

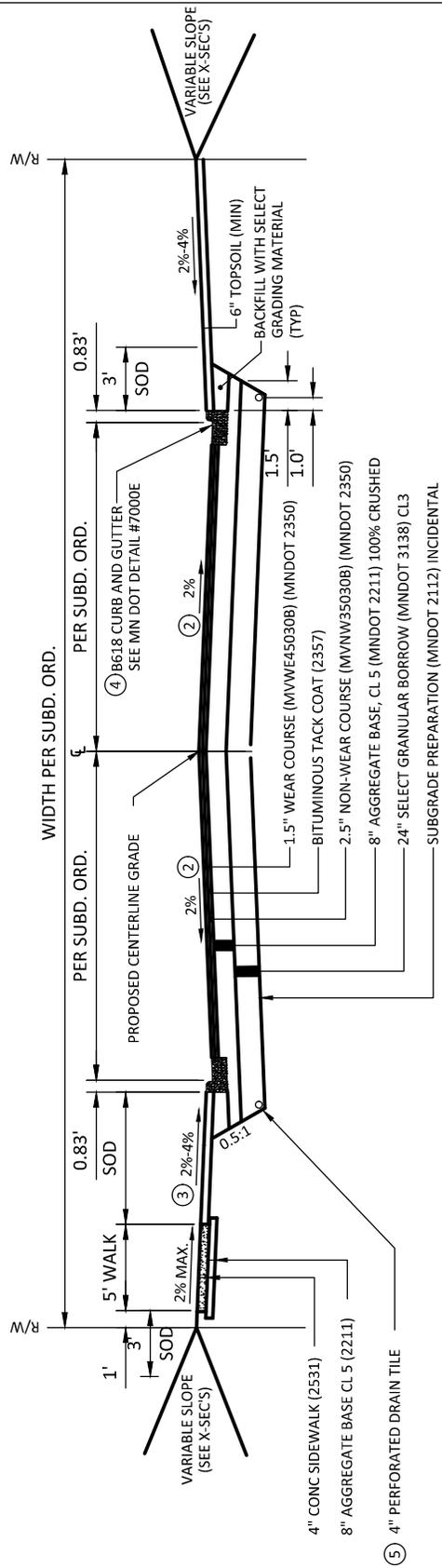


TYPICAL STREET SECTION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

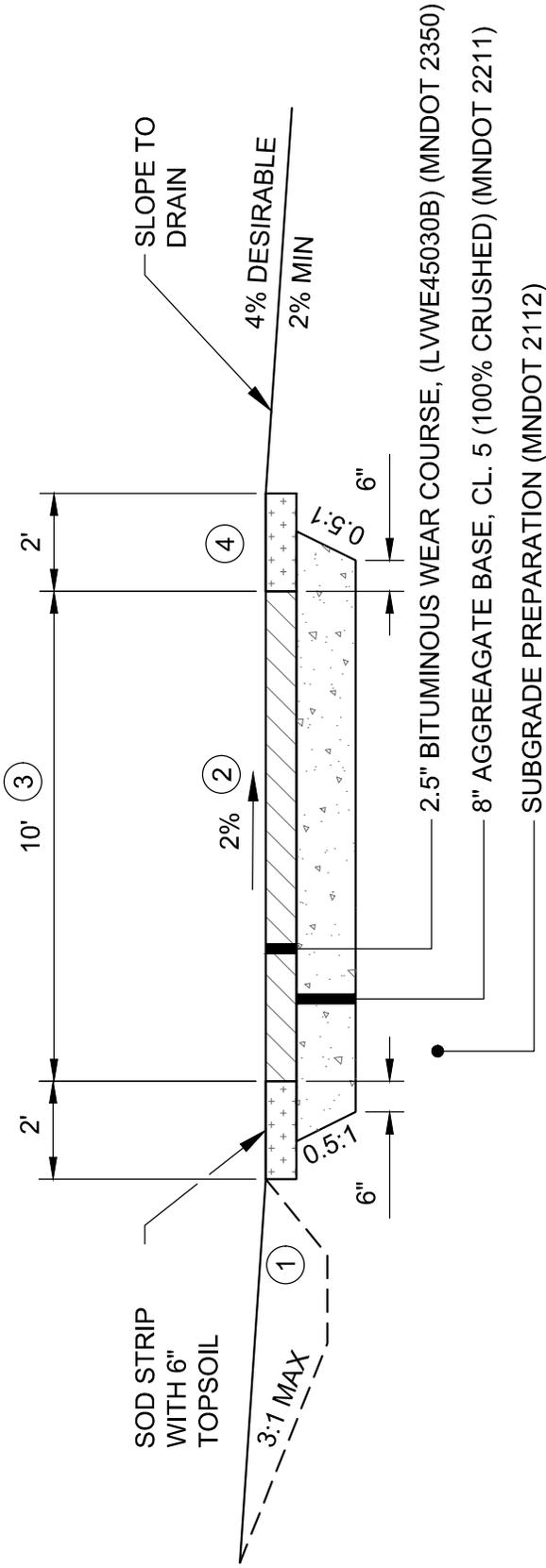
NO. 1000ENM
DATE 04/2019



GENERAL NOTES:

- ① ANY VARIATIONS FROM THE TYPICAL SECTION DIMENSIONS ARE SHOWN IN THE PROJECT PLANS
- ② PAVEMENT SLOPES AT INTERSECTION LOCATIONS MAY VARY FROM THOSE SHOWN ON THE TYPICAL SECTION
- ③ TOP OF SOD ROOT MASS TO BE BELOW SIDEWALK SURFACES
- ④ B618 CONC CURB & GUTTER IS REQUIRED AT ALL CURB RADII AND CATCH BASINS
- ⑤ SEE PLANS FOR TILE LOCATIONS

TYPICAL STREET SECTION
CITY OF ELKO NEW MARKET
NOT TO SCALE



NOTES:

- ① DITCH FOR DRAINAGE IF REQUIRED BY CITY ENGINEER
- ② SLOPE TOWARDS INSIDE OF CURVE
- ③ VARIATION FROM STANDARD WIDTH IF APPROVED IN DEVELOPMENT CONTRACT
- ④ TOP OF SOD ROOT MASS TO BE 1-INCH BELOW PAVED SURFACE



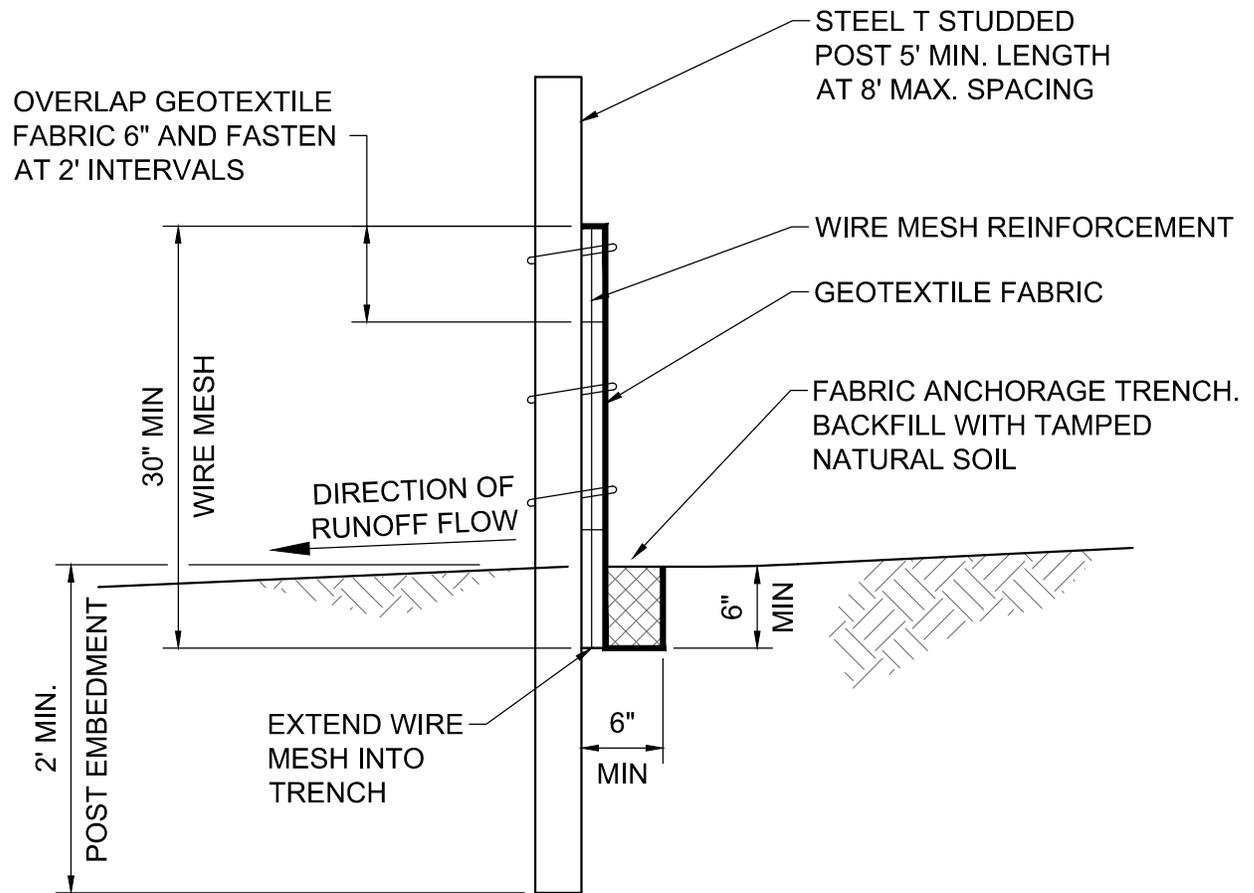
RECREATION TRAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 1001ENM

DATE 02/2017



HEAVY DUTY SILT FENCE IS REQUIRED ADJACENT TO ALL WETLANDS



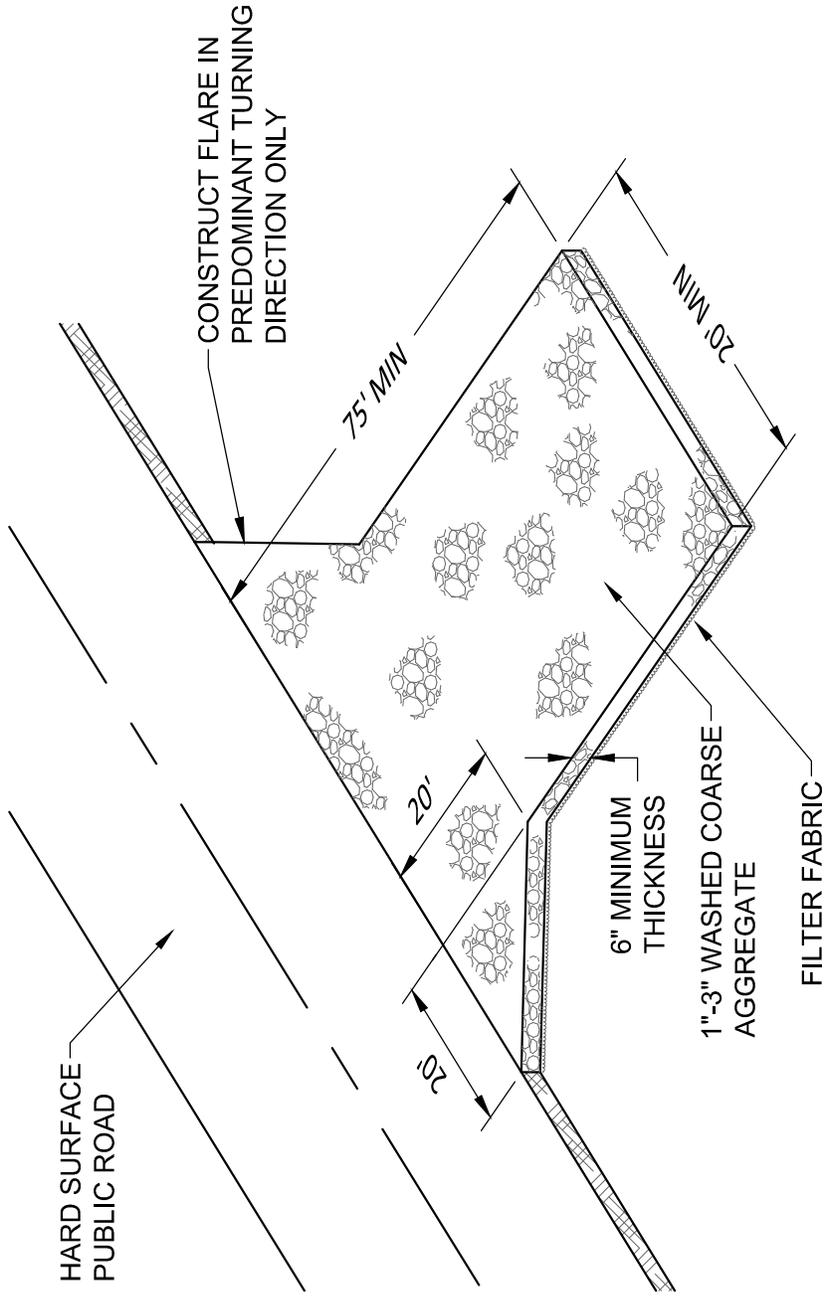
HEAVY DUTY SILT FENCE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 3003ENM

DATE 02/2017



NOTE: PLACE FILTER FABRIC BENEATH ROCK LAYER

STANDARD DETAIL

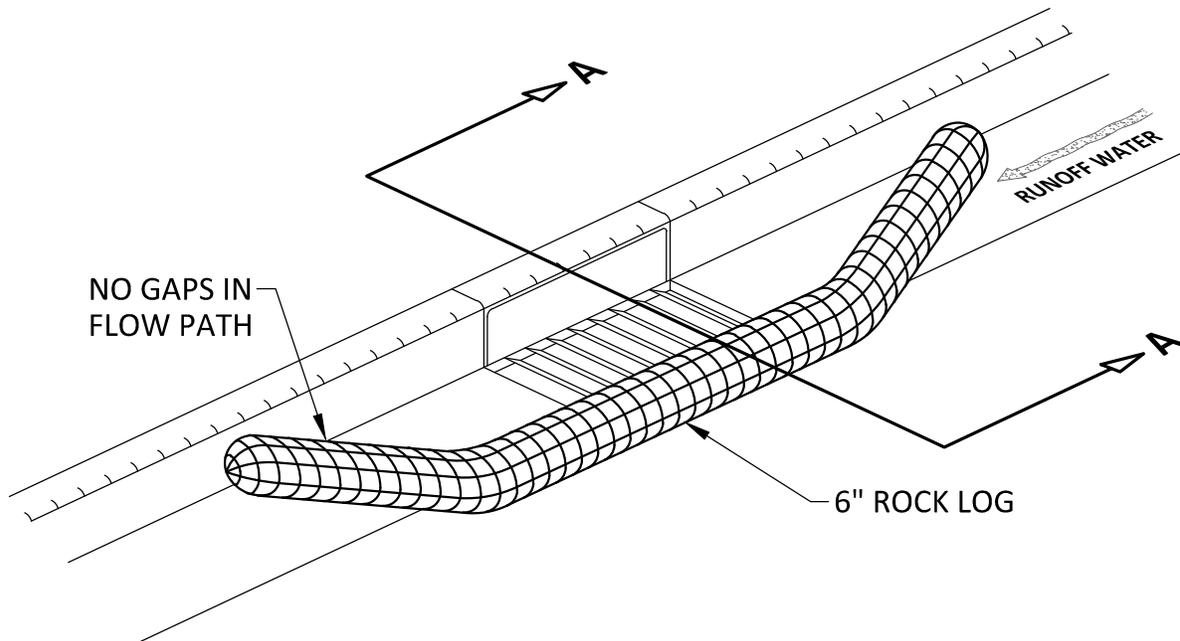
NO. 3005ENM

DATE 02/2017

TEMPORARY ROCK CONSTRUCTION ACCESS

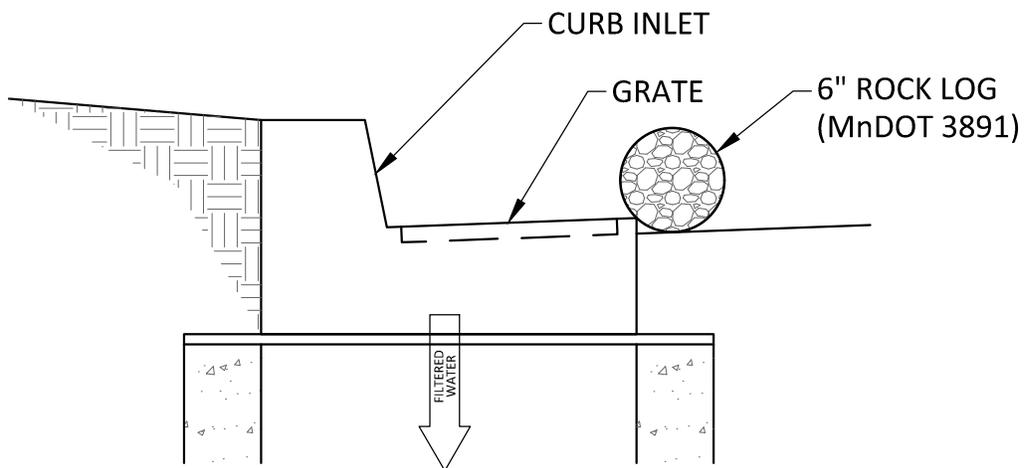
CITY OF ELKO NEW MARKET





NOTES:

1. FILTER AGGREGATE TO BE MnDOT 3137.2 CI D, CA1 TO CA5.
2. FILTER FABRIC SHALL MEET MnDOT SPECIFICATION 3733 GEOTEXTILE FABRIC TYPE II.



SECTION A-A



ROCK LOG INLET PROTECTION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 3013ENM

DATE 02/2017

TABLE OF QUANTITIES

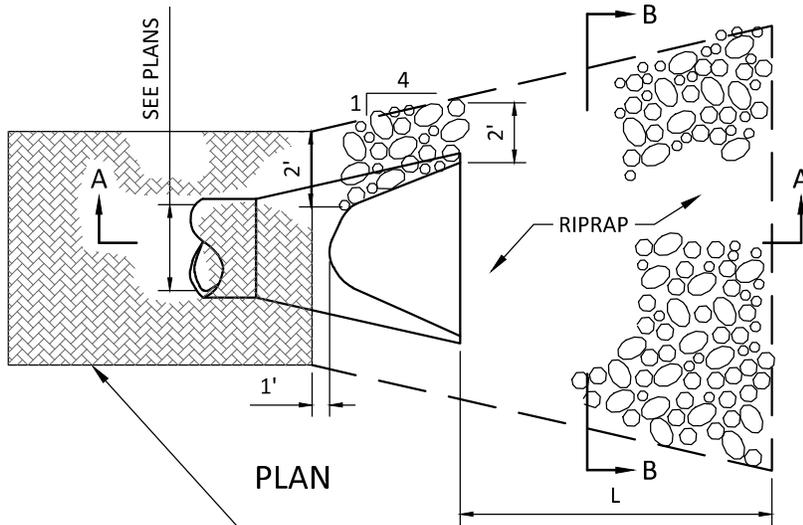
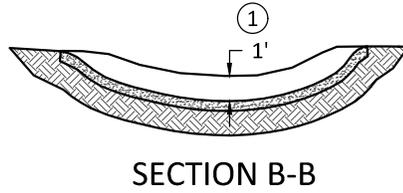
RIPRAP AT STANDARD OUTLETS

DIA OF ROUND PIPE (IN)	L (FT)	CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
		12" DEPTH RIPRAP (CU YD)	18" DEPTH RIPRAP (CU YD)	24" DEPTH RIPRAP (CU YD)
12	8	2.1	4.1	5.5
15	8	2.9	4.4	5.8
18	10	3.6	5.9	7.6
21	10	4.6	6.3	8.4
24	12	5.8	8.3	11.0
27	12	6.9	8.7	11.6
30	14	8.3	10.9	14.5
36	16	11.2	13.8	18.3
42	18	13.6	16.3	21.7
48	20	16.8	19.4	25.8

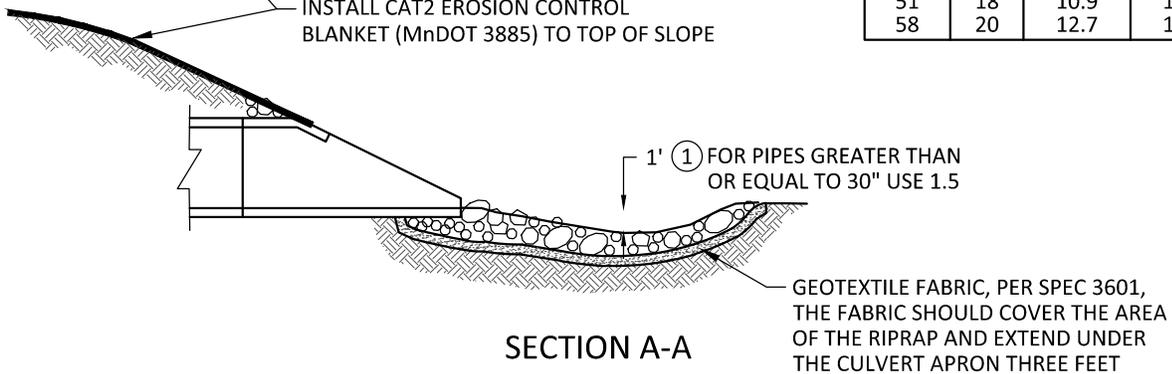
TABLE OF QUANTITIES

RIPRAP AT ARCH OUTLETS
OR BOXES OF EQUIVALENT SPAN WIDTH

DIA OF ROUND PIPE (IN)	L (FT)	CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
		12" DEPTH RIPRAP (CU YD)	18" DEPTH RIPRAP (CU YD)	24" DEPTH RIPRAP (CU YD)
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



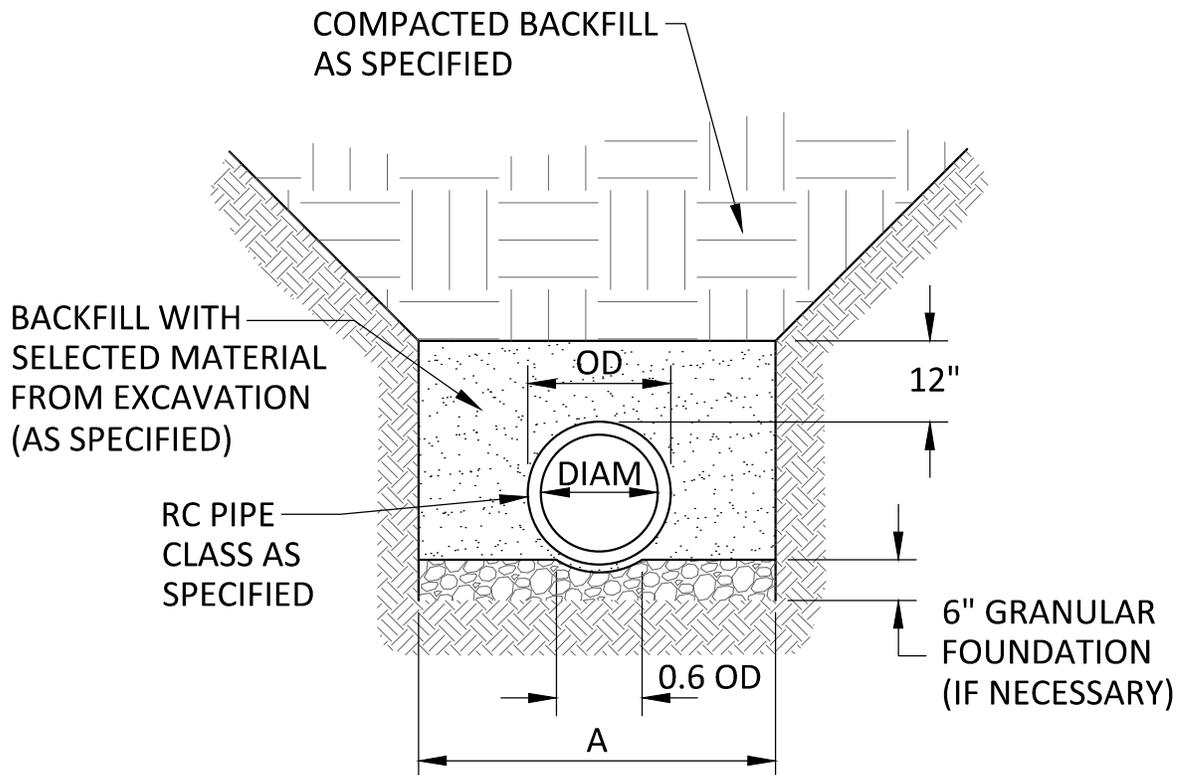
INSTALL CAT2 EROSION CONTROL BLANKET (MnDOT 3885) TO TOP OF SLOPE



APRON END RIPRAP DETAIL
CITY OF ELKO NEW MARKET

STANDARD DETAIL
NO. 3018ENM
DATE MARCH 2009

PIPE DIA	A
36" OR LESS	OD + 24"
42" TO 54"	1.5 X OD
60" OR OVER	OD + 36"



RC PIPE TRENCH

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4002ENM

DATE 02/2017

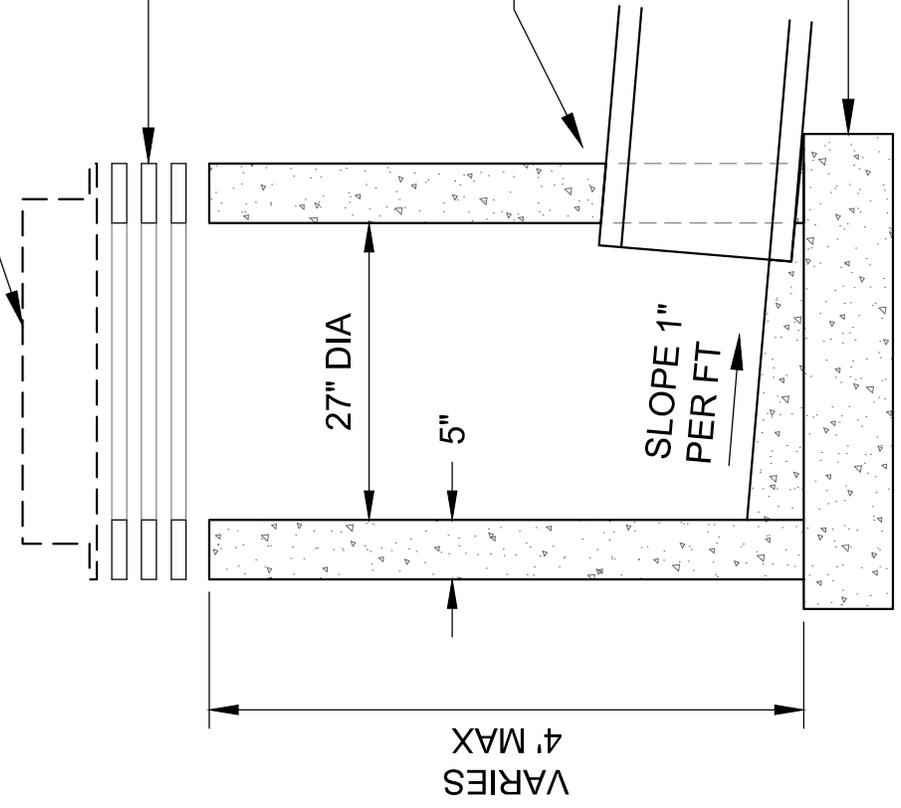
CASTING NEEENAH 3075-V

MIN 3" - MAX 6"
CONCRETE ADJUSTING
RINGS WITH MORTAR

FILL ANNULAR SPACE AROUND
PIPE WITH NON-SHRINK GROUT

REFER TO PLANS FOR PIPE
REQUIRED

MIN 8" POURED
OR PRECAST BASE



STANDARD DETAIL

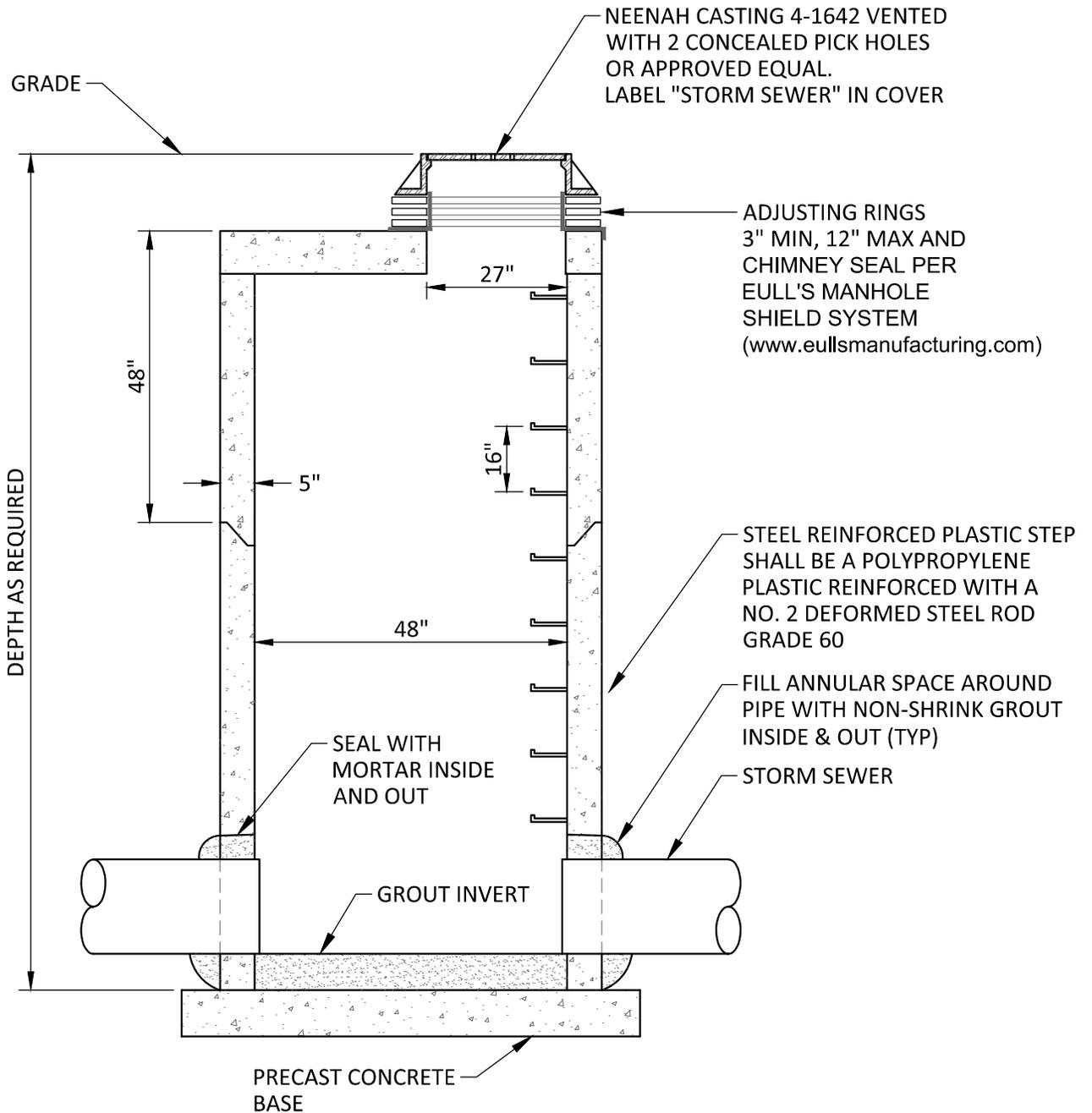
NO. 4005ENM

DATE 02/2017

CATCH BASIN

CITY OF ELKO NEW MARKET





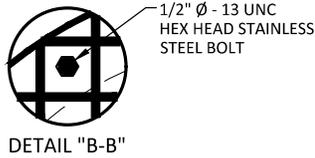
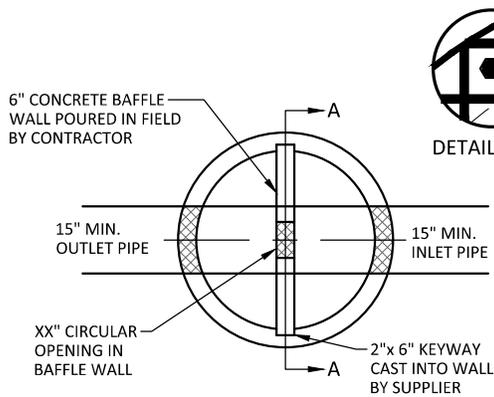
STORM SEWER STRUCTURE

CITY OF ELKO NEW MARKET

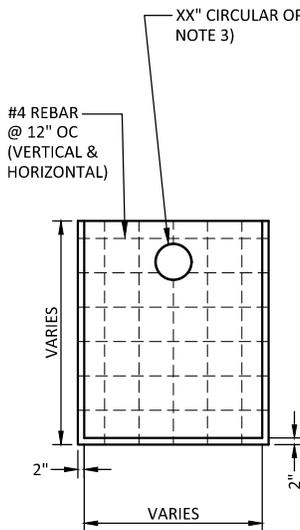
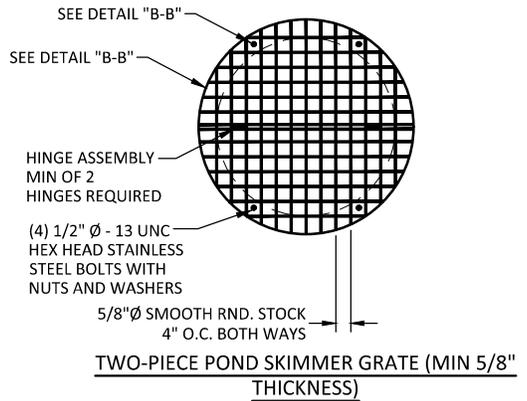
STANDARD DETAIL

NO. 4006ENM

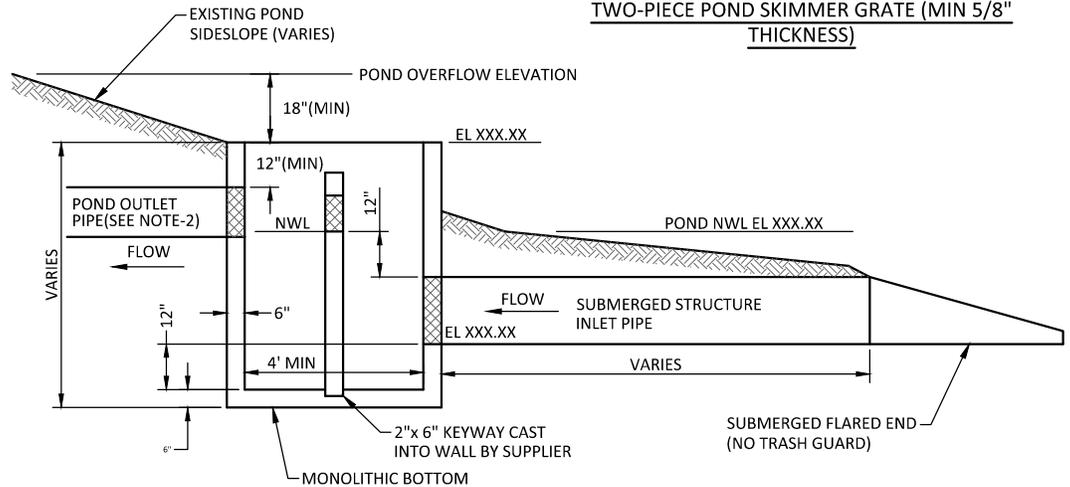
DATE 02/2017



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



CONCRETE BAFFLE WALL
SECTION A-A



SECTION VIEW

NOTES:

- 1) STRUCTURE INLET PIPE SHALL BE A MINIMUM DIAMETER OF 18-INCHES TO AVOID PLUGGING.
- 2) POND OUTLET PIPE SHALL BE SIZED FOR 100-YEAR OR REQUIRED STORM EVENT.
- 3) CONCRETE BAFFLE WALL SHALL BE SIZED TO MEET RATE CONTROL REQUIREMENTS, ORIFICE OR WEIRS ALLOWED.
- 4) ALL PIPE JOINTS SHALL BE TIED.
- 5) INLET PIPE 12-INCHES OR MORE FROM POND BOTTOM.



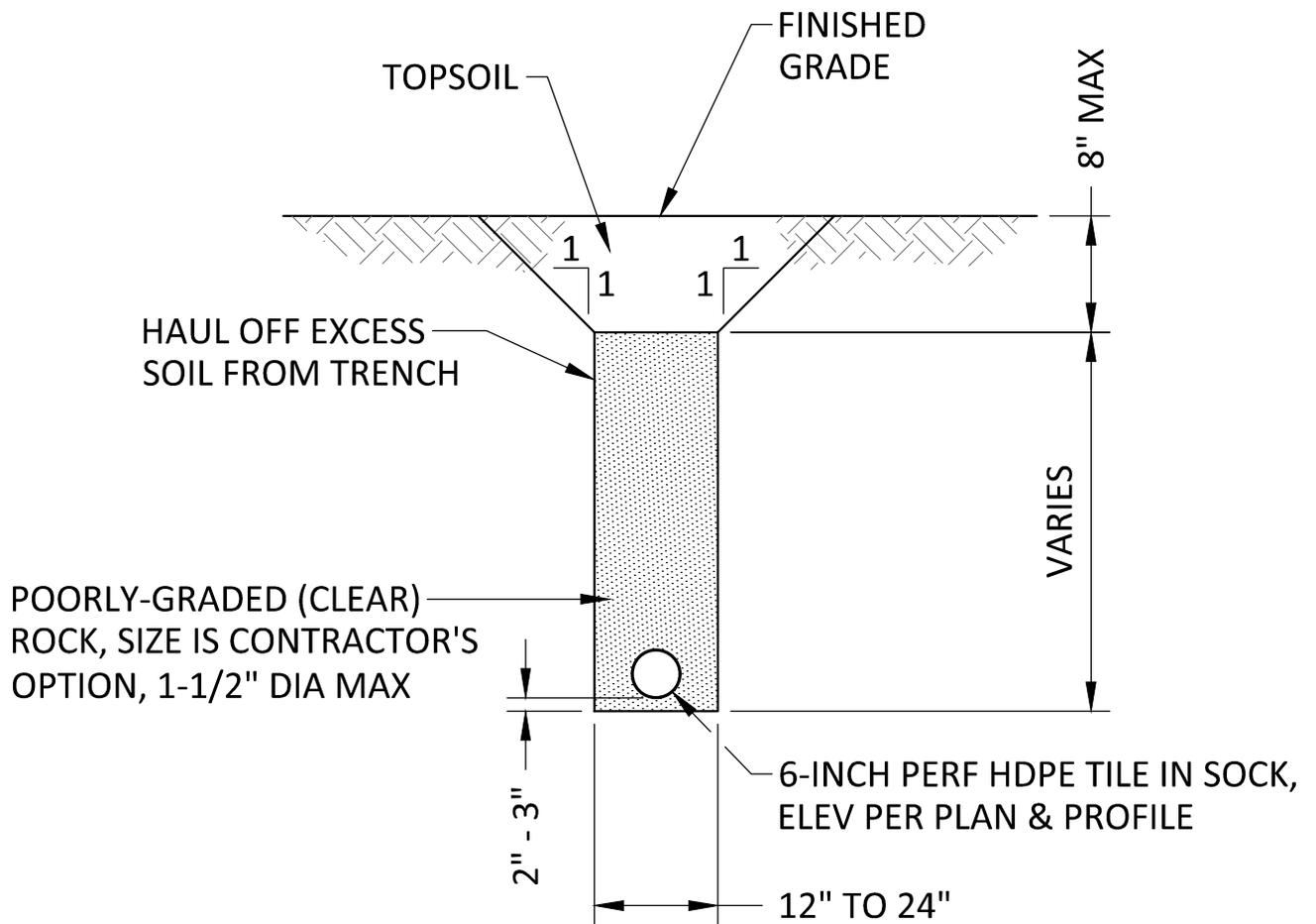
POND OUTLET STRUCTURE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4014ENM

DATE 02/2017



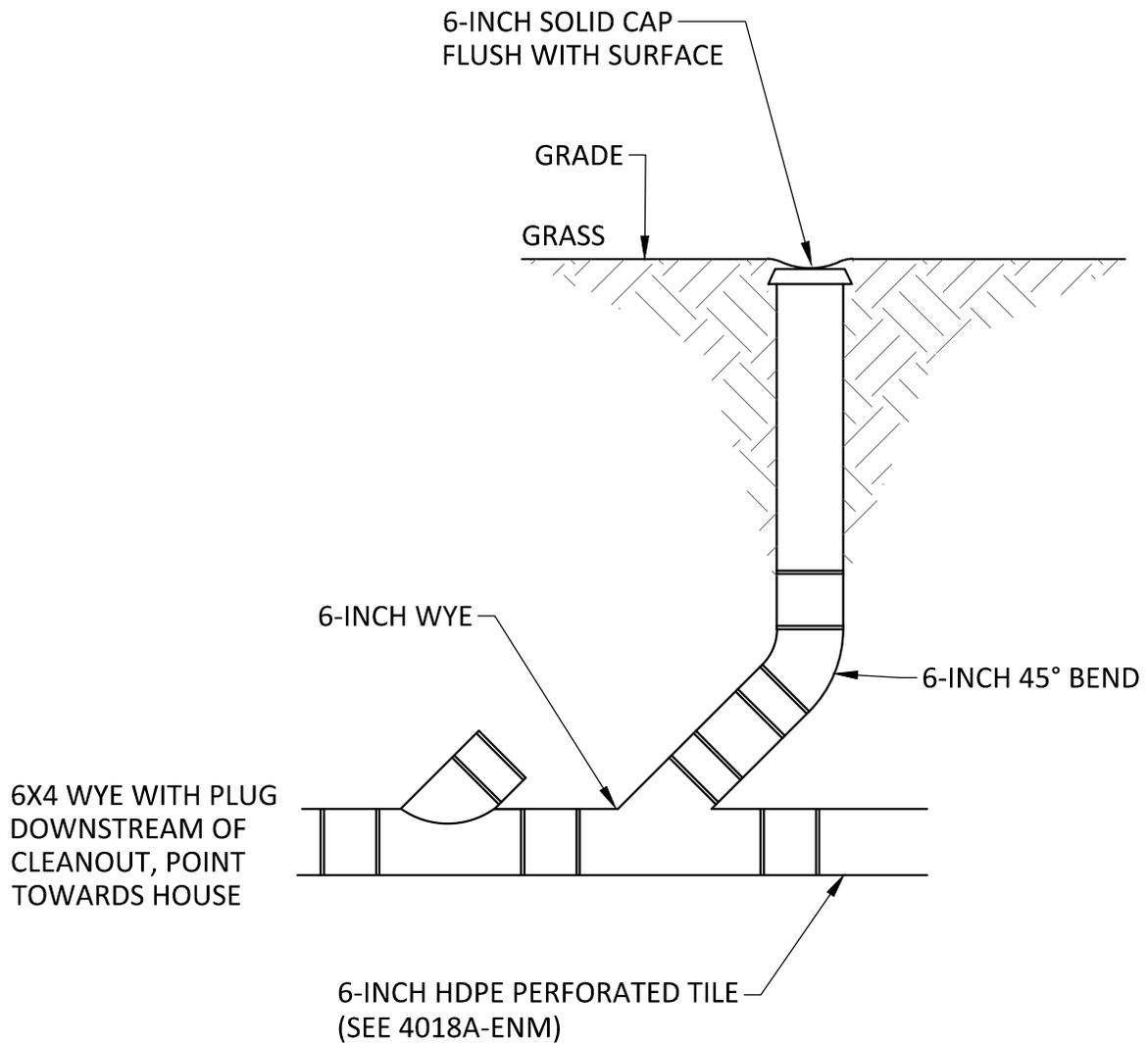
6-INCH YARD - AREA DRAINTILE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4018A-ENM

DATE 02/2017



YARD-AREA DRAINTILE
SUMP/TILE WYE CLEANOUT

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4018B-ENM

DATE 02/2017

BUILDING

2" MINIMUM SPACING

6"

GRADE

SUMP DISCHARGE

4" HDPE

4" ELBOW

4" HDPE



HOUSE SUMP PUMP CONNECTION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

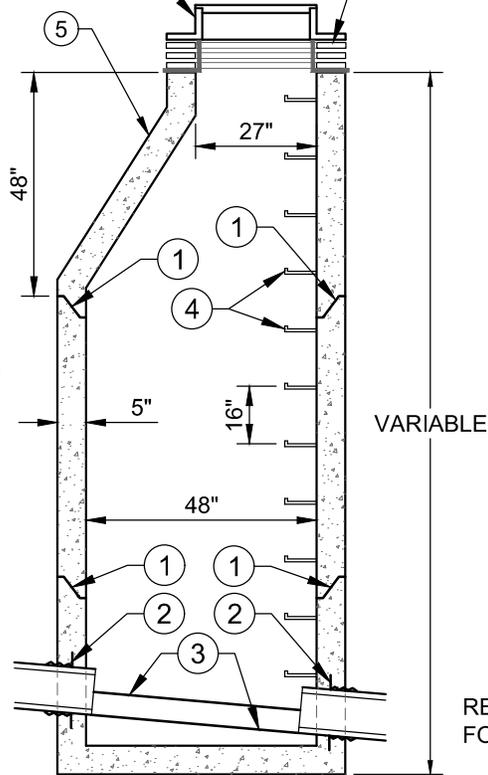
NO. 4018C-ENM

DATE 02/2017

CASTING AS SPECIFIED WITH CONCEALED PICKHOLES

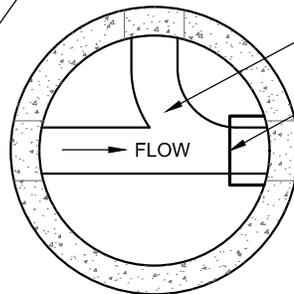
MIN 3, MAX 6 CONCRETE ADJUSTING RINGS AND CHIMNEY SEAL PER EULL'S MANHOLE SHIELD SYSTEM (www.eullsmanufacturing.com)

- ① RUBBER GASKET (TYPICAL)
- 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 MN/DOT TYPE "B" ECCENTRIC PRECAST CONCRETE CONE SECTION TYPICAL FOR ALL MANHOLES



6" MIN. INTEGRAL PRECAST CONCRETE BASE

REFER TO PLANS FOR PIPE REQUIRED



CURVE INVERT IN DOWNSTREAM DIRECTION

STEPS OVER OUTLET IF REQUIRED

PLAN VIEW



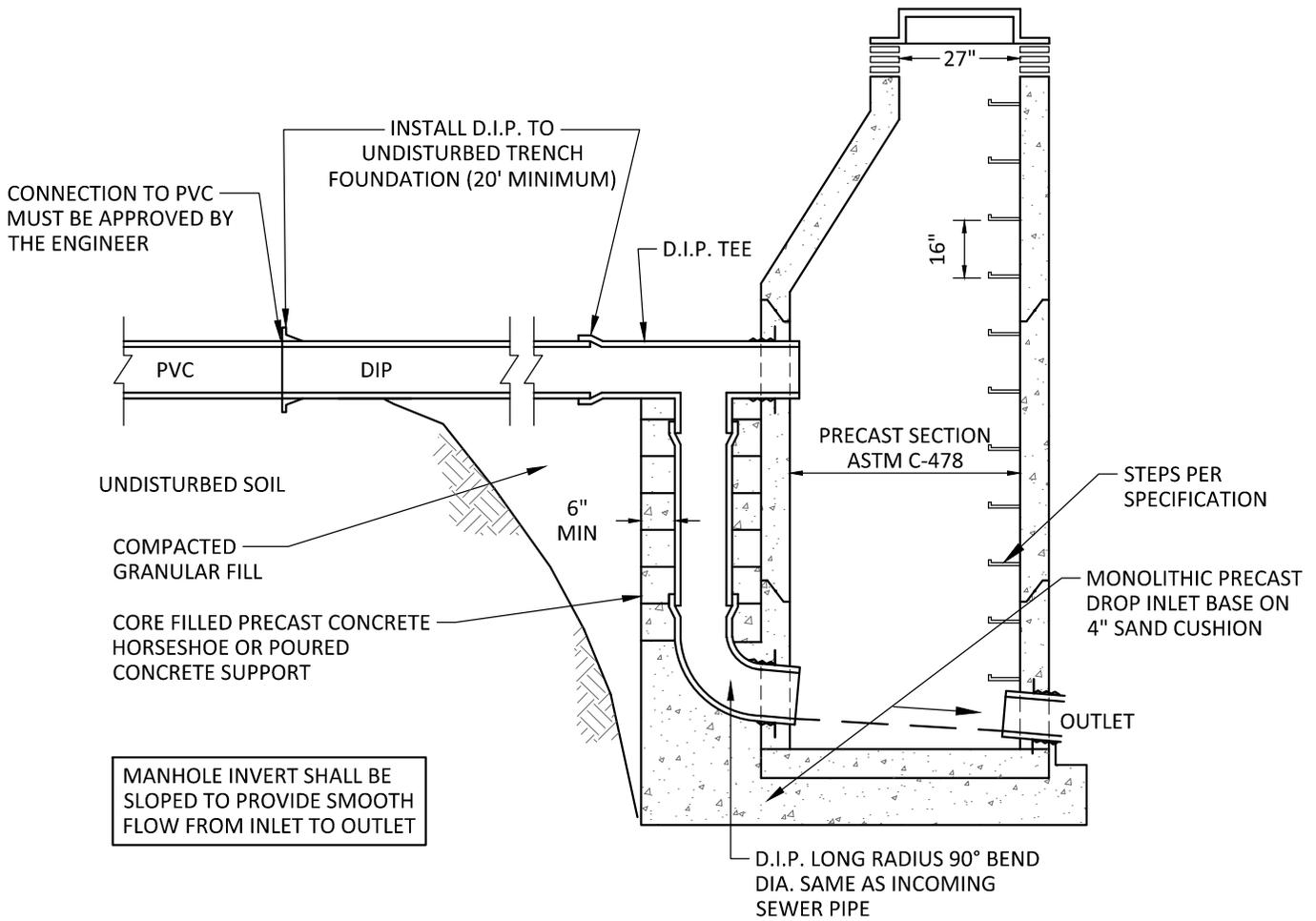
SANITARY SEWER MANHOLE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5001ENM

DATE 02/2017



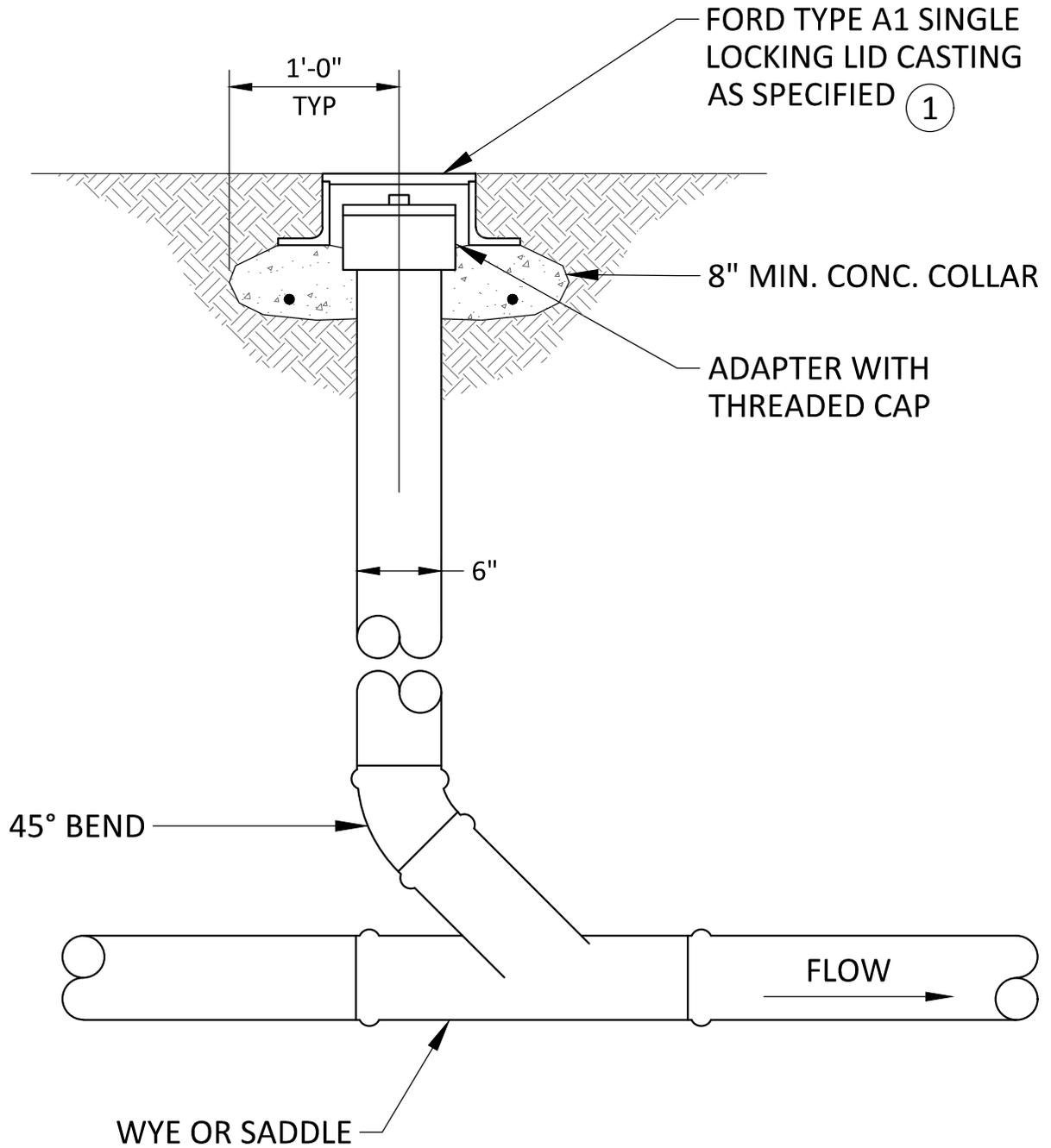
TYPICAL DROP MANHOLE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5003ENM

DATE 02/2017



① THE LID CASTING APPLIES ONLY TO CLEANOUTS LOCATED IN DRIVEWAYS, WALKS OR PAVED AREAS



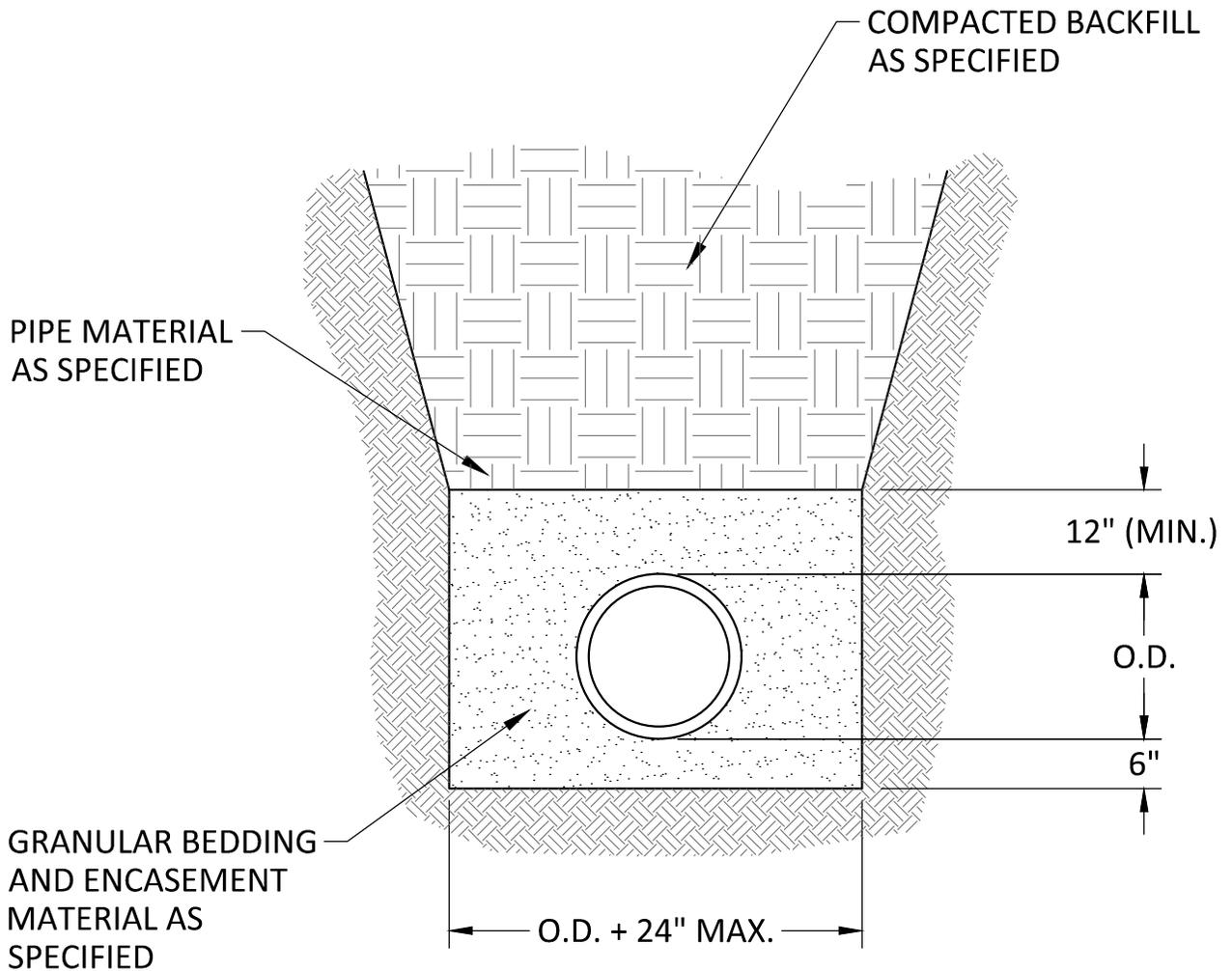
SANITARY SEWER CLEANOUT DETAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5004ENM

DATE 02/2017



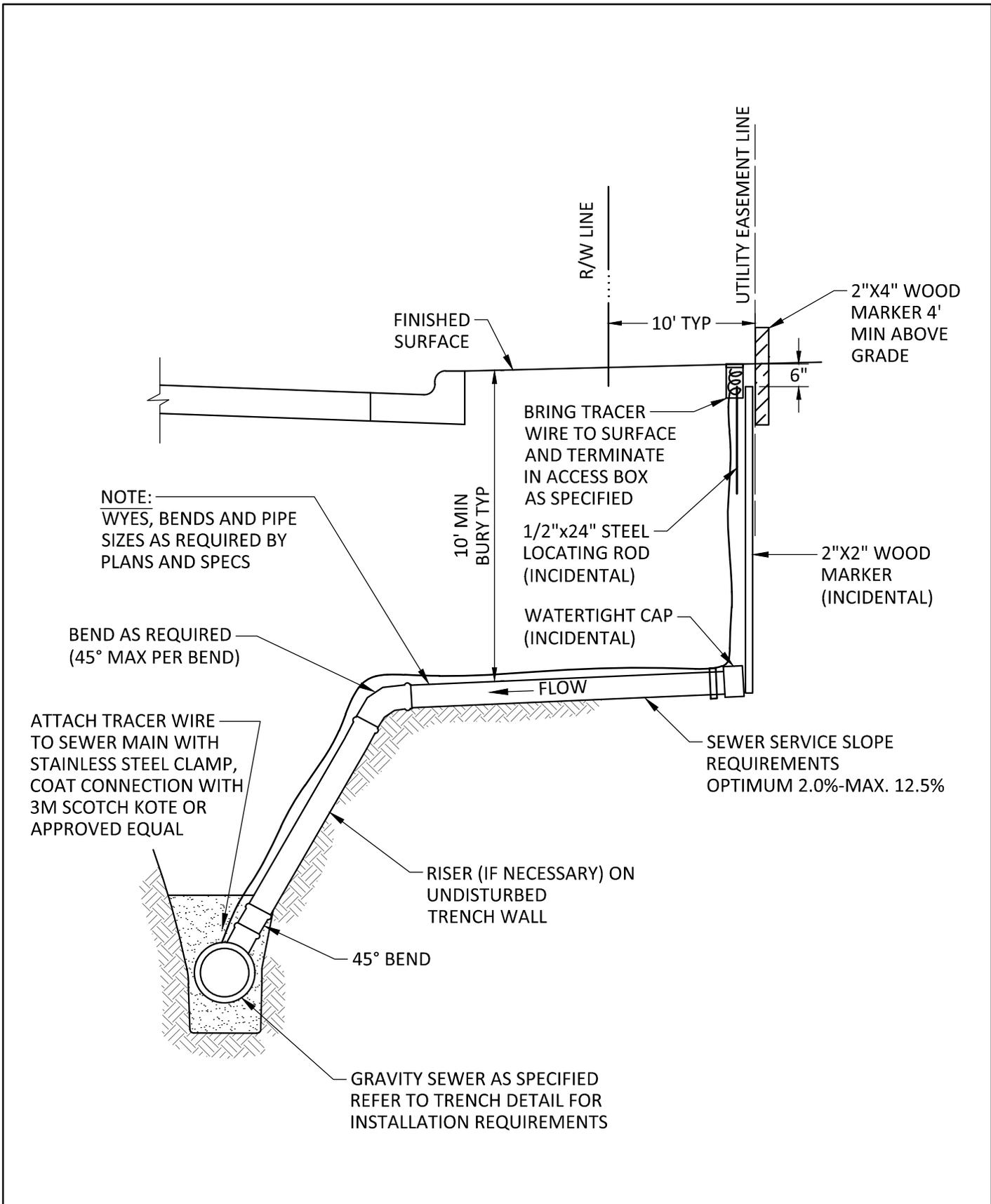
PVC SANITARY SEWER TRENCH

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5005ENM

DATE 02/2017



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

BEND AS REQUIRED
(45° MAX PER BEND)

ATTACH TRACER WIRE
TO SEWER MAIN WITH
STAINLESS STEEL CLAMP,
COAT CONNECTION WITH
3M SCOTCH KOTE OR
APPROVED EQUAL

10' MIN
BURY TYP

BRING TRACER
WIRE TO SURFACE
AND TERMINATE
IN ACCESS BOX
AS SPECIFIED

1/2"x24" STEEL
LOCATING ROD
(INCIDENTAL)

WATERTIGHT CAP
(INCIDENTAL)

2"x4" WOOD
MARKER 4'
MIN ABOVE
GRADE

2"x2" WOOD
MARKER
(INCIDENTAL)

FLOW

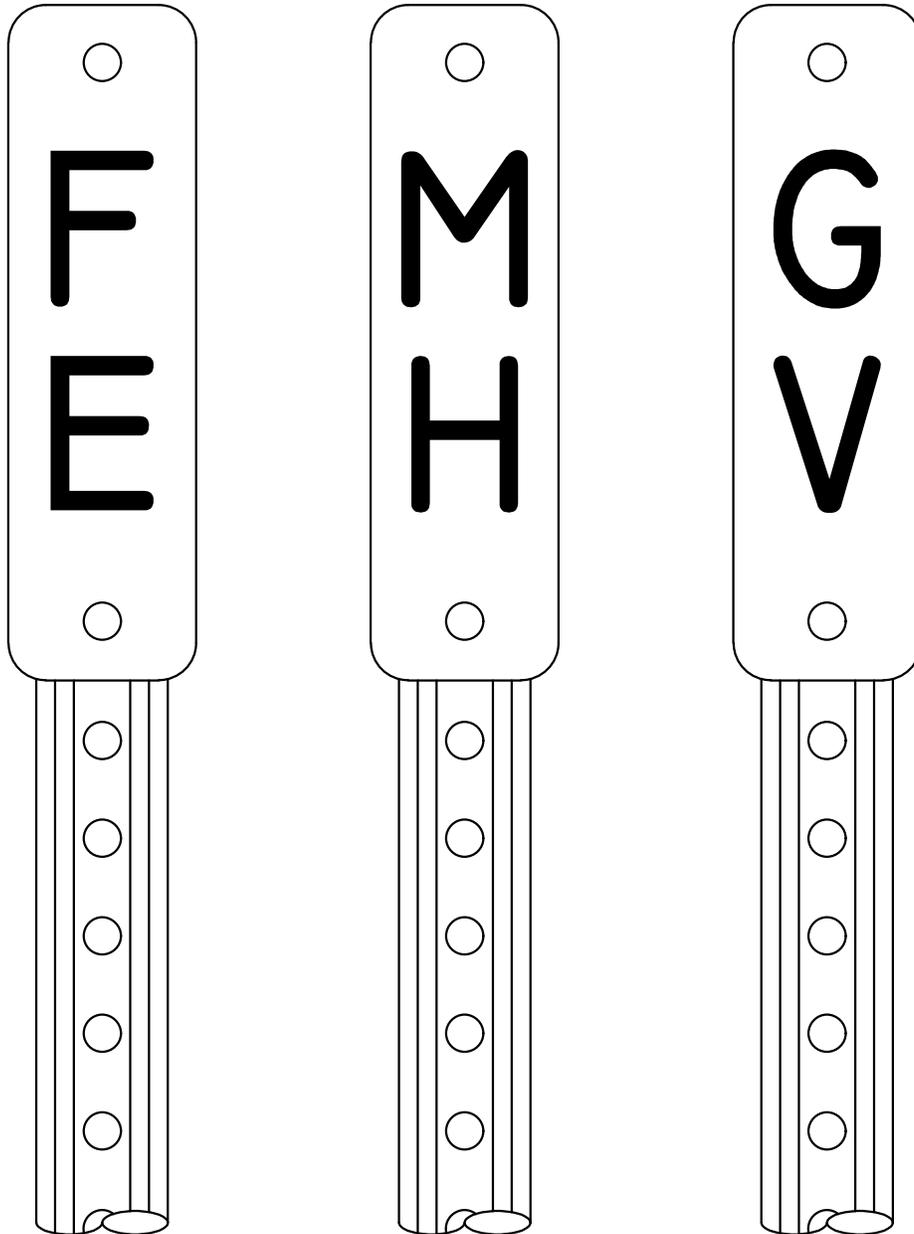
SEWER SERVICE SLOPE
REQUIREMENTS
OPTIMUM 2.0%-MAX. 12.5%

RISER (IF NECESSARY) ON
UNDISTURBED
TRENCH WALL

45° BEND

GRAVITY SEWER AS SPECIFIED
REFER TO TRENCH DETAIL FOR
INSTALLATION REQUIREMENTS

	<p>SANITARY SEWER SERVICE</p>	<p>STANDARD DETAIL</p>
	<p>CITY OF ELKO NEW MARKET</p>	<p>NO. <u>5018ENM</u></p> <p>DATE <u>02/2017</u></p>



1. 0.063" THICK ALUMINUM SIGN. BLACK LETTERS ON WHITE HIGH INTENSITY REFLECTORIZED BACKGROUND.
2. U-CHANNEL POST, MINIMUM 3 LB./FT., 6'-6" LONG, GALVANIZED.
3. PLACED AS DIRECTED BY ENGINEER.



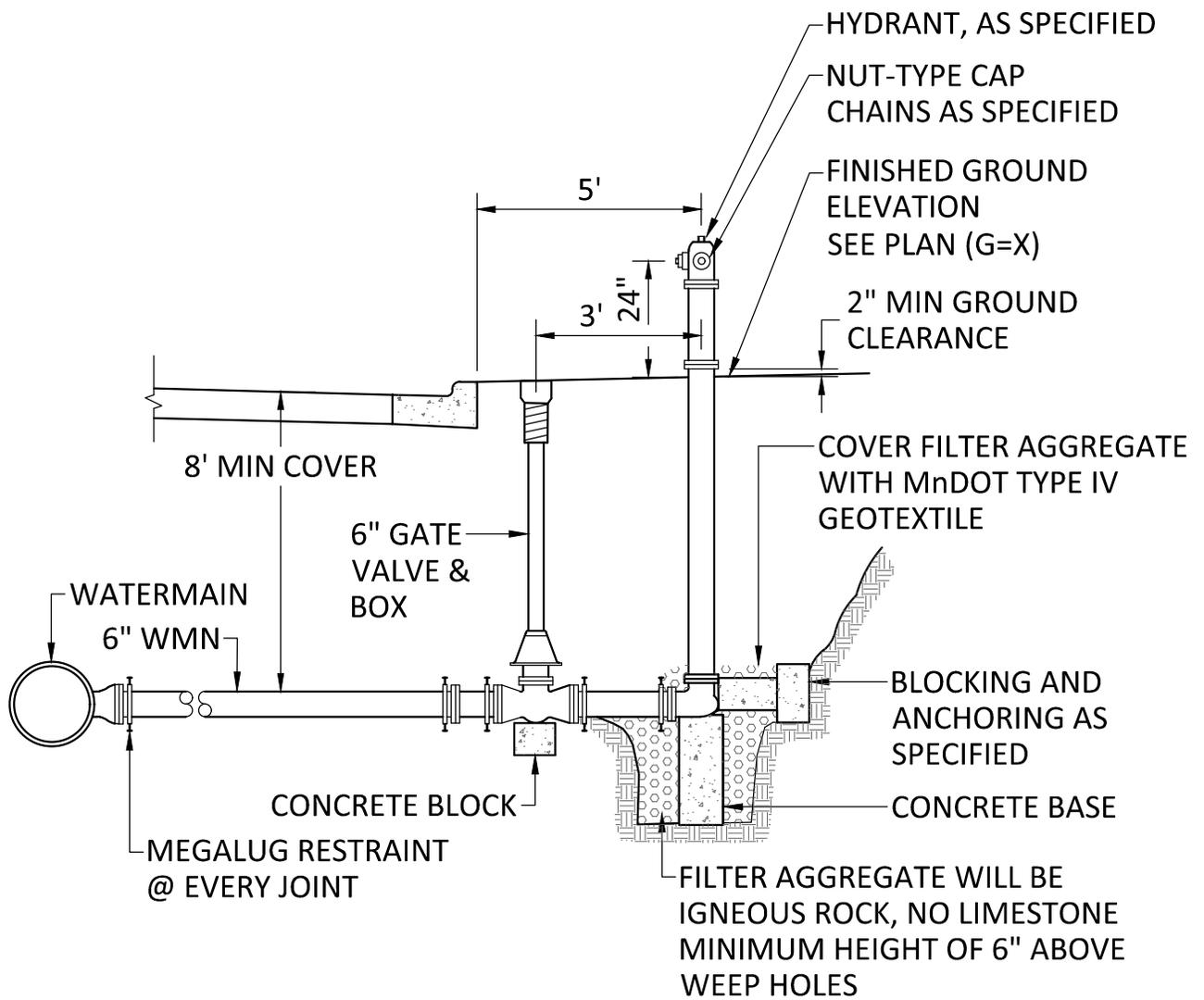
HEAVY DUTY SILT FENCE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5019ENM

DATE 02/2017



NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL HYDRAFINDER HIGH-VISIBILITY LOCATING DEVICE BY RODON INC. OR APPROVED EQUAL ON EACH HYDRANT. CONTRACTOR SHALL SUPPLY ONE EXTRA HYDRAFINDER PER HYDRANT TO BE DELIVERED TO CITY HALL.
2. HYDRANT & GATE VALVE TO BE TIED TO WATERMAIN WITH METAL RESTRAINING TIE RODS OR MEGALUGS MAY BE USED.
3. CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE HYDRANT WRENCH FOR EVERY PROJECT.
4. HYDRANTS LOCATED WHERE THE GROUNDWATER TABLE IS ABOVE THE DRAIN OUTLET SHALL HAVE THE OUTLET PLUGGED AND SHALL BE IDENTIFIED BY PAINTING THE LARGE PUMPER NOZZLE BLACK.



HYDRANT INSTALLATION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

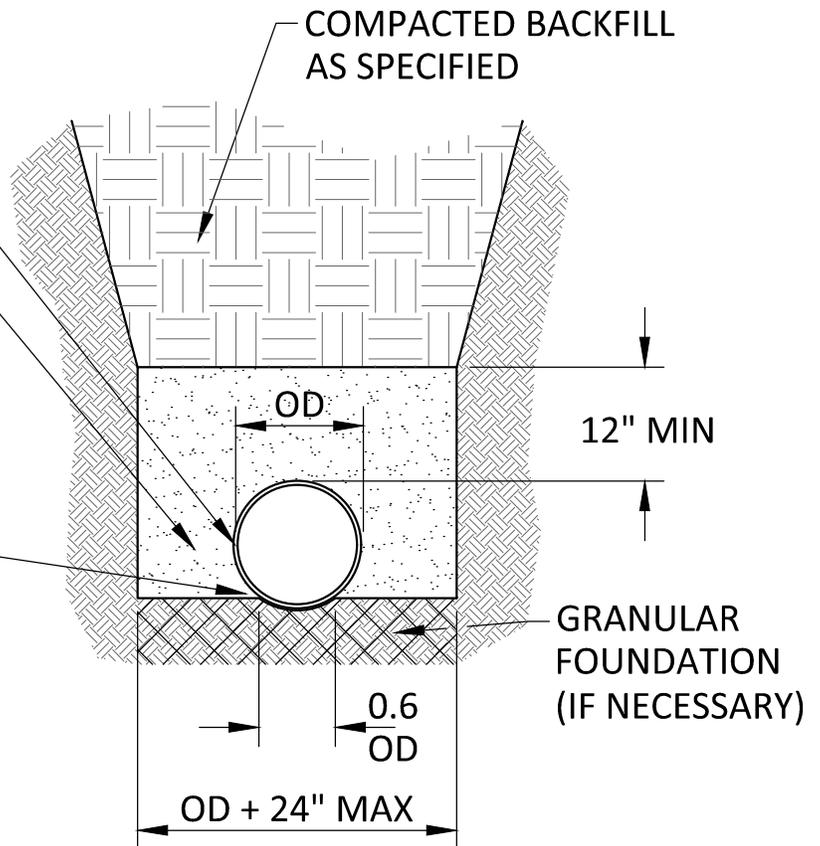
NO. 6001ENM

DATE 02/2017

DUCTILE WATERMAIN
PIPE WRAPPED IN
POLYETHELENE

BEDDING AND
ENCASEMENT MATERIAL
SHALL BE SELECT SALVAGE
MATERIAL FROM THE
EXCAVATION AS SPECIFIED

PROVIDE BELL
HOLE AT EACH
JOINT



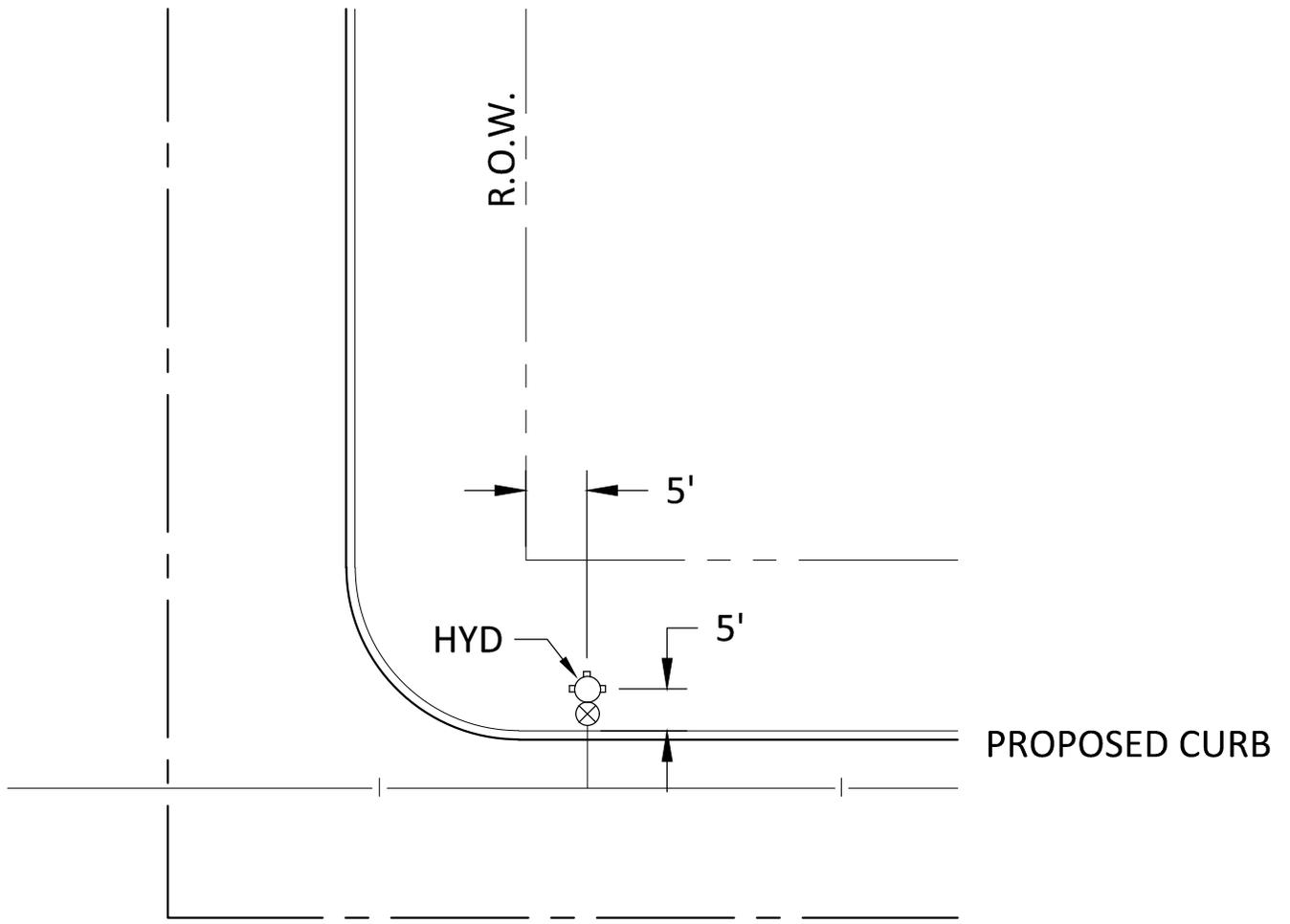
DUCTILE WATERMAIN TRENCH DETAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 6007ENM

DATE 02/2017



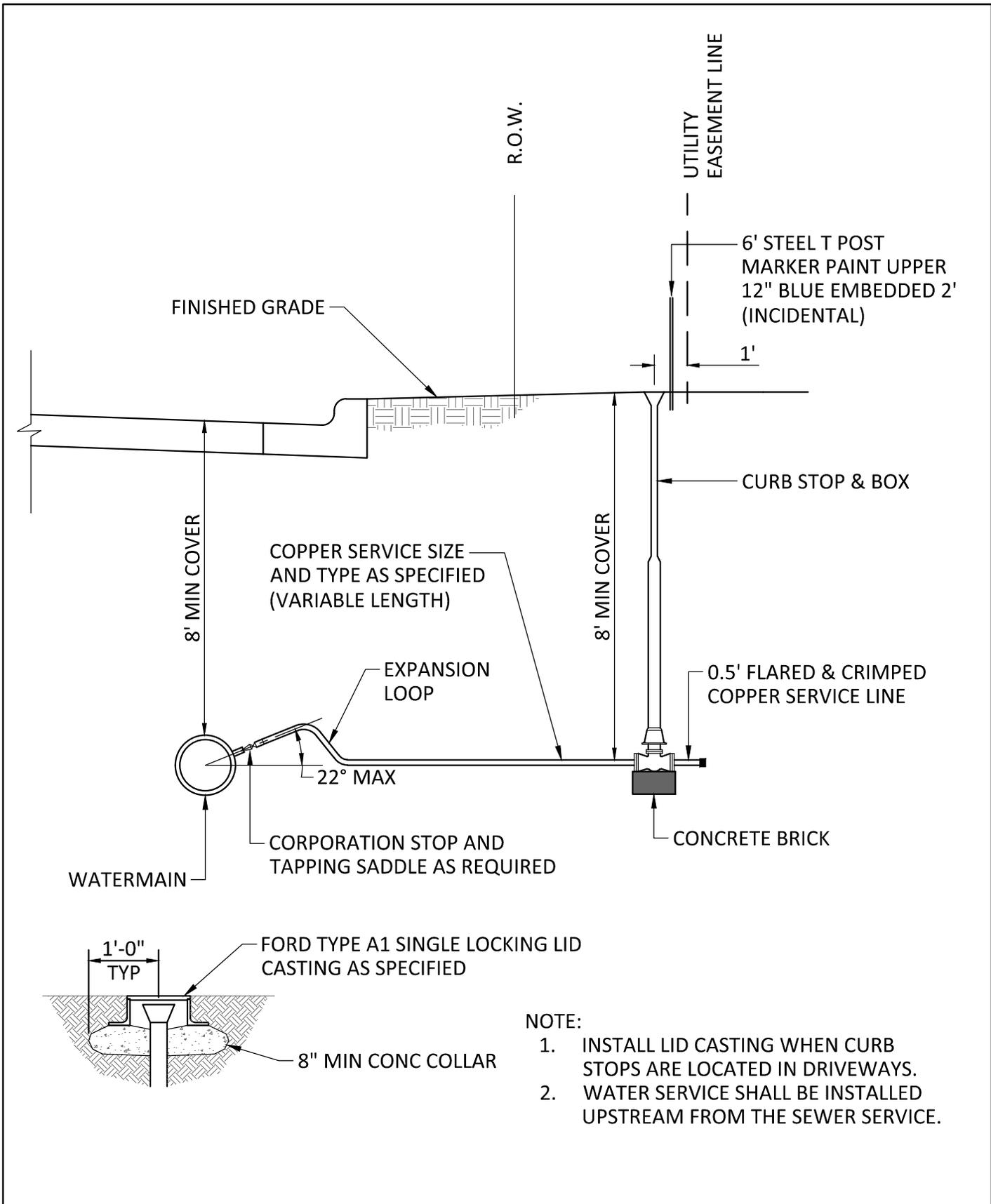
HYDRANT LOCATION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

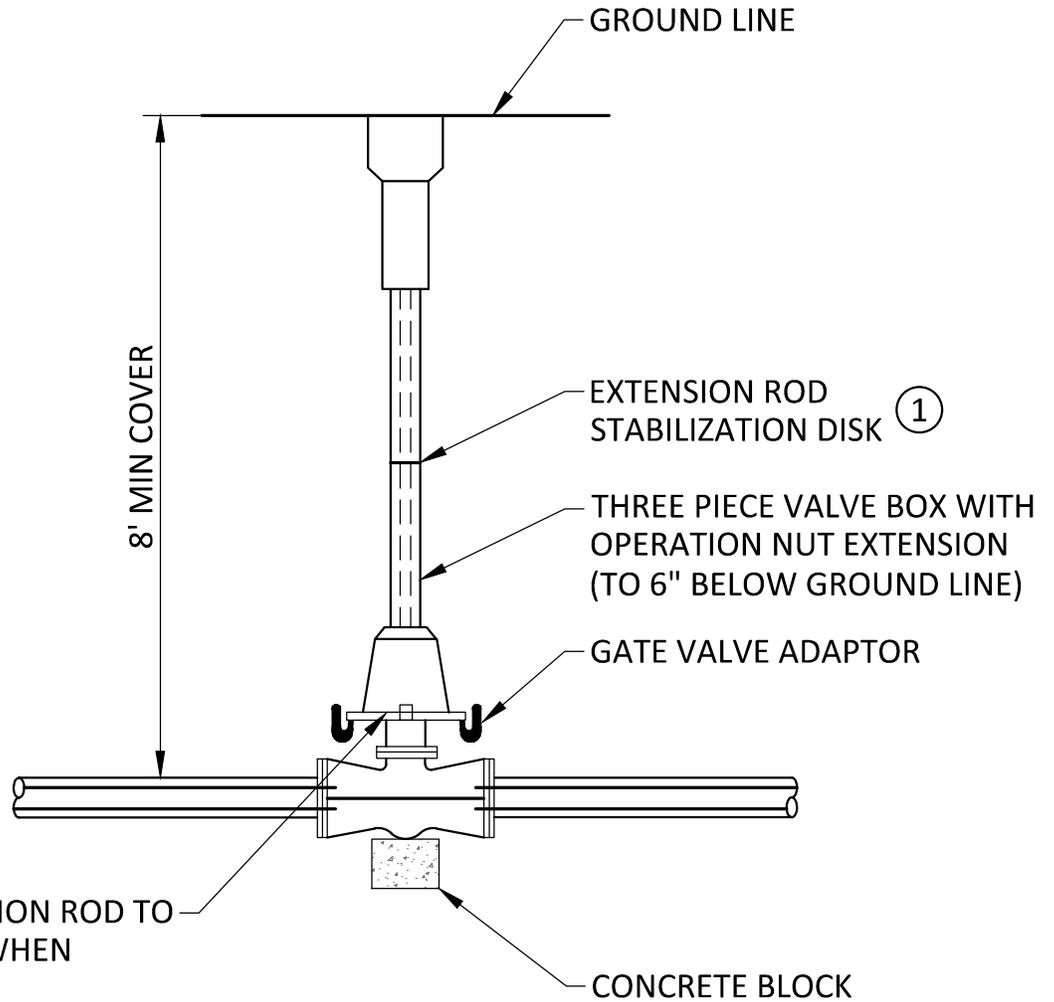
NO. 6008ENM

DATE 02/2017



- NOTE:
1. INSTALL LID CASTING WHEN CURB STOPS ARE LOCATED IN DRIVEWAYS.
 2. WATER SERVICE SHALL BE INSTALLED UPSTREAM FROM THE SEWER SERVICE.

	WATER SERVICE INSTALLATION DETAIL	STANDARD DETAIL
	CITY OF ELKO NEW MARKET	NO. <u>6009ENM</u> DATE <u>02/2017</u>



① ATTACH EXTENSION ROD TO TOP OF VALVE WHEN REQUIRED

NOTES:

- ① EXTENSION RODS ATTACHED TO THE GATE VALVES ARE REQUIRED ON ANY GATE VALVE GREATER THAN EIGHT FEET IN DEPTH FROM THE FINISHED SURFACE. THEY ARE ALSO REQUIRED IN AREAS OF HIGH GROUND WATER. TOP OF THE EXTENSION ROD MUST BE WITHIN 12-INCHES OF THE FINISHED SURFACE.
- ② ONE GATE VALVE KEY SHALL BE FURNISHED PER PROJECT.
- ③ GATE VALVE SHALL BE THE TYPE SPECIFIED IN THE CITY OF ELKO NEW MARKET STANDARD SPECIFICATIONS.



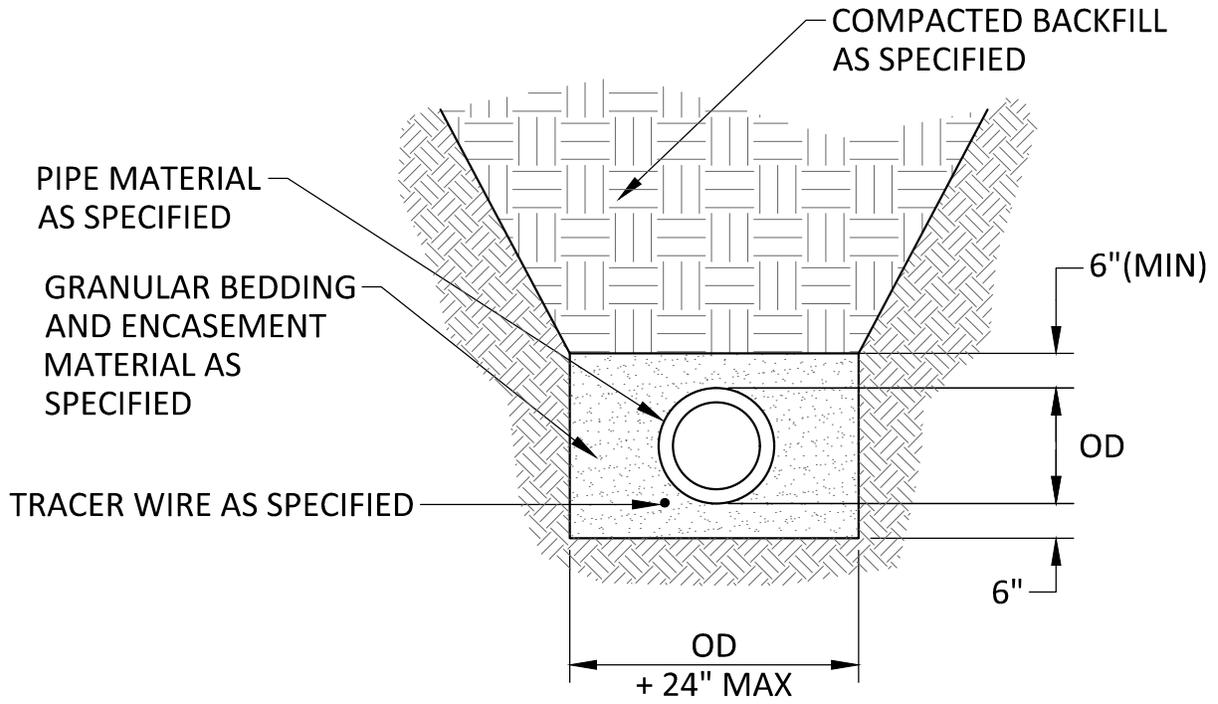
GATE VALVE & BOX

CITY OF ELKO NEW MARKET

STANDARD DETAIL

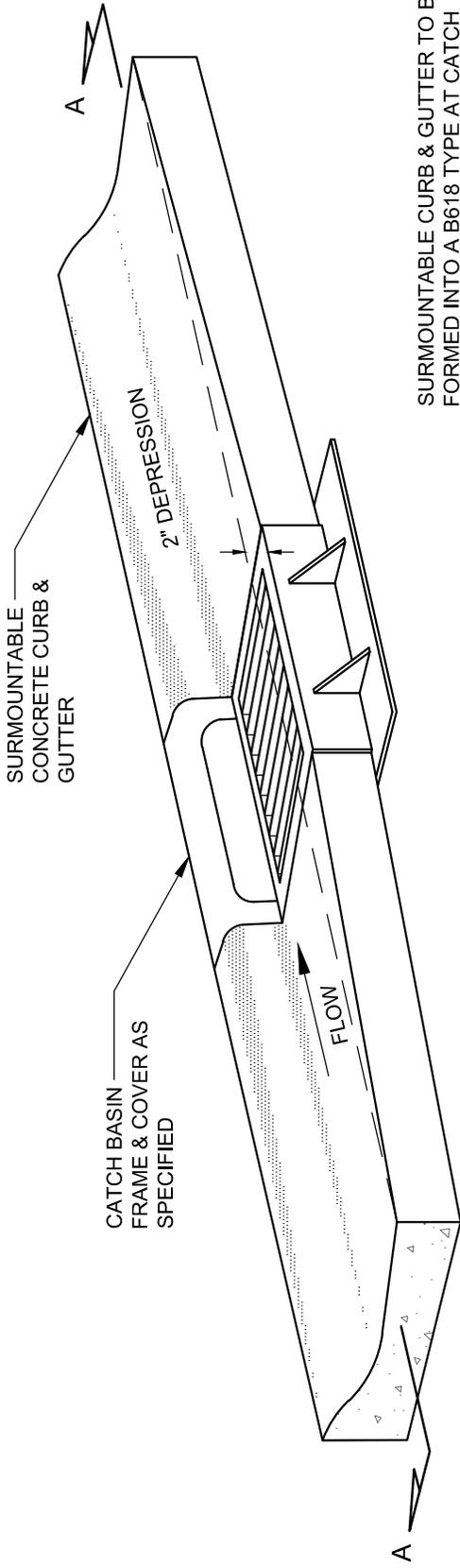
NO. 6010ENM

DATE 02/2017



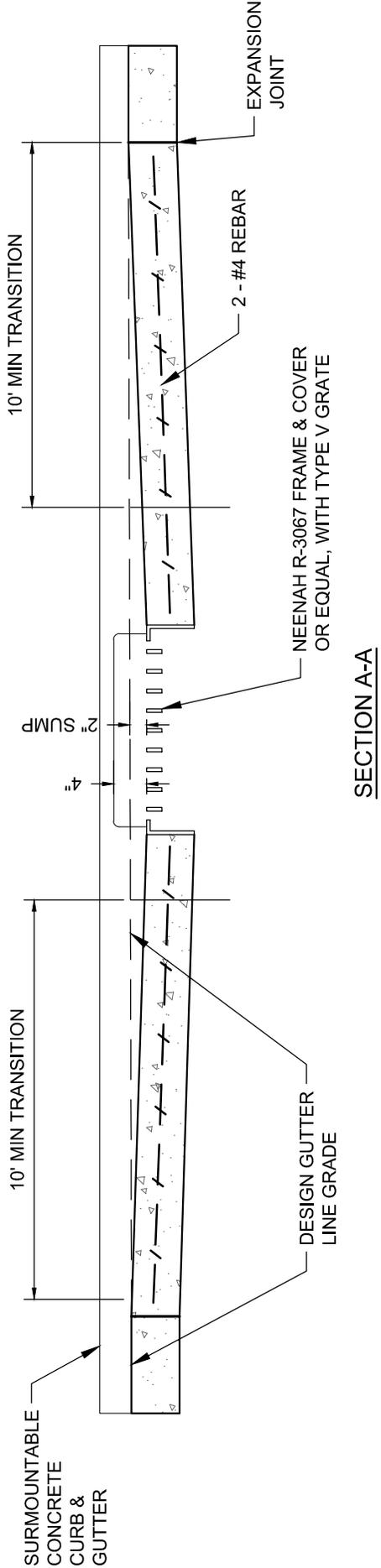
OPEN -CUT FORCEMAIN OR FLEXIBLE WATERMAIN
 NOT TO SCALE

	OPEN-CUT FORCEMAIN OR FLEXIBLE WATERMAIN	STANDARD DETAIL
	CITY OF ELKO NEW MARKET	NO. <u>6011ENM</u> DATE <u>05/2017</u>



SURMOUNTABLE CURB & GUTTER TO BE FORMED INTO A B618 TYPE AT CATCH BASIN CASTING

PERSPECTIVE

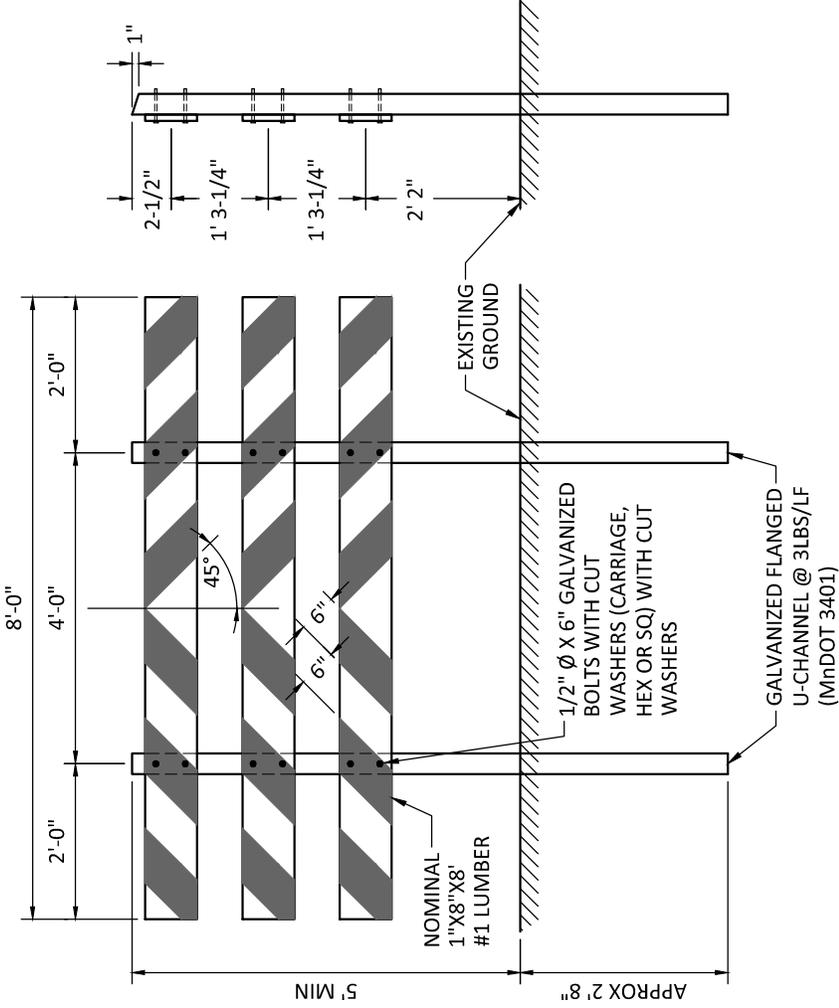


STANDARD DETAIL
 NO. 7009ENM
 DATE 02/2017

TRANSITION TO B618 CURB AT CATCH BASIN

CITY OF ELKO NEW MARKET





NOTES:

1. THE BARRICADE BOARD FACE SURFACE SHALL BE FULLY REFLECTORIZED IN ALTERNATE SILVER-WHITE AND RED STRIPPING, USING A REFLECTIVE SHEETING CONFORMING TO THE REQUIREMENTS OF SPEC. 3352.2A2b, STANDARD NO. 2.
2. PRIOR TO INSTALLING THE REFLECTIVE SHEETING, THE BARRICADE BOARDS SHALL BE GIVEN A COMPLETE COATING OF WHITE WOOD PRIMER PAINT FOLLOWED BY A SECOND COAT OF WHITE EXTERIOR PAINT APPLIED ONLY TO THE SURFACE NOT COVERED WITH REFLECTIVE SHEETING.
3. THE BARRICADE BOARDS SHALL BE COMPLETELY PAINTED AND REFLECTORIZED SHEETING APPLIED BEFORE BEING INSTALLED ON THE POSTS.
4. THE PLACEMENT OF THE BARRICADE(S) SHALL BE 10' FROM THE END OF THE BITUMINOUS ROAD WITH THE BARRICADE(S) CENTERED ON THE LANES FACING THE FLOW OF TRAFFIC.

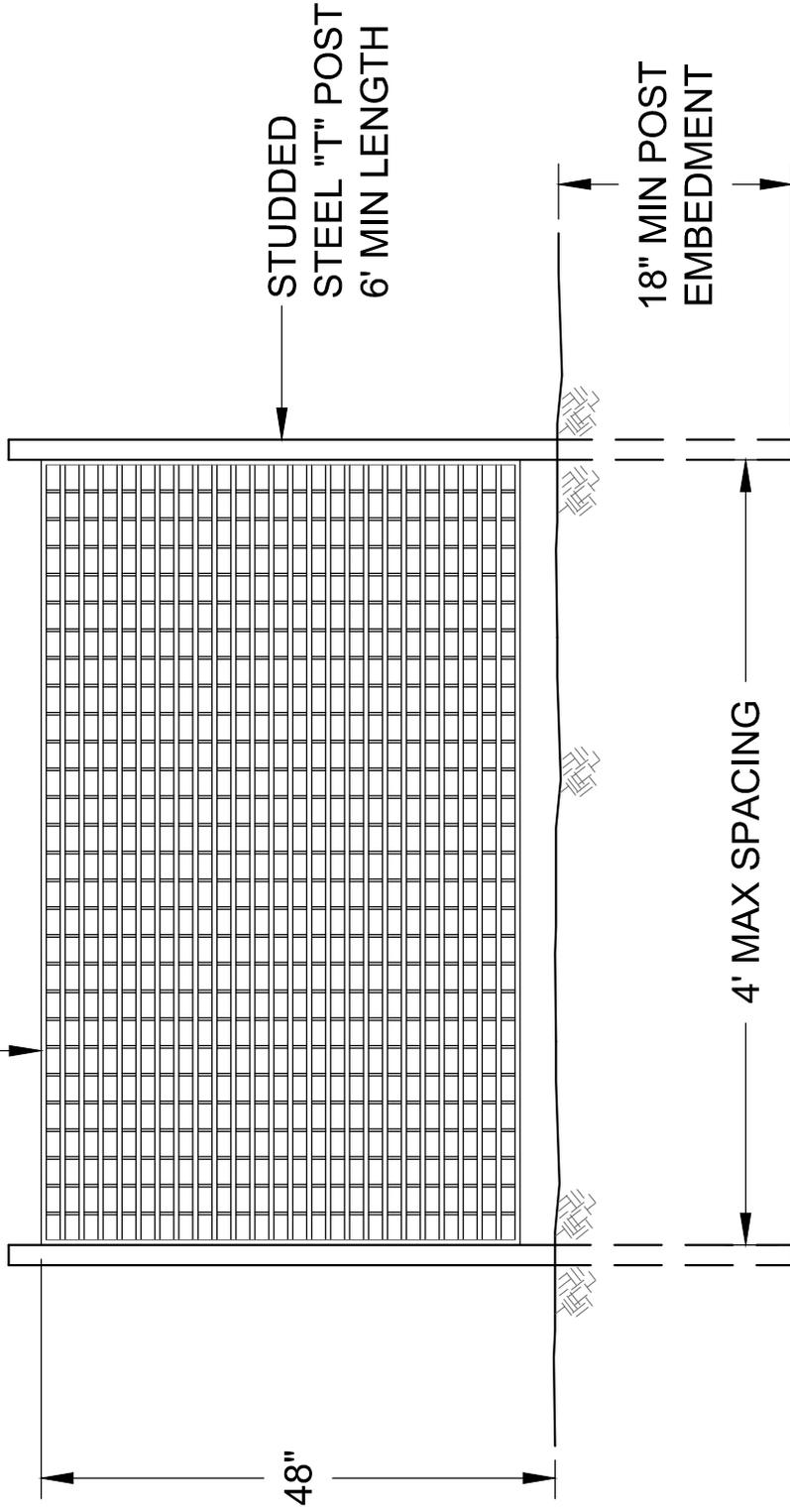
TYPICAL BARRICADE

STANDARD DETAIL
NO. 7013ENM
DATE 02/2017

CITY OF ELKO NEW MARKET



ORANGE COLORED PLASTIC MESH



(INSTALLED AT THE DRIP LINE)



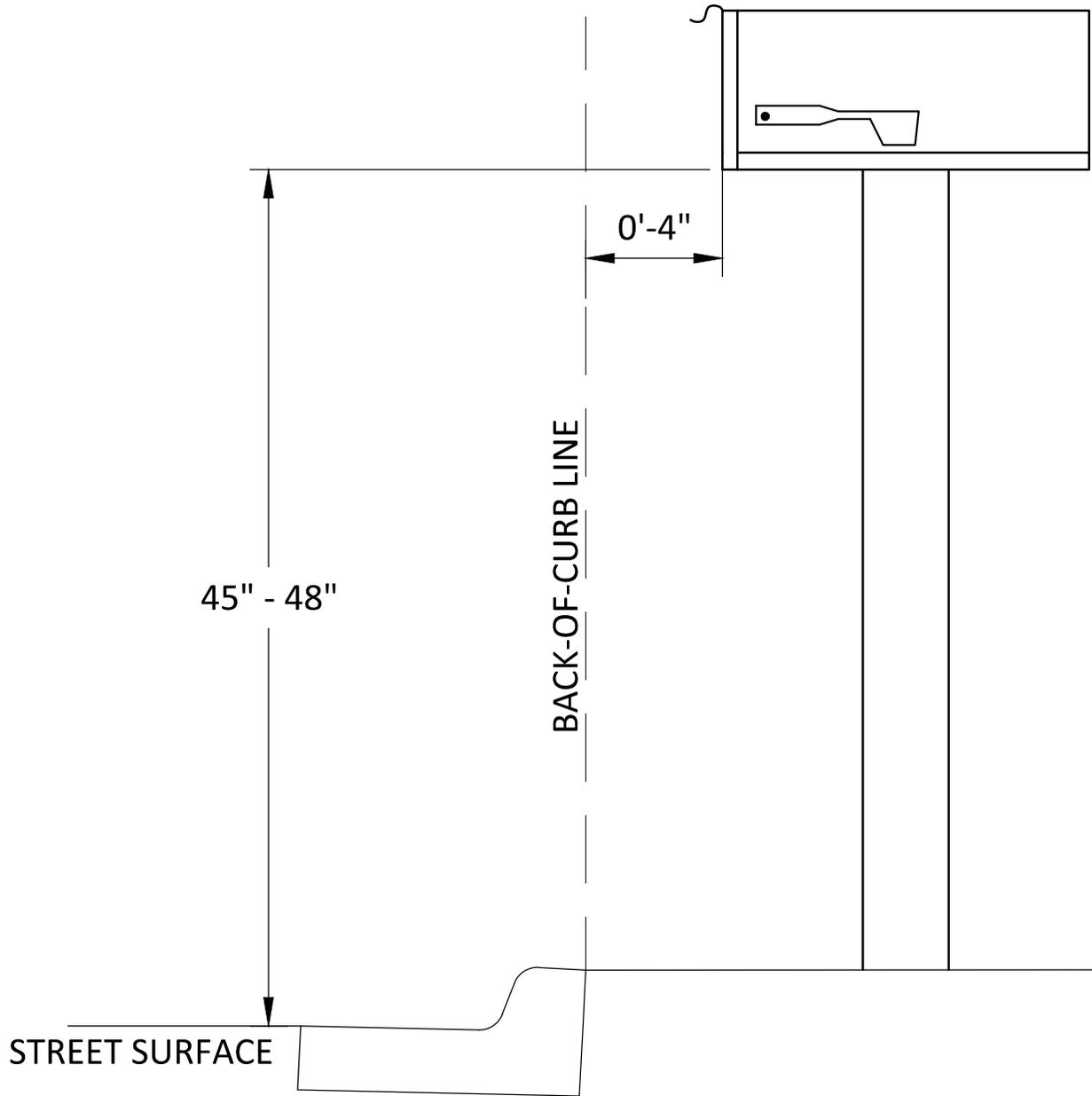
TREE PRESERVATION FENCE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9009ENM

DATE 02/2017



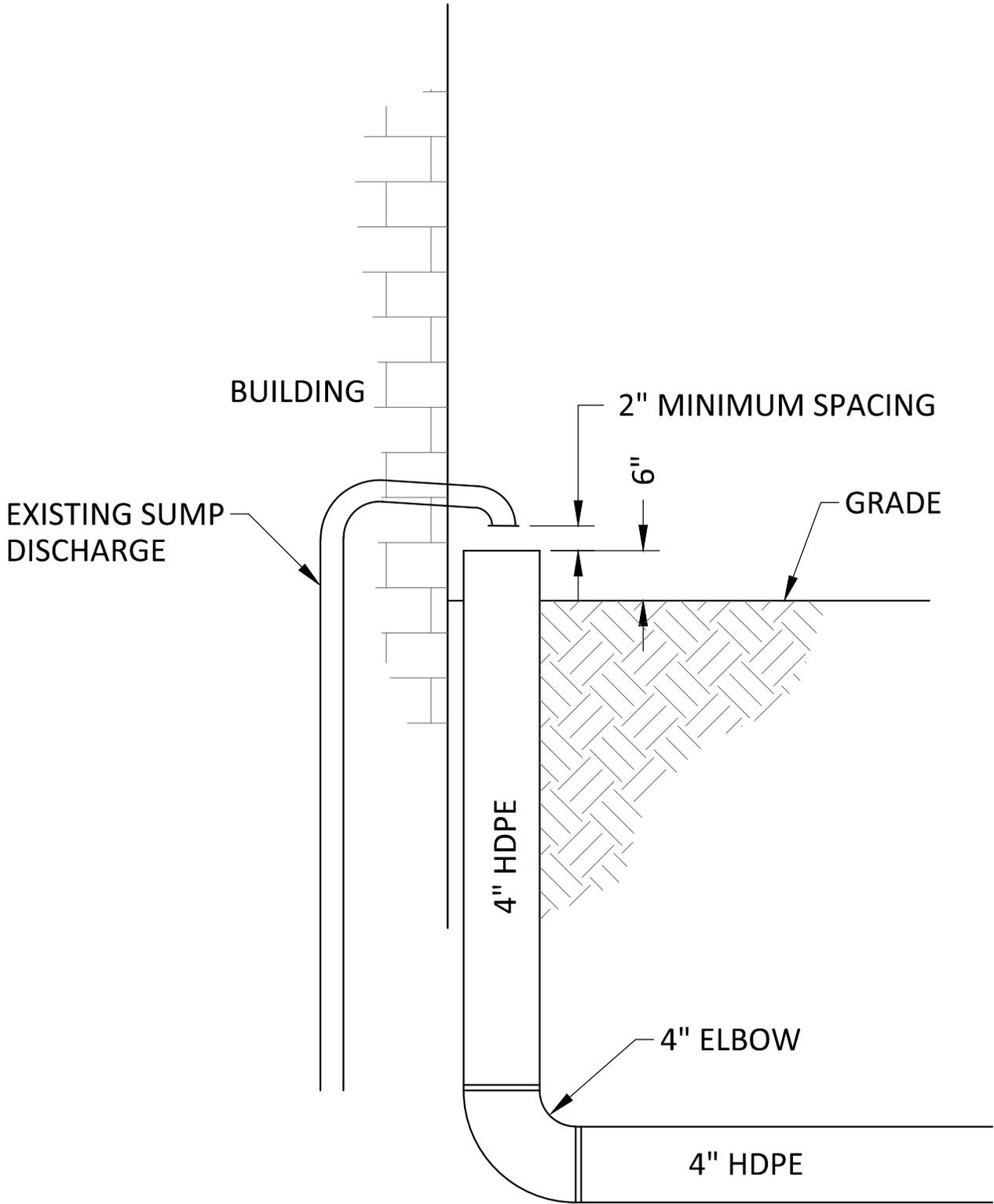
MAILBOX INSTALLATION DETAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9012ENM

DATE 02/2017



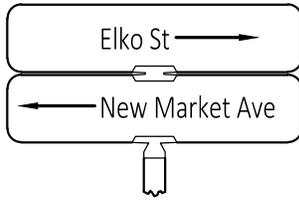
SUMP PUMP CONNECTION DETAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9013ENM

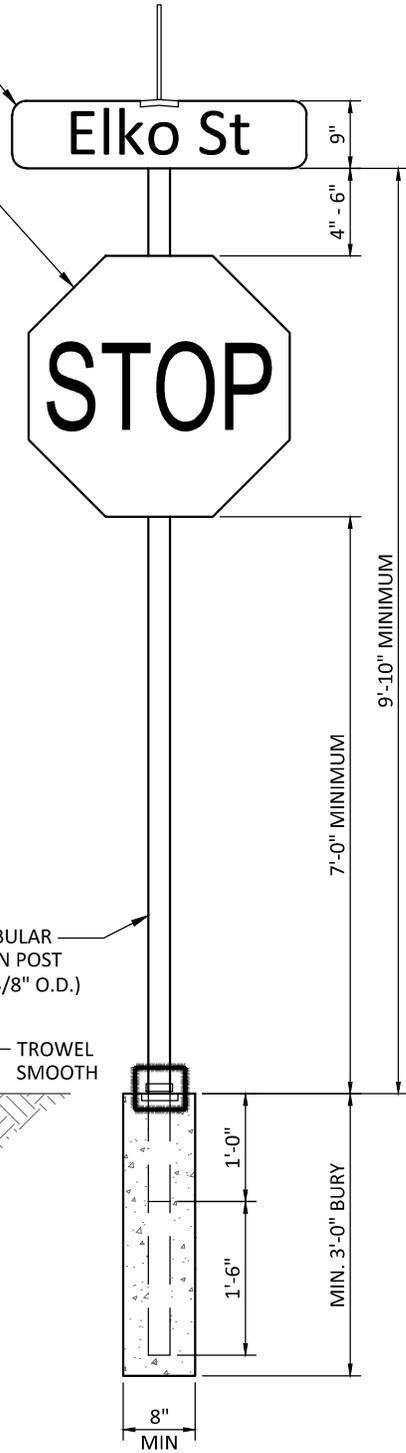
DATE 02/2017



STREET NAME CHANGE

STREET NAME
6" CAPITAL LETTERS
WITH LOWERCASE

REGULATORY SIGN INSTALLED BELOW STREET SIGNS WHEN FEASIBLE. REGULATORY SIGNS SHALL HAVE VISUAL IMPACT PERFORMANC (VIP) DIAMOND GRADE BY 3M OR EQUAL REFLECTIVE SHEETING.



GENERAL

MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (2005 EDITION) AND ANY SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN, AS AMENDED BY THESE SPECIFICATIONS. SIGNS AND INSTALLATION OF SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2005 MINNESOTA MUTCD DATED MAY 2005. ALL STREET SIGNS SHALL BE INSTALLED ON TUBULAR SIGN POSTS. STOP SIGNS/YIELD SIGNS SHALL BE INSTALLED ON STREET SIGNS WHEN FEASIBLE.

TUBULAR SIGN POSTS

POSTS SHALL BE GALVANIZED STEEL, 12-FEET IN LENGTH, WITH A 2-3/8" O.D., WALL THICKNESS OF 0.065". POSTS SHALL BE SET INSIDE A SCHED. 40 GALVANIZED STEEL PIPE (ENCASED IN A CONCRETE FOOTING, SECURED WITH A COLLARED INSERT SLEEVE).

STREET SIGN BLANKS

SIGN BLANKS SHALL BE FLAT DOUBLE FACE TYPE EXTRUDED ALUMINUM BLANKS, 0.080 MIL THICK, MEETING U.S. BUREAU OF PUBLIC ROADS STANDARDS AND CHEMICALLY TREATED PER ASTM 8449 IN PREPARATION FOR PAINT OR REFLECTIVE SHEETING. SIGN BLANKS SHALL BE 9" HIGH BY 24"-48" LONG (LENGTH DEPENDENT UPON STREET NAME). SHEETING FOR STREET SIGNS SHALL BE HIGH INTENSITY PRISMATIC (HIP) REFLECTIVE SHEETING FROM 3M OR EQUAL, GREEN IN COLOR, WITH STANDARD RADIUS.

STREET SIGN BRACKETS

MOUNTING POST BRACKET SHALL BE CAST ALUMINUM OF SIZE AS TO FIT THE SIGN POST.

LETTERING

ALL LETTERS AND NUMBERS SHALL BE 6" HIGH, UPPERCASE, WHITE IN COLOR, SERIES C. THE FOLLOW ABBREVIATIONS SHALL BE USED:

- STREET "St"
- AVENUE "Ave"
- ROAD "Rd"
- BOULEVARD "Blvd"
- DRIVE "Dr"
- PARKWAY "Pkwy"
- PLACE "Pl"
- TRAIL "Tr"
- CIRCLE "Cir"
- COURT "Ct"
- (OTHERS TO BE REVIEWED)

EFA TUBULAR POST BREAK AWAY SYSTEM OR APPROVED EQUAL (COLLARED INSERT SLEEVE WITH (2) 1/2" DIA. SQUARE HEAD BOLTS-TEFLON TO BE USED ON THREADS)



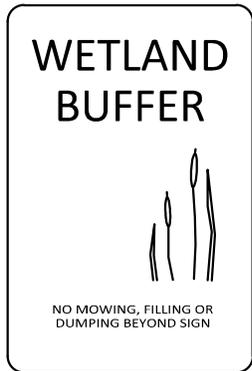
STREET NAME SIGN

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9014ENM

DATE 02/2017



CONTACT THE CITY ENGINEER FOR A PDF OF THE SIGN COVER TO BE USED.

SIGN POSTS

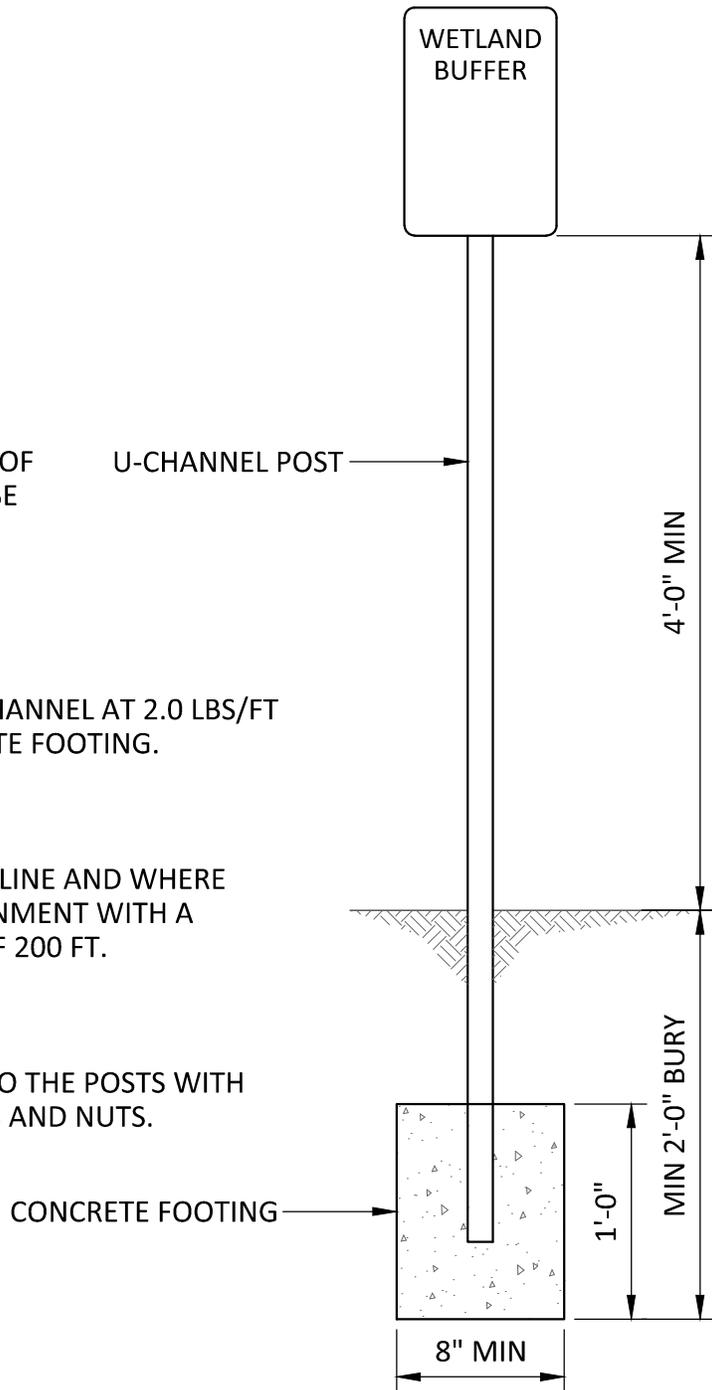
POSTS SHALL BE GREEN U-CHANNEL AT 2.0 LBS/FT AND ENCASED IN A CONCRETE FOOTING.

SIGN LOCATIONS

INSTALL SIGNS AT EACH LOT LINE AND WHERE THERE IS A CHANGE IN ALIGNMENT WITH A MAXIMUM SIGN SPACING OF 200 FT.

SIGN FASTENING

SIGNS SHALL BE FASTENED TO THE POSTS WITH TWO BOLTS, LOCK WASHERS AND NUTS.



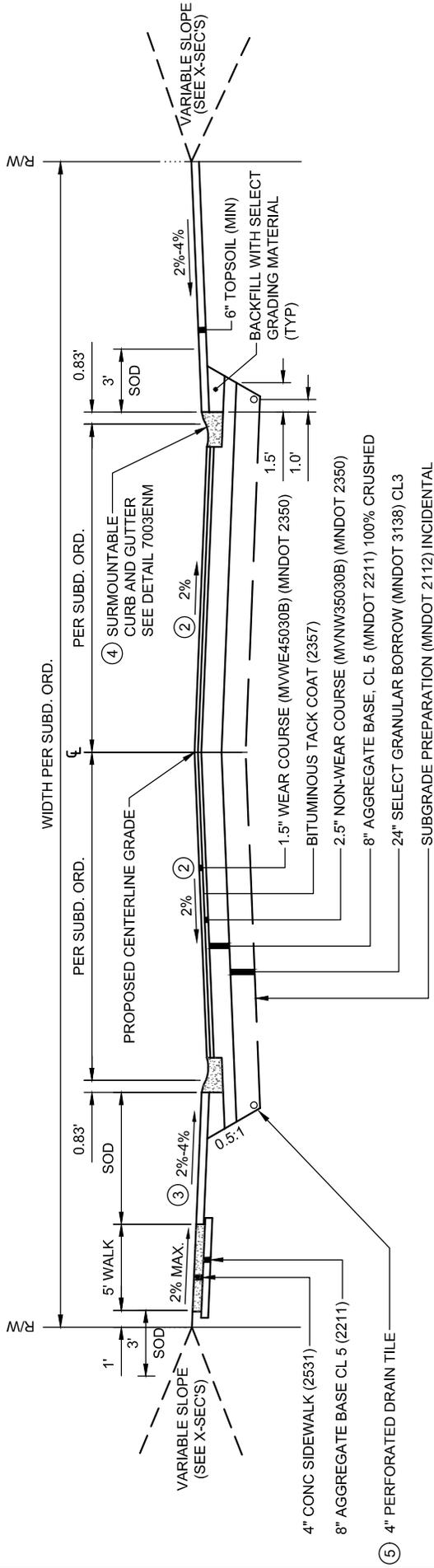
WETLAND BUFFER SIGN

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9015ENM

DATE 02/2017



GENERAL NOTES:

- ① ANY VARIATIONS FROM THE TYPICAL SECTION DIMENSIONS ARE SHOWN IN THE PROJECT PLANS
- ② PAVEMENT SLOPES AT INTERSECTION LOCATIONS MAY VARY FROM THOSE SHOWN ON THE TYPICAL SECTION
- ③ TOP OF SOD ROOT MASS TO BE BELOW SIDEWALK SURFACES
- ④ B618 CONC CURB & GUTTER IS REQUIRED AT ALL CURB RADII AND CATCH BASINS
- ⑤ SEE PLANS FOR TILE LOCATIONS



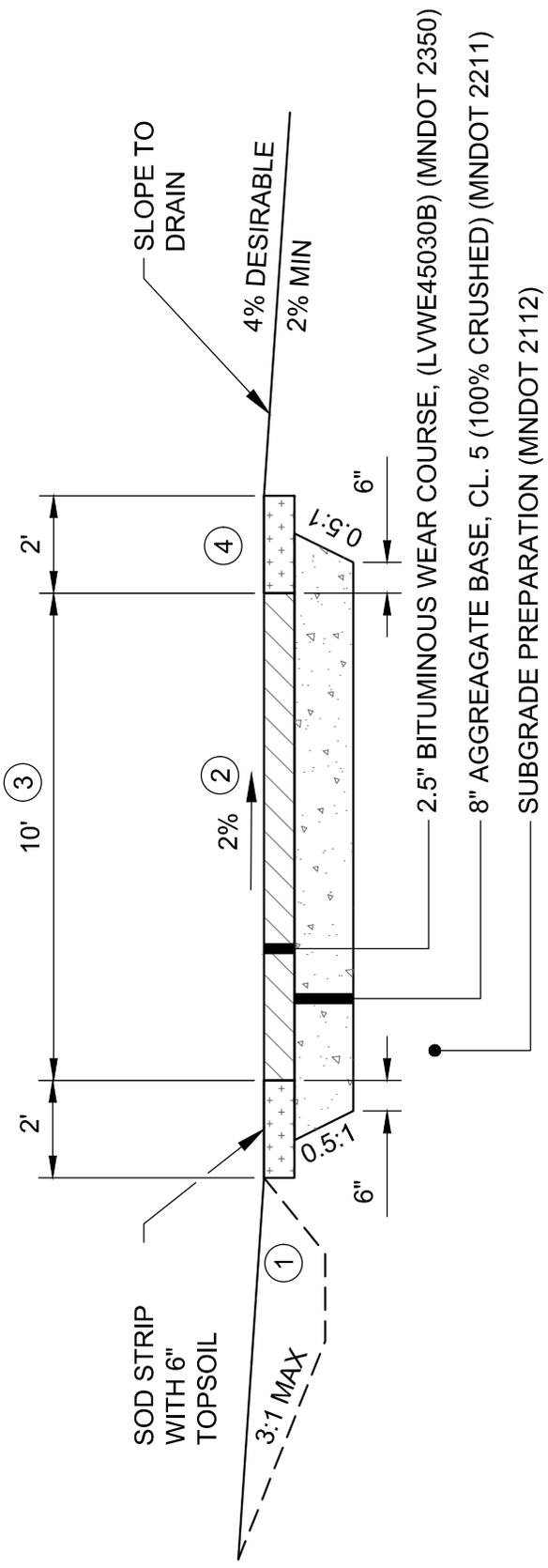
TYPICAL STREET SECTION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 1000ENM

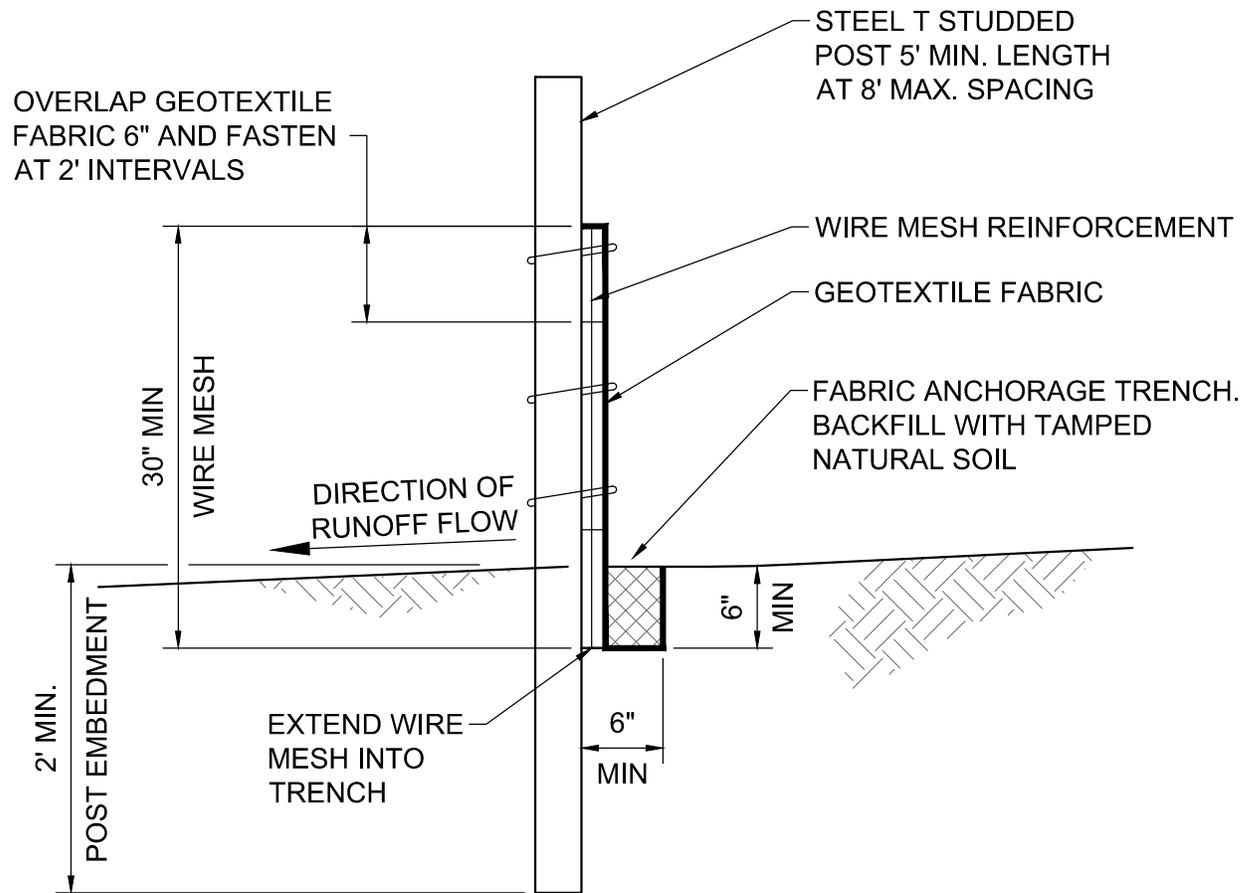
DATE 02/2017



NOTES:

- ① DITCH FOR DRAINAGE IF REQUIRED BY CITY ENGINEER
- ② SLOPE TOWARDS INSIDE OF CURVE
- ③ VARIATION FROM STANDARD WIDTH IF APPROVED IN DEVELOPMENT CONTRACT
- ④ TOP OF SOD ROOT MASS TO BE 1-INCH BELOW PAVED SURFACE

	<h2>RECREATION TRAIL</h2>	STANDARD DETAIL
	<h3>CITY OF ELKO NEW MARKET</h3>	NO. <u>1001ENM</u> DATE <u>02/2017</u>



HEAVY DUTY SILT FENCE IS REQUIRED ADJACENT TO ALL WETLANDS



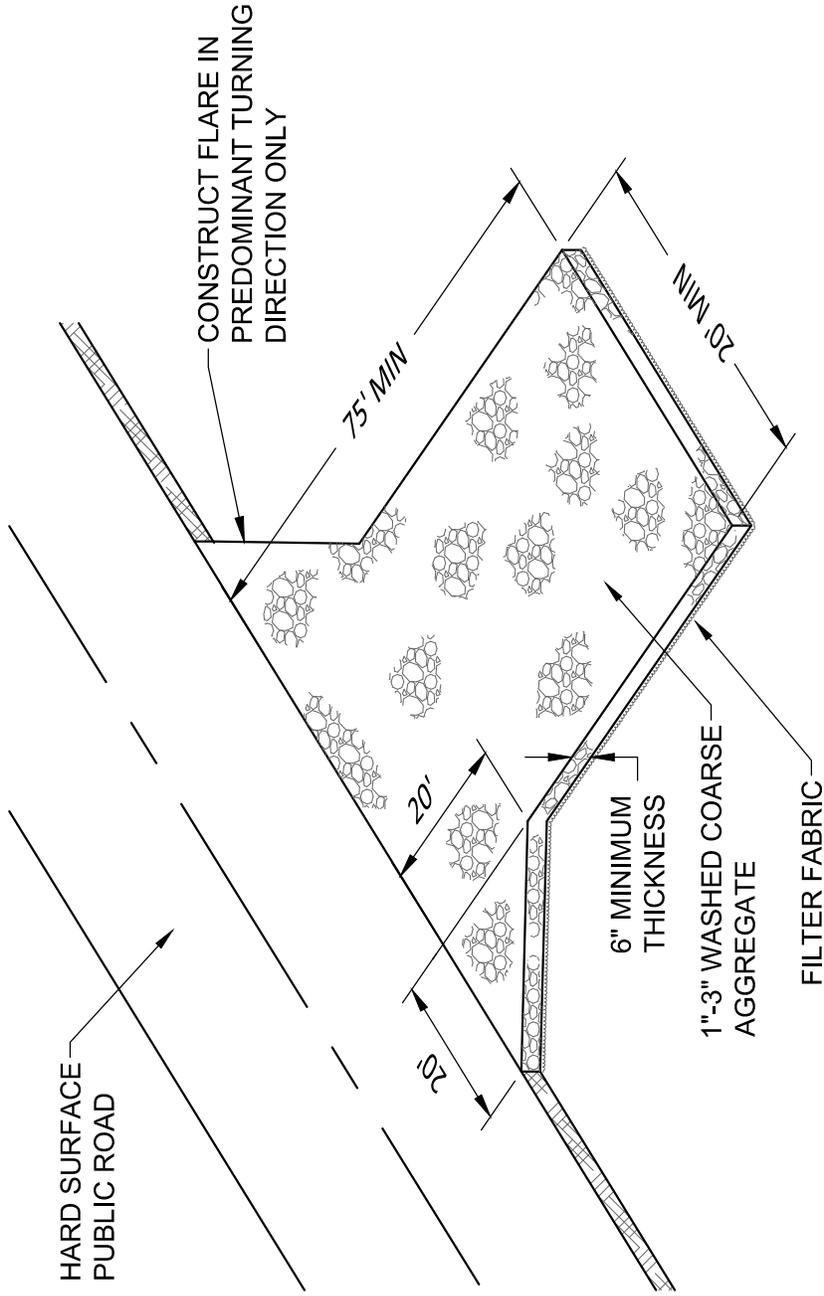
HEAVY DUTY SILT FENCE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 3003ENM

DATE 02/2017



NOTE: PLACE FILTER FABRIC BENEATH ROCK LAYER

TEMPORARY ROCK CONSTRUCTION ACCESS

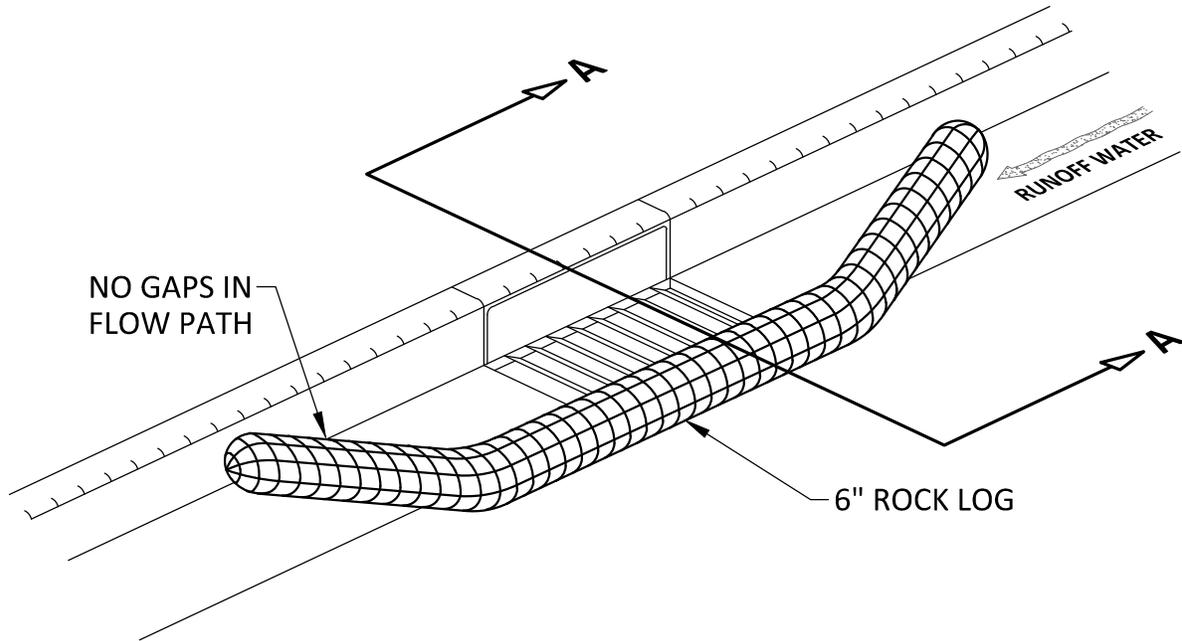
CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 3005ENM

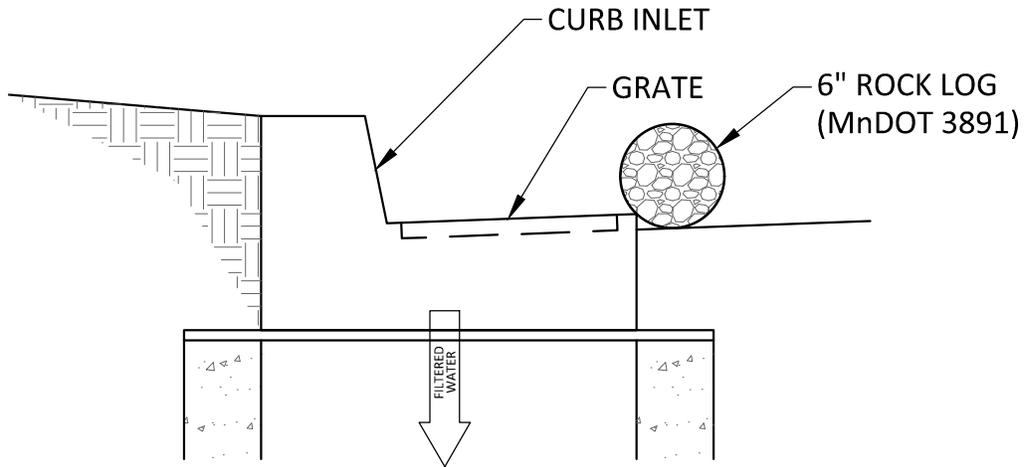
DATE 02/2017





NOTES:

1. FILTER AGGREGATE TO BE MnDOT 3137.2 CI D, CA1 TO CA5.
2. FILTER FABRIC SHALL MEET MnDOT SPECIFICATION 3733 GEOTEXTILE FABRIC TYPE II.



SECTION A-A



ROCK LOG INLET PROTECTION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 3013ENM

DATE 02/2017

TABLE OF QUANTITIES

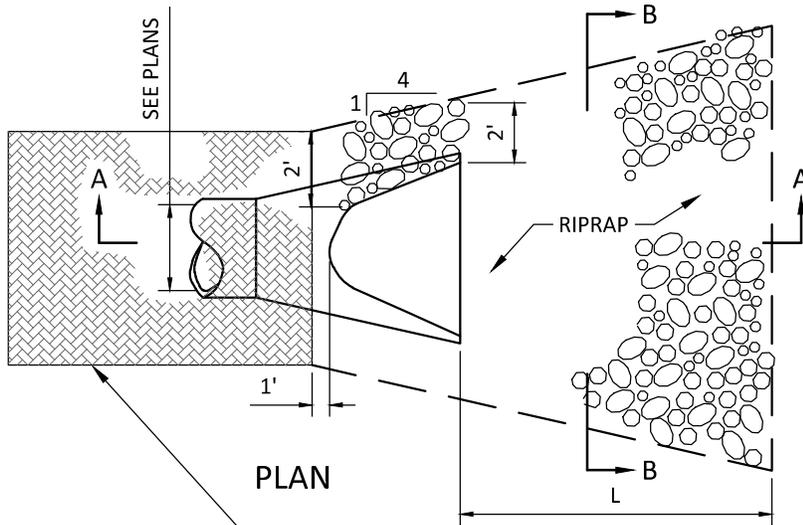
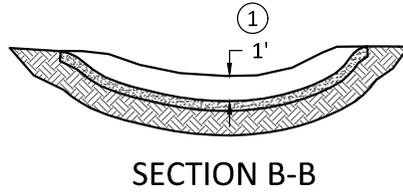
RIPRAP AT STANDARD OUTLETS

DIA OF ROUND PIPE (IN)	L (FT)	CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
		12" DEPTH RIPRAP (CU YD)	18" DEPTH RIPRAP (CU YD)	24" DEPTH RIPRAP (CU YD)
12	8	2.1	4.1	5.5
15	8	2.9	4.4	5.8
18	10	3.6	5.9	7.6
21	10	4.6	6.3	8.4
24	12	5.8	8.3	11.0
27	12	6.9	8.7	11.6
30	14	8.3	10.9	14.5
36	16	11.2	13.8	18.3
42	18	13.6	16.3	21.7
48	20	16.8	19.4	25.8

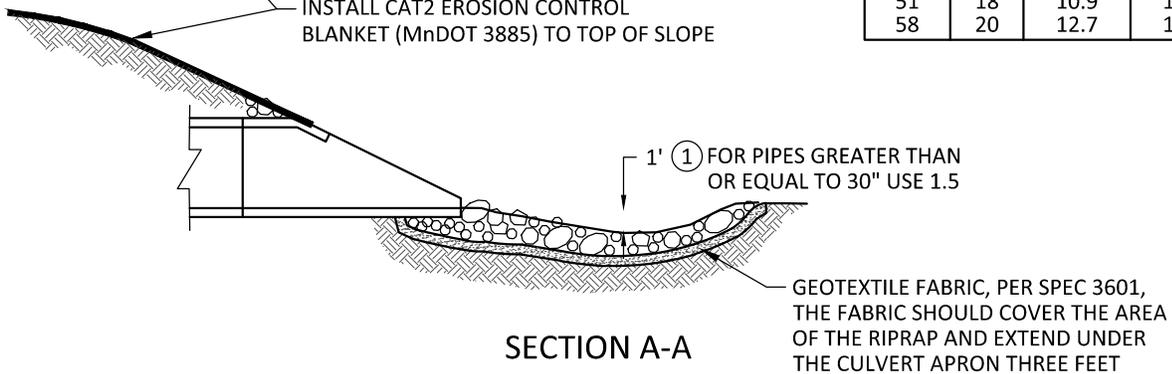
TABLE OF QUANTITIES

RIPRAP AT ARCH OUTLETS
OR BOXES OF EQUIVALENT SPAN WIDTH

DIA OF ROUND PIPE (IN)	L (FT)	CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
		12" DEPTH RIPRAP (CU YD)	18" DEPTH RIPRAP (CU YD)	24" DEPTH RIPRAP (CU YD)
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



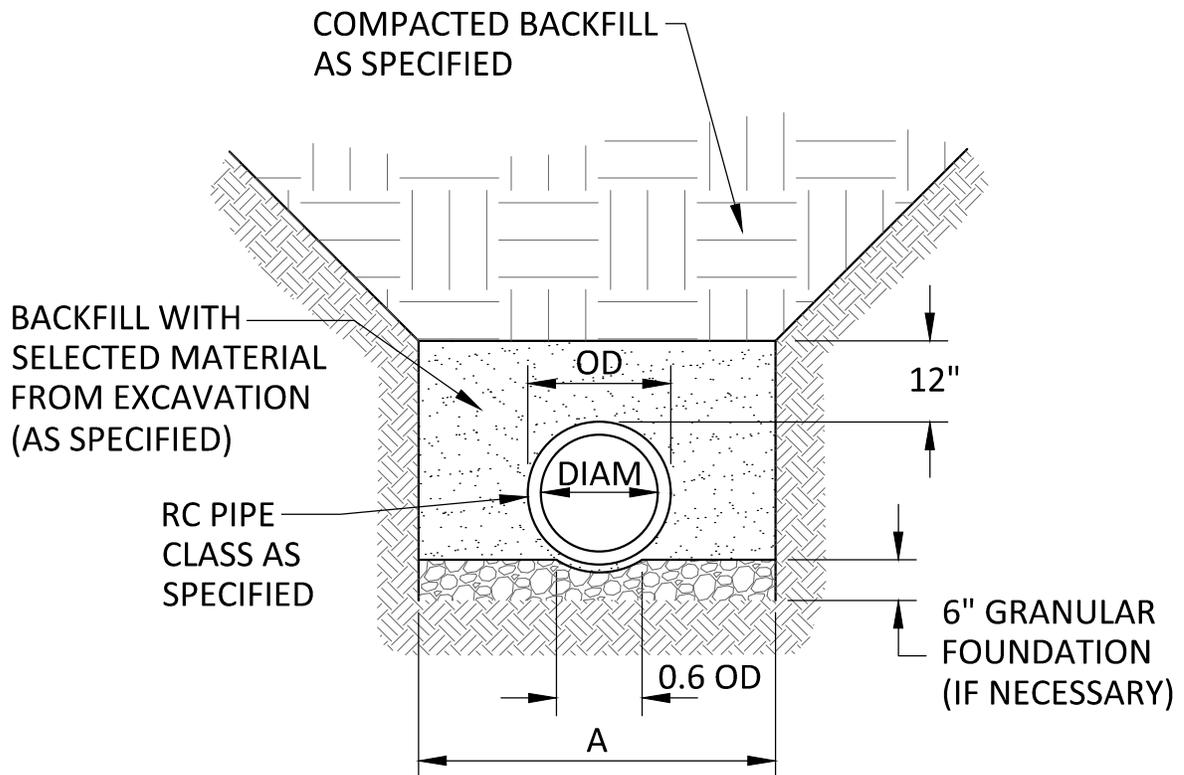
INSTALL CAT2 EROSION CONTROL BLANKET (MnDOT 3885) TO TOP OF SLOPE



APRON END RIPRAP DETAIL
CITY OF ELKO NEW MARKET

STANDARD DETAIL
NO. 3018ENM
DATE MARCH 2009

PIPE DIA	A
36" OR LESS	OD + 24"
42" TO 54"	1.5 X OD
60" OR OVER	OD + 36"



RC PIPE TRENCH

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4002ENM

DATE 02/2017

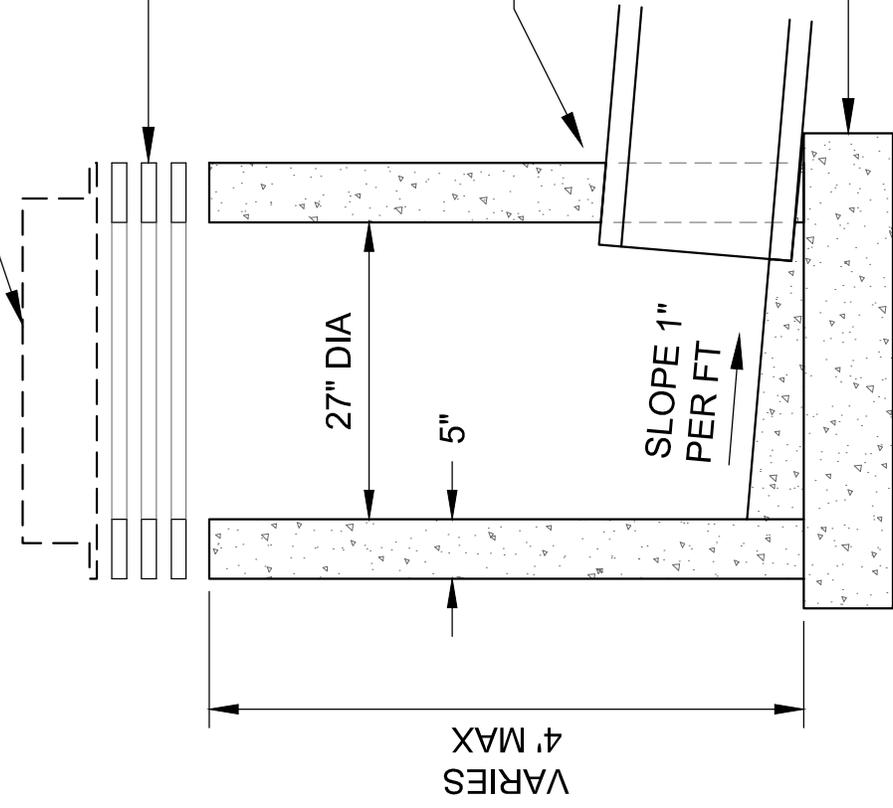
CASTING NEEENAH 3075-V

MIN 3" - MAX 6"
CONCRETE ADJUSTING
RINGS WITH MORTAR

FILL ANNULAR SPACE AROUND
PIPE WITH NON-SHRINK GROUT

REFER TO PLANS FOR PIPE
REQUIRED

MIN 8" POURED
OR PRECAST BASE



STANDARD DETAIL

NO. 4005ENM

DATE 02/2017

CATCH BASIN

CITY OF ELKO NEW MARKET



① INFI-SHIELD BY SEALING SYSTEMS, INC.
 (www.infi-shield.com) OR EQUAL
 APPROVED BY CITY ENGINEER

① PLACE PARGE COAT
 WITH EXTERNAL WRAP

NEENAH CASTING 4-1642 VENTED
 WITH 2 CONCEALED PICK HOLES
 OR APPROVED EQUAL.
 LABEL "STORM SEWER" IN COVER

GRADE

ADJUSTING RINGS
 3" MIN, 12" MAX WITH
 INTERNAL PARGE COAT

PLACE BITUMINOUS MASTIC
 OR MORTAR BETWEEN SECTIONS
 & RINGS OR APPROVED EQUAL

DEPTH AS REQUIRED

48"

16"

5"

48"

SEAL WITH
 MORTAR INSIDE
 AND OUT

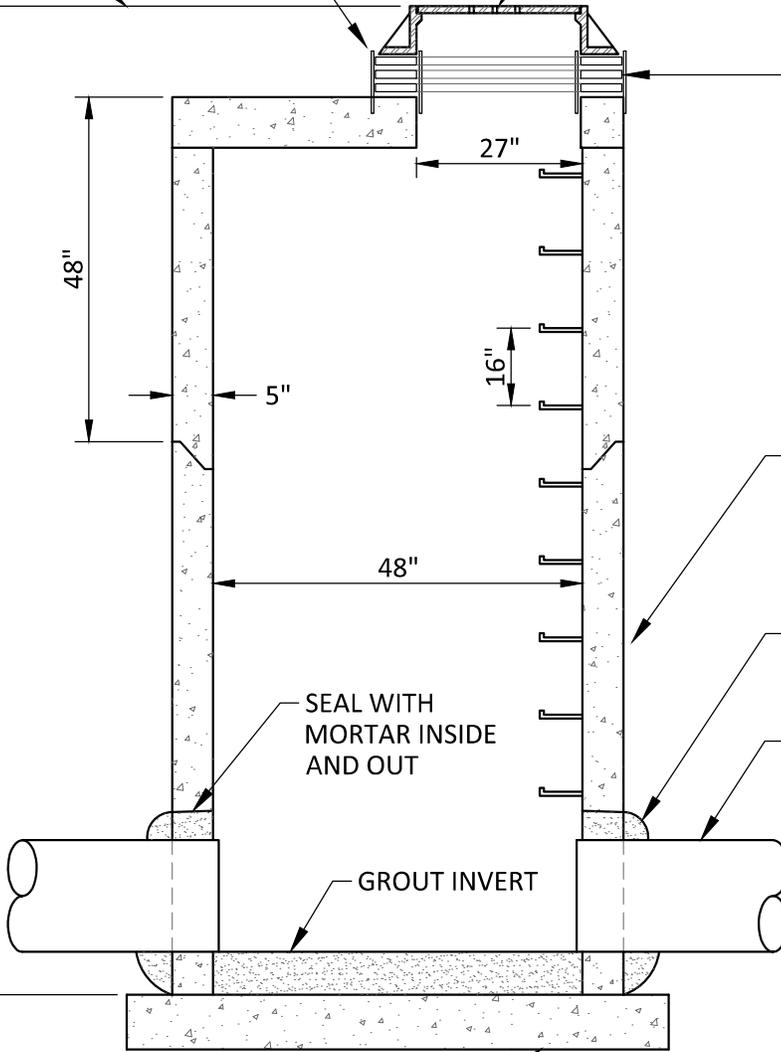
STEEL REINFORCED PLASTIC STEP
 SHALL BE A POLYPROPYLENE
 PLASTIC REINFORCED WITH A
 NO. 2 DEFORMED STEEL ROD
 GRADE 60

FILL ANNULAR SPACE AROUND
 PIPE WITH NON-SHRINK GROUT
 INSIDE & OUT (TYP)

STORM SEWER

GROUT INVERT

PRECAST CONCRETE
 BASE



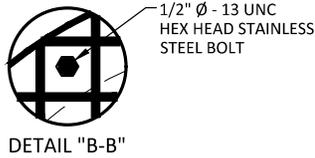
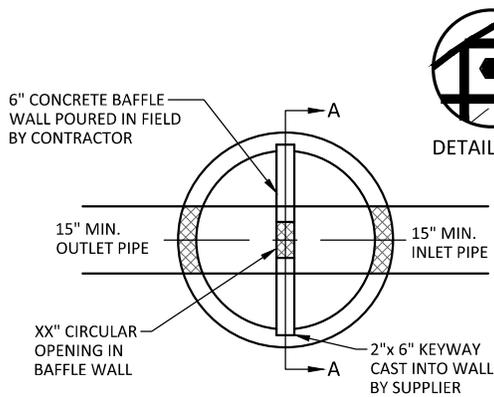
STORM SEWER STRUCTURE

CITY OF ELKO NEW MARKET

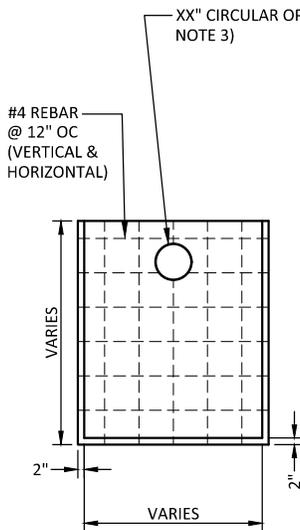
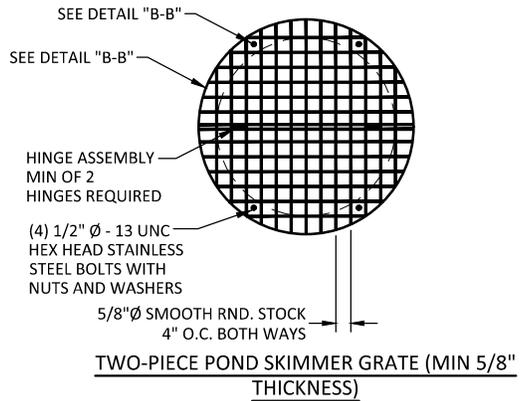
STANDARD DETAIL

NO. 4006ENM

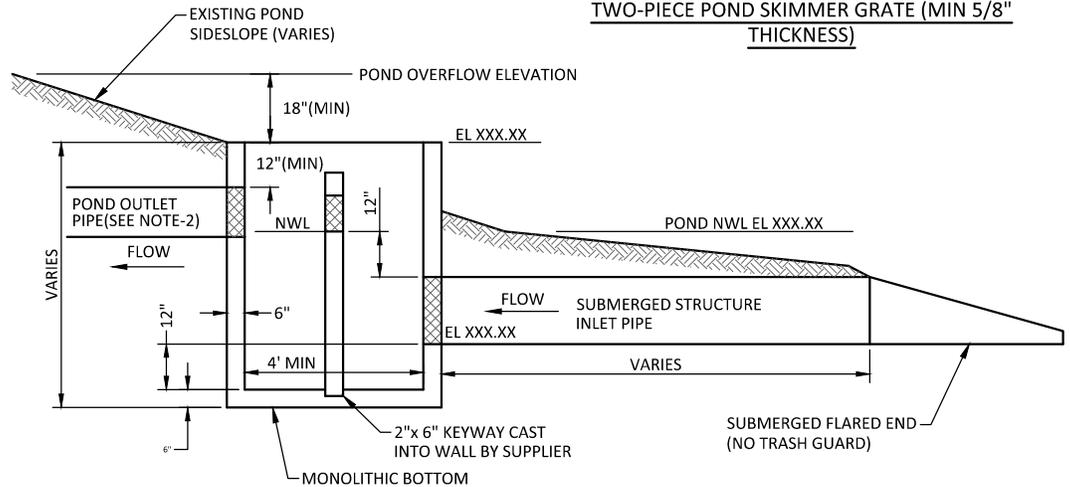
DATE 02/2017



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



CONCRETE BAFFLE WALL
SECTION A-A



SECTION VIEW

NOTES:

- 1) STRUCTURE INLET PIPE SHALL BE A MINIMUM DIAMETER OF 18-INCHES TO AVOID PLUGGING.
- 2) POND OUTLET PIPE SHALL BE SIZED FOR 100-YEAR OR REQUIRED STORM EVENT.
- 3) CONCRETE BAFFLE WALL SHALL BE SIZED TO MEET RATE CONTROL REQUIREMENTS, ORIFICE OR WEIRS ALLOWED.
- 4) ALL PIPE JOINTS SHALL BE TIED.
- 5) INLET PIPE 12-INCHES OR MORE FROM POND BOTTOM.



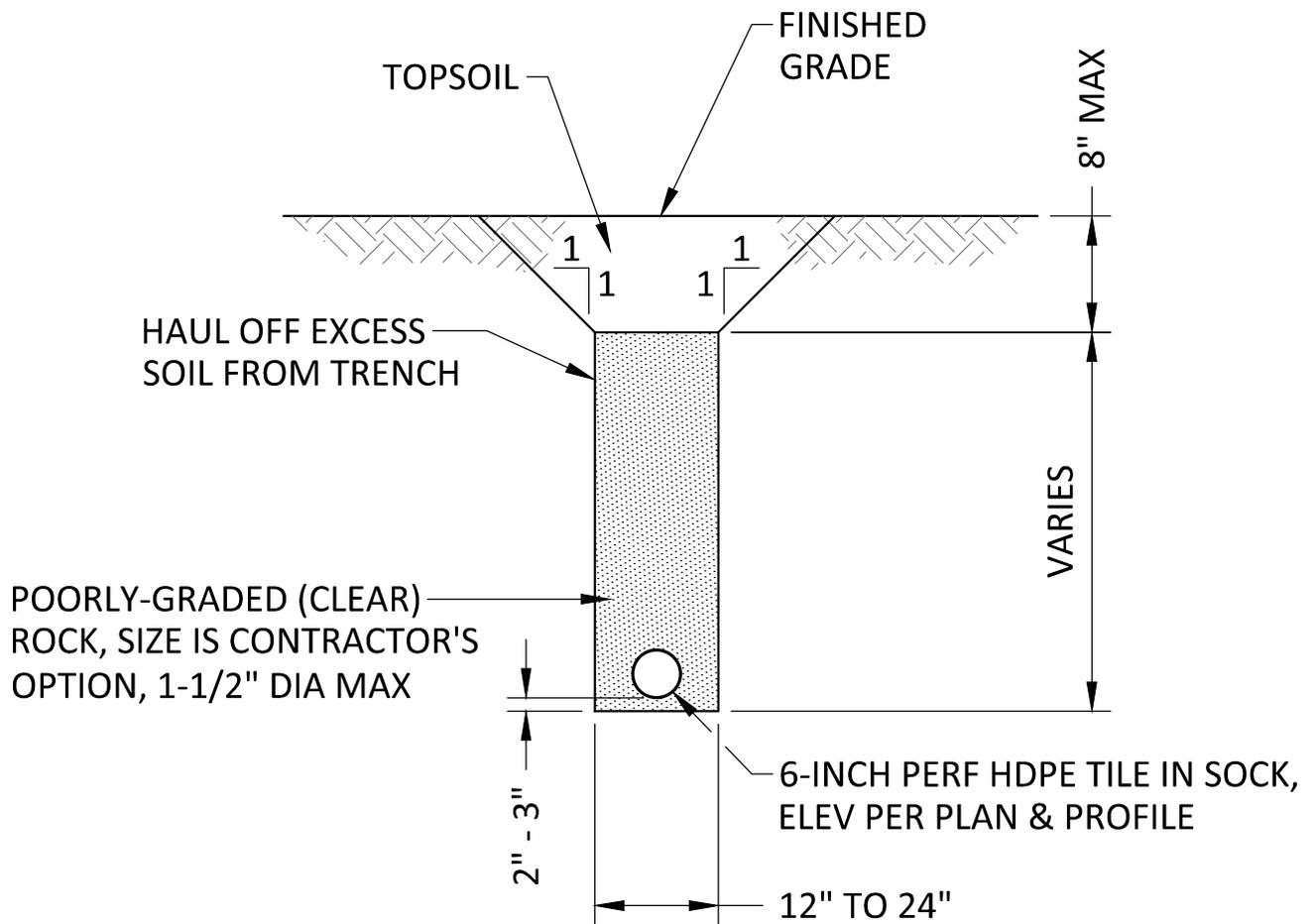
POND OUTLET STRUCTURE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4014ENM

DATE 02/2017



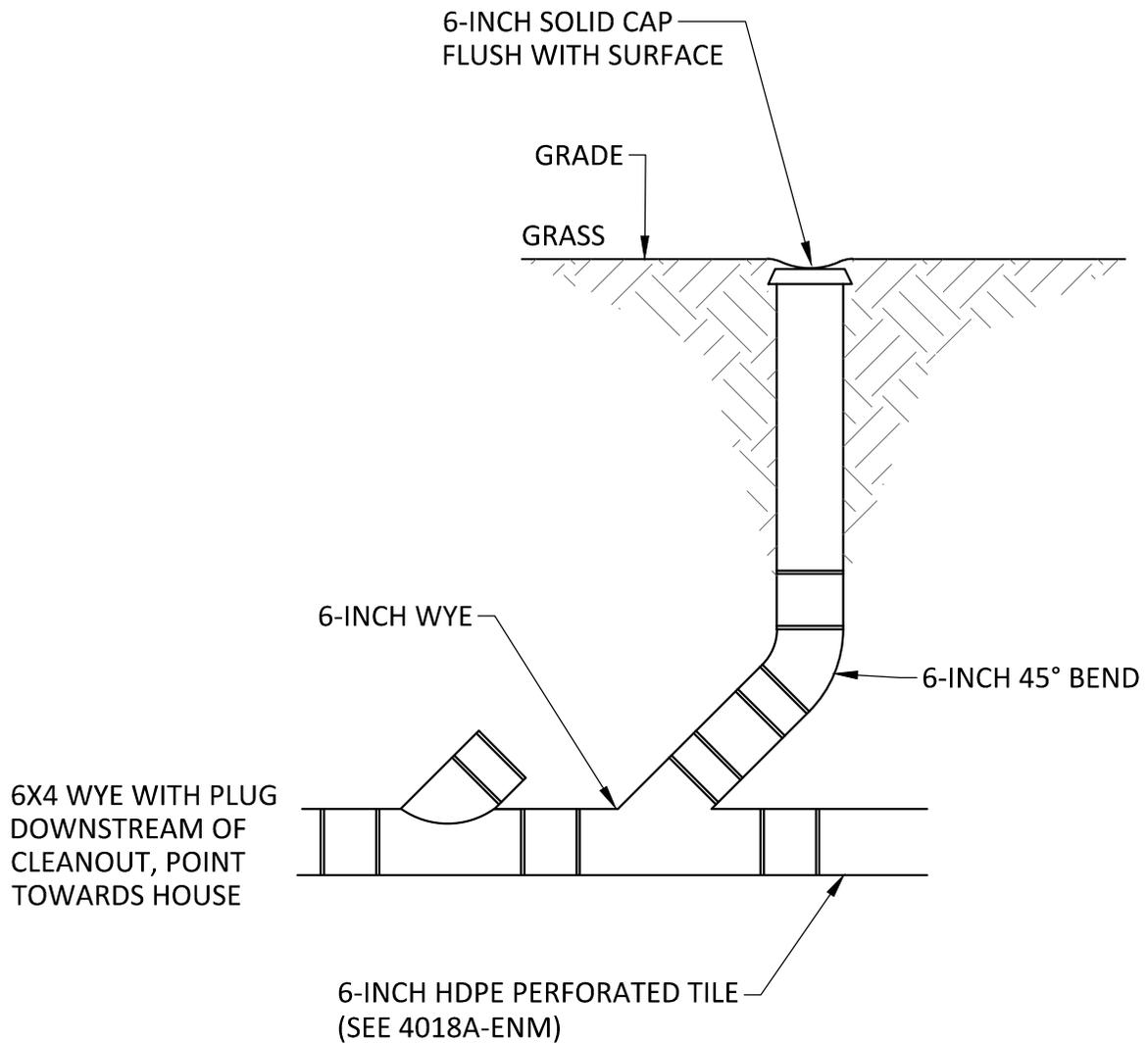
6-INCH YARD - AREA DRAINTILE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4018A-ENM

DATE 02/2017



YARD-AREA DRAINTILE
SUMP/TILE WYE CLEANOUT

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4018B-ENM

DATE 02/2017

BUILDING

2" MINIMUM SPACING

6"

GRADE

SUMP DISCHARGE

4" HDPE

4" ELBOW

4" HDPE



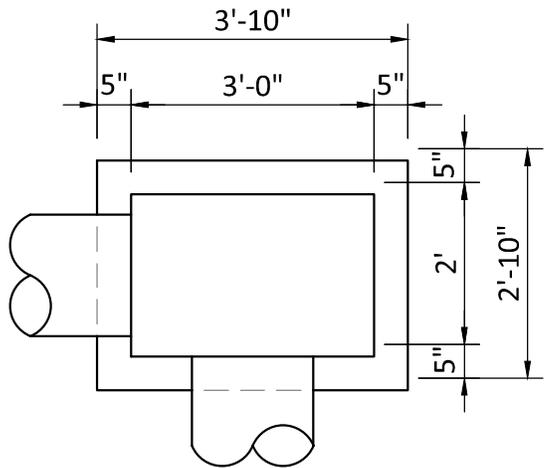
HOUSE SUMP PUMP CONNECTION

CITY OF ELKO NEW MARKET

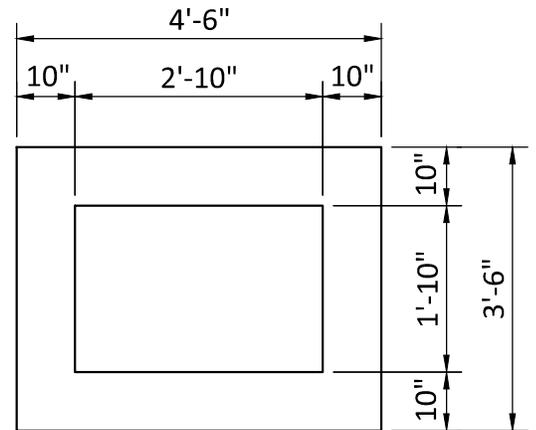
STANDARD DETAIL

NO. 4018C-ENM

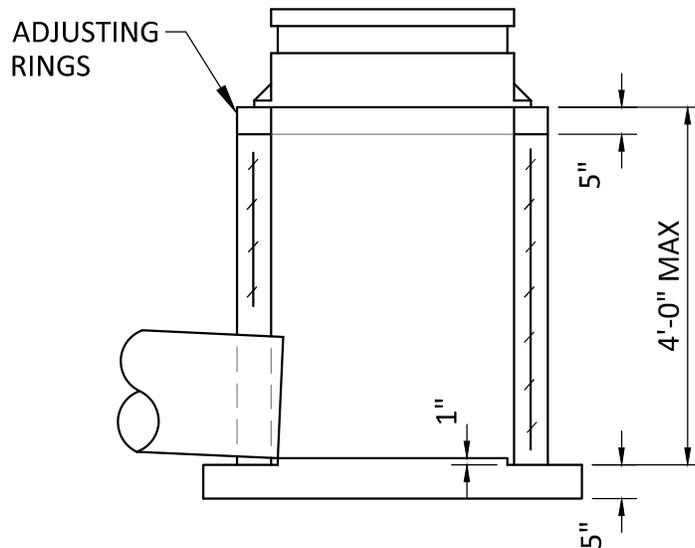
DATE 02/2017



CATCH BASIN PLAN



BASE SLAB PLAN



SECTIONAL VIEW
CATCH BASIN & BASE SLAB

NOTES:

1. TO BE USED WITH NEENAH R-3067-V FRAMED COVER WITH 3" RAD. CURB BOX OR APPROVED EQUAL.
2. PIPE CUT-OUTS TO BE LOCATED WHERE REQUIRED.
3. ALTERNATE CAST-IN-PLACE BASE CAN BE USED.



2'X3' CATCH BASIN

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 4029ENM

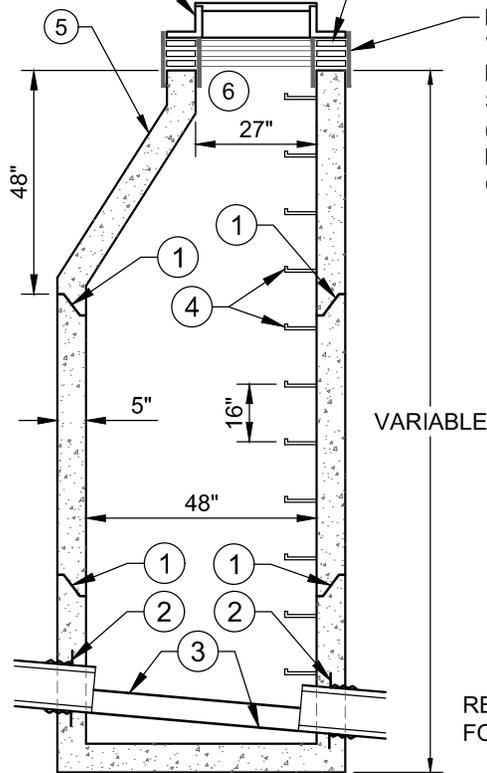
DATE 02/2017

CASTING AS SPECIFIED WITH CONCEALED PICKHOLES

MIN 3, MAX 6 CONCRETE ADJUSTING RINGS WITH BITUMINOUS MASTIC BETWEEN JOINTS

- ① RUBBER GASKET (TYPICAL)
- 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 MN/DOT TYPE "B" ECCENTRIC PRECAST CONCRETE CONE SECTION TYPICAL FOR ALL MANHOLES
- ⑥ PLACE INSIDE PARGE COAT

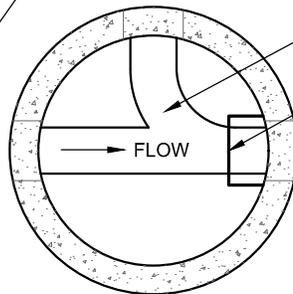
PLACE PARGE COAT WITH INFI-SHIELD EXTERNAL WRAP - SEALING SYSTEMS, INC. (www.Infi-shield.com) OR EQUAL APPROVED BY CITY ENGINEER



6" MIN. INTEGRAL PRECAST CONCRETE BASE

CURVE INVERT IN DOWNSTREAM DIRECTION

STEPS OVER OUTLET IF REQUIRED



PLAN VIEW



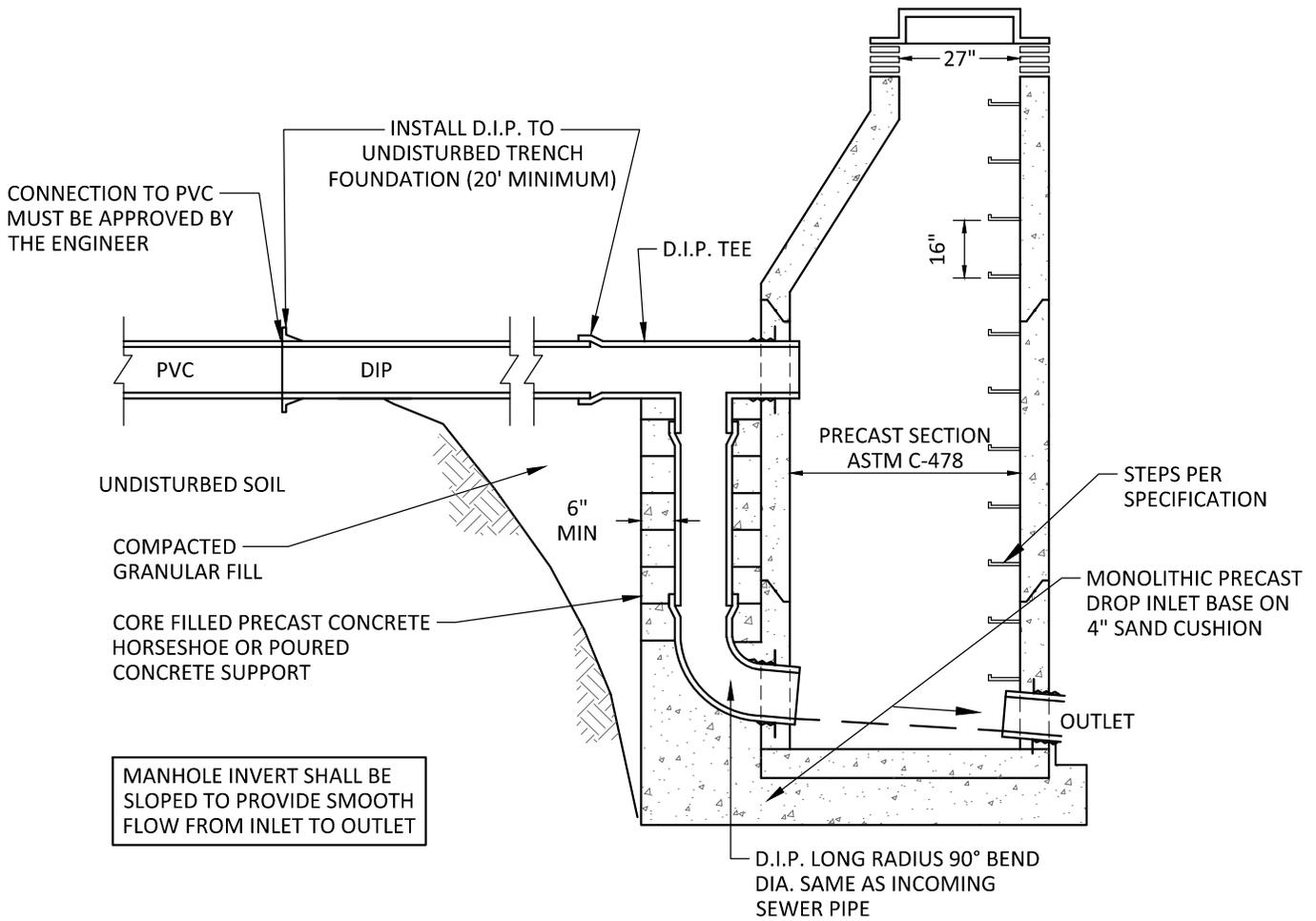
SANITARY SEWER MANHOLE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5001ENM

DATE 02/2017



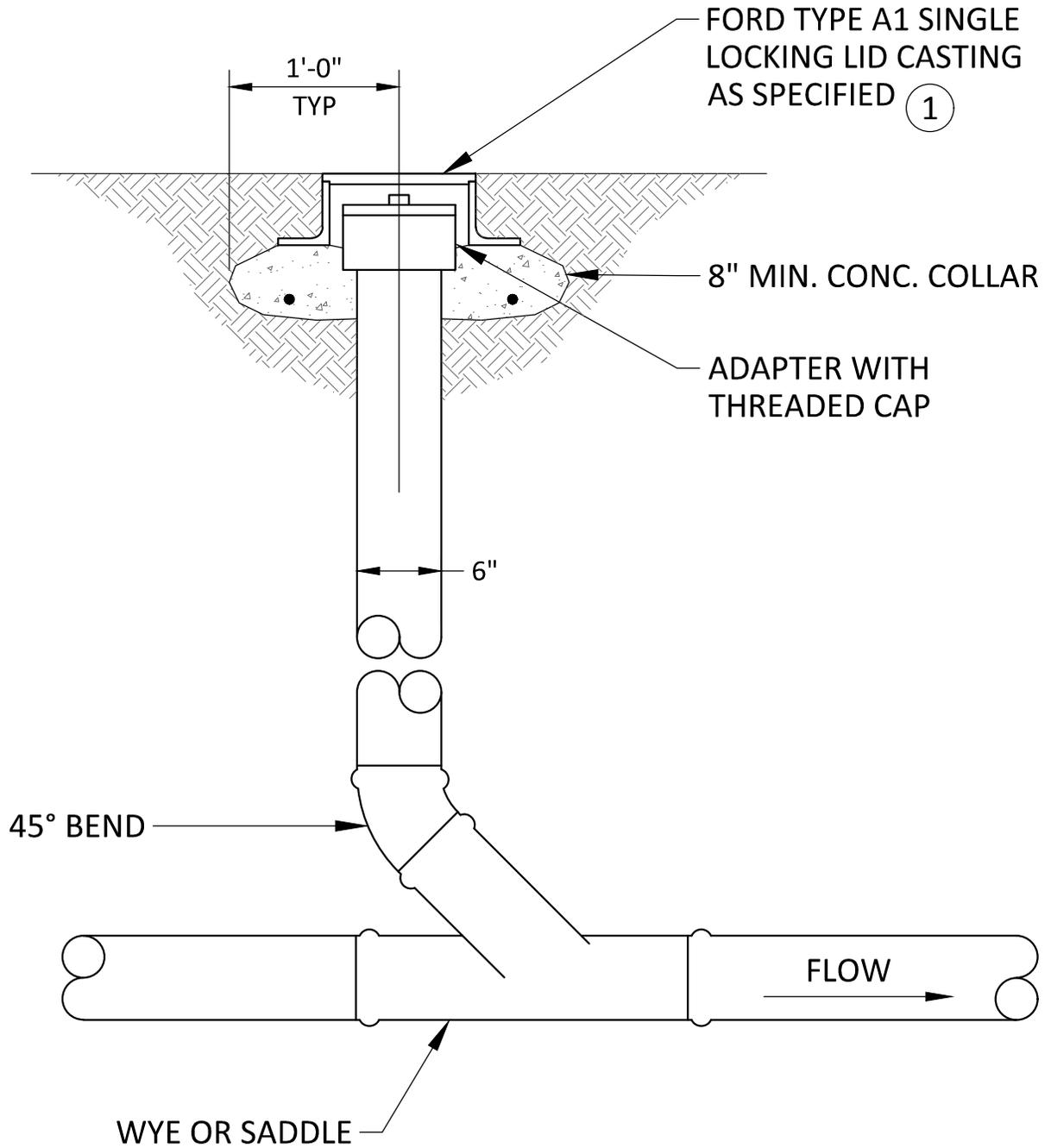
TYPICAL DROP MANHOLE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5003ENM

DATE 02/2017



(1) THE LID CASTING APPLIES ONLY TO CLEANOUTS LOCATED IN DRIVEWAYS, WALKS OR PAVED AREAS



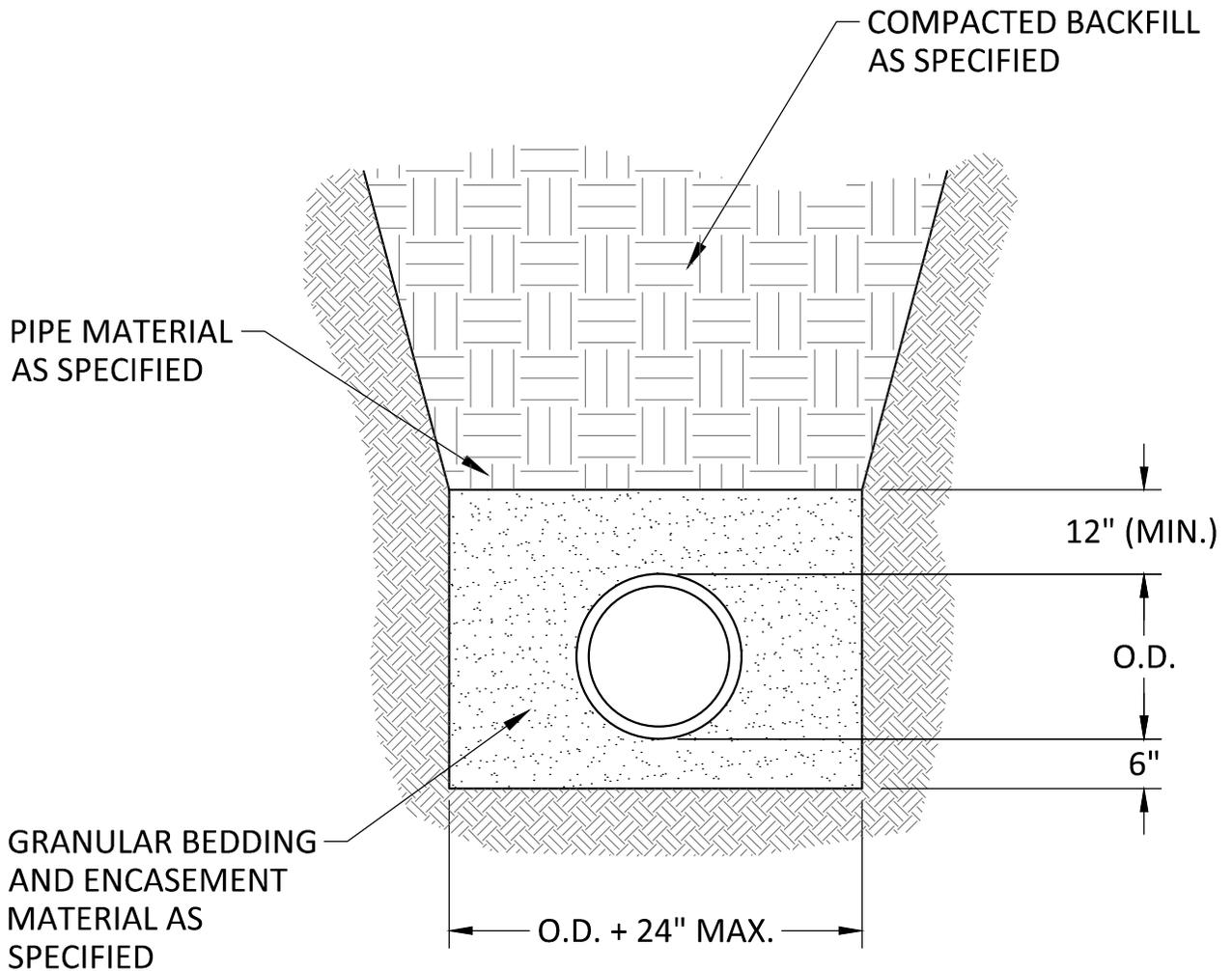
SANITARY SEWER CLEANOUT DETAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5004ENM

DATE 02/2017



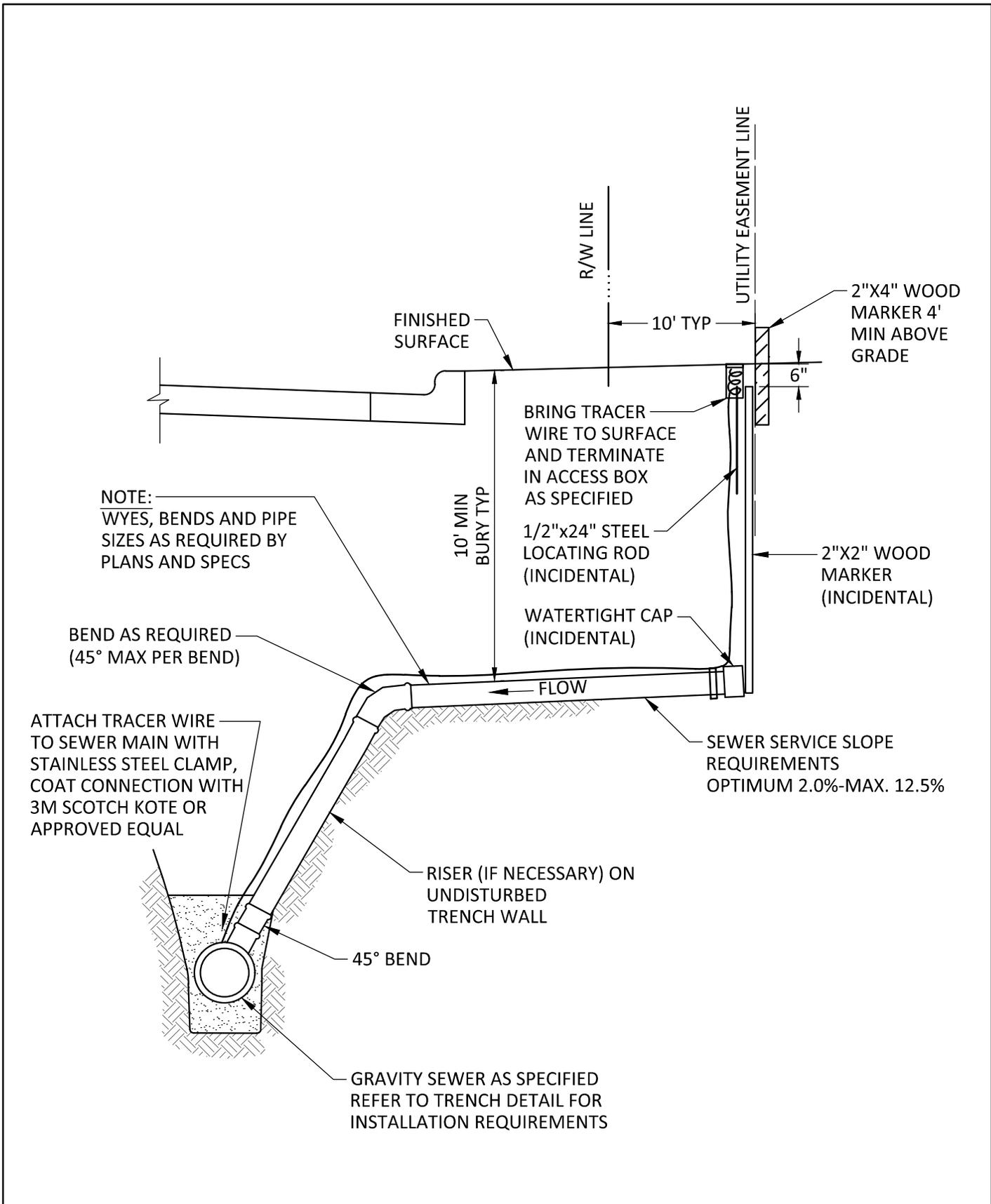
PVC SANITARY SEWER TRENCH

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5005ENM

DATE 02/2017



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

BEND AS REQUIRED
 (45° MAX PER BEND)

ATTACH TRACER WIRE
 TO SEWER MAIN WITH
 STAINLESS STEEL CLAMP,
 COAT CONNECTION WITH
 3M SCOTCH KOTE OR
 APPROVED EQUAL

10' MIN
 BURY TYP

BRING TRACER
 WIRE TO SURFACE
 AND TERMINATE
 IN ACCESS BOX
 AS SPECIFIED
 1/2"x24" STEEL
 LOCATING ROD
 (INCIDENTAL)
 WATERTIGHT CAP
 (INCIDENTAL)

2"x4" WOOD
 MARKER 4'
 MIN ABOVE
 GRADE

2"x2" WOOD
 MARKER
 (INCIDENTAL)

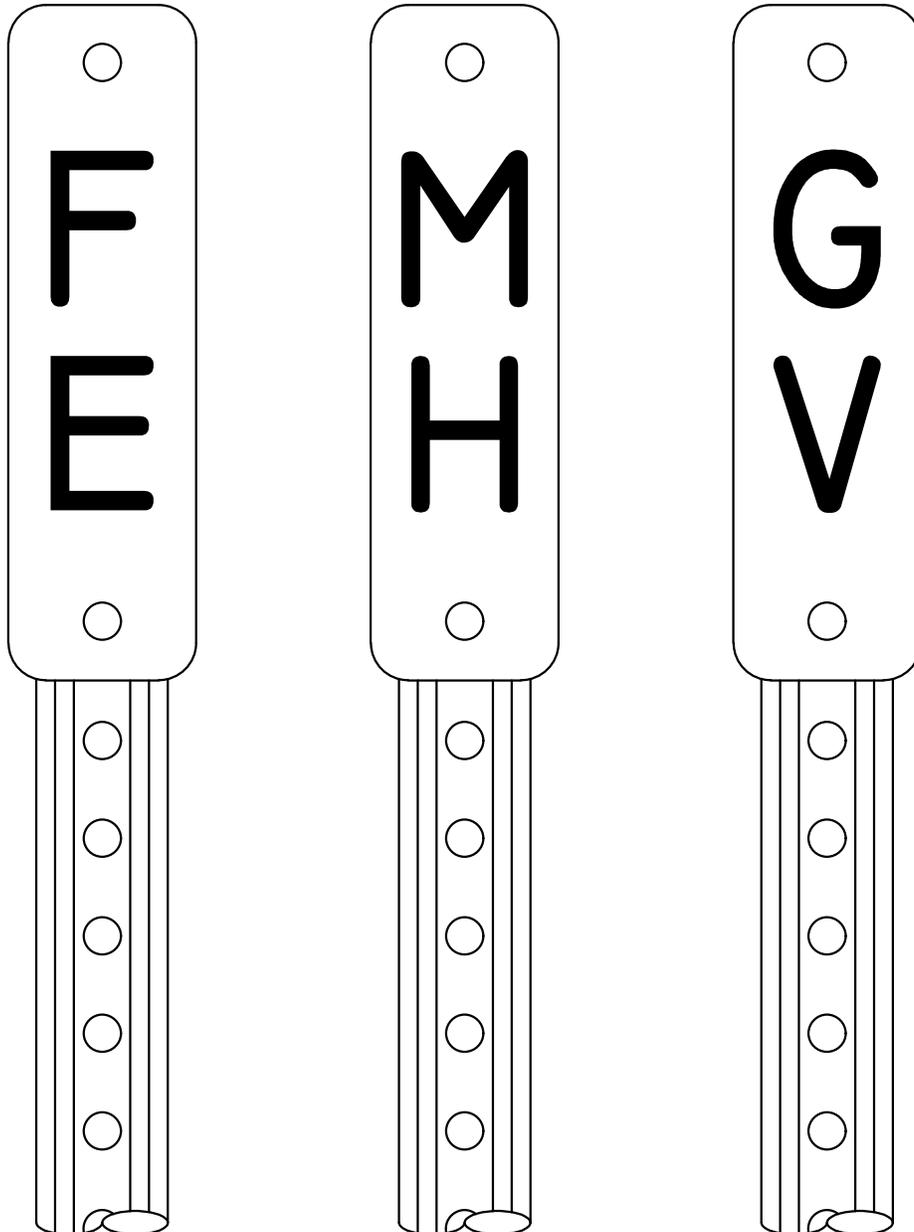
SEWER SERVICE SLOPE
 REQUIREMENTS
 OPTIMUM 2.0%-MAX. 12.5%

RISER (IF NECESSARY) ON
 UNDISTURBED
 TRENCH WALL

45° BEND

GRAVITY SEWER AS SPECIFIED
 REFER TO TRENCH DETAIL FOR
 INSTALLATION REQUIREMENTS

	SANITARY SEWER SERVICE	STANDARD DETAIL
	CITY OF ELKO NEW MARKET	NO. <u>5018ENM</u> DATE <u>02/2017</u>



1. 0.063" THICK ALUMINUM SIGN. BLACK LETTERS ON WHITE HIGH INTENSITY REFLECTORIZED BACKGROUND.
2. U-CHANNEL POST, MINIMUM 3 LB./FT., 6'-6" LONG, GALVANIZED.
3. PLACED AS DIRECTED BY ENGINEER.



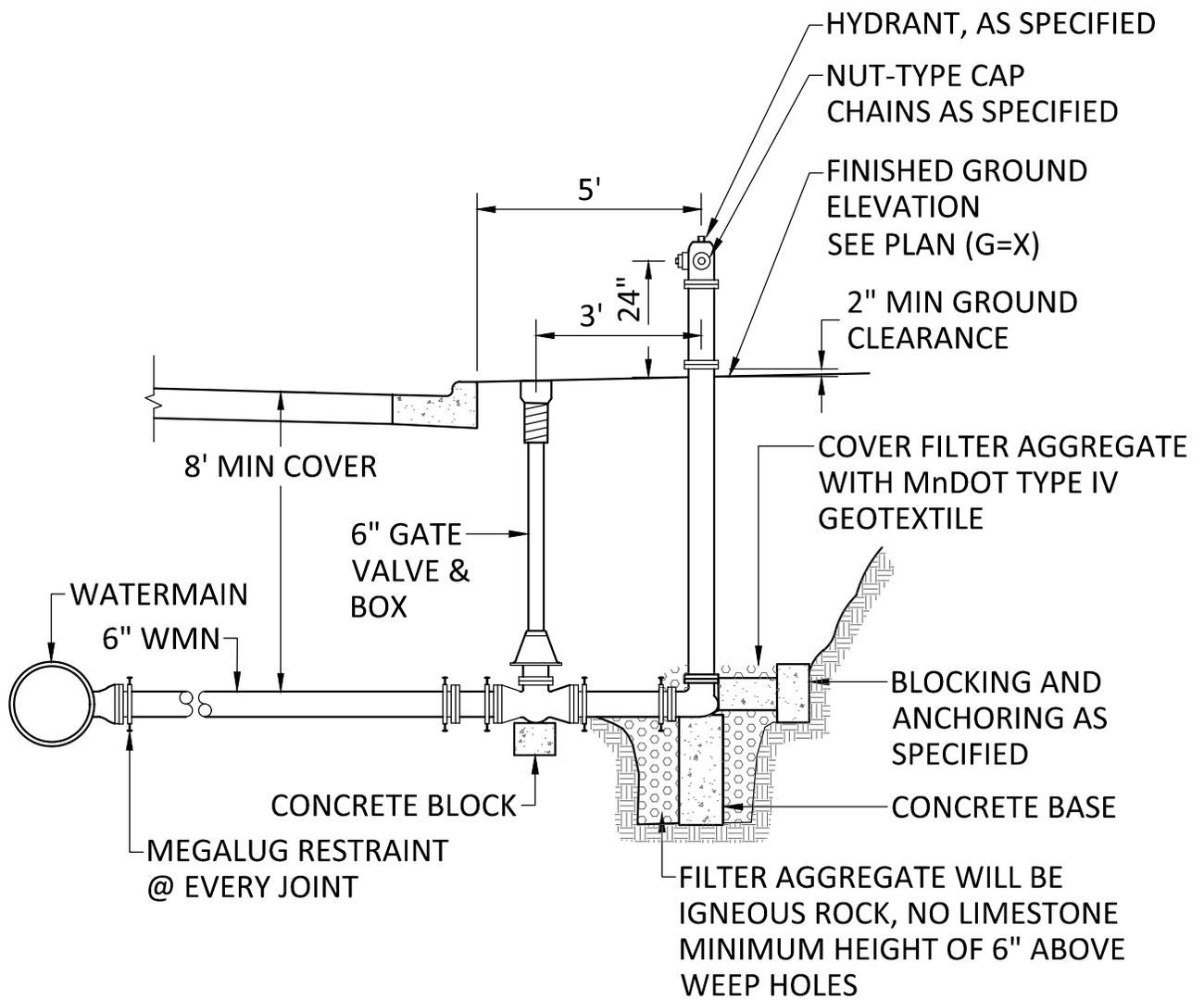
HEAVY DUTY SILT FENCE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 5019ENM

DATE 02/2017



NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL HYDRAFINDER HIGH-VISIBILITY LOCATING DEVICE BY RODON INC. OR APPROVED EQUAL ON EACH HYDRANT. CONTRACTOR SHALL SUPPLY ONE EXTRA HYDRAFINDER PER HYDRANT TO BE DELIVERED TO CITY HALL.
2. HYDRANT & GATE VALVE TO BE TIED TO WATERMAIN WITH METAL RESTRAINING TIE RODS OR MEGALUGS MAY BE USED.
3. CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE HYDRANT WRENCH FOR EVERY PROJECT.
4. HYDRANTS LOCATED WHERE THE GROUNDWATER TABLE IS ABOVE THE DRAIN OUTLET SHALL HAVE THE OUTLET PLUGGED AND SHALL BE IDENTIFIED BY PAINTING THE LARGE PUMPER NOZZLE BLACK.



HYDRANT INSTALLATION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

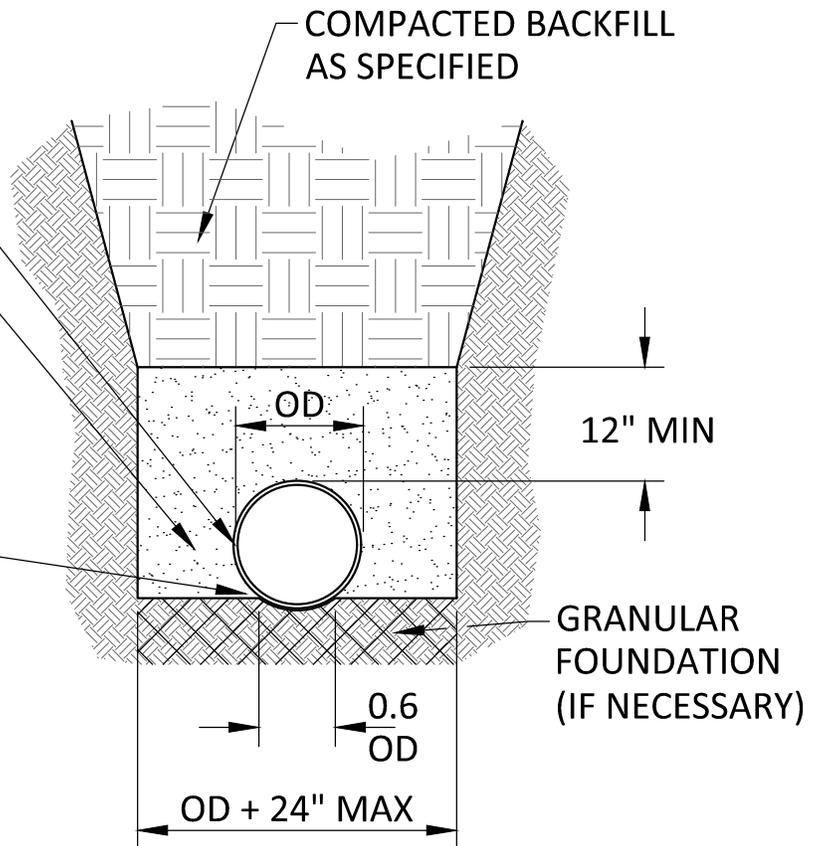
NO. 6001ENM

DATE 02/2017

DUCTILE WATERMAIN
PIPE WRAPPED IN
POLYETHELENE

BEDDING AND
ENCASEMENT MATERIAL
SHALL BE SELECT SALVAGE
MATERIAL FROM THE
EXCAVATION AS SPECIFIED

PROVIDE BELL
HOLE AT EACH
JOINT



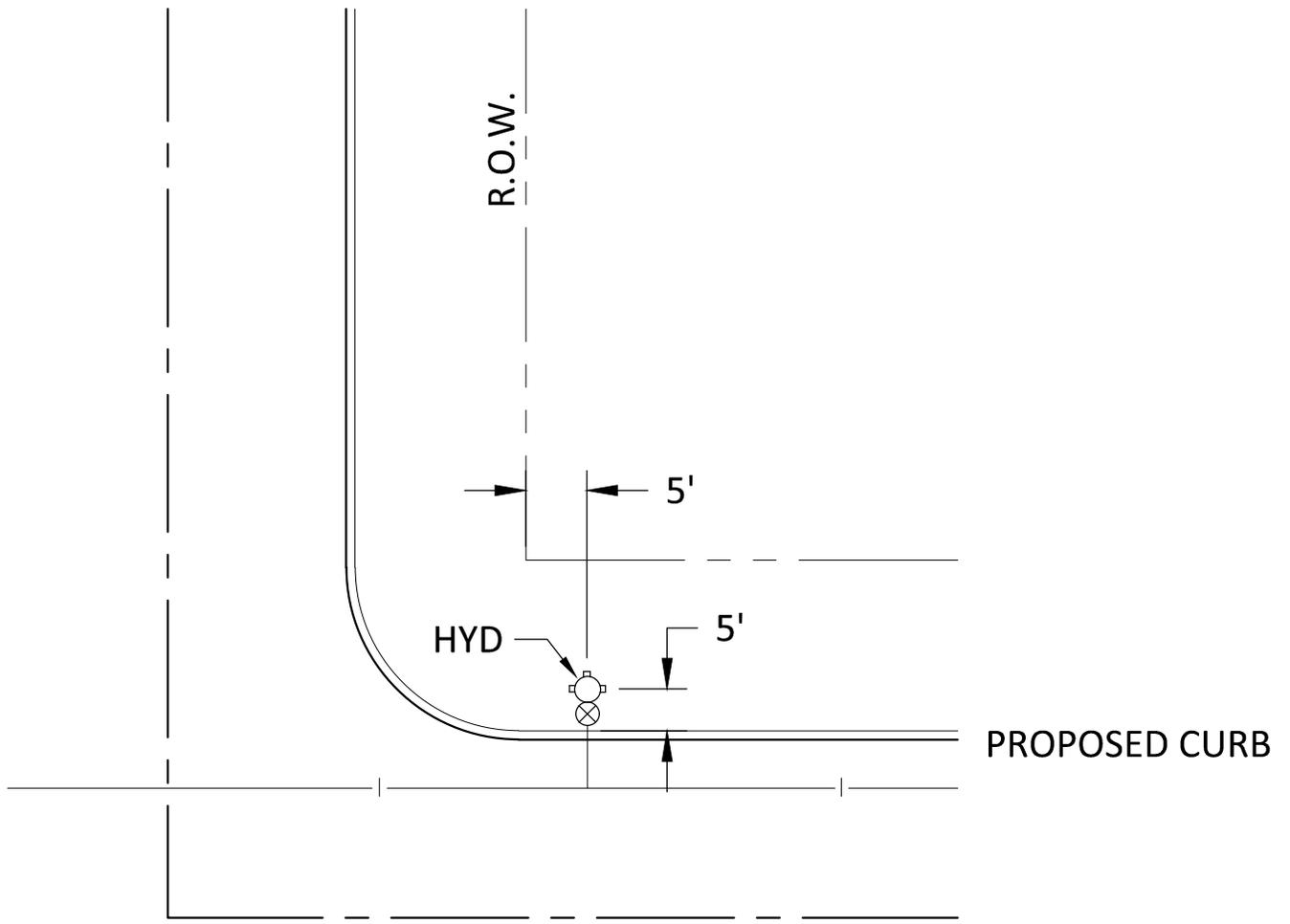
DUCTILE WATERMAIN TRENCH DETAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 6007ENM

DATE 02/2017



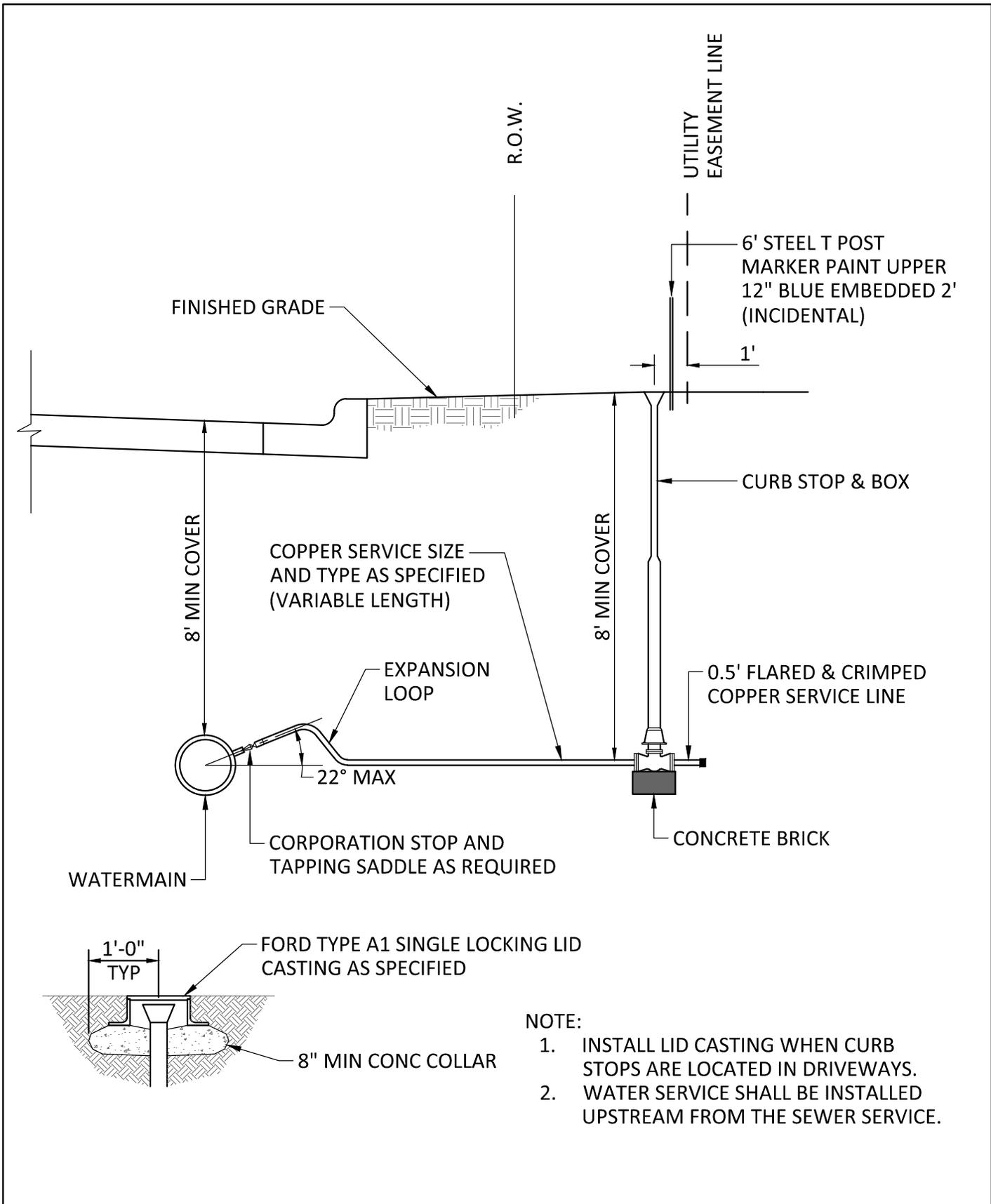
HYDRANT LOCATION

CITY OF ELKO NEW MARKET

STANDARD DETAIL

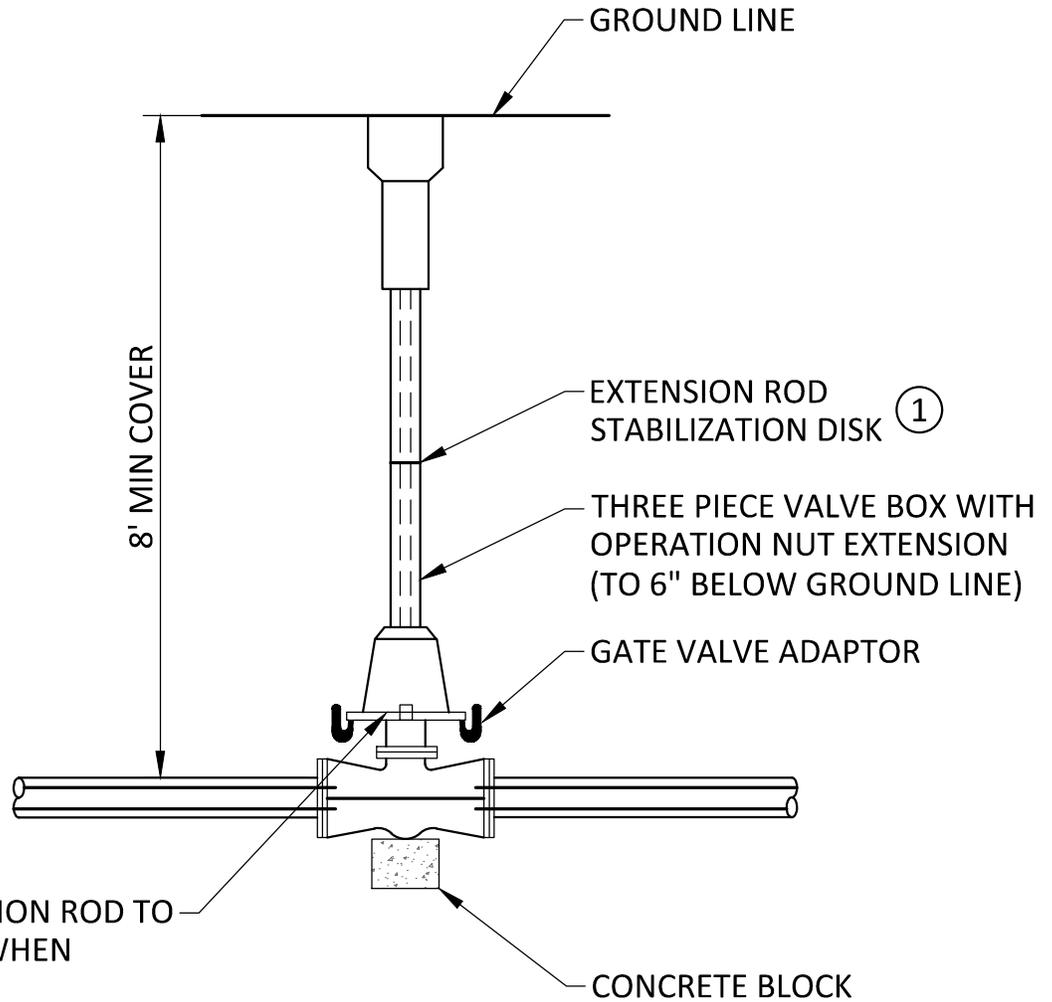
NO. 6008ENM

DATE 02/2017



- NOTE:
1. INSTALL LID CASTING WHEN CURB STOPS ARE LOCATED IN DRIVEWAYS.
 2. WATER SERVICE SHALL BE INSTALLED UPSTREAM FROM THE SEWER SERVICE.

	WATER SERVICE INSTALLATION DETAIL	STANDARD DETAIL
	CITY OF ELKO NEW MARKET	NO. <u>6009ENM</u> DATE <u>02/2017</u>

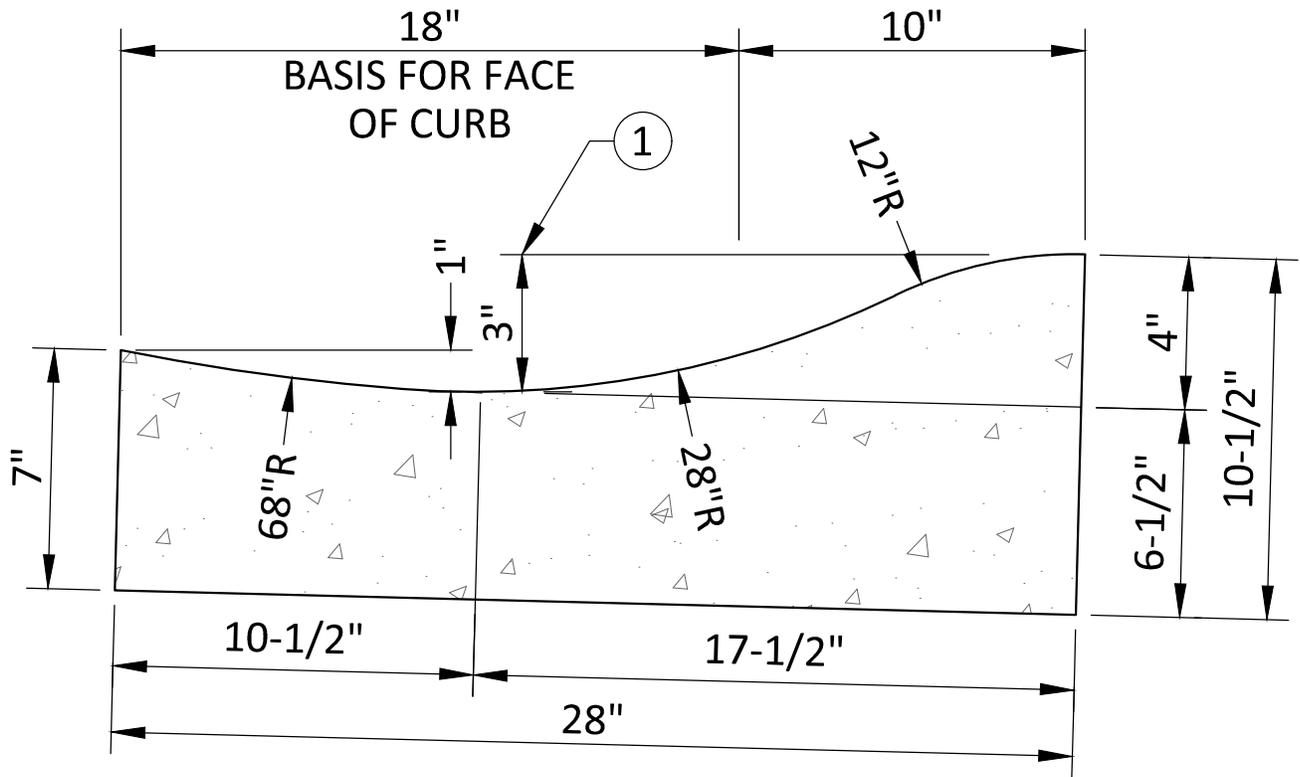


① ATTACH EXTENSION ROD TO TOP OF VALVE WHEN REQUIRED

NOTES:

- ① EXTENSION RODS ATTACHED TO THE GATE VALVES ARE REQUIRED ON ANY GATE VALVE GREATER THAN EIGHT FEET IN DEPTH FROM THE FINISHED SURFACE. THEY ARE ALSO REQUIRED IN AREAS OF HIGH GROUND WATER. TOP OF THE EXTENSION ROD MUST BE WITHIN 12-INCHES OF THE FINISHED SURFACE.
- ② ONE GATE VALVE KEY SHALL BE FURNISHED PER PROJECT.
- ③ GATE VALVE SHALL BE THE TYPE SPECIFIED IN THE CITY OF ELKO NEW MARKET STANDARD SPECIFICATIONS.

	GATE VALVE & BOX	STANDARD DETAIL
	CITY OF ELKO NEW MARKET	NO. <u>6010ENM</u> DATE <u>02/2017</u>



① NOTE:
 CURB SHALL BE PLACED IN A TILTED POSITION AS SUCH
 TO PROVIDE A 3" DEPTH FROM THE TOP OF CURB TO
 THE FLOWLINE WHEN MEASURED ON A LEVEL PLANE.



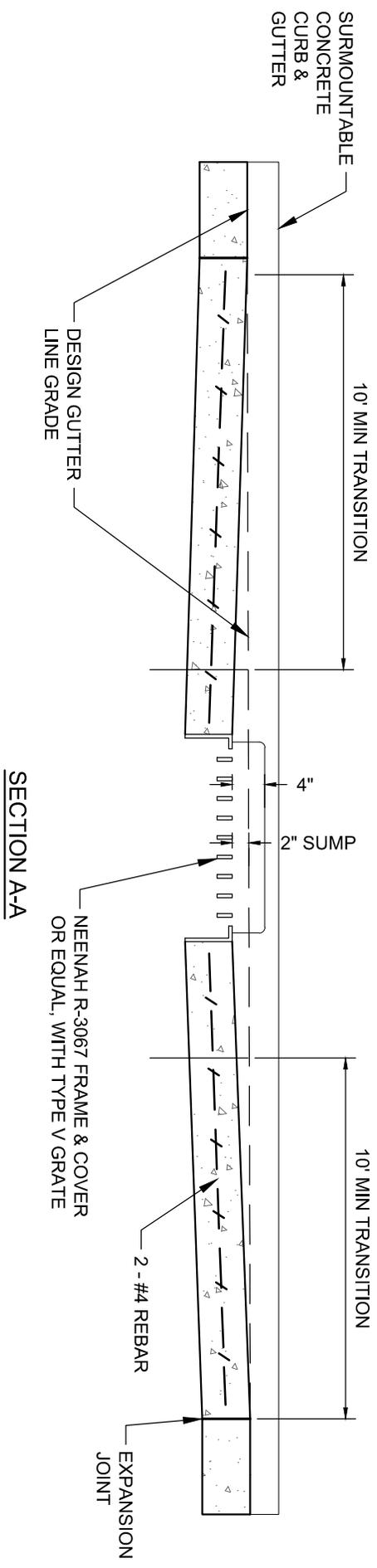
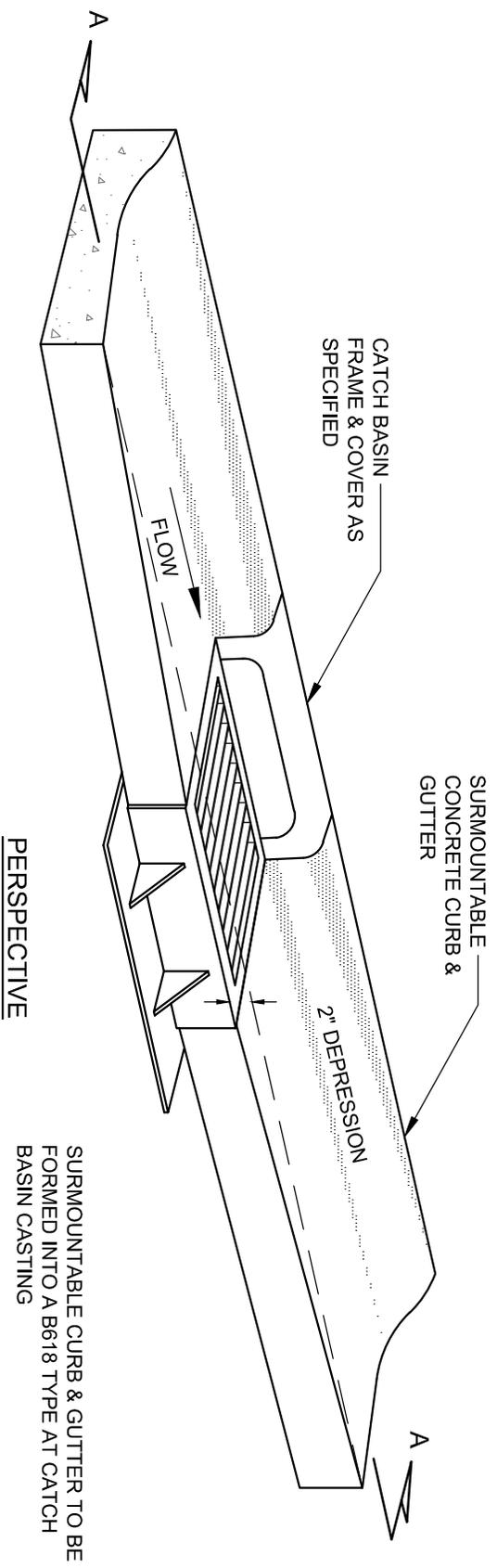
SURMOUNTABLE CONCRETE CURB

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 7003ENM

DATE 02/2017



TRANSITION TO B618 CURB AT CATCH BASIN

CITY OF ELKO NEW MARKET



STANDARD DETAIL

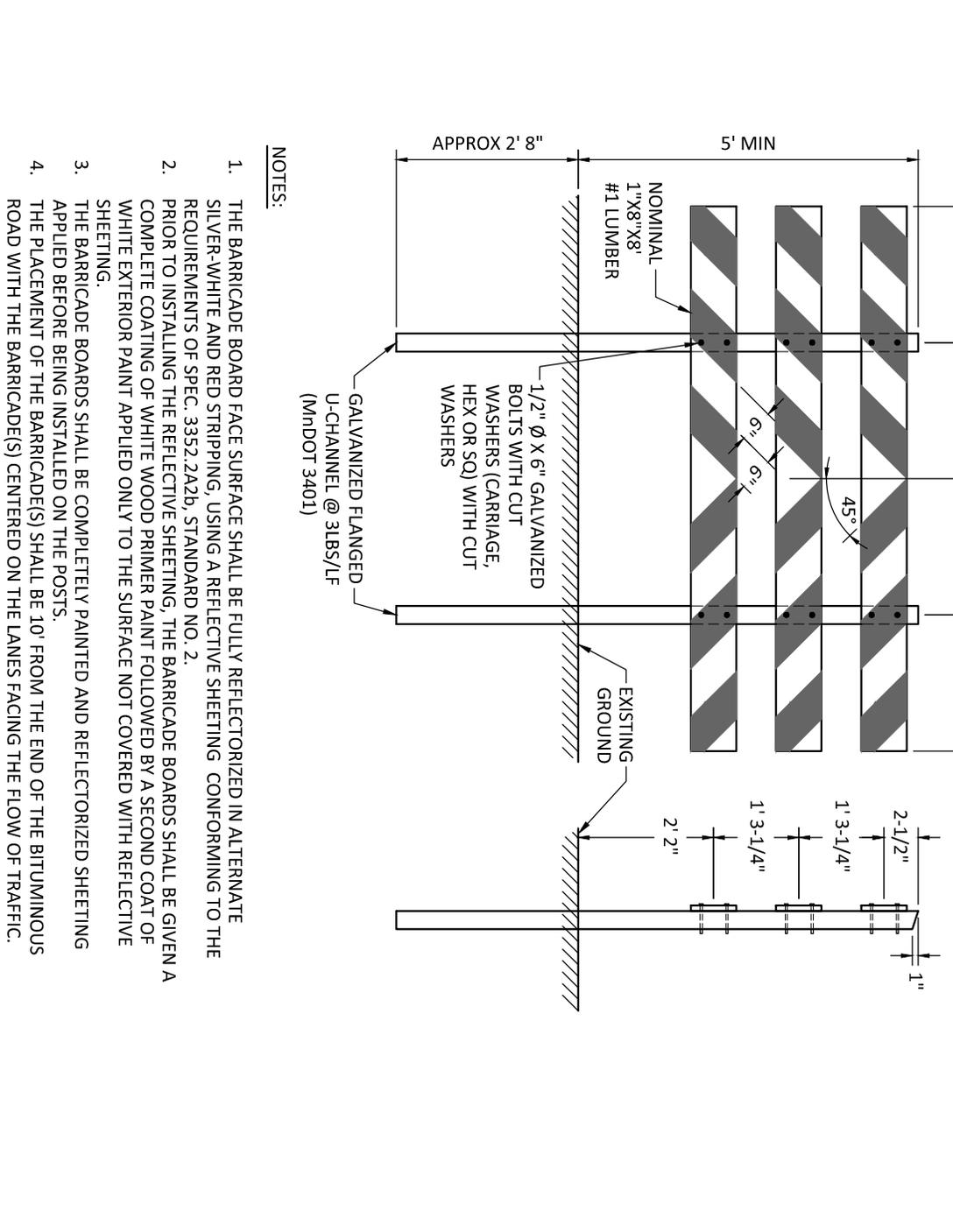
NO. 7009ENM

DATE 02/2017



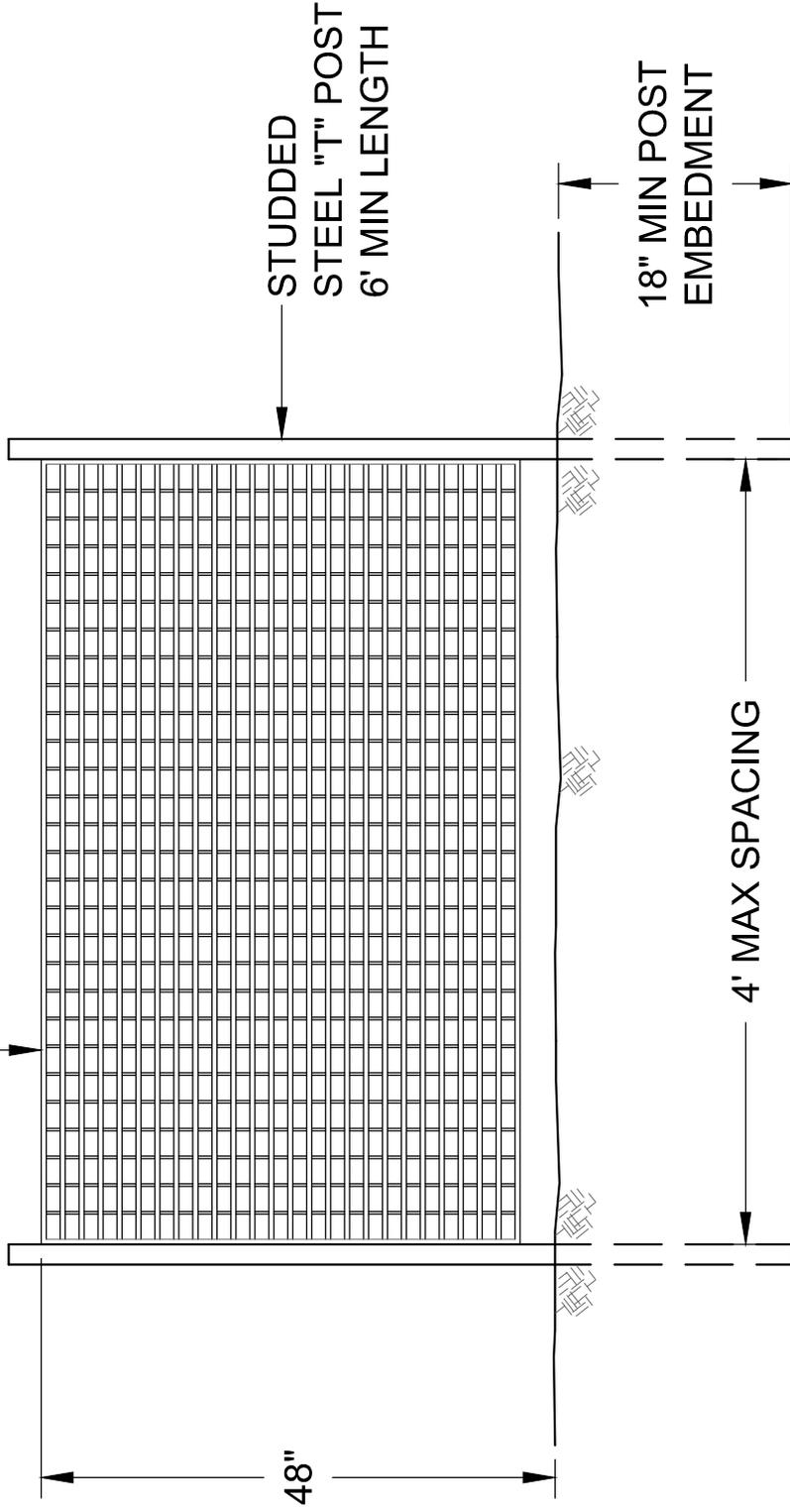
TYPICAL BARRICADE

STANDARD DETAIL
 NO. 7013ENM1
 DATE 02/2017



- NOTES:**
1. THE BARRICADE BOARD FACE SURFACE SHALL BE FULLY REFLECTORIZED IN ALTERNATE SILVER-WHITE AND RED STRIPING, USING A REFLECTIVE SHEETING CONFORMING TO THE REQUIREMENTS OF SPEC. 3352.2A2b, STANDARD NO. 2.
 2. PRIOR TO INSTALLING THE REFLECTIVE SHEETING, THE BARRICADE BOARDS SHALL BE GIVEN A COMPLETE COATING OF WHITE WOOD PRIMER PAINT FOLLOWED BY A SECOND COAT OF WHITE EXTERIOR PAINT APPLIED ONLY TO THE SURFACE NOT COVERED WITH REFLECTIVE SHEETING.
 3. THE BARRICADE BOARDS SHALL BE COMPLETELY PAINTED AND REFLECTORIZED SHEETING APPLIED BEFORE BEING INSTALLED ON THE POSTS.
 4. THE PLACEMENT OF THE BARRICADE(S) SHALL BE 10' FROM THE END OF THE BITUMINOUS ROAD WITH THE BARRICADE(S) CENTERED ON THE LANES FACING THE FLOW OF TRAFFIC.

ORANGE COLORED PLASTIC MESH



(INSTALLED AT THE DRIP LINE)



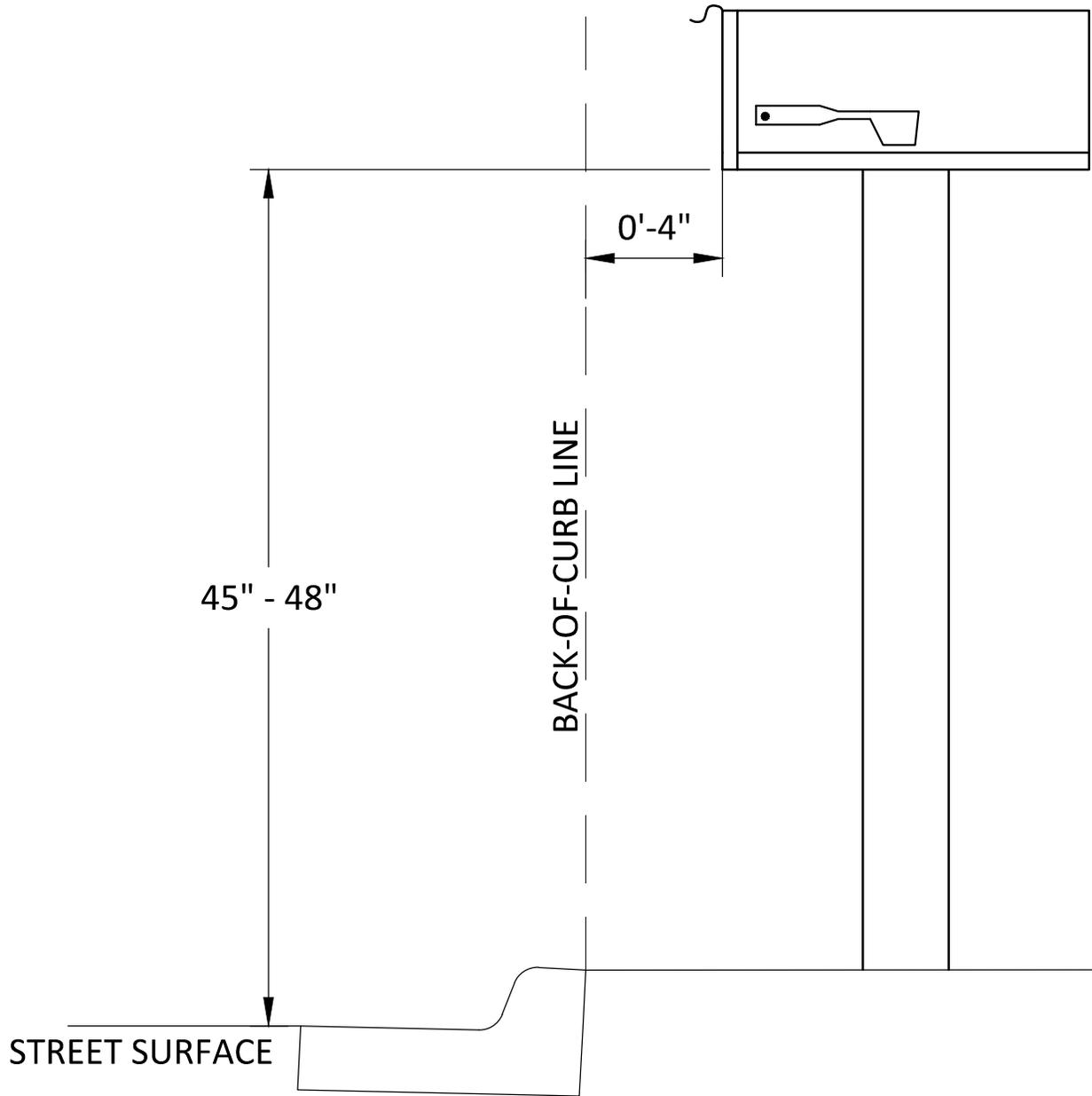
TREE PRESERVATION FENCE

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9009ENM

DATE 02/2017



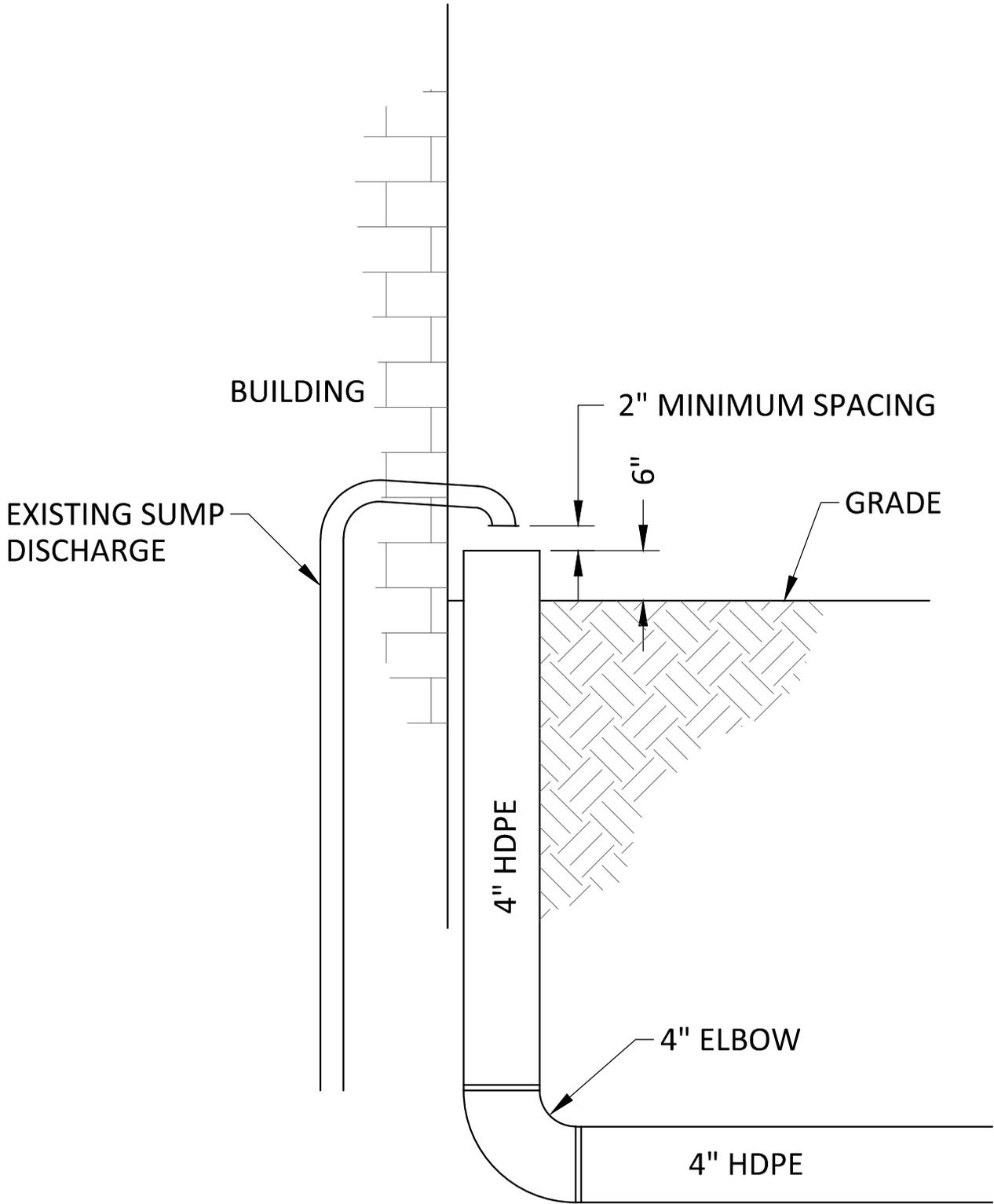
MAILBOX INSTALLATION DETAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9012ENM

DATE 02/2017



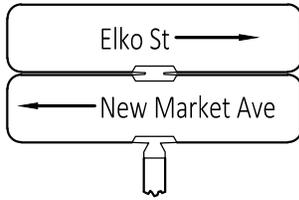
SUMP PUMP CONNECTION DETAIL

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9013ENM

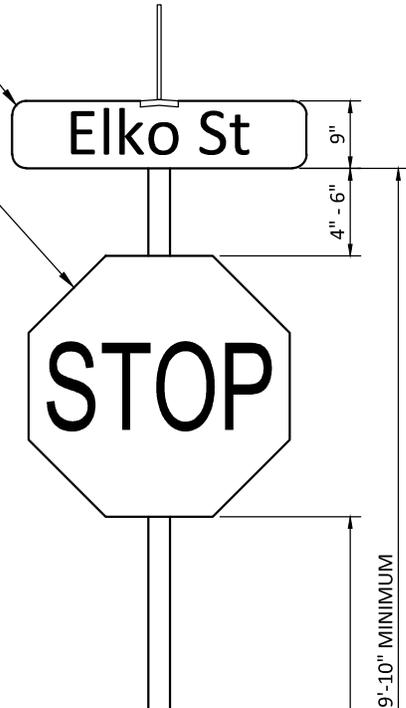
DATE 02/2017



STREET NAME CHANGE

STREET NAME
6" CAPITAL LETTERS
WITH LOWERCASE

REGULATORY SIGN INSTALLED BELOW STREET SIGNS WHEN FEASIBLE. REGULATORY SIGNS SHALL HAVE VISUAL IMPACT PERFORMANC (VIP) DIAMOND GRADE BY 3M OR EQUAL REFLECTIVE SHEETING.



GENERAL

MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (2005 EDITION) AND ANY SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN, AS AMENDED BY THESE SPECIFICATIONS. SIGNS AND INSTALLATION OF SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2005 MINNESOTA MUTCD DATED MAY 2005. ALL STREET SIGNS SHALL BE INSTALLED ON TUBULAR SIGN POSTS. STOP SIGNS/YIELD SIGNS SHALL BE INSTALLED ON STREET SIGNS WHEN FEASIBLE.

TUBULAR SIGN POSTS

POSTS SHALL BE GALVANIZED STEEL, 12-FEET IN LENGTH, WITH A 2-3/8" O.D., WALL THICKNESS OF 0.065". POSTS SHALL BE SET INSIDE A SCHED. 40 GALVANIZED STEEL PIPE (ENCASED IN A CONCRETE FOOTING, SECURED WITH A COLLARED INSERT SLEEVE).

STREET SIGN BLANKS

SIGN BLANKS SHALL BE FLAT DOUBLE FACE TYPE EXTRUDED ALUMINUM BLANKS, 0.080 MIL THICK, MEETING U.S. BUREAU OF PUBLIC ROADS STANDARDS AND CHEMICALLY TREATED PER ASTM 8449 IN PREPARATION FOR PAINT OR REFLECTIVE SHEETING. SIGN BLANKS SHALL BE 9" HIGH BY 24"-48" LONG (LENGTH DEPENDENT UPON STREET NAME). SHEETING FOR STREET SIGNS SHALL BE HIGH INTENSITY PRISMATIC (HIP) REFLECTIVE SHEETING FROM 3M OR EQUAL, GREEN IN COLOR, WITH STANDARD RADIUS.

STREET SIGN BRACKETS

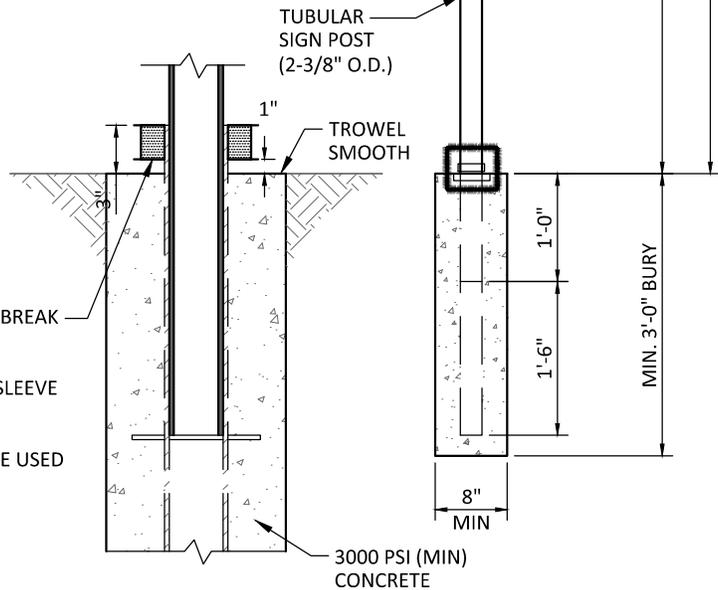
MOUNTING POST BRACKET SHALL BE CAST ALUMINUM OF SIZE AS TO FIT THE SIGN POST.

LETTERING

ALL LETTERS AND NUMBERS SHALL BE 6" HIGH, UPPERCASE, WHITE IN COLOR, SERIES C. THE FOLLOW ABBREVIATIONS SHALL BE USED:

- STREET "St"
- AVENUE "Ave"
- ROAD "Rd"
- BOULEVARD "Blvd"
- DRIVE "Dr"
- PARKWAY "Pkwy"
- PLACE "Pl"
- TRAIL "Tr"
- CIRCLE "Cir"
- COURT "Ct"
- (OTHERS TO BE REVIEWED)

EFA TUBULAR POST BREAK AWAY SYSTEM OR APPROVED EQUAL (COLLARED INSERT SLEEVE WITH (2) 1/2" DIA. SQUARE HEAD BOLTS-TEFLON TO BE USED ON THREADS)



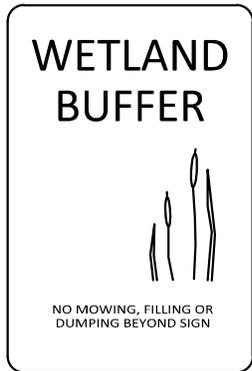
STREET NAME SIGN

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9014ENM

DATE 02/2017



CONTACT THE CITY ENGINEER FOR A PDF OF THE SIGN COVER TO BE USED.

SIGN POSTS

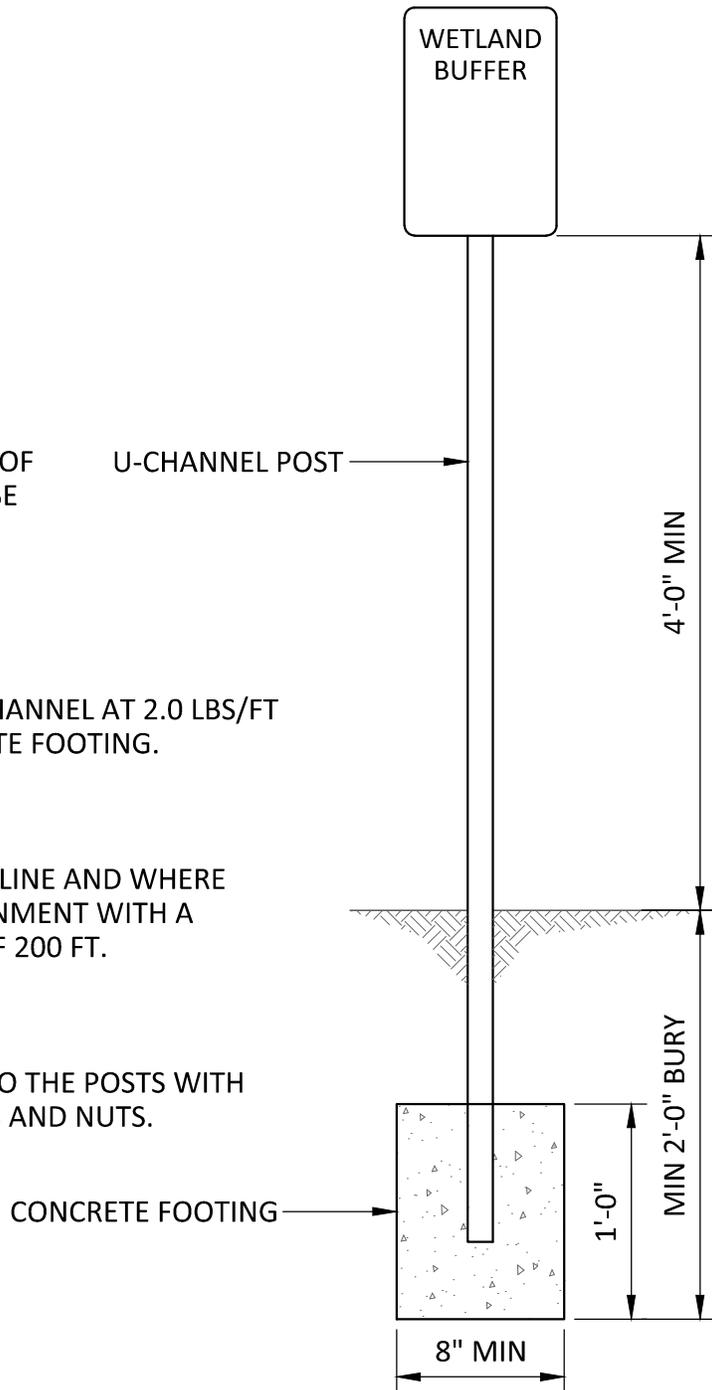
POSTS SHALL BE GREEN U-CHANNEL AT 2.0 LBS/FT AND ENCASED IN A CONCRETE FOOTING.

SIGN LOCATIONS

INSTALL SIGNS AT EACH LOT LINE AND WHERE THERE IS A CHANGE IN ALIGNMENT WITH A MAXIMUM SIGN SPACING OF 200 FT.

SIGN FASTENING

SIGNS SHALL BE FASTENED TO THE POSTS WITH TWO BOLTS, LOCK WASHERS AND NUTS.



WETLAND BUFFER SIGN

CITY OF ELKO NEW MARKET

STANDARD DETAIL

NO. 9015ENM

DATE 02/2017