

STANDARD  
CONSTRUCTION  
DETAILS

STORM DRAINAGE

JANUARY 2022



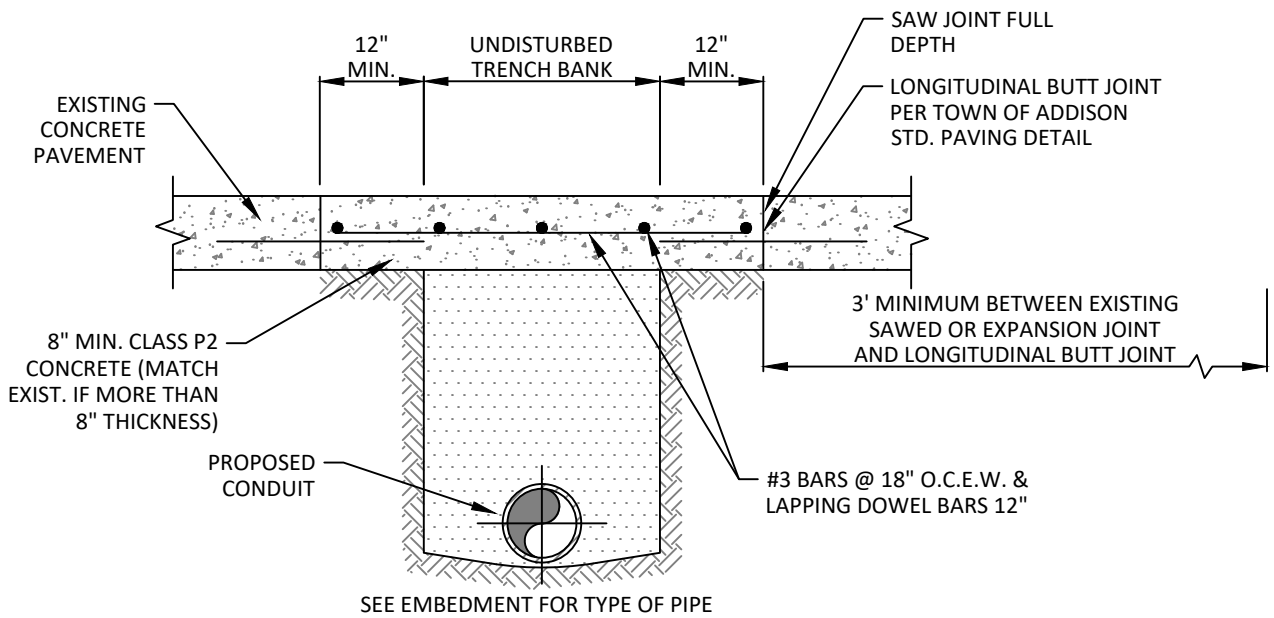
PUBLIC WORKS & ENGINEERING SERVICES

# TABLE OF CONTENTS

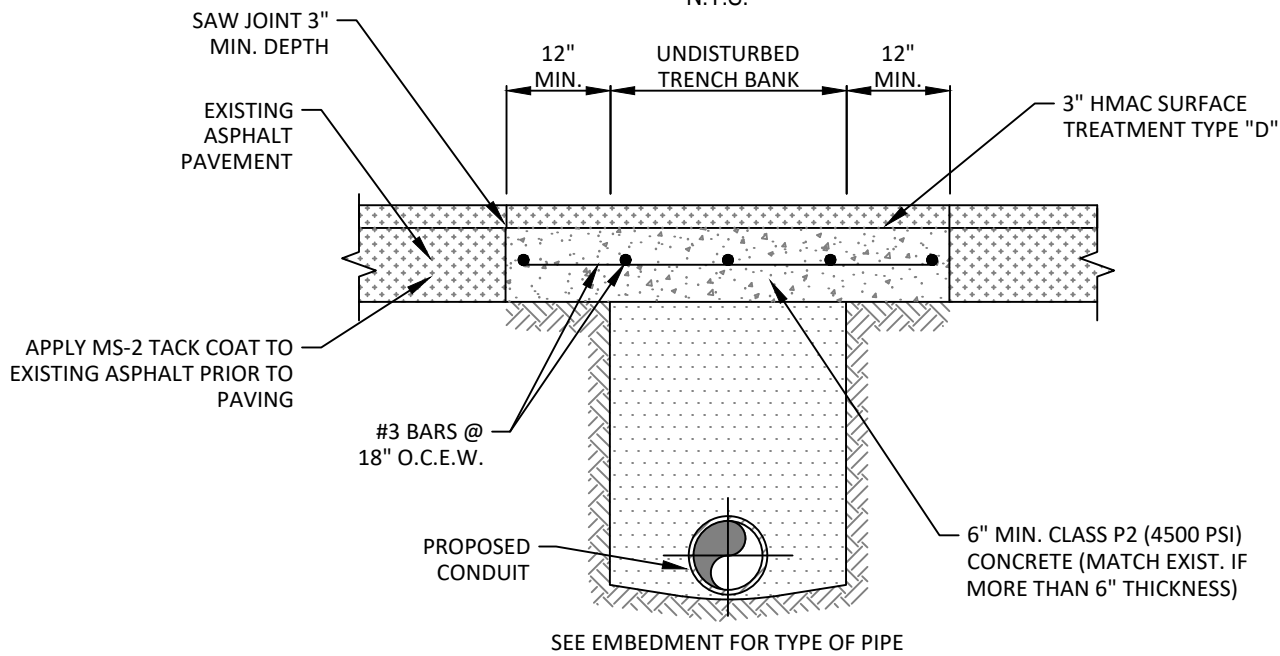
## STORM DRAINAGE

CONCRETE & ASPHALT STREET & DRIVE REPAIR	SD-D01
RCP STORM DRAIN PIPE BEDDING	SD-D02
WATER MAIN LOWERING & UTILITY SUPPORT DETAILS	SD-D03
CONNECTION TO EXISTING RCP STORM DRAIN AND PIPE COLLAR	SD-D04
TYPE "A" STORM DRAIN MANHOLE (FOR 18" TO 30" RCP)	SD-D05
TYPE "B" STORM DRAIN MANHOLE (FOR 33" TO 78" RCP)	SD-D06
STORM MANHOLE FRAME & COVER	SD-D07
WYE INLET DETAIL	SD-D08
STANDARD CURB INLET	SD-D09
RECESSED CURB INLET	SD-D10
STANDARD CURB INLET: 4', 6', 8', & 10' INLETS	SD-D11
STANDARD & RECESSED CURB INLETS (4', 6', 8', & 10' INLETS)	SD-D12
REINFORCING STEEL SCHEDULE: 4', 6', 8', & 10' INLETS	SD-D13
RECESSED BRICK TOP CURB INLET: 4', 6', 8' & 10' INLETS	SD-D14
STANDARD BRICK TOP CURB INLET: 4', 6', 8', & 10' INLETS	SD-D15
TYPICAL SECTION "B": BRICK TOP CURB INLETS (4', 6', 8', & 10' INLETS)	SD-D16
REINFORCING STEEL SCHEDULE: 4', 6', 8', & 10' INLETS (BRICK ON INLET)	SD-D17
STD. CURB INLET: 12', 14', 16', & 20' INLETS	SD-D18
TYPICAL SECTION "B" STD. & RECESSED CURB INLETS (12', 14', 16', & 20' INLETS)	SD-D19
REINFORCING STEEL SCHEDULE: 12', 14', 16', & 20' INLETS	SD-D20
REINFORCING BAR DIAGRAMS	SD-D21
PRECAST CURB INLET	SD-D22
INLET FRAME & COVER	SD-D23
COMBINATION INLET: TWO GRATE INLET	SD-D24
COMBINATION INLET: THREE GRATE INLET	SD-D25
COMBINATION INLET: FOUR GRATE INLET	SD-D26
TYPICAL SECTION "B": COMBINATION INLET (TWO, THREE & FOUR GRATE INLETS)	SD-D27
COMBINATION INLETS: GRATE DETAILS & BAR DIAGRAMS	SD-D28
TWO GRATE INLET	SD-D29
THREE GRATE INLET	SD-D30
FOUR GRATE INLET	SD-D31
SIX GRATE INLET	SD-D32
GRATE DETAIL	SD-D33
STORM RELATED FLUMES	SD-D34
SUBSURFACE DRAINAGE DETAIL	SD-D35
SUBSURFACE DRAINAGE SYSTEM	SD-D36
	SD-D37

1. DRAINAGE GENERAL NOTES ARE IN THE TOWN OF ADDISON GENERAL CONSTRUCTION NOTES DOCUMENT.
2. DRAINAGE SYSTEM CONSTRUCTION SHALL COMPLY WITH THE DETAILS AND SPECIFICATIONS IN THE LATEST EDITION OF THE APPLICABLE NCTCOG, USACE, AND FEMA MANUALS, AND THESE TOWN DETAILS. WHEN THE DETAILS AND SPECIFICATIONS ARE IN CONFLICT, THE MORE RESTRICTIVE DETAIL AND SPECIFICATION SHALL GOVERN.
3. STANDARD DETAILS CONTAINED HEREIN ARE THE MINIMUM STANDARDS, AND MORE STRINGENT CRITERIA MAY BE REQUIRED AT THE DIRECTION OF PUBLIC WORKS & ENGINEERING SERVICES.

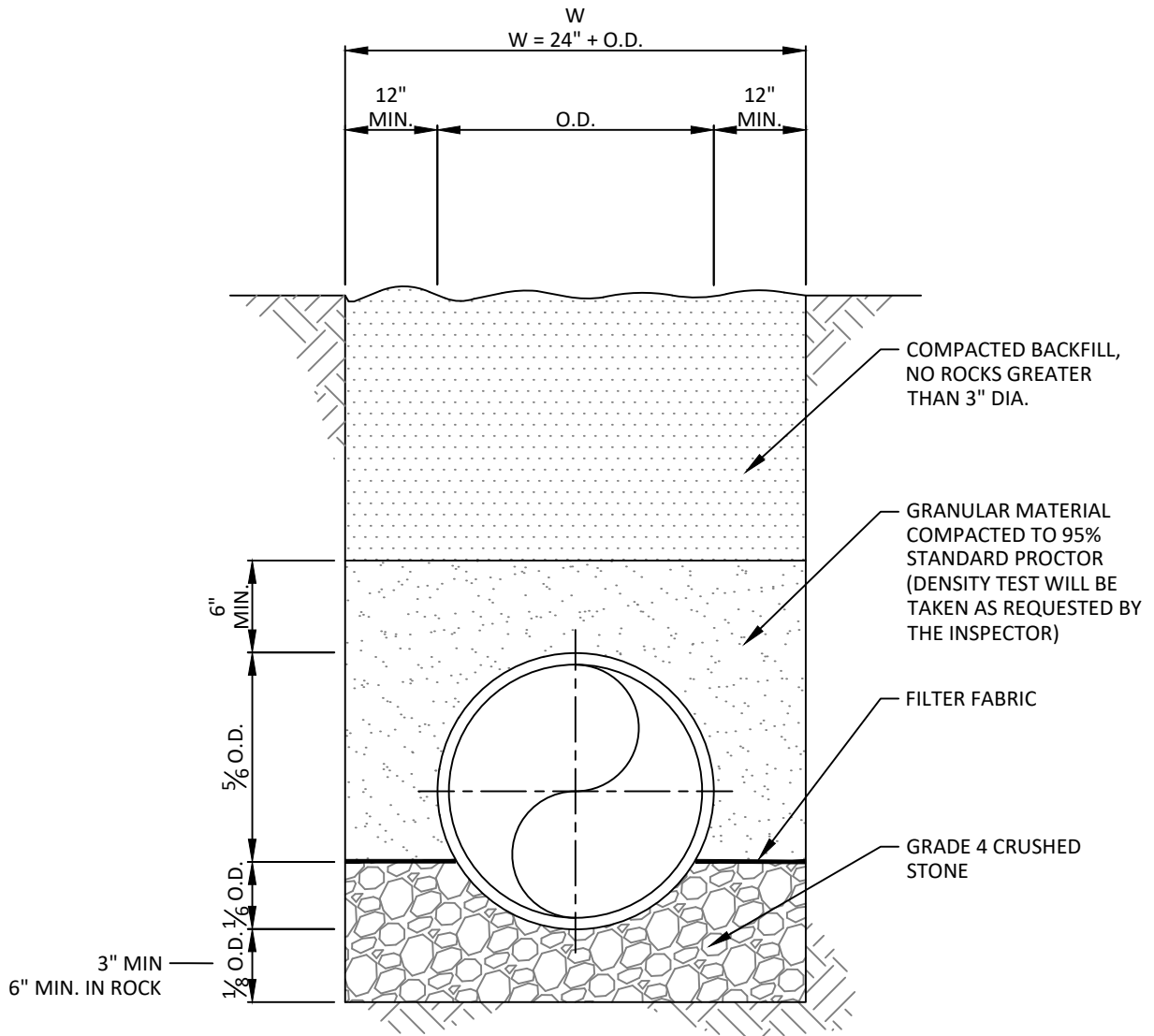


**CONCRETE STREET OR DRIVE  
REPAIR**  
N.T.S.



**ASPHALT STREET OR DRIVE  
REPAIR**  
N.T.S.

**NOTE**  
1. ALL JOINTS SHALL BE PARALLEL OR PERPENDICULAR TO THE DIRECTION OF TRAVEL.



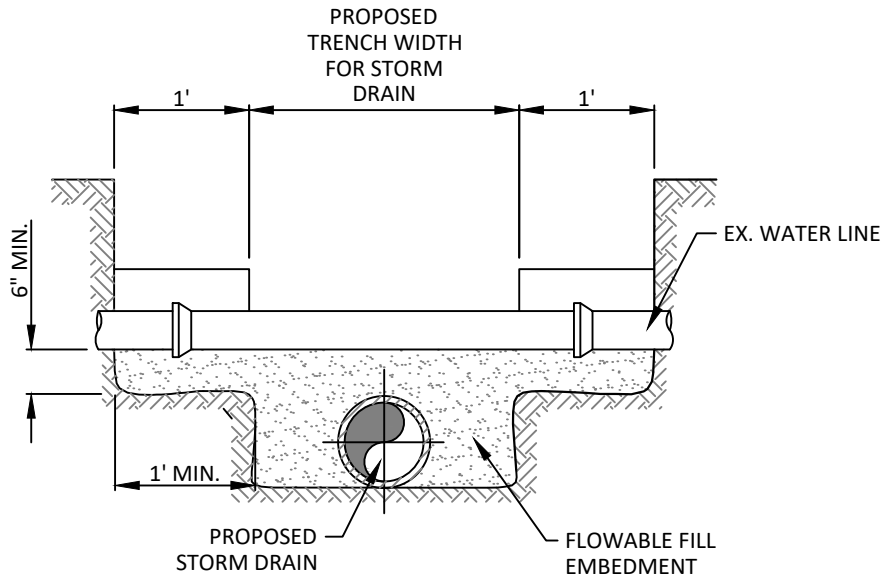
### RCP STORM DRAIN PIPE BEDDING

N.T.S.

**NOTE**

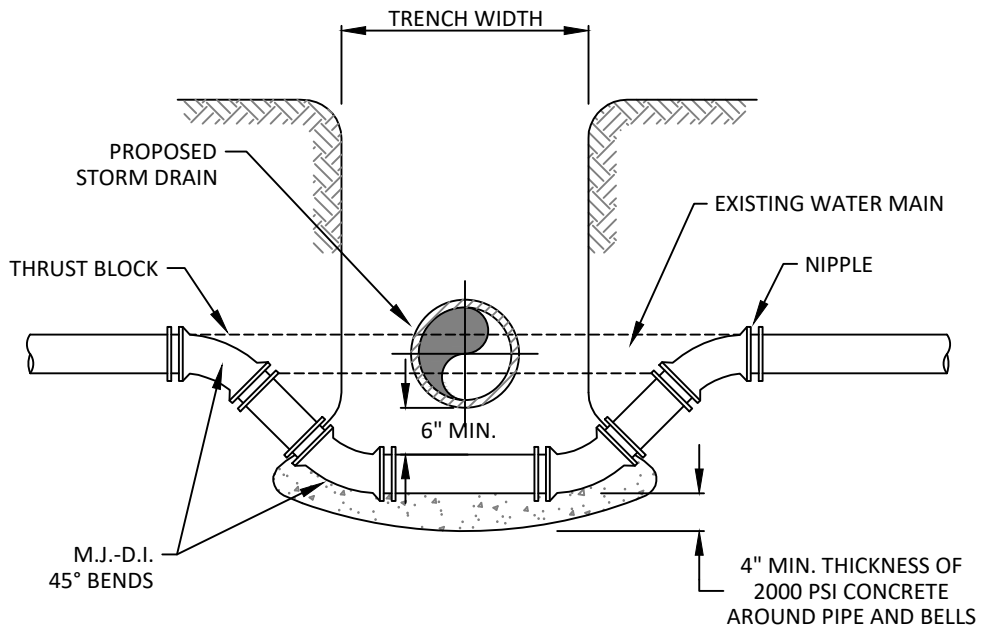
1. THE DEPTH OF TRENCH BELOW THE PROPOSED CONDUIT SHALL BE AS FOLLOWS:

- 3" MIN. FOR 27" PIPE & SMALLER.
- 4" MIN. FOR 30" TO 60" PIPE.
- 6" MIN. FOR 66" PIPE OR LARGER.



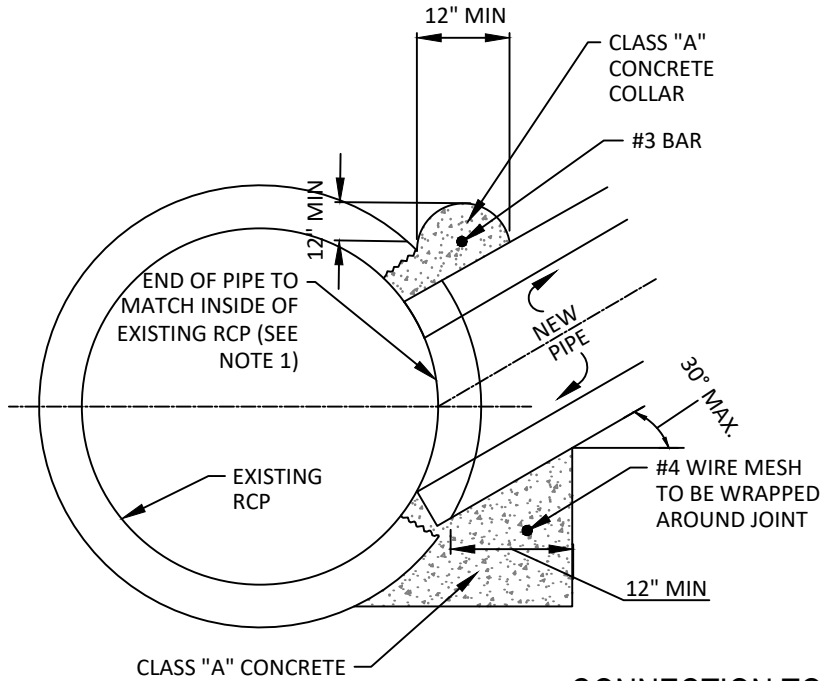
**UTILITY SUPPORT DETAIL**

N.T.S.



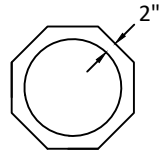
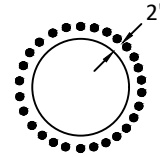
**WATER MAIN LOWERING DETAIL**

N.T.S.



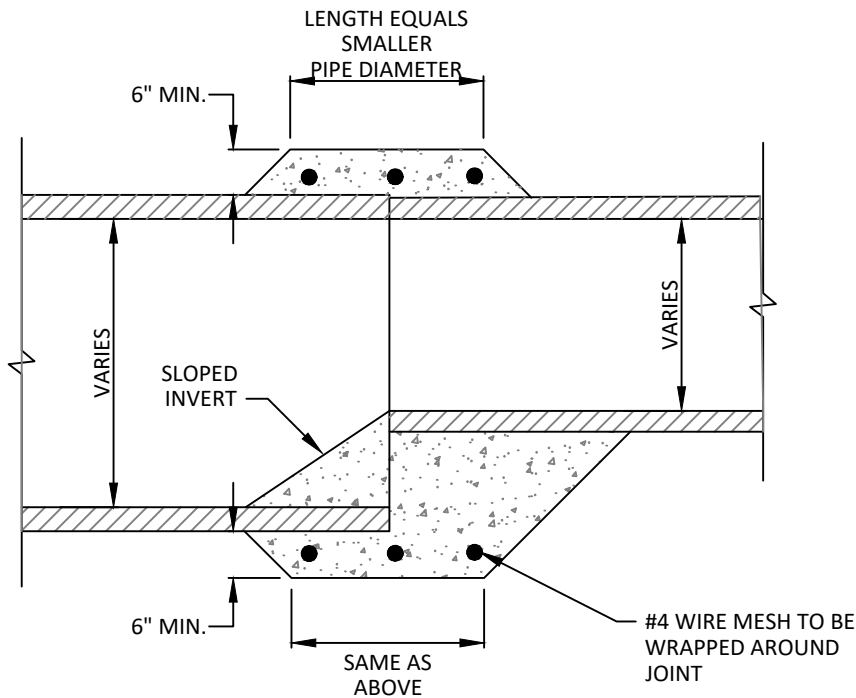
**NOTES:**

1. MAXIMUM DIAMETER OF NEW PIPES EQUALS ONE HALF OF EXISTING PIPE'S DIAMETER.
2. REMOVAL OF PLUG FROM EXISTING RCP TO BE ACCOMPLISHED USING A MASONRY DRILL AT A SPACING EQUAL TO THE DRILL BIT DIAMETER IN A CIRCULAR PATTERN OR A MASONRY SAW IN AN OCTAGONAL PATTERN PER DETAIL
3. FOR LATERAL CONNECTIONS TO EXISTING STORM DRAIN, MATCH CENTER LINE ELEVATION OF MAIN LINE TO CENTER LINE ELEVATION OF NEW LATERAL



**CONNECTION TO EXISTING RCP STORM DRAIN**

N.T.S.



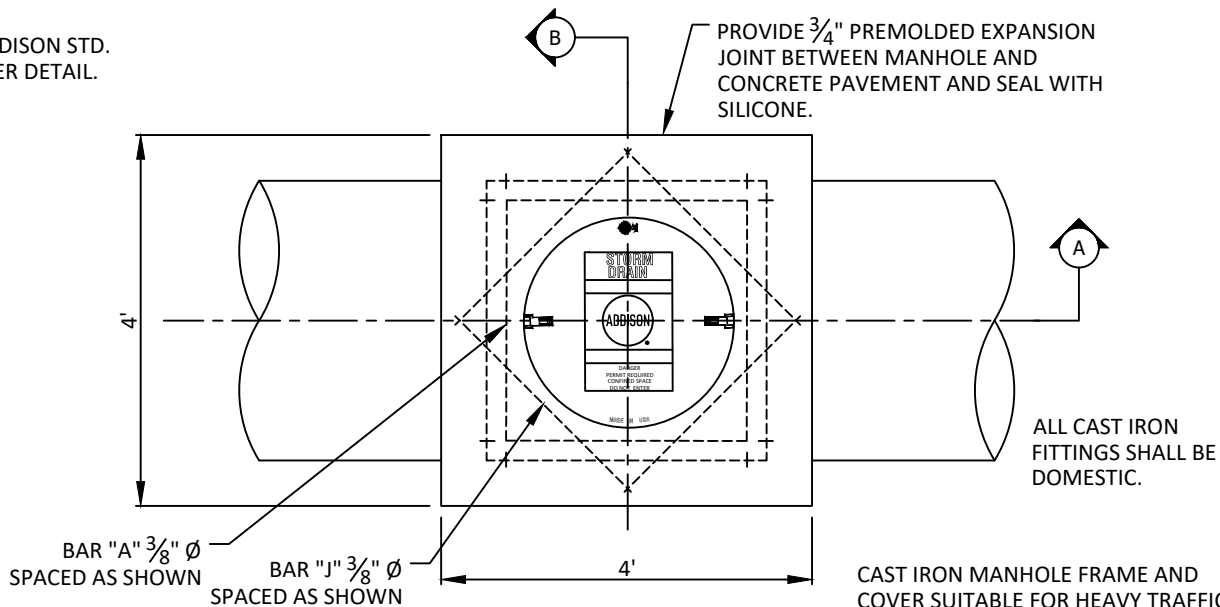
**NOTES:**

1. THIS PROCEDURE/DETAIL WILL ONLY BE USED WHEN A PREFAB REDUCTION IS NOT POSSIBLE.
2. CONCRETE SHALL BE CLASS A.

**PIPE COLLAR**

N.T.S.

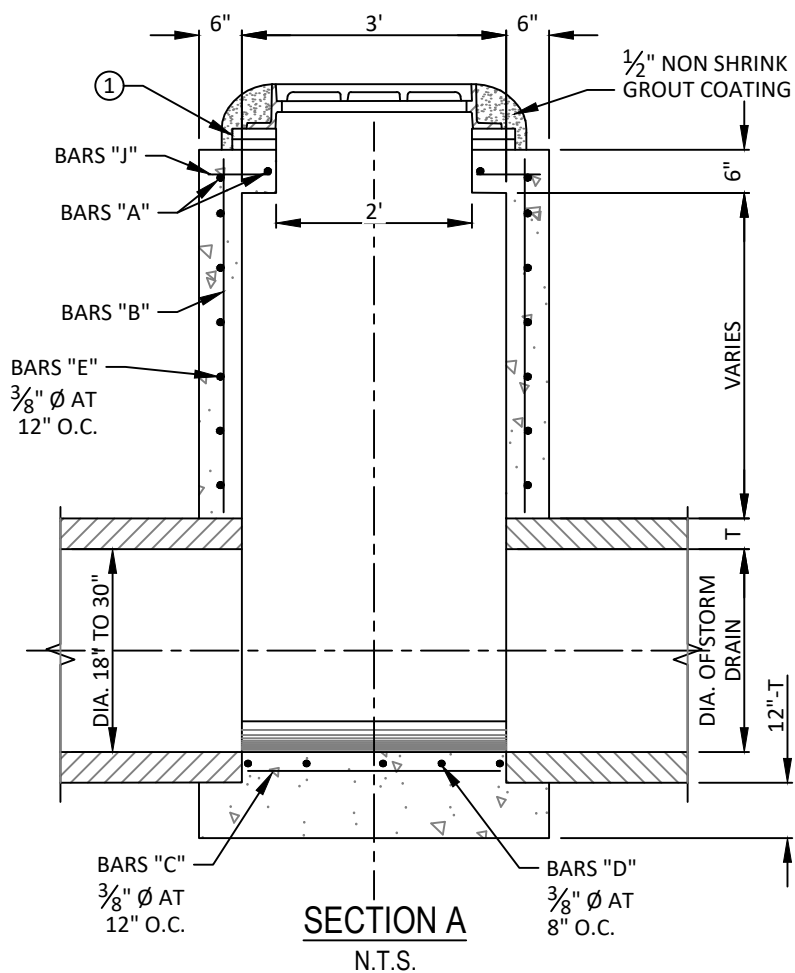
NOTE:  
SEE TOWN OF ADDISON STD.  
FRAME AND COVER DETAIL.



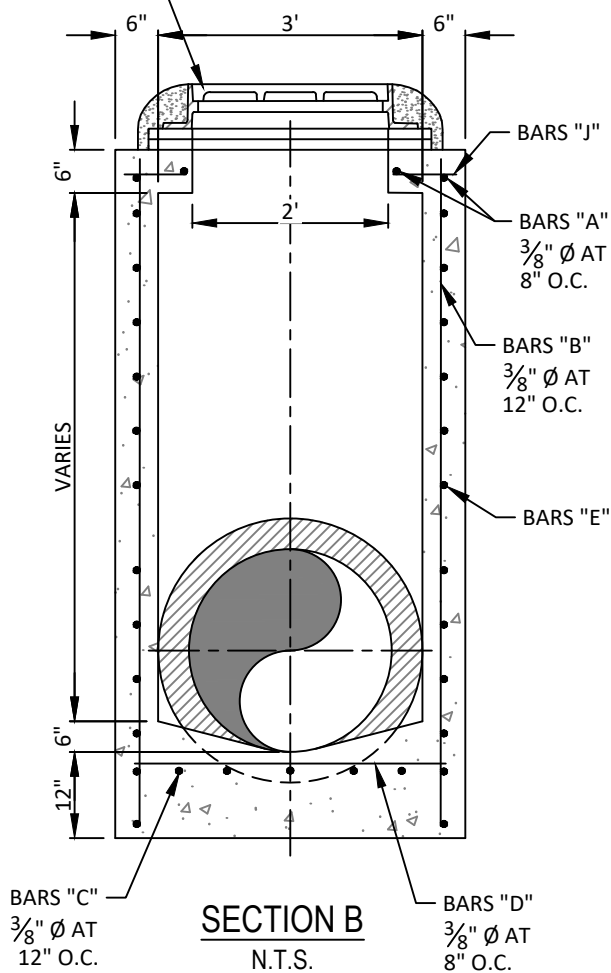
**PLAN**  
N.T.S.

CAST IRON MANHOLE FRAME AND COVER SUITABLE FOR HEAVY TRAFFIC. MANHOLE RIM TO BE SET FLUSH WITH PAVEMENT OR 1" TO 4" ABOVE GRADE IN NON-PAVED AREAS

① USE PRECAST CONCRETE GRADE RINGS SET IN MORTAR TO RAISE TO GRADE 2" MIN. 18" MAX.



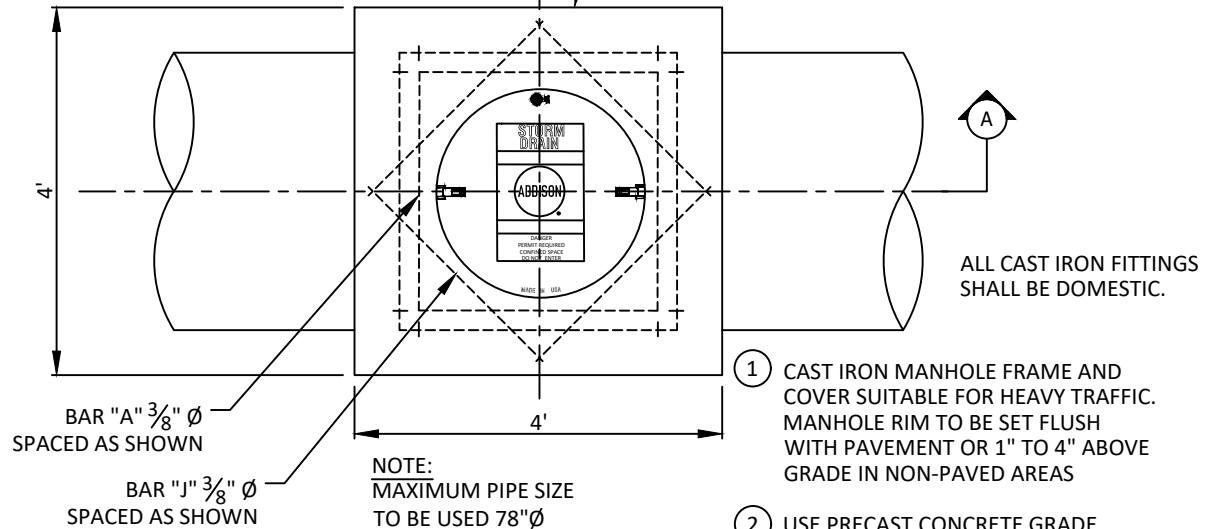
**SECTION A**  
N.T.S.



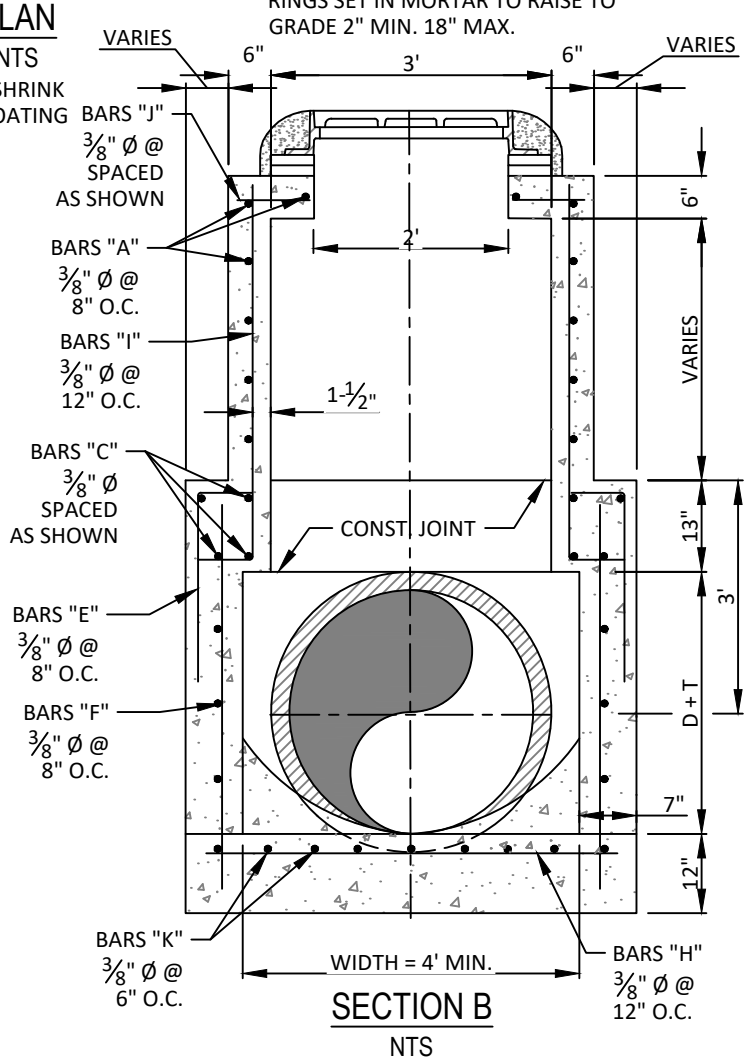
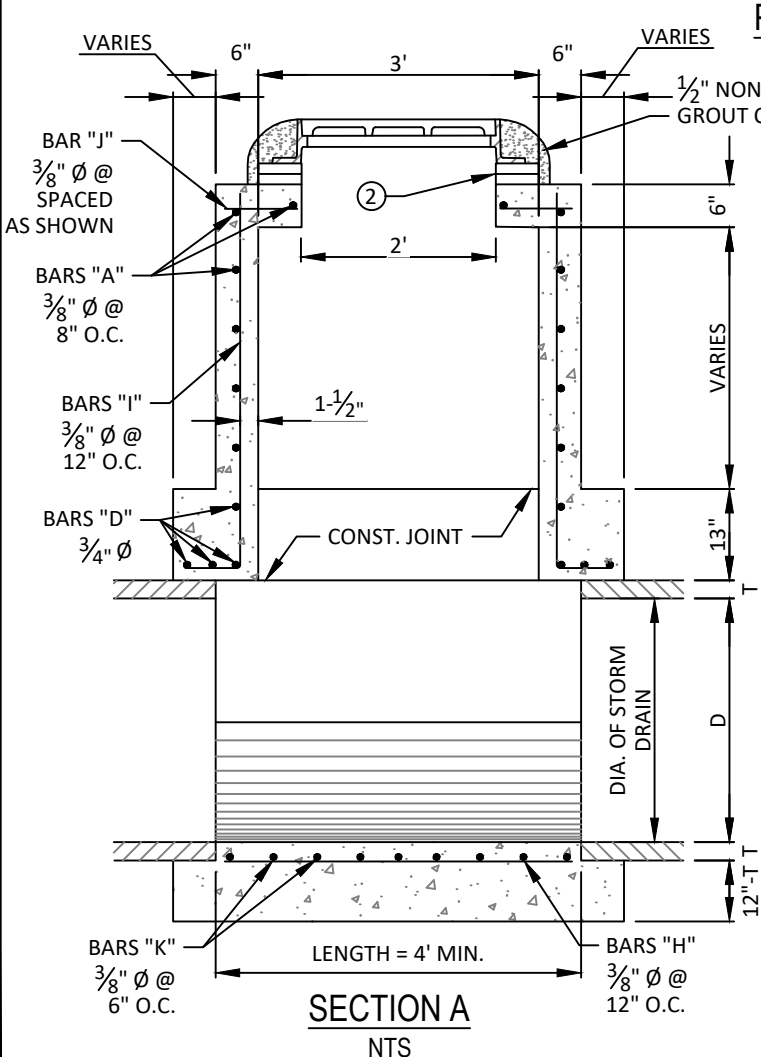
**SECTION B**  
N.T.S.

NOTE:  
SEE TOWN OF ADDISON STD.  
FRAME AND COVER DETAIL.

PROVIDE  $\frac{3}{4}$ " PREMOLDED EXPANSION  
JOINT BETWEEN MANHOLE AND CONCRETE  
PAVEMENT AND SEAL WITH SILICONE.



- ① CAST IRON MANHOLE FRAME AND COVER SUITABLE FOR HEAVY TRAFFIC. MANHOLE RIM TO BE SET FLUSH WITH PAVEMENT OR 1" TO 4" ABOVE GRADE IN NON-PAVED AREAS
- ② USE PRECAST CONCRETE GRADE RINGS SET IN MORTAR TO RAISE TO GRADE 2" MIN. 18" MAX.



**TYPE "B" STORM DRAIN  
MANHOLE  
(FOR 33" TO 78" RCP)**

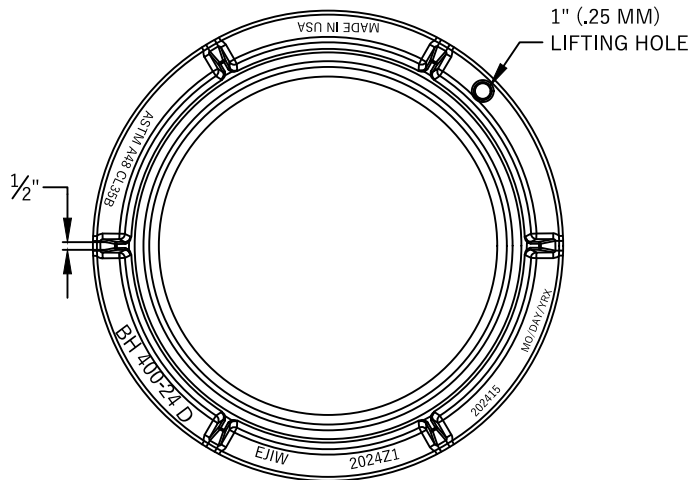
STANDARD CONSTRUCTION DETAILS  
STORM DRAINAGE

DATE:  
JANUARY 2022

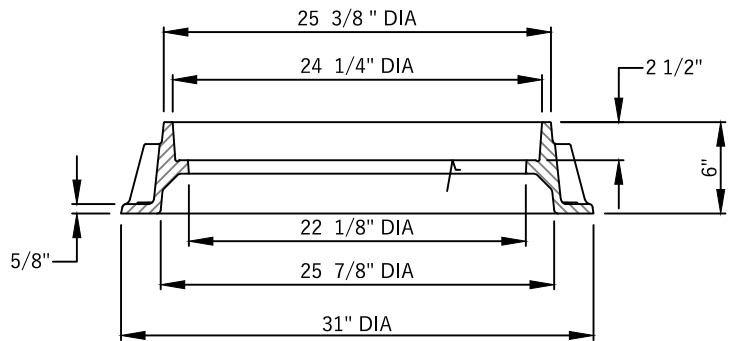
REV DATE:  
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SHEET:  
SD-D06

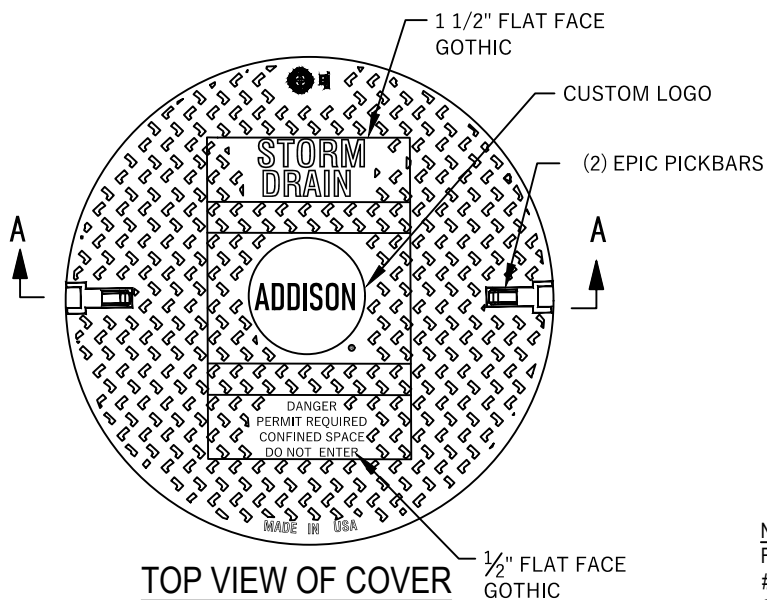




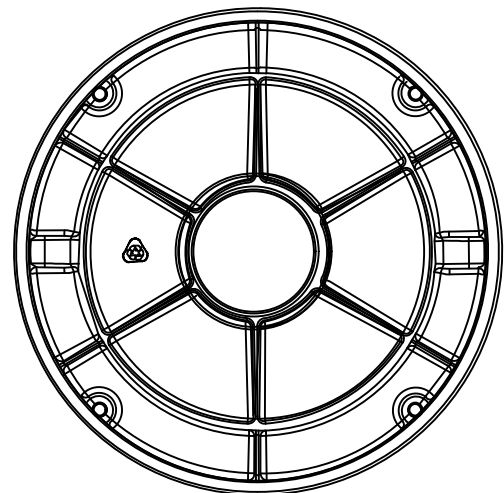
**FRAME PLAN**  
NTS



√ MACHINED SURFACE  
**FRAME SECTION**  
NTS

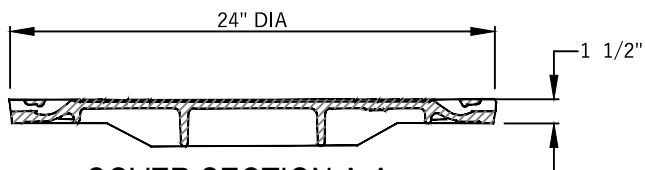


**TOP VIEW OF COVER**  
NTS

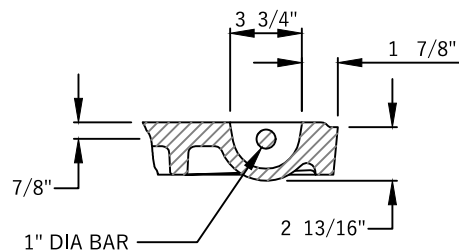


**BOTTOM VIEW OF COVER**  
NTS

**NOTE:**  
FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS FRAME PRODUCT #00202415 AND COVER PRODUCT #NCR08-0060A OR APPROVED EQUAL AND SHALL BE GRAY CAST IRON CONFORMING TO ASTM A48-CL35B.



**COVER SECTION A-A**  
NTS



**PICKBAR DETAIL**



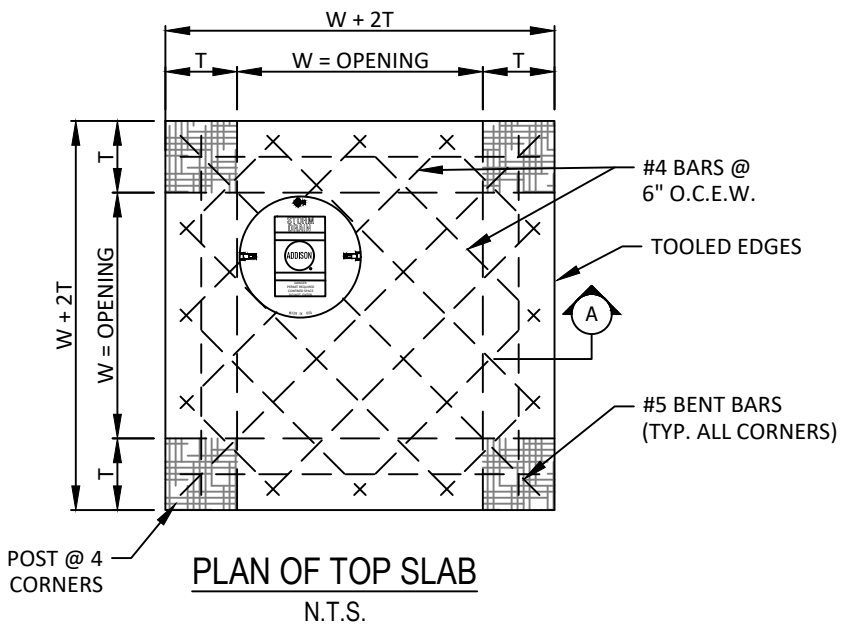
**STORM MANHOLE  
FRAME & COVER**

**STANDARD CONSTRUCTION DETAILS  
STORM DRAINAGE**

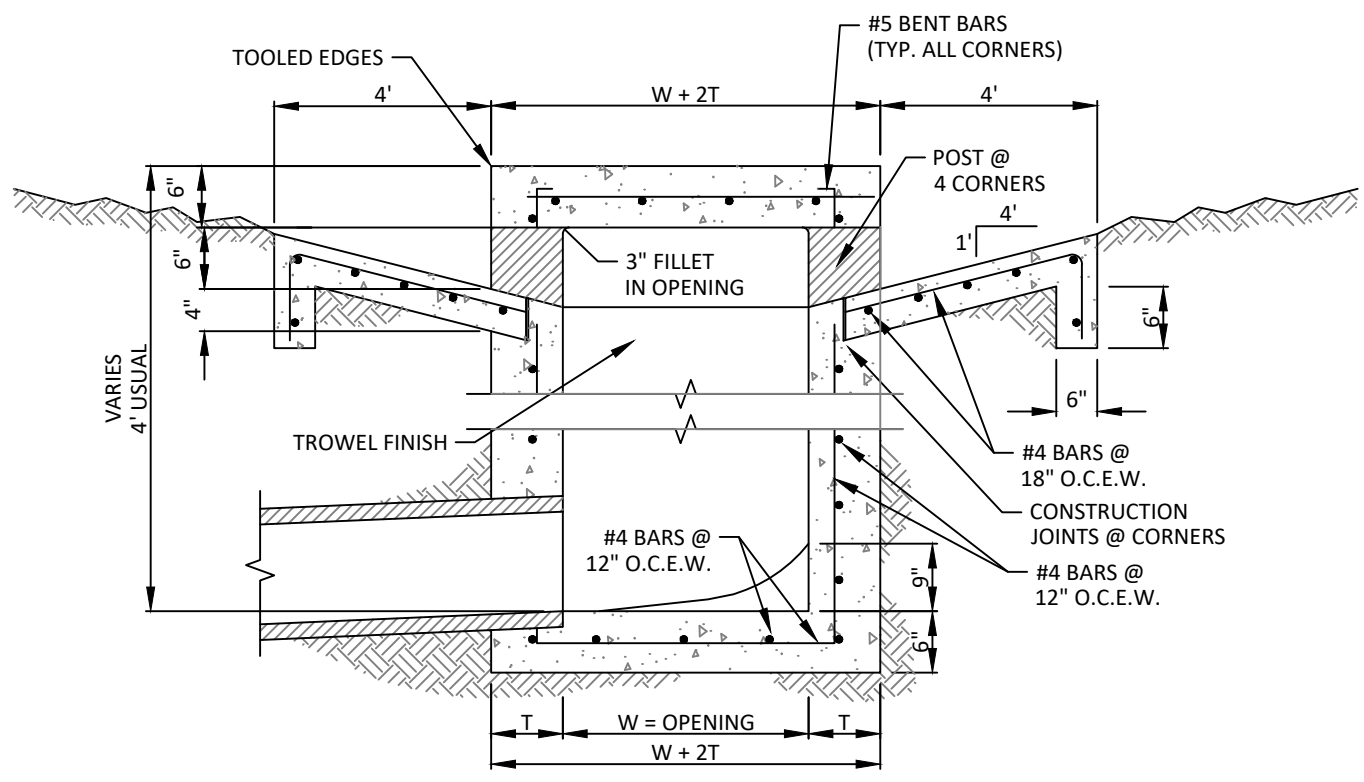
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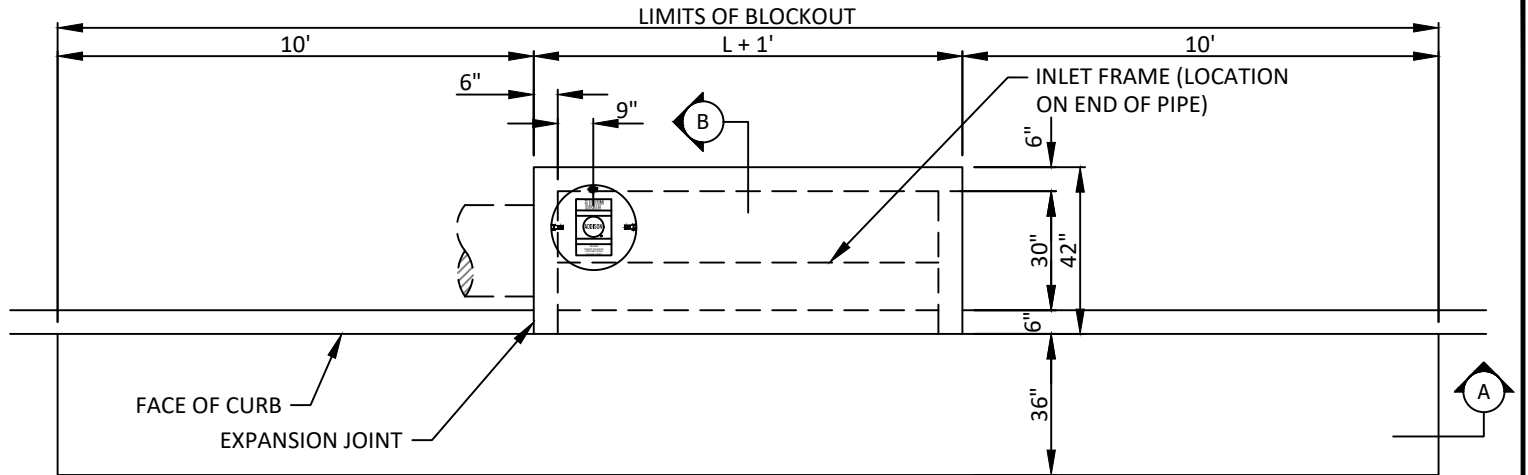
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SHEET:  
SD-D07

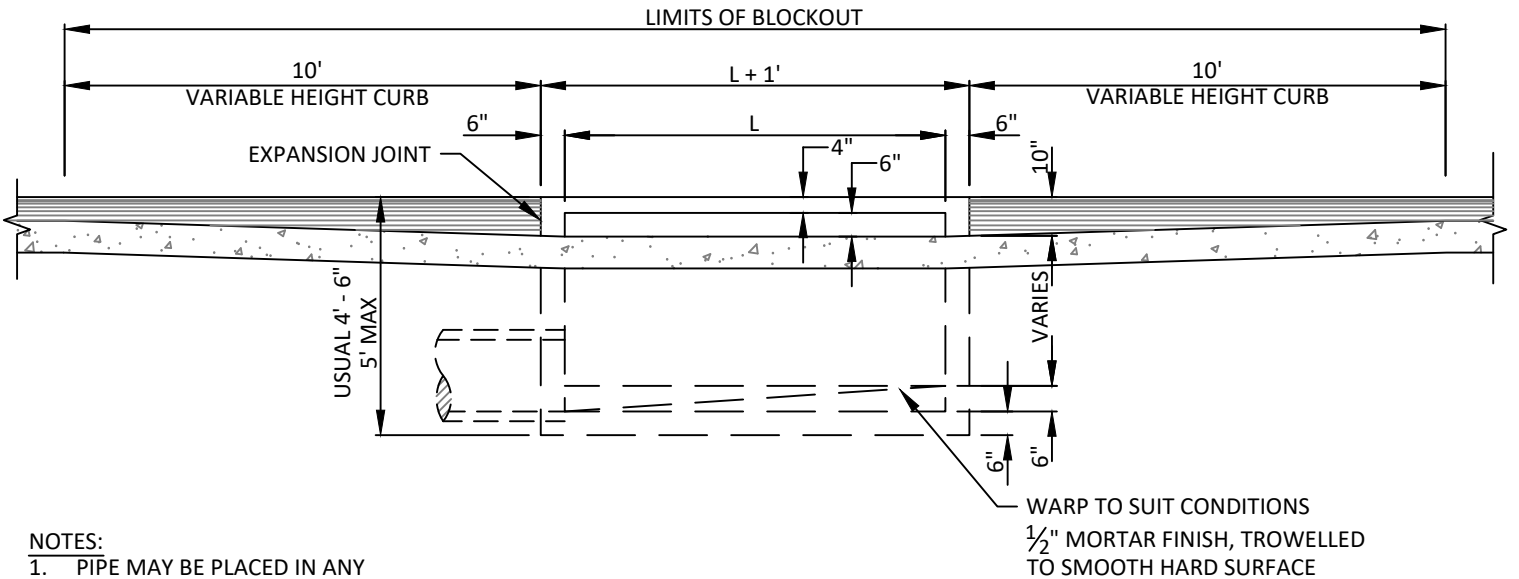


INLET SIZE	T	W
2' SQUARE	7"	2'-0
3' SQUARE	7"	3'-0
4' SQUARE	7"	4'-0
5' SQUARE	8"	5'-0
6' SQUARE	9"	6'-0





**PLAN - STANDARD INLET**  
N.T.S.

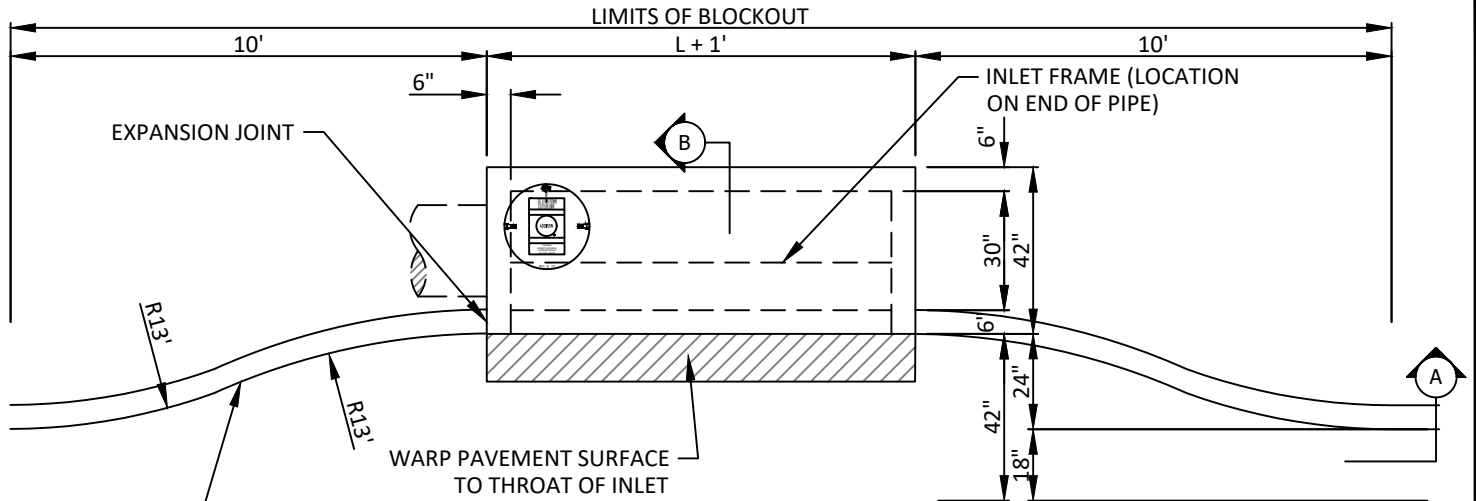


**SECTION A**  
N.T.S.

**NOTES:**

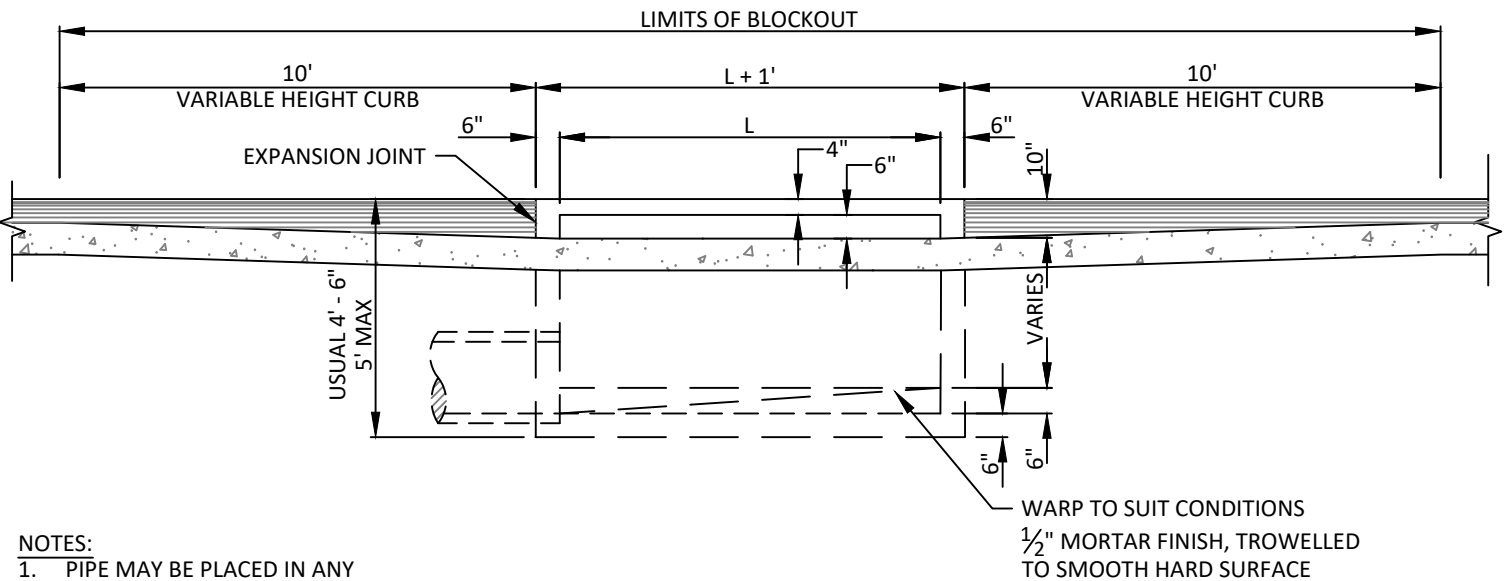
1. PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER OR BOTTOM.
2. #3 BARS @ 18" O.C.E.W. IN BLOCK OUT DRILLED INTO EXISTING CONCRETE.
3. BACKFILL AROUND INLET SHALL BE FLOWABLE BACKFILL PER NCTCOG 504.2.3.4.

WARP TO SUIT CONDITIONS  
1/2" MORTAR FINISH, TROWELLED TO SMOOTH HARD SURFACE



**PLAN - RECESSED CURB INLET**

N.T.S.



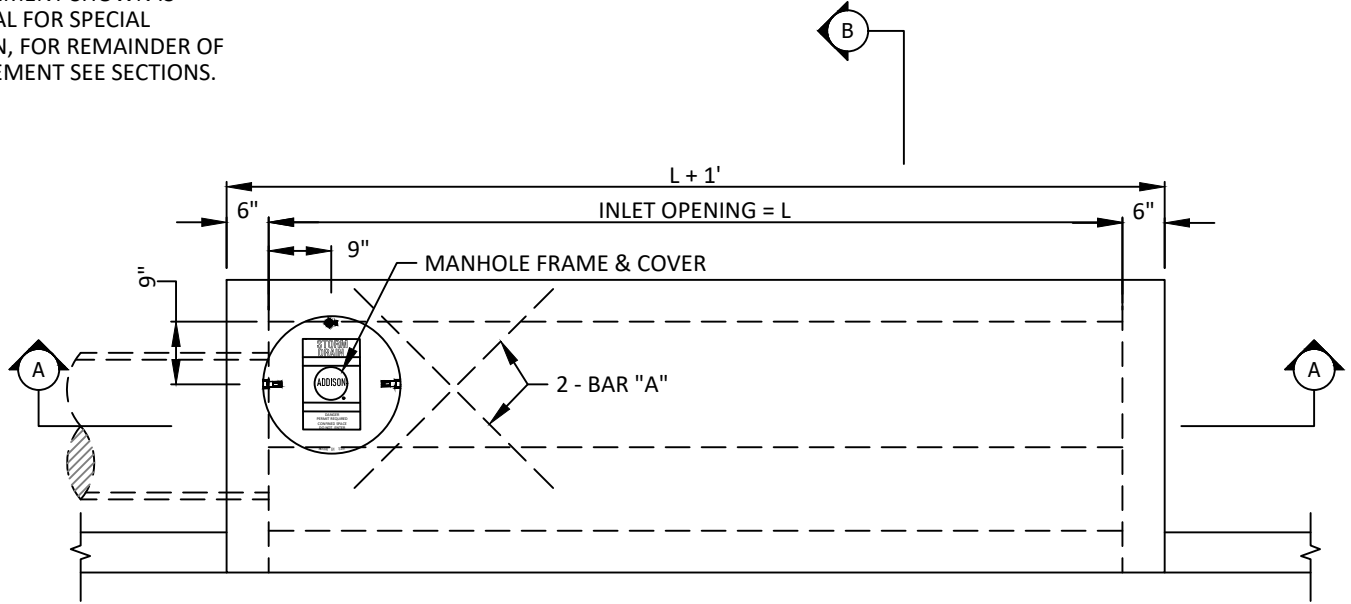
**SECTION A**

N.T.S.

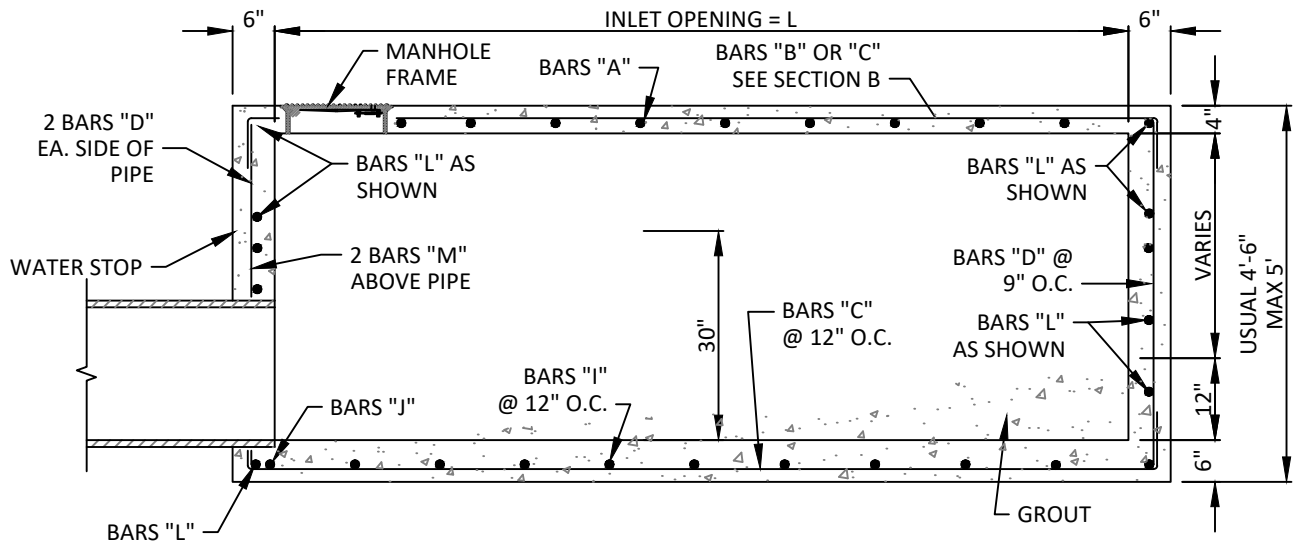
**NOTES:**

1. PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER OR BOTTOM.
2. #3 BARS @ 18" O.C.E.W. IN BLOCK OUT DRILLED INTO EXISTING CONCRETE.
3. BACKFILL AROUND INLET SHALL BE FLOWABLE BACKFILL PER NCTCOG 504.2.3.4.

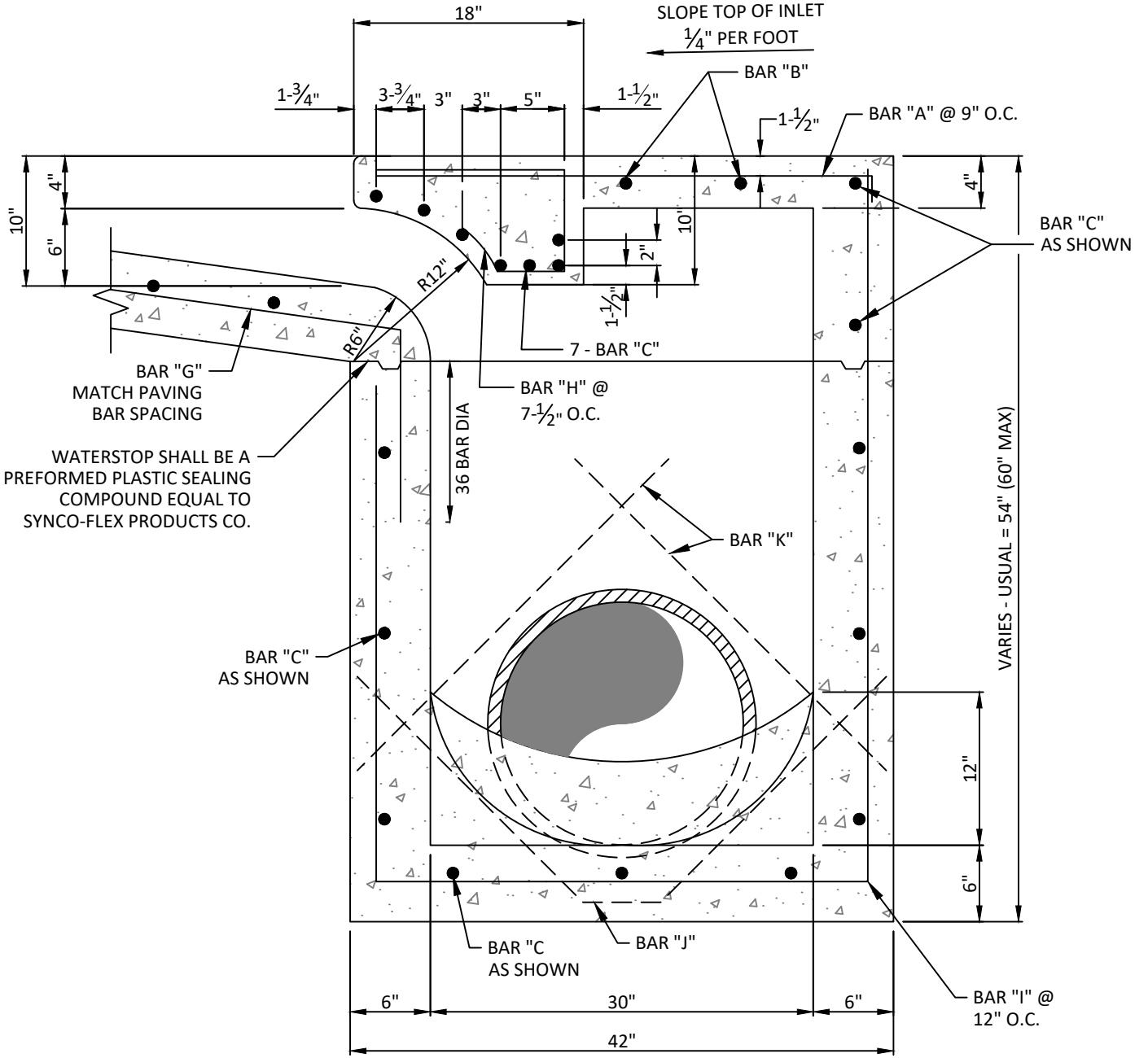
NOTE:  
 REINFORCEMENT SHOWN IS  
 ADDITIONAL FOR SPECIAL  
 CONDITION, FOR REMAINDER OF  
 REINFORCEMENT SEE SECTIONS.



**PLAN - STANDARD INLET**  
 N.T.S.



**SECTION A**  
 N.T.S.



**SECTION B**  
N.T.S.



STANDARD AND RECESSED CURB INLET 4, 6, 8 & 10 FOOT INLETS  
TYPICAL SECTION

STANDARD CONSTRUCTION DETAILS  
STORM DRAINAGE

DATE:  
JANUARY 2022

REV DATE:  
-

SHEET:  
SD-D12

**REINFORCING STEEL SCHEDULE**  
**DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLET**

INLET LENGTH	BAR TYPE	BAR DIA. (1/8")	NO REQ'D	BAR DIMENSIONS			
				A	B	C	
4'	A	3	6	3'-2"	0'-3"	-	
	B	3	2	2'-10"	-	-	
	C	4	18	4'-8"	0'-6"	-	
	D	4	9	4'-8"	-	-	
	G	3	4	2'-0"	1'-3"	-	
	H	3	7	*	*	*	
	I	4	3	3'-2"	3'-2"	4'-8"	
	J	5	1	*	*	*	
	K	5	2	3'-2"	0'-6"	-	
	L	4	11	3'-2"	0'-6"	-	
	M	4	2	3'-0"**	-	-	
	6'	A	3	9	3'-2"	0'-3"	-
		B	3	2	4'-10"	-	-
C		4	18	6'-8"	0'-6"	-	
D		4	9	4'-8"	-	-	
G		3	6	2'-0"	1'-3"	-	
H		3	11	*	*	*	
I		4	5	3'-2"	3'-2"	4'-8"	
J		5	1	*	*	*	
K		5	2	3'-2"	0'-6"	-	
L		4	11	3'-2"	0'-6"	-	
M		4	2	3'-0"**	-	-	
8'		A	3	12	3'-2"	0'-3"	-
		B	3	2	6'-10"	-	-
	C	4	18	8'-8"	0'-6"	-	
	D	4	9	4'-8"	-	-	
	G	3	7	2'-0"	1'-3"	-	
	H	3	14	*	*	*	
	I	4	7	3'-2"	3'-2"	4'-8"	
	J	5	1	*	*	*	
	K	5	2	3'-2"	0'-6"	-	
	L	4	11	3'-2"	0'-6"	-	
	M	4	2	3'-0"**	-	-	
	10'	A	3	15	3'-2"	0'-3"	-
		B	3	2	8'-10"	-	-
C		4	18	10'-8"	0'-6"	-	
D		4	9	4'-8"	-	-	
G		3	9	2'-0"	1'-3"	-	
H		3	17	*	*	*	
I		4	9	3'-2"	3'-2"	4'-8"	
J		5	1	*	*	*	
K		5	2	3'-2"	0'-6"	-	
L		4	11	3'-2"	0'-6"	-	
M		4	2	3'-0"**	-	-	

\* SEE DIAGRAM FOR DIMENSIONS

\*\* FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE



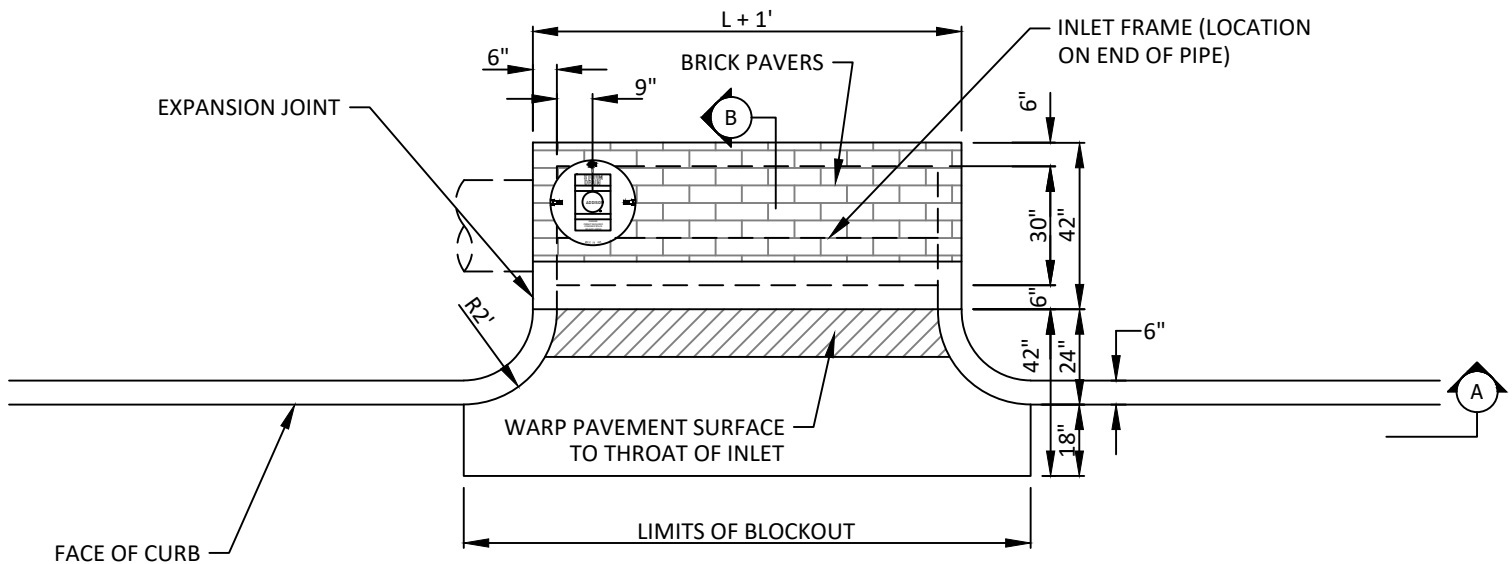
**REINFORCING STEEL SCHEDULE**  
**4, 6, 8, & 10 FOOT INLETS**

STANDARD CONSTRUCTION DETAILS  
 STORM DRAINAGE

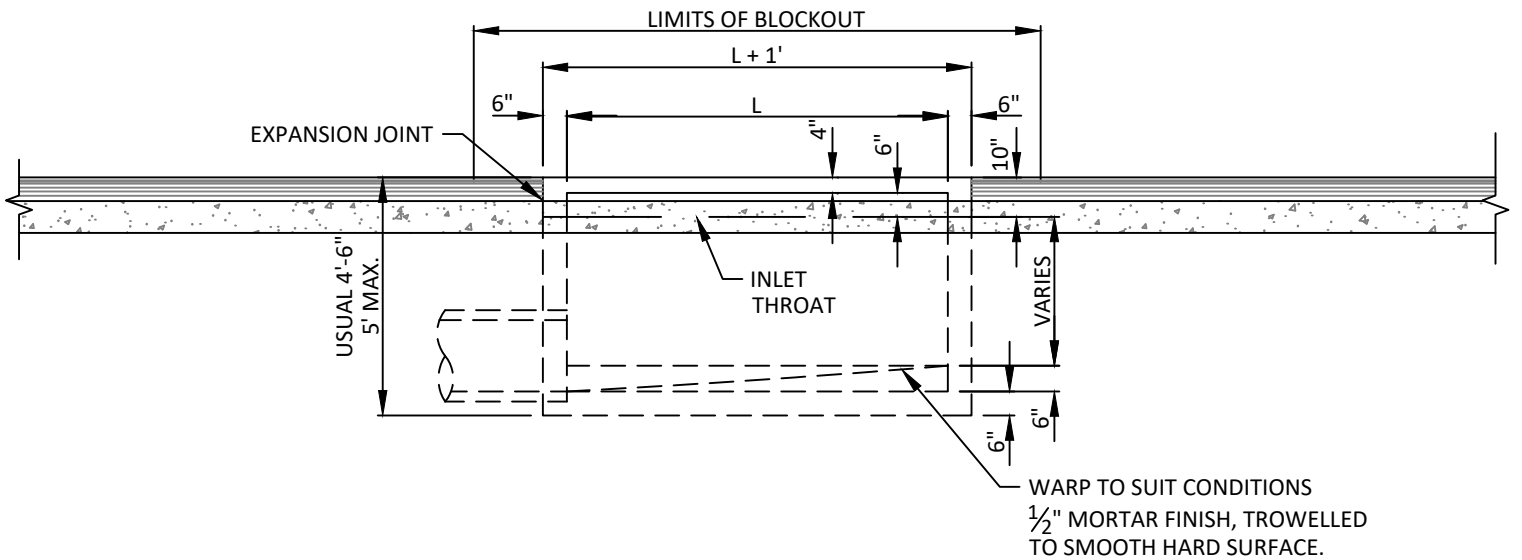
DATE:  
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 SD-D13



**PLAN - BRICK TOP INLET**  
N.T.S.



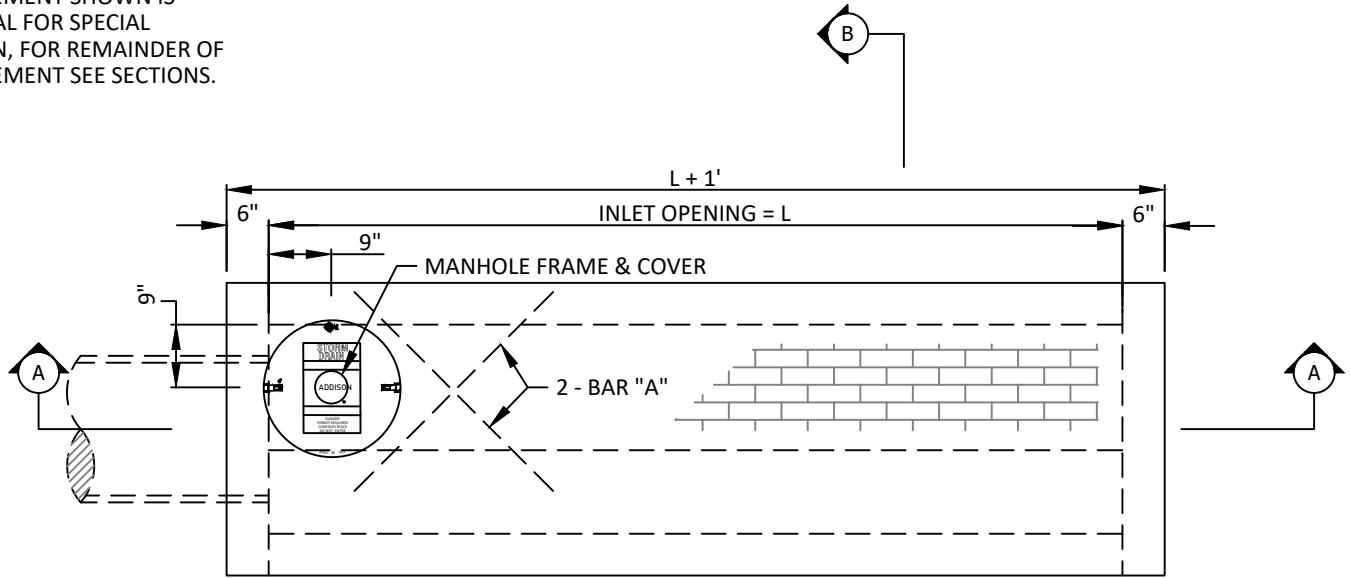
**SECTION A**  
N.T.S.

**NOTES:**

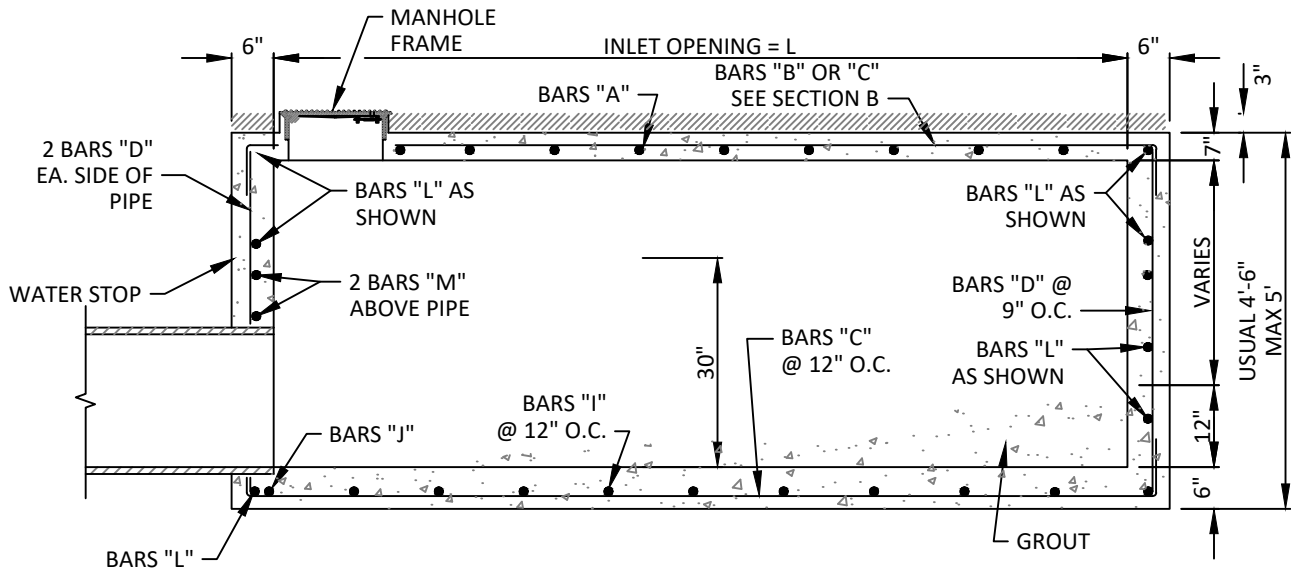
1. PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER OR BOTTOM.
2. #3 BARS @ 18" O.C.E.W. IN BLOCK OUT DRILLED INTO EXISTING CONCRETE.
3. BACKFILL AROUND INLET SHALL BE FLOWABLE BACKFILL PER NCTCOG 504.2.3.4.



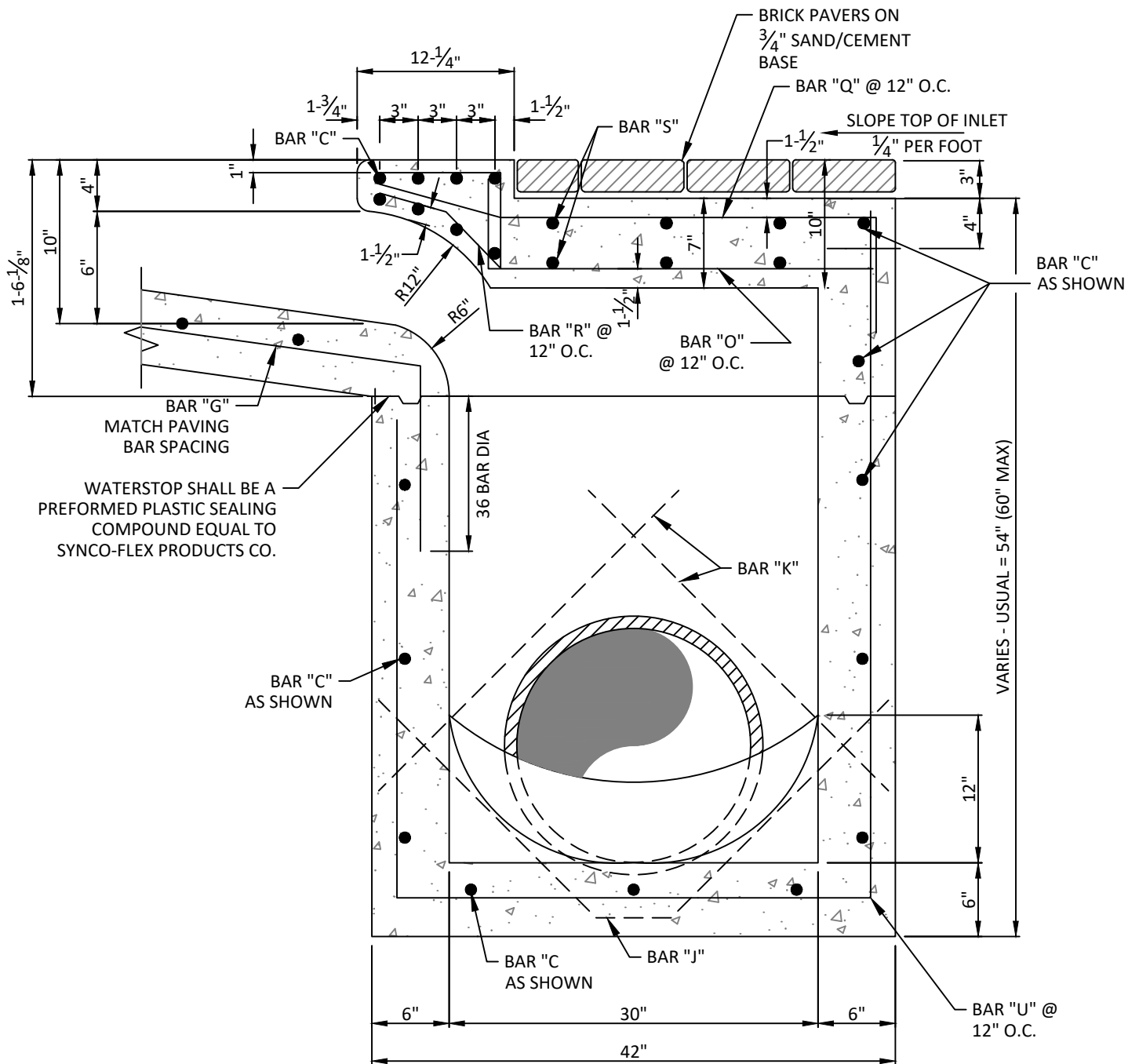
NOTE:  
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 ADDITIONAL FOR SPECIAL  
 CONDITION, FOR REMAINDER OF  
 REINFORCEMENT SEE SECTIONS.



**PLAN - STANDARD INLET**  
 N.T.S.



**SECTION A**  
 N.T.S.



**REINFORCING STEEL SCHEDULE**  
DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLET

INLET LENGTH	BAR TYPE	BAR DIA. (1/8")	NO REQ'D	BAR DIMENSIONS		
				A	B	C
4'	C	4	19	4'-8"	0'-6"	-
	D	4	9	4'-5"	-	-
	G	3	4	2'-0"	1'-3"	-
	J	5	1	*	*	*
	K	5	2	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0"**	-	-
	O	6	8	2'-5"	7"	-
	Q	4	8	*	*	*
	R	3	7	*	*	*
	S	5	6	4'-8"	8-1/2"	-
	T	4	2	36"	-	-
	U	5	5	3'-2"	3'-2"	4'-5"
	6'	C	4	19	6'-8"	0'-6"
D		4	9	4'-5"	-	-
G		3	6	2'-0"	1'-3"	-
J		5	1	*	*	*
K		5	2	3'-2"	0'-6"	-
L		4	11	3'-2"	0'-6"	-
M		4	2	3'-0"**	-	-
O		6	8	2'-5"	7"	-
Q		4	8	*	*	*
R		3	7	*	*	*
S		5	6	6'-8"	8-1/2"	-
T		4	2	36"	-	-
U		5	5	3'-2"	3'-2"	4'-5"
8'		C	4	19	8'-8"	0'-6"
	D	4	9	4'-5"	-	-
	G	3	7	2'-0"	1'-3"	-
	J	5	1	*	*	*
	K	5	2	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0"**	-	-
	O	6	10	2'-5"	7"	-
	Q	4	10	*	*	*
	R	3	9	*	*	*
	S	5	6	8'-8"	8-1/2"	-
	T	4	2	36"	-	-
	U	5	7	3'-2"	3'-2"	4'-5"
	10'	C	4	19	10'-8"	0'-6"
D		4	9	4'-5"	-	-
G		3	9	2'-0"	1'-3"	-
J		5	1	*	*	*
K		5	2	3'-2"	0'-6"	-
L		4	11	3'-2"	0'-6"	-
M		4	2	3'-0"**	-	-
O		6	12	2'-5"	7"	-
Q		4	12	*	*	*
R		3	11	*	*	*
S		5	6	10'-10"	8-1/2"	-
T		4	2	36"	-	-
U		5	9	3'-2"	3'-2"	4'-5"

\* SEE DIAGRAM FOR DIMENSIONS

\*\* FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE



**REINFORCING STEEL SCHEDULE**  
4, 6, 8, & 10 FOOT INLETS

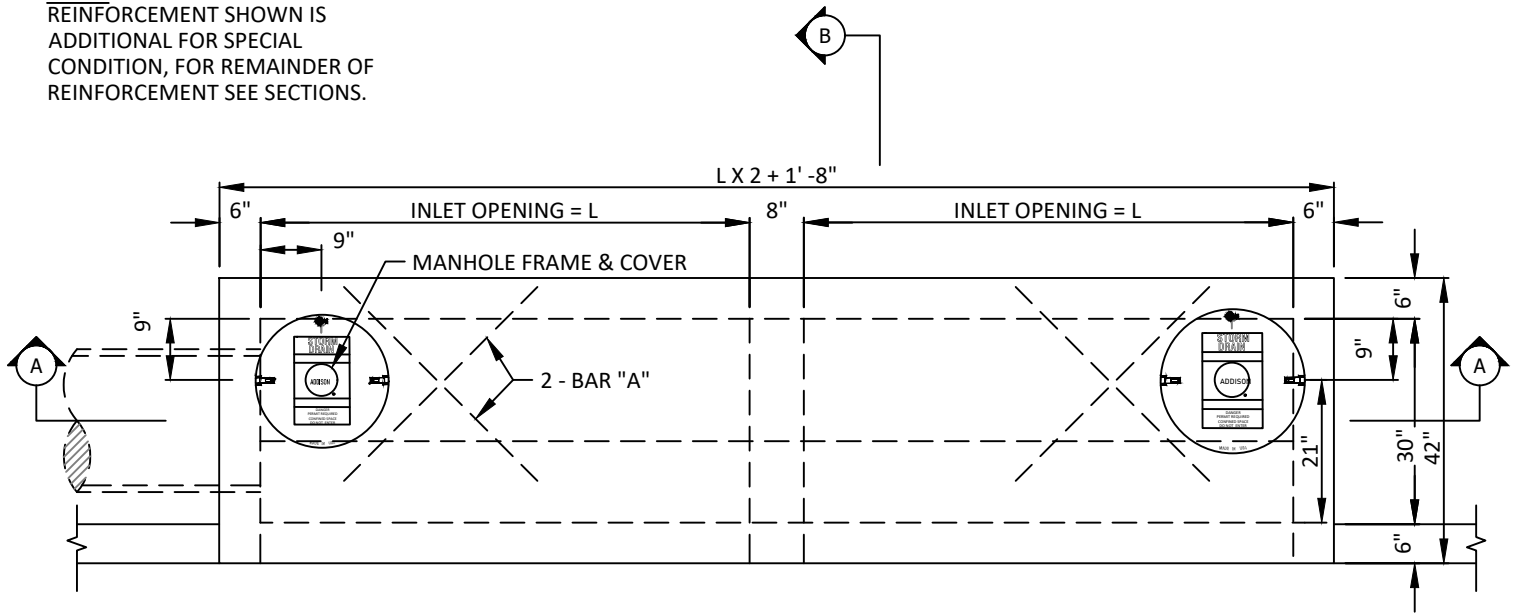
STANDARD CONSTRUCTION DETAILS  
STORM DRAINAGE

DATE:  
JANUARY 2022

REV DATE:  
-

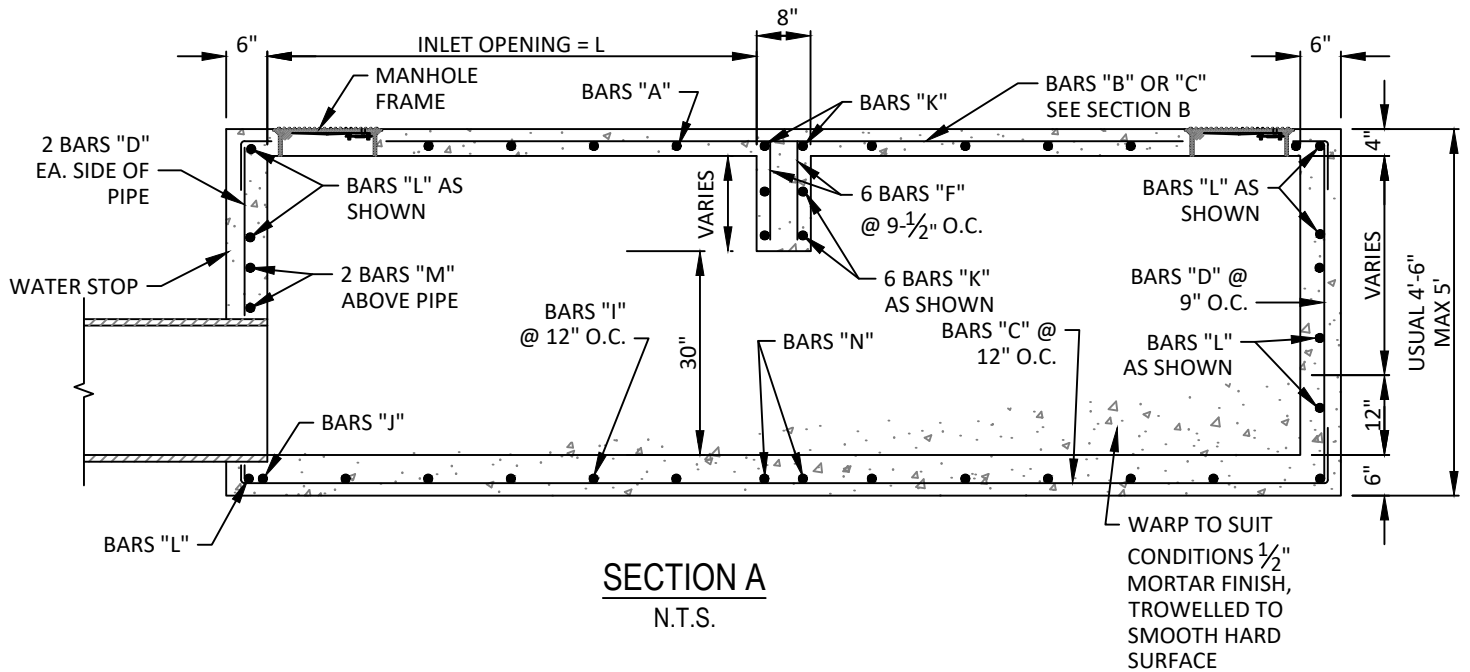
SHEET:  
SD-D17

NOTE:  
REINFORCEMENT SHOWN IS  
ADDITIONAL FOR SPECIAL  
CONDITION, FOR REMAINDER OF  
REINFORCEMENT SEE SECTIONS.



**PLAN - STANDARD INLET**

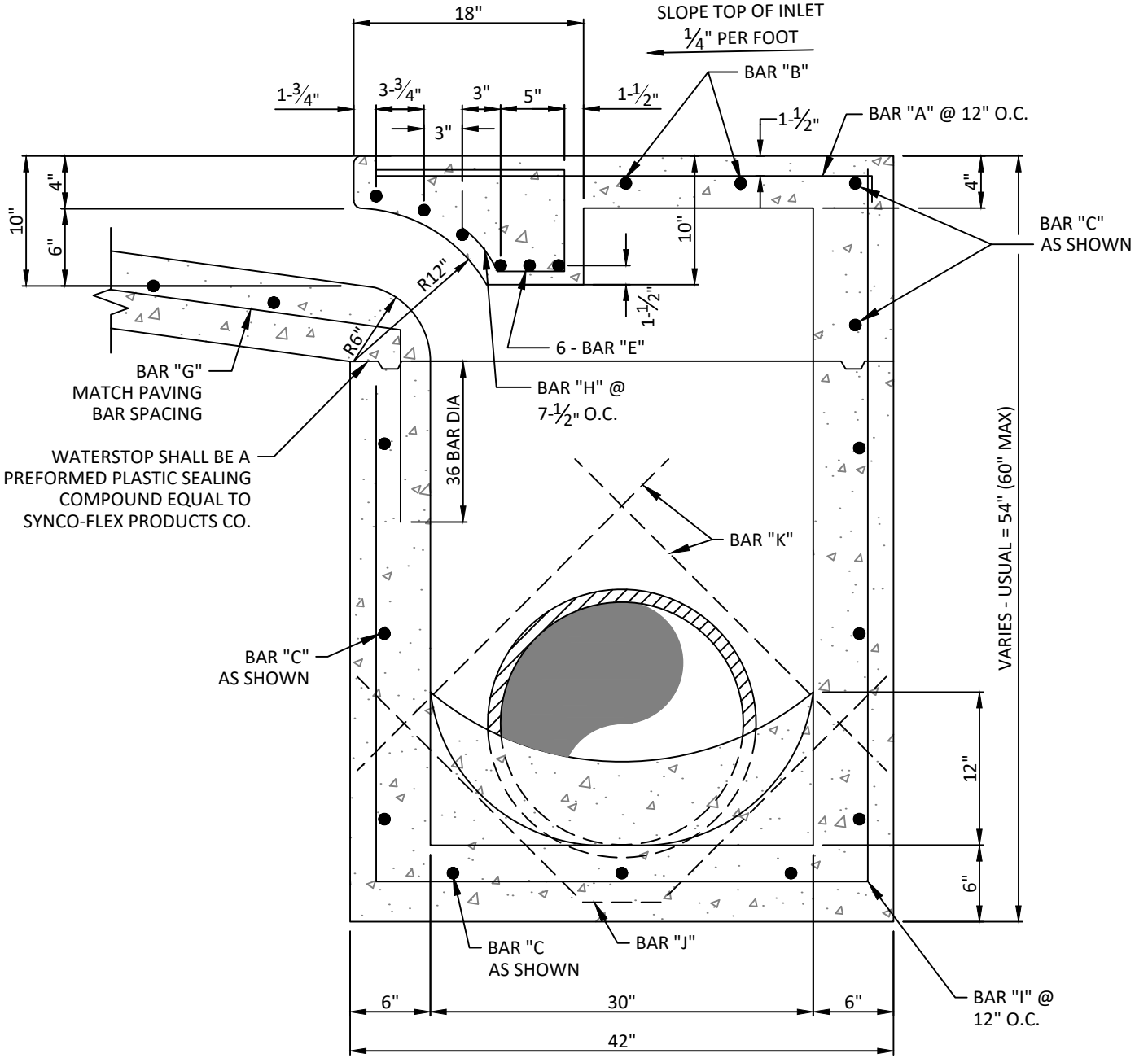
N.T.S.



**SECTION A**

N.T.S.

NOTE:  
BACKFILL AROUND INLET SHALL  
BE FLOWABLE BACKFILL PER  
NCTCOG 504.2.3.4



SECTION B  
N.T.S.



TYPICAL SECTION "B"  
STANDARD & RECESSED CURB  
INLETS  
(12', 14', 16' & 20' INLETS)

STANDARD CONSTRUCTION DETAILS  
STORM DRAINAGE

DATE:  
JANUARY 2022

REV DATE:  
-

SHEET:  
SD-D19

**REINFORCING STEEL SCHEDULE**  
**DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLET**

INLET LENGTH	BAR TYPE	BAR DIA. (1/8")	NO REQ'D	BAR DIMENSIONS			INLET LENGTH	BAR TYPE	BAR DIA. (1/8")	NO REQ'D	BAR DIMENSIONS		
				A	B	C					A	B	C
6'	A	3	12	3'-2"	0'-6"	-	8'	A	3	16	3'-2"	0'-6"	-
	B	3	2	11'-6"	-	-		B	3	2	15'-6"	-	-
	C	4	16	13'-4"	0'-6"	-		C	4	16	17'-4"	0'-6"	-
	D	4	9	4'-8"	-	-		D	4	9	4'-8"	-	-
	E	5	6	13'-4"	-	-		E	5	6	17'-4"	-	-
	F	4	10	1'-2"	-	*		F	4	10	1'-2"	-	*
	G	3	11	2'-0"	1'-3"	-		G	3	13	2'-0"	1'-3"	-
	H	3	20	*	*	*		H	3	26	*	*	*
	I	4	12	3'-2"	3'-2"	4'-8"		I	4	16	3'-2"	3'-2"	4'-8"
	J	5	1	*	*	*		J	5	1	*	*	*
	K	5	8	3'-2"	0'-6"	-		K	5	8	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-		L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0"***	-	-		M	4	2	3'-0"***	-	-
	N	4	2	3'-2"	4'-8"	-		N	4	2	3'-2"	4'-8"	-
7'	A	3	14	3'-2"	0'-6"	-	10'	A	3	20	3'-2"	0'-6"	-
	B	3	2	13'-6"	-	-		B	3	2	19'-6"	-	-
	C	4	16	15'-4"	0'-6"	-		C	4	16	21'-4"	0'-6"	-
	D	4	9	4'-8"	-	-		D	4	9	4'-8"	-	-
	E	5	6	15'-4"	-	-		E	5	6	21'-4"	-	-
	F	4	10	1'-2"	-	-		F	4	10	1'-2"	-	-
	G	3	12	2'-0"	1'-3"	-		G	3	16	2'-0"	1'-3"	-
	H	3	22	*	*	*		H	3	32	*	*	*
	I	4	14	3'-2"	3'-2"	4'-8"		I	4	20	3'-2"	3'-2"	4'-8"
	J	5	1	*	*	*		J	5	1	*	*	*
	K	5	8	3'-2"	0'-6"	-		K	5	8	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-		L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0"***	-	-		M	4	2	3'-0"***	-	-
	N	4	2	3'-2"	4'-8"	-		N	4	2	3'-2"	4'-8"	-

\* SEE DIAGRAM FOR DIMENSIONS

\*\* FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE



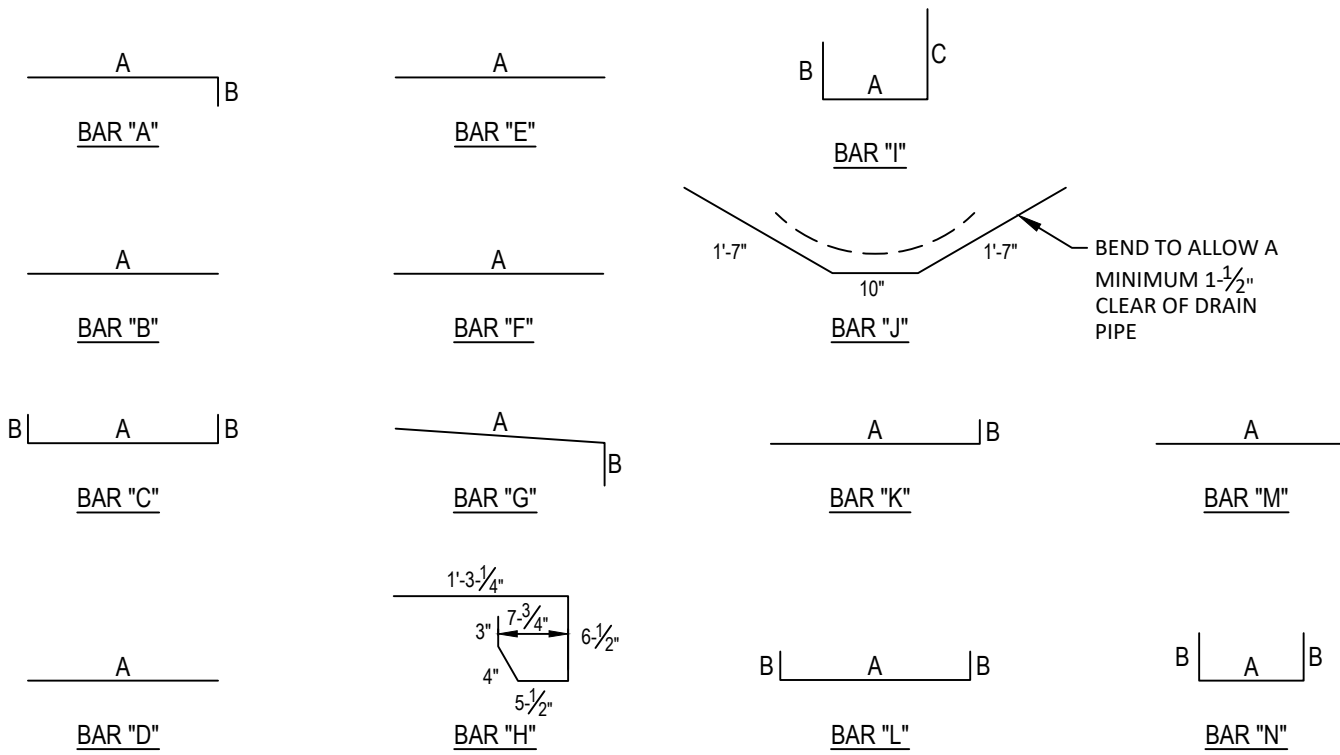
**REINFORCING STEEL SCHEDULE**  
**12', 14', 16', & 20' INLETS**

STANDARD CONSTRUCTION DETAILS  
 STORM DRAINAGE

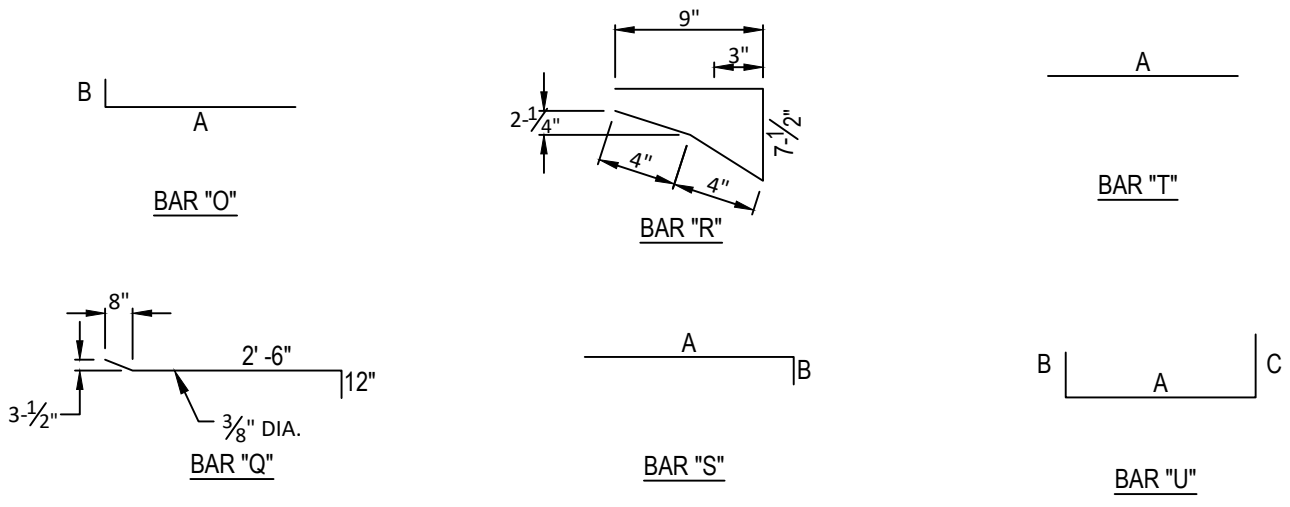
DATE:  
 JANUARY 2022

REV DATE:  
 -

SHEET:  
 SD-D20



**REINFORCING BAR  
DIAGRAMS**  
N.T.S.



**BAR DIAGRAMS  
(BRICK ON INLET)**  
N.T.S.

NOTE:  
BAR DESIGNATIONS AND DIMENSIONS ARE DIFFERENT  
FROM STEEL SCHEDULE FOR REGULAR INLETS



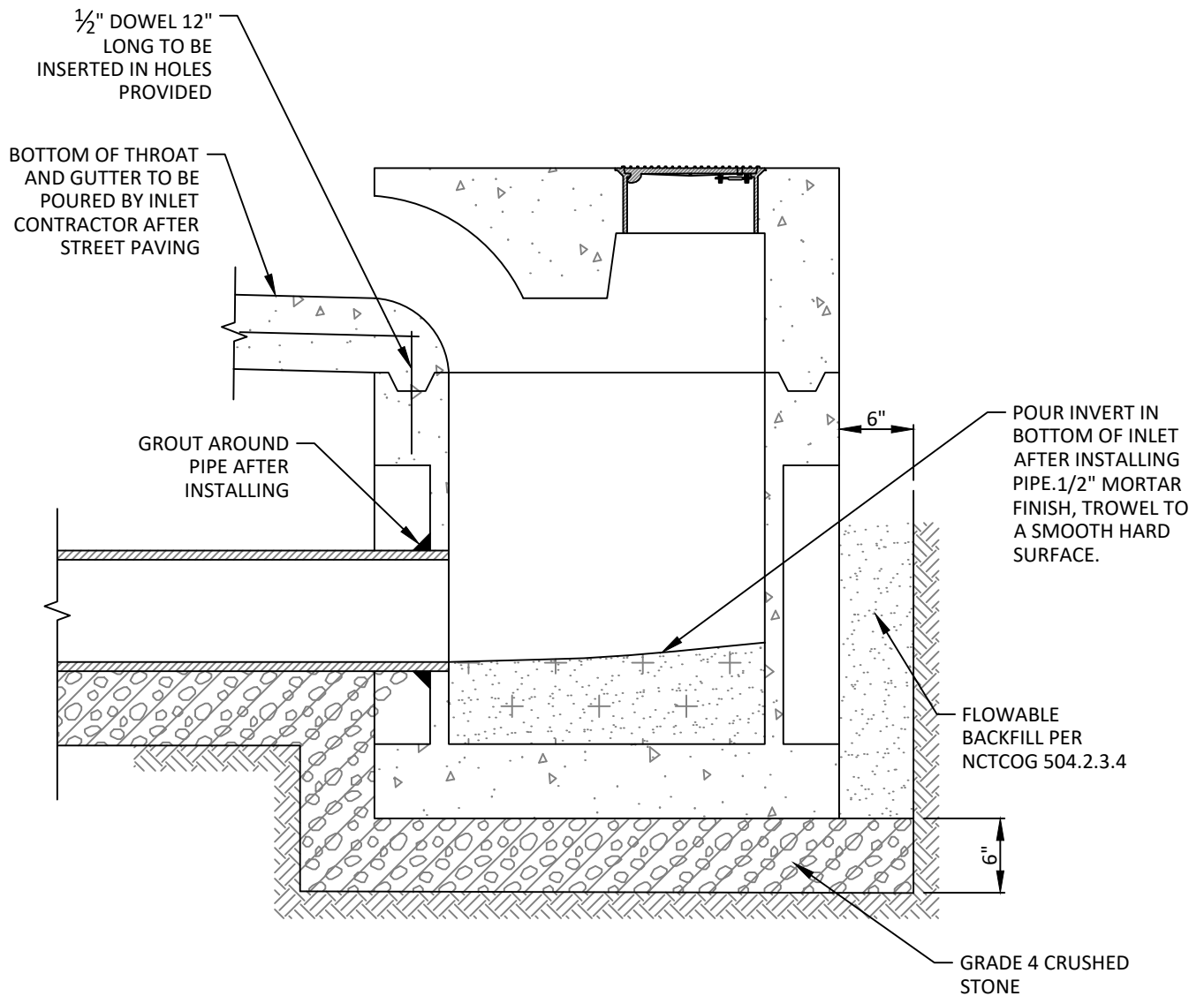
**REINFORCING BAR  
DIAGRAMS**

STANDARD CONSTRUCTION DETAILS  
STORM DRAINAGE

DATE:  
JANUARY 2022

REV DATE:  
-

SHEET:  
SD-D21



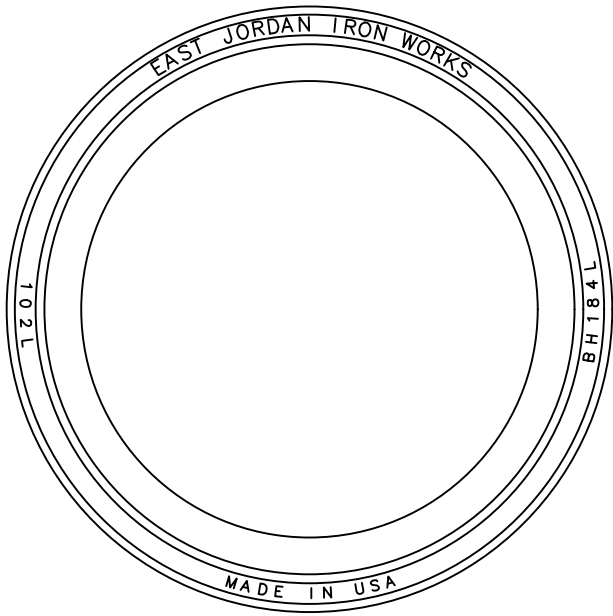
**INSTALLATION DRAWING FOR PRECAST 5'  
AND 10' CURB INLETS**

N.T.S.

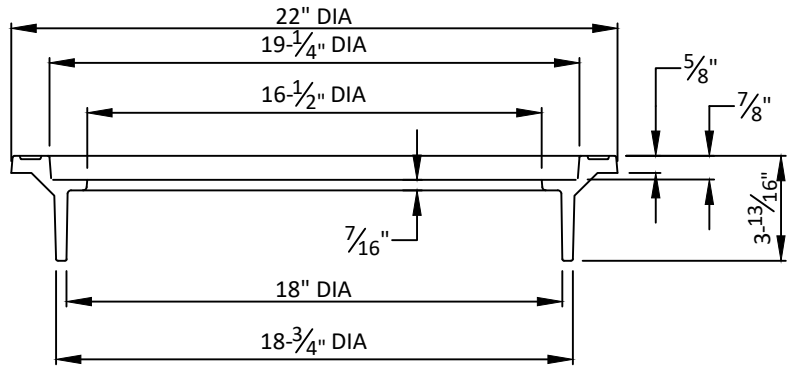
**NOTES:**

1. FOR PRECAST INLET THE FLOOR OF THE EXCAVATION MUST PROVIDE A FIRM, LEVEL BED FOR THE BASE SECTION TO REST UPON.
2. PIPES SHALL CONNECT TO THE SIDES OF THE INLETS. CONNECTIONS SHALL NOT BE MADE AT CORNERS OR BOTTOM.
3. PRECAST INLETS MUST BE APPROVED BY PUBLIC WORKS AND ENGINEERING SERVICES.

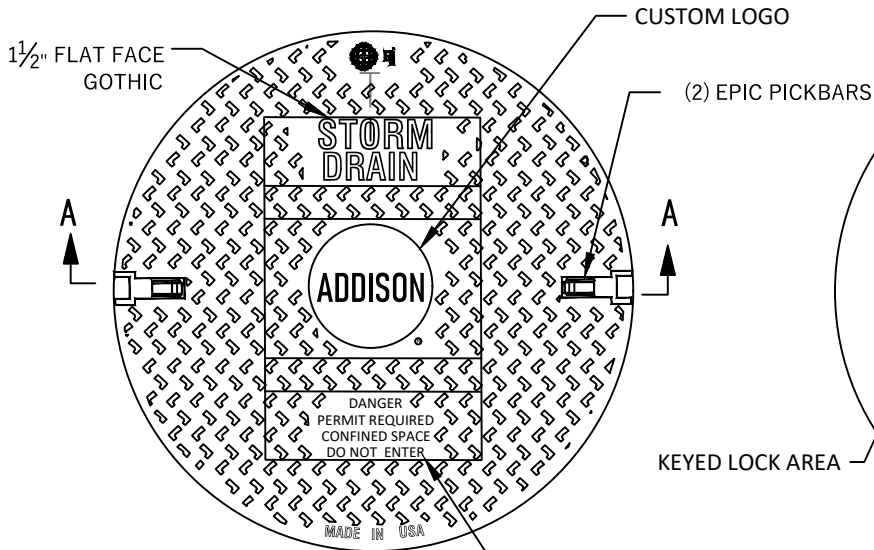




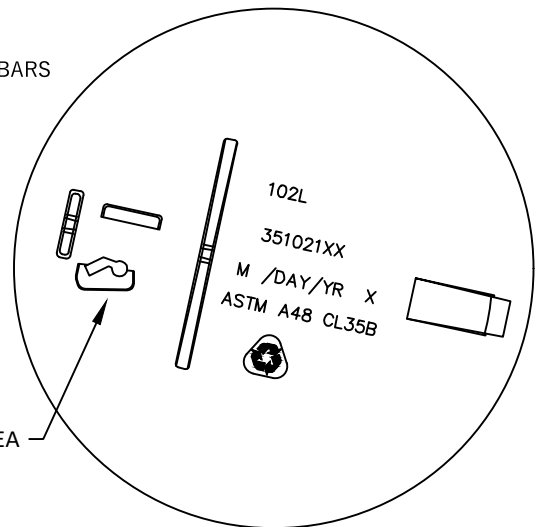
RING



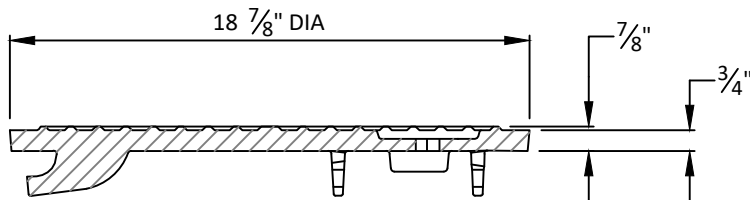
RING SECTION



COVER

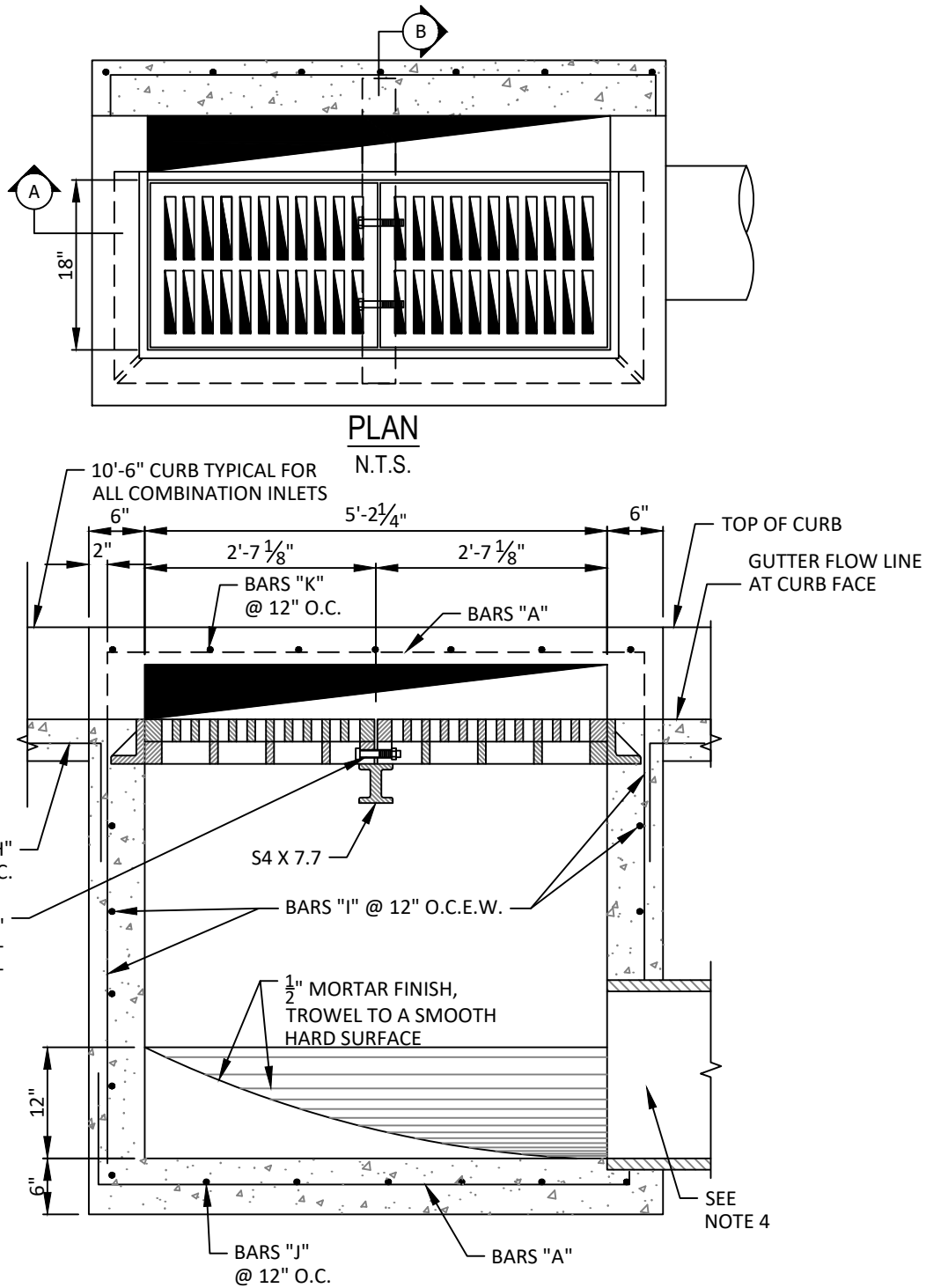


COVER BOTTOM VIEW



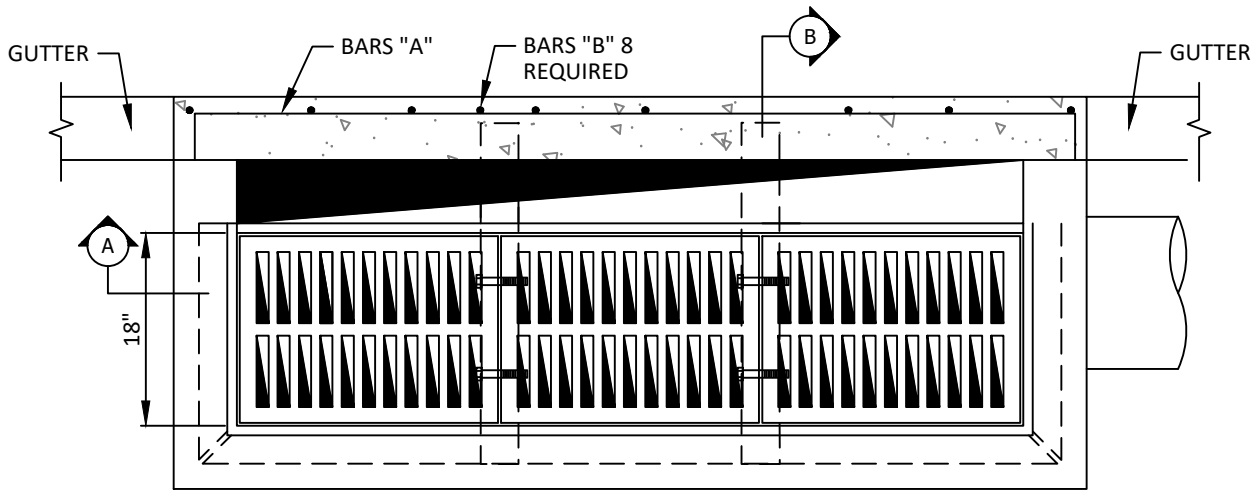
COVER SECTION

NOTE:  
 FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS FRAME PRODUCT #35202000 AND COVER PRODUCT #NCR08-0060B OR APPROVED EQUAL AND SHALL BE GRAY CAST IRON CONFORMING TO ASTM A48-CL35B.

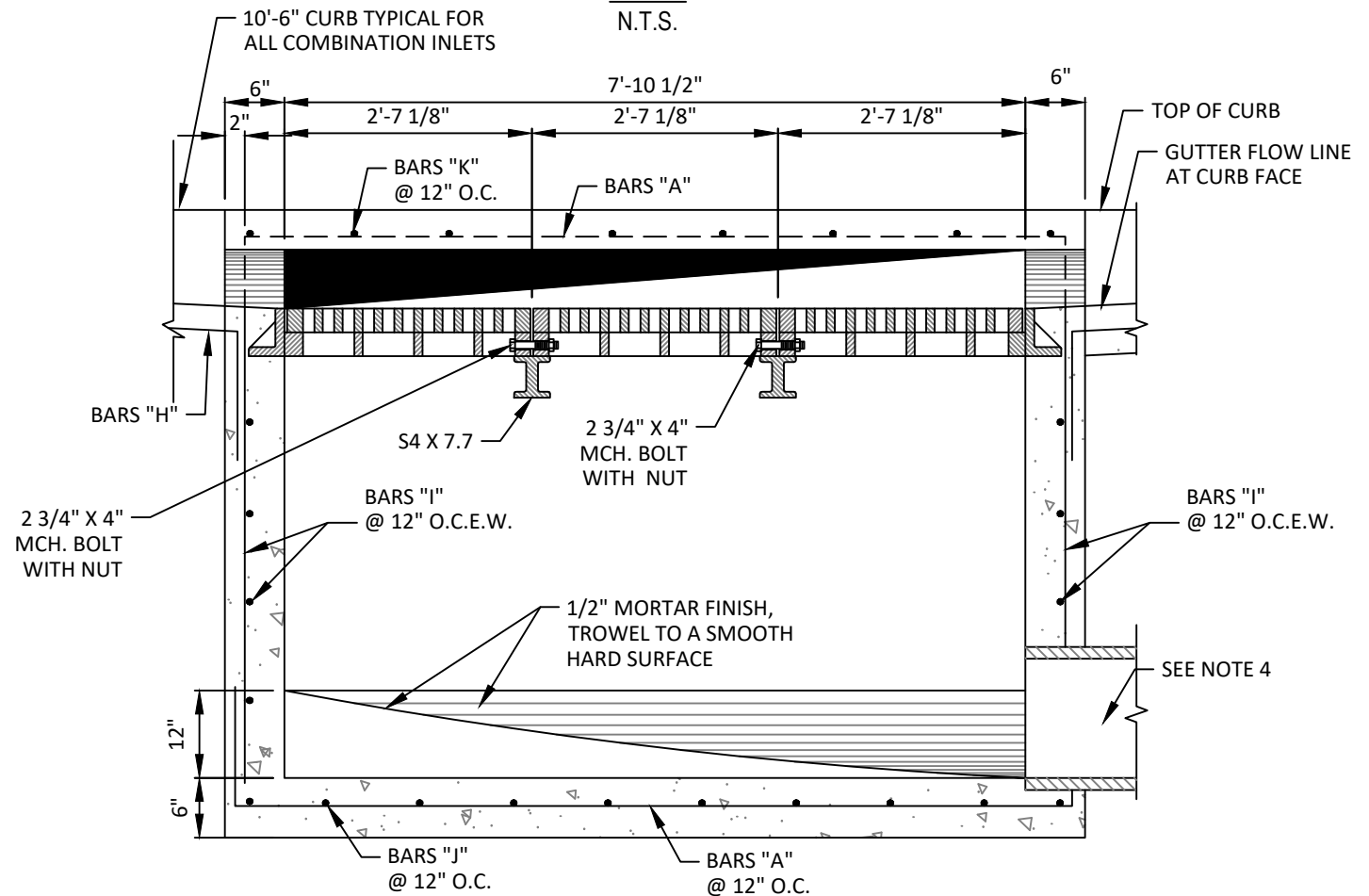


**NOTES:**

1. COMBINATION INLETS TO BE USED IN ALL ALLEYS WHERE INLETS ARE REQUIRED.
2. ALL LAPS AND EXTENSION OF REINFORCING BARS SHALL BE 36 BAR DIAMETERS UNLESS NOTED OTHERWISE.
3. TACK WELD GRATES IN PLACE.
4. PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER OR BOTTOM.
5. ALL CAST IRON FITTINGS SHALL BE DOMESTIC.
6. ALL FASTENERS SHALL BE GALVANIZED.



**PLAN**  
N.T.S.



**SECTION A**  
N.T.S.

**NOTES:**

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2. ALL LAPS AND EXTENSION OF REINFORCING BARS SHALL BE 36 BAR DIAMETERS UNLESS NOTED OTHERWISE.
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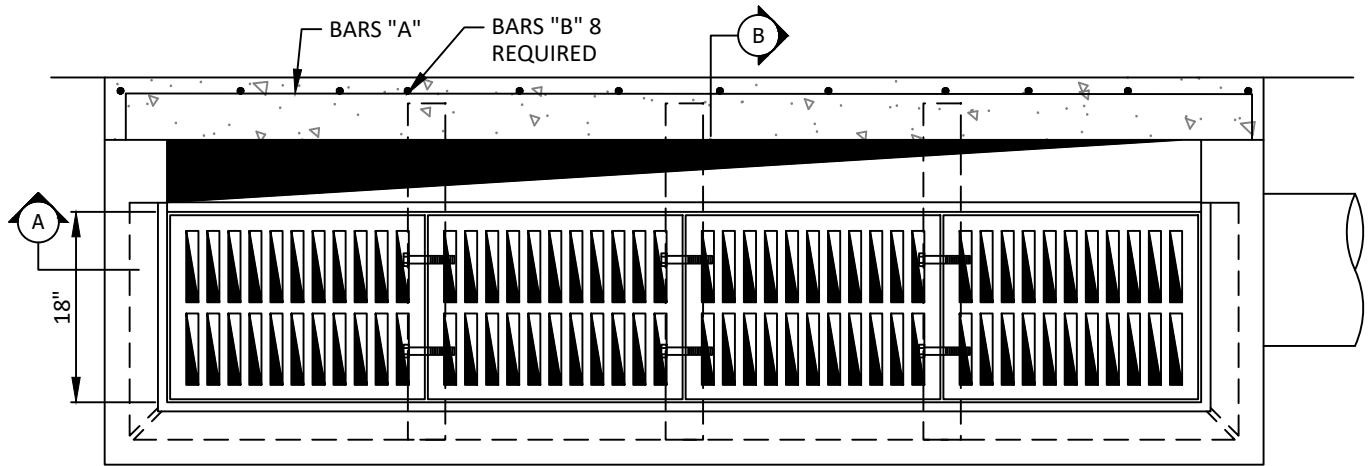
**COMBINATION INLET  
THREE GRATE INLET**

**STANDARD CONSTRUCTION DETAILS  
STORM DRAINAGE**

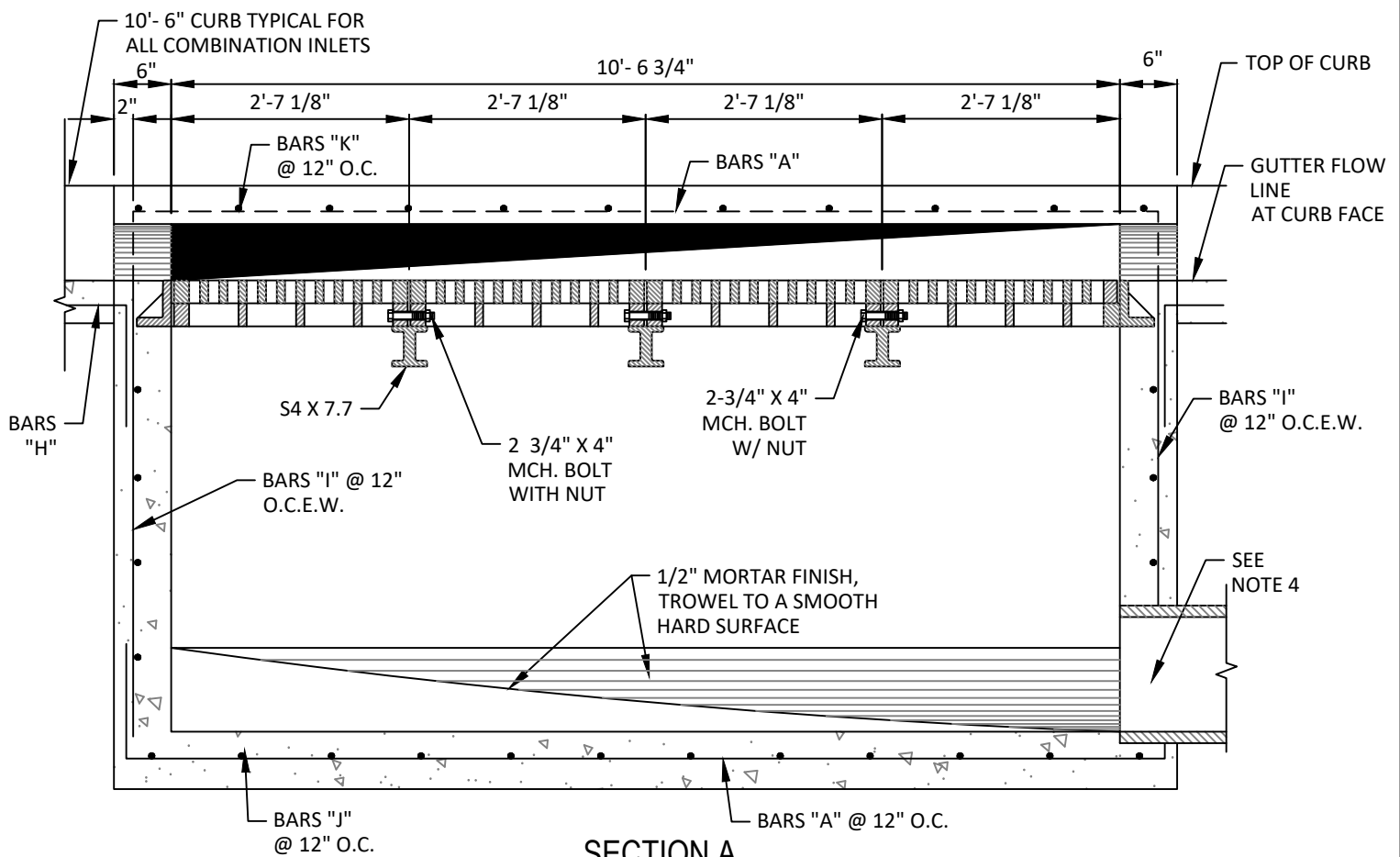
DATE:  
JANUARY 2022

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SHEET:  
SD-D25



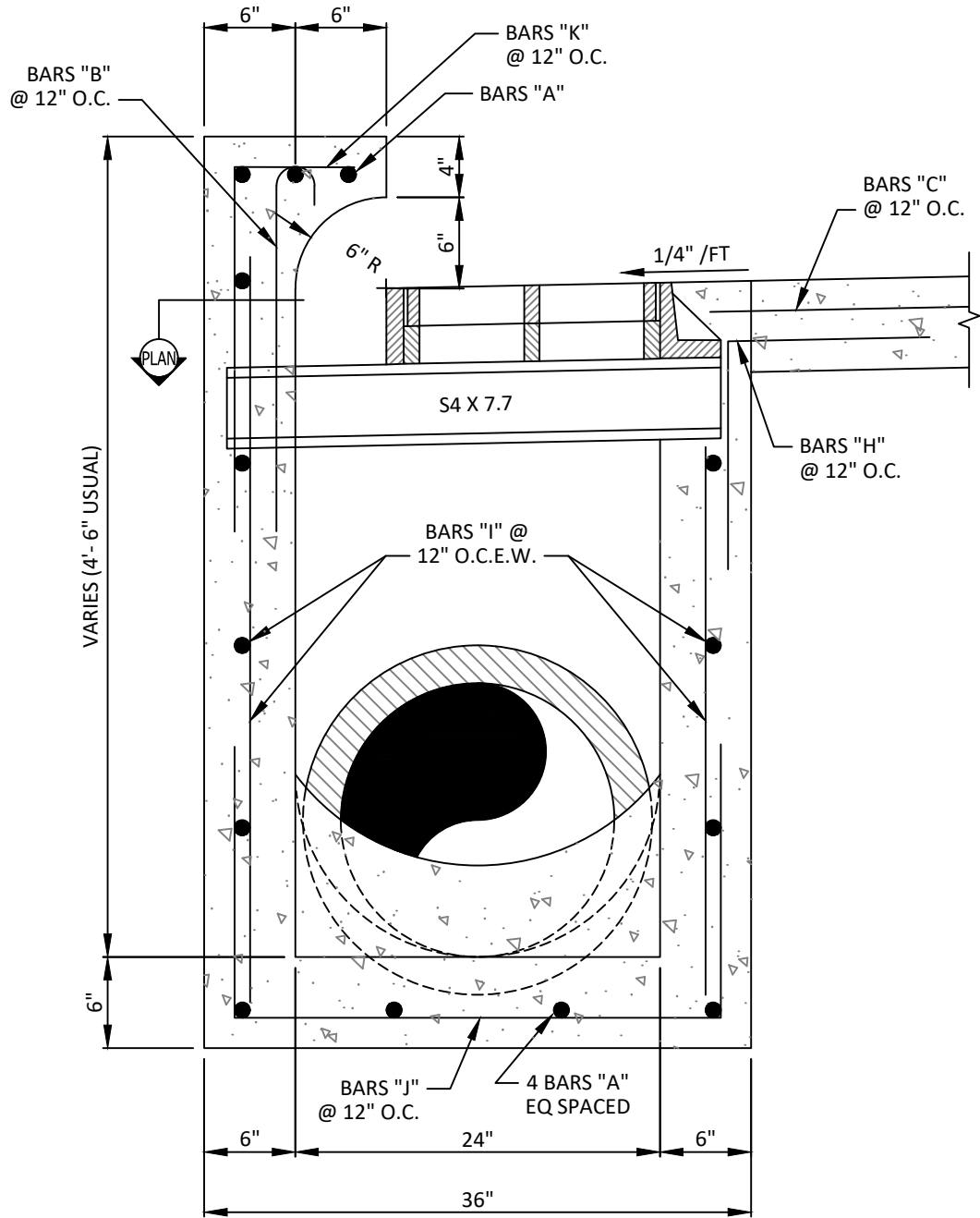
PLAN  
N.T.S.



SECTION A  
N.T.S.

NOTES:

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3. TACK WELD GRATES IN PLACE.
4. PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER OR BOTTOM.
5. ALL CAST IRON FITTINGS SHALL BE DOMESTIC.
6. ALL FASTENERS SHALL BE GALVANIZED.



**SECTION B**

N.T.S.

**NOTES:**

1. COMBINATION INLETS TO BE USED IN ALL ALLEYS WHERE INLETS ARE REQUIRED.
2. ALL LAPS AND EXTENSION OF REINFORCING BARS SHALL BE 36 BAR DIAMETERS UNLESS NOTED OTHERWISE.
3. TACK WELD GRATES IN PLACE.
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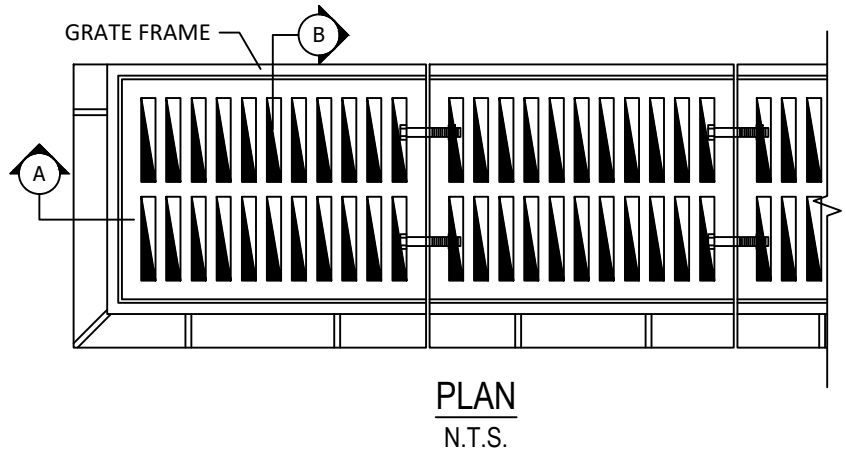
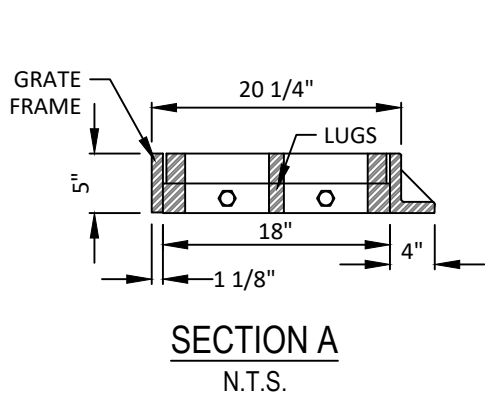
**TYPICAL SECTION "B"  
COMBINATION INLET  
TWO, THREE & FOUR GRATE  
INLETS**

STANDARD CONSTRUCTION DETAILS  
STORM DRAINAGE

DATE:  
JANUARY 2022

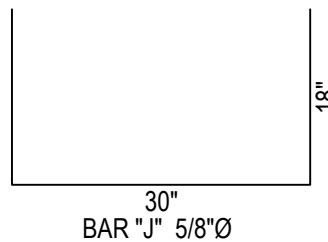
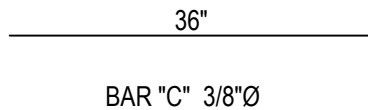
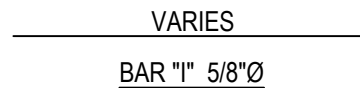
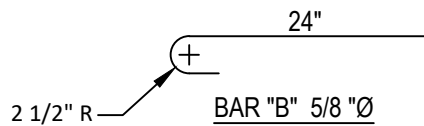
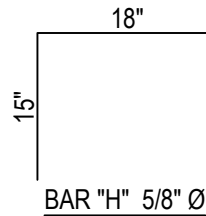
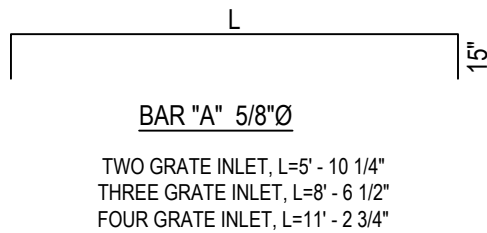
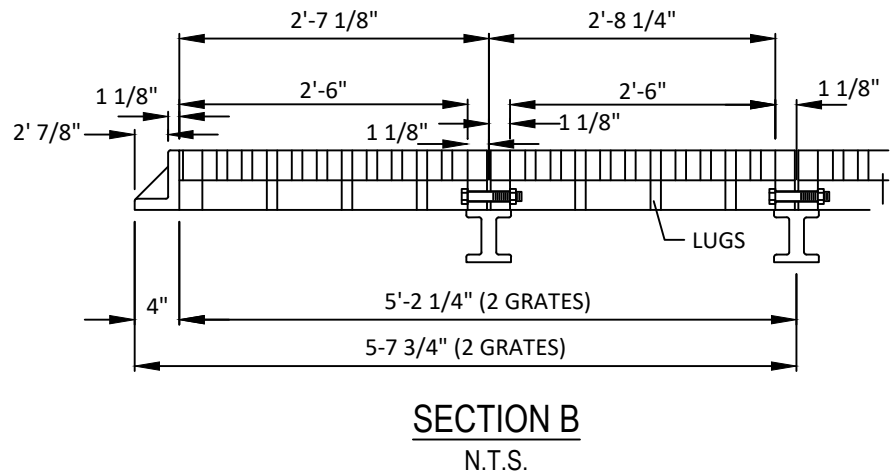
REV DATE:  
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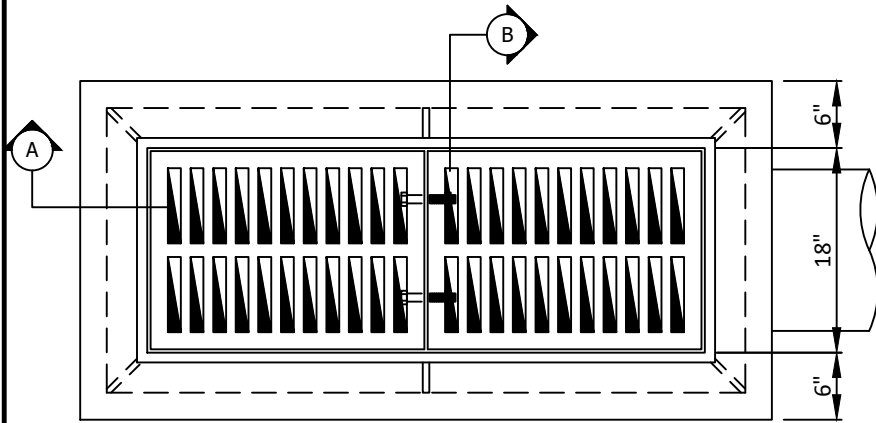
SHEET:  
SD-D27



**NOTES:**

1. ALL LAPS AND EXTENSION OF REINFORCING BARS SHALL BE 36 BAR DIAMETERS UNLESS NOTED OTHERWISE.
2. TACK WELD GRATES IN PLACE.
3. PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER OR BOTTOM.
4. GRATE AND FRAME SHALL BE PATTERN NO. 814AS MANUFACTURED BY BASS & HAYS FOUNDRY, INC. OR APPROVED EQUAL.
5. ALL CAST IRON FITTINGS SHALL BE DOMESTIC.
6. ALL FASTENERS SHALL BE GALVANIZED.

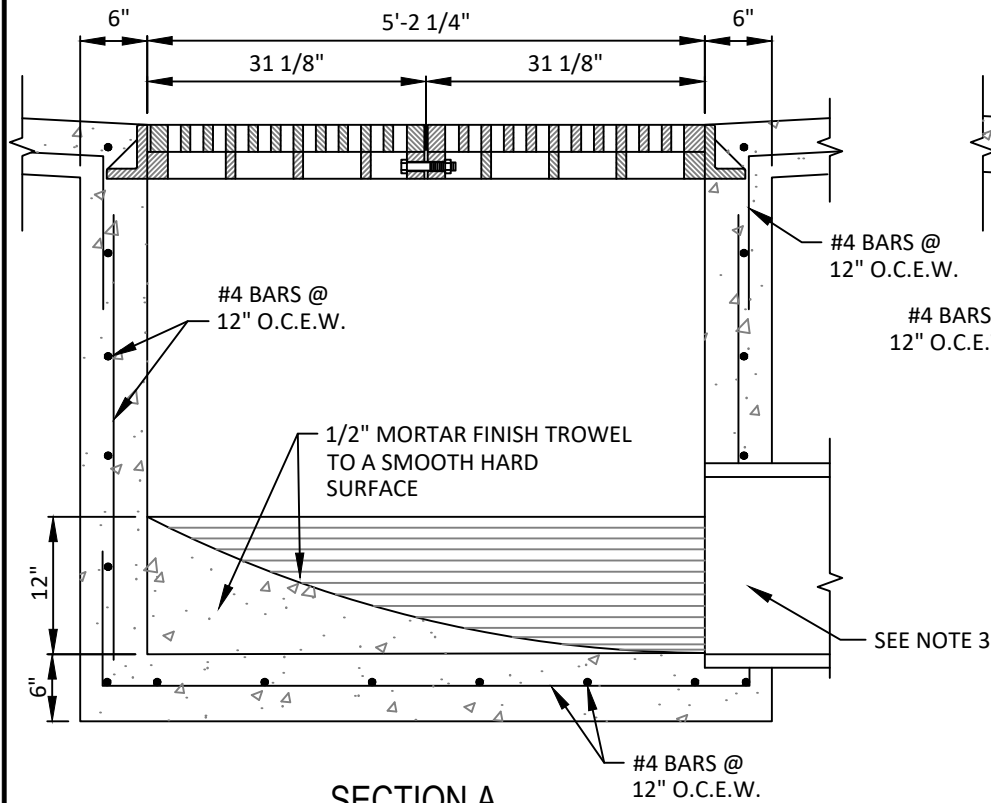




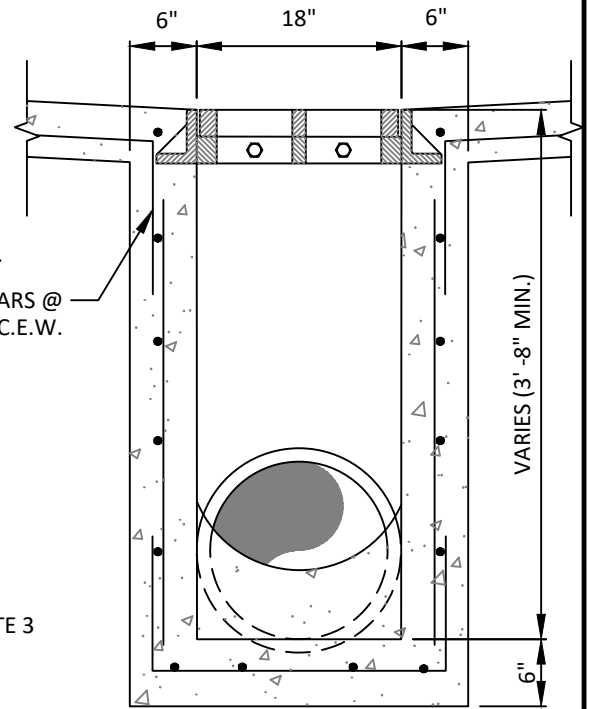
**PLAN**  
N.T.S.

**NOTES:**

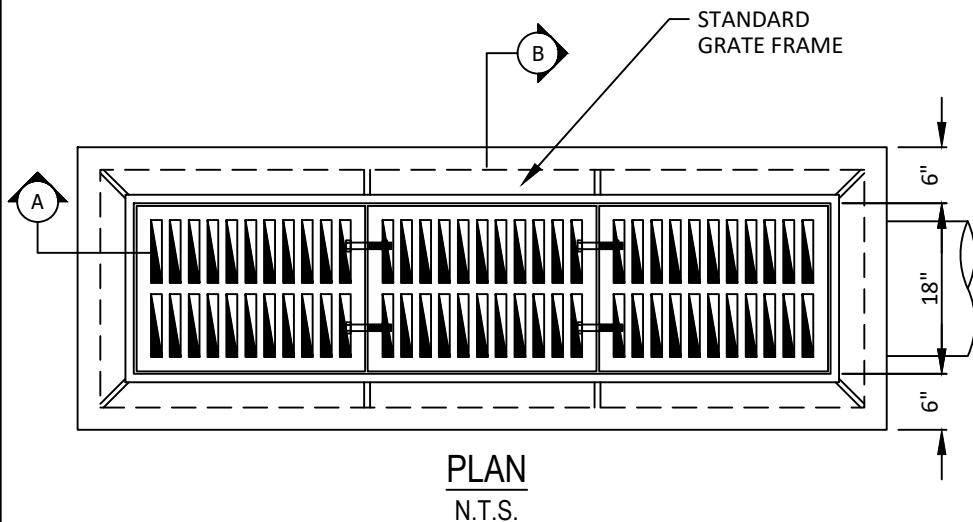
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5. ALL FASTENERS SHALL BE GALVANIZED.



**SECTION A**  
N.T.S.

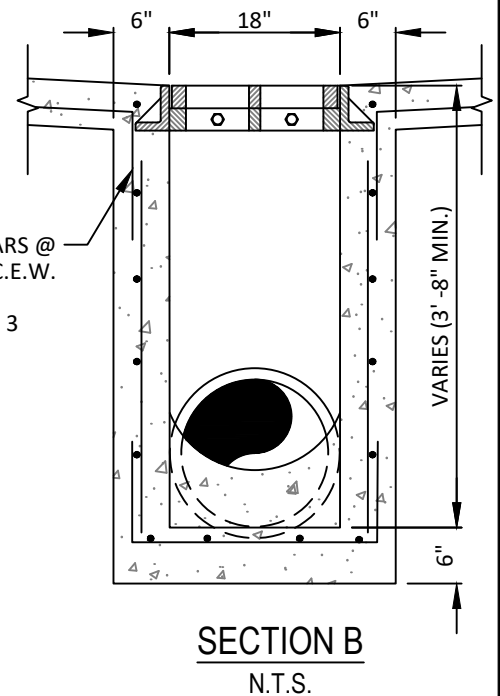
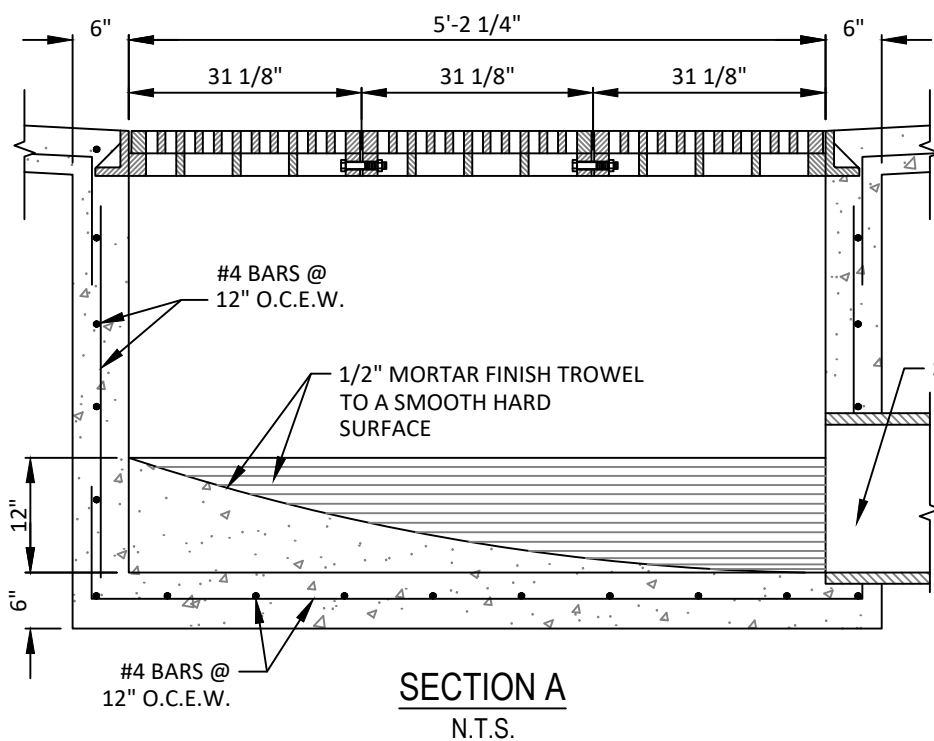


**SECTION B**  
N.T.S.

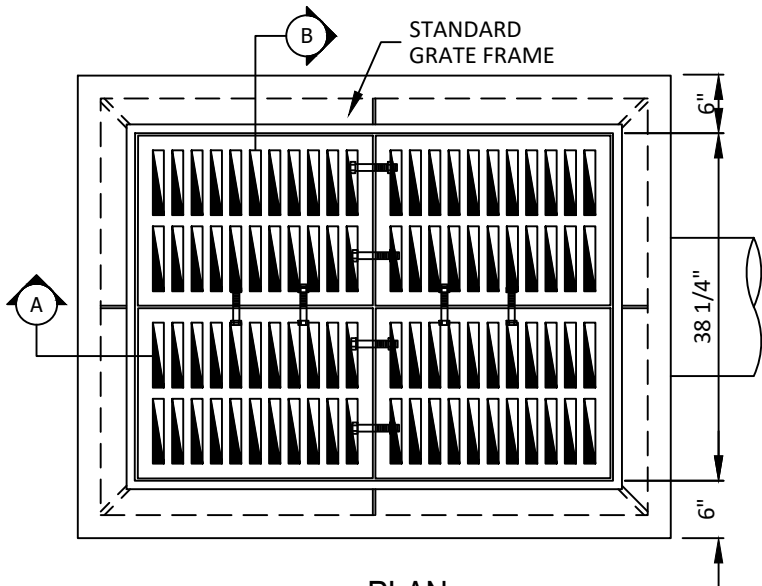


**NOTES:**

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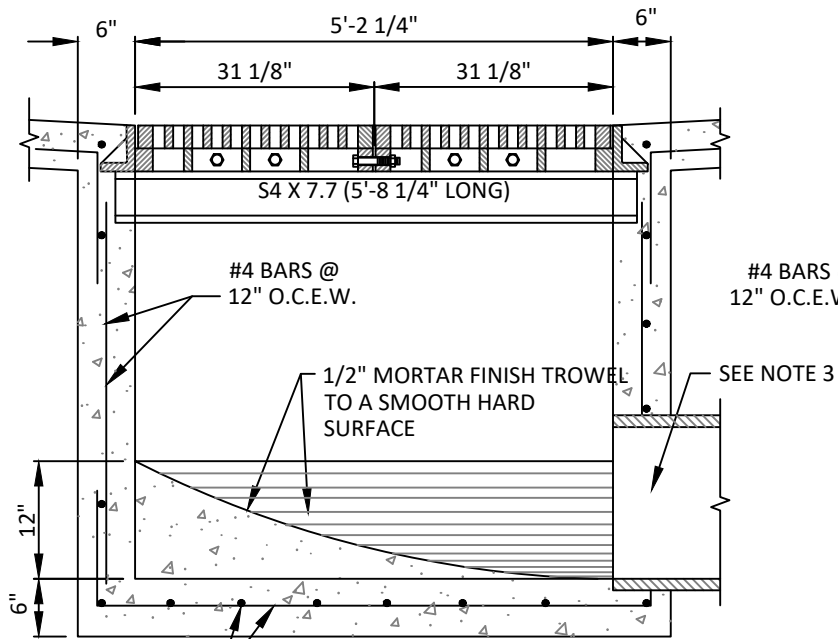




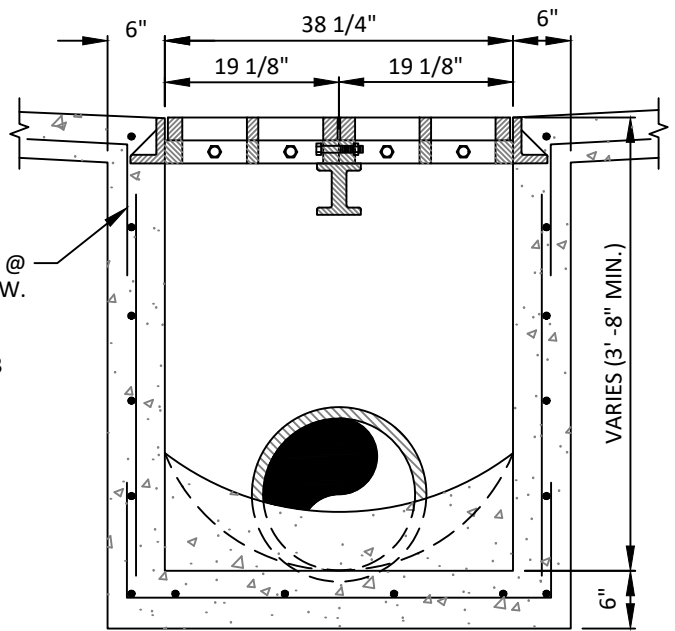
**PLAN**  
N.T.S.

**NOTES:**

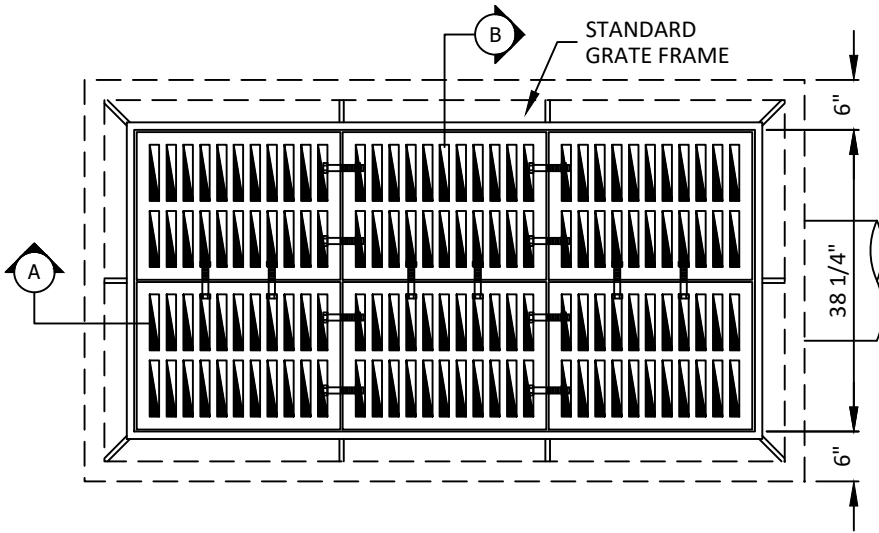
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**SECTION A**  
N.T.S.



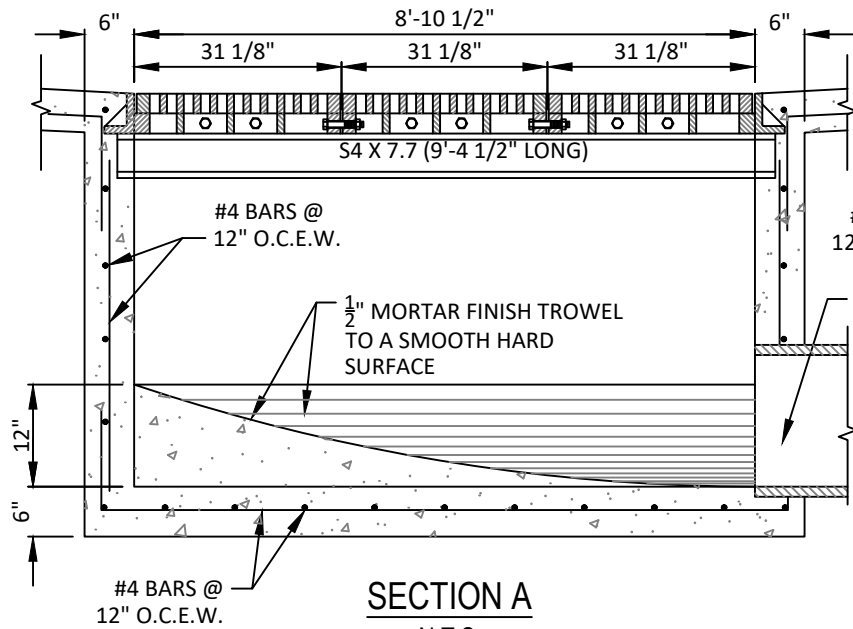
**SECTION B**  
N.T.S.



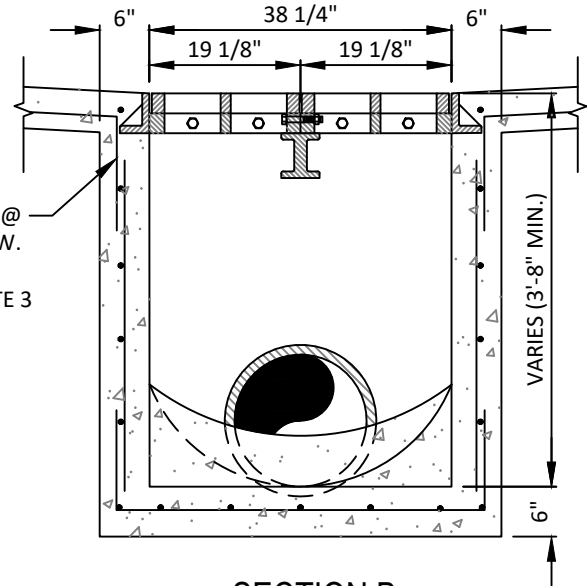
**PLAN**  
N.T.S.

**NOTES:**

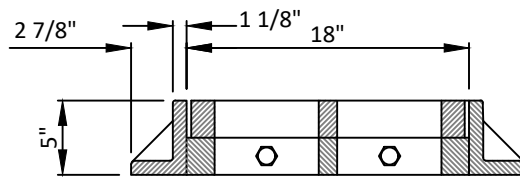
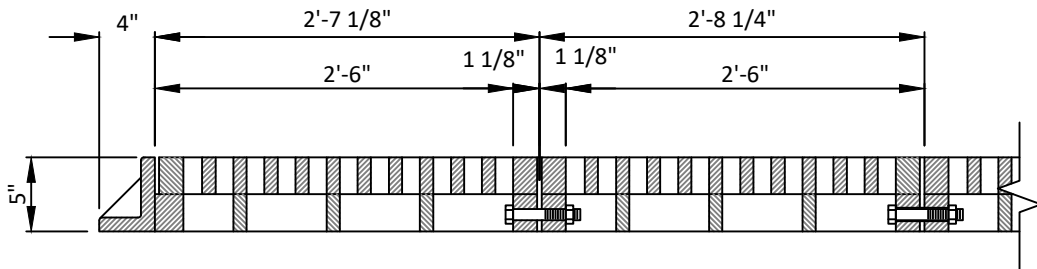
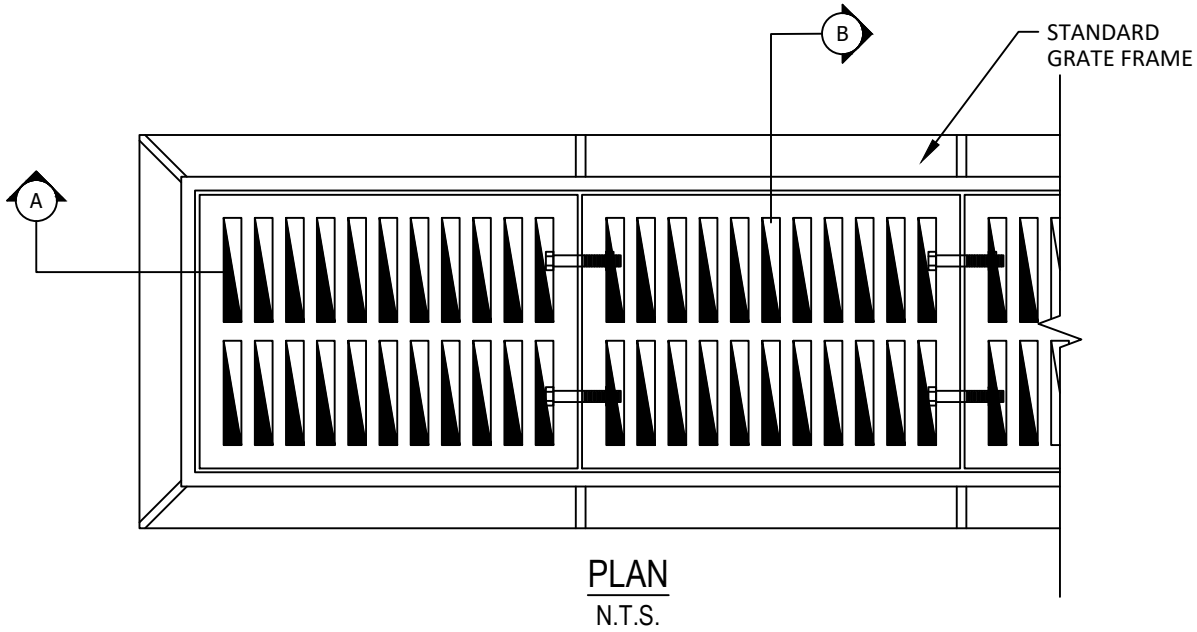
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**SECTION A**  
N.T.S.

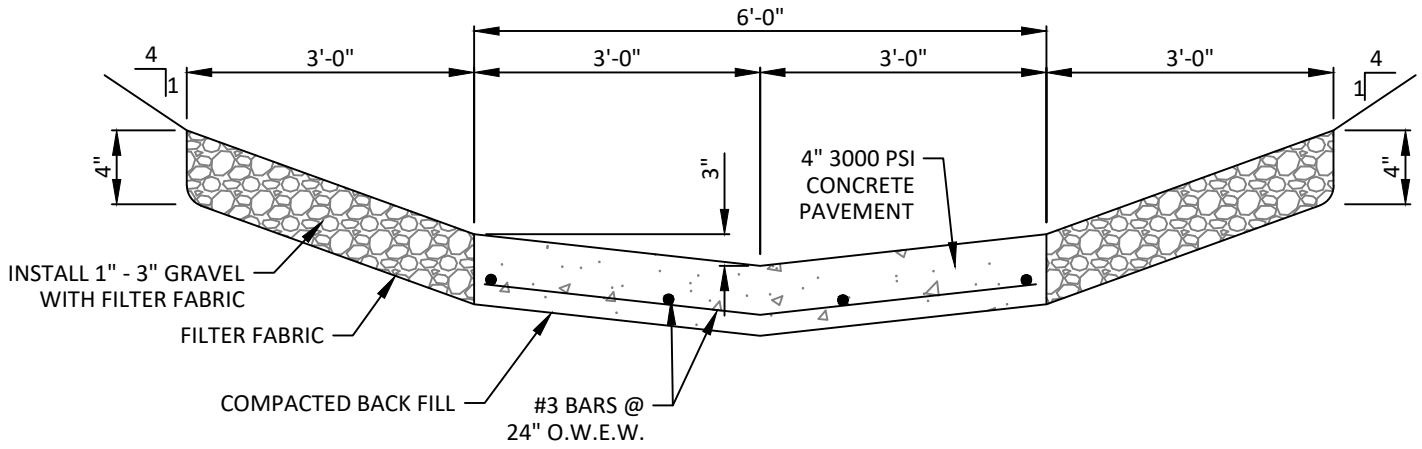


**SECTION B**  
N.T.S.

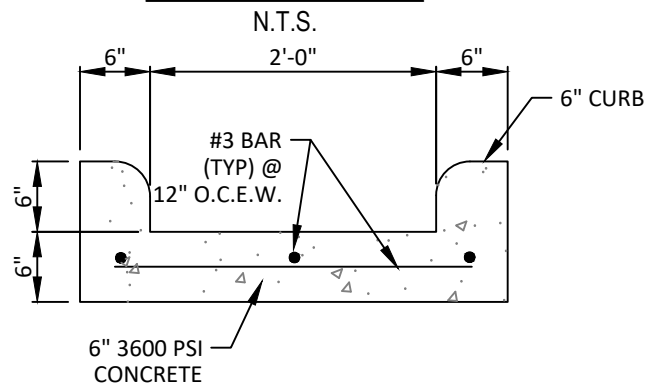


**NOTES:**

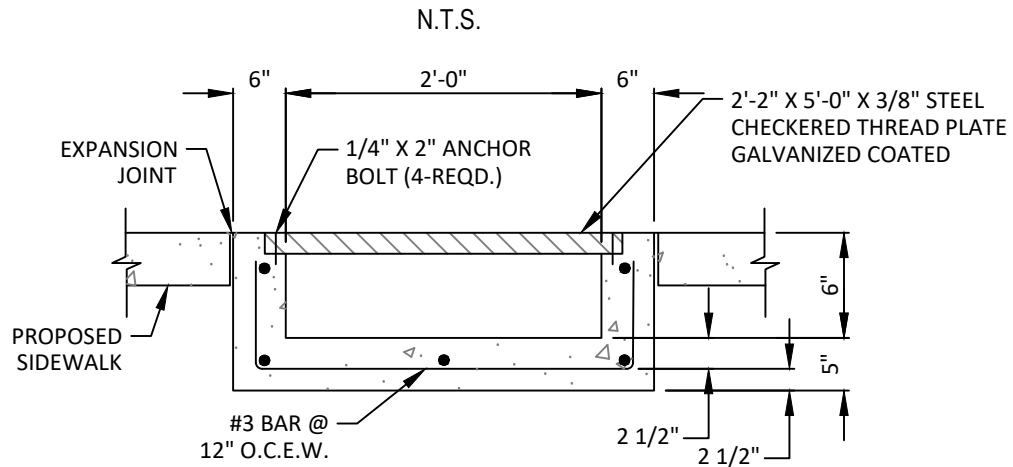
1. GRATE AND FRAME SHALL BE PATTERN NO. 814 AS MANUFACTURED BY BASS AND HAYS FOUNDRY OR APPROVED EQUAL.
2. ALL CAST IRON FITTINGS SHALL BE DOMESTIC.
3. ALL FASTENERS SHALL BE GALVANIZED.



**CONC. FLUME (CURBS REQUIRED AT CULVERT OUTFALL)\*  
DETENTION POND**



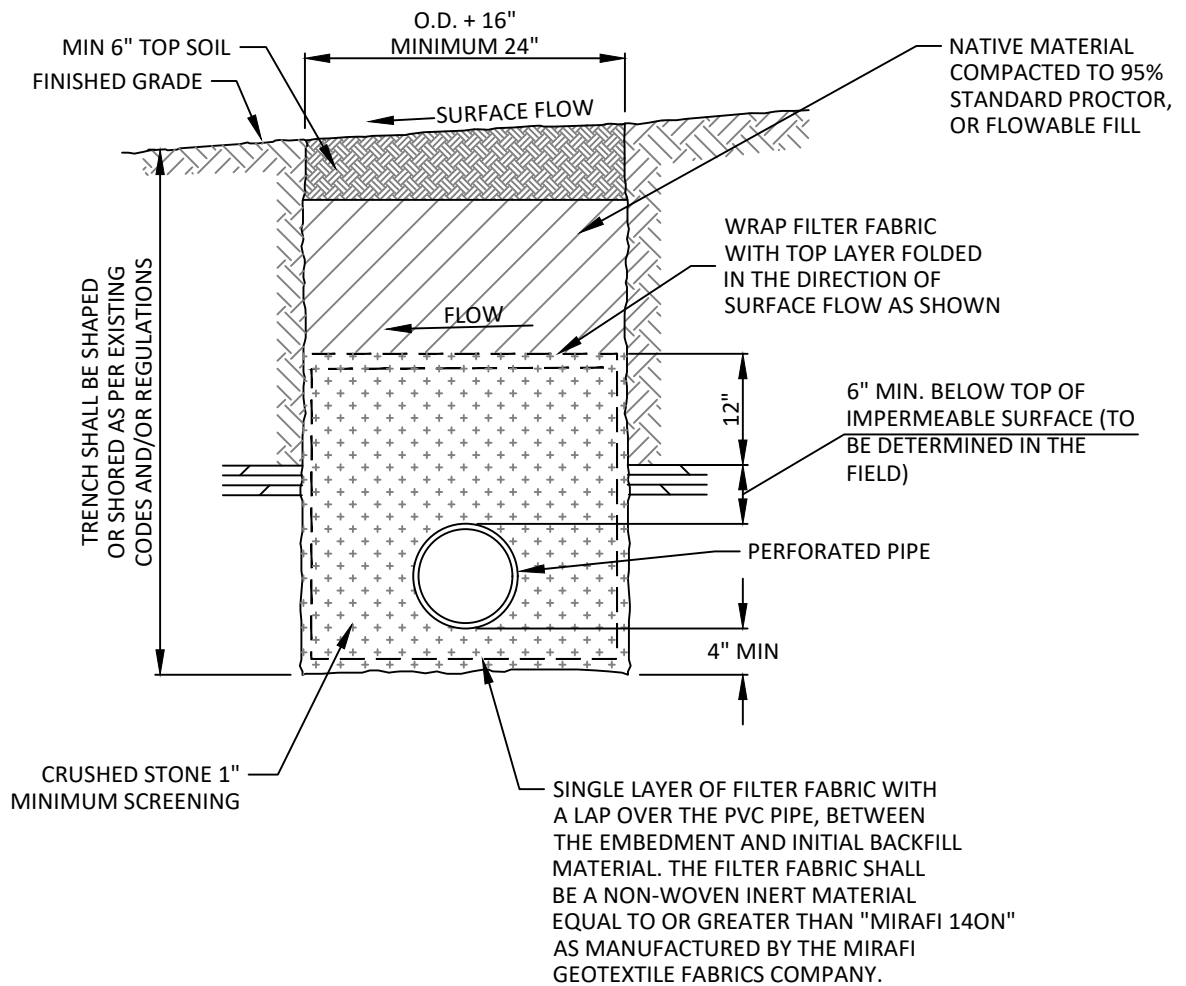
**CONC. FLUME IN THE BACK OF LOTS\***



**CONC. FLUME WITH PLATE COVER\***

N.T.S.

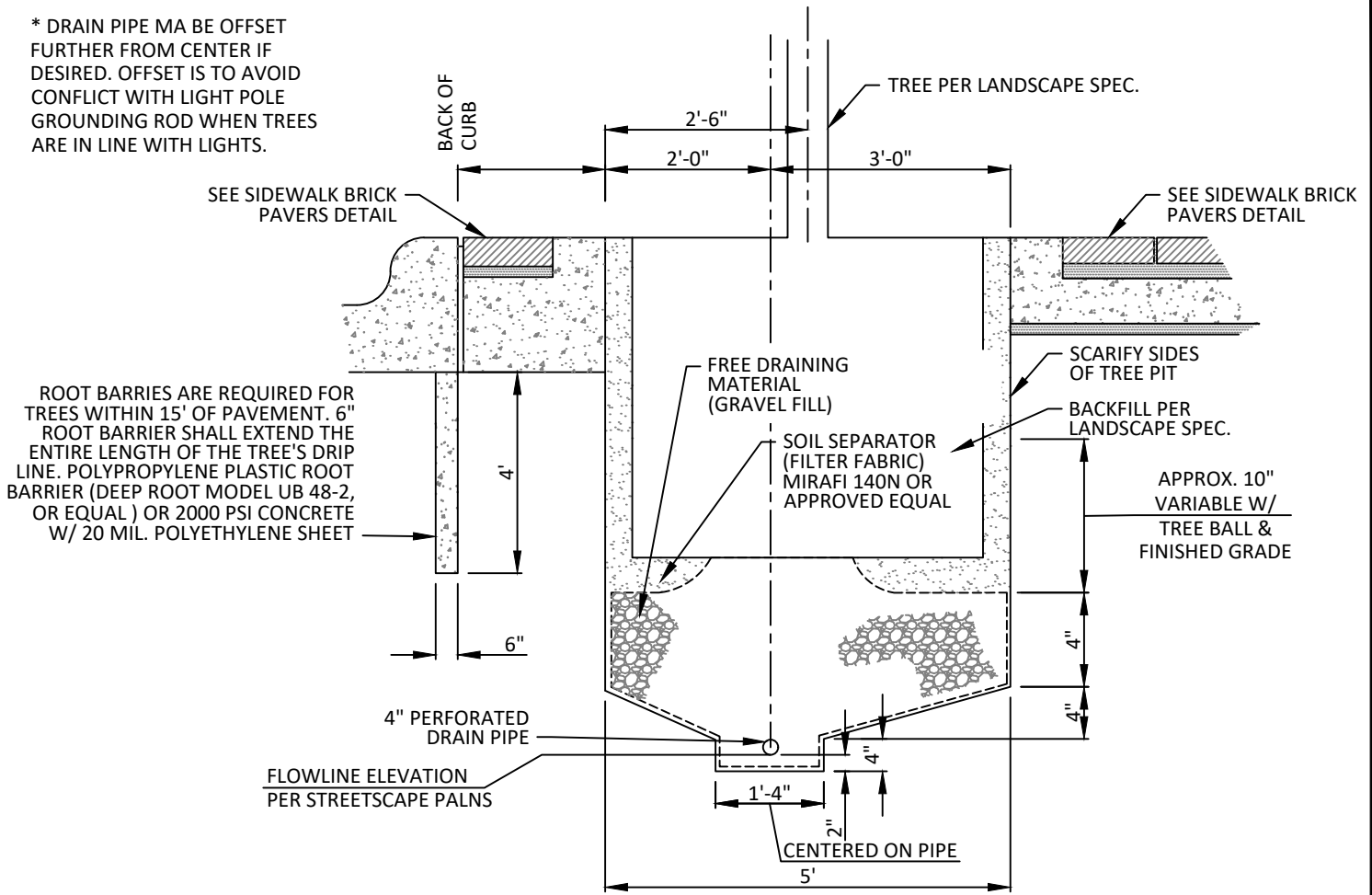
\*FOR ALL FLUMES THE MINIMUM SLOPE WILL BE 0.75%



**NOTES:**

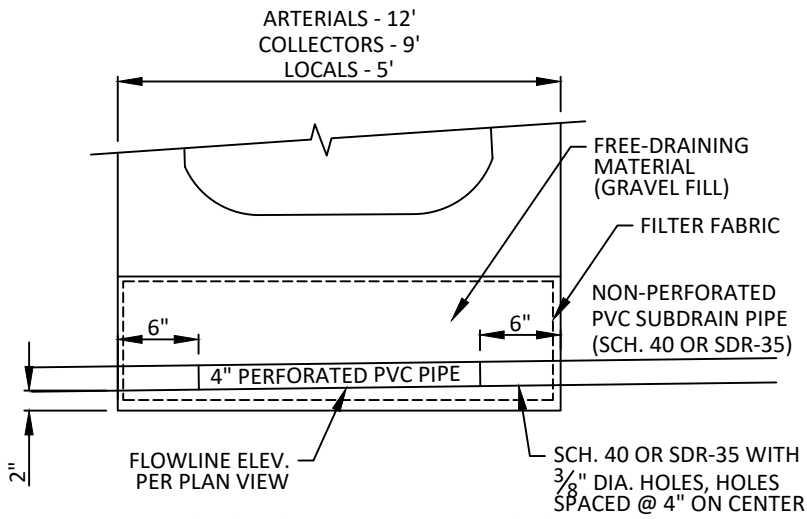
1. THE SUBSURFACE DRAINAGE SYSTEM SHALL BE CONSTRUCTED WITH A MINIMUM SIZE OF SIX (6) INCH DIAMETER TYPE PS-46 PVC PIPE OR APPROVED EQUAL. THE PIPE SHALL MEET ALL CURRENT ASTM F758 REQUIREMENTS, AND SHALL HAVE GASKET TYPE JOINTS. THE PERFORATED AND CONDUCTING PIPES SHALL BE WHITE IN COLOR.
2. THE FINAL BACKFILL SHALL CONSIST OF AND BE PLACED IN ACCORDANCE WITH THE NCTCOG SPECIFICATIONS ITEM 504.2.2.1.(a) GRADE 4.
3. CLEANOUTS SHALL BE INSTALLED EVERY 200' AND AT THE END OF EACH PIPING SYSTEM.

\* DRAIN PIPE MAY BE OFFSET FURTHER FROM CENTER IF DESIRED. OFFSET IS TO AVOID CONFLICT WITH LIGHT POLE GROUNDING ROD WHEN TREES ARE IN LINE WITH LIGHTS.



**SECTION PERPENDICULAR TO CURB**

N.T.S



**SECTION PARALLEL TO CURB**

N.T.S

ROOT BARRIERS ARE REQUIRED FOR TREES WITHIN 15' OF PAVEMENT. 6" ROOT BARRIER SHALL EXTEND THE ENTIRE LENGTH OF THE TREE'S DRIP LINE. POLYPROPYLENE PLASTIC ROOT BARRIER (DEEP ROOT MODEL UB 48-2, OR EQUAL ) OR 2000 PSI CONCRETE W/ 20 MIL. POLYETHYLENE SHEET

APPROX. 10" VARIABLE W/ TREE BALL & FINISHED GRADE