

## ENGINEERING SERVICES DEPARTMENT

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P.O. Box 970 • 414 E. First Street • Newberg, Oregon 97132 • 503.537.1273 • [www.newbergoregon.gov](http://www.newbergoregon.gov)

# Standard Drawings

# City of Newberg Standard Drawings

## General Information

## 100 Series

Tree and Shrub Clearances	101
Utility Service Locations	102
Utilities Plan	103
Bollard	104
Residential Fences, Walls, and Clearance Areas	105
Fences and Walls Interior Lots	106
Tree Grate and Frame	107
Street Tree	108
Easements	109
Pipe Cover	110

## Waste Water

## 200 Series

Trench Backfill	201A
Pipe Bedding	201B
Manhole Base	203
48" Standard	204
Oversized Manhole	205
Inside Drop Manhole	206
Number Reserved	207
Offset Manhole	208
Waste Water Manhole Frame and Cover	209
Clean Out	210
Service Branch	211
Double WYE Service Branch	212
Traffic Box	213
Manhole Abandonment	214
Manhole Removal	215

## Water

## 300 Series

Water Pipe Bedding	301
Water Tapping Sleeves	302
Valve Box Assembly	303
Valve Box and Cover	304
MJ Holding Spool	305

Joint Restraint	306
Standard 3/4" and 1" Water Service	307
Double Water Service	308
Standard 1 1/2" and 2" Water Service	309
Water Line Crossing	310
Blow-Off Assembly	311
Fire Hydrant Assembly	312
Valve Locations and Spacing	313
1" Combination Air-Vacuum Release Assembly	314
Cathodic Protection	316
Vault and Water Service	317
Water Service for 3" and Larger	318
Trench Dam	319

### **Storm Sewer**

### **400 Series**

Catch Basin	401
Catch Basin Frame and Grate	402
Ditch Interceptor Type A	403
Ditch Interceptor Frame and Grate Type A	404
Pelican Catch Basin	407
Oversized Pelican Catch Basin	409
Supersized Pelican Catch Basin	410
Storm Water Manhole Frame and Cover	411
Shallow Manhole	412
Water Quality Manhole (mechanical)	413
Flow Control Structure	416A
Flow Control Structure Notes & Orifice	416B
Outflow Control Structure	417
Orifice Plate & Guide	418
Chain Link Fence and Gate	419
Concrete Spreader	420
Removable Bollard	421
Rip Rap Specifications	422
Storm Sewer Service Branch	423

### **LIDA**

### **450 Series**

Design Steps, General Notes & Growing Med.	450
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LIDA Sizing Form	451
Flow Through Planter	452
Infiltration Planter	453
Public Planter (without parking)	454
Public Planter (with parking)	455
Public Planter (section view)	456
Rain Garden	457
Vegetated Filter Strip	458
Porous Pavement	459
Vegetated Swale	460
Extended Dry Basin	461
Curb Cut	462
Perforated Pipe	463
Liner Attachment & Pipe Boot	464
Concrete Check Dam for Planters	465
Public Planter Walls	466
Street Tree	467
Meter and Hydrant Locations	468
Planting (planter landscape template)	469

## **Street**

## **500 Series**

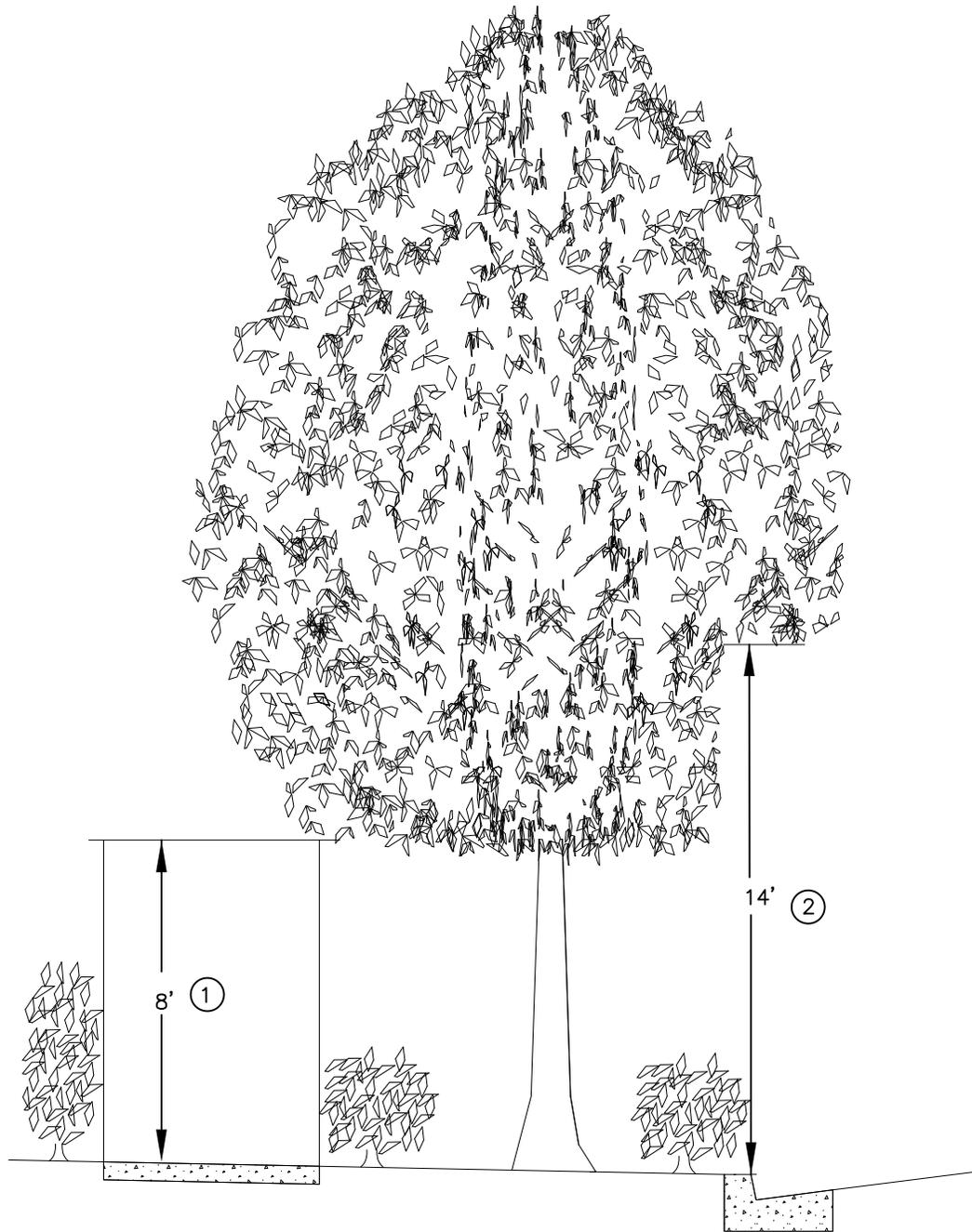
Curb and Gutter	501
Curb Type "C"	502
Sidewalk Type "A"	503
Sidewalk Type "B"	504
Curb Ramp Locations	505
Sidewalk Ramp Type "A" Sidewalk	506
Sidewalk Ramp Type "B" Sidewalk	507
Driveway Apron Curb Cut Type "A" Sidewalk	508
Driveway Apron Curb Cut Type "B" Sidewalk	509
Commercial Driveway	510
Industrial Driveway	511
Cul-de-sac	512
Residential Street Cross Section	513
Intersection Paving Plan	514
Street Monumentation	515
Street Barricades	516A
Street Barricade Post Support Detail	516B
End of Sidewalk Barricades	516C
Trench Paving	517

Pavement Seal Coat Pattern	518
Rain Drain Curb Cut Out	519
Asphalt Overlay Typical Section	520
Street Light	522
Sign Clearances	523
Street Sign and Post Locations	524A
Typical Sign Assembly	524B
Standard Signpost Ground Applications	525A
Standard Signpost Concrete Applications	525B
Structural Street Sections	527
Valley Gutter	528
Approved Fire Department	529

### **Erosion Control**

### **600 Series**

Construction Entrance	601
Silt Fence	602
Straw Bale Barrier	603
Field Drain Inlet Protection	604
Inlet Protection	605
Outlet Protection	606
Concrete Waste Management	607
Surface Roughening	608
Matting Trench Installation	609
Matting-Slope Installation	610
Wattles	611



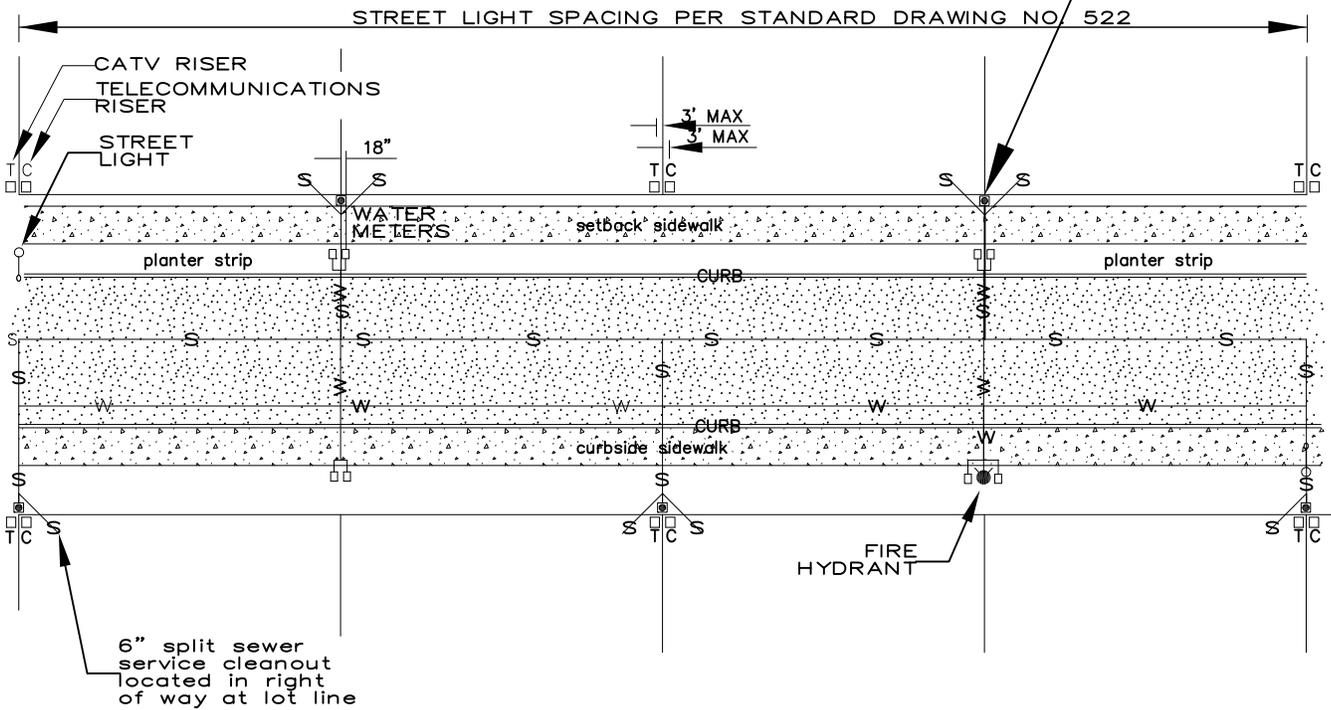
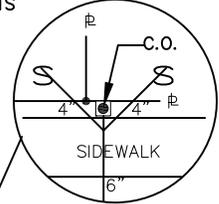
- ① MAINTAIN 8' OF CLEARANCE BETWEEN SIDEWALK AND TREE LIMBS. NO OBSTRUCTIONS MAY PROTRUDE INTO SIDEWALK TRAVEL AREA.
- ② MAINTAIN 14' OF CLEARANCE BETWEEN STREET GRADE AND TREE LIMBS.

REVISIONS:

## TREE & SHRUB CLEARANCES

SCALE:	N.T.S.
DATE:	July 2013
APPROVED BY:	D. Danicic
STANDARD DRAWING	101

SAN LATERALS SHOULD BE OFFSET SO AS NOT TO CONFLICT WITH PROPERTY PINS BETWEEN LOTS



**NOTES**

1. ALL ABOVE GROUND FIXTURES ARE TO BE ALIGNED WITH PROPERTY LINE WITHIN TOLERANCES SHOWN.
2. VARIATION FROM THIS STANDARD ALLOWED ONLY WITH THE APPROVAL OF THE CITY ENGINEER.
3. THE LOCATION OF UNDERGROUND UTILITIES IS SHOWN ON STANDARD DRAWING 103, UTILITIES PLAN.

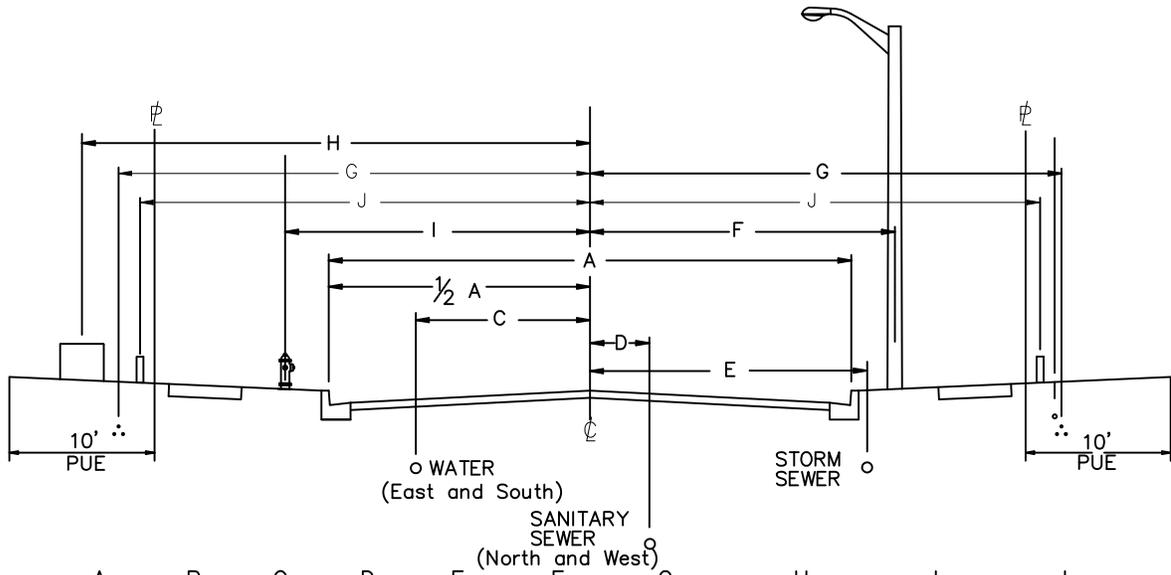


PUBLIC WORKS ENGINEERING DIVISION  
 414 E. FIRST STREET NEWBERG, OR 97132  
 PHONE: 503-537-1240  
 FAX: 503-537-1277

REVISIONS:


**UTILITY SERVICE LOCATIONS**

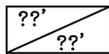
SCALE:	N.T.S
DATE:	July 2013
APPROVED BY:	D. Danicic
STANDARD DRAWING	102



	A	B	C	D	E	F	G	H	I	J
	STREET WIDTH	ROW WIDTH	WATER	SAN. SEWER	STORM SEWER	STREET LIGHT	PUBLIC UTIL'S.	TRANSFORMER	FIRE HYDRANT	PEDESTAL
1)	20'	38'-42'	6'	4'	*	18' 12.5'	23'	23'	18' 12.5'	22'
1)	24'	42'-46'	8'	4'	*	20' 14.5'	25'	25'	20' 14.5'	24'
1)	28'	46'-50'	10'	4'	*	22' 16.5'	27'	27'	22' 16.5'	26'
	32'	54'-60'	12'	4'	*	19'	32'	32'	19'	31'
	34'	60'	13'	4'	*	20'	32'	32'	20'	31'
	36'	60'	14'	4'	*	21'	32'	32'	21'	31'
	40'	70'	15'	4'	*	23'	37'	37'	23'	36'
	46'	80'	18'	4'	*	26'	42'	42'	26'	41'
	70'	100'	25'-30'	4'	*	38'	52'	52'	38'	51'

\* STORM SEWER LOCATION TO MATCH PELICAN STYLE INLETS.  
LOCATION VARIES WITH PIPE SIZE.

ALL PRIVATE UTILITY CONDUITS SHALL BE PLACED IN UTILITY EASEMENT. ONLY PERPENDICULAR CROSSINGS AND STREET LIGHT CONNECTIONS ALLOWED IN PUBLIC RIGHT-OF-WAY.



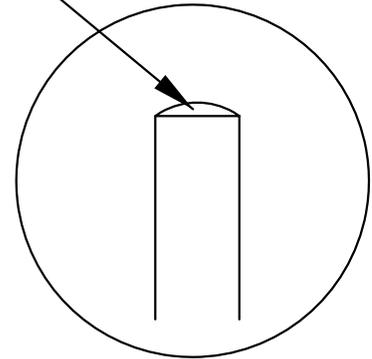
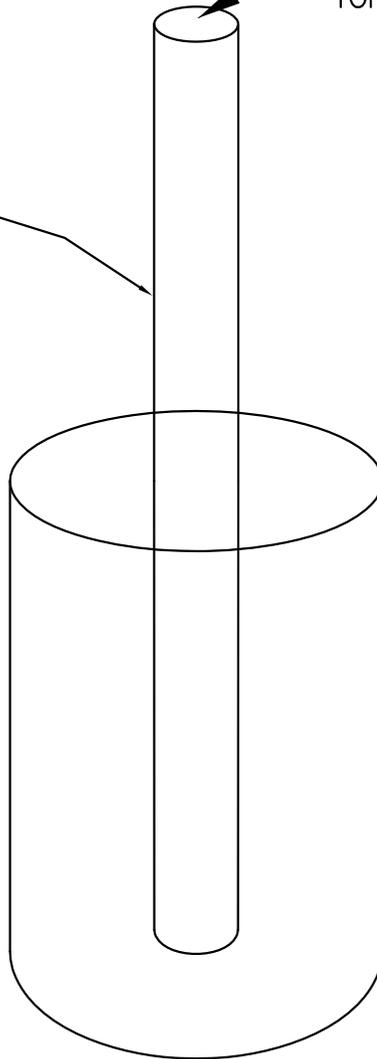
TOP NUMBER FOR CURB TIGHT SIDEWALK (TYPE "B")  
BOTTOM NUMBER SETBACK SIDEWALK (TYPE "A")

1) SIDEWALK WIDTH SHALL BE 6' WHEN CURB SIDE FOR LIMITED RESIDENTIAL

PAINT WITH HIGH GLOSS  
ENAMEL - CHROME YELLOW

FILL CENTER OF TUBING WITH  
CONCRETE; 1/2" CROWN AT  
TOP

3" MIN X 2 1/2" X 6'  
STEEL TUBING  
(4" DIP MUST BE  
USED IN ALL CASES  
WHERE BOLLARD IS  
PROTECTING FIRE  
HYDRANT)



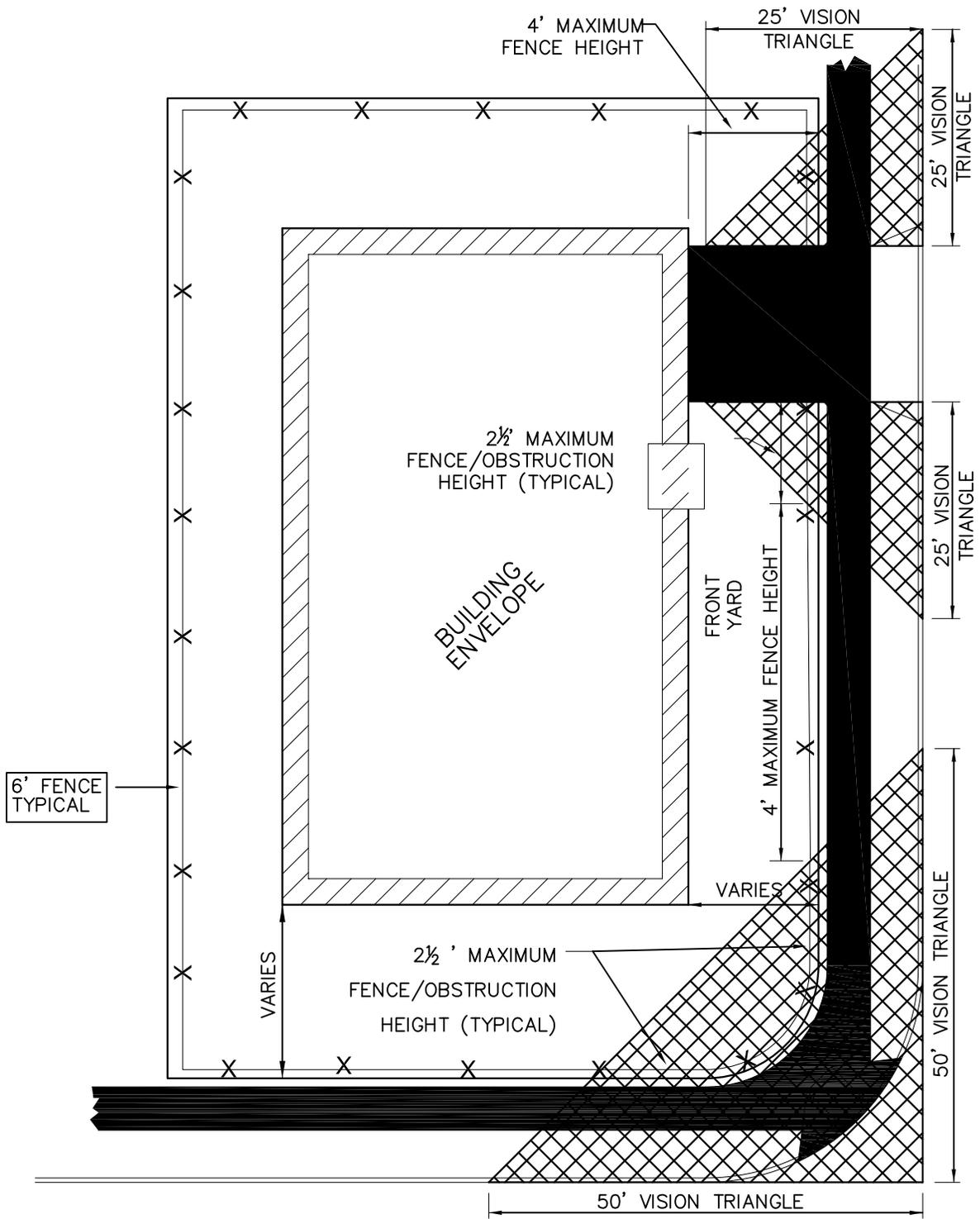
MINIMUM OF 12" ROUND  
EXCAVATION

CONCRETE FILL AROUND TUBING  
BURY 3'-0"

REVISIONS:

**BOLLARD**

SCALE:	N.T.S.
DATE:	July 2013
APPROVED BY:	D. Danicic
STANDARD DRAWING	104

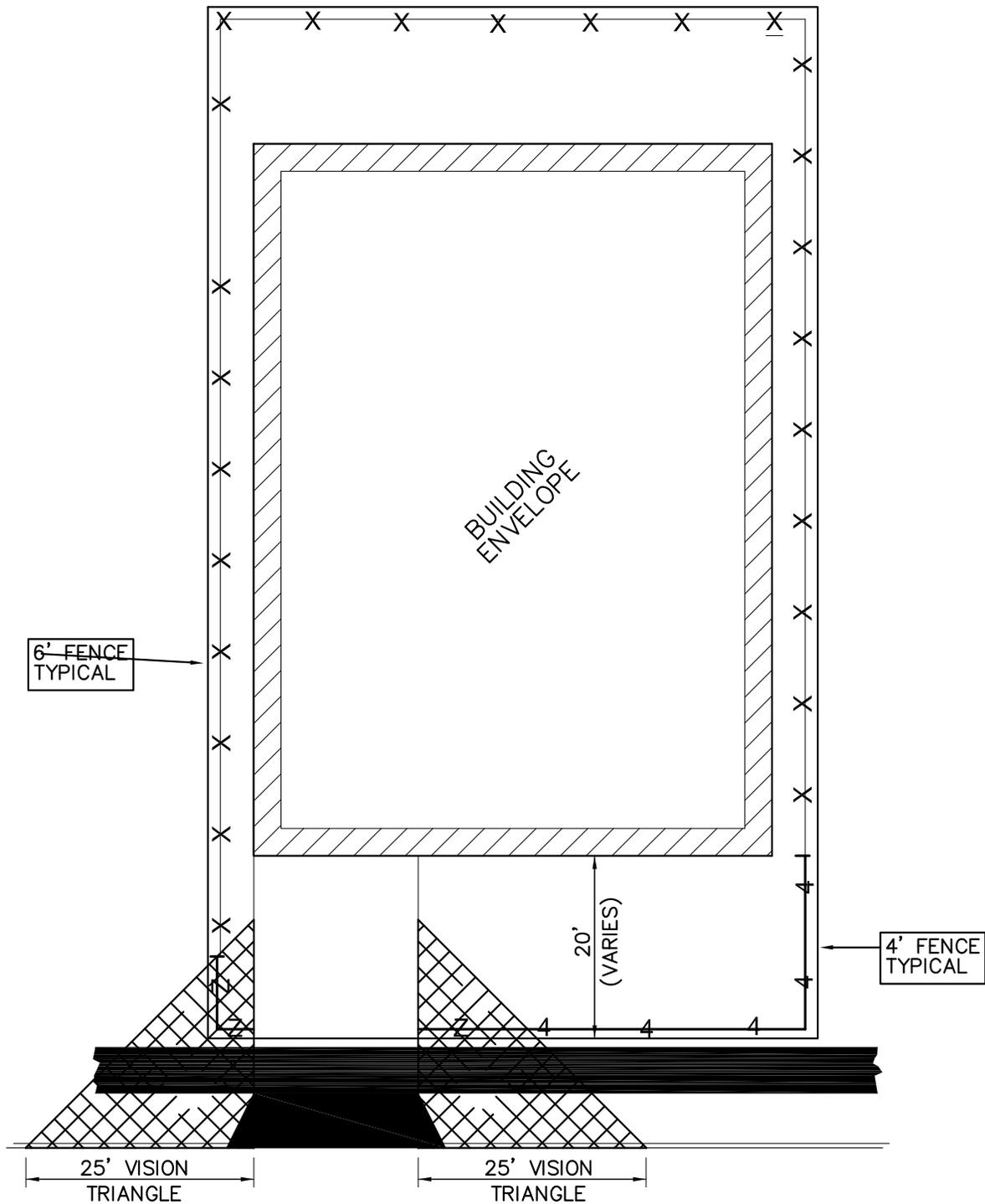


ALL FENCES AND/OR OBSTRUCTIONS  
 WITHIN VISION TRIANGLES SHALL  
 BE A MAXIMUM OF 30" (2½') HIGH.

REVISIONS:

## RESIDENTIAL FENCES WALLS AND VISION CLEARANCE AREAS

SCALE:	N.T.S.
DATE:	July 2013
APPROVED BY:	D.Danicic
STANDARD DRAWING	105

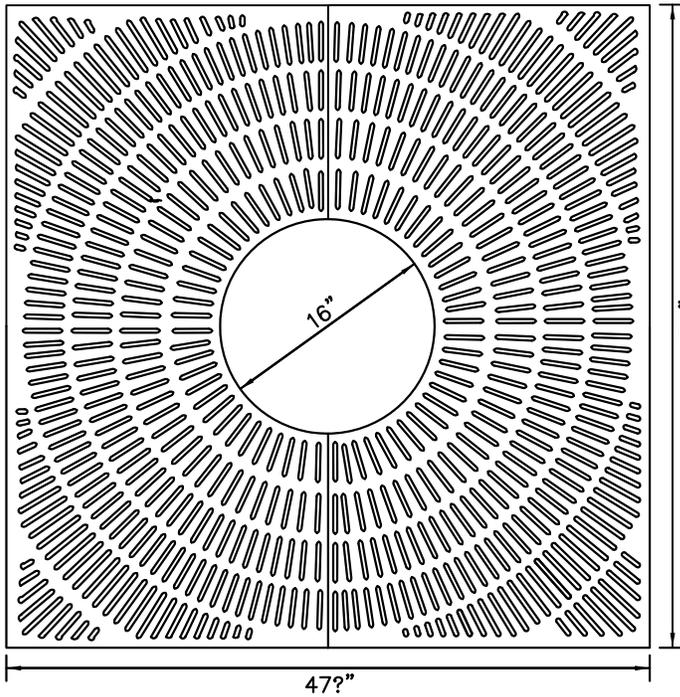


ALL FENCES WITHIN VISION TRIANGLES SHALL BE A MAXIMUM OF 30" (2 FT) IN HEIGHT

REVISIONS:

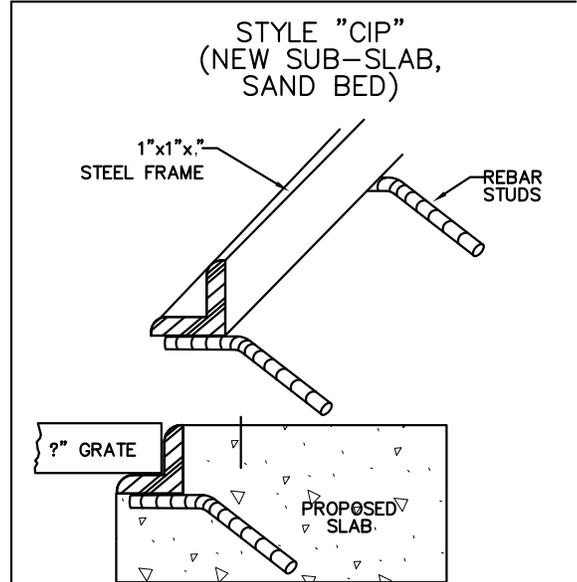
## FENCES AND WALLS INTERIOR LOTS

SCALE:	N.T.S.
DATE:	July 2013
APPROVED BY:	D. Danicic
STANDARD DRAWING	106

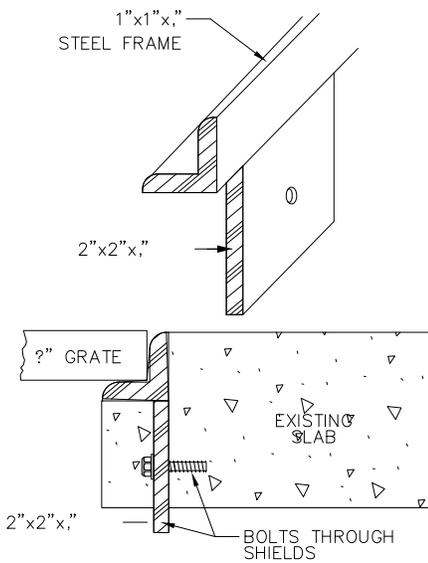


48" "STA" TREE GRATE:

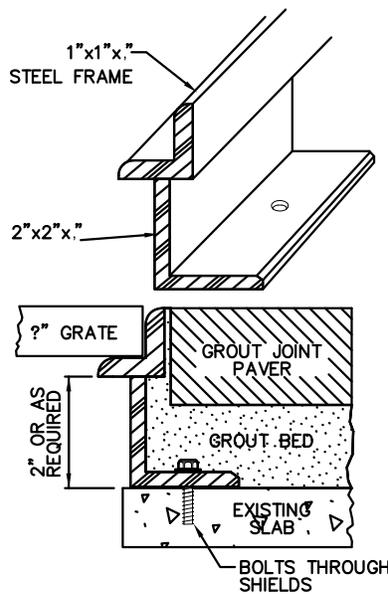
- ADA APPROVED, TWO PEICE SET
- DUCTILE CAST IRON ASTM, A536, CL80-55-06
- APPROXIMATE WEIGHT 226 lbs. PER SET
- OLYMPIC FOUNDRY PART NO. 80-2190 (OR EQUIVALENT)



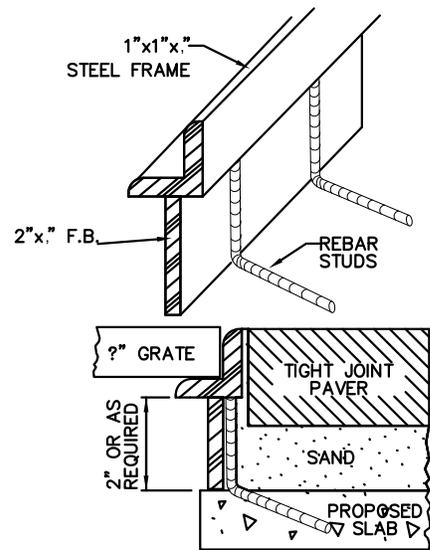
STYLE "RF" (EXTG. SLAB)



STYLE "AP" (EXTG. SUB-SLAB, GROUT BED)



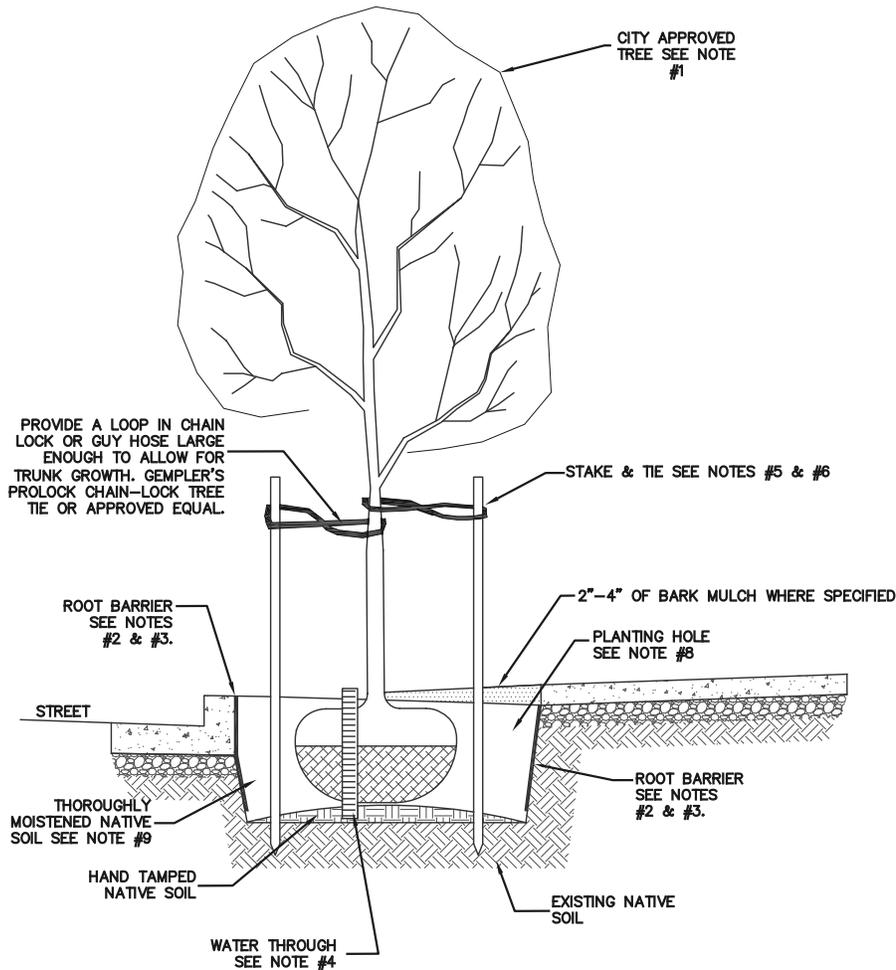
STYLE "CIP" (NEW SUB-SLAB, SAND BED)



REVISIONS:

# TREE GRATE AND FRAME

SCALE:	N.T.S.
DATE:	July 2013
APPROVED BY:	D. Danicic
STANDARD DRAWING	107



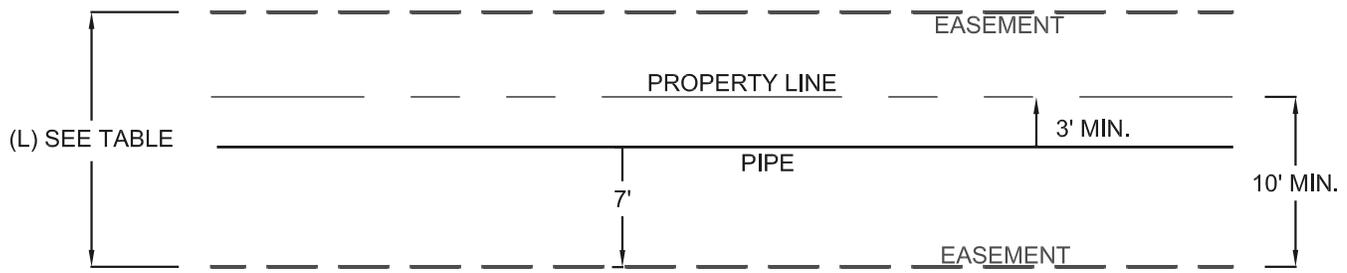
**NOTES:**

1. REFER TO THE CITY PLANNING DEPARTMENT APPROVED STREET TREE PLANTING LIST.
2. ROOT BARRIER REQUIRED WHEN HARDSCAPE OR STRUCTURE IS LOCATED WITHIN A 6' RADIUS FROM CENTER OF TREE. ROOT BARRIER TO BE 18" DEEP AND SHALL BE INSTALLED ALONG ALL BOUNDARIES WITH HARDSCAPE e.g. SIDEWALK & CURB.
3. LINEAR OR CIRCULAR APPLICATION OF ROOT BARRIER PERMITTED. ROOT BARRIER TO EXTENT AT MINIMUM 24" PAST CENTER OF TREE IN ALL DIRECTIONS OR HAVE A MINIMUM RADIUS OF 24" FOR CIRCULAR APPLICATION. USE CENTURY CP-SERIES ROOTBARRIER PANELS WITH INTERLOCKING JOINTS OR NDS RP SERIES ROOT BARRIER PANELS WITH INTERLOCKING JOINTS. ALL ROOT BARRIER INSTALLATIONS SHALL BE IN CONFORMANCE WITH MANUFACTURERS RECOMENDATIONS.
4. OPPOSITE TREE STAKES, PROVIDE TWO, 3" DIAMETER HDPE PERFORATED PIPE WATERING THROUGH, FILLED WITH CLEAN PEA GRAVEL.
5. REMOVE NURSERY STAKES & INSTALL 2" DIAMETER TREATED STAKES, SET OUTSIDE ROOTBALL AND DRIVE A MINIMUM OF 12" INTO UNDISTURBED SOIL BELOW PLANTING HOLE. TRIM STAKE 6" ABOVE HIGHEST TREE TIE TO AVOID INTERFERENCE WITH CANOPY.
6. FLEXIBLE NON-ABRASIVE TREE TIE SECURED TO STAKE WITH A NAIL. PLACE TIES 6" ABOVE THE LOWEST POINT ON THE TRUNK WHERE IT CAN BE HELD SUCH THAT THE TOP OF THE TREE SPRINGS BACK TO THE UPRIGHT POSITION WHEN BENT OR DEFLECTED.
7. SET CROWN OF ROOTBALL 1- $\frac{1}{2}$ " ABOVE FINISHED GRADE.
8. PLANTING HOLE TO BE TWICE THE DIAMETER OF ROOTBALL, WITH ROOTBALL RESTING ON FIRM SOIL. SCARIFY SIDES OF PLANTING HOLE.
9. BACKFILL WITH A MIXTURE OF  $\frac{2}{3}$  NATIVE SOIL AN  $\frac{1}{3}$  ORGANIC COMPOST. AREAS WITH POOR OR HEAVILY COMPACTED SOIL MAY REQUIRE ADDITIONAL AMENDMENT.

REVISIONS:
MAY 2014

## STREET TREE & ROOT BARRIER

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>108</b>



NOTES:

1. MAINLINES SHALL BE PLACED IN PUBLIC RIGHT OF WAY & MAY BE PLACED IN EASEMENTS WHEN NECESSARY & APPROVED BY THE CITY ENGINEER.

2. FOR MAINLINES PLACED IN EASEMENTS LOCATED OTHER THAN ALONG A PROPERTY LINE, THE MAINLINE SHALL BE PLACED IN CENTER OF EASEMENT.

3. LARGER EASEMENT WIDTHS MAY BE REQUIRED FOR SPECIAL CIRCUMSTANCES SUCH AS EXCESSIVELY DEEP PIPES, e.g. 1:1 SLOPE FROM BOTTOM OF FOUNDATION TO BOTTOM EDGE OF PIPE TRENCH.

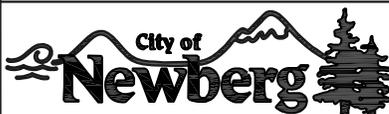
4. OPEN CHANNELS SHALL HAVE EASEMENT WIDTHS SUFFICIENT TO COVER THE 100 YEAR FLOOD PLAIN LINE WHEN A 100 YEAR DESIGN STORM IS REQUIRED, OR 15' FROM THE WATERWAY CENTERLINE, OR 10' FROM THE TOP OF THE RECOGNIZED BANK, WHICHEVER IS GREATER. A 15' WIDE ACCESS SHALL BE PROVIDED ON BOTH SIDES OF THE CHANNEL FOR CHANNEL WIDTHS GREATER THAN 14' AT THE TOP OF THE RECOGNIZED BANK.

5. EASEMENT LOCATIONS FOR PUBLIC STORM DRAINS SERVING A PLANNED UNIT DEVELOPMENT, APARTMENT COMPLEX, OR COMMERCIAL/ INDUSTRIAL DEVELOPMENT SHALL BE IN PARKING LOTS, PRIVATE DRIVES, OR SIMILAR OPEN AREAS WHICH WILL PERMIT UNOBSTRUCTED VEHICLE ACCESS FOR MAINTENANCE.

5. ALL EASEMENTS MUST BE FURNISHED ON CITY FORM, TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO RECORDING.

6. MULTIPLE PIPES IN A COMMON EASEMENT DETERMINED ON A CASE BY CASE BASIS.

MINIMUM EASEMENT WIDTH	
(L) EASEMENT WIDTH (ft.)	PIPE SIZE (in.)
15	18" OR LESS
20	OVER 18"
LARGER	WHEN REQUIRED



PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS:

# EASEMENTS

SCALE:
DATE: 01/24/2014
APPROVED BY: JAY H.
STANDARD DRAWING 109

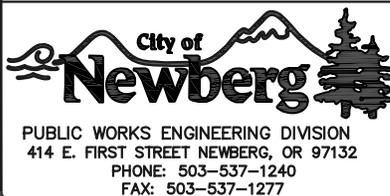
NOTES:

1. THE MINIMUM PIPE COVER SHALL BE ACCORDING TO TABLE 1, BELOW. WHEN CIRCUMSTANCES DICTATE, THEN A LESSER DESIGN COVER MAY BE CONSIDERED PER TABLE 2 BELOW.
2. PIPE COVER SHALL BE MEASURED FROM FINISHED GRADE TO THE UPPER MOST EXTERIOR SURFACE ELEVATION OF THE PIPE.
3. A PIPE UNDER A ROADWAY SHALL NOT INTRUDE INTO THE SUBGRADE AND SHALL BE PROTECTED DURING CONSTRUCTION.
4. SUFFICIENT DEPTH SHALL MEAN FROM THE TOP OF THE PIPE TO FINISHED GRADE. ALL STORM DRAINS SHALL BE LAID AT SUFFICIENT DEPTH TO PROTECT AGAINST DAMAGE FROM INTERIM CONSTRUCTION LOADS, FINAL TRAFFIC LOADS, AND TO DRAIN BUILDING FOOTINGS WHERE PRACTICAL. IN AREAS OF RELATIVELY FLAT TERRAIN, THE DESIGN ENGINEER MUST SHOW THAT SUFFICIENT DEPTH PROVIDED AT THE BOUNDARY OF THE DEVELOPMENT TO PROPERLY SERVE THE REMAINDER OF THE UPSTREAM BASIN AREA TRIBUTARY TO THE SITE.

TABLE 1 : MINIMUM COVER	
WATER	36 (in.)
STORM	48 (in.)
SEWER	8 (ft.)

TABLE 2: PIPE COVER		
TYPE OF PIPE	PAVED AREAS (in.)	UNPAVED AREAS (in.)
PVC C900	24	12
PVC 3034 SDR35	36	24
DUCTILE IRON	18	6
*RCP CLASS II	30	18
*RCP CLASS IV	24	12
*RCP CLASS V	18	6

\* WHEN APPROVED



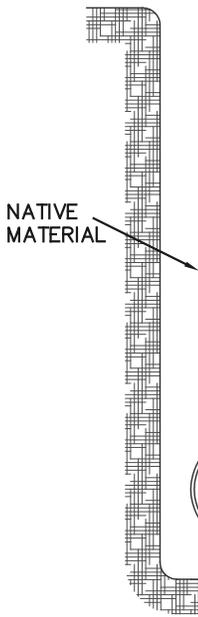
REVISIONS:

# PIPE COVER

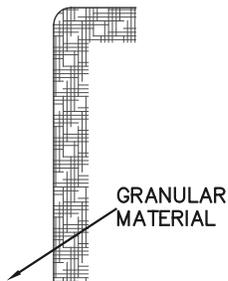
SCALE:
DATE: 01/24/2014
APPROVED BY: JAY H.
STANDARD DRAWING <b>110</b>

# 201A TRENCH BACKFILL

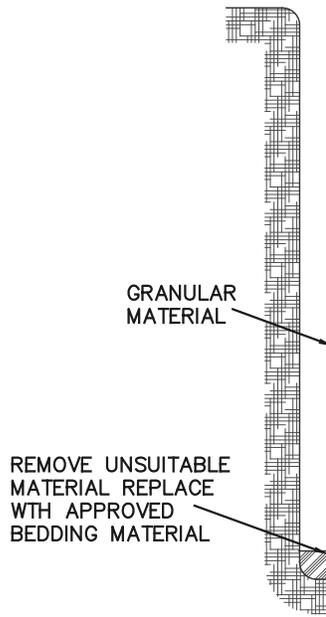
CLASS "A"



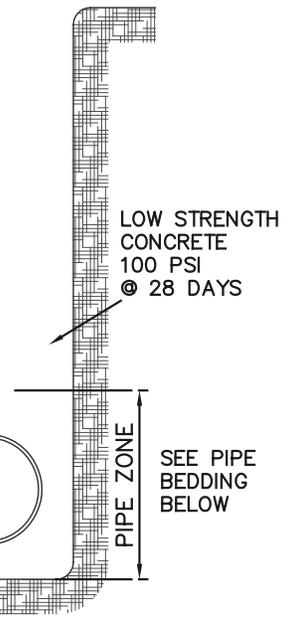
CLASS "B"



CLASS "D"



CLASS "CDF"  
CONTROLLED  
DENSITY FILL

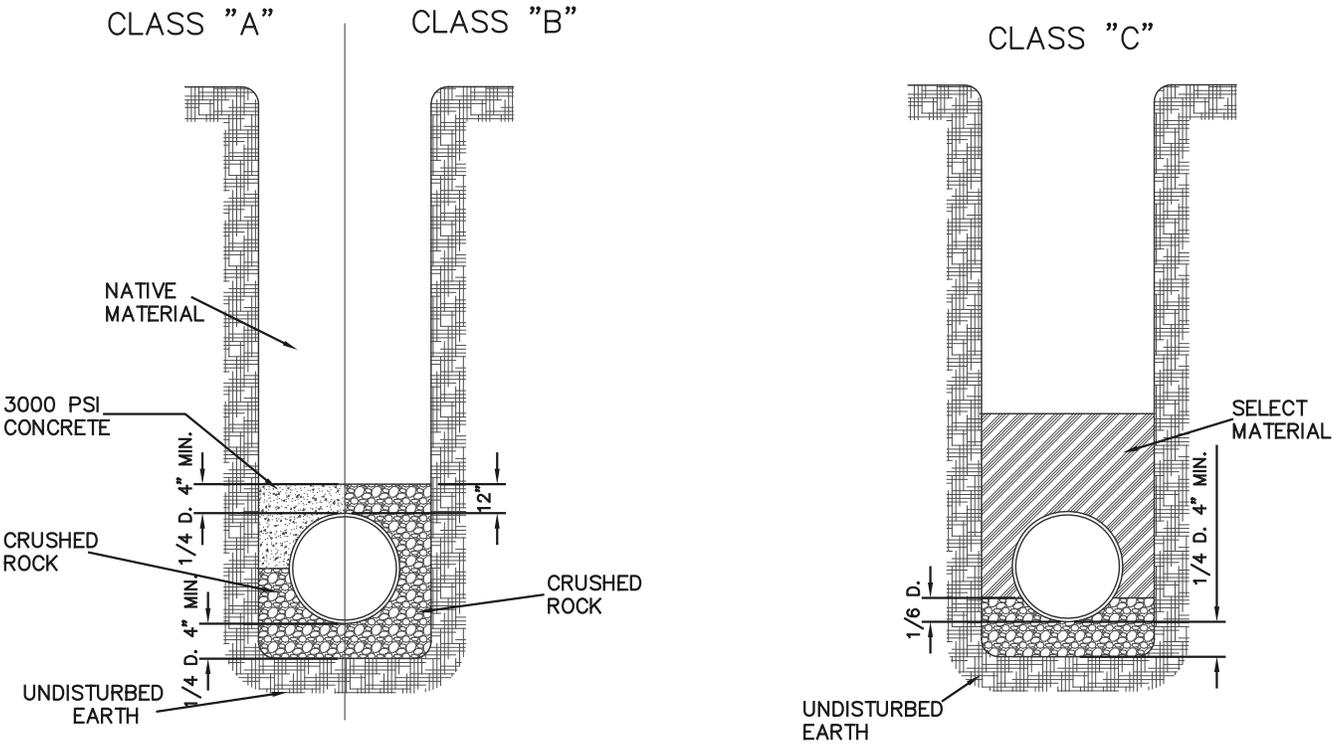


REVISIONS:
SEPT 2013- JAY H.

**TRENCH BACKFILL**

SCALE:	N.T.S
DATE:	MAY 2007
APPROVED BY:	D. DANICI
STANDARD DRAWING	<b>201A</b>

# 201B PIPE BEDDING



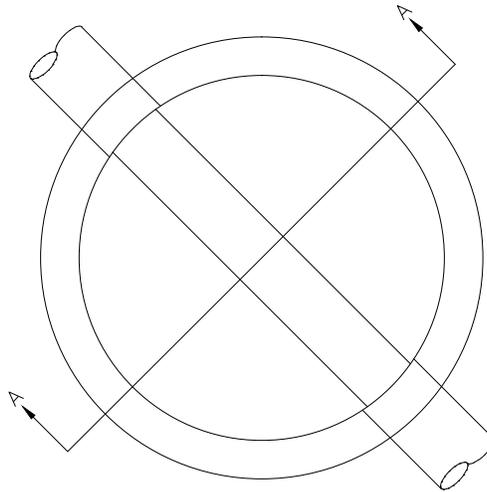
**City of Newberg**

PUBLIC WORKS ENGINEERING DIVISION  
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 PHONE: 503-537-1240  
 FAX: 503-537-1277

REVISIONS:
SEPT. 2013- JAY H.

PIPE BEDDING

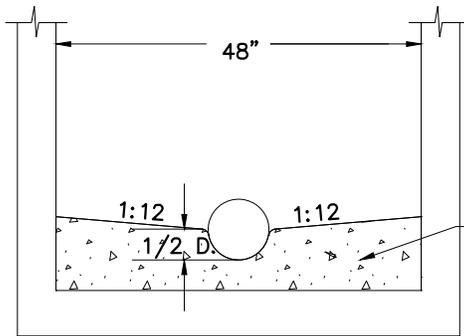
SCALE:	N.T.S
DATE:	MAY 2007
APPROVED BY:	D. DANICI
STANDARD DRAWING	201B



**NOTES:**

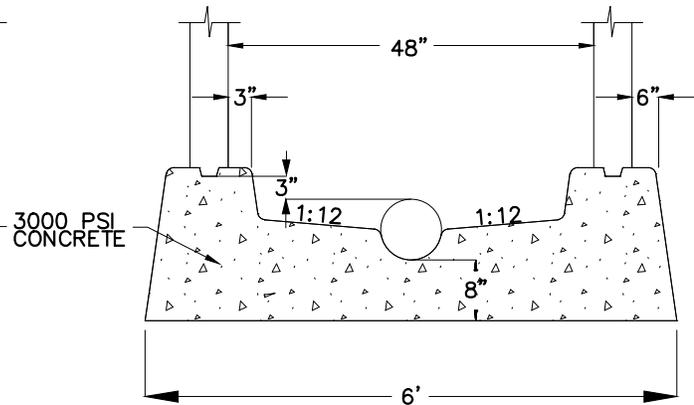
1. LAY PIPE THROUGH MANHOLE FOR CHANNEL IF THE SLOPE IN AND OUT OF THE MANHOLE ARE THE SAME.
2. RUBBER BOOT ONLY, SAND COLLAR PER PRE-APPROVAL BY CITY ENGINEER.

APPLY LIGHT BROOM FINISH TO INSIDE OF BASE



6" COMPACTED 3/4"-0" CRUSHED ROCK ON STABLE SUBGRADE

PRECAST BASE



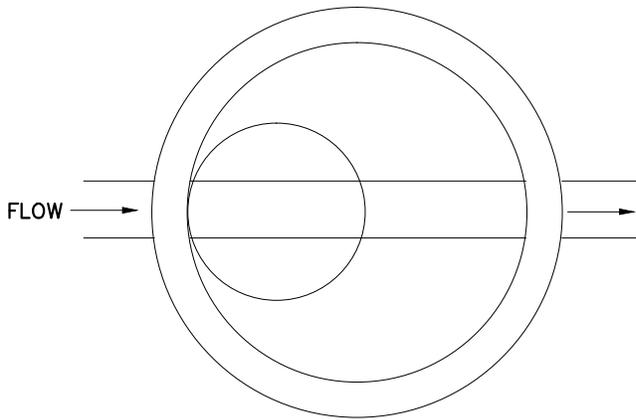
6" COMPACTED 3/4"-0" CRUSHED ROCK ON STABLE SUBGRADE

POURED IN PLACE BASE

REVISIONS:
05/04/2015 - ASM

**MANHOLE BASE**

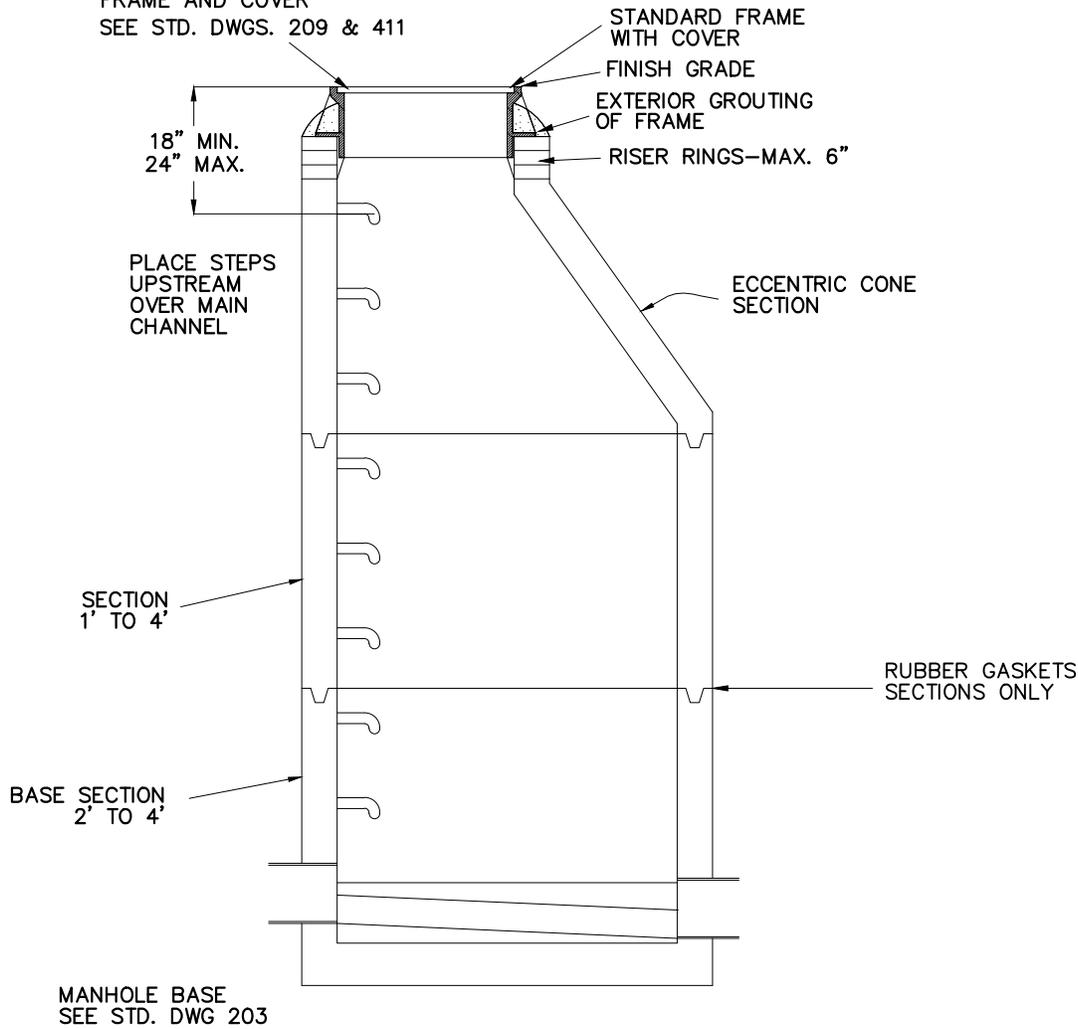
SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	<b>203</b>



NOTES

1. Standard 48" Manhole to be used for pipes 24" and less.
2. Precast concrete structures shall have strength of 4000 PSI.
3. Standard Manhole Depth = 8' top of frame to invert.
4. Lateral lines to match top of inlet pipe at Manhole.
5. All interior joints and connections shall be water tight, and grouted with non-shrink grout.
6. All Manholes shall be vacuum tested prior to acceptance.
7. If end of line Manhole, step shall be located on downstream side and channel shall be constructed full width of interior.
8. Locate Manhole cover over upstream of mainline.
9. Gasket style Manholes only, Key-Loc style is for retrofit only and requires exterior joints to be sealed with Rapid Seal or interior coating with Raven Coating.

CAST IRON  
FRAME AND COVER  
SEE STD. DWGS. 209 & 411

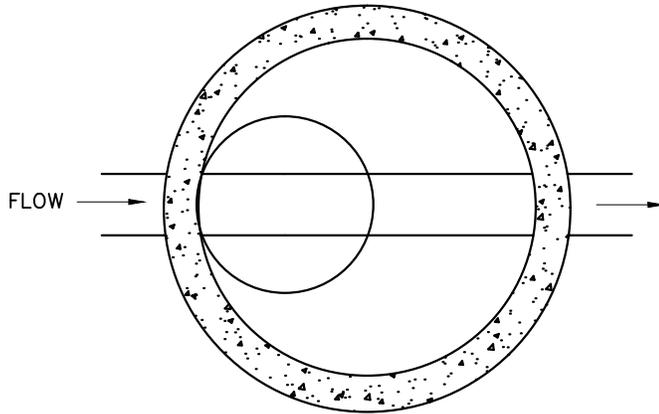


MANHOLE BASE  
SEE STD. DWG 203

REVISIONS:
12/28/12
11/27/2013-CHIU
05/01/2015 - ASM

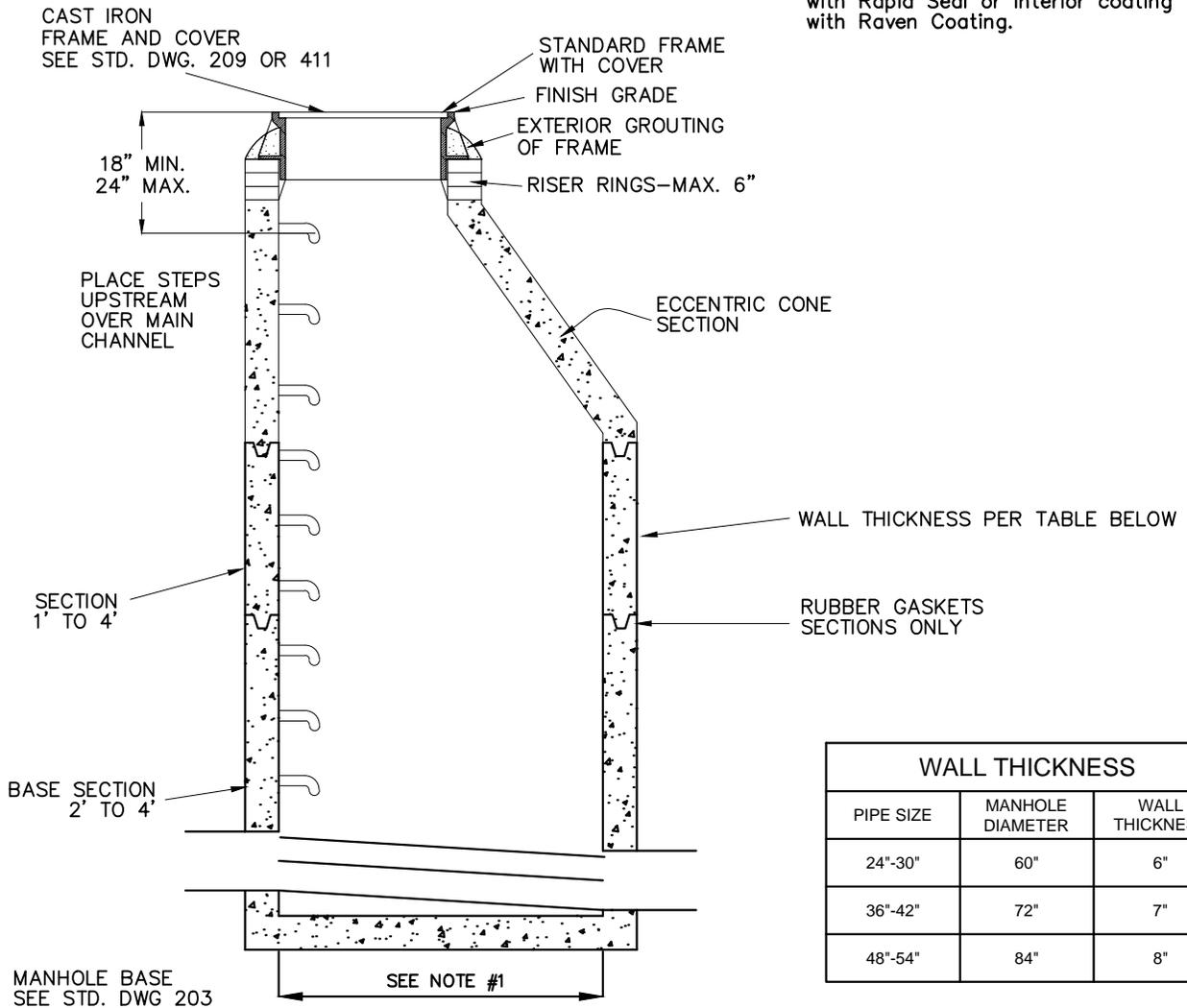
48"  
STANDARD MANHOLE

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	204



**NOTES**

1. Per City Engineer approval oversized Manhole can be 60", 72", or 84" in diameter. Design needs to specify size on construction plan.
2. Precast concrete structures shall have strength of 4000 PSI.
3. Standard Manhole Depth = 8' top of frame to invert.
4. Lateral lines to match top of inlet pipe at Manhole.
5. All interior joints and connections shall be water tight, and grouted with non-shrink grout.
6. All Manholes shall be vacuum tested prior to acceptance.
7. If end of line Manhole, step shall be located on downstream side and channel shall be constructed full width of interior.
8. Locate Manhole cover over upstream of mainline.
9. Gasket style Manholes only, Key-Loc style is for retrofit only and requires exterior joints to be sealed with Rapid Seal or interior coating with Raven Coating.



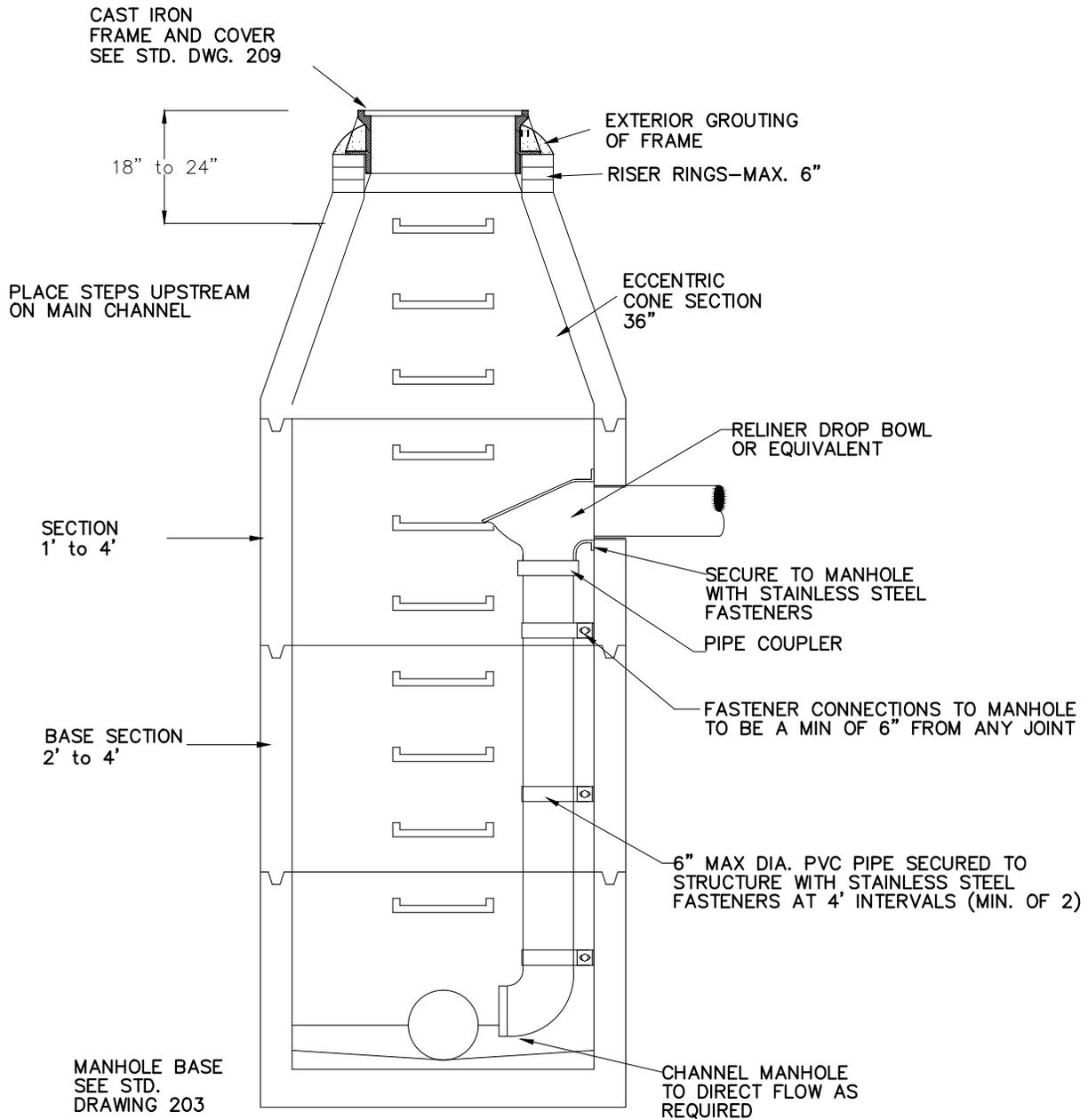
WALL THICKNESS		
PIPE SIZE	MANHOLE DIAMETER	WALL THICKNESS
24"-30"	60"	6"
36"-42"	72"	7"
48"-54"	84"	8"

REVISIONS:
05/01/2015 - ASM

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	205

NOTES

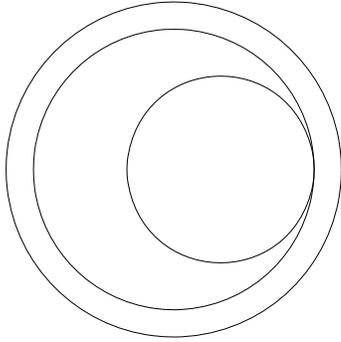
1. Standard 48" Manhole to be used for pipes 24" and less.
2. Precast concrete structures shall have strength of 4000 PSI.
3. Standard Manhole Depth = 8' top of frame to invert.
4. Lateral lines to match top of inlet pipe at Manhole.
5. All interior joints and connections shall be water tight, and grouted with non-shrink grout.
6. All Manholes shall be vacuum tested prior to acceptance.
7. If end of line Manhole, step shall be located on downstream side and channel shall be constructed full width of interior.
8. Locate Manhole cover over upstream of mainline.
9. Gasket style Manholes only, Key-Loc style is for retrofit only and requires exterior joints to be sealed with Rapid Seal or interior coating with Raven Coating.



REVISIONS:
05/01/2015 - ASM

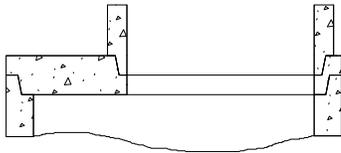
INSIDE  
DROP MANHOLE

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	206



**NOTES**

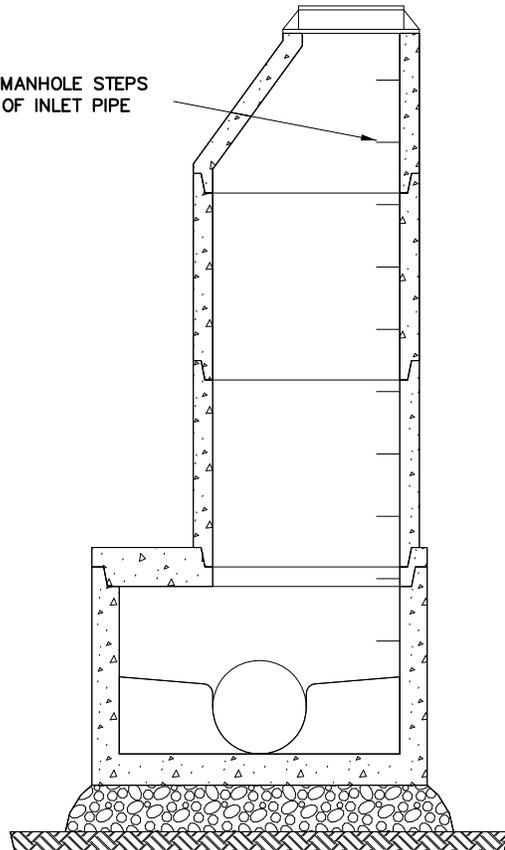
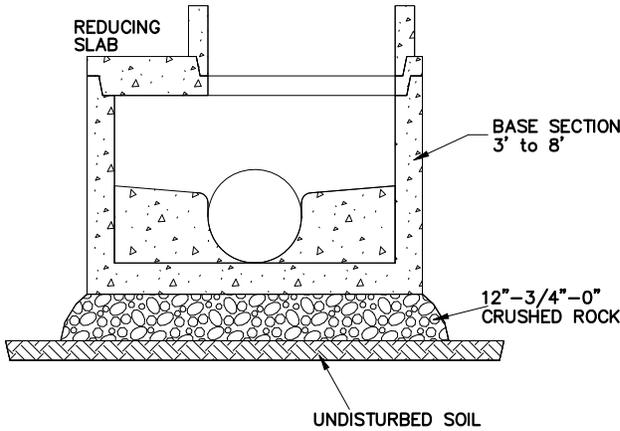
1. ALL CONCRETE SHALL HAVE STRENGTH OF 3000 PSI AT 28 DAYS.
2. MANHOLE TO BE USED FOR PIPE SIZES 24" AND GREATER.



72" to 48"  
REDUCING SLAB

MANHOLE FRAME & COVER  
AS SPECIFIED  
SEE STD. DRAWING 209

LOCATE MANHOLE STEPS  
TO LEFT OF INLET PIPE



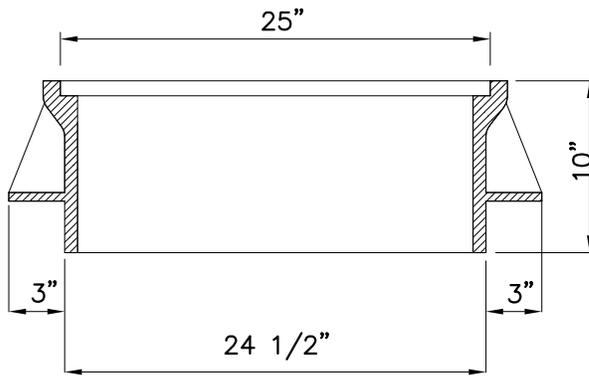
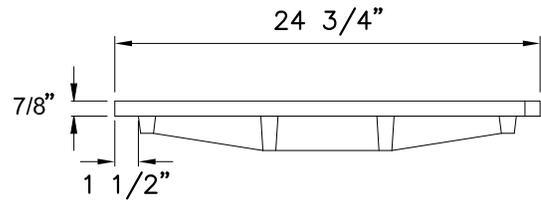
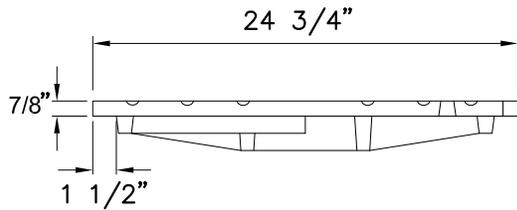
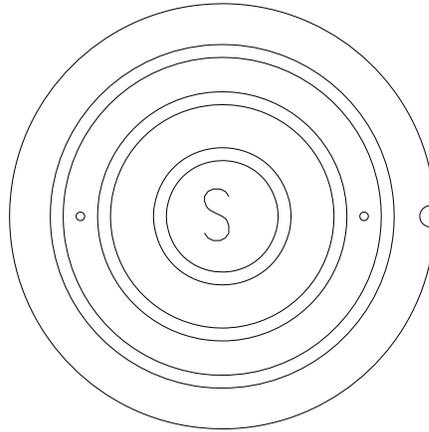
PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS:

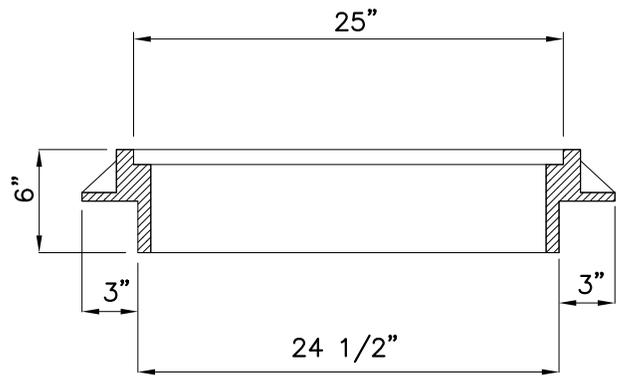
**OFFSET MANHOLE**

SCALE:	N.T.S
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	208

SANITARY



STANDARD FRAME



SUBURBAN FRAME

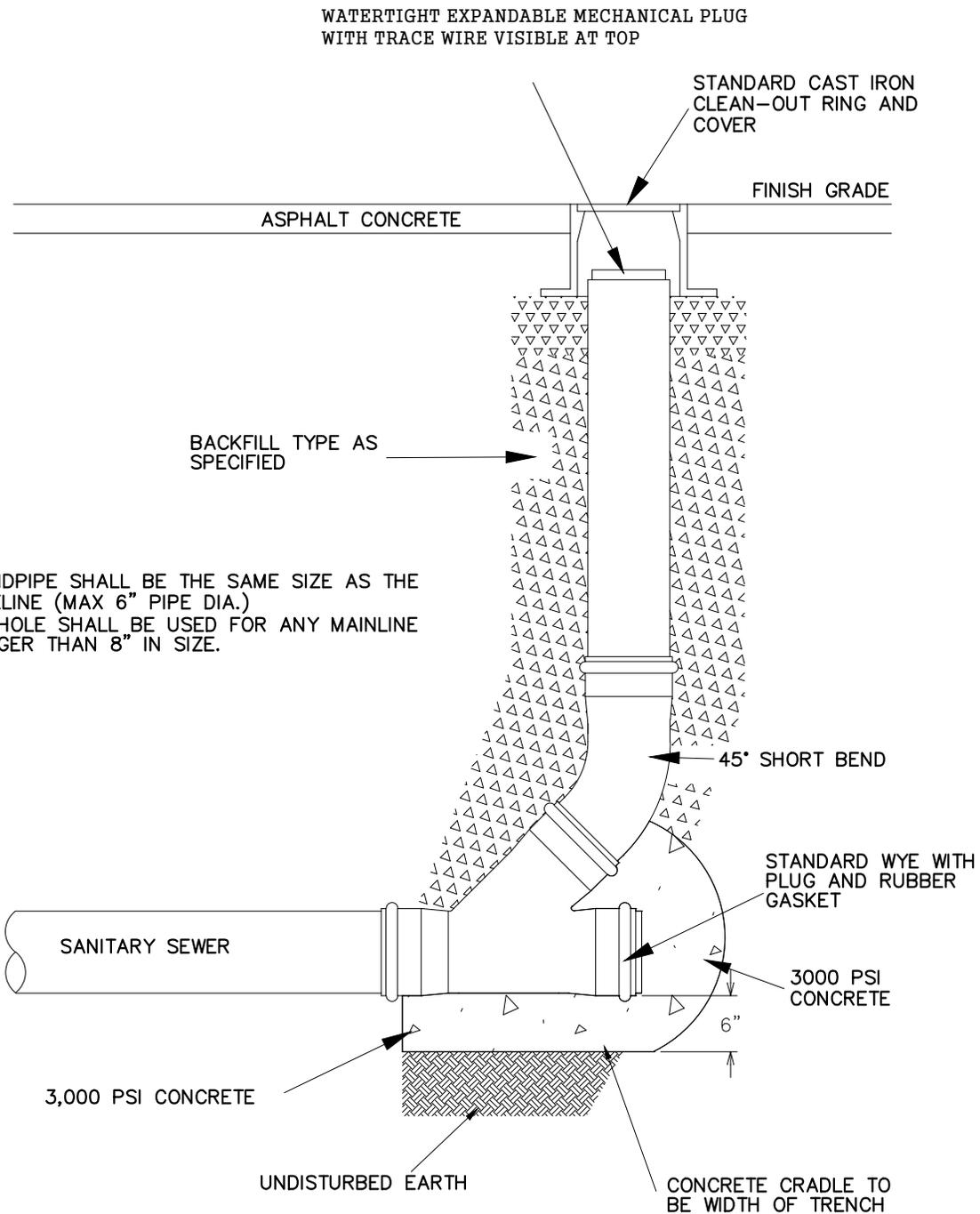
NOTES

1. USE SUBURBAN TYPE FRAME IN NON-TRAFFIC AREAS ONLY.
2. COVER AND FRAME SHALL BE CAST IRON, ASTM A-48 CLASS 30 AND MEET H-20 LOAD RATING.
3. COVER AND FRAME TO HAVE TRUE BEARING ALL AROUND.

REVISIONS:

**WASTEWATER  
 MANHOLE FRAME  
 AND COVER**

SCALE:	N.T.S
DATE:	July 2004
APPROVED BY:	D. Danicic
STANDARD DRAWING	<b>209</b>



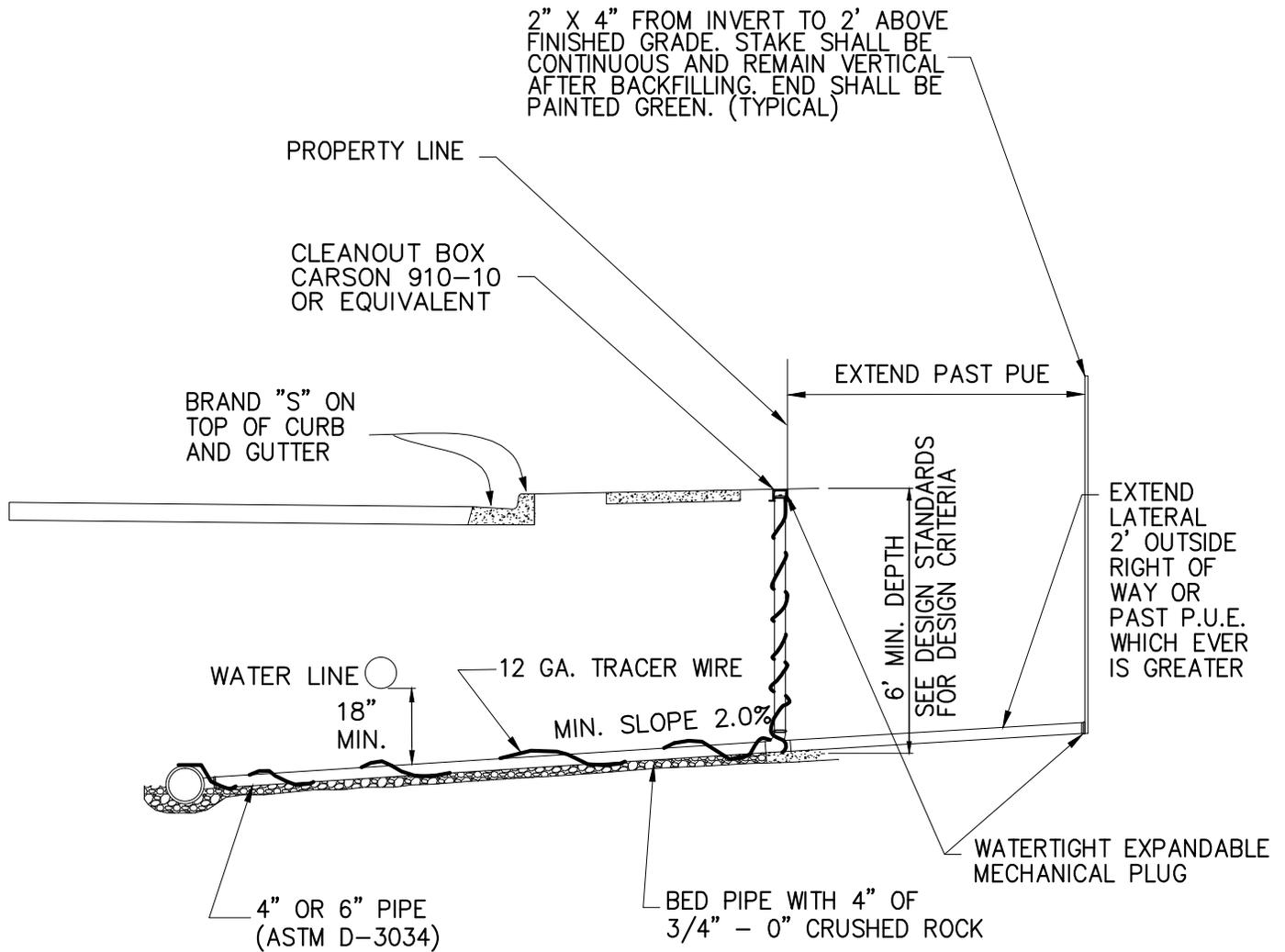
**NOTES**

1. STANDPIPE SHALL BE THE SAME SIZE AS THE PIPELINE (MAX 6" PIPE DIA.)
2. MANHOLE SHALL BE USED FOR ANY MAINLINE LARGER THAN 8" IN SIZE.

**CLEAN OUT**

REVISIONS:
05/04/2015 - ASM

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	210



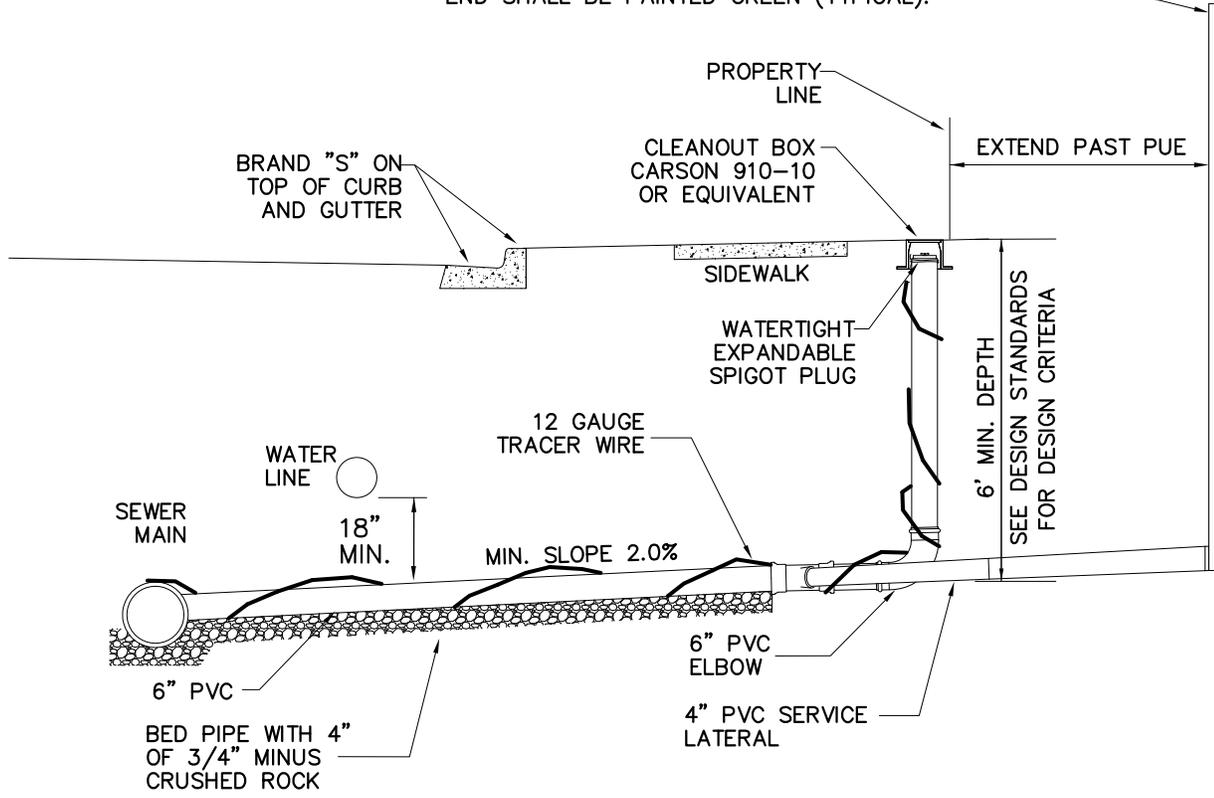
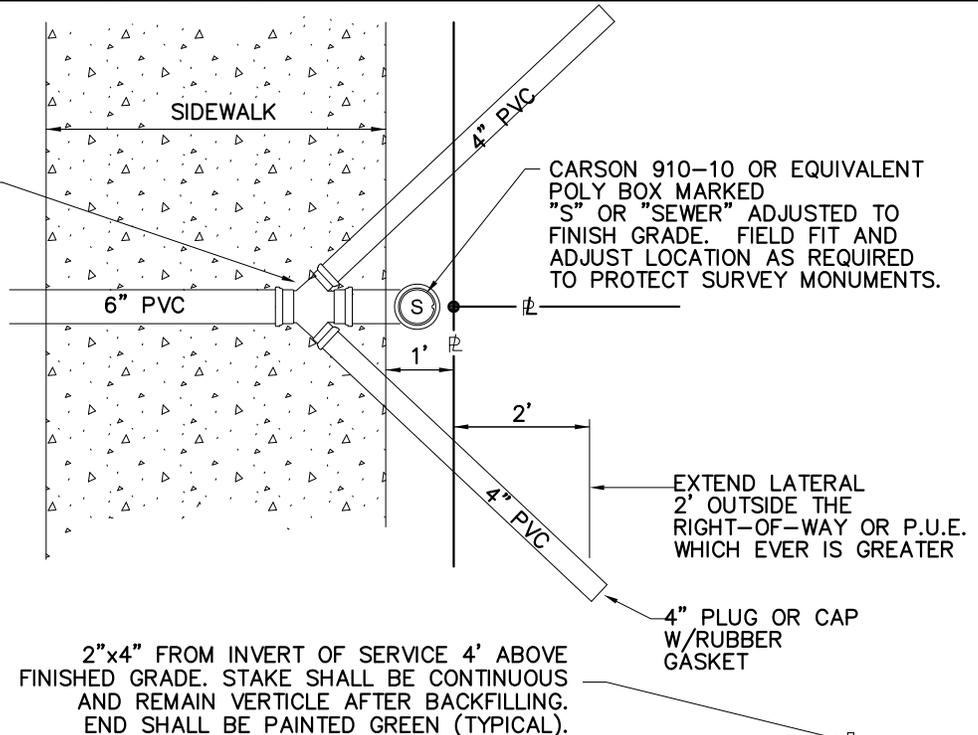
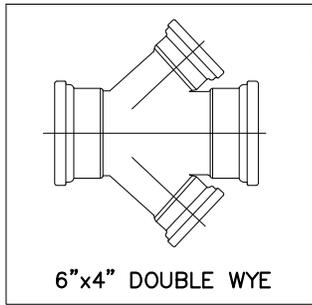
NOTES:

1. USES -SINGLE RESIDENTIAL SERVICE, 4" PIPE WITH CLEANOUT  
-SPLIT RESIDENTIAL SERVICE, 6" PIPE WITH CLEANOUT SEE STD.  
DWG 212
2. SERVICE SHALL NOT BE BACKFILLED PRIOR TO INSPECTION.
3. MINIMUM SLOPE 2.0%.

REVISIONS:
FEB 2014
MAY 2014
05/04/2015 -ASM

SEWER SERVICE BRANCH

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	211



**NOTES:**

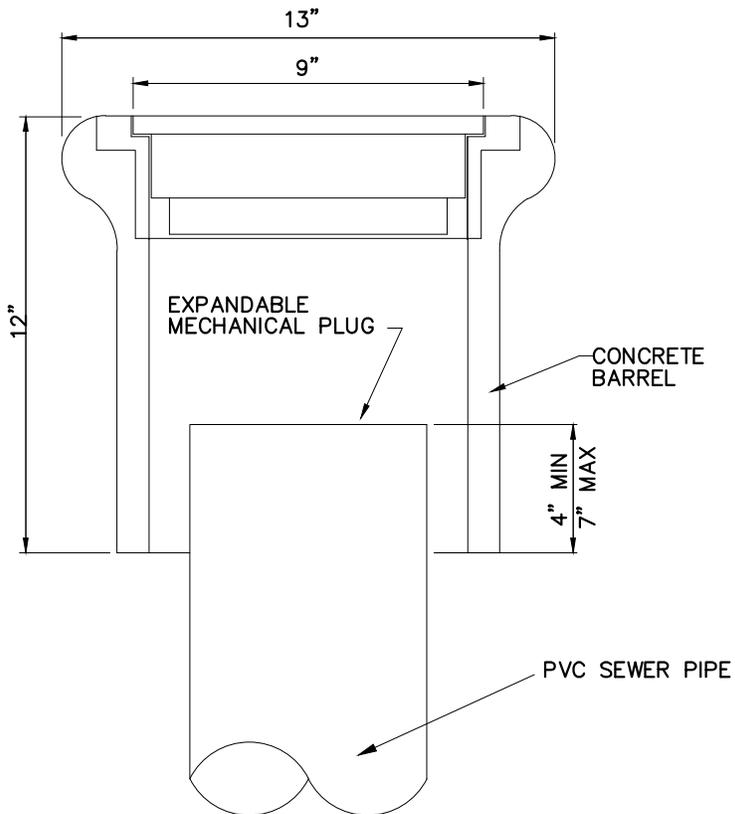
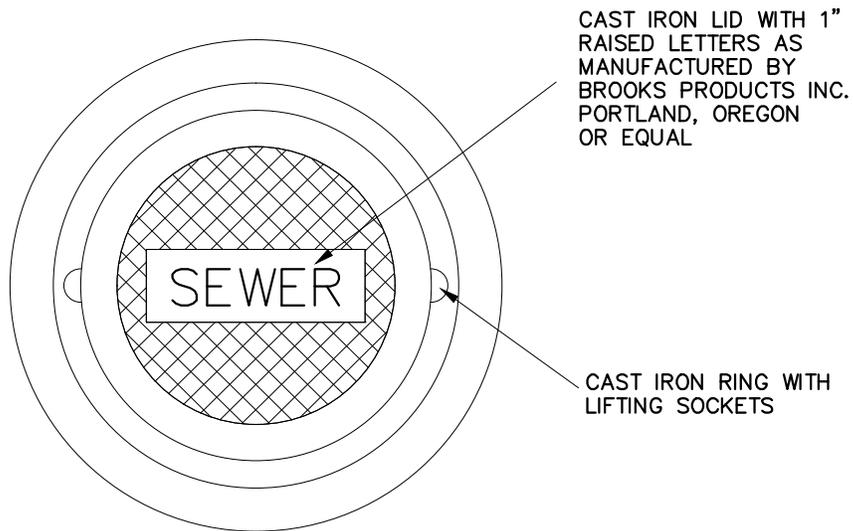
1. USES: SPLIT RESIDENTIAL SERVICE. SEE STD. DWG 211 FOR SINGLE SERVICE
2. SERVICE SHALL NOT BE BACKFILLED PRIOR TO INSPECTION.
3. MINIMUM PIPE SLOPE 2%.

REVISIONS:
07/29/08
FEB 2014
MAY 2014

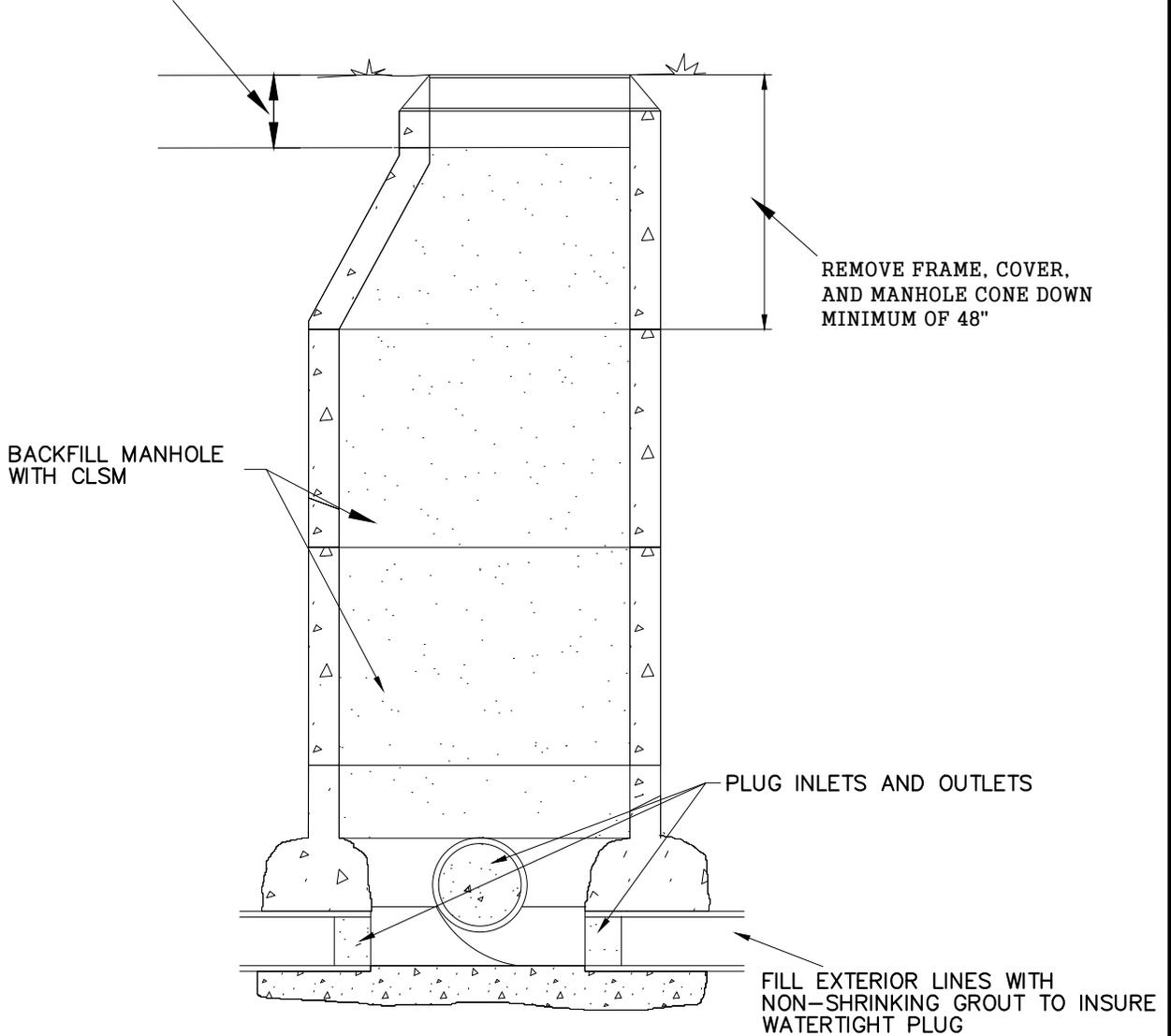
## DOUBLE WYE SERVICE BRANCH

SCALE:	N.T.S.
DATE:	July 2004
APPROVED BY:	D. Danicic
STANDARD DRAWING	<b>212</b>

FOR USE IN PRIVATE AREAS ONLY



REPLACE WITH 1' OF WELL GRADED TOPSOIL  
AND RESEED IN NON-TRAVELLED AREAS



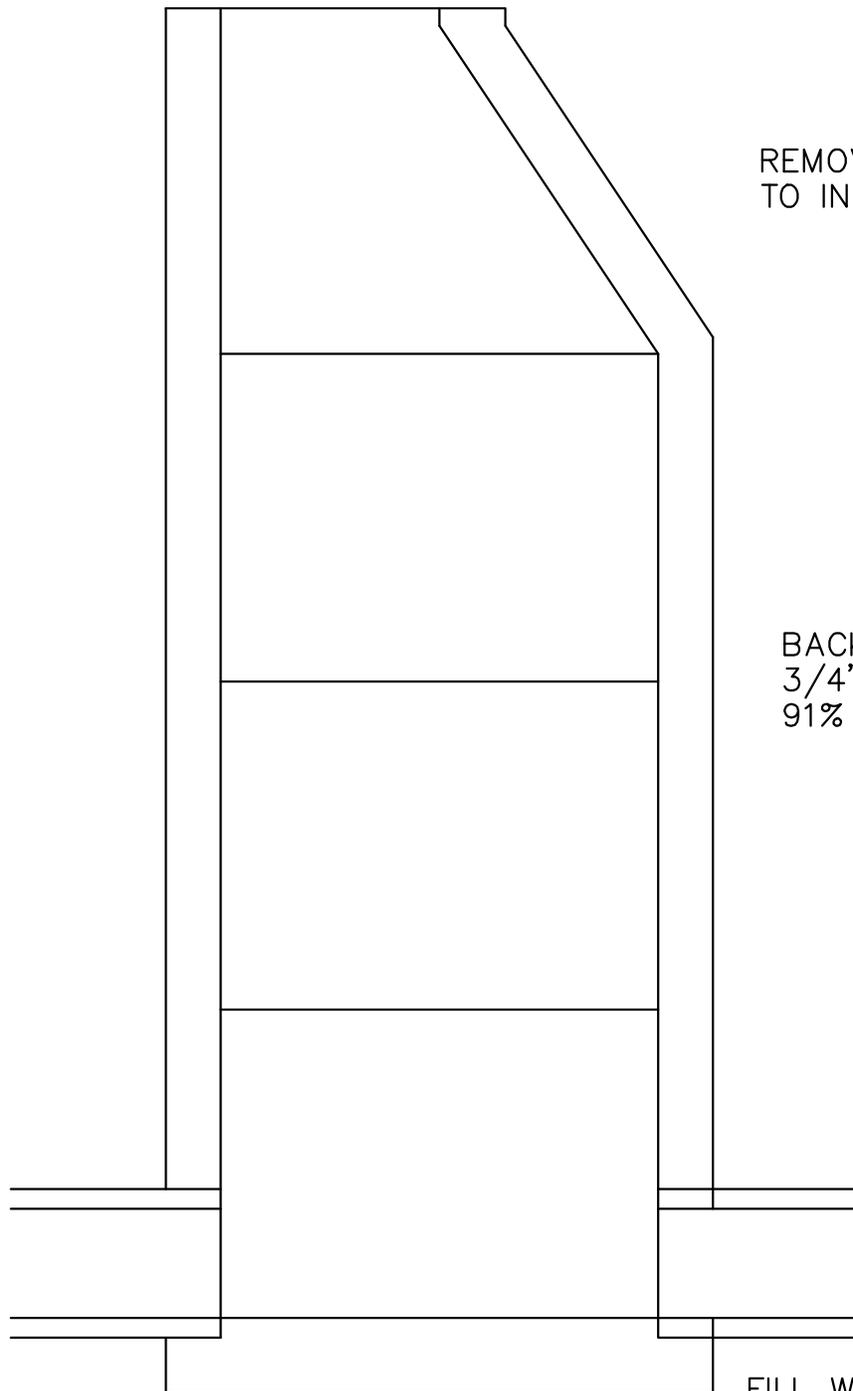
NOTES:

1. PRIOR TO ABANDONMENT OF MANHOLE VERIFY THAT ANY AND ALL SEWER SERVICES HAVE BEEN CONNECTED TO NEW SEWER MAIN.

REVISIONS:
05/04/2015 - ASM

## MANHOLE ABANDONMENT

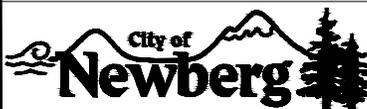
SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	<b>214</b>



REMOVE EXISTING MANHOLE  
TO INCLUDE BASE SECTION

BACKFILL EXCAVATION WITH  
3/4" - 0" CRUSHED ROCK  
91% COMPACTION, T-180

FILL WITH NON-SHRINKING  
GROUT / CLSM / CDF TO  
INSURE WATERTIGHT SEAL



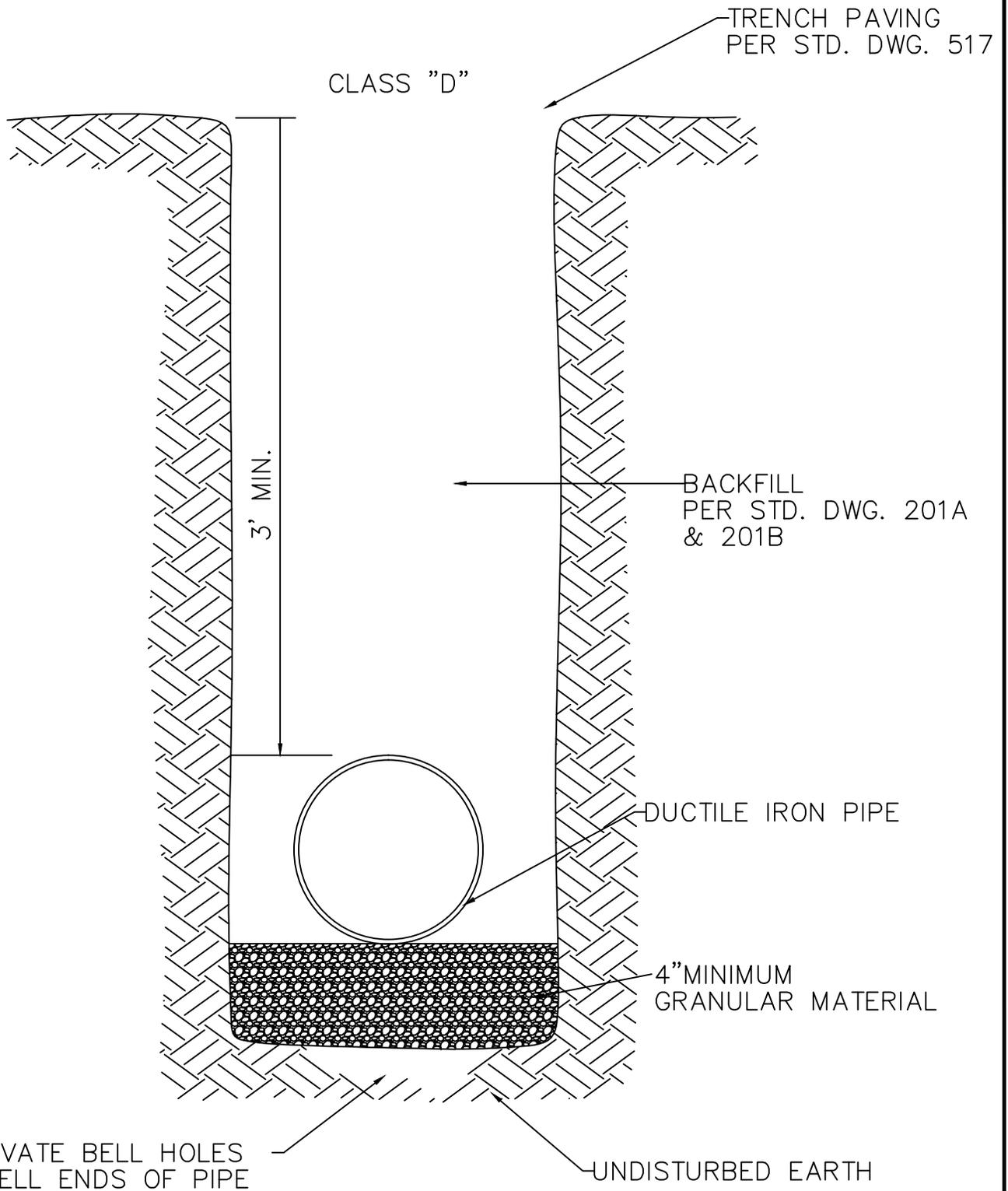
PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS:  
05/04/2015 - ASM

## MANHOLE REMOVAL

SCALE: N.T.S.  
DATE: May 2015  
APPROVED BY: K. Hofmann

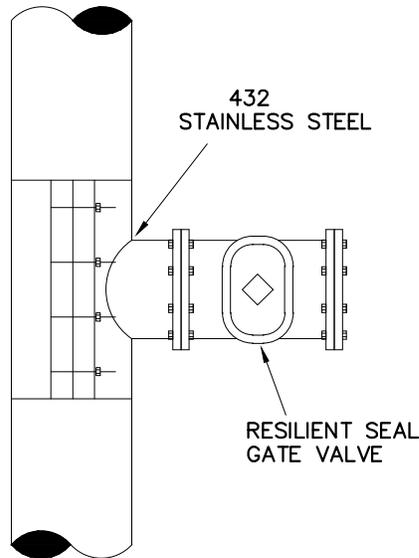
STANDARD DRAWING 215



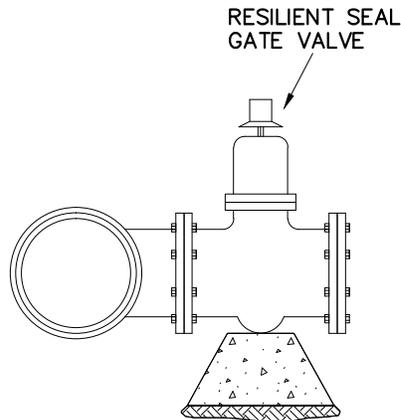
REVISIONS:
SEPTEMBER 2013- JAY H.
05/04/2015 - ASM

## WATER PIPE BEDDING

SCALE:	N.T.S
DATE:	MAY 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	301



FULL STAINLESS STEEL TAPPING SLEEVE



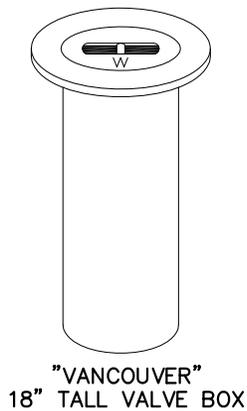
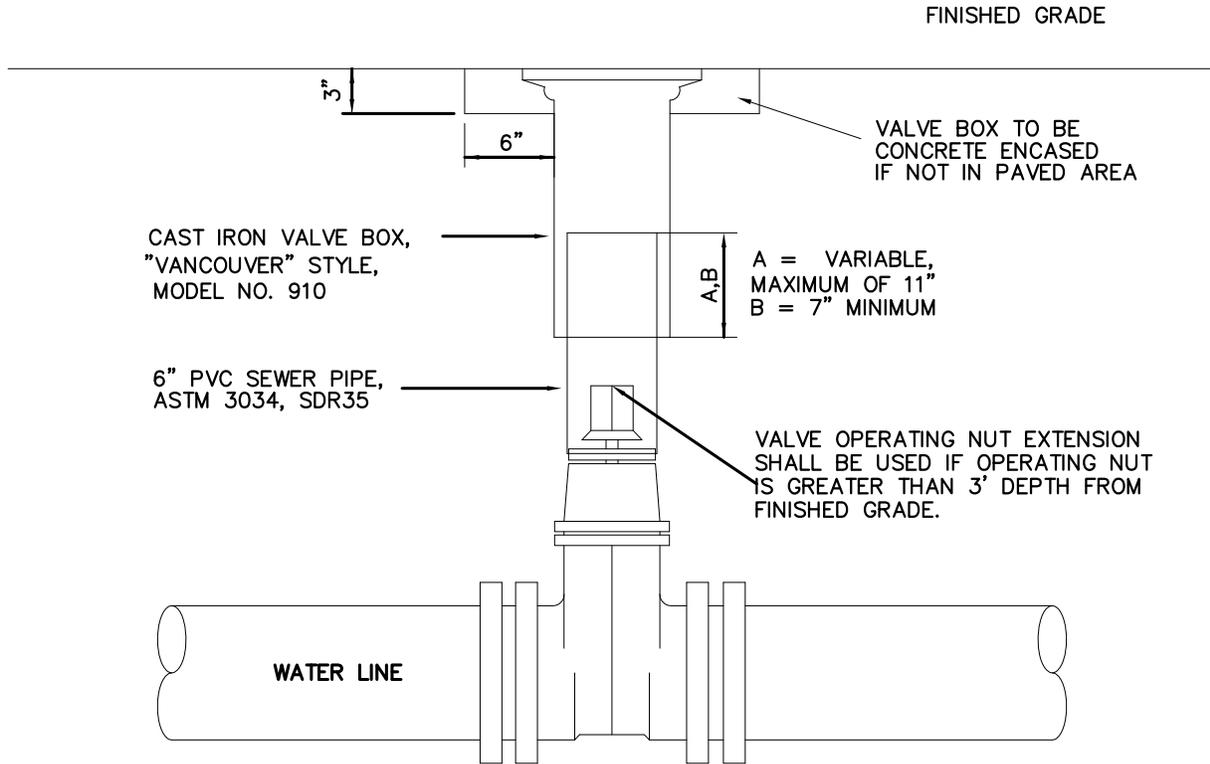
NOTES

1. WATER MAIN SHALL BE CLEANED BEFORE ATTACHING SLEEVE.
2. SLEEVE AND VALVE SHALL BE PRESSURE TESTED BEFORE MAKING TAP.
3. PRESSURE TEST AND TAP SHALL BE MADE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE BY A CONTRACTOR APPROVED BY THE ENGINEER.
4. 3/4"-0" CRUSHED ROCK SHALL BE PLACED AND COMPACTED TO 91% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
5. TAP SHALL BE MADE NO CLOSER THAN 18" FROM THE NEAREST JOINT.
6. SLEEVE AND VALVE SHALL BE WRAPPED AND SEALED WITH 8 MIL PLASTIC.
7. FLUSH ALL METAL SHAVINGS FROM THE TAPPING PROCESS.
8. STAINLESS STEEL TAPPING SLEEVE ON DUCTILE IRON PIPE
9. COUPON MUST BE RETAINED BY TAPPING BIT AND REMOVED FROM WATER MAIN.

REVISIONS:
05/05/2015 - ASM

**WATER TAPPING SLEEVES**

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	302



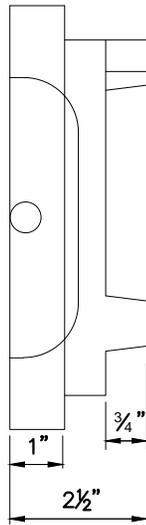
**NOTES:**

1. VALVE BOXES SHALL BE CENTERED DIRECTLY OVER THE NUT IN A VERTICAL POSITION.
2. VALVE BOX SHALL BE ADJUSTED TO MEET FINISHED GRADE.
3. PVC SHALL BE ONE CONTINUOUS PIECE – NO BELLS OR COUPLERS.
4. SEE STANDARD DRAWING NO. 304 VALVE BOX AND COVER.

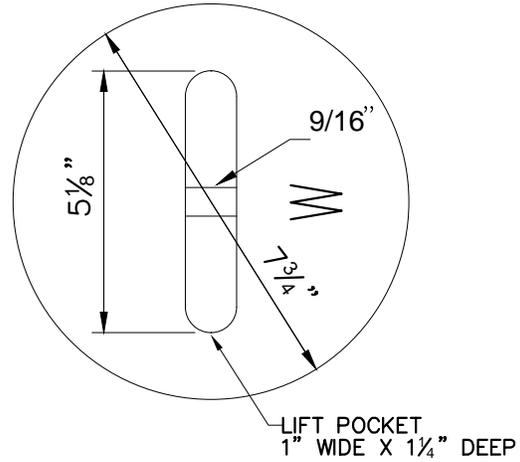
REVISIONS:
11/26/2010

**VALVE BOX  
ASSEMBLY**

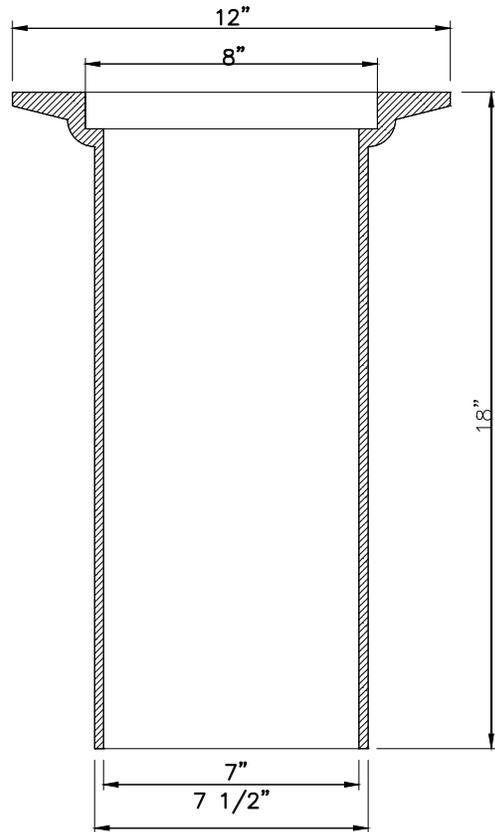
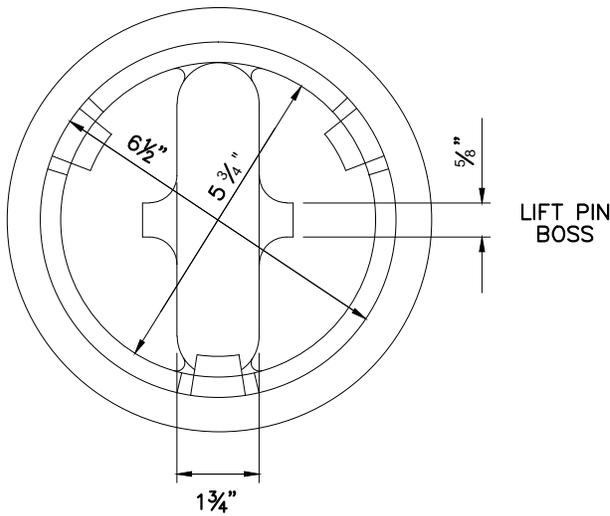
SCALE:	<b>N.T.S</b>
DATE:	<b>July 2004</b>
APPROVED BY:	<b>D. Danilic</b>
STANDARD DRAWING	<b>303</b>



TOP VIEW



BOTTOM VIEW



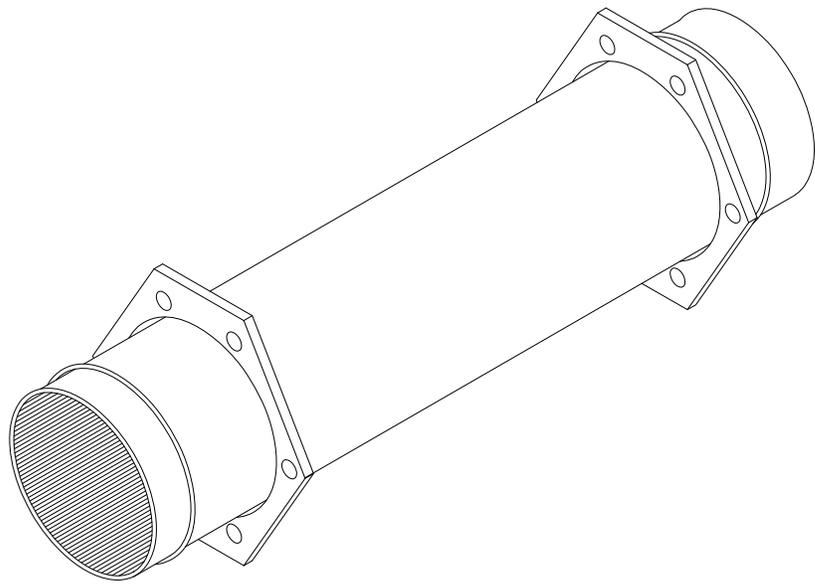
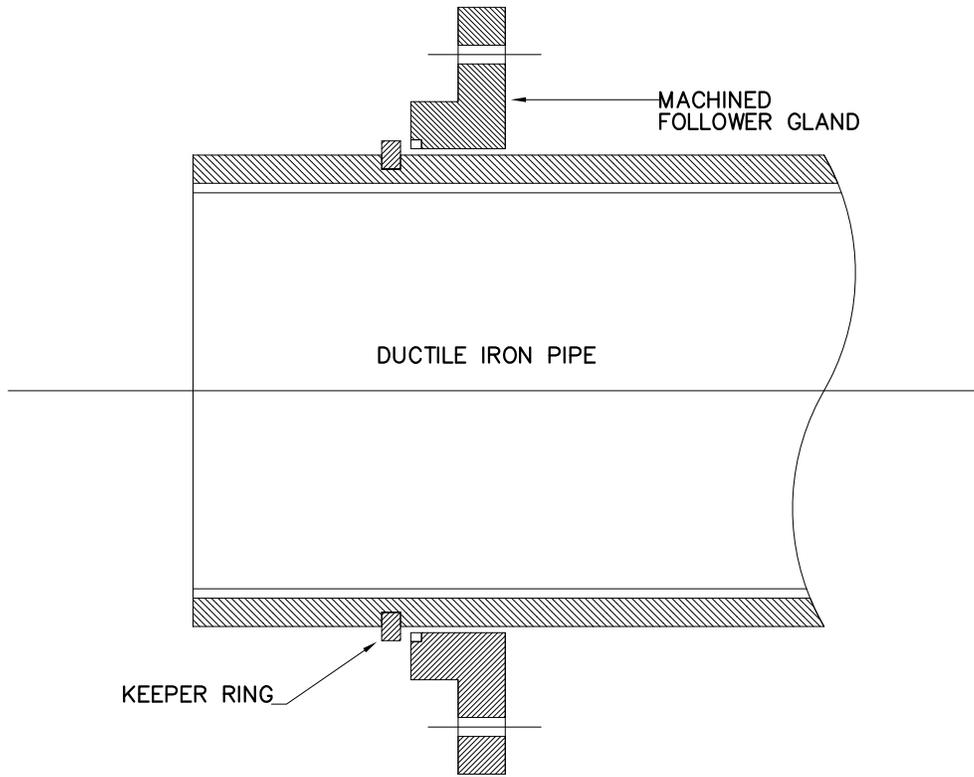
NOTES:

1. MATERIALS - CAST IRON PER ASTM A48 CL30
2. OLYMPIC FOUNDRY PART # 910 OR APPROVED EQUAL PER PRE-APPROVAL BY CITY ENGINEER

REVISIONS:
05/04/2015 - ASM

VALVE BOX  
AND COVER

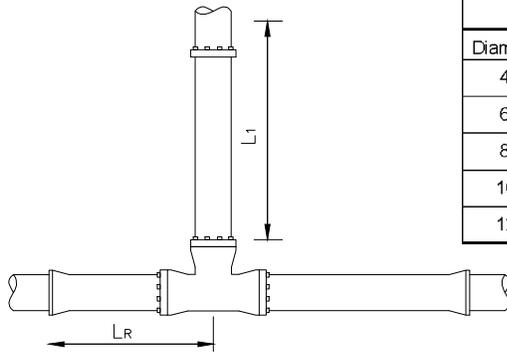
SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	304



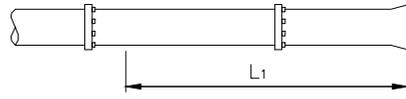
REVISIONS:

**MJ HOLDING SPOOL**

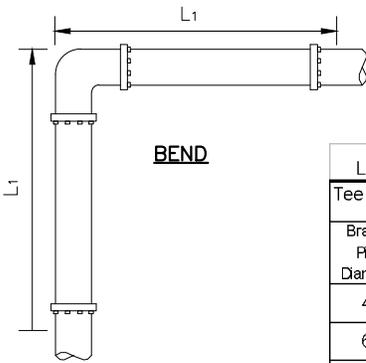
SCALE:	N.T.S
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	<b>305</b>



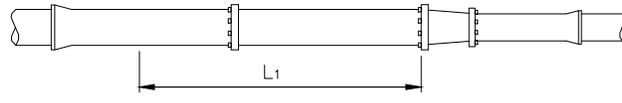
**TEE CONFIGURATION**



**DEAD END**



**BEND**



**REDUCER**

LENGTH (L1) OF PIPE REQUIRED FOR RESTRAINT (FEET)										
Diameter	Horizontal Bend				Dead End	Reducer (restrained length for large diameter side)				
	90°	45°	22 1/2°	11 1/4°		4"	6"	8"	10"	12"
4"	30	23	20	19	44	--	37	53	65	77
6"	35	25	21	20	55	--	--	38	53	67
8"	40	27	22	20	66	--	--	--	37	54
10"	44	29	23	21	76	--	--	--	--	51
12"	49	31	24	21	86	--	--	--	--	--

LENGTH (L1) OF PIPE REQUIRED FOR RESTRAINT WHEN USING TEES (FEET)										
Tee configurations (Restraint length for Branch)										
Branch Pipe Diameter	LR=0	LR=2	LR=4	LR=6	LR=8	LR=10	LR=12	LR=14	LR=16	LR=18
4"	44	30	19	19	19	19	19	19	19	19
6"	55	45	36	26	19	19	19	19	19	19
8"	66	59	52	44	37	30	23	19	19	19
10"	76	70	64	58	53	47	41	35	30	24
12"	86	81	76	71	67	62	57	52	47	43

**NOTES:**

1. ALL JOINTS WITHIN THE LENGTH "L1" FROM THE ABOVE TABLE, SHALL BE RESTRAINED.
2. THE JOINT RESTRAINT LENGTHS CALCULATED ARE FOR FITTINGS USED TO CHANGE PIPE HORIZONTAL ALIGNMENT ONLY. FOR APPLICATIONS WHERE FITTINGS ARE USED TO CHANGE THE SLOPE OF THE PIPE, THE DESIGN ENGINEER SHALL INCLUDE THE JOINT RESTRAINT REQUIREMENTS ON THE PROJECT DRAWINGS.
3. IF AN UNANTICIPATED NEED FOR JOINT RESTRAINT ARISES TO CHANGE THE SLOPE OF THE PIPE, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER.
4. JOINT TYPES NOT COVERED IN ABOVE TABLE MUST BE DESIGNED INDIVIDUALLY IN ORDER TO DETERMINE APPROPRIATE RESTRAINED LENGTH.
5. THE SMALL SIDE OF A REDUCER DOES NOT REQUIRE RESTRAINT IF THE LARGE DIAMETER SIDE IS PROPERLY RESTRAINED.
6. ABOVE RESTRAINED LENGTHS ARE BASED ON:
  - a. TEST PRESSURE OF 150 PSI
  - b. MINIMUM OF 3 FEET COVER
  - c. CLASS "B" PIPE ZONE CONDITIONS
  - d. WHEN ORGANIC OR CLAY SOILS ARE BEING USED FOR BACKFILL, GRANULAR BACKFILL MUST BE USED FOR BEDDING AND BACKFILL TO A HEIGHT OF 6 9/32" OVER THE TOP OF THE PIPE BEFORE OTHER SOILS ARE PLACED.
  - e. UNCOATED PIPE, THIS TABLE DOES NOT APPLY TO PIPE ENCASED IN POLYETHYLENE

ANY REDUCTION OF THESE VALUES AS A RESULT OF OTHER CONDITIONS ENCOUNTERED SHALL BE BASED ON THE APPROPRIATE EVALUATION AND RECOMMENDATION BY A QUALIFIED, REGISTERED ENGINEER AND WITH APPROVAL BY THE CITY.



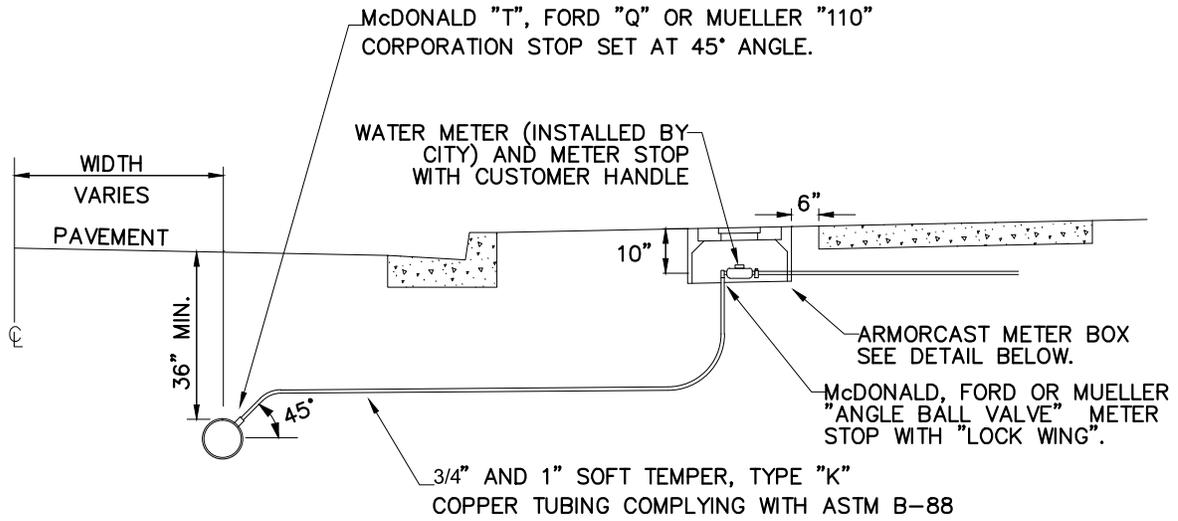
PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS:
05/04/2015 - ASM

**JOINT RESTRAINT**

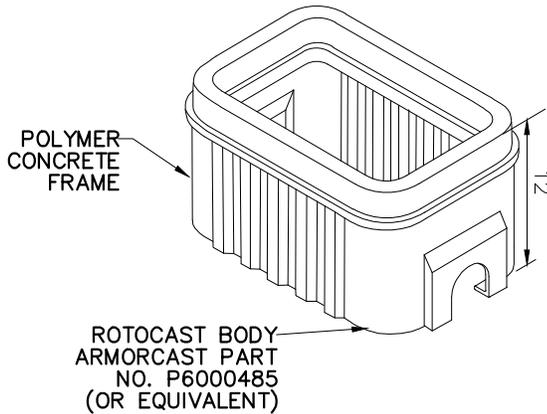
SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann

STANDARD DRAWING **306**



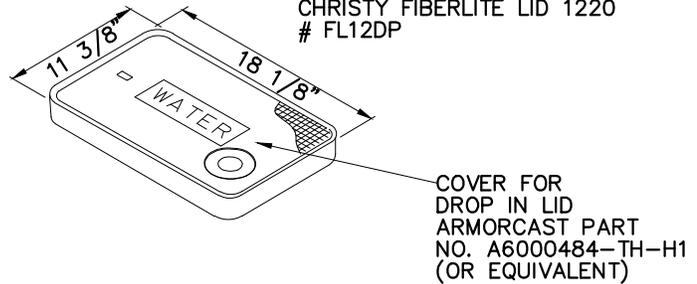
ALL FITTINGS MUST BE COMPRESSION TYPE  
NO SOLDERED, FLARED OR JOINT FITTINGS

POLYMER CONCRETE METER BOX



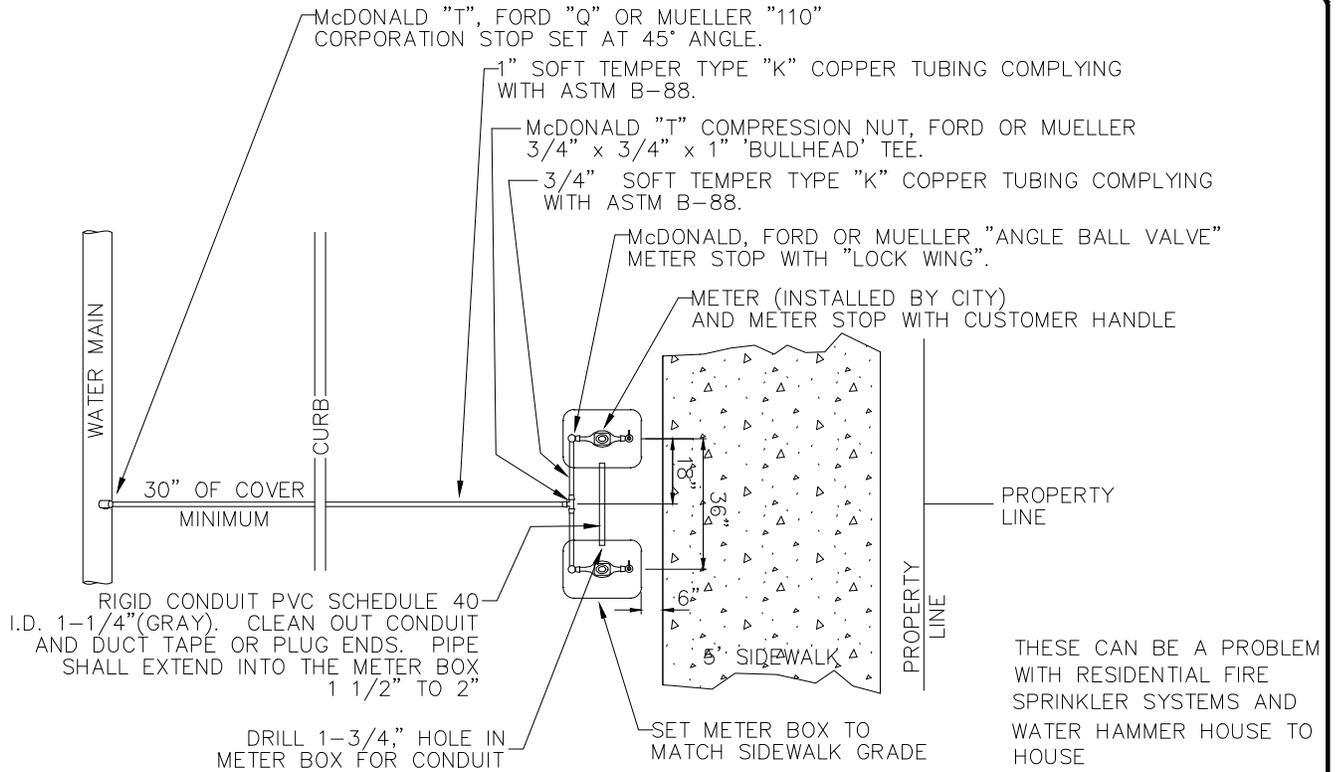
APPROVED ALTERNATE METER BOXES

- NEWBASIS BOX WFB1220122A0C  
NEWBASIS LID WPC1220A02A0B17 (PIT LIT READER HOLE)
- CHRISTY FIBERLITE BOX 1220  
# FL12D  
CHRISTY FIBERLITE LID 1220  
# FL12DP



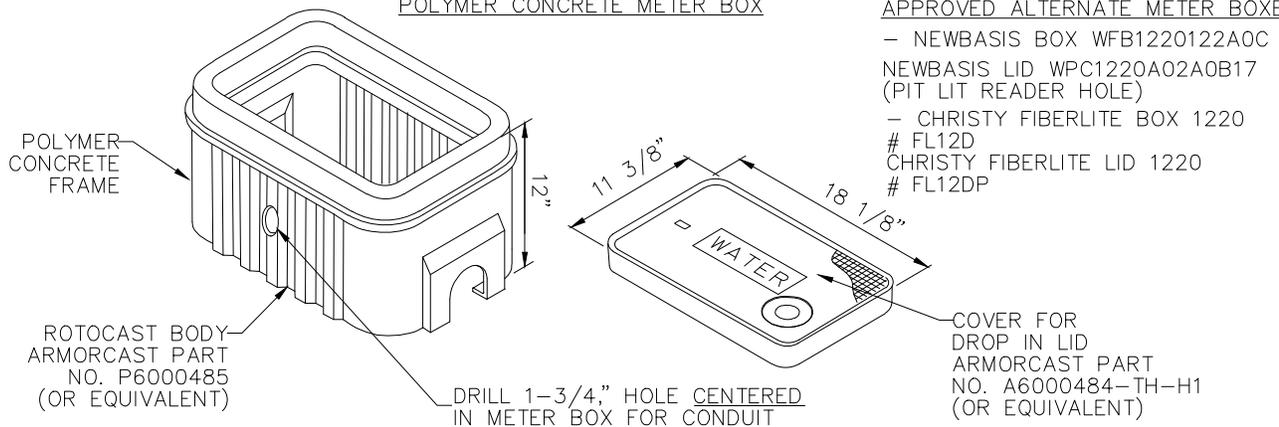
NOTES

1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY ENGINEER
2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4" - 0" CRUSHED ROCK AND COMPACTED TO 91% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180
3. WHEN AN ACTIVE CATHODIC PROTECTED SYSTEM IS ENCOUNTERED, SCHEDULE 40 PVC SHALL BE INSTALLED ACCORDING TO STANDARD DRAWING NO. 316
4. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY
5. METER BOX SHALL MATCH SIDEWALK GRADE (IF SIDEWALK EXISTS) OR BE SET FLUSH WITH GROUND SURFACE.
6. ALL FITTINGS SHALL BE COMPRESSION TYPE.
7. FOR LOCATION OF WATER MAIN, SEE STANDARD DRAWING NO. 103



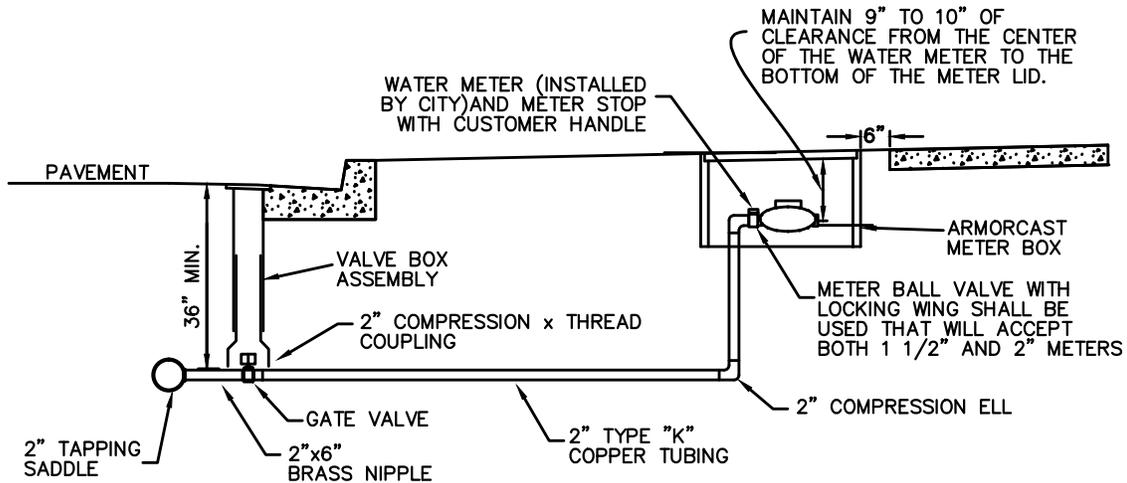
POLYMER CONCRETE METER BOX

APPROVED ALTERNATE METER BOXES



NOTES

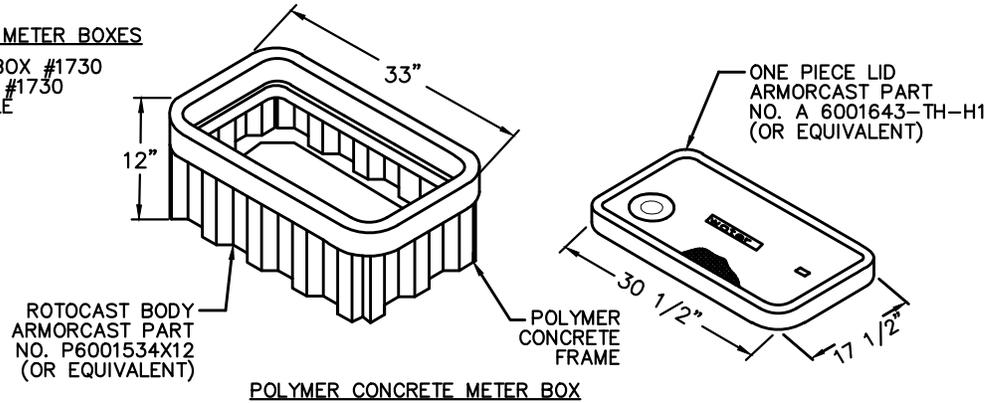
1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY.
2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4" - 0" CRUSHED ROCK AND COMPACTED TO 91% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
3. WHEN AN ACTIVE CATHODIC PROTECTED SYSTEM IS ENCOUNTERED, SCHEDULE 40 PVC SHALL BE INSTALLED ACCORDING TO STANDARD DRAWING NO. 316.
4. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY.
5. METER BOX SHALL MATCH SIDEWALK GRADE (IF SIDEWALK EXISTS) OTHERWISE SET FLUSH WITH SURROUNDING GROUND SURFACE.
6. ALL FITTINGS SHALL BE COMPRESSION TYPE.
7. FOR LOCATION OF WATER MAIN, SEE STANDARD DRAWING NO. 103.



**ALL FITTINGS MUST BE COMPRESSION TYPE  
NO SOLDERED, FLARED OR JOINT FITTINGS**

**APPROVED ALTERNATE METER BOXES**

- CHRISTY FIBERLITE BOX #1730  
CHRISTY FIBERLITE LID #1730  
WITH TOUCH READ HOLE



**MATERIALS**

1. 2" CAST IRON BODY GATE VALVE WITH STANDARD 2" SQUARE OPERATING NUT.
2. SOFT TEMPER, TYPE "K" COPPER TUBING COMPLYING WITH ASTM B-88.
3. McDONALD "T" COMPRESSION NUT, FORD OR MUELLER METER STOP.
4. ALL FITTINGS ARE COMPRESSION TYPE.

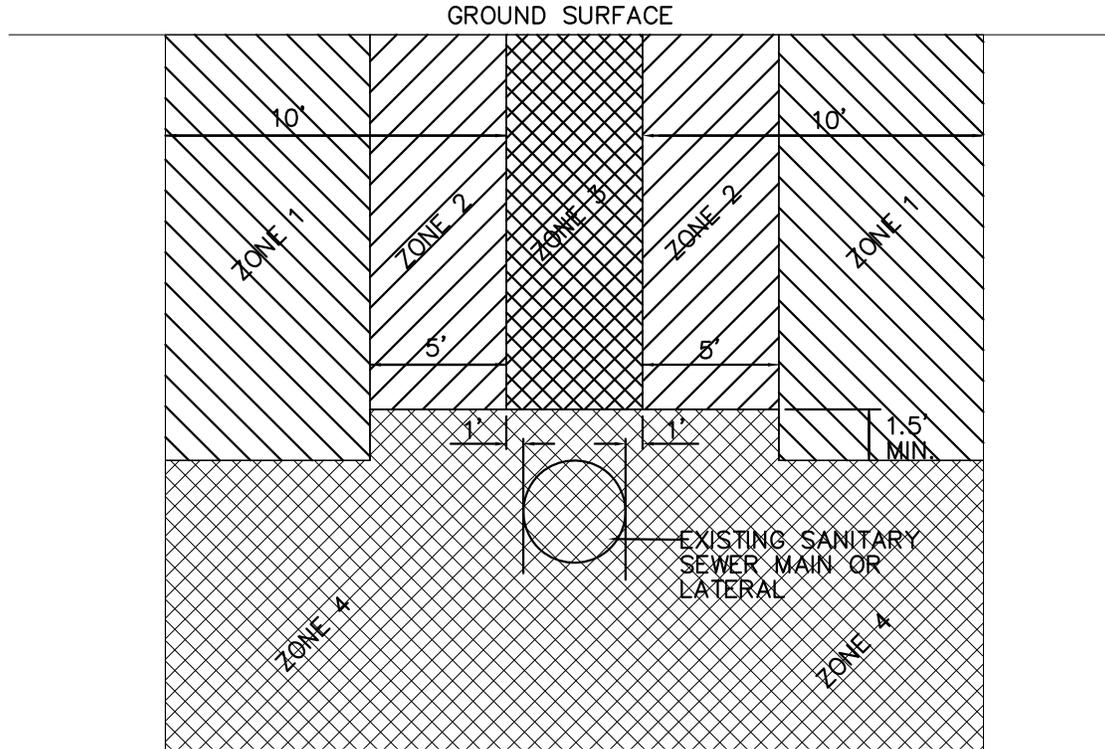
**NOTES**

1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY ENGINEER.
2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4"-0 CRUSHED AGGREGATE AND COMPACTED TO 91% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
3. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY.
4. VALVE OPERATING NUT EXTENSION SHALL BE USED IF OPERATING NUT IS GREATER THAN 3' DEPTH FROM FINISH GRADE.

REVISIONS:
3/15/2010
3/09/2011
05/04/2015 - ASM

**STANDARD 1 1/2 " & 2"  
WATER SERVICE**

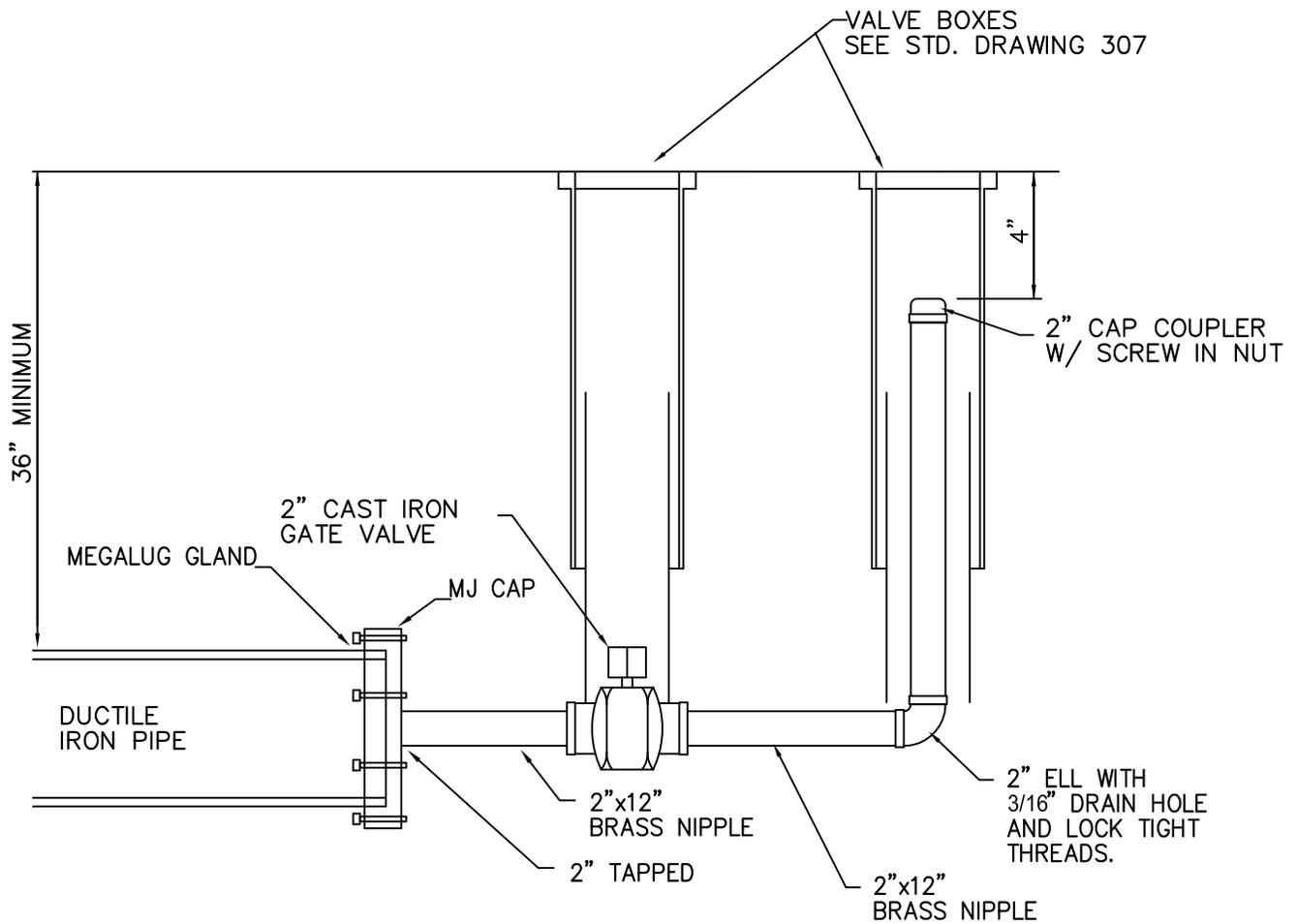
SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	<b>309</b>



-  ZONE 1: ONLY CROSSING RESTRICTIONS APPLY
-  ZONE 2: CASE BY CASE DETERMINATION
-  ZONE 3: PARALLEL WATERLINE PROHIBITED
-  ZONE 4: PARALLEL WATERLINE PROHIBITED

**NOTES:**

1. WHERE THE PROPOSED WATERLINE WILL BE INSTALLED PARALLEL TO AN EXISTING GRAVITY SEWER MAIN OR LATERAL LINE, THE SEPARATION BETWEEN THE TWO SHALL BE AS INDICATED ABOVE.
2. CROSSINGS
  - a. WHEREVER POSSIBLE, THE BOTTOM OF THE WATERLINE SHALL BE 1.5 FEET ABOVE THE TOP OF THE SEWER LINE, AND ONE FULL LENGTH OF WATERLINE SHALL BE CENTERED AT THE CROSSING.
  - b. WHERE IT IS NOT POSSIBLE FOR THE WATERLINE TO BE 1.5 FEET ABOVE THE SEWER LINE, OR THE WATERLINE PASSES UNDER THE SEWER LINE, THE EXISTING SEWER LINE SHALL BE EXPOSED FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING AND THE EXISTING PIPELINE SHALL BE REPLACED WITH C-900 PVC, DR-18, DR-25 OR CLASS 50 DUCTILE IRON PIPE AS APPROVED BY THE ENGINEER, AND THE FULL LENGTH OF WATER PIPE SHALL BE CENTERED AT THE CROSSING OR AS APPROVED BY THE ENGINEER. A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING

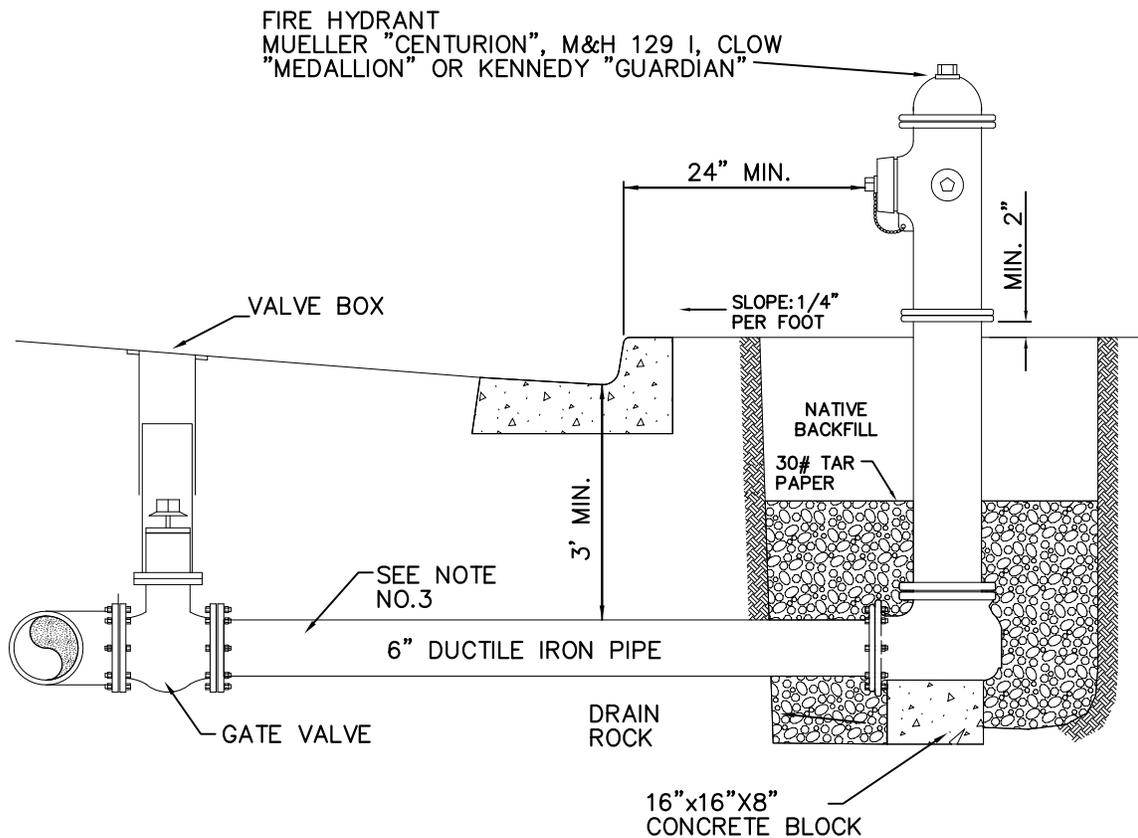


1. COAT ALL GALVANIZED PIPE OR EXPOSED STEEL WITH PROTECTIVE COATING CONFORMING TO AWWA C 203
2. RESTRAIN TYTON JOINT PLUG TO PIPE
3. THIS STANDARD APPLICABLE FOR PIPE SIZES THROUGH 8"
4. VALVE OPERATING NUT EXTENSION SHALL BE USED IF OPERATING NUT IS GREATER THAN 3' DEPTH FROM FINISH GRADE.

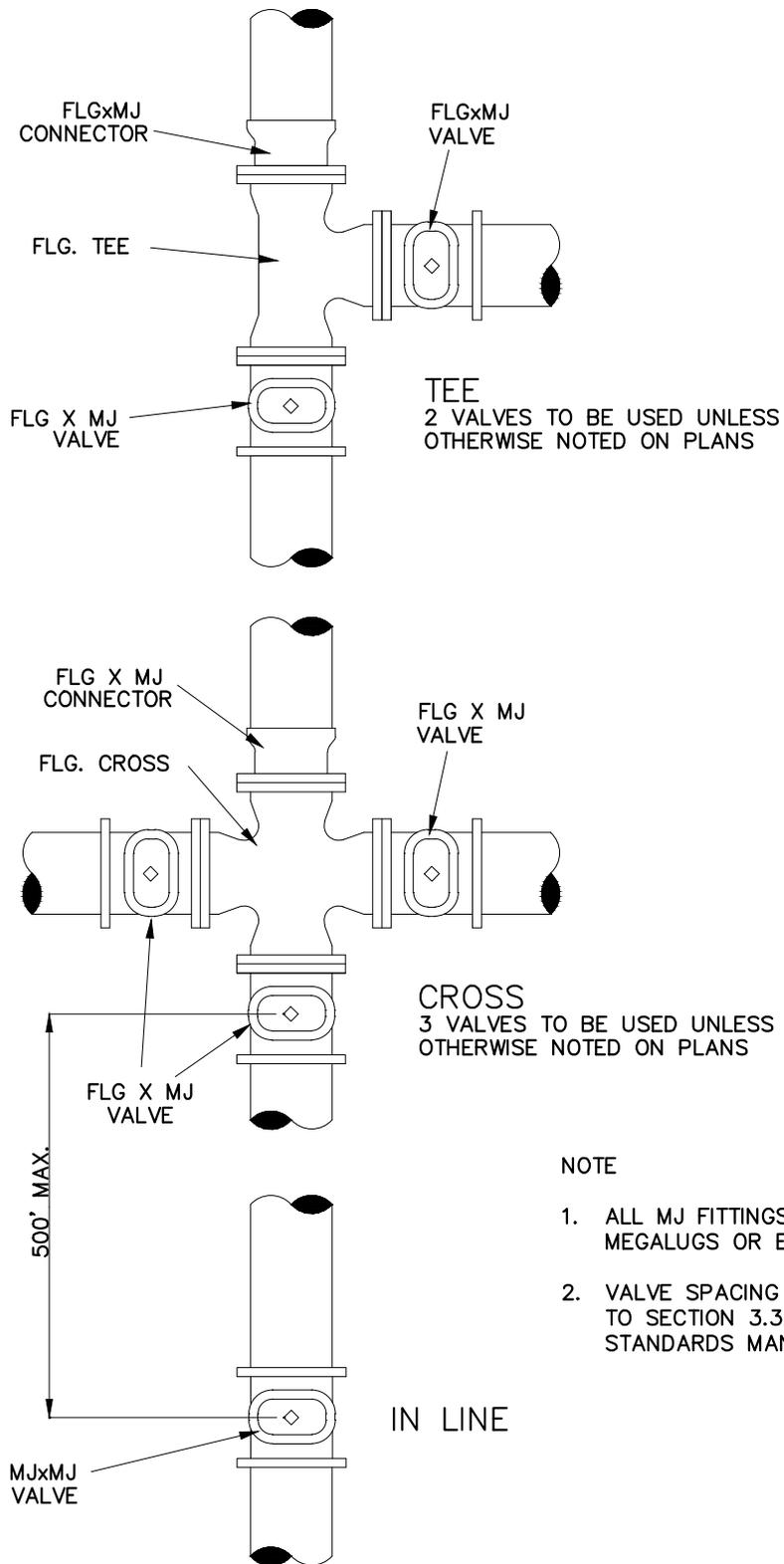
REVISIONS:
3/15/2010

## BLOW-OFF ASSEMBLY

SCALE:	N.T.S
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	311



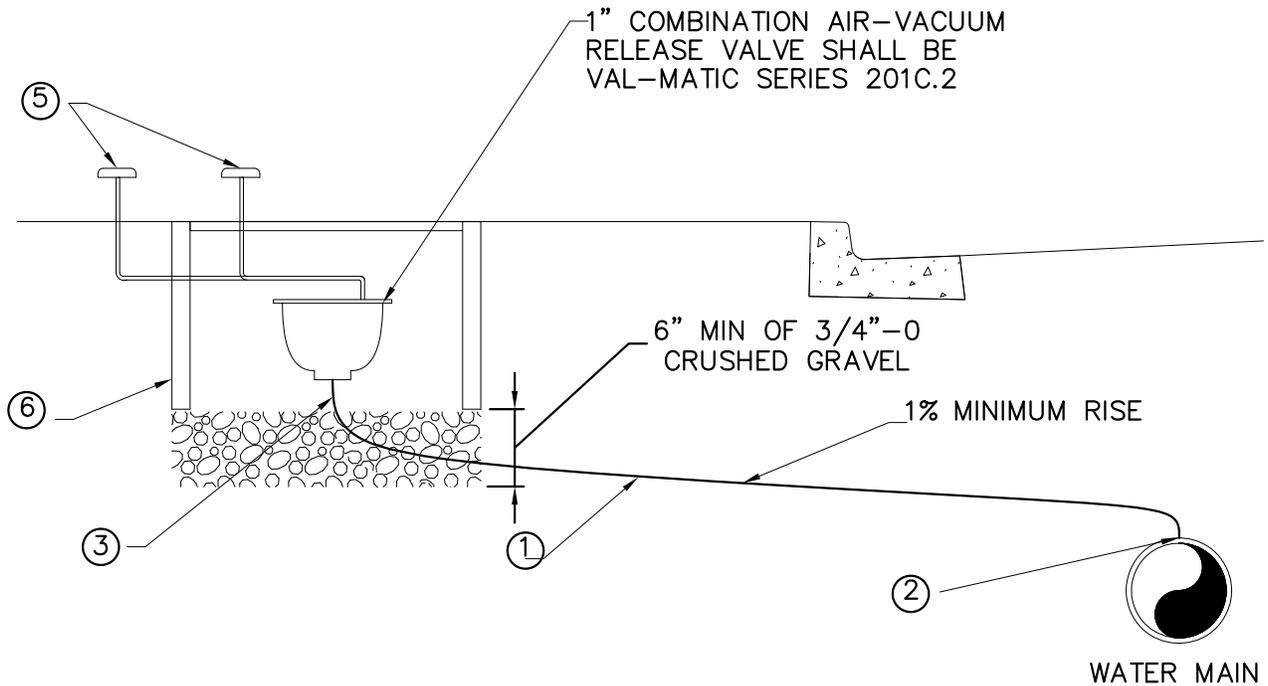
1. HYDRANT TO HAVE TWO 2 1/2" AND ONE 4 1/2" OPENING (ANSI STD.).
2. 6" MINIMUM PIPE SIZE SUPPLYING HYDRANT.
3. USE 6" MJ HOLDING SPOOL PER DWG. 305
4. ADJUSTING SPOOL NOT TO BE USED ON NEW CONSTRUCTION.
5. HYDRANTS SHALL BE INSTALLED UPON A PRE-FORMED CONCRETE BLOCK WITH CLEAN 2" DRAIN ROCK PLACED A MINIMUM OF 6" ABOVE DRAIN HOLES.
6. 30# TAR PAPER SHALL BE PLACED ON TOP OF THE DRAIN ROCK TO SEPARATE ROCK FROM NATIVE MATERIAL.
7. ENTIRE FIRE HYDRANT SPOOL SHALL BE RESTRAINED WITH FIELD-LOK GASKETS/MEGALUGS
8. VALVE OPERATING NUT EXTENSION SHALL BE USED IF OPERATING NUT IS GREATER THAN 3' DEPTH FROM FINISH GRADE.



REVISIONS:
05/05/2015 - ASM

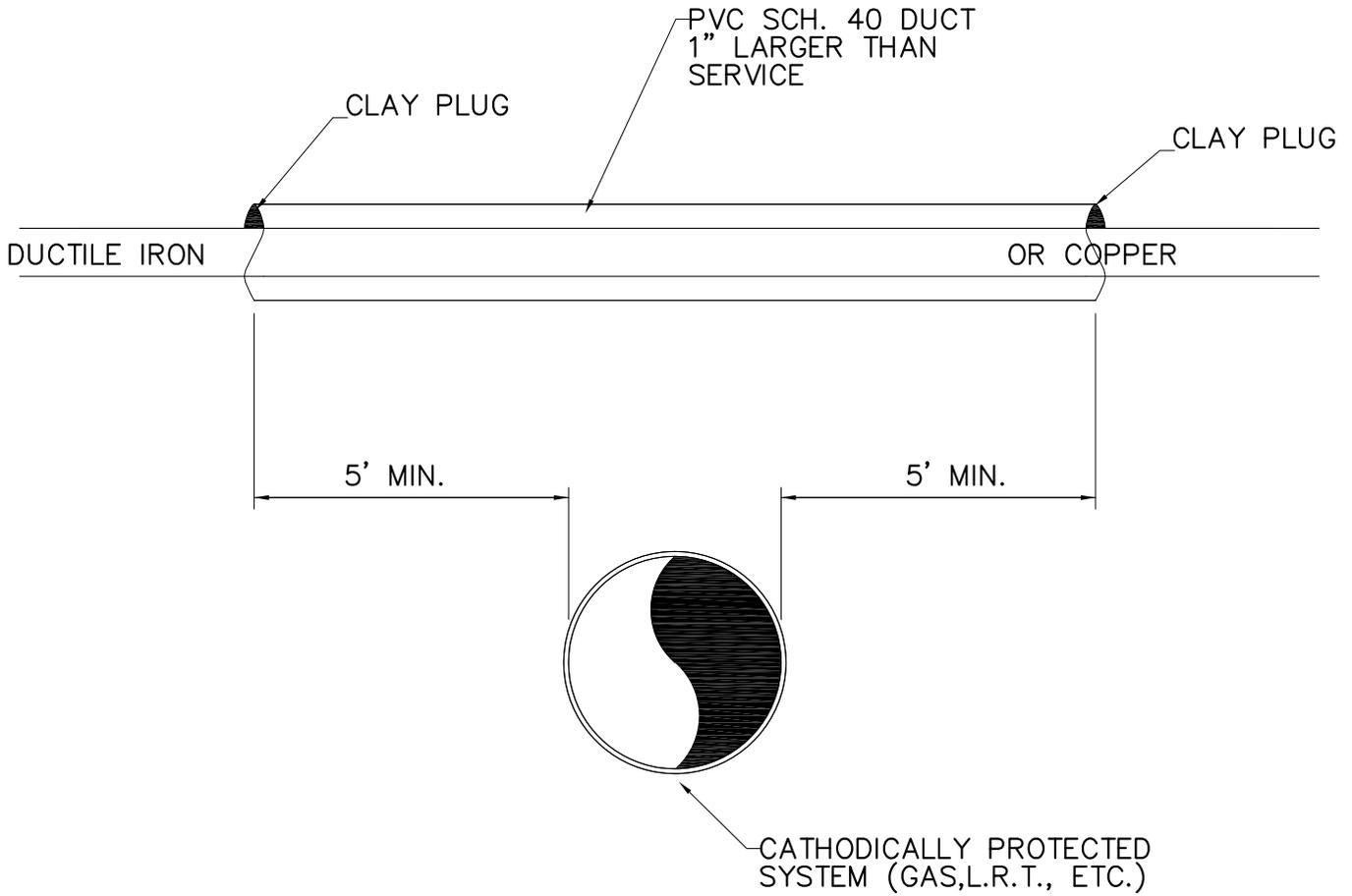
## VALVE LOCATIONS AND SPACING

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	313



#### NOTES/MATERIALS

1. 1" SOFT TEMPER TYPE "K" COPPER TUBING COMPLYING WITH ASTM B-88.
2. McDONALD "T", FORD "Q" OR MUELLER "110" BALL CORPORATION STOP.
3. McDONALD, FORD OR MUELLER BALL VALVE WITH OPERATING HANDLE
4. ALL FITTINGS SHALL BE McDONALD "T", FORD "Q" OR MUELLER "110" COMPRESSION TYPE.
5. "TEE" STYLE GALVANIZED BLOW OFF (MINIMUM 6" ABOVE FINISHED GRADE.)
6. ARMORCAST METER BOX, PART NO. P6001534X22 WITH ONE PIECE POLYMER CONCRETE LID. BOX MUST BE VENTED.

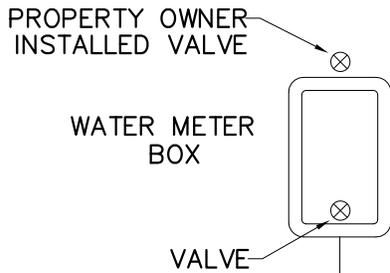


REVISIONS:

**CATHODIC PROTECTION**

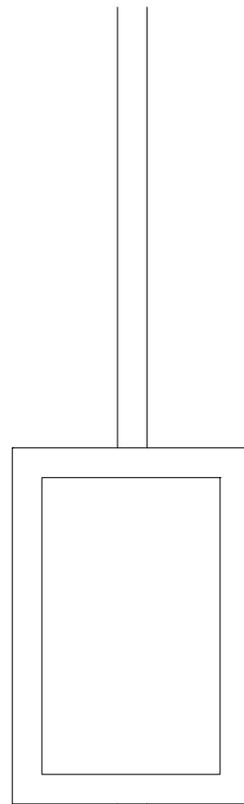
SCALE:	N.T.S
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	316

VALVES REQUIRED ON BOTH SIDES OF THE WATER METER FOR METER SIZES 2" AND GREATER



WATER METER BOX

VALVE



VAULT FOR REDUCED PRESSURE BACKFLOW DEVICE OR DOUBLE CHECK VALVE (PRIVATE)

WATER SERVICE LINE

DUCTILE IRON OR COPPER TO METER

DUCTILE IRON FIRE LINE

GATE VALVE REQUIRED ON SERVICE 2" OR GREATER



GATE VALVE

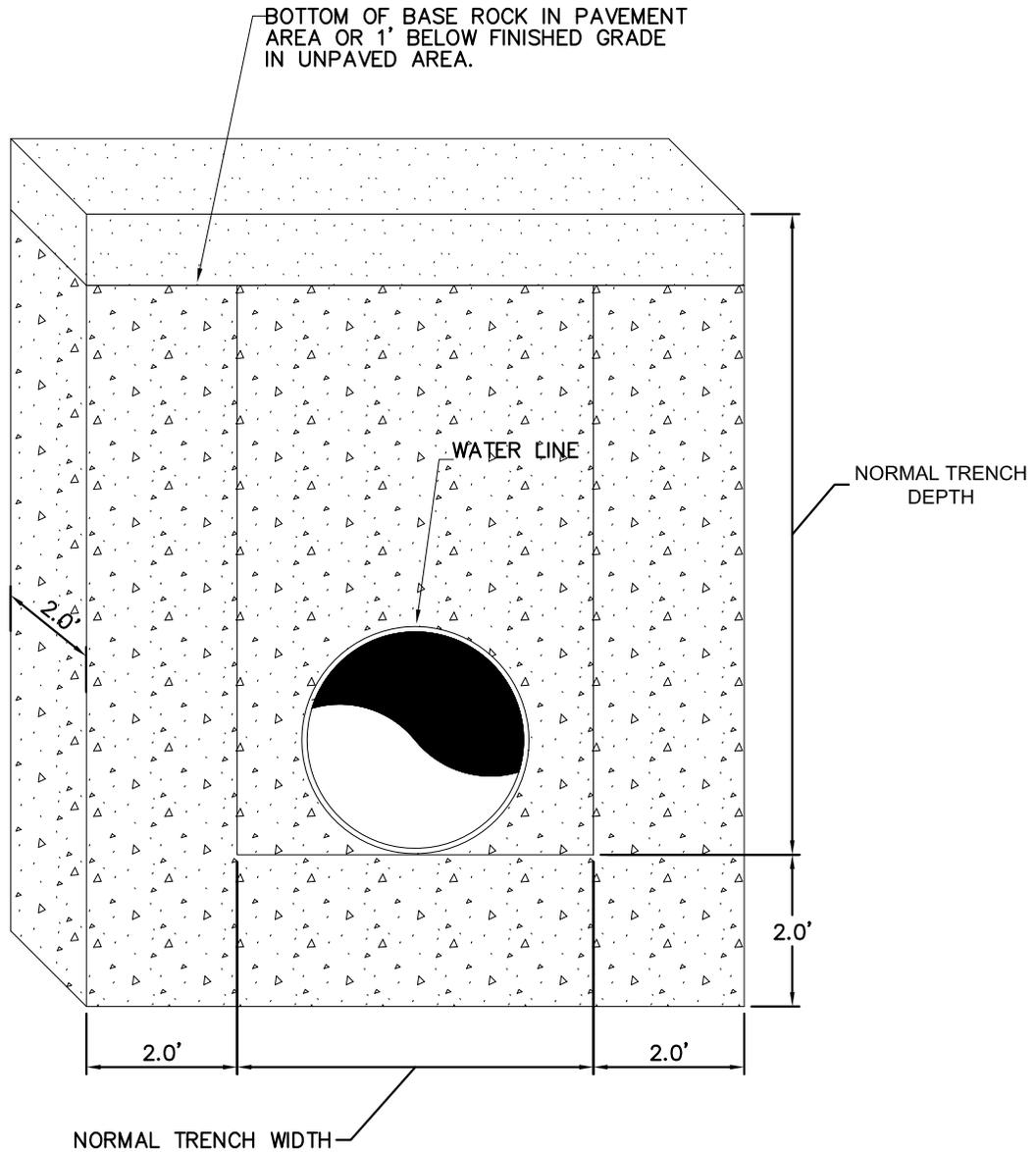
WATER MAIN

REVISIONS:
11/30/2010
3/09/2011

## VAULT AND WATER SERVICE

SCALE:	N.T.S
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	317





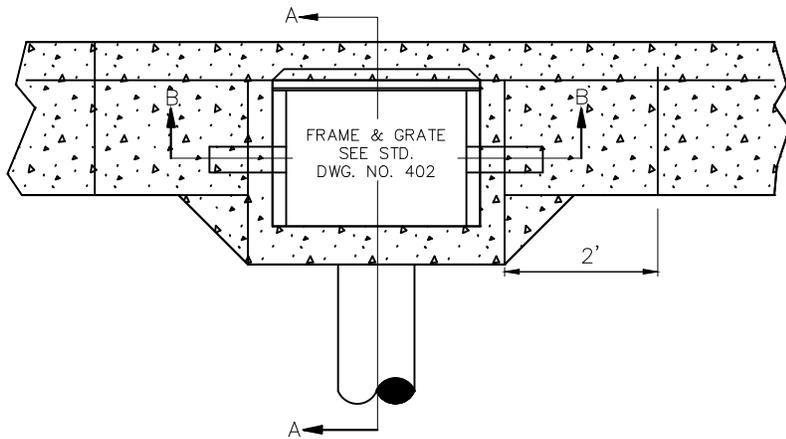
**NOTES:**

1. TRENCH DAM MATERIAL SHALL BE 100 PSI CDF.
2. BEARING AREA OF TRENCH DAM SHALL BE RESTING ON UNDISTURBED SOIL.
3. NO FITTINGS SHALL BE LOCATED WITHIN 5' OF TRENCH DAM.
4. REMOVE ALL ORGANIC MATERIAL PRIOR TO POURING CDF CONCRETE.

REVISIONS:
NA

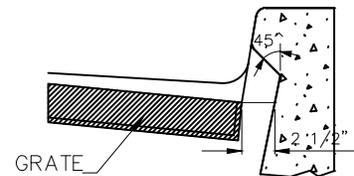
## TRENCH DAM

SCALE:	N.T.S
DATE:	Dec, 2006
APPROVED BY:	
STANDARD DRAWING	<b>319</b>

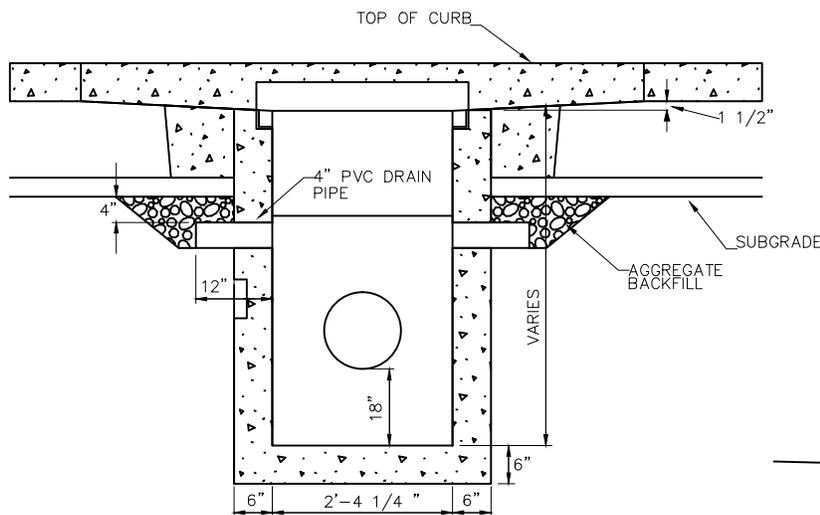


PLAN

INLET TYPE	W
N-1, CN-1	1'-8 7/8"
N-2, CN-2	2'-3 3/8"

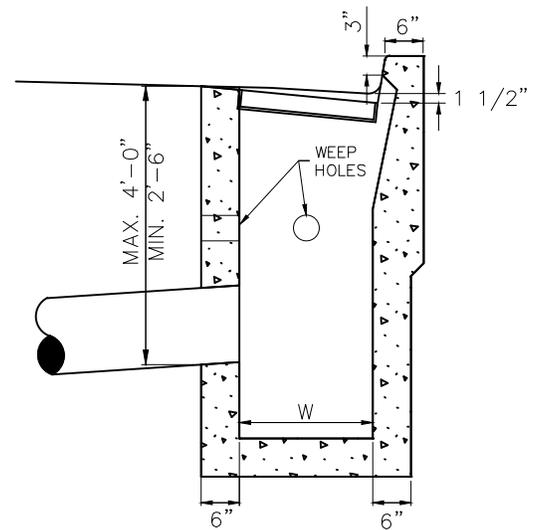


CURB OPENING  
DETAIL

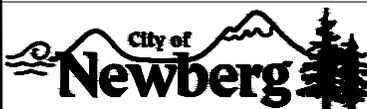


SECTION B-B

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
2. CATCH BASIN TO BE CAST IN PLACE.
3. FRAME TO BE SET FLUSH WITH FACE OF CURB.
4. 4" WEEP HOLES REQUIRED AT SUBGRADE ON STREET AND UPHILL SIDES OF BASIN.
5. STANDARD INLET MANHOLE IS THE STANDARD; THIS DETAIL REQUIRES APPROVAL FROM THE CITY FOR USAGE.



SECTION A-A



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PHONE: 503-537-1240  
FAX: 503-537-1277

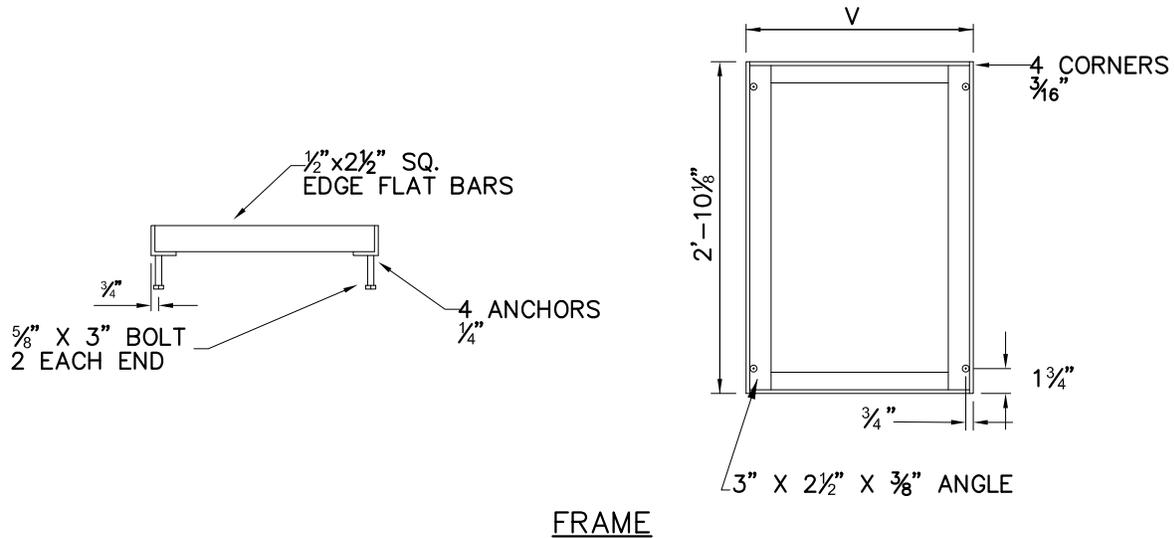
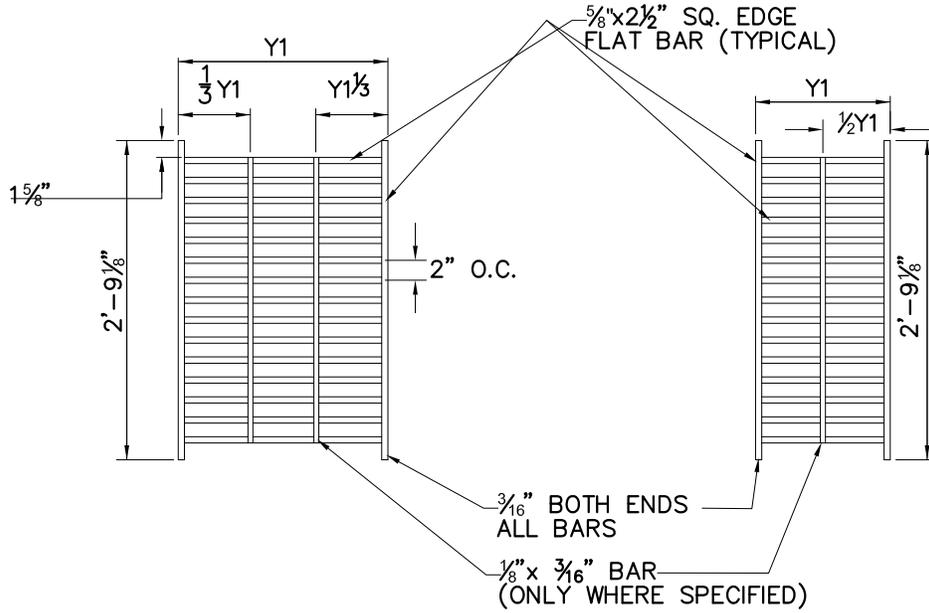
REVISIONS:  
05/05/2015 - ASM

## CATCH BASIN

SCALE: N.T.S.  
DATE: May 2015  
APPROVED BY: K. Hofmann  
STANDARD DRAWING 401

GRATE-TYPE 1

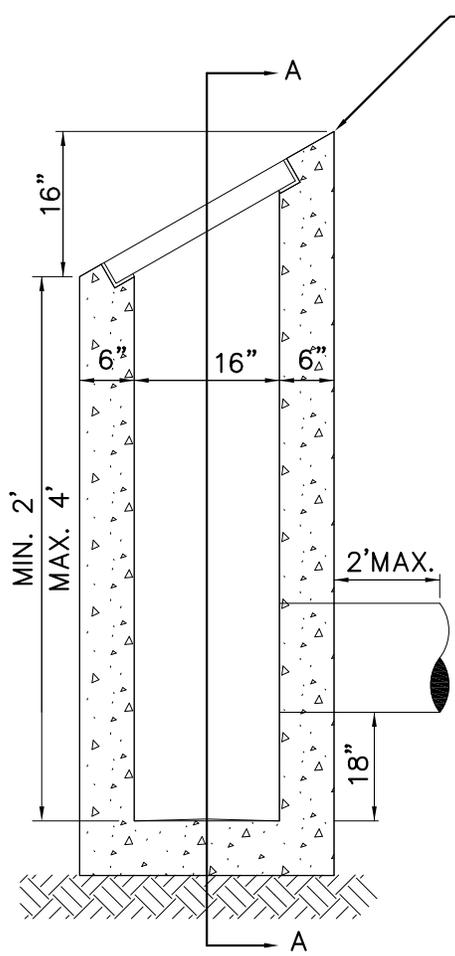
GRATE-TYPE 2



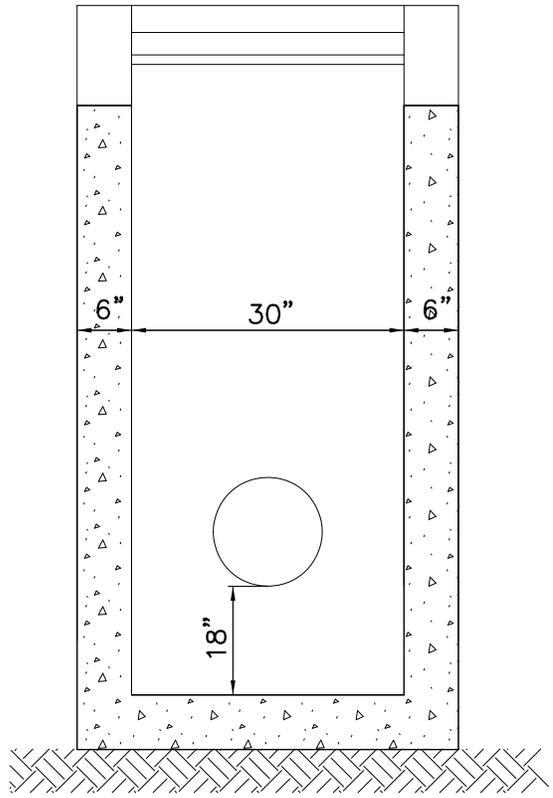
NOTES

1. ALL MATERIAL TO BE A-36 STEEL.
2. CROSS BARS TO BE FLUSH WITH SURFACE AND MAY BE FILLET WELDED.

INLET TYPE	V	Y1	NO. OF BARS	TYPE	REMARKS
N-1, CN-1	2'-3 1/4"	2'-2 1/8"	17	1	
N-2, N-2	2'-9 1/4"	1'-4"	17	2	2 GRATES



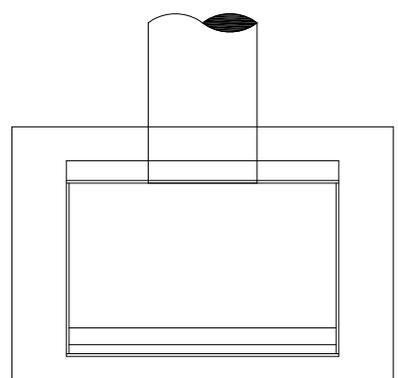
SEE NOTE 3 FOR RIPRAP



SECTION A-A

NOTES:

1. CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI AT 28 DAYS.
2. SEE STANDARD DRAWING NO. 404 FOR FRAME AND GRATE.
3. 4 TO 6 INCHES OF ANGULAR RIPRAP, 6 INCHES IN DEPTH, SHALL EXTEND A MINIMUM OF 2 FEET AROUND ALL SIDES OF THE INLET.



PLAN VIEW

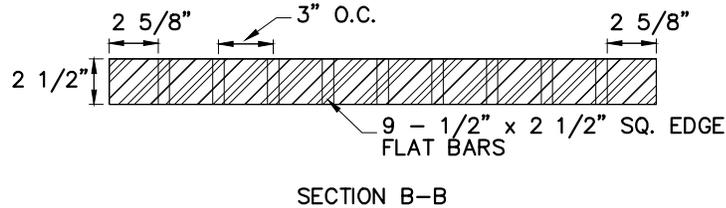
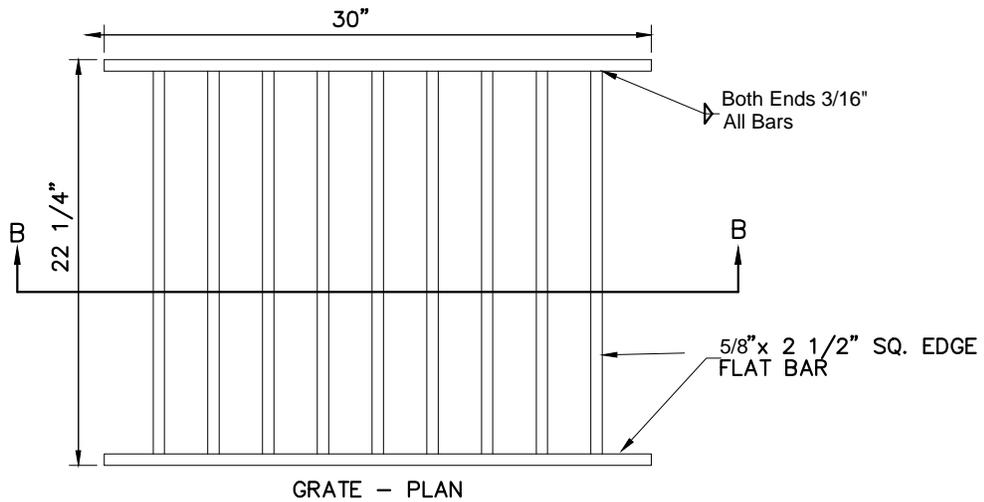
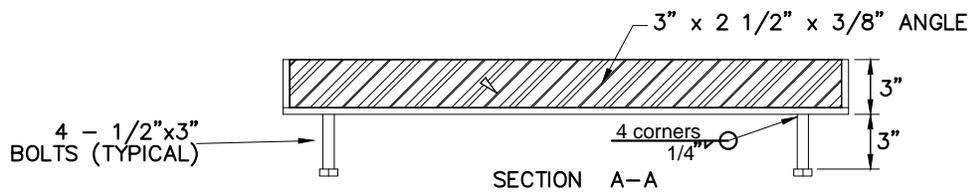
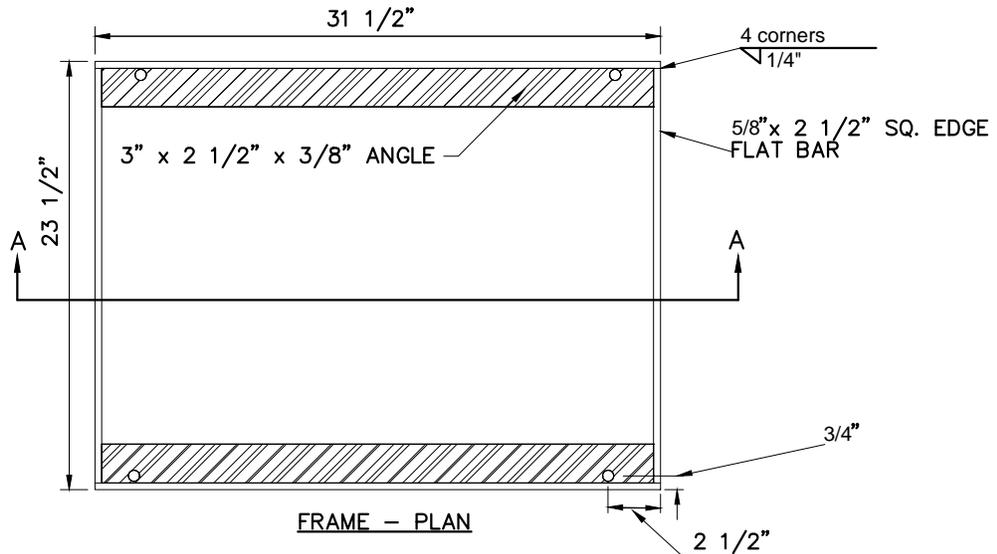
City of  
**Newberg**

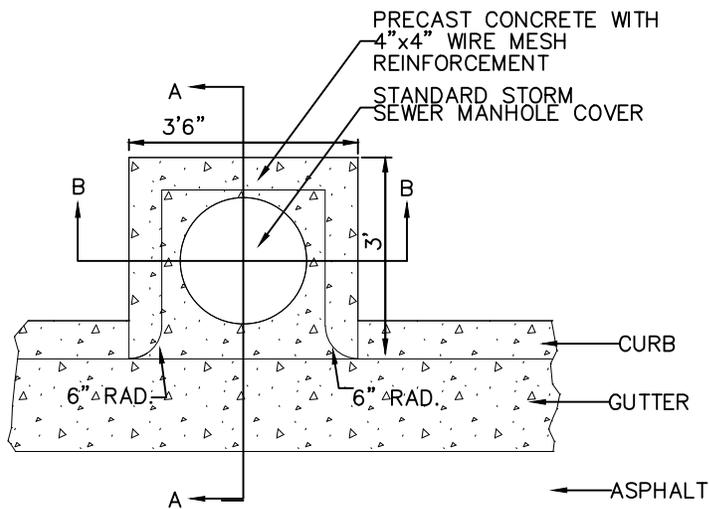
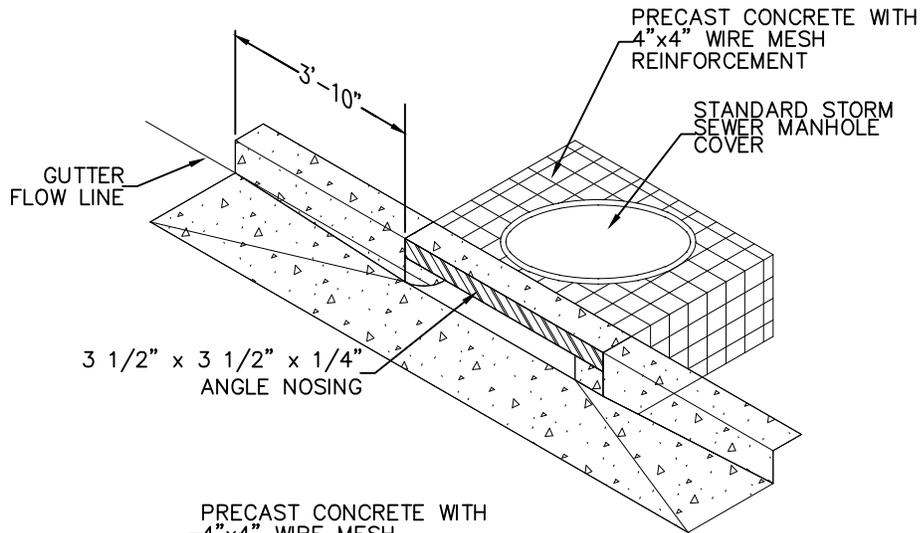
PUBLIC WORKS ENGINEERING DIVISION  
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PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS:

**DITCH INLET**

SCALE:	N.T.S
DATE:	MARCH 2014
APPROVED BY:	J. HARRIS
STANDARD DRAWING	<b>403</b>



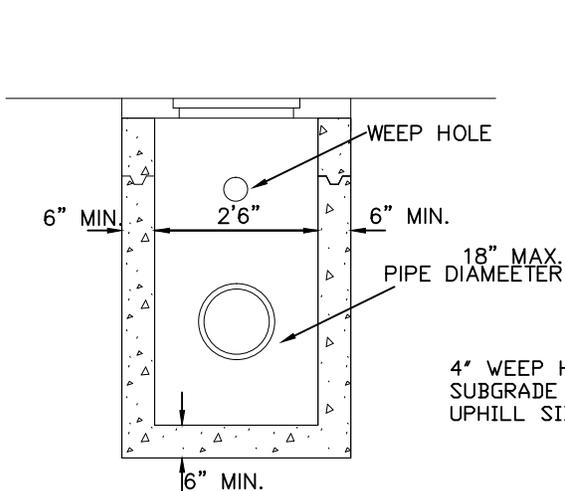


**NOTES:**

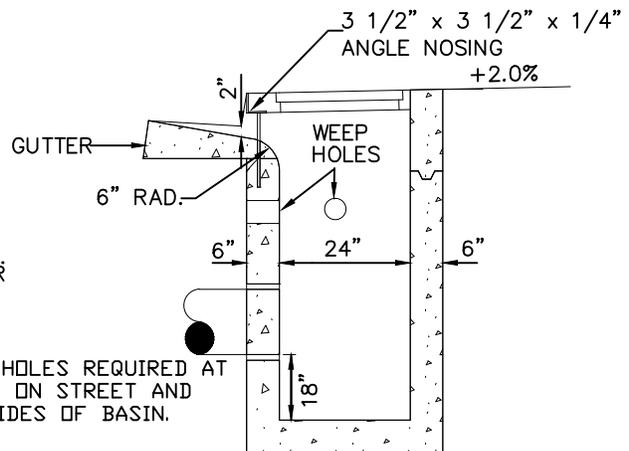
ALL METAL PARTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

TOP AND COVER SHALL BE REINFORCED WITH 4" X 4" #6 WIRE MESH REINFORCING.

CONCRETE SHALL ATTAIN A STRENGTH OF 3000 PSI AT 28 DAYS



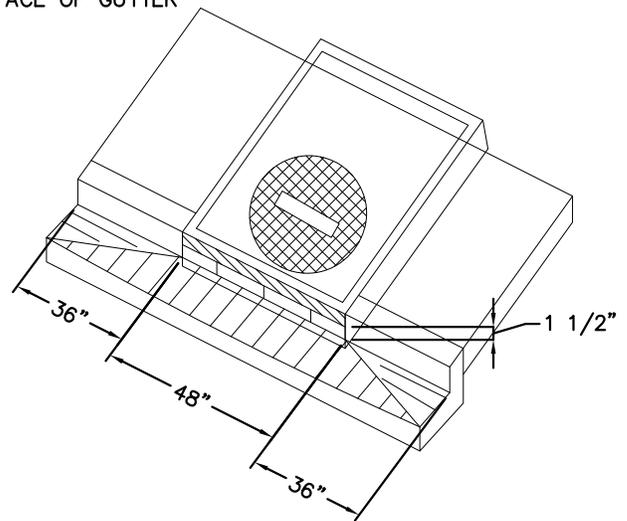
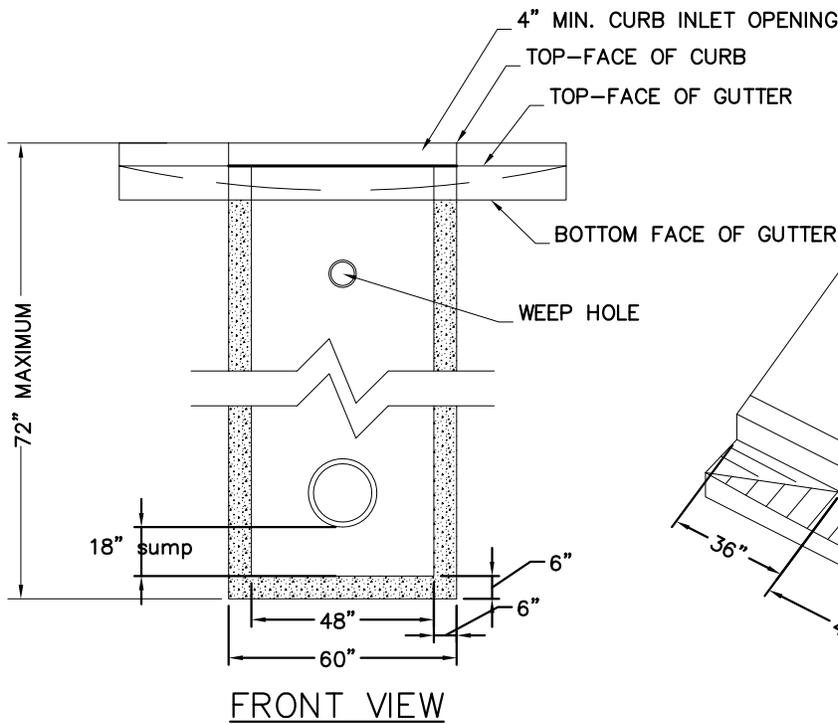
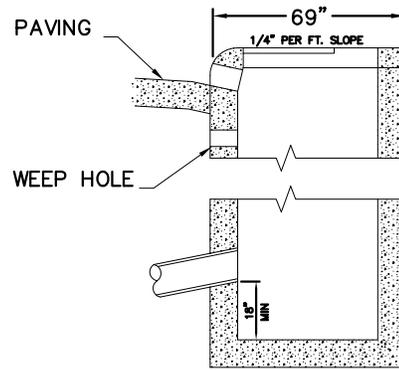
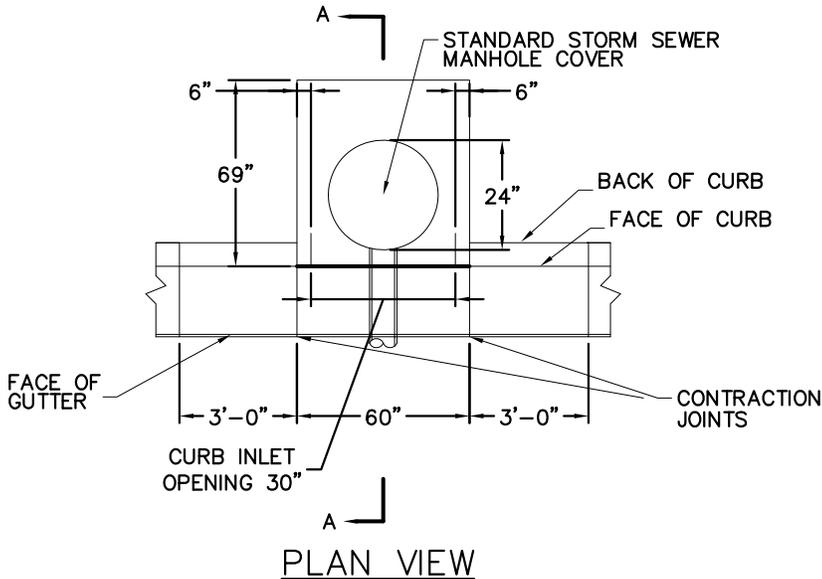
BASE MAY BE PRE-CAST OR CAST IN PLACE  
SECTION B-B



BASE MAY BE PRE-CAST OR CAST IN PLACE  
SECTION A-A

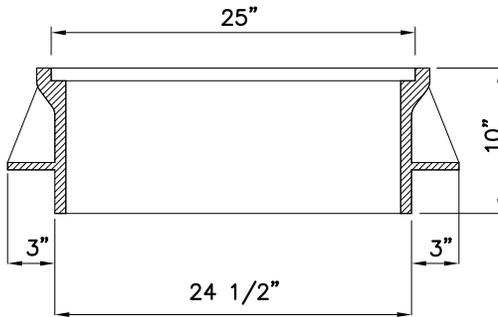
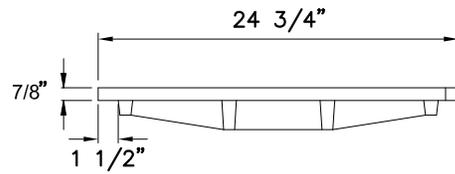
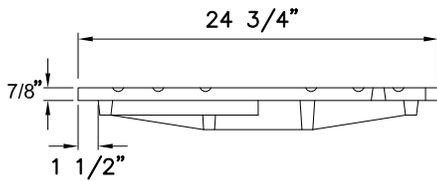
4" WEEP HOLES REQUIRED AT SUBGRADE ON STREET AND UPHILL SIDES OF BASIN.



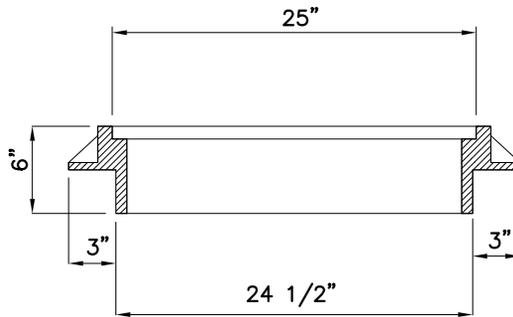


4" WEEP HOLES REQUIRED AT SUBGRADE ON STREET AND UPHILL SIDES OF BASIN

STORM



STANDARD FRAME



SUBURBAN FRAME

NOTES

1. USE SUBURBAN TYPE FRAME IN NON-TRAFFIC AREAS ONLY.
2. COVER AND FRAME SHALL BE CAST IRON, ASTM A-48 CLASS 30 AND MEET H-20 LOAD RATING.
3. COVER AND FRAME TO HAVE TRUE BEARING ALL AROUND.

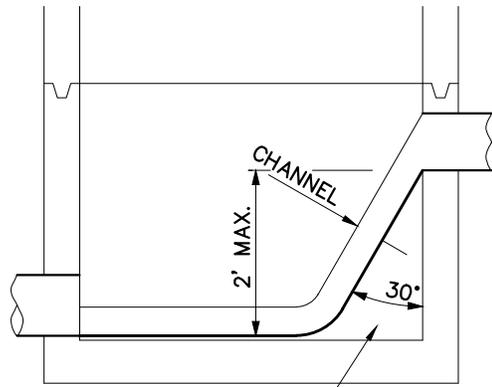
REVISIONS:

**STORM WATER  
 MANHOLE FRAME  
 AND COVER**

SCALE:	N.T.S
DATE:	MARCH 2014
APPROVED BY:	J. HARRIS
STANDARD DRAWING	<b>411</b>

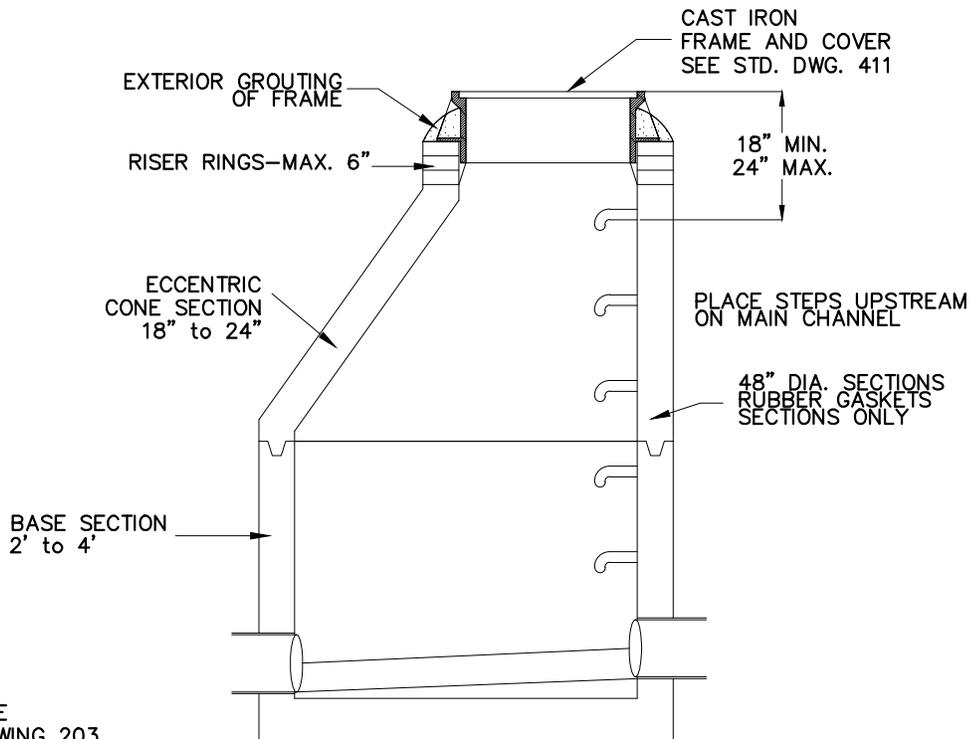
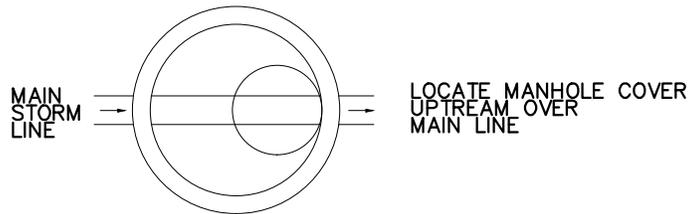
NOTES

1. STANDARD MANHOLE TO BE USED FOR PIPES 18" AND LESS.
2. PRECAST CONCRETE STRUCTURES SHALL HAVE STRENGTH OF 4000 PSI.
3. LATERAL LINES TO MATCH TOP OF INLET PIPE AT MANHOLE.
4. ALL INTERIOR JOINTS AND CONNECTIONS SHALL BE WATER TIGHT, AND GROUTED WITH NON-SHRINK GROUT.
5. IF END OF LINE MANHOLE, STEPS SHALL BE LOCATED ON DOWNSTREAM SIDE AND CHANNEL SHALL BE CONSTRUCTED FULL WIDTH OF INTERIOR.
6. GASKET STYLE MANHOLES ONLY, KEY-LOC STYLE IS FOR RETROFIT ONLY AND REQUIRES EXTERIOR JOINTS TO BE SEALED WITH RAPID SEAL OR INTERIOR COATING WITH RAVEN COATING.



FORM CHANNEL AND SLIDE WITH GROUT. SMOOTH SURFACE FINISH SIMILAR TO CONCRETE PIPE.

**BEAVER SLIDE**



MANHOLE BASE  
SEE STD. DRAWING 203

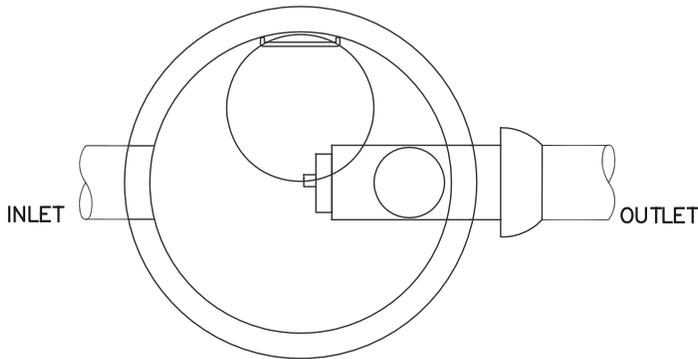


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FAX: 503-537-1277

REVISIONS:  
05/05/2015 - ASM

SHALLOW MANHOLE

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	412



PLAN

NOTES:

1. ALL MANHOLE SECTIONS SHALL CONFORM TO THE REQ. OF ASTM C-478 AND APPLICABLE PROVISIONS OF STD. MANHOLE DRAWING NO. 204 & 205.
2. INLET AND OUTLET PIPE NOT TO EXCEED 18" DIAMETER.
3. PROVIDE SPECIAL DETAIL FOR OUTLET FLOW CONTROL EXCEEDING 18" DIA.
4. ALL OUTLETS SHALL HAVE FLOW CONTROL DEVICE.

SUMP VOLUME AVAILABLE

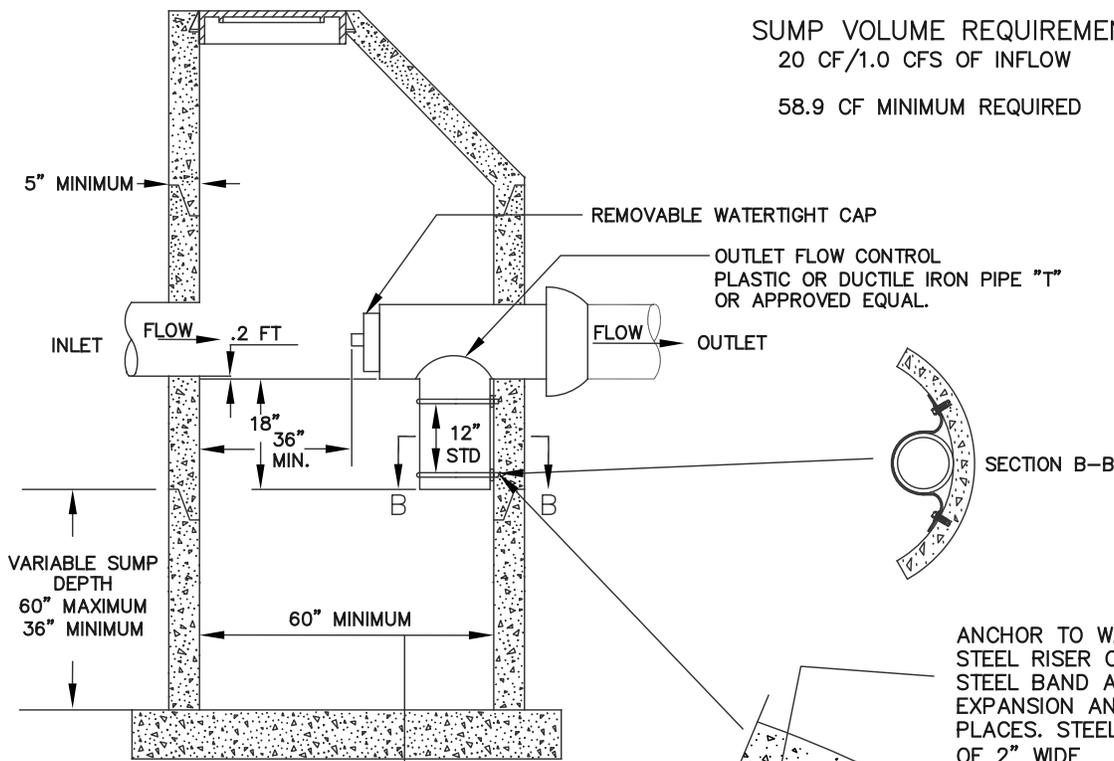
M.H. SIZE	MIN. (CF)	MAX (CF)
60"	58.9	98.1
72"	84.8	141.3
84"	115.4	192.3

\*PROVIDE SPECIAL DETAIL FOR VOLUME REQUIRMENTS EXCEEDING 192.3 CFS

SUMP VOLUME REQUIREMENTS

20 CF/1.0 CFS OF INFLOW

58.9 CF MINIMUM REQUIRED



MANHOLE DIAMETER TO BE DETERMINED BY:  
1. SUMP VOLUME REQUIREMENTS.

ANCHOR TO WALL WITH STAINLESS STEEL RISER CLAMP OR STAINLESS STEEL BAND AND STAINLESS STEEL EXPANSION ANCHORS MIN. 2 PLACES. STEEL BAND TO BE MIN. OF 2" WIDE

1/2" SELF TAPPING CONCRETE ANCHOR  
PHILLIPS 5-12 OR EQUAL.  
1/2"X1 1/2" STAINLESS STEEL BOLT.

CLAMP DETAIL (SECTION A-A)

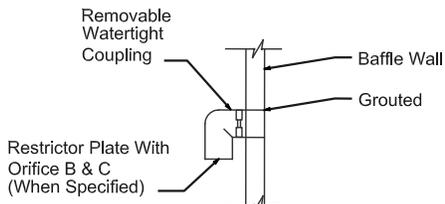


PUBLIC WORKS ENGINEERING DIVISION  
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PHONE: 503-537-1240  
FAX: 503-537-1277

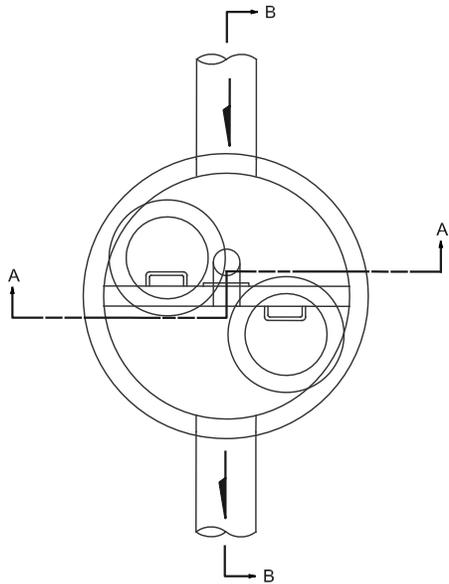
REVISIONS:

WATER QUALITY  
MANHOLE

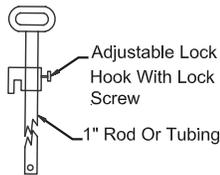
SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	413



ELBOW DETAIL



PLAN



LIFT HANDLE DETAIL



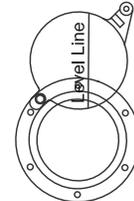
FRONT



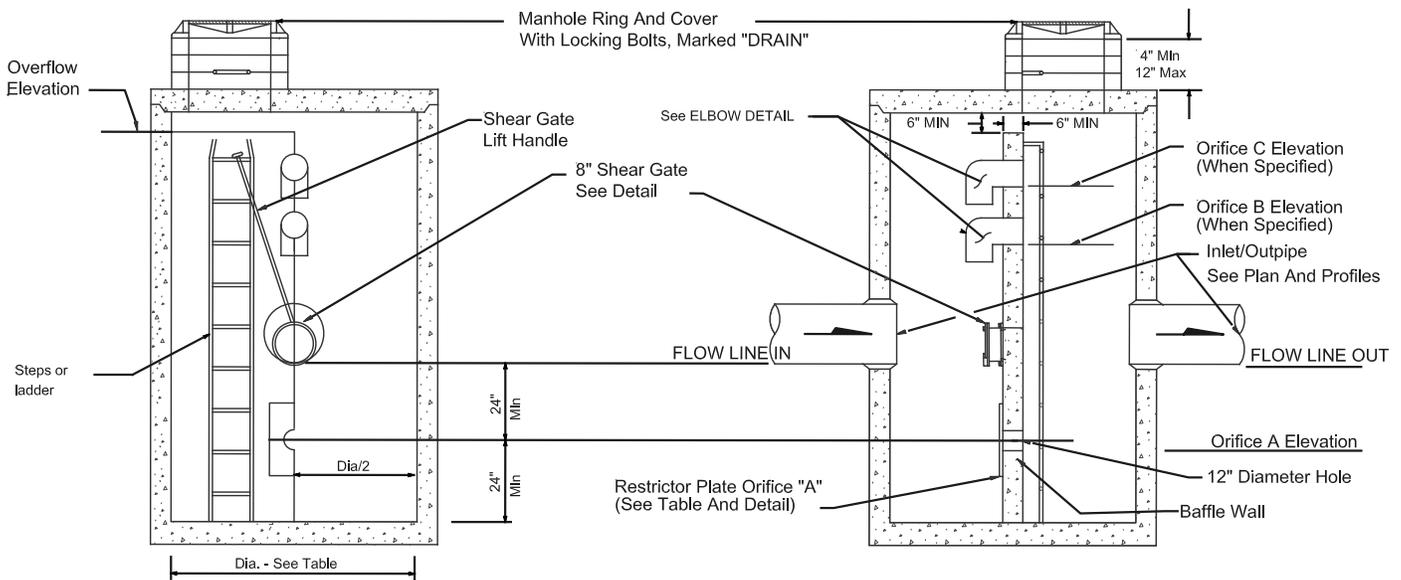
SHEAR GATE AS MANUFACTURED BY KENNEDY VALVE OR EQUAL



SIDE



MAXIMUM OPENING OF GATE DETAIL



SECTION A-A

ELEVATION

SECTION B-B

FLOW CONTROL STRUCTURE DETAIL NTS



PUBLIC WORKS ENGINEERING DIVISION  
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FAX: 503-537-1277

REVISIONS:


# FLOW CONTROL STRUCTURE

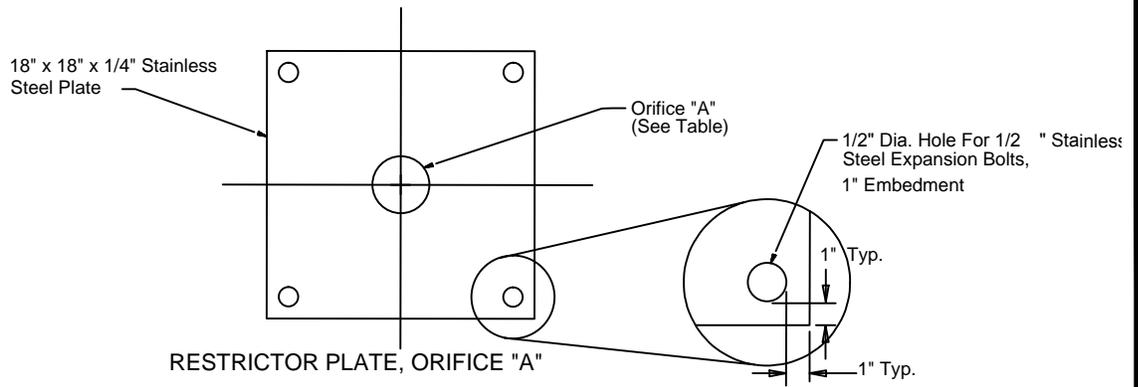
SCALE: N.T.S.

DATE: MARCH 2014

APPROVED BY: JAY H.

STANDARD DRAWING

416A

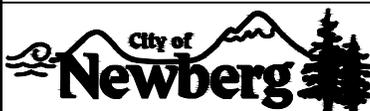


FLOW CONTROL STRUCTURE TABLE-  
DESIGN ENGINEER TO SPECIFY

Diameter Of Manhole (In.)	
FLOW LINE (In)	
FLOW LINE (Out)	
Outlet Pipe Diameter (In.)	
Number Of Orifice	
Orifice A Elevation	
Diameter Of Orifice A (In.)	
Orifice B Elevation	
Diameter Of Orifice B (In.)	
Orifice C Elevation	
Diameter Of Orifice C (In)	
Overflow Elevation	
Rim Elevation	
Riser Diameter (In.)	

**NOTES:**

1. BAFFLE WALL SHALL HAVE #4 BAR AT 12" SPACING EACH WAY.
2. PRECAST BAFFLE SHALL BE KEYED AND GROUTED IN PLACE. JOINT BETWEEN CONCRETE BAFFLE AND MANHOLE WALL SHALL BE WATERTIGHT.
3. UPPER FLOW ORIFICE SHALL BE STAINLESS STEEL OR ALUMINUM.
4. FRAME AND LADDER OR STEPS ARE TO BE OFFSET SO THAT: SHEAR GATE IS VISIBLE FROM THE TOP; CLIMB-DOWN SPACE IS CLEAR OF RISER AND GATE; FRAME IS CLEAR OF CURB.
5. MULTI-ORIFICE ELBOWS SHALL BE PRE INSTALLED TO INSURE LADDER CLEARANCE.
6. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE CONTRACT. OPENING IS TO BE CUT ROUND AND SMOOTH. NEOPRENE GASKET SHALL BE INSTALLED BETWEEN THE ORIFICE PLATE AND CONCRETE BAFFLE TO PROVIDE A WATERTIGHT SEAL.
7. SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION Zg32A OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. LIFT HANDLE MAY BE SOLID ROD OR HOLLOW TUBING WITH ADJUSTABLE HOOK AS REQUIRED. NEOPRENE RUBBER GASKET REQUIRED BETWEEN RISER MOUNTING FLANGE AND GATE FLANGE. MATING SURFACES OF LID AND BODY SHALL BE MACHINED FOR PROPER FIT.
8. FLANGE MOUNTING BOLTS SHALL BE 1/2" DIAMETER STAINLESS STEEL.
9. SHEAR GATE MAXIMUM OPENING SHALL BE CONTROLLED BY LIMITED HINGE MOVEMENT, STOP TAB OR SOME OTHER DEVICE.
10. ALTERNATE SHEAR GATES DESIGNS ARE ACCEPTABLE, IF MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.
11. MANHOLE CERTIFICATION REQUIRED FOR TRAFFIC LOADING.



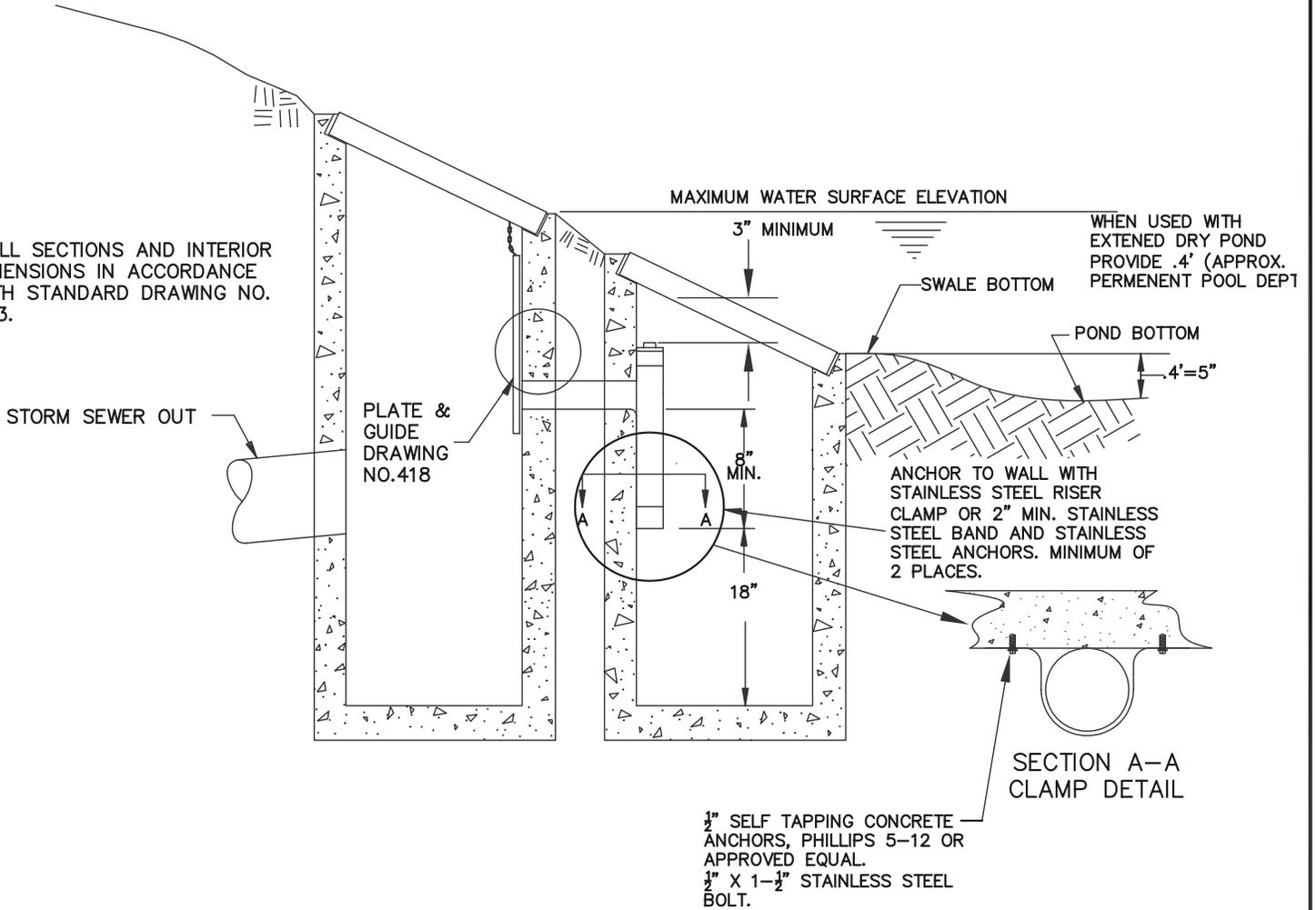
PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS:
05/05/2015 - ASM

**FLOW CONTROL  
STRUCTURE NOTES &  
ORIFICE**

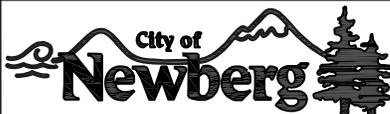
SCALE:	N.T.S.
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	<b>416B</b>

WALL SECTIONS AND INTERIOR DIMENSIONS IN ACCORDANCE WITH STANDARD DRAWING NO. 403.



NOTES:

1. CONNECTING PIPE AND TEE SHALL BE 4", 6", OR 8" AWWA C-900 OR ASTM 3034 PVC, AND ONE SIZE LARGER THAN THE ORIFICE OPENING.
2. MAXIMUM ORIFICE OPENING SHALL BE 6" DIAMETER.
3. STRUCTURES SHALL CONFORM TO STANDARD DRAWING NO. 390 DITCH INLET.
4. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWING NO. 403, DITCH INLET FRAME AND GRATE.
5. PLATE AND GUIDE SHALL BE SECURED FLUSH AGAINST WALL OF STRUCTURE AS APPROVED.
6. MAINTAINANCE ACCESS REQUIRED TO WITHIN 10' OF CENTER OF BOTH STRUCTURES.



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## OUTFLOW CONTROL STRUCTURE

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>417</b>

SLOT SHALL BE  
1"X5" CENTERED

$\frac{3}{16}$ " STAINLESS STEEL CHAIN OR CABLE  
ATTACHED TO ORIFICE PLATE AND  
STRUCTURE AS APPROVED. CHAIN OR CABLE  
SHALL BE SMALL ENOUGH TO ALLOW ORIFICE  
PLATE TO BE REMOVED FROM GUIDE. ORIFICE  
PLATE AND GUIDE TO BE MANUFACTURED  
FROM  $\frac{1}{2}$ " HDPE OR  $\frac{1}{4}$ " STAINLESS STEEL.

DESIGN ENGINEER TO SPECIFY:

ORIFICE SIZE \_\_\_\_\_  
ORIFICE ELEVATION \_\_\_\_\_

ALIGN INVERT OF ORIFICE TO  
INVERT OF PIPE.

SPACER REQUIRED FOR  
MULTIPLE ORIFICES

1 1/2" MIN.

3"

6" (TYP.)

2" MIN.

2"

3"

3 1/2"

PLATE THICKNESS +1/4"

TOP OF GUIDE  
 $\pm 3$ " BELOW GRATE

2" MIN.

10" MINIMUM

12" MIN.

2" MIN.

$\frac{1}{2}$ " DIA. WEEPHOLES

ORIFICE PLATE GUIDE SHALL FIT STOP  
GATE AND INCLUDE BOTTOM CHANNEL  
ORIFICE PLATE GUIDE.

$\frac{1}{2}$ " SELF TAPPING CONCRETE  
ANCHORS, PHILLIPS 5-12 OR  
APPROVED EQUAL.  
 $\frac{1}{2}$ " X 1- $\frac{1}{2}$ " STAINLESS STEEL  
BOLT.

**NOTE:**

FOR MULTIPLE ORIFICE APPLICATION  
A 3" MIN. SPACER IS REQUIRED AS  
SHOWN. SPACER TO MATCH PLATE GUIDE  
DIMENSIONS, WIDTH, MATERIAL  
WITH A WATER TIGHT SEAL.



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REVISIONS:


**ORIFACE PLATE  
AND GUIDE**

SCALE: N.T.S.

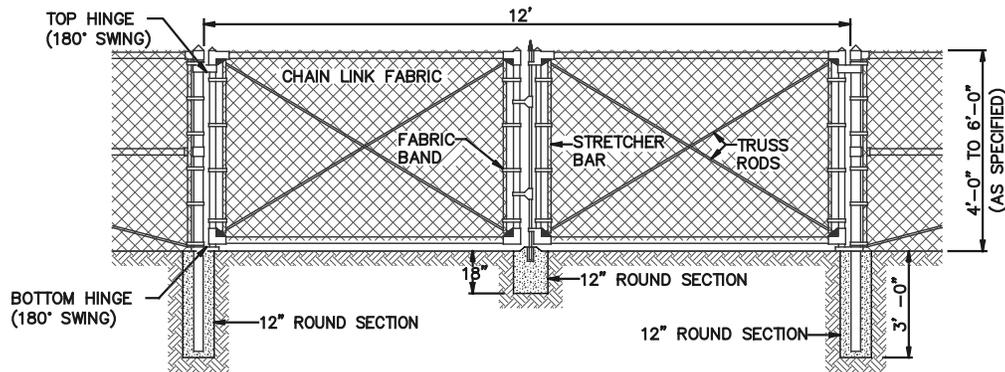
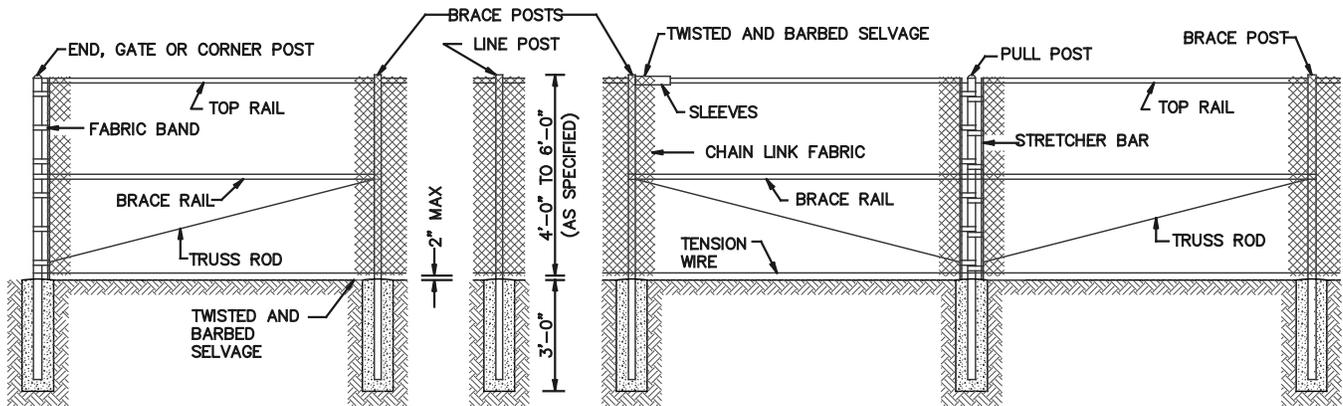
DATE: MARCH 2014

APPROVED  
BY: JAY H.

STANDARD  
DRAWING

**418**

MEMBER	NOMINAL DIA (IN)	MATERIAL	
BRACE RAIL	1.660	GALV TUBULAR STL	
GATE FRAME	2.00	GALV TUBULAR STL	
LINE POSTS	2.375	GALV TUBULAR STL	
END & CORNER POST	2.875	GALV TUBULAR STL	
CHAIN LINK FABRIC		9 GA. W/GREEN OR BLACK PVC COATING.	
	GATE OPENING (ft)	NOMINAL DIA (IN)	MATERIAL
GATE POST	12' OR 15'	4	GALV TUBULAR STL



**NOTES:**

1. ALL FITTINGS, FASTENERS, OR FABRIC TIES SHALL BE BLACK OR BROWN VINYL FENCING.
2. CONCRETE SHALL BE MIN. 2500 PSI @ 28 DAYS.
3. PROVIDE BRACE RAIL BETWEEN END POSTS AND LINE POSTS. LENGTHS AS REQUIRED.
4. PROVIDE GATE STOPS AND DROP RECEIVERS SET IN CONCRETE, EACH GATE.
5. PROVIDE EXTENSION ARMS ON LINE, END AND CORNER POSTS & GATE POSTS AS REQUIRED.
6. PROVIDE SIGHT OBSCURING SLATS WITH ALL WASTEWATER PUMP STATIONS.
7. CENTER BRACE RAIL NOT REQUIRED WITH FENCE HEIGHT OF 5' OR LESS.
8. ALL POSTS AND RAILS TO MATCH FENCE COLOR.

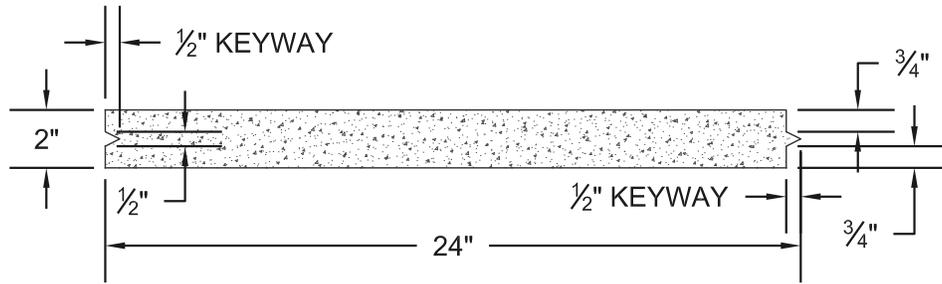


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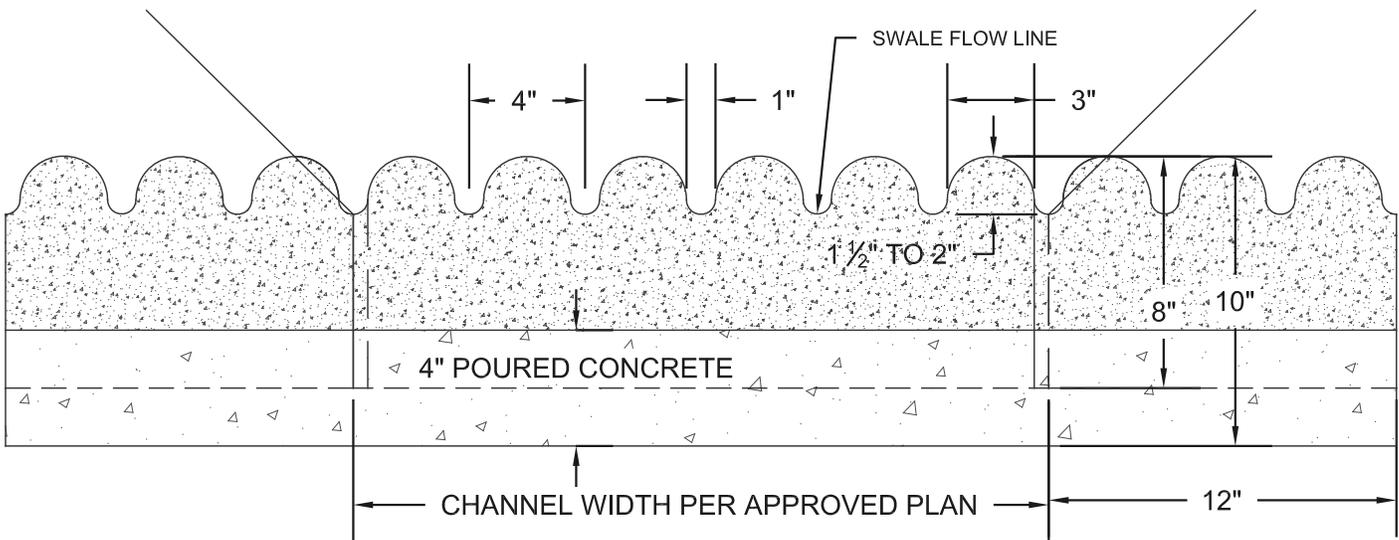
REVISIONS:

**CHAIN LINK FENCE AND GATE**

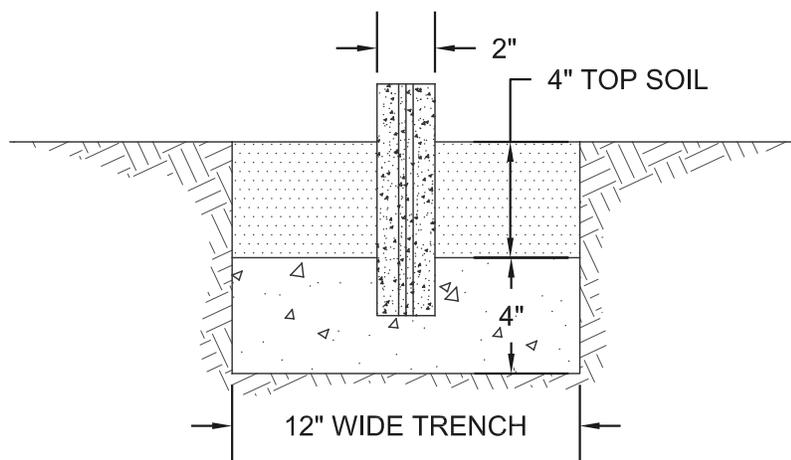
SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>419</b>



**TOP VIEW**



**FRONT VIEW**



**SIDE VIEW**

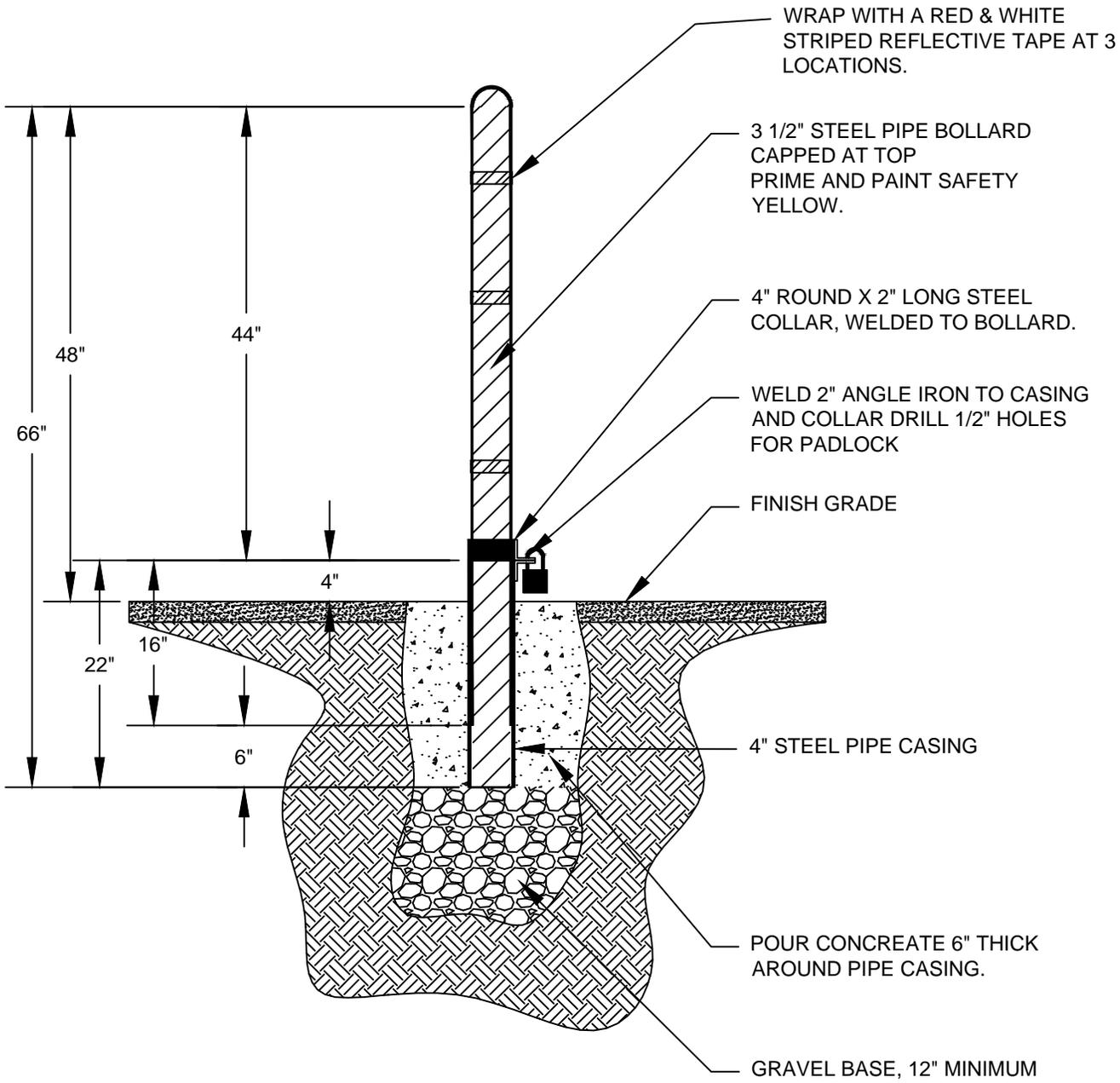


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REVISIONS:

**CONCRETE  
 SPREADER DETAIL**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>420</b>



### STEEL PIPE SPECIFICATIONS

ASTM A-53 STEEL, SCHEDULE 40, BLACK, HOT DIPPED, ZINC-COATED, WELDED, SEAMLESS

4 INCH STEEL PIPE      O.D. = 4.500"      I.D. = 4.026"      THICKNESS = 0.237"

3 1/2 INCH STEEL PIPE      O.D. = 4.000"      I.D. = 3.549"      THICKNESS = 0.226"



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## REMOVABLE BOLLARD

SCALE:	N.T.S.
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	421

**RIPRAP:**

- ROCK FOR RIPRAP SHALL BE ANGULAR IN SHAPE.
- THICKNESS OF A SINGLE ROCK SHALL NOT BE LESS THAN ONE-THIRD ITS LENGTH.

**RIPRAP INSTALLATION:**

- EXCAVATE BELOW FINISH GRADE TO DEPTH & DIMENSIONS SHOWN ON APPROVED PLANS.
- INSTALL WOVEN GEOTEXTILE FABRIC.
- PLACE RIP RAP TO FINISH GRADE.

- GRADE RIPRAP SHALL BE THE CLASS AND SIZE OF ROCK ACCORDING TO THE FOLLOWING:

<b>CLASS</b>	<b>CLASS</b>	<b>CLASS</b>	<b>CLASS</b>	<b>CLASS</b>	
<b>50</b>	<b>100</b>	<b>200</b>	<b>700</b>	<b>2000</b>	
					<b>PERCENT</b>
					<b>(BY WEIGHT)</b>
<b>WEIGHT OF ROCK (LBS)</b>					
50-30	100-60	200-140	700-500	2000-1400	20
30-15	60-25	140-80	500-200	1400-700	30
15-2	25-2	80-8	200-20	700-40	40
2-0	2-0	8-0	20-0	40-0	10

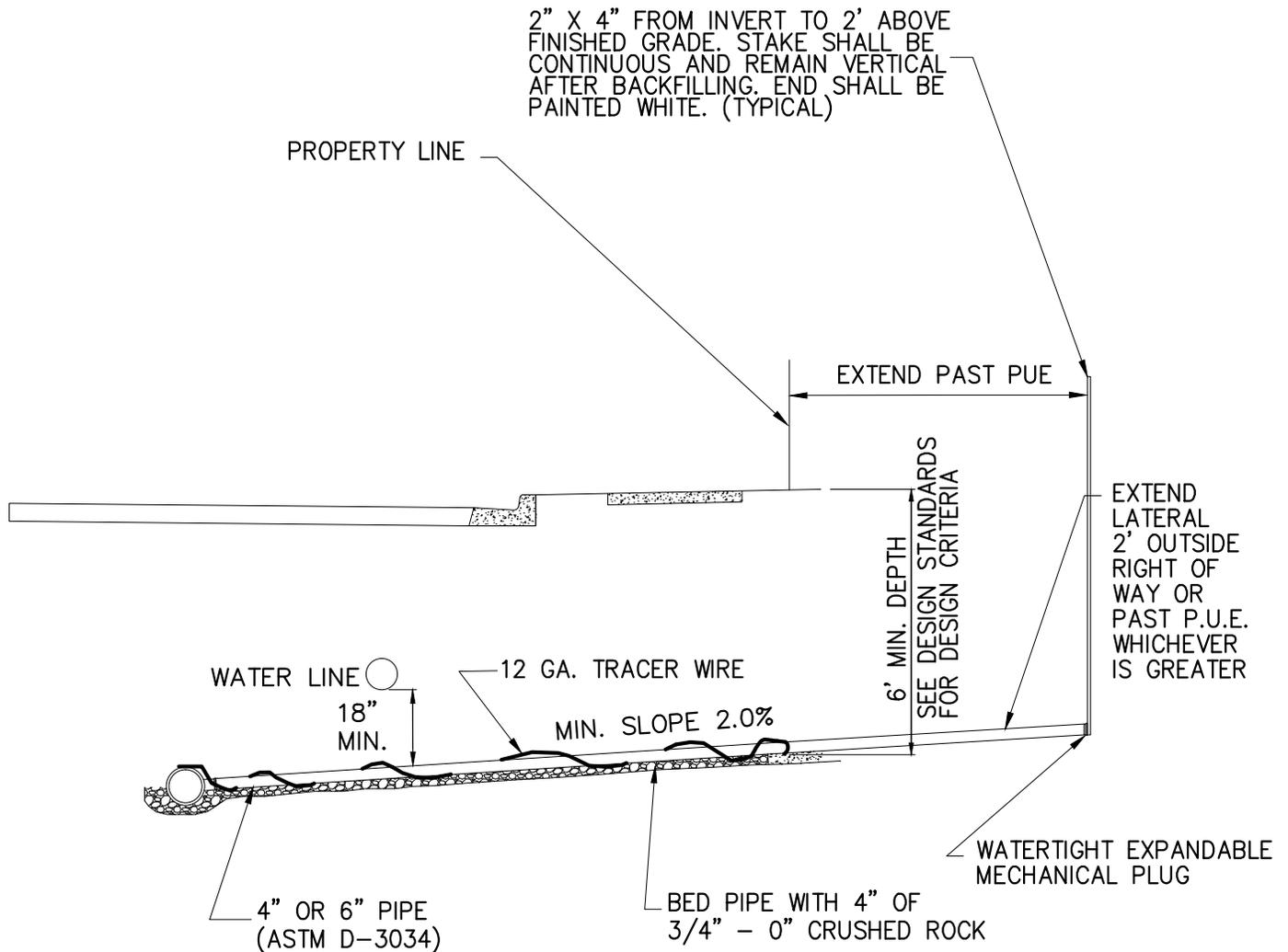


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REVISIONS:

**RIPRAP**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>422</b>



NOTES:

1. USES -SINGLE RESIDENTIAL SERVICE, 4" PIPE  
-SPLIT RESIDENTIAL SERVICE, 6" PIPE
2. SERVICE SHALL NOT BE BACKFILLED PRIOR TO INSPECTION. LOCATE WIRE SHALL BE TESTED PRIOR TO BACKFILL AND AFTER BACKFILL IS COMPLETE WITH THE WITNESS OF A CITY REPRESENTATIVE.
3. MINIMUM SLOPE 2.0%.

REVISIONS:
FEB 2014
MAY 2014
05/08/2015 -ASM

STORM SEWER  
SERVICE BRANCH

SCALE:	N.T.S
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	423

DESIGN STEPS FOR LIDA FACILITIES:

1. DETERMINE THE IMPERVIOUS AREA REQUIRING TREATMENT. REFER TO CHAPTER 4 OF THE STANDARD DESIGN MANUAL FOR ASSISTANCE IN DETERMINING OR CALCULATING THE IMPERVIOUS AREA REQUIRING TREATMENT.
2. DEDUCT IMPERVIOUS AREA LIDA CREDITS. DEDUCT THE SITE AREAS DESIGNED WITH POROUS PAVEMENT OR GREEN ROOFS FROM THE IMPERVIOUS AREA CALCULATED IN STEP 1.
3. IF NEEDED, DESIGN WATER QUALITY/ QUANTITY FACILITIES FOR REMAINING UNTREATED IMPERVIOUS AREA. SIZING FACTORS FOR INFILTRATION BASED LIDA'S ASSUME EXISTING SOIL UNFACTORED INFILTRATION RATE OF GREATER THAN 2 INCHES PER HOUR. EACH FACILITY MUST BE SIZED FOR THE AMOUNT OF IMPERVIOUS AREA DRAINING ONTO IT.
4. THE SIZING FACTORS NOTED IN THIS SECTION ARE TO BE USED TO SIZE EACH LIDA FACILITY TREATING RUNOFF FROM A MAXIMUM OF 15,000 SQUARE FEET OF IMPERVIOUS AREA IN EACH FACILITY. FOR LARGE DEVELOPMENT SITES AND IMPERVIOUS AREAS, A REGIONAL WATER QUALITY/ QUANTITY FACILITY (VEGETATED SWALE, EXTENDED DRY BASIN OR CONSTRUCTED WATER QUALITY WETLAND) OR PROPRIETARY FACILITY MAY BE APPROPRIATE, AS DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER.

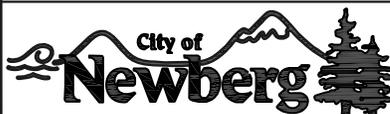
GENERAL NOTES:

1. FOR PLANTING REQUIREMENTS REFERENCE APPENDIX A OF THE STANDARD DESIGN MANUAL.
2. FOR FACILITY SIZING REFERENCE STANDARD DRAWING NO. 451, LIDA SIZING FORM.
3. ENERGY DISSIPATORS REQUIRED AT ALL DISCHARGE POINTS INTO THE FACILITY, MINIMUM OF 18"X18"X 6" DEEP, 4" TO 6" CLEAN ANGULAR RIPRAP.
4. DISCHARGES INTO NATIVE SOILS WILL REQUIRE INFILTRATION TESTING COMPLETED BY A REGISTERED DESIGN PROFESSIONAL.

GROWING MEDIUM NOTES:

THE GROWING MEDIUM SHALL BE ONE THIRD ORGANIC COMPOST, ONE THIRD GRAVELY SAND AND ONE THIRD TOP SOIL.

1. ORGANIC COMPOST SHALL BE THE RESULT OF BIOLOGICAL DEGRADATION AND TRANSFORMATION OF PLANT DERIVED MATERIALS UNDER CONDITIONS DESIGNED TO PROMOTE AEROBIC DECOMPOSITION, FREE OF VIABLE WEED SEEDS AND STABLE WITH REGARD TO OXYGEN CONSUMPTION AND CARBON DIOXIDE GENERATION, AND OTHERWISE CONFORMING TO THE US COMPOSTING COUNCIL STA COMPOST TECHNICAL DATA SHEET; WWW.COMPOSTINGCOUNCIL.ORG.
2. GRAVELY SAND SHALL BE 1" MINUS IN CONFORMANCE WITH ASTM C117/C136 (AASHTO T11/T27) STANDARDS WITH A COEFFICIENT OF UNIFORMITY (D60/D10) EQUAL TO OR GREATER THAN 6.
3. TOP SOIL SHALL BE FREE OF WOOD PIECES, PLASTIC, AND OTHER FOREIGN MATTER, CHEMICAL AND BIOLOGICAL POLLUTANTS, AND CONTAIN NO VISIBLE FREE WATER.



PUBLIC WORKS ENGINEERING DIVISION  
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REVISIONS:

**DESIGN STEPS,  
 GENERAL NOTES, AND  
 GROWING MEDIUM**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>450</b>

# City of Newberg LIDA Sizing Form

(Include this form with plan submittal)

Project Title: \_\_\_\_\_

Project Address: \_\_\_\_\_

Project Taxlot/ Taxmap#: \_\_\_\_\_

Project Location: \_\_\_\_\_

Contact Name/Title/Company: \_\_\_\_\_

Phone/e-mail: \_\_\_\_\_

**STEP 1: Determine Impervious Area Requiring Treatment**

Total Gross Site Area (acres):		Pre. Dev. Impervious Area (ft):		(X)
Proposed Net New Impervious Area (ft):		Post Dev. Impervious Area (ft):		(Y)
$(PA) = (Y) - (X)$				

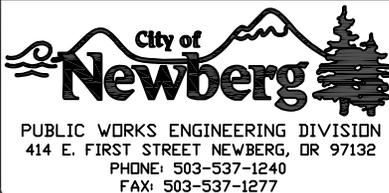
**STEP 2: Deduct Impervious Area LIDA Credits**

Porous Pavement (sq. ft.):		(P)
Green Roof (sq. ft.):		(G)
Other Credits as approved (sq. ft.):		(O)
Total Credits (sq. ft.):		(C)
$(C) = (P) + (G) + (O)$		
Impervious Area Requiring Treatment (sq. ft.):		(IA)
$(IA) = (PA) - (C)$		

**STEP 3: Size LIDA Facilities for Remaining Impervious Area**

	Impervious Area Treated (sq. ft.)	SF, Sizing Factor	LIDA Facility Size (sq. ft.)
Infiltration Planters/ Rain Garden		0.045	
Flow-through Planter		0.060	
Public Flow-through Planter		0.060	

Total Impervious Area Treated (sq. ft.)  **MUST BE EQUAL TO (IA)**

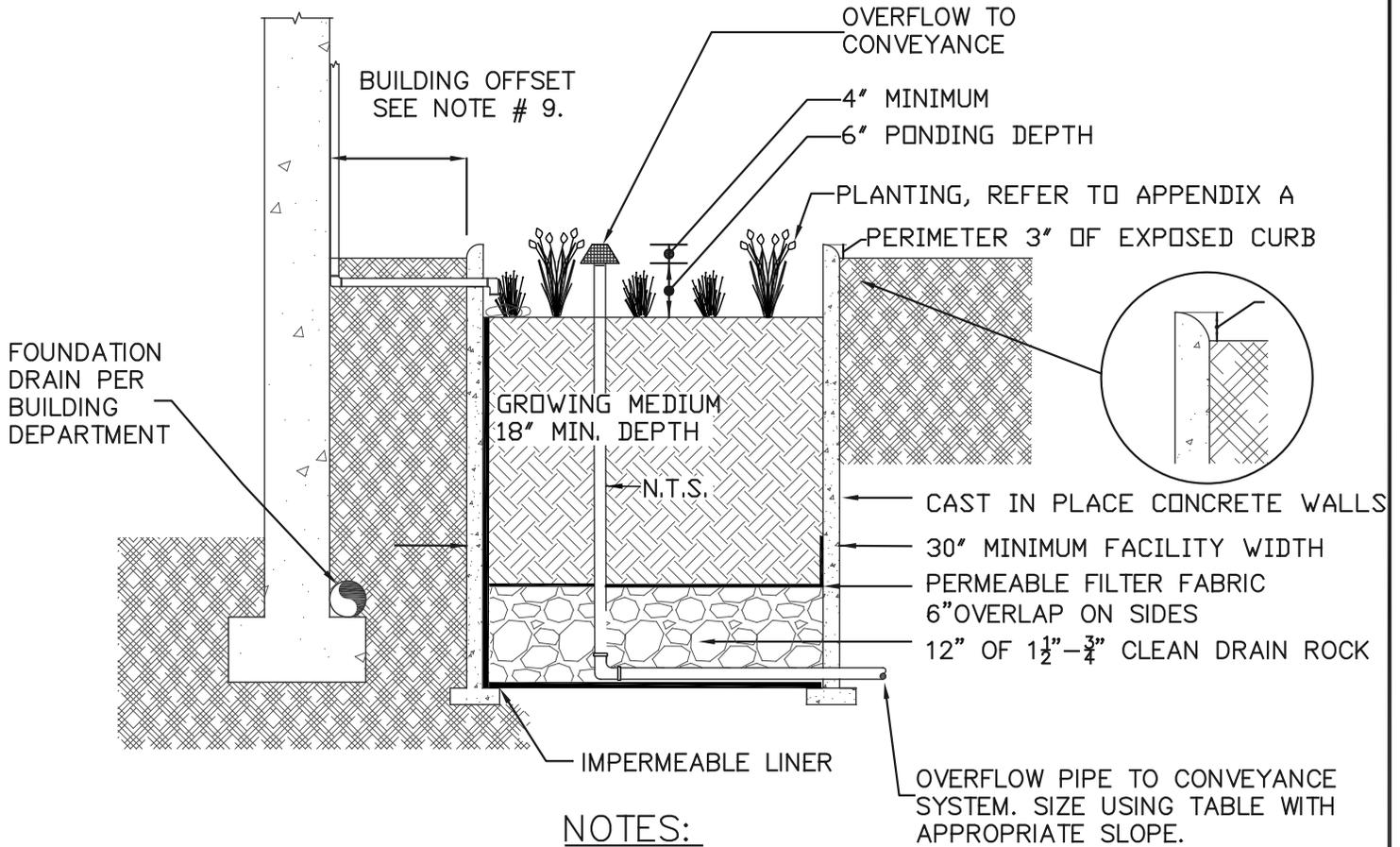


REVISIONS:

LIDA SIZING FORM

SCALE: N.T.S.
DATE: MARCH 2014
APPROVED BY: JAY H.
STANDARD DRAWING 451

# PRIVATE/ PUBLIC WATER QUALITY & QUANTITY TREATMENT



## NOTES:

1. MAXIMUM SLOPE OF PLANTER 0.5%.
2. NO TREES OR DEEP ROOTED VEGETATION OVER PIPING IS ALLOWED IN FACILITY.
3. STORM PIPING TO FACILITY THROUGH WALL CORE HOLES, MAINTAIN MAXIMUM DISTANCE FROM THE OVERFLOW PIPE AS POSSIBLE.
4. PRIVATE OVERFLOW PIPE TO BE MINIMUM SPECIFIED IN PLUMBING CODE, SEE TABLE. PUBLIC FACILITIES SHALL BE SIZED TO CONVEY THE 25 YEAR STORM.
5. ENERGY DISSIPATERS REQUIRED AT WATER ENTRANCES MINIMUM 18"X18"X6" OF 4 TO 6 INCH ANGULAR RIPRAP.
6. PERMEABLE FILTER FABRIC REQUIRED BETWEEN LAYERS
7. IMPERMEABLE LINER REQUIRED AT FACILITY BOTTOM AND ON WALLS ADJACENT TO STRUCTURES (AS SHOWN).
8. "PARTIAL" INFILTRATION FACILITIES ARE ENCOURAGED. IMPERMEABLE LINER LOCATED AT FACILITY BOTTOM, MAY BE REMOVED FOR "PARTIAL" INFILTRATION, APPROVAL BY DESIGN PROFESSIONAL AND BUILDING DEPARTMENT REQUIRED.
9. BUILDING OFFSET REQUIRED ONLY WHEN INFILTRATING, 10 FT MINIMUM.
10. MUST BE LOCATED A MINIMUM OF 3 FT FROM ADJACENT PROPERTY LINE.

OVERFLOW PIPE SIZE (1/8 in./ft. SLOPE)	
MAX PROJECT ROOF AREA (ft.)	OVERFLOW PIPE SIZE (in.)
822	3
1,880	4
3,340	6

OVERFLOW PIPE SIZE (1/4 in./ft. SLOPE)	
MAX PROJECT ROOF AREA (ft.)	OVERFLOW PIPE SIZE (in.)
1,160	3
2,650	4
4,720	6

**City of Newberg**

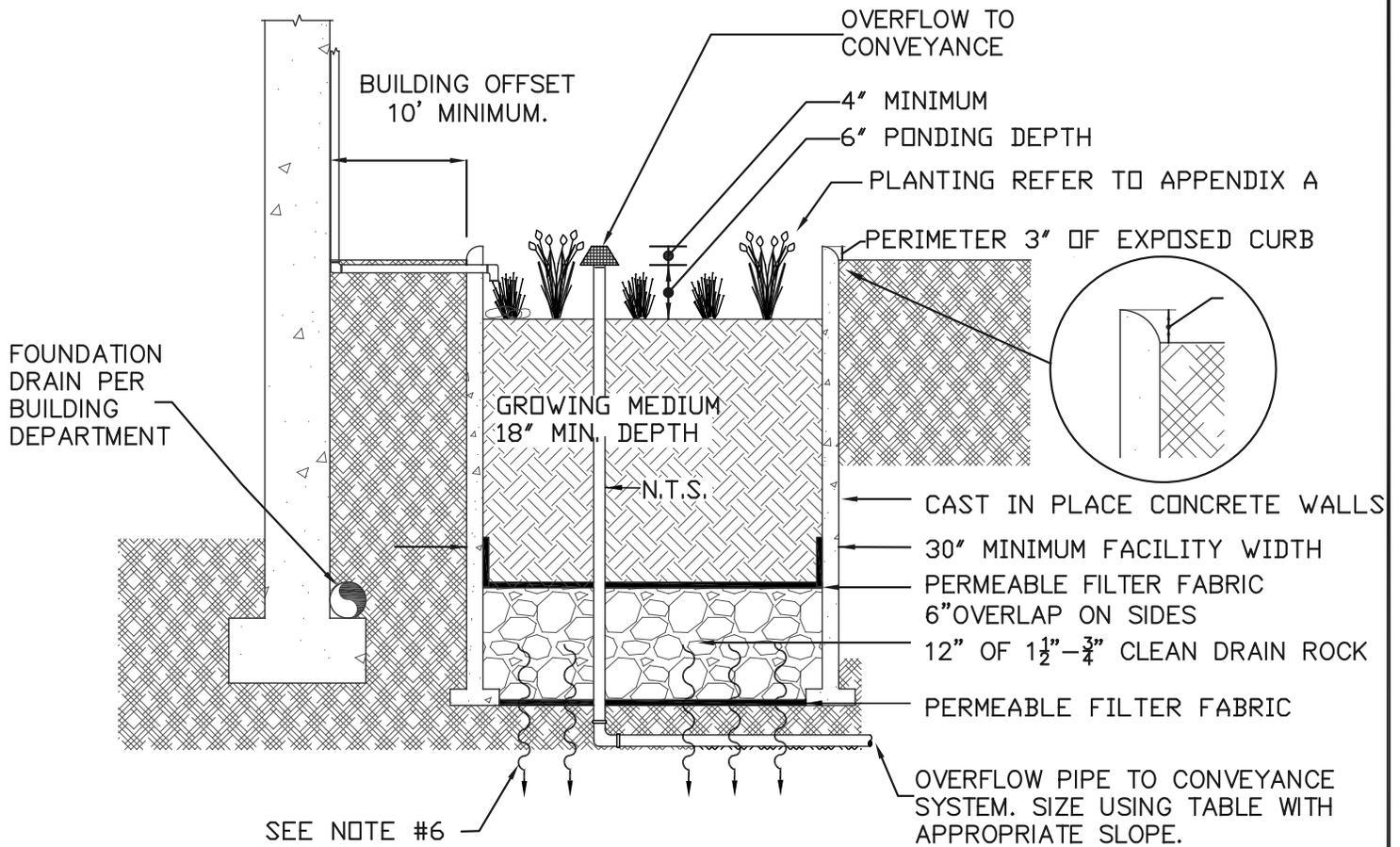
PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS

## FLOW THROUGH PLANTER

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	452

# PRIVATE/ PUBLIC WATER QUALITY & QUANTITY TREATMENT



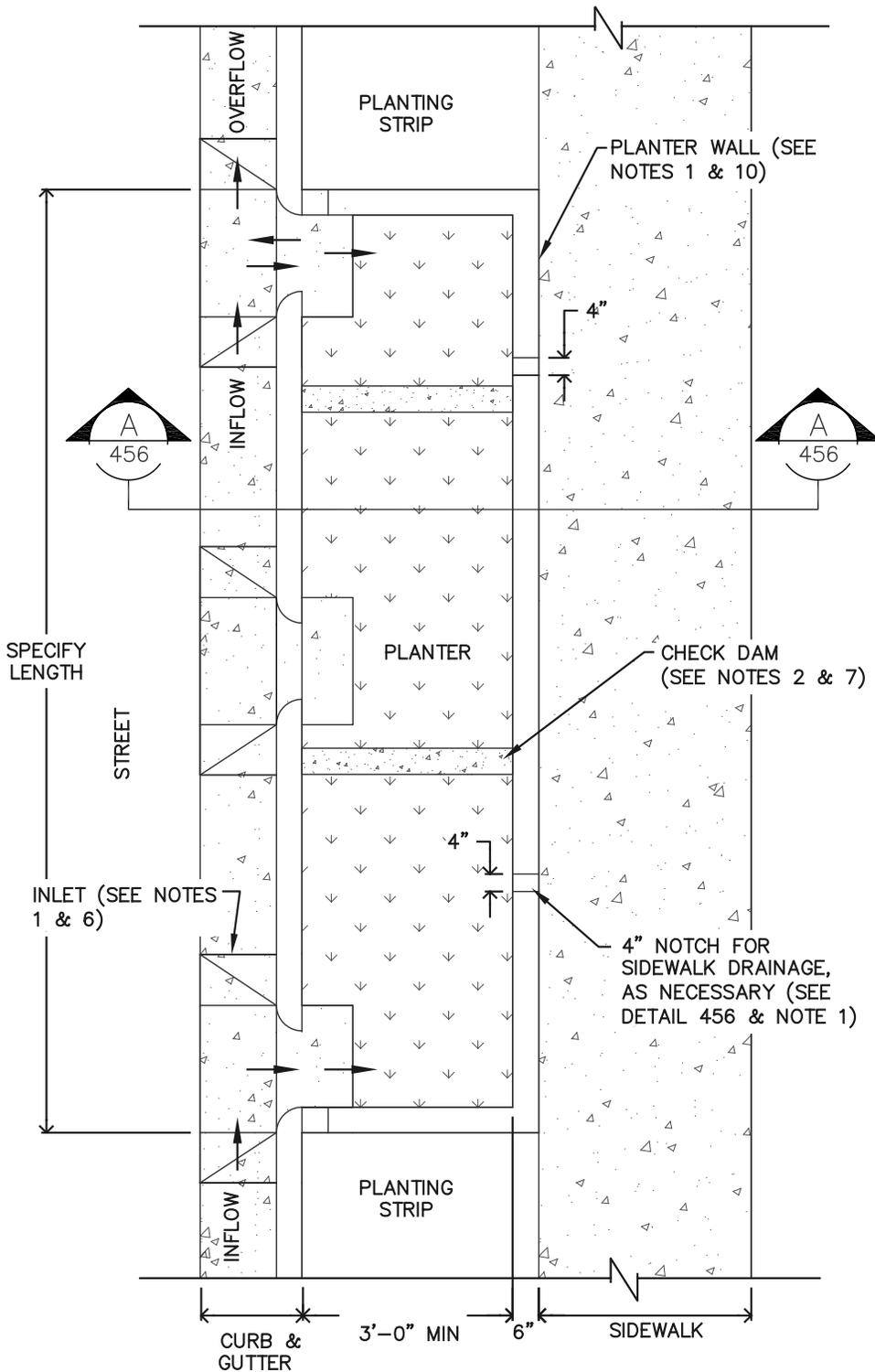
OVERFLOW PIPE SIZE (1/8 in./ft. SLOPE)	
MAX PROJECT ROOF AREA (ft.)	OVERFLOW PIPE SIZE (in.)
822	3
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OVERFLOW PIPE SIZE (1/4 in./ft. SLOPE)	
MAX PROJECT ROOF AREA (ft.)	OVERFLOW PIPE SIZE (in.)
1,160	3
2,650	4
4,720	6

## NOTES:

1. MAXIMUM SLOPE OF PLANTER 0.5%.
2. NO TREES OR DEEP ROOTED VEGETATION OVER PIPING IS ALLOWED IN FACILITY.
3. STORM FLOW INLETS THROUGH WALL CUT OUTS, BOTH TO MAINTAIN MAXIMUM LINEAR DISTANCE FROM THE OVERFLOW PIPE.
4. PRIVATE OVERFLOW PIPE TO BE MINIMUM SPECIFIED IN THE PLUMBING CODE, SEE TABLE. PUBLIC FACILITIES SHALL BE SIZED TO CONVEY THE 25 YEAR STORM.
5. ENERGY DISSIPATERS REQUIRED AT WATER ENTRANCES MINIMUM 18"X18"X6" OF 4 TO 6 INCH ANGULAR RIPRAP.
6. SIZING FACTORS, FOR INFILTRATION FACILITIES ASSUME AN UNFACTORED INFILTRATION RATE GREATER THAN 2 IN PER HOUR.
7. MUST BE LOCATED 3' MINIMUM FROM ADJACENT PROPERTY LINE.

REVISIONS:



**DESIGN NOTES:**

1. PROVIDE BEGINNING AND END STATION FOR EACH FACILITY. PROVIDE STATIONING AND/ OR DIMENSIONS AND ELEVATIONS AT EACH INLET, OUTLET, CHECK DAM, PLANTER CORNER AND SIDEWALK NOTCHES.
2. SIDEWALK ELEVATION MUST BE SET ABOVE CHECK DAM AND INLET ELEVATIONS TO ALLOW OVERFLOW TO DRAIN TO STREET BEFORE SIDEWALK.
3. EXISTING UTILITY LINES MUST BE SLEEVED OR RELOCATED. PROPOSED UTILITY LINES TO BE LOCATED OUT OF FACILITY.
4. LONGITUDINAL SLOPE OF PLANTER TO MATCH ROAD.
5. MINIMUM INTERIOR PLANTER WIDTH IS 3 FEET. A MINIMUM OF 4 FEET IS REQUIRED FOR PLANTERS WITH STREET TREES.

**RELATED DETAILS:**

6. CONCRETE INLET, STANDARD DRAWING NO. 462- CURB CUT.
7. CHECK DAM, STANDARD DRAWING NO. 465, CONCRETE CHECK DAM.
8. REQUIRMENTS FOR WATER LINES, METERS, AND FIRE HYDRANTS REFERENCE STANDARD DRAWING NO. 468, METER & HYDRANT LOCATIONS.
9. FACILITY SIZING AND TOPSOIL PER STANDARD DRAWING NO. 450, GENERAL REQUIRMENTS.
10. PLANTER WALL, STANDARD DRAWING NO. 466, PUBLIC PLANTER WALLS.

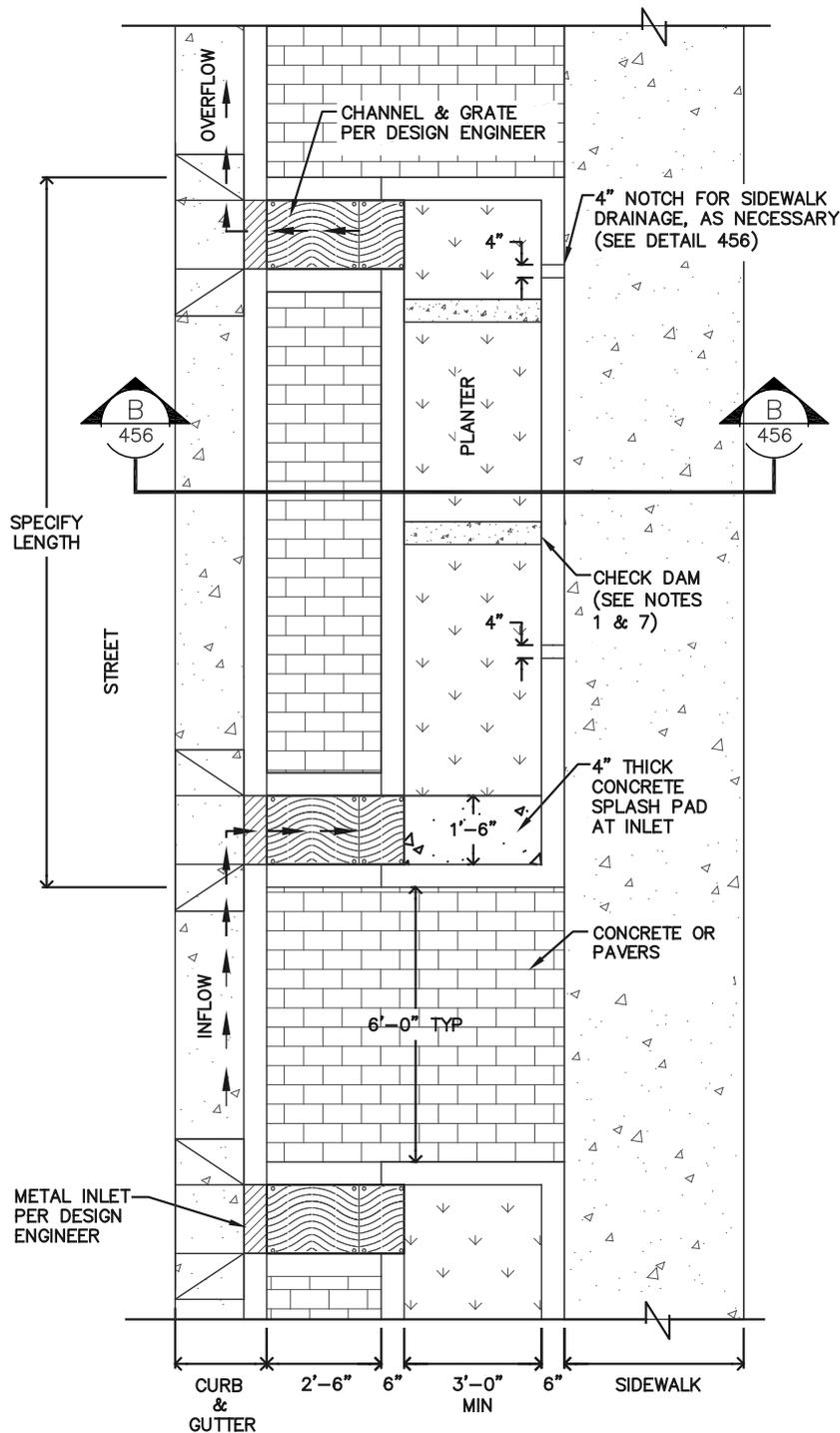


PUBLIC WORKS ENGINEERING DIVISION  
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 PHONE: 503-537-1240  
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REVISIONS:

**PUBLIC PLANTER  
 PLAN VIEW NO PARKING**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>454</b>



**DESIGN NOTES:**

1. PROVIDE BEGINNING AND END STATION FOR EACH FACILITY. PROVIDE STATIONING AND. OR DIMENSIONS AND ELEVATIONS AT EACH INLET, OUTLET, CHECK DAM, PLANTER CORNER AND SIDEWALK NOTCHES.
2. SIDEWALK ELEVATION MUST BE SET ABOVE CHECK DAM AND INLET ELEVATIONS TO ALLOW OVERFLOW TO DRAIN TO STREET BEFORE SIDEWALK.
3. EXISTING UTILITY LINES MUST BE SLEEVED OR RELOCATED. PROPOSED UTILITY LINES TO BE LOCATED OUT OF FACILITY.
4. LONGITUDINAL SLOPE OF PLANTER TO MATCH ROAD.
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**RELATED DETAILS:**

6. CONCRETE INLET, STANDARD DRAWING NO. 462- CURB CUT.
7. CHECK DAM, STANDARD DRAWING NO. 465, CONCRETE CHECK DAM.
8. REQUIRMENTS FOR WATER LINES, METERS, AND FIRE HYDRANTS REFERENCE STANDARD DRAWING NO. 468, METER & HYDRANT LOCATIONS..
9. FACILITY SIZING AND TOPSOIL PER STANDARD DRAWING NO. 451, GENERAL REQUIRMENTS.
10. PLANTER WALL, STANDARD DRAWING NO. 466, PLANTER WALLS.

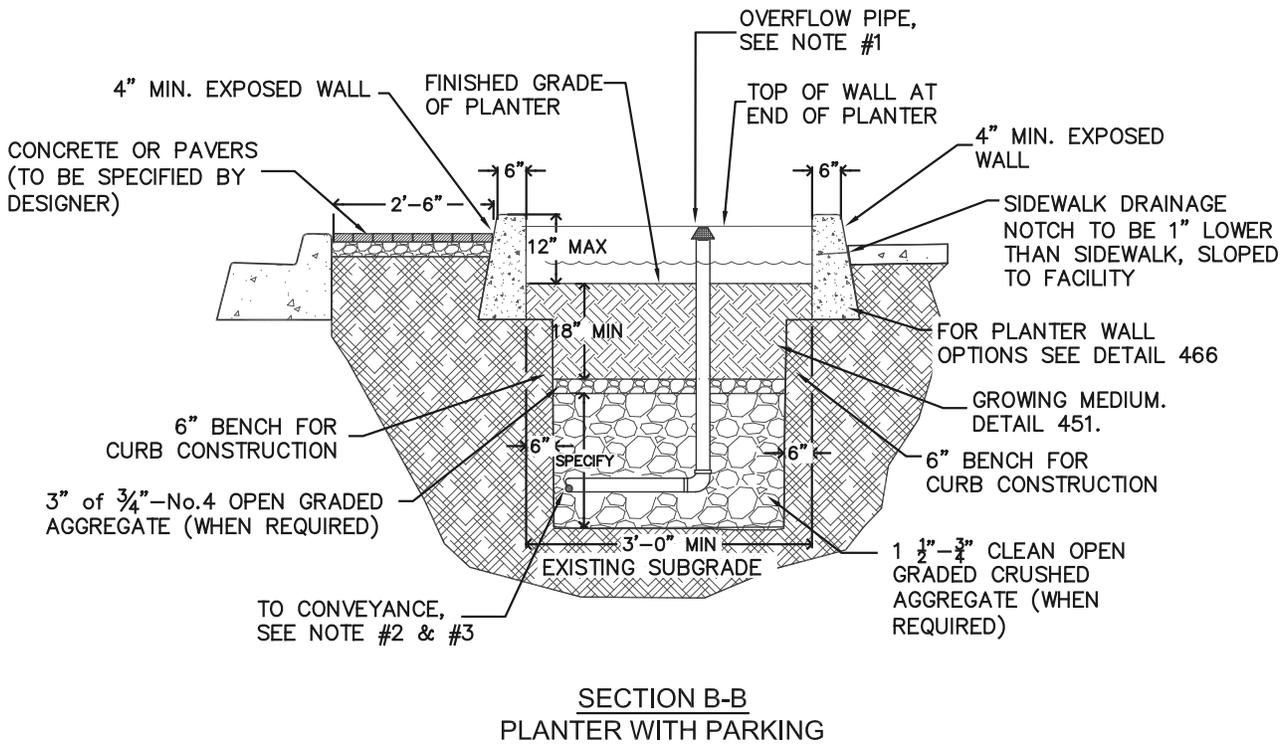
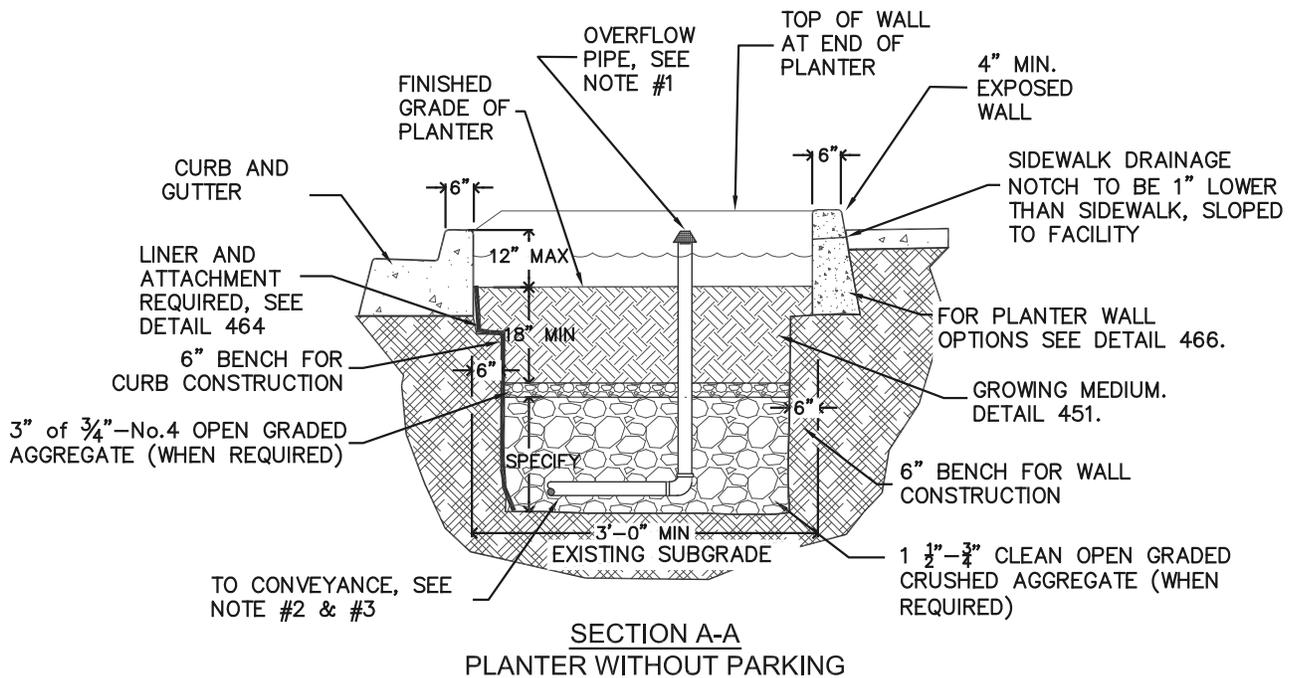


PUBLIC WORKS ENGINEERING DIVISION  
 414 E. FIRST STREET NEWBERG, OR 97132  
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REVISIONS:

**PUBLIC PLANTER  
 PLAN VIEW WITH PARKING**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>455</b>



**NOTES:**

1. TOP OF OVERFLOW PIPE TO BE FLUSH WITH CHECK DAM HEIGHT.
2. PUBLIC OVERFLOW PIPE SHALL BE SIZED TO CONVEY THE 25 YEAR DESIGN STORM EVENT.
3. PERFORATED PIPE SHALL RUN LENGTHWISE OF FACILITY AND SHALL BE LOCATED 6" ABOVE EXISTING SUBGRADE. REFERENCE STANDARD DRAWING NO. 463, PERFORATED PIPE.

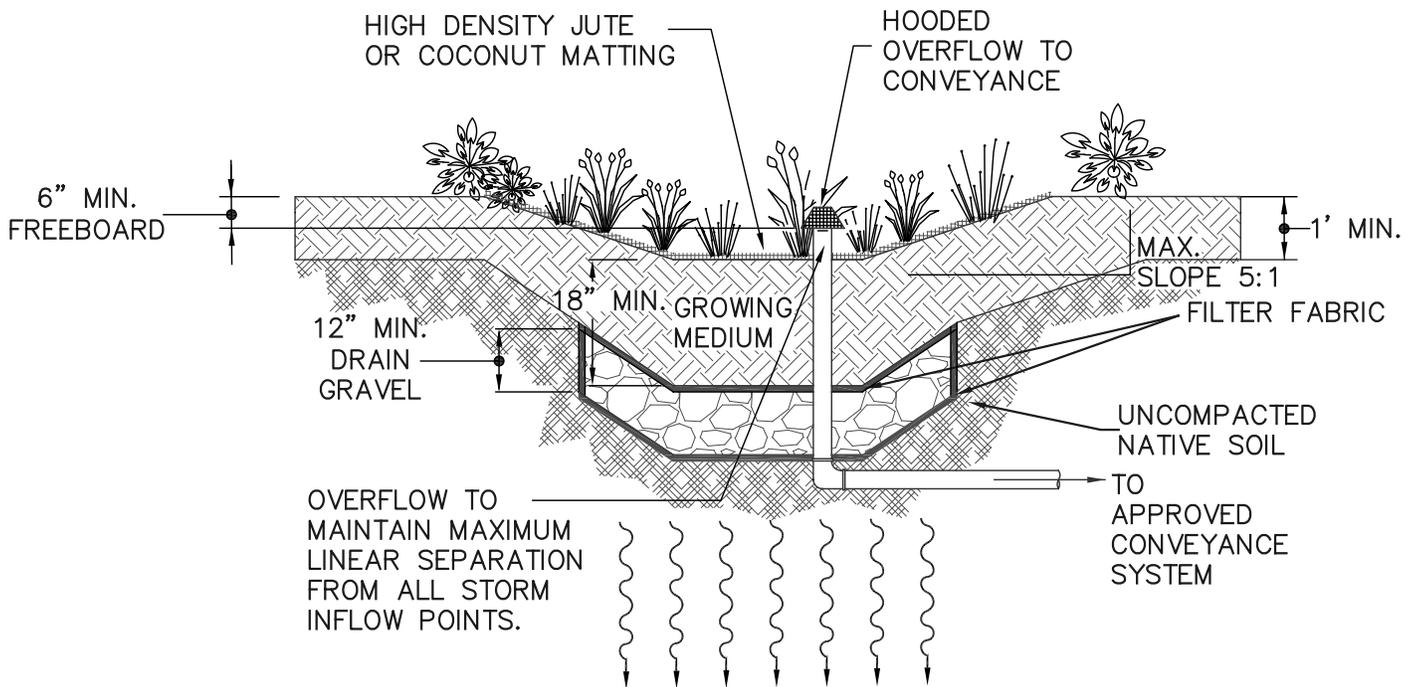


PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS:

**PUBLIC PLANTER**  
SECTION VIEW

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>456</b>



NOTES:

1. PROVIDE OVERFLOW CONVEYANCE SYSTEM, OVERFLOW CONVEYANCE HEIGHT TO ALLOW 6" MAXIMUM PONDING, PIPING TO A MINIMUM OF THE PLUMBING CODE OR CONVEY THE 25 YEAR STORM.
2. FLOW DISSIPATORS SHOULD BE USED IF ENTRY SLOPE TO THE BASIN IS GREATER THAN 5:1.
3. SEPARATION BETWEEN DRAIN GRAVEL AND GROWING MEDIUM SHALL BE PERMEABLE FILTER FABRIC.
4. TREATMENT AREA SHALL HAVE HIGH DENSITY JUTE OR COCONUT MATTING OVER 18" MINIMUM OF GROWING MEDIUM OR BASE STABILIZATION METHOD AS APPROVED BY THE CITY.
5. REFER TO APPENDIX A OF THE STANDARDS DESIGN MANUAL FOR PLANTING REQUIREMENTS.
6. TOP OF BANK OF FACILITY MUST BE LOCATED 10' FROM ANY STRUCTURE AND 3' FROM ADJACENT PROPERTY LINES.

REVISIONS:

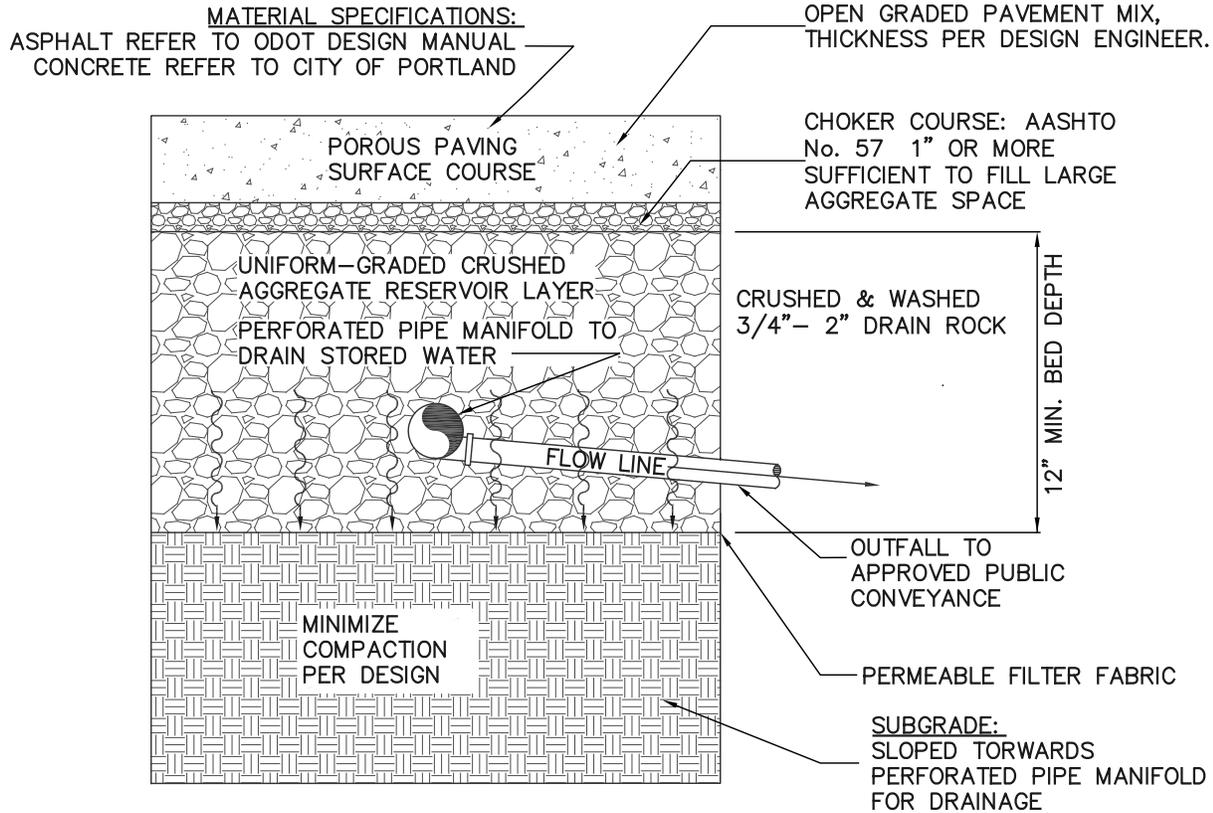
**RAIN GARDEN**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>457</b>



# POROUS PAVEMENT

1:1 IMPERVIOUS AREA DEDUCTION



## NOTES:

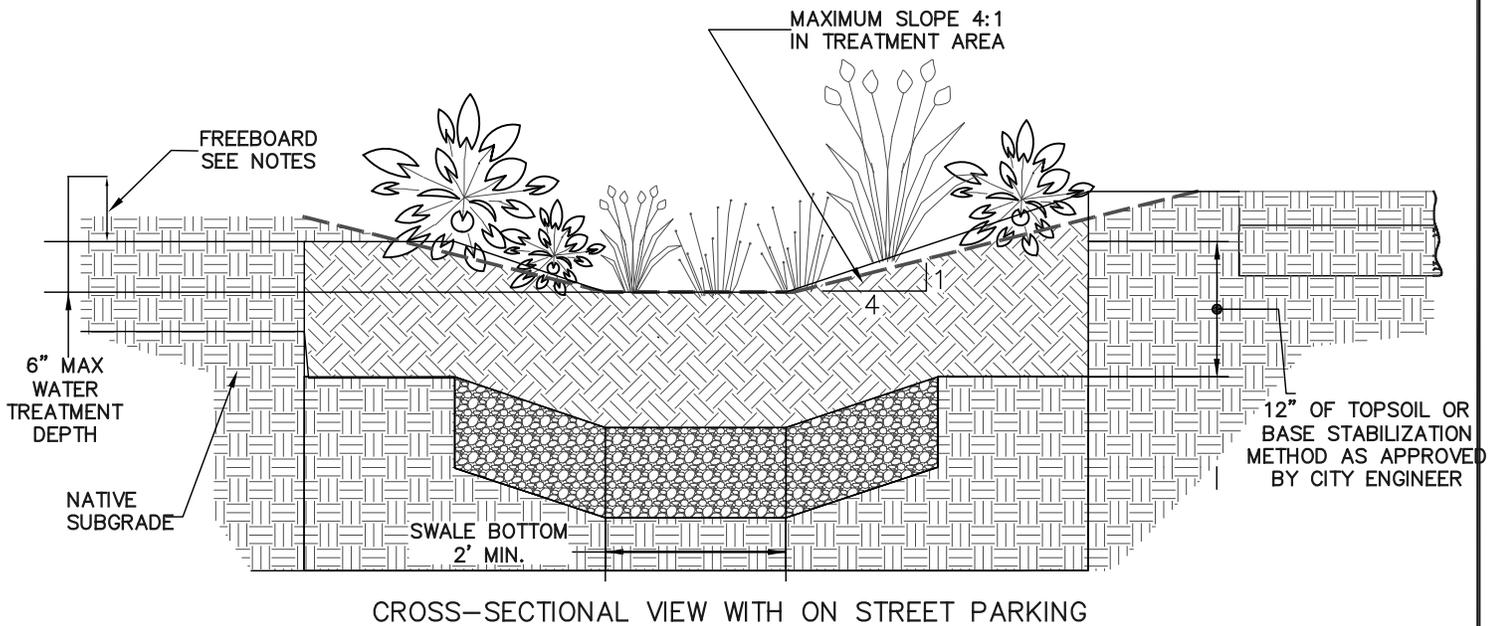
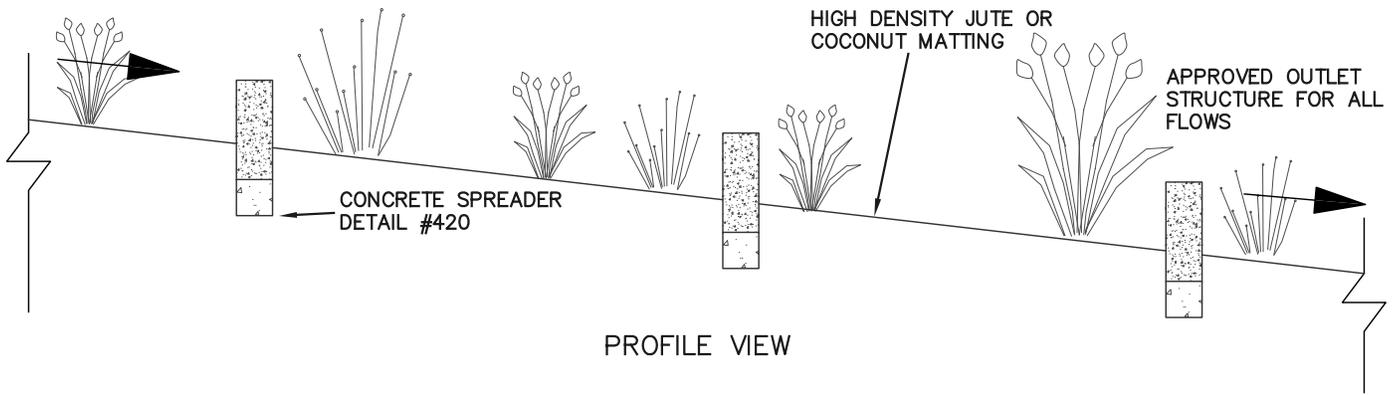
1. PAVEMENT SURFACE TO BE CONSTRUCTED WITH HIGH PERMEABILITY (> 8" PER HR).
2. UNIFORM-GRADED CRUSHED DRAIN ROCK BED WITH MINIMUM 40% VOID SPACE
3. PROVIDE PERFORATED PIPE MANIFOLD IN RESERVOIR LAYER FOR CONVEYANCE, IF UNFACTORED SOIL INFILTRATION RATES LESS THAN 2"/HOUR. SEE PERFORATED PIPE DRAWING NO. 463.
4. NOT RECOMMENDED FOR TRAFFIC SURFACES WITH SLOPE > 5%.
5. DO NOT PLACE DRAIN ROCK BED ON COMPACTED FILL AREAS.
6. HIGHEST SEASONAL WATER TABLE MUST BE AT LEAST 5' BELOW RESERVOIR LAYER. STRUCTURE MUST BE 100' AWAY FROM DRINKING WATER WELL. MINIMUM OF 100' AWAY UP SLOPE & 10' AWAY DOWN SLOPE FROM STRUCTURE FOUNDATIONS. A WRITTEN REPORT IS REQUIRED.
7. FLOWS FROM OTHER IMPERVIOUS AREAS SHALL NOT DRAIN TO POROUS PAVEMENT.
8. ONSITE INFILTRATION TESTING REQUIRED BEFORE AND DURING CONSTRUCTION BY A DESIGN PROFESSIONAL.

REVISIONS:

## POROUS PAVEMENT

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	459

LENGTH PER DESIGN 100' MINIMUM, 0.5% MIN SLOPE.



HYDRAULIC DESIGN CRITERIA:

1. DESIGN FLOW: WATER QUALITY FLOW
2. MIN. HYDRAULIC RESIDENCE TIME: 9 MINUTES
3. MAXIMUM WATER DESIGN DEPTH: 0.5 FEET
4. MINIMUM FREE BOARD: 1.0 FOOT (FOR FACILITIES NOT NOT PROTECTED FROM HIGH FLOWS)
5. MANNING "n" VALUE: 0.24
6. MAXIMUM VELOCITY: 2.0 fps BASED ON 25-YEAR FLOW

FACILITY DESIGN CRITERIA:

1. UP UNTIL THE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 4H:1V
2. ABOVE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 2H:1V
3. IF INTERIOR SIDE SLOPES MUST BE MOWED SIDE SLOPE THEN THE MAX SLOPE IS 4H:1V
4. EXTERIOR SIDE SLOPES MAX 2H:1V
5. MINIMUM FREEBOARD 1 FOOT FROM 25 YEAR DESIGN WATER SURFACE ELEVATION
6. PROVIDE AN ENERGY DISSIPATER AT THE ENTRANCE OF SWALE, WITH A MINIMUM LENGTH OF 4 FEET. IT WILL BE DESIGNED TO REDUCE VELOCITIES AND SPREAD THE FLOW ACROSS THE TREATMENT CROSS SECTION.

FACILITY DESIGN CRITERIA:

7. THE USE OF INTERMEDIATE FLOW SPREADERS IS REQUIRED, SPACING FOR CONCRETE SPREADERS TO BE DETERMINED BY DESIGN ENGINEER.
8. EXTEND RIVER ROCK, TOPSOIL, AND HIGH DENSITY JUTE OR COCONUT MATTING TO TOP OF TREATMENT AREA (OR WQV LEVEL). EXTEND TOPSOIL AND LOW DENSITY JUTE MATTING TO THE EDGE OF WATER QUALITY TRACT.
9. WHERE SWALES WRAP 180-DEGREES FORMING PARALLEL CHANNELS, FREEBOARD SHALL BE PROVIDED BETWEEN EACH OF THE PARALLEL CHANNELS. A 1 FOOT WALL ABOVE GROUND SURFACE MAY ALSO BE USED. ALTERNATIVE: A SOIL BASED BERM WITH A MIN. TOP WIDTH OF 1 FOOT & MAX 2.5H:1V SIDE SLOPES MAY BE USED.
10. WHERE SWALES ARE DESIGNED WITH DITCH INLETS & OUTLET STRUCTURES & DESIGN OF MAINTENANCE ACCESS TO SUCH STRUCTURES MAY BE DIFFICULT DUE TO SWALE LOCATION, SWALES MAYBE DESIGNED AS FLOW THROUGH FACILITIES WITH UNSUMPED STRUCTURES. MAINTENANCE ACCESS TO STRUCTURE END OF THE FACILITY IS REQUIRED.

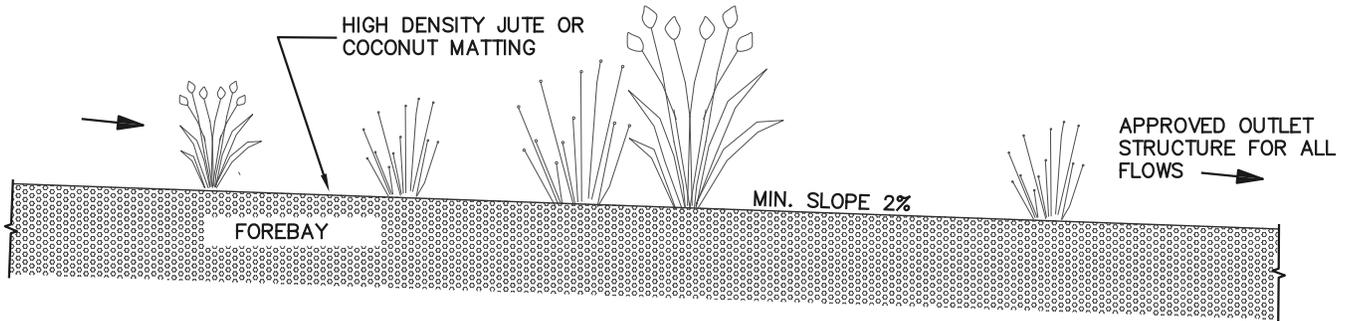


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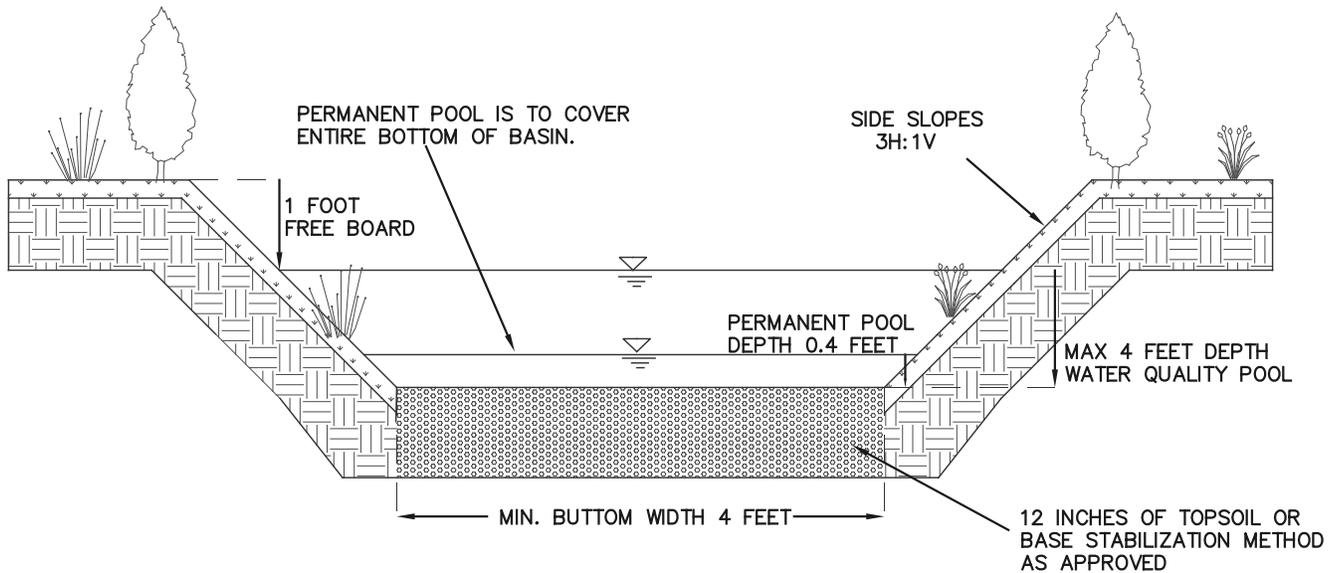
REVISIONS:


VEGETATED SWALE

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	460



PROFILE VIEW



CROSS-SECTIONAL VIEW

HYDRAULIC DESIGN CRITERIA:

1. MIN. WATER QUALITY DETENTION VOLUME:  
1.0 X WATER QUALITY VOLUME (WQV)
2. 48 HOURS WATER QUALITY DRAWDOWN TIME
3. FOR ORIFICE SIZE USE:  
 $D = 24 * [(Q / (C * [2gH]^{0.5}) / \pi)^{0.5}]$  WHERE:  
 D(in) = DIAMETER OF ORIFICE  
 $Q(\text{cfs}) = WQV(\text{cf}) / (48 * 60 * 60)$   
 C = 0.62  
 $H(\text{ft}) = \frac{2}{3} * (\text{TEMPORARY WATER QUALITY DETENTION HEIGHT TO CENTERLINE OF ORIFICE})$

FACILITY DESIGN CRITERIA:

1. UP UNTILL THE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 3H:1V
2. ABOVE MAX WATER SURFACE, INTERIOR SIDE SLOPES, MAX SLOPE IS 2H:1V
3. IF INTERIOR SIDE SLOPES MUST BE MOWED SIDE SLOPE THEN THE MAX SLOPE IS 4H:1V
4. EXTERIOR SIDE SLOPES MAX 2H:1V, UNLESS ANALYZED FOR STABILITY BY A GEOTECHNICAL ENGINEER
5. MINIMUM FREEBOARD 1 FOOT FROM 25 YEAR DESIGN WATER SURFACE ELEVATION

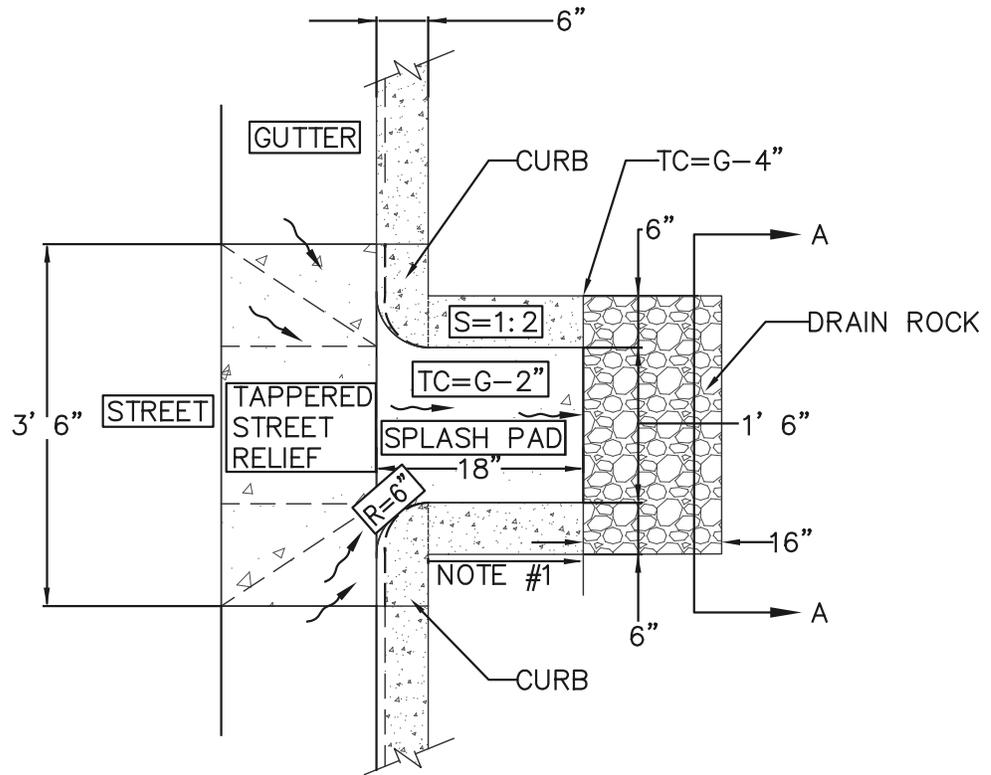
FACILITY DESIGN CRITERIA:

6. MINIMUM OF 2 CELLS, WITH THE FIRST CELL (FOREBAY) AT LEAST 10% OF SURFACE AREA. THE FOREBAY SHALL ALSO CONSTITUTE 20-PERCENT OF THE TREATMENT VOLUME. WHERE SPACE LIMITS MULTI-CELL DESIGN, USE ONE CELL WITH A FOREBAY AT THE INLET TO SETTLE SEDIMENTS AND DISTRIBUTE FLOW ACROSS THE WET POND.
7. INLET AND OUTLET STRUCTURES SHALL BE DESIGNED TO AVOID DIRECT FLOW BETWEEN STRUCTURES WITHOUT RECEIVING TREATMENT (ie SHORT CIRCUITING OF FLOW)
8. MINIMUM FREEBOARD: 1 FOOT FROM 25 YEAR DESIGN WATER SURFACE ELEVATION.
9. EXTEND RIVER ROCK, TOPSOIL, AND HIGH DENSITY JUTE OR COCONUT MATTING TO TOP OF TREATMENT AREA (OR WQV LEVEL). EXTEND TOPSOIL AND LOW DENSITY JUTE MATTING TO THE EDGE OF WATER QUALITY TRACT OR EASEMENT AREA.
10. THE ENGINEER SHALL CERTIFY THAT THE POND STORM SEWER DESIGN WILL PASS THE 25 AND 100 YEAR STORM EVENTS AND THAT AT NORMAL DESIGN WATER SURFACE THAT THE UPSTREAM STORM SEWER WILL NOT BE IN A SURCHARGED CONDITION FOR LONGER THAN 24 HOURS.

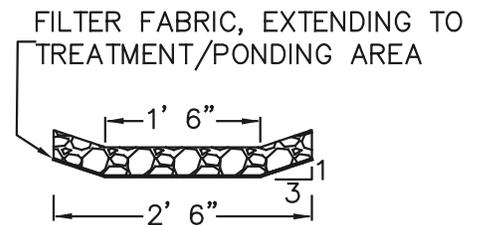
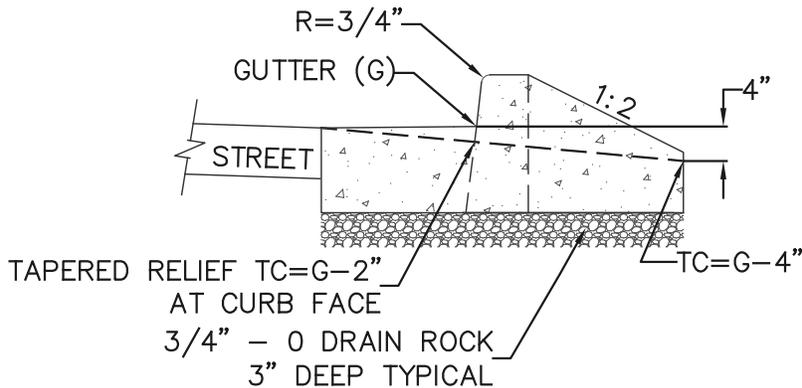
REVISIONS:

**EXTENDED DRY  
BASIN**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>461</b>



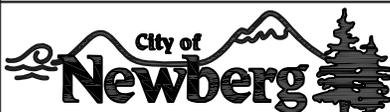
CURB CUT-OUT



SECTION A-A

NOTES:

1. SPLASH PAD LENGTH TO BE 12 INCHES FROM BACK OF CURB
2. INFLOW STRUCTURE - CURB CUTOUT SHALL HAVE MINIMUM 2" DROP AT THE FLOW LINE LEADING TO THE SPLASH PAD, SEE DETAIL.
3. SPLASH PAD DRAIN ROCK MINIMUM SIZE 2" TO 4" CLEAN ANGULAR ROCK OR SIZED BY DESIGN INFLOW. ROCK TO BE PLACED 2.5" TO 3" DEEP BEHIND CONCRETE SPLASH PAD.



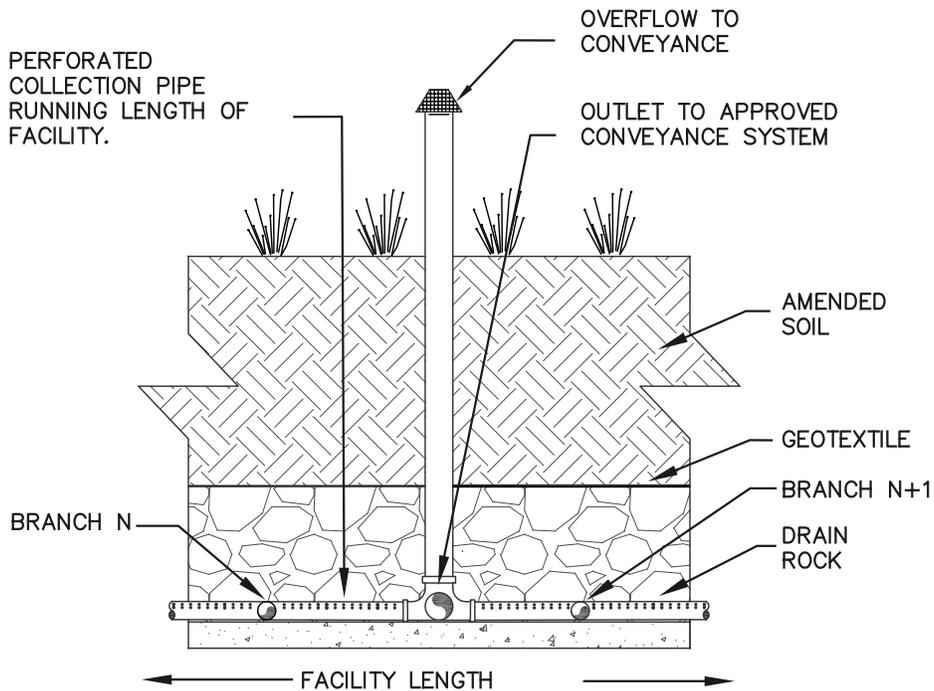
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REVISIONS:


CURB CUT

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	462

PERFORATED PIPE MANIFOLD PROFILE



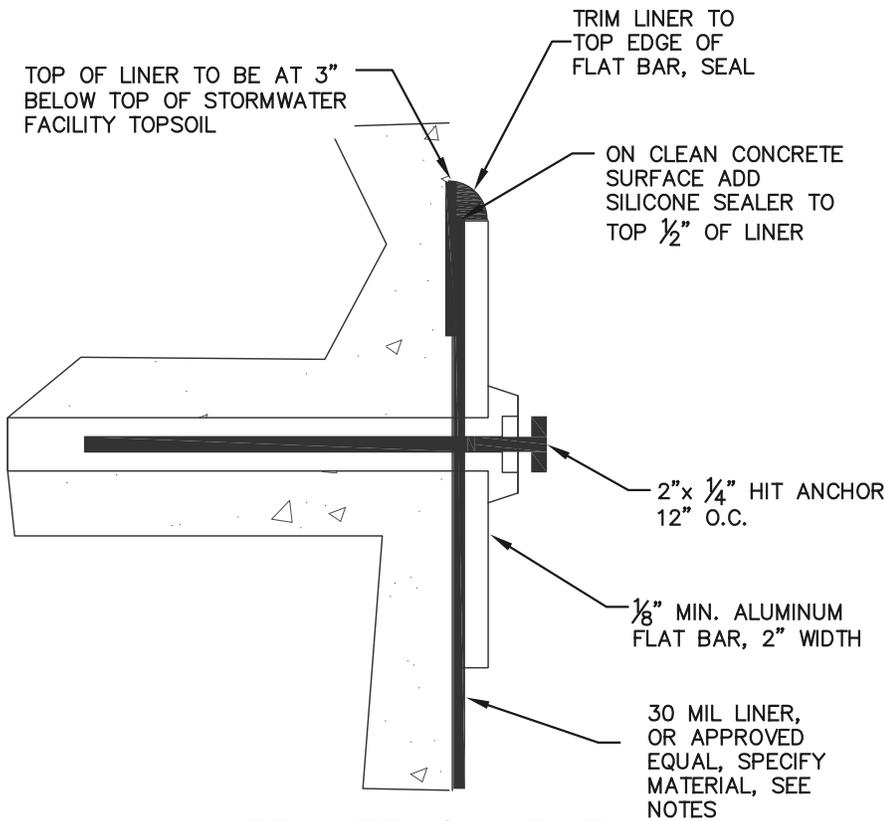
NOTES:

1. BRANCH SPACING AND NUMBER OF BRANCHES TO BE CALCULATED BASED ON STORM FLOWS FROM IMPERVIOUS AREA BEING TREATED.
2. WRAP PERFORATED PIPE WITH GEOTEXTILE TO PREVENT INFILTRATION OF FINES.
3. NO TREES OR DEEP ROOTED VEGETATION OVER PIPING.
4. GRADE SUBGRADE TO PROVIDE MANIFOLD WITH POSITIVE DRAINAGE.
5. CONVEYANCE SIZED AT MINIMUM FOR 25 YEAR EVENT STORM FLOWS.
6. DETENTION (IF REQUIRED) VOLUME BASED ON DEPTH OF DRAIN ROCK RESERVOIR LAYER AND POSITION OF MANIFOLD WITHIN THE DRAIN ROCK LAYER.
7. FITTINGS TO BE SAME MATERIAL AS PERFORATED PIPE.
8. PIPE SECTIONS EXPOSED TO SUNLIGHT SHALL BE OF MATERIAL NOT SUBJECT TO DEGRADATION FROM THE EFFECTS OF SUNLIGHT.

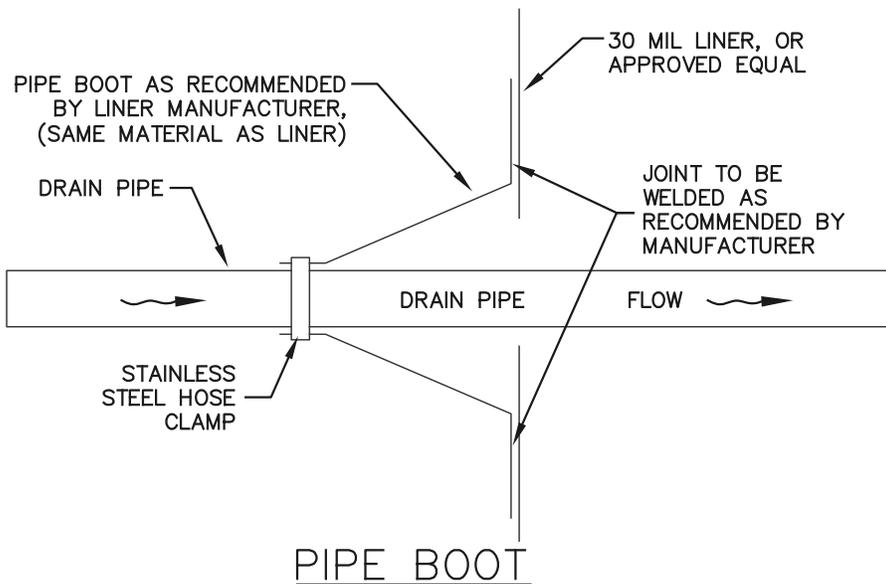
REVISIONS:

PERFORATED PIPE

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>463</b>



### LINER ATTACHMENT



### NOTES:

1. LINER MATERIALS TO BE HDPE OR PVC. LINER TO EXTEND FROM TOP OF TOPSOIL TO THE BOTTOM OF EXCAVATION.
2. 3" OF CONCRETE IS REQUIRED ON ALL SIDES OF ATTACHEMENT. ADJUST SIDEWALK DEPTH AS NECESSARY.
3. LINER REQUIRED WHEN FACE OF NEW CURB IS LESS THAN 2' FROM OD OF ADJACENT WATER MAIN.
4. LINER REQUIRED ON NEIGHBORHOOD COLLECTORS AND HIGH STREET CLASSIFICATIONS.
5. LINER REQUIRED ON NEIGHBORHOOD COLLECTORS AND HIGH STREET CLASSIFICATIONS. LINER MAY BE REQUIRED ON LOCAL STREETS WITH TRANSIT ROUTES, HIGHER TRAFFIC VOLUMES, OR WHEN A FACILITY IS ADJACENT TO TRAVEL LANE AT THE DISCRETION OF THE CITY ENGINEER.
6. IN AREAS WITH CONTAMINATED SOILS THE FACILITY MUST BE COMPLETELY LINED WITH A 40 MIL LINER UNLESS FACILITY'S BOTTOM AND SIDES ARE MONOLITHIC CONCRETE.
7. ADHERE 30 MIL LINER TO CONCRETE WITH TOP COAT TC MOLDABLE SEALANT, OR APPROVED EQUAL.
8. SECURE LINER TO CONCRETE WITH 2" ALUMINUM FLAT BAR, PLACED AS DIRECTED (CURB SIDE OR ENTIRE FACILITY).
9. ATTACH FLAT BAR WITH CONCRETE HIT ANCHORS, 24" O.C.
10. TRIM EXCESS LINER TO THE TOP OF FLAT BAR.



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## LINER ATTACHMENT & PIPE BOOT

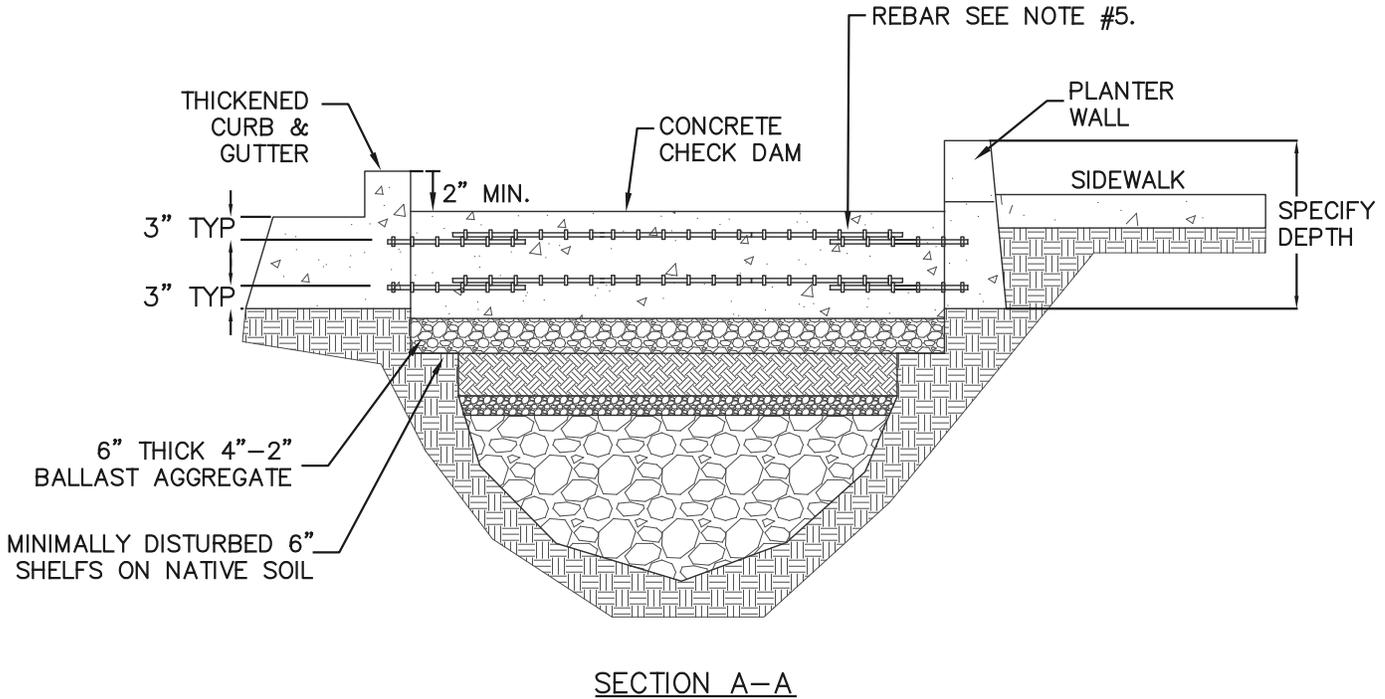
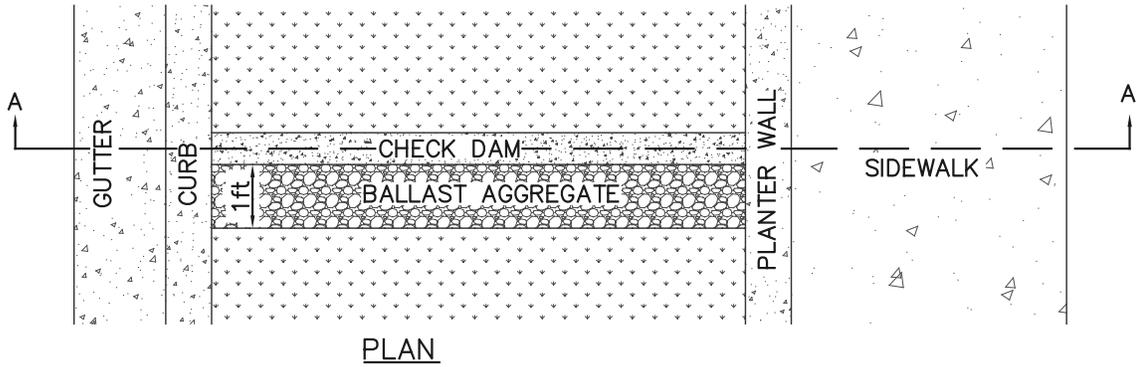
SCALE: N.T.S.

DATE: MARCH 2014

APPROVED BY: JAY H.

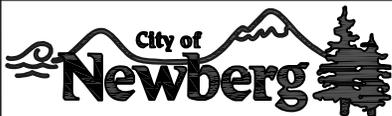
STANDARD DRAWING

464



NOTES:

1. PROVIDE ELEVATIONS AND STATIONING AND/ OR DIMENSIONING FOR CHECK DAMS.
2. ENSURE THAT CHECK DAMELEVATIONS DO NOT CAUSE STORMWATER TO OVERFLOW TO SIDEWALK.
3. FOR USE IN PUBLIC STREET PLANTERS.
4. FOR CHECK DAMS THAT SPAN LONGER THAN 12' SPECIFY REBAR OVERLAP LENGTH.
5. EMBED #3 REBAR 3" INTO CURB AND 3" INTO PLANTER WALL. 12" MINIMUM OVERLAP REQUIRED FOR REBAR LAP SPLICE.

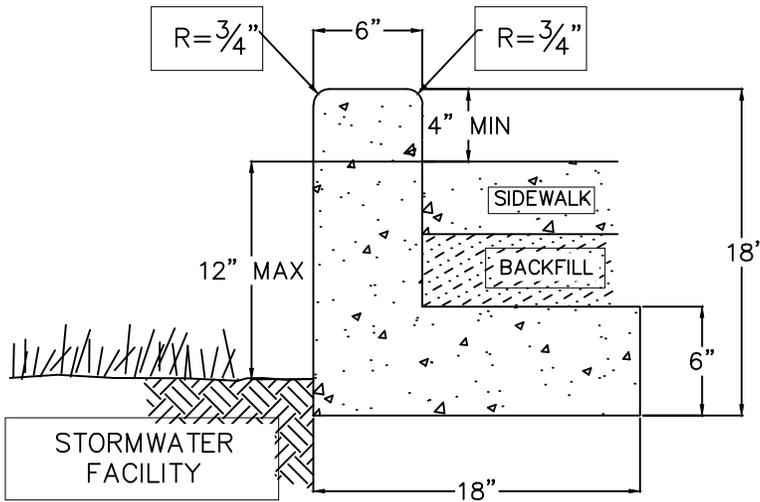
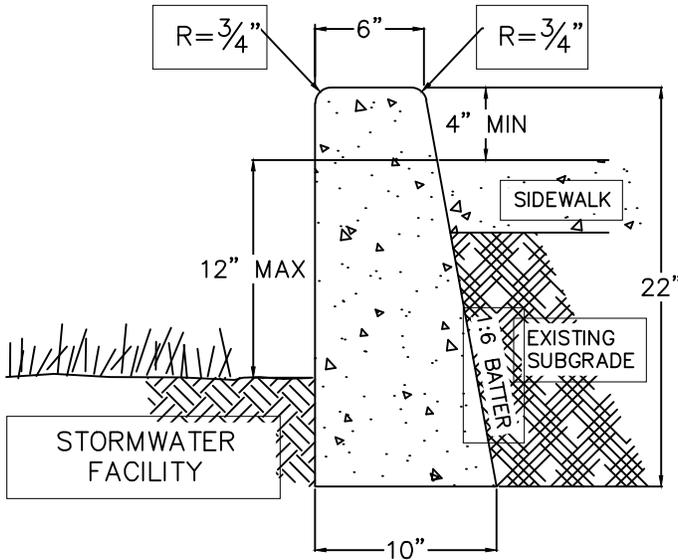


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**CONCRETE CHECK DAM  
FOR PLANTERS**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>465</b>



**NOTES:**

1. SPECIAL DESIGN CONSIDERATIONS OR STRUCTURAL REVIEW MAY BE REQUIRED FOR LONGER PLANTER WALL SPANS. STEEL REINFORCEMENT OR ADDITIONAL CONCRETE CHECK DAMS MAY BE NEEDED FOR STABILITY.
2. SPECIFY ONE OF THE ABOVE PLANTER WALL OPTIONS BASED ON SITE CONDITIONS.
3. MAINTAIN 1:6 BATTER FOR WALLS AND 4" MINIMUM TO TOP OF CURB.
4. IF A LINER IS USED WITH AN L-SHAPED WALL, THE WALL HEIGHT MUST BE INCREASED. THREE INCHES OF CONCRETE IS REQUIRED ON ALL SIDES OF THE LINER ATTACHMENT (STANDARD DRAWING NO. 464)
5. BROOM FINISH ALL EXPOSED CONCRETE SURFACES.

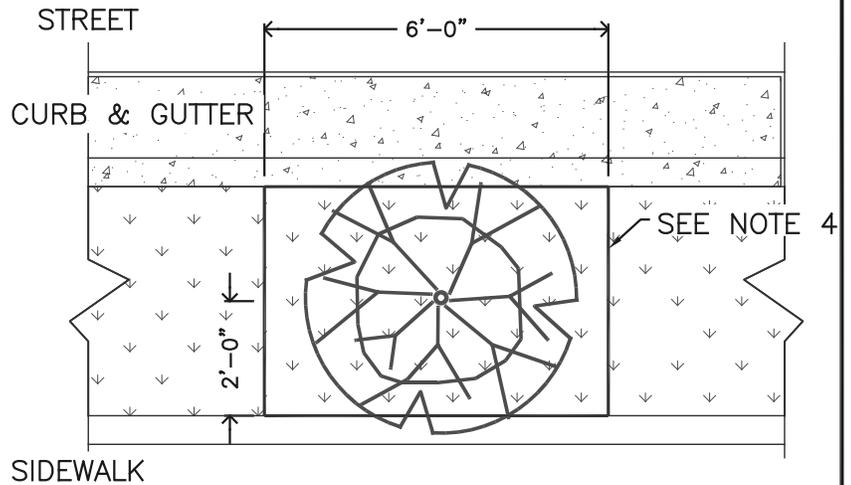
REVISIONS:
05/28/2015 - ASM

**PUBLIC PLANTER WALLS**

SCALE:	N.T.S.
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	<b>466</b>

**NOTES:**

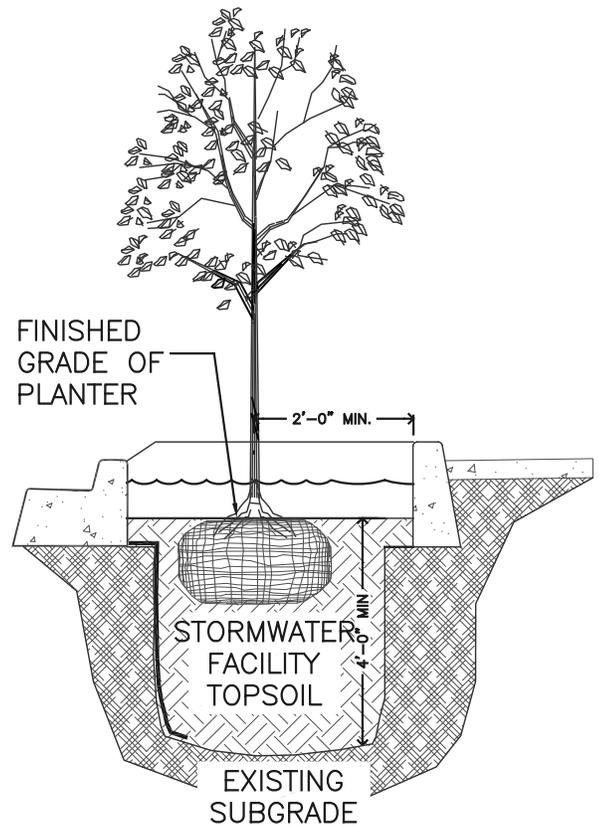
1. SPACING BETWEEN TREES VARIES— 20' TO 30' ON CENTER.
2. REFER TO STANDARD DRAWING NO 450 FOR GROWING MEDIUM.
3. STREET TREE LIST PROVIDED FOR REFERENCE DO NOT INCLUDE ON PLANS.
4. INCLUDE TREE WELL AND STREET TREE VIEWS ON PLANS.
5. DIMENSION TOPSOIL AND ROCK LAYERS ON NON-TREE SIDE TO CORRESPOND TO PLANTER SECTION.
6. INCLUDE LINER AND CALL-OUT IF USED, FOR TREE LINER REFERENCE DRAWING NO 108.
7. REMOVE WIRE AND BURLAPO FROM ROOT BALL PRIOR TO BACKFILLING.
8. SET TOP OF ROOT BALL 1" TO 2" ABOVE TOPSOIL FACILITY.
9. DEEPEN SOIL SECTION MINIMUM, 4' X 6' X 4' DEEP.
10. OTHER SPECIES OF STREET TREES MAY BE PERMITTED WITH APPROVAL FROM PLANNING DEPARTMENT.



ALL TREE TYPES AND LOCATIONS TO BE APPROVED BY CITY PLANNING DIVISION.

STREET TREES WITH POWER LINES	
BOTANICAL NAME	COMMON NAME
CARPINUS CAROLINIANA	AMERICAN HORNBEAM
FRAXINUS PENNSYLVANICA 'JOHNSON'	LEPRECHAUN ASH
GLEDTISIA TRIACANTHOS 'IMPCOLE'	IMPERIAL HONEYLOCUST
KOELREUTERIA PANICULATA	GOLDENRAIN TREE
PRUNUS VIRGINIANA 'CANADA RED'	CANADA RED CHOKECHERRY

STREET TREES WITH-OUT POWER LINES	
BOTANICAL NAME	COMMON NAME
NYSSA SYLVATICA	BLACK TUPELO
CELTIS OCCIDENTALIS	HACKBERRY
QUERCUS SHUMARDII	SHUMARD OAK
BETULA JACQUEMONTII	JACQUEMONTII BIRCH
ACER CAMPESTRE 'EVELYN'	QUEEN ELIZABETH HEDGE MAPLE
GLEDTISIA TRIACANTHOS 'SKYCOLE'	SKYLINE HONEYLOCUST

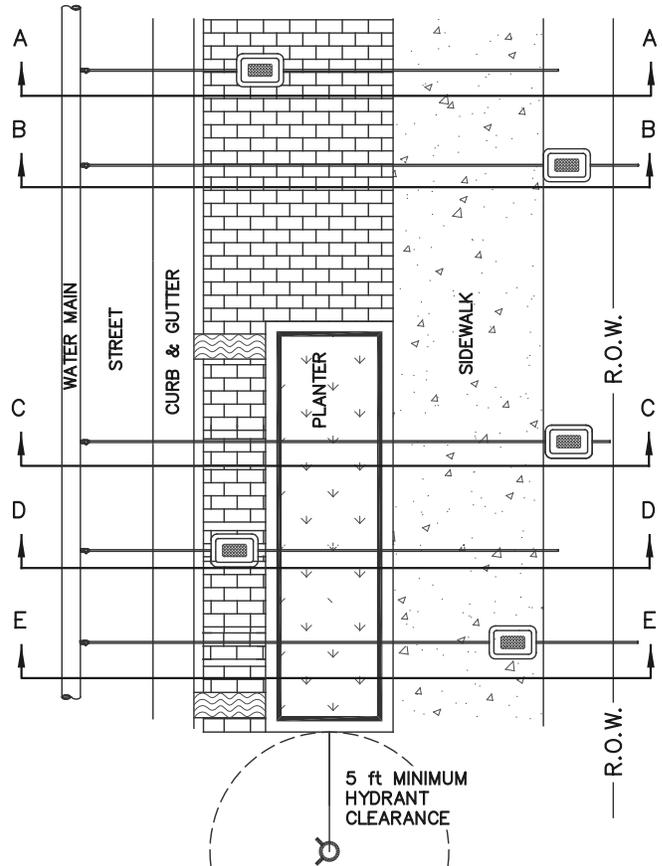
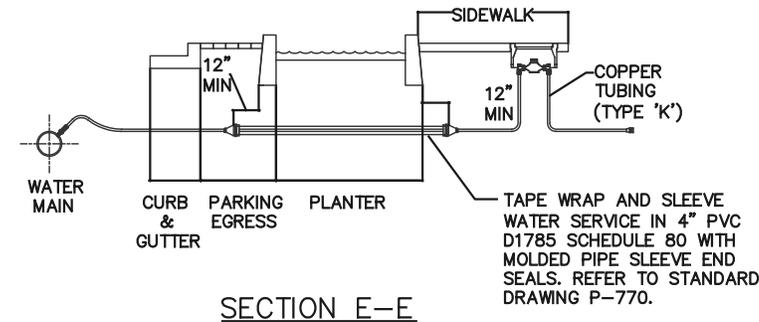
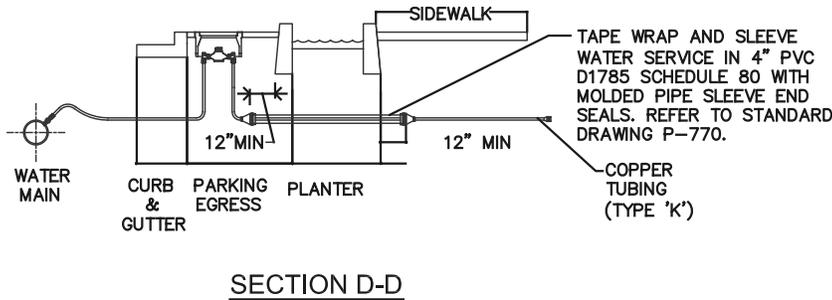
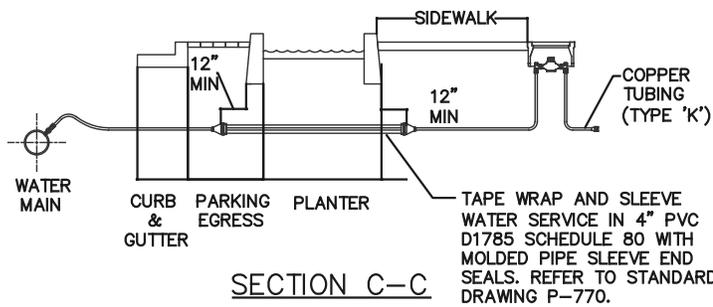
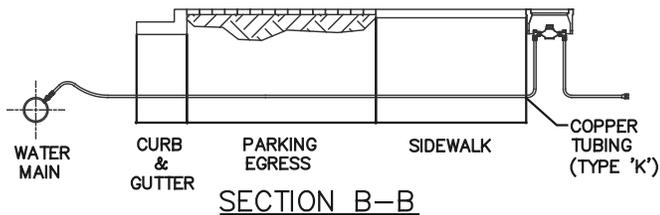
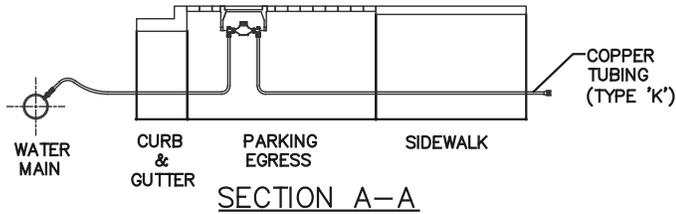


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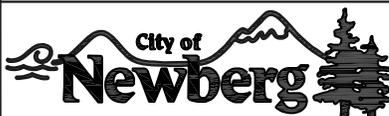
**STORMWATER FACILITY  
STREET TREE**

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>467</b>



**NOTES:**

1. REFER TO FIRE HYDRANT ASSEMBLY STANDARD DRAWING NO. 312. CENTER OF FIRE HYDRANT MUST HAVE A MINIMUM CLEARANCE OF 5' FROM OUTSIDE EDGE OF STORMWATER FACILITY.
2. STANDARD METER LOCATION IS OPTION A. OPTION B OR C CAN BE USED ONLY IF THE METER BOX IS FULLY WITHIN THE RIGHT-OF-WAY.
3. REFER TO STANDARD 3/4" AND 1" WATER SERVICE, STANDARD DRAWING NO. 307. FOR LARGER SERVICES CONTACT THE ENGINEERING DEPARTMENT.
4. MAINTAIN 2 FT SKIN-TO-SKIN SEPARATION DISTANCE BETWEEN FACE OF GUTTER PAN AND THE WATER MAIN. IF WATER MAIN IS < 2 FT FROM FACE OF GUTTER PAN, THE WATER MAIN MUST BE RELOCATED UNLESS OTHERWISE APPROVED BY THE CITY. VERIFICATION OF WATER MAIN DEPTH IS REQUIRED PRIOR TO CITY APPROVAL.
5. CROSS-SECTION VIEWS ARE NOT REQUIRED ON CONSTRUCTION PLANS.

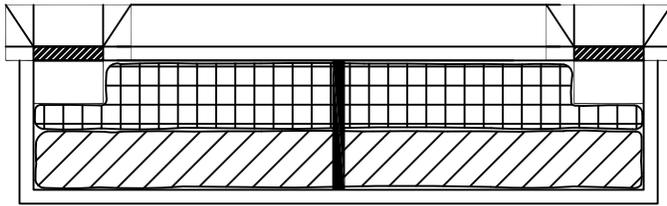


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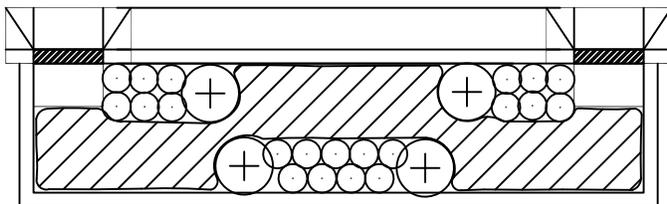
REVISIONS:

**METER & HYDRANT LOCATIONS**

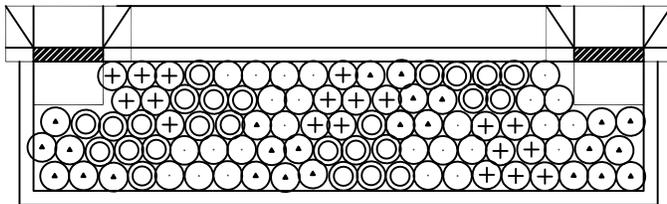
SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	<b>468</b>



TEMPLATE 1



TEMPLATE 2



TEMPLATE 3

PLANT LEGEND 1

Symbol	Botanical Name
	Common Name
	<i>Carex obnupta</i>
	Slough sedge
	<i>Juncus patens</i>
	Spreading rush
	<i>w/Camassia leichtlinii</i>
	Great camas- interspersed for accent

PLANT LEGEND 2

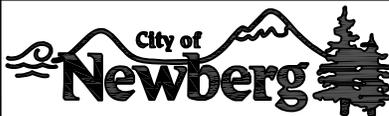
Symbol	Botanical Name
	Common Name
	<i>Carex obnupta</i>
	Slough sedge
	<i>Deschampsia cespitosa</i>
	Tufted hair grass
	<i>Cornus sericea 'Kelsey'</i>
	Kelsey dogwood
	<i>w/Iris douglasii</i>
	Douglas' Iris- interspersed for accent

PLANT LEGEND 3

Symbol	Botanical Name
	Common Name
	<i>Carex obnupta</i>
	Slough sedge
	<i>Deschampsia cespitosa</i>
	Tufted hair grass
	<i>Juncus patens</i>
	Spreading rush
	<i>Carex morrowii 'Ice Dance'</i>
	Ice Dance Sedge
	<i>w/Camassia leichtlinii</i>
	Great camas- interspersed for accent

NOTES:

1. THE ABOVE ARE APPROVED SAMPLE TEMPLATES..
2. AN APPROVED PLANT LIST AND QUANTITY REQUIREMENTS IS AVAILABLE IN APPENDIX A OF THE STANDARDS DESIGN MANUAL.
3. PLANTING TABLE REQUIRED. STATE PLANT SPECIES, SPACING, AND QUANTITIES PER PLANTER. INCLUDE THE SQUARE FOOTAGE OF PLANTER.

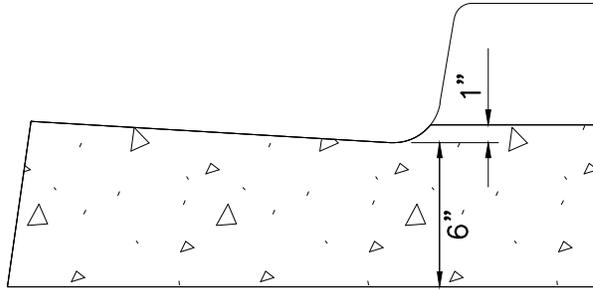


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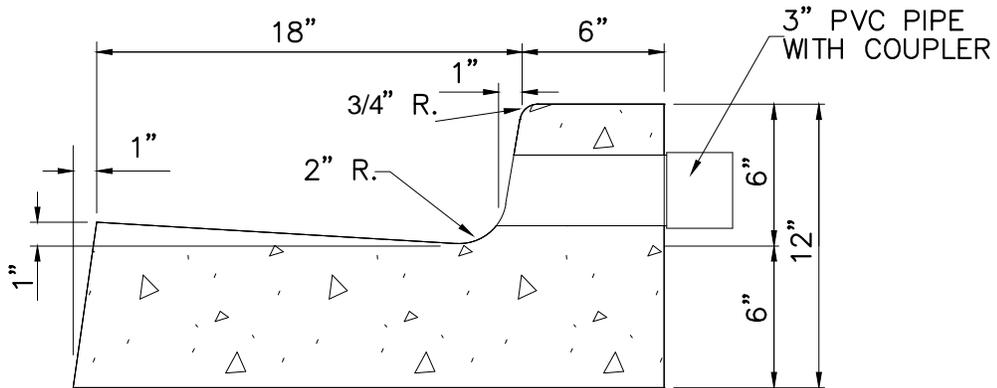
REVISIONS:

PLANTING  
 PLANTER LANDSCAPE TEMPLATES

SCALE:	N.T.S.
DATE:	MARCH 2014
APPROVED BY:	JAY H.
STANDARD DRAWING	469



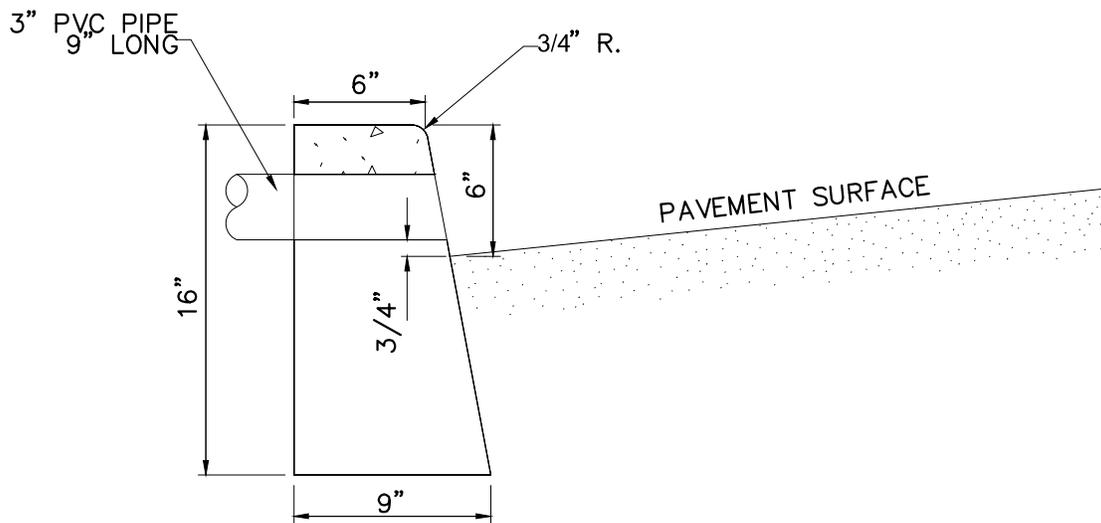
CURB AND GUTTER AT DRIVEWAY APPROACH



CURB AND GUTTER

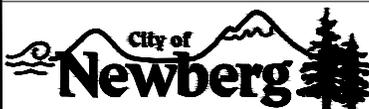
NOTES

1. CONCRETE SHALL HAVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
2. TRANSVERSE CONTRACTION JOINTS – MAKE 1/8" x 1 1/2" DEEP CUT; SPACED AT 15'. PROVIDE CONTRACTION JOINTS AT CURB RETURN POINTS, CATCH BASINS AND DRIVEWAYS.
3. SCORE CURB OVER WEEP HOLE BLOCK OUT.
4. EXPANSION JOINTS SHALL NOT BE USED.
5. APPLY CURING COMPOUND (PETROLEUM BASED) TO FRESH CONCRETE TO RETAIN MOISTURE.
6. TOP OF CURB BRANDED WITH "S" OR "W", 2" MIN. HEIGHT FOR SEWER AND WATER LOCATIONS. HAND SCRIBING NOT ALLOWED.



NOTES:

1. CONCRETE SHALL HAVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
2. TRANSVERSE CONTRACTION JOINTS - MAKE 1/8" x 1 1/2" DEEP CUT SPACED AT 15' INTERVALS.
3. THIS TYPE OF CURB TO BE USED ONLY WHERE SPECIFIED.
4. APPLY CURING COMPOUND (PETROLEUM BASE) TO FRESH CONCRETE TO RETAIN MOISTURE.

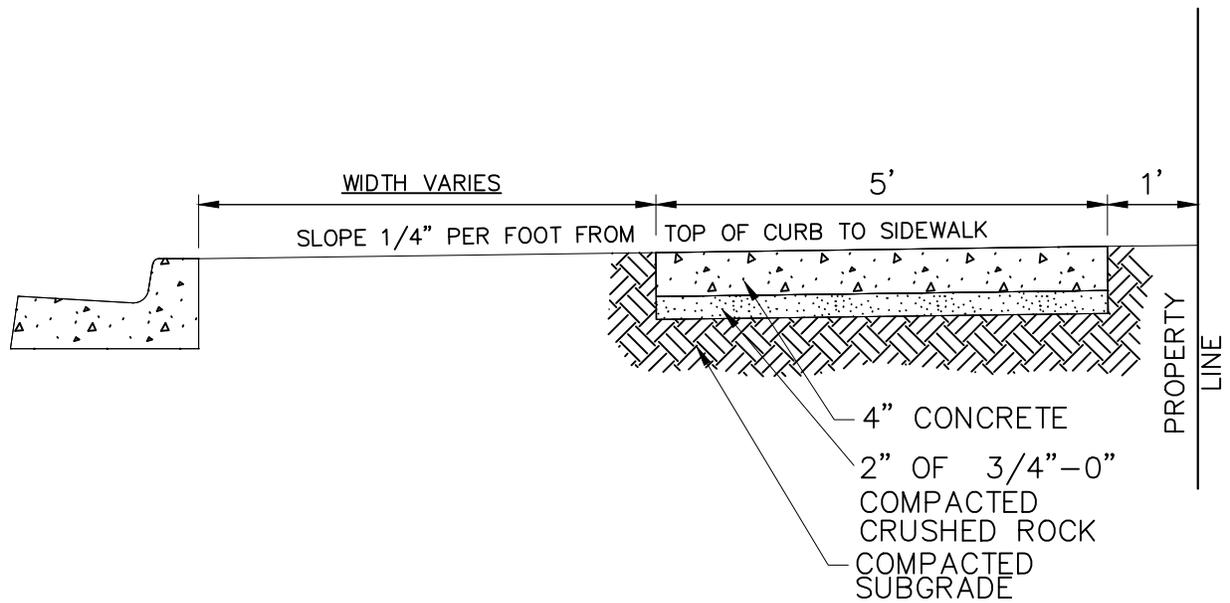


PUBLIC WORKS ENGINEERING DIVISION  
 414 E. FIRST STREET NEWBERG, OR 97132  
 PHONE: 503-537-1240  
 FAX: 503-537-1277

REVISIONS:
05/05/2015 - ASM

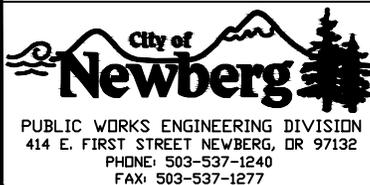
CURB - TYPE "C"

SCALE:	N.T.S.
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	502



**NOTES:**

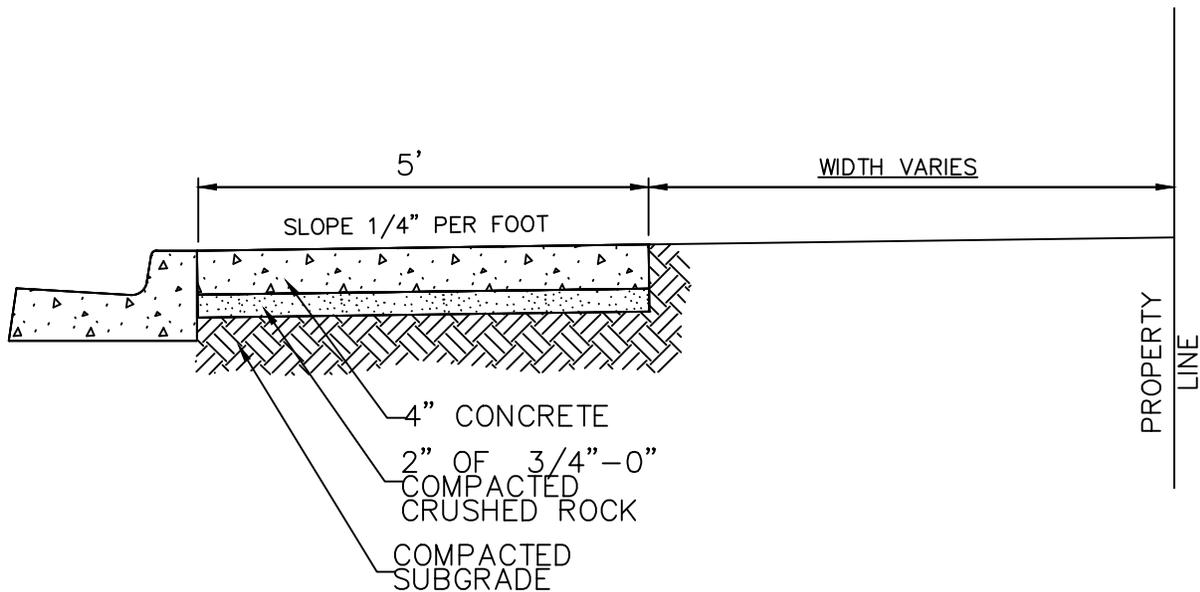
1. SLOPE FROM THE PROPERTY LINE TO THE STREET AT 2%.
2. WORK AGGREGATE INTO CONCRETE PRIOR TO FINISHING CONCRETE.
3. FINISHING DETAILS
  - EDGE CONCRETE WITH 3" EDGING TROWEL.
  - SCORE CONCRETE AT 5' INTERVALS.
  - INSTALL 1/8" x 1 1/2" CONTRACTION JOINTS EVERY 15'.
  - FABRIC TYPE EXPANSION JOINT NOT TO BE USED
  - APPLY LIGHT BROOM FINISH TRANSVERSE TO THE SIDEWALK.
4. CONCRETE SHALL HAVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
5. APPLY CURING COMPOUND (PETROLEUM BASE) TO FRESH CONCRETE TO RETAIN MOISTURE.
6. TOLERANCES
  - SURFACE SHALL NOT VARY MORE THAN 1/4" FROM A 10' STRAIGHT EDGE.
  - ALIGNMENT SHALL BE WITHIN 1/4" OF TRUE LINE.



REVISIONS:
05/05/2015 - ASM

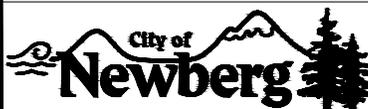
**SIDEWALK  
TYPE "A"**

SCALE:	N.T.S.
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	<b>503</b>



NOTES:

1. SLOPE FROM THE PROPERTY LINE TO THE STREET AT 2%.
2. WORK AGGREGATE INTO CONCRETE PRIOR TO FINISHING CONCRETE.
3. FINISHING DETAILS.
  - EDGE CONCRETE WITH 3" EDGING TROWEL.
  - SCORE CONCRETE AT 5' INTERVALS.
  - INSTALL 1/8" x 1 1/2" CONTRACTION JOINTS EVERY 15'.
  - FABRIC TYPE EXPANSION JOINT NOT TO BE USED.
  - APPLY LIGHT BROOM FINISH TRANSVERSE TO THE SIDEWALK
4. CONCRETE SHALL HAVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
5. APPLY CURING COMPOUND (PETROLEUM BASE) TO FRESH CONCRETE TO RETAIN MOISTURE.
6. TOLERANCES
  - SURFACE SHALL NOT VARY MORE THAN 1/4" FROM A 10' STRAIGHT EDGE.
  - ALIGNMENT SHALL BE WITHIN 1/4" OF TRUE LINE.

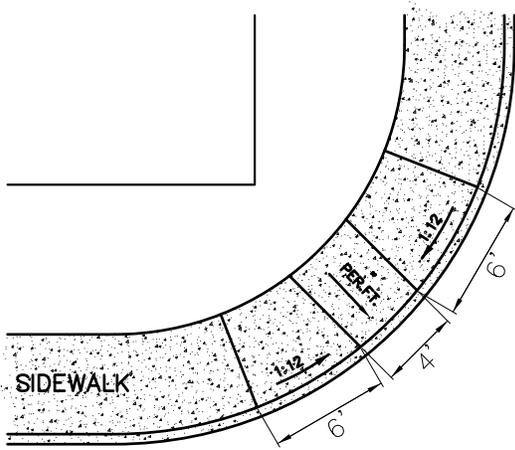


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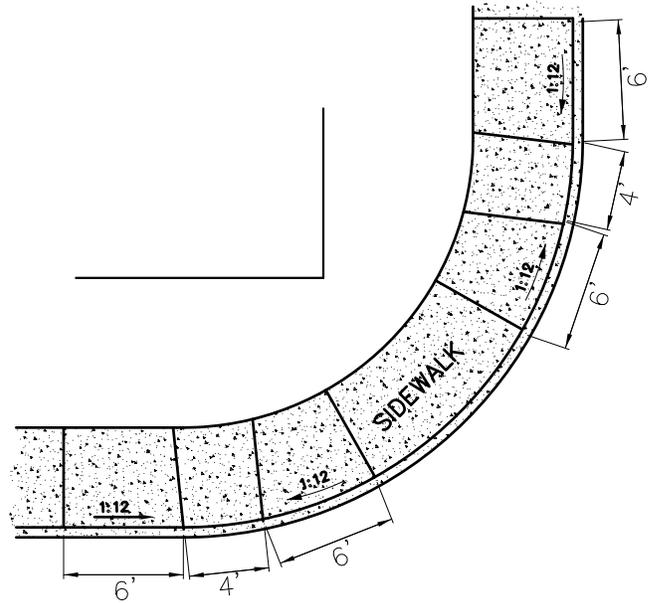
REVISIONS:
05/05/2015 - ASM

**SIDEWALK  
TYPE "B"**

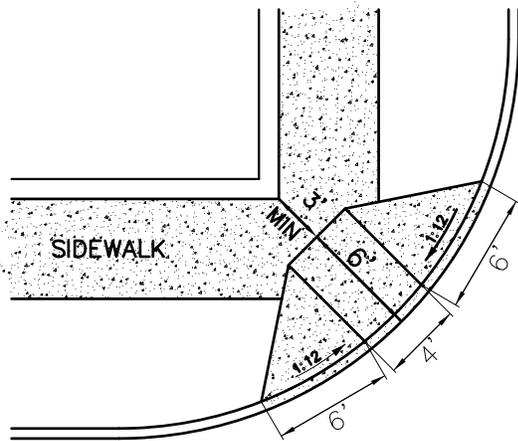
SCALE:	N.T.S.
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	<b>504</b>



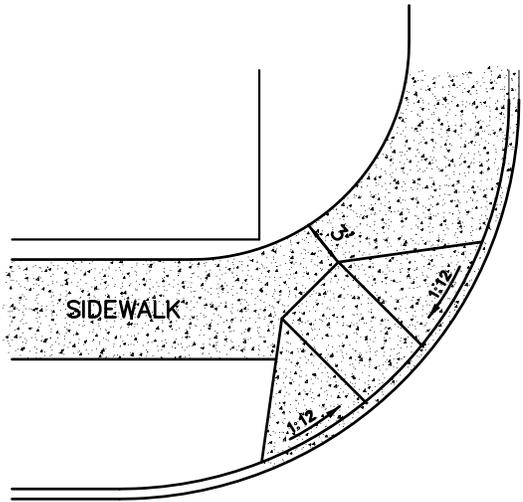
A



B

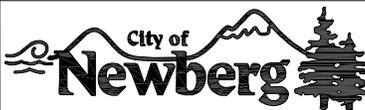


C



D

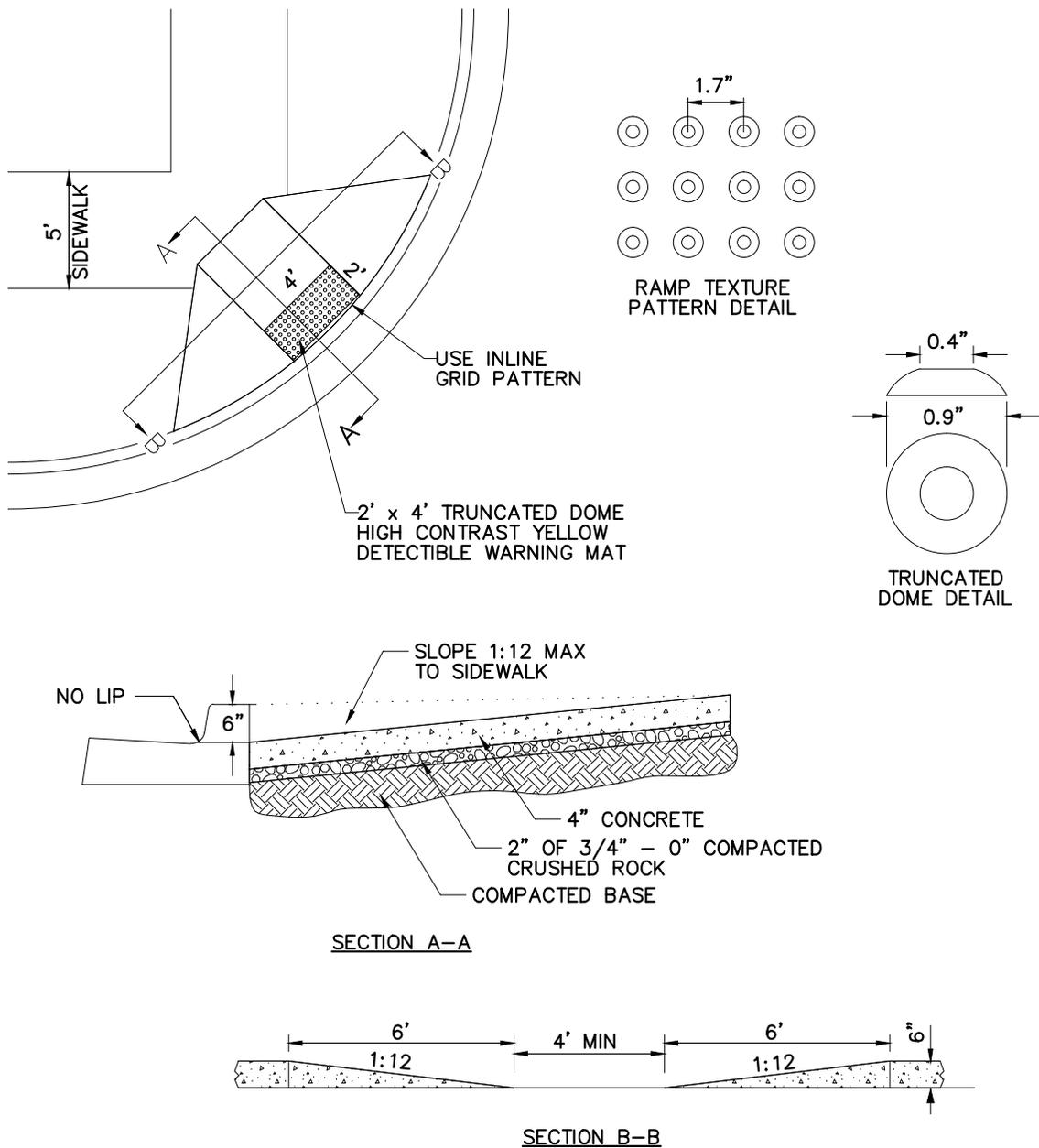
ALL CURB RAMP INSTALLATIONS REQUIRE DETECTIBLE/TACTILE WARNING MATS SEE STANDARD DRAWINGS 506&507.


  
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REVISIONS:

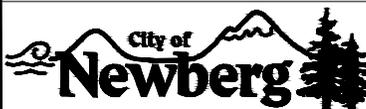
**CURB RAMP LOCATIONS**

SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	<b>505</b>



NOTES:

1. CONCRETE SHALL HAVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
2. SIDEWALK RAMPS ARE REQUIRED AT ALL NEW INTERSECTIONS.
3. REPLACEMENT CURBS MUST BE POURED AGAINST A VERTICAL EDGE OF EXISTING CURB.
4. CONCRETE IN A REPLACEMENT CURB SHALL NOT PROTRUDE PAST THE FACE OF THE CURB IN THE ASPHALT REPLACEMENT AREA.
5. HORIZONTAL AND VERTICAL ALIGNMENT SHALL BE WITHIN 1/8" IN 10'.
6. DETECTIBLE SURFACE SHALL BE CONSTRUCTED WITH PREFABRICATED UNITS. TEXTURE SHALL NOT BE WET IMPRINTED. TRUNCATED DOME PATTERN SHALL BE INLINE, ALIGNED IN THE DIRECTION OF THE RAMP.
7. DETECTIBLE SURFACE SHALL BE YELLOW (FEDERAL COLOR #33538).
8. THIS DETAIL IS APPROVED FOR USE IN THE PUBLIC RIGHT OF WAY ONLY.



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REVISIONS:

04/06/10  
05/05/2015 - ASM

SIDEWALK RAMP  
TYPE "A" SIDEWALK

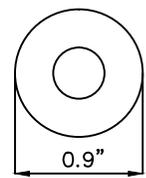
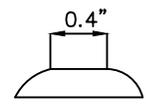
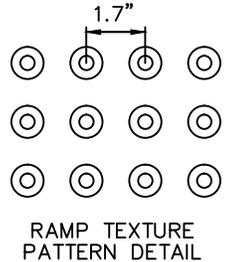
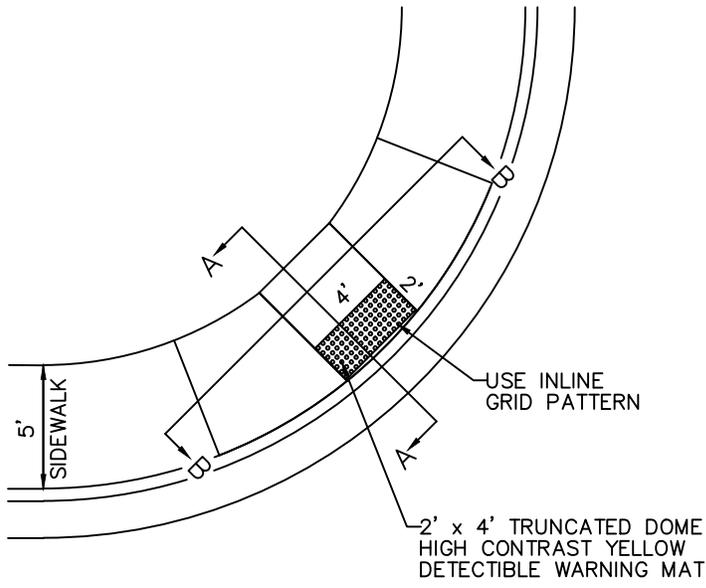
SCALE: N.T.S.

DATE: May 2015

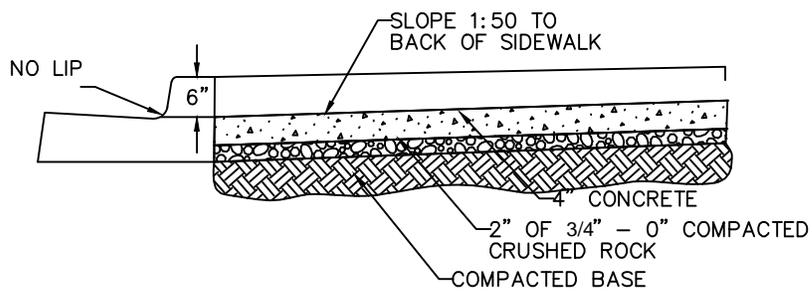
APPROVED BY: K. Hofmann

STANDARD  
DRAWING

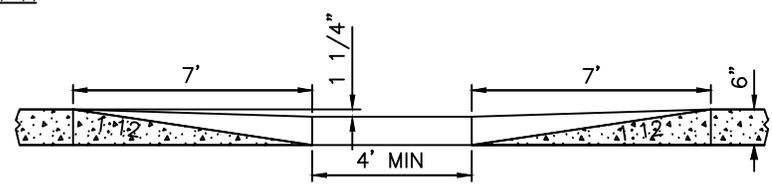
506



TRUNCATED DOME DETAIL



SECTION A-A



SECTION B-B

NOTES:

1. CONCRETE SHALL HAVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
2. SIDEWALK RAMPS ARE REQUIRED AT ALL NEW INTERSECTIONS.
3. REPLACEMENT CURBS MUST BE POURED AGAINST A VERTICAL EDGE OF EXISTING CURB.
4. CONCRETE IN A REPLACEMENT CURB SHALL NOT PROTRUDE PAST THE FACE OF THE CURB IN THE ASPHALT REPLACEMENT AREA.
5. HORIZONTAL AND VERTICAL ALIGNMENT SHALL BE WITHIN 1/8" IN 10'.
6. DETECTIBLE SURFACE SHALL BE CONSTRUCTED WITH PREFABRICATED UNITS. TEXTURE SHALL NOT BE WET IMPRINTED. TRUNCATED DOME PATTERN SHALL BE INLINE, ALIGNED IN THE DIRECTION OF THE RAMP.
7. DETECTIBLE SURFACE SHALL BE YELLOW (FEDERAL COLOR #33538).
8. THIS DETAIL IS APPROVED FOR USE IN THE PUBLIC RIGHT OF WAY ONLY.

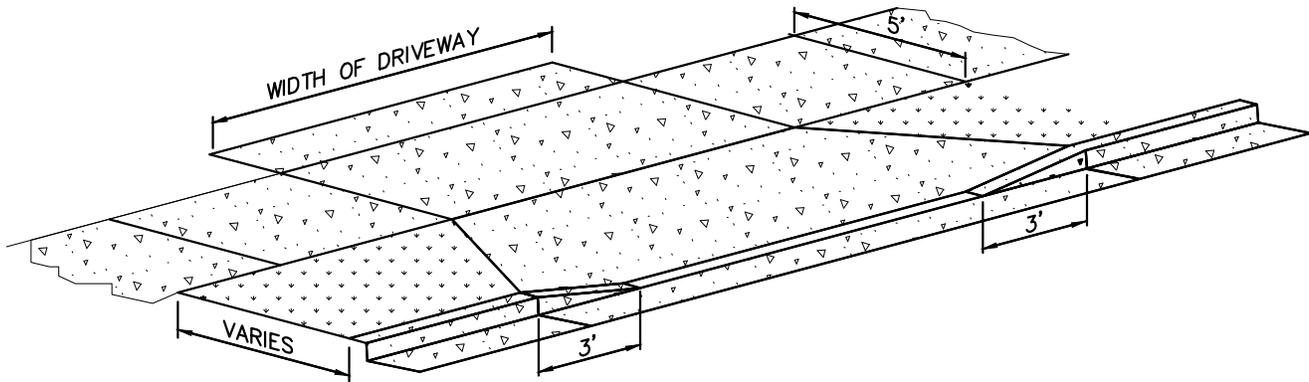
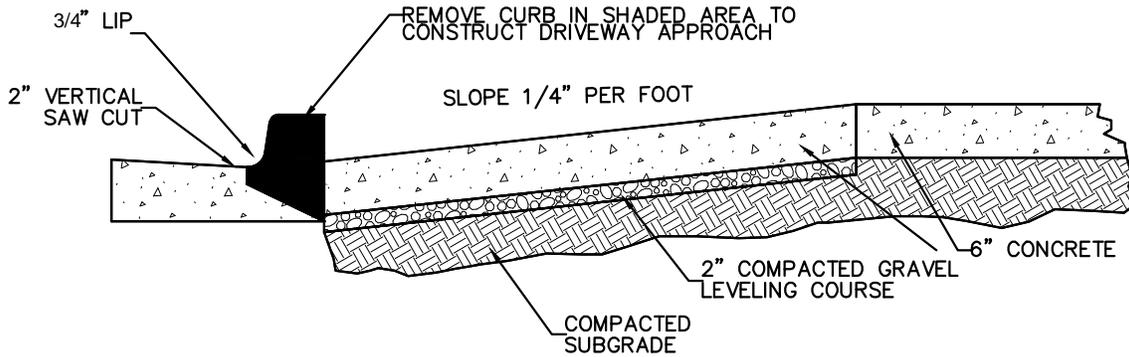
**City of Newberg**

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FAX: 503-537-1277

REVISIONS:
04/08/2010
05/05/2015 - ASM

**SIDEWALK RAMP  
TYPE "B" SIDEWALK**

SCALE:	N.T.S.
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	<b>507</b>



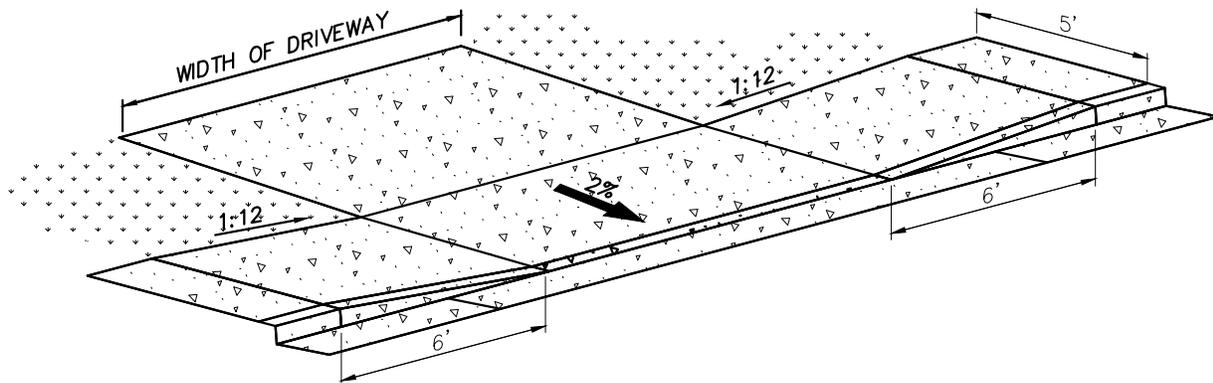
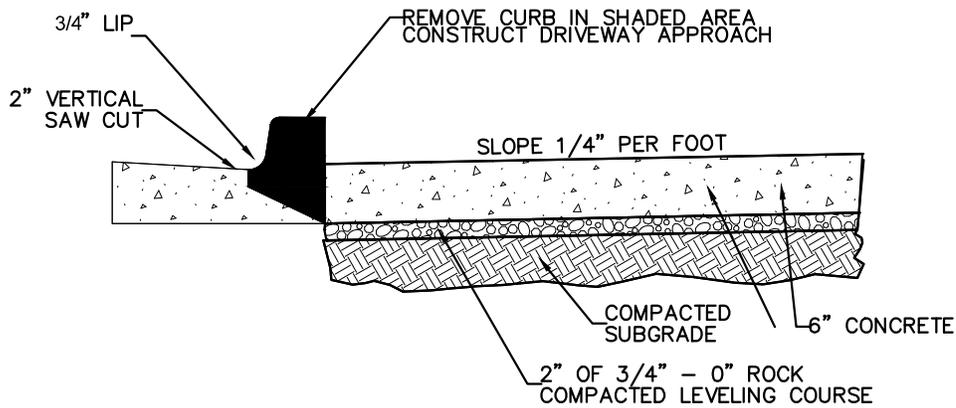
**NOTES**

1. CONCRETE SHALL HAVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
2. LIMITS OF DRIVEWAY SHALL BE SAW CUT.
3. APPLY A LIGHT BROOM FINISH TRANSVERSE TO THE SIDEWALK.
4. CURB AND APPROACH SHALL BE POURED MONOLITHICALLY.
5. IF WIDTH IS GREATER THAN 15 FEET, INSTALL CONTRACTION JOINT IN CENTER OF THE DRIVEWAY.
6. FABRIC EXPANSION JOINT SHALL NOT BE USED.
7. WORK AGGREGATE INTO CONCRETE PRIOR TO FINISHING CONCRETE.
8. APPLY CURING COMPOUND TO FRESH CONCRETE TO RETAIN MOISTURE.
9. MINIMUM DRIVEWAY WIDTH OF 12' AND MAXIMUM WIDTH OF 24' 3 CAR GARAGE MAXIMUM WIDTH OF 28''

REVISIONS:
04/08/10
05/05/2015 - ASM

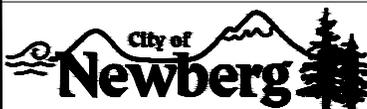
**DRIVEWAY APRON  
 CURB CUT  
 TYPE "A" SIDEWALK**

SCALE:	N.T.S.
DATE:	May 2015
APPROVED BY:	K. Hofmann
STANDARD DRAWING	508



**NOTES:**

1. CONCRETE SHALL HAVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
2. LIMITS OF DRIVEWAY SHALL BE SAW CUT.
3. APPLY LIGHT BROOM FINISH TRANSVERSE TO THE SIDEWALK.
4. CURB AND APPROACH SHALL BE POURED MONOLITHICALLY.
5. IF WIDTH IS GREATER THAN 15 FEET, INSTALL CONTRACTION JOINT IN CENTER OF THE DRIVEWAY.
6. FABRIC EXPANSION JOINT SHALL NOT BE USED.
7. WORK AGGREGATE INTO CONCRETE PRIOR TO FINISHING CONCRETE.
8. APPLY CURING COMPOUND TO FRESH CONCRETE TO RETAIN MOISTURE.
9. MINIMUM DRIVEWAY WIDTH OF 12' AND MAXIMUM WIDTH OF 24'  
3 CAR GARAGE MAXIMUM WIDTH OF 28'



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REVISIONS:

- |                  |
|------------------|
| 04/08/10         |
| 05/05/2015 - ASM |

**DRIVEWAY APRON  
CURB CUT  
TYPE "B" SIDEWALK**

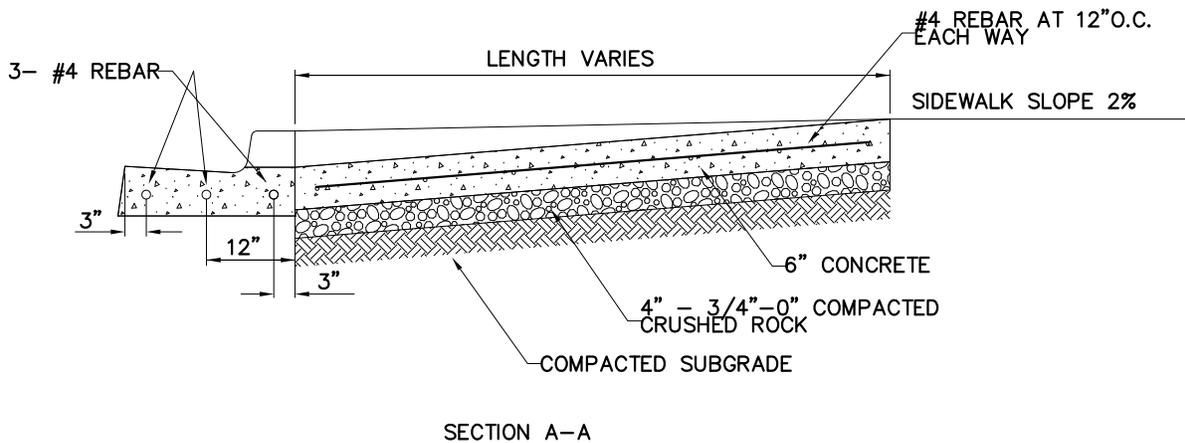
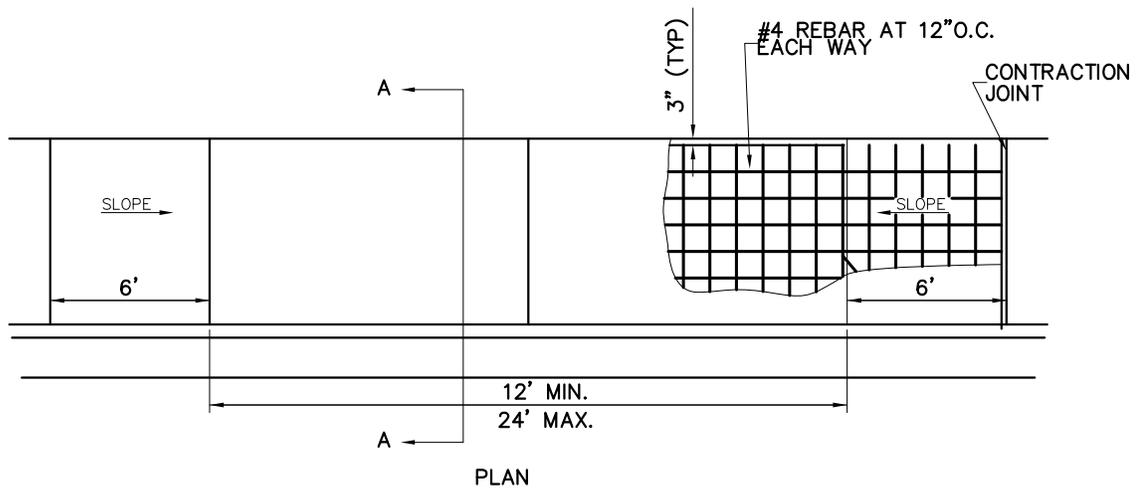
SCALE: N.T.S.

DATE: May 2015

APPROVED BY: K. Hofmann

STANDARD DRAWING

509

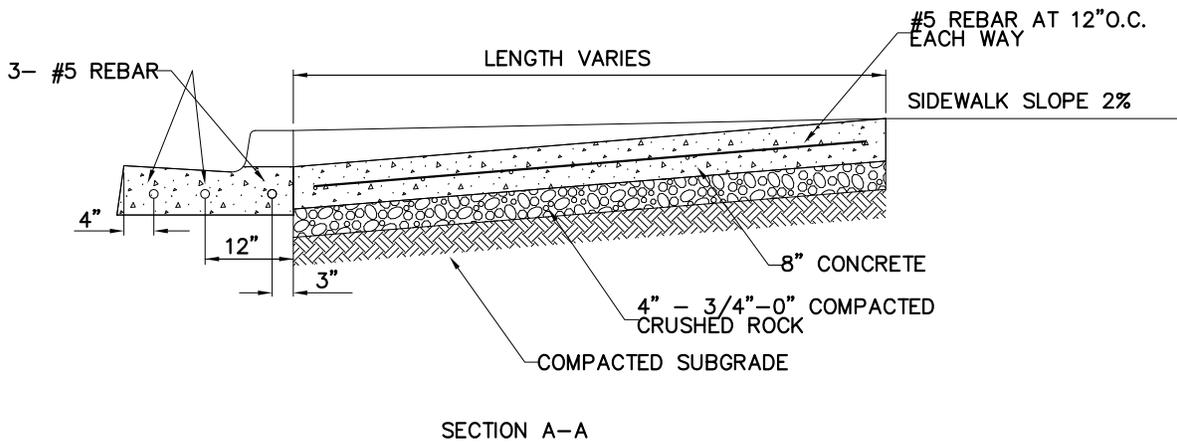
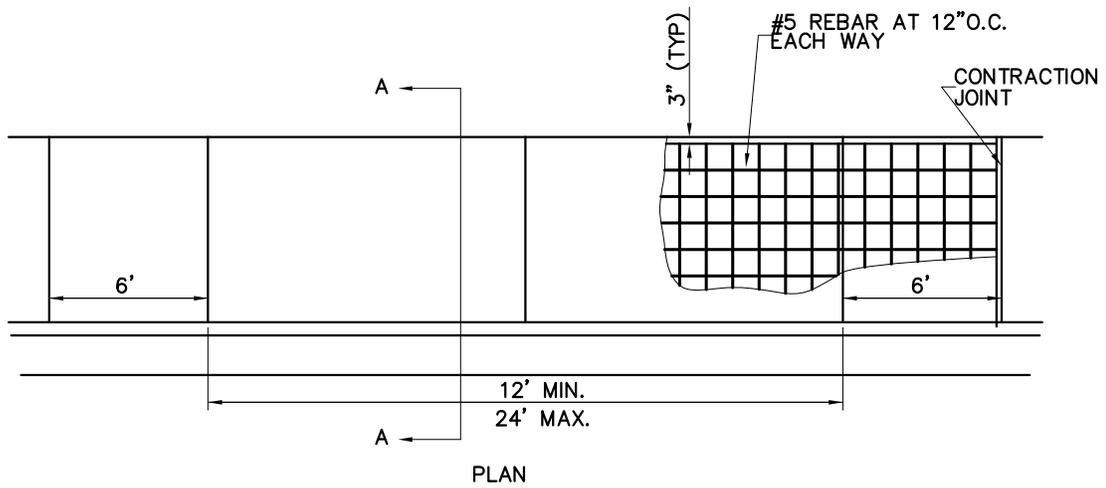


- NOTES  
 1. SEE STANDARD DRAWING 501 FOR ADDITIONAL DETAILS.

REVISIONS:
Jan. 2011

COMMERCIAL DRIVEWAY

SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	510

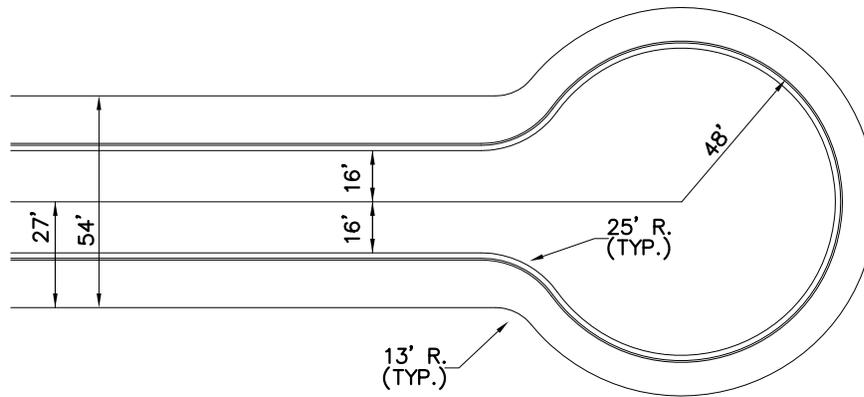


NOTES

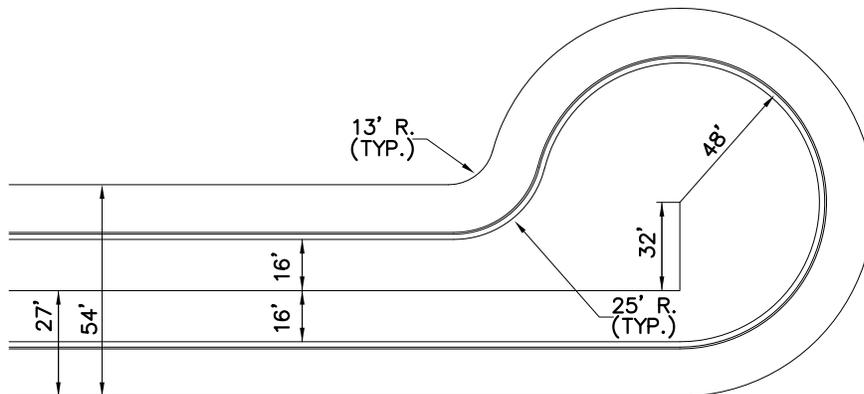
1. SEE STANDARD DRAWING 501 AND 509 FOR ADDITIONAL DETAILS.

REVISIONS:

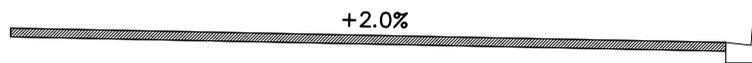
SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	511



STANDARD



OFFSET



PROFILE  
NTS

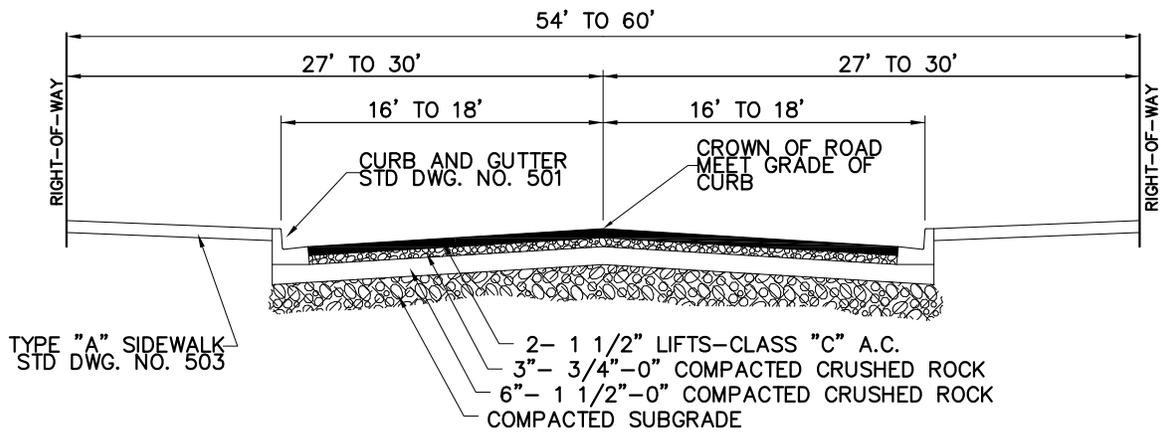
NOTES:

1. MINIMUM SLOPES  
0.5% AT CURB AROUND BULB  
2.0% CROSS SLOPE TO CURB

REVISIONS:

**CUL-DE-SAC**

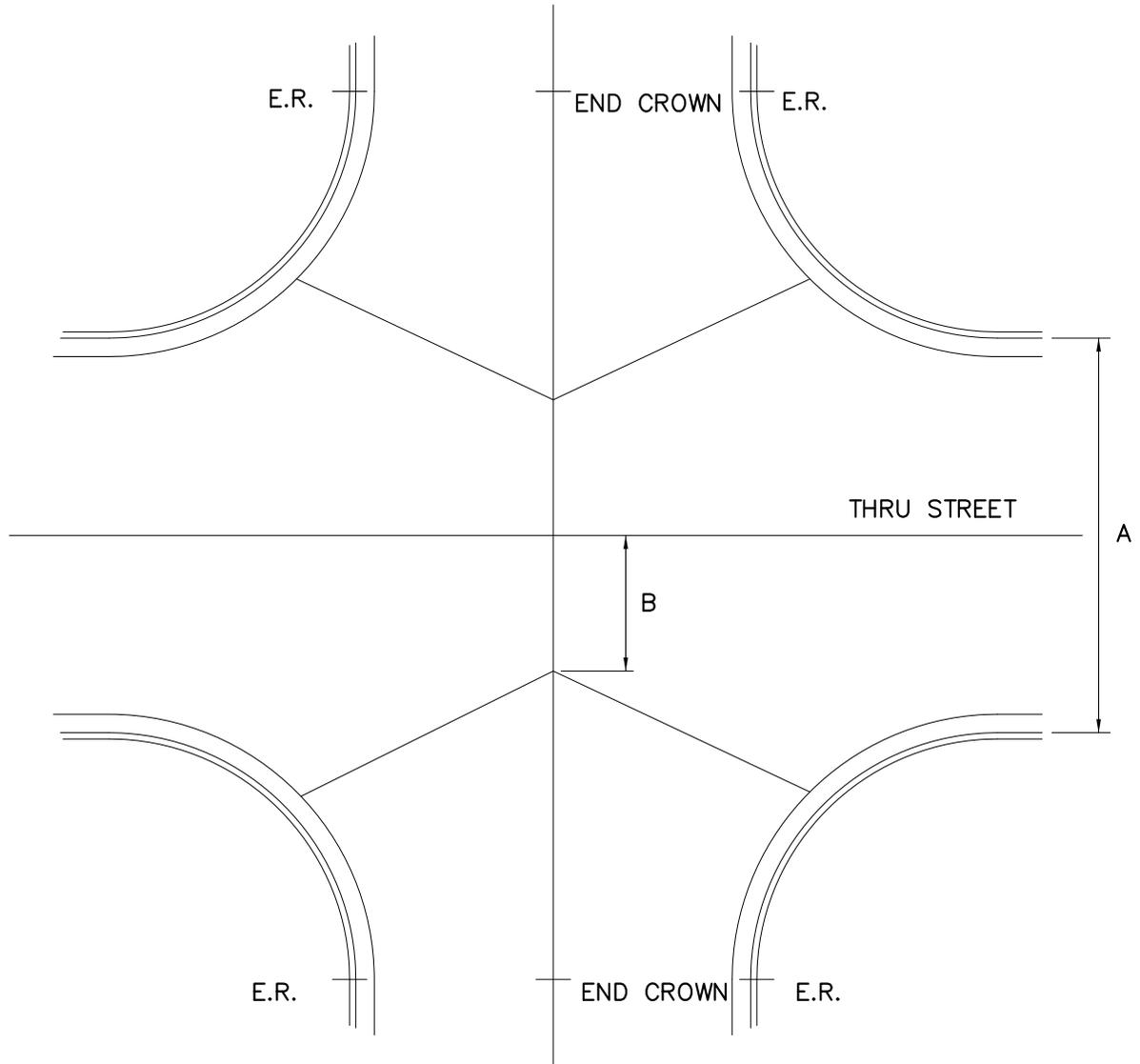
SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	<b>512</b>



REVISIONS:
04/08/10

## RESIDENTIAL STREET CROSS SECTION

SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	<b>513</b>



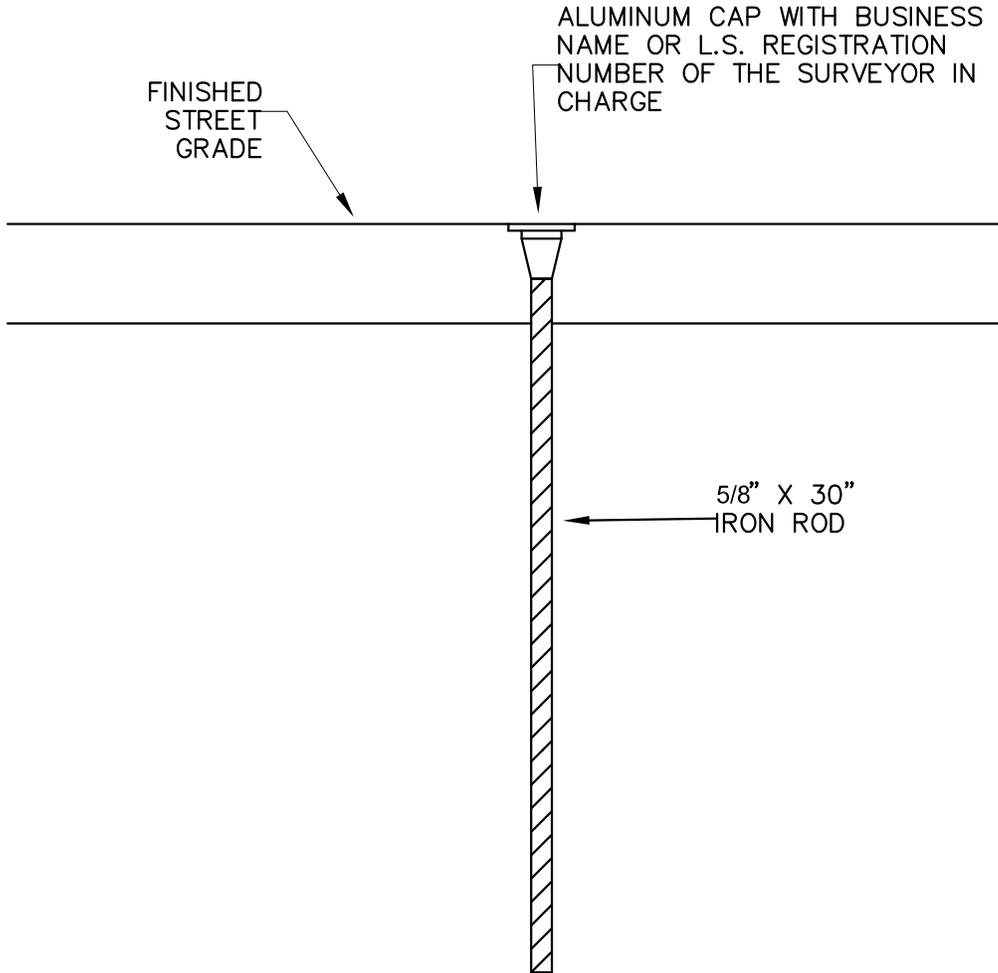
STREET WIDTH "A"	TRAFFIC LANE WIDTH "B"
32'	11'
34'	12'
36'	13'
40'	15'
46'	18'

NOTE:  
THIS PAVING PATTERN NOT TO  
BE USED WHEN INTERSECTING  
GRADES ARE LESS THAN .50%.

REVISIONS:

## INTERSECTION PAVING PLAN

SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	514



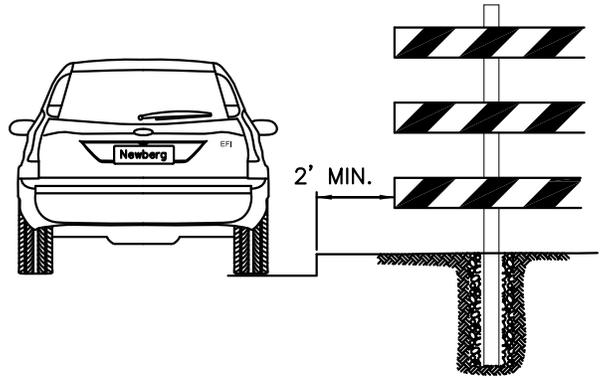
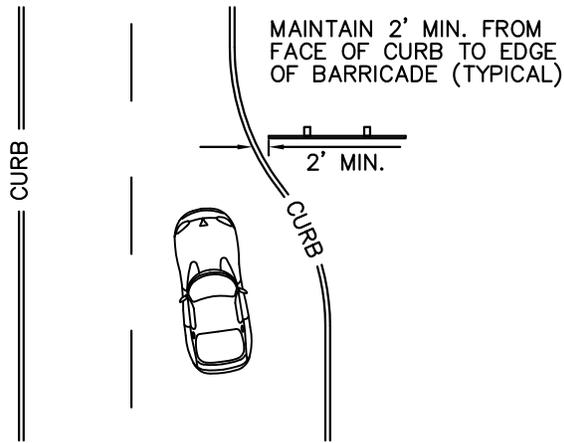
NOTES

1. MONUMENTS TO BE SET AT ALL STREET INTERSECTIONS, POINTS OF CURVATURE AND POINTS OF TANGENCY.

REVISIONS:

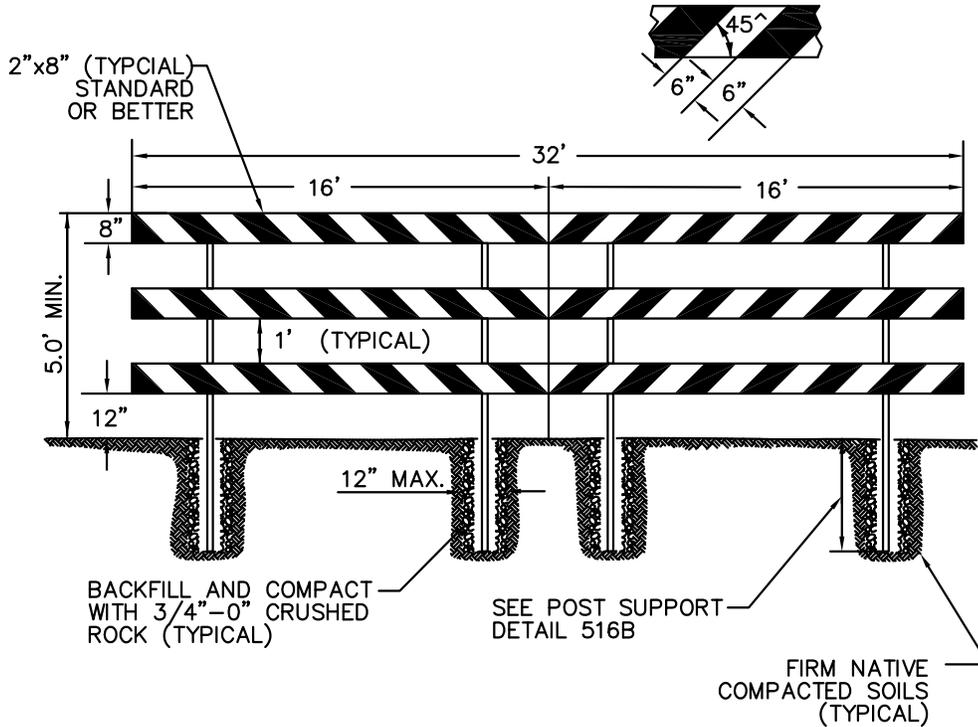
**STREET MONUMENTATION**

SCALE:	<b>N.T.S.</b>
DATE:	<b>May 2007</b>
APPROVED BY:	<b>D. Danicic</b>
STANDARD DRAWING	<b>515</b>



TYPICAL NARROWING OF DRIVING AREA BARRICADE (USE DIMENSIONS BELOW) ORIENT DIAGONAL BARS TO CHANNEL TRAFFIC AS SHOWN

NARROWING OF DRIVING AREA



END OF ROAD BARRICADE  
(TYPICAL DIMENSIONS AND LAYOUT)

NOTES:

ALTERNATING RED & WHITE HIGH INTENSITY PRISMATIC 0.080 ALUMINUM SHEATING SHALL BE SCREWED TO THE HORIZONTAL RAILS - MINIMUM 1" SCREWS

ALL FASTENERS TO BE STAINLESS STEEL OR RUST PROOF HEAVY GALVANIZED

FOR STREET BARRICADES HORIZONTAL RAIL LENGTH SHALL EQUAL THE DISTANCE BETWEEN THE FACE OF CURB PLUS 2'. (EG. 34' CURB TO CURB= 36' RAILS)

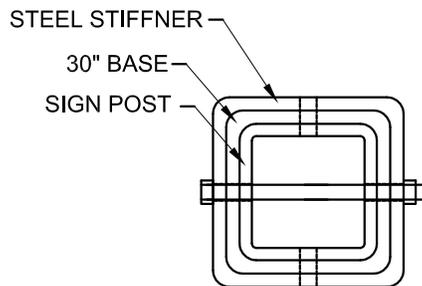
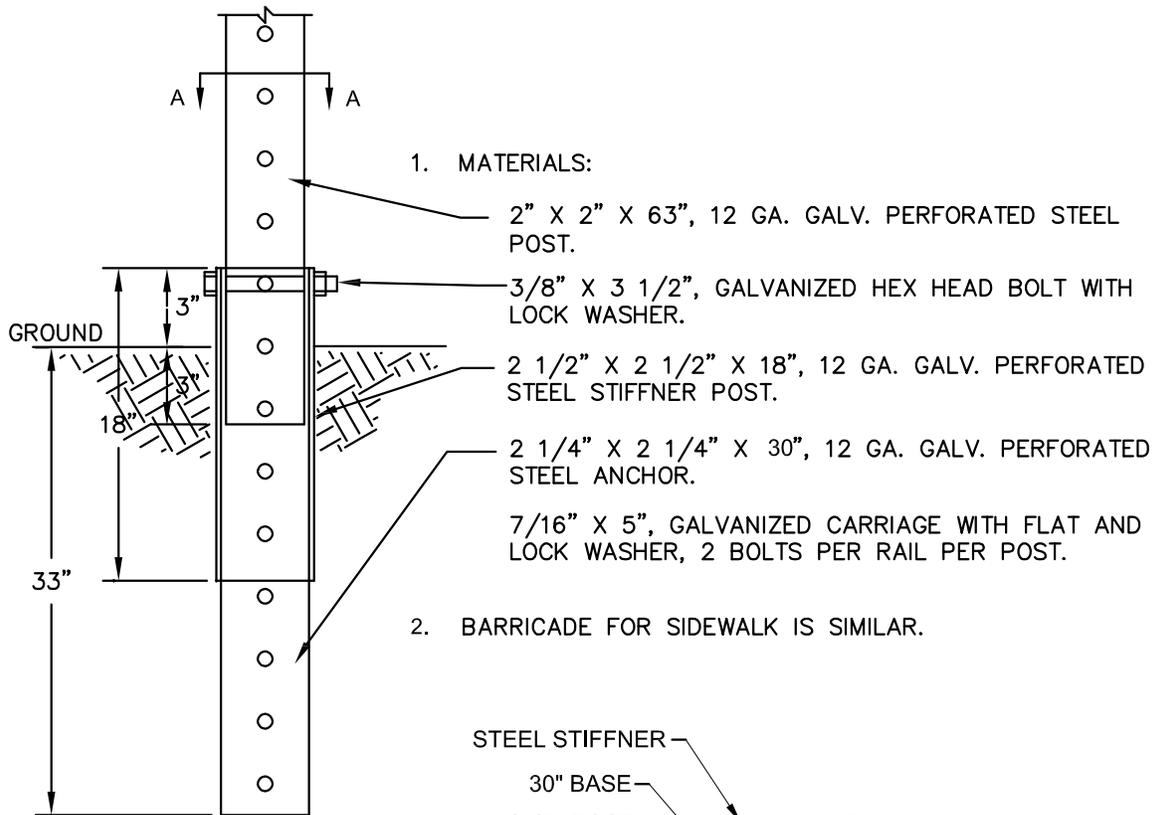
HORIZONTAL WOOD RAILS TO BE PRESSURE TREATED AND PAINTED WHITE

USE 7/8"x5" GALVANIZED CARRIAGE WITH FLAT AND LOCK WASHER, 2 BOLTS PER RAIL PER POST

REVISIONS:
MAY 2014

**STREET BARRICADES**

SCALE:	N.T.S.
DATE:	July 2009
APPROVED BY:	P. Chiu
STANDARD DRAWING	516A



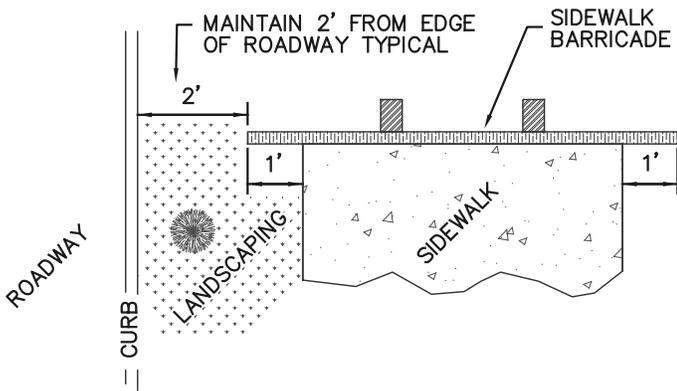
SECTION A - A

1. FOR APPLICATION OF BARRICADE ON EXISTING CONCRETE, USE TELSPAR STEEL BASE PLATE PER DETAIL ON STANDARD DRAWING #525B, STANDARD SIGNPOST CONCRETE APPLICATIONS DETAIL.

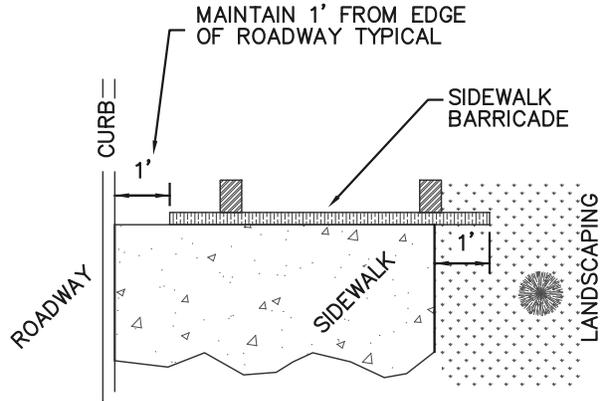
REVISIONS:

STREET BARRICADE  
POST SUPPORT DETAIL

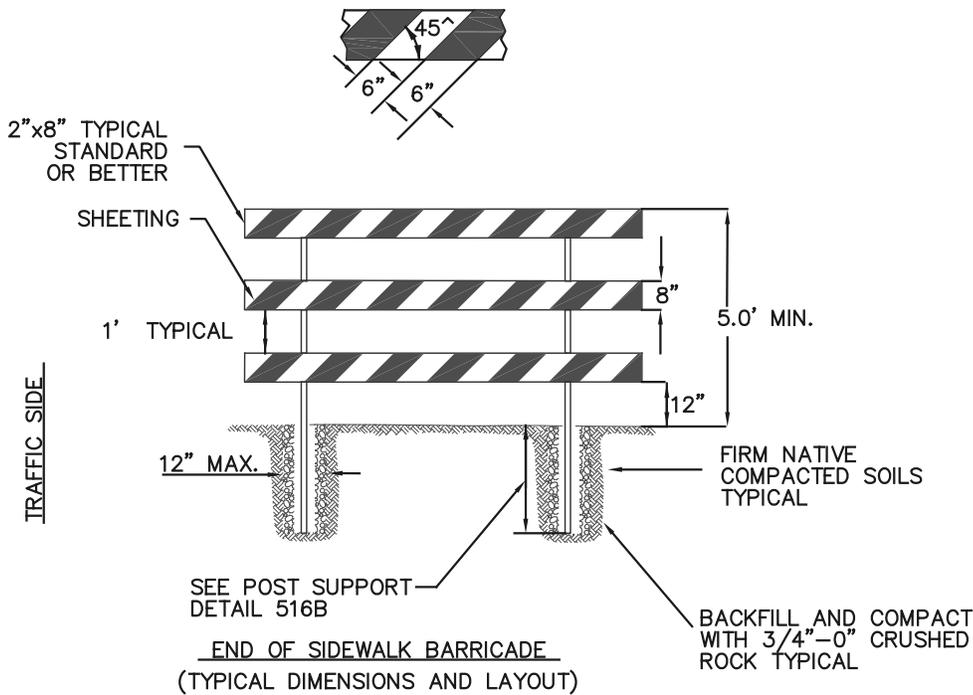
SCALE:	N.T.S.
DATE:	July 2009
APPROVED BY:	P.Chiu
STANDARD DRAWING	516B



END OF SIDEWALK ('TYPE A')



END OF SIDEWALK ('TYPE B')



NOTES:

ALTERNATING RED & WHITE HIGH INTENSITY PRISMATIC 0.080 ALUMINUM SHEATING SHALL BE SCREWED TO THE HORIZONTAL RAILS - MINIMUM 1" SCREWS

ALL FASTENERS TO BE STAINLESS STEEL OR RUST PROOF HEAVY GALVANIZED

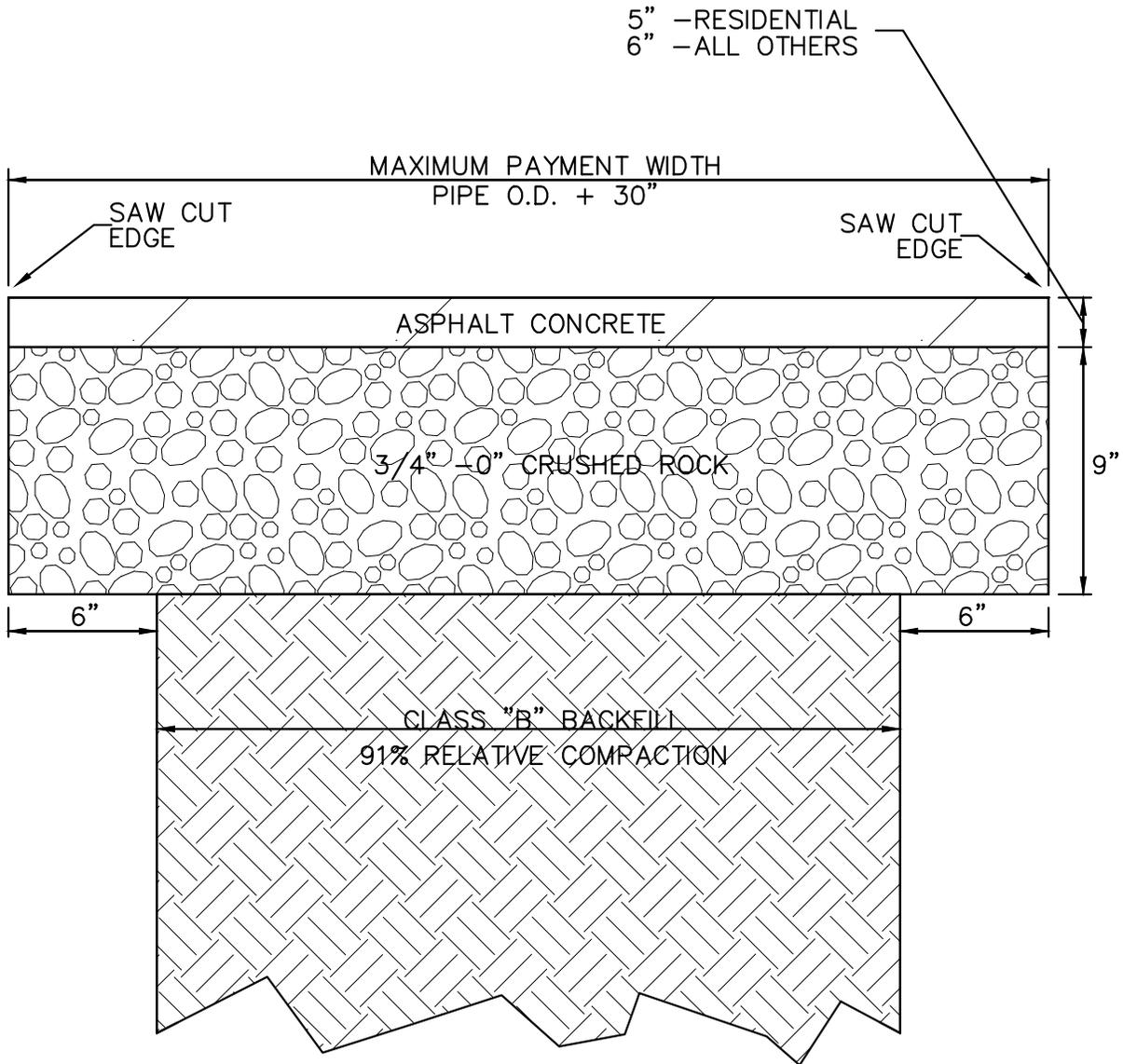
USE 7/16" X 5" GALVANIZED CARRIAGE WITH FLAT AND LOCK WASHER, 2 BOLTS PER RAIL PER POST

SHEATING TO ANGLE TOWARDS THE ROADWAY

REVISIONS:

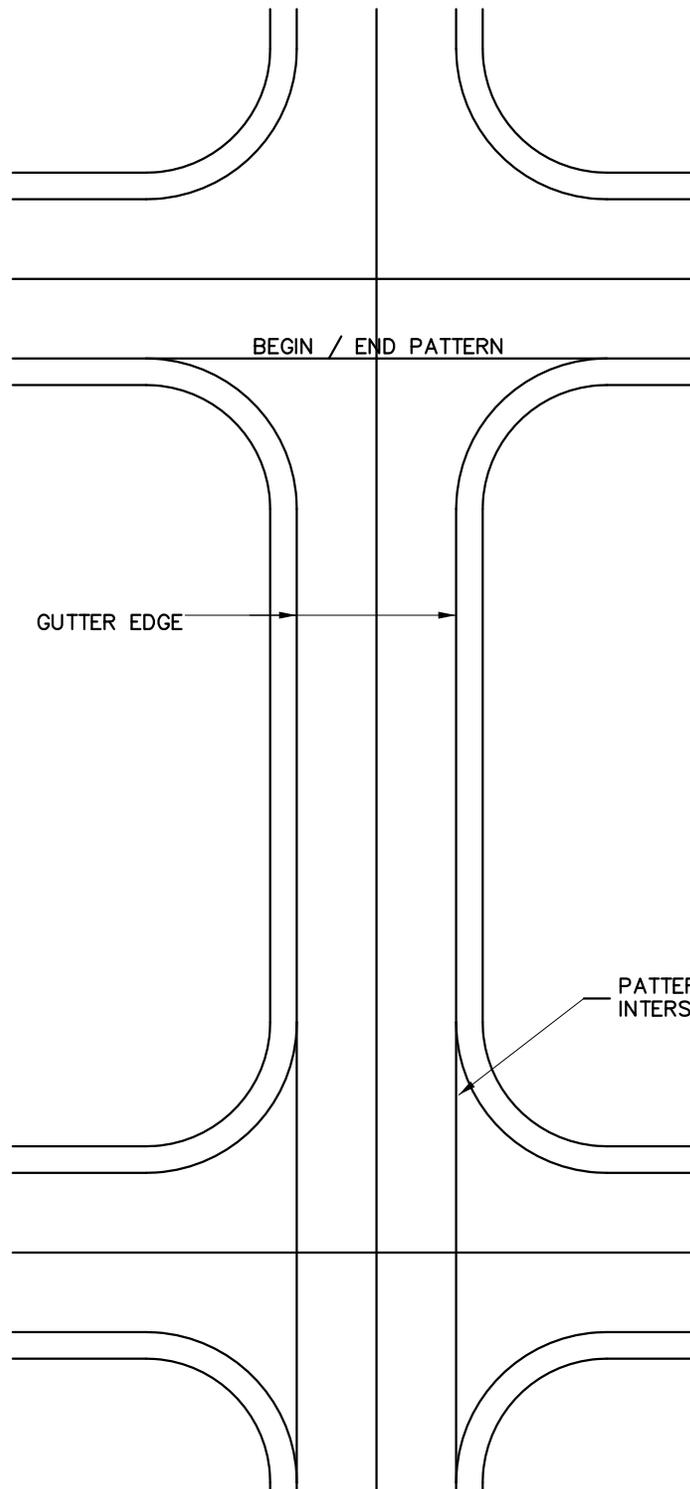
END OF SIDEWALK BARRICADES

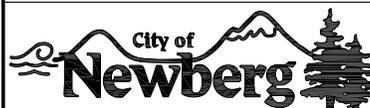
SCALE:	N.T.S.
DATE:	MAY 2014
APPROVED BY:	J. HARRIS
STANDARD DRAWING	516C



NOTES:

1. SAW CUT ASPHALT TO NEAT STRAIGHT LINES.
2. ASPHALT - CLASS "C" MIX PLACED IN 2 LIFTS.
3. ALL JOINTS SHALL BE SEALED WITH RUBBERIZED ASPHALT EMULSION (HOT OR COLD) AND DE-TACKED WITH SAND IF IMMEDIATE TRAFFIC IS NEEDED AT ALL JOINTS.
4. ACTUAL PAYMENT WIDTH TO BE DETERMINED AT SITE PRIOR TO PAVING.
5. REFERENCE DESIGN STANDARDS MANUAL SECTION 5.22 FOR ADDITIONAL TRENCH PAVING REQUIREMENTS.

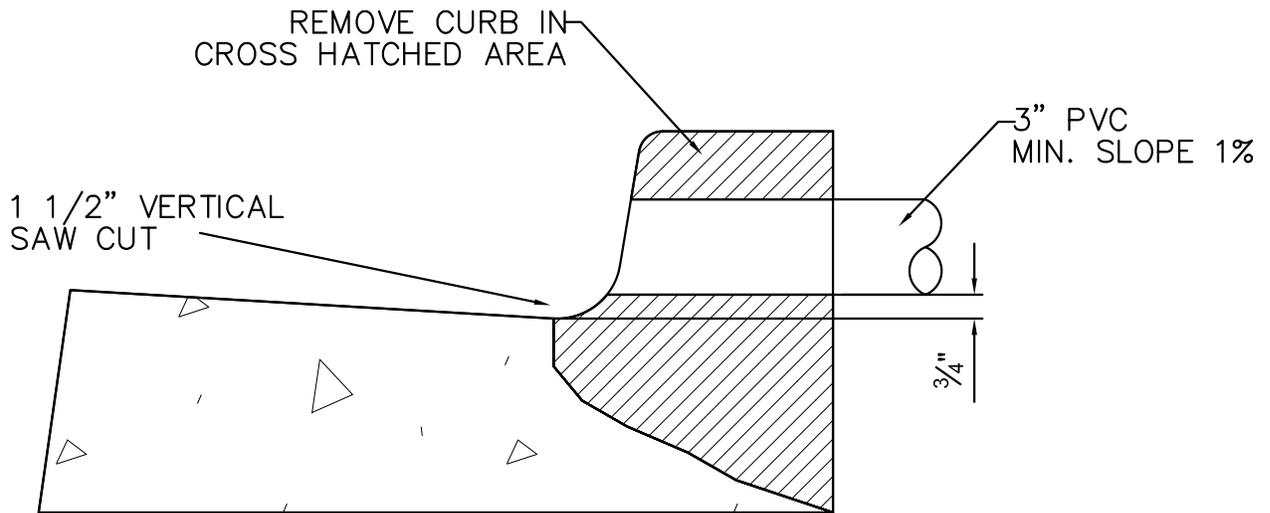
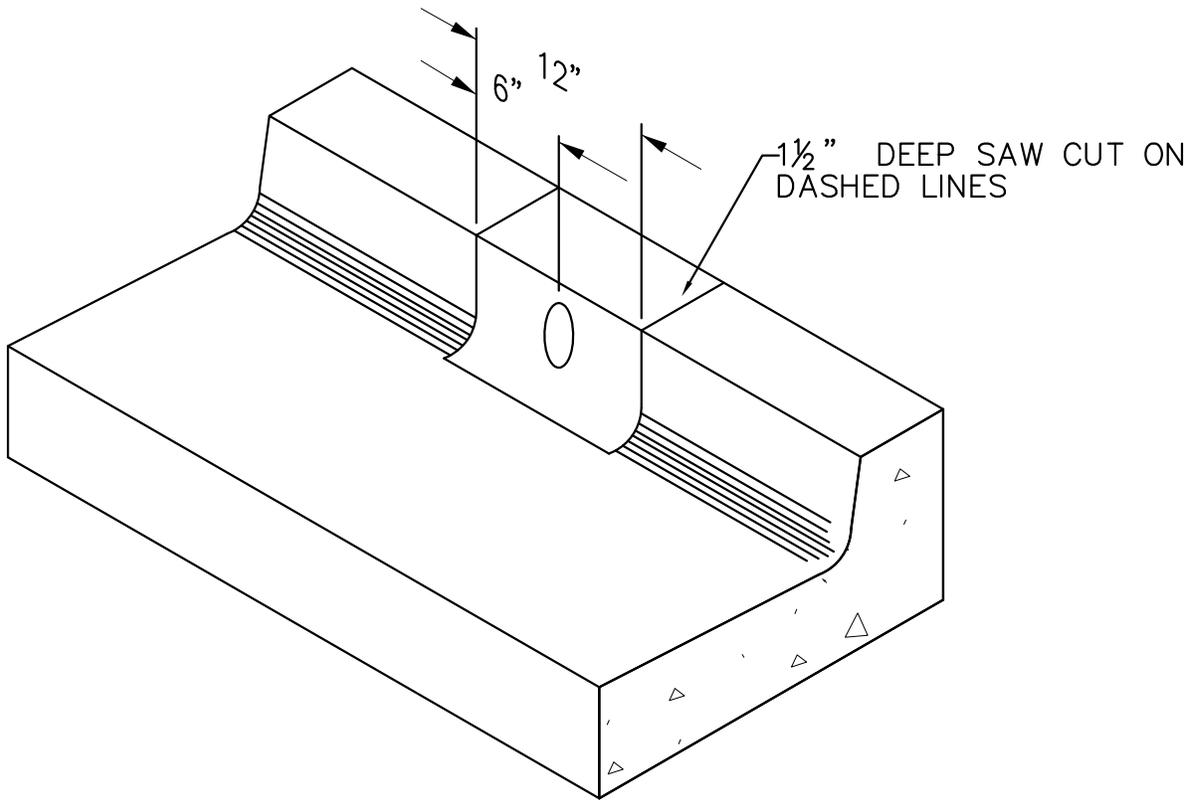



  
**City of Newberg**
  
 PUBLIC WORKS ENGINEERING DIVISION
   
 414 E. FIRST STREET NEWBERG, OR 97132
   
 PHONE: 503-537-1240
   
 FAX: 503-537-1277

REVISIONS:

**PAVEMENT SEAL COAT  
PATTERN**

SCALE:	<b>N.T.S.</b>
DATE:	<b>May 2007</b>
APPROVED BY:	<b>D. Donicic</b>
STANDARD DRAWING	<b>518</b>



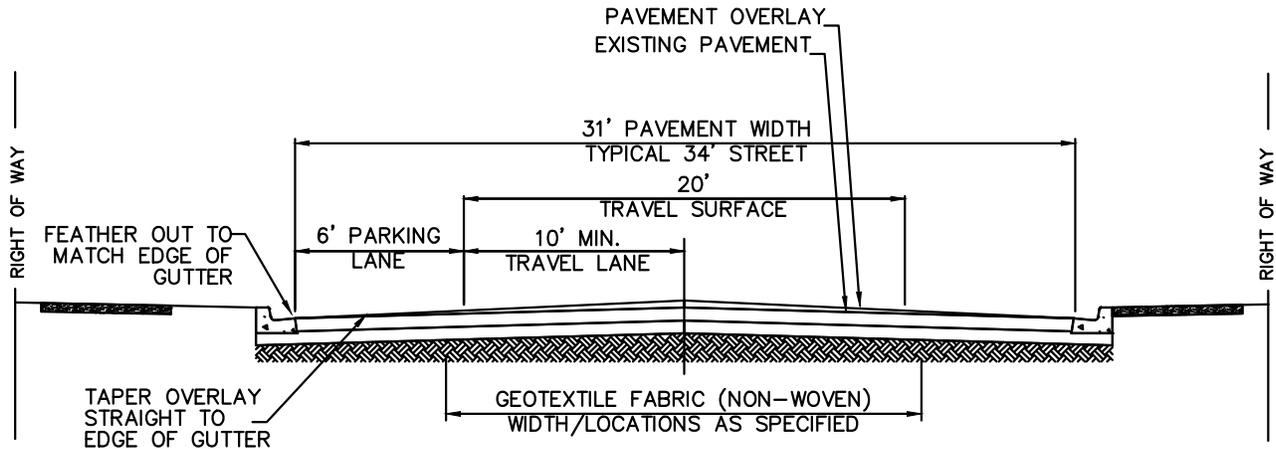
REVISIONS:

## RAIN DRAIN CURB CUT

SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	519

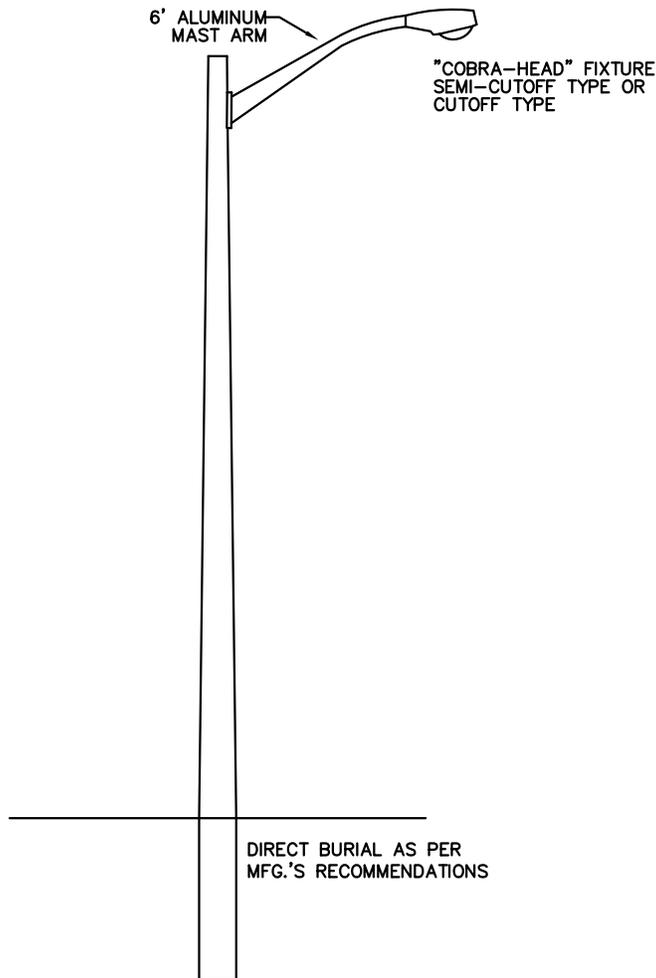
GEOTEXTILE SPECIFICATIONS

PROPERTY	TEST	MIN. VALUE
TENSILE STRENGTH, lbs	ASTM D-4632	80
ELONGATION, %	ASTM D-4632	50
ASPHALT RETENTION, gal/sy	OSHD TM-817	0.20
MELTING POINT, °F	ASTM D-276	300



NOTES

1. OVERLAY PATTERN FOR DIFFERENT WIDTH STREETS WILL BE SIMILAR.
2. OFFSET PAVING PANELS 12" MIN. FROM JOINTS OF EXISTING PAVEMENT.



**NOTES:**

- 1.LOCATION OF STREET LIGHT IS SHOWN ON STANDARD DRAWING NO. 103
- 2.STREET LIGHT HIGH PRESSURE SODIUM LUMINAIRE.
- 3.ALL FIBERGLASS POLES SHALL BE GRAY.
- 4.FOR CURBSIDE SIDEWALK (TYPE'B') THE STREET LIGHT SHALL BE 2' FROM THE BACK OF THE SIDEWALK.
- 5.FOR SETBACK SIDEWALK (TYPE'A') THE STREET LIGHT SHALL BE 2' FROM THE FRONT OF THE SIDEWALK.

STREET WIDTH (ft.)	SERVICE TYPE	WATTAGE	LUMENS	POLE HT. (ft.)	ARM TYPE	VOLTAGE	SPACING (ft.)	TYPE
32'	RESIDENTIAL "A" SIDEWALK	100	9500	25	6' MAST	120	210	FIBERGLASS
34'	RESIDENTIAL "A" SIDEWALK	100	9500	25	6' MAST	120	210	FIBERGLASS
40'	COMMERCIAL COLLECTOR STREET	150	16000	30	6' MAST	240	155	FIBERGLASS
46'	COMMERCIAL ARTERIAL STREET	200	22000	30	6' MAST	240	180	FIBERGLASS

**City of Newberg**

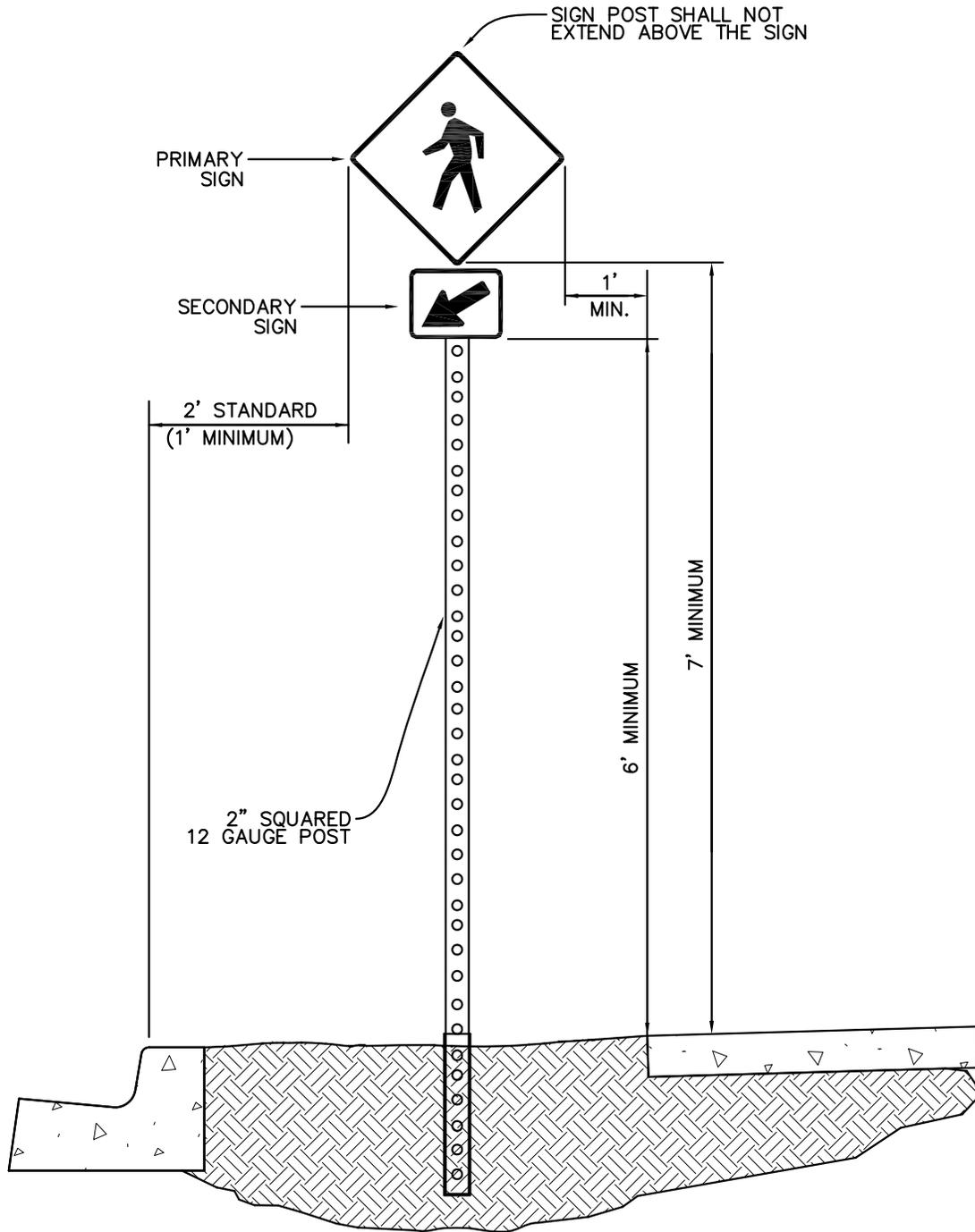
PUBLIC WORKS ENGINEERING DIVISION  
 414 E. FIRST STREET NEWBERG, OR 97132  
 PHONE: 503-537-1240  
 FAX: 503-537-1277

REVISIONS:

**STREET LIGHT**

SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	<b>522</b>

ALL SIGNS SHALL BE HIGH INTENSITY REFLECTIVE PRISMATIC GRADE SHEETING AT MINIMUM



REFERENCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SECTION 2

REVISIONS:
Dec. 2007
Oct. 2010

# SIGN CLEARANCES

SCALE:	N.T.S.
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	<b>523</b>

BLADE AND LETTERING SIZE REQUIREMENTS

POSTED SPEED (MPH)	BLADE SIZE	UPPER CASE LETTER HEIGHT	LOWER CASE LETTER HEIGHT	DIRECTION (N,S,E,W)	DESIGNATION (ST,DR,ETC..)	LETTER SPACING
25 OR LESS	8" HIGH	4"	3"	2 1/2"	1/2" SMALLER THAN LOWER CASE LETTER	1/2"
30 OR HIGHER	9" HIGH	5"	3 3/4"	3 1/4"		3/4"

PRIVATE STREETS SHALL BE AS SHOWN BELOW WITH A BLUE BACKGROUND IN PLACE OF GREEN

ADJUST BLADE LENGTH TO ACCOMMODATE LENGTH OF STREET NAME

TYPE:

FLAT DOUBLE FACED, .125 ALUMINUM  
STREET NAME SIGN: HIGH INTENSITY REFLECTIVE PRISMATIC GRADE SHEETING

COLOR/DESIGN:  
WHITE LETTERING ON GREEN WITH WHITE BORDER AS SHOWN.

NOTES:

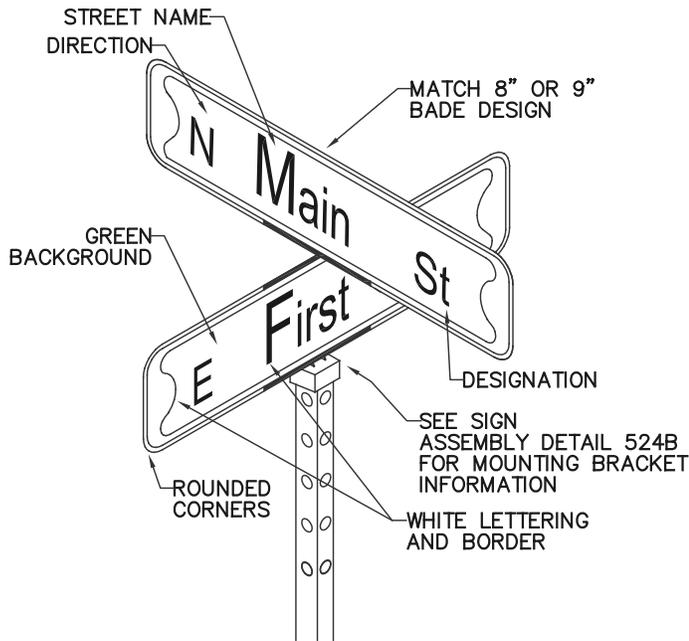
MAINTAIN 9'6" OF CLEARANCE FROM THE BOTTOM OF THE LOWEST STREET SIGN TO FINISH GRADE

SLEEVE SHALL BE 30" - 12GA X 2 1/2" SQ. TUBE  
POST SHALL BE 12GA X 2" SQ. TUBE

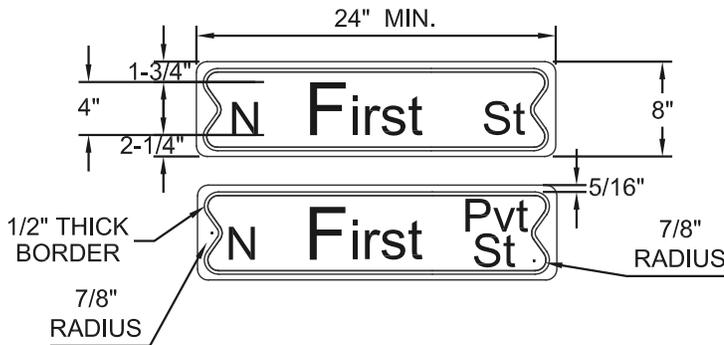
LOCATE POSTS SO TRAFFIC CONTROL SIGNS CAN BE PLACED ON THE SAME POST WITH PROPER CLEARANCE

DO NOT USE ABBREVIATIONS FOR STREET NAMES (MT. VIEW vs. MOUNTAINVIEW)

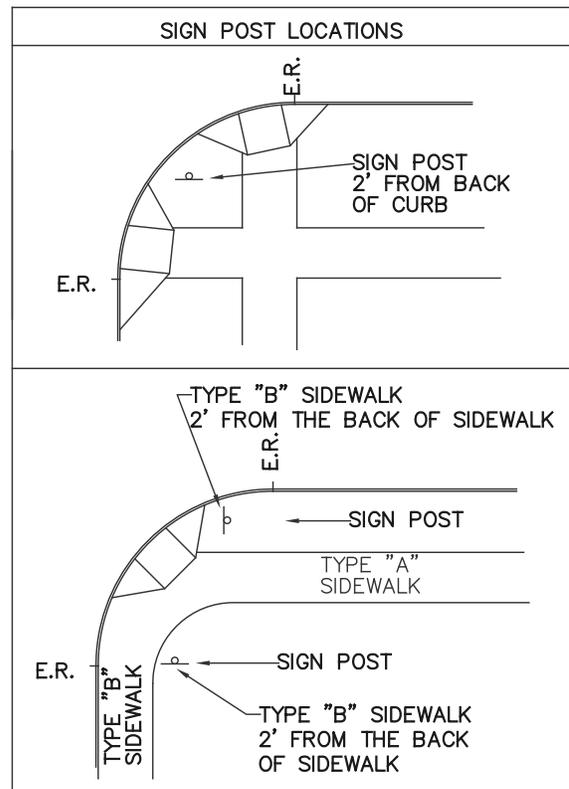
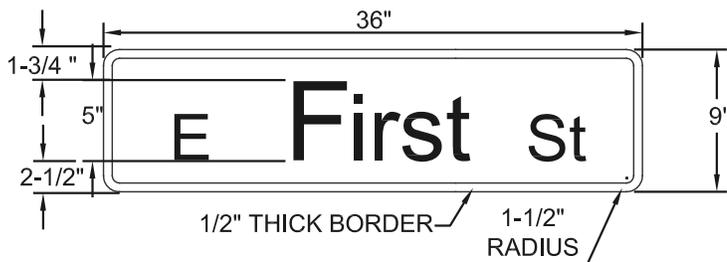
ALL SIGNS SHALL BE HIGH INTENSITY PRISMATIC GRADE SHEETING



25 MPH OR LESS



30 MPH & HIGHER

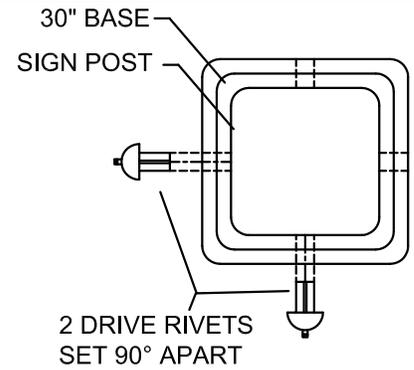
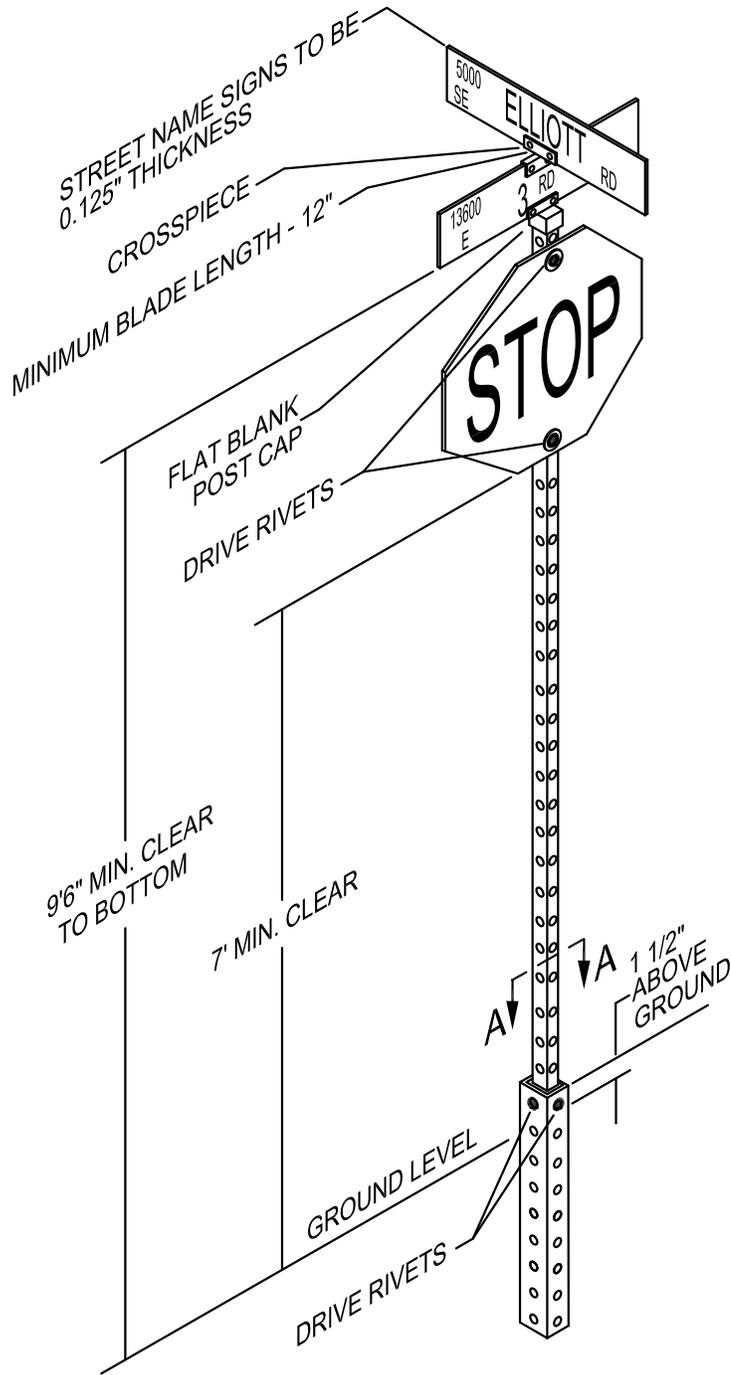


**City of Newberg**  
PUBLIC WORKS ENGINEERING DIVISION  
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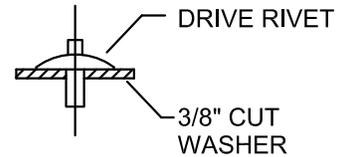
REVISIONS:
AUG. 2013
MAR. 2014

**STREET SIGN AND POST LOCATION**

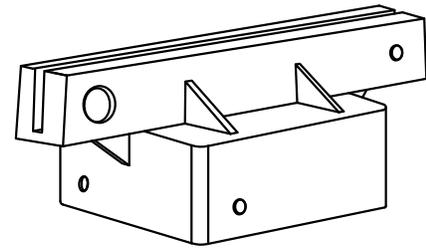
SCALE:	N.T.S
DATE:	July 2004
APPROVED BY:	P. Chiu
STANDARD DRAWING	524A



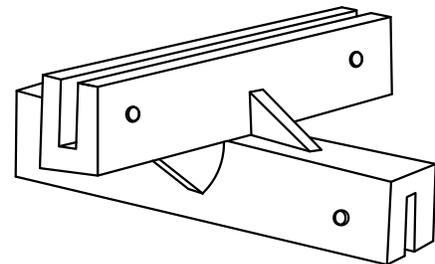
**SECTION A - A**



**DRIVE RIVET DETAIL  
FOR MOUNTING SIGN**



**HOLDER (OR EQUIVALENT)  
VULCAN INC. VS-4 CAP 12" BLADE**



**VULCAN INC. VS-4 CROSS 12" BLADE  
HOLDER (OR EQUIVALENT)**

**STREET NAME BLADE HOLDERS**

**NOTES:**

1. SIGN POST SHALL BE INSERTED A MINIMUM OF 12" INTO THE 30" BASE.
2. SLEEVE SHALL BE 30" 12 GAUGE x 2 1/4" - POST SHALL BE 12GA x 2".
3. CAP AND CROSSPIECE TO BE THE SAME STYLE, 12" BLADE MINIMUM.
4. SEE DETAILS 525A & 525B FOR GROUND & CONCRETE SIGN APPLICATIONS
5. SEE CHAPTER 5 IN THE ENGINEERING DESIGN MANUAL FOR THE MATERIAL SPECIFICATIONS.

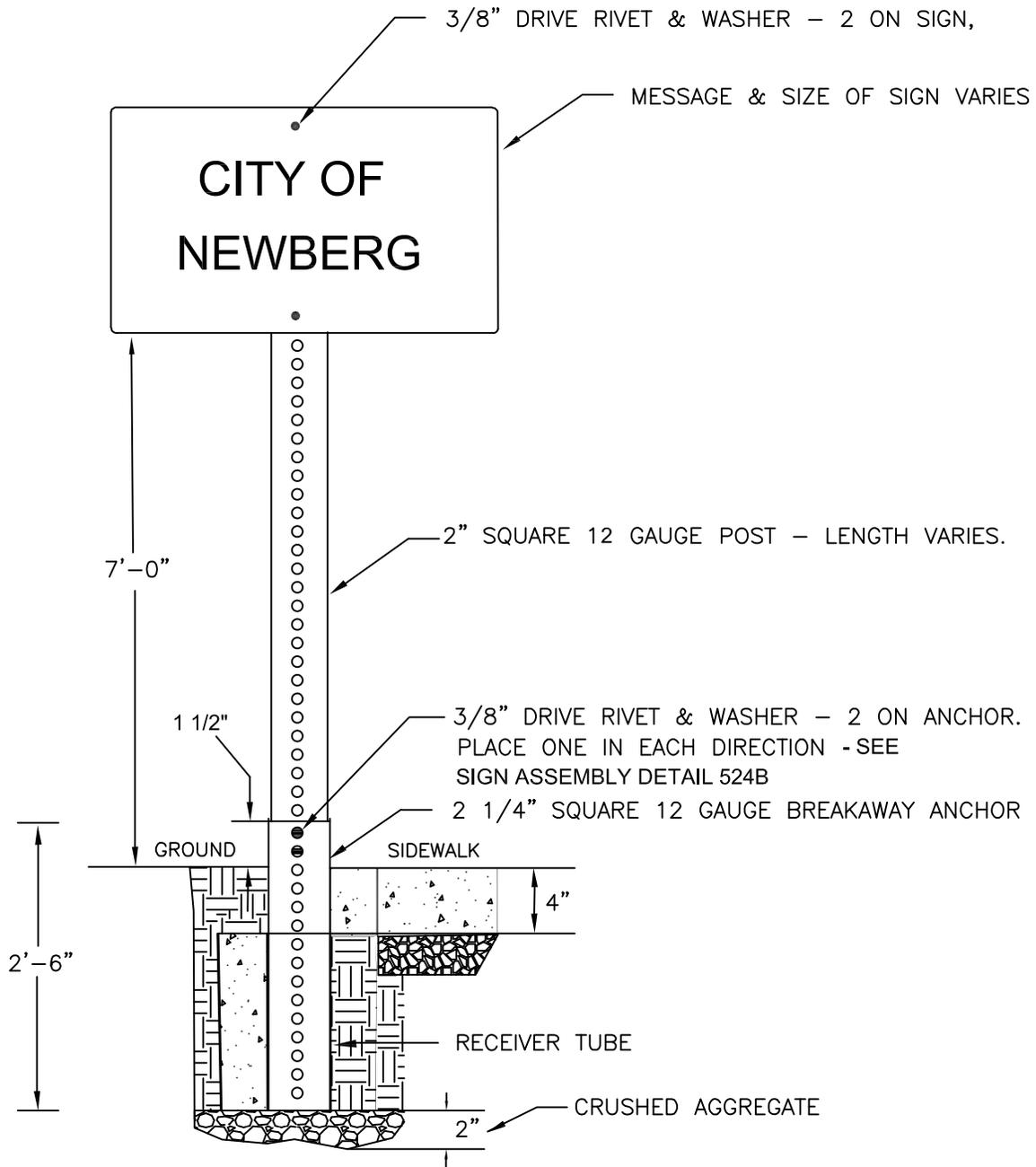
**City of  
Newberg**

PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

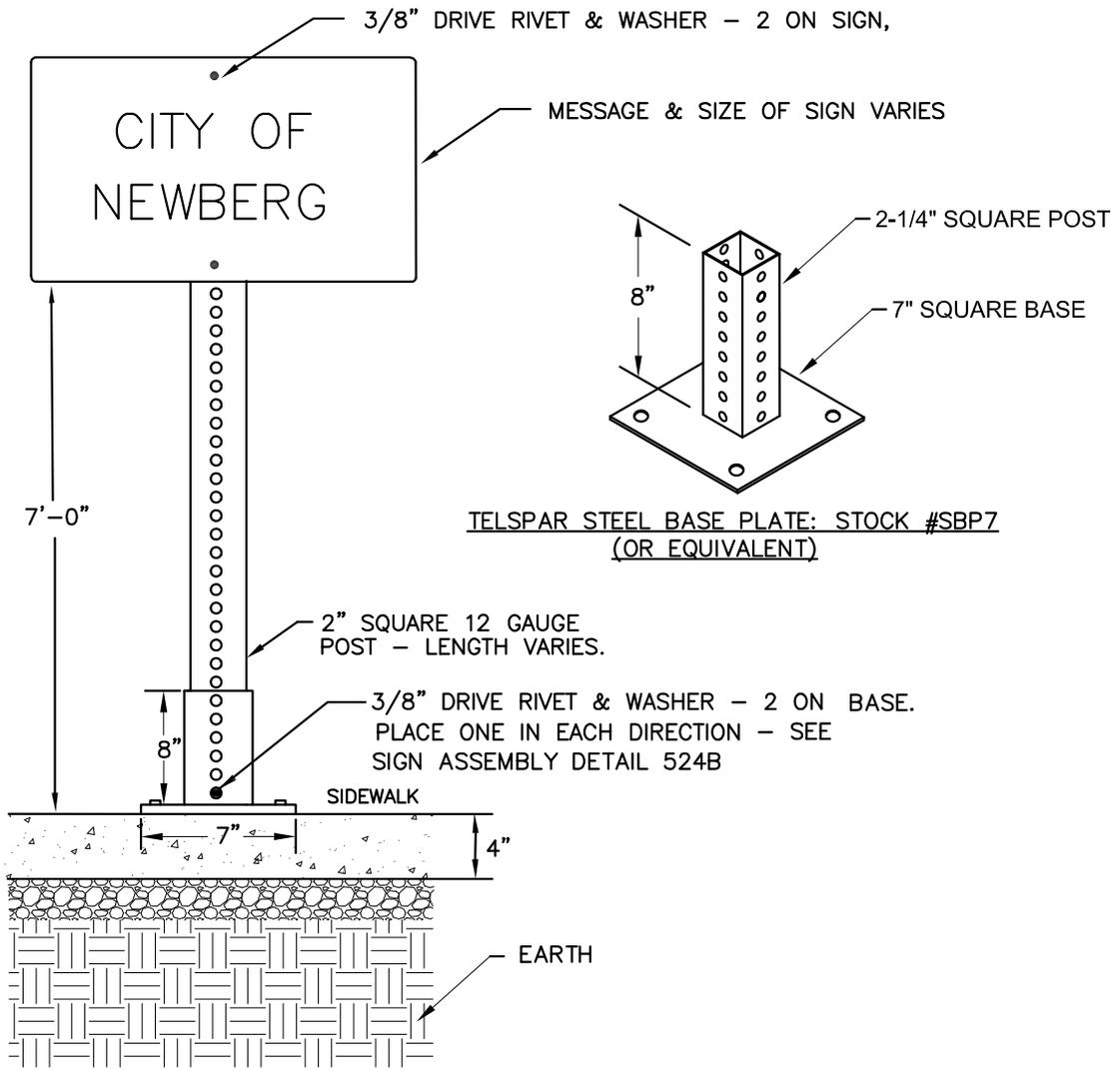
REVISIONS:
Aug. 2013
Dec. 2013

**SIGN ASSEMBLY**

SCALE:	N.T.S
DATE:	July 2009
APPROVED BY:	P. Chiu
STANDARD DRAWING	<b>524B</b>

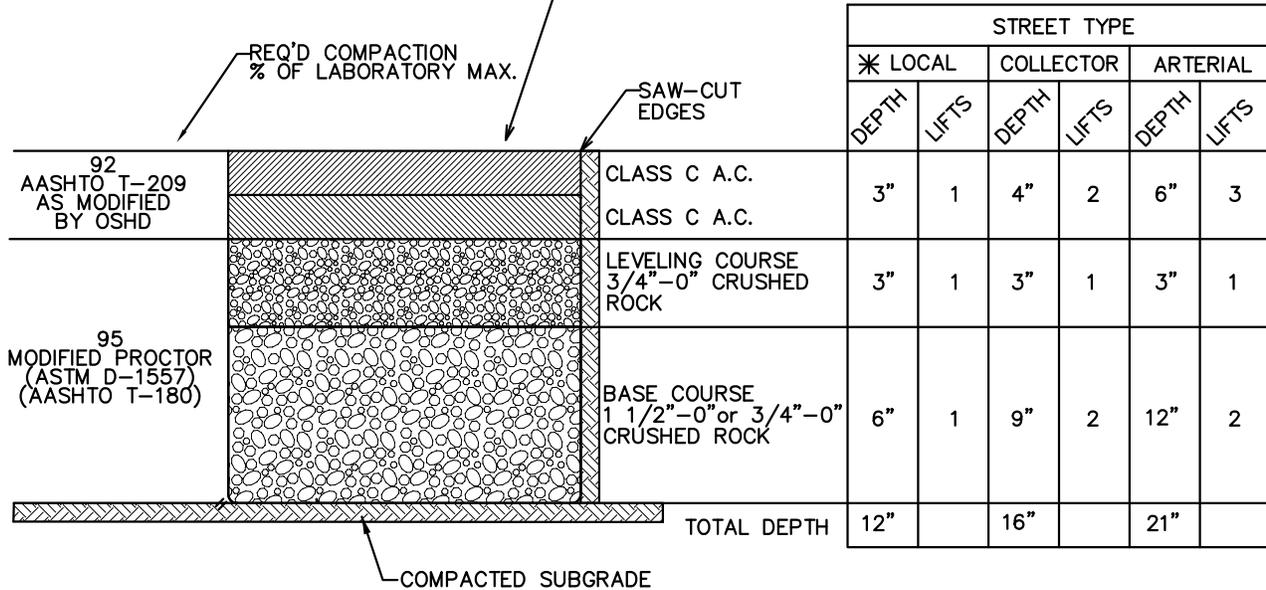


1. SIGN PLACEMENT IN DIRT SHALL BE A MINIMUM OF 24" FROM CURB FACE - VARIES BY SIGN SIZE.
2. POST SHALL BE SPRAYED WITH ANTI-SEIZE ON THE BOTTOM 2'-6".
3. SIGN POST SHALL BE INSERTED A MINIMUM OF 12" INTO THE 30" BASE.



1. STEEL BASE SHALL BE A 2 1/4" SQUARE 12 GAUGE POST
2. SIGN POST PLACEMENT IN CONCRETE SHALL BE A MINIMUM OF 24" FROM CURB FACE - VARIES BY SIGN SIZE.
3. USE 1/2" X 4-1/4" RED HEAD FASTENERS FOR STEEL BASE PLATE
4. STEEL BASE PLATE APPLICATION FOR EXISTING CONCRETE ONLY
5. FOR EXISTING SIDEWALK, WITH CITY OF NEWBERG ENGINEERING DIVISION APPROVAL ONLY.

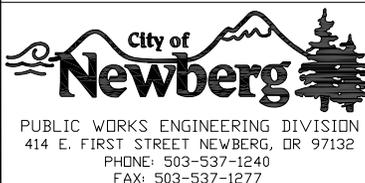
EXCAVATE STREET TO MINIMAL DEPTH SPECIFIED IN TABLE. CONSTRUCT MATERIAL AS SHOWN BELOW. SITE SOILS AND WEATHER CONDITIONS MAY REQUIRE GREATER STRUCTURAL SECTIONS AND GEOTEXTILE (NON-WOVEN) PER CITY ENGINEER.



GEOTEXTILE SPECIFICATIONS

PROPERTY	TEST	MIN. VALUE
TENSILE STRENGTH, lbs	ASTM D-4632	120
ELONGATION, WET %	ASTM D-4632	40
COEFFICIENT OF WATER PERMEABILITY, cm/sec	ASTM D-4491	0.10
PUNCTURE STRENGTH, lbs	ASTM D-4833	80
MULLEN BURST STRENGTH, psi	ASTM D-3786	250

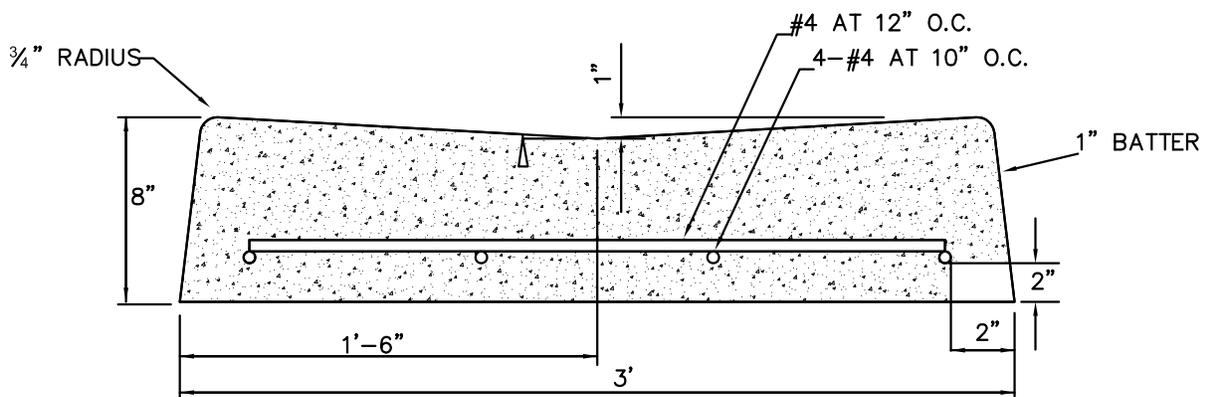
\* LOCAL STREET TYPE = INTERIOR RESIDENTIAL SINGLE FAMILY DETACHED ZONES



REVISIONS:

STRUCTURAL STREET SECTIONS

SCALE:	N.T.S
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	527



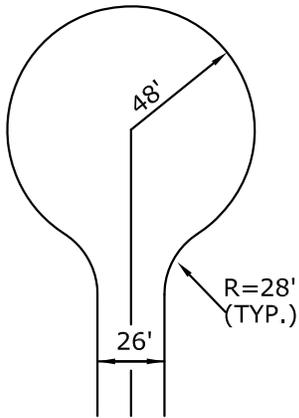
NOTES

1. CONCRETE MIX: 4,000 PSI AT 28 DAYS  
WITH 6% ENTRAINED AIR.

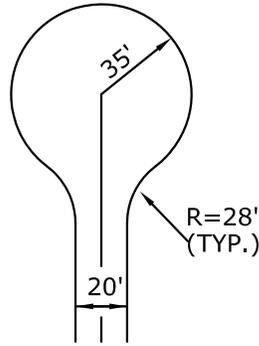
REVISIONS:

VALLEY GUTTER

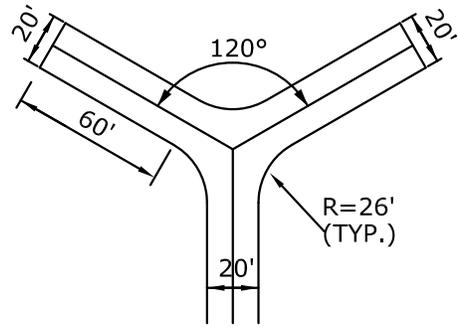
SCALE:	N.T.S
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	528



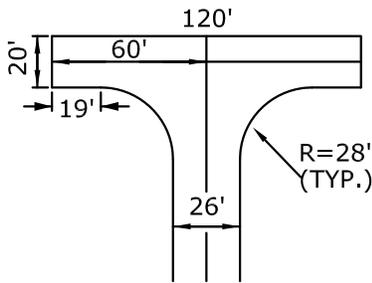
96' DIAMETER  
CUL-DE-SAC



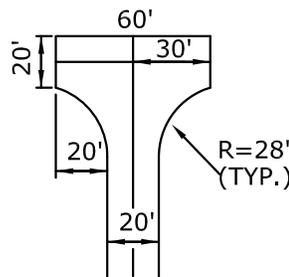
70' DIAMETER  
CUL-DE-SAC



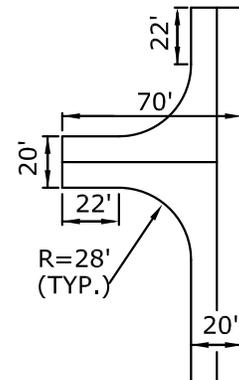
ACCEPTABLE ALTERNATIVE  
TO 120' HAMMERHEAD



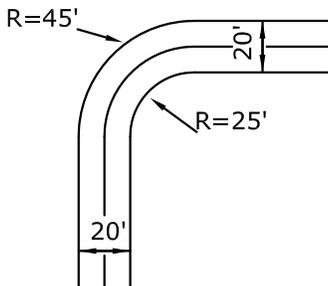
120' HAMMERHEAD



60' HAMMERHEAD



ACCEPTABLE ALTERNATIVE  
TO 120' HAMMERHEAD



INSIDE AND OUTSIDE  
TURN RADIUS

FIRE MARSHAL APPROVAL  
OF CONSTRUCTION  
PLANS REQUIRED

Requirements for dead end fire access roads

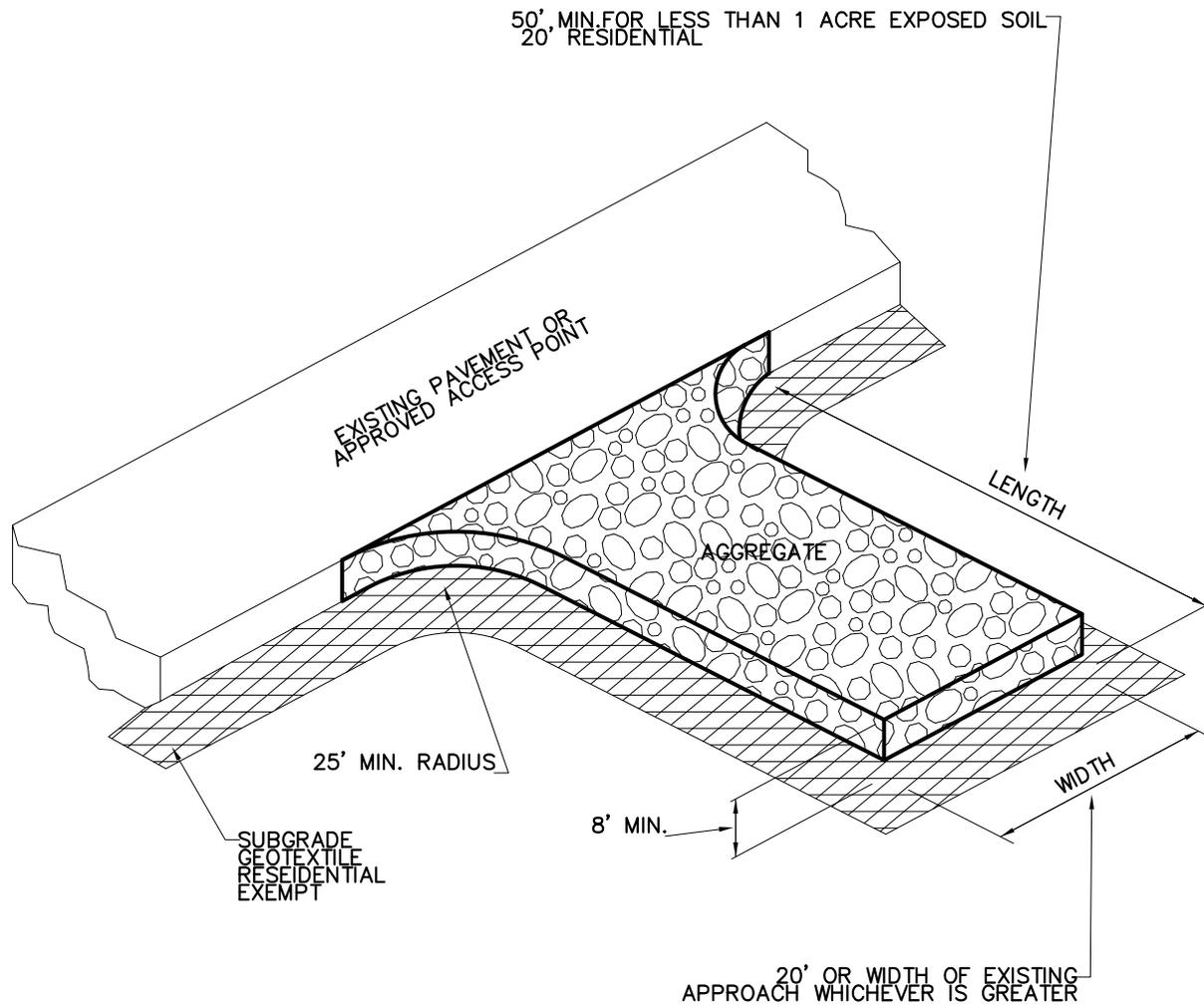
Length (feet)	Width (feet)	Turnarounds Required
0-150'	20'	None Required
151'-500'	20'	120' hammerhead, 60' "Y", or 96' diameter cul-de-sac
501'-750'	26'	120' hammerhead, 60' "Y", or 96' diameter cul-de-sac
OVER 750'	SPECIAL APPROVAL REQUIRED	

NOTES:

Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet.

Road surfaces must be capable of supporting the imposed load of fire apparatus weighing at the least 75,000 pounds.

Fire apparatus access roads shall not exceed ten percent in grade. Grades steeper than ten percent must be approved by the Fire Marshal.



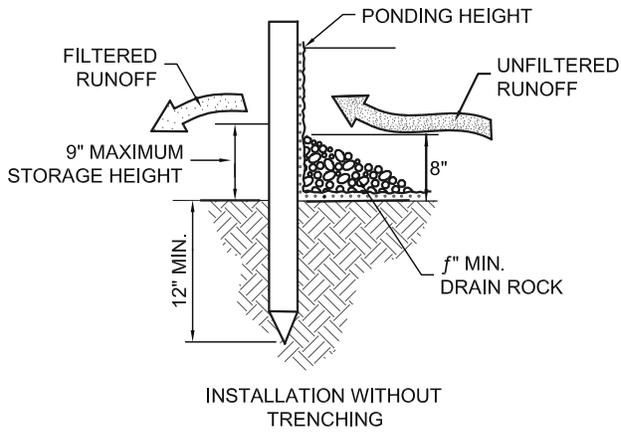
**NOTES:**

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT-LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS  
SINGLE FAMILY AND DUPLEX  
 20' LONG BY 20' WIDE, 8" DEEP OF 3/4" MINUS CLEAN ROCK.  
COMMERCIAL  
 50' LONG BY 20' WIDE, 3-6" DEEP CLEAN ROCK.  
 GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

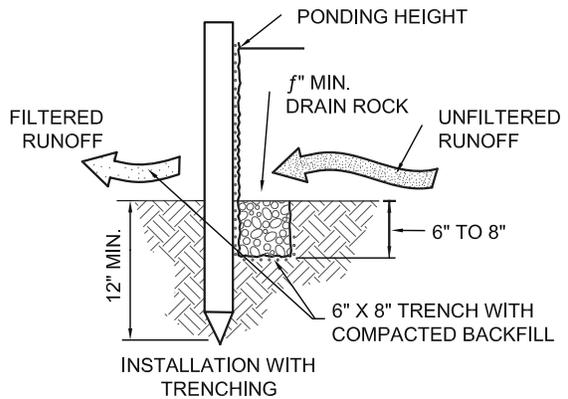
REVISIONS:

**CONSTRUCTION  
ENTRANCE**

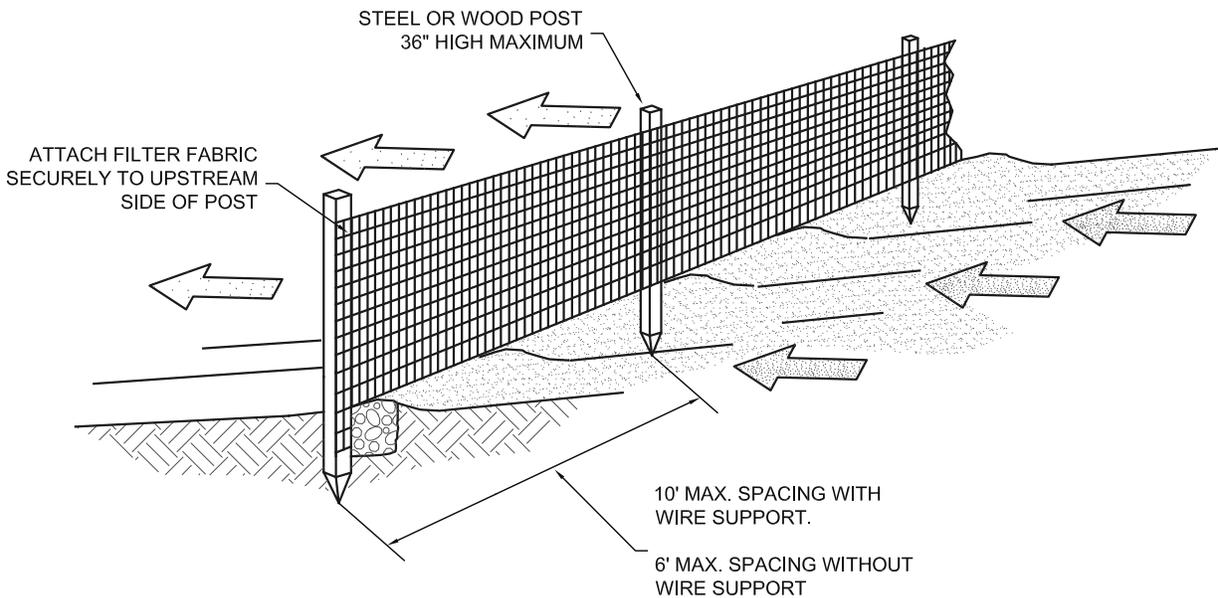
SCALE:	N.T.S
DATE:	May 2007
APPROVED BY:	D. Danicic
STANDARD DRAWING	601



INSTALLATION WITHOUT TRENCHING



INSTALLATION WITH TRENCHING

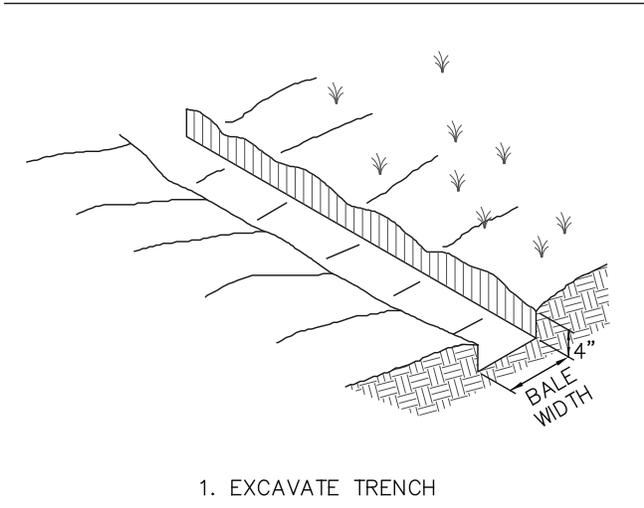


  
 PUBLIC WORKS ENGINEERING DIVISION  
 414 E. FIRST STREET NEWBERG, OR 97132  
 PHONE: 503-537-1240  
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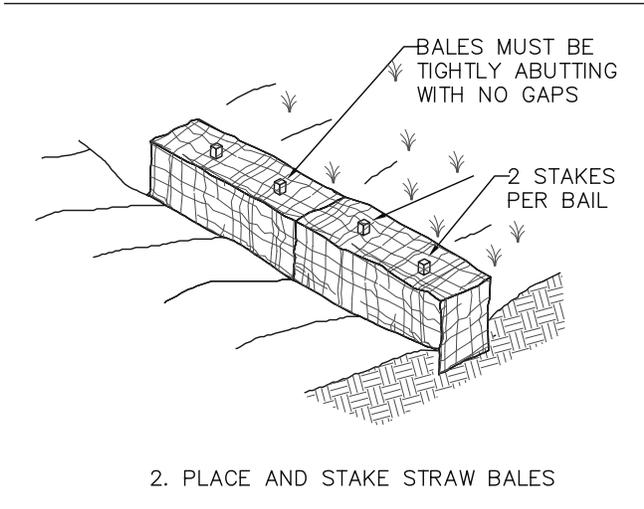
REVISIONS:

# SILT FENCE

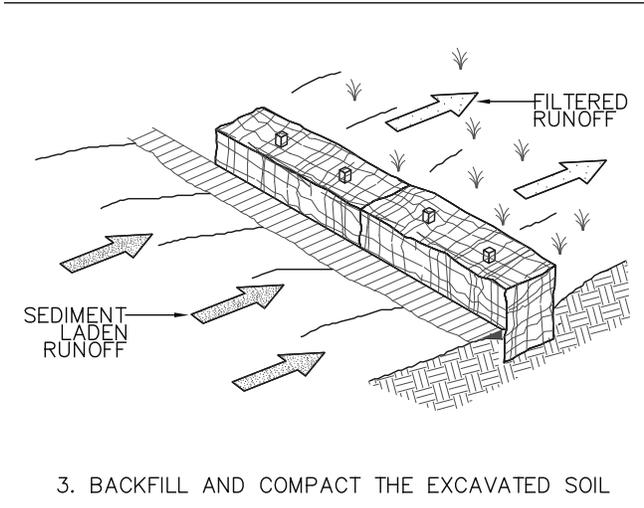
SCALE:	N.T.S.
DATE:	MAY 2007
APPROVED BY:	D. DANICIC
STANDARD DRAWING	602



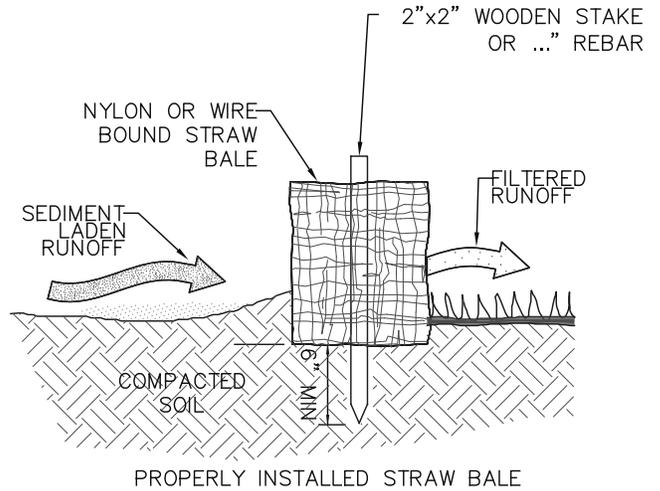
1. EXCAVATE TRENCH



2. PLACE AND STAKE STRAW BALES



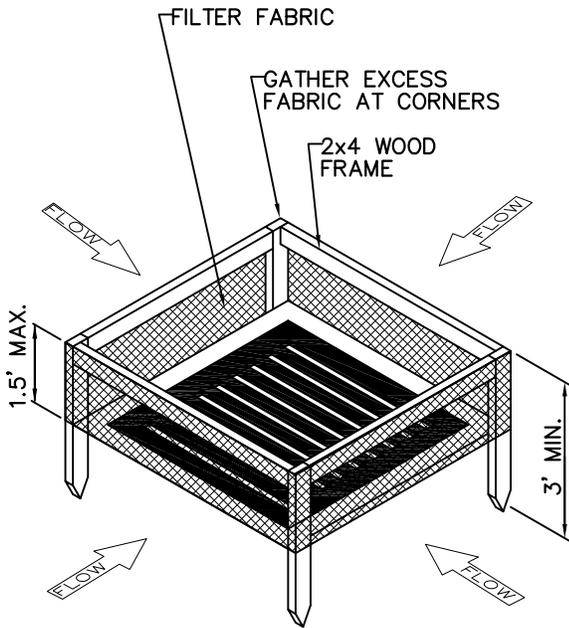
3. BACKFILL AND COMPACT THE EXCAVATED SOIL



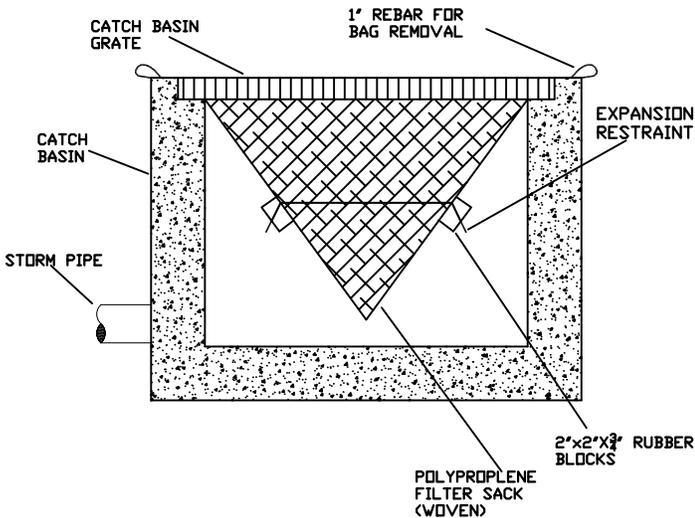
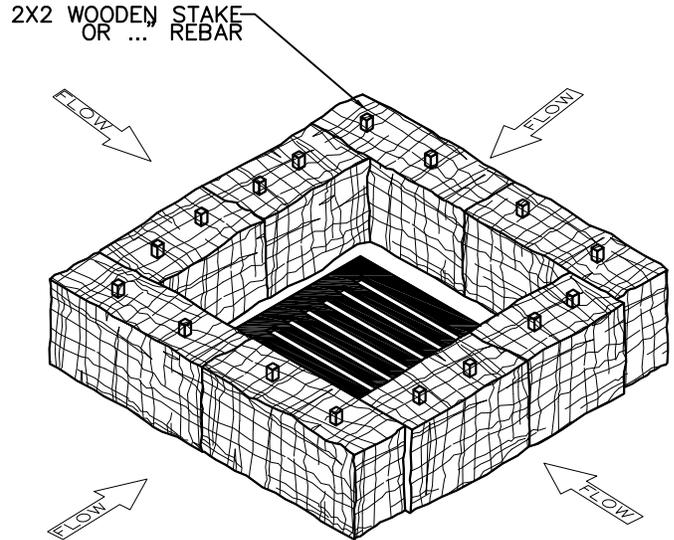
GENERAL NOTES:

1. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY  $\frac{3}{8}$ " REBAR OR 2"x2" WOODEN STAKES DRIVEN THROUGH THE BALES.
3. INSPECTION SHALL BE PERFORMED WEEKLY OR AFTER EACH RAINFALL EVENT. REPAIR AND OR REPLACEMENT SHALL BE MADE AS NEEDED BY THE CONTRACTOR, OR AS DIRECTED BY THE INSPECTOR.
4. WHEN SILT REACHES A DEPTH OF 6", IT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE.
5. AFTER THE SITE IS COMPLETELY STABILIZED, THE BALE AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL SITE.

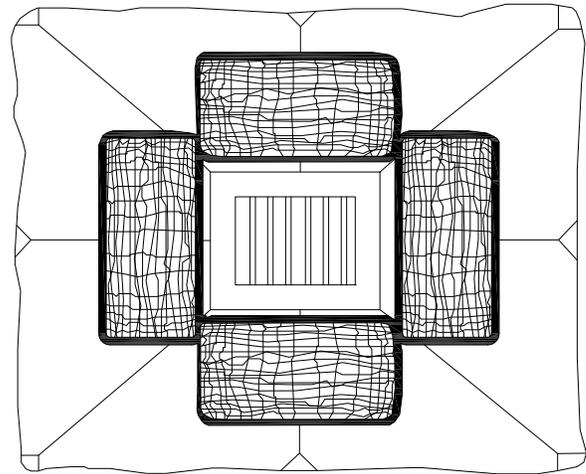
SILT FENCING  
INSTALLATION PER  
STANDARD DETAIL #602



STRAW BALES ARE TO BE PLACED 4 INCHES INTO THE SOIL, TIGHTLY ABUTTING WITH NO GAP. STAKE AND BACKFILL AROUND THE ENTIRE OUTSIDE PERIMETER.



WOVEN POLYPROPELENE SACK



BID BAG FILTER

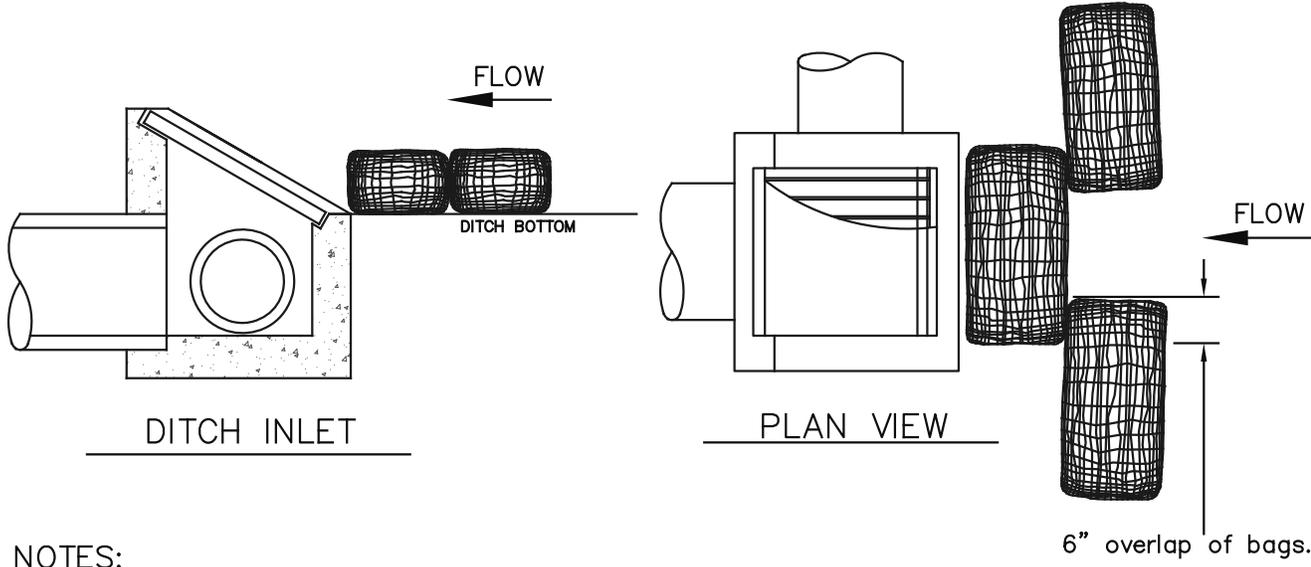
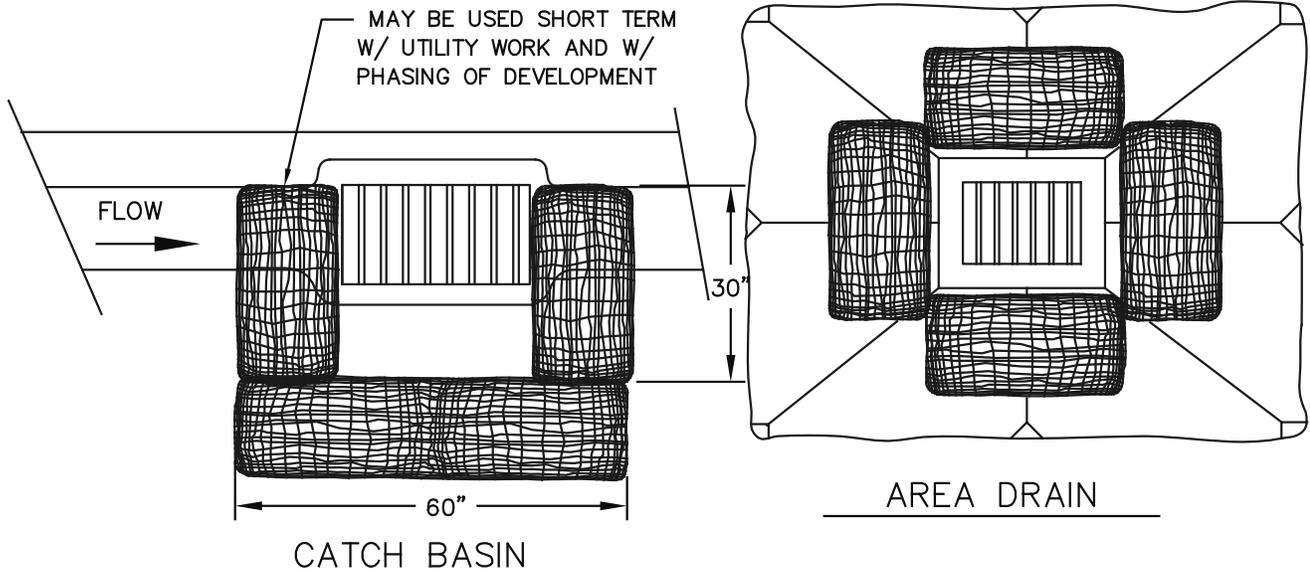
THIS METHOD OF INLET PROTECTION IS TO BE USED WHERE THE INLET DRAIN IS LOCATED IN A RELATIVELY FLAT UNPAVED AREA (SLOPE <5%).

THIS METHOD OF INLET PROTECTION SHALL NOT BE USED IN STREETS, TRAVELED AREAS, OR AREAS OF CONCENTRATED FLOW (DITCHES).

REVISIONS:
12/10/2013

**FIELD DRAIN INLET PROTECTION**

SCALE:	N.T.S.
DATE:	12/10/2013
APPROVED BY:	PAUL CHIU
STANDARD DRAWING	<b>604</b>



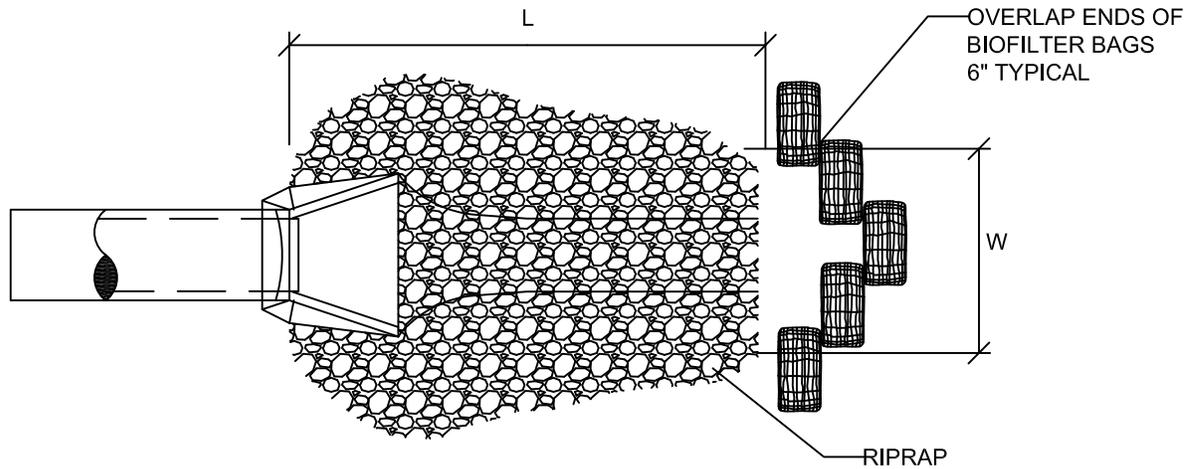
**NOTES:**

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. WHEN USING 30" BIO-BAGS TO PROTECT A CATCH BASIN YOU MUST HAVE 4 BAGS AND THEY SHALL BE OVERLAPPED BY 6".

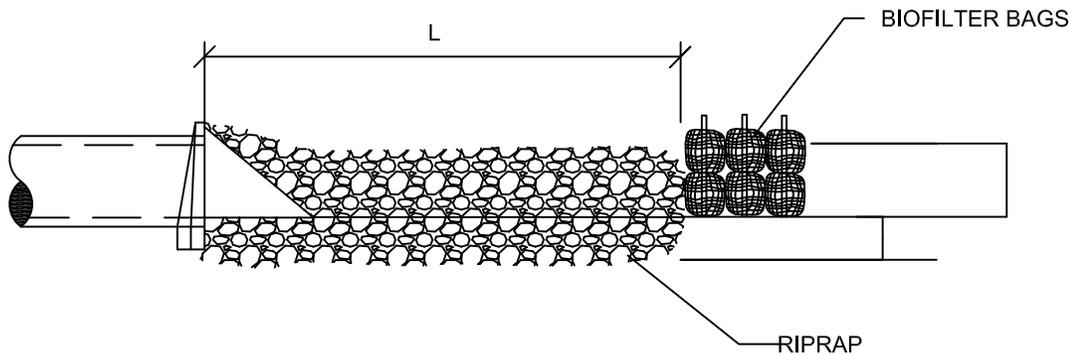
REVISIONS:
12/10/2013

**INLET PROTECTION**

SCALE:	N.T.S.
DATE:	04/04/2009
APPROVED BY:	PAUL CHIU
STANDARD DRAWING	605



PLAN VIEW



PROFILE

W = GREATER OF: DIAMETER + 6' OR 3x DIAMETER

L = GREATER OF: 12' OR 4x DIAMETER

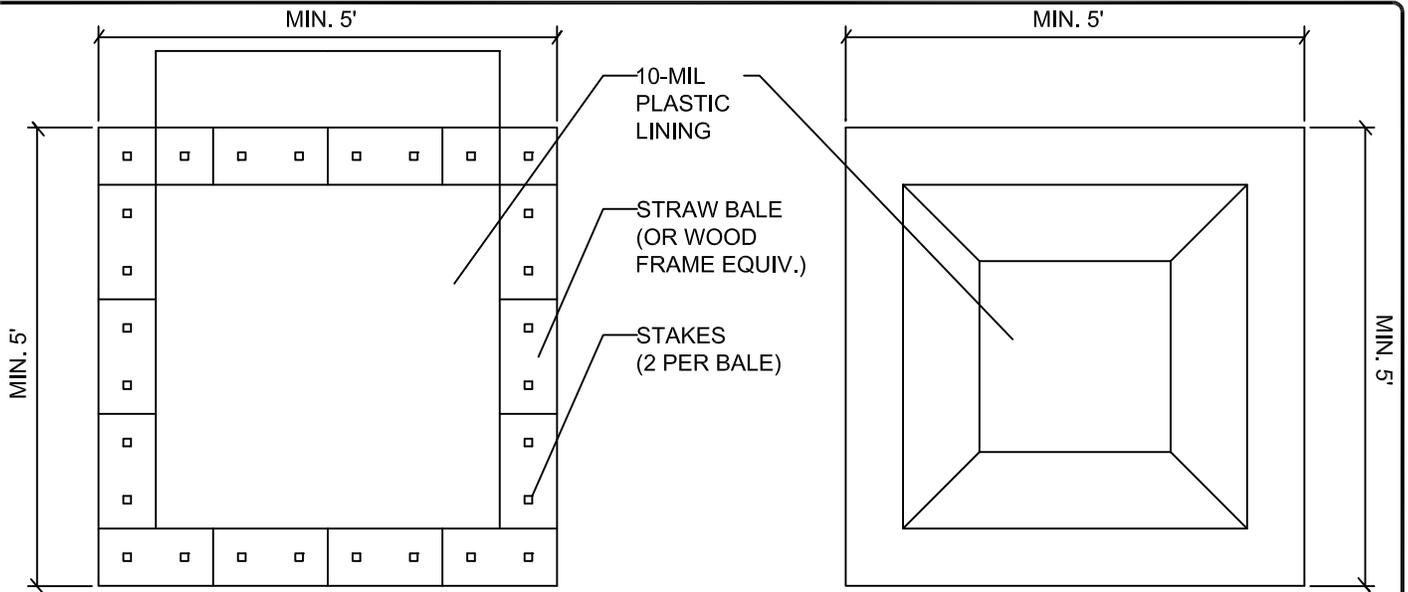
NOTES:

1. BIOFILTER BAGS REQUIRED ONLY WHEN DISCHARGING SEDIMENT-LADEN WATER.
2. STAKING OF BIOFILTER BAGS REQUIRED USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG.

REVISIONS:

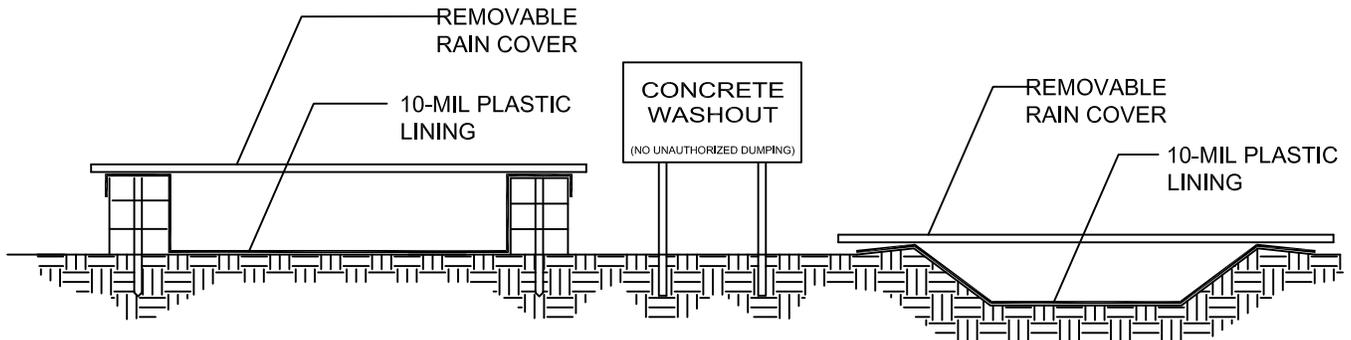
OUTLET PROTECTION

SCALE:	N.T.S
DATE:	01/10/2014
APPROVED BY:	
STANDARD DRAWING	606



**ABOVE-GROUND BASIN  
PLAN VIEW**

**BELOW-GROUND BASIN  
PLAN VIEW**



**ABOVE-GROUND BASIN  
SECTION**

**BELOW-GROUND BASIN  
SECTION**

**NOTES:**

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. "CONCRETE WASHOUT" SIGN TO BE LOCATED ADJACENT TO WASHOUT FACILITY.
3. REMOVABLE RAIN COVER REQUIRED DURING WET WEATHER SEASON.

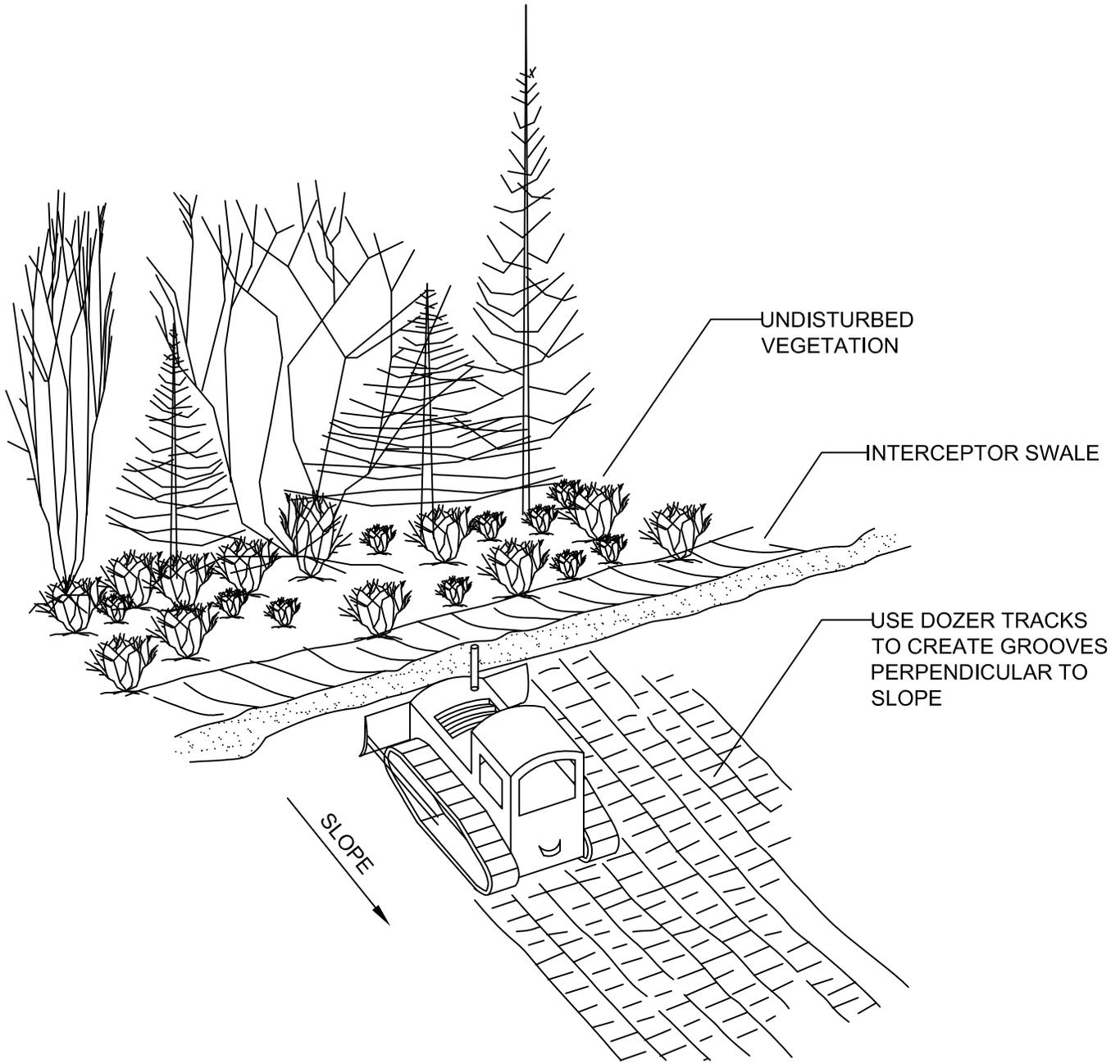
**City of  
Newberg**

PUBLIC WORKS ENGINEERING DIVISION  
414 E. FIRST STREET NEWBERG, OR 97132  
PHONE: 503-537-1240  
FAX: 503-537-1277

REVISIONS:	
	NA

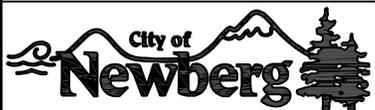
**CONCRETE WASTE  
MANAGEMENT**

SCALE:	N.T.S
DATE:	01/10/2014
APPROVED BY:	
STANDARD DRAWING	<b>607</b>



BMP NEEDED AT MIN. AT TOE OF SLOPE

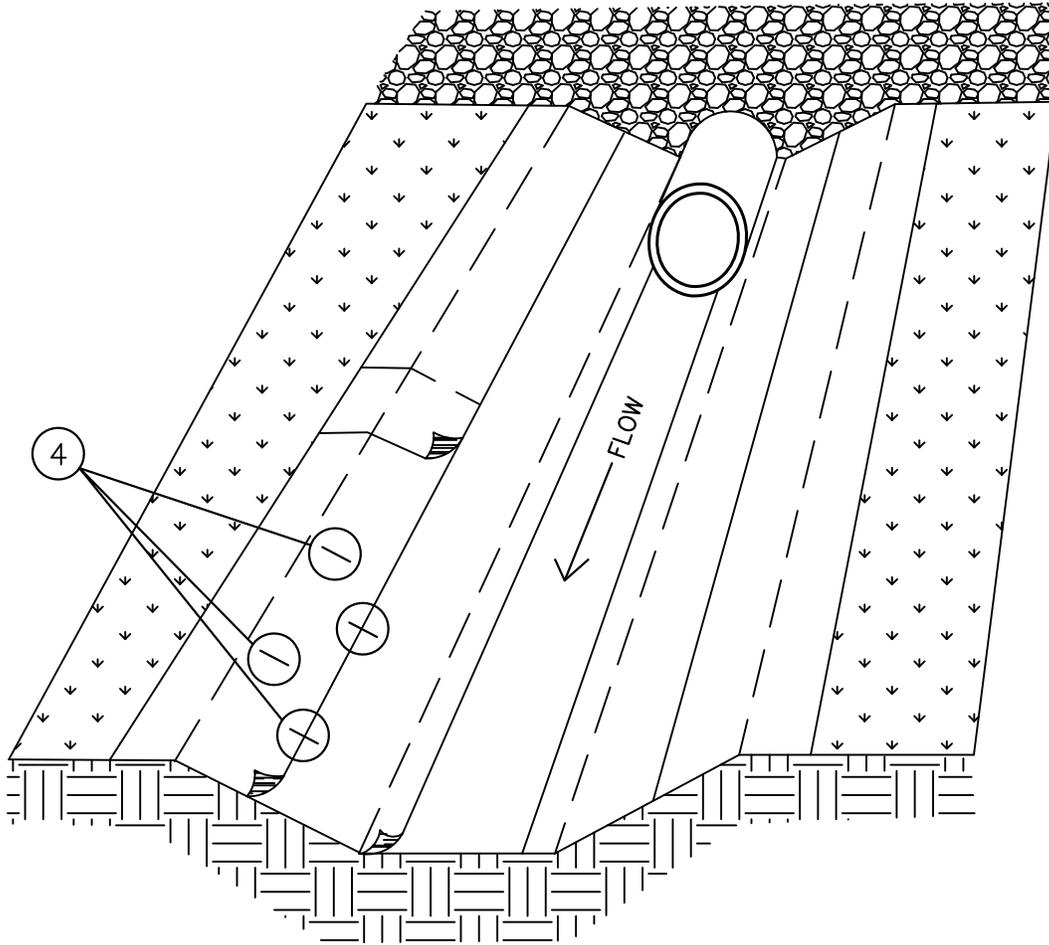
ALL SLOPES TO BE SEEDED


  
**City of Newberg**
  
 PUBLIC WORKS ENGINEERING DIVISION
   
 414 E. FIRST STREET NEWBERG, OR 97132
   
 PHONE: 503-537-1240
   
 FAX: 503-537-1277

REVISIONS:	
	NA

**SURFACE ROUGHENING**  
**CAT TRACKING**

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CHANNEL INSTALLATION

NOTES:

1. INFORMATION PROVIDED IS MINIMUM REQUIREMENTS. MANUFACTURES REQUIREMENTS WHICH ARE MORE STRINGENT SHALL BE USED.
2. INSTALL MAT PARALLEL IN CENTER OF CHANNEL IN THE DIRECTION OF FLOW. FOR CULVERT OUTFALLS, PLACE MAT UNDER CULVERT OR RIP RAP A MINIMUM OF 12 INCHES.
3. IN CHANNEL BOTTOM, OVERLAP LENGTH ENDS A MINIMUM OF 12 INCHES.
4. LENGTH OF STAPLES SHALL BE DETERMINDED BY SOIL TYPE—COHESIVE SOIL USE 6 INCH, NON-COHESIVE SOILS 8-12 INCH.

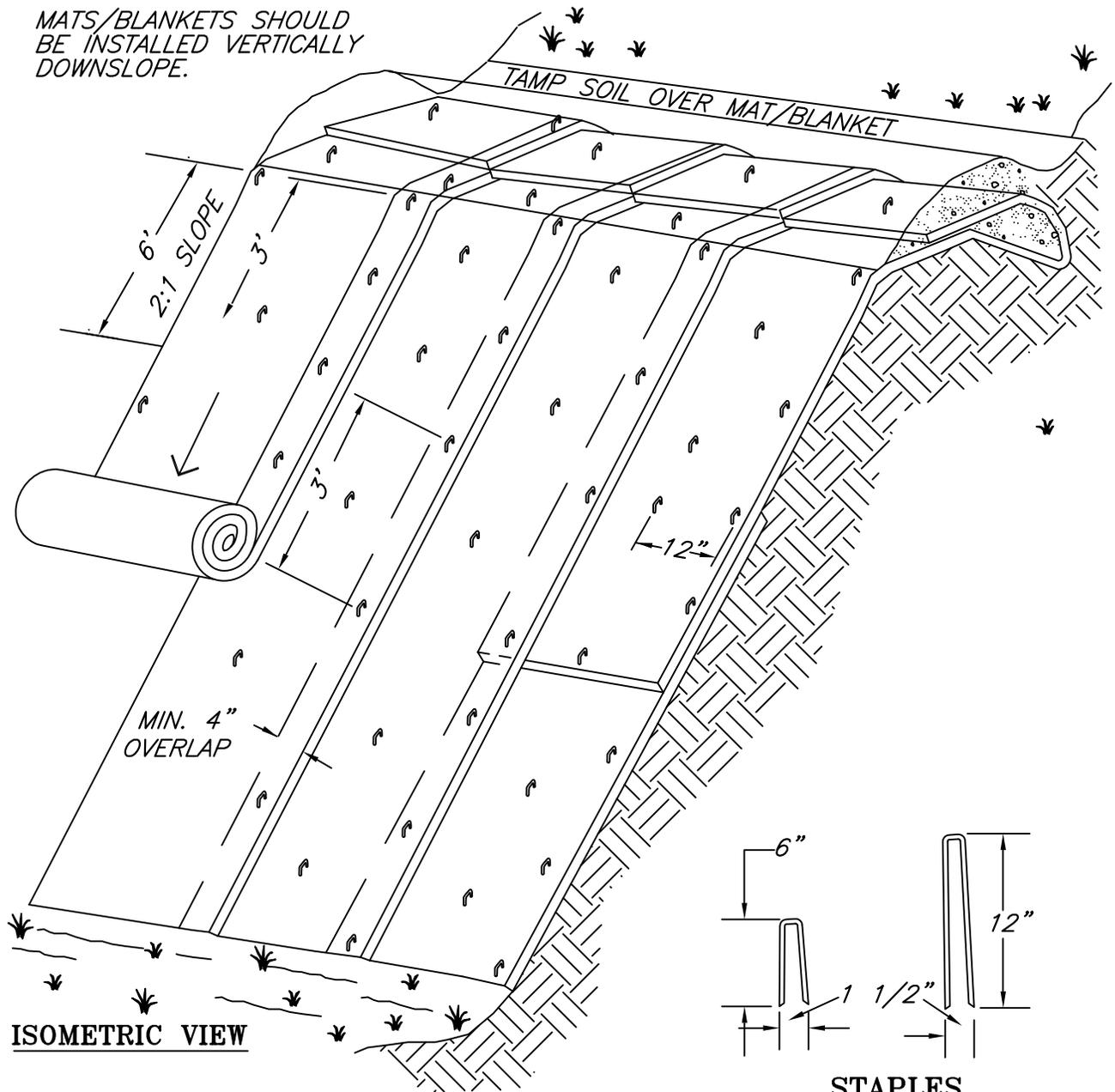
**City of Newberg**  
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REVISIONS:
NA

MATTING TRENCH  
 INSTALLATION

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MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.



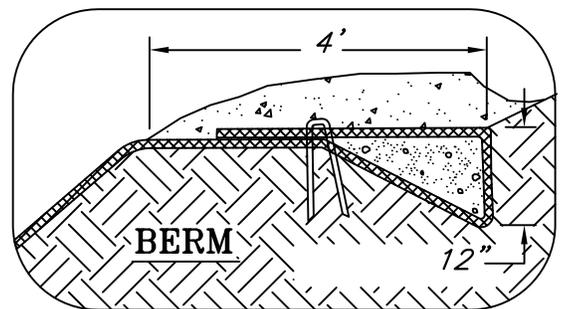
ISOMETRIC VIEW

STAPLES

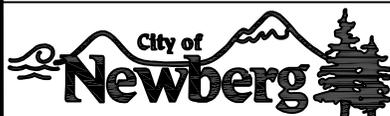
**TYPICAL SLOPE  
SOIL STABILIZATION**

**NOTES:**

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLOUDS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. STAKING OR STAPLING LAYOUT PER MANUFACTURERS SPECIFICATIONS.



NOT TO SCALE



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**MATTING-  
SLOPE INSTALLATION**

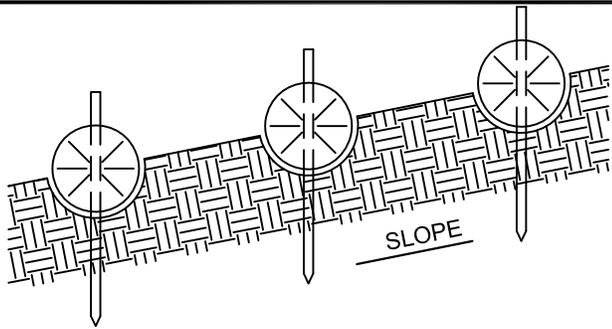
SCALE: N.T.S

DATE: 01/10/2014

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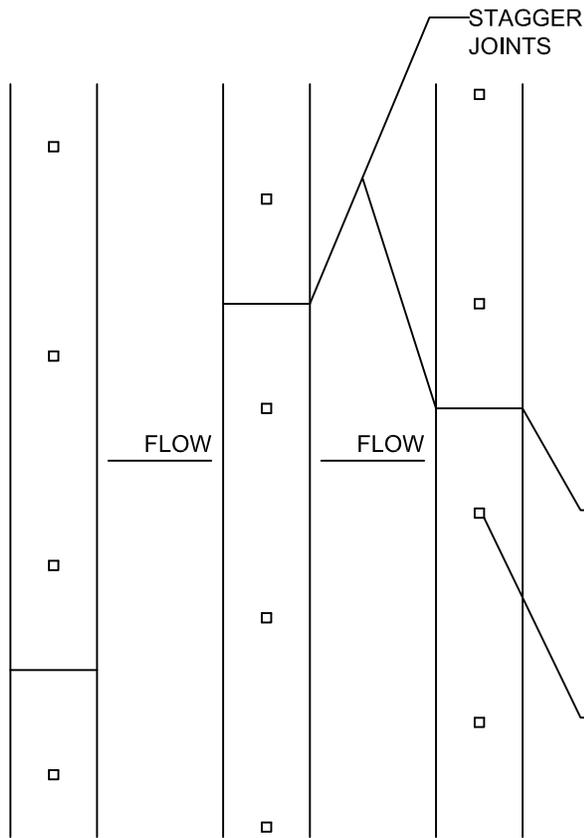
STANDARD DRAWING

**610**



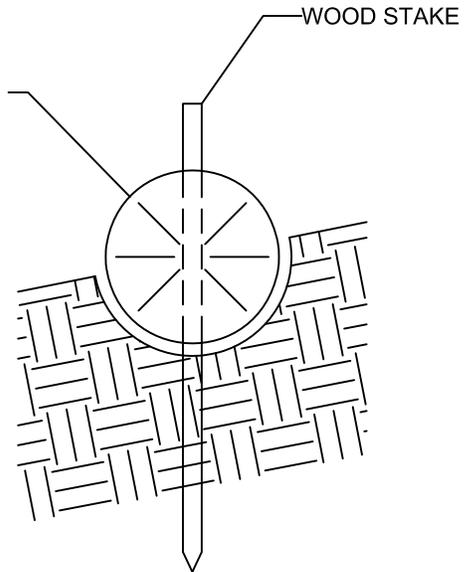
PLACE WATTLES ALONG SLOPE CONTOURS

**PROFILE**



**PLAN VIEW**

RICE STRAW, COCONUT FIBER (COIR), OR EXCELSIOR WATTLES



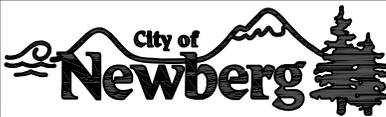
**SECTION**

TABLE 3-12 BARRIER SPACING FOR GENERAL APPLICATION

% SLOPE	SLOPE	MAX SPACING ON SLOPE
<10%	<10:1	300 ft
10-15%	10:1 to 7.5:1	150 ft
15-20%	7.5:1 to 5:1	100 ft
20-30%	5:1 to 3.5:1	50 ft
30-50%	3.5:1 to 2:1	25 ft

NOTES:

1. STAKING SPECIFICATIONS:
  - A. 1"x2" WOODEN STAKES.
  - B. ADDITIONAL STAKES MAY BE INSTALLED ON DOWNHILL SIDE OF WATTLES ON STEEP SLOPES OR HIGHLY EROSIIVE SOILS.
2. SPACING IN ACCORDANCE WITH TABLE 3-12.



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**WATTLES/STRAW BALE**

SCALE: N.T.S

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611