

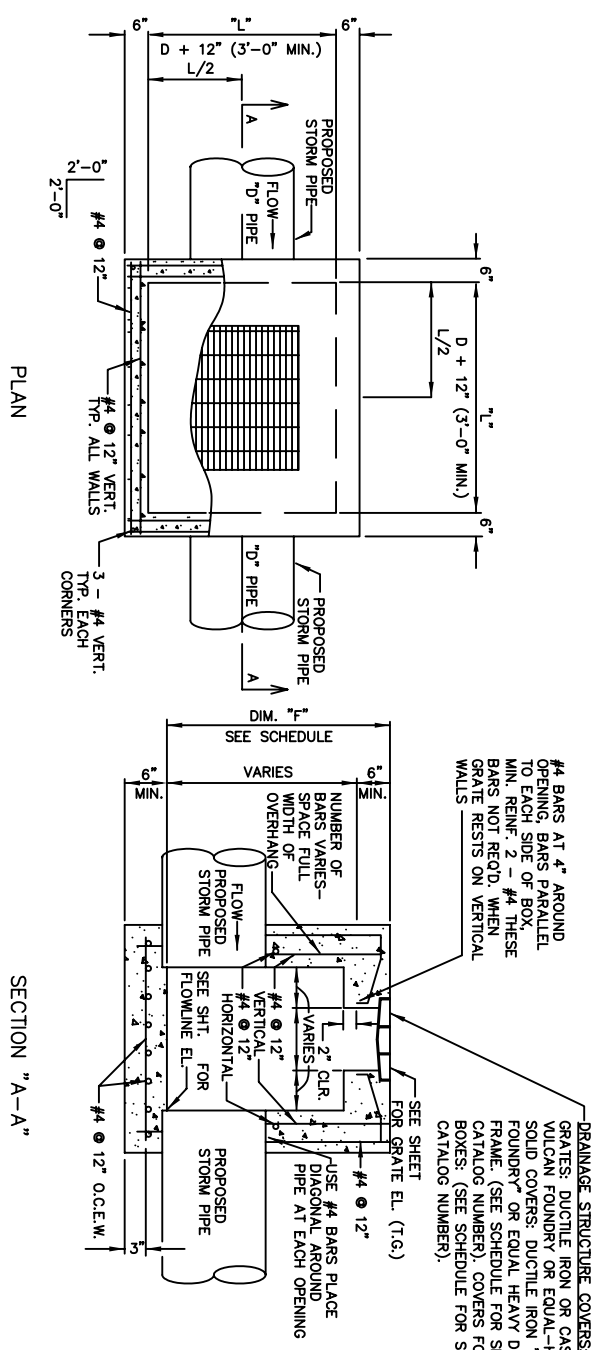
- NOTES:
1. WHEN "L" EXCEEDS 6'-0" AN 8" x 8" PLASTER WILL BE BUILT TO SUPPORT CONCRETE TOP OR BEAM IF REQUIRED.
 2. DETAILS OF CONSTRUCTION NOT NOTED SHALL CONFORM TO TYPICAL CURB INLET DETAILS.

- NOTES:
1. ALL INTERIOR AND EXPOSED EXTERIOR SURFACES OF MASONRY WALLS SHALL RECEIVE A ONE HALF INCH (1/2") TROWELED MORTAR FINISH.
 2. REINFORCING BAR SHALL BE GRADE 40. WELDED WIRE MESH SHALL BE GRADE 50.
 3. STANDARD INLET COVER SHALL BE CAST IRON.
 4. BACKFILL AROUND INLET TO LIMITS OF EXCAVATION WITH CEMENT STABILIZED SAND.

- NOTES:
1. INLET WALLS MAY BE EXTENDED USING PRECAST RISER SECTION.
 2. INLET TOPS MUST BE SECURED TO THE INLET WALL USING #6 DOWELS DRILLED AND GROUTED A MINIMUM DEPTH OF 5" INTO THE INLET WALL.
 3. INLET BACKFILL SHALL BE CEMENT STABILIZED SAND TO THE TOP OF INLET.

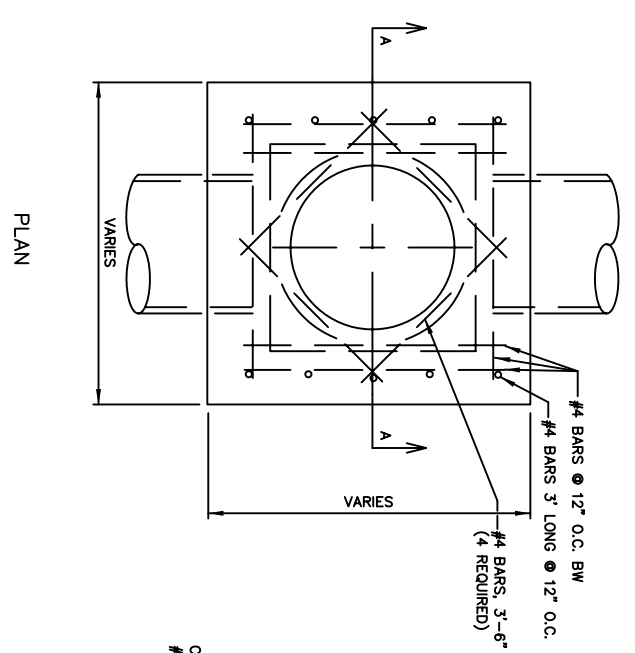
TYPE "C" TYPICAL CURB INLET

STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
STORM WATER	
INLET DETAILS	
BRAZORIA COUNTY	
DEPARTMENT OF ENGINEERING	
DESIGN ENGINEER: _____	DATE: _____
SUBMITTED: _____	
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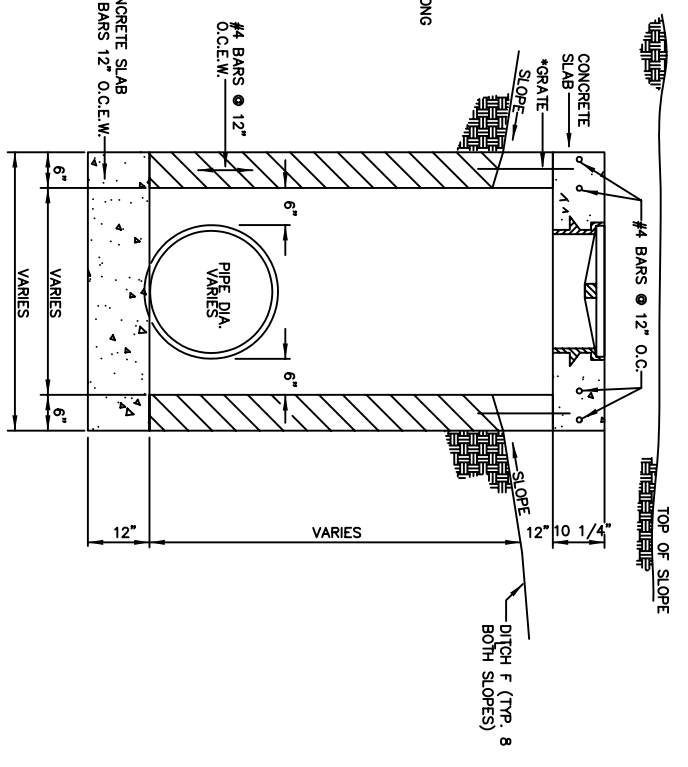


REINFORCED CONCRETE (CAST/PRECAST)
CONSTRUCTION TYPE

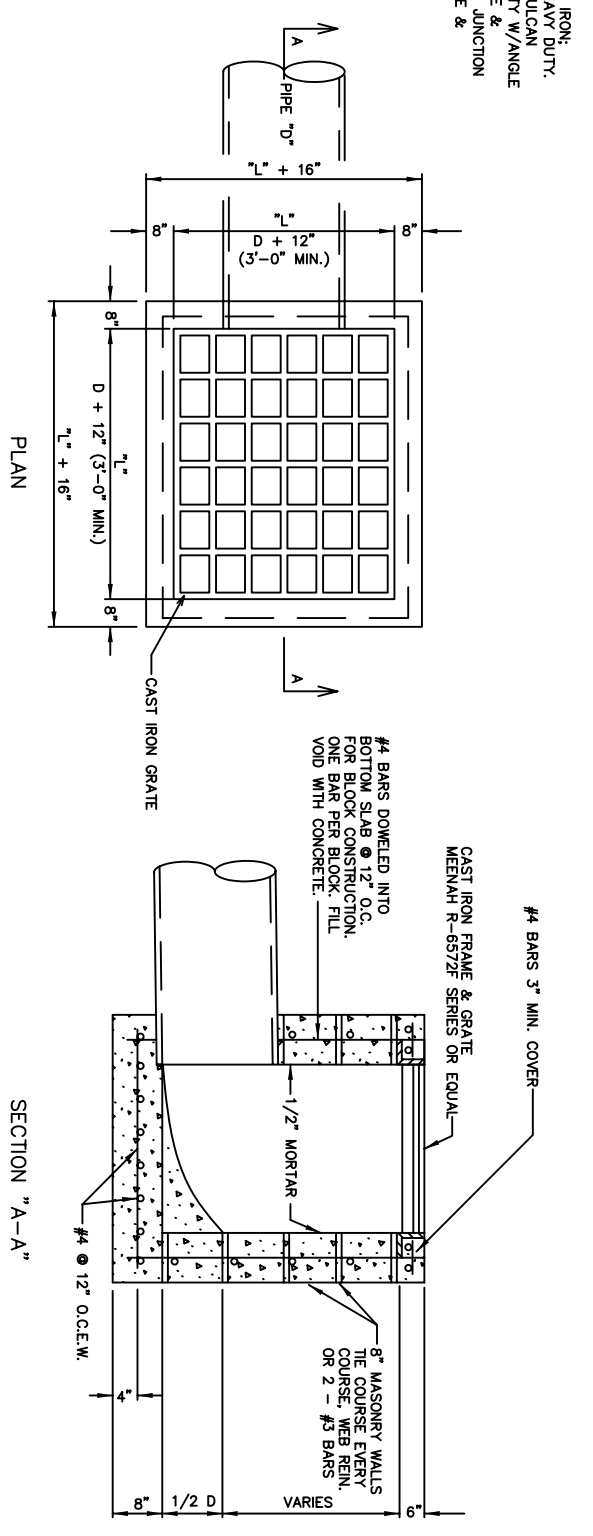
TYPE "A" INLET
N.I.T.S.



PLAN

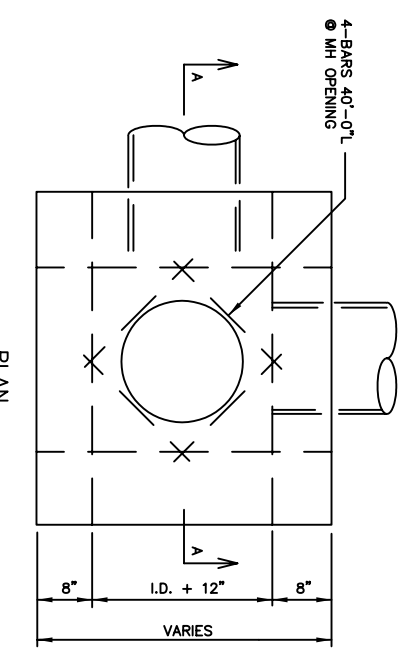


SECTION "A-A"

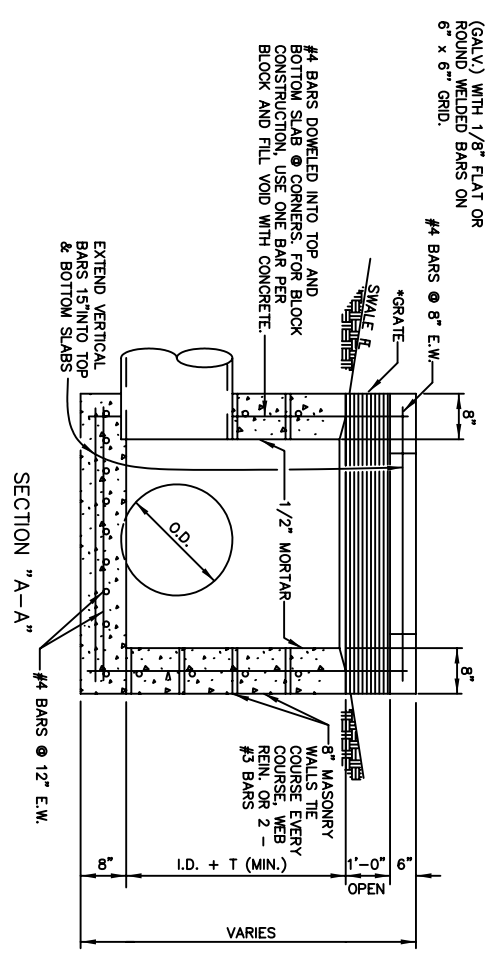


REINFORCED MASONRY
CONSTRUCTION TYPE

TYPE "E" INLET
N.I.T.S.



PLAN



SECTION "A-A"

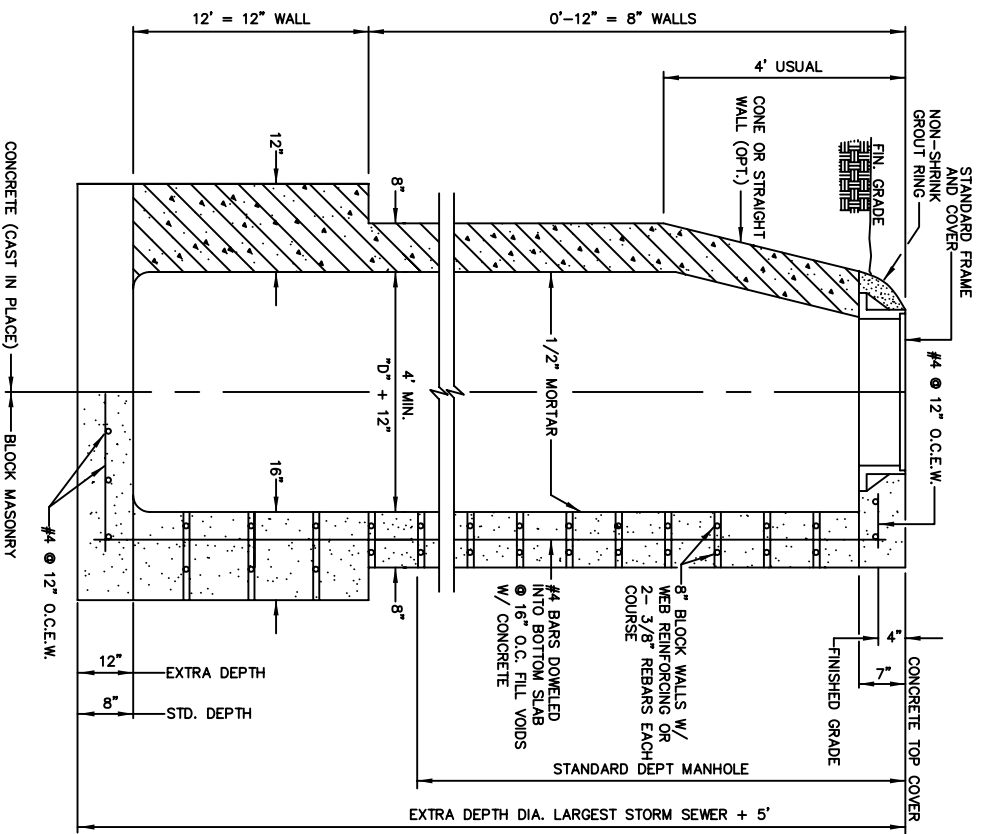
REINFORCED CONCRETE (CAST/PRECAST)
CONSTRUCTION TYPE

TYPE "E" INLET
N.I.T.S.

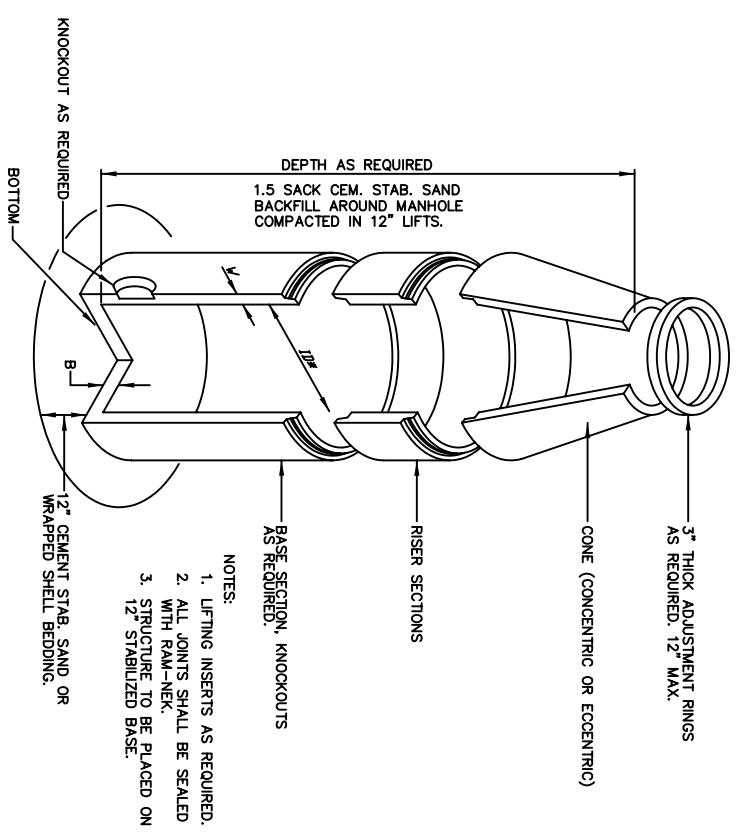
REINFORCED MASONRY
CONSTRUCTION TYPE

- NOTES:
1. ALL INTERIOR AND EXPOSED EXTERIOR SURFACES OF MASONRY WALLS SHALL RECEIVE A ONE HALF INCH (1/2") TROWELLED MORTAR FINISH.
 2. REINFORCING BAR SHALL BE GRADE 60.

STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
STORM WATER	
INLET DETAILS	
BRAZORIA COUNTY	
DEPARTMENT OF ENGINEERING	
DESIGN ENGINEER:	DATE:
SUBMITTED:	
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DATE:	



TYPICAL STORM MANHOLE
N.T.S.

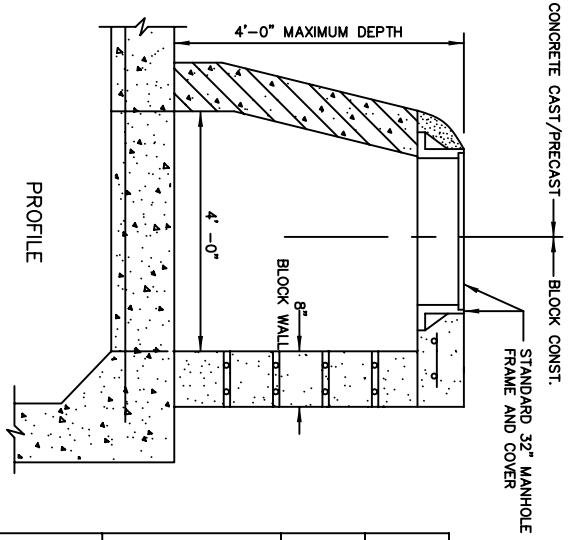
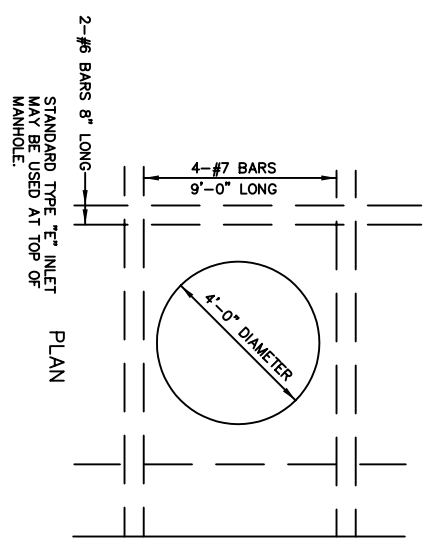


NOTES:
1. STANDARD COVER MAY BE SUBSTITUTED WITH COMPATIBLE GRATED COVER WHEN UTILIZED AS AN AREA INLET.

SPECIFICATIONS
CONCRETE: CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. RATES FOR H-20 LOADING.
REINFORCEMENT: STRUCTURAL REINFORCEMENT CONFORMING TO ASTM-C-476.

C.I. CASTINGS: CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 35.

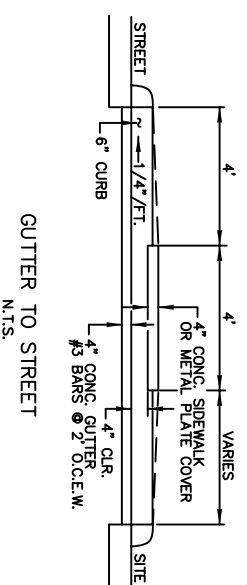
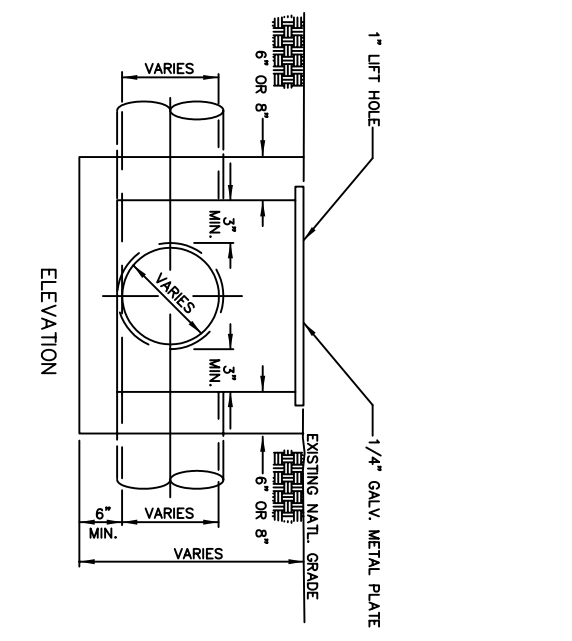
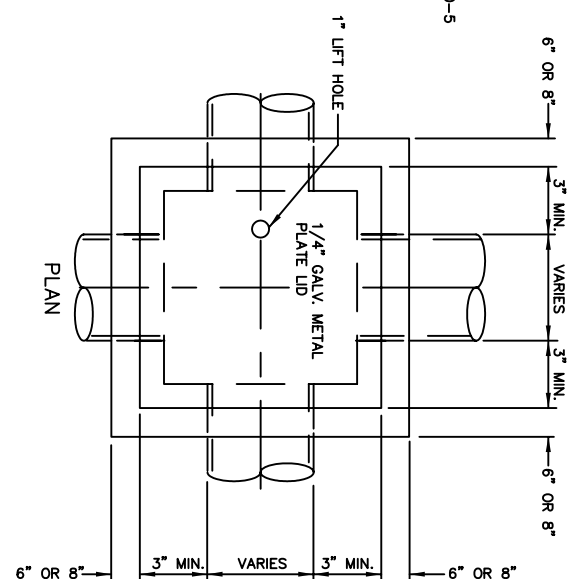
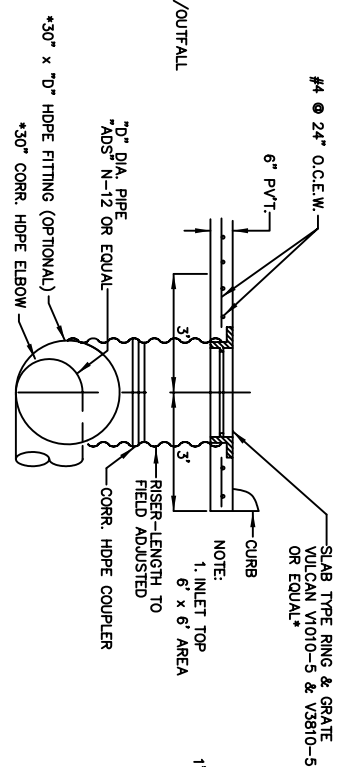
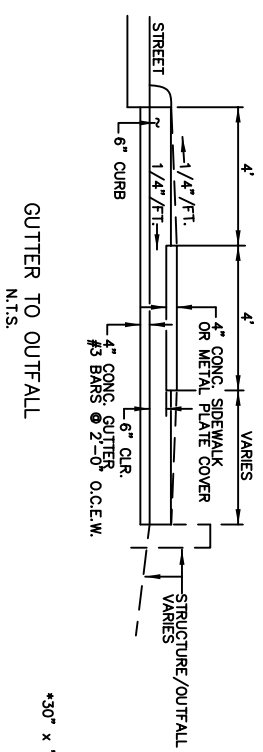
PRECAST CONCRETE STORM MANHOLE
N.T.S.



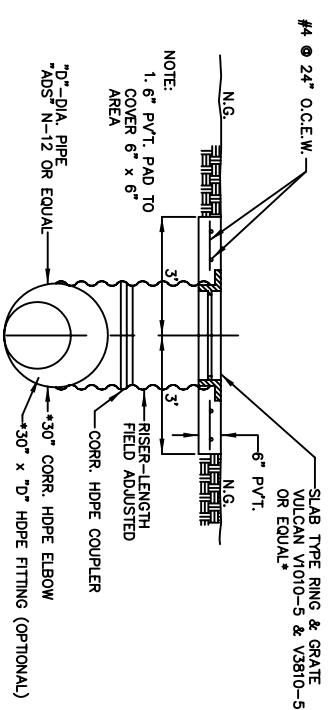
MANHOLE FOR STORM BOX SEWER
N.T.S.

DEPARTMENT OF ENGINEERING

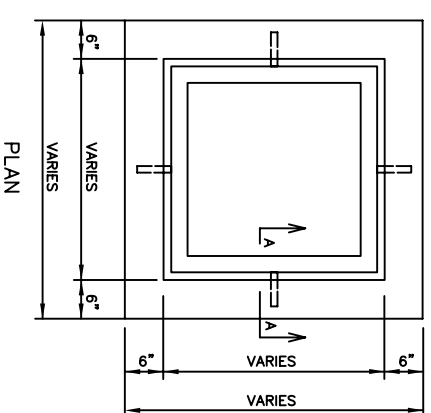
STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
STORM WATER	
INLET DETAILS	
BRAZDORIA COUNTY	
DEPARTMENT OF ENGINEERING	
DESIGN ENGINEER: _____	DATE: _____
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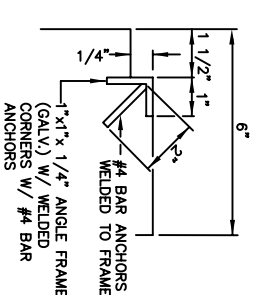
C.P.E. IN-LINE DRAIN INLET
(30" STANDARD)
N.T.S.



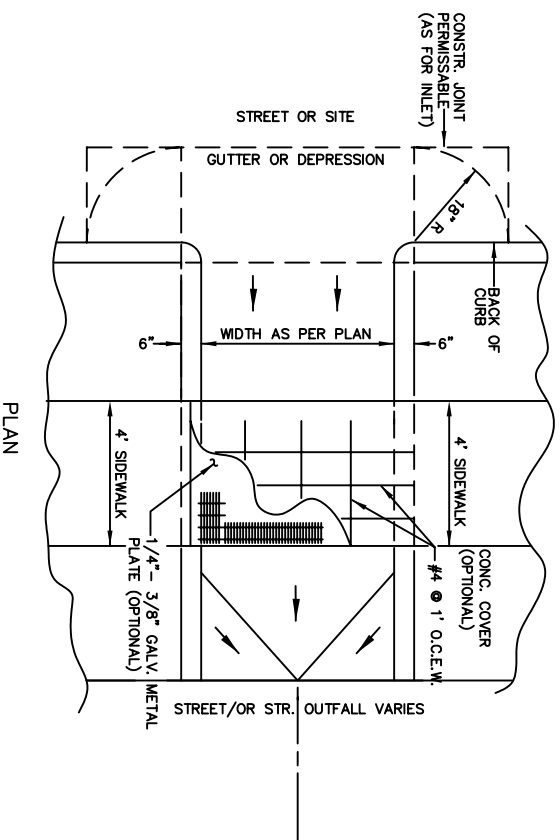
CROSS-SECTION
N.T.S.



LID FRAME DETAIL



SECTION "A-A"



GUTTER TRENCH SPILLWAY
N.T.S.

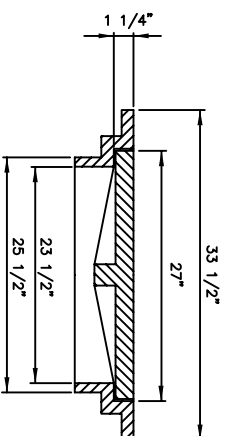
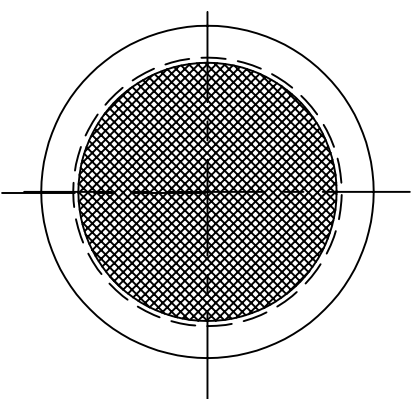
IN-LINE DRAIN INLET
LIGHT TRAFFIC / SITE
N.T.S.

JUNCTION BOX DETAIL
LIGHT TRAFFIC / SITE
N.T.S.

- NOTES:
1. "D" VARIES PER PLAN
2. * STANDARD SIZE MAY VARY WITH PROPERLY SIZED AND FITTED FRAME RING AND GRATE TYPE

- CONSTRUCTION NOTES:
WALLS TO BE 6" CONC. PRECAST/CAST IN PLACE (WALLS TO BE 8" THICK OF CONST. OF CMU RE: STL AS PER STD BOX, LID TO BE 1/4" GALV. METAL PLATE) BACKFILL SHALL BE C.S. SAND (WHERE TRAFFIC CONDITIONS WARRANT LID SHALL BE 3/8" GALV. METAL PLATE) PIPE TYPE MAY VARY (I.E. ROP, CORR. P.E., PVC SCH. 40 OR GREATER)
NOTES:
1. NOT TO BE USED IN STREET OR AREA BETWEEN CURB AND P.L.

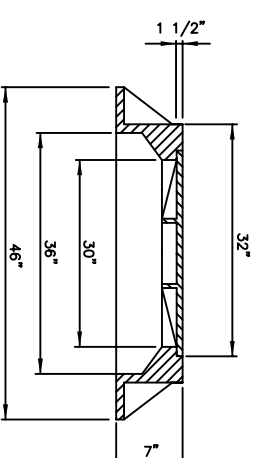
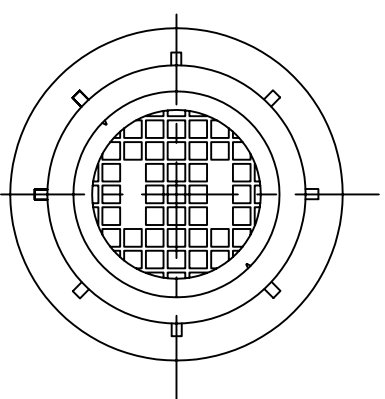
STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
STORM WATER DETAILS	
BRAZORIA COUNTY	
DEPARTMENT OF ENGINEERING	
DESIGN ENGINEER:	DATE:
SUBMITTED:	
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NOTES:
1. CAST IRON INLET COVER OR EQUAL.

MANHOLE COVER AND FRAME FOR CURB INLET

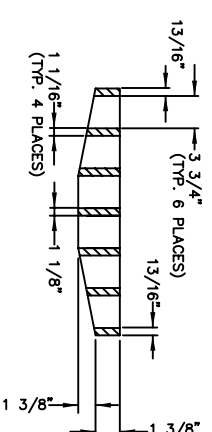
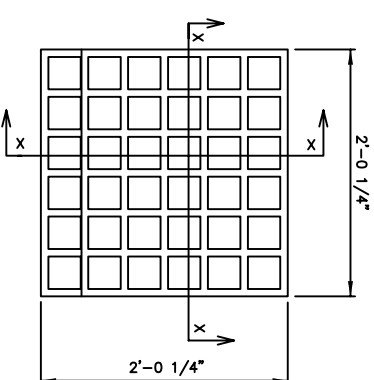
N.T.S.



NOTES:
1. MANHOLE COVER SHALL BE NEEHAH R-1740-B VULCAN V-7045-1 OR EQUAL.

MANHOLE COVER AND FRAME

N.T.S.

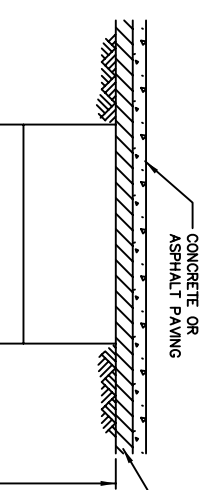
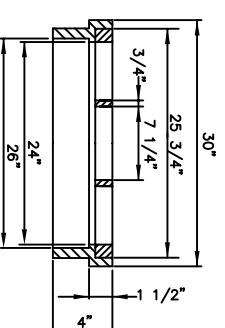
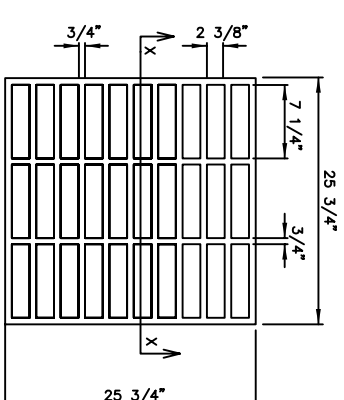


SECTION "X-X"
(VULCAN OR APPROVED EQUAL)

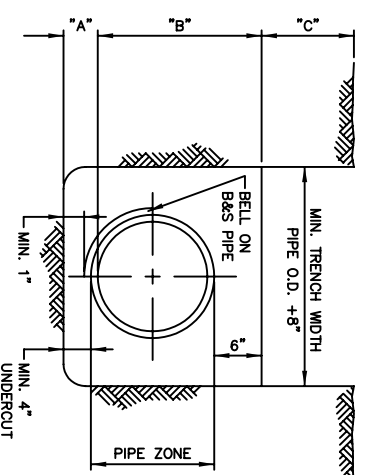
NOTES:
1. NUMBER, TYPE AND SIZE TO BE DETERMINED BY DESIGN INFLOW CAPACITY.

INLET FRAME AND GRATE

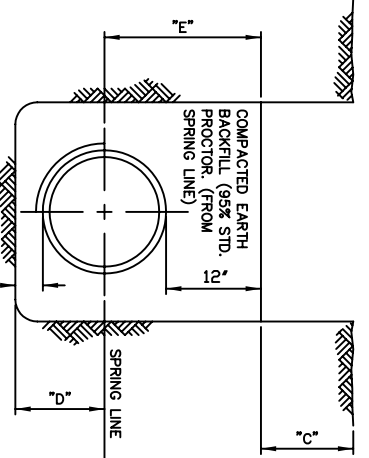
N.T.S.



LIME STABILIZED SUBGRADE OR BASE (1" BELOW FINISHED GRADE FOR LINES OUTSIDE OF, BUT WITH TRENCHES WITHIN TWO FEET (2') OF BACK OF CURB OR EDGE OF ROADWAY)



CLASS "A"



ORDINARY

- CLASS "A" BEDDING**
- "A" - WASHED GRAVEL SCREENINGS PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE OR ABOVE. (ASTM D2321, CLASS 1A)
 - "B" - WASHED GRAVEL SCREENINGS, THOROUGHLY RODED, PLACED AFTER PIPE IS LAID.
 - "C" - EARTH FILL TO BE PLACED SAME DAY AS PIPE IS LAID.
 - "D" - (FOR PIPES LAID UNDER OR ADJACENT TO ROADWAYS, USE CEMENT STABILIZED SAND) 1 1/2 SK COMPACTED.

CLASS "A" BEDDING SHALL BE USED IN CUTS IN EXCESS OF 10 FEET (10') OR WHEN WET SAND IS PRESENT. WHEN WET SAND IS ENCOUNTERED, THE TRENCH SHALL BE DEWATERED TO A STABLE CONDITION AND LINED WITH GEOTECHNICAL FABRIC PRIOR TO PLACING THE GRAVEL SCREENINGS FOR BEDDING AND BACKFILL ZONES A & B.
*CEMENT STABILIZED SAND MAY BE USED WHERE STABLE CLAY BOTTOM EXISTS.

"D" ZONE - BEDDING AND BACKFILL TO SPRING LINE WITH *CEMENT STABILIZED SAND (COMPACTED)

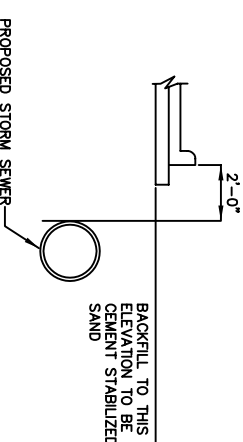
"E" ZONE - WHERE THE LIQUID LIMIT OF THE SOIL IN TRENCH WALLS IN THE "D-E" ZONES EXCEEDS 50, CEMENT STABILIZED SAND SHALL BE UTILIZED. (COMPACTED)

CLASS "A"
UNDER AND ADJACENT TO ROADWAYS

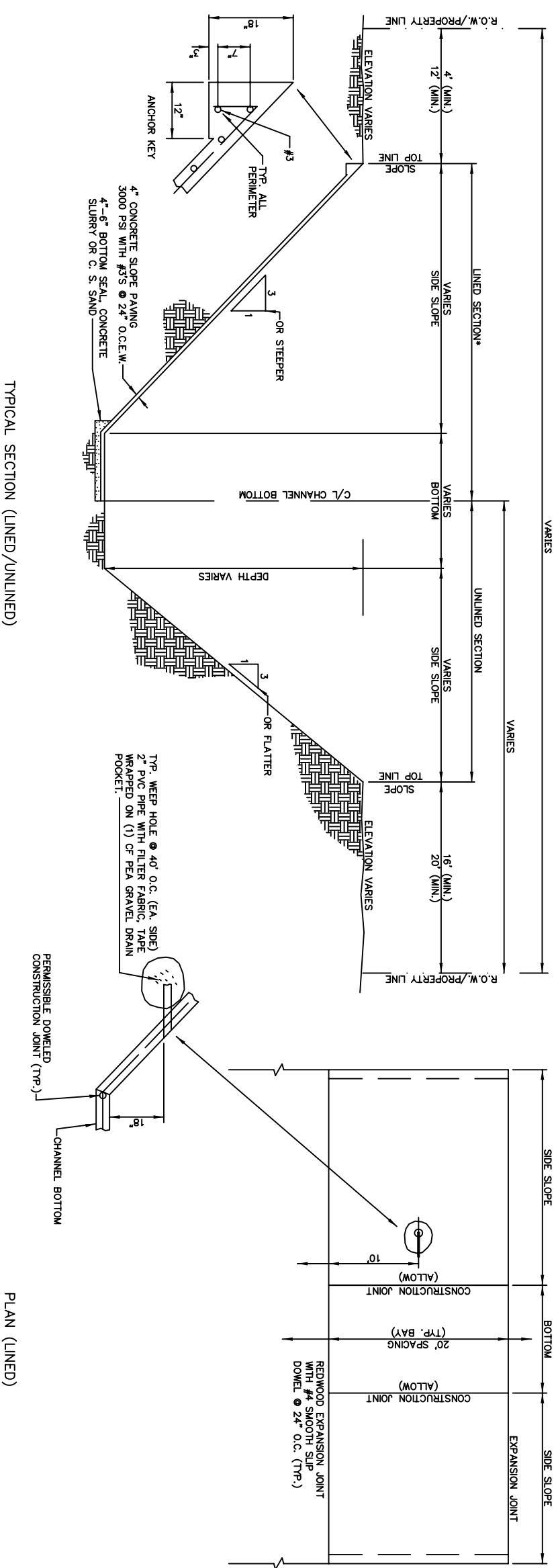
WHERE PIPE IS PLACED ALONG PROPOSED STREET, IT SHALL BE POSITIONED DIAGONAL TO THE STREET IS TWO FEET FROM BACK OF CURB. SEE DETAIL BELOW.

TYPICAL BEDDING FOR STORM SEWERS

N.T.S.



STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
STORM WATER DETAILS	
BRAZORIA COUNTY	
DEPARTMENT OF ENGINEERING	
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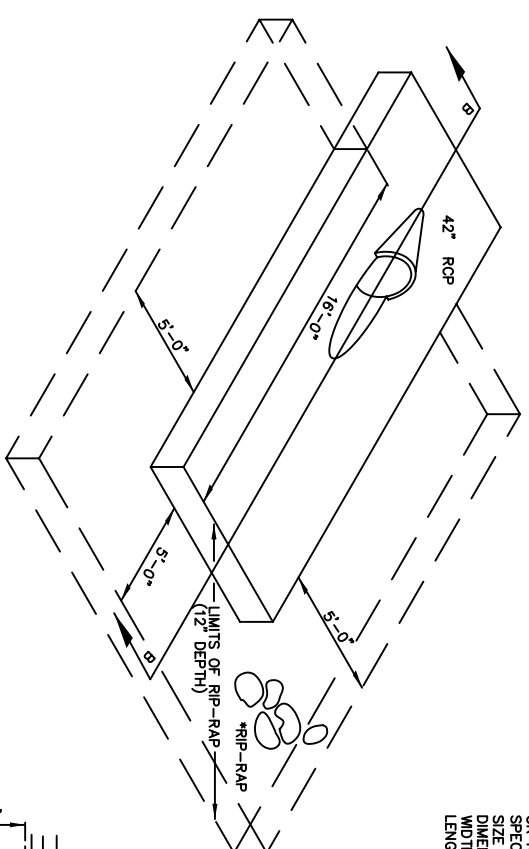
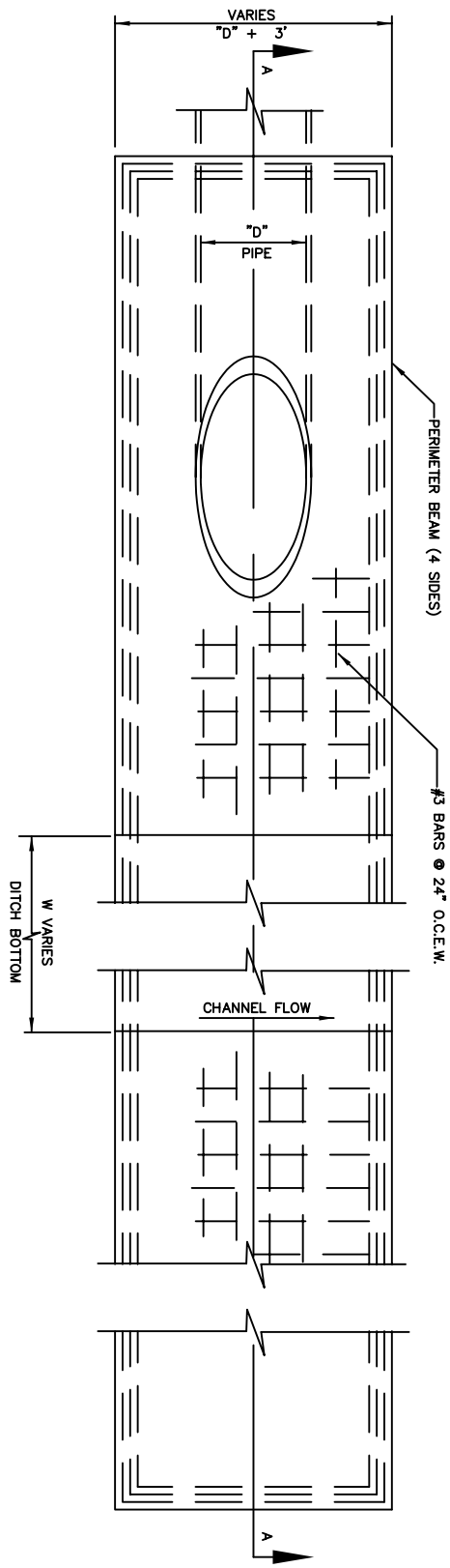


- NOTES: CHANNEL LINING ALTERNATIVES*
1. REINFORCED CONCRETE "SHOTCRETE" OR "GUNITE"
 2. GEOTEXTILES
 3. GEOTEXTILES WITH GEOMAT
 4. GEOTEXTILES WITH GEOMAT AND GEOTEXTILES
 5. ARTICULATED CONCRETE

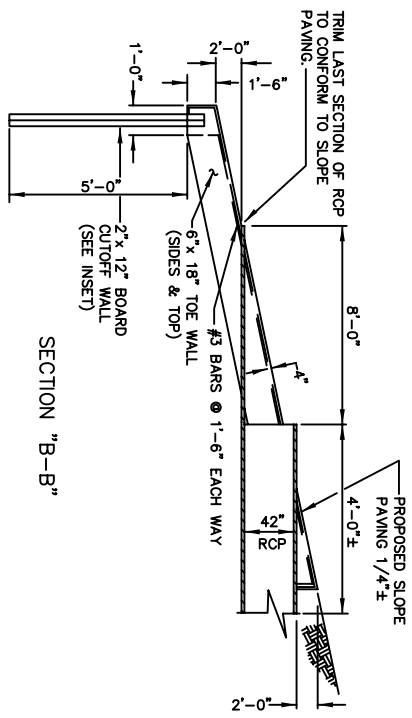
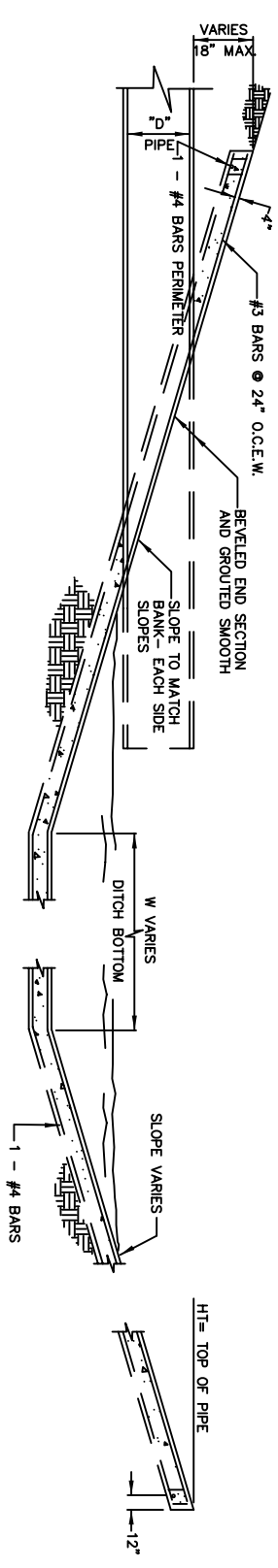
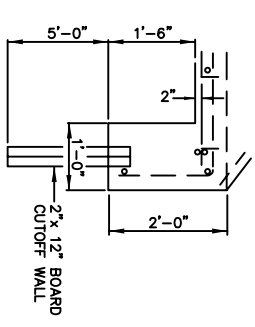
OPEN CHANNEL SLOPE TREATMENT DETAIL

N.T.S.

STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
SLOPE PAVEMENT	
DETAILS	
BRAZORIA COUNTY	
DEPARTMENT OF ENGINEERING	
DESIGN ENGINEER: _____	DATE: _____
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NOTES:
 1. *RIP-RAP SHALL BE BROKEN CONCRETE OR NATURAL STONE.
 SPEC. GRAVITY - 2.4
 SIZE - 0.25 TO 1.25 CF (40-190#)
 DIMENSION - >3 IN.
 WIDTH - <2.5 x THICKNESS
 LENGTH - <3 x THICKNESS



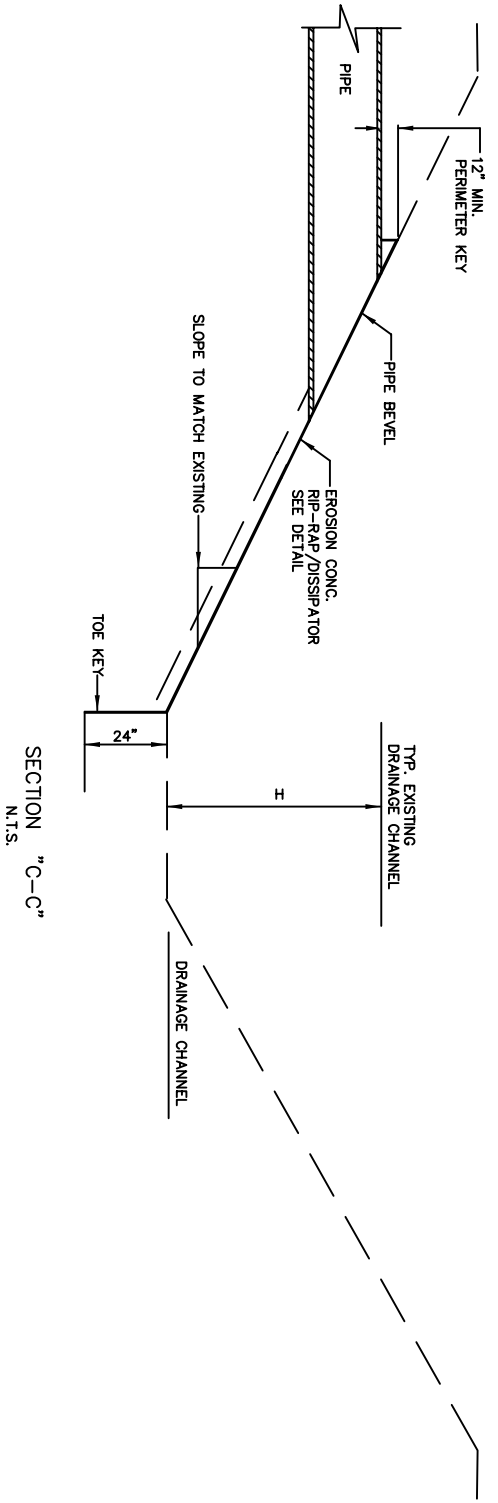
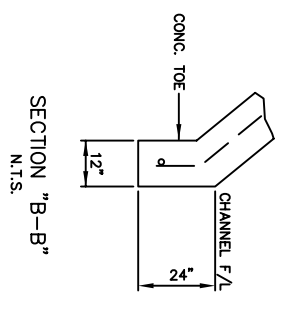
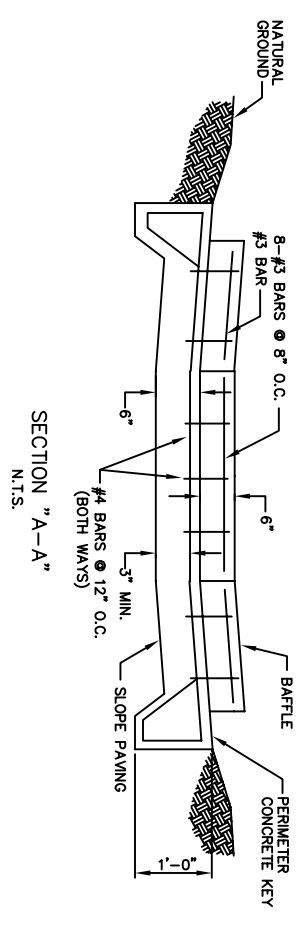
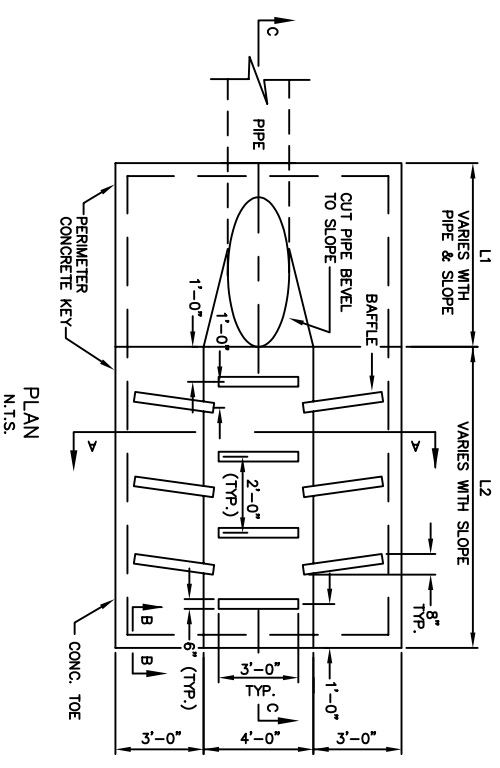
TYPICAL DRAINAGE OUTFALL CHANNEL

DRAINAGE OUTFALL CHANNEL

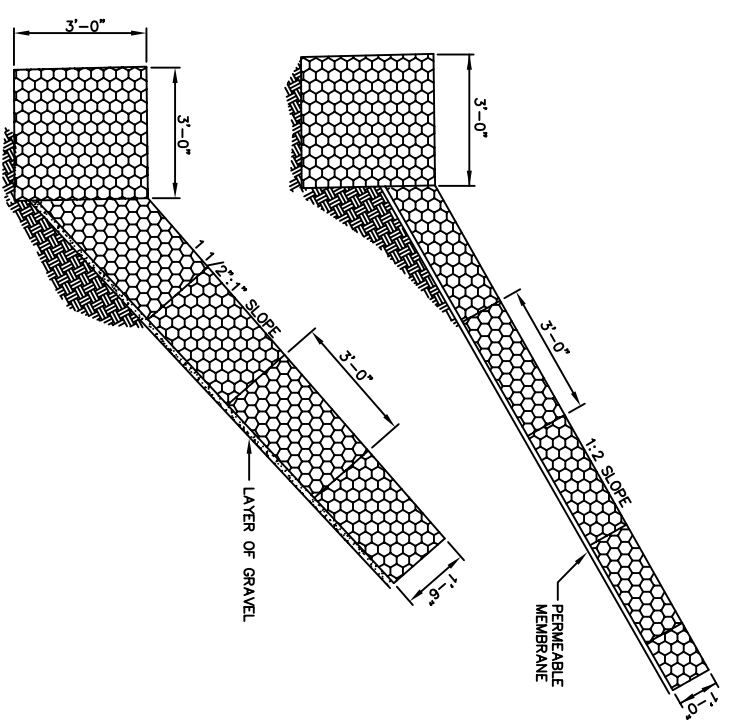
STANDARD CONCRETE SLOPE PAVING PIPE OUTFALL

N.T.S.

STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
SLOPE PAVING OUTFALL	
BRAZORIA COUNTY	
DEPARTMENT OF ENGINEERING	
DESIGN ENGINEER: _____	DATE: _____
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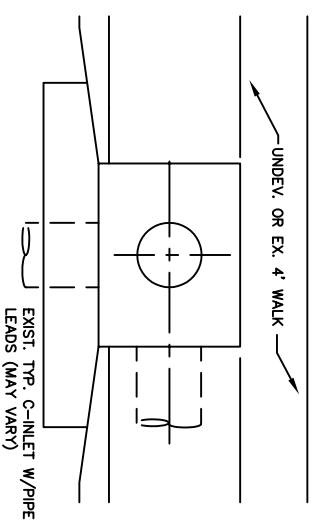


PIPE OUTFALL SLOPE PROTECTION WITH ENERGY DISSIPATORS TREATMENT (OPTION)

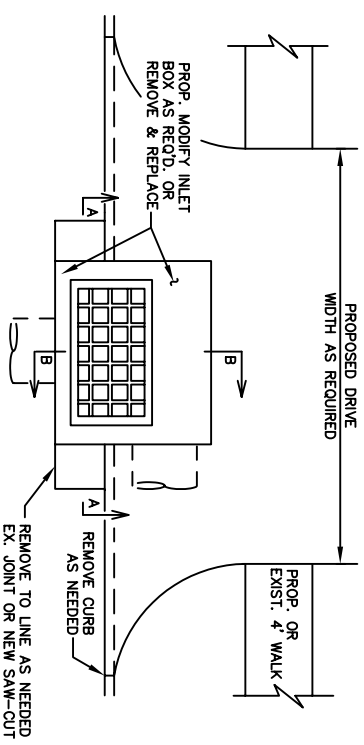


GABION LINING PIPE OUTFALL (OPTION)

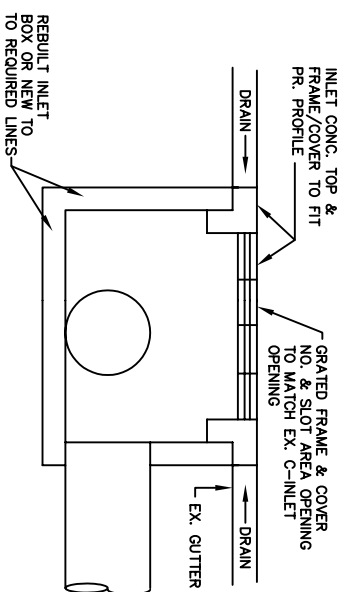
STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
TYPICAL OUTFALL DETAIL	
BRAZORIA COUNTY	
DEPARTMENT OF ENGINEERING	
DESIGN ENGINEER: _____	DATE: _____
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TYPICAL CONDITION LAYOUT



PROPOSED LAYOUT

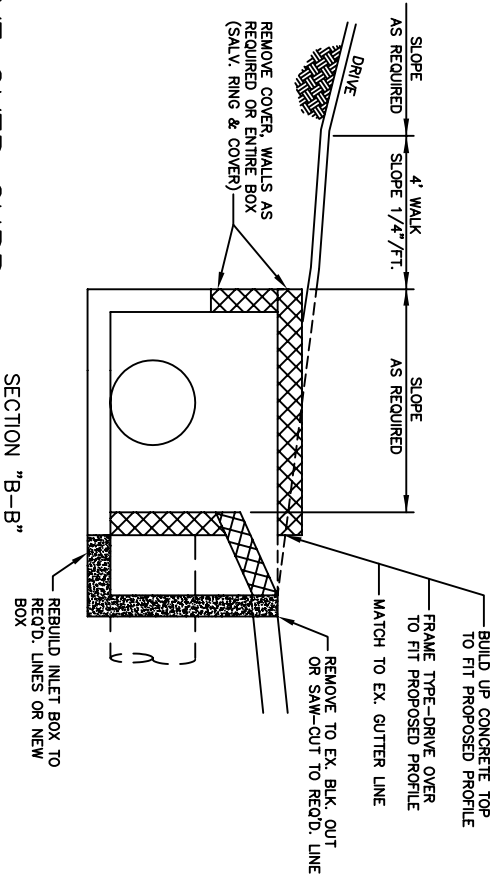


SECTION "A-A"

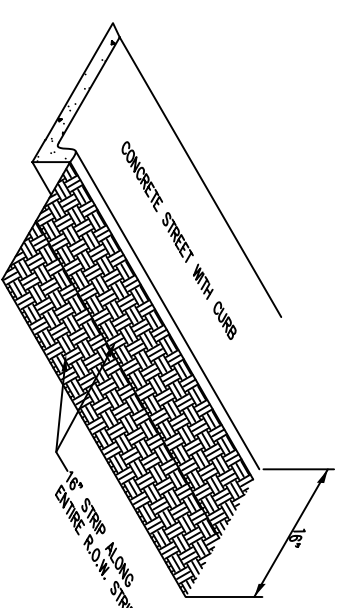
- NOTES:
1. INSTALLATION MAY BE RETROFIT OF EXISTING CONDITIONS OR NEW CONSTRUCTION.
 2. INLET DIMENSIONS SHALL BE DETERMINED AS REQ'D. BY FRAME COVER OR SPRING SIZES WHICH EVER GOVERNS.
 3. BOX INLET CONSTRUCTION DETAIL SHALL CONFORM TO THOSE OF THE STANDARD INLET CONSTRUCTION REQUIREMENTS.

DRIVE OVER CURB
INLET INSTALLATION

N.T.S.

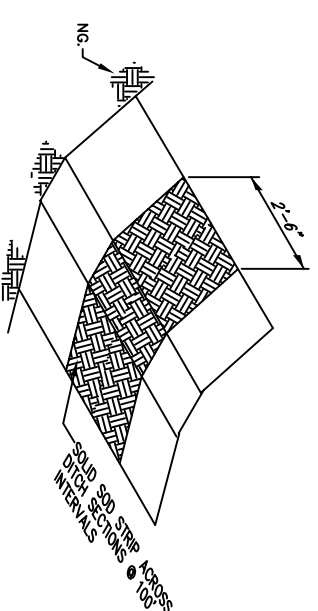


SECTION "B-B"



SOLID SOD / BACK OF CURB / BACK OF SIDEWALK
RIGHT OF WAY RETARD

N.T.S.



DITCH CHANNEL RETARD

N.T.S.

STORM DRAINAGE CONSTRUCTION	
DRAWING DETAIL	
MISC. STORM DETAILS	
BRAZORIA COUNTY	
DEPARTMENT OF ENGINEERING	
SEAL	
DESIGN ENGINEER: _____	DATE: _____
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