



# Construction Design Details

Ordinance No. 2016 - 06  
Adopted: February 24, 2016

## **WASHINGTON CITY STANDARD DRAWING INDEX**

### **CURB, GUTTER, DRIVEWAY, SIDEWALK**

Standard Curb and Gutter Details	100
Concrete Curb and Gutter	101
Standard Roll Curb and Gutter	102
Driveway Curb	110
Driveway Apron Details	111
Standard Driveway Bridge	112
Standard Sidewalk Details	120
Handicap Ramp Details	121
Standard Concrete Joint Details	122
10' Trail Section	130

### **ROADWAYS**

Standard Road Cross Section	140
Roadway Detail -Rural	141
Rural Cross-Section Details	142
Rural X Section Perspective	143
Standard 4' Cross Gutter	150
Standard 6' Cross Gutter	151
Driveway Access Detail-Large Lot Subdivision	152
Driveway Access Detail (without curbing)	153

### **SURVEY MONUMENT**

Class I Standard Monument Details	160
Class II Monument	161

### **MISCELLANEOUS**

Trench Backfill an Repair Detail	170
Manholes and Valve Boxes- Concrete Collar	171
Concrete Water Valve Collar	172
Concrete Irrigation Valve Collar	174

### **CATCH BASINS, INLETS, OUTLETS AND HARDWARE**

39" Solid Lid Details	203
Sidewalk Drainage Structure	204A
Sidewalk Drainage Structure	204B
Rain Gutter /Yard Drainage Structure	204C
Rain Gutter /Yard Drainage Structure	204D
Curb Inlet Single Catch basin Box	205A
Curb Inlet Double Catch Basin Box	205B

Curb Inlet Single Catch Basin Frame	205C
Curb Inlet Double Catch Basin Frame	205D
Standard Catch Basin Grate Bicycle Safe	205E
Temporary On-Site Drainage Retention Berm	206

#### MANHOLE AND HARDWARE

Standard Manhole Details	220
Junction & Drop Manhole Details	221
Manhole Frame & Cover Details	222
Manhole Step Details	223

#### SANITARY SEWER PIPING

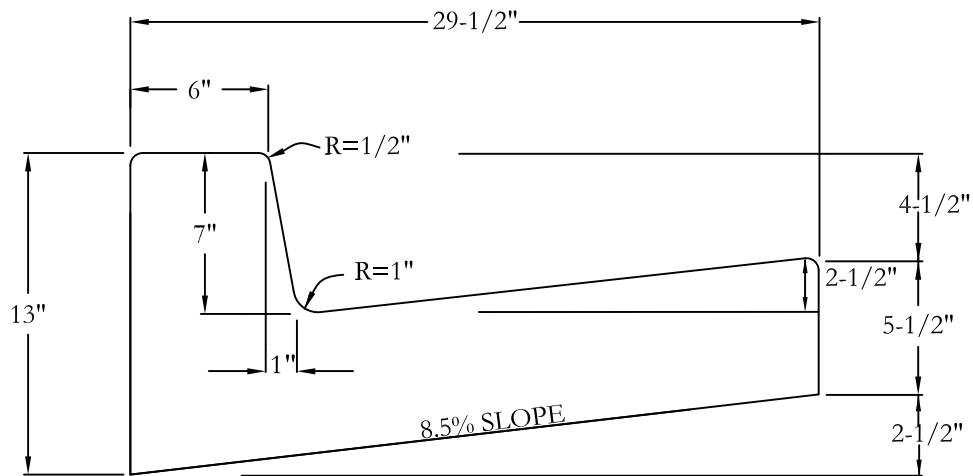
Sewer Cleanout Cover Detail	224
Typical Sewer Connection Details	230
P.V.C Service Connection to Existing P.V.C Sewer Mains	231
P.V.C Service Connection to New P.C.V Sewer Mains	232

#### WATER SYSTEM

Water Meter Box Details	300
Water /Irrigation Meter Box Location Details	301
Standard Fire Hydrant Details	302
Water Meter Setter Details	303
$\frac{3}{4}$ Water Standard Residential Service Connection & Meter	305
Water Line Thrust Block Details	306
Standard Tee PVC –Restraining System Detail	307
Standard Bends for –Restraining System Detail	308
Standard Tee Ductile Iron – Restraining System Detail	309
Standard Bends Ductile Iron-Restraining System Detail	310
Standard Dead End Ductile Iron- Restraining System Detail	311
In Line valve/Dead End PVC Pipe Detail	312
Standard Pressure Reducing Valve	314A
Standard Pressure Reducing Valve Vault Lid	314B
Standard Air-Vac Detail	316
Remote Air-Vac Detail	317
2" Fire Line Detail	318
Fire Line Valve Box	319
Concrete Encasement detail	330

#### SIGNING

Standard Street Sign	400
Private Street Signs	401
Sign Designation Form	402
Sign, Post and Installation Details	410
Sign Post & Mounting Details	411
Typical Sign Placement Details	412



## STANDARD CURB & GUTTER (TYPE HB30-7)

### NOTES:

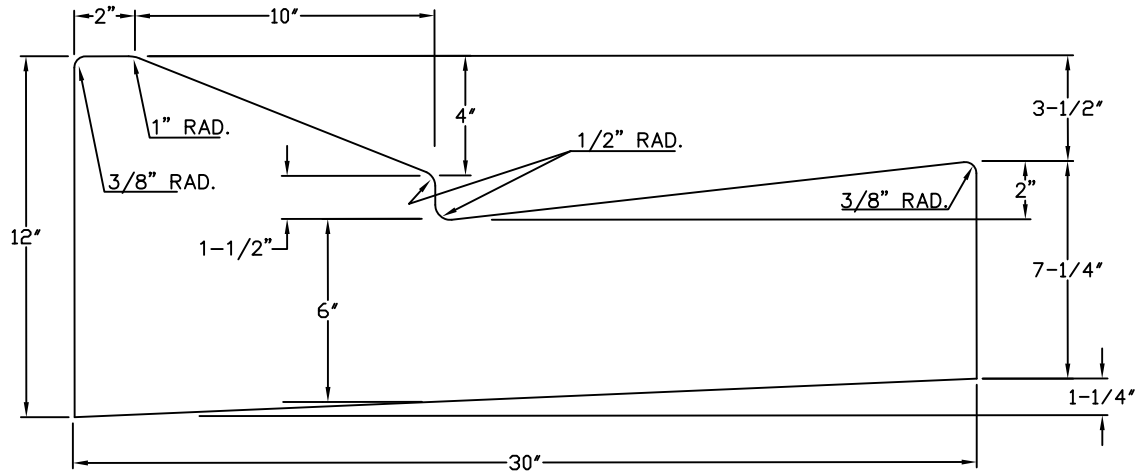
1. ALL CONCRETE SHALL BE CLASS "A".

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD CURB & GUTTER  
DETAILS

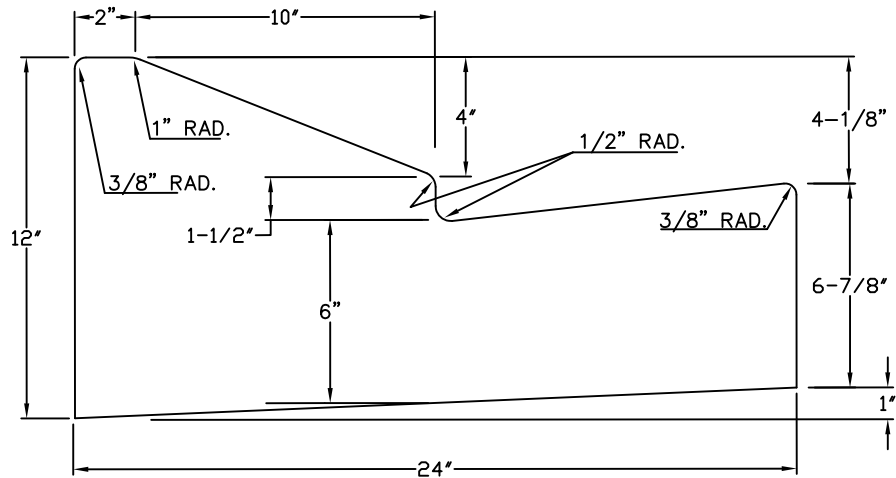
STANDARD DWG. NO.	
100	1 OF 1
APPROVED:	
DATE:	BY: -



RU30

NOTES:

- 1- ALL CONSTRUCTION & MATERIALS SHALL CONFORM TO CITY STANDARDS.
- 2- RU30 FOR USE ON CERTAIN RURAL COLLECTOR ROADS ONLY & SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ITS USE.
- 3- PR24 FOR USE IN PRIVATE DEVELOPMENTS ON PRIVATE ROADS ONLY.
- 4- ALL SIDEWALK SHALL BE 6" THICK AND ALL BASE COURSE SHALL BE 6" THICK WHEN THESE CURB TYPES ARE USED.



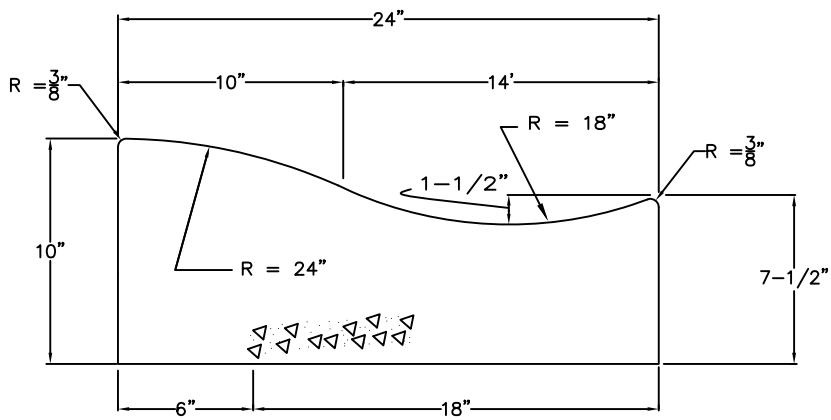
PR24  
(PRIVATE DEVELOPMENTS ONLY)

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

CONCRETE CURB & GUTTER  
(RU30 & PR24)

STANDARD DWG. NO.	
101	1 OF 1
APPROVED:	
—	BY: —



# STANDARD ROLL CURB & GUTTER TYPE RN24

(FOR USE IN MOBILE HOME DEVELOPMENTS ONLY)

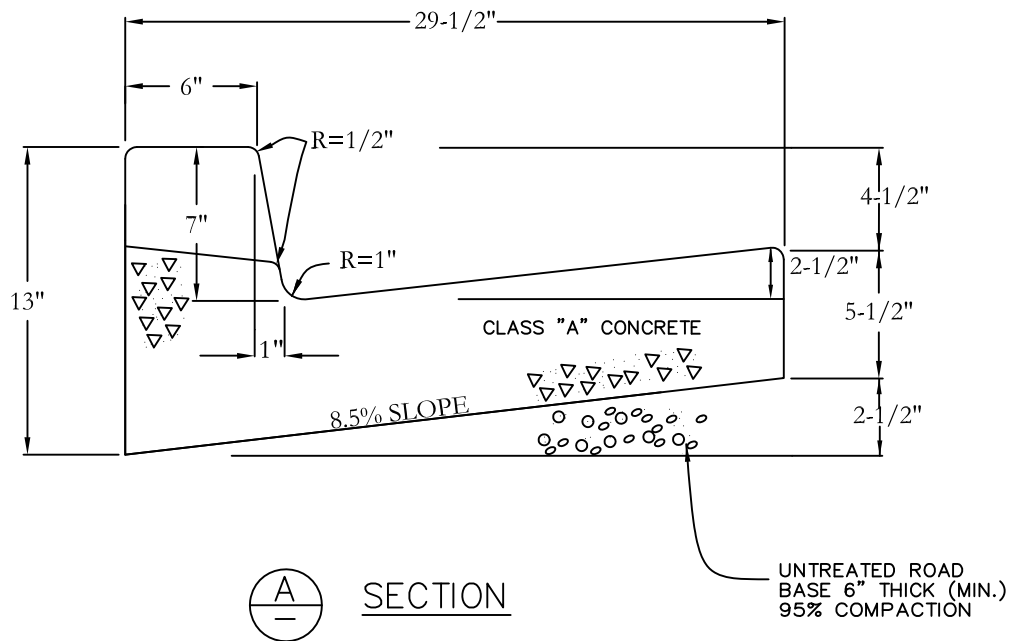
NOTES:  
1- ALL CONCRETE TO BE  
CLASS "A" CONCRETE.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

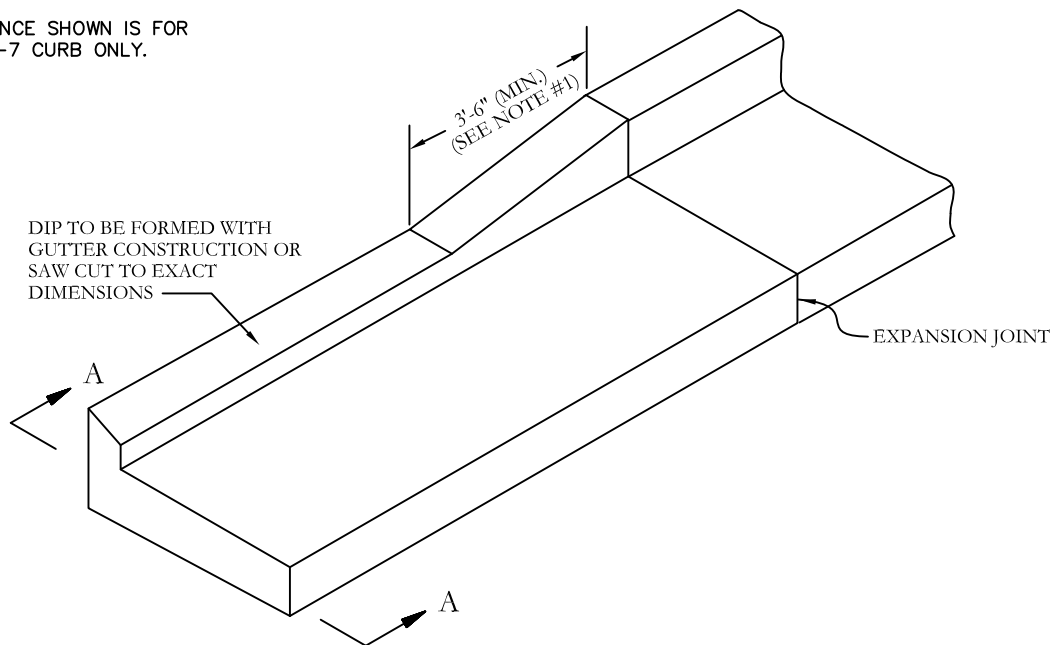
REVISIONS		
DATE	DESCRIPTION	BY

STANDARD ROLL CURB & GUTTER  
DETAILS

STANDARD DWG. NO.	
102	1 OF 1
APPROVED:	
DATE:	BY: -



NOTES:  
 1- DISTANCE SHOWN IS FOR  
 HB30-7 CURB ONLY.



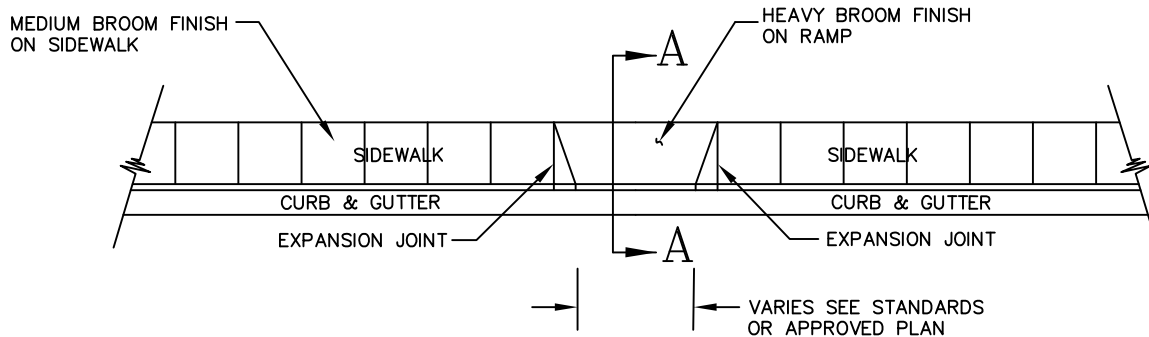
NO SCALE

CITY OF WASHINGTON ENGINEERING DEPARTMENT

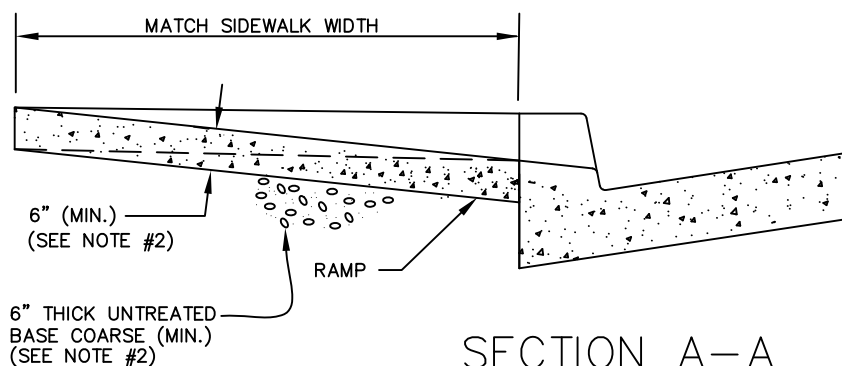
REVISIONS		
DATE	DESCRIPTION	BY

DRIVEWAY CURB (TYPE HB30-7)  
 DETAILS

STANDARD DWG. NO.	
110	1 OF 1
APPROVED:	
DATE:	BY: -



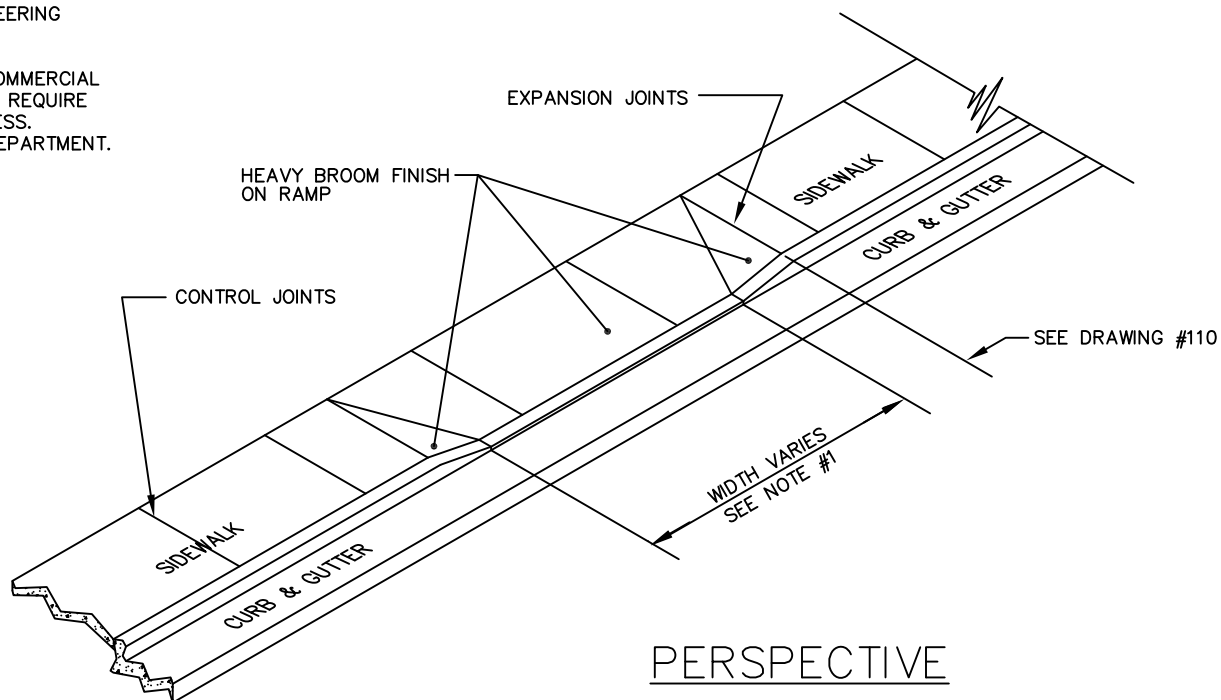
PLAN



SECTION A-A

NOTES:

- 1- WIDTH OF DRIVEWAYS VARIES WITH USE- SEE CITY STANDARDS OR CONTACT ENGINEERING DEPARTMENT.
- 2- DRIVEWAYS WITH COMMERCIAL OR INDUSTRIAL USE REQUIRE ADDITIONAL THICKNESS. SEE ENGINEERING DEPARTMENT.



PERSPECTIVE

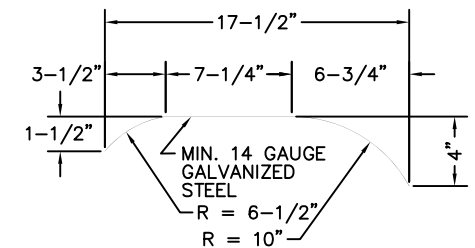
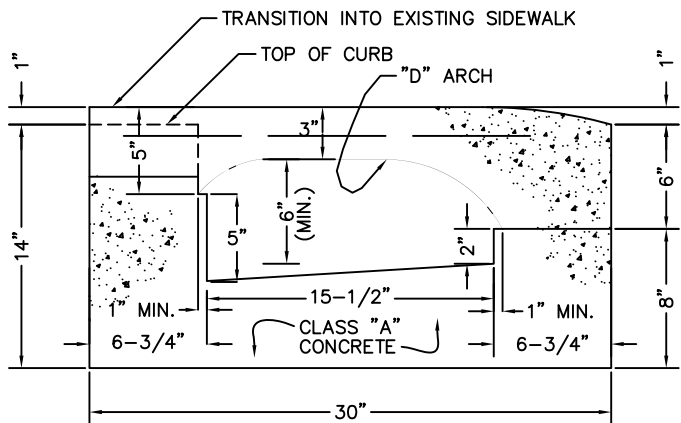
CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

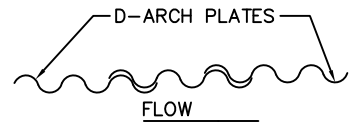
DRIVEWAY APRON  
DETAILS

STANDARD DWG. NO.	
111	1 OF 1
APPROVED:	
DATE:	BY: -





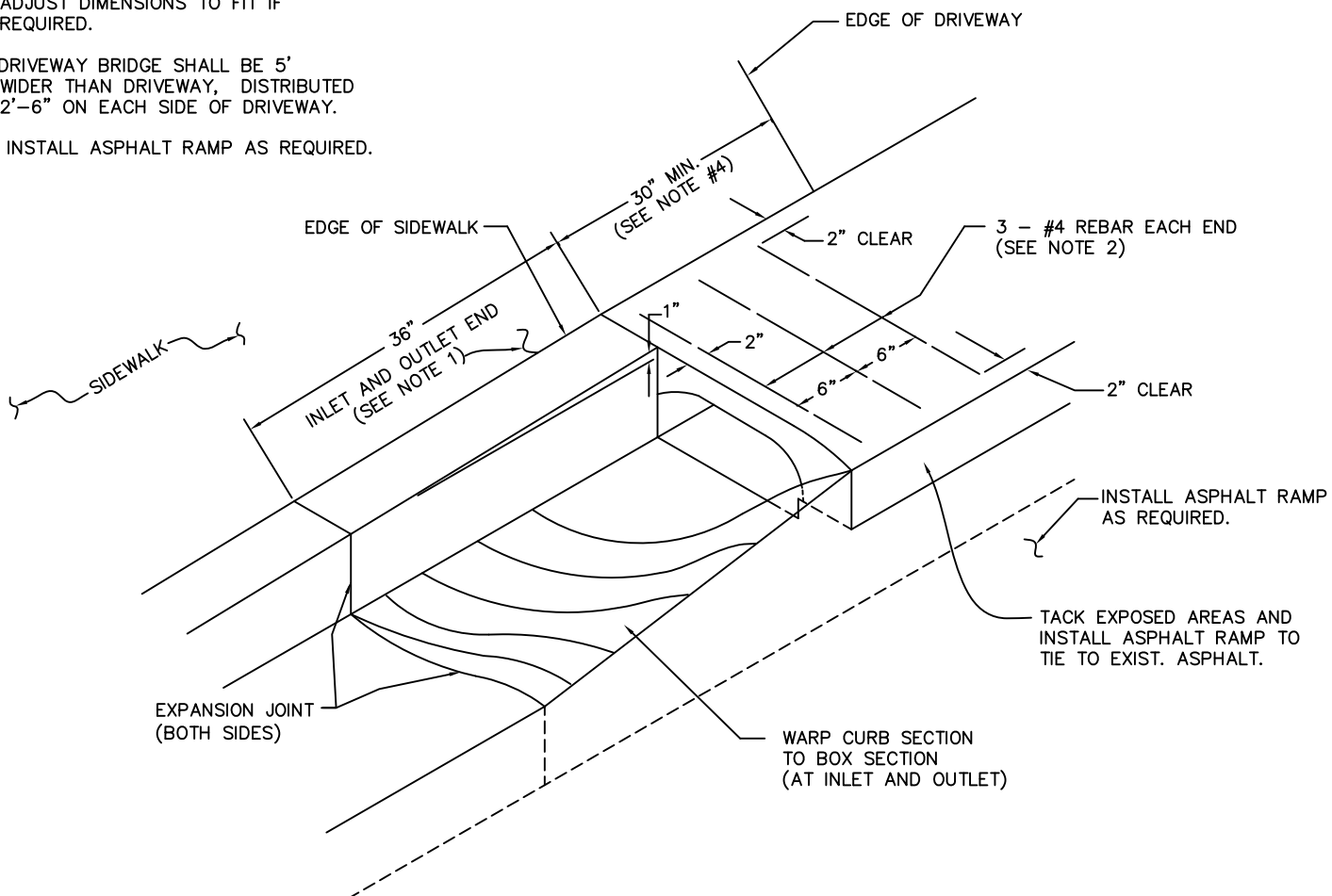
"D" ARCH DIMENSIONS  
(APPROXIMATE)



"D" ARCH OVERLAP DETAIL

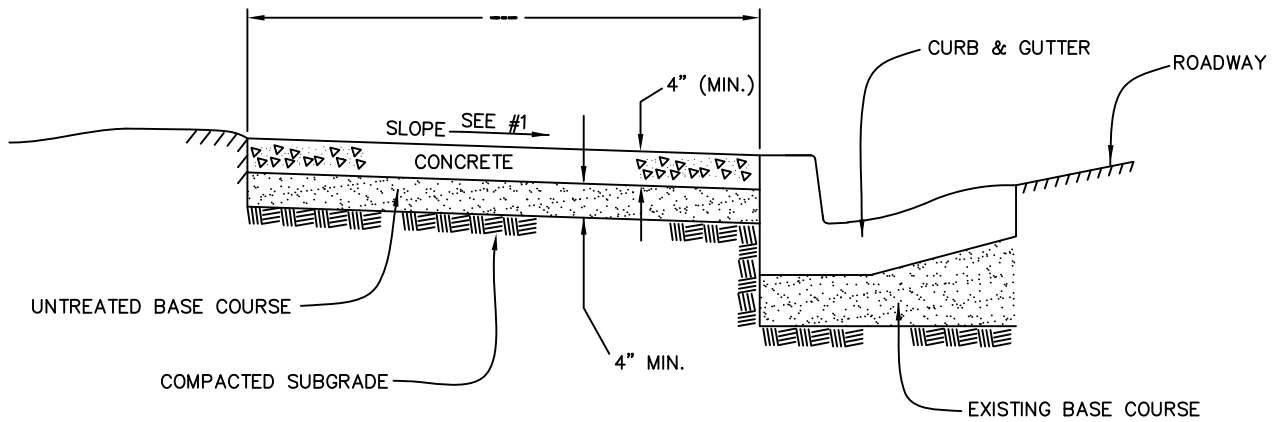
NOTES:

1. MATCH SIDEWALK AT TOP OF CURB AND TOP OF BRIDGE IN 36" TRANSITION.
2. REBAR AT ENDS REQUIRED
3. ADJUST DIMENSIONS TO FIT IF REQUIRED.
4. DRIVEWAY BRIDGE SHALL BE 5' WIDER THAN DRIVEWAY, DISTRIBUTED 2'-6" ON EACH SIDE OF DRIVEWAY.
- 5- INSTALL ASPHALT RAMP AS REQUIRED.



(FOR USE WITH HB 30-8 CURB AND GUTTER ONLY)

REVISIONS			CITY OF WASHINGTON ENGINEERING DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	STANDARD DRIVEWAY BRIDGE		112	1 OF 1
					APPROVED:	
					DATE:	BY: -



#### GENERAL NOTES

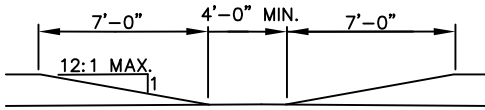
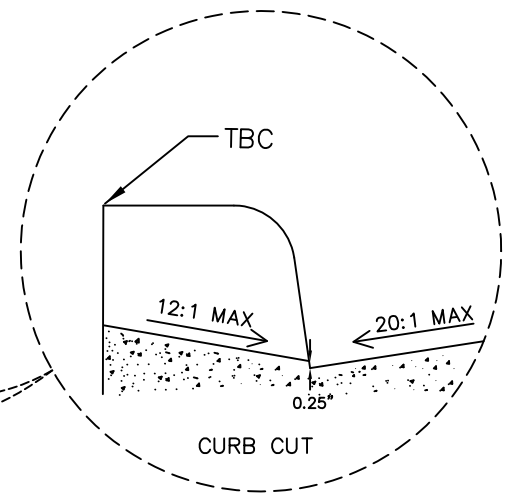
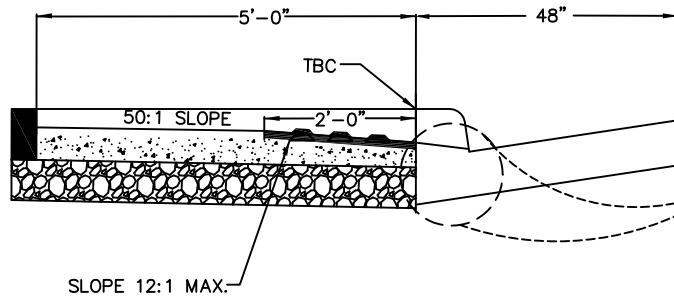
- 1- CROSS SLOPE SHALL BE 1/4 INCH RISE PER FOOT FROM TOP OF CURB
- 2- UNTREATED BASE COURSE SHALL BE PLACED UNDER SIDEWALK AND COMPACTED TO A MIN. OF 95%. THICKNESS OF UNTREATED BASE NOT LESS THAN 4 INCHES.
- 3- USE CLASS "A" CONCRETE ONLY (6 BAG, TYPE V CEMENT).
- 4- SIDEWALK SURFACE TO HAVE A MEDIUM BROOM FINISH.
- 5- SIDEWALKS IN COMMERCIAL ZONES SHALL BE A MIN. OF 7' WIDE WHERE DESIGNATED BY THE CITY.
- 6- WHERE SIDEWALKS CROSS DRIVEWAYS, MINIMUM THICKNESS SHALL BE AS FOLLOWS:  
RESIDENTIAL: 6" FOR SIDEWALK, 6" FOR ROADBASE  
COMMERCIAL/INDUSTRIAL: 8" FOR SIDEWALK, 8" FOR ROADBASE.
- 7- FIBER EXPANSION JOINTS SHALL BE PLACED AT BOTH ENDS OF DRIVEWAY AND 20' INTERVALS.
- 8- FIBER EXPANSION JOINTS SHALL ALSO BE PLACED BETWEEN DRIVEWAY AND BACK OF SIDEWALK.

SIDEWALK	ROAD TYPE				
	LOCAL	COLLECTOR	MAJOR COLLECTOR	ARTERIAL	MAJOR ARTERIAL
WIDTH	4'	5'	5'	5'+	6'+
SCORE JOINT SPACING	4'	5'	5'	5'+	6'+
EXPANSION JOINT SPACING	20'	20'	20'	20'	24'

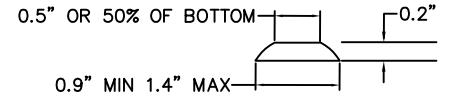
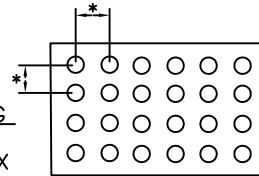
REVISIONS			STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	120	1 OF 1
			APPROVED:	
			DATE:	BY: -

#### STANDARD SIDEWALK DETAILS

# SECTION A



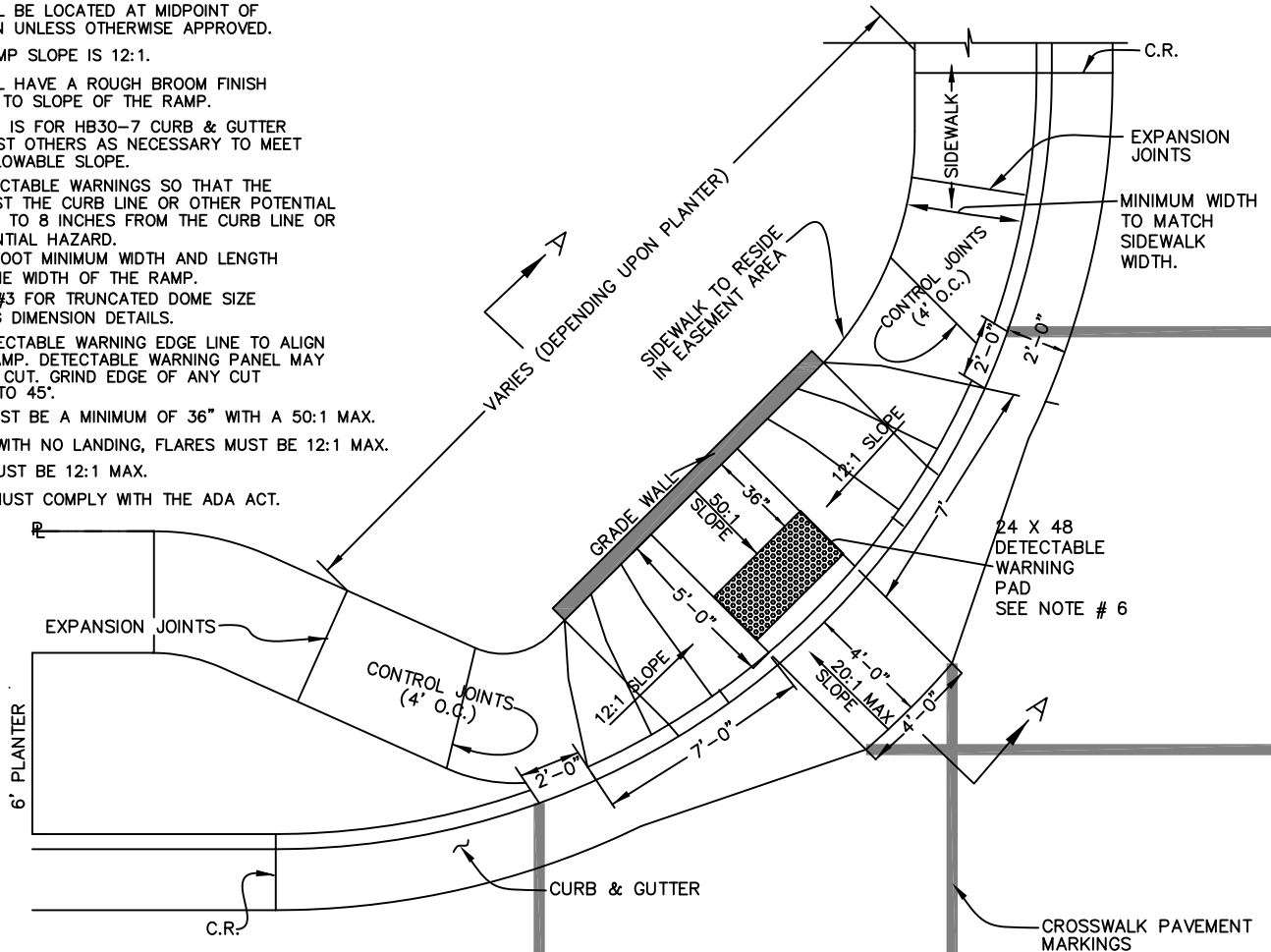
\* SPACING  
1.6" MIN  
2.4" MAX



## NOTES:

- 1- POUR CURB & GUTTER SEPARATELY FROM RAMP SIDEWALK.
- 2- RAMPS SHALL BE LOCATED AT MIDPOINT OF CURB RETURN UNLESS OTHERWISE APPROVED.
- 3- MAXIMUM RAMP SLOPE IS 12:1.
- 4- RAMPS SHALL HAVE A ROUGH BROOM FINISH TRANSVERSE TO SLOPE OF THE RAMP.
- 5- RAMP SHOWN IS FOR HB30-7 CURB & GUTTER ONLY- ADJUST OTHERS AS NECESSARY TO MEET MAXIMUM ALLOWABLE SLOPE.
- 6- LOCATE DETECTABLE WARNINGS SO THAT THE EDGE NEAREST THE CURB LINE OR OTHER POTENTIAL HAZARD IS 6 TO 8 INCHES FROM THE CURB LINE OR OTHER POTENTIAL HAZARD. PROVIDE 2-FOOT MINIMUM WIDTH AND LENGTH EQUAL TO THE WIDTH OF THE RAMP. SEE FIGURE #3 FOR TRUNCATED DOME SIZE AND SPACING DIMENSION DETAILS.
- 7- PROVIDE DETECTABLE WARNING EDGE LINE TO ALIGN WITH PED RAMP. DETECTABLE WARNING PANEL MAY NEED TO BE CUT. GRIND EDGE OF ANY CUT TRUNCATED TO 45°.
- 8- LANDINGS MUST BE A MINIMUM OF 36" WITH A 50:1 MAX.
- 9- FOR RAMPS WITH NO LANDING, FLARES MUST BE 12:1 MAX.
- 10- CURB CUT MUST BE 12:1 MAX.
- 11- ALL RAMPS MUST COMPLY WITH THE ADA ACT.

## RAISED TRUNCATED DOMES FIGURE #3



CITY OF WASHINGTON ENGINEERING DEPARTMENT

HANDICAP RAMP  
DETAILS

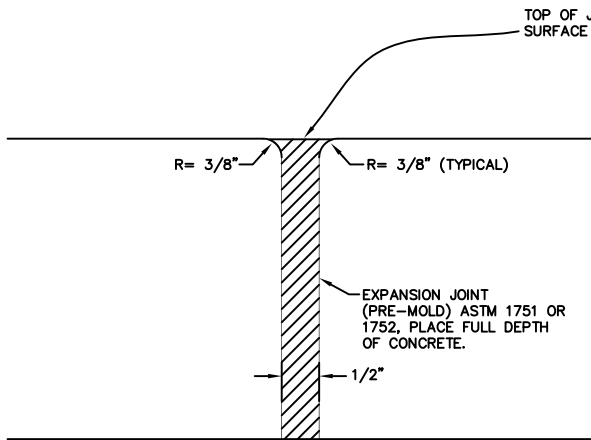
STANDARD DWG. NO.

121 1 OF 1

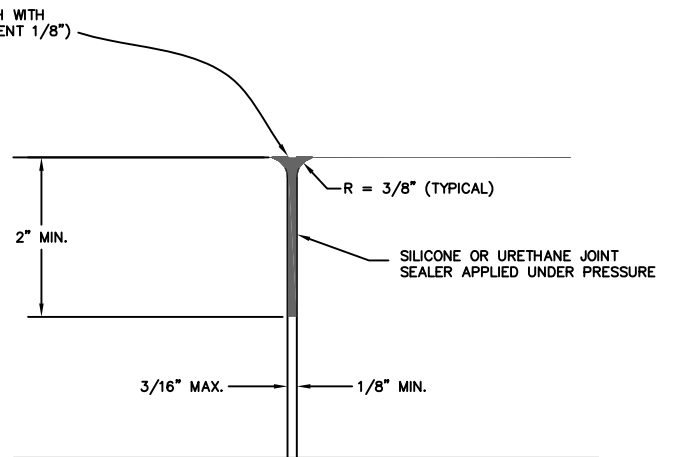
APPROVED:

DATE: BY: -

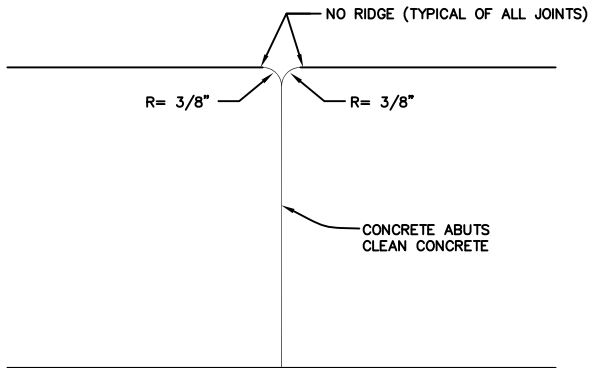
REVISIONS		
DATE	DESCRIPTION	BY



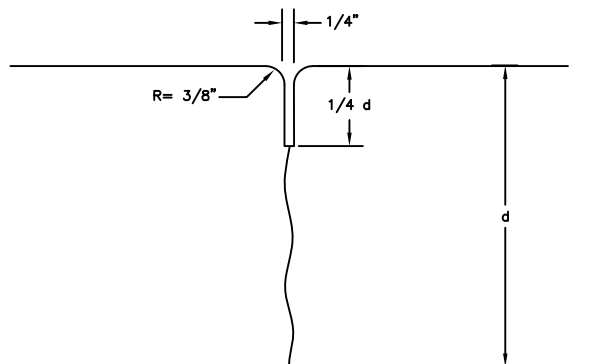
EXPANSION JOINT



FORM PLATE JOINT



COLD JOINT



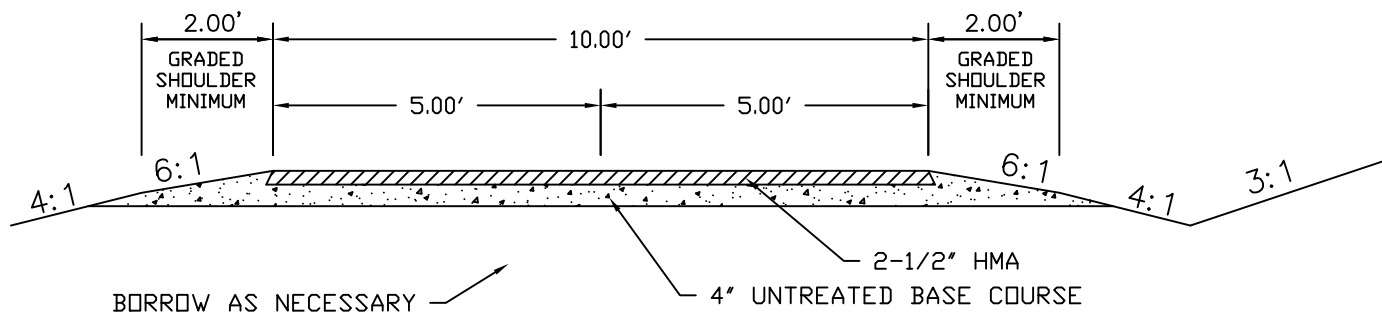
CONTROL JOINT

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD CONCRETE JOINT  
DETAILS

STANDARD DWG. NO.	
122	1 OF 1
APPROVED:	
DATE:	BY: -



### TYPICAL SECTION

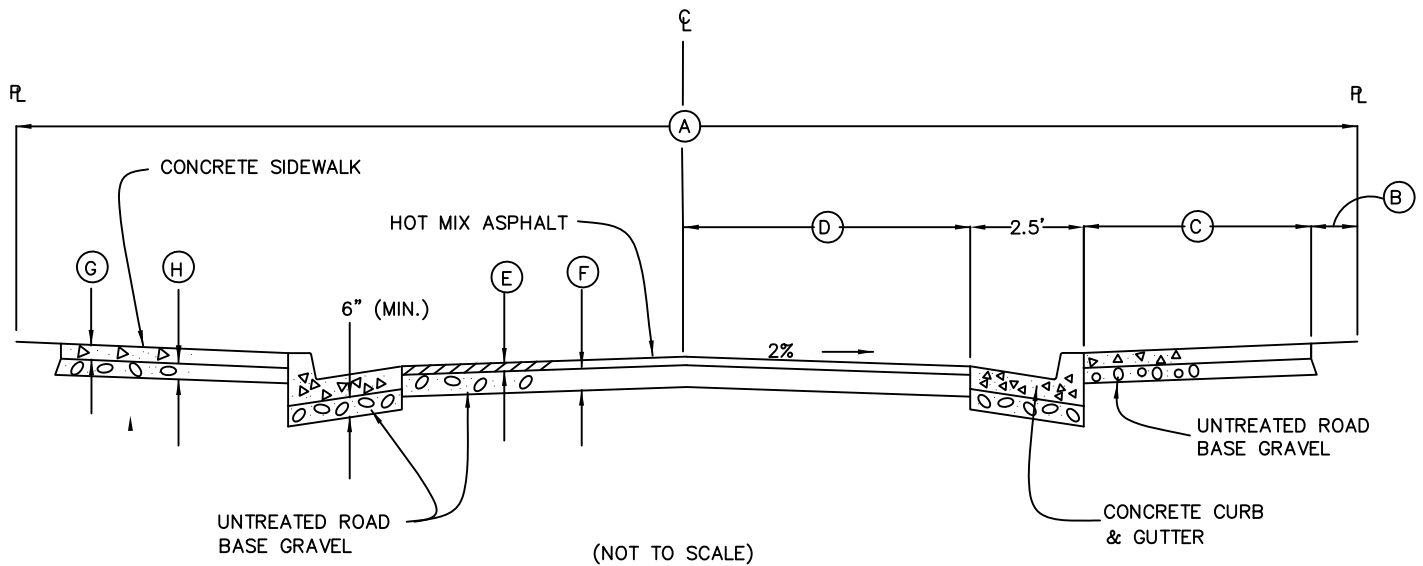
NOTE: TRAIL TO MEET AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) "GUIDE FOR DEVELOPMENT OF BICYCLE FACILITIES" DESIGN STANDARDS.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

10' TRAIL SECTION

STANDARD DWG. NO.	
130	1 OF 1
APPROVED:	
DATE:	BY: -



DIMENSIONS					
MARK	LOCAL	COLLECTOR	MAJOR COLLECTOR	ARTERIAL	MAJOR ARTERIAL
A	50'	60'	66'	85'	106'
B	1'	1.5'	2.5'	2.5	2.5 MIN
C	4'	5'	5'	5'+	6'+
D	17.5'	21'	23'	32.5'	44.5'
E(MIN)	2.5"	2.5"	3.0"	4.0"	5.0"
F	SEE STANDARD SPECIFICATIONS				
G	4" FOR SIDEWALK, 6" FOR DRIVEWAY APRONS				
H	4" UNDER SIDEWALKS, 6" UNDER DRIVEWAYS				

NOTES:

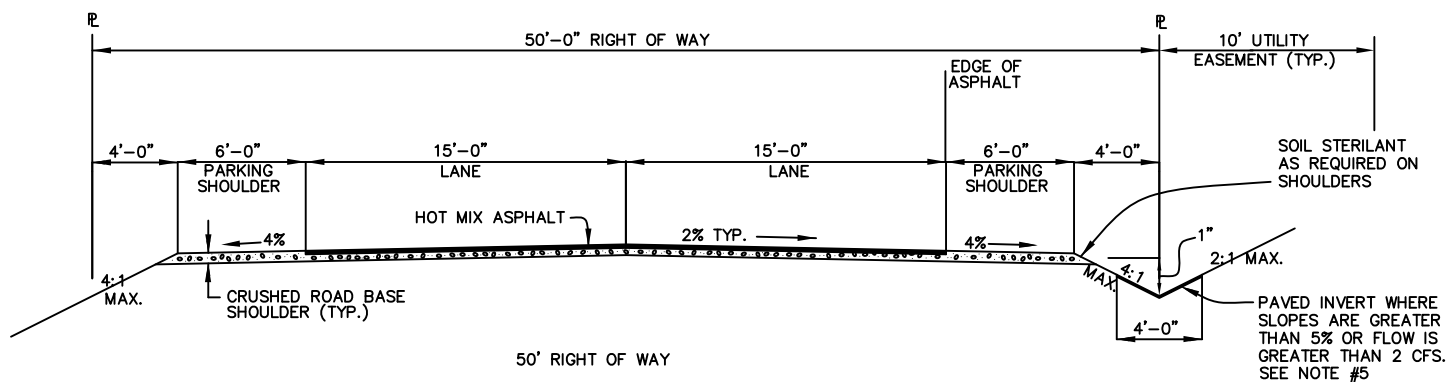
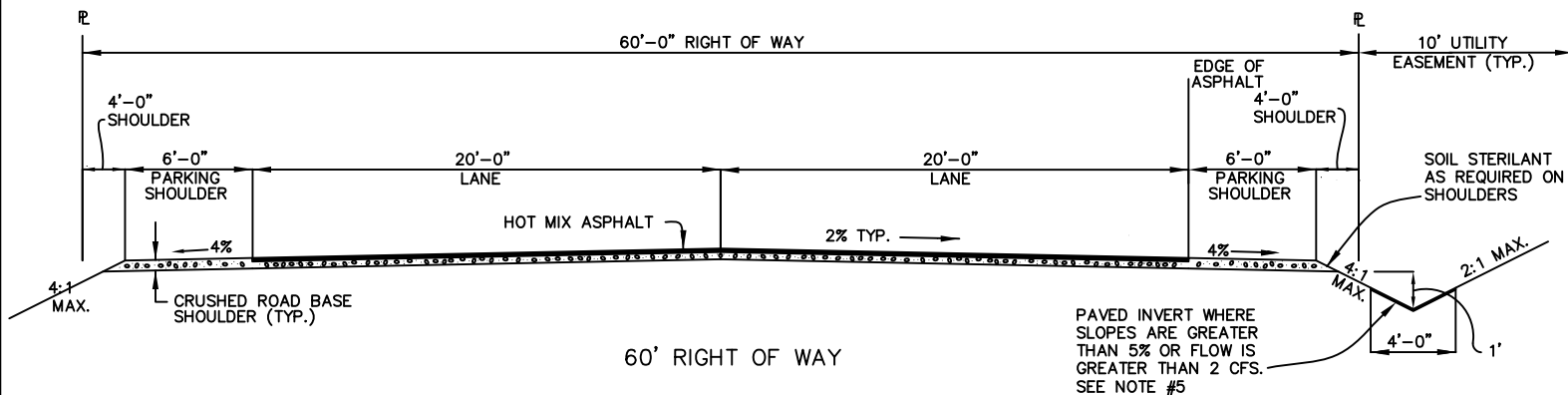
- 1- MAXIMUM ALLOWABLE DIFFERENCE IN CURB ELEVATION SHALL BE 12 INCHES AND MUST HAVE CITY ENGINEER APPROVAL PRIOR TO ITS USE.
- 2- FOR ROADS IN OR SERVING INDUSTRIAL AREAS, ASPHALT AND BASE THICKNESS SHALL BE INCREASED ACCORDING TO PROVISIONS FOR HEAVY TRUCK TRAFFIC.
- 3- MINIMUM ASPHALT THICKNESS IS SHOWN. THICKNESS SHALL BE BASED UPON ACTUAL ENGINEERING ANALYSIS, BUT IN NO CASE SHALL IT BE LESS THAN THE MINIMUM.

WASHINGTON CITY

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD ROAD CROSS SECTIONS

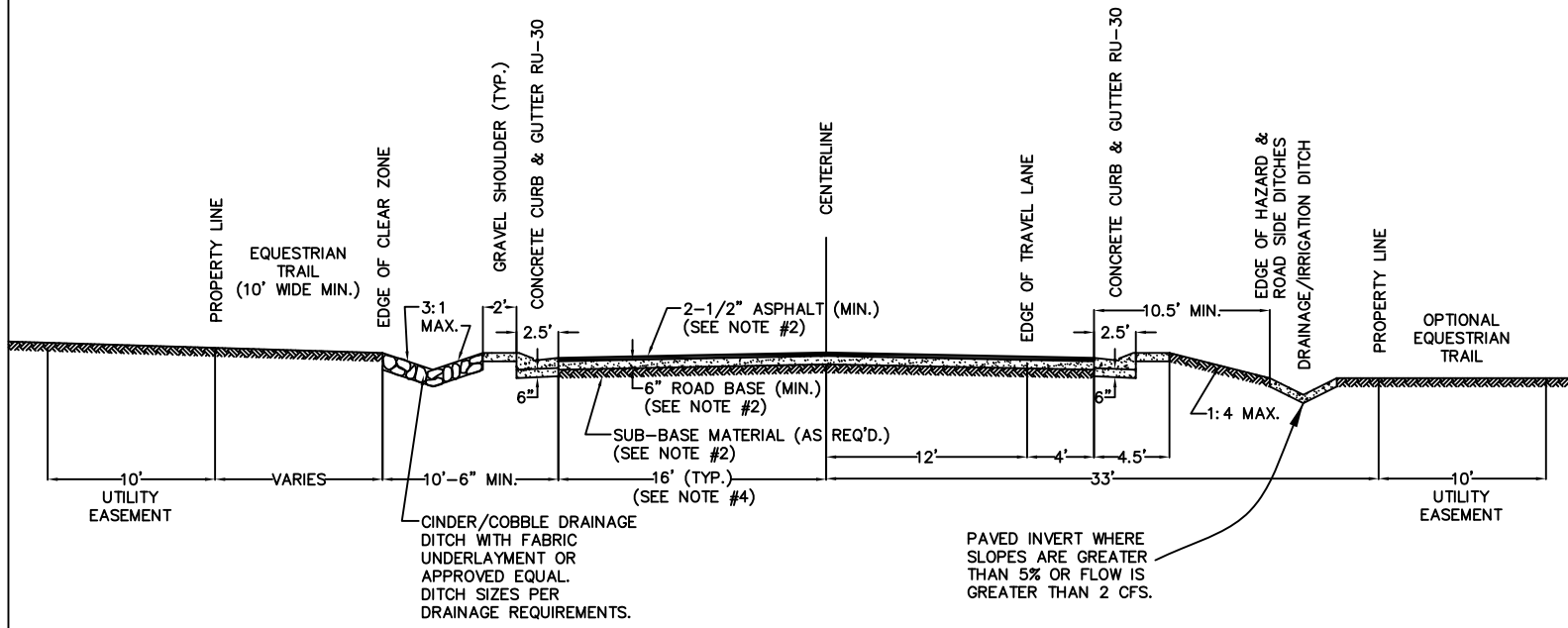
STANDARD DWG. NO.	
140	1 OF 1
APPROVED:	
DATE:	BY: -



NOTES:

- 1) SHOULDER WIDTH & SLOPES WILL VARY FOR WIDER RIGHT-OF-WAY WIDTH.
- 2) FOR ROADWAY STRUCTURAL THICKNESS USE ROAD CROSS SECTION STANDARD IN STANDARD SPECIFICATIONS.
- 3) AREA BETWEEN EDGE OF ASPHALT AND PROPERTY LINE SHALL NOT BE PAVED EXCEPT AT DRIVES.
- 4) ALL DRAINAGE MUST SLOPE AWAY FROM PAVEMENT EDGE. DO NOT CHANNEL WATER ALONG ROADWAY EDGE.
- 5) OTHER EROSION CONTROL MATERIALS MAY BE USED UPON APPROVAL OF THE CITY ENGINEER.
- 6) ROADWAYS WITH RIGHT-OF-WAY WIDTHS GREATER THAN 66' (ie MAJOR COLLECTORS & HIGHER) SHALL COMPLY WITH THE CITY STANDARD STREET CROSS SECTIONS UNLESS OTHERWISE APPROVED.
- 7) THIS CROSS SECTION FOR USE IN AG ZONES ONLY. (1 ACRE LOTS & GREATER).
- 8) 10' MINIMUM WIDE UTILITY EASEMENT REQUIRED OUTSIDE OF RIGHT OF WAY, BOTH SIDES OF STREET.

REVISIONS			WASHINGTON CITY		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	ROADWAY DETAILS		141	1 OF 1
			RURAL		APPROVED:	
					DATE:	BY: -



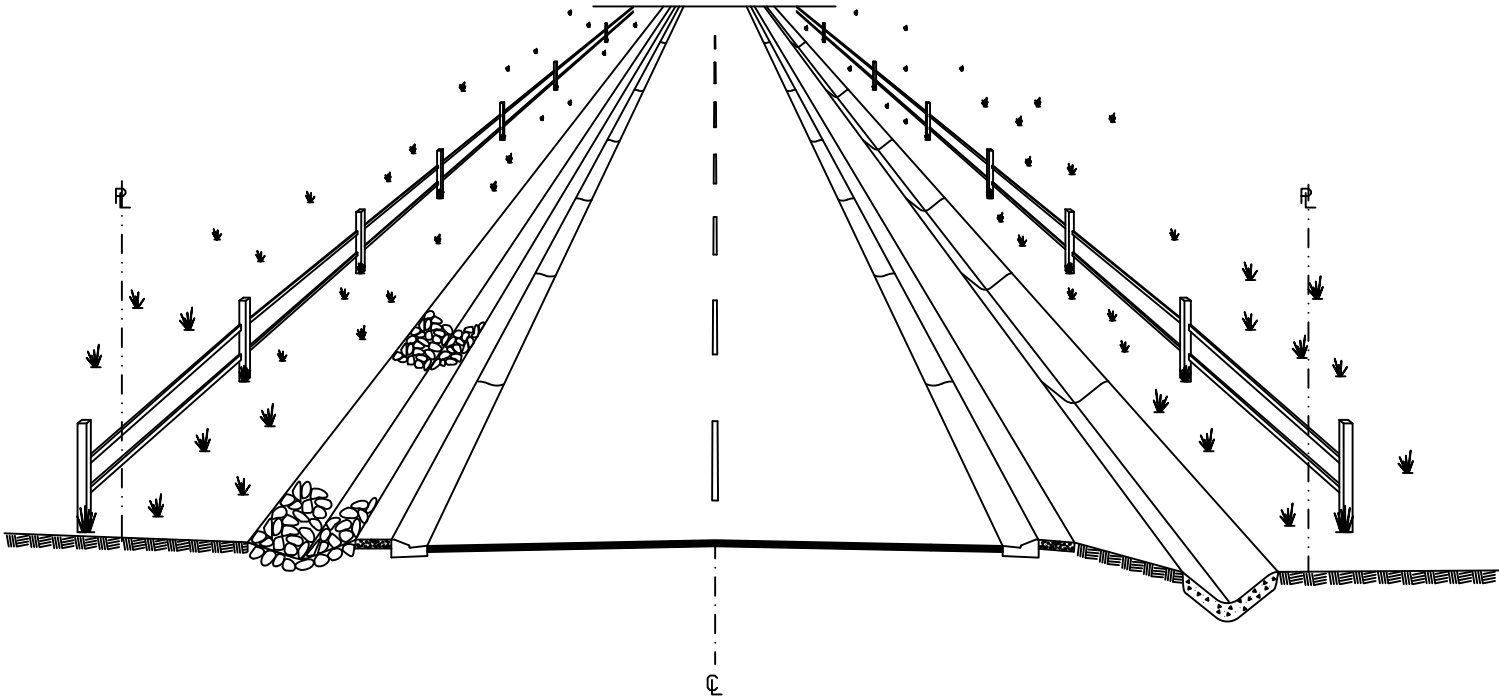
RURAL CROSS SECTION  
66' WIDE MAJOR COLLECTOR

NOTES:

- 1- ALL POLES, HYDRANTS, TREES, AND OTHER OBSTRUCTION TO BE IN UTILITY EASEMENT AREA.
- 2- DEPTH SHOWN IS A MIN. ACTUAL WILL BE PER ROADWAY DESIGN.
- 3- USE OF THIS ROAD SECTION REQUIRES PRIOR APPROVAL FROM THE CITY ENGINEER'S OFFICE.
- 4- ADDITIONAL ROADWAY WIDTH WILL BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE TURNING LANES:  
LEFT ONLY - 12'  
LEFT AND RIGHT - 22'

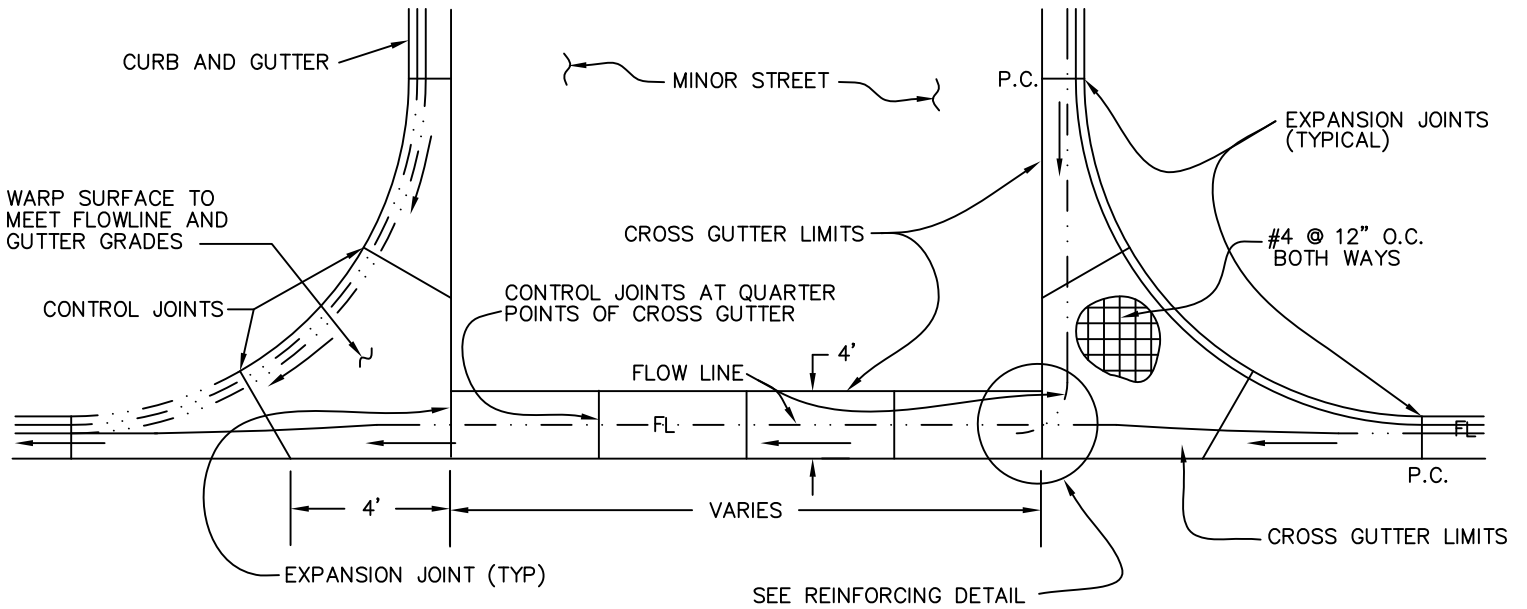
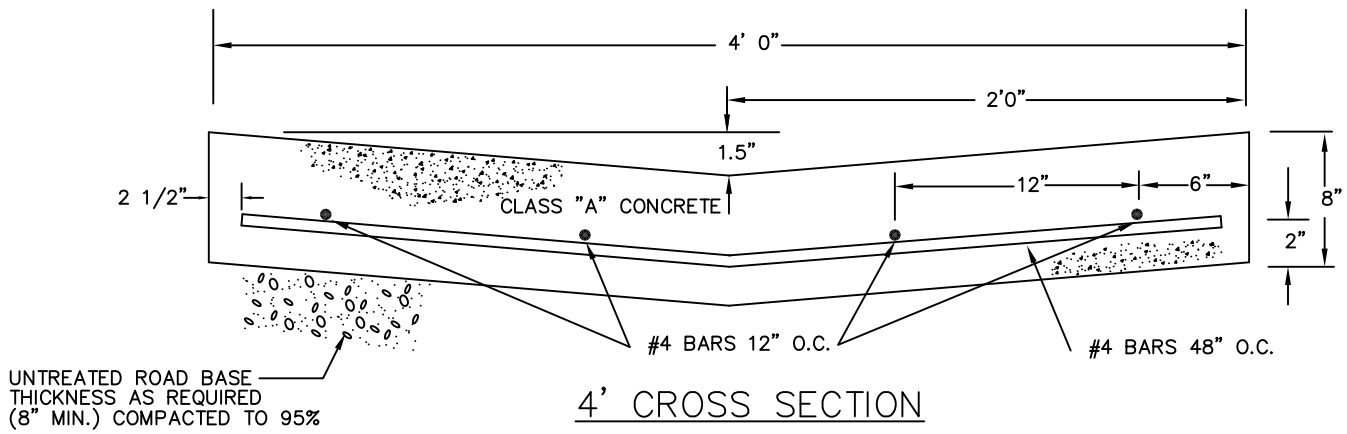
REVISIONS			WASHINGTON CITY		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	RURAL CROSS SECTION DETAILS		142	1 OF 1
					APPROVED:	
					DATE:	BY: DRL





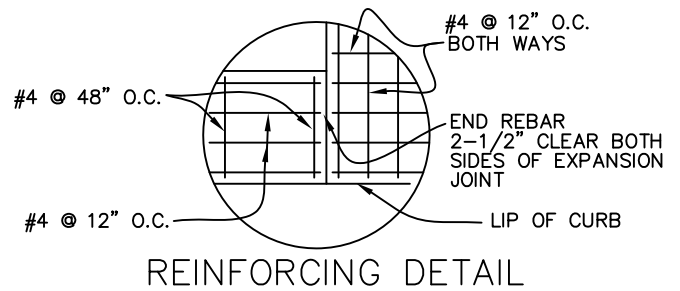
RURAL X-SECTION  
PERSPECTIVE VIEW

REVISIONS			CITY OF WASHINGTON ENGINEERING DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	RURAL X-SECTION DETAILS		143	1 OF 1
					APPROVED:	
					DATE:	BY: -



NOTES:

- 1- FOR USE ON RESIDENTIAL STREETS ONLY.
- 2- CROSS GUTTERS ARE USED AT INTERSECTIONS ONLY UNLESS OTHERWISE APPROVED.
- 3- CROSS GUTTER SHALL CROSS THE MINOR STREET.
- 4- ALL REINFORCING STEEL SHALL HAVE 2-INCH MINIMUM CLEAR COVER. SUPPORT CHAIRS, BLOCKS OR OTHER APPROVED EQUAL SHALL BE USED TO RAISE STEEL OFF GROUND.
- 5- REINFORCING TO EXTEND TO LIMITS OF CROSS GUTTER.
- 6- ALL REINFORCING STEEL SHALL BE GRADE 60 ASTM A 615.

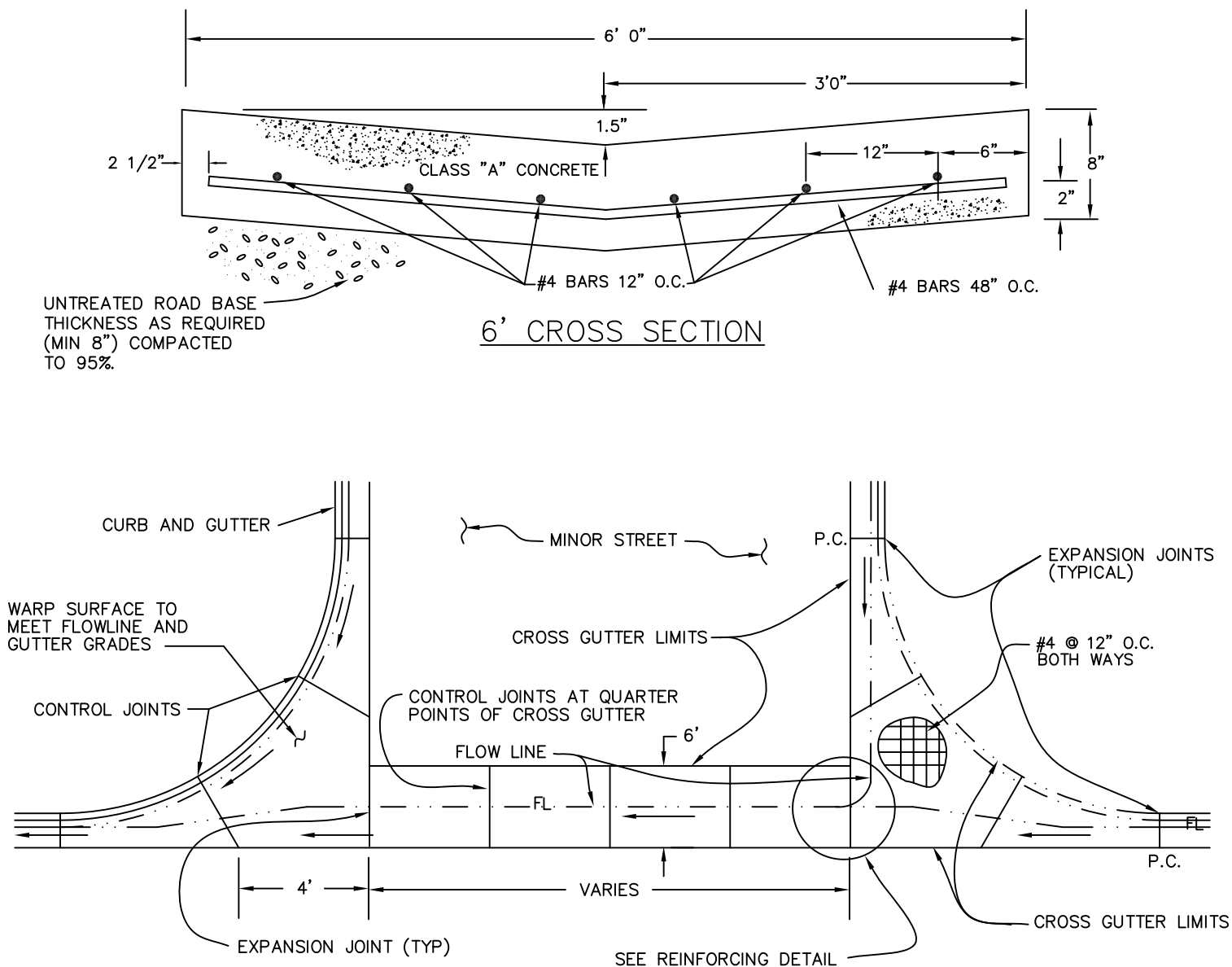


CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD 4' CROSS GUTTER

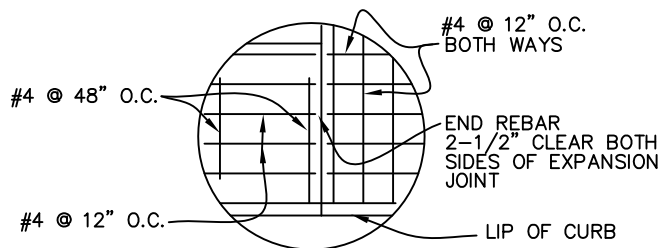
STANDARD DWG. NO.	
150	1 OF 1
APPROVED:	
DATE:	BY: -



#### NOTES:

- 1- FOR USE ON RESIDENTIAL & COMMERCIAL STREETS.
- 2- CROSS GUTTERS ARE USED AT INTERSECTIONS ONLY UNLESS OTHERWISE APPROVED.
- 3- CROSS GUTTER SHALL CROSS THE MINOR STREET.
- 4- ALL REINFORCING STEEL SHALL HAVE 2-INCH MINIMUM CLEAR COVER. SUPPORT CHAIRS, BLOCKS OR OTHER APPROVED EQUAL SHALL BE USED TO RAISE STEEL OFF GROUND.
- 5- REINFORCING TO EXTEND TO LIMITS OF CROSS GUTTER.
- 6- ALL REINFORCING STEEL SHALL BE GRADE 60 ASTM A 615.

#### PLAN



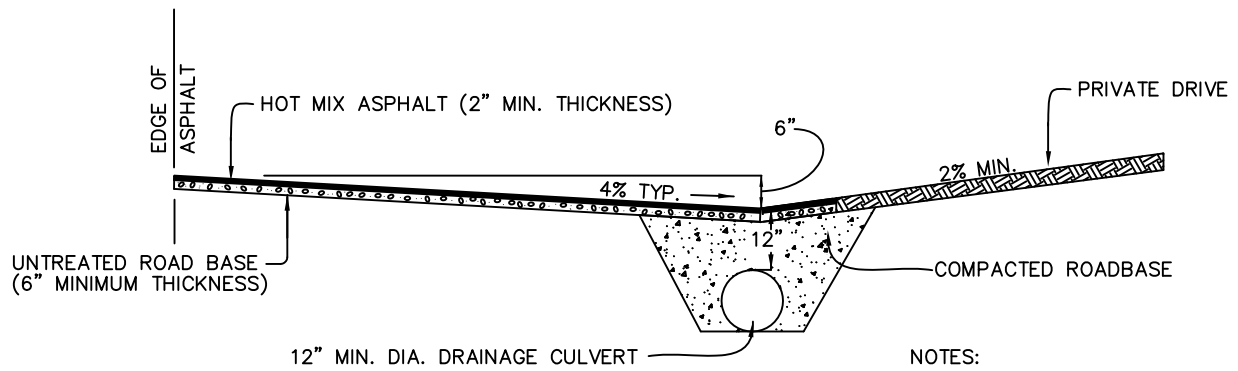
#### REINFORCING DETAIL

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD 6' CROSS GUTTER

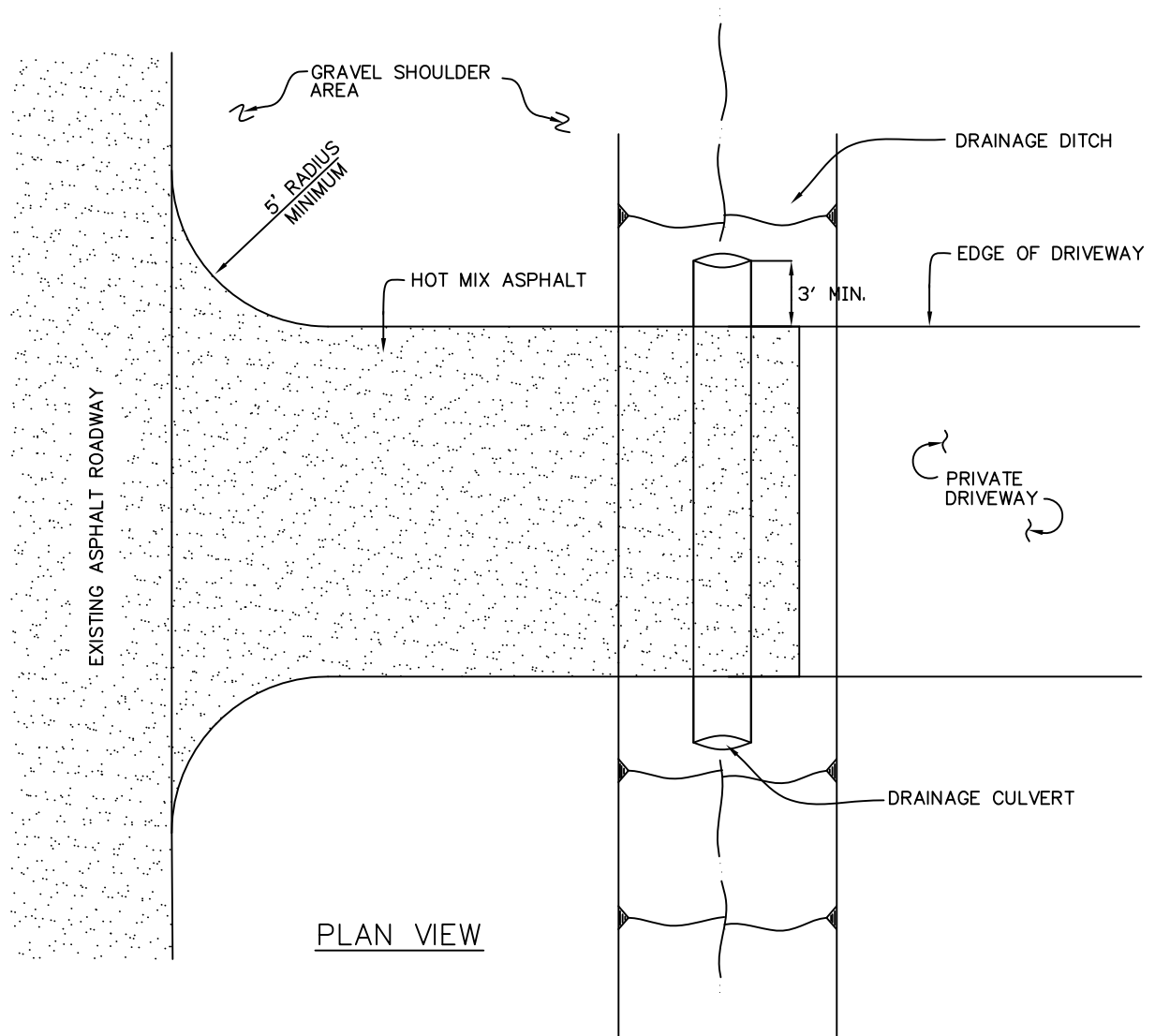
STANDARD DWG. NO.	
151	1 OF 1
APPROVED:	
DATE:	BY: -



NOTES:

- 1- ALL PIPE AND INSTALLATION TO MEET CITY STANDARDS.
- 2- CULVERT TO HAVE A MINIMUM SLOPE OF 0.5%.
- 3- DO NOT PAVE BETWEEN EDGE OF ASPHALT AND DRAINAGE DITCH EXCEPT AT DRIVEWAY.

SECTION AT DRIVEWAY ☐



WASHINGTON CITY

DRIVEWAY ACCESS DETAILS  
RURAL

STANDARD DWG. NO.

152 1 OF 1

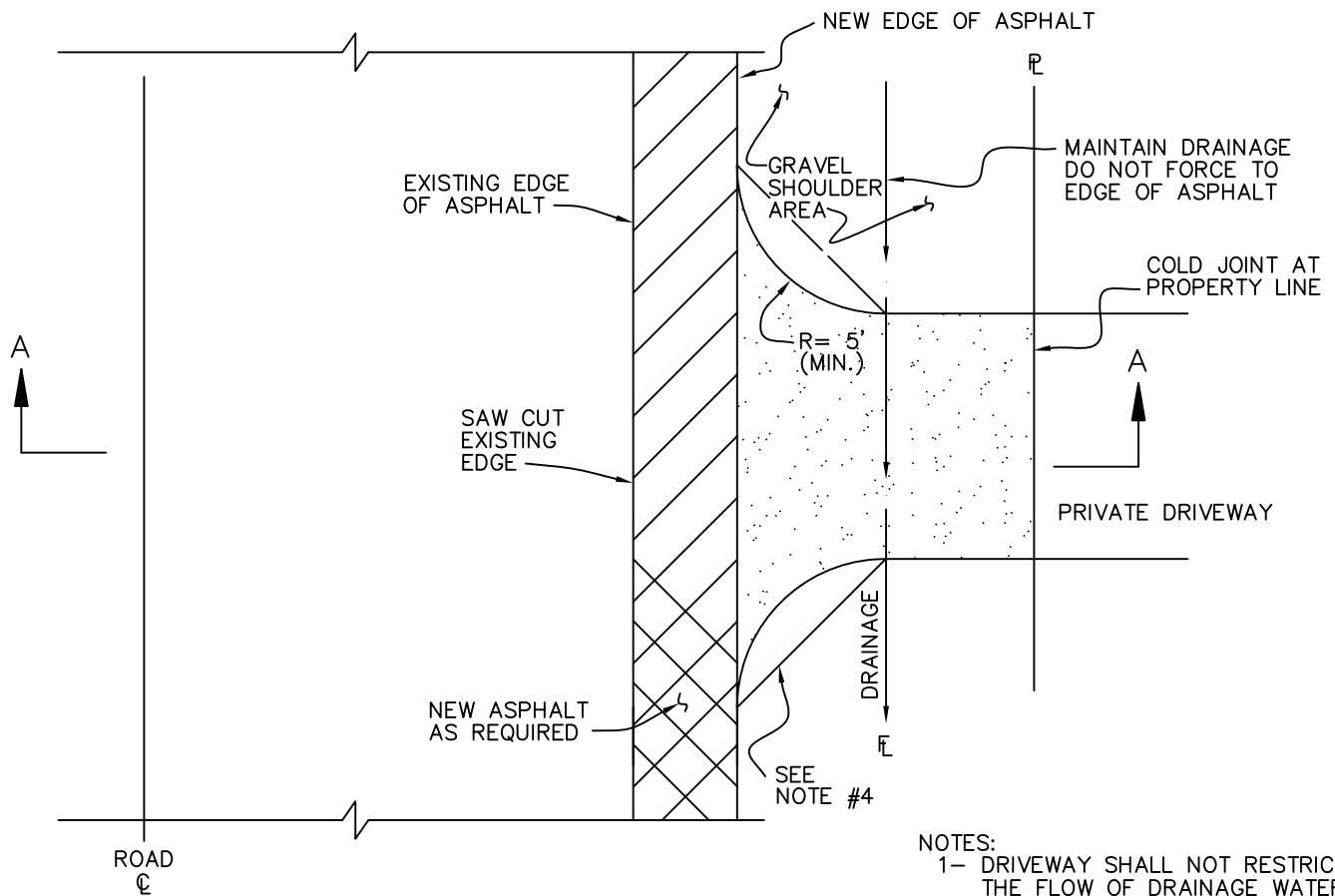
APPROVED:

DATE:

BY: -

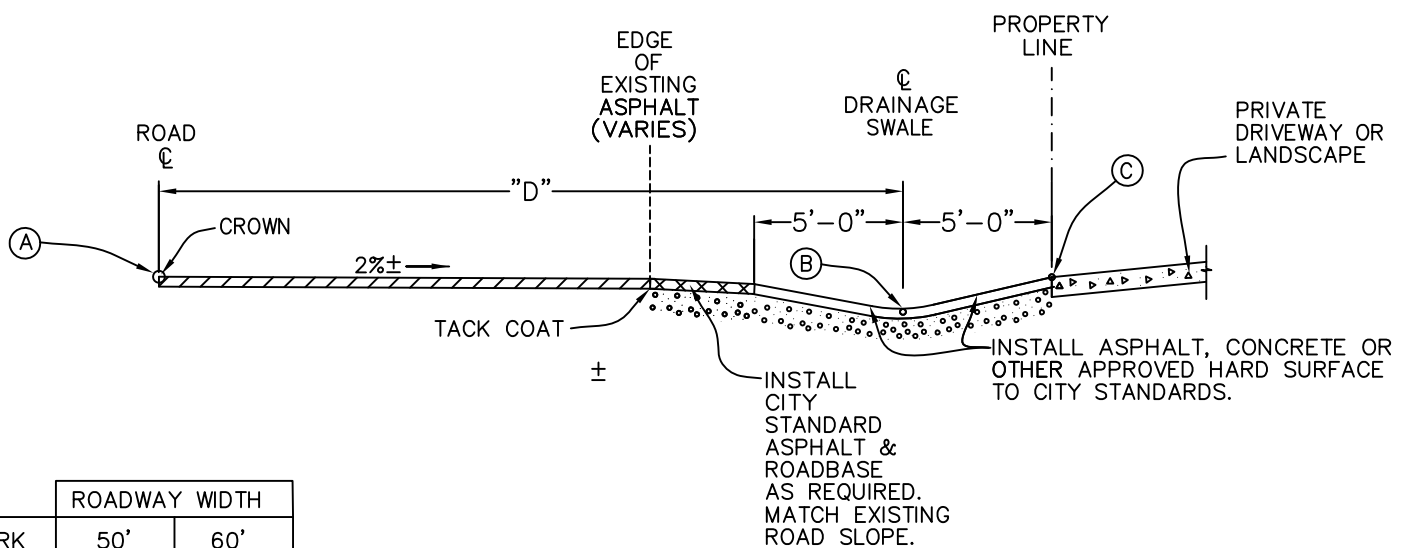
REVISIONS

DATE	DESCRIPTION	BY



PLAN VIEW

- NOTES:
- 1- DRIVEWAY SHALL NOT RESTRICT THE FLOW OF DRAINAGE WATER
  - 2- COLD JOINT REQUIRED AT PROPERTY LINE.
  - 3- DO NOT PAVE BETWEEN NEW EDGE OF ASPHALT AND DRAINAGE CENTERLINE EXCEPT AT DRIVEWAY.
  - 4- 45° ANGLE MAY REPLACE RADIUS.



SECTION-A

	ROADWAY WIDTH	
MARK	50'	60'
A	VARIES	VARIES
B(MIN.)	A-6"	A-7"
C	A+1"	A+1"
D	20'	25'

CITY OF WASHINGTON ENGINEERING DEPARTMENT

DRIVEWAY ACCESS  
WITHOUT CURBING (50' & 60' RIGHT OF WAY)

STANDARD DWG. NO.

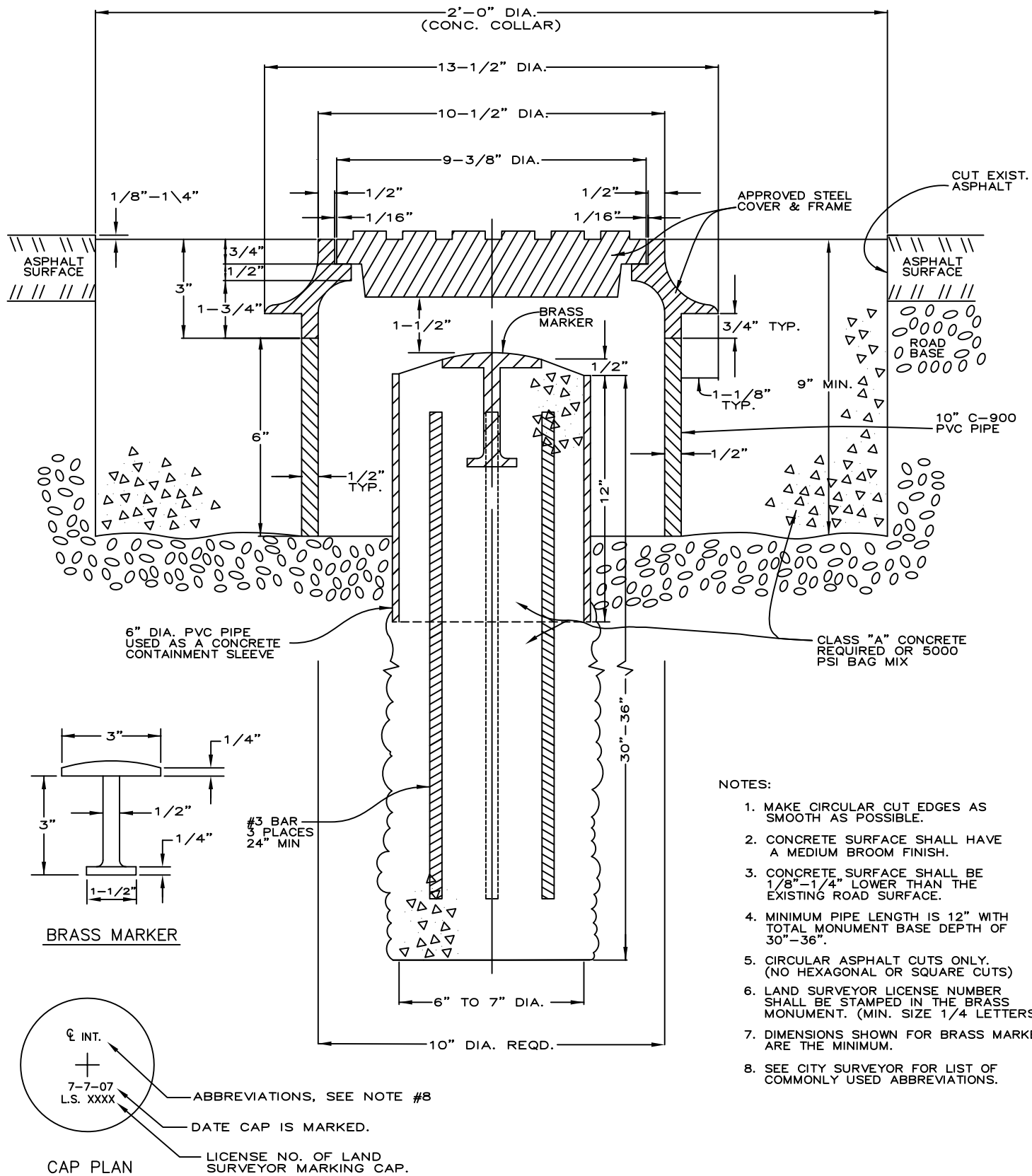
153 1 OF 1

APPROVED:

DATE: BY: -

REVISIONS

DATE	DESCRIPTION	BY

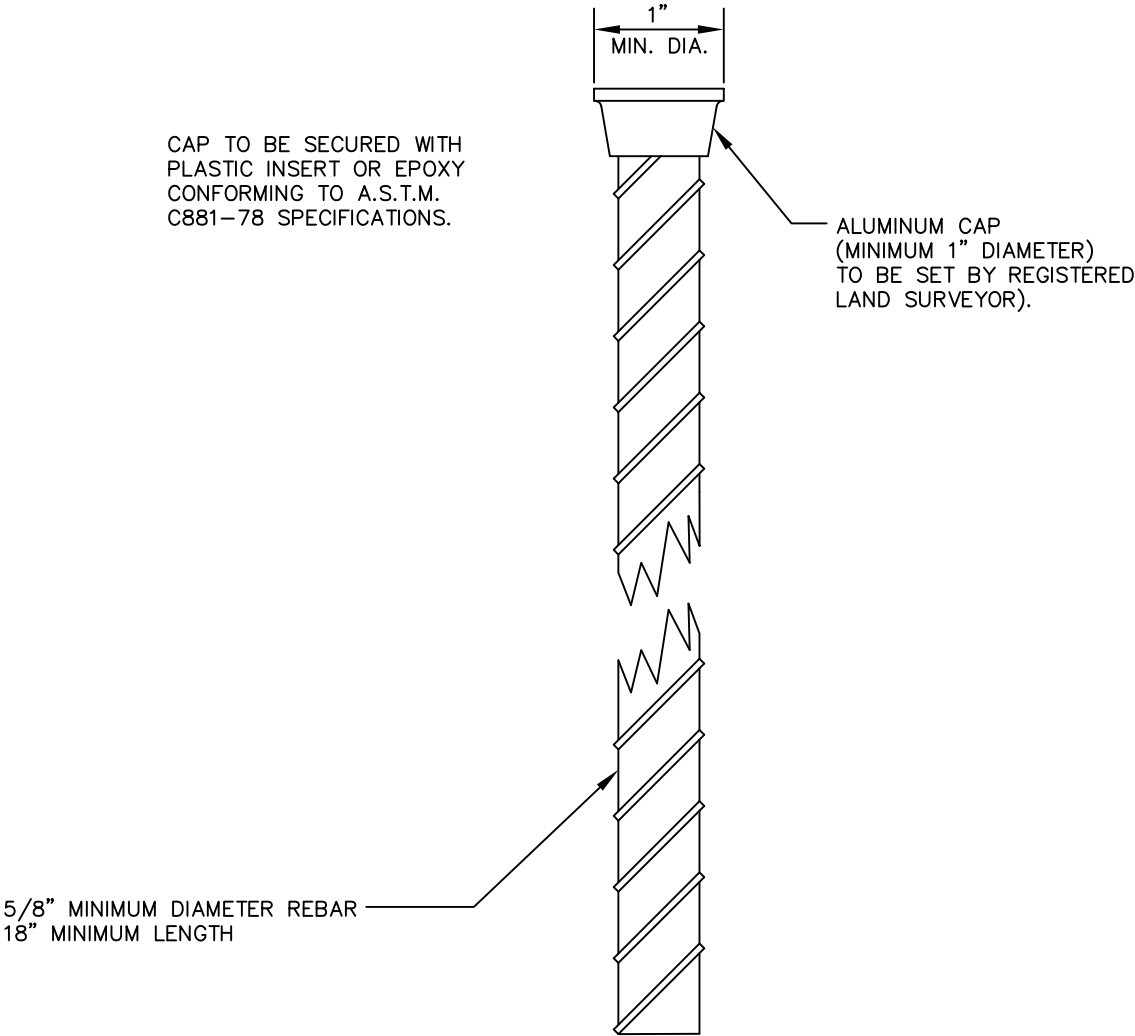


- NOTES:
1. MAKE CIRCULAR CUT EDGES AS SMOOTH AS POSSIBLE.
  2. CONCRETE SURFACE SHALL HAVE A MEDIUM BROOM FINISH.
  3. CONCRETE SURFACE SHALL BE 1/8"-1/4" LOWER THAN THE EXISTING ROAD SURFACE.
  4. MINIMUM PIPE LENGTH IS 12" WITH TOTAL MONUMENT BASE DEPTH OF 30"-36".
  5. CIRCULAR ASPHALT CUTS ONLY. (NO HEXAGONAL OR SQUARE CUTS)
  6. LAND SURVEYOR LICENSE NUMBER SHALL BE STAMPED IN THE BRASS MONUMENT. (MIN. SIZE 1/4 LETTERS)
  7. DIMENSIONS SHOWN FOR BRASS MARKER ARE THE MINIMUM.
  8. SEE CITY SURVEYOR FOR LIST OF COMMONLY USED ABBREVIATIONS.

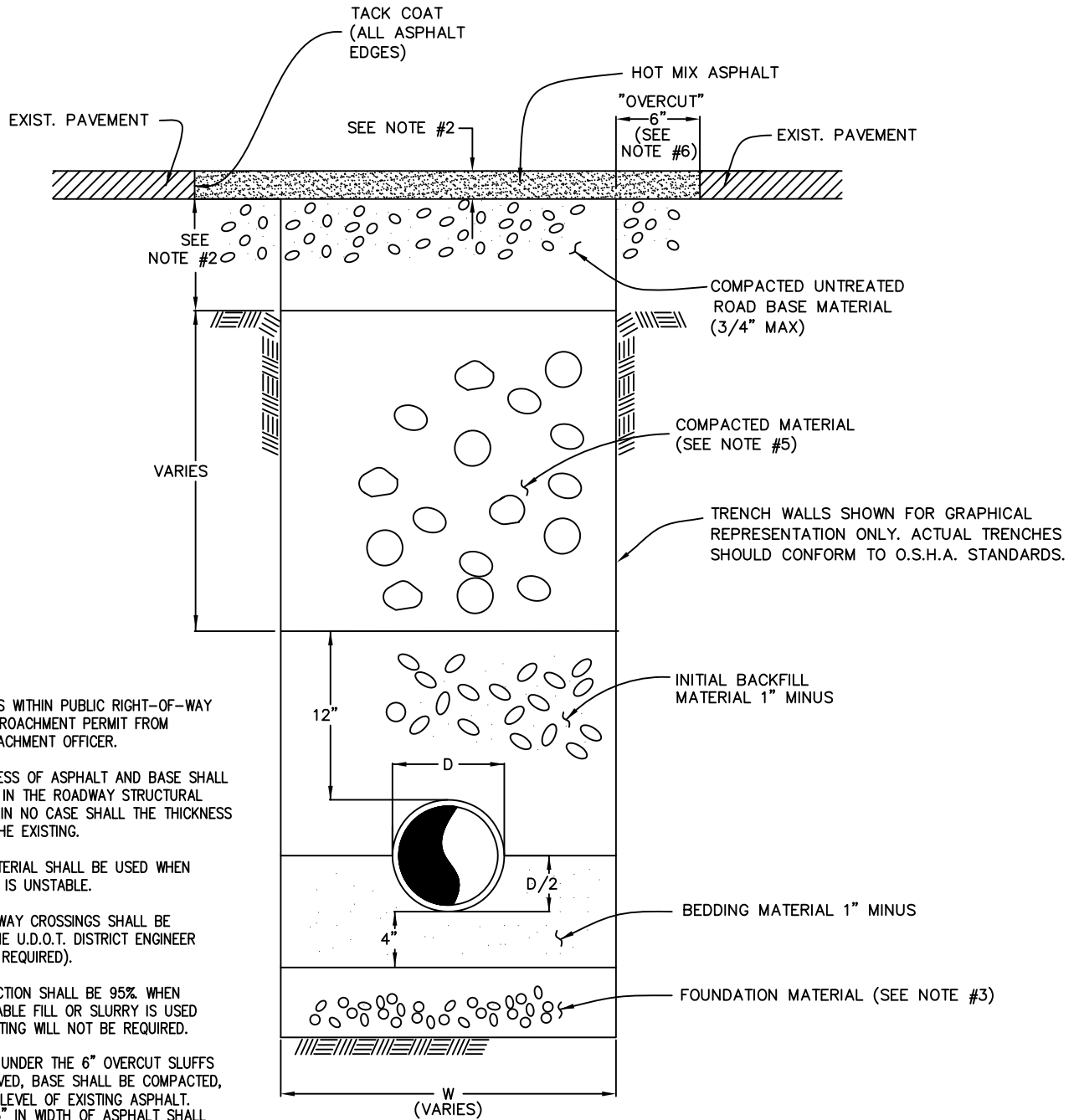
REVISIONS			CITY OF WASHINGTON ENGINEERING DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	CLASS I STANDARD MONUMENT		160	1 OF 1
			DETAILS		APPROVED:	
					DATE:	BY: -

NOTES:

- 1- TYPE II MONUMENTS TO BE SET AT ALL CENTERLINE CONTROL POINTS NOT OTHERWISE IDENTIFIED BY A TYPE I MONUMENT AND AS REQUIRED BY THE CITY SURVEYOR.
- 2- THE REGISTERED LAND SURVEYOR'S NUMBER, AND A PUNCH MARK ARE TO APPEAR ON THE SURFACE OF THE CAP.
- 3- ALUMINUM CAP SHALL BE SET FLUSH WITH SURFACE OF ROAD.



TYPE II MONUMENT



#### NOTES:

- 1- ALL EXCAVATIONS WITHIN PUBLIC RIGHT-OF-WAY REQUIRE AN ENCROACHMENT PERMIT FROM THE CITY ENCROACHMENT OFFICER.
- 2- MINIMUM THICKNESS OF ASPHALT AND BASE SHALL BE AS OUTLINED IN THE ROADWAY STRUCTURAL REQUIREMENTS. IN NO CASE SHALL THE THICKNESS BE LESS THAN THE EXISTING.
- 3- FOUNDATION MATERIAL SHALL BE USED WHEN TRENCH BOTTOM IS UNSTABLE.
- 4- ALL STATE HIGHWAY CROSSINGS SHALL BE APPROVED BY THE U.D.O.T. DISTRICT ENGINEER (U.D.O.T. PERMIT REQUIRED).
- 5- MINIMUM COMPACTION SHALL BE 95% WHEN APPROVED FLOWABLE FILL OR SLURRY IS USED COMPACTION TESTING WILL NOT BE REQUIRED.
- 6- WHEN MATERIAL UNDER THE 6" OVERCUT SLUFFS OFF OR IS REMOVED, BASE SHALL BE COMPACTED, TO THE BOTTOM LEVEL OF EXISTING ASPHALT. AN ADDITIONAL 6" IN WIDTH OF ASPHALT SHALL BE CUT, REMOVED AND REPLACED AS PART OF THE OVERALL PATCH.
- 7- WHERE ROAD SECTION HAS A DESIGNED GRANULAR SUB-BASE, IT SHALL BE REPLACED IN KIND OR WITH ROAD BASE GRAVEL.
- 8- IN GENERAL, STREET SURFACES LESS THAN 24 MONTHS OLD WILL NOT BE CUT ! IF A CUT MUST BE MADE, ADDITIONAL, STRICTER REQUIREMENTS MAY BE INVOKED. SEE ENCROACHMENT OFFICER.
- 9- 24 HOUR NOTICE REQUIRED ON ALL INSPECTIONS.
- 10- ALL TRENCH BACKFILL SHALL MEET MIN. COMPACTION REQUIREMENTS.
- 11- EXCLUDING EMERGENCY CLOSURES ALL ROAD CLOSURES AND DETOURS REQUIRE 48 HOURS PRIOR NOTICE.

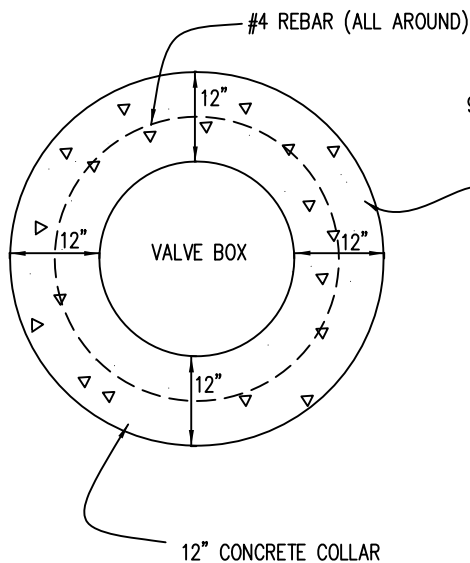
#### CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

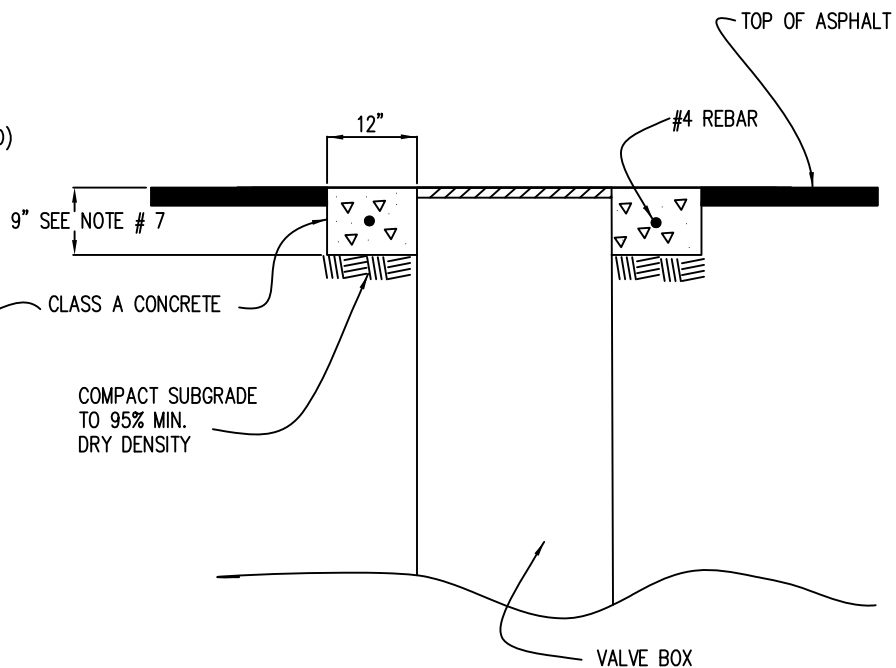
#### TRENCH BACKFILL AND REPAIR DETAIL

STANDARD DWG. NO.	
170	1 OF 1
APPROVED:	
DATE:	BY: -

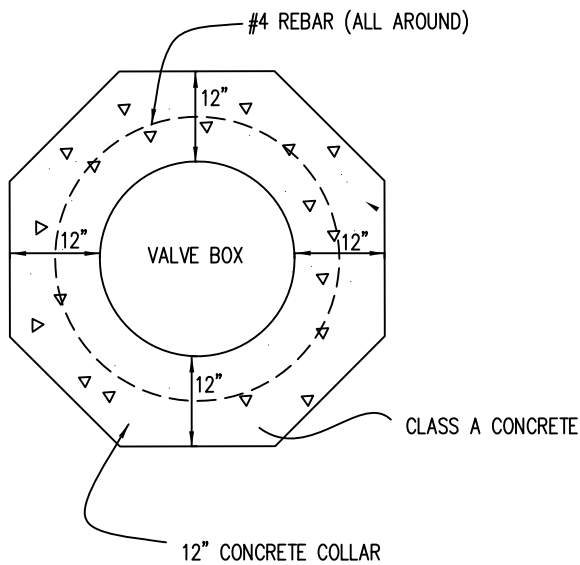




PLAN



SECTION



PLAN  
OPTIONAL

NOTES:

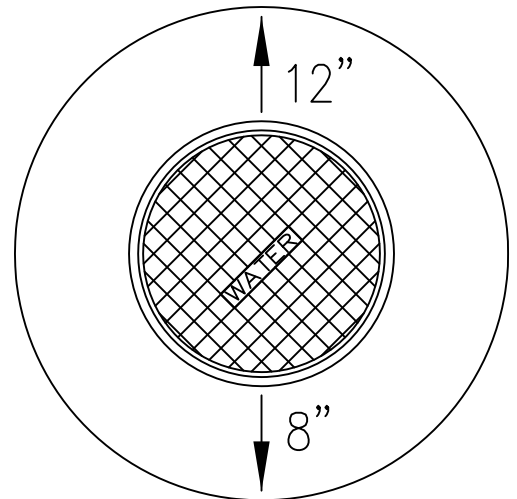
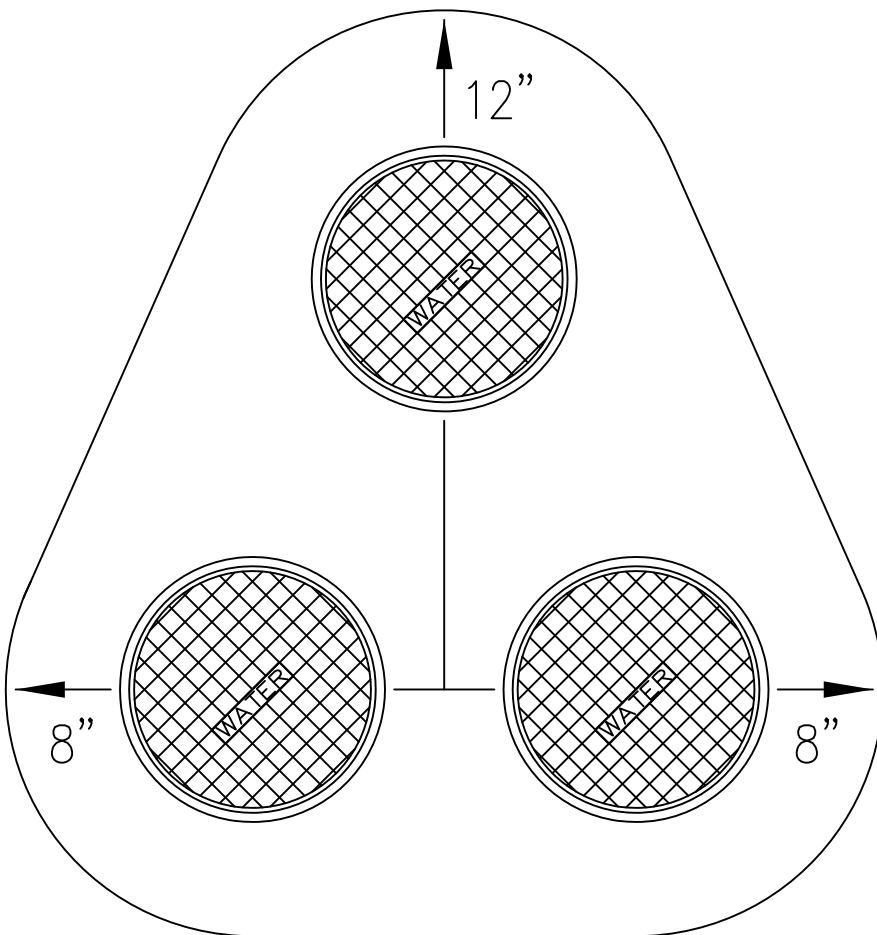
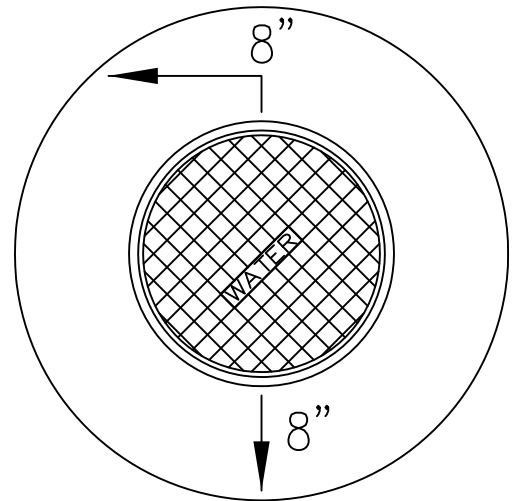
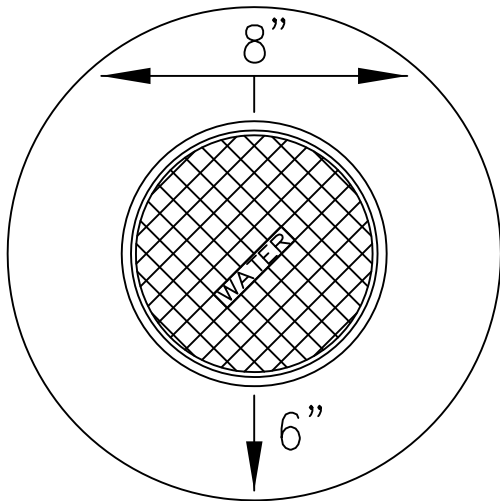
- 1- VALVE BOXES AND OTHER SIMILAR ITEMS SHALL BE ADJUSTED TO GRADE AFTER PAVING IS COMPLETE.
- 2- THE SURFACE OF THE ADJUSTED RING SHALL MATCH THE GRADE OF THE CONCRETE COLLAR. CONCRETE COLLAR SHALL BE 1/8" - 1/4" LOWER THAN ASPHALT.
- 3- ASPHALT SHALL BE CUT IN STRAIGHT VERTICAL LINES.
- 4- ADJUSTMENTS TO GRADE SHALL BE MADE WITH STANDARD RINGS OR EXTENSIONS OR AS APPROVED BY THE CITY REPRESENTATIVE.
- 5- ALL VALVE BOXES AND OTHER SIMILAR ITEMS SHALL HAVE CONCRETE COLLAR AS REQUIRED UNLESS OTHERWISE APPROVED.
- 6- 9" THICK COLLARS SHALL BE REINFORCED.  
12" THICK COLLARS DO NOT REQUIRE REINFORCEMENT.
- 7- MARK CONCRETE COLLAR ON WATER VALVE BOXES WITH ARROW INDICATING DIRECTION OF FLOW.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

VALVE BOXES  
CONCRETE COLLAR

STANDARD DWG. NO.	
171	1 OF 1
APPROVED:	
DATE:	BY: -



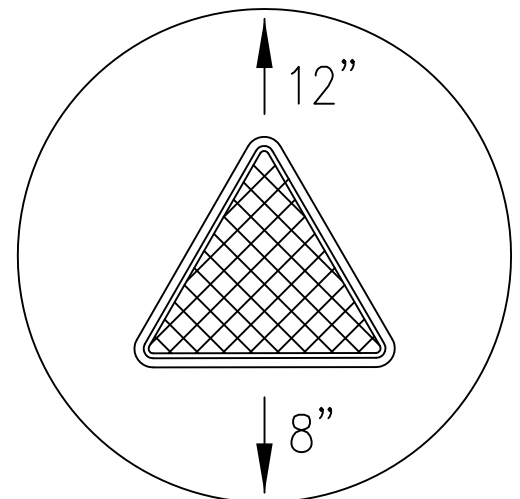
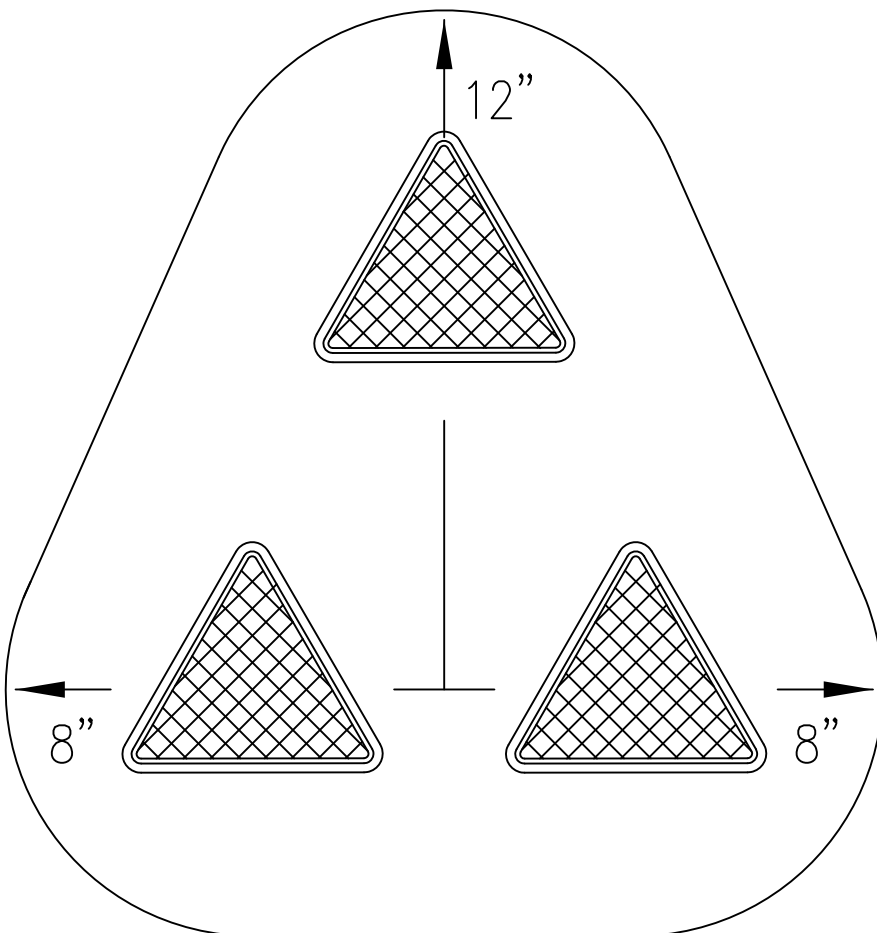
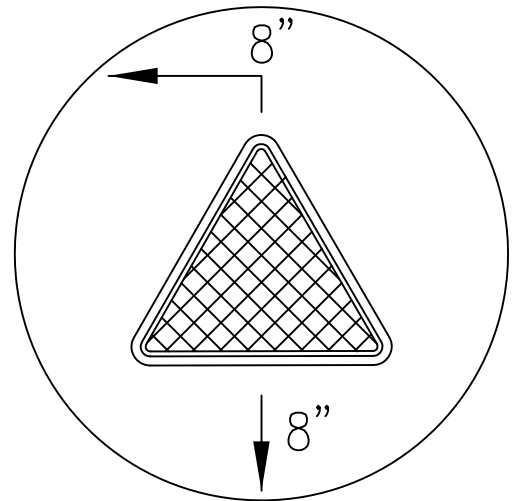
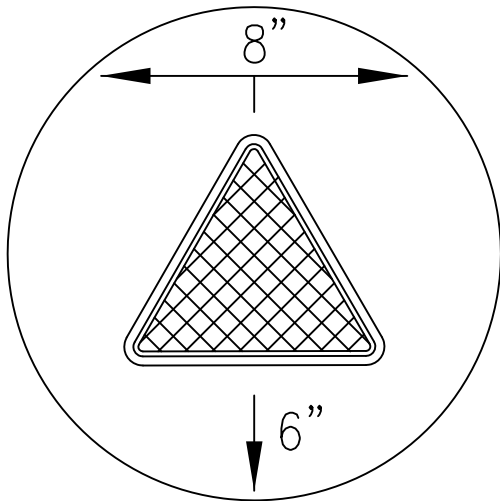
NOTE:  
WATER VALVE COLLARS SHALL BE  
ENGRAVED WITH A SCHEMATIC OF  
FITTINGS AND PIPE SIZES

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

CONCRETE WATER VALVE COLLAR

STANDARD DWG. NO.	
172	1 OF 1
APPROVED:	
DATE:	BY: -



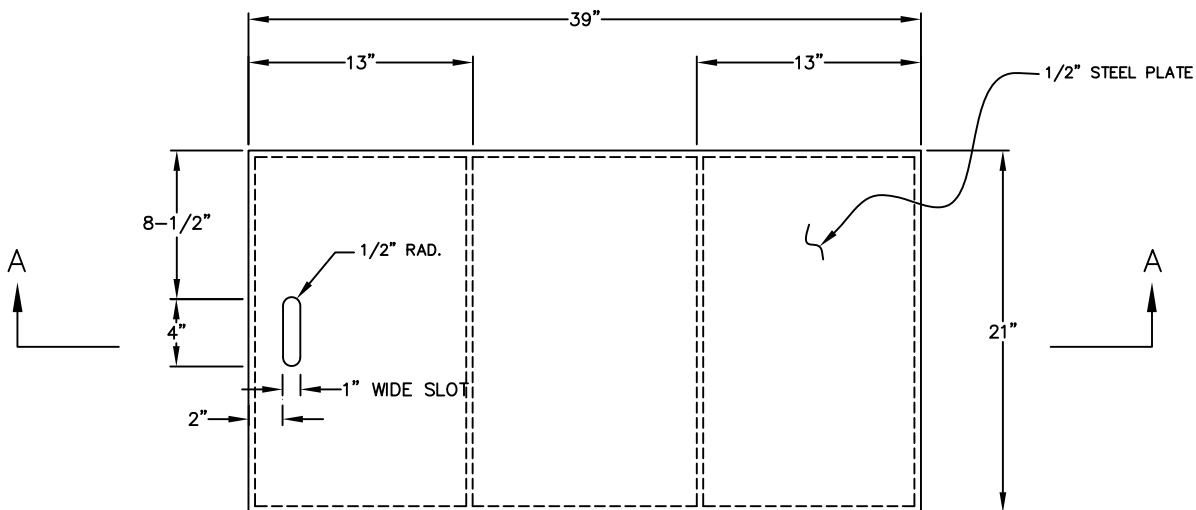
**NOTE:**  
IRRIGATION VALVE COLLARS SHALL BE  
ENGRAVED WITH A SCHEMATIC OF  
FITTINGS AND PIPE SIZES

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

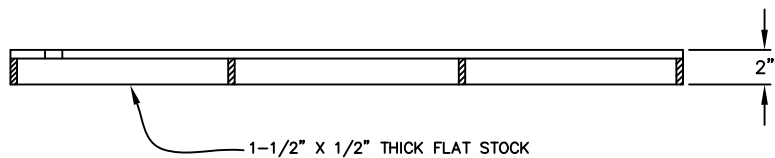
CONCRETE IRRIGATION VALVE COLLAR

STANDARD DWG. NO.	
174	1 OF 1
APPROVED:	
DATE:	BY: -



NOTES:

- 1- FINISH SHALL BE ONE COAT PRIMER,  
ONE FINISH COAT, LIGHT GRAY ENAMEL.
- 2- LID SHALL BE ALL WELDED CONSTRUCTION.
- 3- FOR USE IN NON-TRAFFIC INSTALLATIONS.
- 4- LID SHALL BE DIAMOND PLATE STEEL.



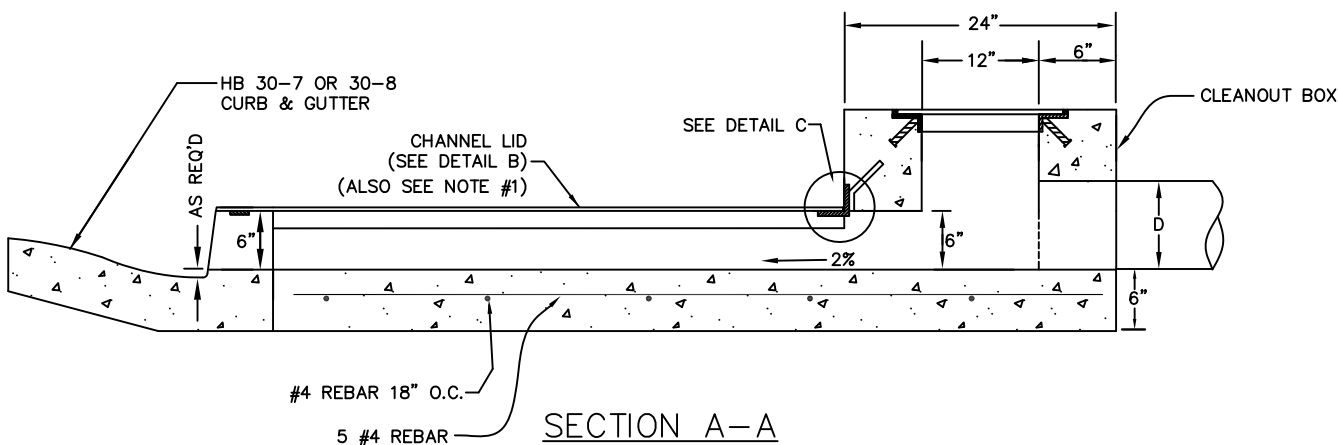
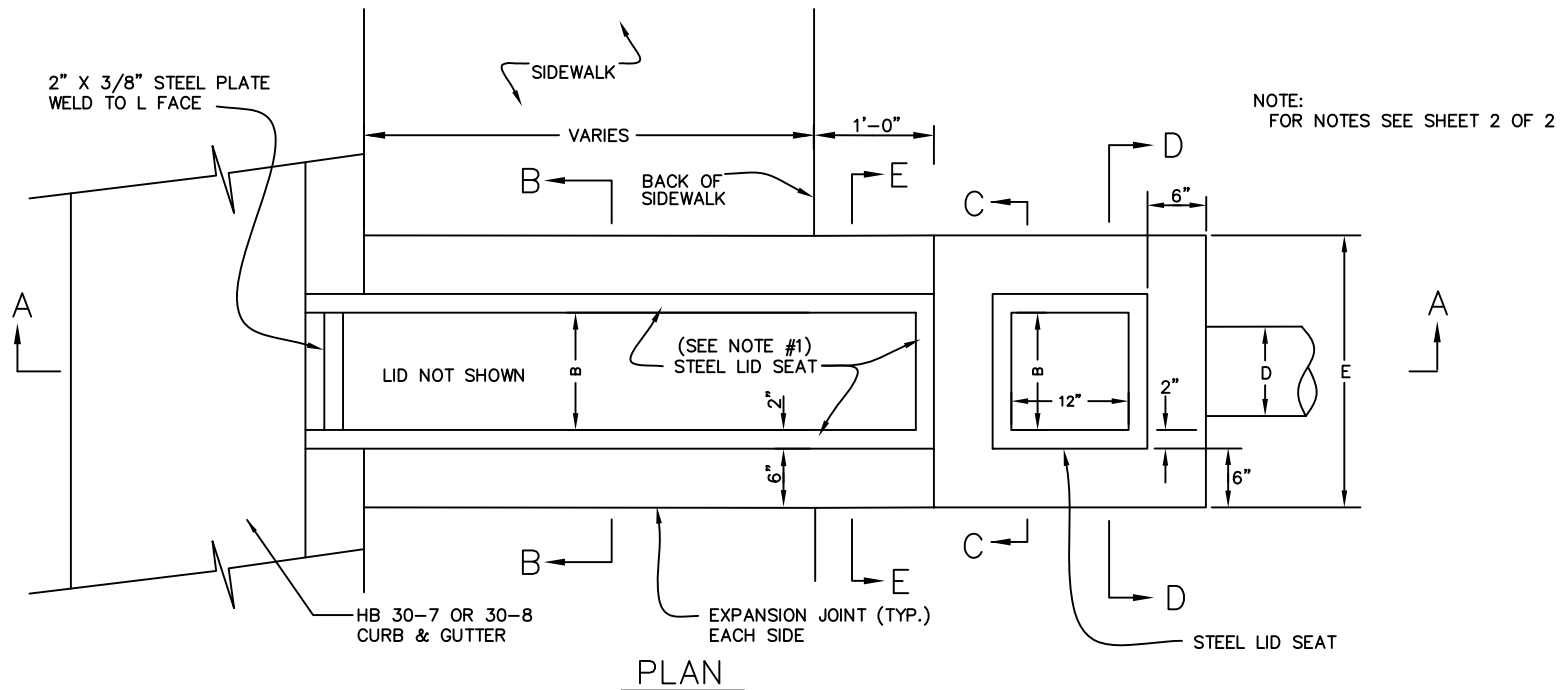
SECTION A-A

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

39" SOLID LID DETAILS

STANDARD DWG. NO.	
203	1 OF 2
APPROVED:	
DATE:	BY: -



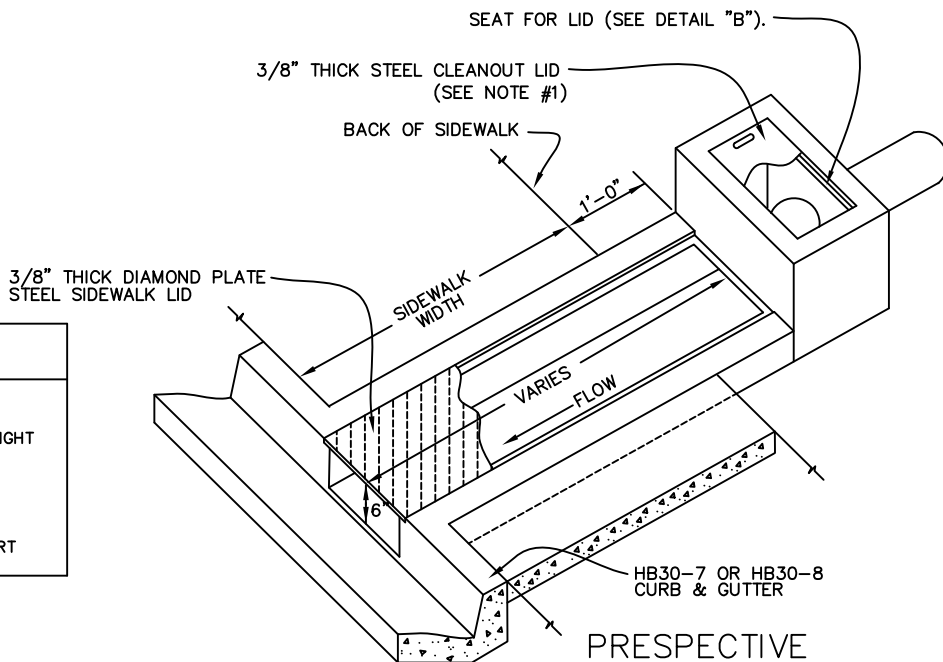
#### NOTES

- 1- ALL LIDS TO BE SECURED WITH STAINLESS STEEL HARDWARE.
- 2- ALL STEEL SHALL BE HOT DIPPED GALVANIZED.

MARK	DIMENSION (INCHES)				COMMENTS
B	10	15	20	30*	INSIDE WIDTH
C	20	22	24	27	CLEANOUT BOX HEIGHT
D	≤8	10	12	15	INLET PIPE
E	22	27	32	42	BOX WIDTH
K	18	23	28	38	STEEL END SUPPORT

#### DIMENSION TABLE

\*REQUIRES ENGINEERED DESIGN FOR LID & BOX.



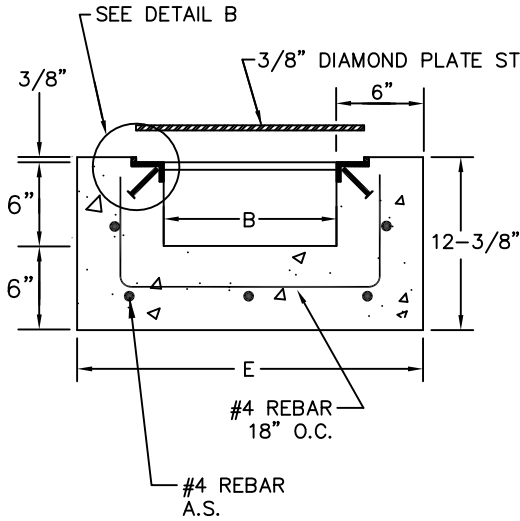
CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

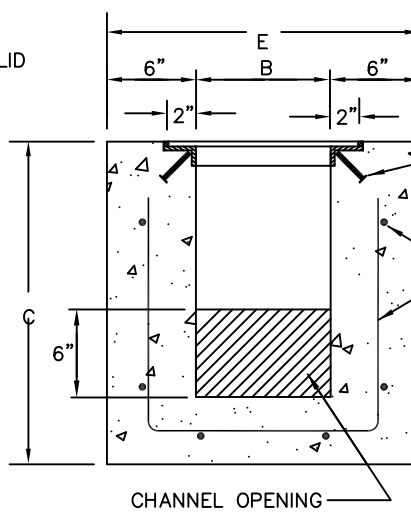
## SIDEWALK DRAINAGE STRUCTURE

STANDARD DWG. NO.	
204A	1 OF 2
APPROVED:	
DATE:	BY: -

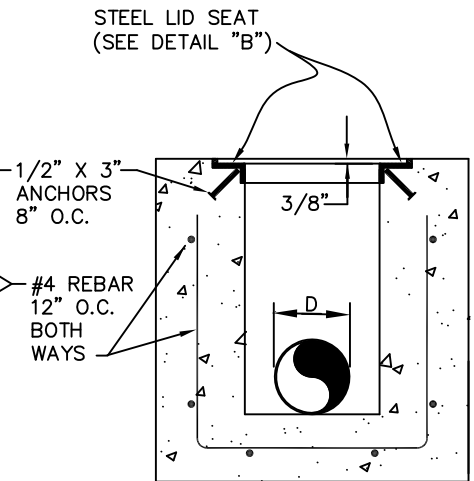
NOTE:  
STEEL LID TO BE FLUSH  
WITH CONCRETE SIDEWALK.



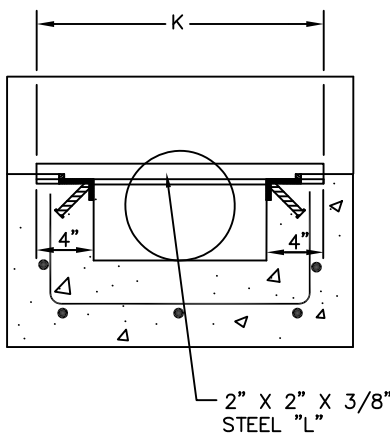
SECTION B-B



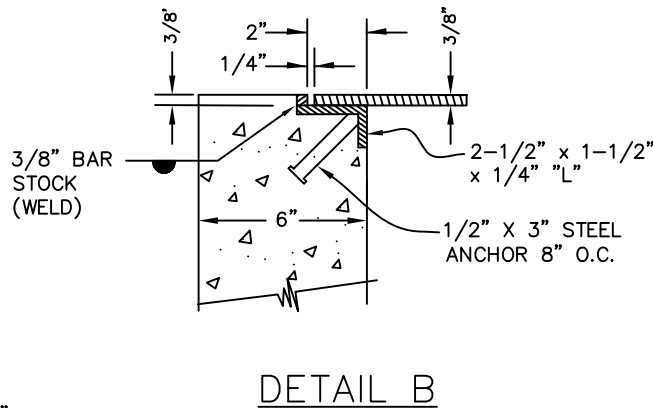
SECTION C-C



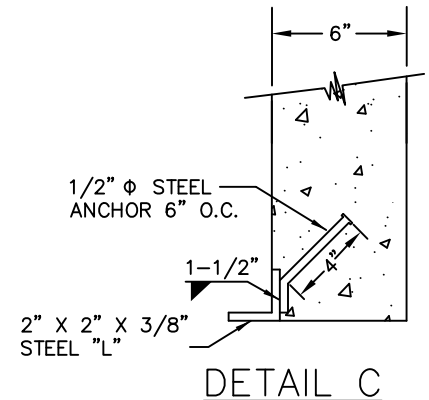
SECTION D-D



SECTION E-E



DETAIL B



DETAIL C

MARK	DIMENSION (INCHES)				COMMENTS
B	10	15	20	30*	INSIDE WIDTH
C	20	22	24	27	CLEANOUT BOX HEIGHT
D	≤ 8	10	12	15	INLET PIPE
E	22	27	32	42	BOX WIDTH
K	18	23	28	38	STEEL END SUPPORT

DIMENSION TABLE

\*REQUIRES ENGINEERED DESIGN FOR LID & BOX.

NOTES:

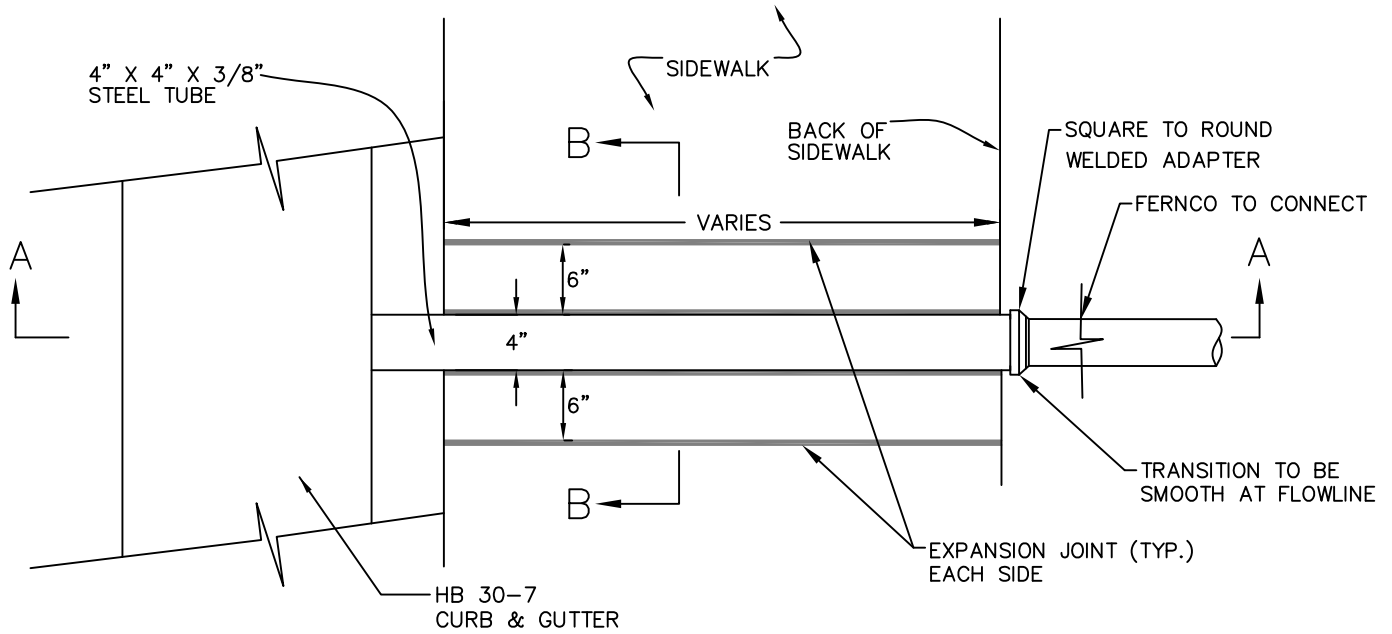
- 1- ALL REBAR SHALL HAVE 2" MIN. CLEAR.
- 2- STEEL LID SHALL BE FLUSH WITH CONCRETE.
- 3- BOX DIMENSIONS BASED UPON INLET PIPE SIZE "D".
- 4- ALL STEEL SHALL BE GRADE 60.
- 5- LID FOR CLEANOUT BOX SHALL HAVE 1-4 INCH X 1" SLOT FOR LIFTING. LID MAY BE SMOOTH OR DIAMOND PLATE STEEL.
- 6- SIDEWALK LID SHALL BE DIAMOND PLATE STEEL.
- 7- STANDARD REBAR SHALL NOT BE USED FOR STEEL ANCHORS.
- 8- ALL EXTERIOR EDGES OF CLEANOUT BOX TO HAVE 3/4" TO 1" CHAMFER (NOT SHOWN IN DETAILS FOR CLARITY).
- 9- STEEL LIDS AND SEAT TO BE HOT DIPPED GALVANIZED ACCORDANCE WITH CITY STANDARDS.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

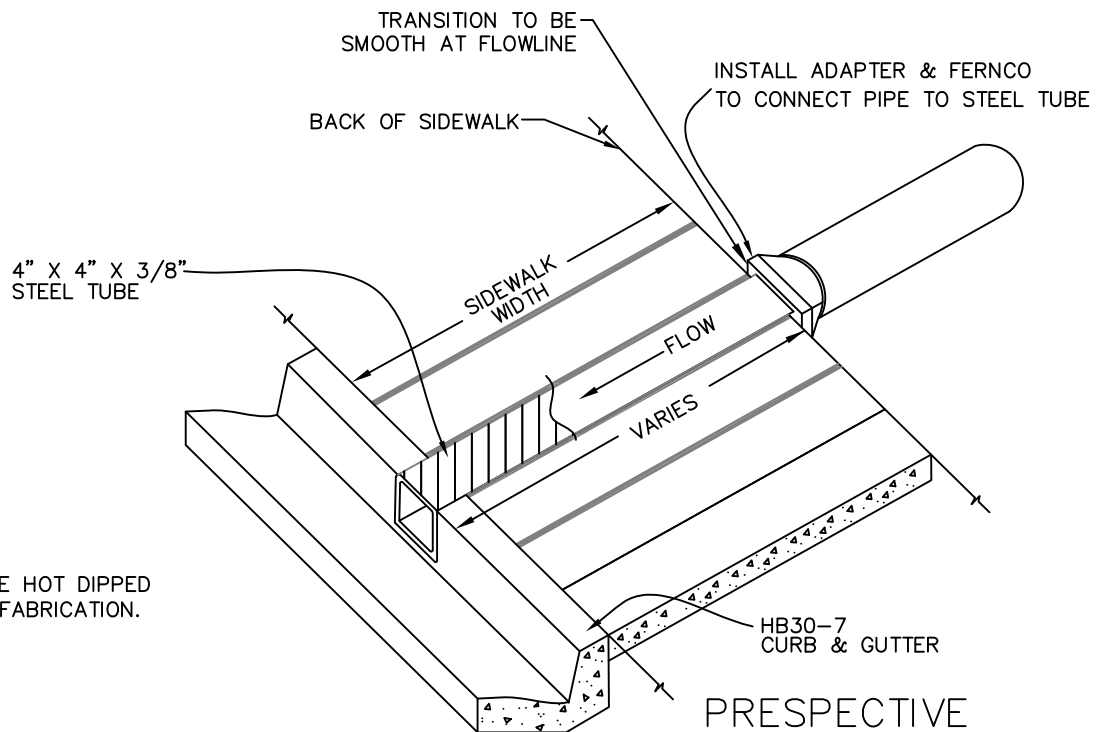
REVISIONS		
DATE	DESCRIPTION	BY

SIDEWALK DRAINAGE STRUCTURE

STANDARD DWG. NO.	
204B	2 OF 2
APPROVED:	
DATE:	BY: -



PLAN



NOTES

- 1- ALL STEEL SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

RAIN GUTTER/YARD DRAINAGE STRUCTURE

STANDARD DWG. NO.

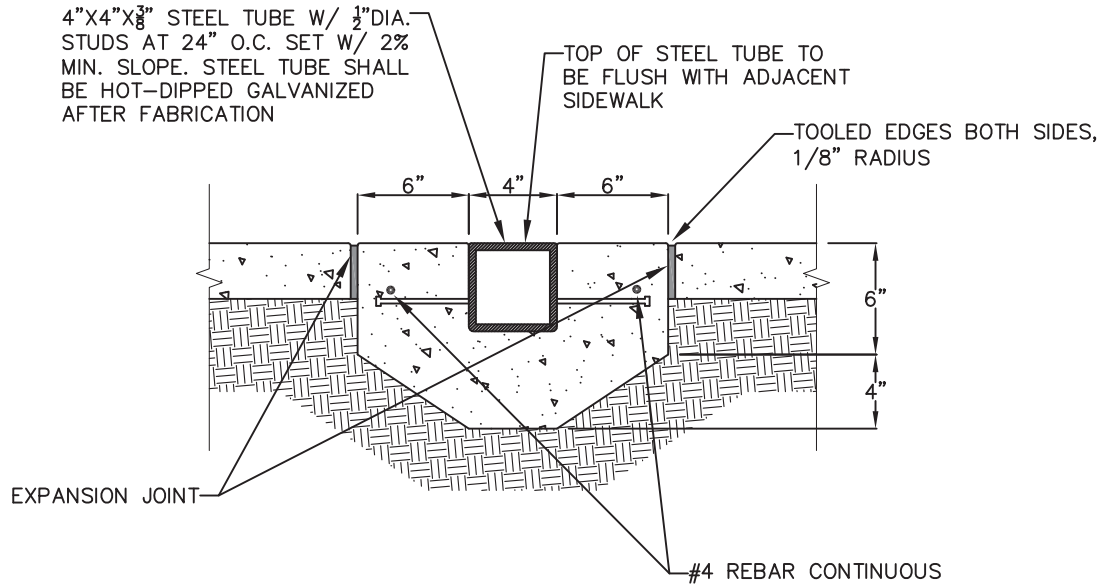
204C 1 OF 2

APPROVED:

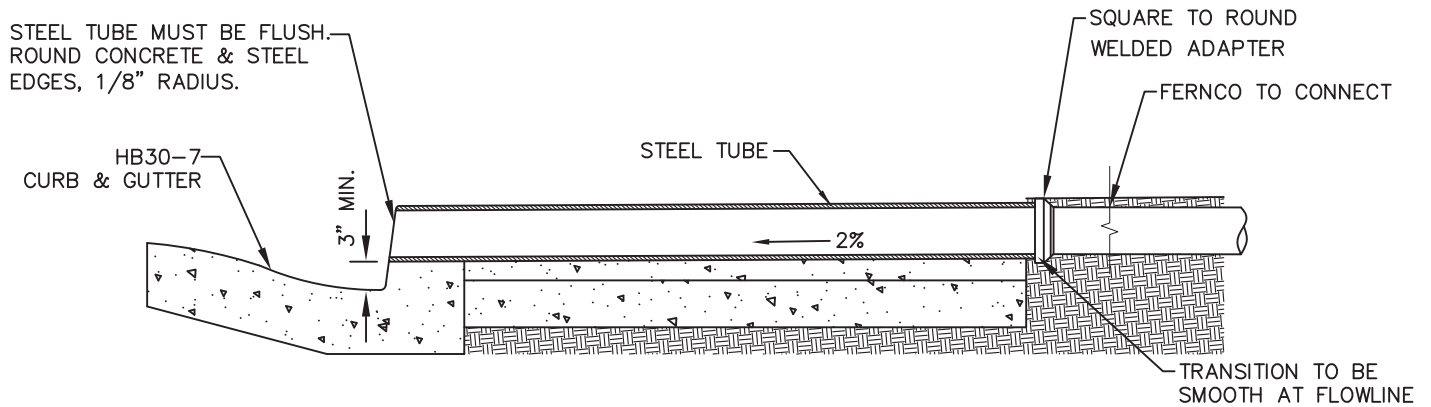
DATE:

BY: -

REVISIONS		
DATE	DESCRIPTION	BY



SECTION B-B



SECTION A-A

CITY OF WASHINGTON ENGINEERING DEPARTMENT

RAIN GUTTER/YARD DRAINAGE STRUCTURE

STANDARD DWG. NO.

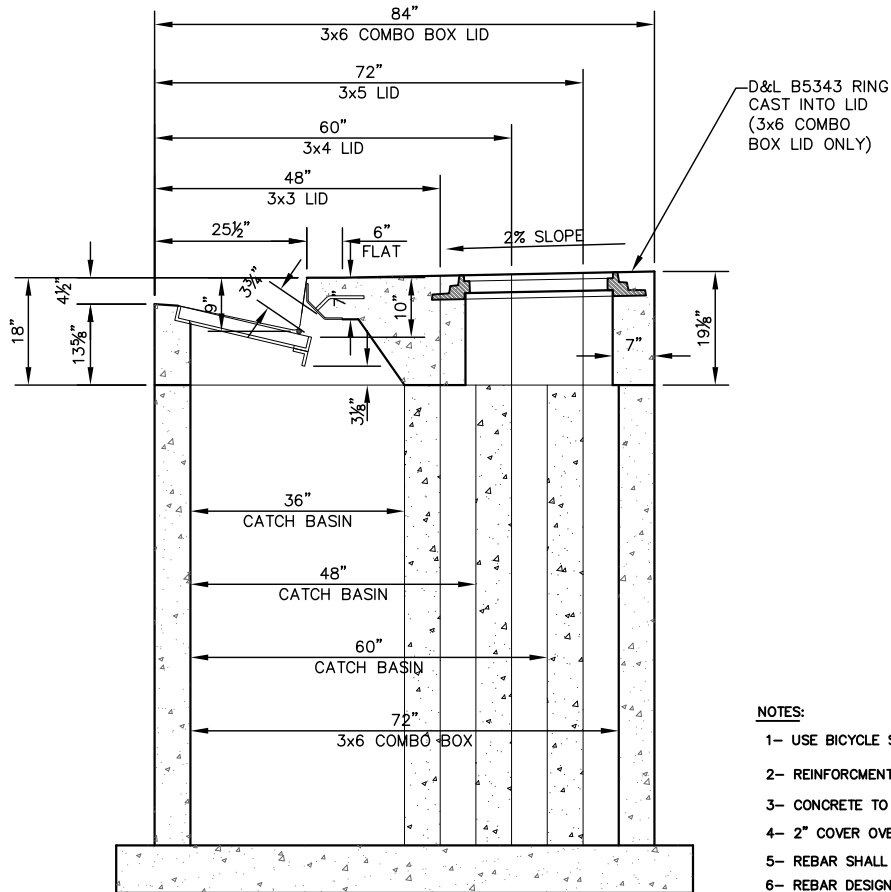
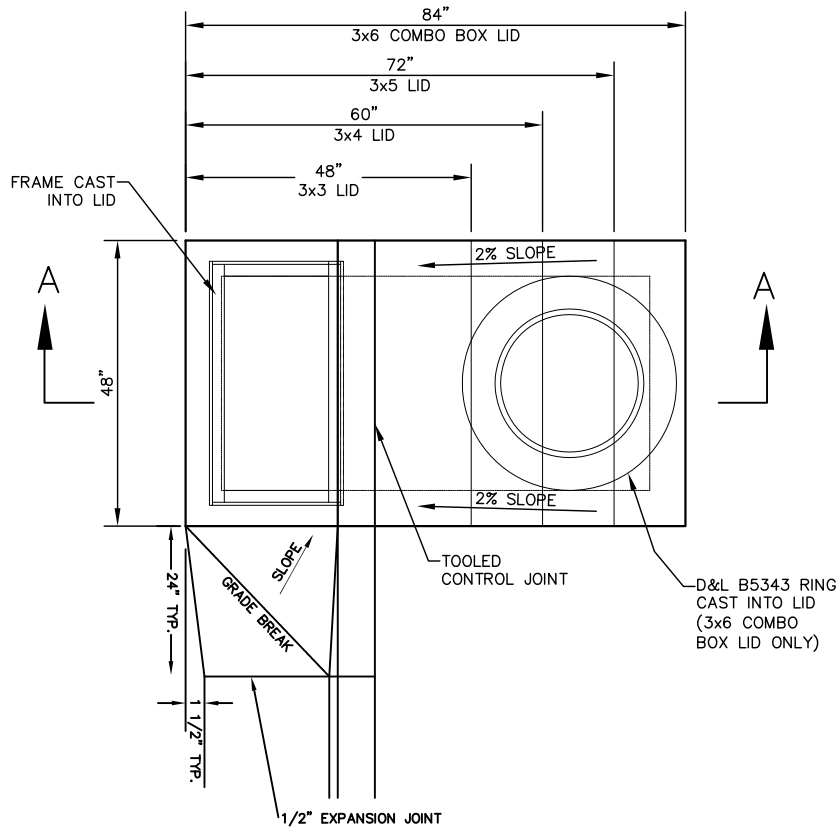
204D 2 OF 2

APPROVED:

DATE: BY: -

REVISIONS		
DATE	DESCRIPTION	BY





**NOTES:**

- 1- USE BICYCLE SAFE GRATES ONLY.
- 2- REINFORCEMENT SHALL MEET HS-20 LOADING REQUIREMENTS.
- 3- CONCRETE TO BE 4,000 PSI MIN.
- 4- 2" COVER OVER REINFORCING MIN.
- 5- REBAR SHALL BE 60 KSI MIN.
- 6- REBAR DESIGN SHALL BE SUBMITTED MEETING HS20 TRAFFIC LOAD RATINGS.

**SECTION VIEW**

CITY OF WASHINGTON ENGINEERING DEPARTMENT

CURB INLET SINGLE CATCH BASIN BOX

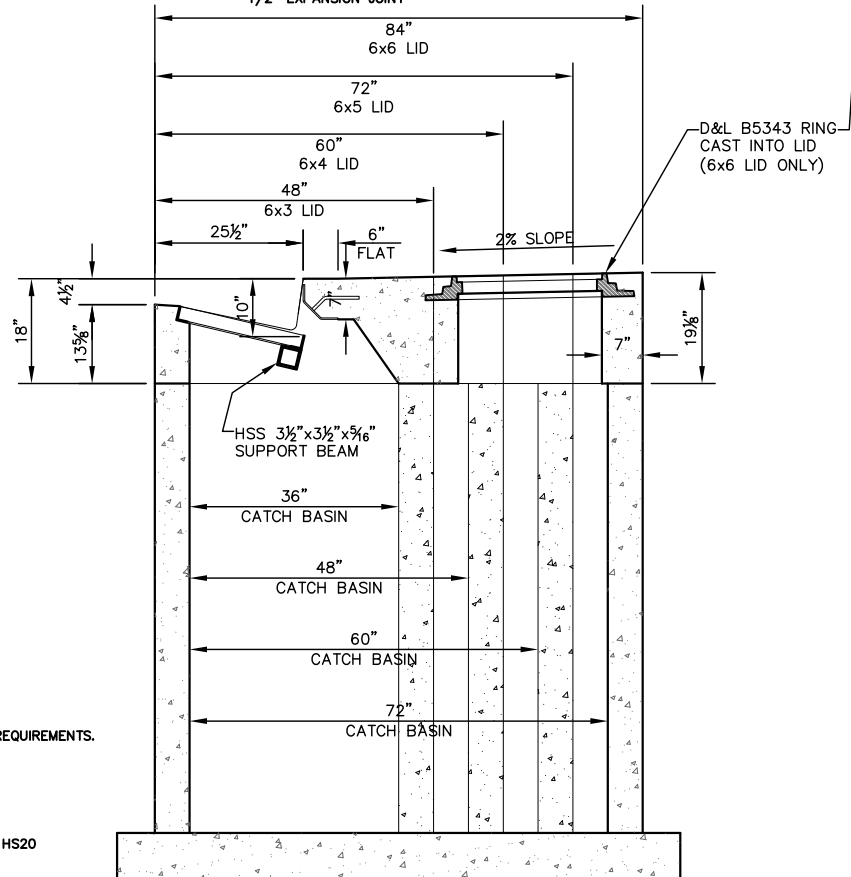
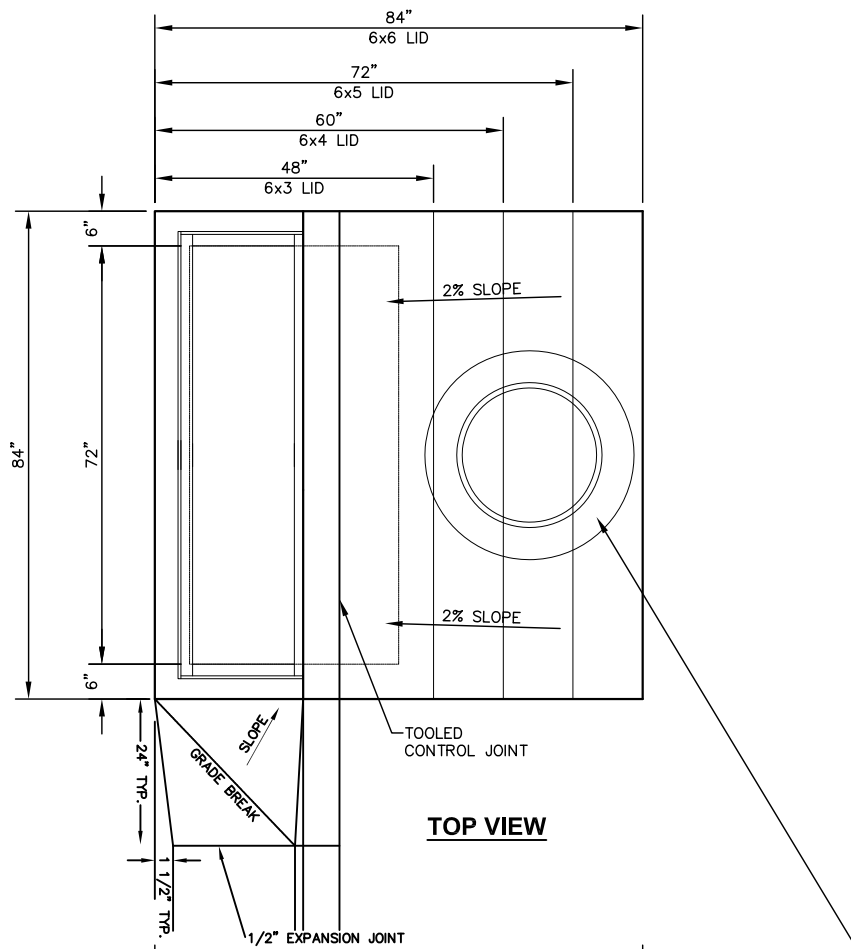
STANDARD DWG. NO.

205A 1 OF 5

APPROVED:

DATE: BY: -

REVISIONS		
DATE	DESCRIPTION	BY



**NOTES:**

- 1- USE BICYCLE SAFE GRATES ONLY.
- 2- REINFORCEMENT SHALL MEET HS-20 LOADING REQUIREMENTS.
- 3- CONCRETE TO BE 4,000 PSI MIN.
- 4- 2" COVER OVER REINFORCING MIN.
- 5- REBAR SHALL BE 60 KSI MIN.
- 6- REBAR DESIGN SHALL BE SUBMITTED MEETING HS20 TRAFFIC LOAD RATINGS.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

CURB INLET DOUBLE CATCH BASIN BOX

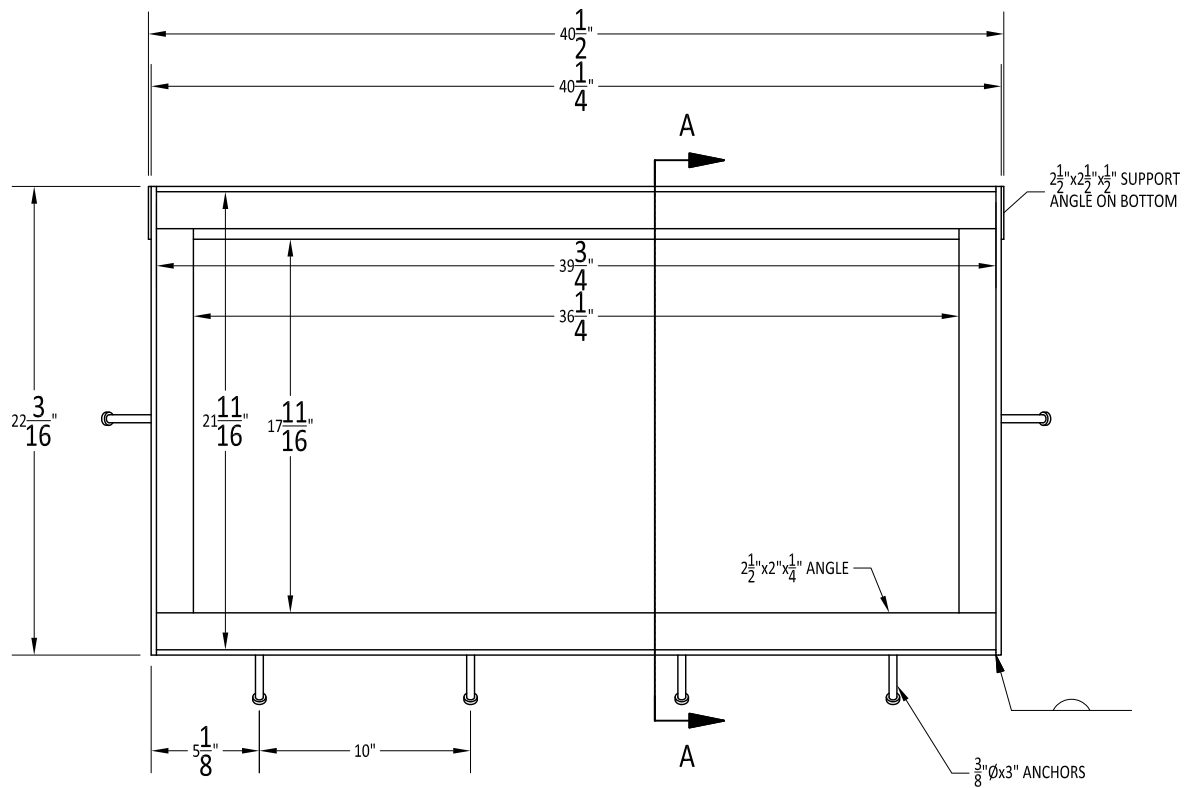
STANDARD DWG. NO.

205B 2 OF 5

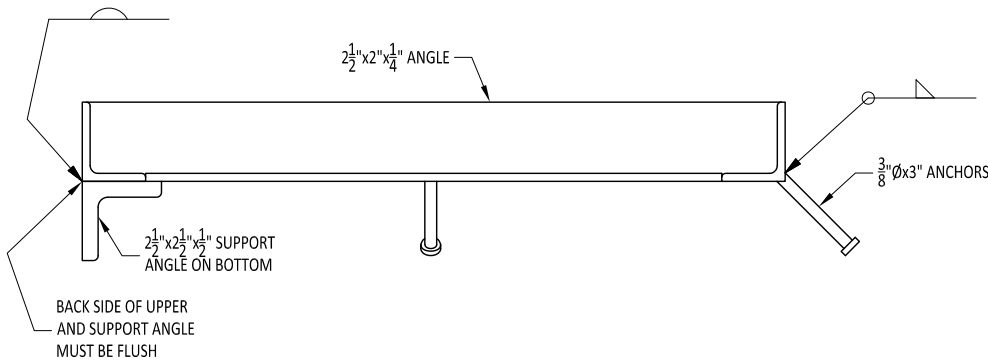
APPROVED:

DATE: BY: -

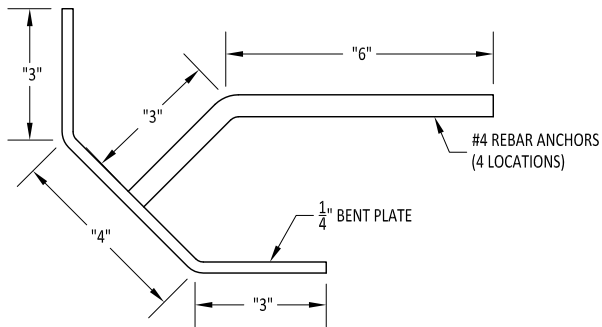
REVISIONS		
DATE	DESCRIPTION	BY



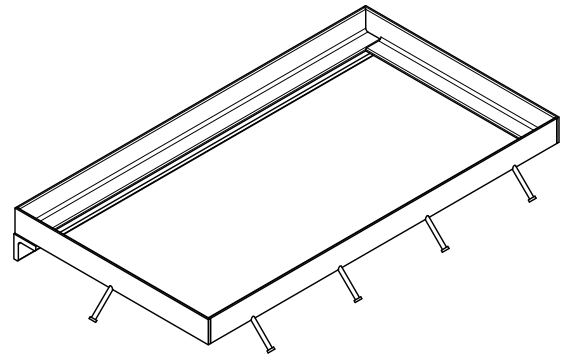
**FRAME PLAN**



**SECTION A-A**



**STEEL SUPPORT (40" LONG)**



**NOTES:**

- 1- AS AVAILABLE FROM D&L SUPPLY – OR EQUAL.
- 2- ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

CURB INLET SINGLE CATCH BASIN FRAME

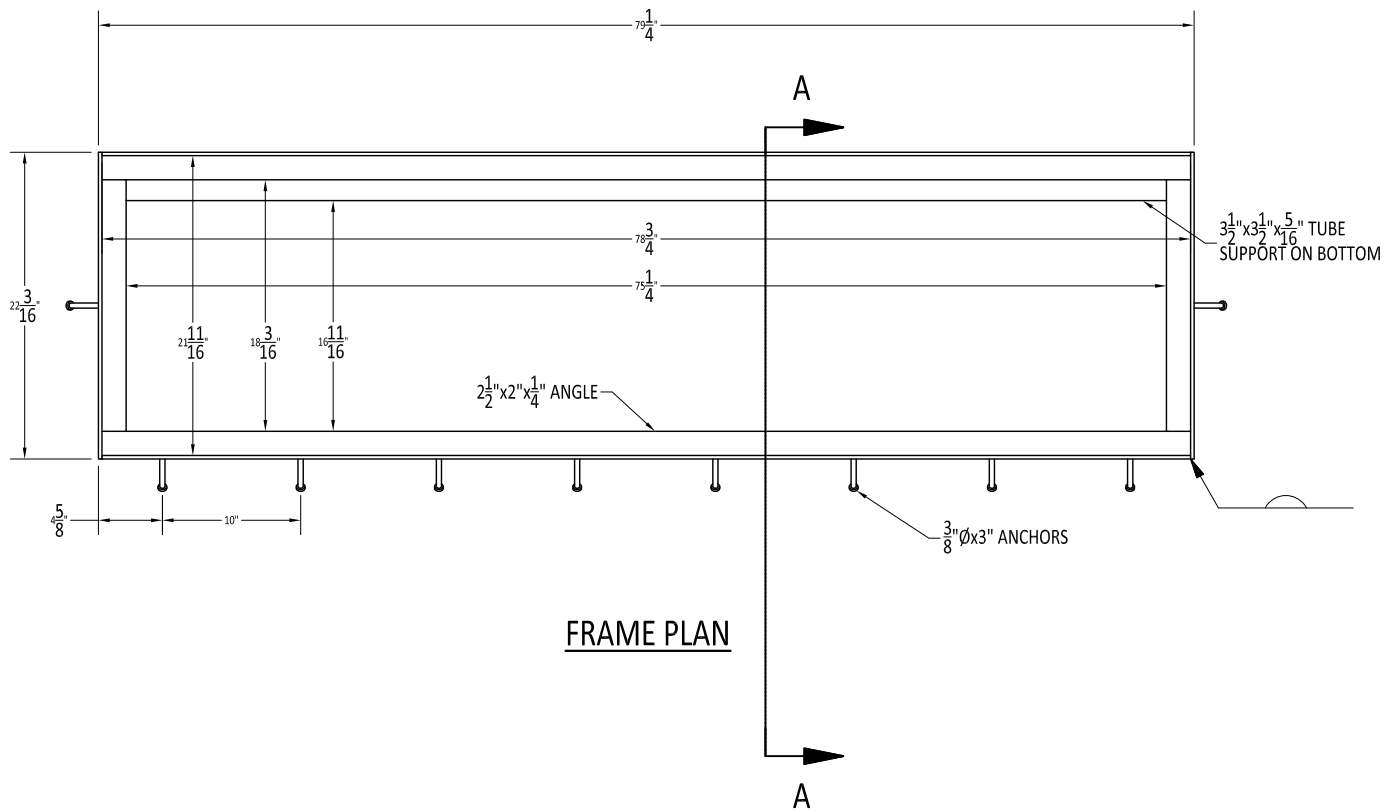
STANDARD DWG. NO.

205C 3 OF 5

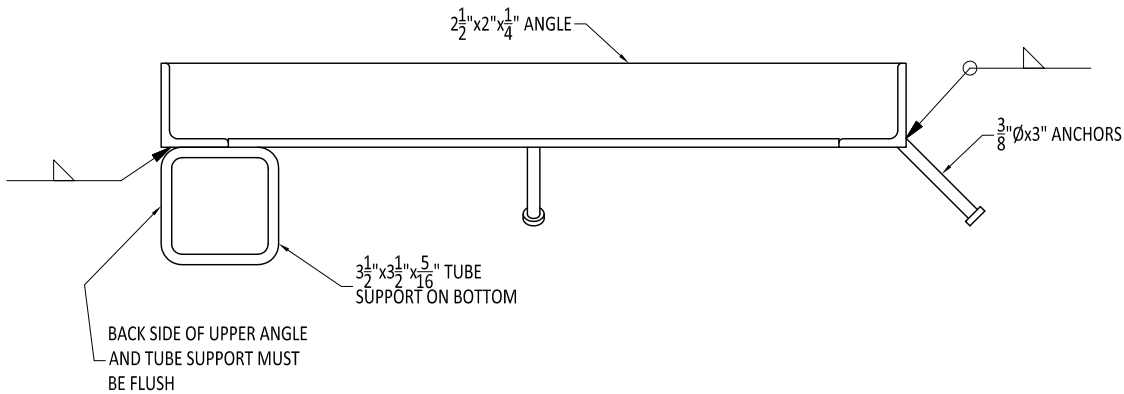
APPROVED:

DATE: BY: -

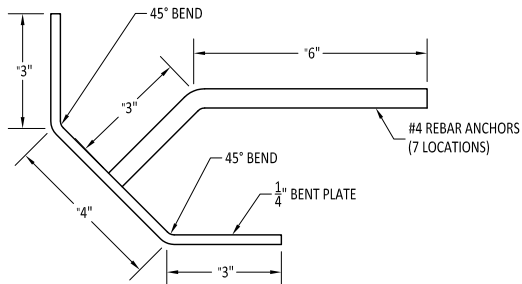
REVISIONS		
DATE	DESCRIPTION	BY



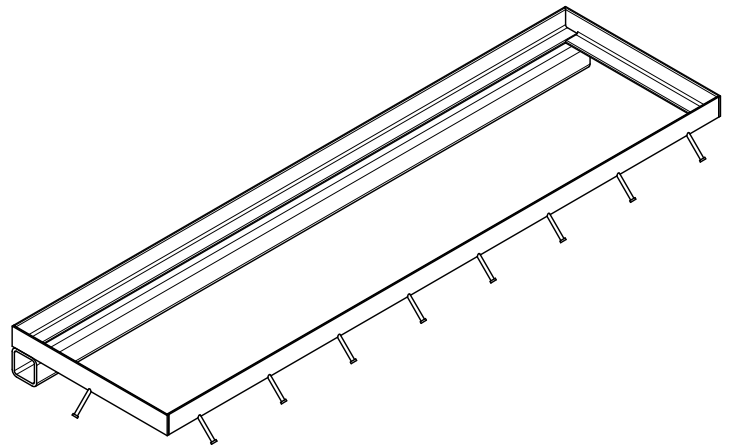
**FRAME PLAN**



**SECTION A-A**



**STEEL SUPPORT (76" LONG)**



**NOTES:**

- 1- AS AVAILABLE FROM D&L SUPPLY - OR EQUAL.
- 2- ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

CURB INLET DOUBLE CATCH BASIN FRAME

STANDARD DWG. NO.

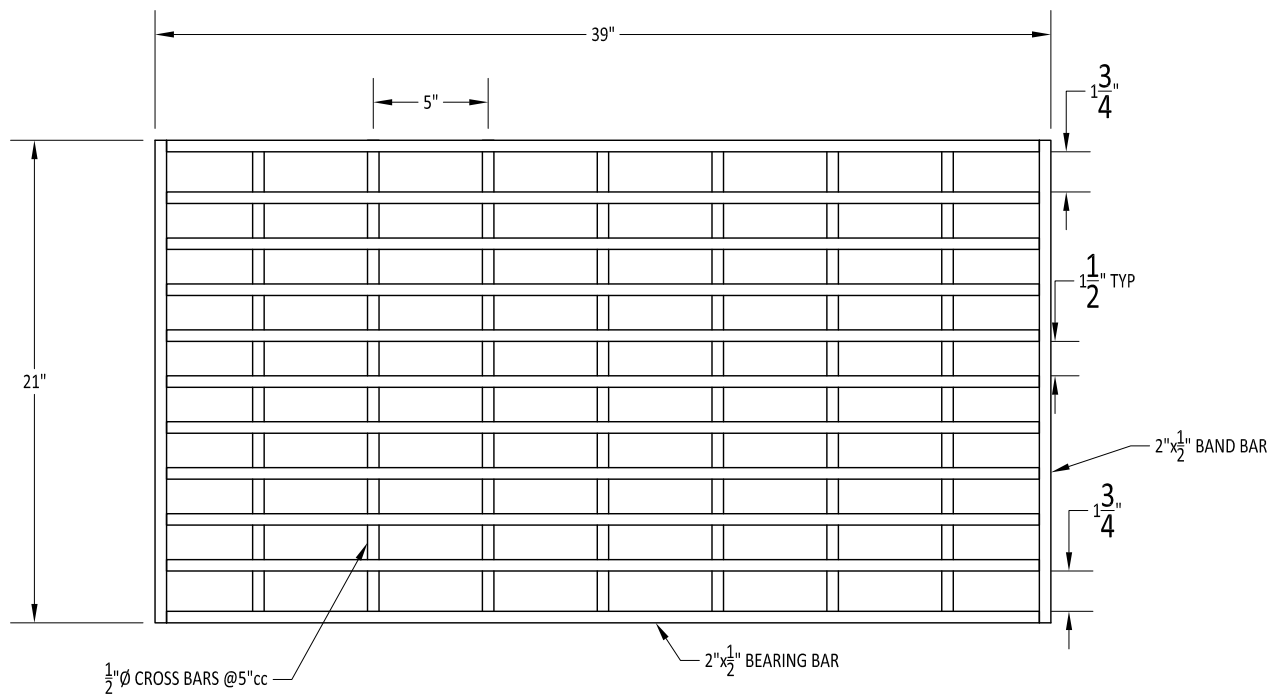
205D 4 OF 5

APPROVED:

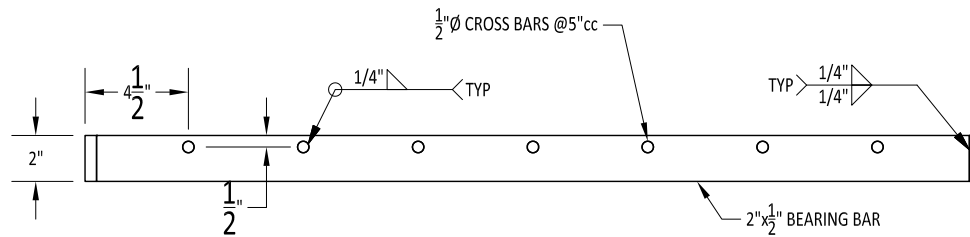
DATE:

BY: -

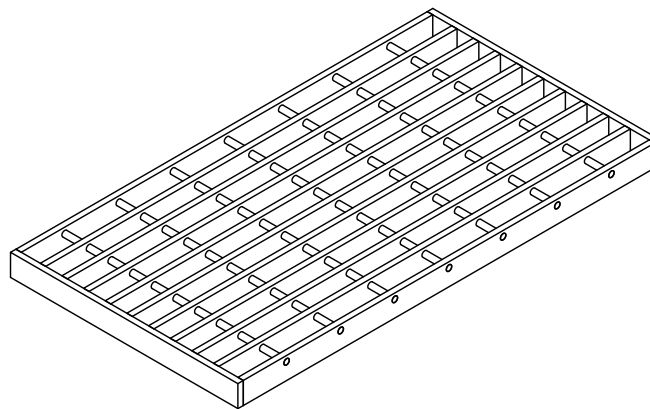
REVISIONS		
DATE	DESCRIPTION	BY



GRATE PLAN



SECTION



NOTES:

- 1- AS AVAILABLE FROM D&L SUPPLY - OR EQUAL.
- 2- ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED.

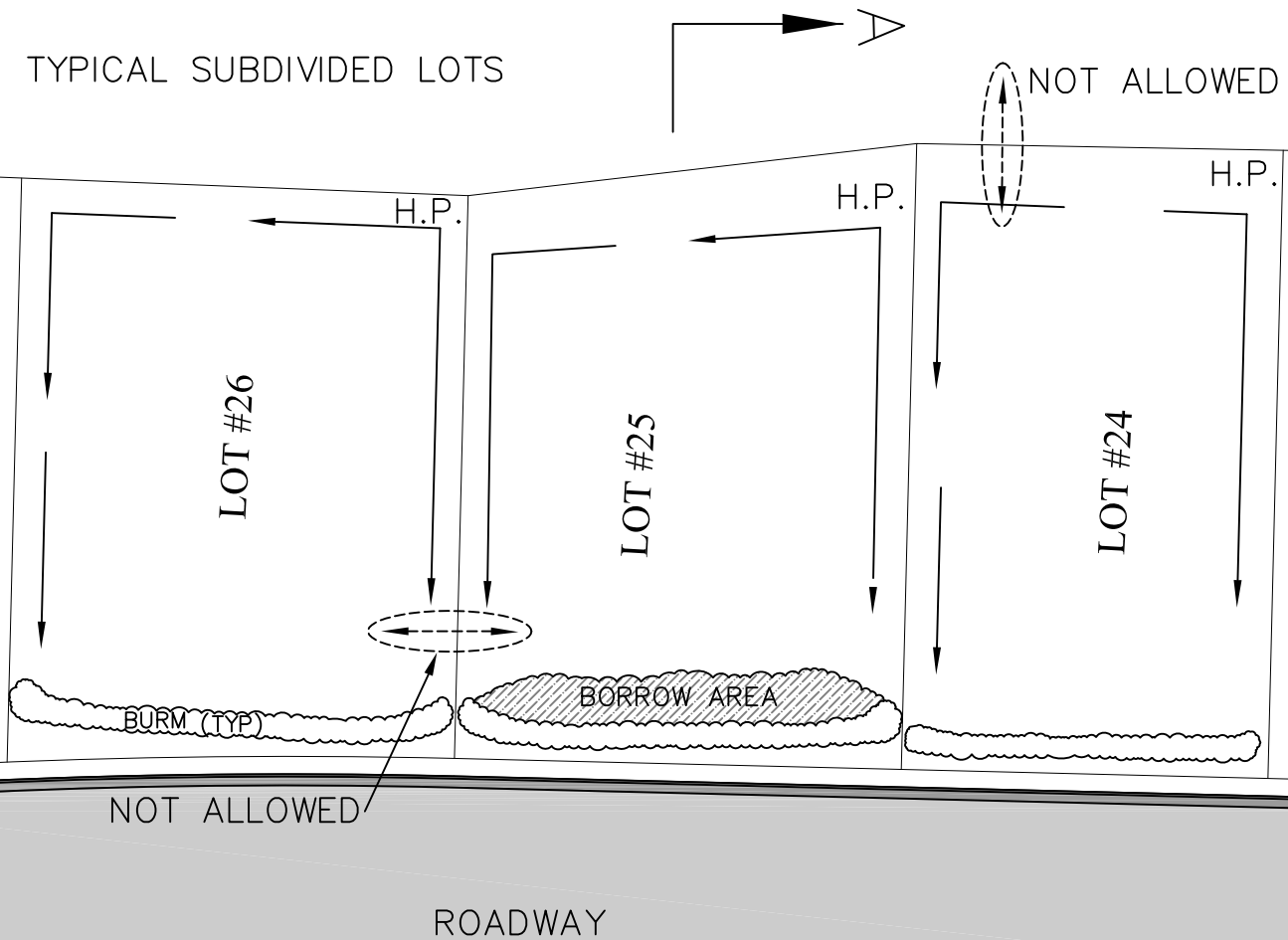
CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

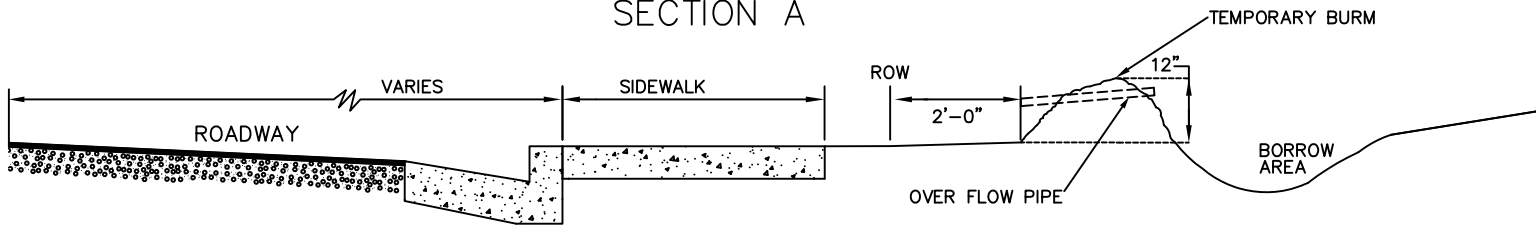
STANDARD CATCH BASIN GRATE  
BICYCLE SAFE

STANDARD DWG. NO.	
205E	5 OF 5
APPROVED:	
DATE:	BY: -

# TYPICAL SUBDIVIDED LOTS



## SECTION A



### NOTES:

1. BURN SHALL INCLUDE  $\phi 2"$  DRAIN PIPE. PIPE MUST EXTEND BEYOND THE OUTER FACE OF THE BURN.
2. EACH LOT MUST CONTAIN IT'S OWN STORM WATER.
3. CROSS LOT DRAINAGE SHALL NOT BE ALLOWED.

### CITY OF WASHINGTON ENGINEERING DEPARTMENT

### TEMPORARY ON-SITE DRAINAGE RETENTION BURN FOR UNIMPROVED SUBDIVISION LOTS

### STANDARD DWG. NO.

206 1 OF 1

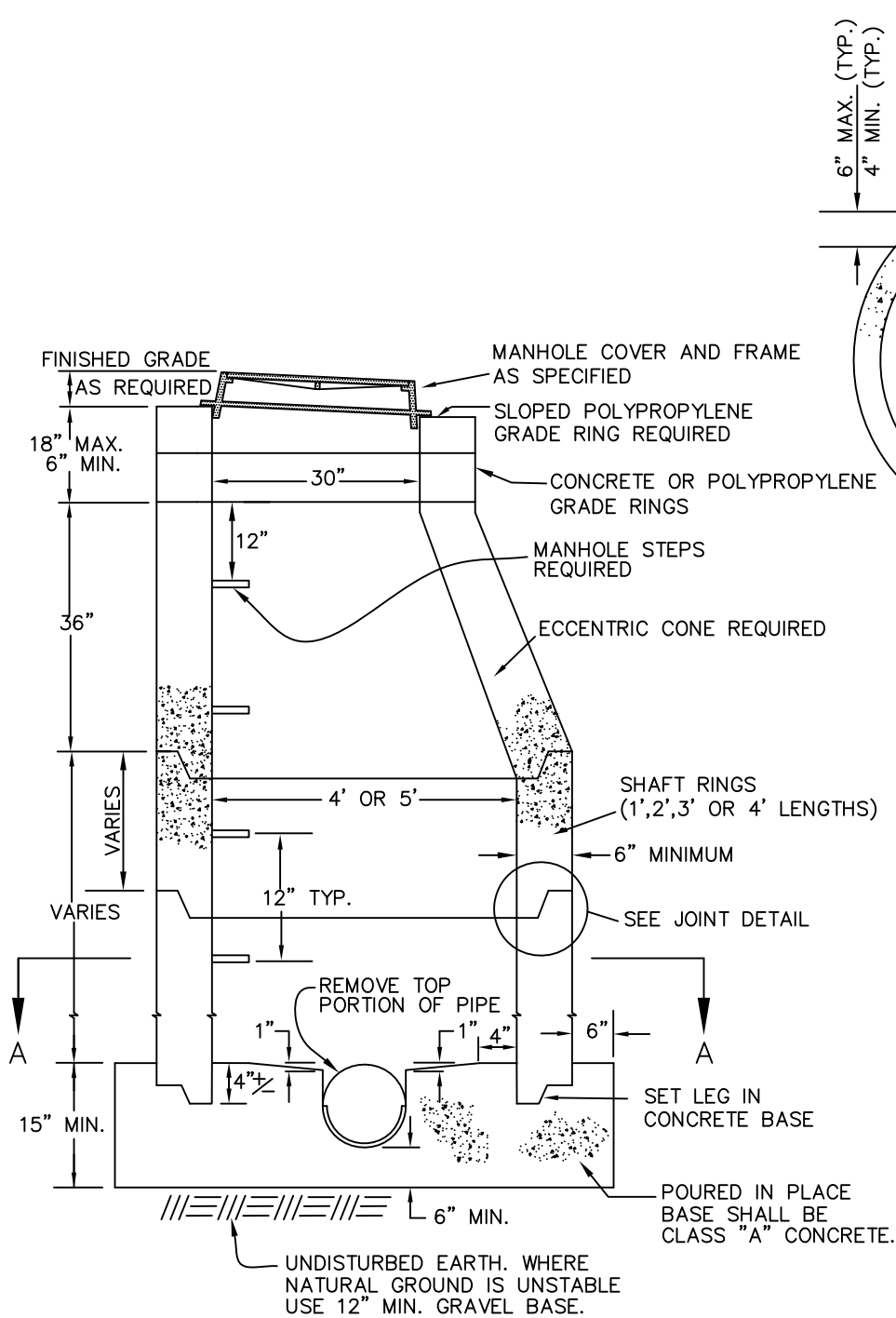
APPROVED:

DATE:

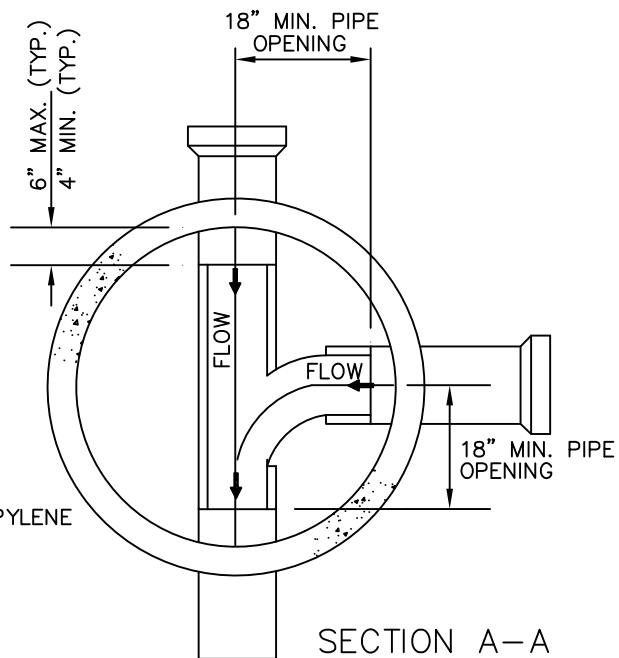
BY: -

### REVISIONS

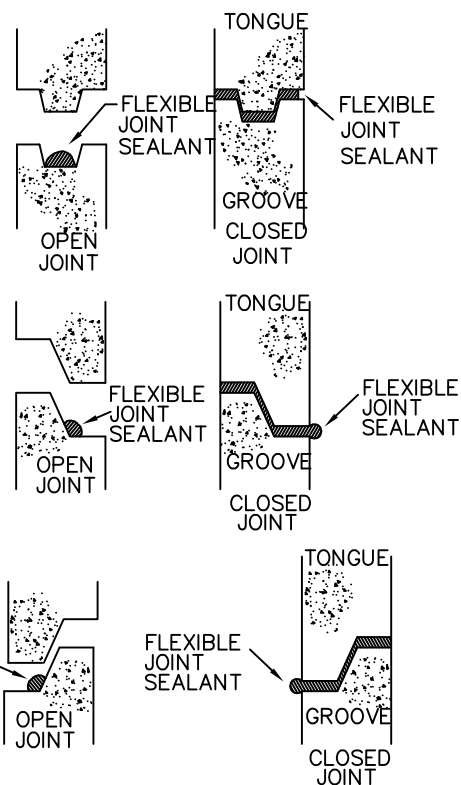
DATE	DESCRIPTION	BY



SECTION THRU CENTER



SECTION A-A



JOINT DETAILS

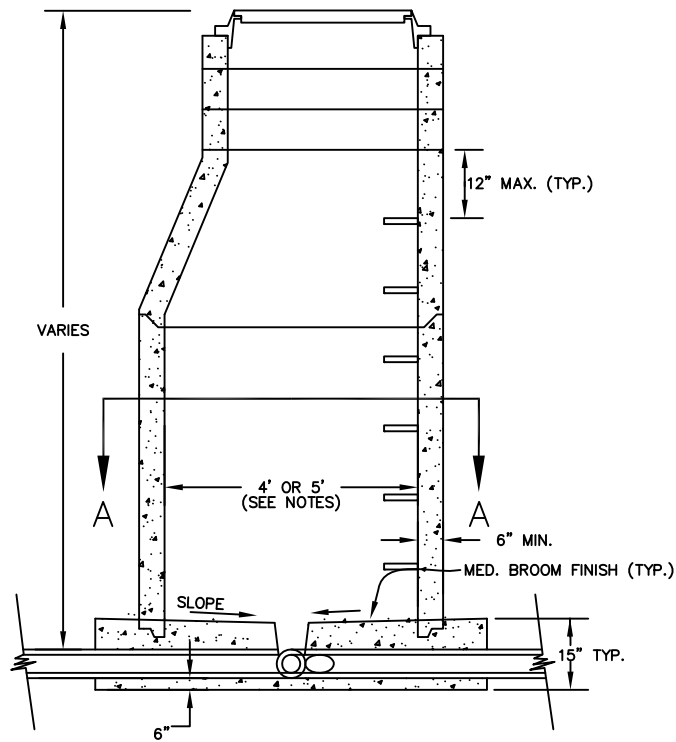
NO SCALE

CITY OF WASHINGTON ENGINEERING DEPARTMENT

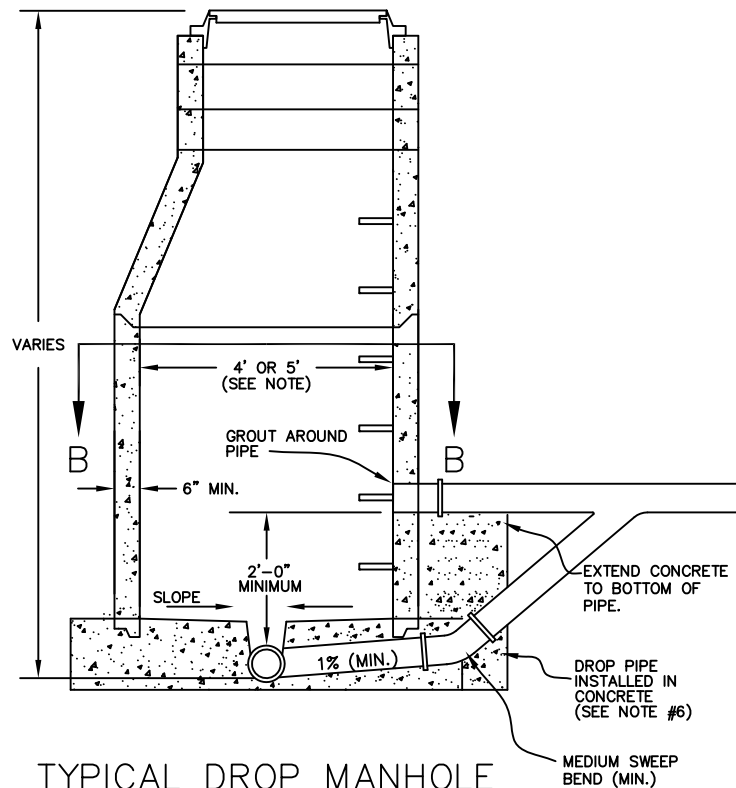
REVISIONS		
DATE	DESCRIPTION	BY

STANDARD MANHOLE  
DETAILS

STANDARD DWG. NO.	
220	1 OF 1
APPROVED:	
DATE:	BY: -



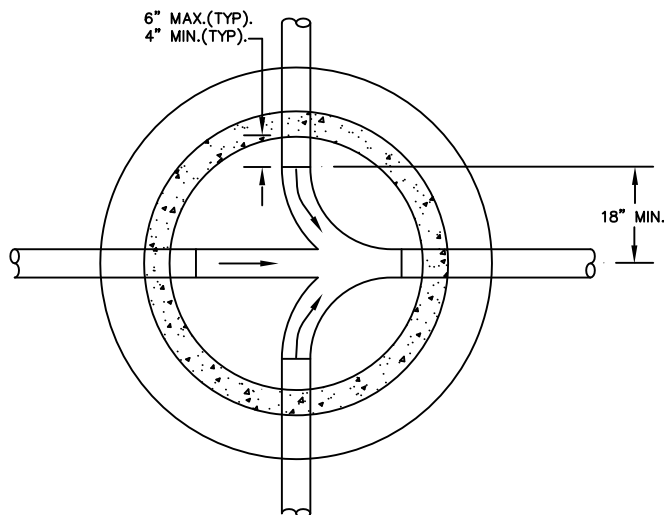
**TYPICAL JUNCTION MANHOLE**  
(SECTION THRU CENTER)



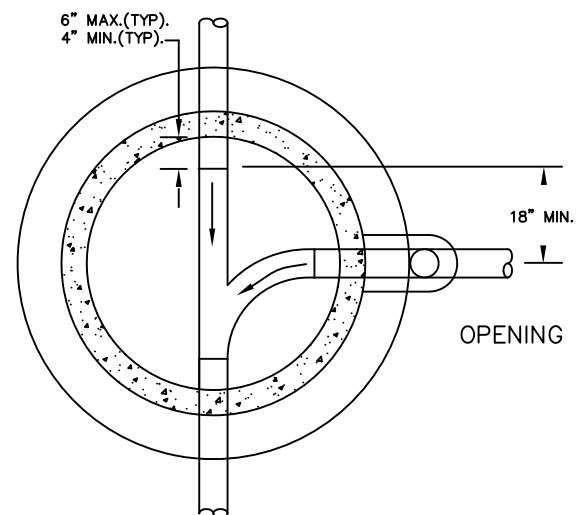
**TYPICAL DROP MANHOLE**  
(SECTION THRU CENTER)

**NOTES:**

- 1- FOR SEWER PIPES LESS THAN 12-INCH DIAMETER USE 4-FOOT DIAMETER MANHOLE.
- 2- FOR SEWER PIPES WITH 12-INCH OR GREATER DIAMETER USE 5-FOOT DIAMETER MANHOLE.
- 3- WHEN THE SUM OF ALL PIPE SIZES CONNECTED TO THE MANHOLE TOTALS 24 INCHES OR GREATER USE A 5-FOOT DIAMETER MANHOLE.
- 4- WHEN SEWER DEPTH IS 12 FEET OR GREATER USE A 5-FOOT DIAMETER MANHOLE.
- 5- VERTICAL DROP PIPE AND FITTINGS SHALL BE THE SAME SIZE AS THE INCOMING SEWER PIPE.



**SECTION A-A**



**SECTION B-B**

NO SCALE

CITY OF WASHINGTON ENGINEERING DEPARTMENT

**JUNCTION & DROP MANHOLE  
DETAILS**

STANDARD DWG. NO.

221 1 OF 1

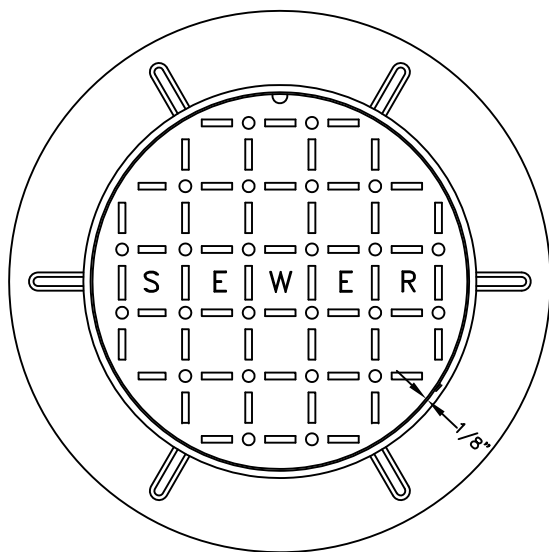
APPROVED:

DATE:

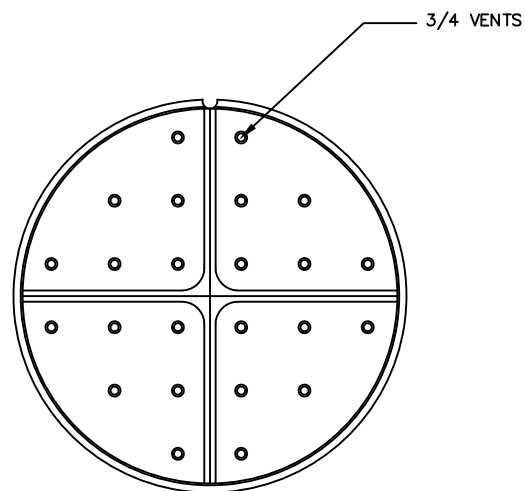
BY: —

REVISIONS		
DATE	DESCRIPTION	BY

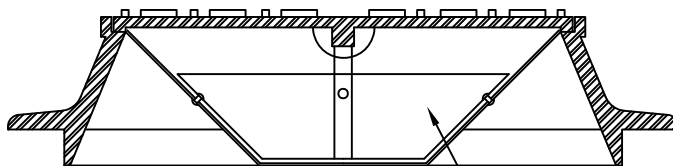
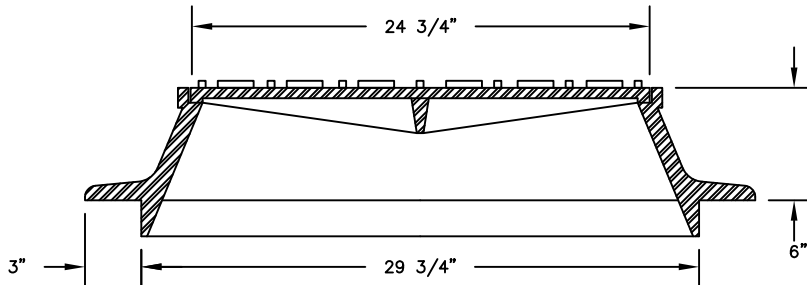




PLAN OF COVER & RING



BOTTOM VIEW OF COVER



SECTIONS

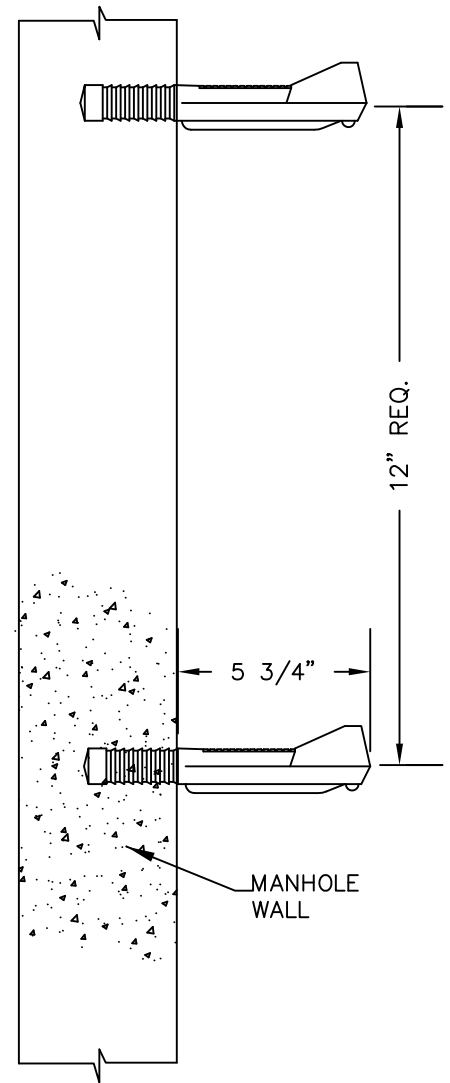
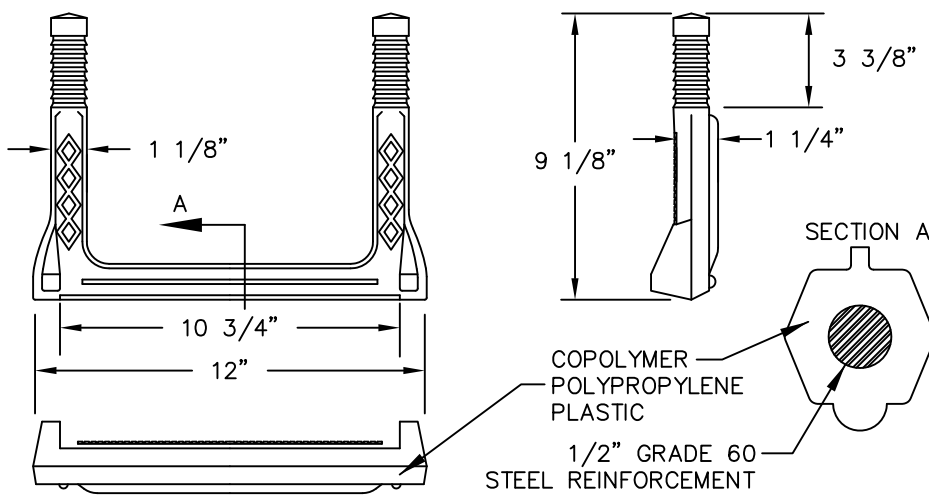
DUST PAN  
ALUMINUM OR GALVANIZED  
(WHERE REQUIRED)

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

MANHOLE FRAME & COVER  
DETAILS

STANDARD DWG. NO.	
222	1 OF 1
APPROVED:	
DATE:	BY: -



## MANHOLE STEPS

### NOTES:

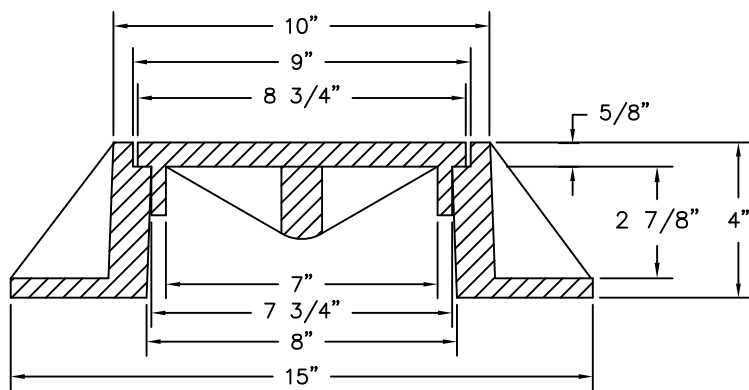
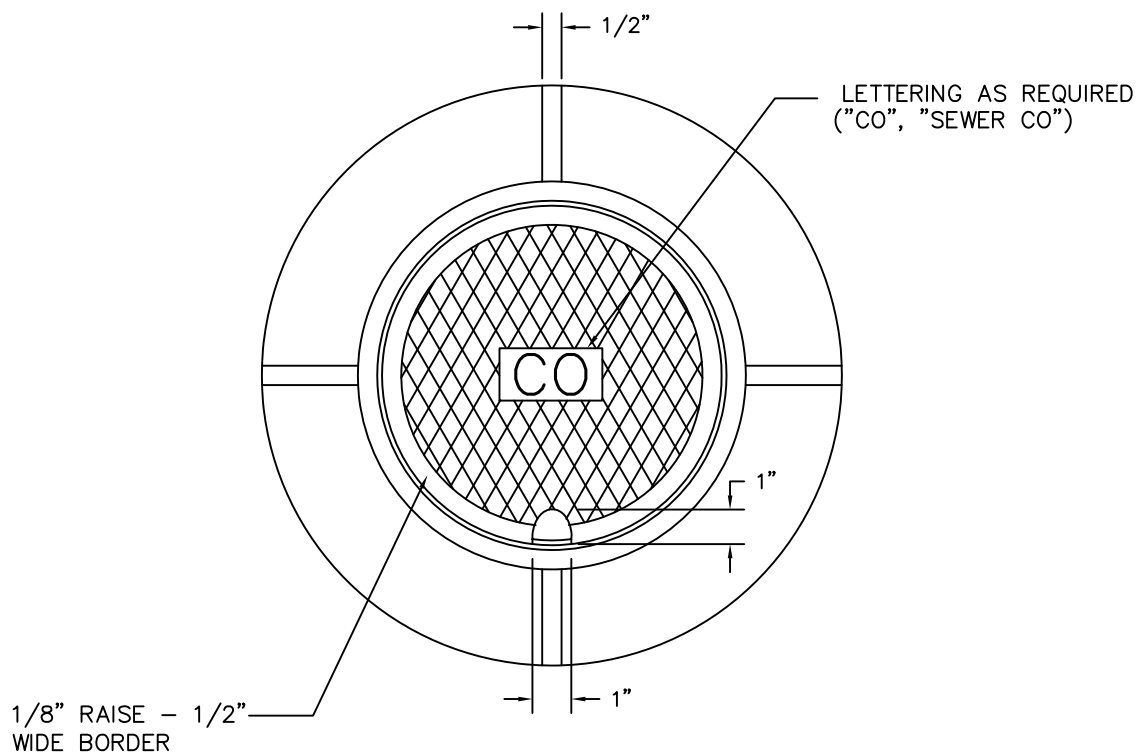
- 1- INSTALL STEPS PER MANUFACTURERS RECOMMENDATIONS.
- 2- STEPS SHALL BE ALIGNED VERTICALLY.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

MANHOLE STEP  
DETAILS

STANDARD DWG. NO.	
223	1 OF 1
APPROVED:	
DATE:	BY: -



NOTES:

1- MATERIAL SHALL BE CAST IRON ASTM A48, CL30

CITY OF WASHINGTON ENGINEERING DEPARTMENT

SEWER CLEANOUT COVER DETAIL

STANDARD DWG. NO.

224 2 OF 2

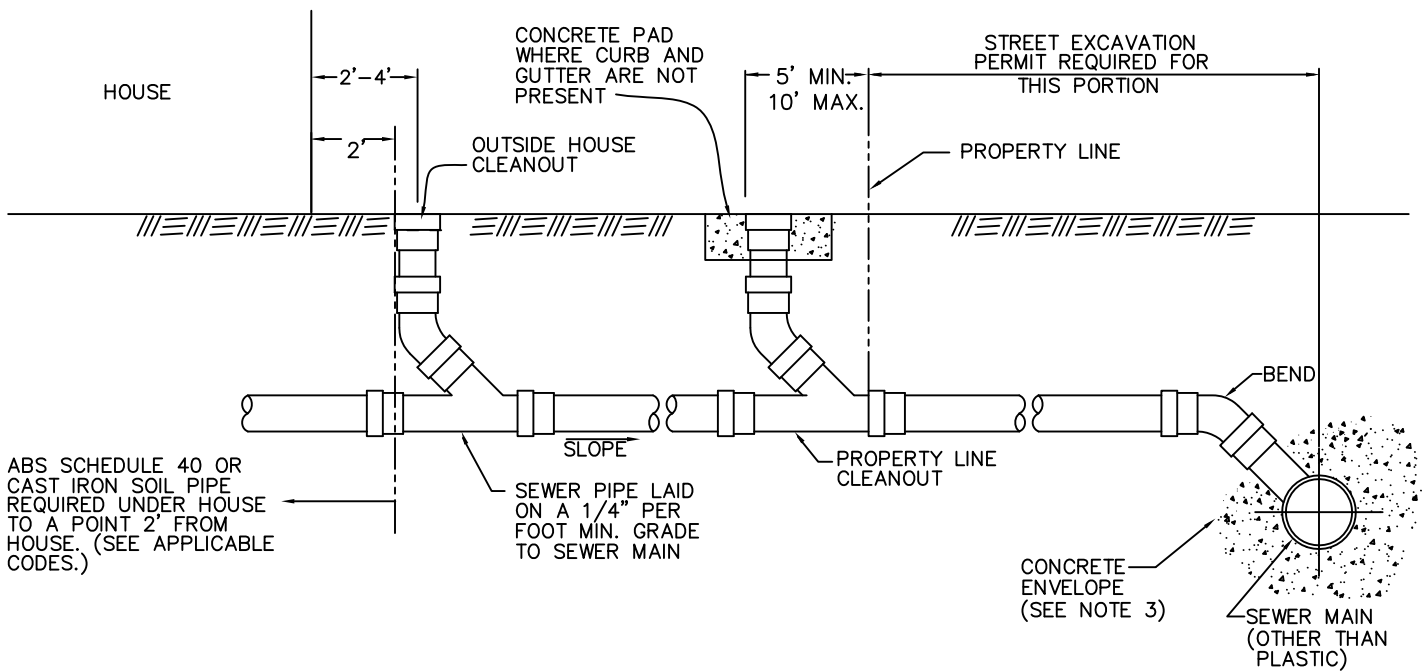
APPROVED:

DATE:

BY: -

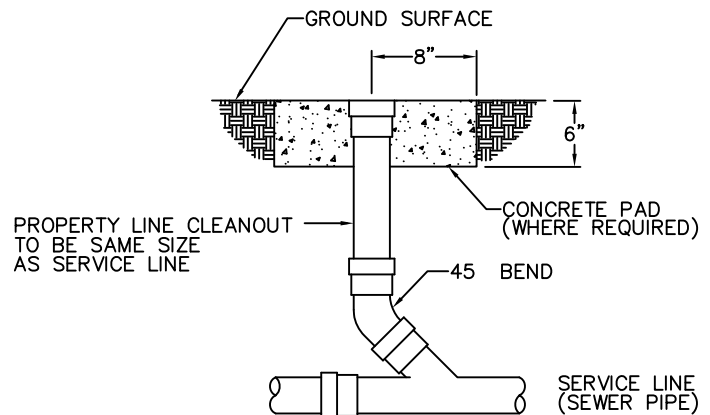
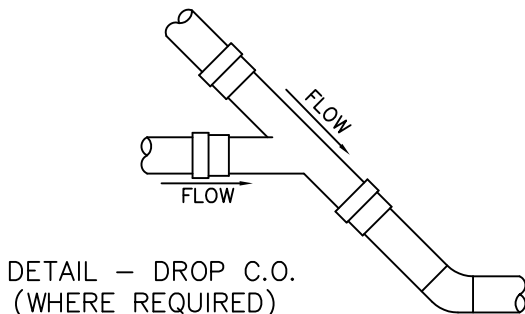
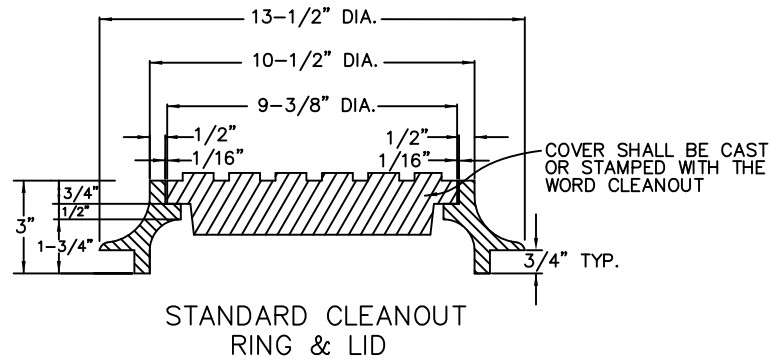
REVISIONS

DATE	DESCRIPTION	BY



NOTES:

- 1- PROPERTY LINE AND OUTSIDE HOUSE CLEANOUTS ARE REQUIRED AS SHOWN.
- 2- CLEANOUT REQUIRED AT 100' MAX. SPACING (STRAIGHT RUNS) AND FOR EACH AGGREGATE CHANGE IN DIRECTION, WHERE TOTAL AGGREGATE CHANGE EXCEEDS 135 DEGREES.
- 3- ALL LATERALS CUT INTO EXISTING MAINS SHALL BE ADAPTED WITH SADDLES. WHERE SADDLES ARE NOT WATER TIGHT, A CONCRETE ENVELOPE SHALL BE REQUIRED. LATERALS SHALL NOT PROTRUDE INTO SEWER MAINS.
- 4- ALL CLEANOUTS LOCATED IN DRIVEWAYS OR OTHER AREAS SUBJECT TO VEHICLE TRAFFIC SHALL HAVE A CAST IRON RING AND COVER OR OTHER APPROVED PROTECTIVE DEVICE.
- 5- FOR COMMERCIAL APPLICATION CONTACT WASTE WATER DEPARTMENT.



CITY OF WASHINGTON ENGINEERING DEPARTMENT

TYPICAL RESIDENTIAL SEWER CONNECTION  
DETAILS

STANDARD DWG. NO.

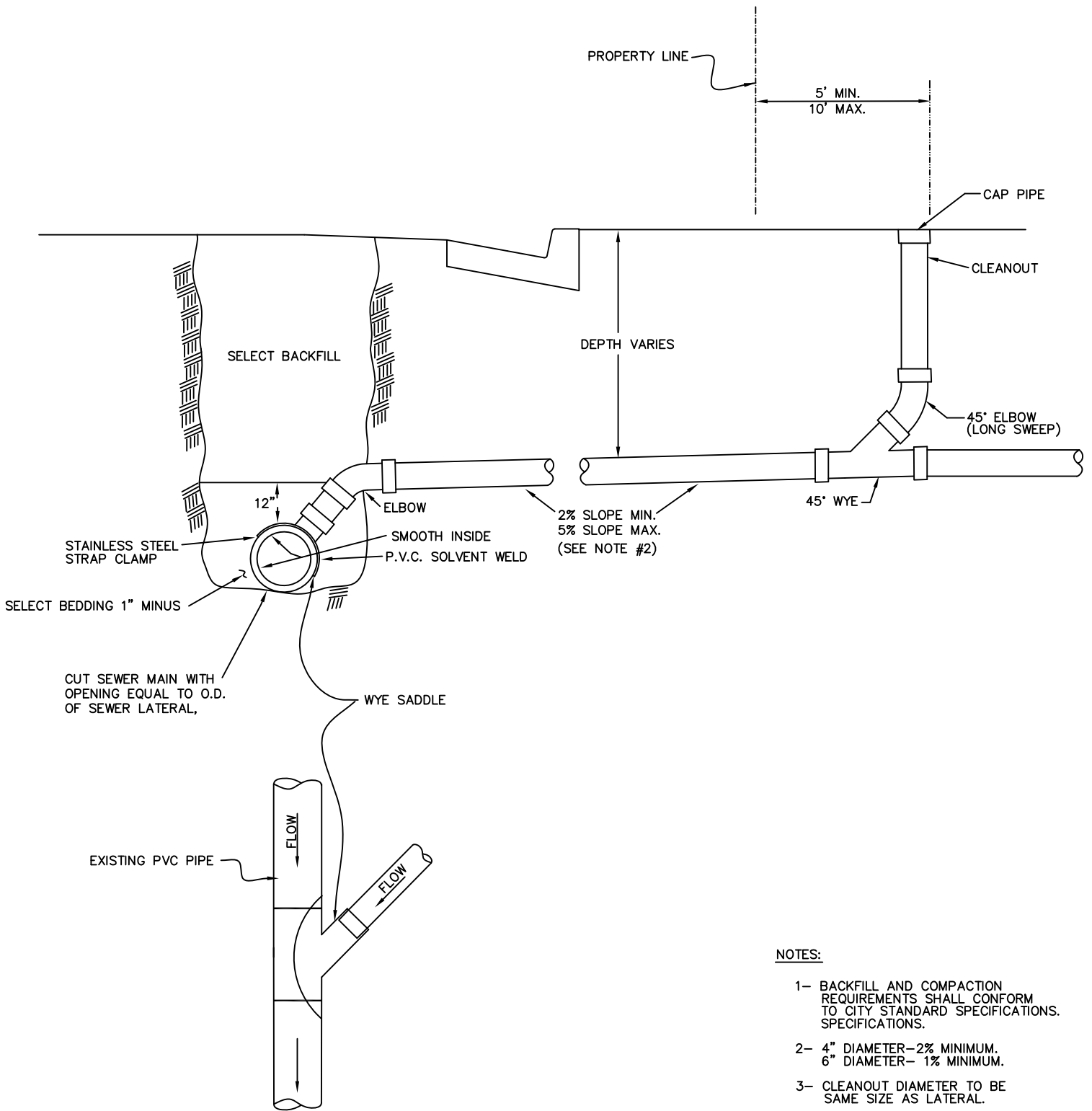
230 1 OF 1

APPROVED:

DATE:

BY: -

REVISIONS		
DATE	DESCRIPTION	BY



**NOTES:**

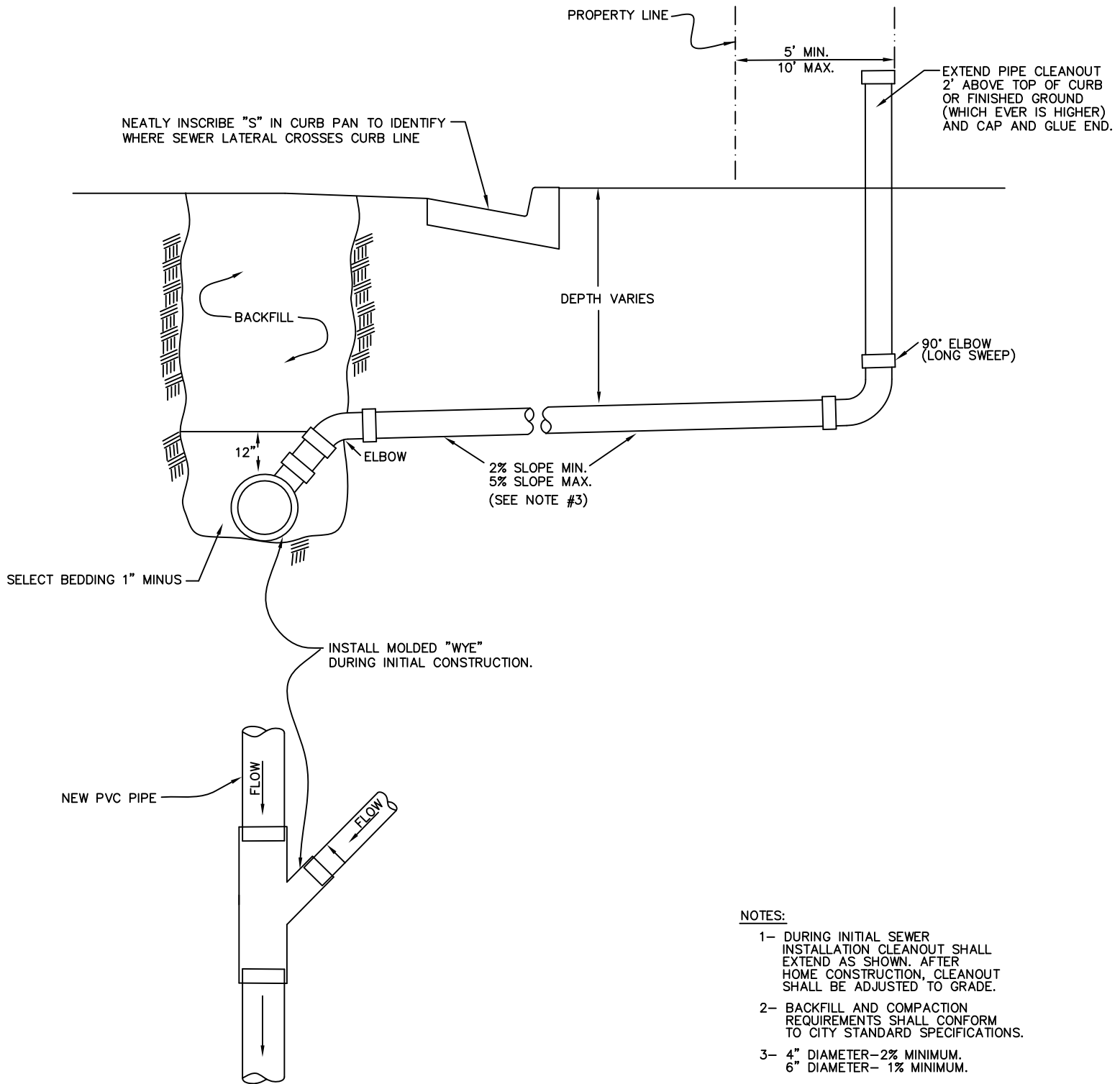
- 1- BACKFILL AND COMPACTION REQUIREMENTS SHALL CONFORM TO CITY STANDARD SPECIFICATIONS.
- 2- 4" DIAMETER-2% MINIMUM.  
6" DIAMETER- 1% MINIMUM.
- 3- CLEANOUT DIAMETER TO BE SAME SIZE AS LATERAL.
- 4- INSTALL WYE SADDLE PER MANUFACTURER'S RECOMMENDATIONS.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

P.V.C. SERVICE CONNECTION  
EXISTING P.V.C. SEWER MAINS

STANDARD DWG. NO.	
231	1 OF 1
APPROVED:	
DATE:	BY: -



**NOTES:**

- 1- DURING INITIAL SEWER INSTALLATION CLEANOUT SHALL EXTEND AS SHOWN. AFTER HOME CONSTRUCTION, CLEANOUT SHALL BE ADJUSTED TO GRADE.
- 2- BACKFILL AND COMPACTION REQUIREMENTS SHALL CONFORM TO CITY STANDARD SPECIFICATIONS.
- 3- 4" DIAMETER- 2% MINIMUM.  
6" DIAMETER- 1% MINIMUM.
- 4- CLEANOUT DIAMETER TO BE SAME SIZE AS LATERAL.
- 5- BRASS PLUG MARKED WITH "S" PLACED IN THE CURB PAN MAY BE USED IN LIEU OF AN INSCRIBED "S" IN THE CURB PAN.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

P.V.C. SERVICE CONNECTION  
NEW P.V.C. SEWER MAINS

STANDARD DWG. NO.

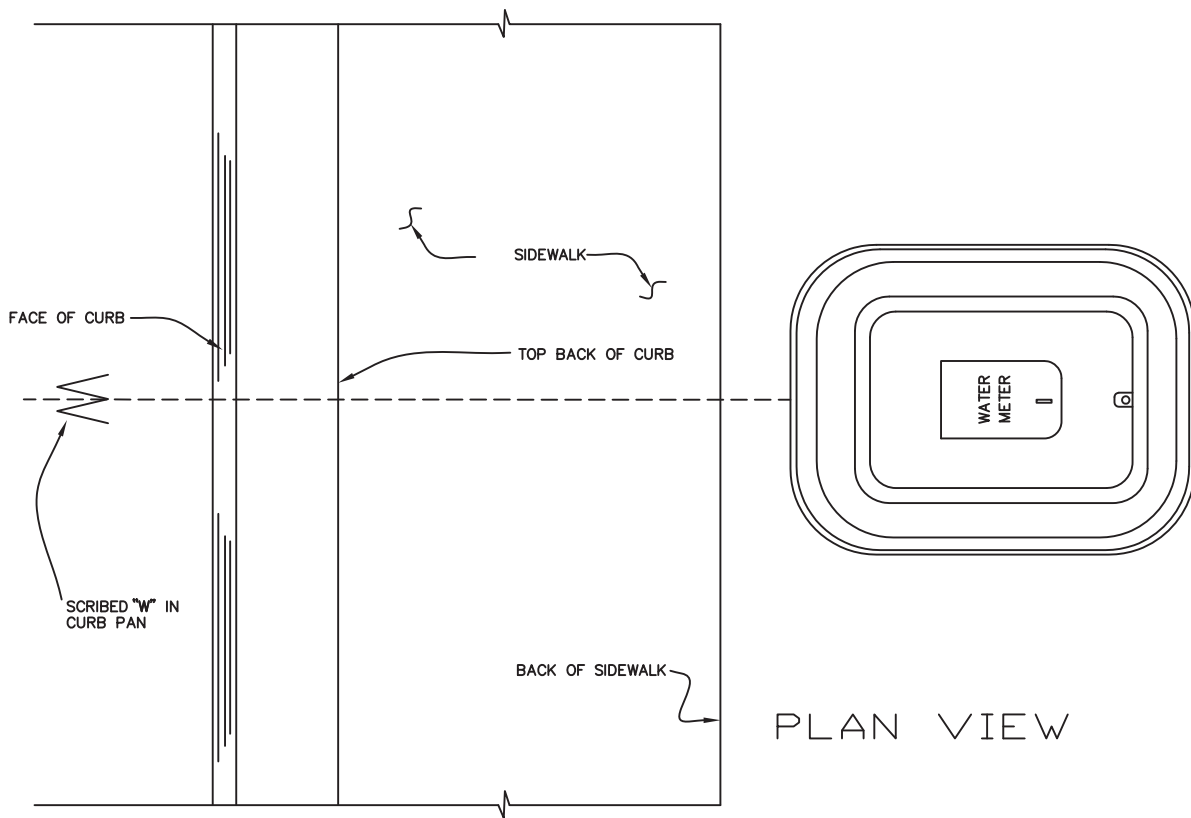
232 1 OF 1

APPROVED:

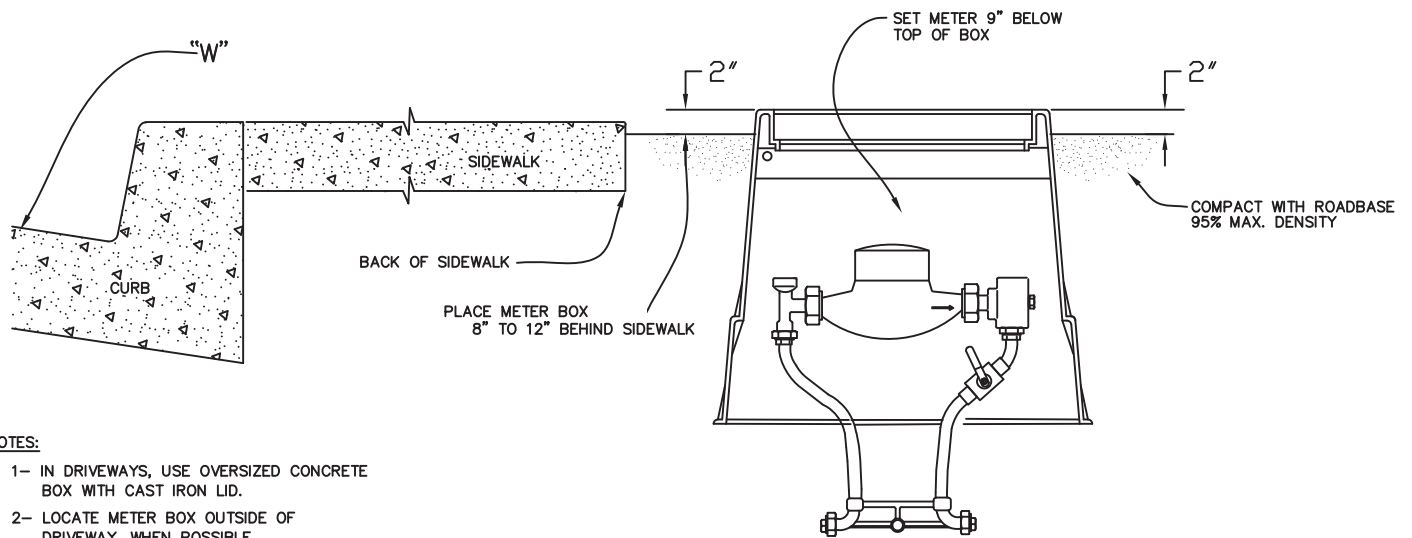
DATE: BY: -

REVISIONS

DATE	DESCRIPTION	BY



PLAN VIEW



SECTION

NOTES:

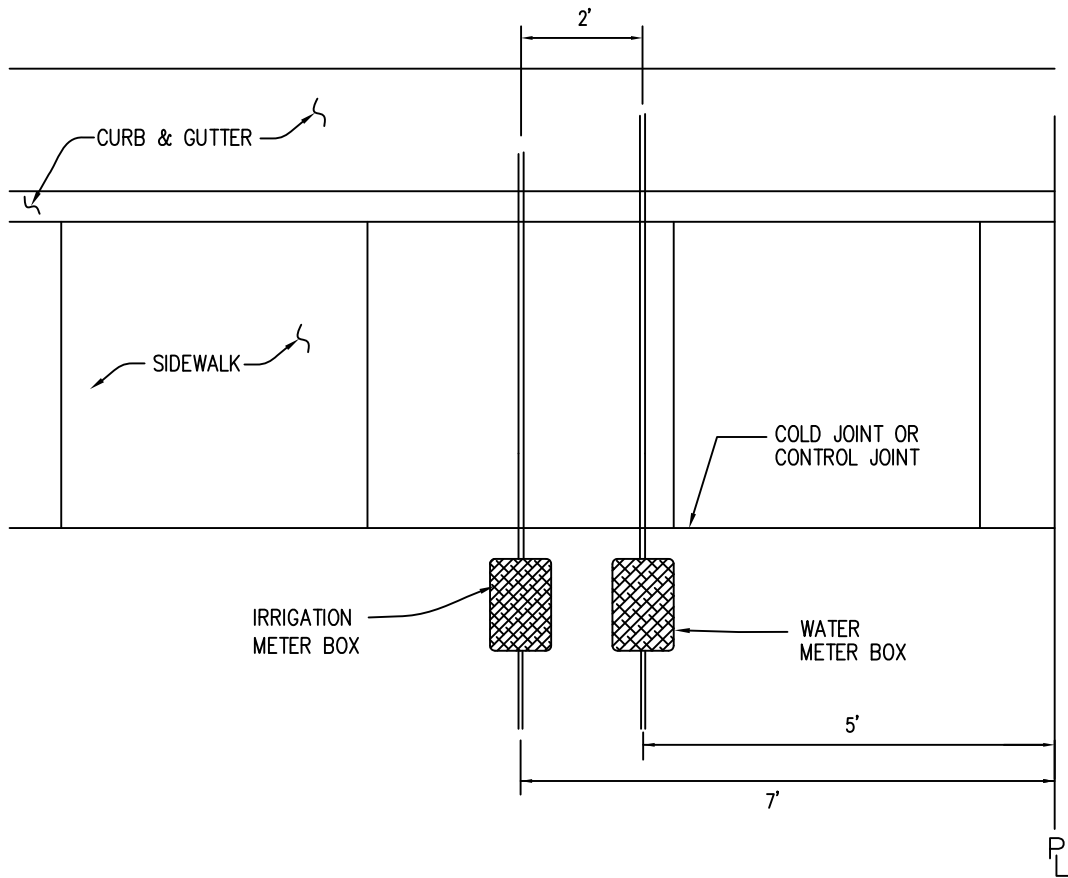
- 1- IN DRIVEWAYS, USE OVERSIZED CONCRETE BOX WITH CAST IRON LID.
- 2- LOCATE METER BOX OUTSIDE OF DRIVEWAY, WHEN POSSIBLE.
- 3- A "W" SHALL BE SCRIBED IN THE CURB PAN.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

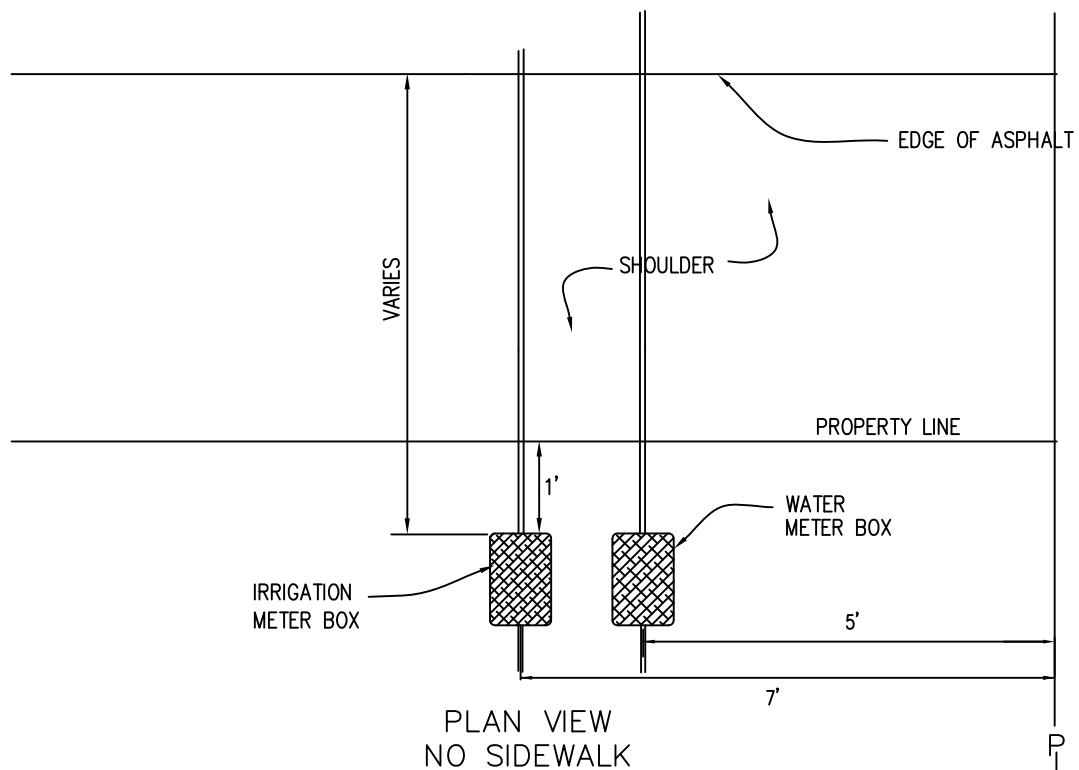
REVISIONS		
DATE	DESCRIPTION	BY

WATER METER BOX  
DETAILS

STANDARD DWG. NO.	
300	1 OF 1
APPROVED:	
DATE:	BY: -



PLAN VIEW  
W/SIDEWALK



PLAN VIEW  
NO SIDEWALK

CITY OF WASHINGTON ENGINEERING DEPARTMENT

WATER/IRRIGATION METER BOX LOCATION  
DETAILS

STANDARD DWG. NO.

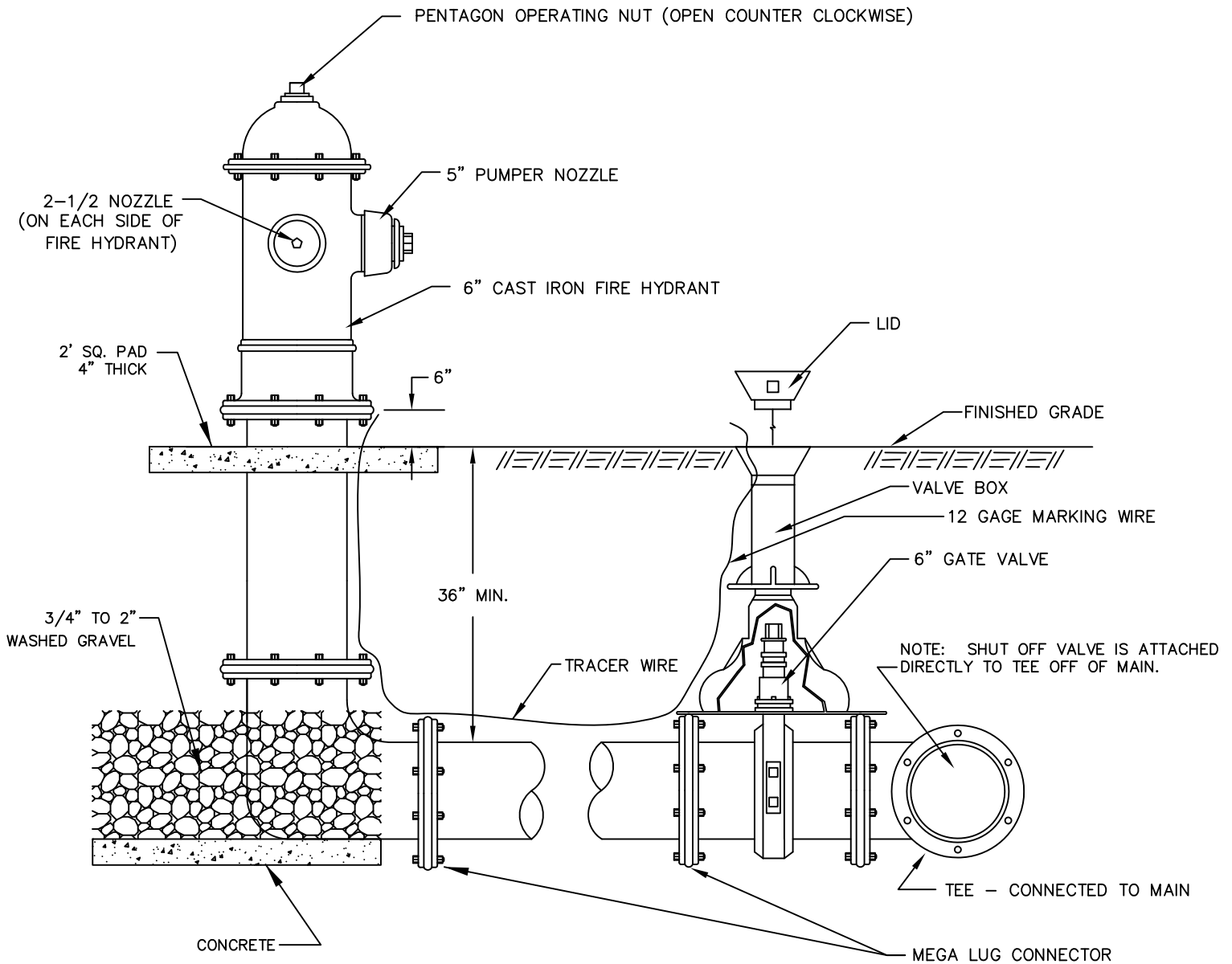
301 1 OF 1

APPROVED:

DATE: BY: -

REVISIONS		
DATE	DESCRIPTION	BY





NOTES:

1- IN GENERAL, HYDRANTS SHALL BE PLACED A MINIMUM OF 1' BEHIND SIDEWALK. WHERE A PLANTER STRIP IS USED, HYDRANT MAY BE PLACED IN CENTER PROVIDED WIDTH OF PLANTER IS 4' OR GREATER.

2- INSTALL TRACER WIRE FROM SHUT OFF VALVE TO HYDRANT

CITY OF WASHINGTON ENGINEERING DEPARTMENT

STANDARD FIRE HYDRANT  
DETAILS

STANDARD DWG. NO.

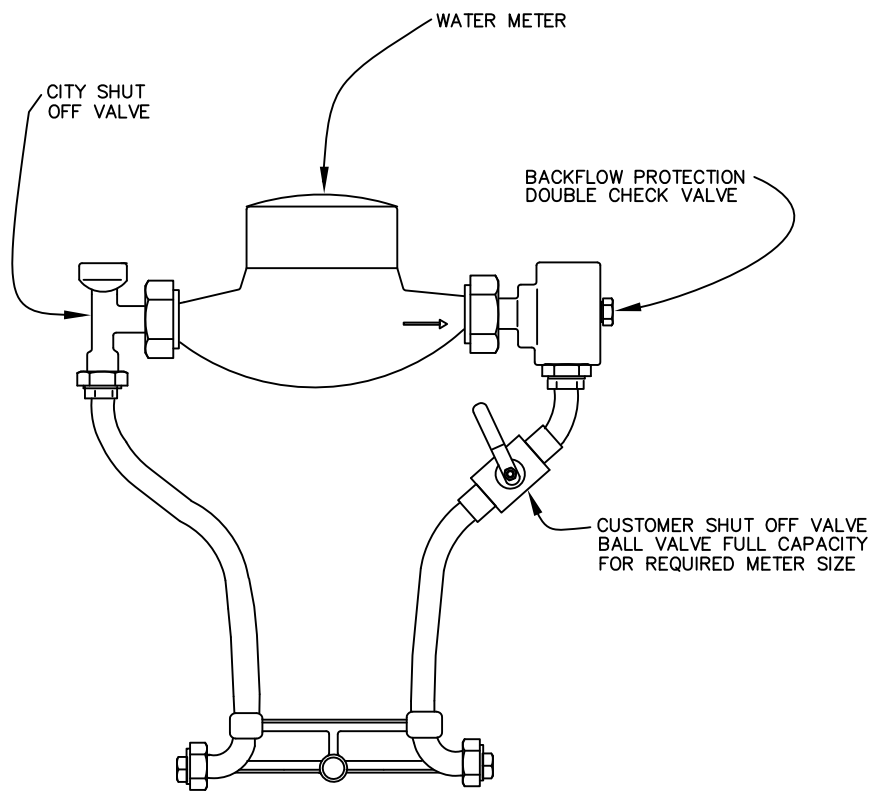
302 1 OF 1

APPROVED:

DATE: BY: -

REVISIONS

DATE	DESCRIPTION	BY

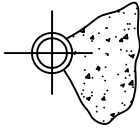


REVISIONS			CITY OF WASHINGTON ENGINEERING DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	WATER METER SETTER DETAILS		303	1 OF 1
					APPROVED:	
					DATE:	BY: -



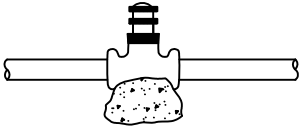
THRUST BLOCK BEARING AREA IN SQUARE FEET								
PIPE SIZE	CONDITION							
	I	II	III	IV	V	VI	VII	VIII
4"	2.6	3.3	2.6	1.3	1.3	2.0	2.6	3.3
6"	4.6	6.5	3.9	2.0	2.6	3.3	4.6	6.5
8"	7.8	11.0	5.9	3.3	3.9	5.9	7.8	11.0
10"	12.4	17.5	9.8	5.2	6.5	9.1	12.4	17.5
12"	17.5	24.8	13.6	7.8	9.1	12.3	17.5	24.8
14"	24.0	33.8	18.2	9.7	12.3	16.9	24.0	33.8
16"	31.1	44.0	23.8	12.7	15.5	23.2	31.1	44.0

1. CALCULATED ON 225 LB. TEST PRESSURE & ALLOWABLE BEARING PRESSURE OF 2000 LBS. PER SQUARE FOOT.
2. IN POOR SOILS SPECIAL DESIGN IS REQUIRED.
3. CONCRETE SHALL BE CLASS "C" OR BETTER.
4. ALL THRUST BLOCK BEARING FACES SHALL BE POURED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED BACKFILL.
5. PRIOR APPROVAL FROM THE WATER DEPARTMENT REQUIRED FOR USE OF CONCRETE THRUST BLOCKS.

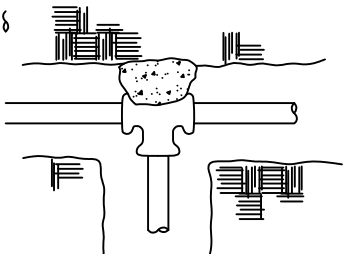


12"  
MIN.  
TYPICAL SECTION THRU  
THRUST BLOCKS

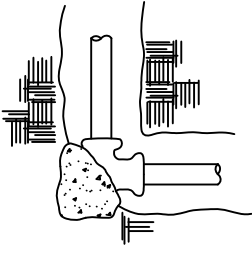
VALVE ANCHOR REQUIRED  
FOR VALVES 12" OR LARGER



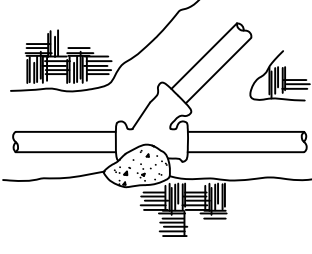
# THRUST BLOCKING



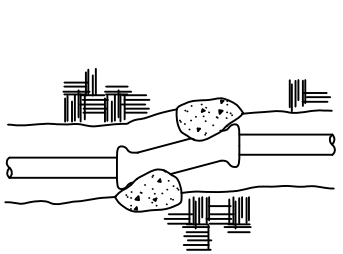
CONDITION I



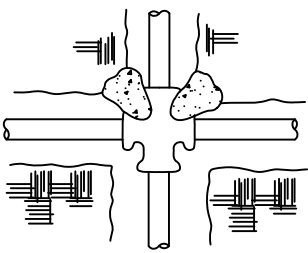
CONDITION II



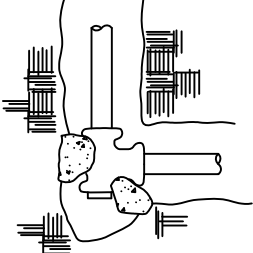
CONDITION III



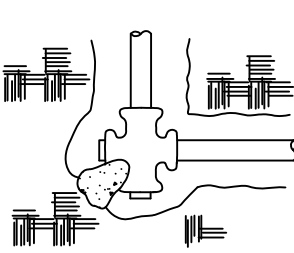
CONDITION IV



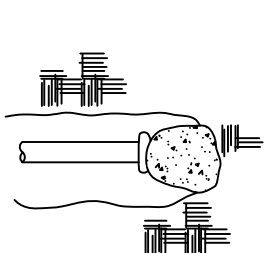
CONDITION V



CONDITION VI



CONDITION VII



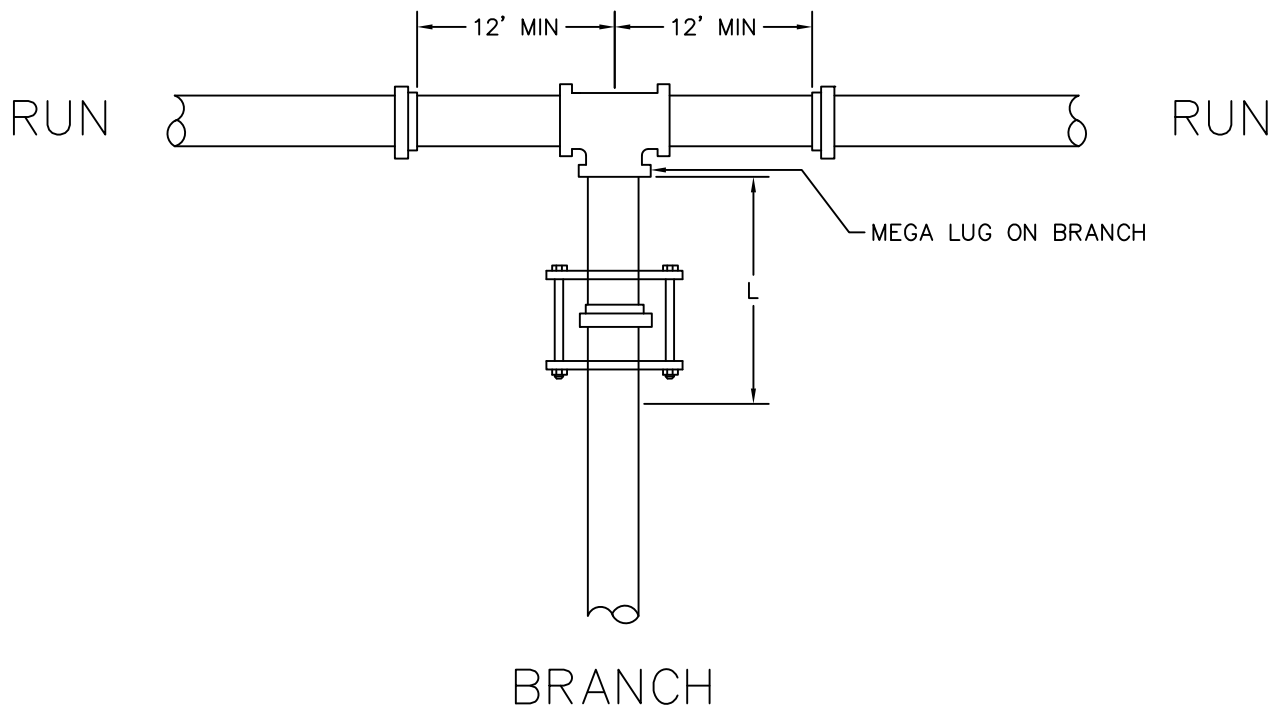
CONDITION VIII

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

WATER LINE THRUST BLOCK  
DETAILS

STANDARD DWG. NO.	
306	1 OF 1
APPROVED:	
DATE:	BY: -



		RUN SIZE DIAMETER									
		4	6	8	10	12	14	16	18	20	24
BRANCH SIZE DIAMETER	4	*	*	*	*	*	*	*	*	*	*
	6		*	*	*	*	*	*	*	*	*
	8			*	*	*	*	*	*	*	*
	10				10	*	*	*	*	*	*
	12					28	12	4	*	*	*
	14						45	31	17	3	*
	16							62	49	37	11
	18								78	67	44
	20									95	74
	24										127

\* – FOR THIS CONDITION NEED ONLY RESTRAIN THE BRANCH OUTLET OF THE TEE.

RESTRAINED LENGTHS, "L" (IN FEET)

1. RESTRAIN THE TWO MECHANICAL JOINTS ON THE RUN SIDES OF THE TEE. THERE SHOULD BE A FULL 20' LENGTH OF PIPE INSTALLED ON EACH SIDE OF THE RUN.
2. ALL JOINTS WITHIN THE LENGTH "L" ON THE BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER CITY SPECIFICATION.
3. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

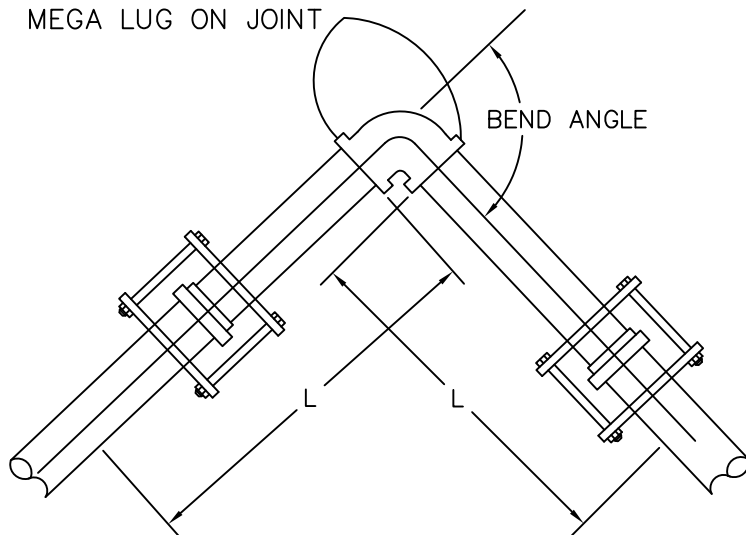
CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD TEE PVC WITHOUT VALVES  
RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
307	1 OF 1
APPROVED:	
DATE:	BY: –

MEGA LUG ON JOINT



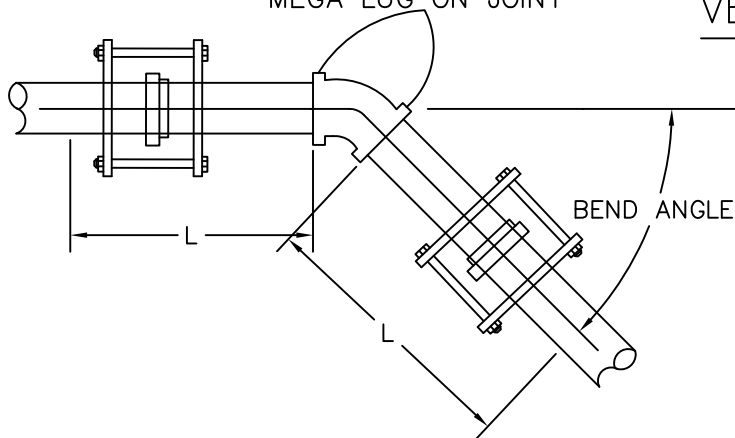
## HORIZONTAL BEND

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

SIZE DIAMETER		4	6	8	10	12	14	16	18	20
BEND ANGLE	11.25	2	3	4	4	5	6	7	7	8
	22.5	4	6	7	9	10	12	13	15	16
	45	8	12	15	18	21	24	28	30	33
	90	20	28	37	44	52	59	67	73	81

RESTRAINED LENGTHS, "L" (IN FEET)

MEGA LUG ON JOINT



## VERTICAL DOWN BEND

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

SIZE DIAMETER		4	6	8	10	12	14	16	18	20
BEND ANGLE	11.25	6	8	10	12	14	15	17	20	20
	22.5	11	15	19	23	27	31	35	40	40
	45	23	31	40	48	56	64	72	80	80

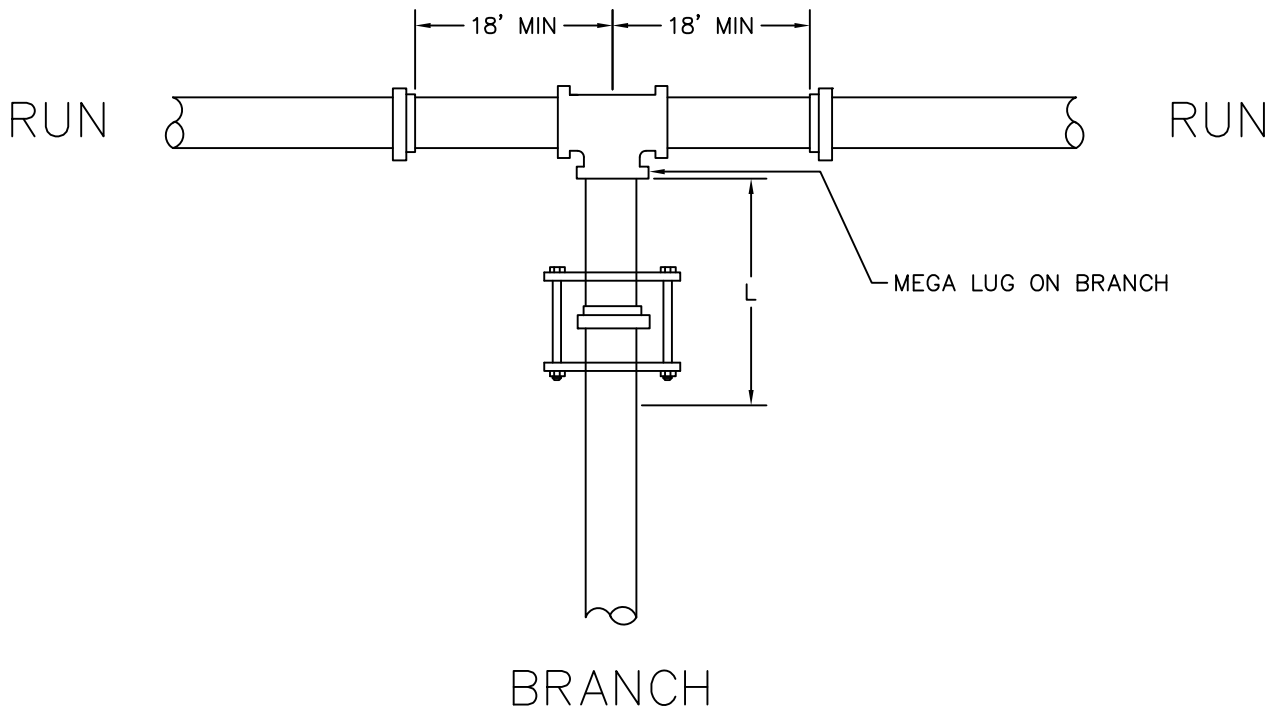
RESTRAINED LENGTHS, "L" (IN FEET)

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD BENDS FOR PVC W/O VALVES  
RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
308	1 OF 1
APPROVED:	
DATE:	BY: -



		RUN SIZE DIAMETER									
		4	6	8	10	12	14	16	18	20	24
BRANCH SIZE DIAMETER	4	*	*	*	*	*	*	*	*	*	*
	6		*	*	*	*	*	*	*	*	*
	8			*	*	*	*	*	*	*	*
	10				10	2	*	*	*	*	*
	12					19	12	4	*	*	*
	14						28	22	15	8	*
	16							37	31	26	13
	18								46	41	30
	20									55	45
	24										72

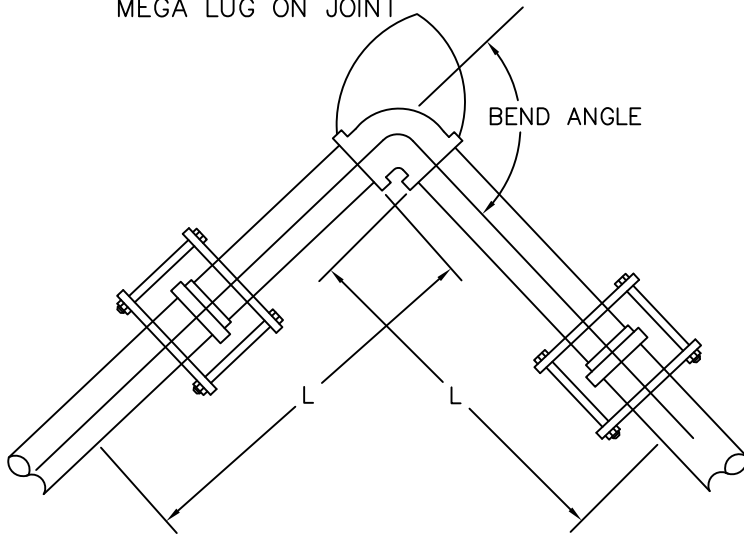
\* – FOR THIS CONDITION NEED ONLY RESTRAIN THE BRANCH OUTLET OF THE TEE.

RESTRAINED LENGTHS, "L" (IN FEET)

1. RESTRAIN THE TWO MECHANICAL JOINTS ON THE RUN SIDES OF THE TEE. THERE SHOULD BE A FULL 18' LENGTH OF PIPE INSTALLED ON EACH SIDE OF THE RUN.
2. ALL JOINTS WITHIN THE LENGTH "L" ON THE BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER CITY SPECIFICATION.
3. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

REVISIONS			CITY OF WASHINGTON ENGINEERING DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	STANDARD TEE DUCTILE IRON W/O VALVES RESTRAINING SYSTEM DETAIL		309	1 OF 1
					APPROVED:	
					DATE:	BY: –

MEGA LUG ON JOINT



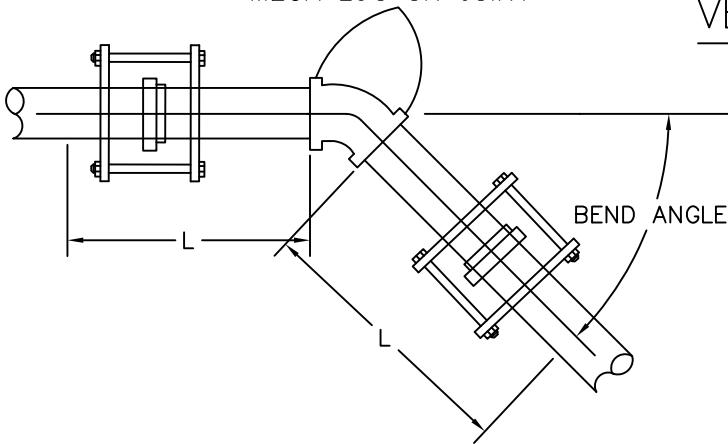
## HORIZONTAL BEND

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

		SIZE DIAMETER							
		4	6	8	10	12	14	16	20
BEND ANGLE	11.25	3	2	3	3	4	4	5	6
	22.5	3	4	7	7	8	9	10	12
	45	6	9	12	14	16	19	21	26
	90	15	21	28	34	40	45	51	62

RESTRAINED LENGTHS, "L" (IN FEET)

MEGA LUG ON JOINT



## VERTICAL DOWN BEND

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

		SIZE DIAMETER							
		4	6	8	10	12	14	16	20
D ANGLE	11.25	3	5	7	8	8	10	11	13
	22.5	6	10	11	14	16	18	22	25
	45	14	18	24	28	33	38	43	53

RESTRAINED LENGTHS, "L" (IN FEET)

CITY OF WASHINGTON ENGINEERING DEPARTMENT

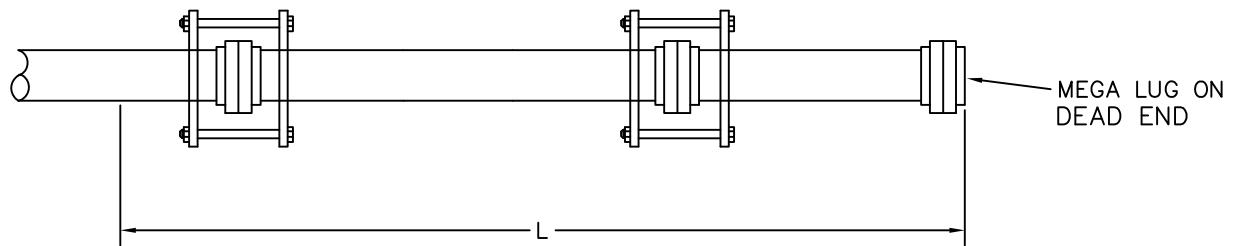
REVISIONS		
DATE	DESCRIPTION	BY

STANDARD BENDS FOR DUCTILE IRON W/O VALVES  
RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
310	1 OF 1
APPROVED:	
DATE:	BY: -



# STANDARD DEAD END FOR DUCTILE IRON



1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

PIPE SIZE IN INCHES

4	6	8	10	12	14	16	18	20
23	33	45	52	62	71	80	89	98

RESTRAINED LENGTHS, "L" (IN FEET)

## RESTRAINED JOINT LENGTHS USAGE GENERAL NOTES

RESTRAINED LENGTH CALCULATIONS ARE BASED ON THE FOLLOWING DESIGN TYPICALLY USED WITH BACKFILL IN WASHINGTON.

1. THREE (3) FEET MINIMUM DEPTH OF COVER.
2. A SAFETY FACTOR OF 1.5
3. SOIL TYPE SANDY CLAY
4. TYPE 5 TRENCH COMPACTION FROM FOUR (4) INCHES MINIMUM UNDER THE PIPE TO THE CENTER LINE OF THE PIPE, AND COMPACTED GRANULAR OR SELECTED MATERIAL FROM THE CENTER LINE OF THE PIPE TO THE TOP OF THE PIPE (90 PERCENT STANDARD PROCTOR DENSITY, AASHTO T-99).
5. 200 PSI TEST PRESSURES FOR FOUR (4) THROUGH SIXTEEN (16) INCH SIZE PIPES.
6. AN INLINE VALVE IS CONSIDERED A DEAD END.

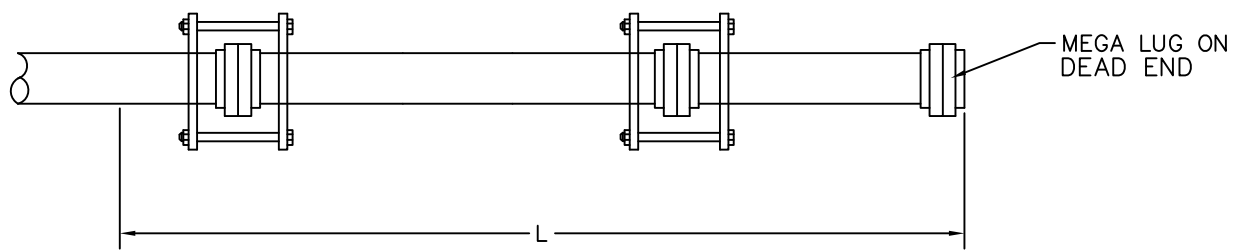
IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OR THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, THE RESTRAINED JOINT LENGTH SHALL BE DETERMINED BY THE WATER AND POWER ENGINEER.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD DEAD END FOR DUCTILE IRON  
RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
311	1 OF 1
APPROVED:	
DATE:	BY: -



1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

PIPE SIZE IN INCHES

4	6	8	10	12	14	16	18	20
44	62	82	99	118	135	153	169	187

RESTRAINED LENGTHS, "L" (IN FEET)

## RESTRAINED JOINT LENGTHS USAGE GENERAL NOTES

RESTRAINED LENGTH CALCULATIONS ARE BASED ON THE FOLLOWING DESIGN TYPICALLY USED WITH BACKFILL IN WASHINGTON.

1. THREE (3) FEET MINIMUM DEPTH OF COVER.
2. A SAFETY FACTOR OF 1.5
3. SOIL TYPE SANDY CLAY
4. TYPE 5 TRENCH COMPACTION FROM FOUR (4) INCHES MINIMUM UNDER THE PIPE TO THE CENTER LINE OF THE PIPE, AND COMPACTED GRANULAR OR SELECTED MATERIAL FROM THE CENTER LINE OF THE PIPE TO THE TOP OF THE PIPE (90 PERCENT STANDARD PROCTOR DENSITY, AASHTO T-99).
5. 200 PSI TEST PRESSURES FOR FOUR (4) THROUGH SIXTEEN (16) INCH SIZE PIPES.
6. AN INLINE VALVE IS CONSIDERED A DEAD END.

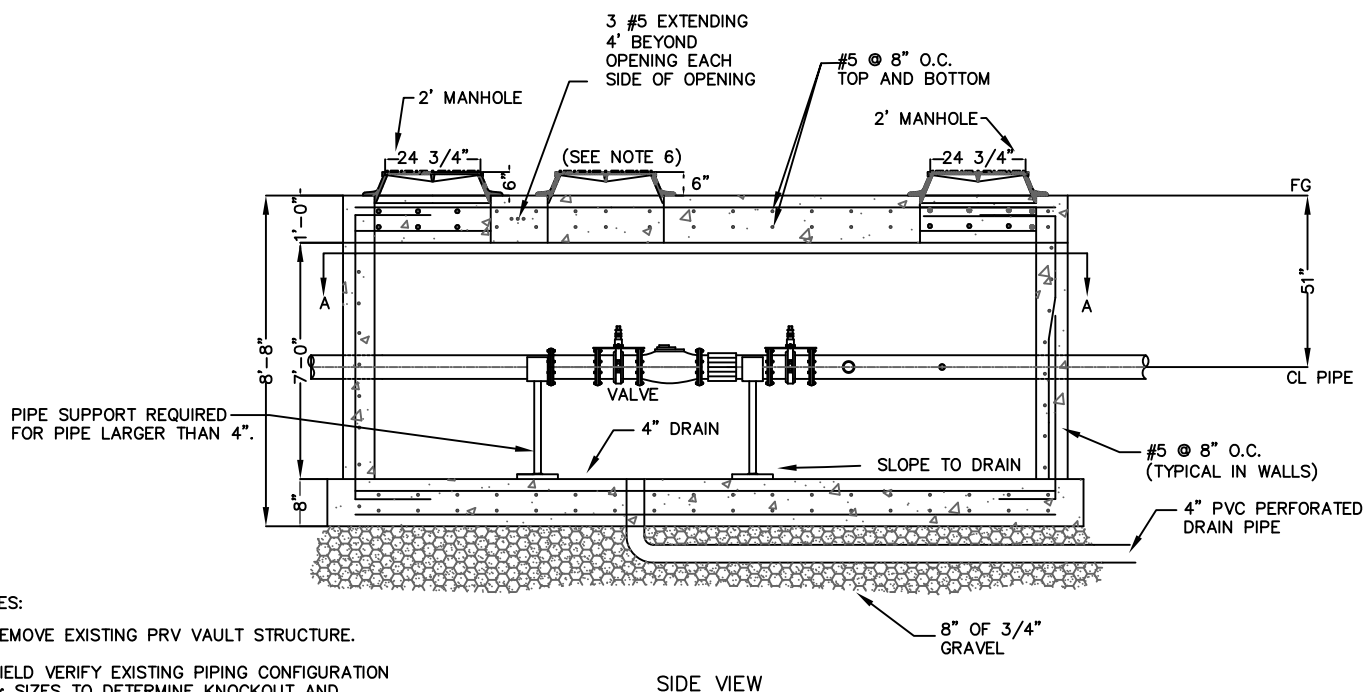
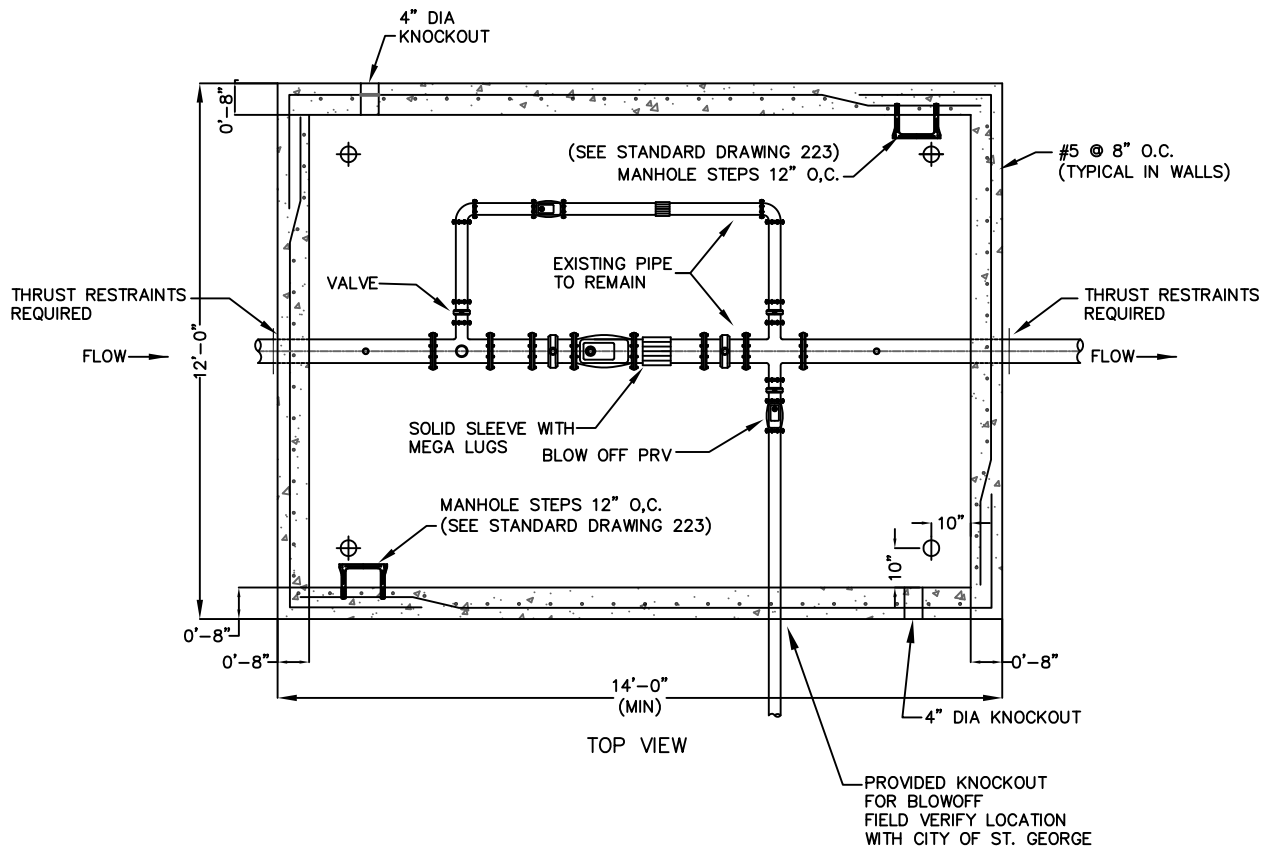
IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OR THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, THE RESTRAINED JOINT LENGTH SHALL BE DETERMINED BY THE WATER AND POWER ENGINEER.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

IN LINE VALVE\DEAD END ON PVC PIPE  
DETAIL

STANDARD DWG. NO.	
312	1 OF 1
APPROVED:	
DATE:	BY: -



NOTES:

1. REMOVE EXISTING PRV VAULT STRUCTURE.
2. FIELD VERIFY EXISTING PIPING CONFIGURATION & SIZES TO DETERMINE KNOCKOUT AND MANHOLE LOCATIONS.
3. REFER TO NORTH ORIENTATION FOR SITE AND DETAIL VIEWS.
4. IF VAULT IS IN SIDEWALK THE FINISH GRADE OF VAULT SHALL MATCH SLOPE OF EXISTING SIDEWALK.
5. IF VAULT IS IN ROADWAY, FINISH GRADE SHALL MATCH SUBGRADE.
6. MANHOLE RING & LID WILL VARY WITH SIZE OF PRV. (24" MIN. ACCESS PORTS REQUIRED)

CITY OF WASHINGTON ENGINEERING DEPARTMENT

STANDARD PRESSURE REDUCING VALVE

STANDARD DWG. NO.

314A 1 OF 2

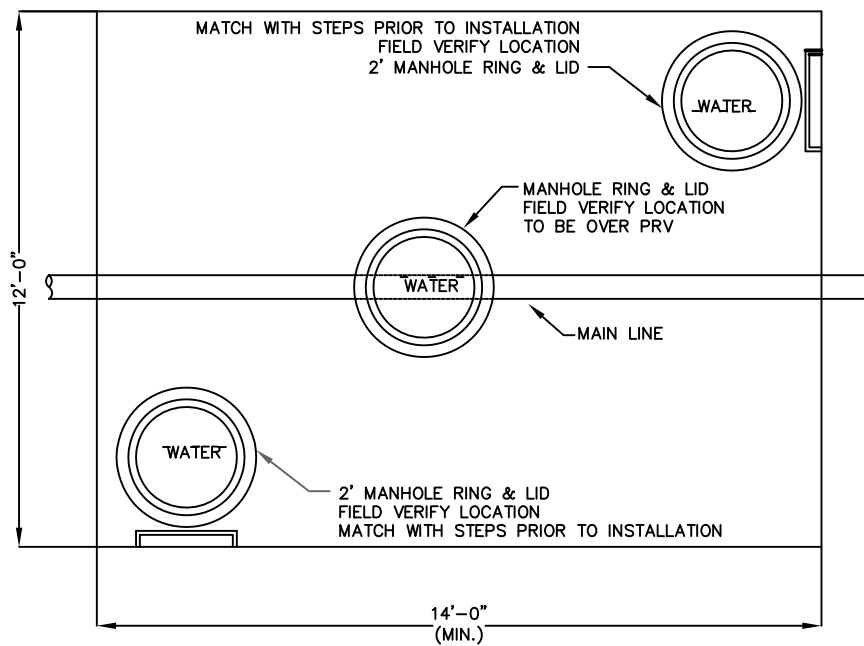
APPROVED:

DATE:

BY: -

REVISIONS

DATE	DESCRIPTION	BY



TOP VIEW LID

NOTES:

1. SIZE OF MANHOLE RING & LID WILL VARY  
WITH SIZE OF PRV.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS

DATE	DESCRIPTION	BY
3/22/06	ADD WATER MANHOLE	C.W.L.
8/02/06	14'-0" TO 14'-0" (MIN)	C.W.L.

STANDARD PRESSURE REDUCING VALVE  
VAULT LID

STANDARD DWG. NO.

314B	2 OF 2
APPROVED:	
DATE:	BY: -

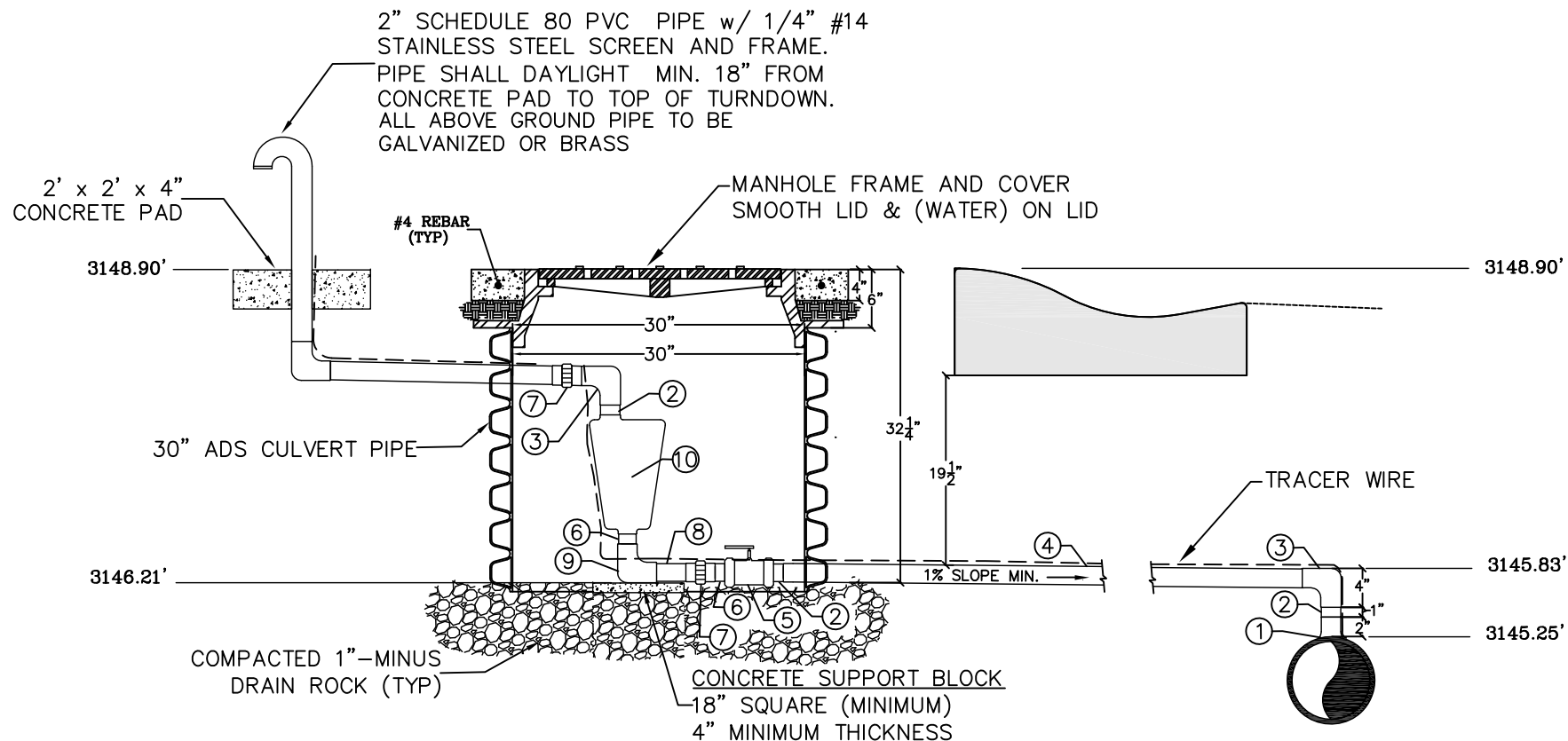


REVISIONS		
DATE	DESCRIPTION	BY

## REMOTE AIR VAC DETAIL

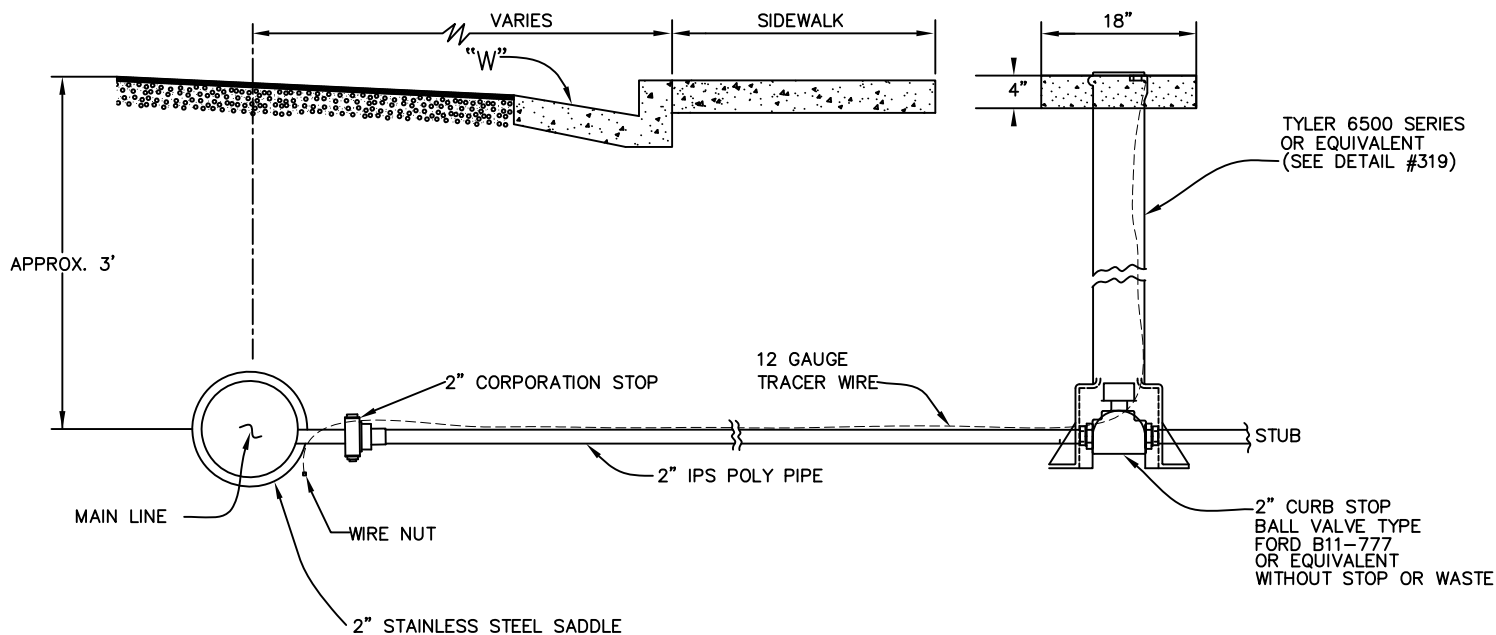
CITY OF WASHINGTON ENGINEERING DEPARTMENT

STANDARD DWG. NO.	
317	1 OF 1
APPROVED:	
DATE:	BY: -



- 
- 
- ① THREADED COLLAR OR  
STAINLESS STEEL SADDLE
- ② THREADED CLOSE NIPPLE – 2" BRASS sch 80
- ③ THREADED 90° ELBOW – 2" BRASS sch 80
- ④ 2" SCHEDULE 80 POLY PIPE
- ⑤ 2" THREADED BALL VALVE
- ⑥ THREADED CLOSE NIPPLE – 2" BRASS
- ⑦ UNION FLANGE COUPLER
- ⑧ THREADED NIPPLE – 2" BRASS
- ⑨ THREADED 90° ELBOW – 2" BRASS
- ⑩ 2" APCO 145C COMBINATION AIR/VAC VALVE

NOTE: THIS DETAIL SHALL ONLY BE USED  
IN SPECIAL CIRCUMSTANCES AND WILL  
REQUIRE WRITTEN APPROVAL.



NOTES:  
1- ALL FITTINGS ARE TO BE BRASS  
EXCEPT AS NOTED.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

2" FIRE LINE DETAIL

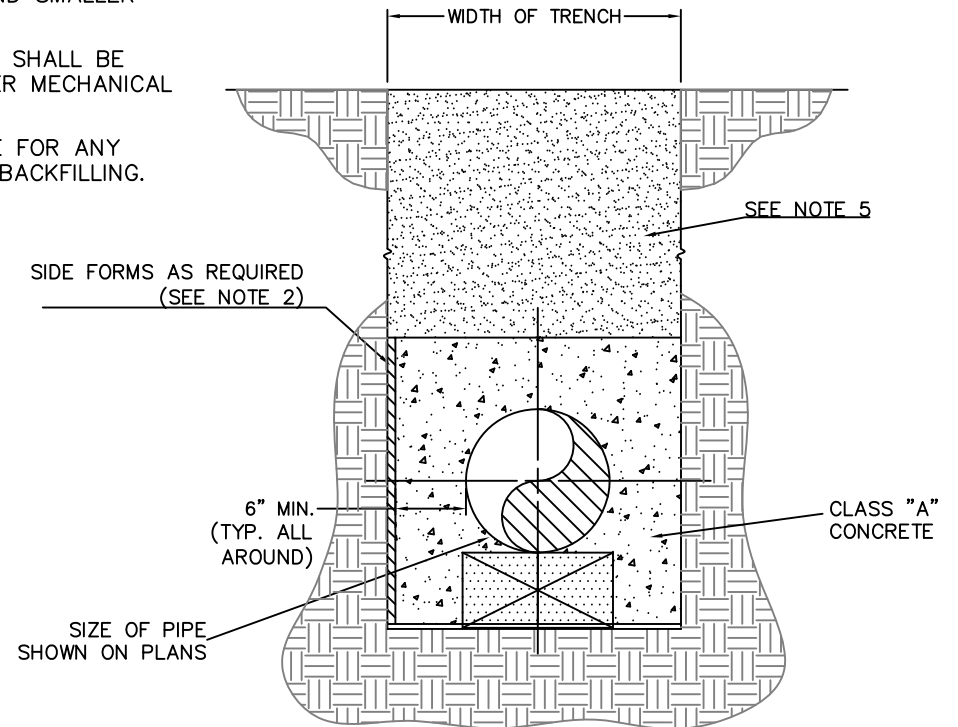
STANDARD DWG. NO.	
318	1 OF 1
APPROVED:	
DATE:	BY: -



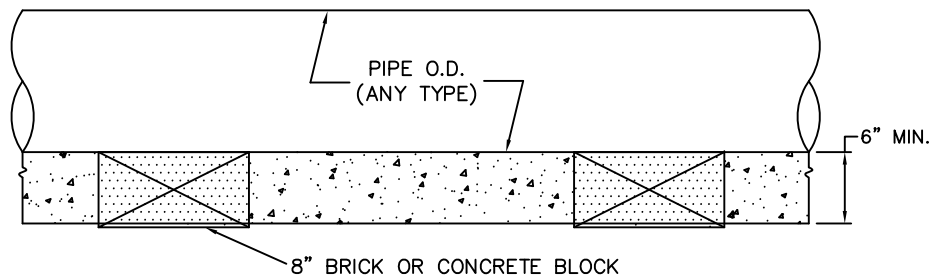


NOTES:

1. THIS DETAIL SHALL BE REQUIRED WHEN NEW OR EXISTING PIPE INSTALLATIONS WILL BE SUBJECT TO DAMAGE ANYTIME IN THE FUTURE DUE TO LACK OF PROPER COVER OR WHEN MINIMUM SEPARATION BETWEEN CROSSING OR ADJACENT UTILITIES CAN NOT BE MAINTAINED, AS DETERMINED BY THE ENGINEER.
2. FOR PIPE OVER 18" DIA., WOOD, METAL, OR GYPSUM BOARD FORMS MUST BE USED TO FORM THE SIDES OF THE ENCASEMENT. GYPSUM BOARD FORMS MAY BE LEFT IN THE GROUND BELOW THE TOP OF THE ENCASEMENT. THIS SHALL BE OPTIONAL WITH POURING AGAINST TRENCH WALLS FOR ENCASEMENT OF 18" AND SMALLER PIPE.
3. FOR ALL SITUATIONS WHERE SIDE FORMS ARE USED, TRENCH WALLS SHALL BE OVER-EXCAVATED TO ALLOW SUFFICIENT ROOM TO OPERATE PROPER MECHANICAL COMPACTION EQUIPMENT.
4. CONCRETE WHICH SPILLS BEYOND 12" FROM THE SIDES OF THE PIPE FOR ANY REASON SHALL BE REMOVED BACK TO THE PROPER LINE PRIOR TO BACKFILLING.
5. COVER TO BE APPROVED BY ENGINEER.
6. THE CONCRETE ENCASEMENT SHALL BE 3000 PSI CONCRETE WITH A MINIMUM THICKNESS ON ALL SIDES OF 6".
  - 1) 8" DIA. = .11 C.Y. OF CONCRETE PER LINEAL FT.
  - 2) 10" DIA. = .12 C.Y. OF CONCRETE PER LINEAL FT.
  - 3) 12" DIA. = .14 C.Y. OF CONCRETE PER LINEAL FT.
  - 4) 15" DIA. = .15 C.Y. OF CONCRETE PER LINEAL FT.

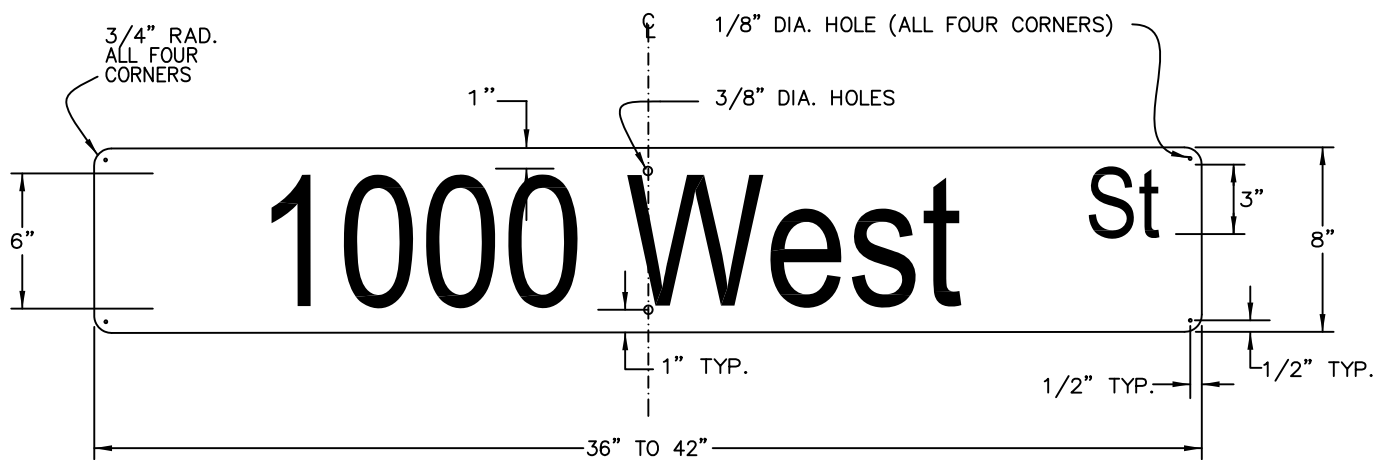
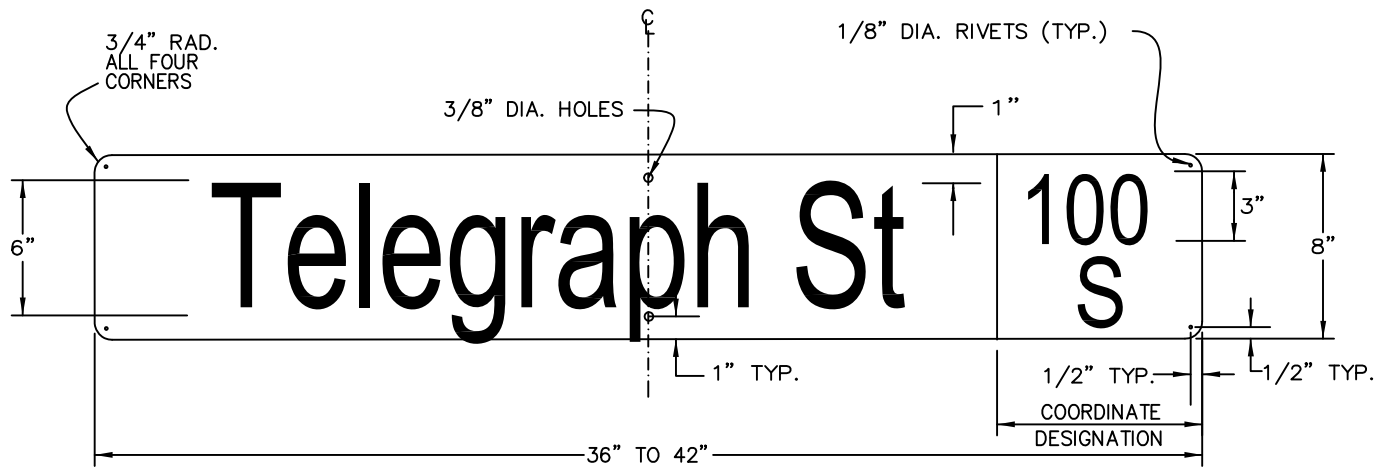


END SECTION



LONGITUDINAL SECTION

REVISIONS			CITY OF WASHINGTON ENGINEERING DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	CONCRETE ENCASEMENT		330	1 OF 1
			DETAIL		APPROVED:	BY: -



RECOMMENDED MINIMUM LETTER HEIGHTS ON STREET NAME SIGNS				
TYPE OF MOUNTING	TYPE OF STREET	SPEED LIMIT	RECOMMENDED MINIMUM LETTER HEIGHT	
			INITIAL UPPER-CASE	LOWER-CASE
OVERHEAD	ALL TYPES	ALL SPEED LIMITS	12 INCHES	9 INCHES
POST-MOUNTED	MULTI-LANE	MORE THAN 40 MPH	8 INCHES	6 INCHES
POST-MOUNTED	MULTI-LANE	40 MPH OR LESS	6 INCHES	4.5 INCHES
POST-MOUNTED	2-LANE	ALL SPEED LIMITS	6 INCHES*	4.5 INCHES*

\* ON LOCAL TWO-LANE STREETS WITH SPEED LIMITS 25 MPH OR LESS, 4-INCH INITIAL UPPER-CASE LETTERS WITH 3-INCH LOWER-CASE LETTERS MAY BE USED.

#### NOTES:

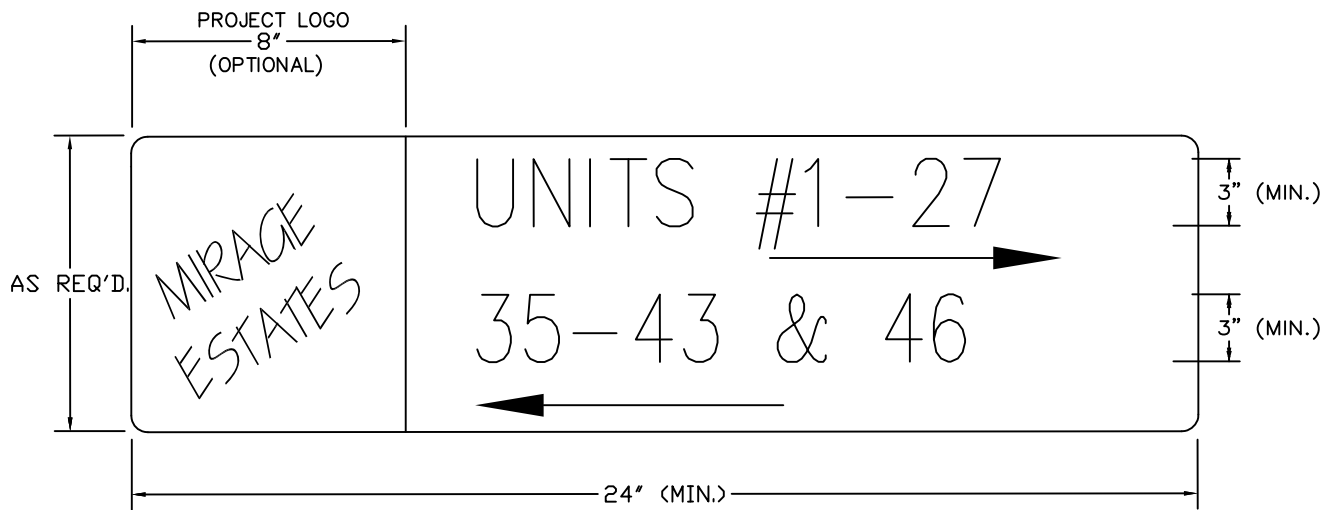
- 1- BACKGROUND SHALL BE GREEN, LEGEND AND LETTERS SHALL BE WHITE.
- 2- ALL SHEETING SHALL BE HIGH INTENSITY REFLECTIVE SHEETING.  
(FP-85 TYPE III A)
- 3- SIGNS SHOULD BE MADE BY THE "REVERSE OUT" PROCESS. NO STICK ON LETTERS.
- 4- SIGN BLANK SHALL BE 6061-T6 HEAT TREATED HIGH TENSILE DEGREASED ALUMINUM WITH ALODINE 1200 FINISH. MIN. THICKNESS SHALL BE 0.080".
- 5- EACH SIGN SHALL CONSIST OF TWO PLATES RIVETED TOGETHER AND MOUNTED AS REQUIRED.
- 6- SIGNS ON PRIVATE ROADS ARE REQUIRED AND SHOULD MEET SAME SPECIFICATIONS OF STANDARD SIGNS EXCEPT FOR BACKGROUND COLOR.
- 7- ALL STREETS WITH NAMES SHALL ALSO HAVE THE COORDINATE DESIGNATION ON THE SIGN IN THE APPROPRIATE LOCATION UNLESS OTHERWISE APPROVED.
- 8- ADDRESS COORDINATOR SHALL BE CONTACTED PRIOR TO MAKING SIGNS TO VERIFY PROPER NAMES AND COORDINATES.
- 9- THE LETTERING FOR STREET NAMES SHALL BE COMPOSED OF A COMBINATION OF LOWER-CASE LETTERS WITH INITIAL UPPER-CASE LETTERS AND SHALL CONFORM TO THE HEIGHT, WIDTH, STROKE WIDTH, AND SPACING AS PER THE U.S. DEPT. OF TRANSPORTATION PUBLICATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)" SECTION 2D.43.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD STREET SIGN

STANDARD DWG. NO.	
400	1 OF 1
APPROVED:	
DATE:	BY: -



### INTERIOR DIRECTIONAL SIGN



### MAIN ENTRANCE STREET SIGN

#### NOTES:

- 1- SIGNS SHALL CONFORM TO CITY STREET SIGN STANDARDS AND SPECIFICATIONS.
- 2- STANDARD BACKGROUND IS BLUE. LETTERS AND LEGEND SHALL BE WHITE. SHEETING TYPE SHALL BE HIGH INTENSITY
- 3- SIGNS MOUNTED ON PUBLIC RIGHT OF WAY SHALL FOLLOW CITY INSTALLATION AND PLACEMENT STANDARDS. SAID STANDARDS ARE RECOMMENDED FOR INTERIOR SIGNS.
- 4- WHEN PROJECT IS ADDRESSED SIMILAR TO A SUBDIVISION WITH PUBLIC STREETS, THE ABOVE INTERIOR DIRECTIONAL SIGN IS NOT USED. SEE CITY ADDRESS COORDINATOR.
- 5- PROJECT LOGO, IF USED, MUST BE APPROVED BY THE CITY ADDRESS COORDINATOR PRIOR TO USE.

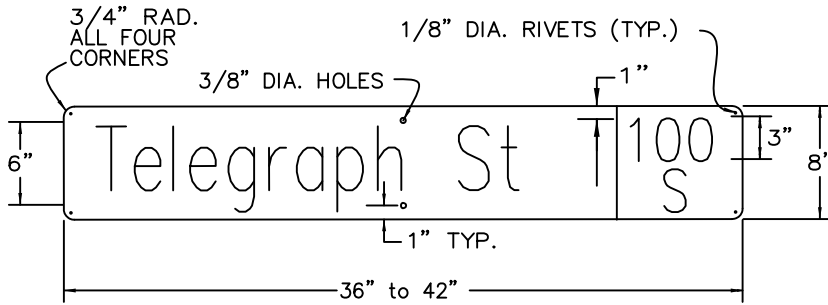
CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

## PRIVATE STREET SIGNS

STANDARD DWG. NO.	
401	1 OF 1
APPROVED:	
DATE: -	BY: -

# SIGN DESIGNATION FORM



## STANDARD WASHINGTON CITY SIGN

THIS FORM TO BE COMPLETED BY THE CITY ADDRESS COORDINATOR PRIOR TO ORDERING OF STREET SIGNS BY DEVELOPER.

PROJECT NAME

DATE

BY

### NOTES:

- 1- SEE DRAWING #109 FOR SIGN SPECIFICATIONS.
- 2- SIGNS ON PRIVATE ROADS WHEN REQUIRED BY THE CITY ENGINEER SHALL MEET ALL SPECIFICATIONS OF STANDARD SIGNS EXCEPT BACKGROUND SHALL BE BLUE.
- 3- ADDRESS COORDINATOR MUST BE CONTACTED PRIOR TO MAKING SIGNS TO VERIFY PROPER NAMES AND COORDINATES.
- 4- ALL STREETS WITH NAMES WILL ALSO HAVE COORDINATES DESIGNATED ON SIGN.

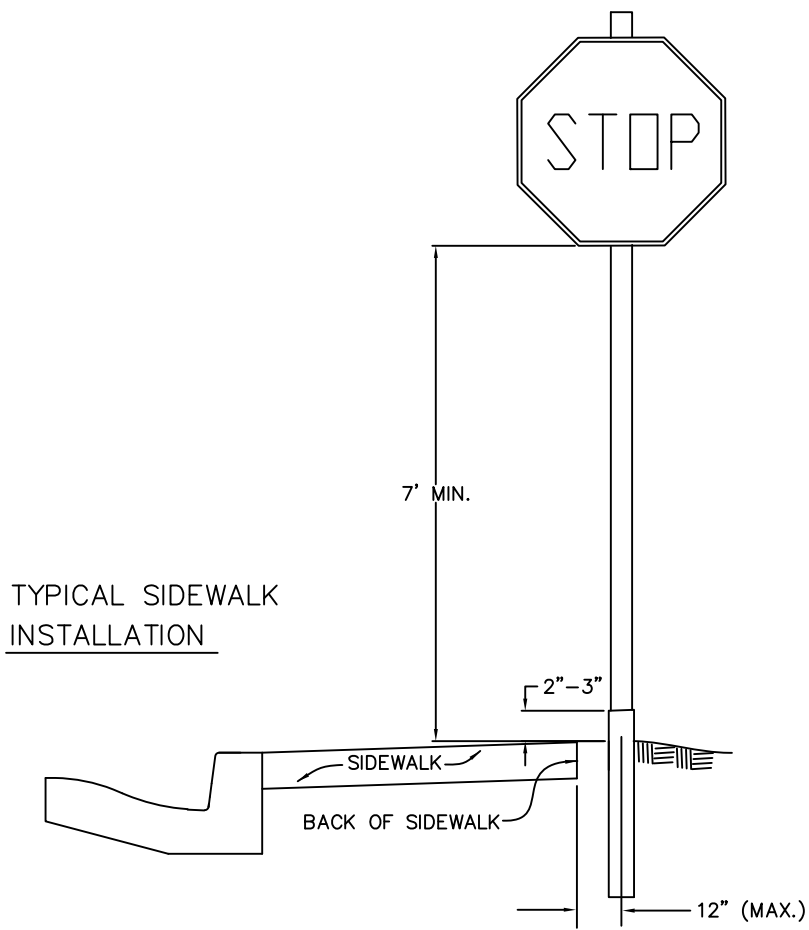
### LOCATION GUIDE


CITY OF WASHINGTON ENGINEERING DEPARTMENT

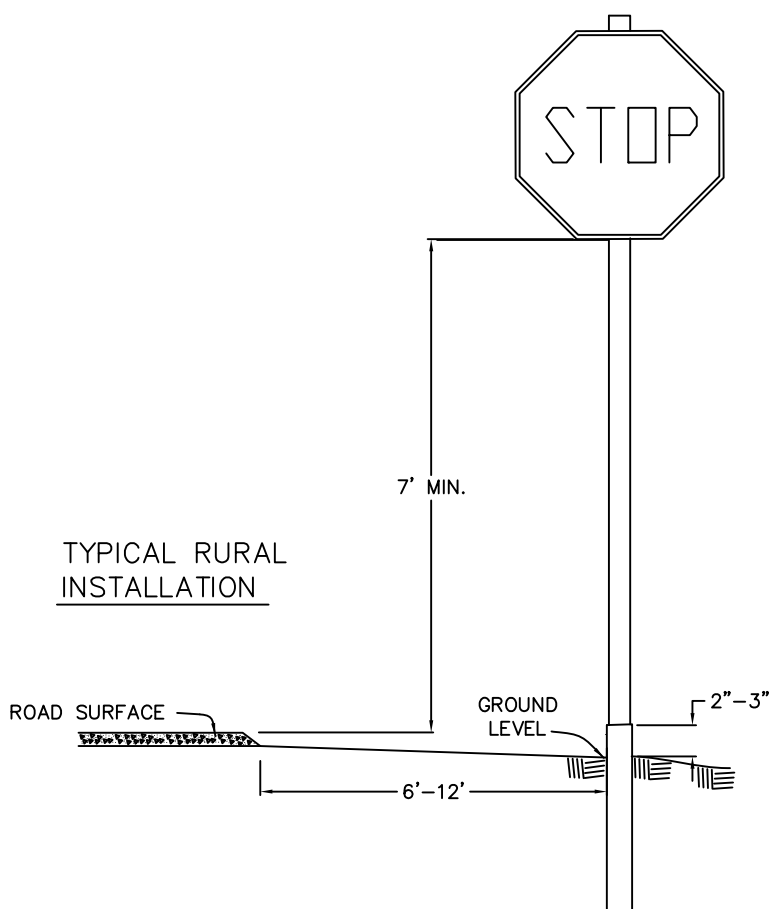
REVISIONS		
DATE	DESCRIPTION	BY

SIGN DESIGNATION FORM

STANDARD DWG. NO.	
402	1 OF 1
APPROVED:	
DATE: —	BY: —



TYPICAL SIDEWALK  
INSTALLATION

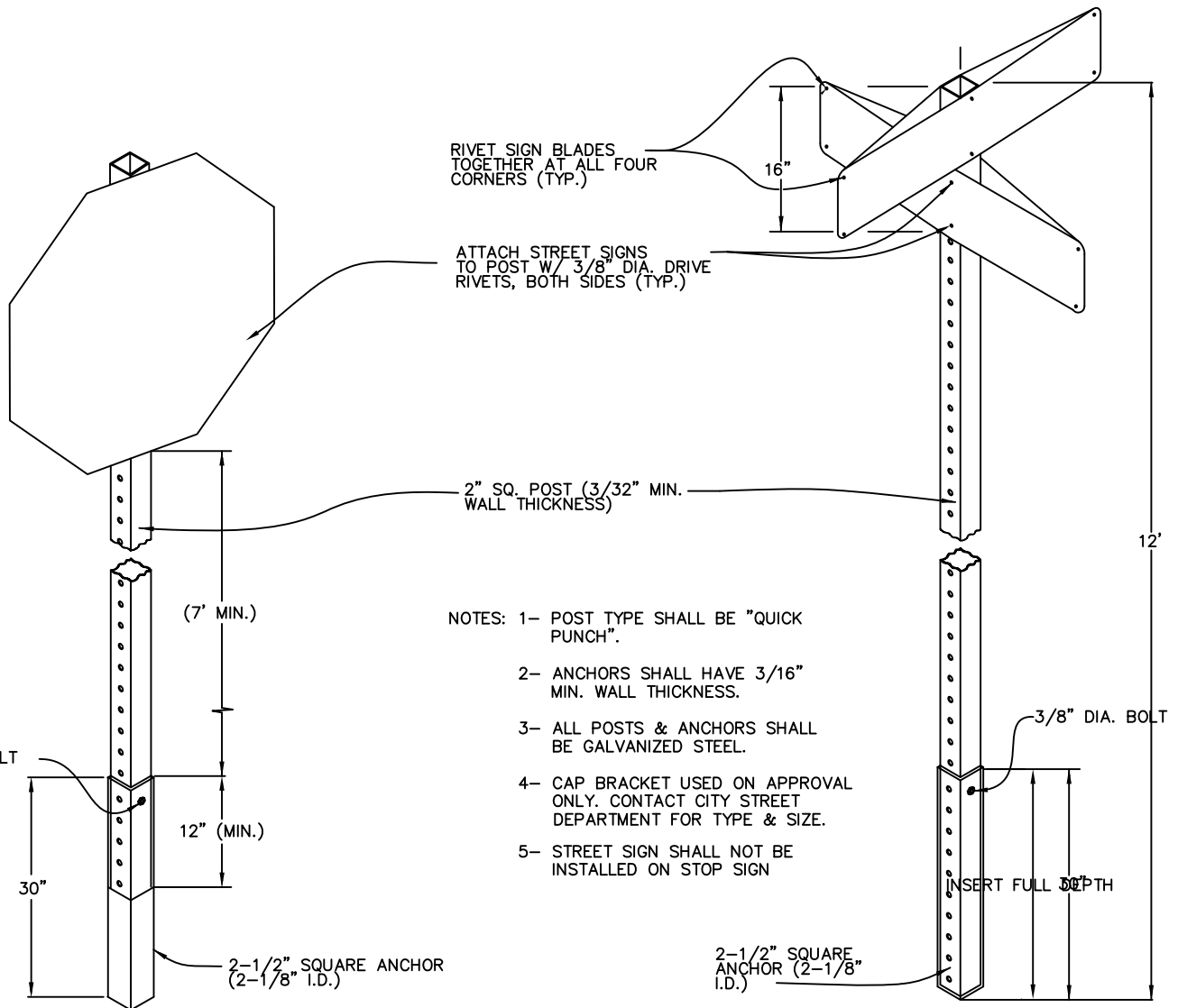


TYPICAL RURAL  
INSTALLATION

NOTES:

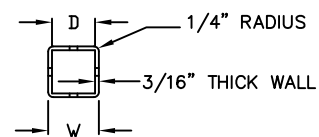
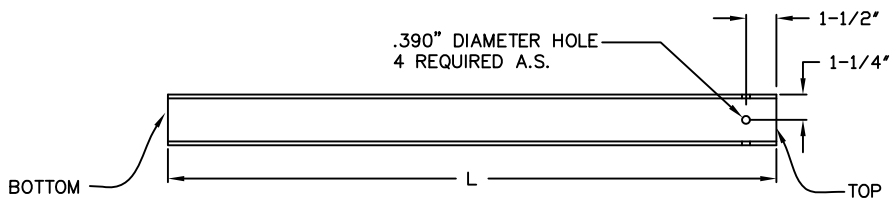
- 1- SIGNS SHALL BE PLACED IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (M.U.T.C.D.).
- 2- STREET NAME SIGNS SHALL BE REQUIRED ON ALL CITY STREETS.
- 3- ALL POST COMPONENTS SHALL BE GALVANIZED STEEL.
- 4- WHERE PLANTER STRIP LIES BETWEEN SIDEWALK AND CURB, SIGNS SHALL BE INSTALLED IN PLANTER STRIP AS PER M.U.T.C.D.
- 5- SIGNS SHALL BE PLACED TO BE CLEARLY VISABLE. ALL OBSTRUCTIONS SUCH AS TREES, POLES, OTHER SIGNS, ETC, SHALL BE AVOIDED.

REVISIONS			CITY OF WASHINGTON ENGINEERING DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	SIGN, POST AND INSTALLATION DETAILS		410	1 OF 1
					APPROVED:	
					DATE:	BY: -



INSTALLATION METHOD A

INSTALLATION METHOD B



SIGN ANCHOR DETAIL

MARK	DIM.	TOLERANCE
D	2-1/8"	+1/16", -0"
L	30"	± 1/2"
W	2-1/2"	± 1/64"

CITY OF WASHINGTON ENGINEERING DEPARTMENT

# SIGN POST & MOUNTING DETAILS

STANDARD DWG. NO.

411 1 OF 1

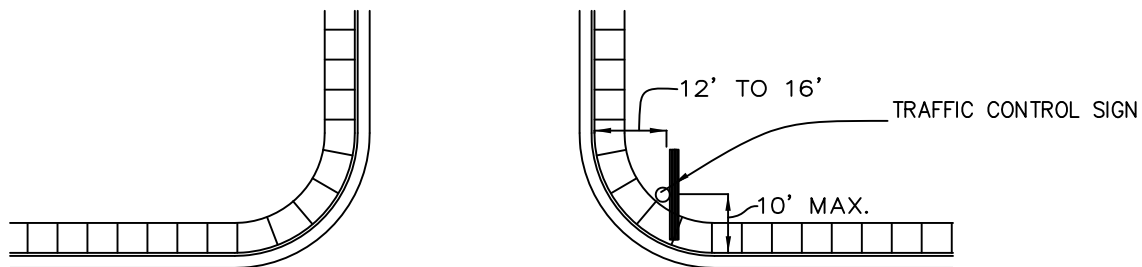
APPROVED:

DATE:

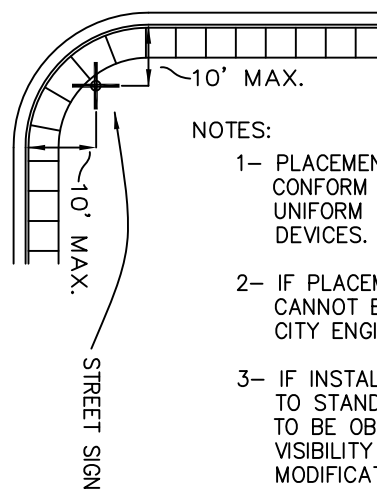
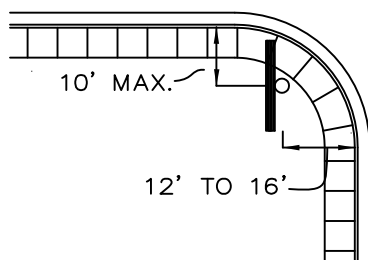
BY: -

## REVISIONS

DATE	DESCRIPTION	BY

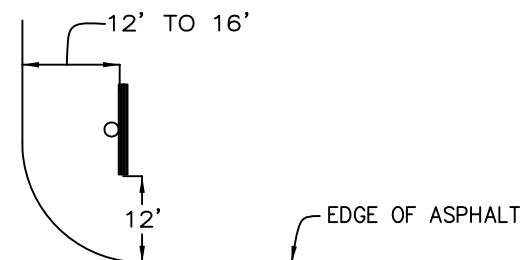


TYPICAL URBAN INSTALLATION

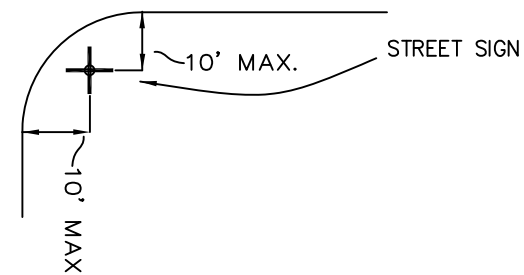
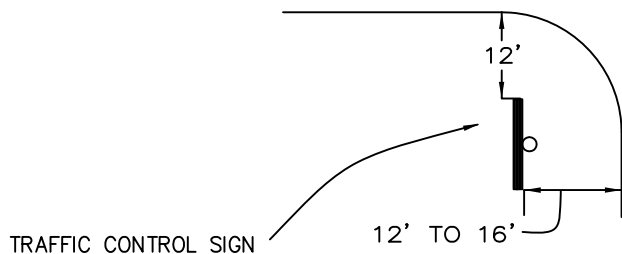


NOTES:

- 1- PLACEMENT OF ALL SIGNS TO CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 2- IF PLACEMENT STANDARDS CANNOT BE MET, CONTACT CITY ENGINEERING DEPARTMENT.
- 3- IF INSTALLATION ACCORDING TO STANDARDS CAUSES THE SIGN TO BE OBSTRUCTED OR ITS VISIBILITY IMPAIRED IN ANY WAY, MODIFICATIONS MAY BE NECESSARY. CALL ENGINEERING DEPT. FOR ASSISTANCE.



TYPICAL RURAL INSTALLATION



CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

TYPICAL SIGN PLACEMENT DETAILS

STANDARD DWG. NO.	
412	1 OF 1
APPROVED:	
DATE:	BY: -