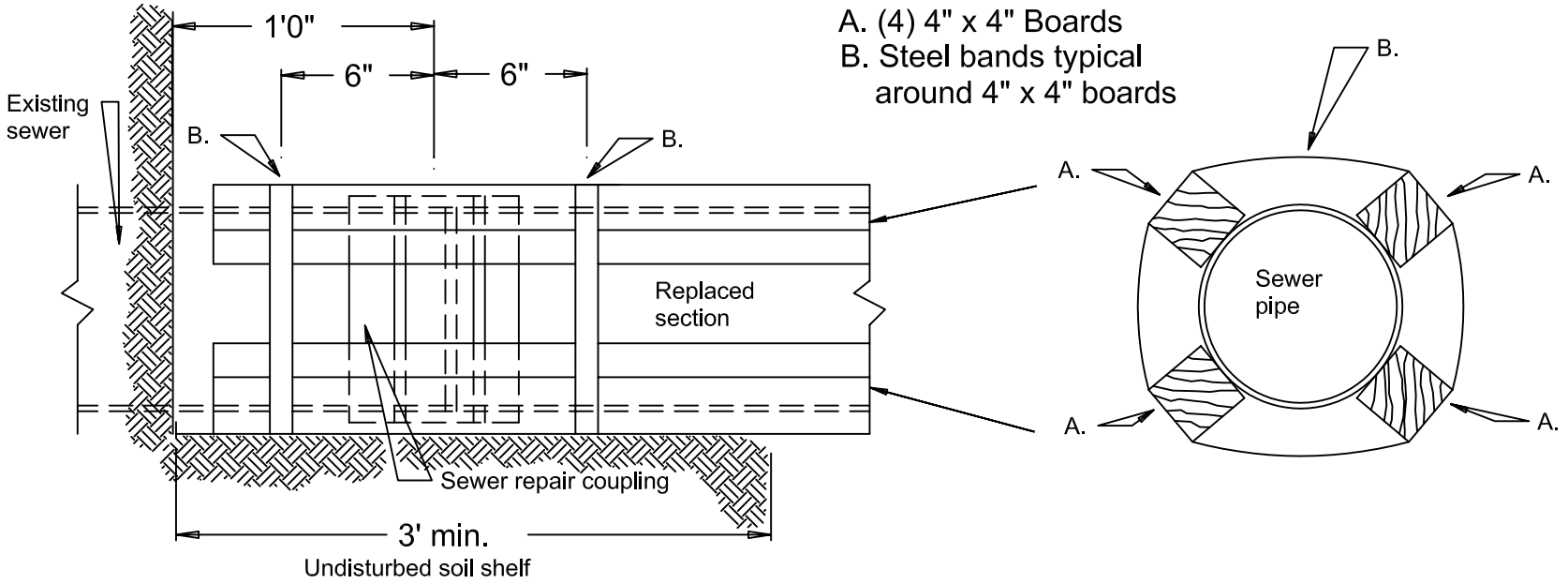
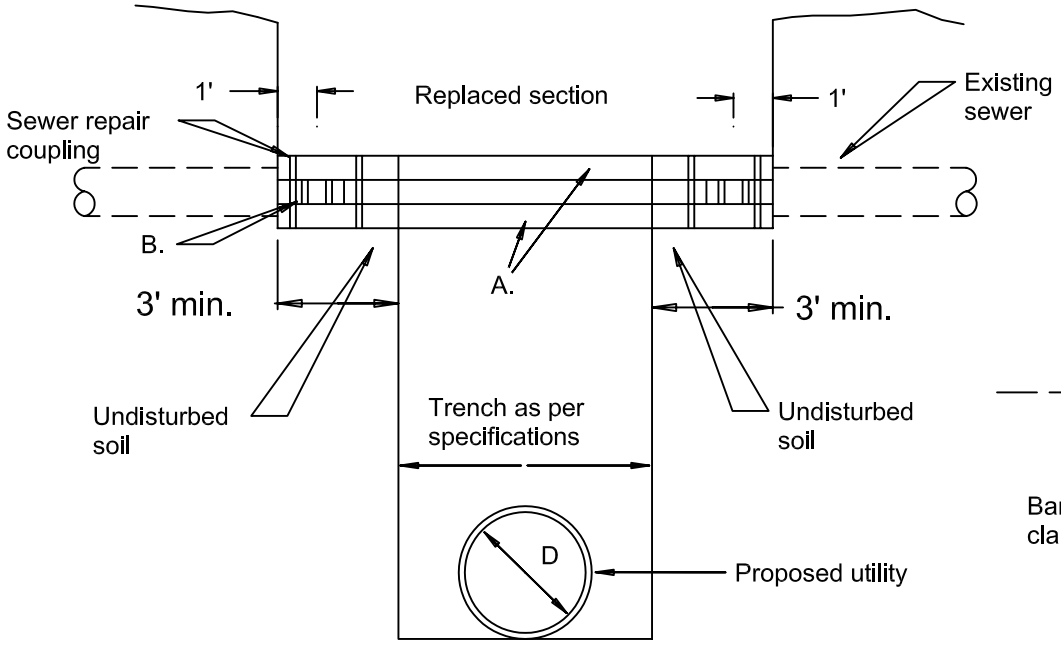
STD. 201.2

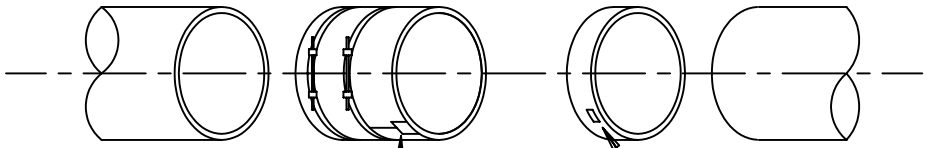
NOT TO SCALE



A. (4) 4" x 4" Boards
B. Steel bands typical around 4" x 4" boards



NOTES:
Sewer repair couplings shall include all necessary rubber adaptor rings to provide a watertight seal.



Band-seal repair coupling and two clamps (adjustable stainless steel)

Bushing adaptor (where required)

UTILITY CROSSING

REVISIONS		VILLAGE OF ADDISON
8/03		APPROVED: 2/2/94
		R. ESPEDIDO, P.E., VILLAGE ENGINEER

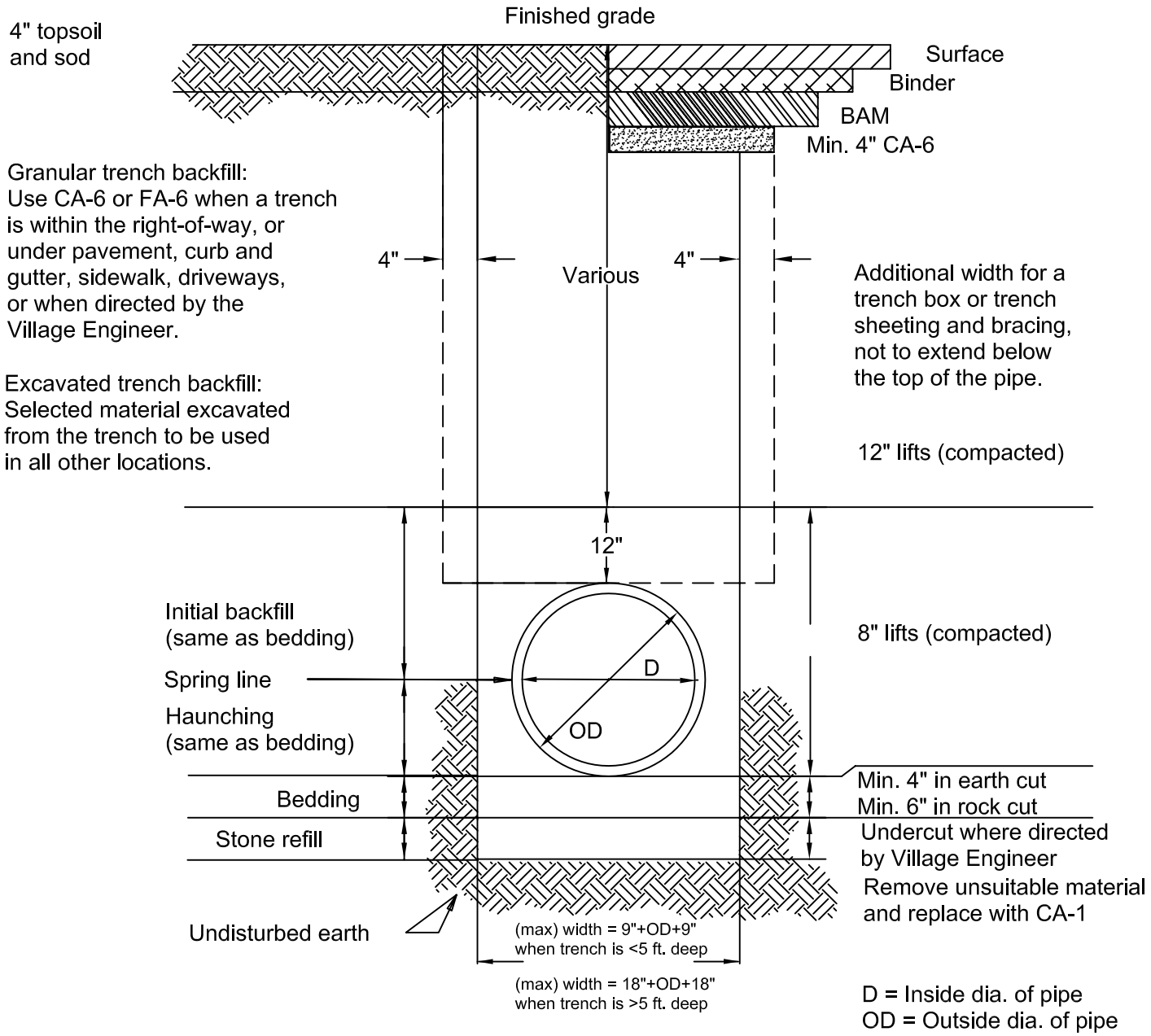
STD. 201.2

STD. 205

NOT TO SCALE

Granular pipe bedding material shall meet IDOT specifications as follows:

A. CA-11 (crushed limestone) for polyvinyl chloride pipe
B. CA-11 (crushed limestone) for vitrified clay pipe
C. CA-6 (crushed limestone) for reinforced concrete pipe
D. FA-6 (sand) for ductile iron pipe
E. FA-6 may be used in place of CA-11 or CA-6



TRENCH DETAIL

REVISIONS	
8/03	

VILLAGE OF ADDISON

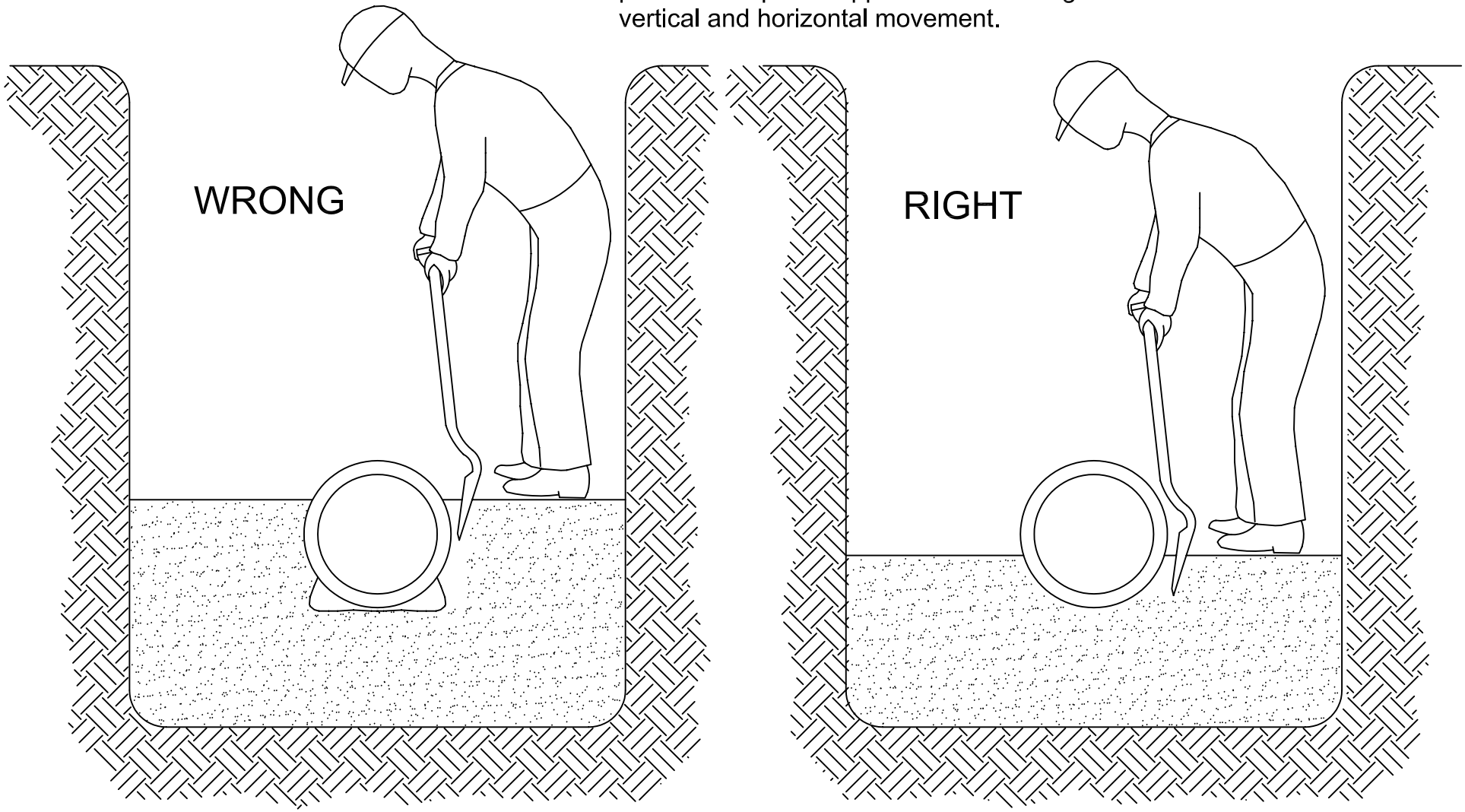
APPROVED: 2/2/94

R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 206.3

NOT TO SCALE

NOTE:
Granular material shall be placed and compacted by shovel-slicing under the pipe haunch to provide adequate support while avoiding both vertical and horizontal movement.



SHOVEL-SLICING OF HAUNCHING MATERIAL

REVISIONS	
8/03	

VILLAGE OF ADDISON

APPROVED: 2/2/94

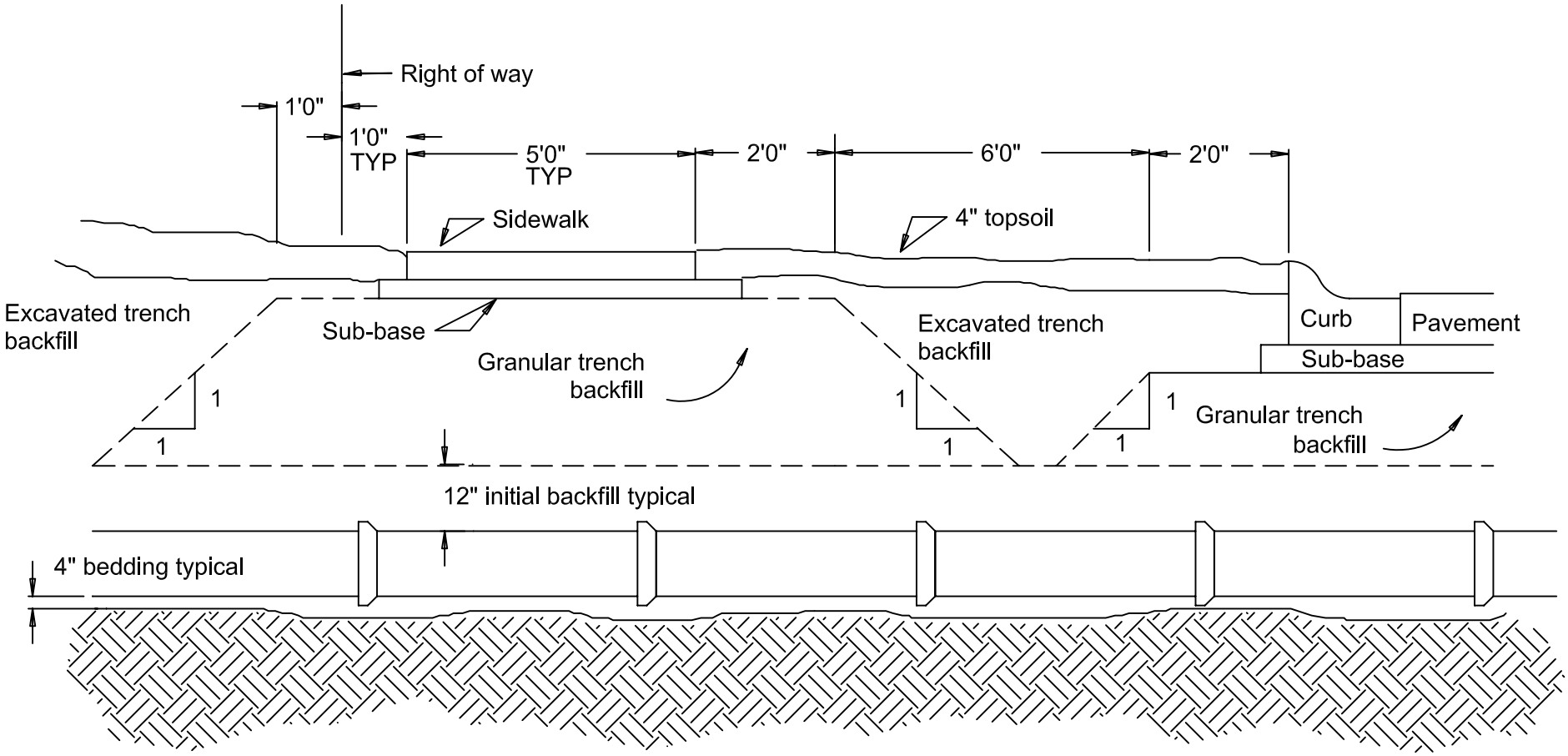
R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 206.3

STD. 207.1

NOT TO SCALE

Note:
All trenches which fall beneath or within 2' of the outer edge of existing or proposed pavement, curb and gutter, sidewalks, paved or unpaved driveways, shall be backfilled with granular trench backfill to the elevation of the finished subgrade.



GRANULAR TRENCH BACKFILL

REVISIONS	
8/03	

VILLAGE OF ADDISON

APPROVED: 2/2/94

R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 207.1

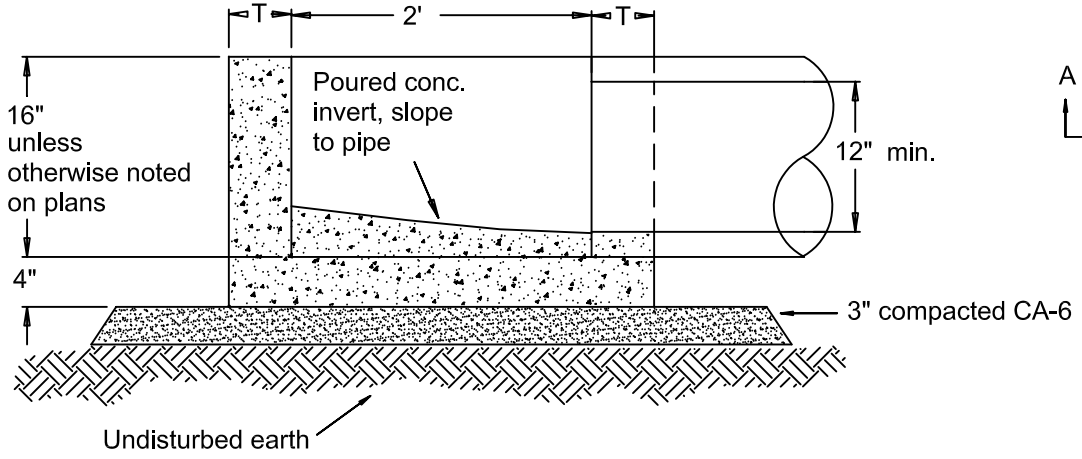
STD. 208A

NOT TO SCALE

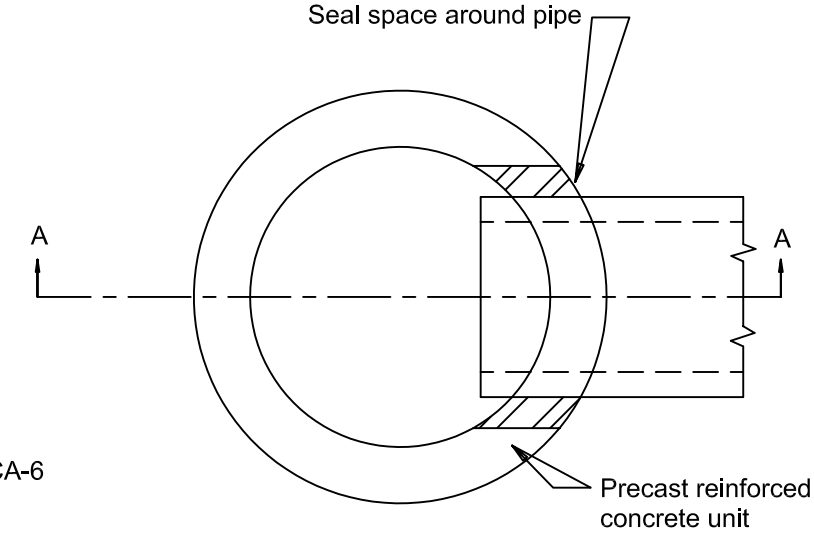
Notes:

1. Type A inlets shall be precast reinforced concrete units, conforming to ASTM C-478 unless otherwise noted.
2. Base and wall section shall be precast as a monolithic unit with Class X concrete unless approved otherwise.
3. Pour a concrete invert with Class X concrete, slope to pipe.
4. Steps are not required in a Type A inlet.
5. Seal the space around the pipe with solid concrete block and non-shrink or hydraulic grout.

ALTERNATE MATERIALS FOR WALLS	T
Precast Reinforced Concrete Sections	3"
Cast-in-Place Concrete	6"



SECTION A - A



PLAN

INLET TYPE A

REVISIONS		VILLAGE OF ADDISON
8/03		APPROVED: 2/2/94
		R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 208A

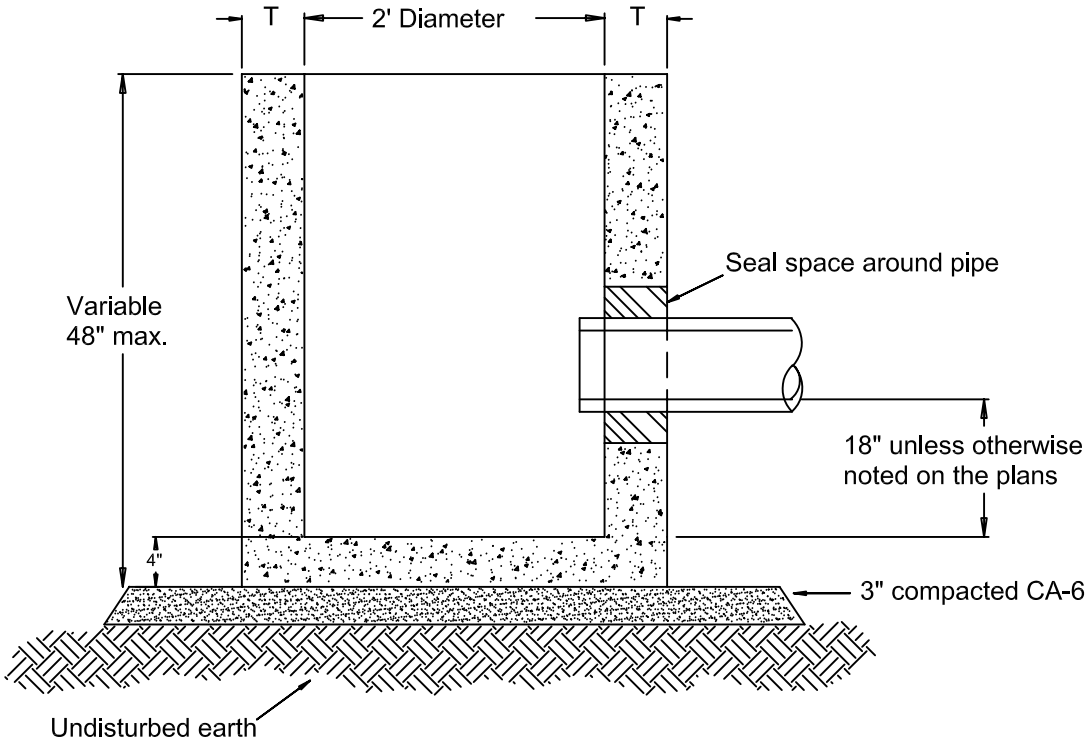
STD. 208B

NOT TO SCALE

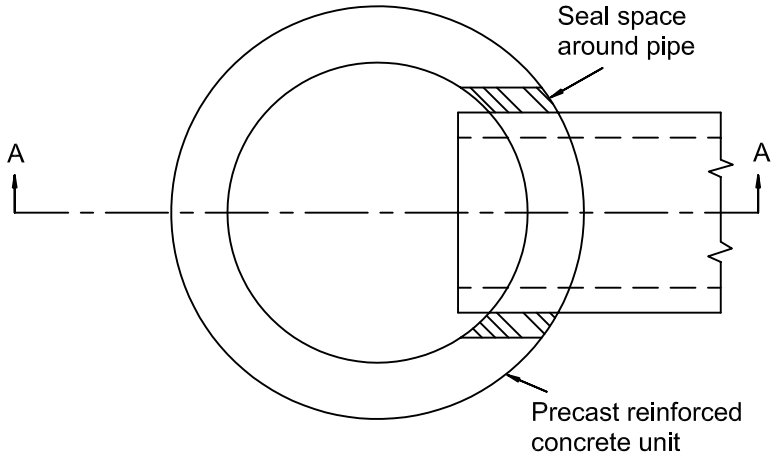
ALTERNATE MATERIALS FOR WALLS	T
Precast Reinforced Concrete Sections	3"
Cast-in-Place Concrete	6"

Notes:

1. Type C catch basins shall be precast reinforced concrete units, conforming to ASTM C-478 unless otherwise noted.
2. Base and wall section shall be precast as a monolithic unit with Class X concrete unless approved otherwise.
3. Steps are not required in a Type C catch basin.
4. Seal the space around the pipe with solid concrete block and non-shrink or hydraulic grout.



SECTION A - A



PLAN

CATCH BASIN TYPE C

REVISIONS	
8/03	

VILLAGE OF ADDISON

APPROVED: 2/2/94

R. ESPEDIDO, P.E., VILLAGE ENGINEER

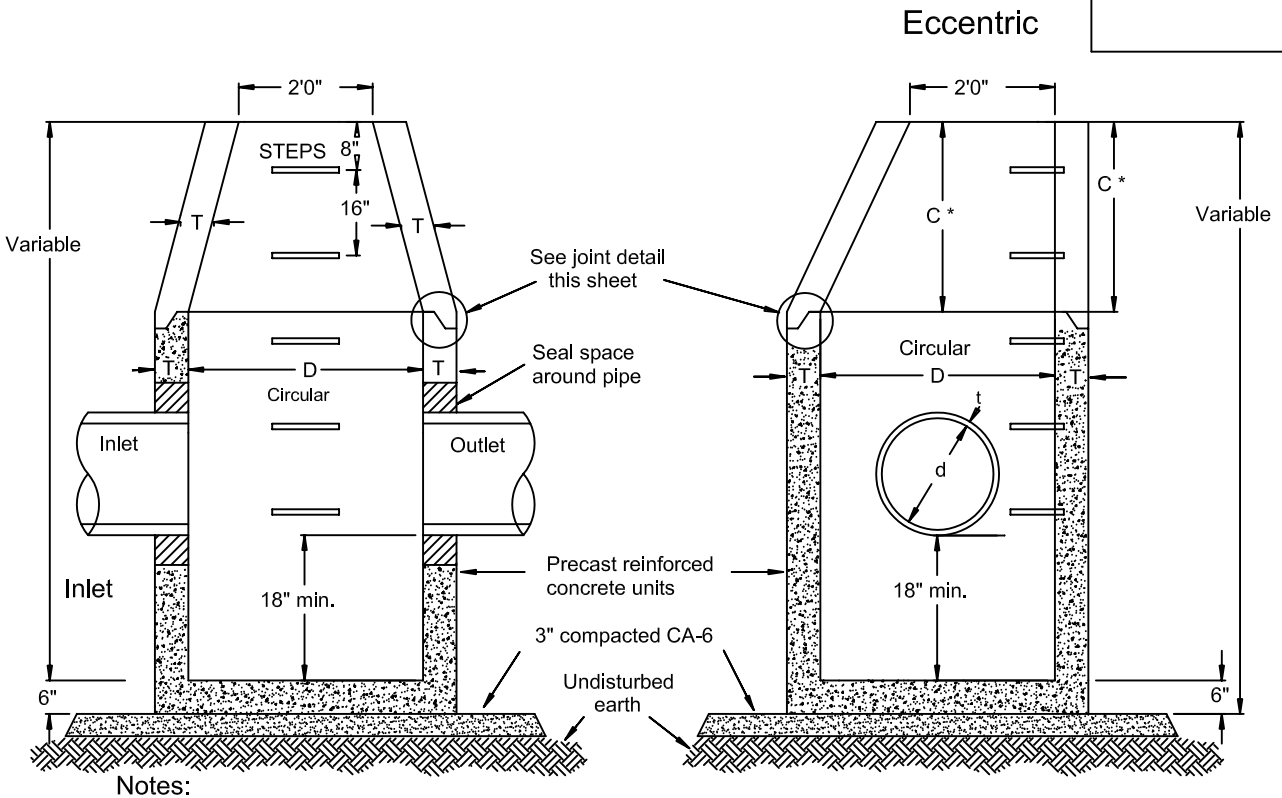
STD. 208B

STD. 208C

NOT TO SCALE

ALTERNATE MATERIALS FOR WALLS	D	C	$T_{(min)}$
Precast Reinforced Concrete Sections	4'0"	2'6"	4"
	5'0"	3'9"	5"
Cast-in-Place Concrete	4'0"	2'6"	6"
	5'0"	3'9"	6"

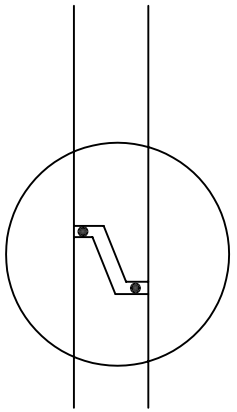
Catch basin steps:
Polypropylene coated steel reinforcing rods, with load and pull out ratings conforming to OSHA.



* Dimension "C" for Precast Reinforced Concrete Sections may vary from the dimension given to plus 6 inches.

4'0" dia. C.B. for 18" and smaller dia. pipe

5'0" dia. C.B. for 21" to 36" dia. pipe



Joint Detail

Apply a full bed of bituminous mastic or two continuous rows of pre-formed, bituminous mastic material (E-Z Stick or approved equal) to each joint to prevent inflow. Interior catch basin joints are to be "dressed up" with non-shrink or hydraulic grout.

Notes:

1. Catch basins shall be precast reinforced concrete units, conforming to ASTM C-478 unless otherwise noted.
2. Base and wall section shall be precast as a monolithic unit with Class X concrete unless approved otherwise.
3. When PVC pipe is used, a flexible water-tight rubber pipe boot, conforming to ASTM C-923, shall be precast into the catch basin. Two stainless steel bands shall secure the pipe in place.
4. When concrete pipe is used, seal the space around the pipe with solid concrete block and non-shrink or hydraulic grout.

CATCH BASIN TYPE A

REVISIONS	
5/98	
8/03	

VILLAGE OF ADDISON

APPROVED: 2/2/94

R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 208C

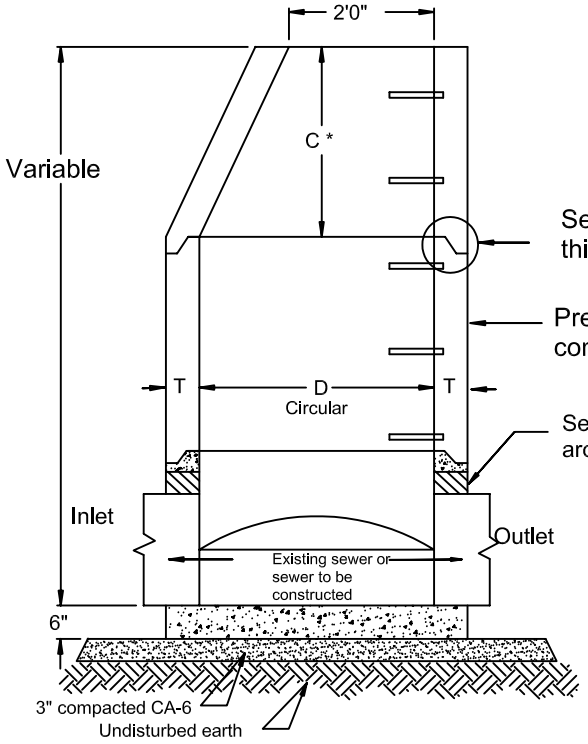
STD. 208D

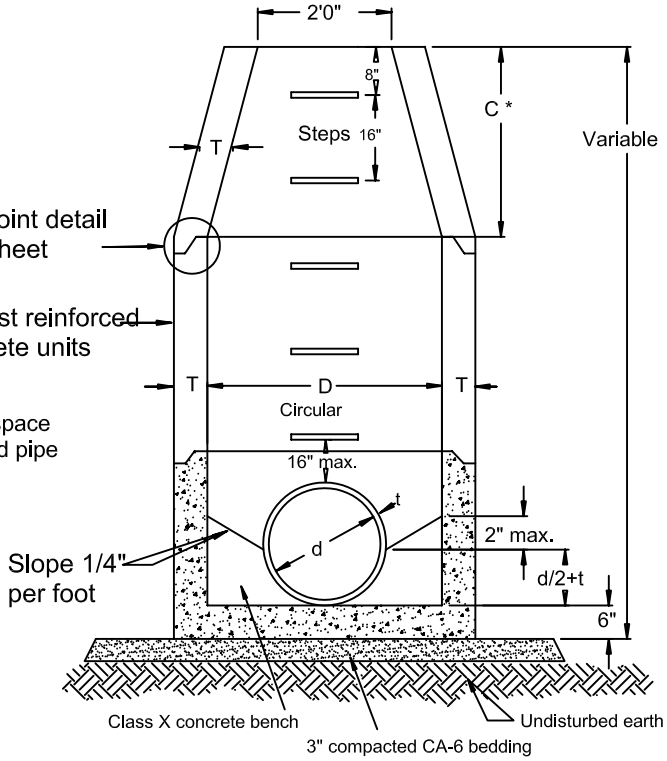
NOT TO SCALE

Manhole Steps:
Polypropylene coated steel reinforcing rods, with load and pull out ratings conforming to OSHA.

ALTERNATE MATERIALS FOR WALLS	D	C	$T_{(min)}$
Precast Reinforced Concrete Sections	4'0"	2'6"	4"
	5'0"	3'9"	5"
Cast-in-Place Concrete	4'0"	2'6"	6"
	5'0"	3'9"	6"

Eccentric

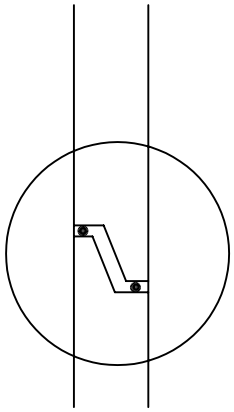




* Dimension "C" for Precast Reinforced Concrete Sections may vary from the dimension given to plus 6 inches.

4'0" dia. M.H. for 18" and smaller dia. pipe

5'0" dia. M.H. for 21" to 36" dia. pipe



Joint Detail

Apply a full bed of bituminous mastic or two continuous rows of pre-formed, bituminous mastic material (E-Z Stick or approved equal) to each joint to prevent inflow. Interior manhole joints are to be "dressed up" with non-shrink or hydraulic grout.

Notes:

1. Manholes shall be precast reinforced concrete units, conforming to ASTM C-478 unless otherwise noted.
2. Base and wall section shall be precast as a monolithic unit with Class X concrete unless approved otherwise.
3. When PVC pipe is used, a flexible water-tight rubber pipe boot, conforming to ASTM C-923, shall be precast into the manhole. Two stainless steel bands shall secure the pipe in place.
4. Pour class X concrete bench, sloping a 1/4" per foot to the pipe, 2" rise maximum.
5. When concrete pipe is used, seal the space around the pipe with solid concrete block and non-shrink or hydraulic grout.

MANHOLE TYPE A

REVISIONS	
5/98	
8/03	

VILLAGE OF ADDISON

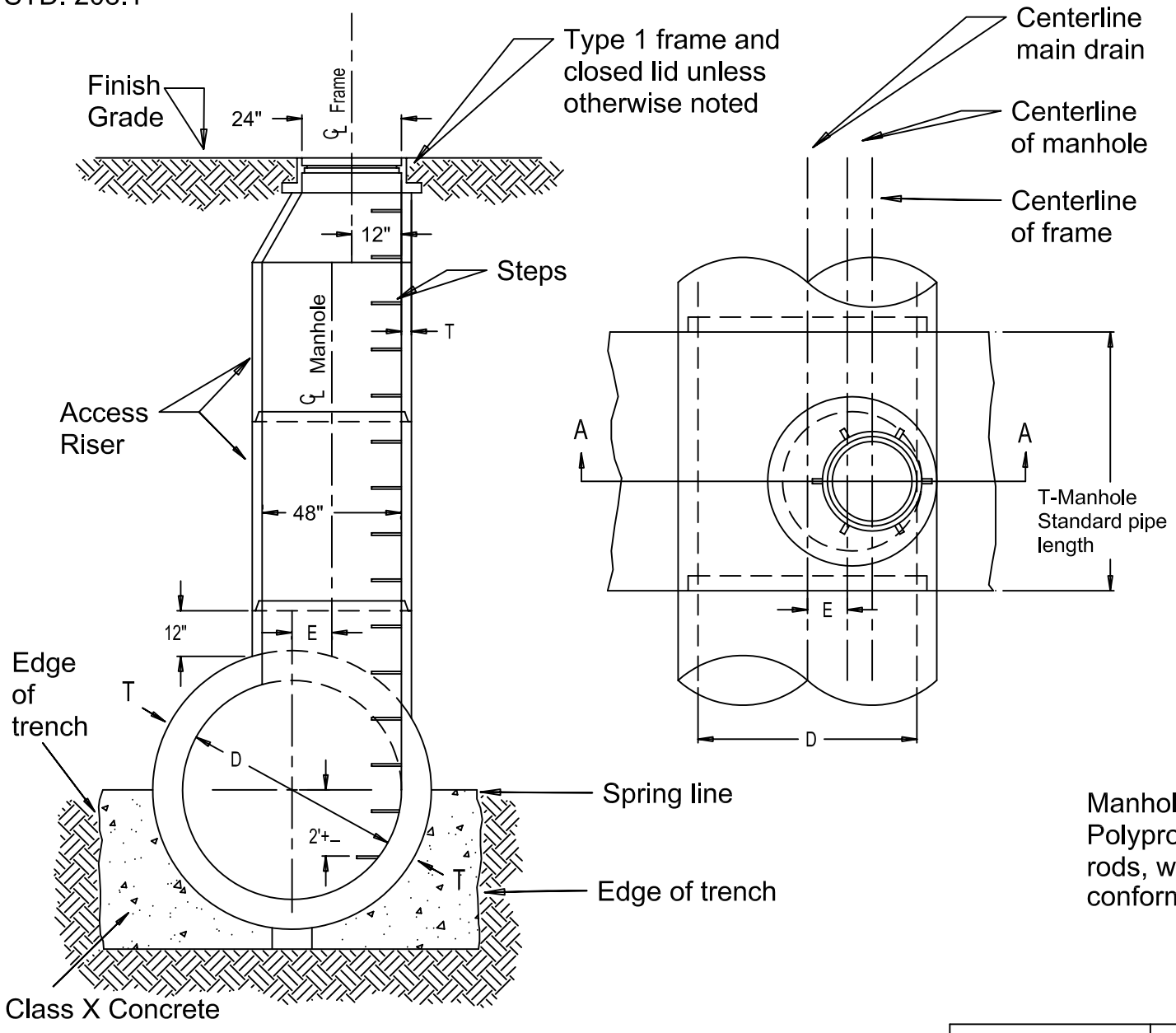
APPROVED: 2/2/94

R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 208D

STD. 208.1

NOT TO SCALE



DIAM.D	MIN.T	E
48"	5'	0"
54"	5.5"	3"
60"	6"	6"
66"	6.5"	9"
72"	7"	12"
76"	7.5"	15"
84"	8"	18"
90"	8.5"	21"
96"	9"	24"
108"	10"	30"

Manhole Steps:
Polypropylene coated steel reinforcing rods, with load and pull out ratings conforming to OSHA.

Section A-A

PRECAST T-MANHOLE

REVISIONS	
5/98	
8/03	

VILLAGE OF ADDISON

APPROVED: 2/2/94

R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 208.1

STD. 208.7A

SANITARY

Paved areas Neenah R-17.3

Non-paved areas Neenah R-1700-A

WATER

Paved areas Neenah R-1713

Non-paved areas Neenah R-1700-A

Sanitary and water lids shall be self-sealing with concealed pick holes.

For sanitary and water structures subject to prolonged standing water, use the following frames:

Water-tight: Neenah R-1755-B
Water-tight: Neenah R-1916-E

All lids shall have the appropriate designation of water, storm, or sanitary cast into the lid. Closed lids shall have a Type "B" lid design.

A Neenah R-4340-B frame shall not be used on any restricted depth structure without the use of an adjusting ring, 4" minimum in size.

STORM

CURB AND GUTTER

M-3.12	Neenah R-3501-E2
M-6.12	Neenah R-3503-B
M-6.18	Neenah R-3525-L
B-6.12	Neenah R-3281-A or AL
B-6.18	Neenah R-3278-A
B-6.18	Neenah R-3525-L
B-6.18*	Neenah R-3278-AL

PAVED AREAS

Closed lid	Neenah R-1713
Open grate	Neenah R-2504

NON-PAVED AREAS

Closed lid	Neenah R-1700-A
Open grate	Neenah R-1700-A

* Recommended for new construction

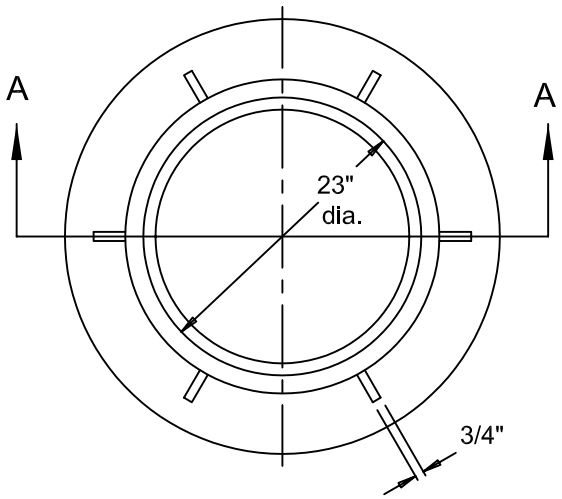
Open grates shall be furnished with a Type "R-2015" grate, with the words "Dump No Waste, Drains to Waterways" imprinted on the grate. Curb and gutter frames and grates shall be of heavy duty construction, and supplied with curb boxes imprinted with the "Fish" logo and the words "Dump No Waste, Drains To River". All frames shall be furnished with bicycle safe grates. Provide "Vane" type grates for all structures located in the curb where the gradient exceeds 2.0%.

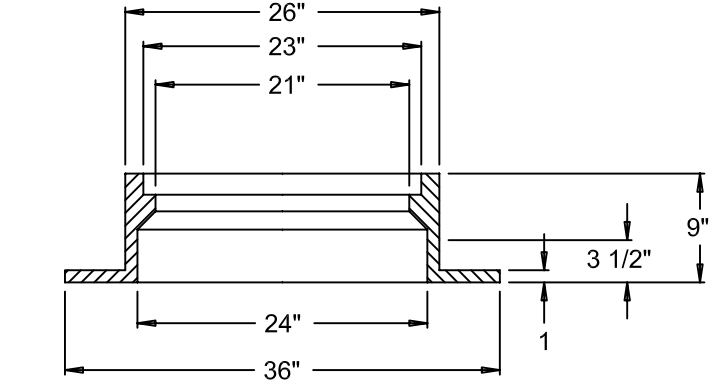
FRAME, LID, AND GRATE SCHEDULE

REVISIONS		VILLAGE OF ADDISON
5/98		APPROVED: 2/2/94
9/05		
		R. ESPEDIDO, P.E., VILLAGE ENGINEER

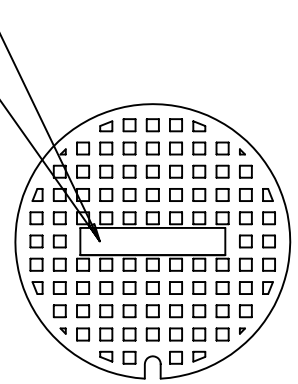
STD. 208.7B

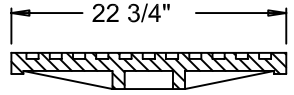
NOT TO SCALE





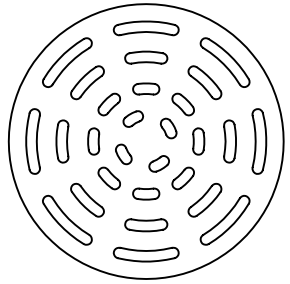
SECTION A-A

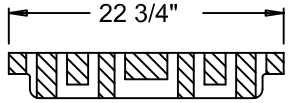




Type B Lid
Indented Top Design

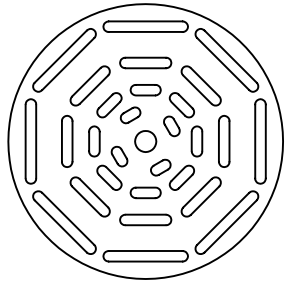
CLOSED LID

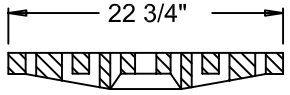




Type A Grate
Standard Flat

OPEN LID





Type D Grate
Standard Flat

OPEN LID

Sanitary and Water lids shall be self-sealing with concealed pick holes.

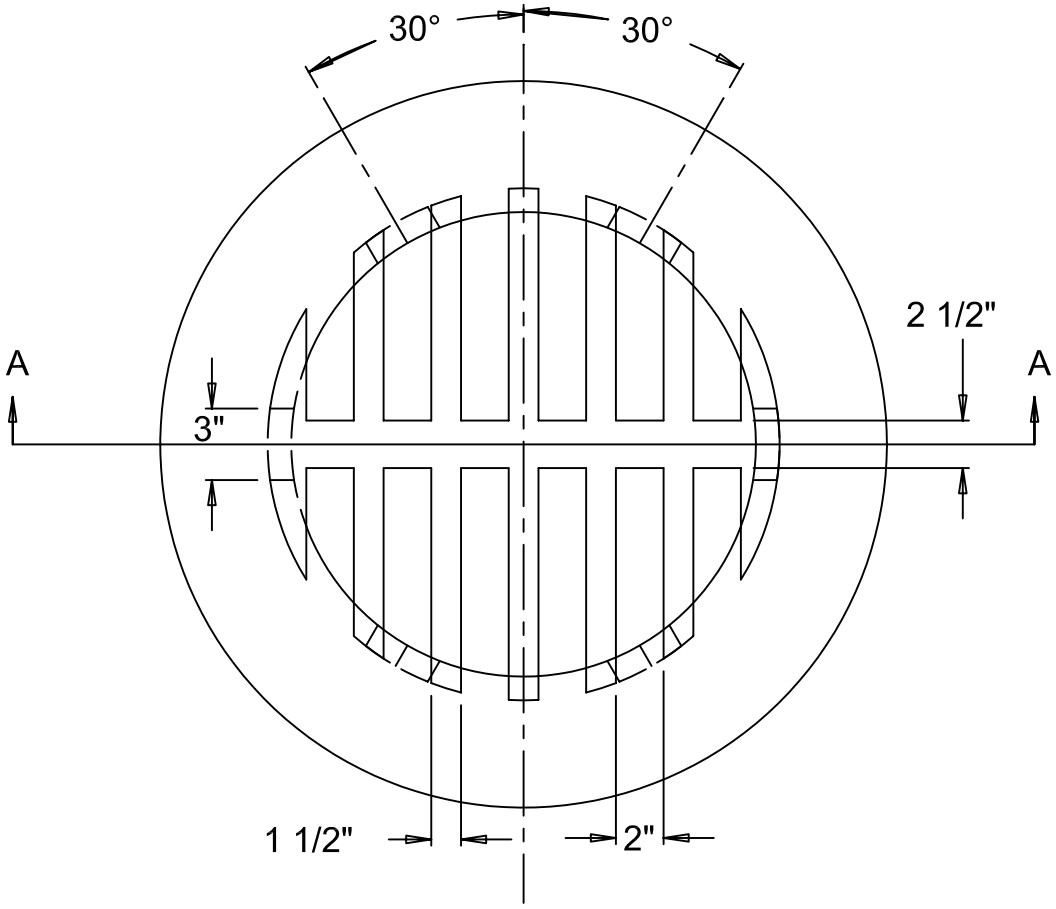
TYPE 1 FRAME

REVISIONS		VILLAGE OF ADDISON
		APPROVED: 2/2/94
		R. ESPEDIDO, P.E., VILLAGE ENGINEER

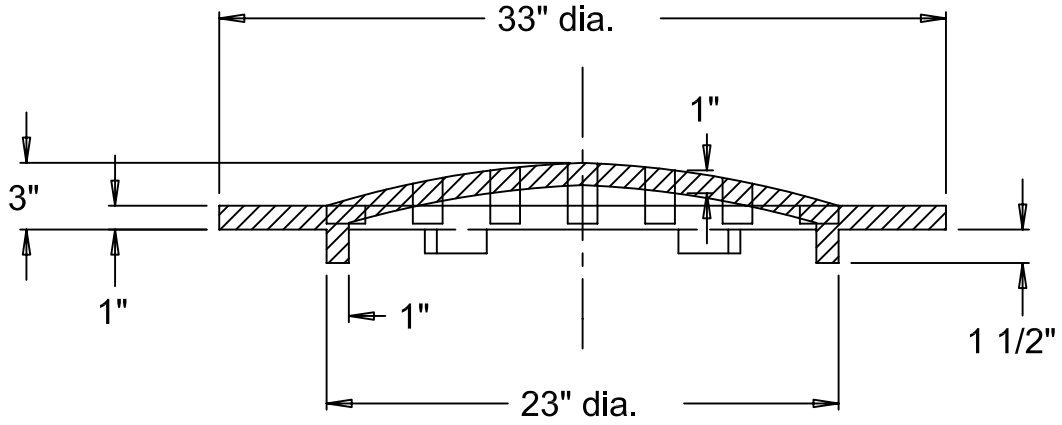
STD. 208.7B

STD. 208.7C

NOT TO SCALE



PLAN



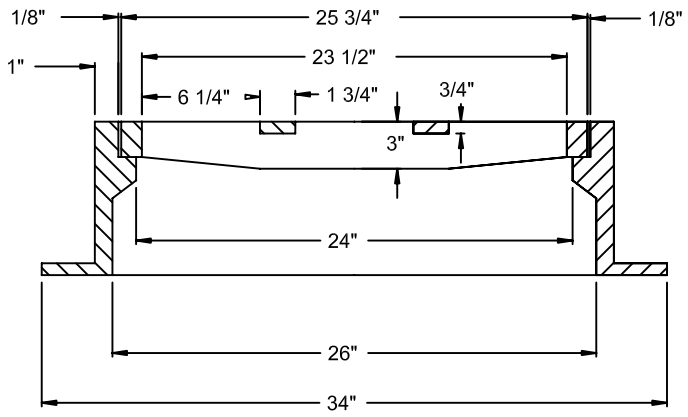
SECTION A-A

TYPE 8 GRATE
NEENAH R-4340-B

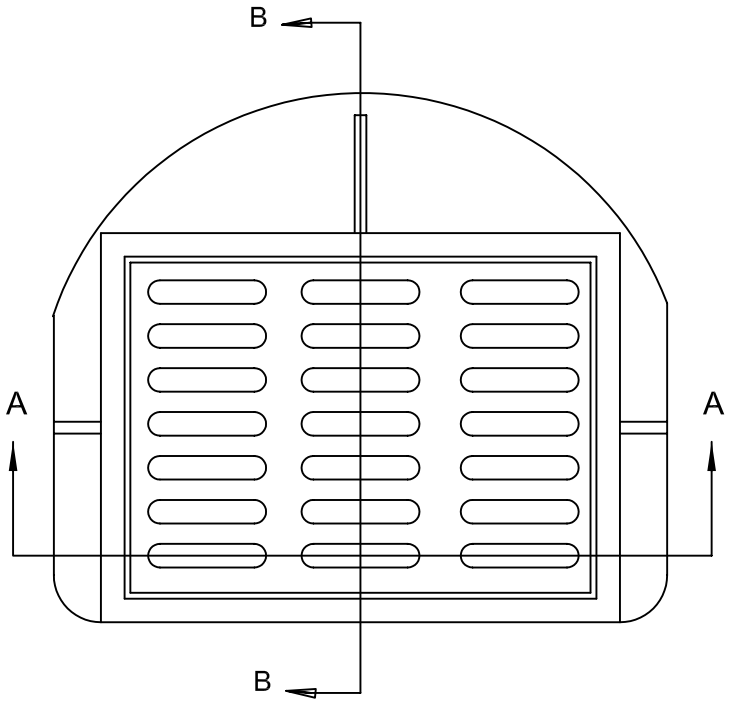
REVISIONS		VILLAGE OF ADDISON
		APPROVED: 2/2/94
		R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 208.7D

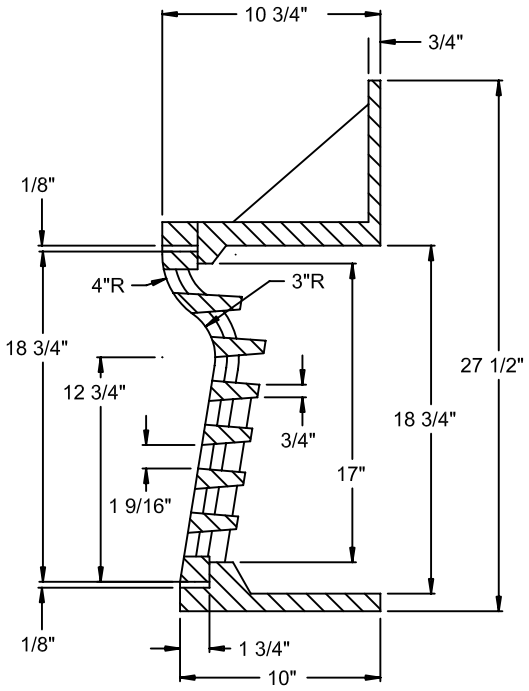
NOT TO SCALE



SECTION A - A



PLAN



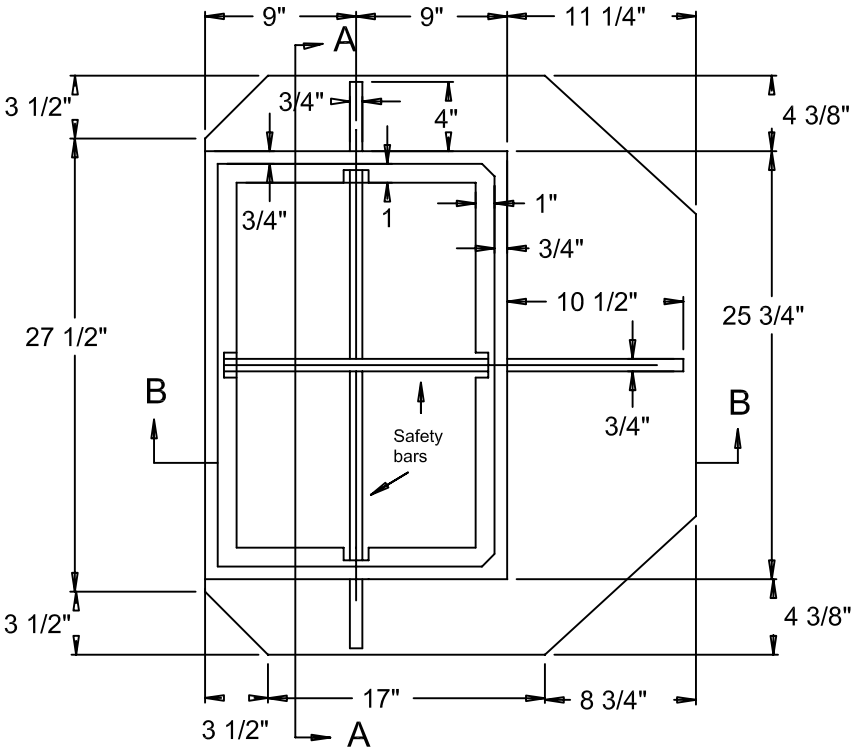
SECTION B - B

FRAME AND GRATE
TYPE M-3.12
CURB AND GUTTER
NEENAH R-3501-E2

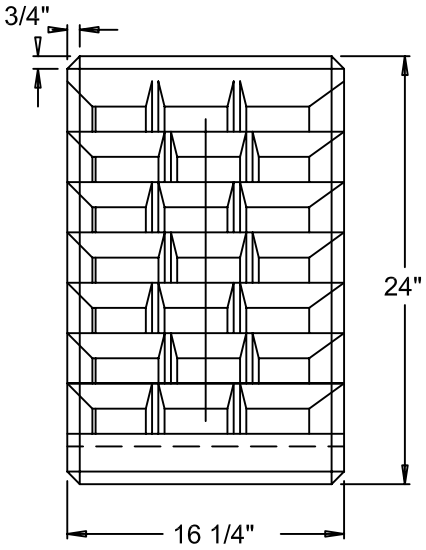
REVISIONS		VILLAGE OF ADDISON
		APPROVED: 2/2/94
		R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 208.7E

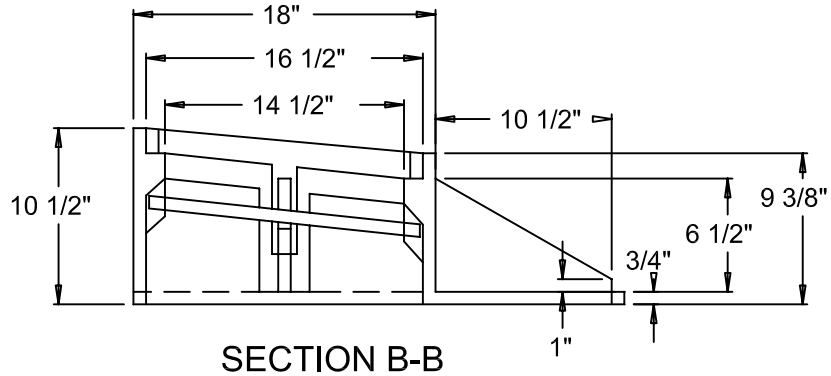
NOT TO SCALE



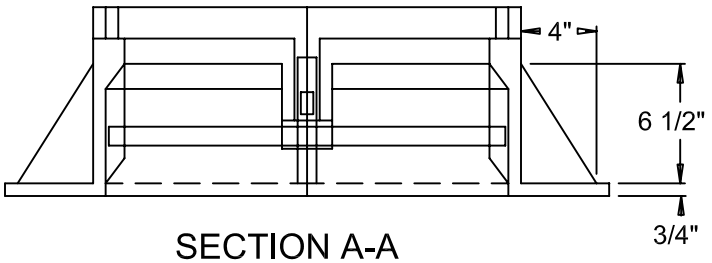
GRATE



NEENAH R-3525-L



SECTION B-B



SECTION A-A

TYPE 23 FRAME AND GRATE

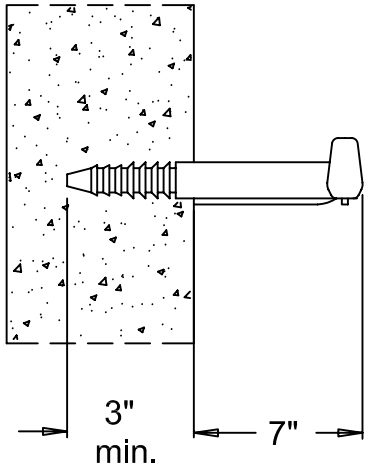
M-6.18 OR B-6.18
CURB AND GUTTER

REVISIONS		VILLAGE OF ADDISON
		APPROVED: 2/2/94
		R. ESPEDIDO, P.E., VILLAGE ENGINEER

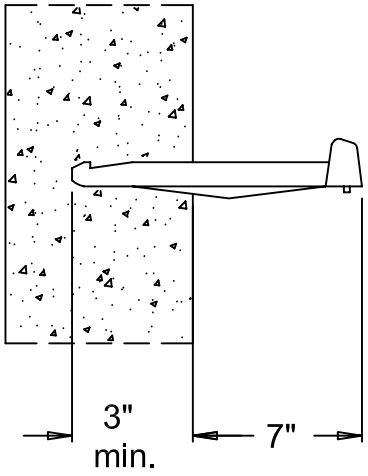
STD. 208.8

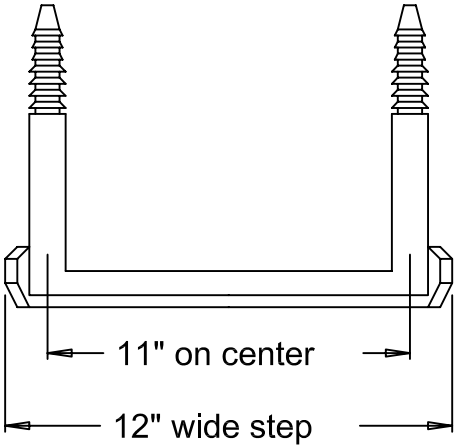
NOT TO SCALE

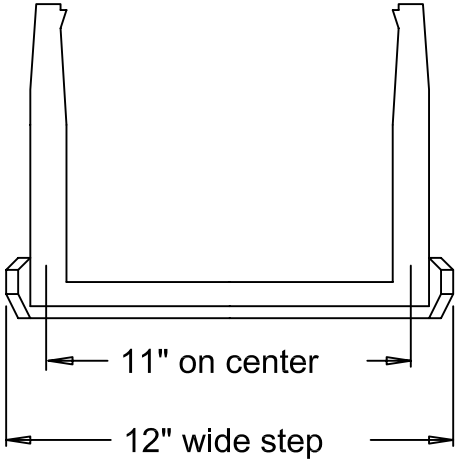
PRESS FIT STEP



GROUTED OR
PRECAST STEP







NOTES:

1. Steps shall be polypropylene coated, 3/8" steel reinforcing rods.
2. The steps shall be embedded into the wall a minimum of 3", but they shall not extend outside of the manhole or catch basin.
3. Press fit steps shall be driven into a tapered hole in the cured manhole or catch basin wall.
4. Precast steps shall be placed in the wet concrete wall during manufacturing, or grouted into holes after the concrete has set. The grout used shall be non-shrink or hydraulic grout.
5. Treads shall have notched ridges, and retainer lugs on each side of the tread.

MANHOLE AND CATCH BASIN STEPS

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8/03	

VILLAGE OF ADDISON

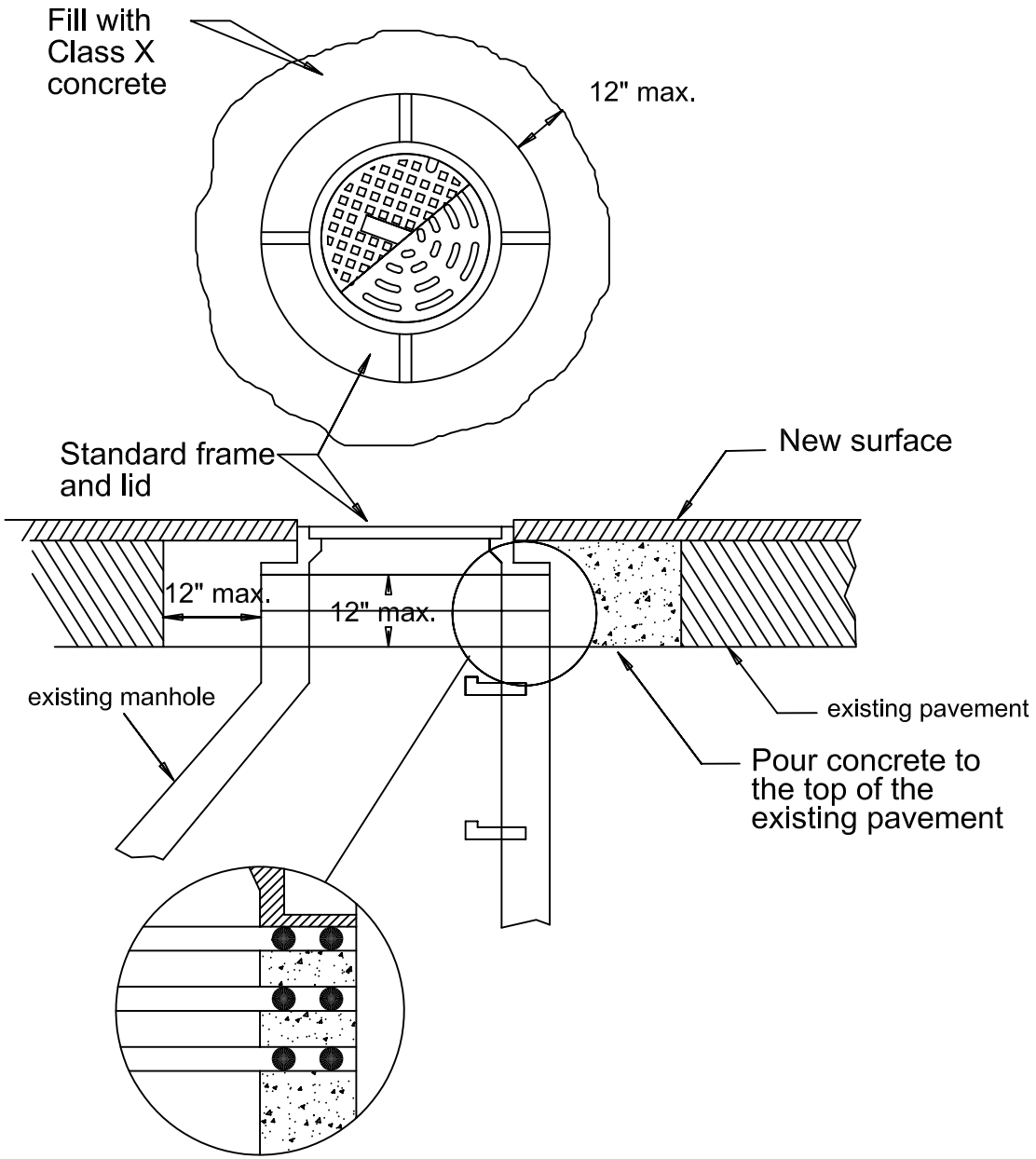
APPROVED: 2/2/94

R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 208.8

STD. 208.10

NOT TO SCALE



FRAME ADJUSTMENT

NOTES:

1. Frames located in paved areas shall have the pavement removed for a distance not to exceed 12" outside of the base of the frame. The frame shall then be adjusted to finished surface grade, and the area around the frame filled with Class X concrete to the surface of the adjacent pavement.

2. Frames located in paved areas and in the curb and gutter may require the use of tapered adjusting rings or metal shims with non-shrink grout.

3. Adjustments shall be made with a maximum of 2 precast concrete adjusting rings. No more than 1 ring shall be 2" in size. If the total height of the adjustment exceeds 12", the adjustment shall be made by adding or removing complete barrel sections. The cone, concrete adjusting rings, and frame shall be set in a full bed of bituminous mastic, or 2 continous rows of pre-formed, bituminous mastic material (E-Z Stick or approved equal).

4. All common brick adjusting courses shall be removed and replaced with precast concrete adjusting rings.

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STD. 208.10

STD. 208.12A

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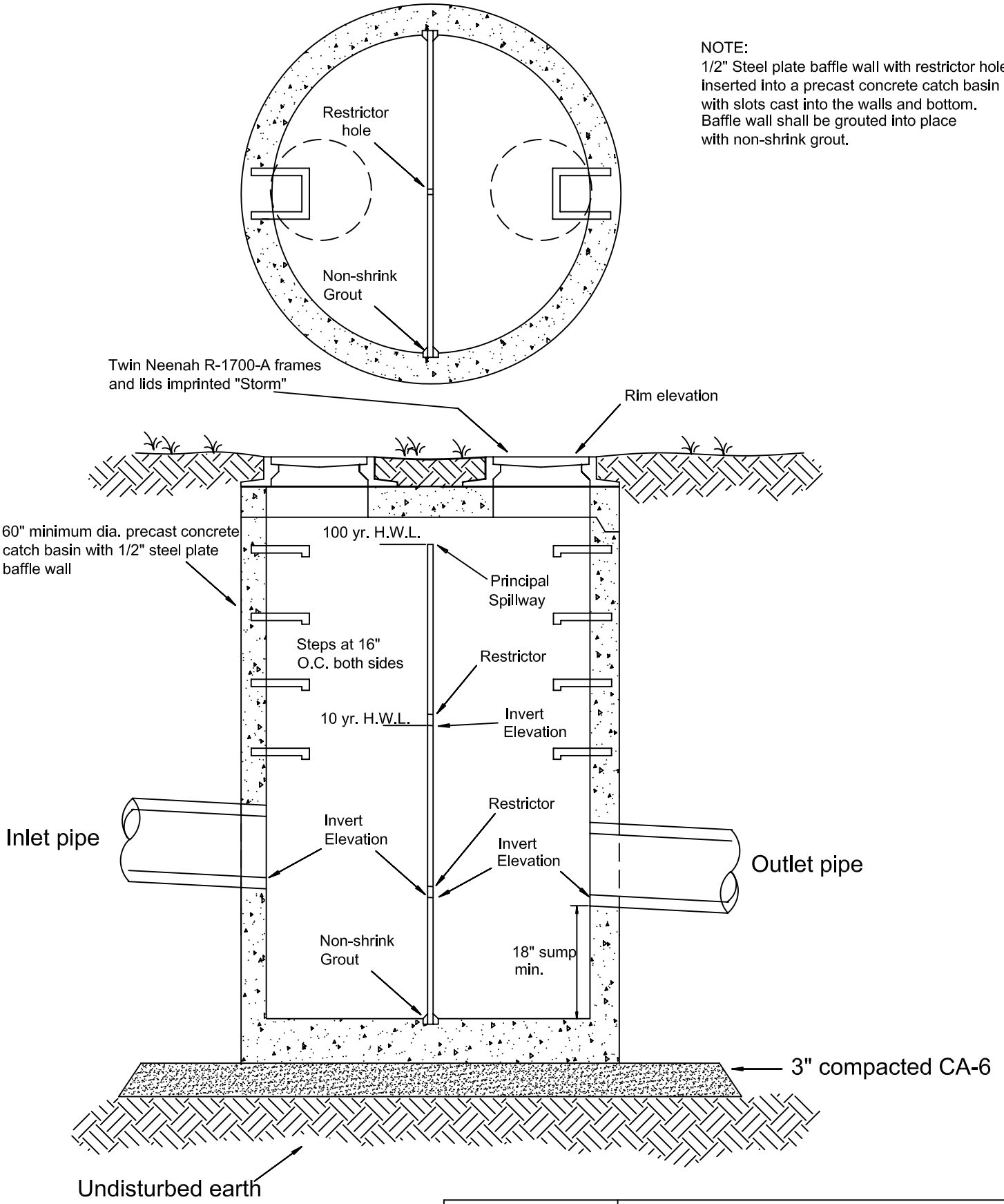

NOTE:
1/2" Steel plate baffle wall with restrictor holes inserted into a precast concrete catch basin with slots cast into the walls and bottom. Baffle wall shall be grouted into place with non-shrink grout.

CATCH BASIN OUTLET CONTROL STRUCTURE
(STEEL PLATE BAFFLE WALL)

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8/03	

VILLAGE OF ADDISON

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STD. 208.12B

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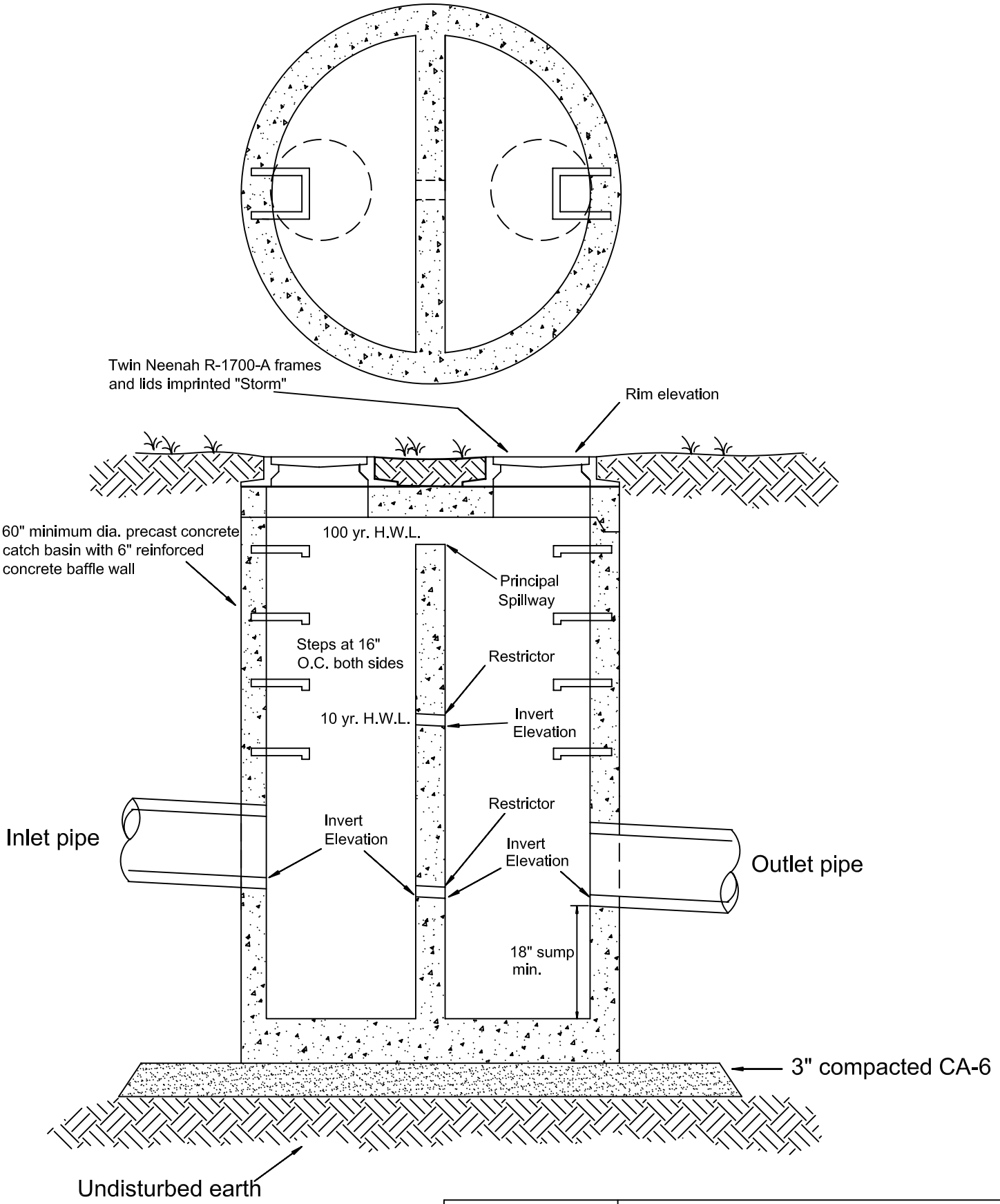

CATCH BASIN OUTLET CONTROL STRUCTURE

(CONCRETE BAFFLE WALL)

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5/98	
8/03	

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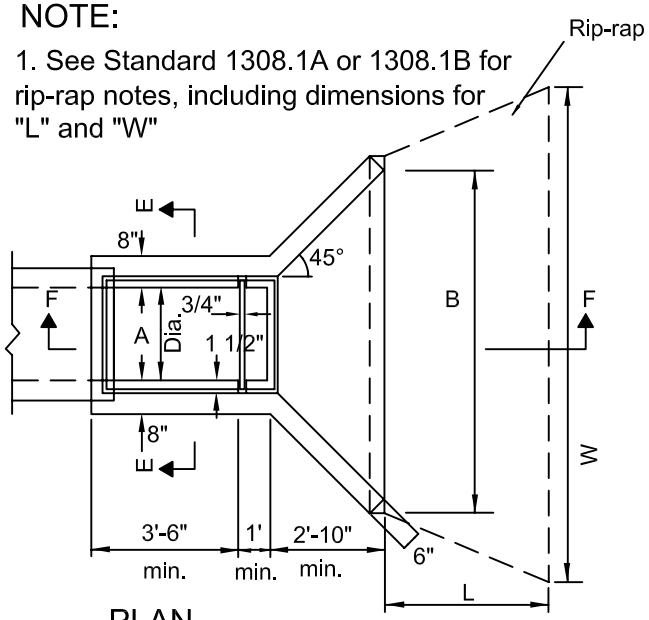
STD. 208.12C

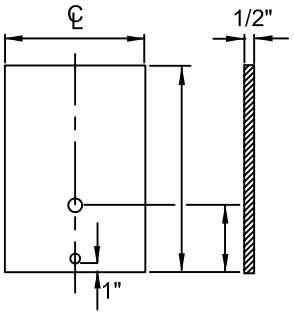
NOT TO SCALE

NOTE:

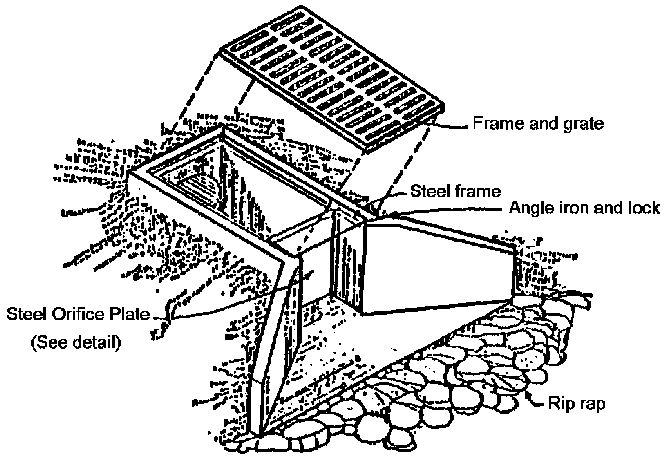
1. See Standard 1308.1A or 1308.1B for rip-rap notes, including dimensions for "L" and "W"



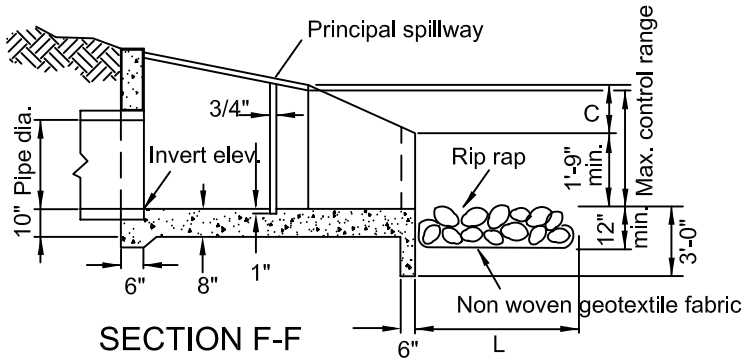
PLAN
N.T.S.



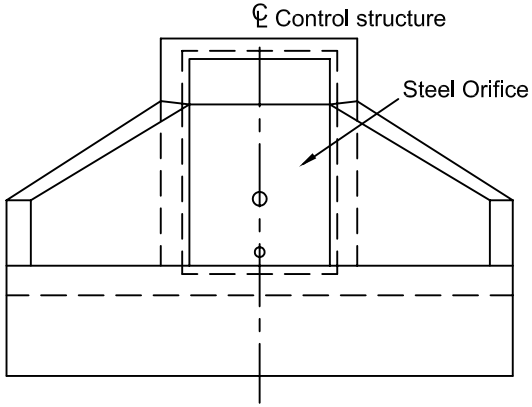
STEEL ORIFICE PLATE DETAIL
N.T.S.



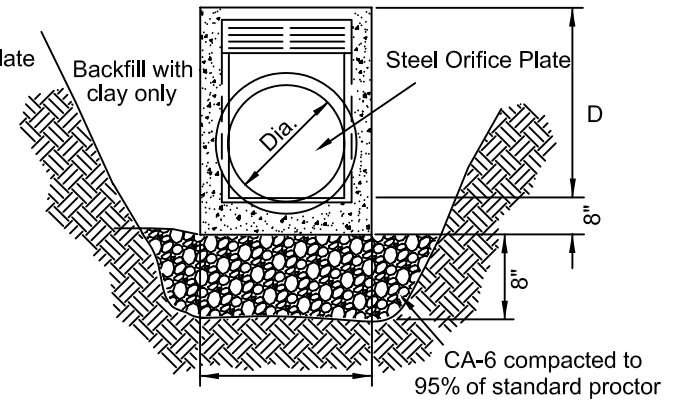
ISOMETRIC VIEW
N.T.S.



SECTION F-F
N.T.S.



TYPICAL FRONT VIEW
N.T.S.



SECTION E-E
N.T.S.

2. Provide dimensions for "A", "B", "C", AND "D"

OUTLET CONTROL STRUCTURE
(ALTERNATE)

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STD. 208.12C

FLARED END SECTION DIMENSION CHART

PIPE DIA.	APPROX. WT. (lbs.)	WALL	A	B	C	D	E	G	R	SLOPE
12"	530	2"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	2"	9"	3:1
15"	740	2 1/4"	6"	2'-3"	3'-10"	6'-1"	2'-6"	2 1/4"	11"	3:1
18"	990	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	2 1/2"	1'-0"	3:1
21"	1280	2 3/4"	9"	2'-11"	3'-2"	6'-1"	3'-6"	2 2/3"	1'-1"	3:1
24"	1520	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3"	1'-2"	3:1
27"	1930	3 1/4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	4'-6"	3 1/4"	1'-2 1/2"	3:1
30"	2190	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3 1/2"	1'-3"	3:1
33"	3200	3 3/4"	1'-1 1/2"	4'-10 1/2"	3'-1 1/4"	8'-1 3/4"	5'-6"	3 3/4"	1'-5 1/2"	3:1
36"	4100	4"	1'-3"	5'-3"	2'-10 1/4"	8'-1 3/4"	6'-0"	4"	1'-8"	3:1
42"	5380	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	4 1/2"	1'-10"	3:1
48"	6550	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	5"	1'-10"	3:1
54"	8240	5 1/2"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	5 1/2"	2'-0"	2.4:1
60"	8730	6"	2'-11"	5'-0"	3'-3"	8'-3"	8'-0"	5"	*	2:1
66"	10,710	6 1/2"	2'-6"	6'-0"	2'-3"	8'-3"	8'-6"	5 1/2"	*	2:2
72"	12,520	7"	3'-0"	6'-6"	1'-9"	8'-3"	9'-0"	6"	*	1.8:1
78"	14,770	7 1/2"	3'-0"	7'-6"	1'-9"	9'-3"	9'-6"	6 1/2"	*	1.8:1
84"	18,160	8"	3'-0"	7'-6 1/2"	1'-9"	9'-3 1/2"	10'-0"	6 1/2"	*	1.5:1

* RADIUS AS FURNISHED BY MANUFACTURER

PRECAST CONCRETE FLARED END SECTION WITH TRASH GRATE (2 OF 2)

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		APPROVED: 2/2/94
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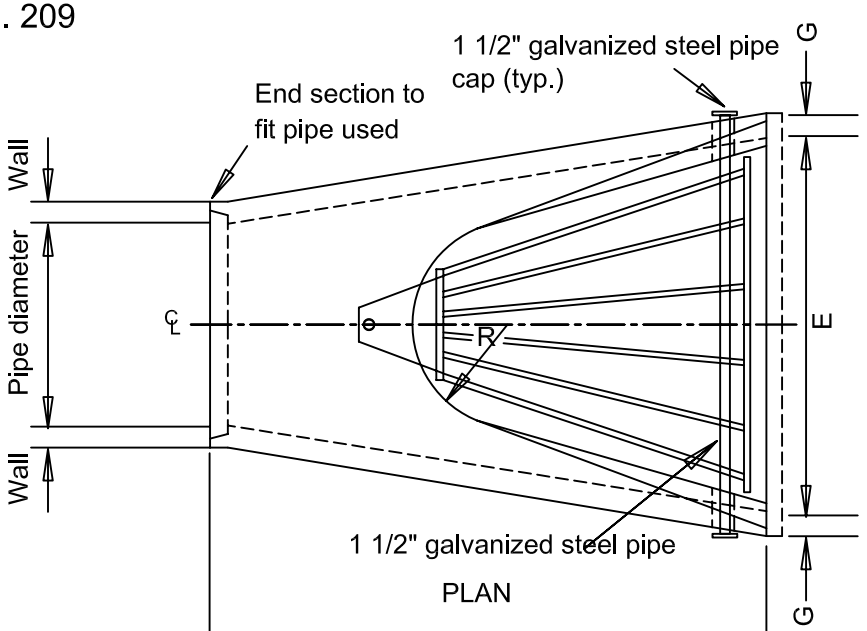
STD. 209CHT

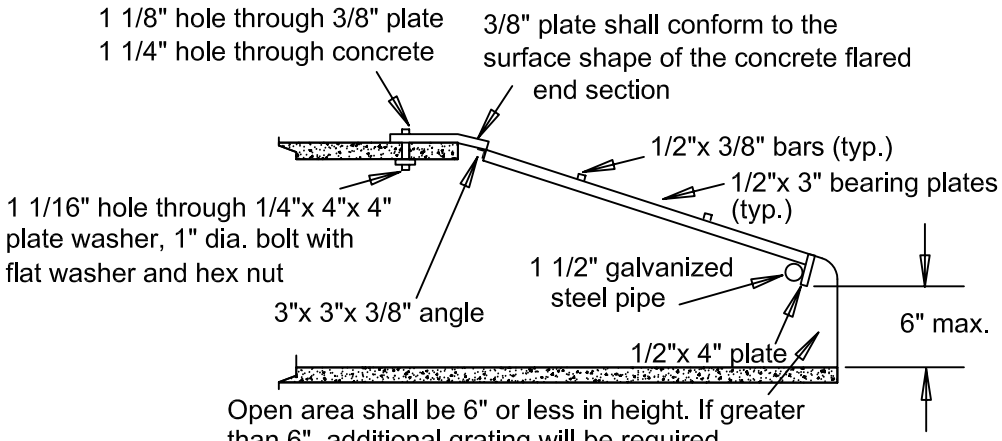
STD. 209

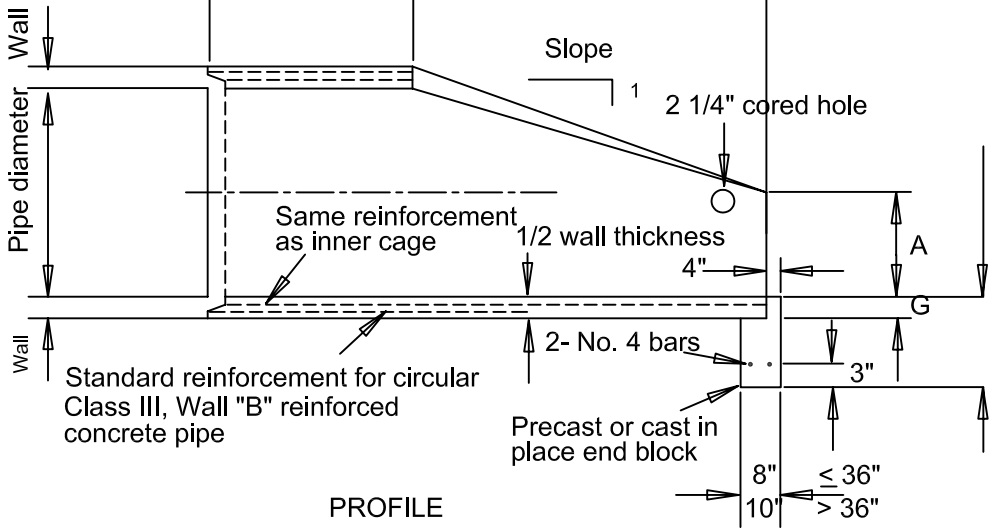
NOT TO SCALE



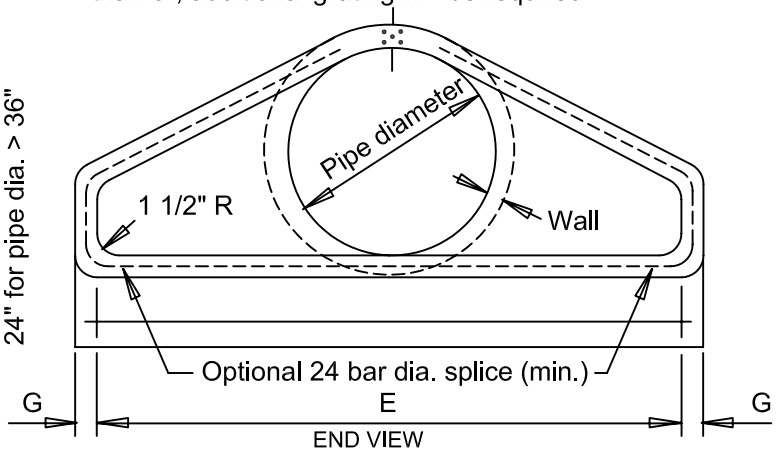
NOTES:

1. Precast concrete flared end section shall conform to the applicable requirements of reinforced concrete pipe, ASTM designation C-76, Class III, wall thickness "B".
2. Precast, or cast in place end blocks shall be in proper position, and backfilled prior to the installation of the flared end section.
3. All flared end sections shall be supplied with trash gates.
4. All fabrication shall be completed and parts assembled before galvanizing.
5. All bolts, nuts and washers shall be galvanized.





PROFILE



END VIEW

PRECAST CONCRETE FLARED END SECTION WITH TRASH GRATE

(1 OF 2)

REVISIONS		VILLAGE OF ADDISON
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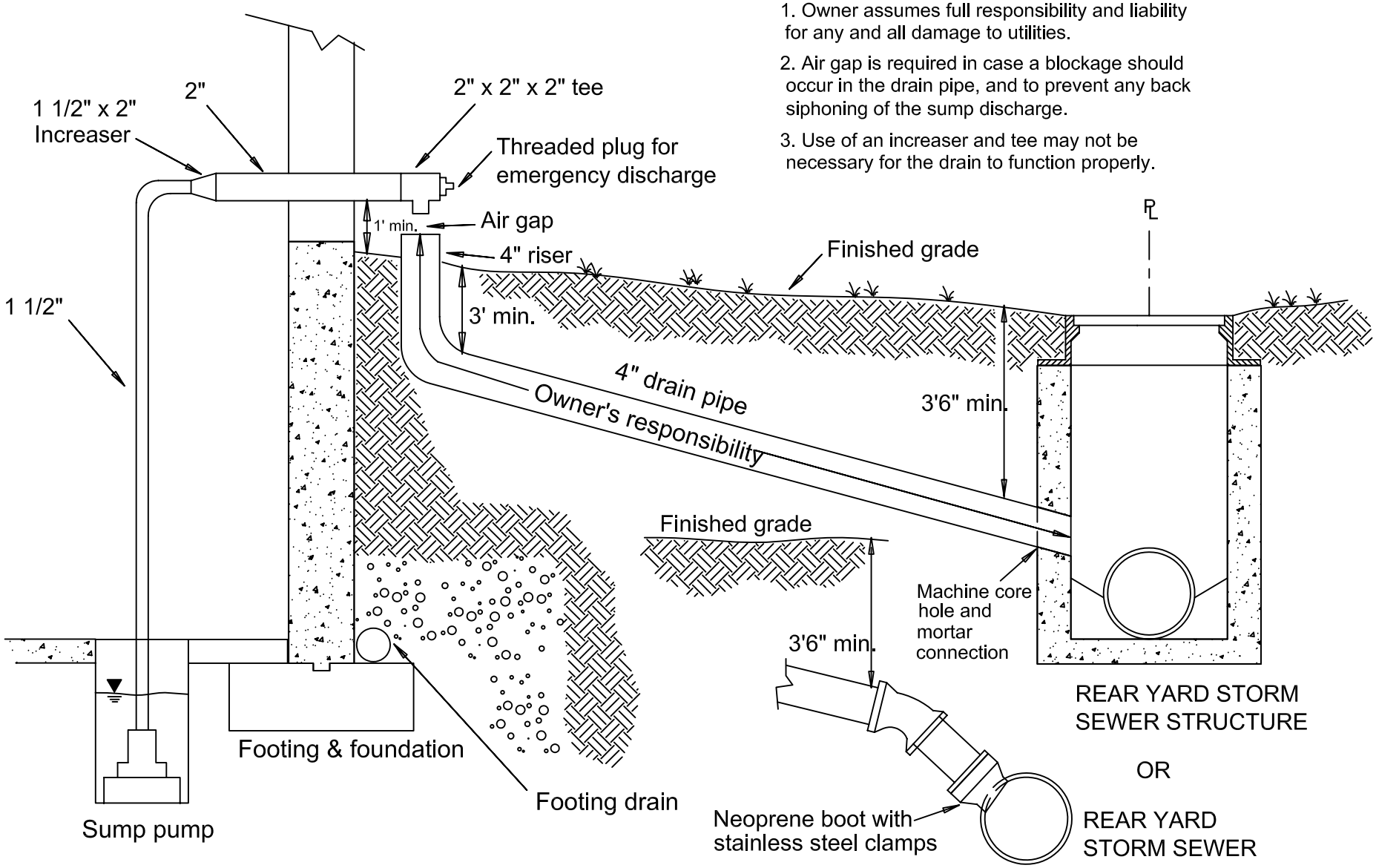
		R. ESPEDIDO, P.E., VILLAGE ENGINEER

STD. 209

STD. 213.1

NOT TO SCALE

Notes:
1. Owner assumes full responsibility and liability for any and all damage to utilities.
2. Air gap is required in case a blockage should occur in the drain pipe, and to prevent any back siphoning of the sump discharge.
3. Use of an increaser and tee may not be necessary for the drain to function properly.



SUMP PUMP CONNECTION

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STD. 213.1

STD. 215

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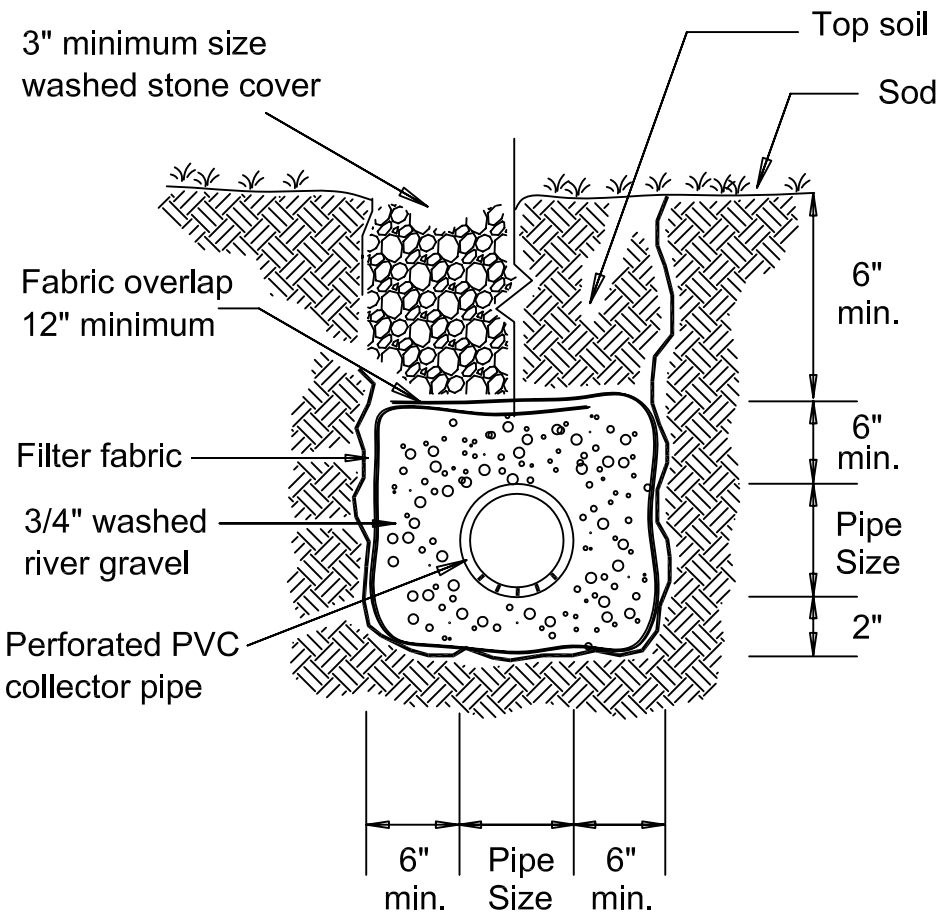

Notes:

1. Perforated collector pipe shall be a minimum of 4" in size, SDR 26, laid at a minimum slope of 1%.

2. Perforations shall be laid toward the bottom of the trench.

3. The underdrain system shall be connected to the nearest storm sewer structure.

4. The lowest invert elevation of the underdrain system shall be at, or above, the springline of the outfall pipe at the storm sewer structure

5. The collector pipe shall be terminated with an end cap.

6. Filter fabric shall be non-woven geotextile fabric, DuPont Typak or approved equal.

7. Underdrain systems shall be installed after the topsoil has been re-spread to avoid damaging the collector pipe.

PIPE UNDERDRAIN

(Fabric Lined Trench)

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STD. 215

STD. 216

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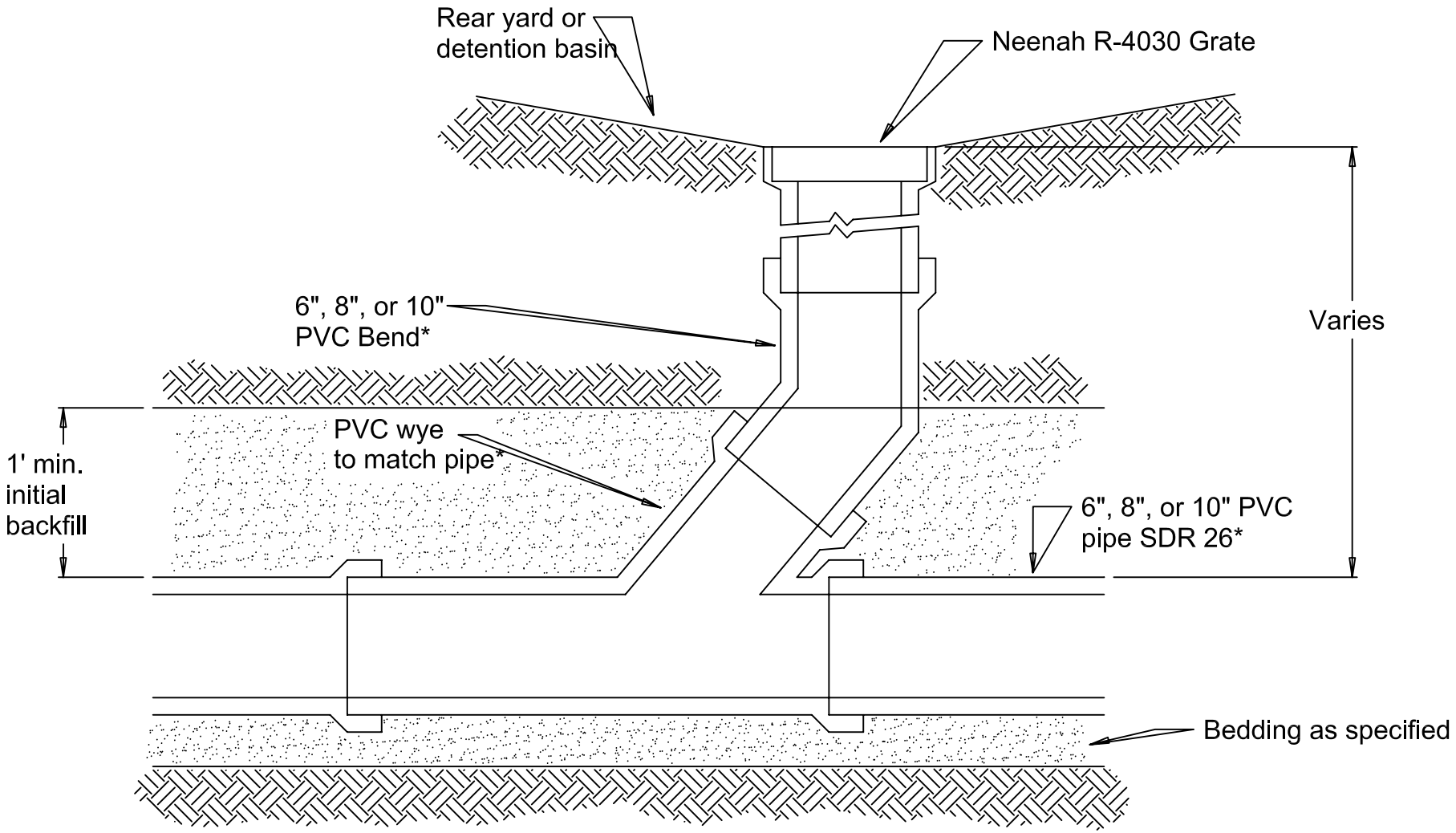

Note:
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* Pipe size to be determined by the engineer or as specified by the Director of Community Development

LOW FLOW STORM SEWER

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STD. 216

STD. 216

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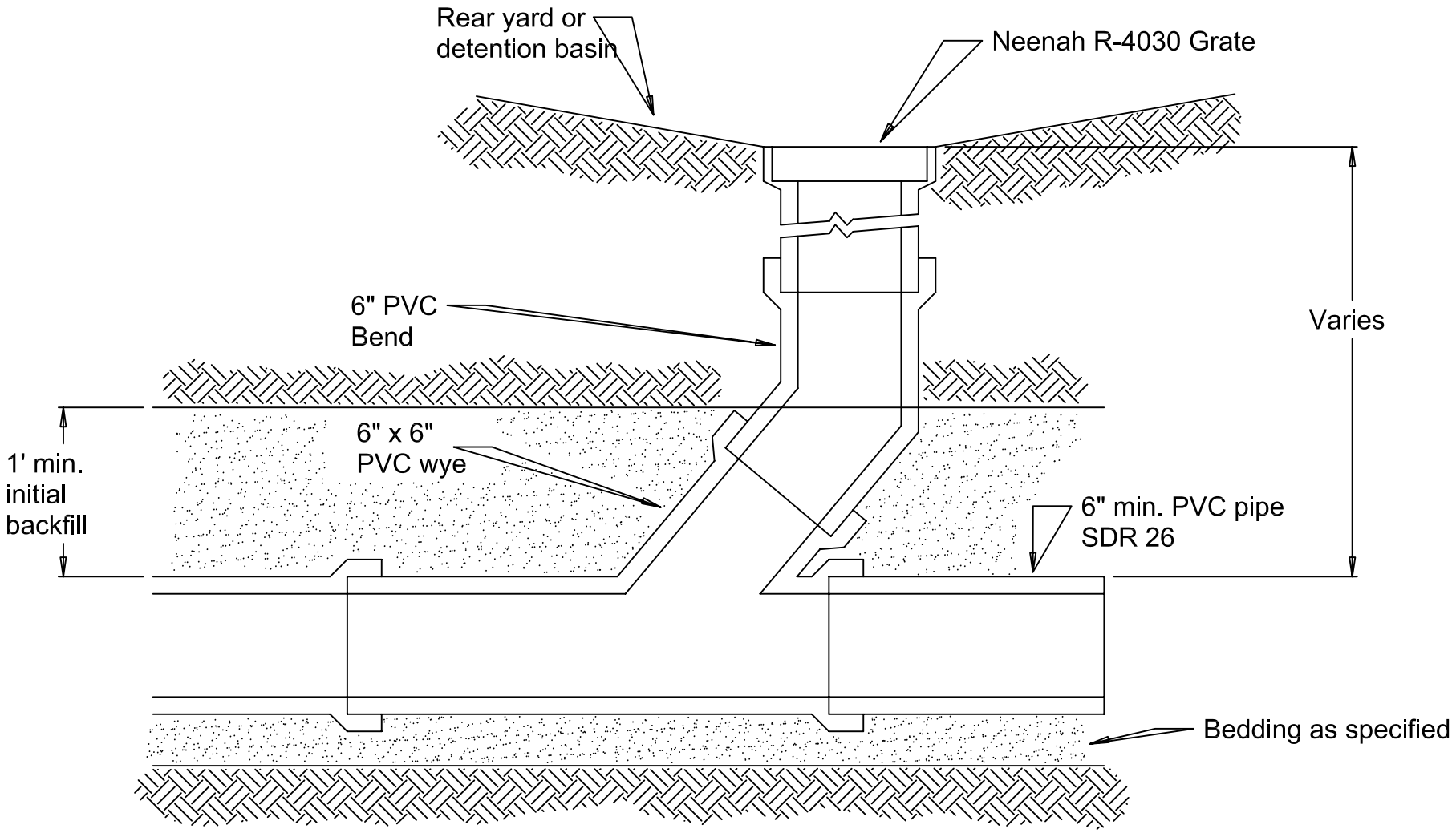

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LOW FLOW STORM SEWER

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STD. 216

STD. 216

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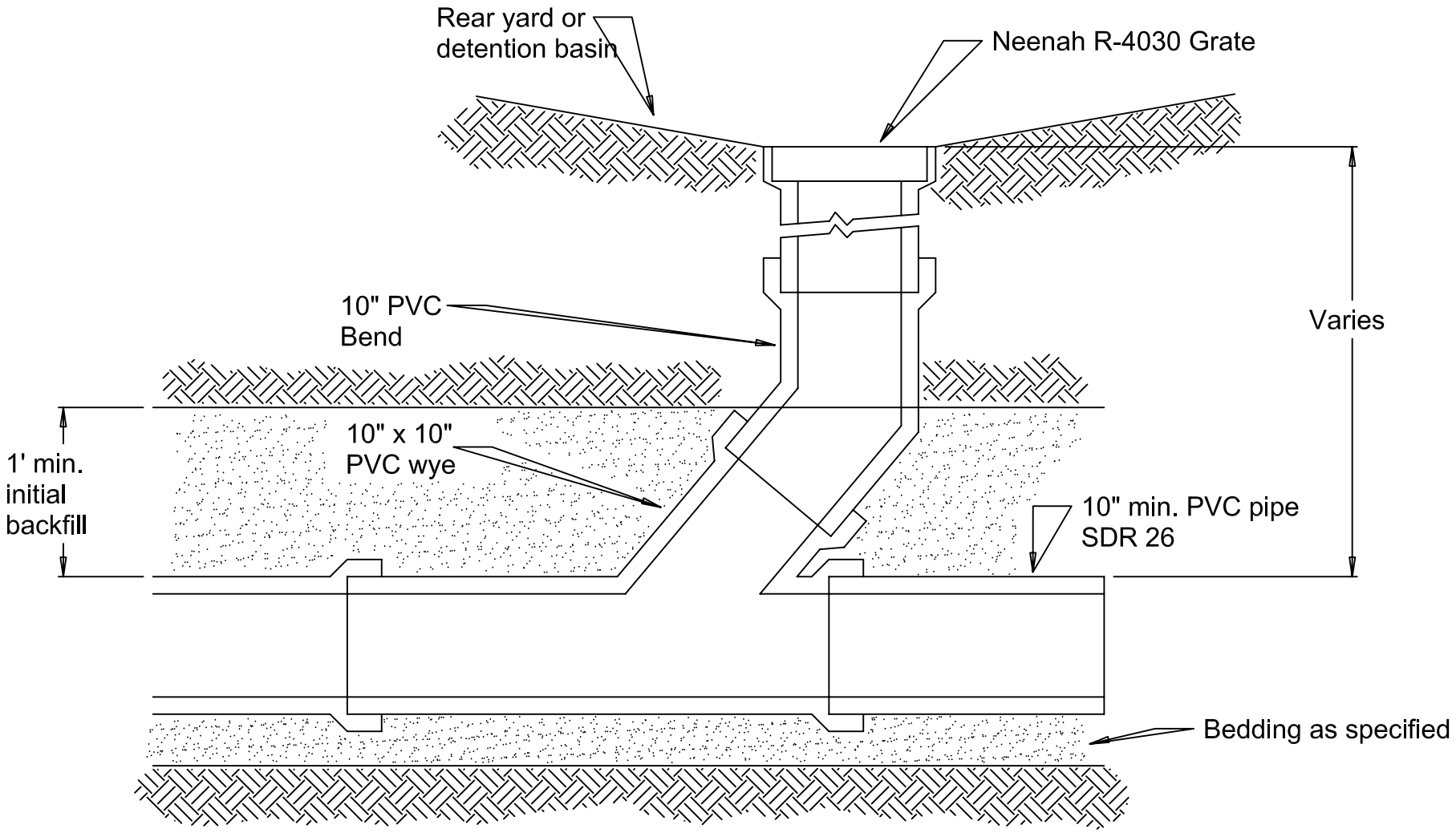

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LOW FLOW STORM SEWER

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