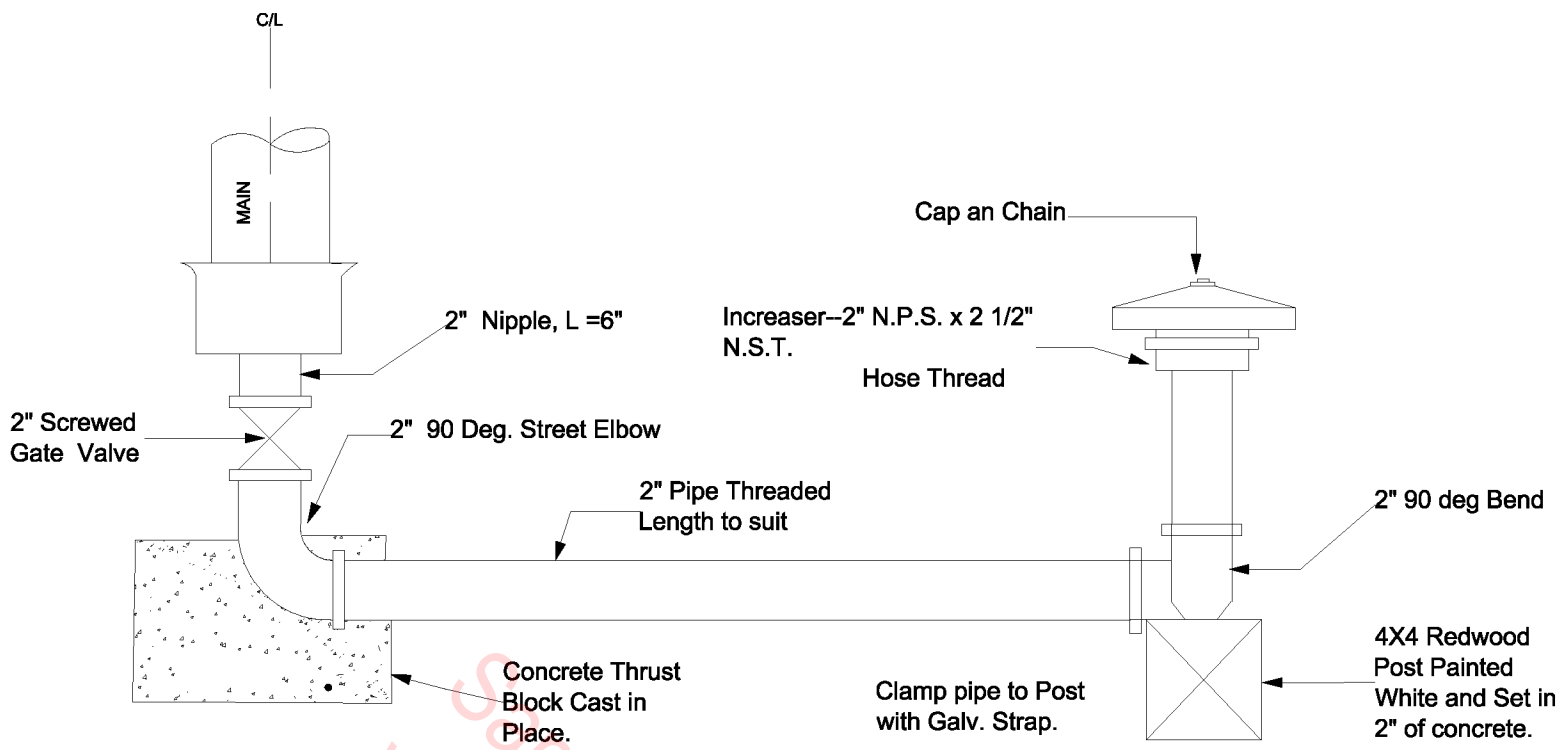
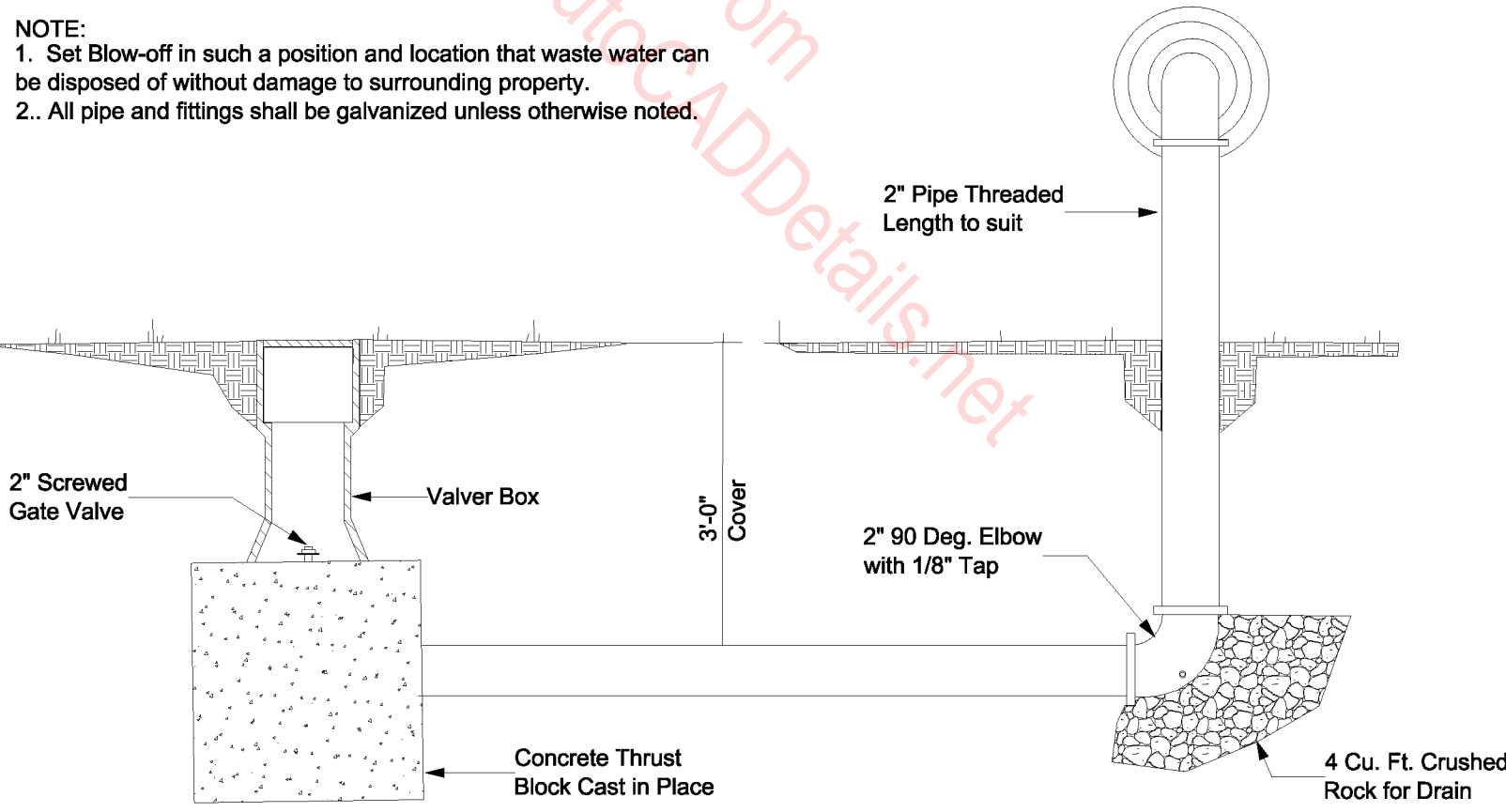


**AIR AND VACUUM RELIEF VALVE**



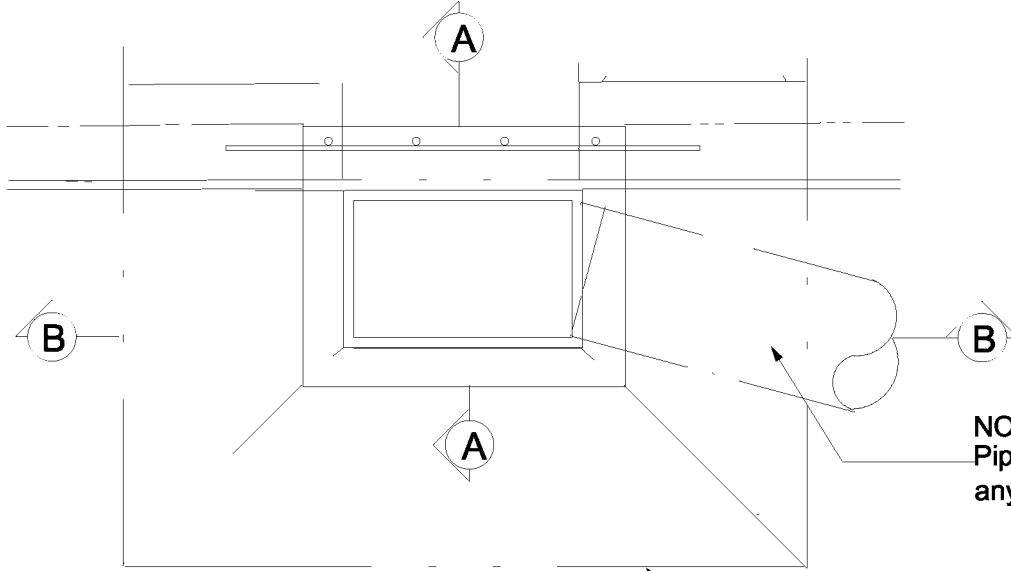
PLAN

- NOTE:
1. Set Blow-off in such a position and location that waste water can be disposed of without damage to surrounding property.
  - 2.. All pipe and fittings shall be galvanized unless otherwise noted.



SECTION

# 2" BLOW-OFF



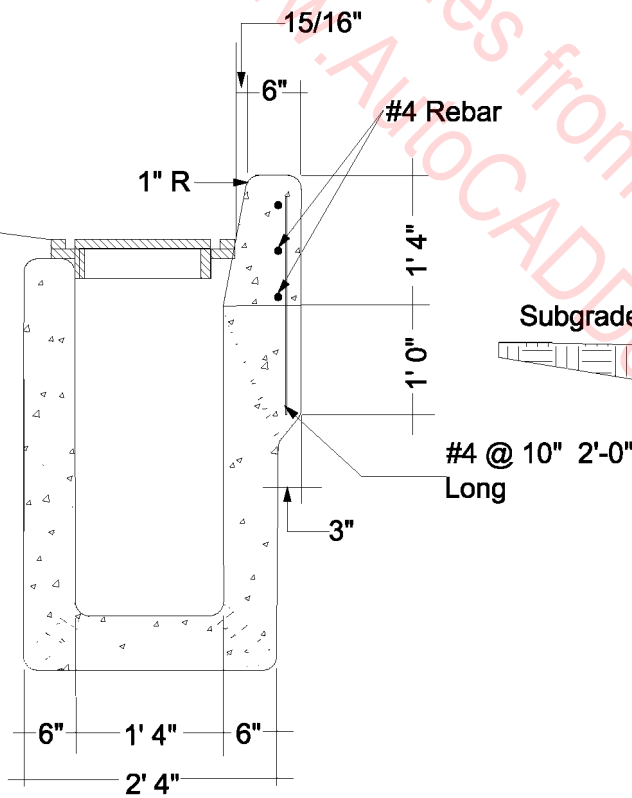
PLAN

Warp Paving as shown to form local depression

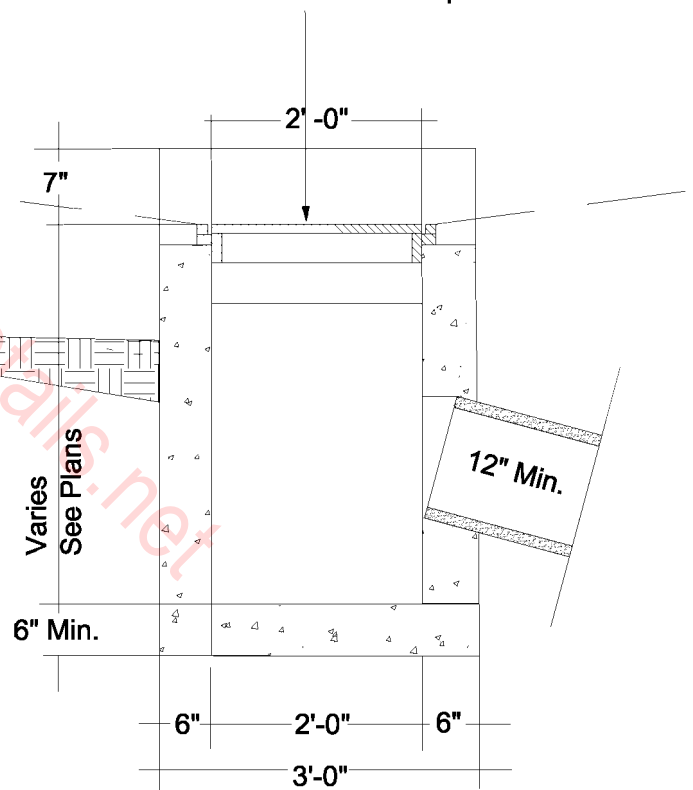
NOTE:  
Pipes(s) can be placed in any wall. Max. pipe size 18".

Samples from  
www.AiMOCADDetails.net

Frame and grate shall be salem iron works Nos. A306 and A2495 or equal.



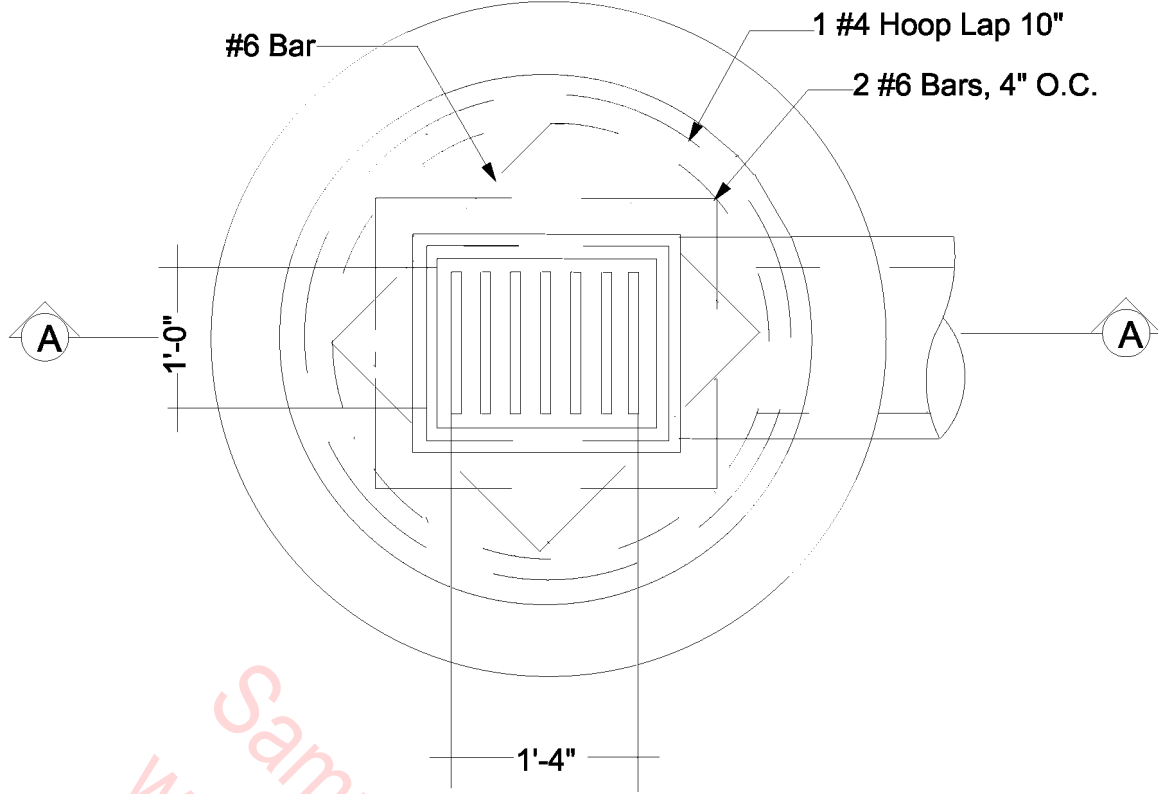
SECTION A



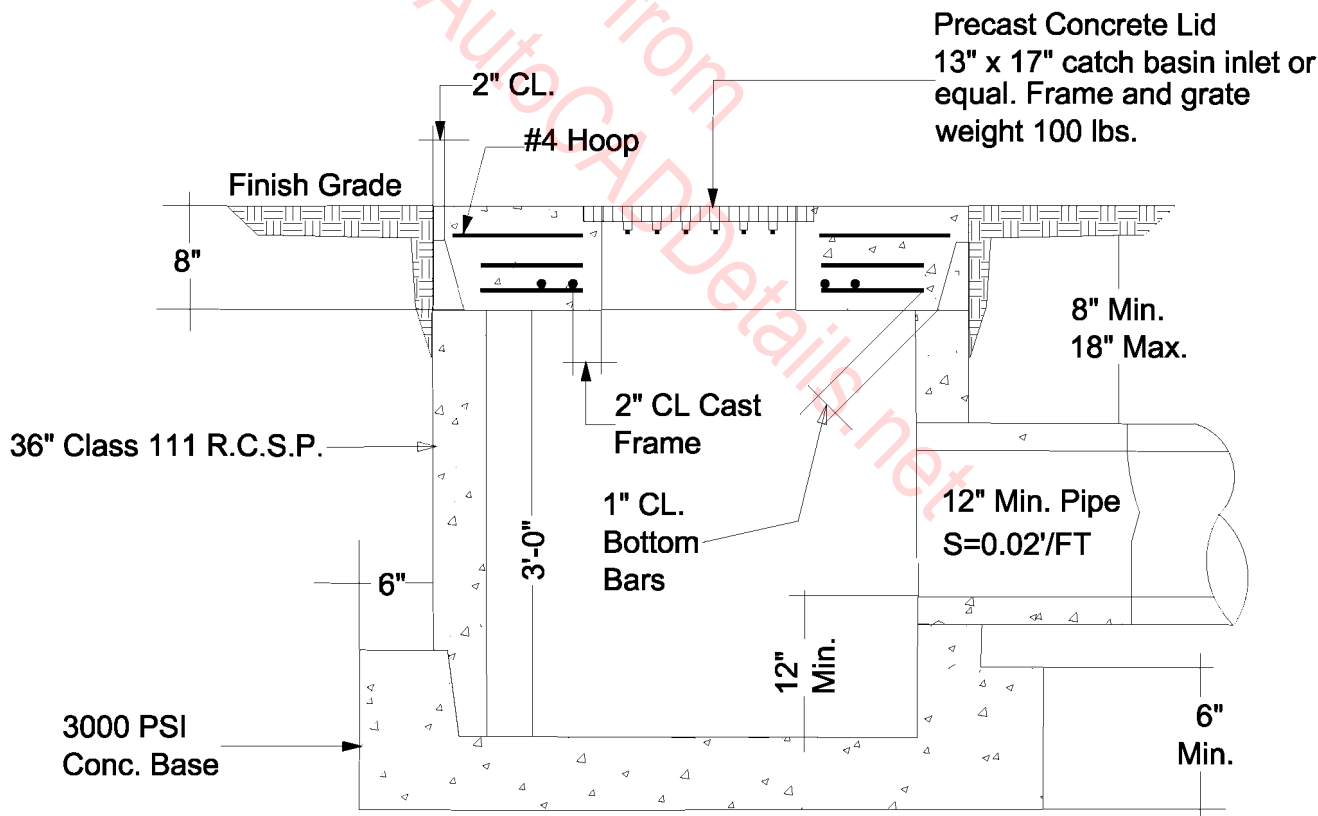
SECTION B

- NOTE:
1. All concrete shall be 3000 PSI.
  2. For outlet pipe, location and invert elevation see project plans.

## CATCH BASIN 2 POURED IN PLACE

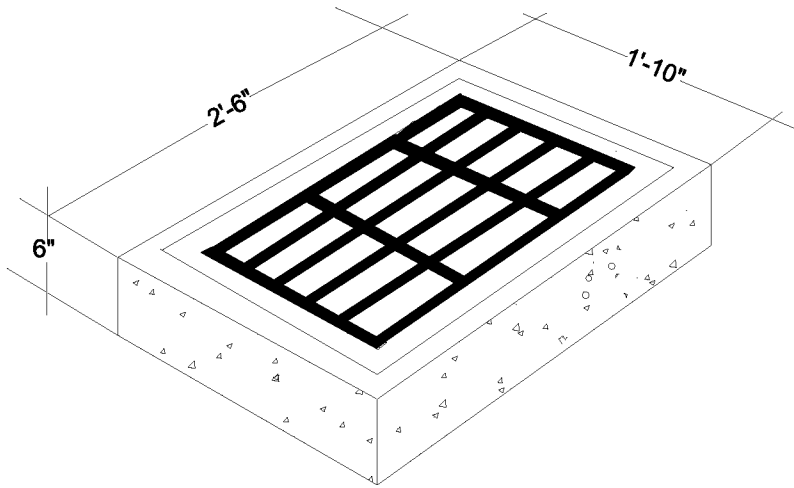


PLAN



SECTION A

CATCH BASIN 3  
RURAL TYPE



## COVER SLAB

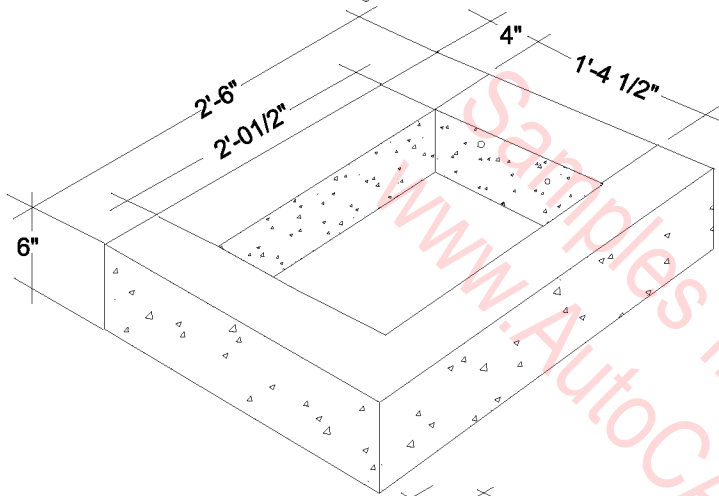
CAST IN FRAME & GRATE

SALEM IRON WORKS  
HEAVY DUTY PATTERN

FRAME: #A2495 112 Lbs.

GRATE: #A4628 84Lbs.

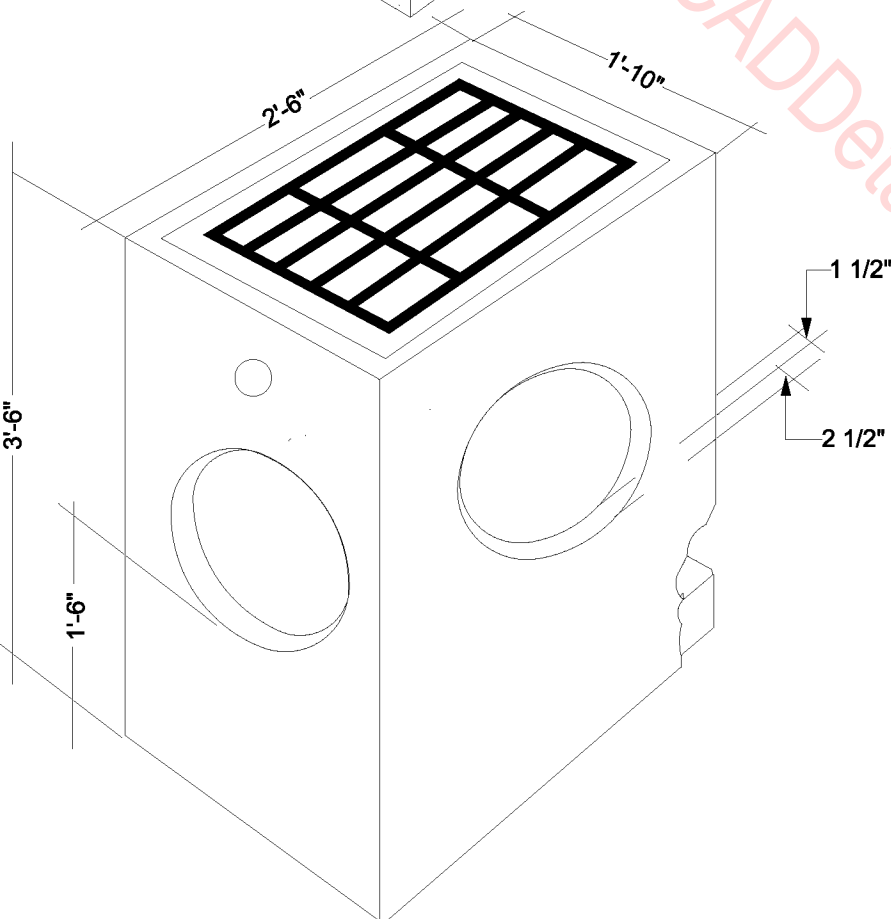
or EQUAL



## EXPANSION RING

GROUT ON BASE TO ADJUST GARDE  
OR TO PROVIDE SLOPING TOP.

Weight 185 lbs.



## BASE UNIT

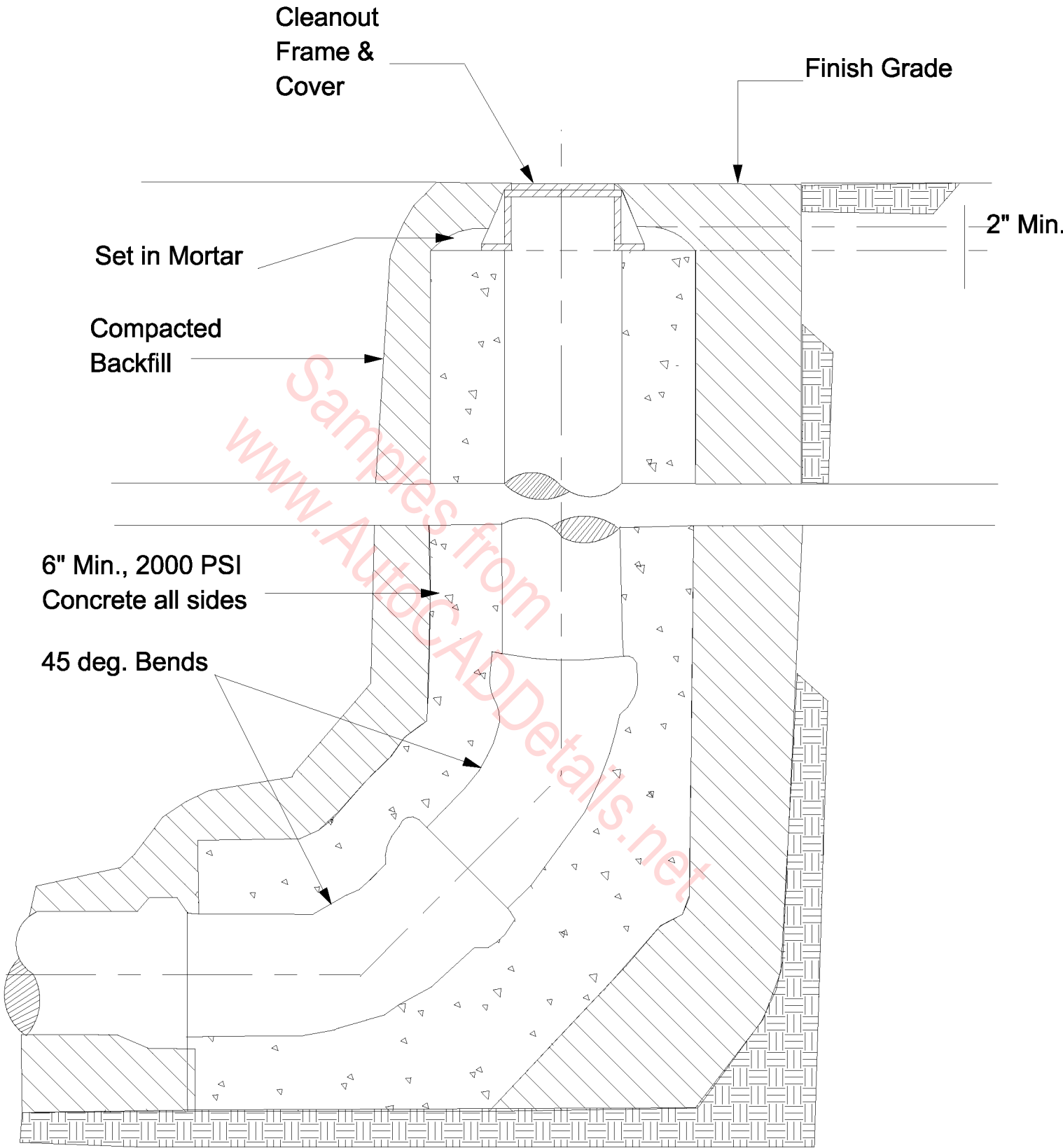
WITH CAST IN FRAME & GRATE  
AS ABOVE, IF EXTENSION NOT REQUIRED.

4-WAY KNOCKOUTS FOR 12" OUTLET PIPES.

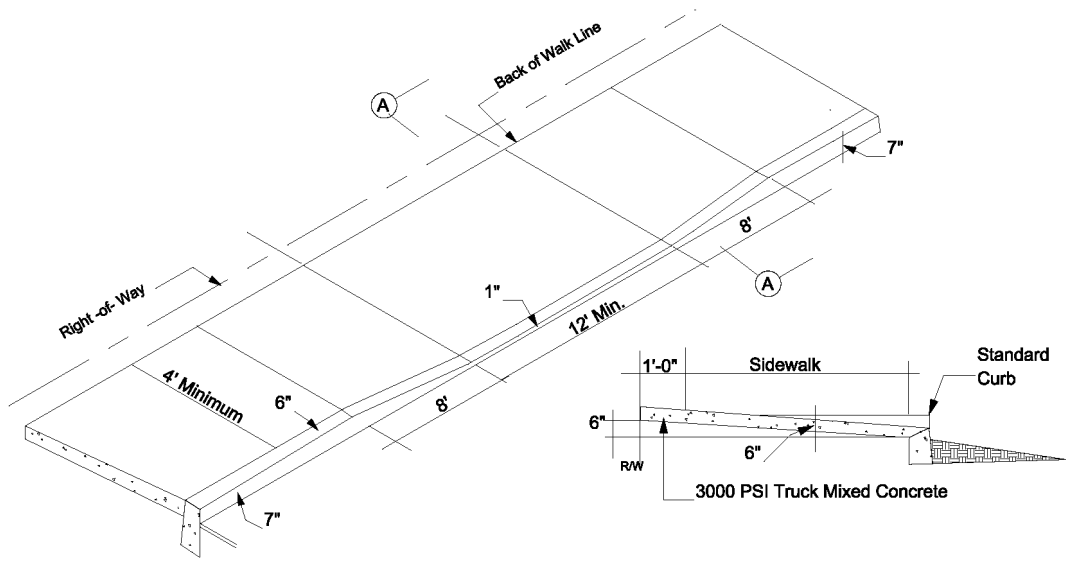
12" MINIMUM CATCH DEPTH

2" @ WEEP/LIFT HOLES

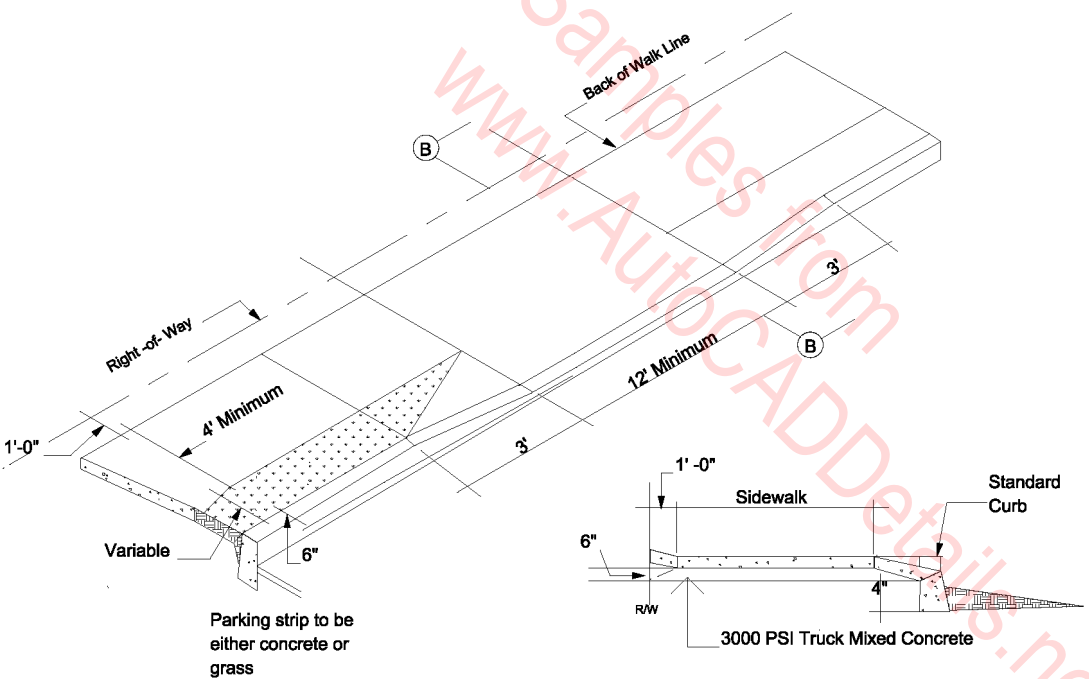
WEIGHT 1400 LBS.



# CLEANOUT

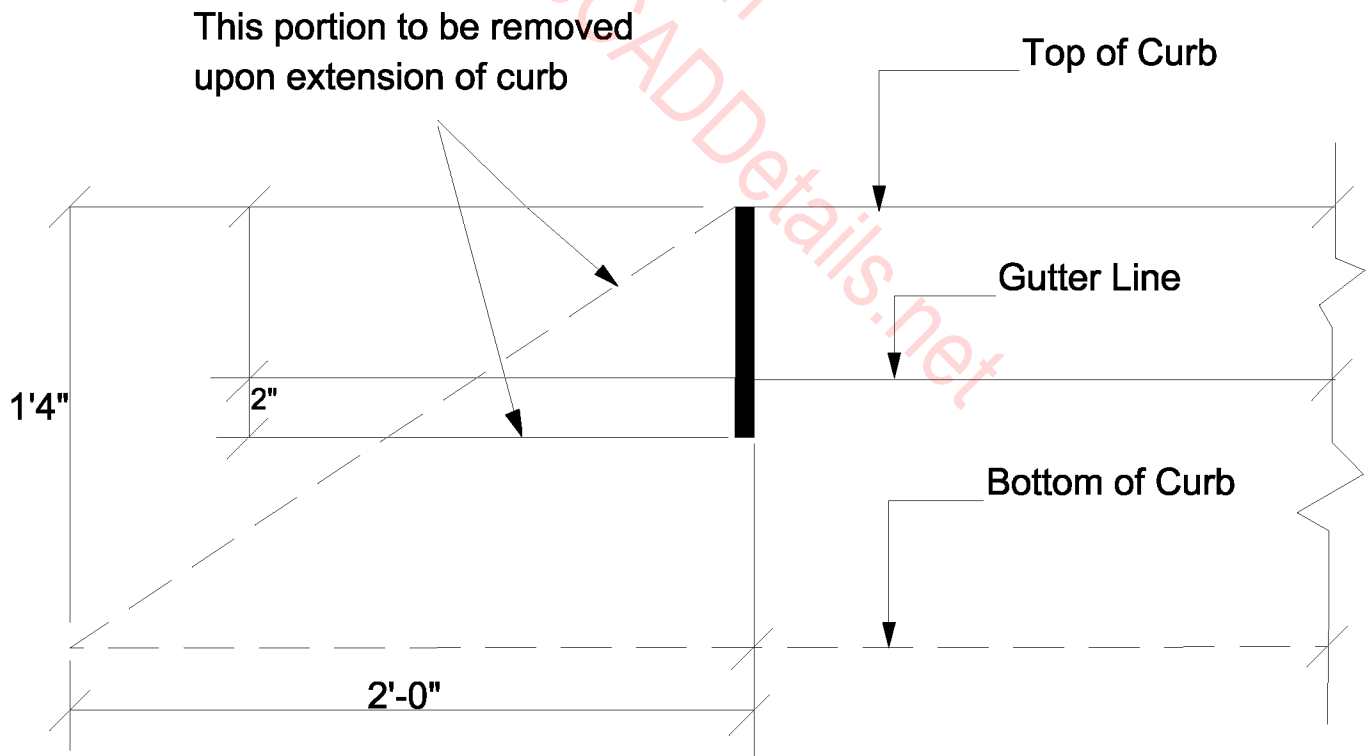
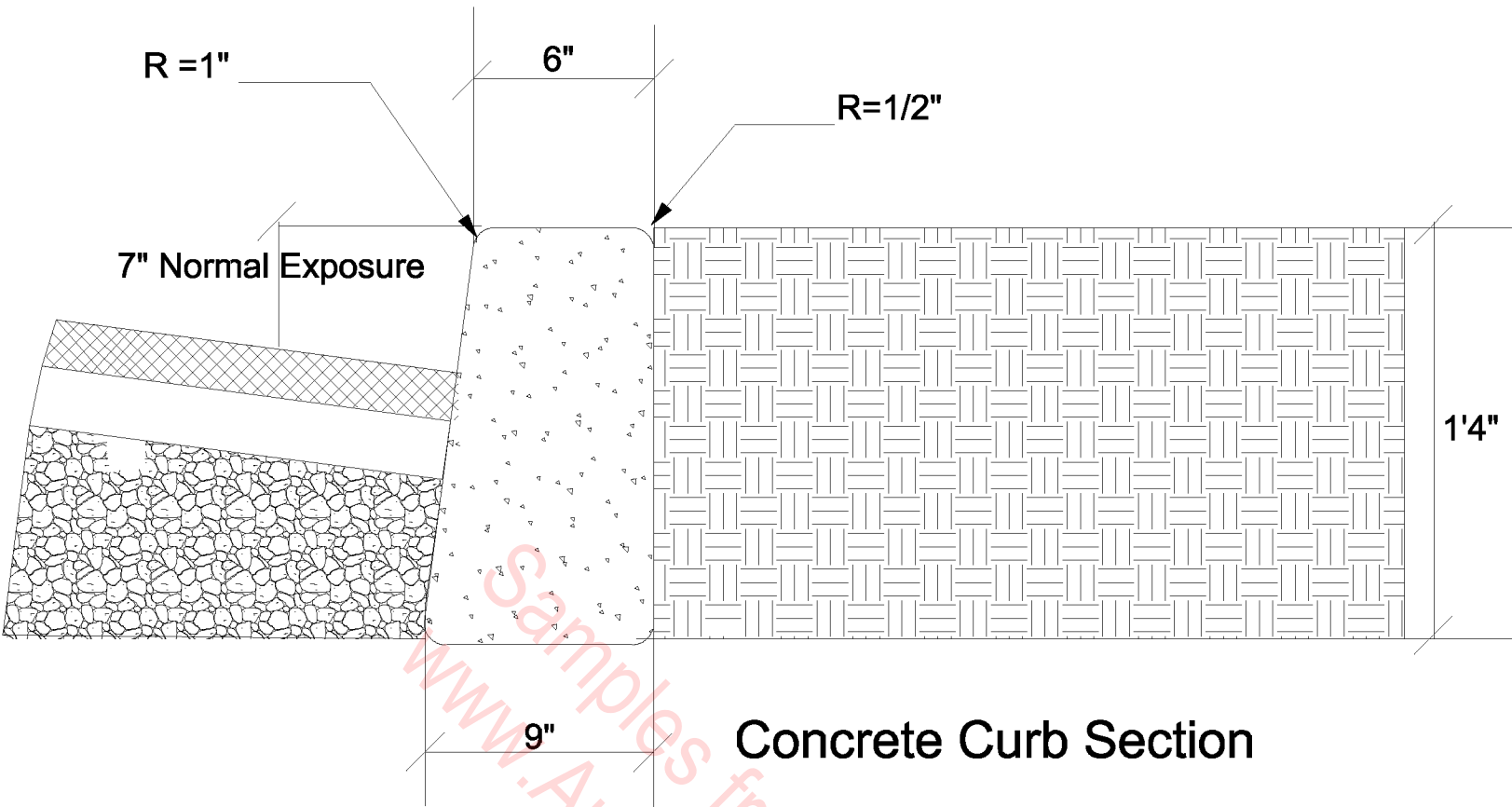


TYPE 1 SECTION A

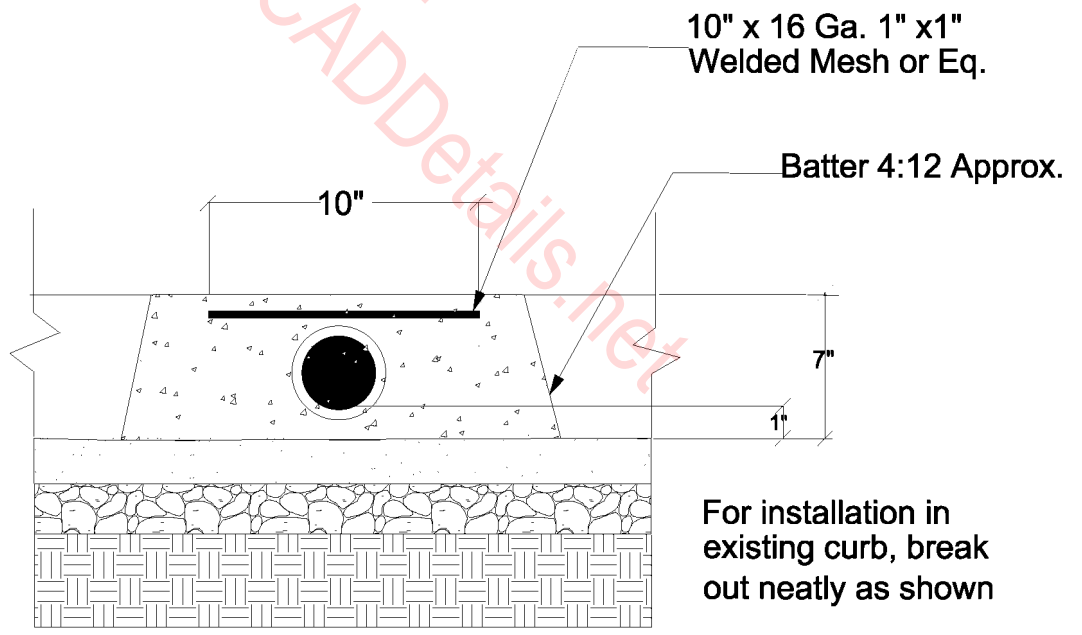
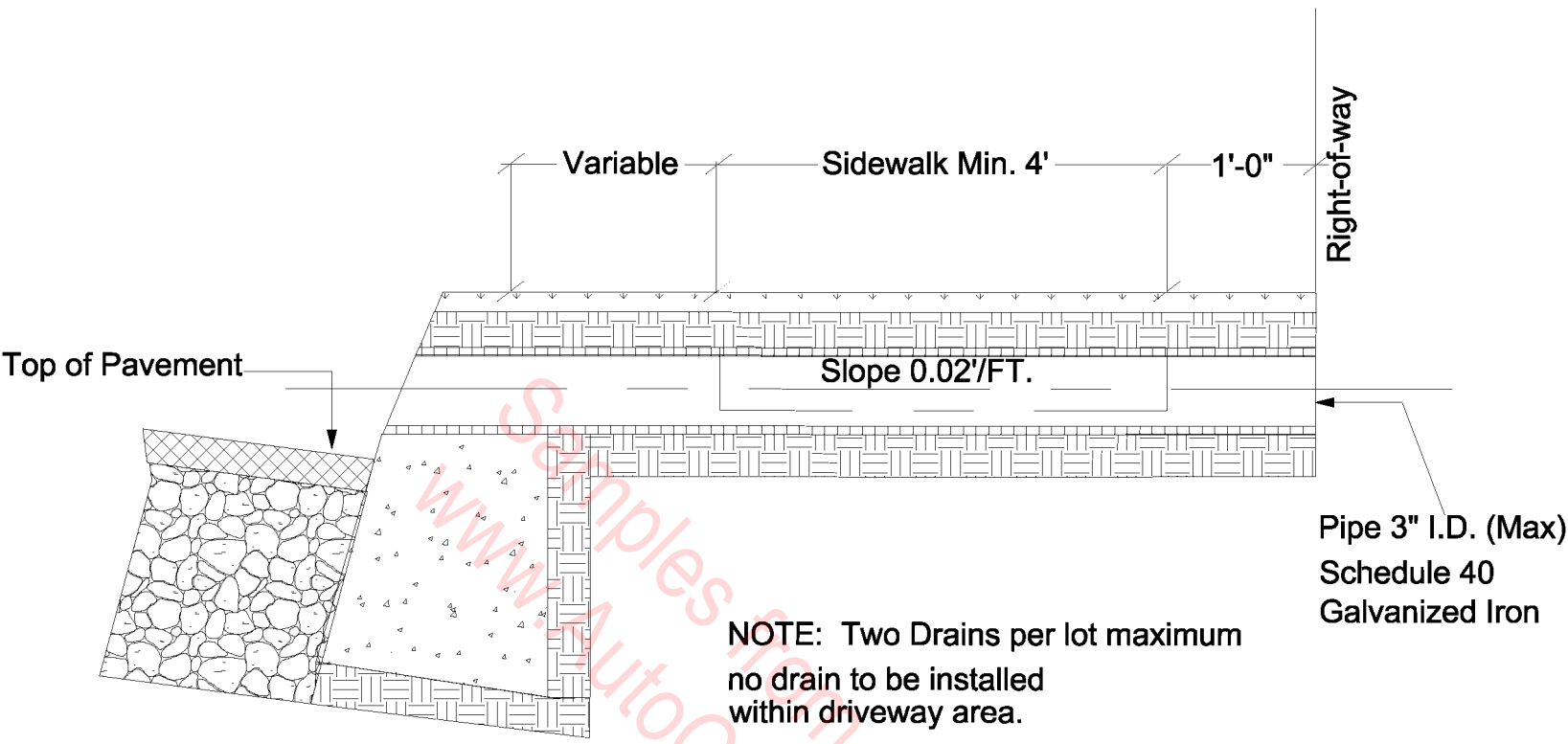


TYPE 2 SECTION B

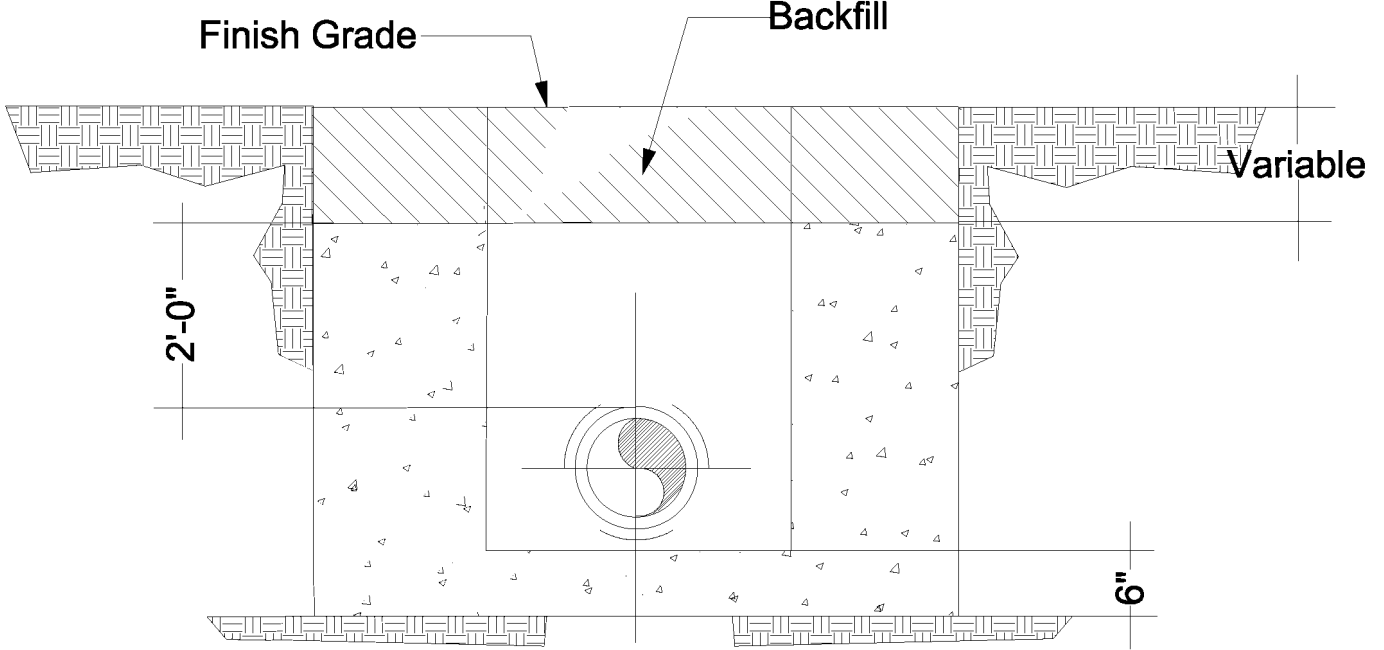
COMMERCIAL DRIVEWAY



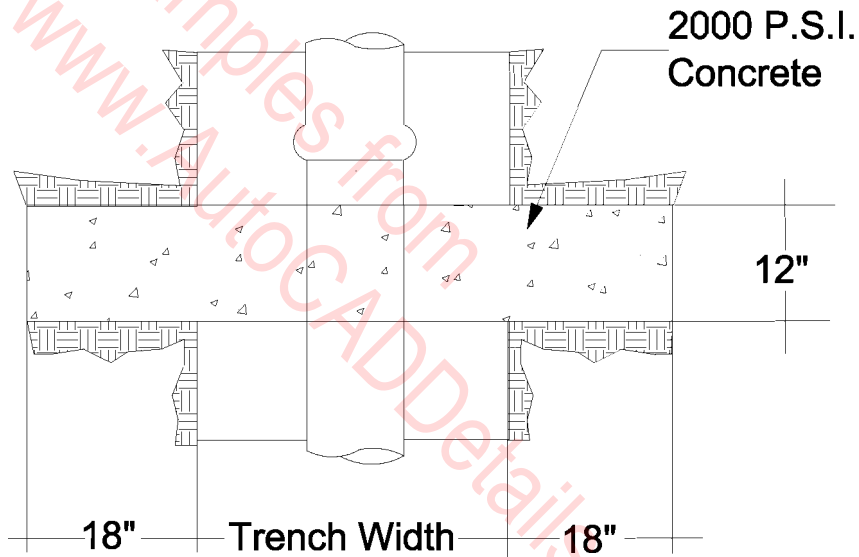




**Curb and Sidewalk  
Storm Drain outlet**



**ELEVATION**



**PLAN**

**NOTE:**

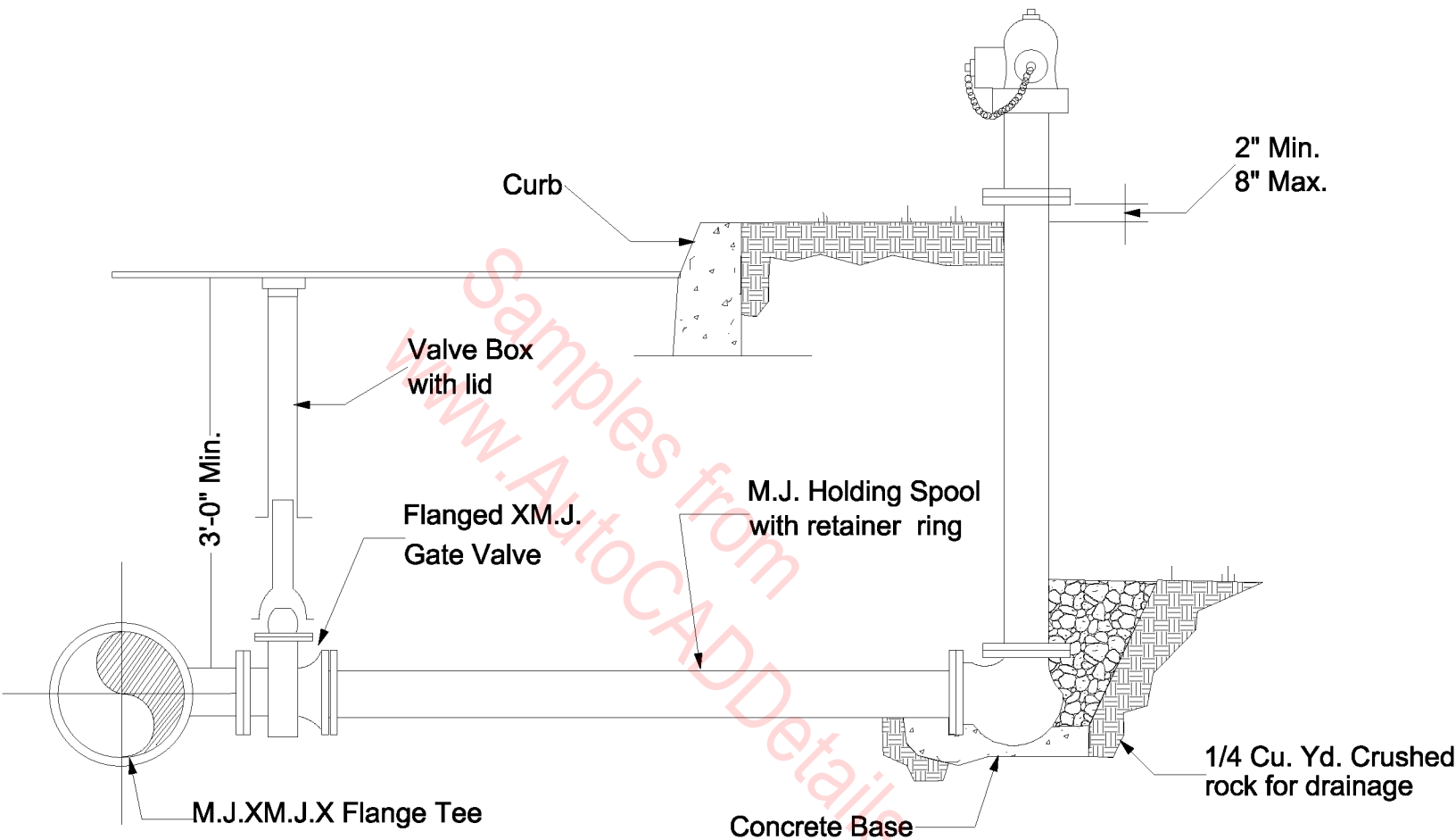
Where soil conditions so warrant, sewers with slopes in excess of 20% shall be secured with cutoff walls, spacing as follows:

**CUTOFF WALL**  
Center to Center

**SLOPE**

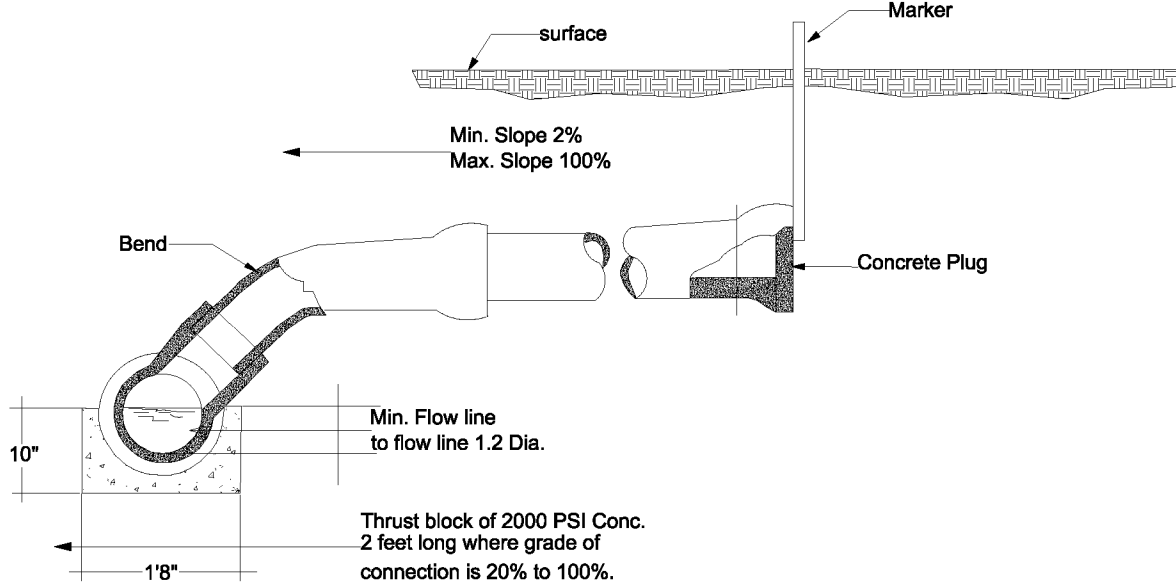
20%--34%	35'
35%--50%	25'
51% +	15'

**CUTOFF WALL**

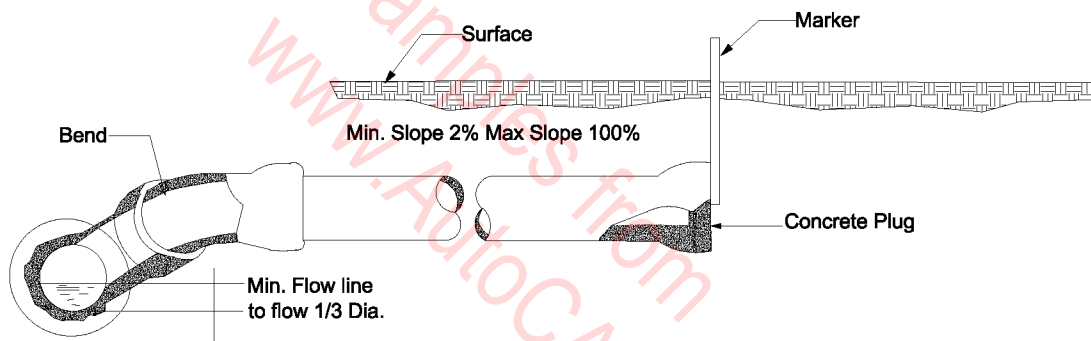


Fire hydrant, corey or compression type, with O-ring seals and ground breaking flange (subject to approval by local inspector); two 2 1/2" N.S.T hose connections and one 4" pump connection N.S.T. All hydrants to open left (counterclockwise) and to conform to A.W.W.A. standard C-502. Hydrant to be painted red with white caps, 5" main valve with 6" inlet.

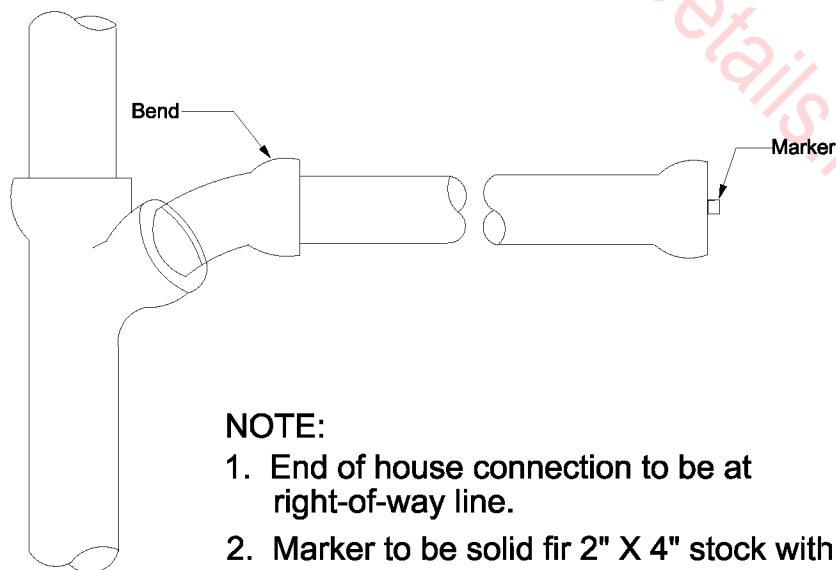
## FIRE HYDRANT



### TEE BRANCH



### WYE BRANCH

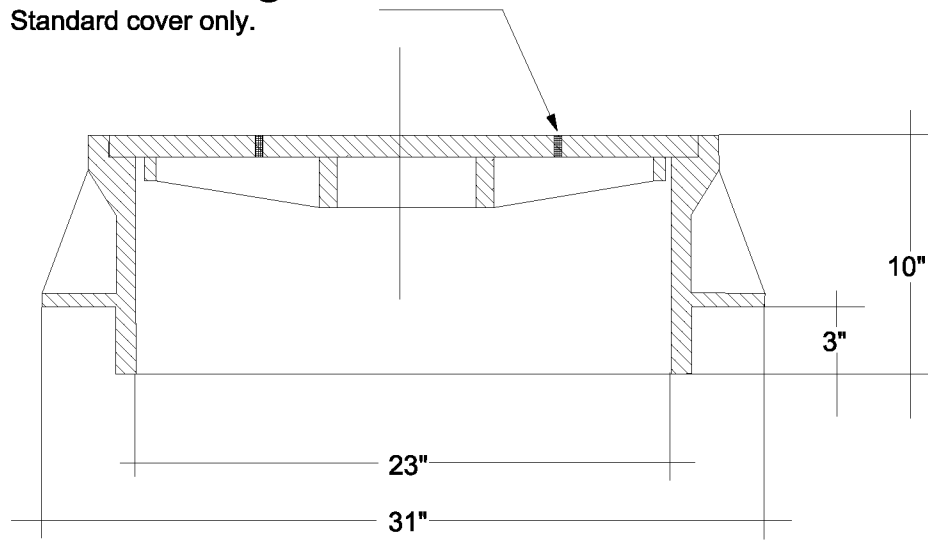


#### NOTE:

1. End of house connection to be at right-of-way line.
2. Marker to be solid fir 2" X 4" stock with no splice permitted. Marker to reach from end of house connection to 6" above the ground.
3. House branches to be 4" min. pipe.
4. For house branch to deep sewer use service connection riser.
5. Cast iron sewer taps or saddles may be used in lieu of wyes or tees upon approval.

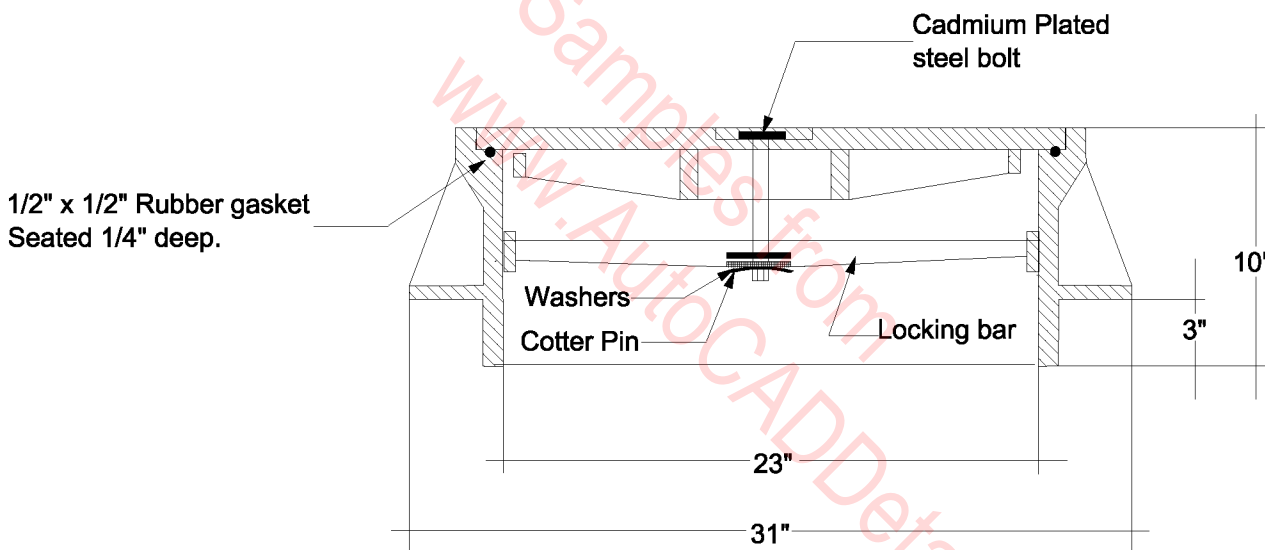
## HOUSE CONNECTION

Two 7/8" Dia. Holes @ 9" Rad.  
Standard cover only.



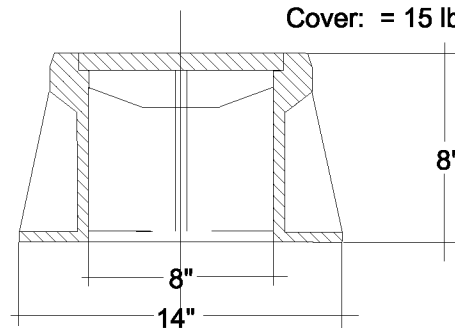
For sewer manholes, the letter "S" shall be cast in manhole cover. Letter shall be 2" high and raised 1/8" above face of cover.

### STANDARD MANHOLE FRAME & COVER



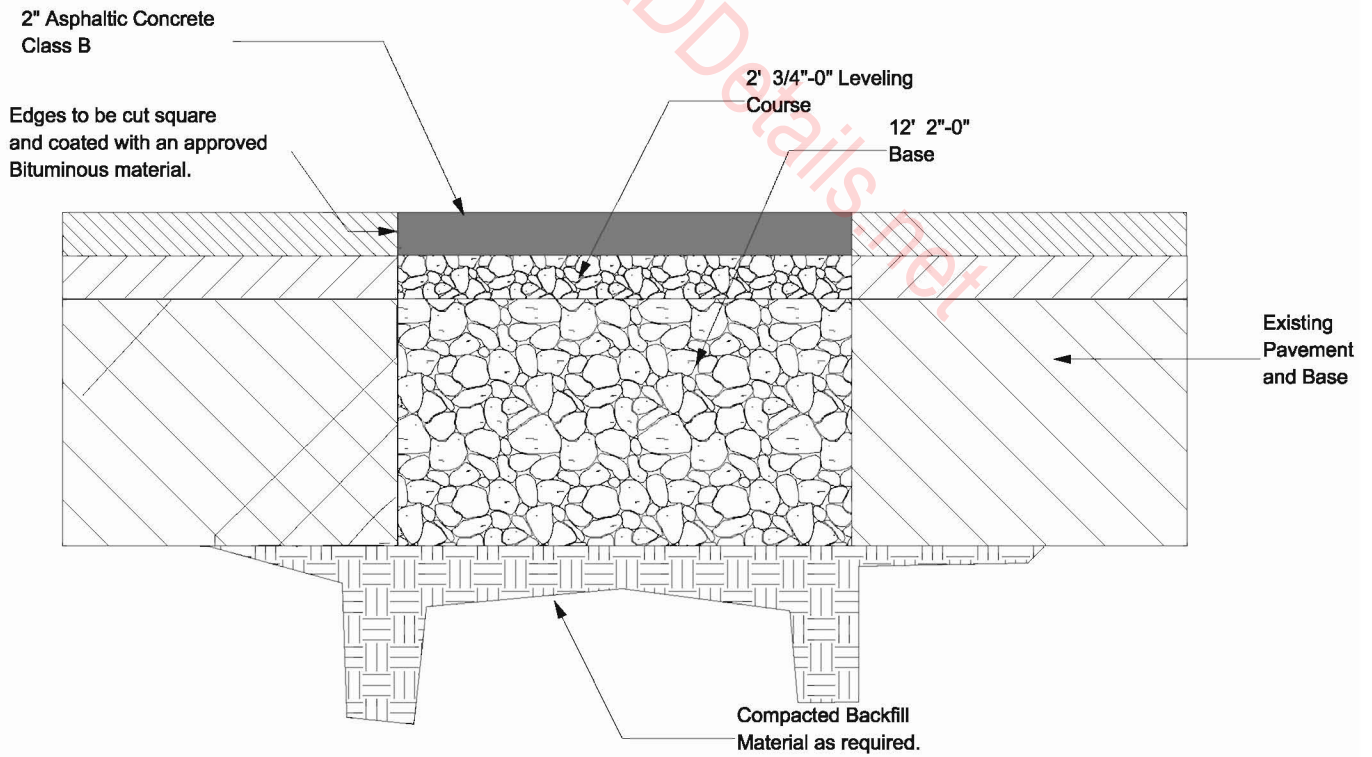
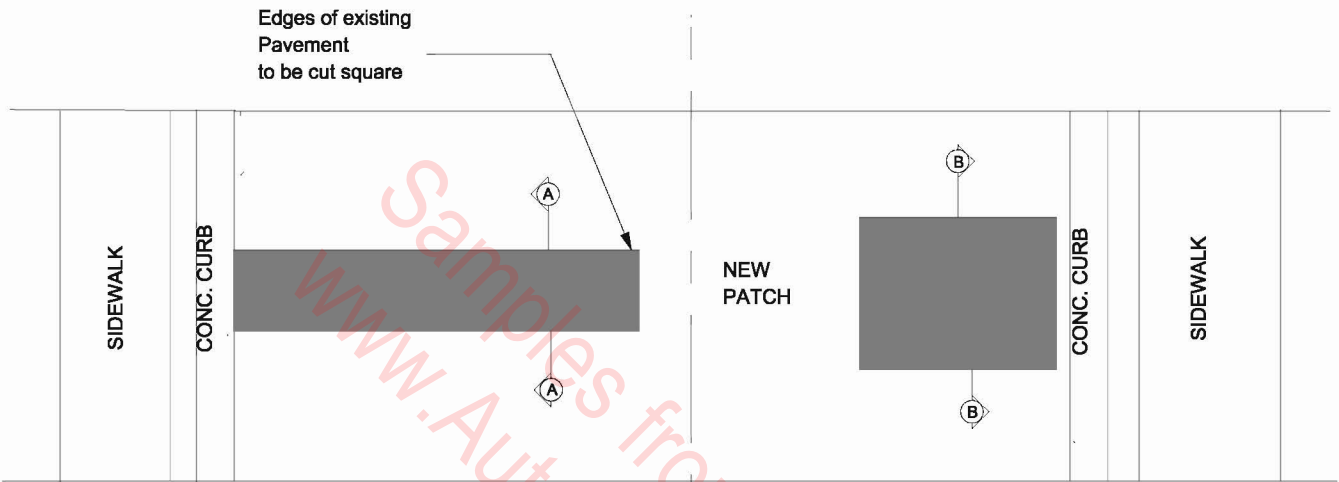
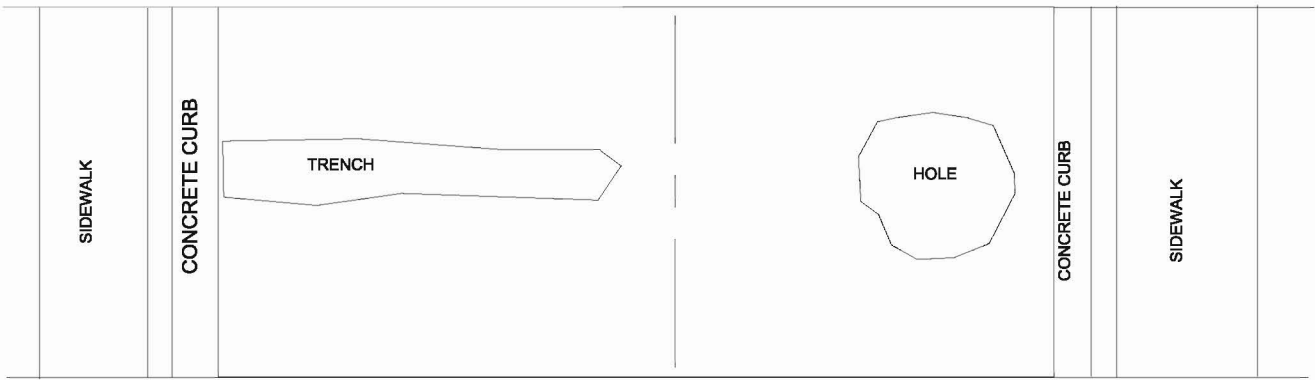
### WATERTIGHT MANHOLE FRAME & COVER

Min. Weight  
Frame: = 55 lbs.  
Cover: = 15 lbs.



### CLEANOUT FRAME & COVER

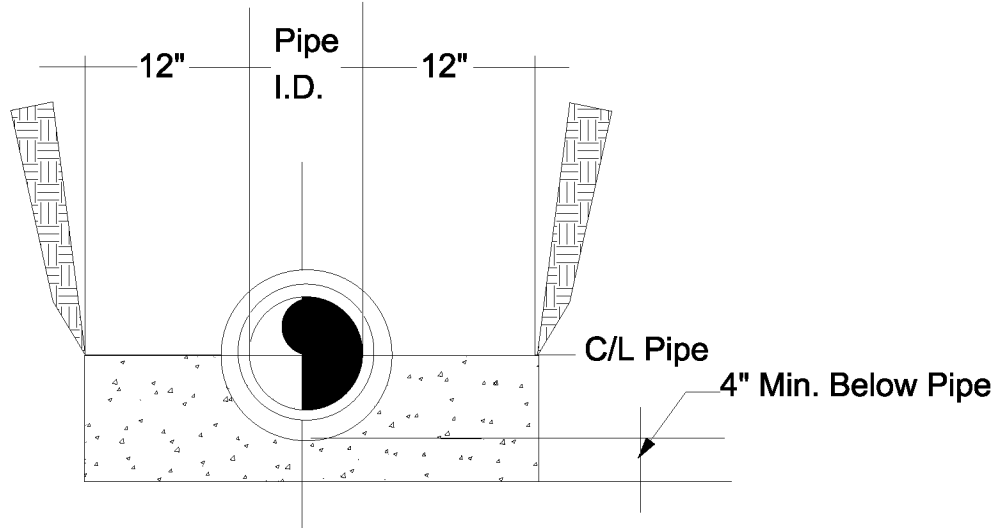
## MANHOLE & CLEANOUT FRAMES AND COVERS



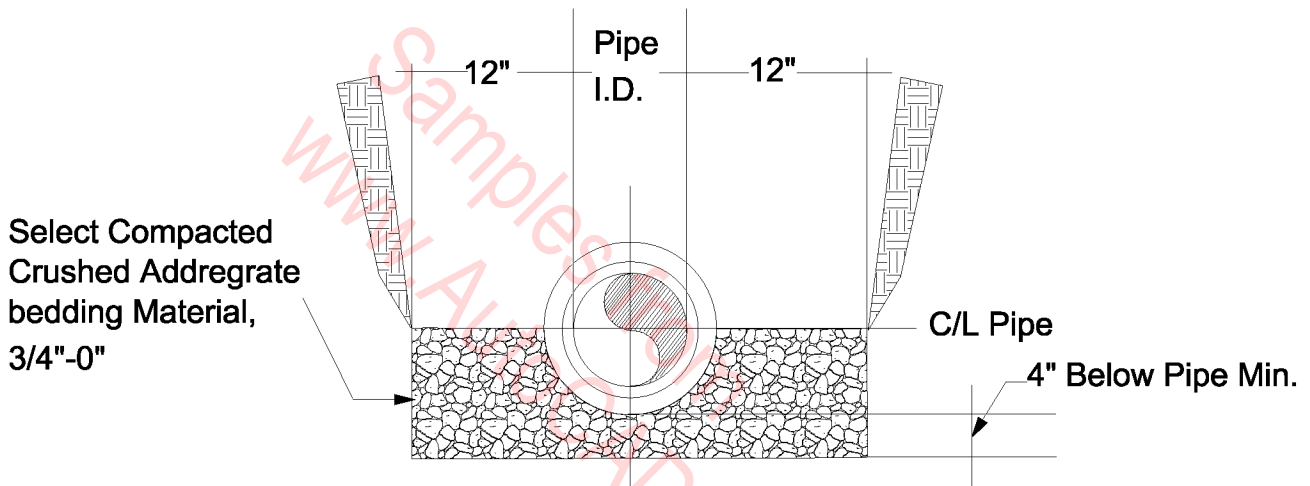
SECTION A & B

PERMANENT PATCH

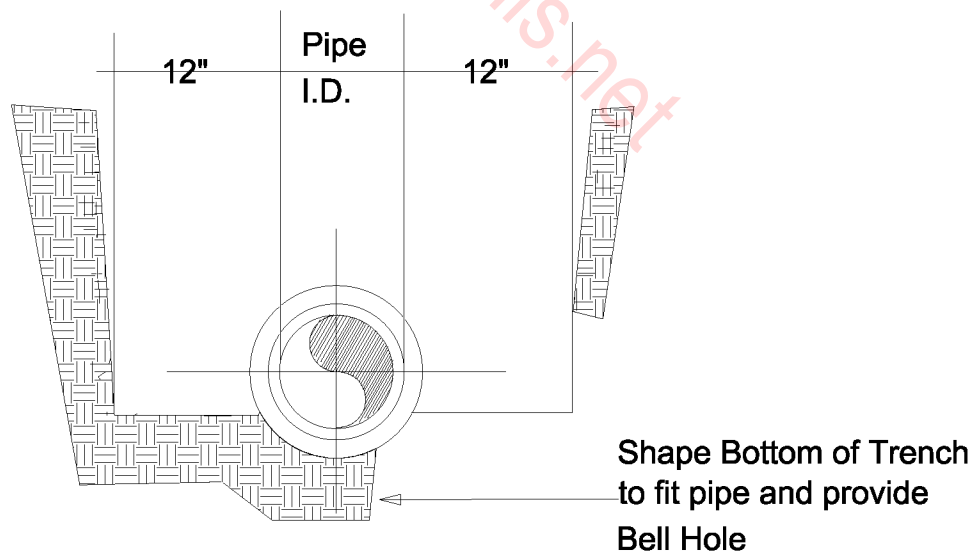
A.C. Pavement



**CLASS A CONCRETE BEDDING**

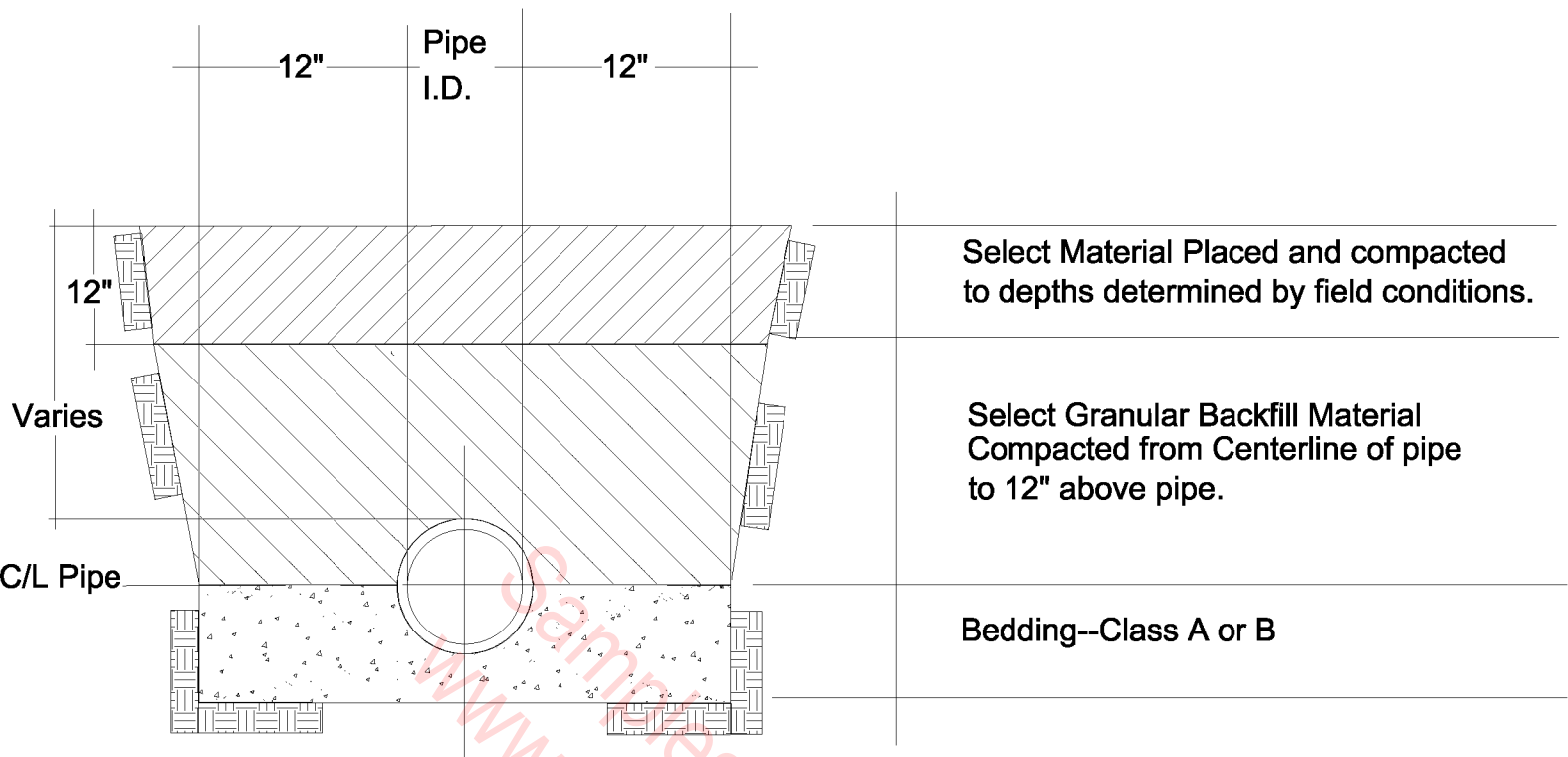


**CLASS B SELECT BEDDING**

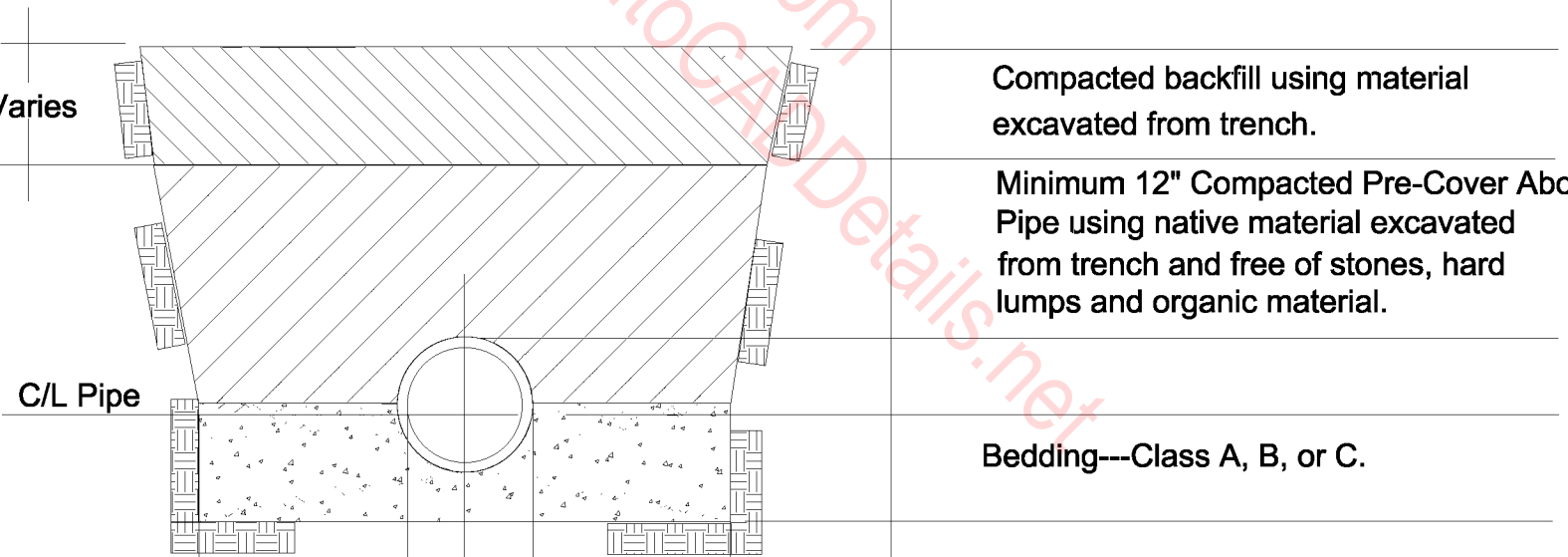


**CLASS C STANDARD BEDDING**

**PIPE BEDDING**



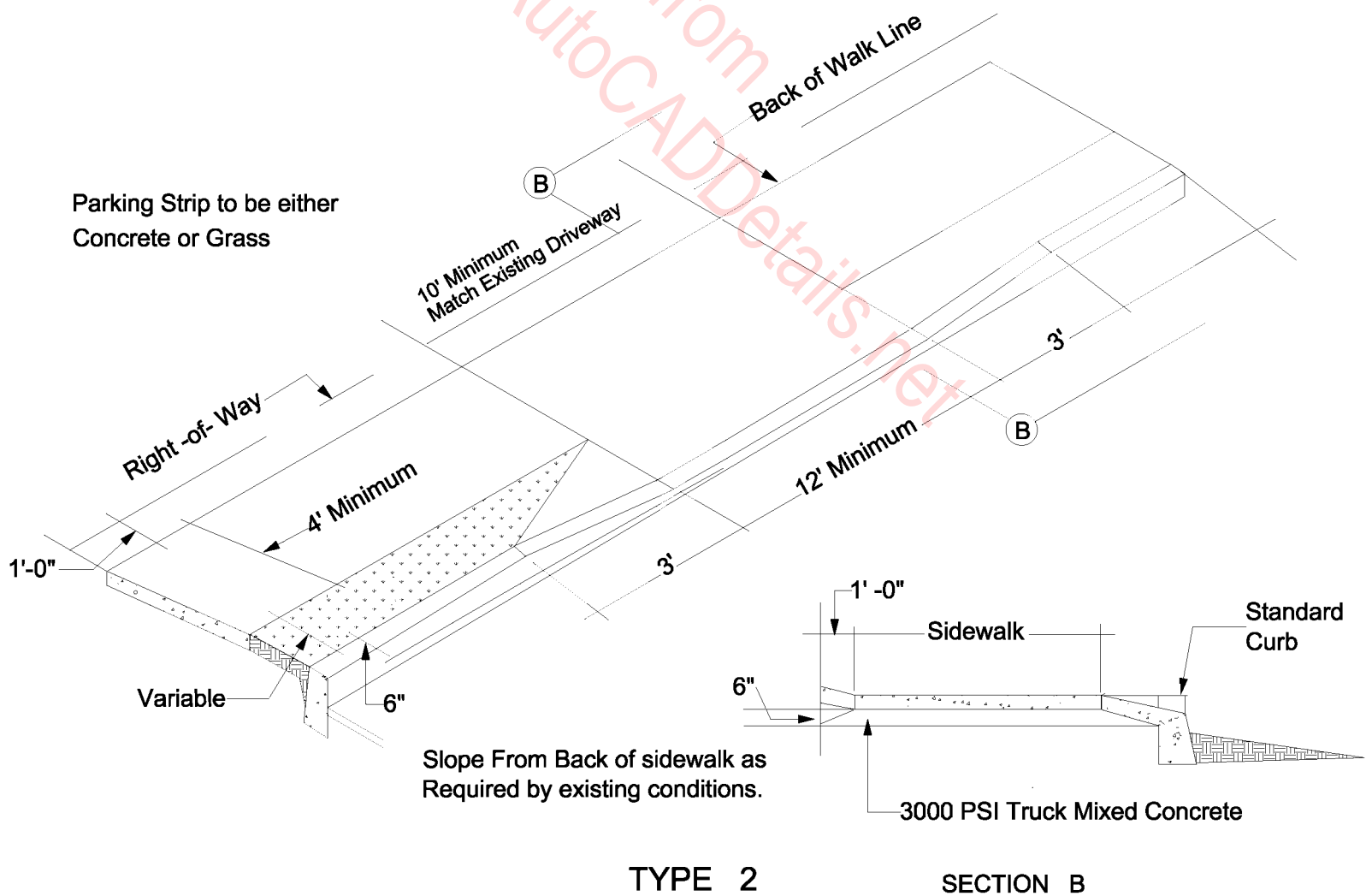
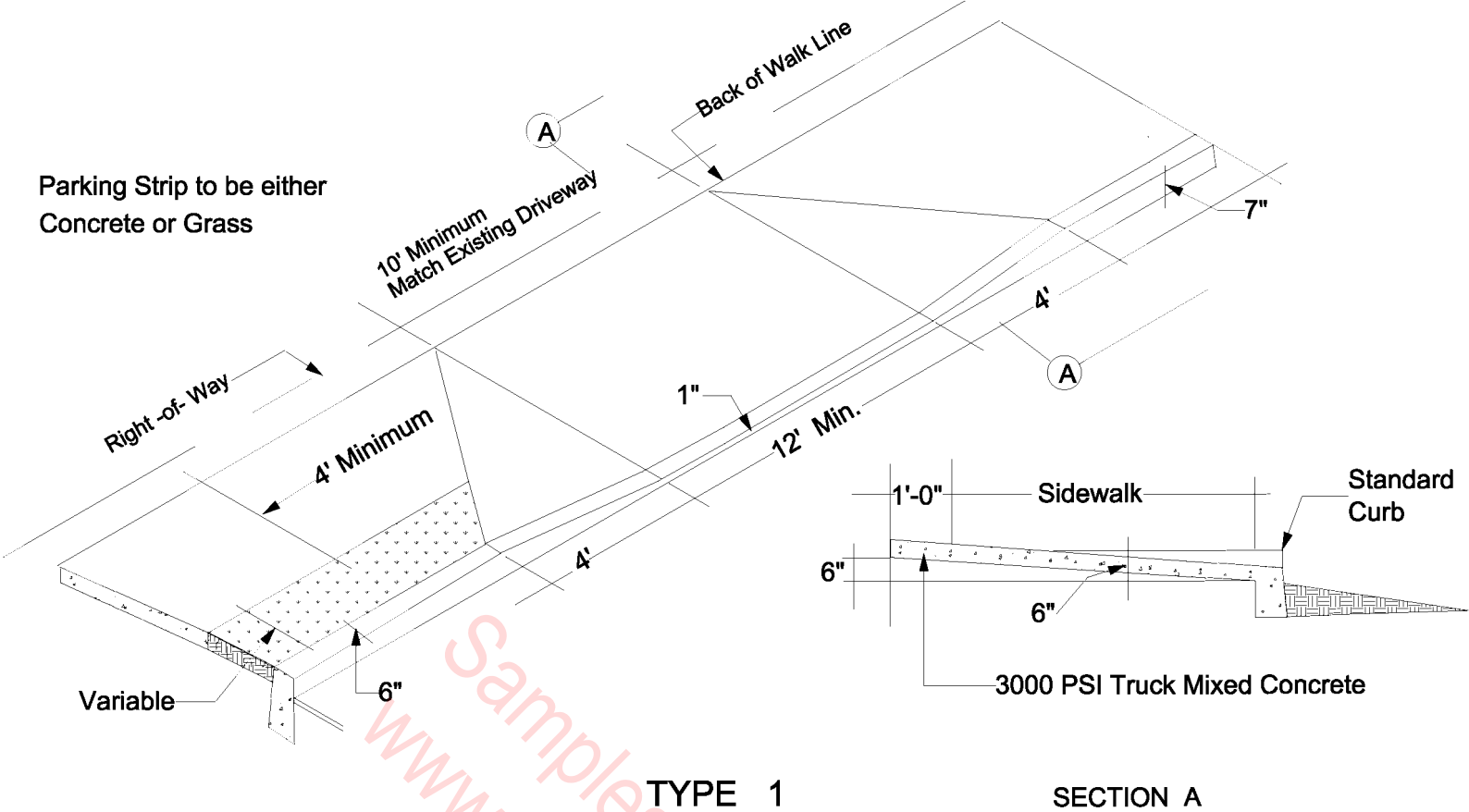
**SELECT BACKFILL**



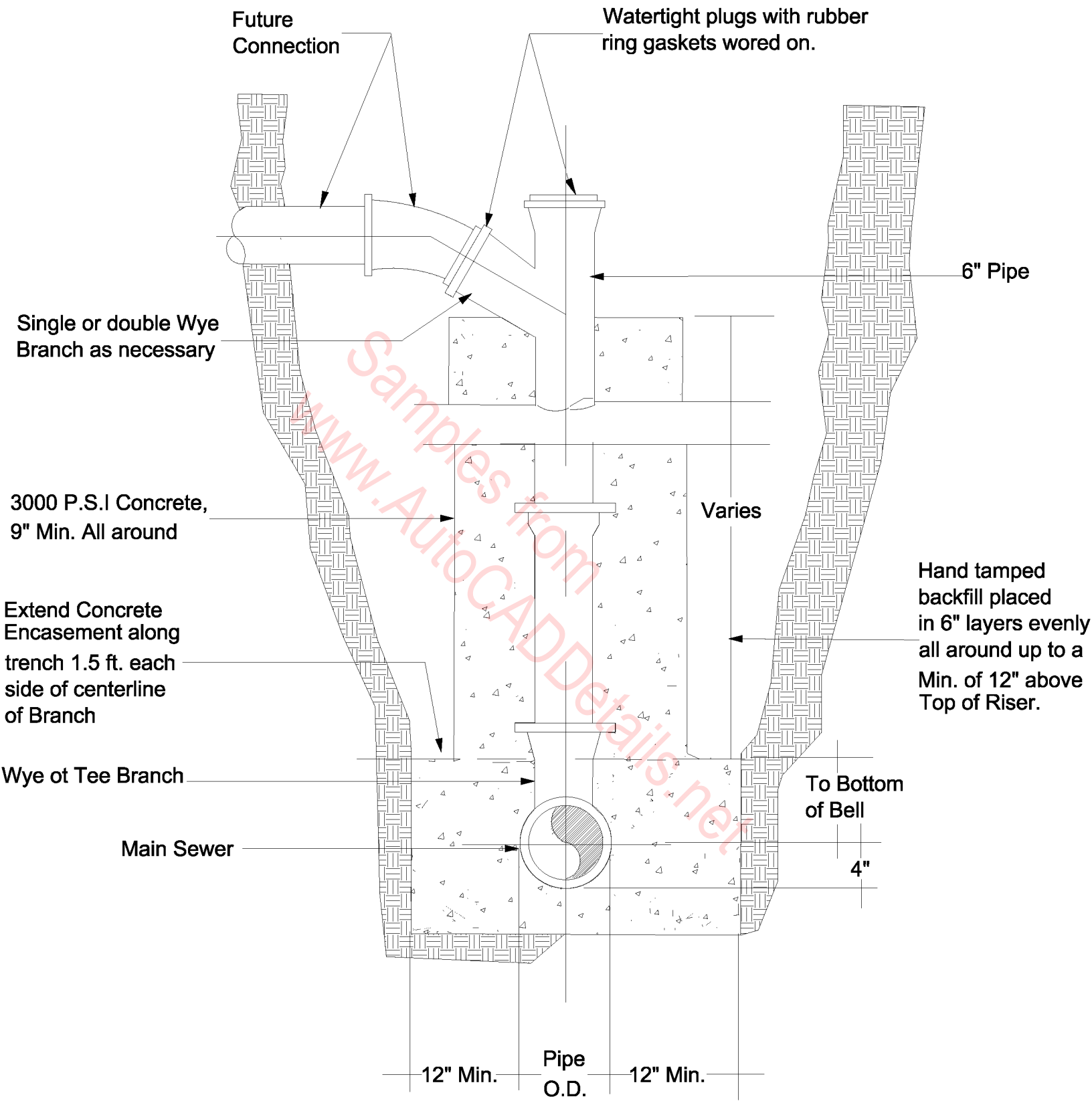
**ORDINARY BACKFILL**

**PIPELINE BACKFILL**

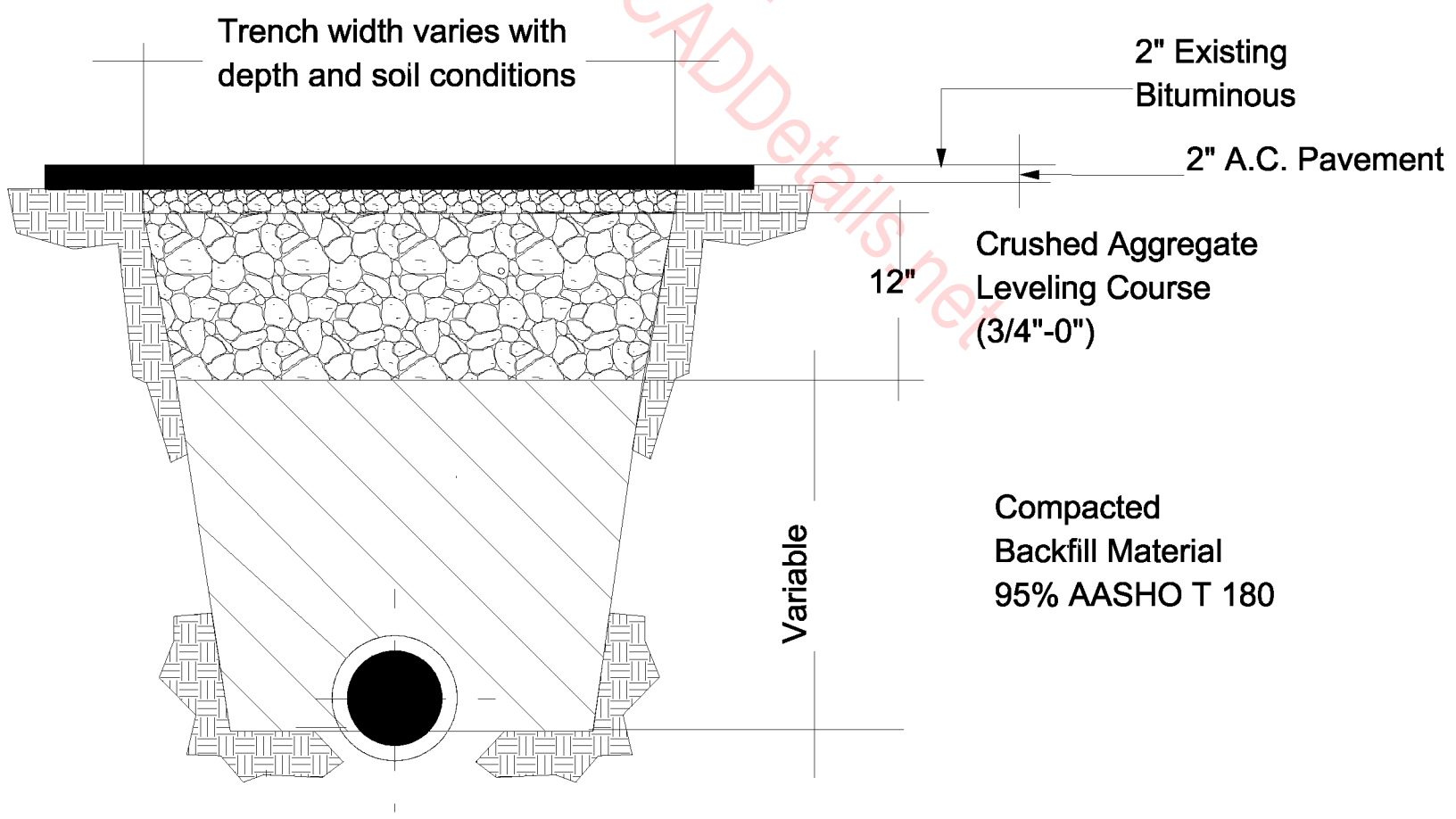
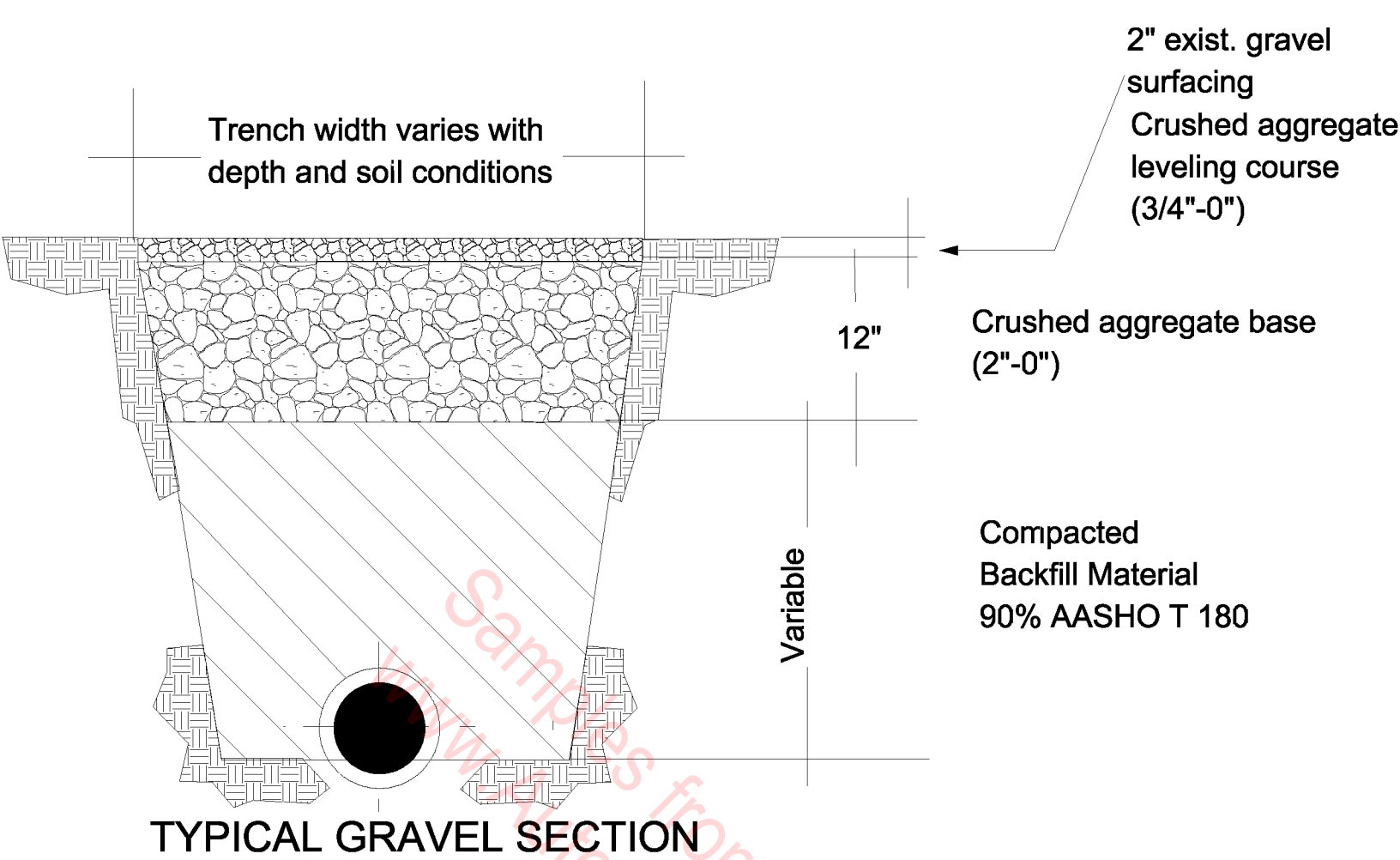


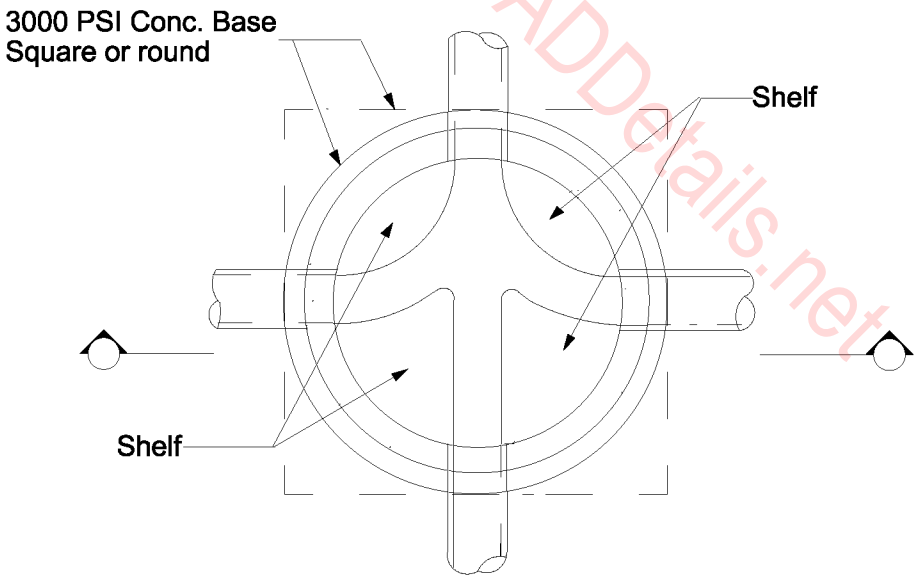
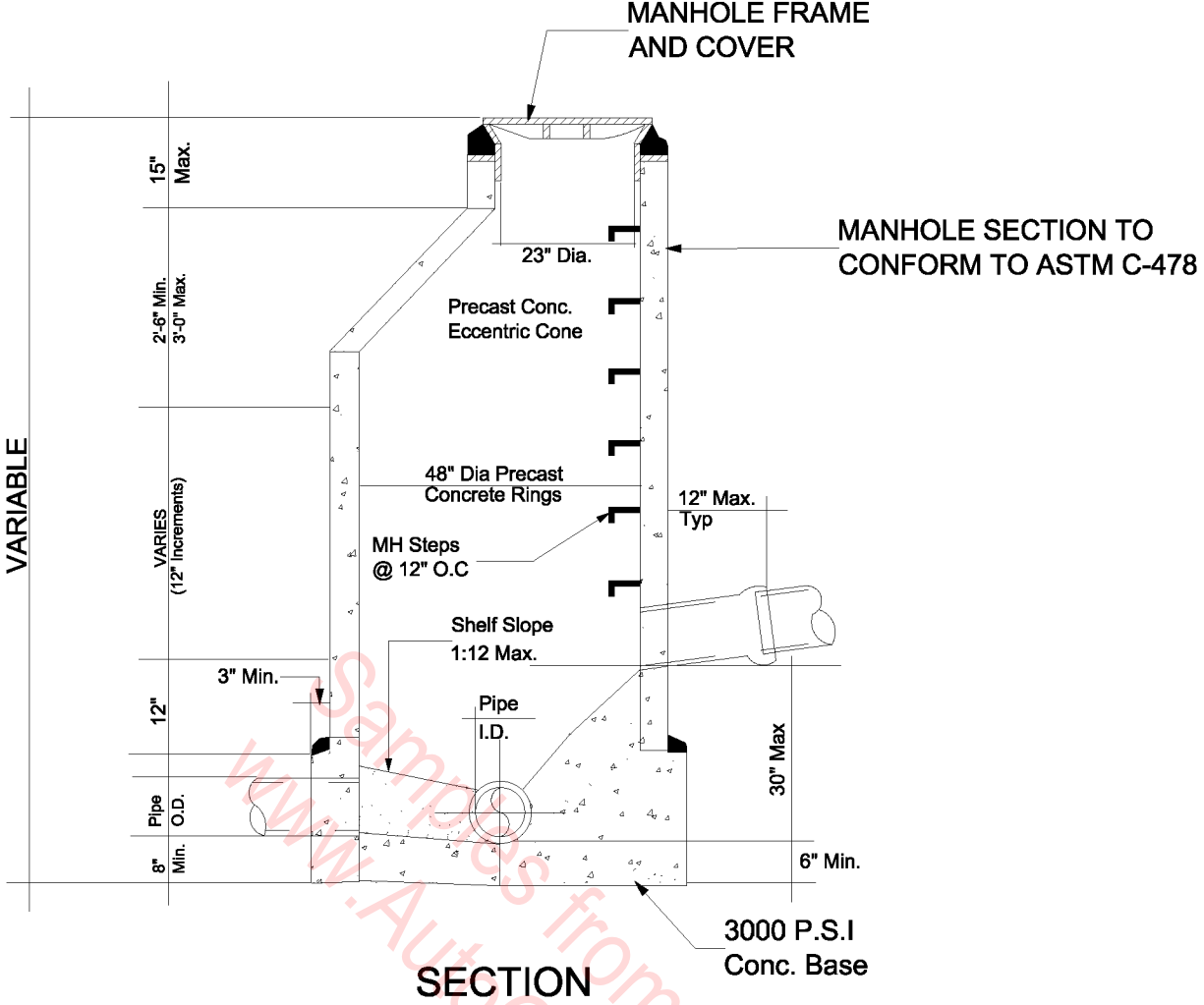


RESIDENTIAL DRIVEWAY



**SERVICE CONNECTION RISER**



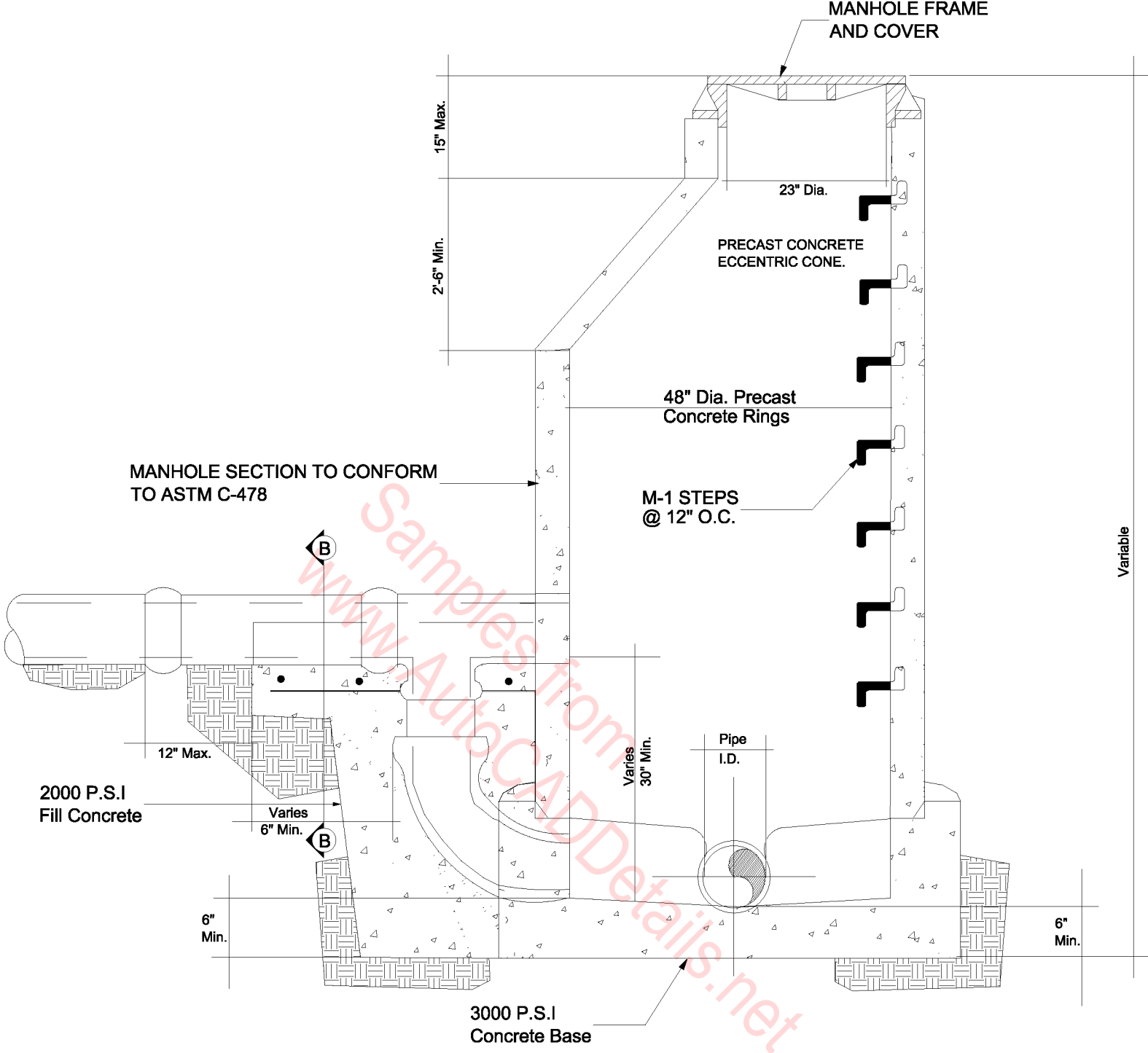


**MANHOLE PLAN**

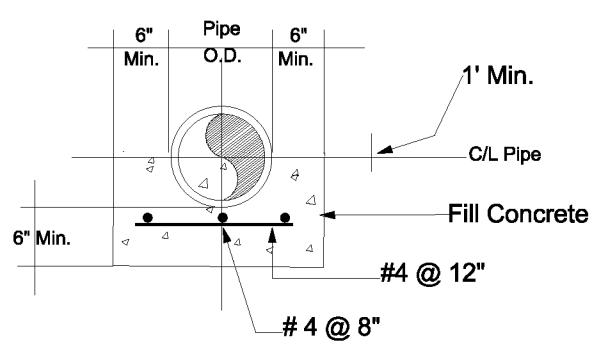
Typical For Type A and C  
Type B Similar, Except Drops.

**TYPE A MANHOLE**

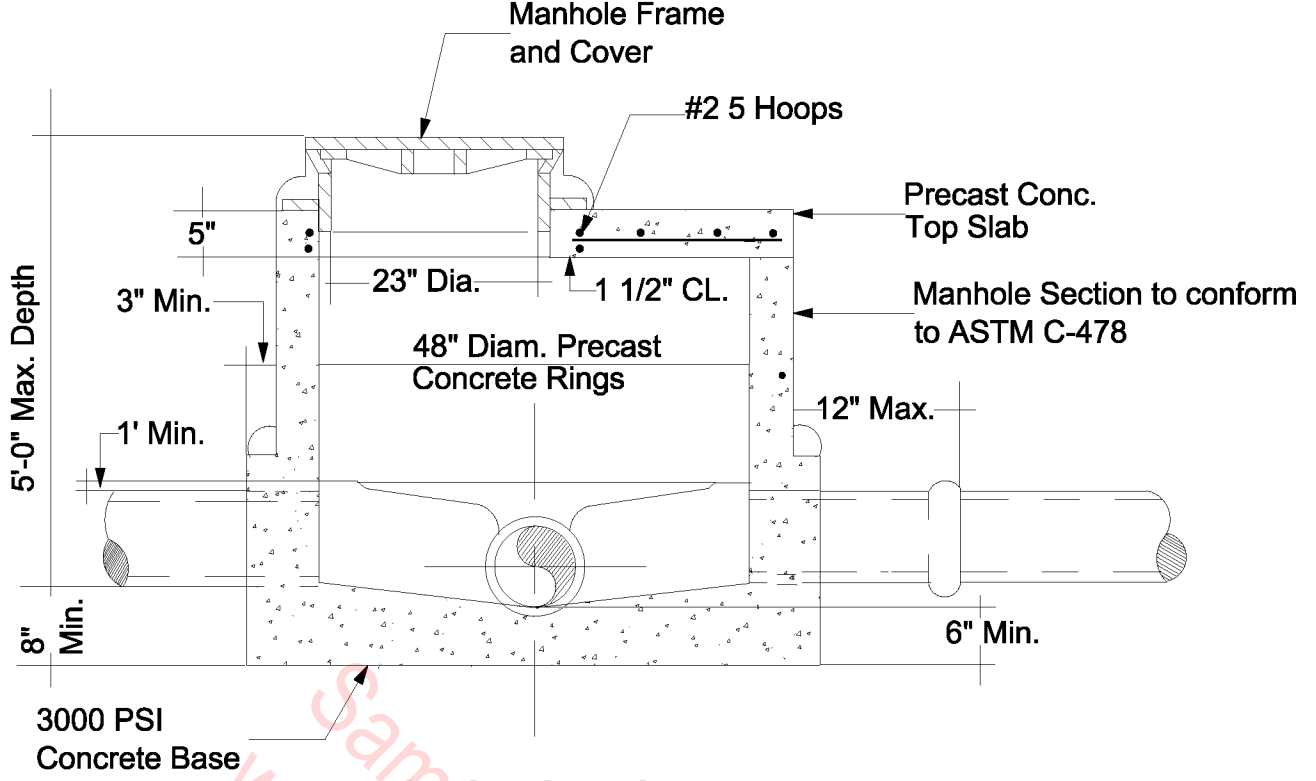
Standard



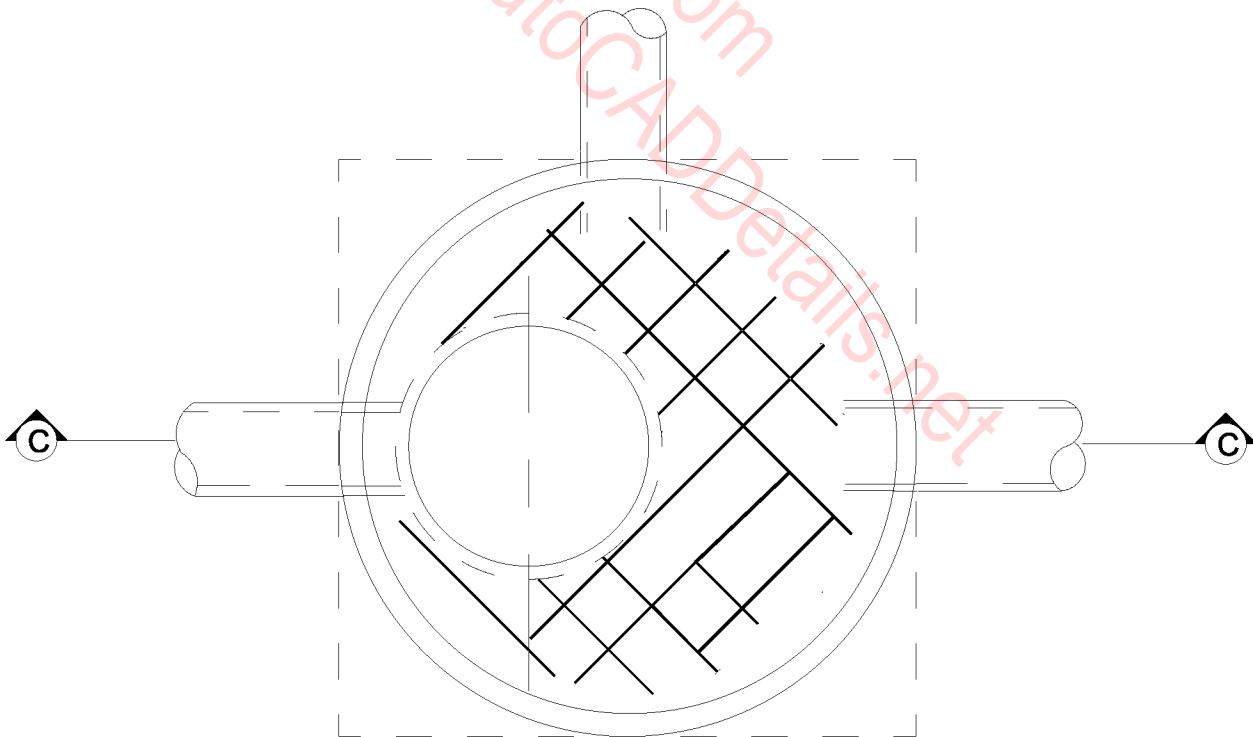
SECTION



SECTION B

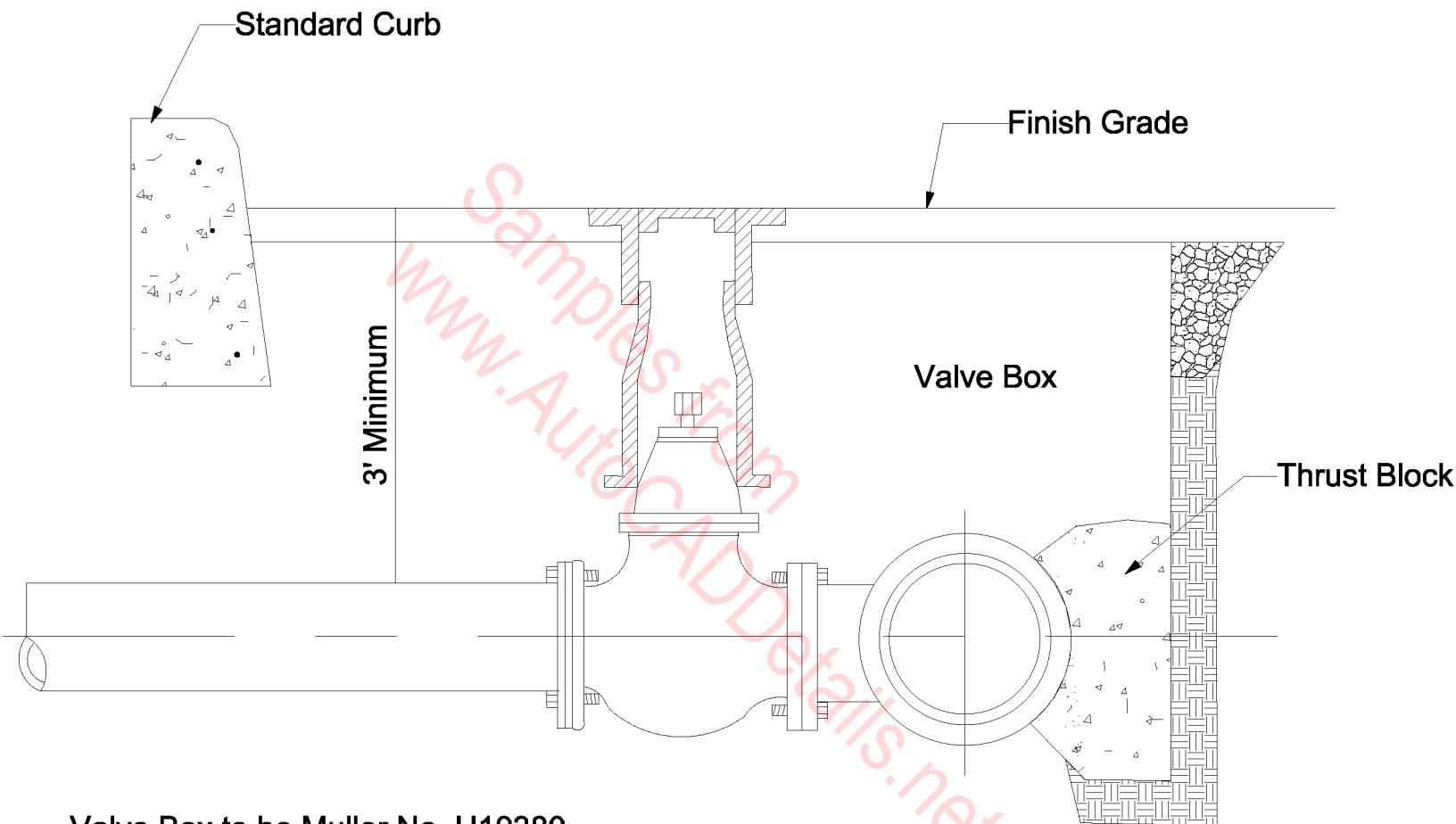


SECTION C



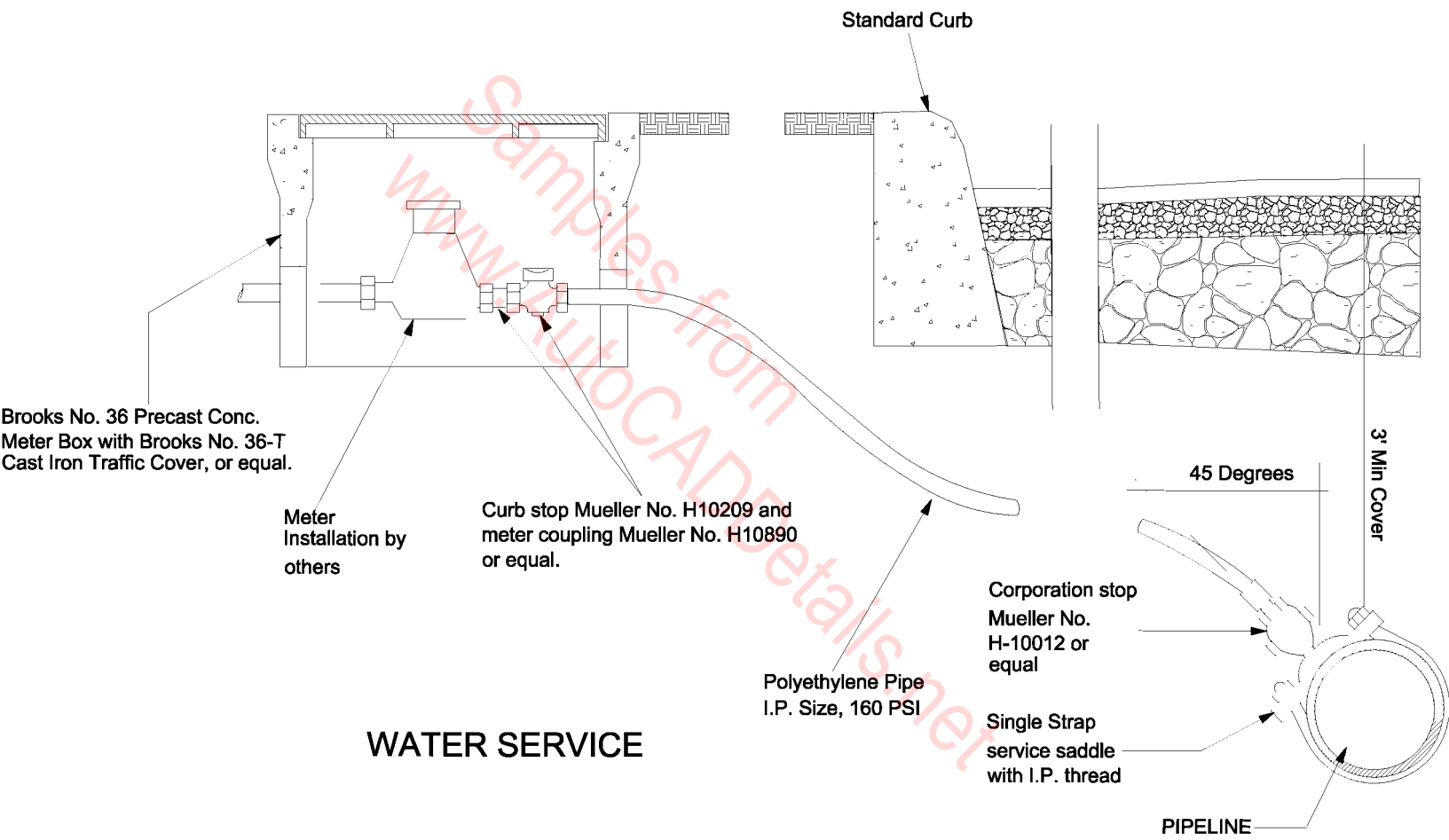
PLAN

TYPE C MANHOLE  
SHALLOW

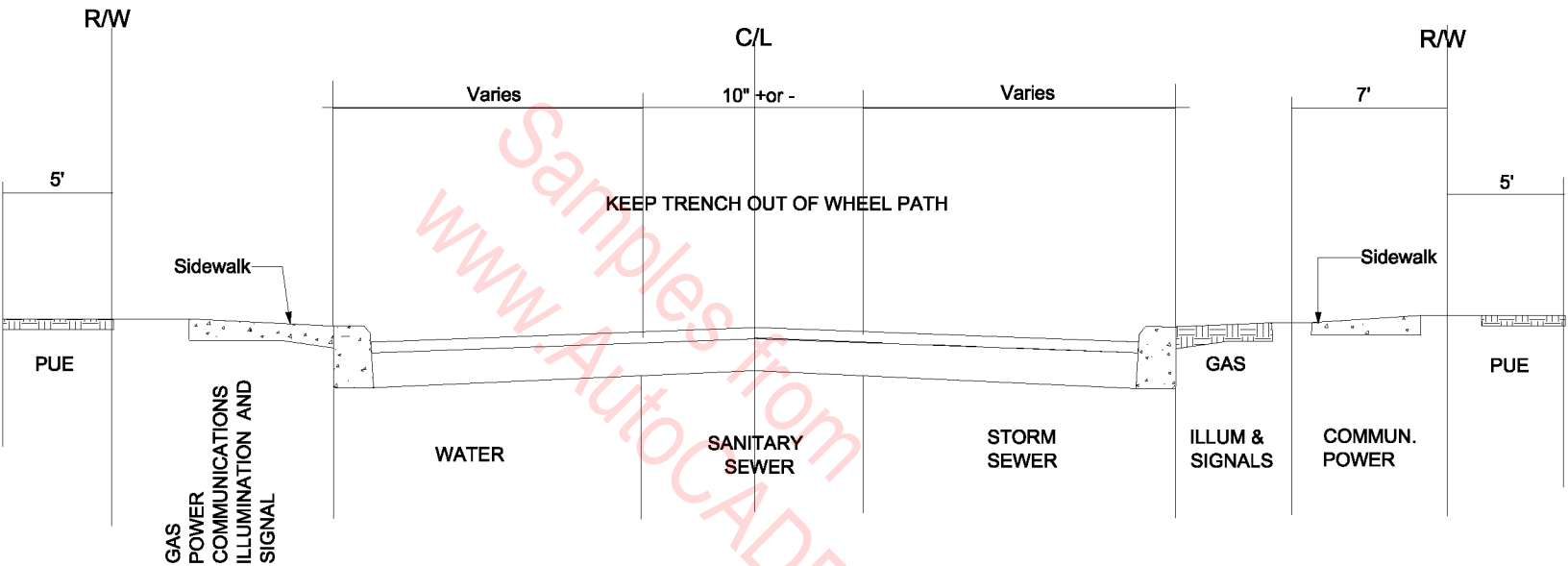


Valve Box to be Muller No. H10380  
 or equal with muller no. H-10361 lid  
 or equal.

## VALVE BOX







SEE NOTE 3.

NOTES:

1. Manholes should not be installed in wheel path.
2. Water and sewer to be located under paved areas.
3. Vaults, Hydrants, Pedestals, etc., that block zones should be worked out in advance with involved utilities within zones.
4. Public utility easements (PUE) recommended for less than 60' right-of-way.

## ZONE LOCATIONS FOR UNDERGROUND UTILITIES