIN. 6" OF GRADATION NO. 1 OR 2. BEDDING MATERIAL.

MIN. 6" CONCRETE ENCASEMENT TO BOTTOM OF TRENCH TO BE PRECAST OR FORMED AND POURED IN FIELD. (6 BAG MIX MIN.)

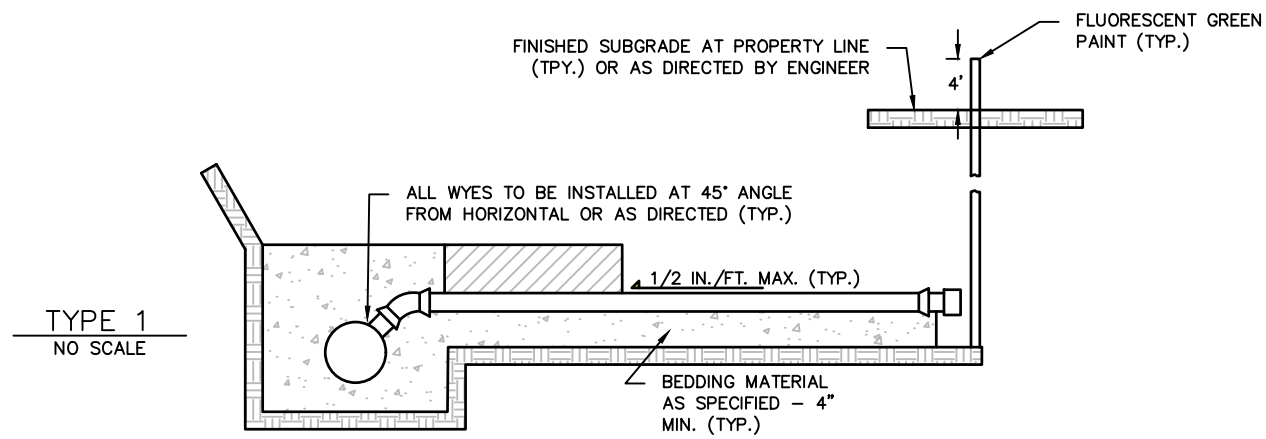
"U" SHAPED CHANNEL TO TOP OF PIPE

NOTES:

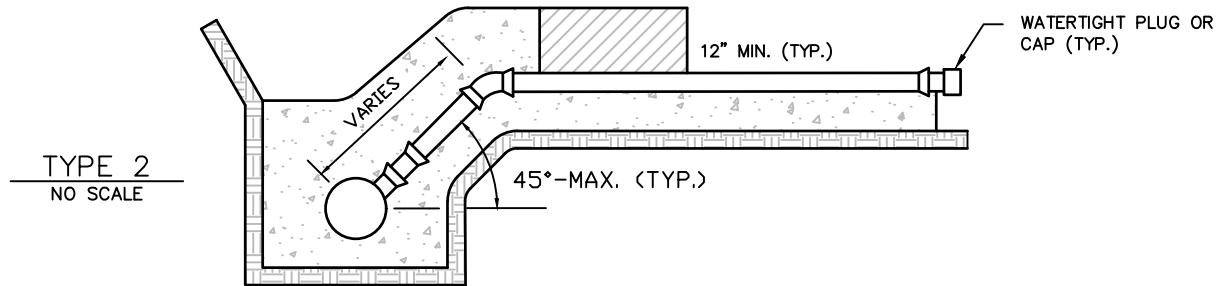
DROP PIPE AND FITTINGS SHALL BE SAME MATERIAL AND SIZE AS INCOMING SEWER.

CONCRETE ENCASEMENT IS NOT PRECAST, ENCASEMENT SHALL CURE FOR A MINIMUM OF 24 HOURS BEFORE TRENCH IS BACKFILLED.

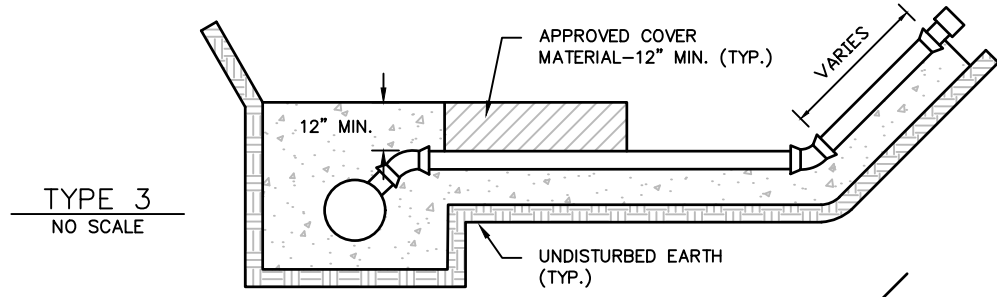
VILLAGE OF COTTAGE GROVE	
OUTSIDE DROP TO SANITARY SEWER MANHOLES	
DATE: MARCH 2022	DRAWING NO. 5-4



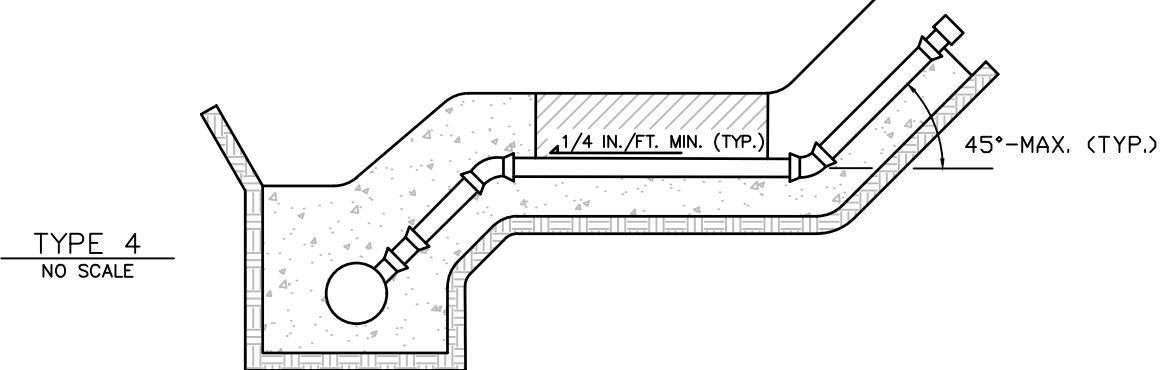
TYPE 1  
NO SCALE



TYPE 2  
NO SCALE



TYPE 3  
NO SCALE



TYPE 4  
NO SCALE

NOTES:

BEDDING MATERIAL SHALL BE 3/4" CLEAR STONE, UNLESS OTHERWISE APPROVED BY VILLAGE ENGINEER.

ENDS OF ALL LATERALS TO BE 10' MIN. COVER AT END AND BE PAINTED GREEN, MARKED BOTH BELOW AND EXTENDING 4' ABOVE FINISH GRADE WITH 4" x 4"

ALL NEW CONSTRUCTION TO BE PLACED ON UNDISTURBED GROUND OR SAND COMPACTED TO 95% MAXIMUM DENSITY.

LATERAL MATERIAL INCLUDING FITTINGS SHALL BE OF SAME MATERIAL AS THE SEWER MAIN, OR AS DIRECTED BY ENGINEER.

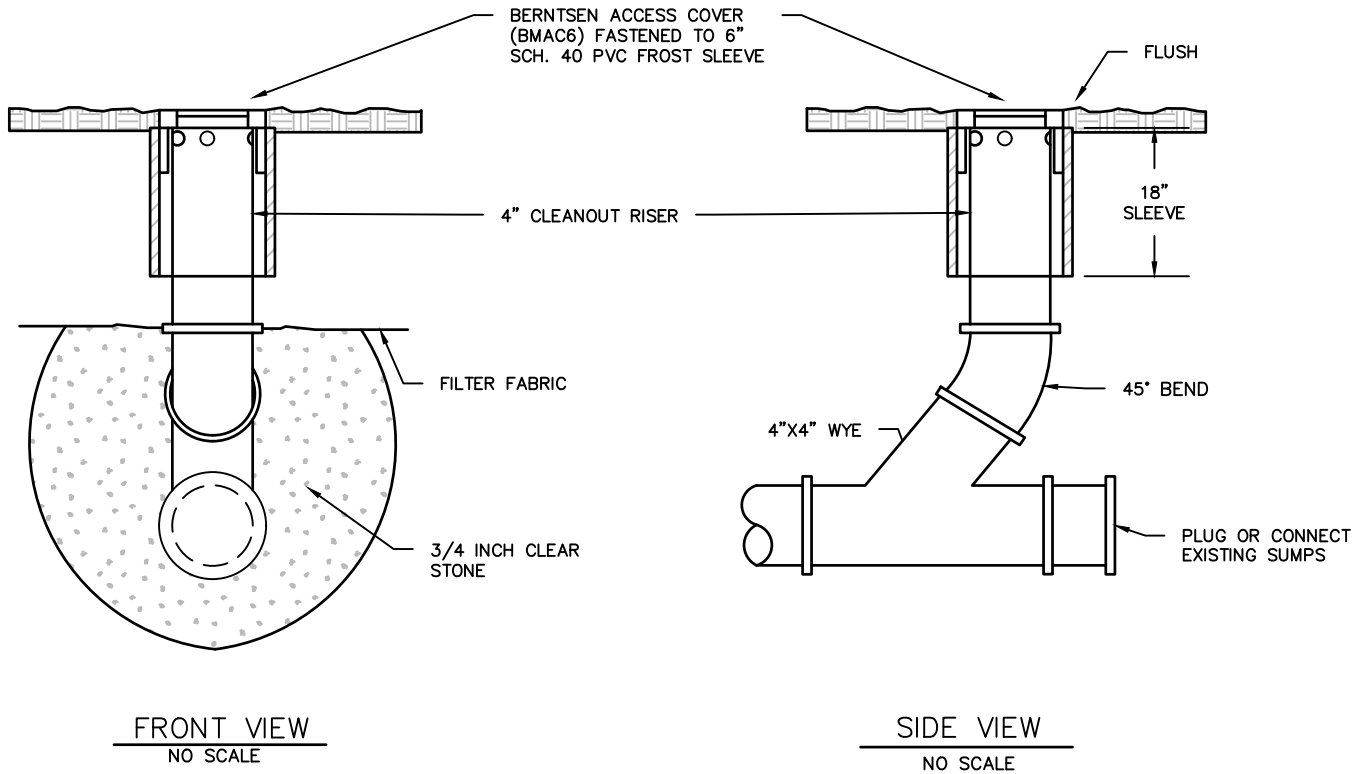
VILLAGE OF COTTAGE GROVE

SANITARY SEWER LATERALS  
STANDARD DETAILS

DATE: MARCH 2022

DRAWING NO.

5-5



NOTES:

THE TOP OF THE CLEANOUT RISE SHALL NOT EXTEND ABOVE EXISTING GROUND ELEVATION.

THE CONTRACTOR SHALL DRILL FOUR 1" DIAMETER HOLES WITHIN CLEANOUT RISER APPROXIMATELY 43" BELOW EXISTING GROUND ELEVATION.

THE CONTRACTOR SHALL REMOVE THE EXISTING SUMP PUMP DISCHARGE PIPE WITHIN THE STREET R.O.W. AND CONNECT EXISTING SUMP LINE 3' PAST R.O.W.

THE CLEANOUT RISER SHALL BE ENCASED IN A 6" SCH. 40 PVC FROST SLEEVE WITH A BERNTSEN ACCESS COVER (BMAC6).

THE CLEANOUT RISER SHALL BE INSTALLED 1' OUTSIDE OF R.O.W.

VILLAGE OF COTTAGE GROVE

SANITARY LATERAL CLEANOUT CONNECTION

DATE: MARCH 2022

DRAWING NO.

5-6

MOUND CONCRETE FROM 2" ABOVE BOLT HOLES TO 6" BELOW INLET BOX. CONCRETE SHALL BE TROWELED SMOOTH.

PRECAST ADJUSTING RINGS (MINIMUM OF 4" ADJUSTMENT REQUIRED, MAXIMUM OF 9").

INLET FRAME AND CURB BOX SHALL BE NEENAH R-3067 WITH TYPE R OR L GRATE & SHALL HAVE THE WORDS "DUMP NO WASTE - DRAINS TO FRESH WATER" (OR APPROVED BY ENGINEER)

(2) #4-6' EPOXY COATED REBAR VERTICAL (SEE DETAIL DRAWING 3-8).

IF SHIMMING IS NECESSARY BETWEEN THE TOP ADJUSTMENT RING AND CASTING, NO WOOD SHIMS ARE ALLOWED. A CONCRETE COLLAR SHALL BE POURED FROM TOP OF INLET BOX, TO 2" ABOVE THE BASE OF THE CASTING. (ALL SIDES)

BACKFILL

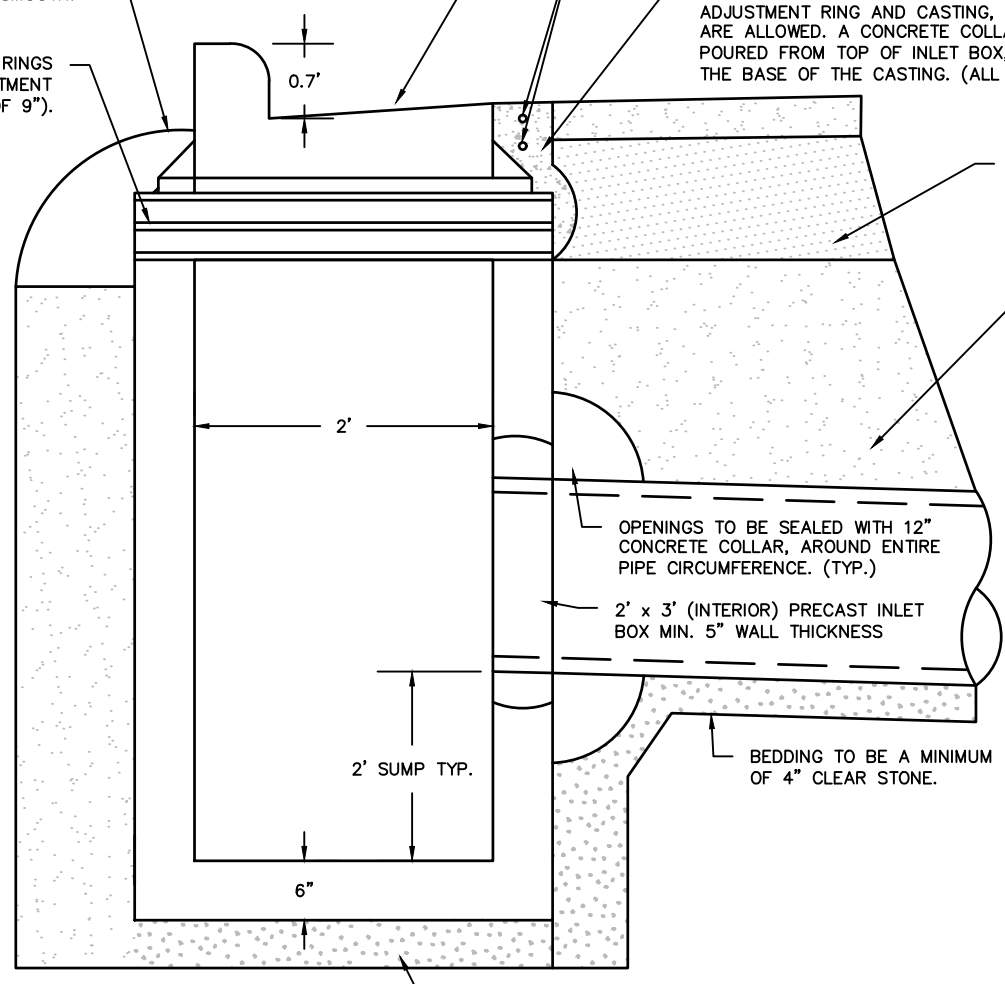
COVER

OPENINGS TO BE SEALED WITH 12" CONCRETE COLLAR, AROUND ENTIRE PIPE CIRCUMFERENCE. (TYP.)

2' x 3' (INTERIOR) PRECAST INLET BOX MIN. 5" WALL THICKNESS

BEDDING TO BE A MINIMUM OF 4" CLEAR STONE.

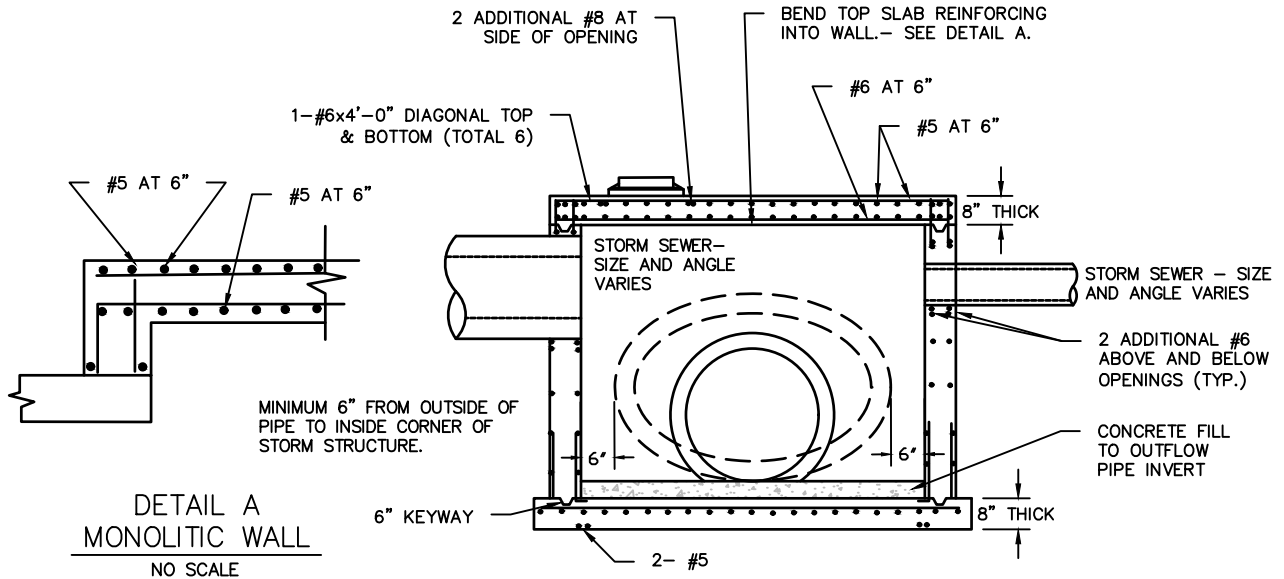
12" CLEAR STONE BEDDING



VILLAGE OF COTTAGE GROVE  
TYPICAL INLET DETAIL

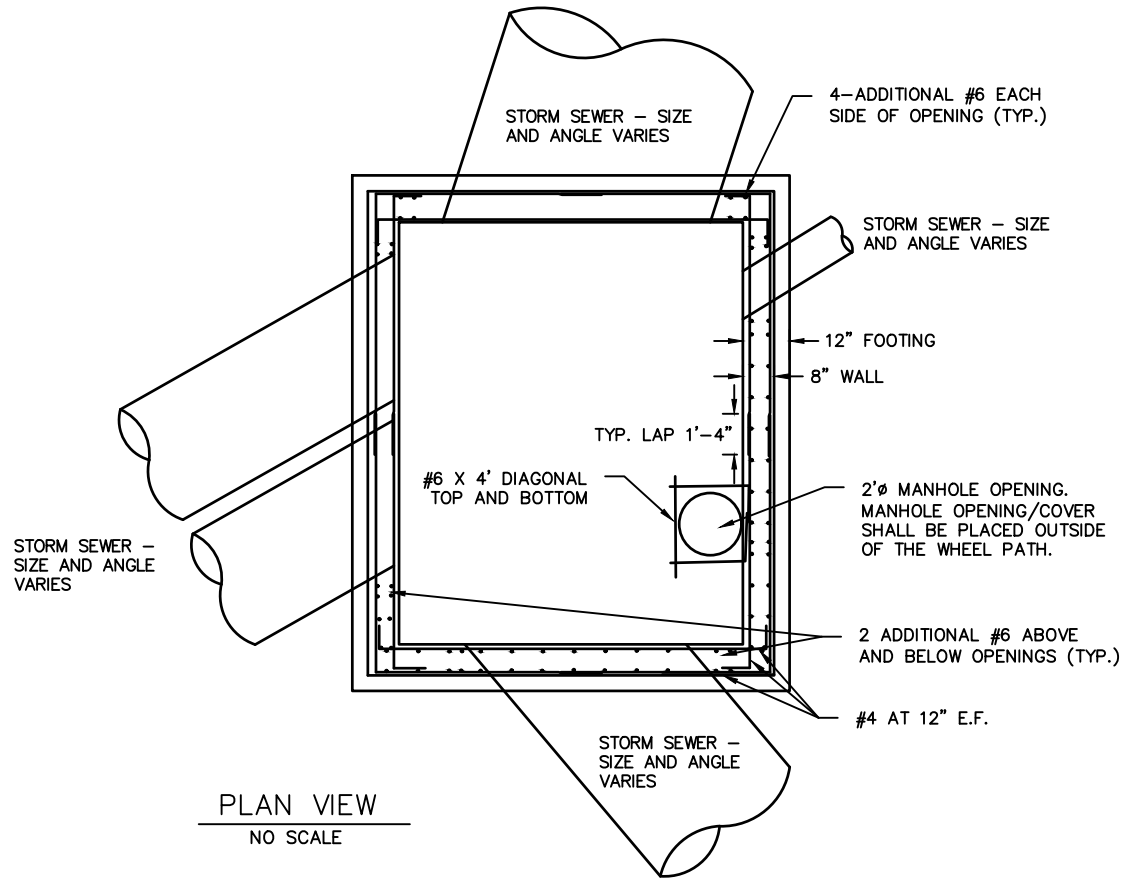
DATE: MARCH 2022

DRAWING NO.  
5-7



DETAIL A  
MONOLITIC WALL  
NO SCALE

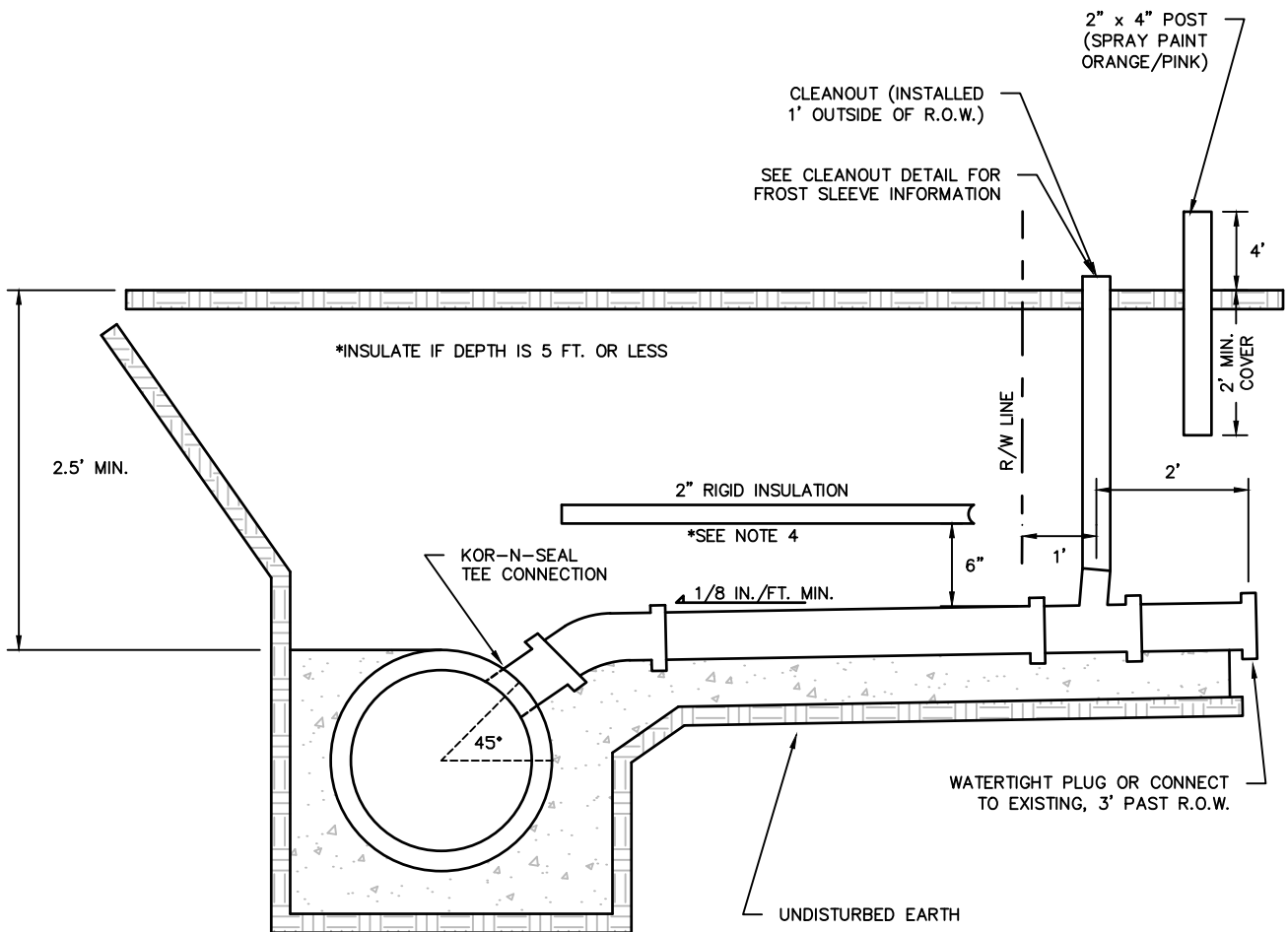
CAST IN PLACE STORM MANHOLE  
NO SCALE



PLAN VIEW  
NO SCALE

NOTES:  
 VERTICAL WALLS SHALL HAVE #4 BARS 12" O.C.  
 ALL REBAR MUST BE EPOXY COATED.  
 STORM STRUCTURE BASE SHALL BE A MINIMUM OF 6" CLEAR STONE.  
 FOR MANHOLE DEPTHS EXCEEDING 10', THE BASE THICKNESS SHALL BE INCREASED TO 12".

VILLAGE OF COTTAGE GROVE	
CAST IN PLACE STORM STRUCTURE	
DATE: MARCH 2022	DRAWING NO. 5-8



SIDE VIEW

NO SCALE

NOTES:

NEW CONNECTIONS SHALL CONSIST OF A FACTORY SUPPLIED 4" DIAMETER TEE CONNECTION WITH AN ENGINEER APPROVED METHOD AND MATERIAL.

LATERAL PIPE SHALL BE SCHEDULE 40 PVC OR EQUAL.

LATERAL PIPE SHALL HAVE CLASS "B" BEDDING. BEDDING AND COVER MATERIAL SHALL CONSIST OF 3/4" CLEAR STONE.

LATERAL SHALL BE INSULATED AT ALL LOCATIONS WITH LESS THAN 5' OF COVER MATERIAL. (4'x8'x2" INSULATION OR BOX-IN METHOD ALLOWED).

EXISTING STORM SEWER SHALL BE CORED USING PORTABLE CORE DRILL AND THE CONNECTION SHALL BE MADE USING STRAPPED ON SADDLE AS APPROVED BY VILLAGE ENGINEER.

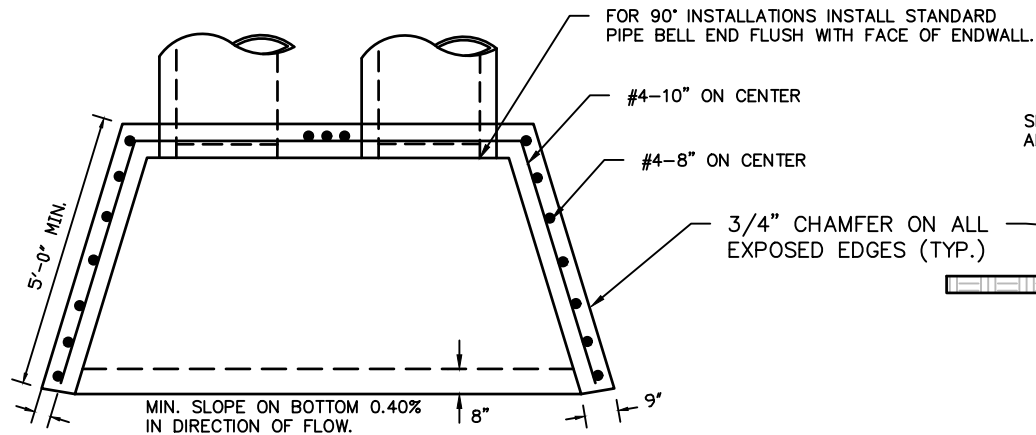
VILLAGE OF COTTAGE GROVE

TYPICAL STORM SEWER LATERAL

DATE: MARCH 2022

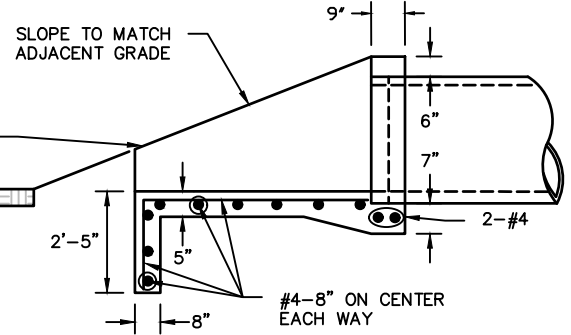
DRAWING NO.

5-9

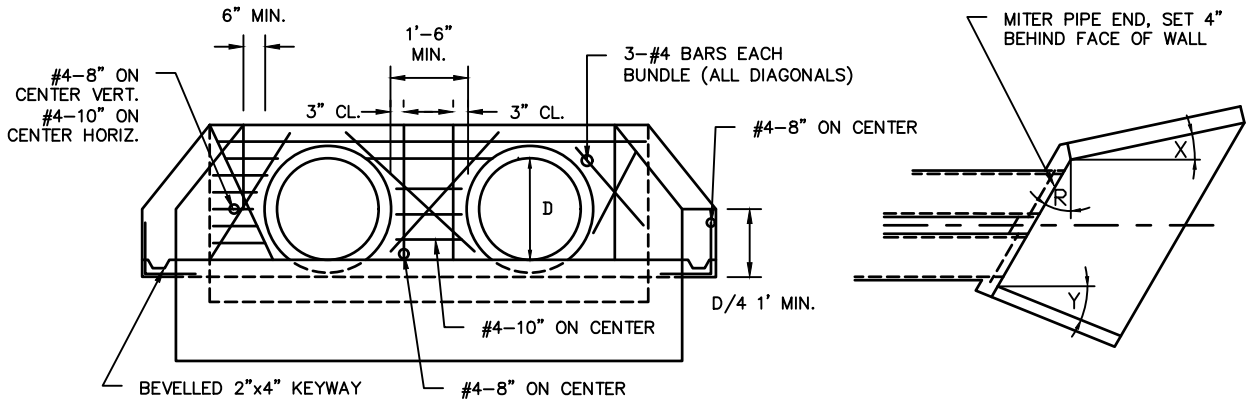


2" CL. TYP. UNLESS NOTED

PLAN VIEW  
NO SCALE

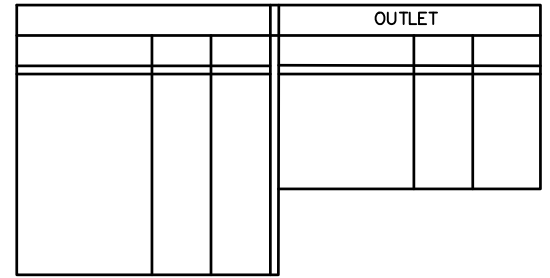


SIDE VIEW  
NO SCALE



END VIEW  
NO SCALE

WINGWALL ANGLE DETAILS



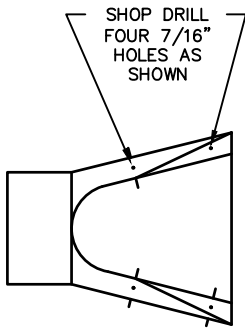
R = Number of degrees right or left hand forward.

NOTE: ALL REQUIRED REBAR MUST BE EPOXY COATED

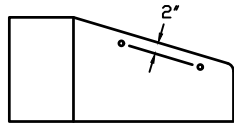
VILLAGE OF COTTAGE GROVE  
STANDARD CONCRETE MASONRY ENDWALLS

DATE: MARCH 2022

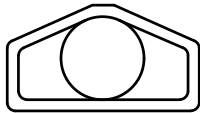
DRAWING NO.  
5-10



TOP VIEW  
NO SCALE

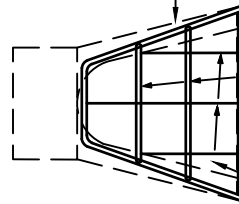


SIDE VIEW  
NO SCALE



END VIEW  
NO SCALE

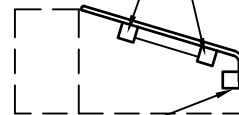
1" Ø STD. PIPE FRAME



1" Ø STD. PIPE  
@ 8" O.C.

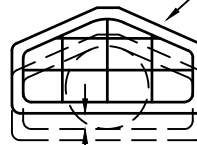
3/4" Ø ROD @ 12"  
O.C. MAX - WELD  
@ EACH PIPE

4"x4"x3/16" ANGLES (4 REQ'D)  
WELD TO FRAME PROVIDE 7/16"  
HOLE IN EACH ANGLE



PROVIDE 2 ADDITIONAL CONNECTIONS  
WHEN PIPE IS 36" OR LARGER

1" Ø STD. STEEL PIPE



8"

PAINTING SPECIFICATIONS

THE PIPE GATE SHALL RECEIVE THE FOLLOWING PREPARATION & PAINTING. SEE NOTES:  
FIRST COAT-RUST-OLEUM X-60 RED BARE METAL PRIMER OR EQUAL. SECOND COAT- RUST-OLEUM 960 ZINC CHROMATE PRIMER  
OR EQUAL. THIRD COAT-RUST-OLEUM  
1282 HIGH GLOSS & METALIC FINISH OR EQUAL.

- NOTES:
1. BARE SURFACES - AFTER THROUGH SCRAPING, WIRE BRUSHING & CLEANING  
APPLY THE THREE COAT SYSTEM LISTED.
  2. EACH COAT AN OVERALL COAT.
  3. ALLOW 24-48 HOURS DRYING TIME BETWEEN COATS.

NOTES:

THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL  
WITH FOUR 3/8" x 6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.

PIPE GATES ARE REQUIRED ON ENDWALLS GREATER THAN OR EQUAL TO 12"

VILLAGE OF COTTAGE GROVE

STANDARD PIPE GATE FOR  
CONCRETE APRON ENDWALL

DATE: MARCH 2022

DRAWING NO.

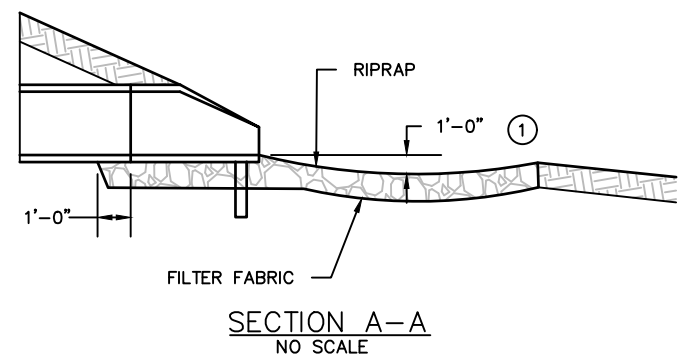
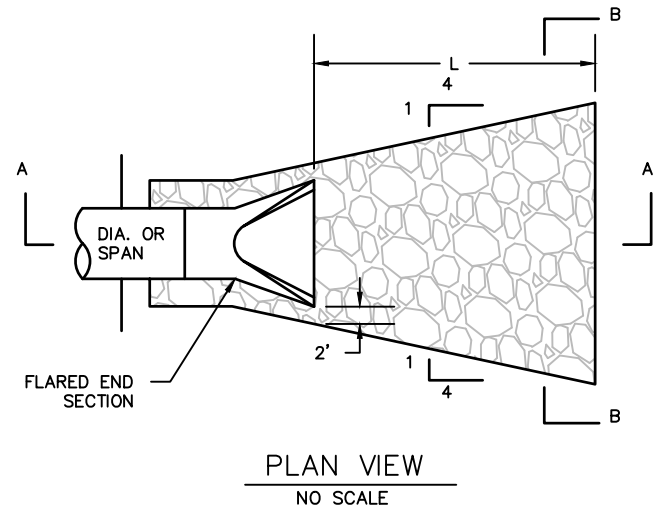
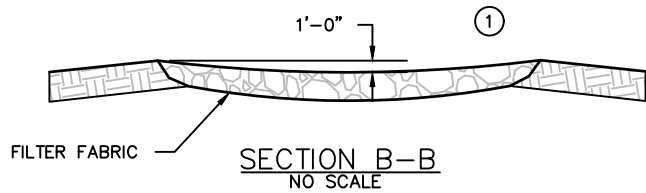
5-11

TABLE OF QUANTITIES RIPRAP AT RCP OUTLETS

		CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
DIA OF ROUND PIPE (IN.)	L (FT.)	12" DEPTH RIPRAP (CU YDS.)	18" DEPTH RIPRAP (CU YDS.)	24" DEPTH RIPRAP (CU YDS.)
12	8	2.8	4.1	5.5
15	8	2.9	4.4	5.8
18	10	3.9	5.9	7.8
21	10	4.2	6.3	8.4
24	12	5.5	8.3	11.0
27	12	5.8	8.7	11.6
30	14	7.3	10.9	14.5
36	16	9.2	13.8	18.3
42	18	10.9	16.3	21.7
48	20	12.9	19.4	25.8

TABLE OF QUANTITIES RIPRAP AT RCP-A OUTLETS OR BOXES OF EQUIVALENT SPAN WIDTH

		CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
SPAN OF PIPE ARCH (IN.)	L (FT.)	12" DEPTH RIPRAP (CU YDS.)	18" DEPTH RIPRAP (CU YDS.)	24" DEPTH RIPRAP (CU YDS.)
22	10	3.9	5.9	7.8
28	12	5.5	8.2	10.9
36	14	7.2	10.8	14.3
43	16	9.2	13.7	18.3
51	18	10.9	16.3	21.7
58	20	12.7	19.0	25.4



NOTES:

PIPES SIZES LARGER THAN THOSE SHOWN REQUIRE A SPECIAL DESIGN.

① GEOTEXTILE FILTER FABRIC SHALL BE TYPE "HR" UNLESS OTHERWISE SPECIFIED.

FOR PIPES GREATER THAN OR EQUAL TO 30" USE 1.5'.

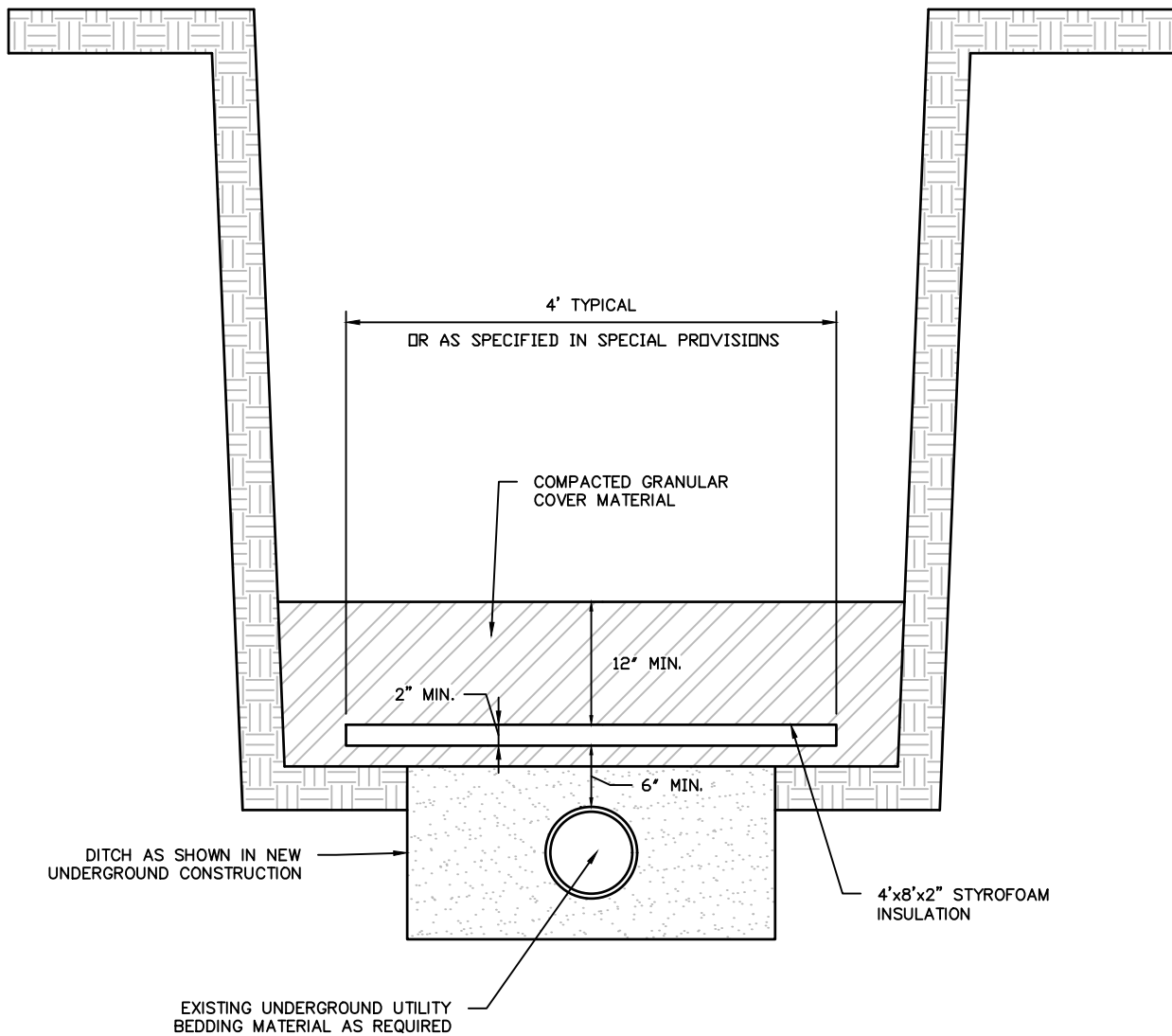
VILLAGE OF COTTAGE GROVE

RIP-RAP & FABRIC DETAIL FOR ENDWALL

DATE: MARCH 2022

DRAWING NO.

5-12

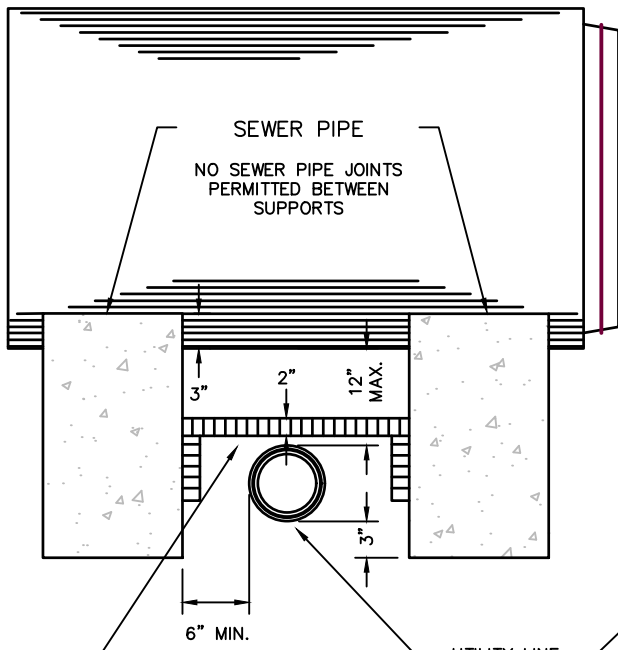


NOTES:

INSULATION STANDARDS SHALL BE AS FOLLOW:

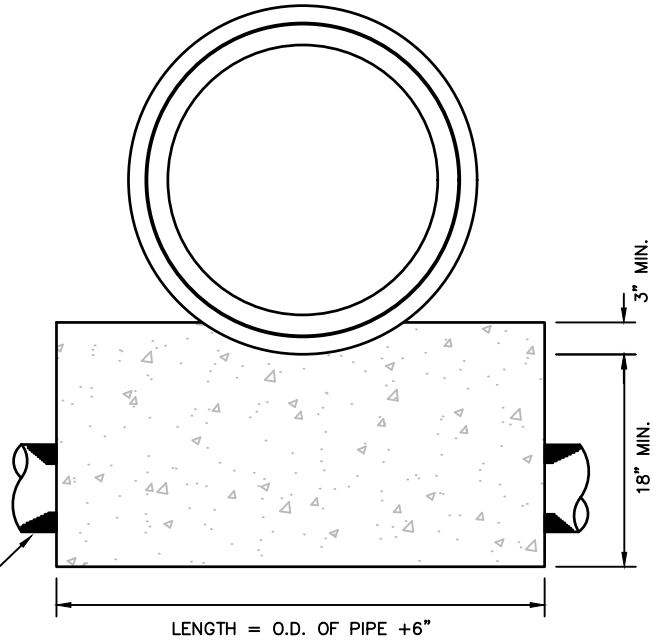
- WATER MAIN – INSULATED AT DEPTHS LESS THAN 6.5'.
- WATER MAIN SERVICES – INSULATE AT DEPTHS LESS THAN 6.5'.
- SANITARY MAIN SERVICES – INSULATE AT DEPTHS LESS THAN 5.0'.
- STORM SEWER LATERALS – INSULATE

<p>VILLAGE OF COTTAGE GROVE</p> <p>PIPE INSULATION DETAIL</p>	
<p>DATE: MARCH 2022</p>	<p>DRAWING NO.</p> <p style="text-align: center;">5-13</p>



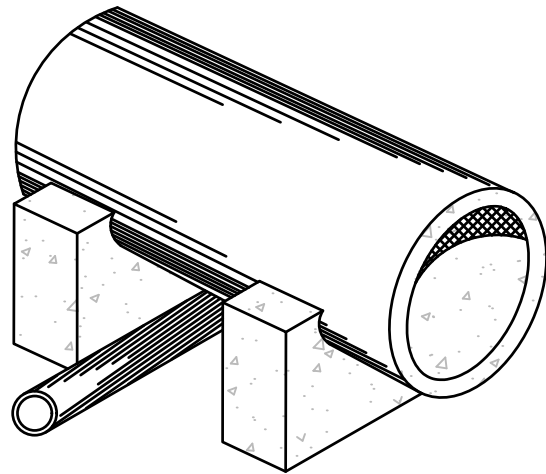
STYROFOAM BLOCK 4 FT. WIDTH CENTERED AS SHOWN

SIDE VIEW  
NO SCALE



LENGTH = O.D. OF PIPE + 6"

FRONT VIEW  
NO SCALE



EACH PAIR OF SUPPORTS IN ANY SIZE IS ONE PAY ITEM

VILLAGE OF COTTAGE GROVE

CONCRETE PIPE SUPPORT DETAIL

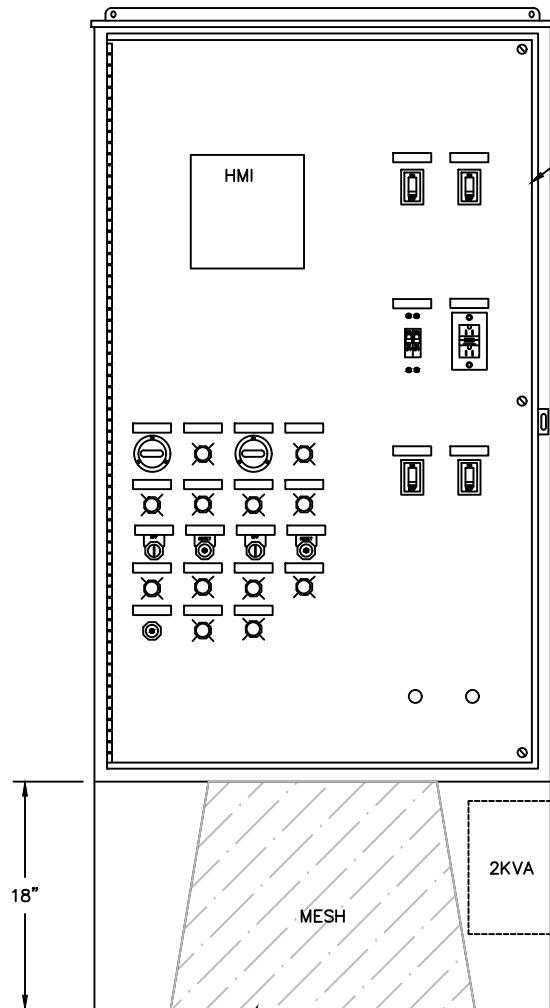
DATE: MARCH 2022

DRAWING NO.

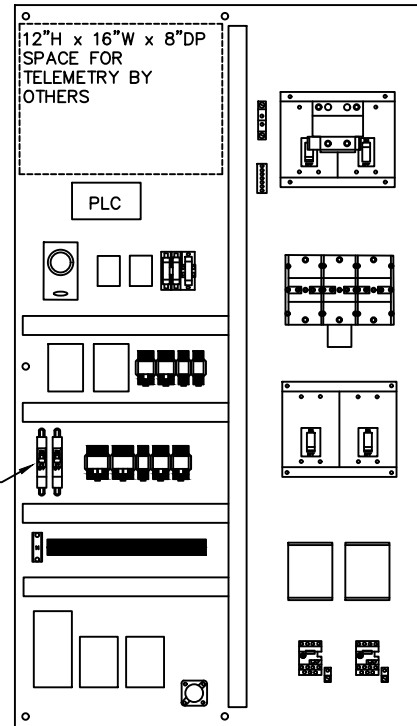
5-14

NEMA 3R GASKETED STAINLESS STEEL ENCLOSURE  
 60" H x 36" W x 12" DP  
 OUTER DOOR NOT SHOWN

BACK PANEL LAYOUT  
 57"H x 33"W



INNER DOOR



GFI BREAKERS

- NAMEPLATE LEGEND
1. SERVICE DISCONNECT
  2. EMERGENCY
  3. BACK-UP/CONTROL
  4. CONVENIENCE
  5. PUMP 1
  6. PUMP 2
  7. PUMP 1 RTM
  8. PUMP 1 CALL
  9. PUMP 2 RTM
  10. PUMP 2 CALL
  11. PUMP 1 RUN
  12. PUMP 1 OVERTEMP
  13. PUMP 2 RUN
  14. PUMP 2 OVERTEMP
  15. SEAL 1 FAIL
  16. PUMP 1 FAIL
  17. SEAL 2 FAIL
  18. PUMP 2 FAIL
  19. ALARM TEST
  20. HIGH LEVEL
  21. CONTROLLER ALARM

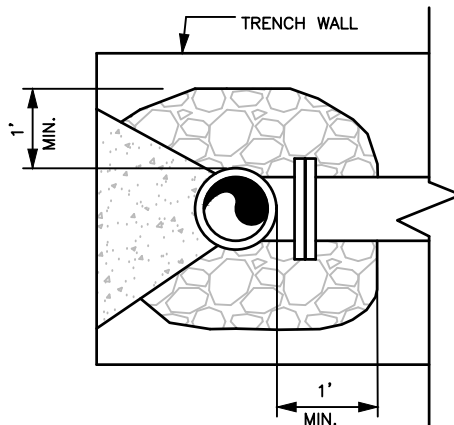
NOTES:  
 PROVIDE 3-POINT PADLOCKABLE LATCH KIT.  
 ENCLOSURE FULLY INSULATED.

PROVIDE REMOVABLE 1/2" FLATTENED, EXPANDED STAINLESS STEEL MESH WITH STAINLESS STEEL BAR STOCK FRAME ON FRONT AND BACK

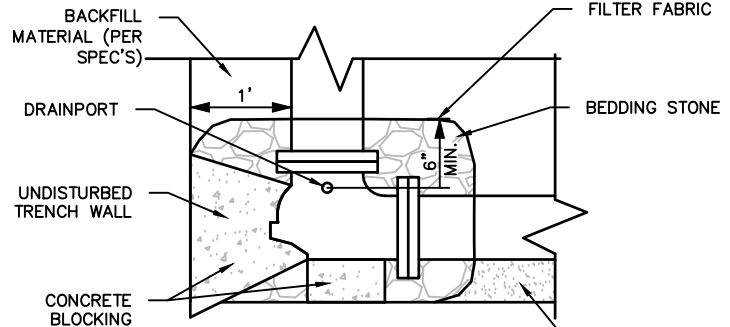
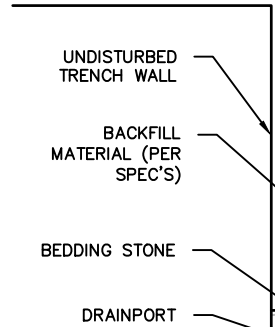
VILLAGE OF COTTAGE GROVE  
 PANEL INSTRUMENTATION

DATE: MARCH 2022

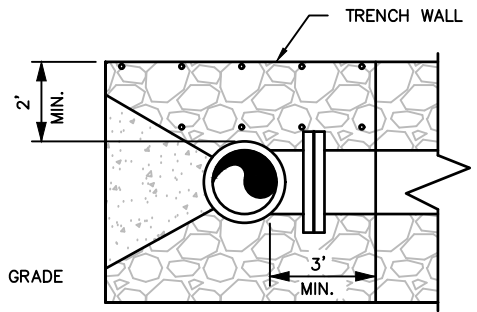
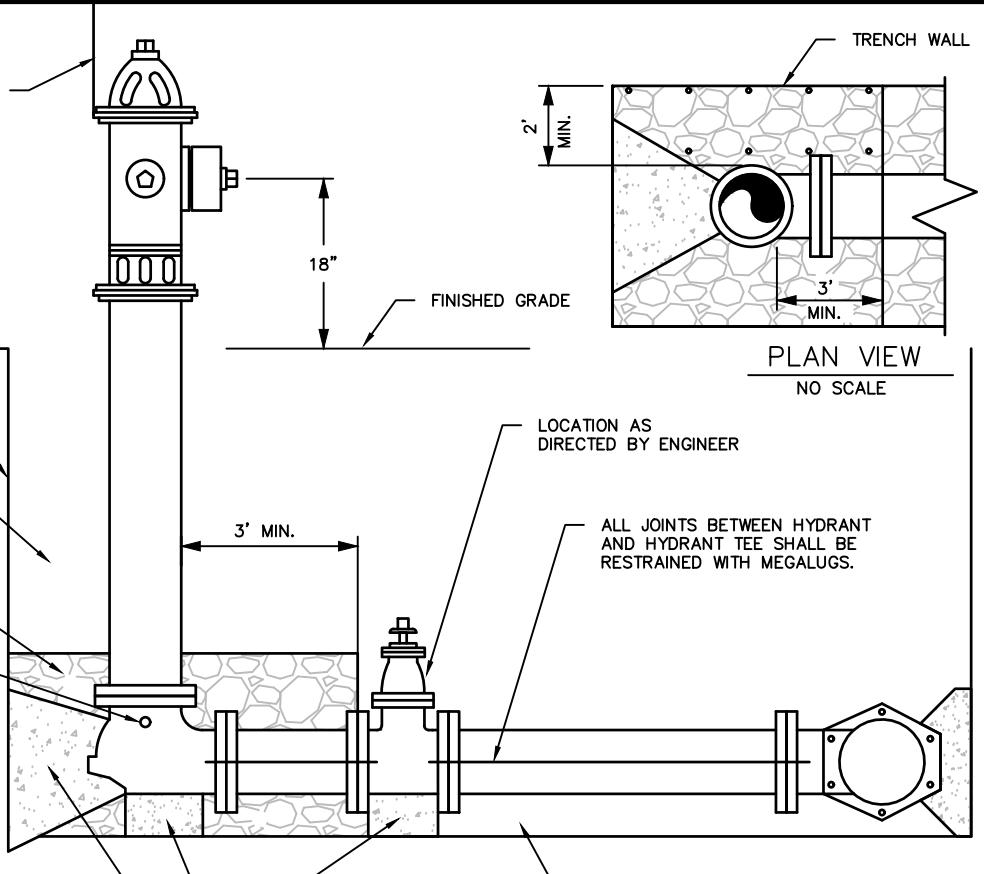
DRAWING NO.  
 5-15



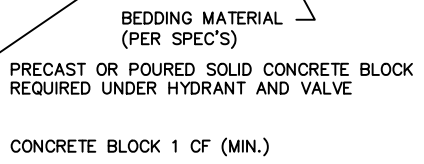
PLAN VIEW  
NO SCALE



ELEVATION  
NO SCALE



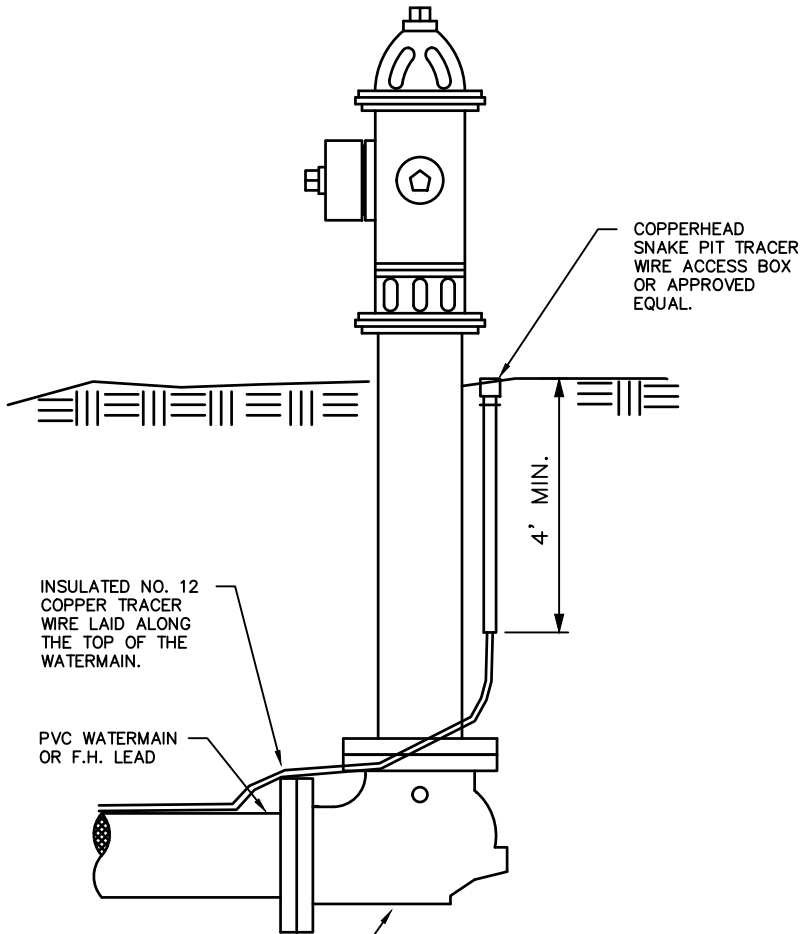
PLAN VIEW  
NO SCALE



ELEVATION  
NO SCALE

VILLAGE OF COTTAGE GROVE  
FIRE HYDRANT

DATE: MARCH 2022	DRAWING NO. 6-1
------------------	--------------------



INSULATED NO. 12  
COPPER TRACER  
WIRE LAID ALONG  
THE TOP OF THE  
WATERMAIN.

PVC WATERMAIN  
OR F.H. LEAD

COPPERHEAD  
SNAKE PIT TRACER  
WIRE ACCESS BOX  
OR APPROVED  
EQUAL.

4' MIN.

SEE "HYDRANT AND LEAD  
CONNECTION DETAIL" FOR  
HYDRANT DETAILS..

SIDE VIEW  
NO SCALE

NOTES:

THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE.

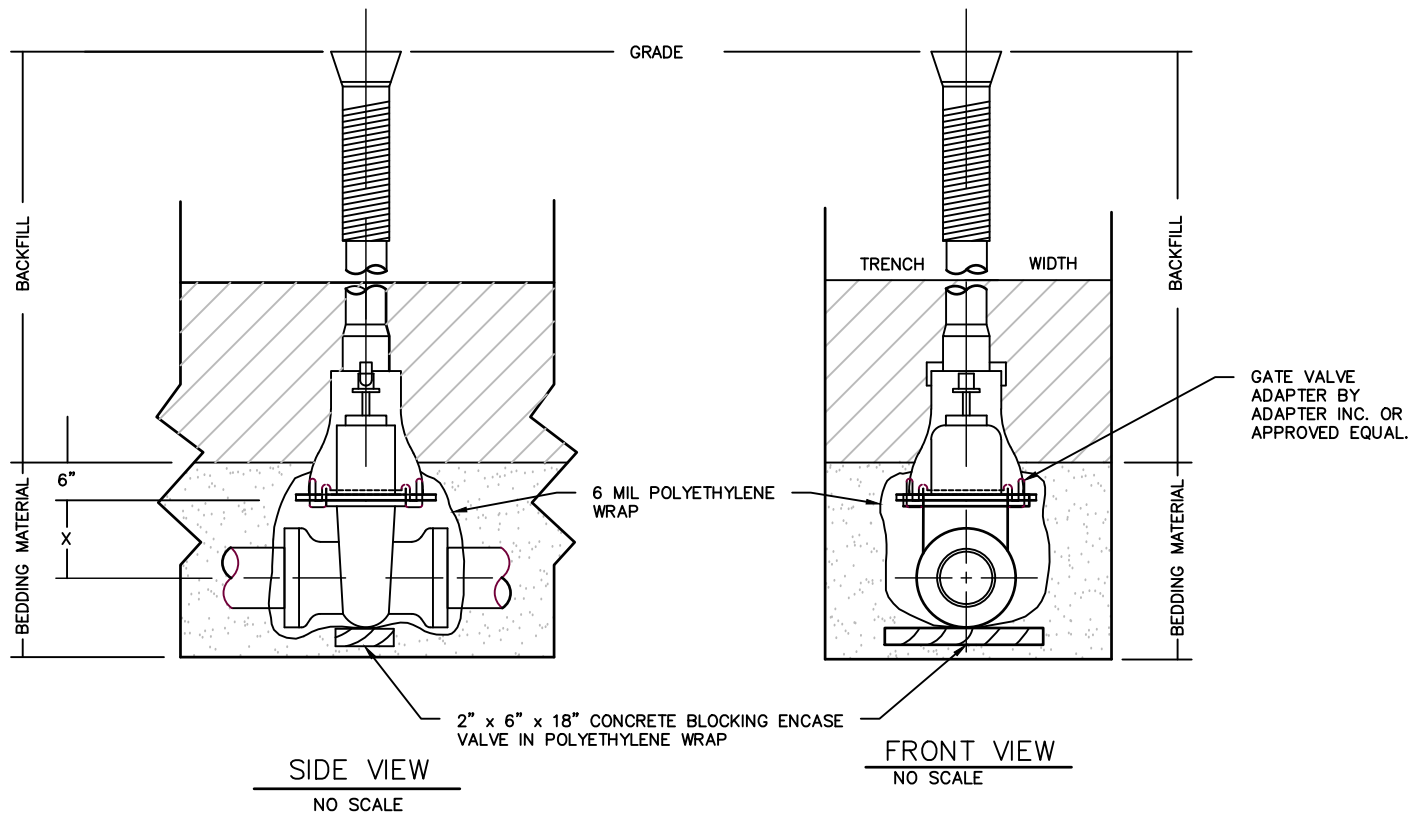
THE END(S) OF THE TRACER WIRE SHALL BE WRAPPED AROUND THE LAST FITTING INSTALLED - NO CONDUCTIVE BOND SHALL BE MADE.

A THREADED, FEMALE PVC SCH. 40 PLUG AND MALE COUPLING SOLVENT WELDED TO 3/4" PVC SCH. 40 CONDUIT SHALL BE INSTALLED AT THE BACK OF THE HYDRANT. TRACER WIRE PIGTAIL SHALL BE WRAPPED AROUND BOLT AND READILY ACCESSIBLE, WITH SUFFICIENT LENGTH FOR EASY CONNECTION.

VILLAGE OF COTTAGE GROVE  
WATER TRACER WIRE FOR PVC

DATE: MARCH 2022

DRAWING NO.  
6-2



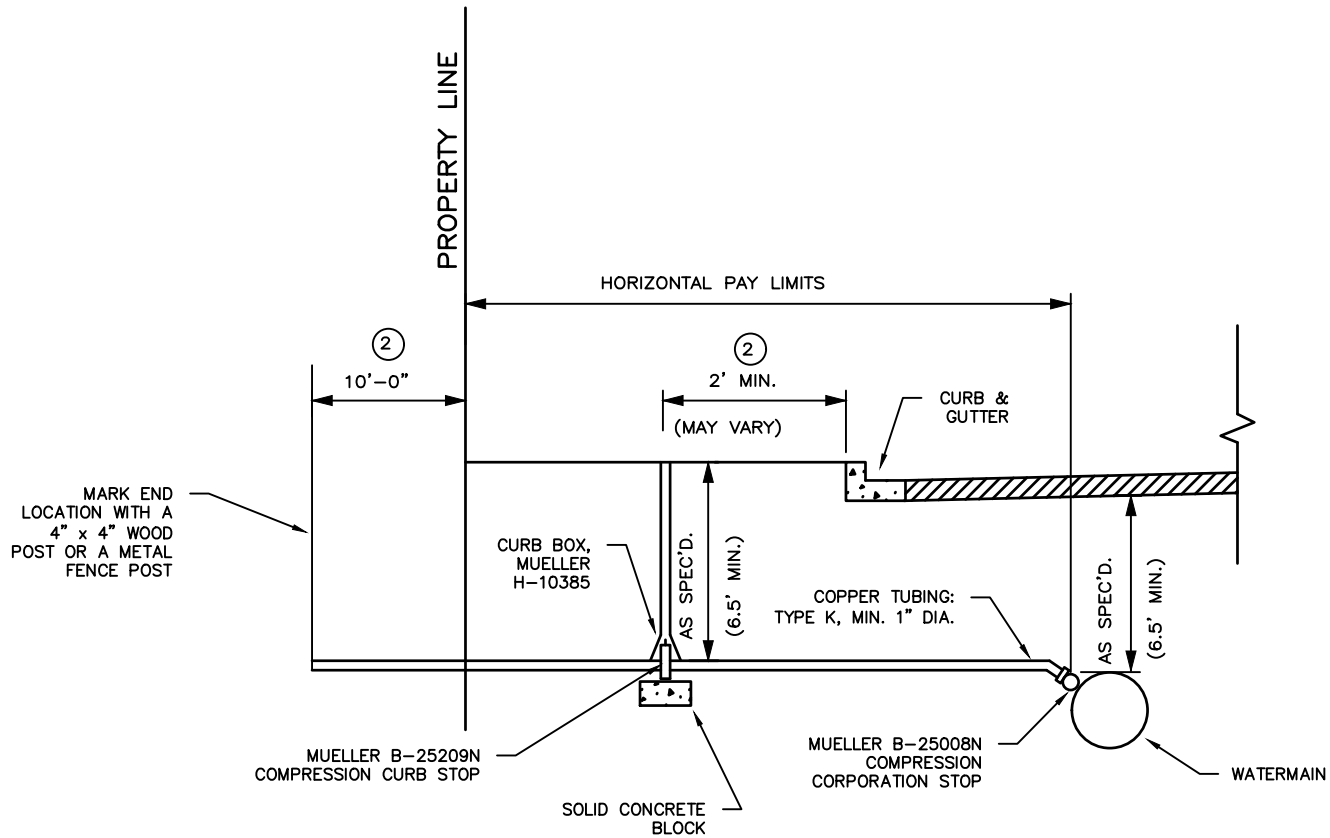
PIPE DIA. INCHES	X = SETTING INCHES
2	6
3	7
4	8
6	12
8	13
12	21
16	30

VILLAGE OF COTTAGE GROVE  
WATER VALVE BOX

DATE: MARCH 2022

DRAWING NO.

6-3



**NOTES:**

SEE PLANS AND SPECIFICATIONS FOR SIZE AND TYPE OF CURB STOP AND BOX CORPORATION AND SERVICE LINE.

COMMUNITY STANDARDS SHALL SUPERSEDE THE DIMENSIONS FROM THE PROPERTY LINE.

CORPORATION STOP SHALL BE TAPPED INTO DUCTILE IRON WATER MAIN, UNLESS OTHERWISE SPECIFIED. CORPORATION STOP SHALL BE ATTACHED TO PVC WATER MAIN WITH A SADDLE.

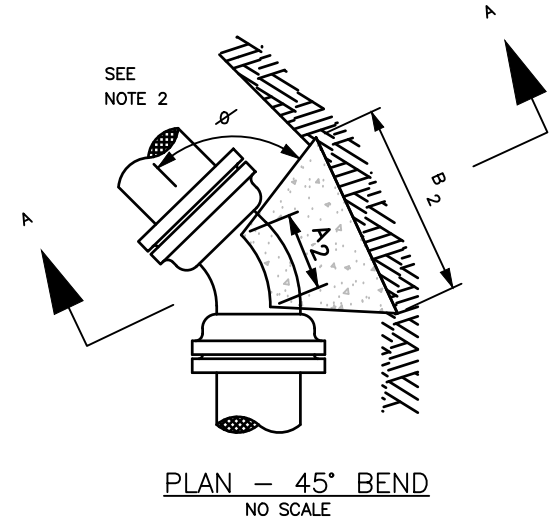
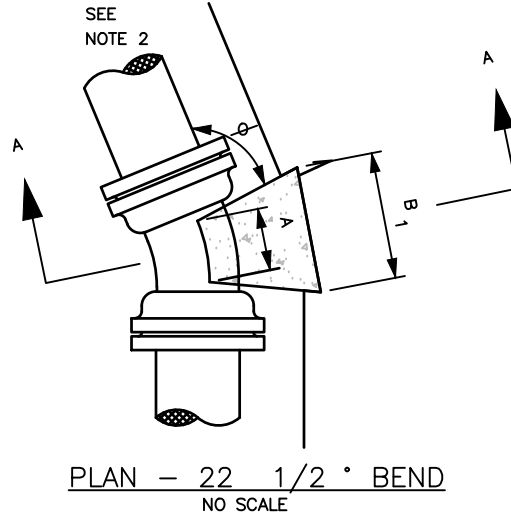
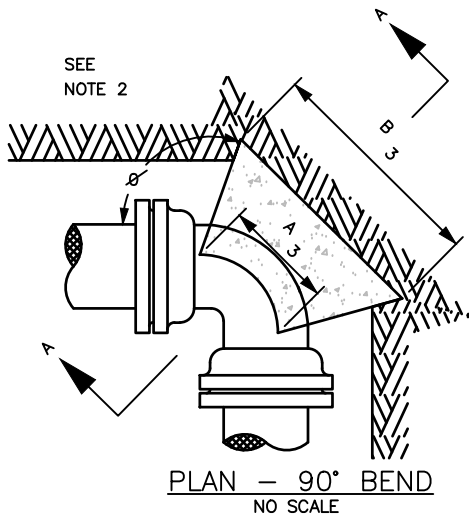
NO TAPS SHALL BE CLOSER THAN 18" APART ALONG THE MAIN.

WATER SERVICE LATERALS TO BE TESTED ALONG WITH THE WATER MAIN, UNLESS IT IS AN EXISTING SERVICE BEING RECONNECTED.

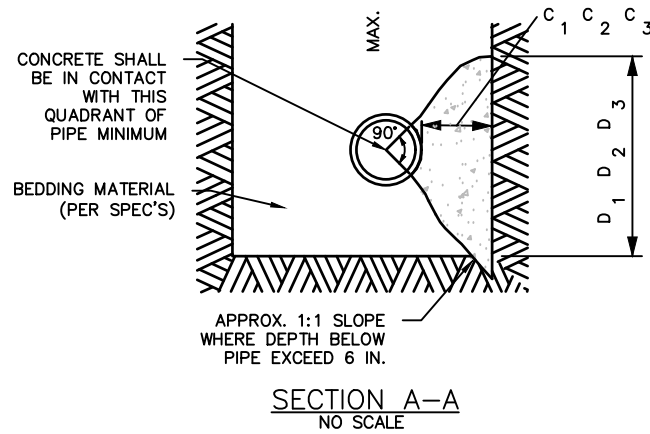
VILLAGE OF COTTAGE GROVE  
 WATER SERVICE LATERAL

DATE: MARCH 2022

DRAWING NO.  
 6-4



BUTTRISS DIMENSIONS						
PIPE SIZE	22 1/2° BENDS		45° BENDS		90° BENDS	
	B <sub>1</sub>	D <sub>1</sub>	B <sub>2</sub>	D <sub>2</sub>	B <sub>3</sub>	D <sub>3</sub>
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"
10"	1'-2"	1'-2"	1'-7"	1'-7"	2'-3"	1'-10"
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"
16"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"
20"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"
24"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"

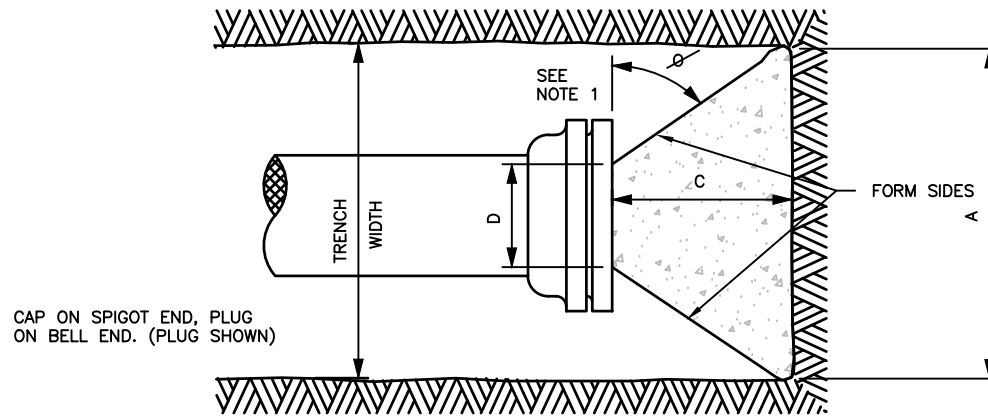


VILLAGE OF COTTAGE GROVE  
WATER BENDS BLOCKING

DATE: MARCH 2022

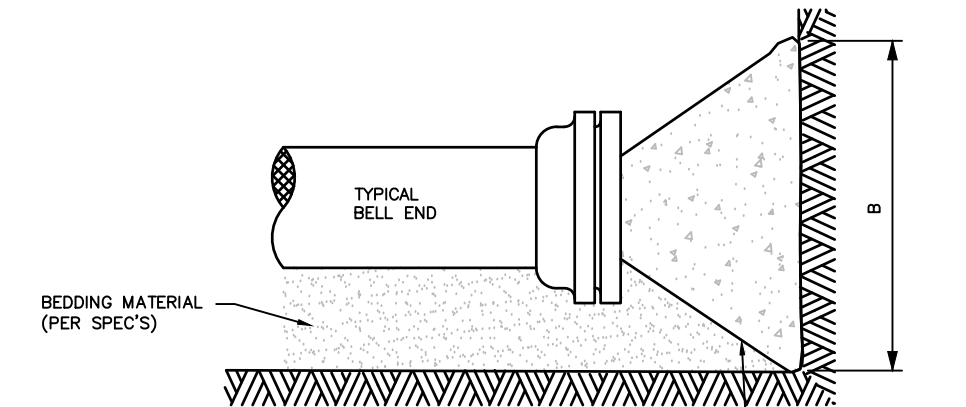
DRAWING NO.

6-5



PLAN VIEW

NO SCALE



ELEVATION

NO SCALE

APPROXIMATE 1:1  
SLOPE WHERE DEPTH  
BELOW PIPE EXCEEDS  
6 INCHES.

NOTES:

DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE  $\phi$  EQUAL TO OR LARGER THAN 45 DEGREES.

DIMENSION 'D' EQUALS APPROX. I.D. OF PIPE LESS 2". THE CONCRETE SHOULD NOT INTERFERE WITH THE MECHANICAL JOINTS.

WHERE BUTTRESSES ARE NOT POSSIBLE BECAUSE OF POOR SOIL CONDITIONS OR LACK OF ROOM, STRAPPING SHALL BE PERMITTED.

BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSI.

BUTTRESS TO BE POURED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.

CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.

ALL BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

BUTTRESS DIMENSIONS				
DIA.	A	B	C	D
6"	1'-6"	1'-2"		
8"	2'-0"	1'-4"	SEE NOTE NO. 1	SEE NOTE NO. 2
12"	2'-5"	1'-10"		
16"	3'-4"	2'-4"		
20"	4'-3"	2'-10"		
24"	5'-2"	3'-4"		
30"	6'-9"	4'-0"		

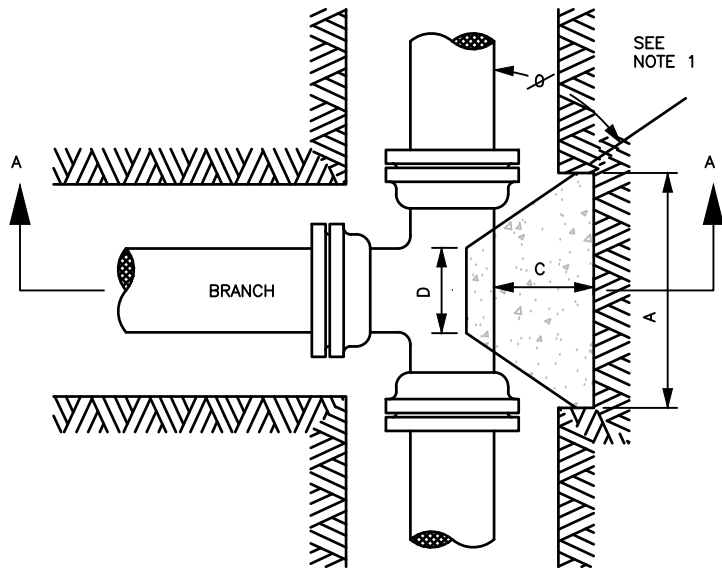
VILLAGE OF COTTAGE GROVE

WATER PLUG BLOCKING

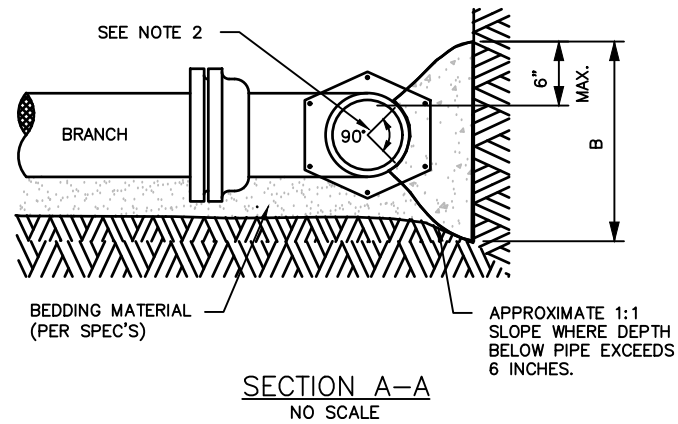
DATE: MARCH 2022

DRAWING NO.

6-6



PLAN VIEW  
NO SCALE



SECTION A-A  
NO SCALE

NOTES:

DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø EQUAL TO OR LARGER THAN 45 DEGREES.

CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AT A MINIMUM.

DIMENSION 'D' SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.

BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSI.

BUTTRESS TO BE POURED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.

CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.

ALL BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

BUTTRESS DIMENSIONS				
B.D	A	B	C	D
6"	1'-3"	1'-0"		
8"	1'-6"	1'-4"		
10"	1'-10"	1'-8"	SEE NOTE NO. 1	SEE NOTE NO. 3
12"	2'-3"	2'-0"		
16"	3'-2"	2'-6"		
20"	4'-0"	3'-0"		
24"	5'-3"	3'-4"		

B.D. = BRANCH DIAMETER

VILLAGE OF COTTAGE GROVE  
WATER TEE BLOCKING

DATE: MARCH 2022

DRAWING NO.

6-7