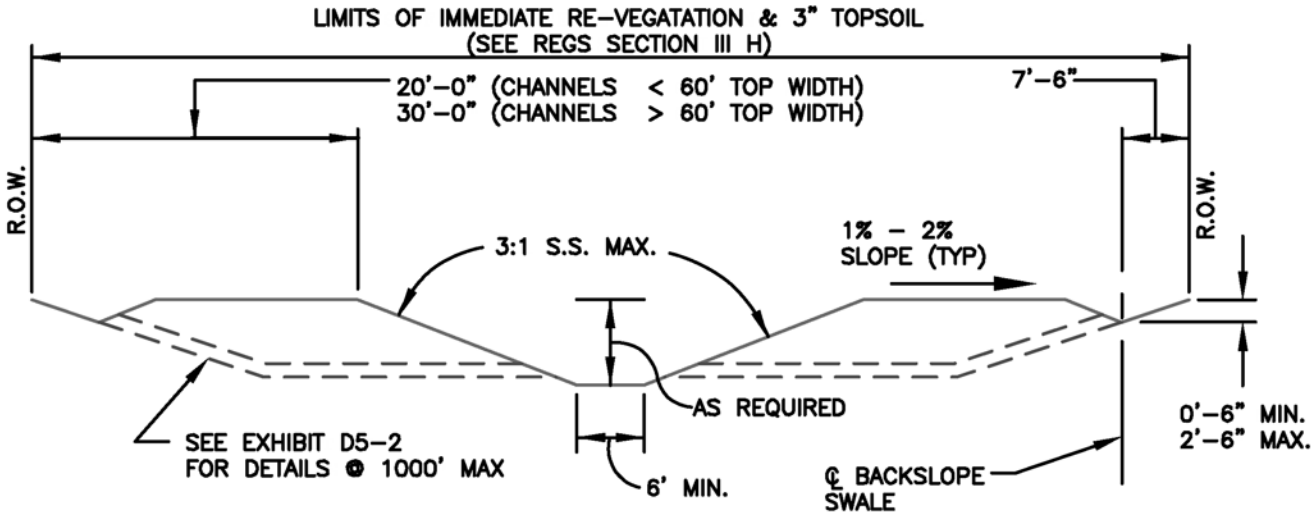
SECTION IX

PAVING & DRAINAGE
STANDARD DRAWINGS



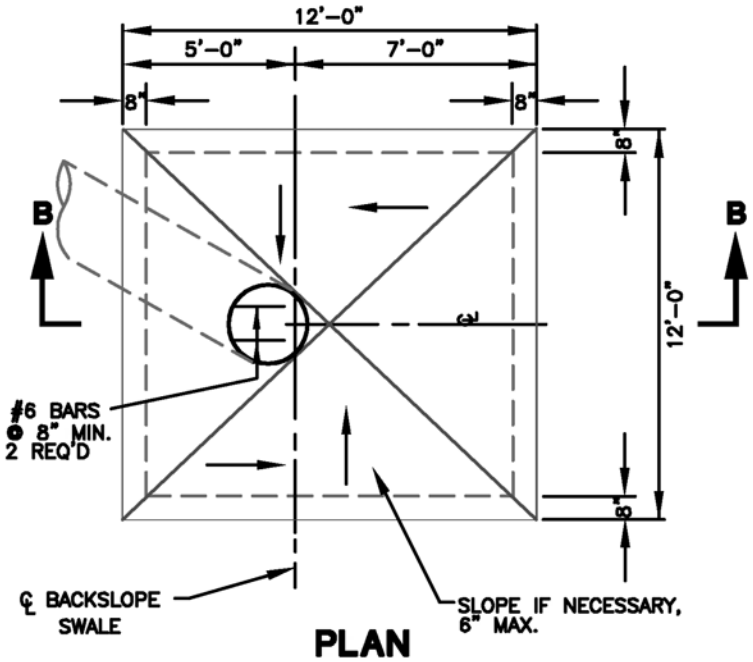
* NO FENCES, TREES, STRUCTURES, BUILDINGS, UTILITIES OR ANY OTHER OBSTRUCTIONS OR ANY OTHER ITEMS ARE ALLOWED WITHIN THE R.O.W. OR EASEMENT.

SUBDIVISION STANDARDS FOR DRAINAGE

TYPICAL SECTION
GRASS-LINED TRAPEZOIDAL

N.T.S.

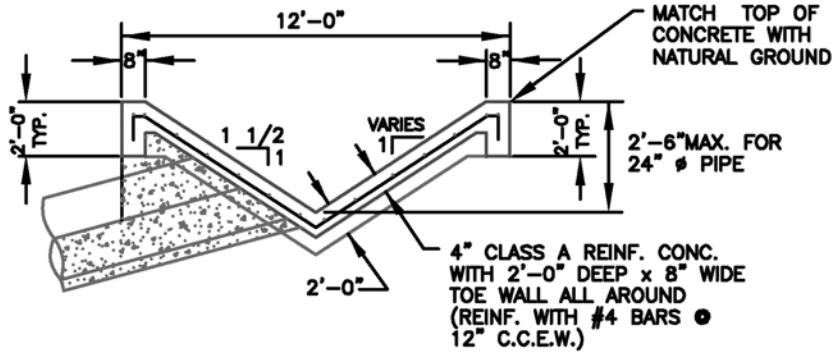
DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5-1



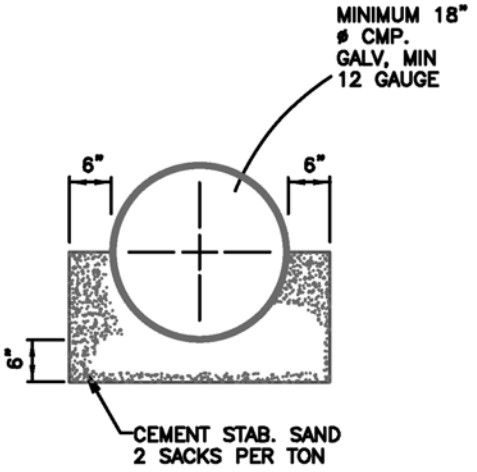
PLAN

PIPE DIA.	SLOPE
18 IN.	0.6%
MAX. 24-30 IN.	0.3%

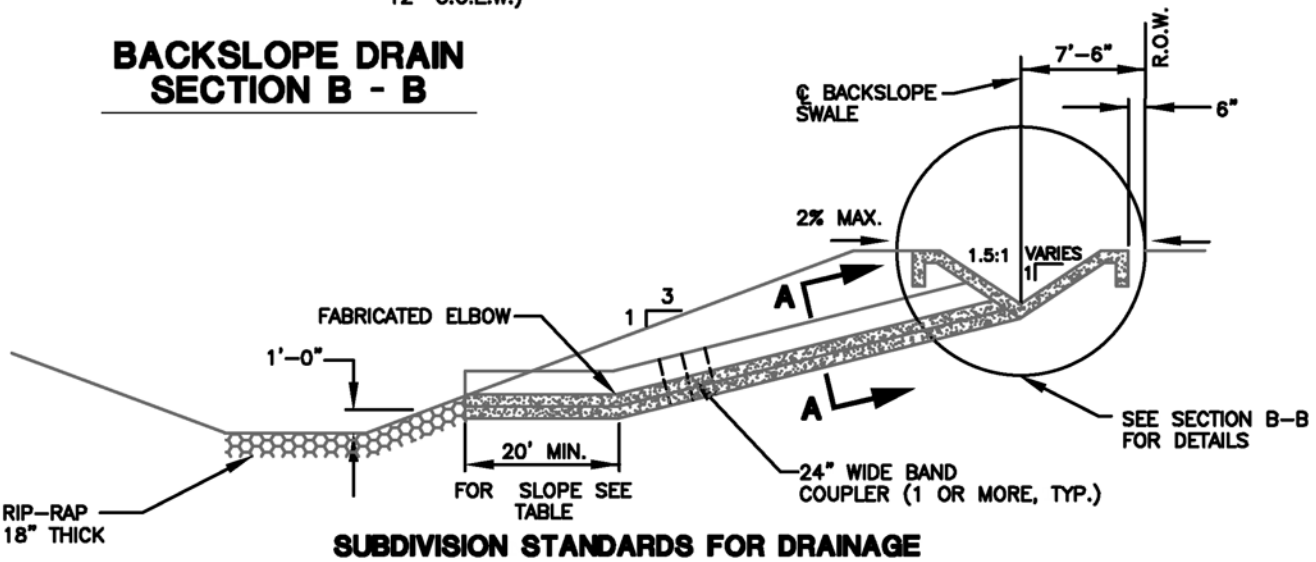
* IN COASTAL OR CORROSIVE LOCATIONS CORRUGATED PLASTIC PIPE IS REQUIRED. SUBMIT SPECIFICATIONS & PIPE DATA FOR PRE-APPROVAL.



BACKSLOPE DRAIN
SECTION B - B



SECTION A - A

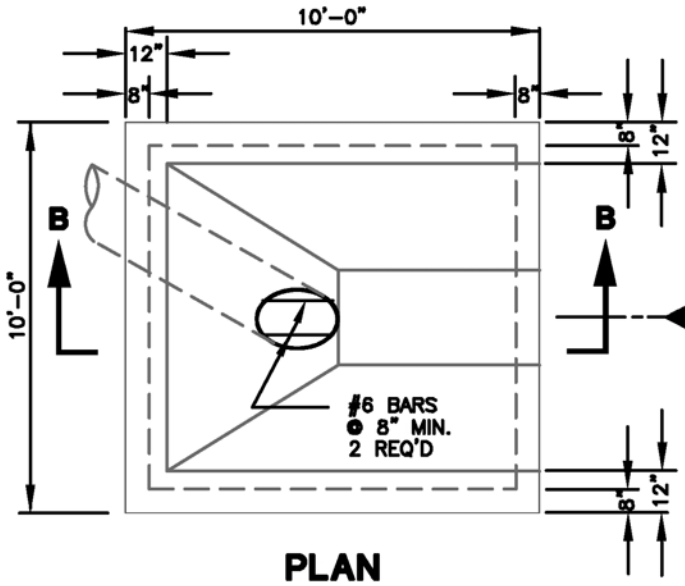


SUBDIVISION STANDARDS FOR DRAINAGE

TYPICAL BACKSLOPE SWALE INTERCEPTOR STRUCTURE

N.T.S.

DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5-2

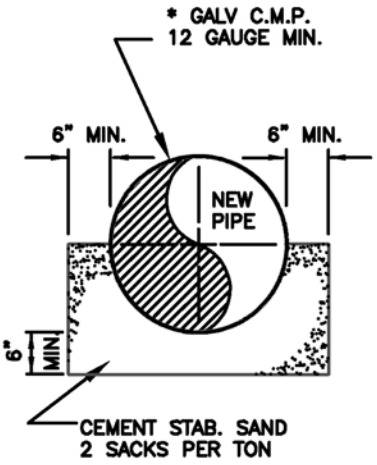


PLAN

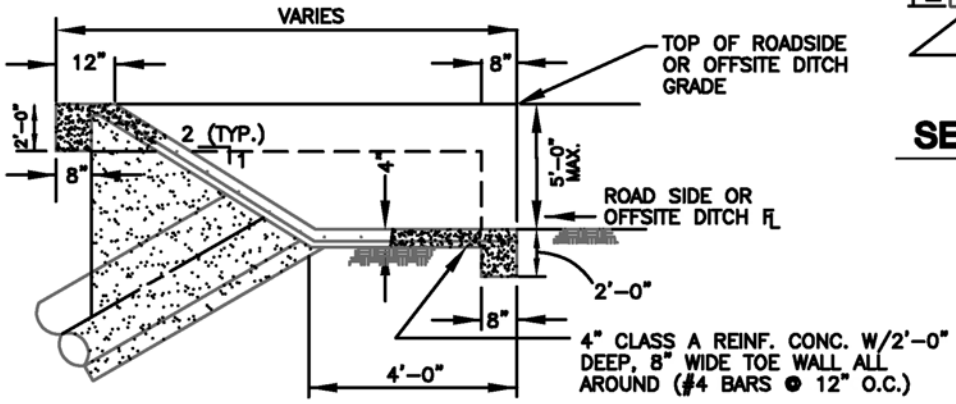
PIPE DIA.	SLOPE
18 IN.	0.6%
36 IN.	0.3%
MAX. 42 IN.	0.2%

OUTFALLS LARGER THAN 42" WILL REQUIRE AN INDIVIDUALLY DESIGNED STRUCTURE.

℄ ROAD SIDE DITCH

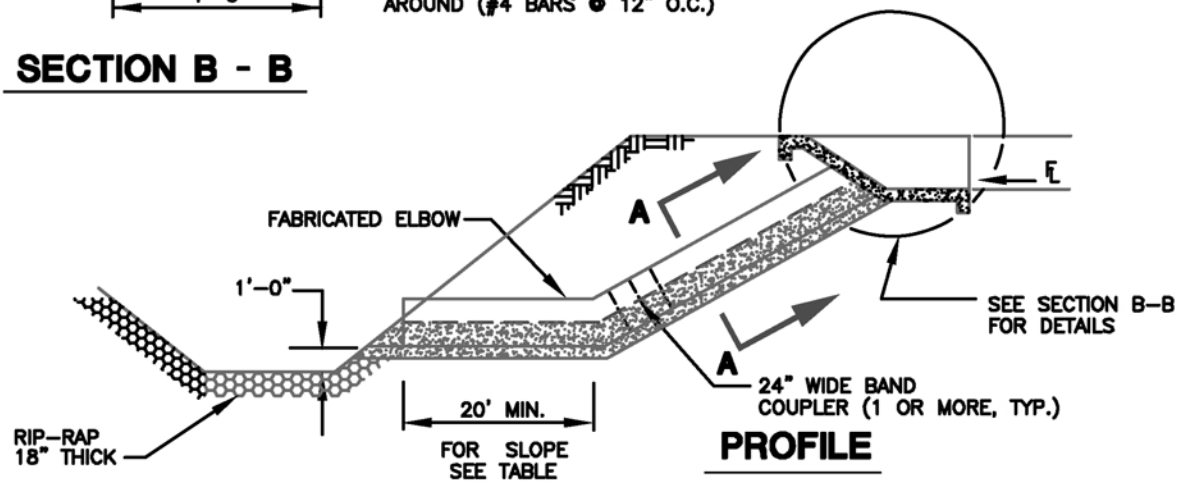


SECTION A - A



SECTION B - B

* IN COASTAL OR CORROSIVE LOCATIONS CORRUGATED PLASTIC PIPE IS REQUIRED. SUBMIT SPECIFICATIONS & PIPE DATA FOR PRE-APPROVAL.



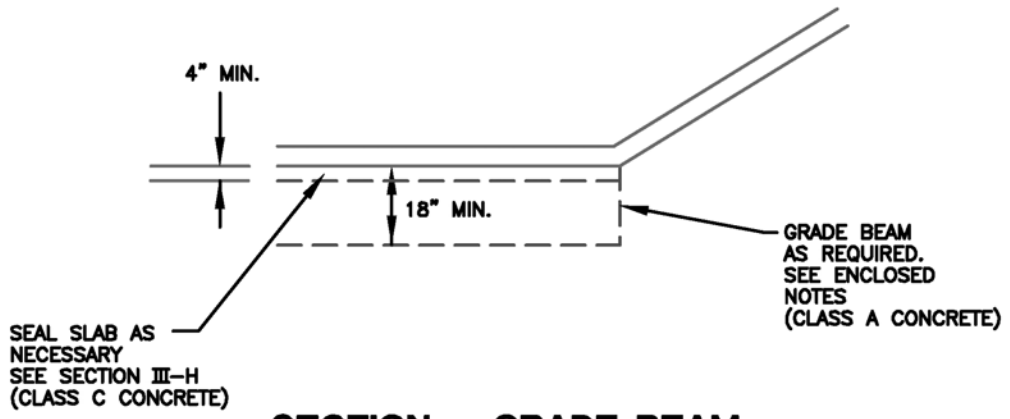
PROFILE

SUBDIVISION STANDARDS FOR DRAINAGE

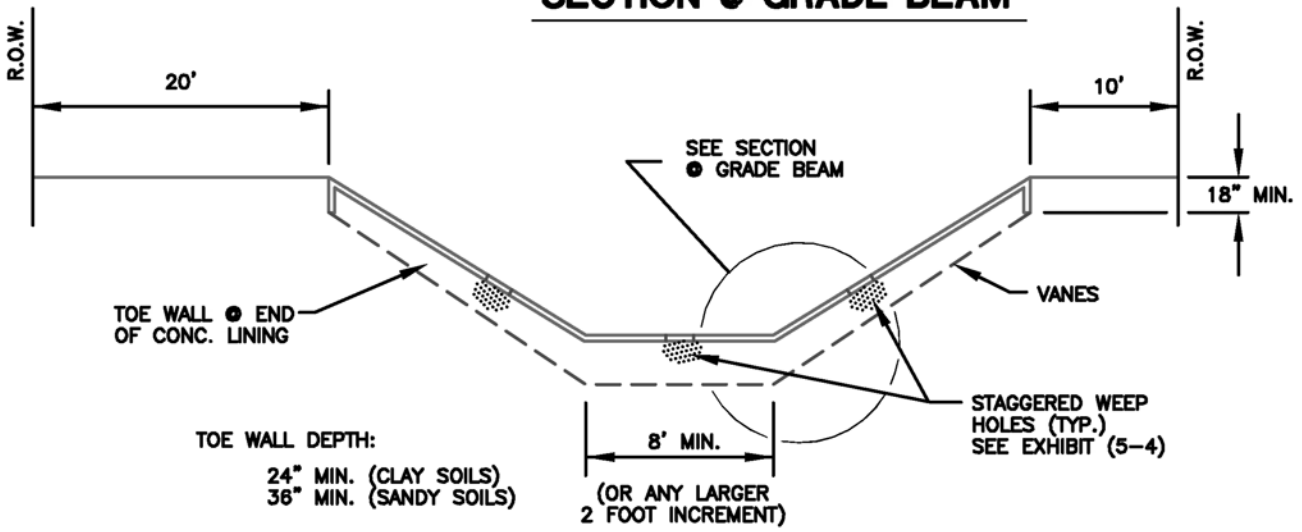
TYPICAL ROADSIDE OR OFFSITE DITCH INTERCEPTOR STRUCTURE

N.T.S.

DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5-3



SECTION ⊕ GRADE BEAM



A) MAX. SIDE SLOPE 1-1/2:1 (SEE SECTION III-H)
B) NARROW MAINTENANCE BERM-ONE SIDE ONLY
C) NO BACKSLOPE DRAINS REQUIRED
D) SLOPE PAVING THICKNESS MIN. 4"
E) CONCRETE, CLASS A, EXCEPT AS NOTED

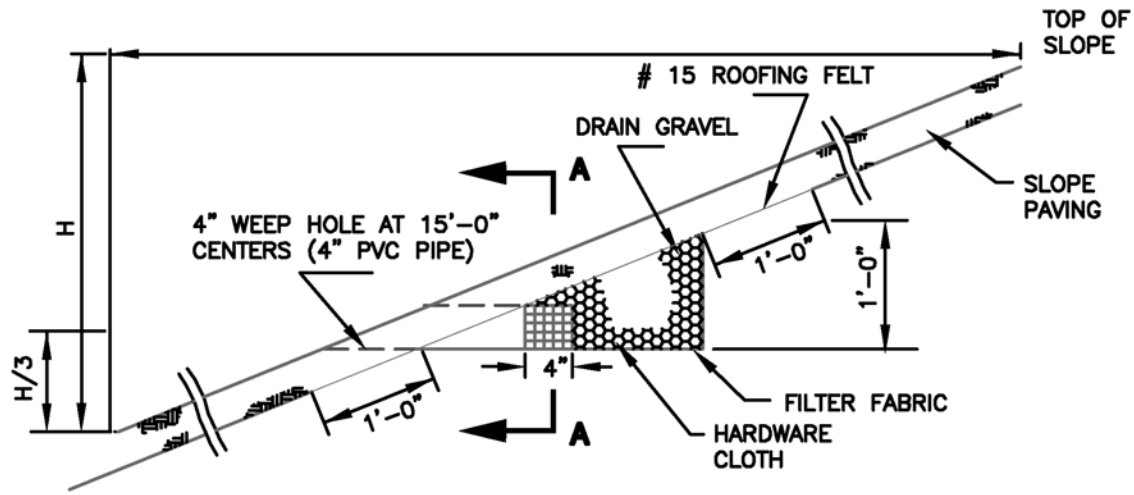
* NO FENCES, TREES, STRUCTURES, BUILDINGS, OR ANY OTHER OBSTRUCTIONS OR ANY OTHER ITEMS ARE ALLOWED WITHIN THE R.O.W. OR EASEMENT.

SUBDIVISION STANDARDS FOR DRAINAGE

TYPICAL SECTION CONCRETE TRAPEZOIDAL

N.T.S.

DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5 – 4



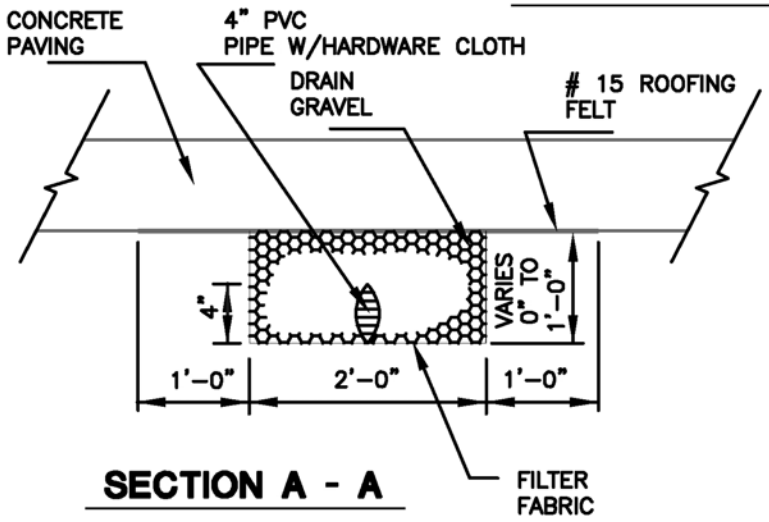
SLOPE DETAIL

DRAIN GRAVEL	
SIEVE SIZE	% FINER
3/4"	100
3/8"	55 – 100
NO. 4	15 – 100
NO. 8	0 – 50
NO. 16	0 – 15
NO. 20	0 – 5
NO. 200	0 – 5

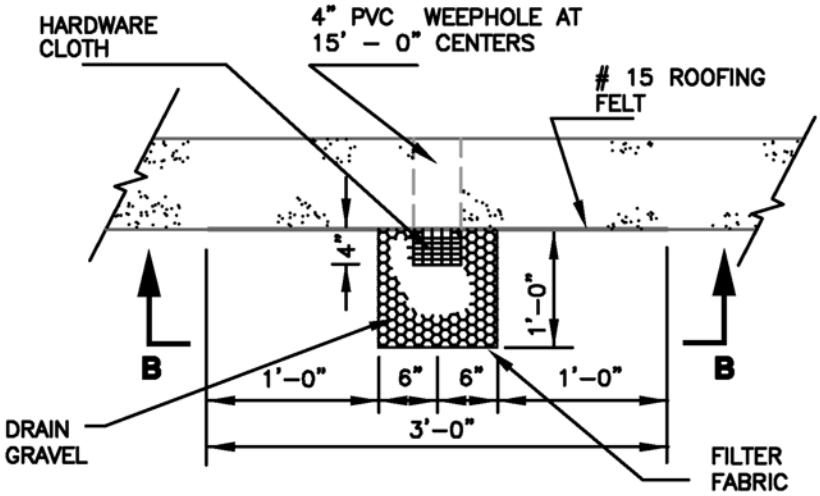
HARDWARE CLOTH	
MAX. WIDTH OF MESH OPENING	1/4"
MIN. WIDTH OF MESH OPENING	1/16"

FILTER FABRIC	
MAX. EQUIVALENT OPENING SIEVE	NO. 70 SIEVE
MIN. EQUIVALENT OPENING SIEVE	NO. 100 SIEVE

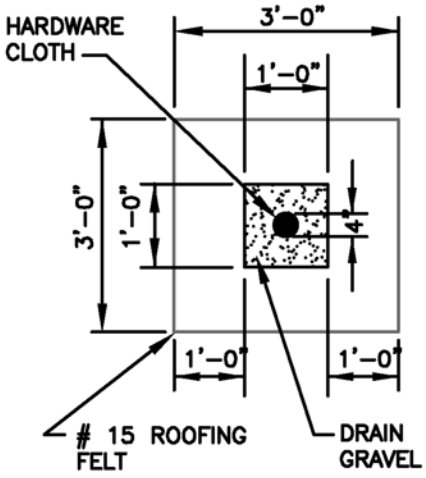
* P.C.V. PIPE SHALL BE SCHEDULE 40.



SECTION A - A



BOTTOM SLAB DETAIL



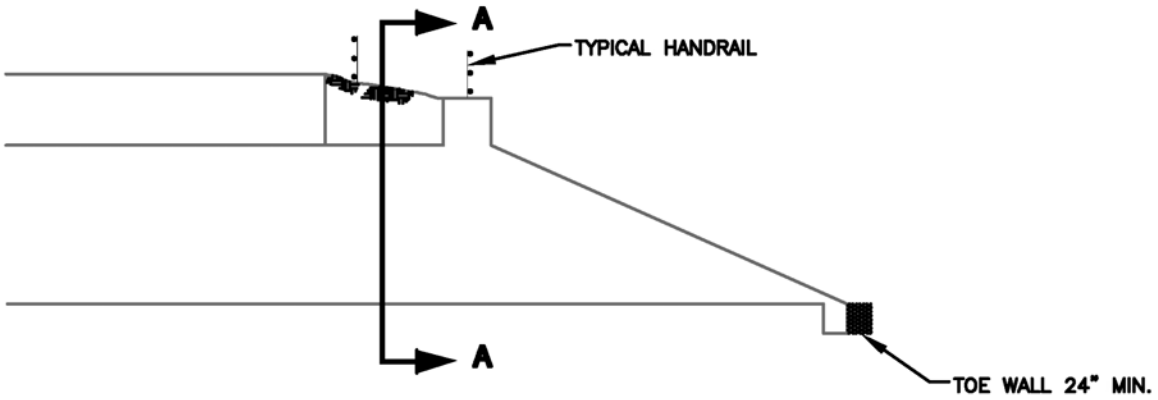
SECTION B - B

SUBDIVISION STANDARDS FOR DRAINAGE

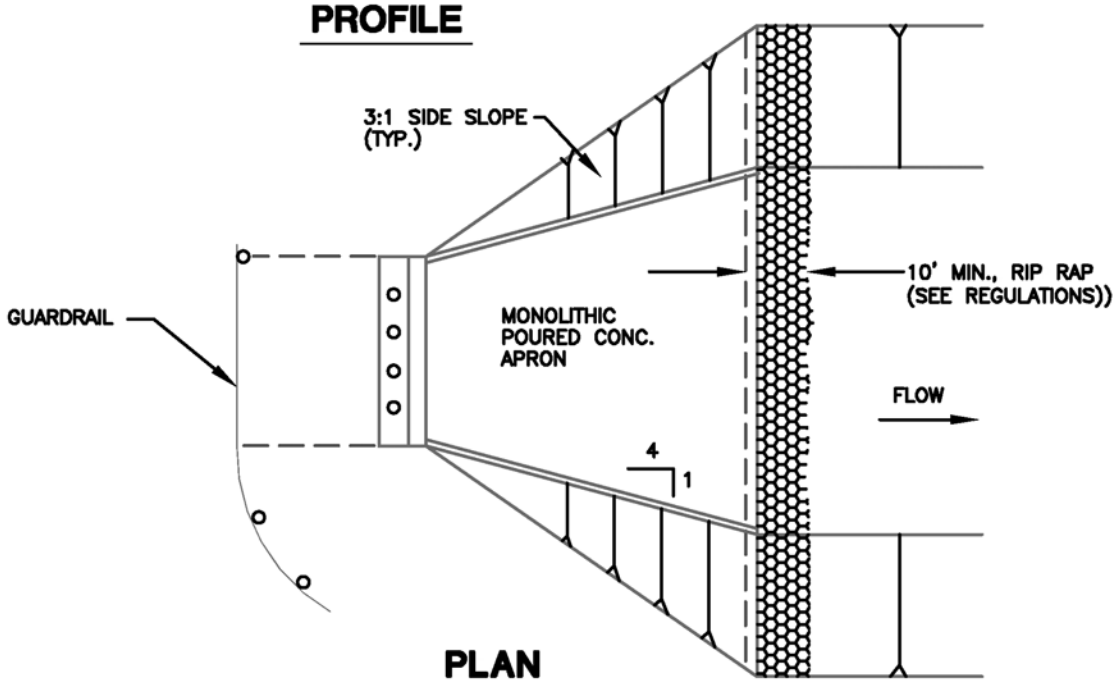
TYPICAL WEEP HOLE DETAIL

N.T.S.

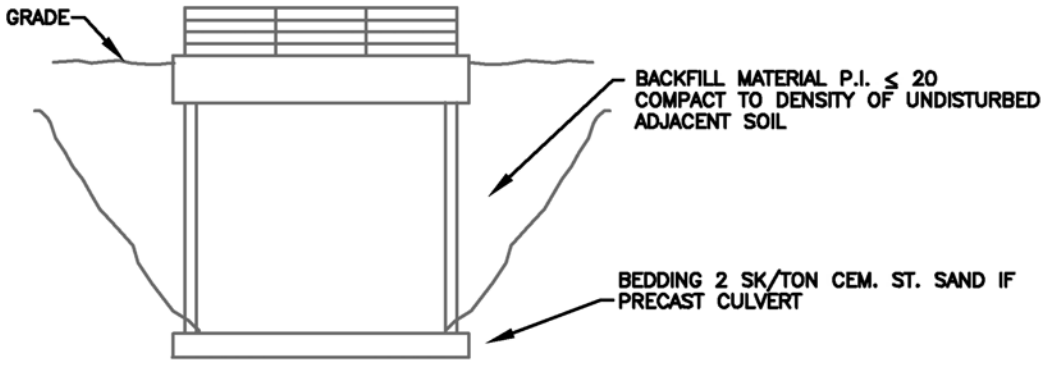
DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5–5



PROFILE



PLAN



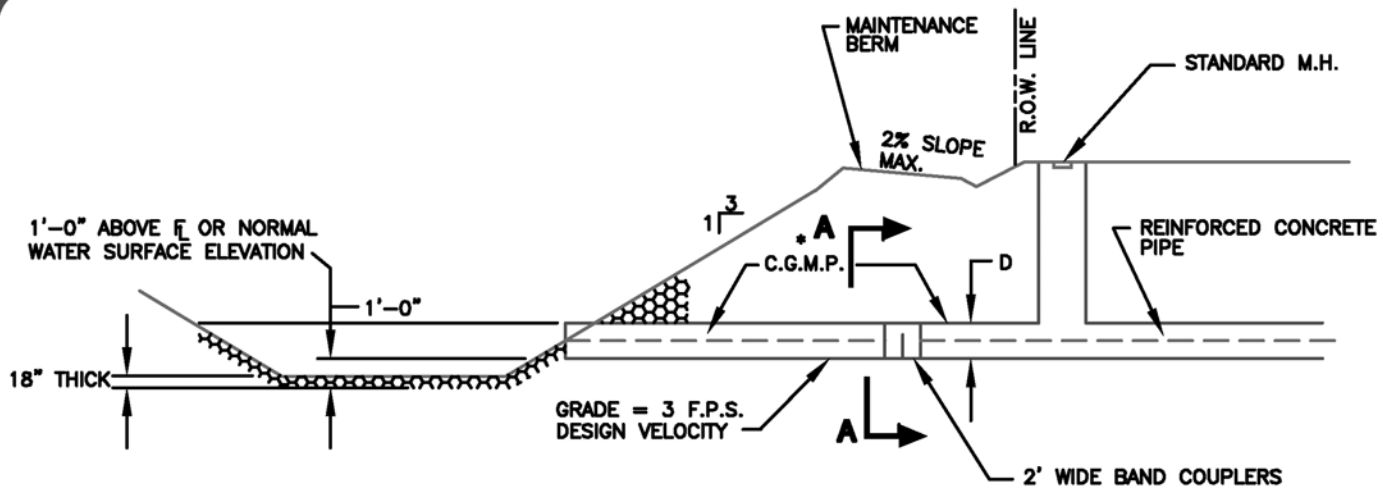
SECTION A - A

SUBDIVISION STANDARDS FOR DRAINAGE

TYPICAL BOX CULVERT SCHEMATIC

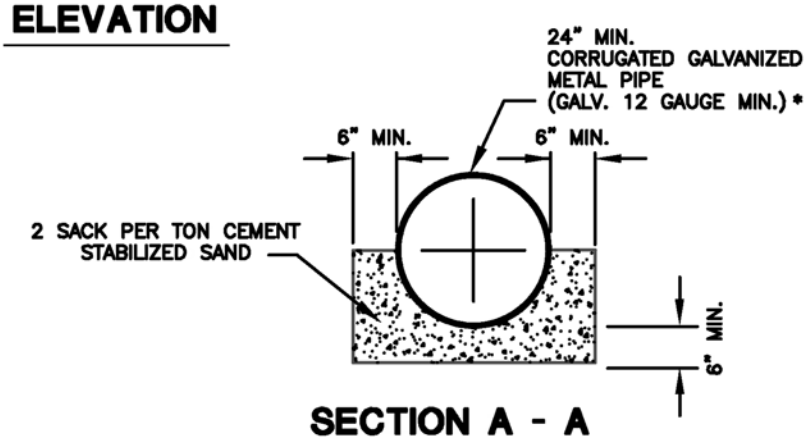
N.T.S.

DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5 – 6



ELEVATION

* IN COASTAL OR CORROSIVE LOCATIONS CORRUGATED PLASTIC PIPE IS REQUIRED. SUBMIT SPECIFICATIONS & PIPE DATA FOR PRE-APPROVAL



SECTION A - A

PLAN

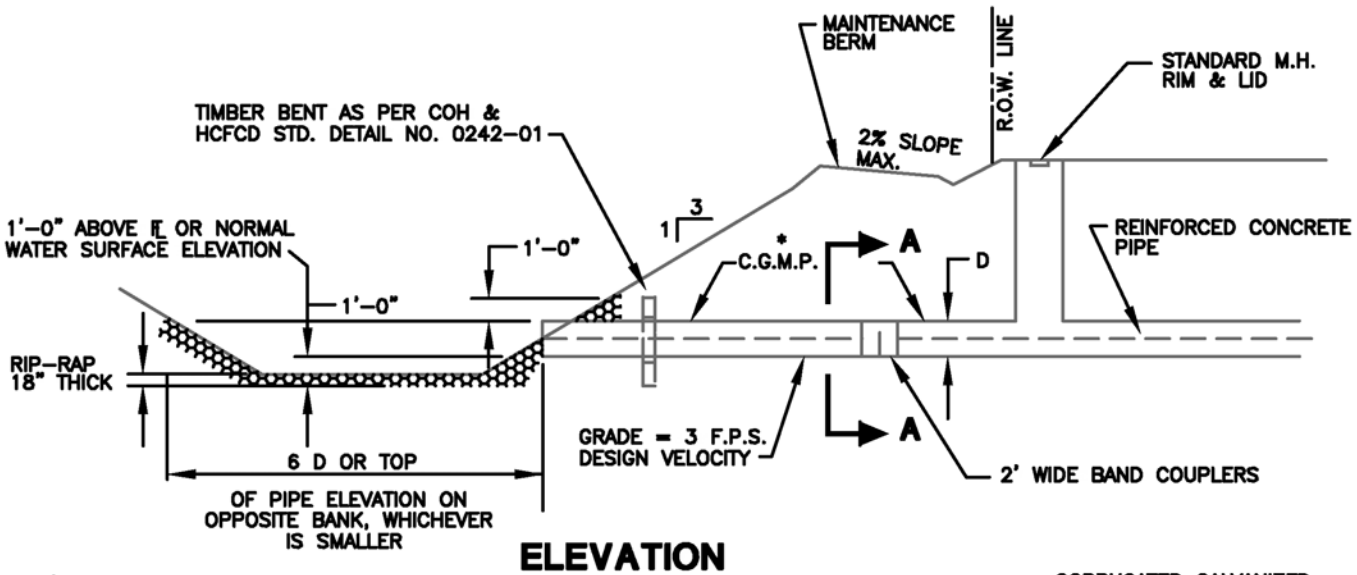
SUBDIVISION STANDARDS FOR DRAINAGE

TYPICAL STORM SEWER OUTFALL STRUCTURE-

24-INCH TO 42-INCH DIAMETER

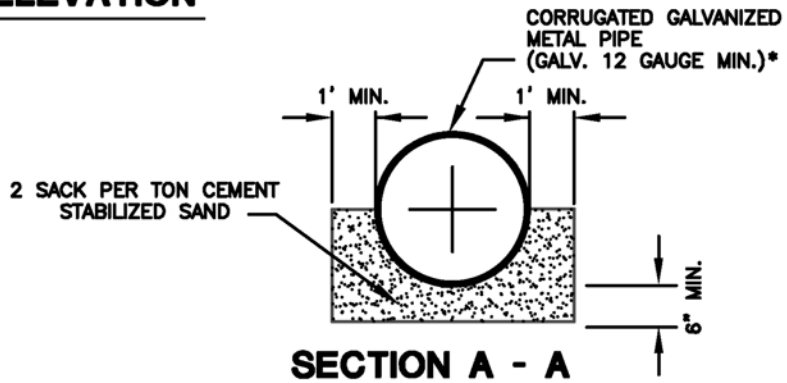
N.T.S.

DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5 – 7



ELEVATION

* IN COASTAL OR CORROSIVE AREAS LOCATIONS CORRUGATED PLASTIC PIPE IS REQUIRED.



SECTION A - A

PLAN

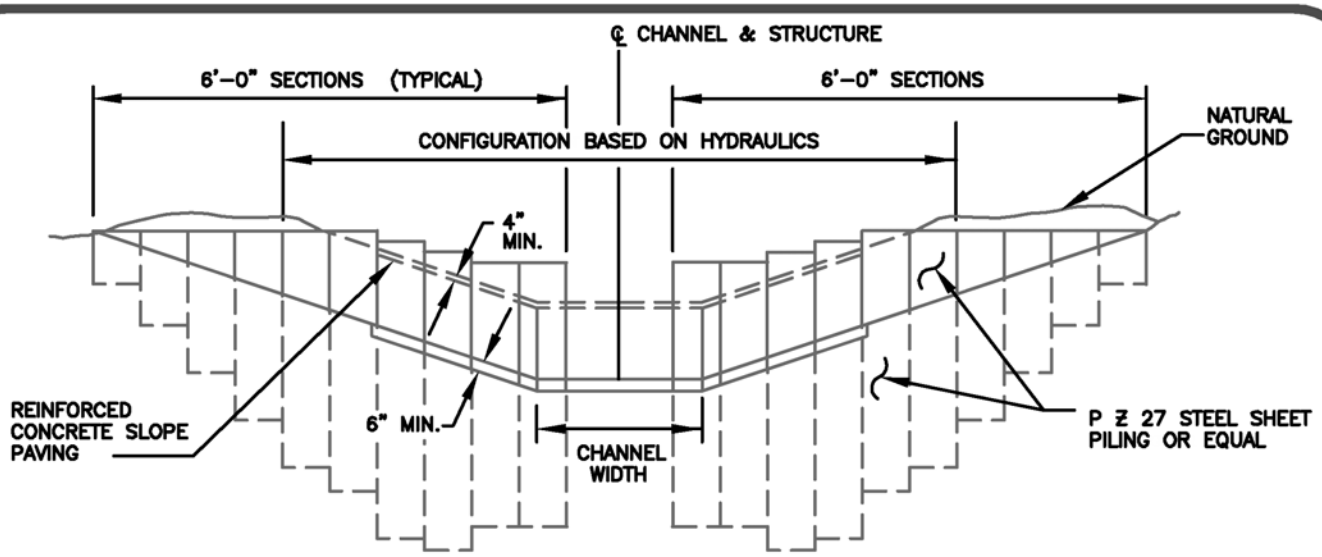
SUBDIVISION STANDARDS FOR DRAINAGE

TYPICAL STORM SEWER OUTFALL STRUCTURE

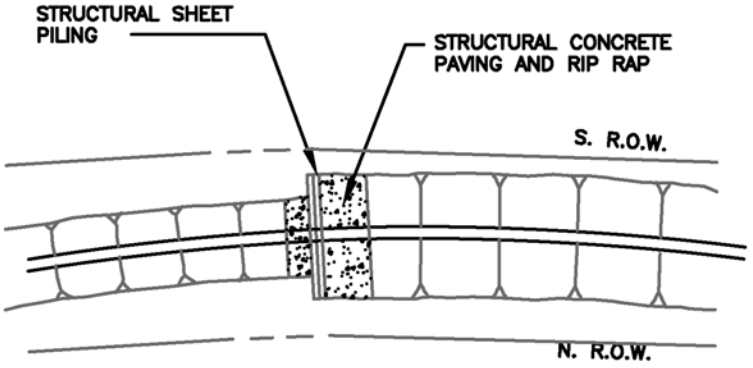
48-INCH AND LARGER DIAMETER

N.T.S.

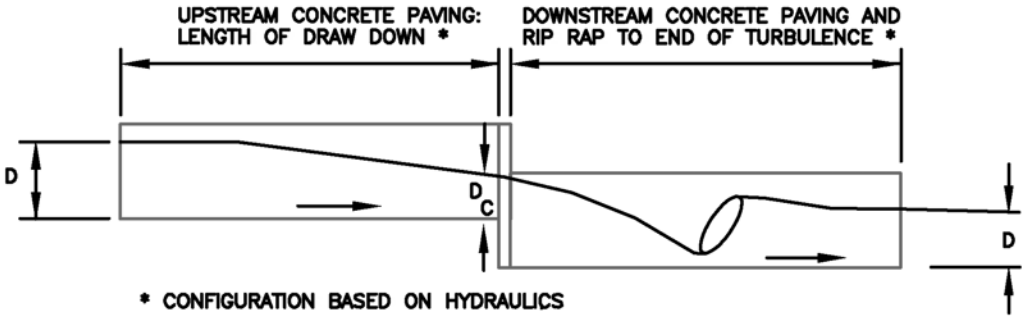
DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5-8



SECTION



PLAN



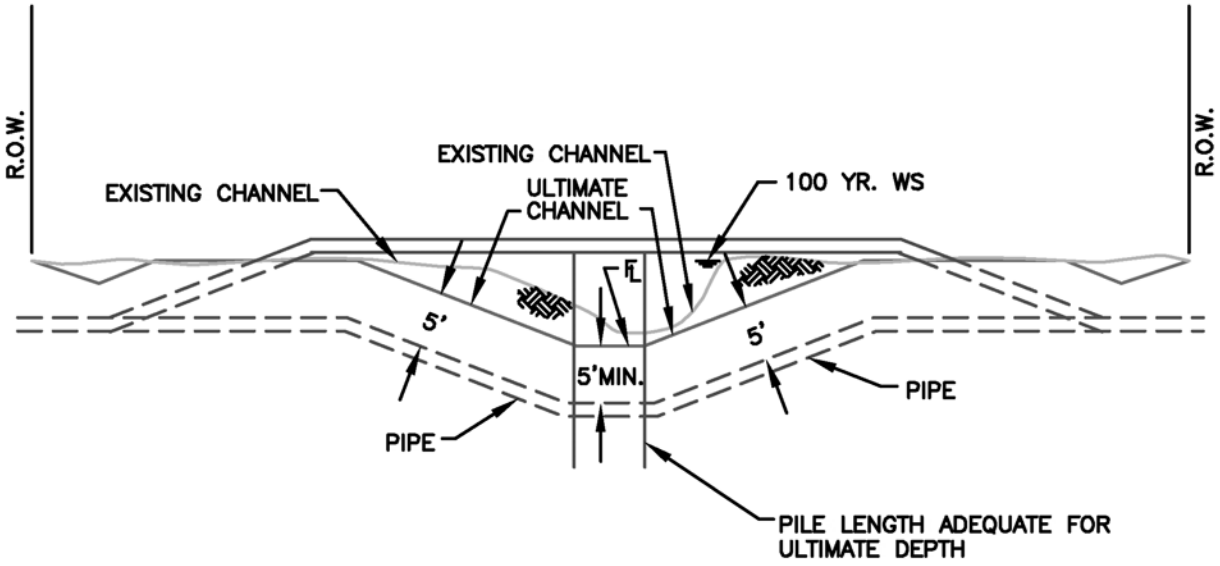
PROFILE

SUBDIVISION STANDARDS FOR DRAINAGE

STEEL SHEET PILING DROP STRUCTURE

N.T.S.

DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5 – 9

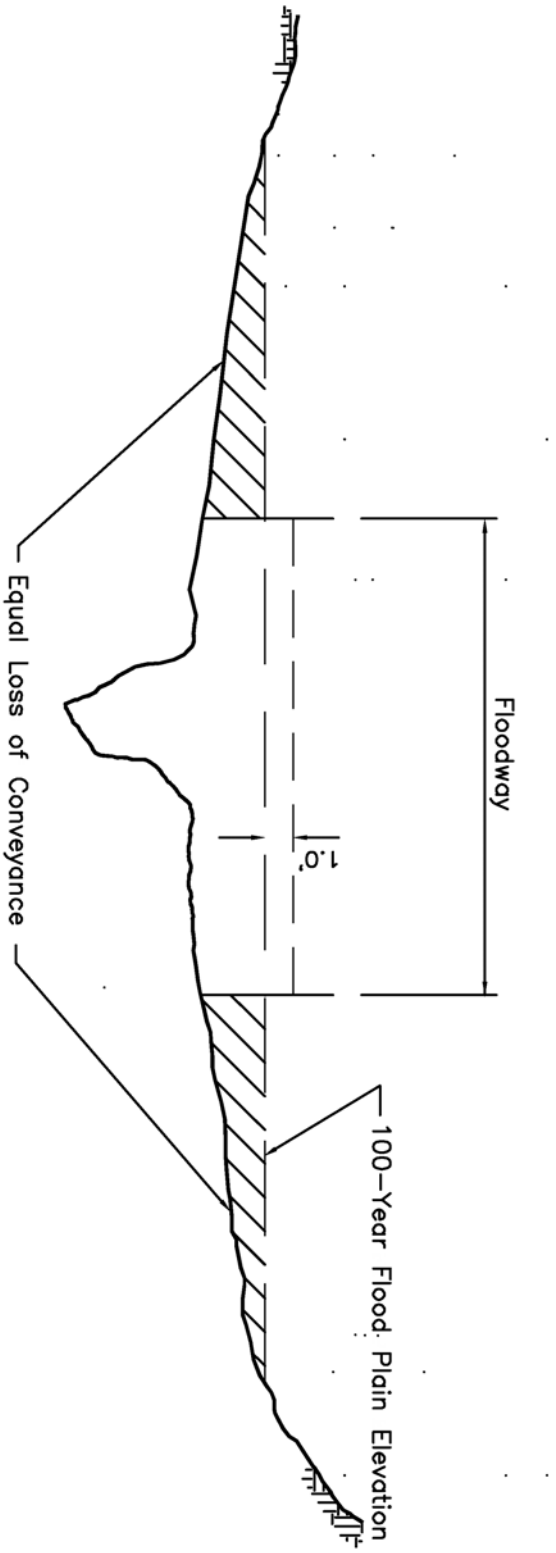


SUBDIVISION STANDARDS FOR DRAINAGE

TYPICAL SECTION UTILITY CROSSING

N.T.S.

DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING D5–10



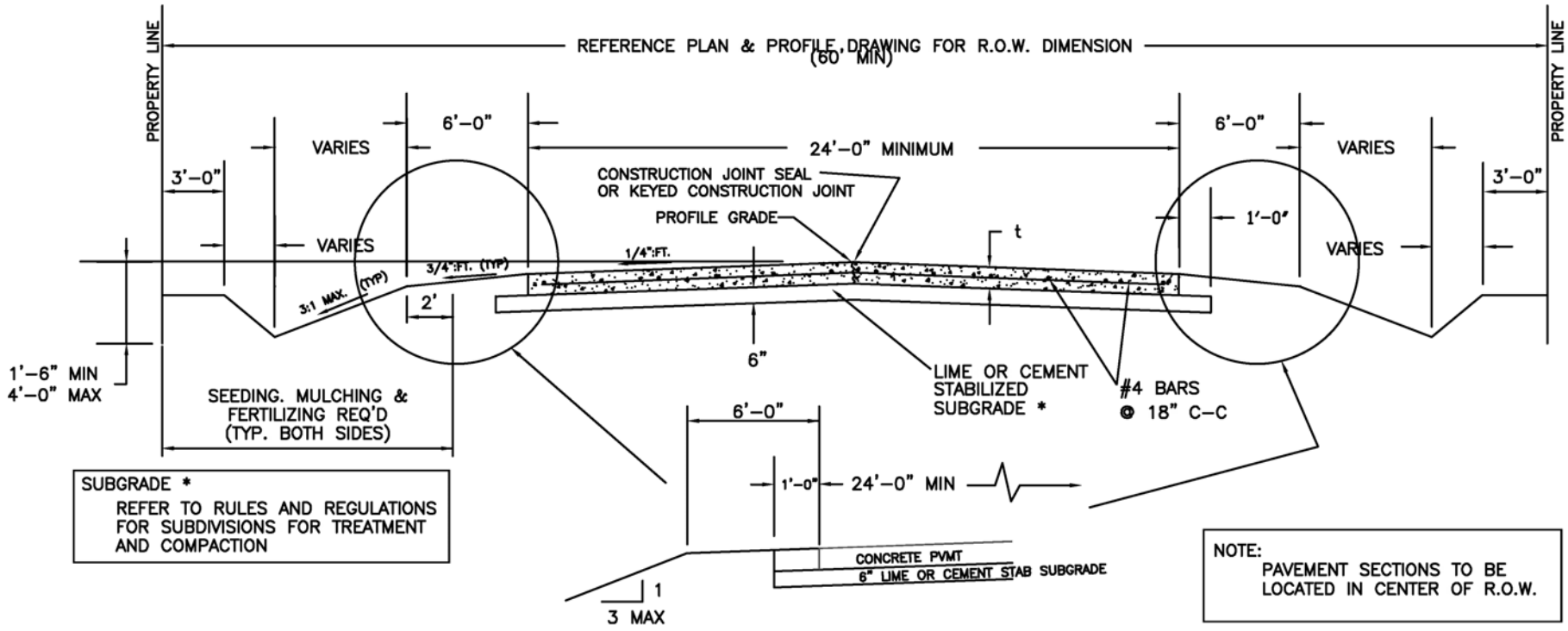
PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT

GALV. CO.
FLOOD PLAIN
ADMINISTRATOR

N.T.S.
1996

DEFINITION OF 100-YEAR FLOOD PLAIN AND FLOODWAY

t = THICKNESS OF CONCRETE PAVEMENT
REFER TO SUBDIVISION RULES AND REGULATIONS



SUBGRADE *
REFER TO RULES AND REGULATIONS FOR SUBDIVISIONS FOR TREATMENT AND COMPACTION

NOTE:
PAVEMENT SECTIONS TO BE LOCATED IN CENTER OF R.O.W.

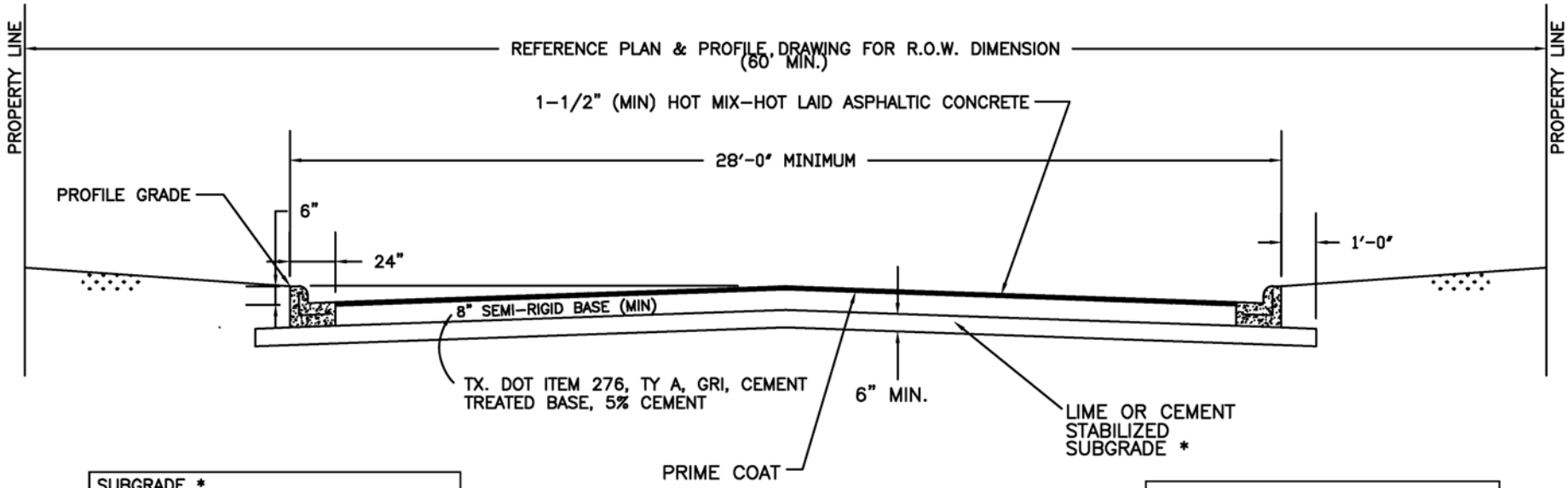
SUBDIVISION STANDARDS FOR

CONCRETE PAVEMENT

DITCH SECTION

N.T.S.

DATE: 7-10-96 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING P - 2



SUBGRADE *

REFER TO RULES AND REGULATIONS FOR SUBDIVISIONS FOR TREATMENT AND COMPACTION

NOTE:

PAVEMENT SECTIONS TO BE LOCATED IN CENTER OF R.O.W.

SUBDIVISION STANDARDS FOR

SEMI-RIGID BASE PAVEMENT

CURB & GUTTER SECTION

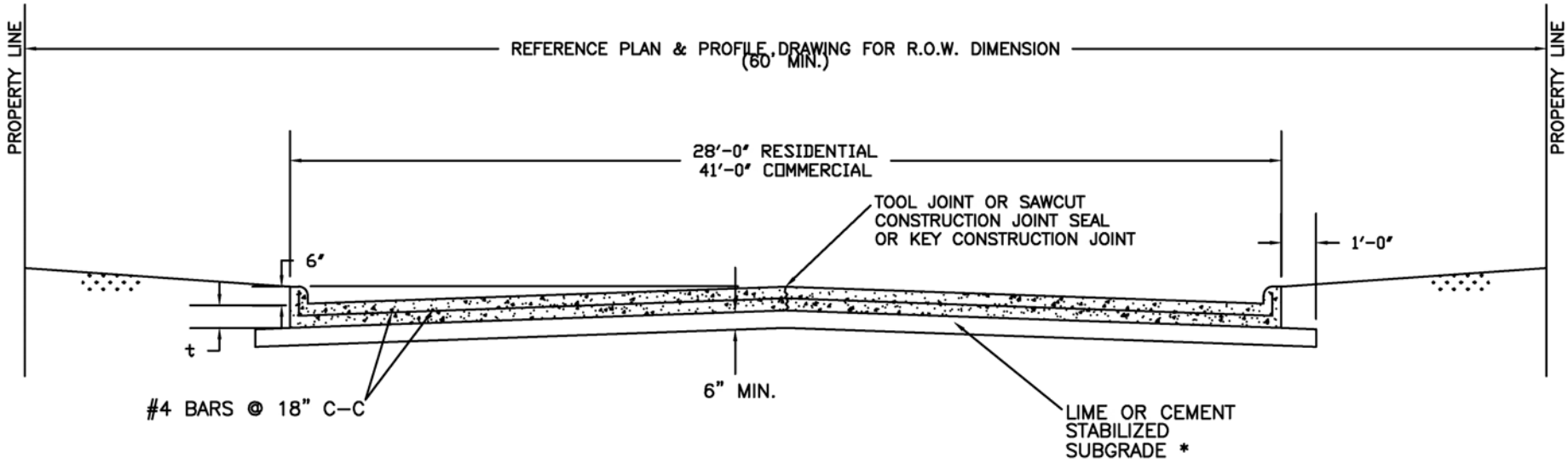
N.T.S.

DATE: 7-10-96

PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT

DRAWNING P - 3

t = THICKNESS OF CONCRETE PAVEMENT
REFER TO SUBDIVISION RULES AND REGULATIONS



SUBGRADE *
REFER TO RULES AND REGULATIONS FOR SUBDIVISIONS FOR TREATMENT AND COMPACTION

NOTE:
PAVEMENT SECTIONS TO BE LOCATED IN CENTER OF R.O.W.

SUBDIVISION STANDARDS FOR

CONCRETE PAVEMENT

CURB & GUTTER SECTION

PARBOLIC CROWN IS AN ACCEEPTABLE OPTION

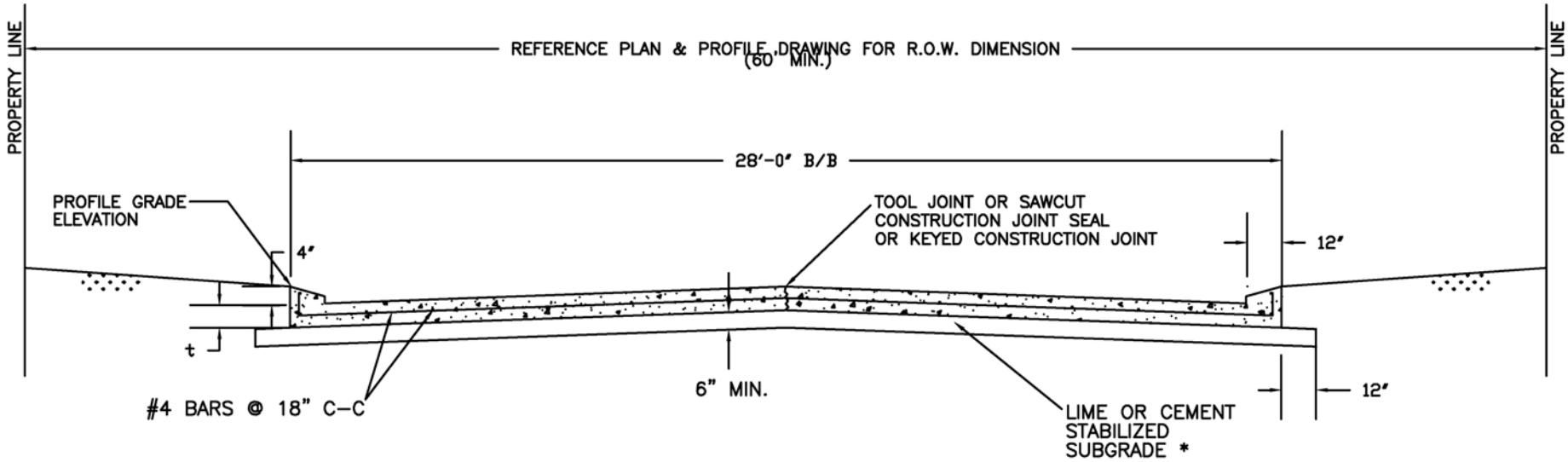
N.T.S.

DATE: 7-10-96 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING P - 4

t = THICKNESS OF CONCRETE PAVEMENT
REFER TO SUBDIVISION RULES AND REGULATIONS

4" X 12" MONOLITHIC AND TRANSITION CURB NOTES:

1. 6– INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON–RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6–INCH CONCRETE CURB OR 4– INCH X 12–INCH CONCRETE CURB AS NOTED ON PLANS.
2. ALL 4–INCH X 12–INCH CONCRETE CURBS TO BE POURED MONOLITHICLY WITH PROPOSED CONCRETE PAVEMENT.
3. TRANSITIONS FROM 6–INCH CONCRETE CURB TO 4–INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10–FOOT TRANSITION CURB IS NOT POURED MONOLITHICLY WITH THE PAVEMENT THEN REINFORCING STEEL AS SHOWN IN TYPICAL DETAIL 4–INCH X 12–INCH TRANSITION CURB IS TO BE INSTALLED.



SUBGRADE *
REFER TO RULES AND REGULATIONS FOR SUBDIVISIONS FOR TREATMENT AND COMPACTION

NOTE:
PAVEMENT SECTIONS TO BE LOCATED IN CENTER OF R.O.W.

SUBDIVISION STANDARDS FOR

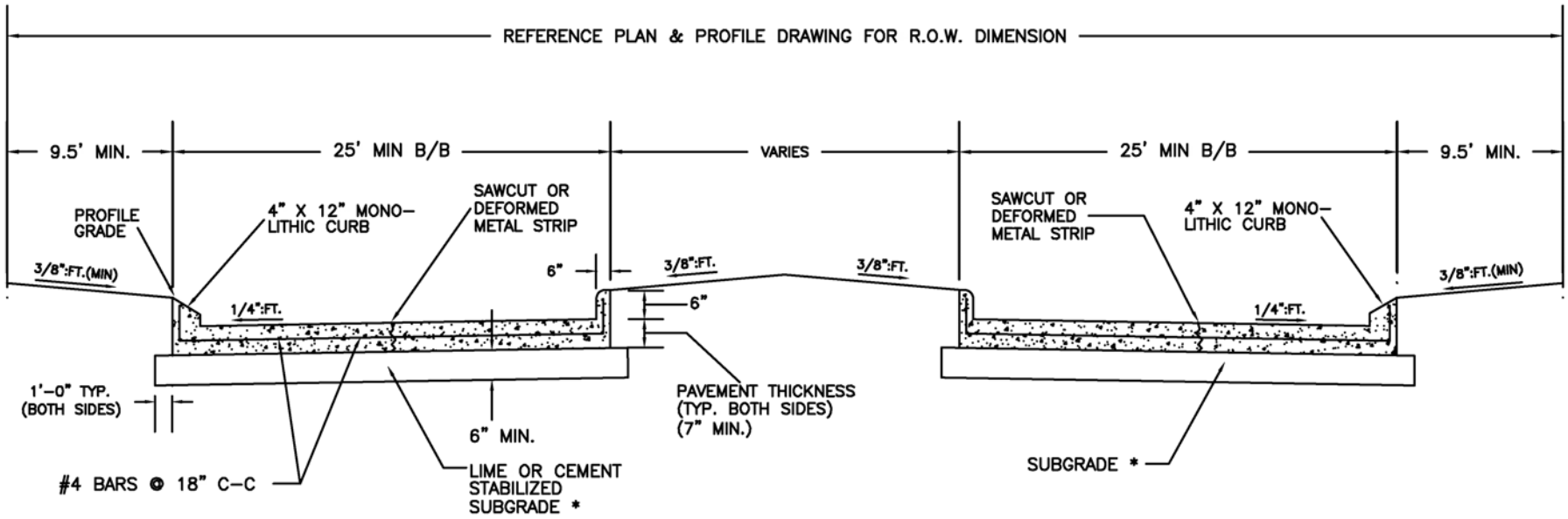
TYPICAL SECTION FOR CONCRETE PAVEMENT WITH 4" X 12" MONOLITHIC CURB FOR RESIDENTIAL STREETS

N.T.S.

DATE: 7–10–96 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING P – 5

4" X 12" MONOLITHIC AND TRANSITION CURB NOTES:

1. 6– INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON–RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6–INCH CONCRETE CURB OR 4– INCH X 12–INCH CONCRETE CURB AS NOTED ON PLANS.
2. ALL 4–INCH X 12–INCH CONCRETE CURBS TO BE POURED MONOLITHICLY WITH PROPOSED CONCRETE PAVEMENT.
3. TRANSITIONS FROM 6–INCH CONCRETE CURB TO 4–INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10–FOOT TRANSITION CURB IS NOT POURED MONOLITHICLY WITH THE PAVEMENT THEN REINFORCING STEEL AS SHOWN IN TYPICAL DETAIL 4–INCH X 12–INCH TRANSITION CURB IS TO BE INSTALLED.



SUBGRADE *

REFER TO RULES AND REGULATIONS FOR SUBDIVISIONS FOR TREATMENT AND COMPACTION

SUBDIVISION STANDARDS FOR

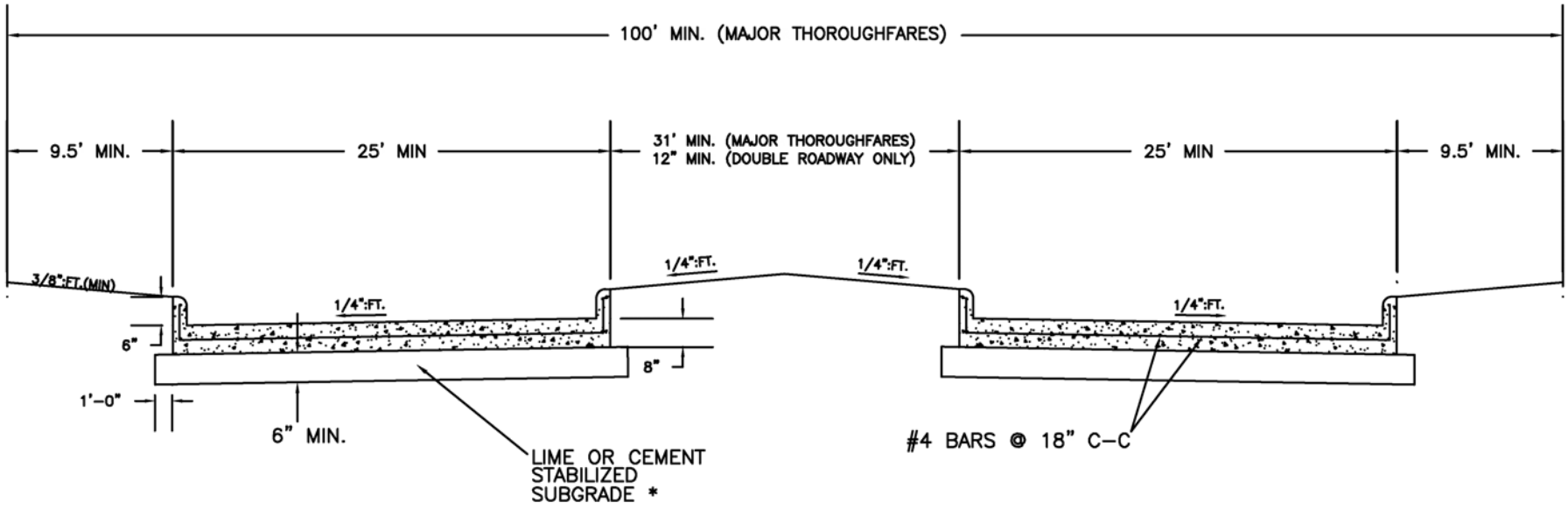
TYPICAL SECTION FOR COMBINATION CURB AND DIVIDED RESIDENTIAL STREETS

N.T.S.

DATE: 7–10–96

PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT

DRAWNING P – 6



SUBGRADE *

REFER TO RULES AND REGULATIONS FOR SUBDIVISIONS FOR TREATMENT AND COMPACTION

SUBDIVISION STANDARDS FOR

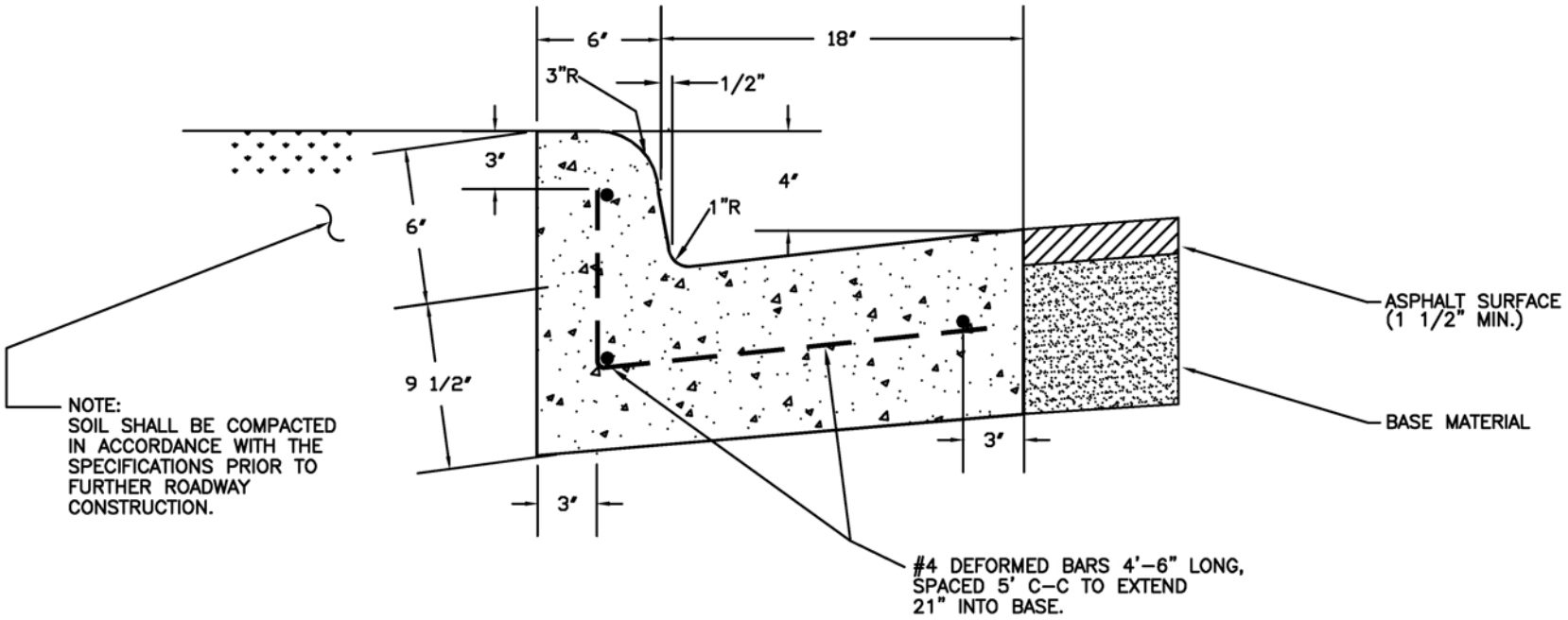
TYPICAL SECTIONS FOR MAJOR THOROUGHFARES AND ROADWAYS

N.T.S.

DATE: 7-10-96

PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT

DRAWNING P - 7



SUBDIVISION STANDARDS FOR

MONOLITHIC CURB AND GUTTER

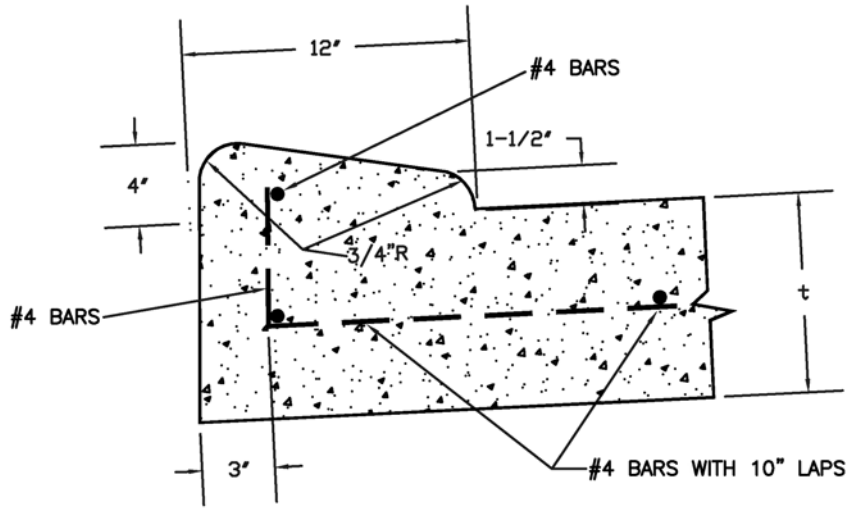
N.T.S.

DATE: 7–10–96 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING P – 8

4" x 12" MONOLITHIC AND TRANSITION CURB NOTES:

1. 6–INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON–RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE BE CONSTRUCTED WITH EITHER 6–INCH CONCRETE CURB OR 4–INCH x 12–INCH CONCRETE CURB AS NOTED ON PLANS.
2. ALL 4–INCH x 12–INCH CONCRETE CURBS TO BE POURED MONOLITHICLY WITH PROPOSED CONCRETE PAVEMENT.
3. TRANSITIONS FROM 6–INCH CONCRETE CURB TO 4–INCH x 12–INCH CONCRETE CURB TO BE ACCOMPLISED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10–FOOT TRANSITION CURB IS NOT POURED MONOLITHICLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN BELOW IN TYPICAL DETAIL 4–INCH x 12–INCH TRANSITION CURB IS TO BE INSTALLED.

t = THICKNESS OF CONCRETE PAVEMENT REFER TO SUBDIVISION RULES AND REGULATIONS



SUBDIVISION STANDARDS FOR

TYPICAL DETAIL

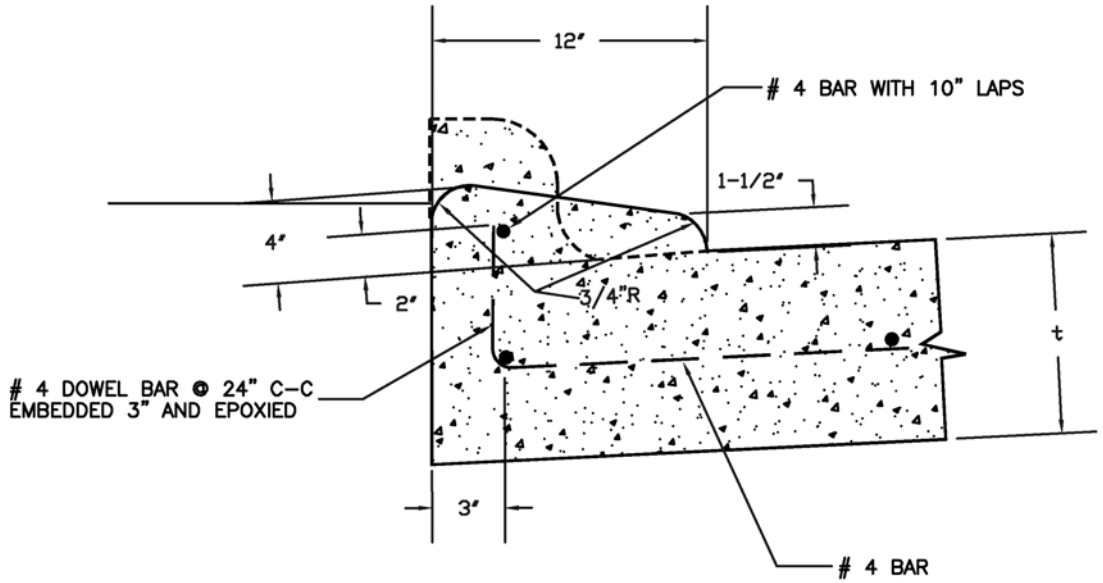
4" x 12" MONOLITHIC CURB

N.T.S.

4" x 12" MONOLITHIC AND TRANSITION CURB NOTES:

1. 6–INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON–RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE BE CONSTRUCTED WITH EITHER 6–INCH CONCRETE CURB OR 4–INCH x 12–INCH CONCRETE CURB AS NOTED ON PLANS.
2. ALL 4–INCH x 12–INCH CONCRETE CURBS TO BE POURED MONOLITHICLY WITH PROPOSED CONCRETE PAVEMENT.
3. TRANSITIONS FROM 6–INCH CONCRETE CURB TO 4–INCH x 12–INCH CONCRETE CURB TO BE ACCOMPLISED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10–FOOT TRANSITION CURB IS NOT POURED MONOLITHICLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN BELOW IN TYPICAL DETAIL 4–INCH x 12–INCH TRANSITION CURB IS TO BE INSTALLED.

t = THICKNESS OF CONCRETE PAVEMENT REFER TO SUBDIVISION RULES AND REGULATIONS

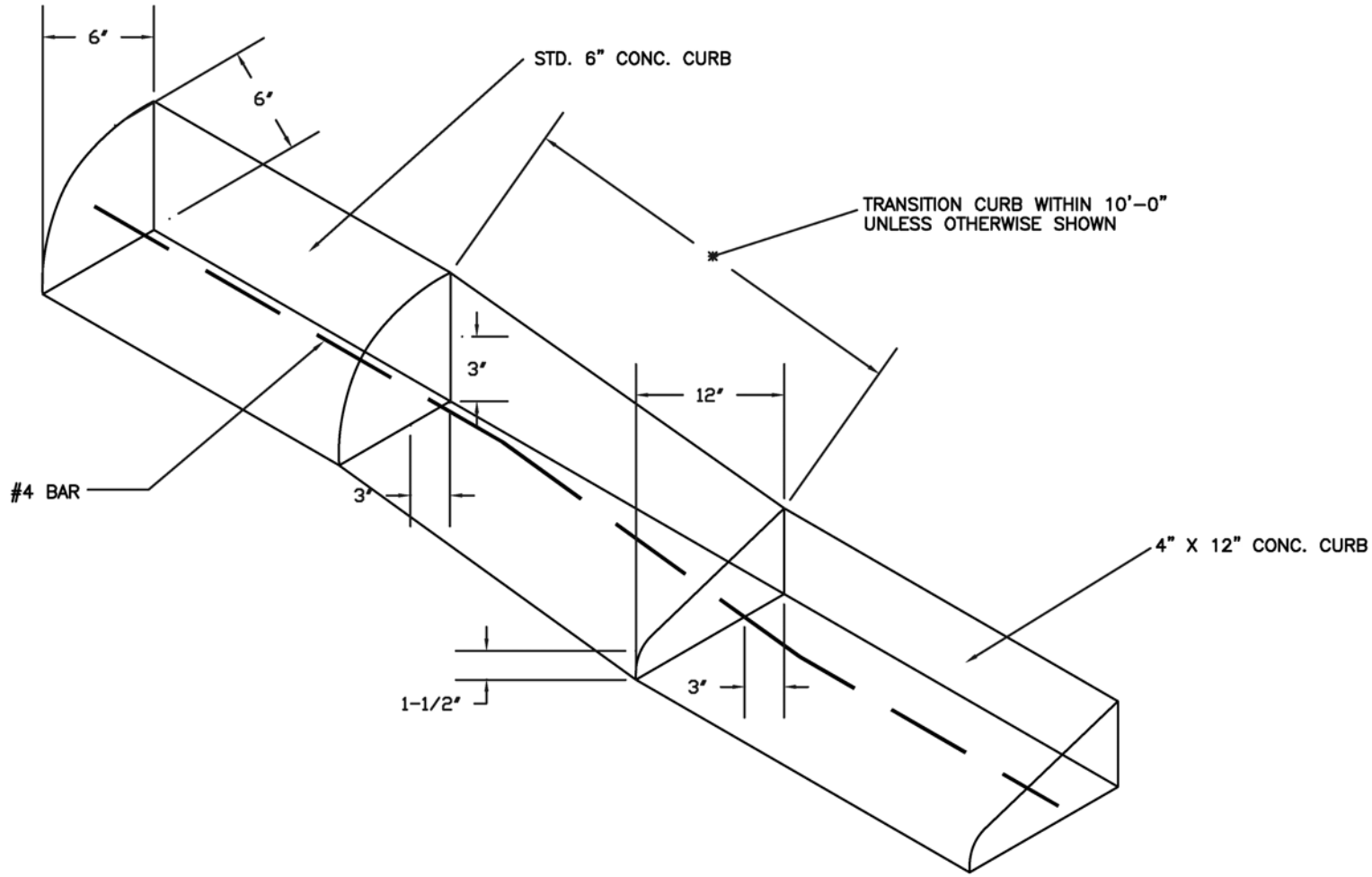


SUBDIVISION STANDARDS FOR

TYPICAL DETAIL

4" x 12" TRANSITION CURB

N.T.S.



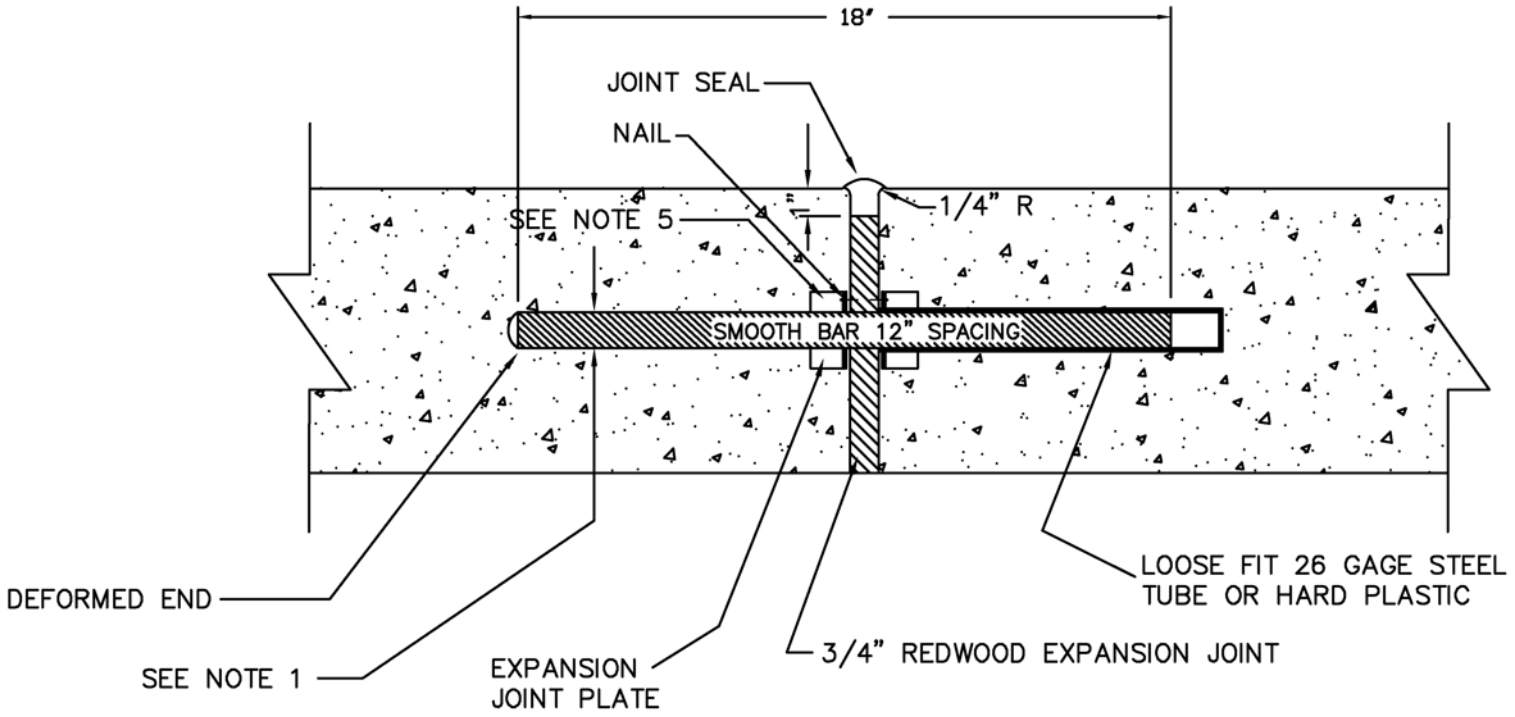
SUBDIVISION STANDARDS FOR

TYPICAL CURB TRANSITION

N.T.S.

NOTES:

1. DOWELS FOR PAVEMENT EXPANSION SHALL BE 3/4" Ø FOR 6" TO LESS THAN 7" PAVEMENT THICKNESS, 1" Ø FOR 7" TO LESS THAN 9" PAVEMENT THICKNESS AND 1 1/4 Ø FOR 9" OR GREATER PAVEMENT THICKNESS
2. EXPANSION JOINT SHALL BE PLACED AT THE END OF EACH CURB RETURN AND AT MAXIMUM 80' SPACING.
3. ALL JOINT SEAL MATERIAL SHALL BE ASPHALT RUBBER ACCORDANCE WITH ASTM DESIGNATION D3405.
4. IF DEFORMED METAL STRIPS ARE ALLOWED, THEY SHALL BE STAKED IN PLACE WITH #3 BARS.
5. PRE-MANUFACTURED JOINT PLATE.



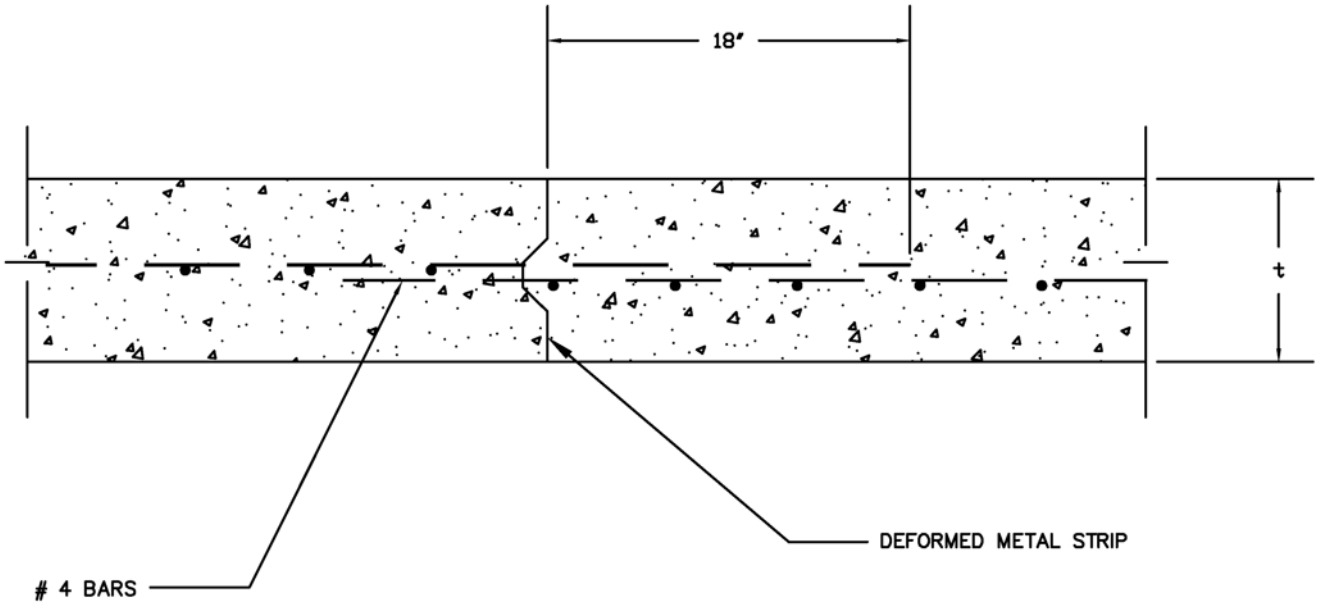
SUBDIVISION STANDARDS FOR

EXPANSION JOINT DETAIL

N.T.S.

DATE: 7-10-96 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING P - 12

t = THICKNESS OF CONCRETE PAVEMENT
REFER TO SUBDIVISION RULES AND
REGULATIONS



SUBDIVISION STANDARDS FOR

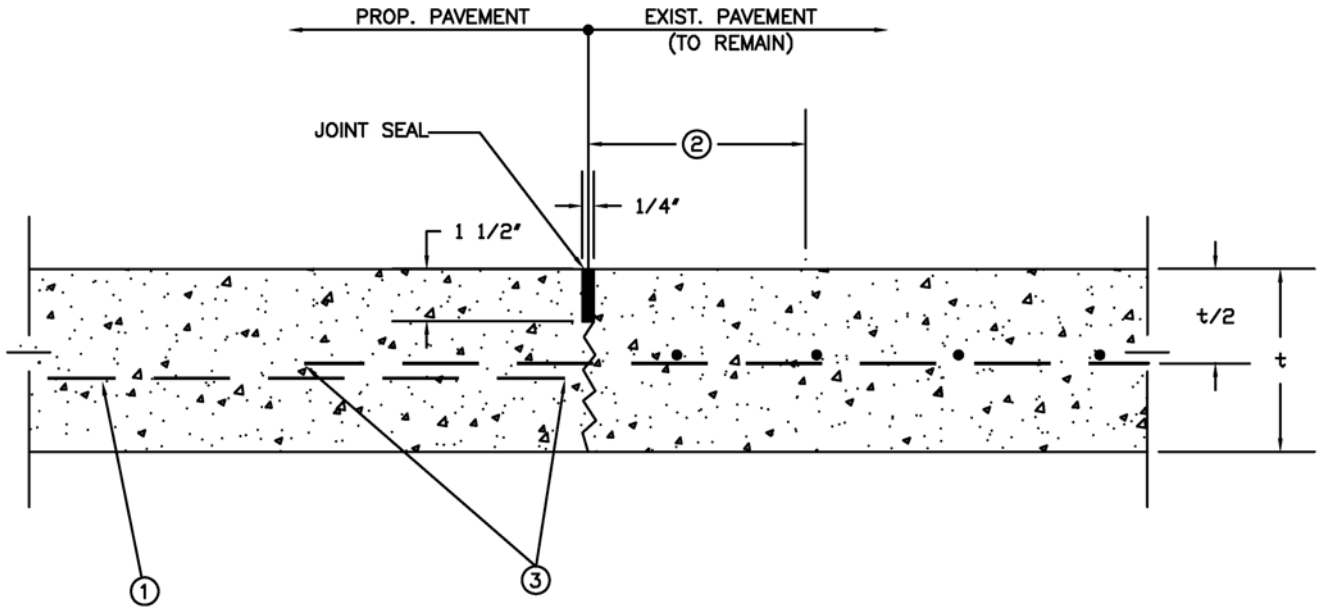
CONSTRUCTION JOINT DETAIL

N.T.S.

t = THICKNESS OF CONCRETE PAVEMENT
REFER TO SUBDIVISION RULES AND REGULATIONS

NOTES FOR TIE–IN:

1. REINFORCING CENTERED IN PROPOSED PAVEMENT, 3" CLEAR AT EDGES.
2. SAW–CUT & REMOVE 2' EXISTING PAVEMENT OR PAVEMENT WITH CURB, EXPOSE AND CLEAN EXISTING REINFORCING.
3. 24 BAR DIAMETER LAP OR WELD, IF DIRECTED.

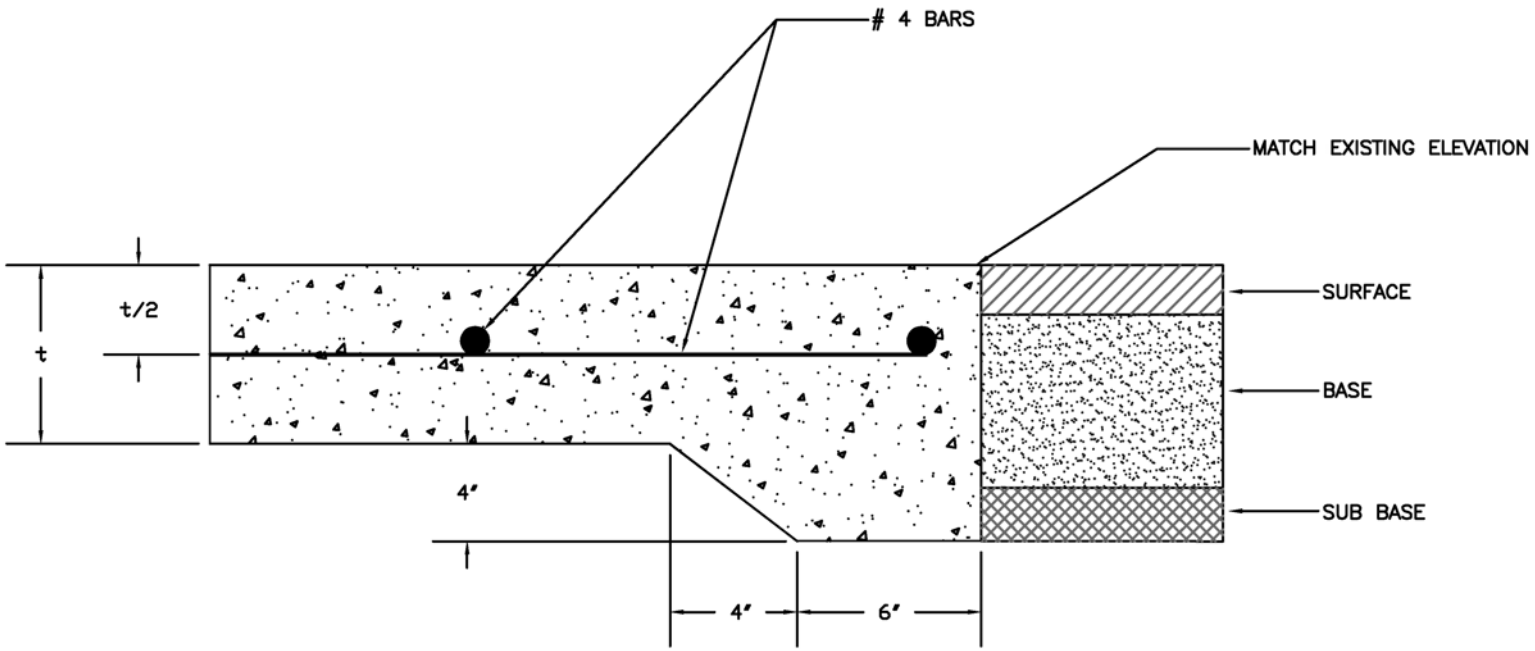


SUBDIVISION STANDARDS FOR

CONCRETE TO CONCRETE STANDARD PAVEMENT TIE-IN

N.T.S.

t = THICKNESS OF CONCRETE PAVEMENT
REFER TO SUBDIVISION RULES AND
REGULATIONS



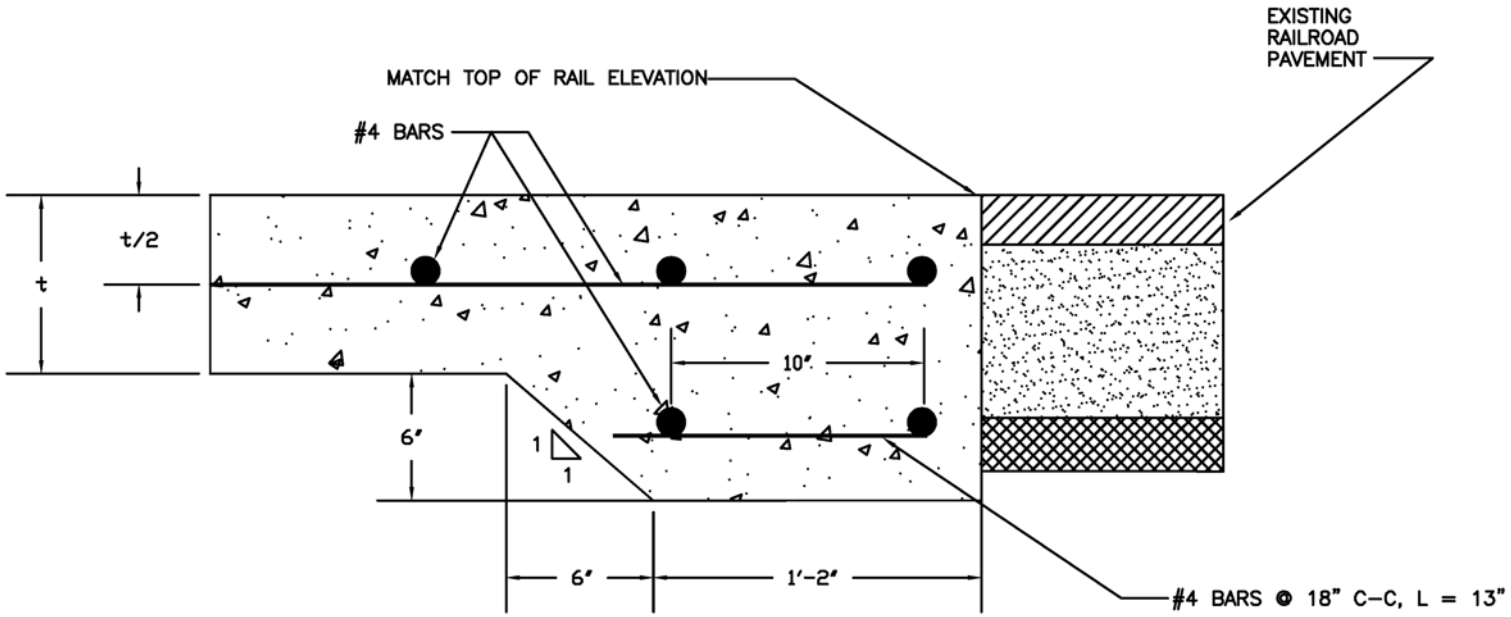
SUBDIVISION STANDARDS FOR

CONCRETE TO ASPHALT STANDARD PAVING HEADER

N.T.S.

DATE: 7–10–96 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING P – 15

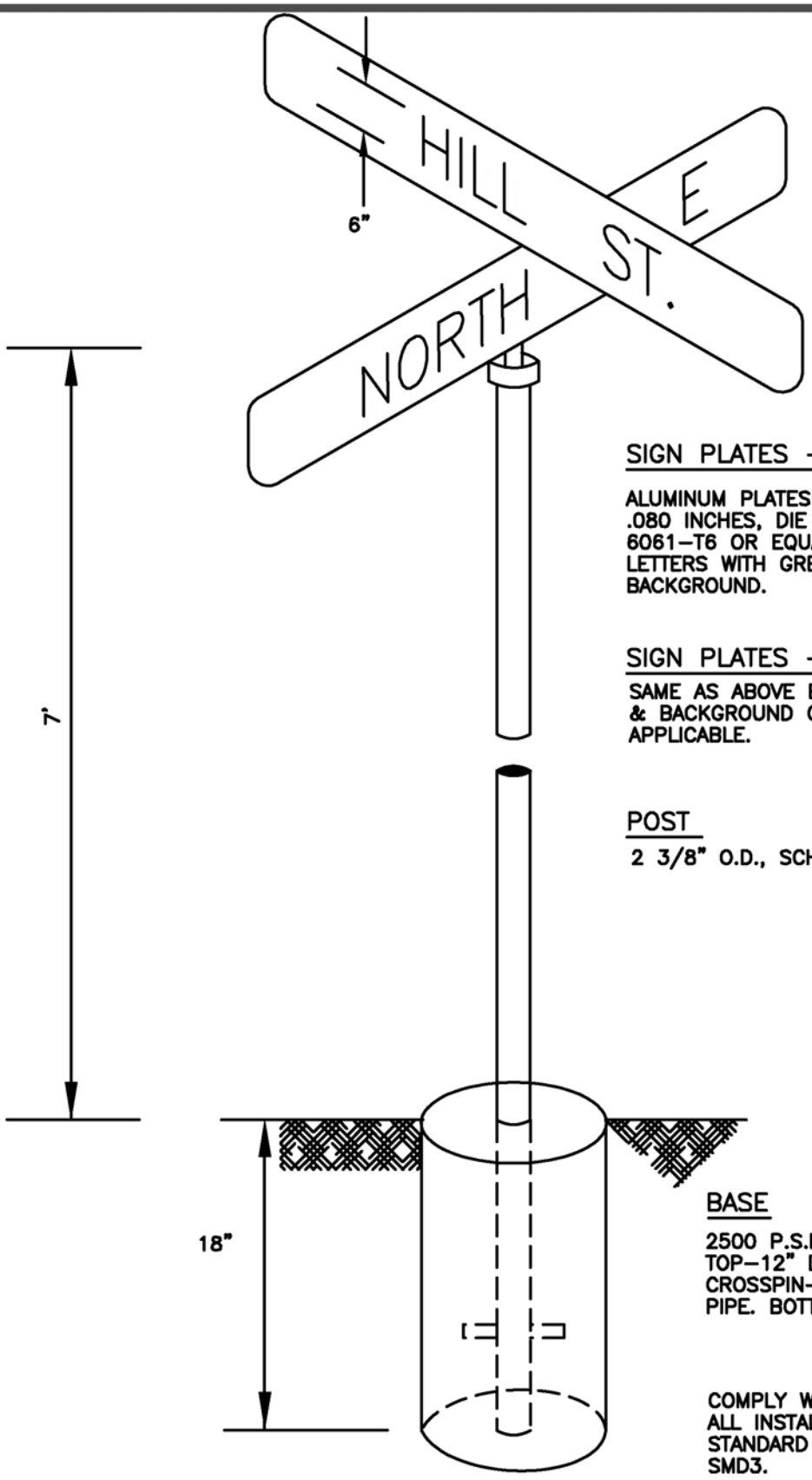
t = THICKNESS OF CONCRETE PAVEMENT
REFER TO SUBDIVISION RULES AND
REGULATIONS



SUBDIVISION STANDARDS FOR

RAILROAD HEADER DETAIL

N.T.S.



SIGN PLATES – STREET SIGNS

ALUMINUM PLATES–MINIMUM THICKNESS .080 INCHES, DIE CUT, ALCOA ALLOY 6061–T6 OR EQUAL. REFLECTIVE WHITE LETTERS WITH GREEN REFLECTIVE BACKGROUND.

SIGN PLATES – TRAFFIC SIGNS

SAME AS ABOVE BUT LETTER & BACKGROUND COLOR AS APPLICABLE.

POST

2 3/8" O.D., SCH. 40 GALV. PIPE.

BASE

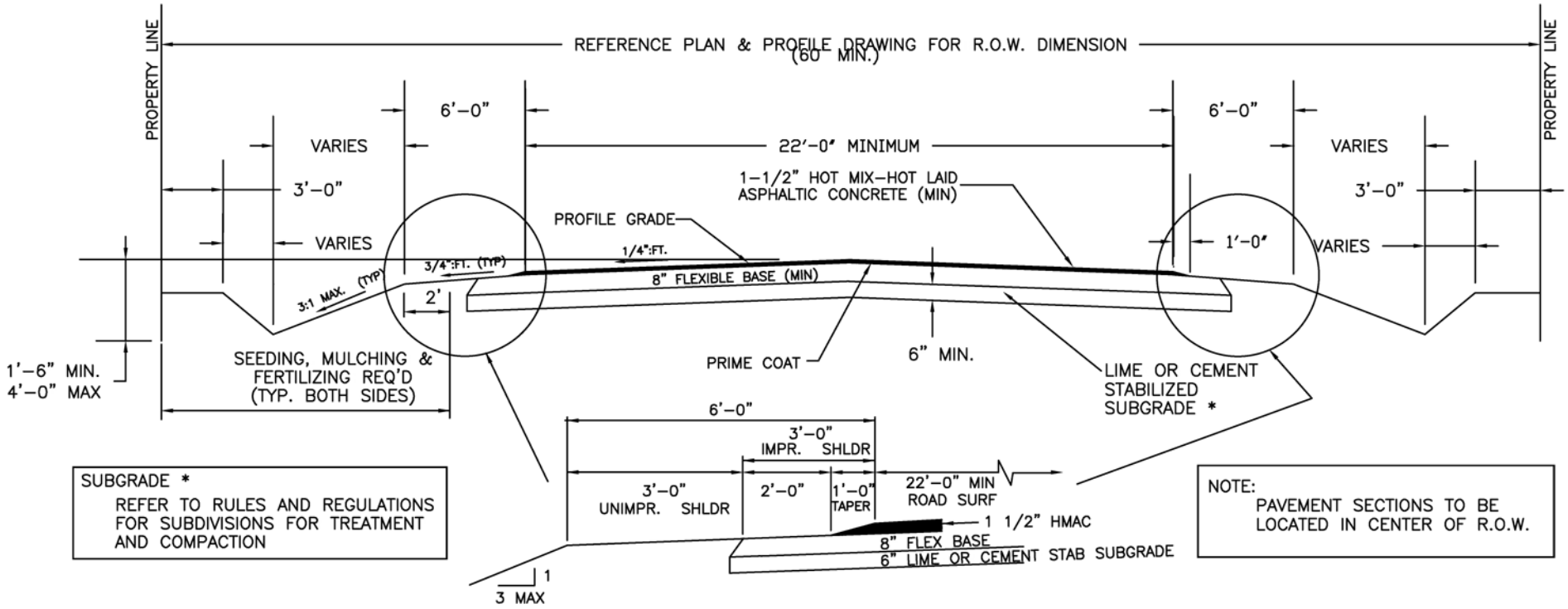
2500 P.S.I. CONCRETE TOP–12" DIA., FLUSH WITH GRADE. CROSSPIN–3/8" X 6" THROUGH PIPE. BOTTOM–12" DIAMETER.

COMPLY WITH MUTCD IN ALL INSTALLATIONS AND TX. DOT STANDARD DETAILS SMD1 THRU SMD3.

TRAFFIC & STREET SIGN DESIGN STANDARDS

N.T.S.

DATE: SEPTEMBER 1996 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING P–17



SUBDIVISION STANDARDS FOR

FLEXIBLE BASE PAVEMENT

DITCH SECTION

N.T.S.

DATE: 7-10-96 PREPARED BY GALVESTON COUNTY ENGINEERING DEPARTMENT DRAWNING P - 1

FIGURE 1 Harris County Site Runoff Curves for 25-Year Storm Frequency

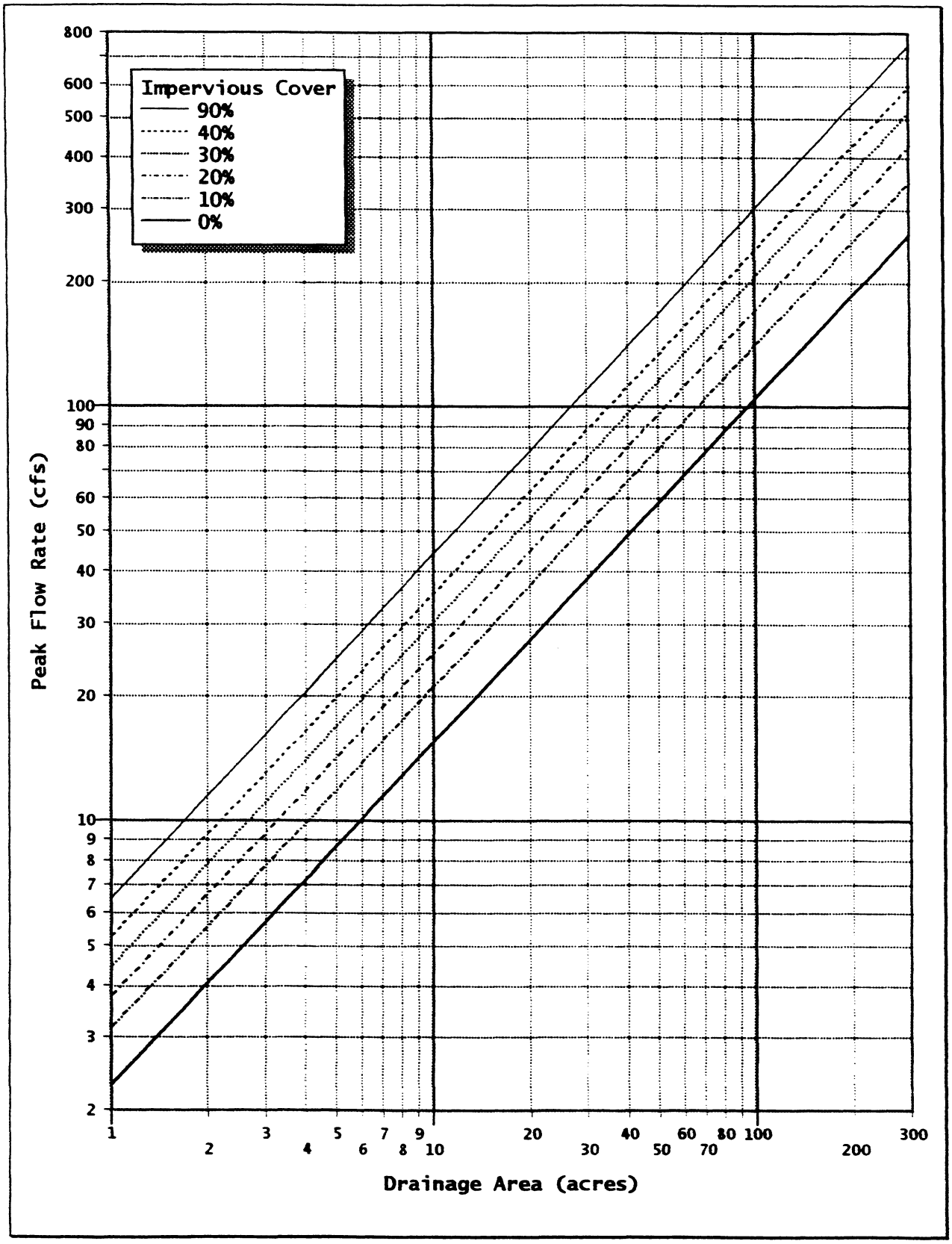


FIGURE 2 Harris County Site Runoff Curves for 100-Year Storm Frequency

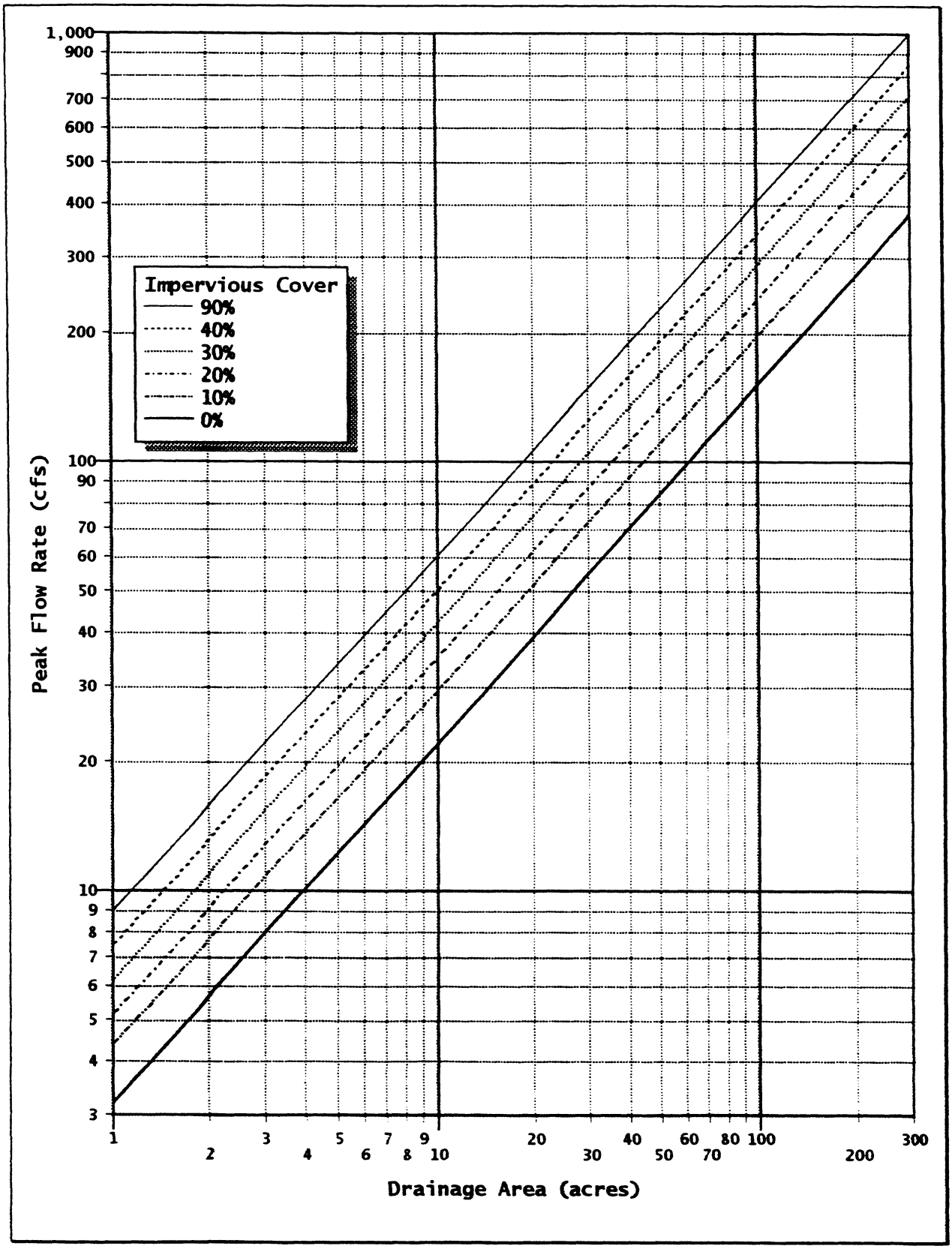


Figure 1

Texas Coastal Management Program

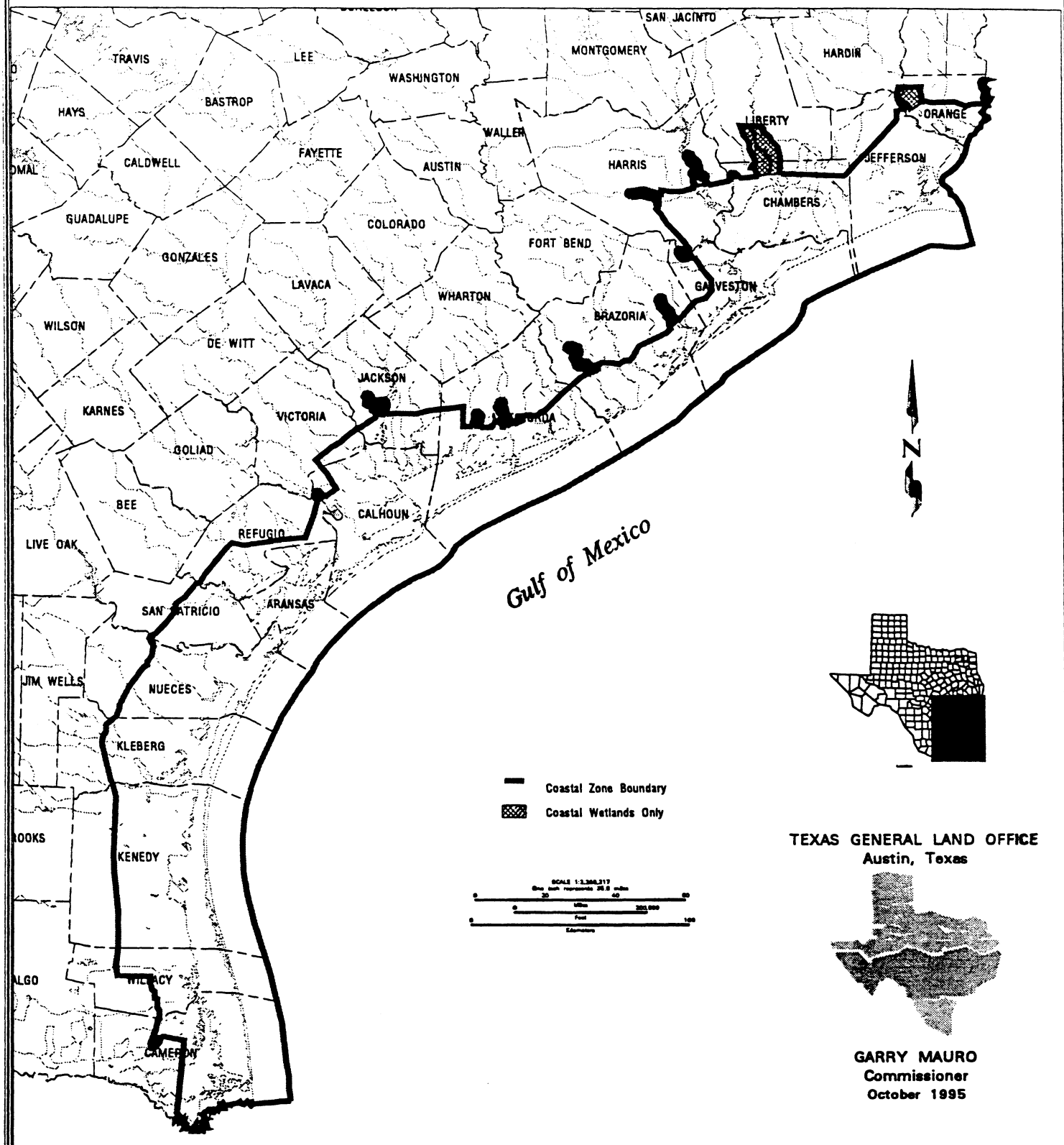


Figure 5

Galveston - Houston Area