

# Standard Details

## Table of Contents

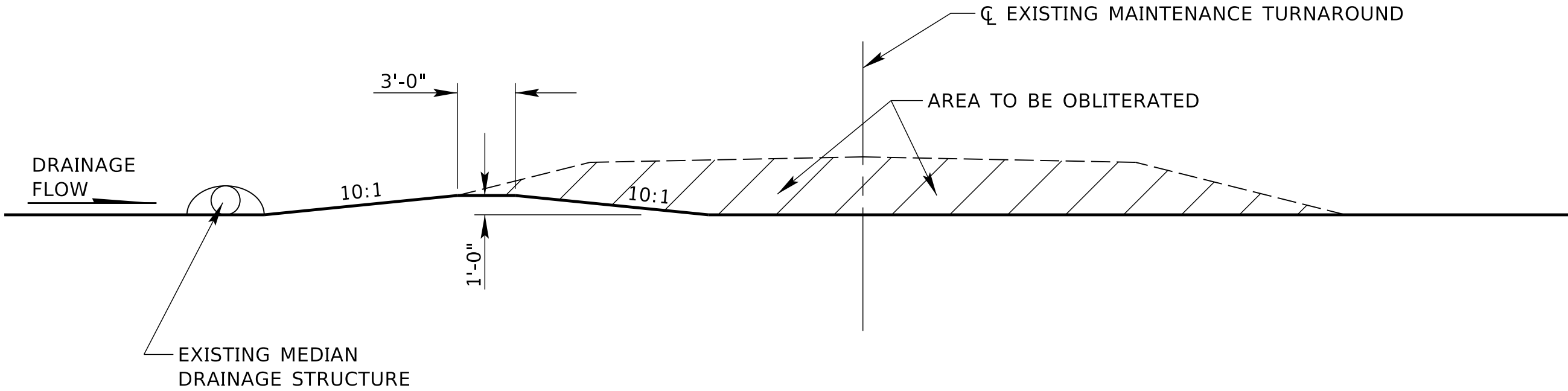
August 1, 2025

Plan No.	Title	Comments
1111 5 R1	Obliteration of Existing Maintenance Turnaround	OCT 2024 - Revision
1380 5 R1	Curb Removal Detail	
1731 5 R3	Surfacing Around Guardrail	
1920 5 R0	Design of Intercepting Dikes	
3290 5 R5	Concrete Pavement Repair	
3400 5 R0	Asphaltic Concrete Curb	OCT 2024 - NEW PLAN
3810 5 R2	Detail of Precast Concrete Curb Stop	OCT 2024 - Revision
4180 5 R3	Slotted Pipe Detail	
4340 5 R1	Details for Drop Curb for Drainage	
4440 5 R1	MSE Wall V-Ditch Drain	OCT 2024 - Revision
4500 5 R1	Details of Rock Riprap	
4505 5 R0	Roadside Sediment Trap and Outlet	
4510 5 R3	Details of Rock Riprap Scour Hole	OCT 2024 - Revision
4520 5 R1	Bridge Drainage Basin	
5400 5 R0	Metal Diaphragm Detail	
5480 5 R1	Inlet Liner Details	
6200 5 R2	Mechanically Stabilized Earth (MSE) Wall	OCT 2024 - Revision
7038 5 R0	31" Transition to 27 5/8" Guardrail	
7046 5 R3	Curved Beam Design Guide	
7049 5 R0	MGS For Long Span	
7390 5 R0	25 Ft. Transition Section 31" to Existing 27 5/8"	

OBLITERATION OF EXISTING MAINTENANCE TURNAROUND  
STANDARD DETAIL

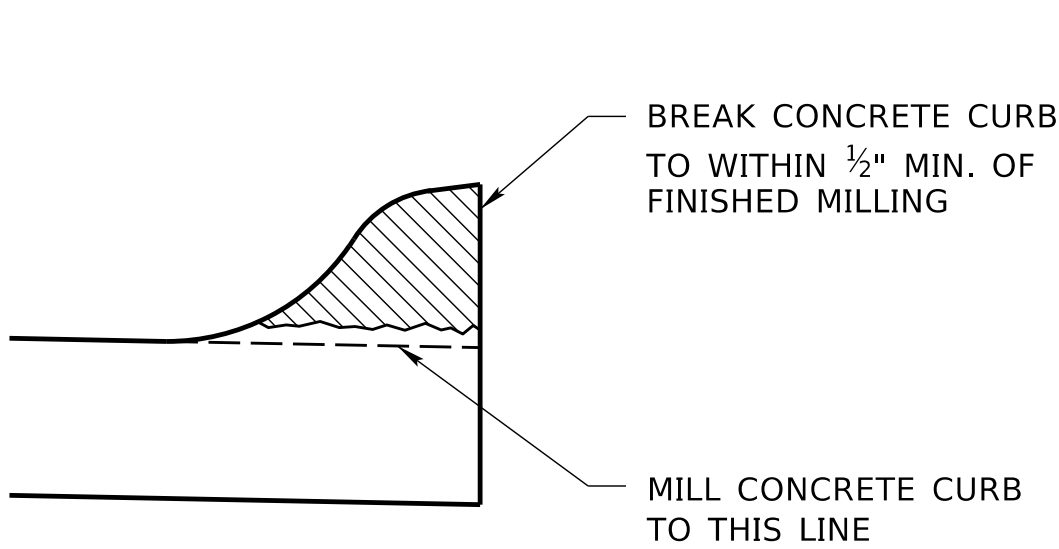


Roadway  
Design  
Division



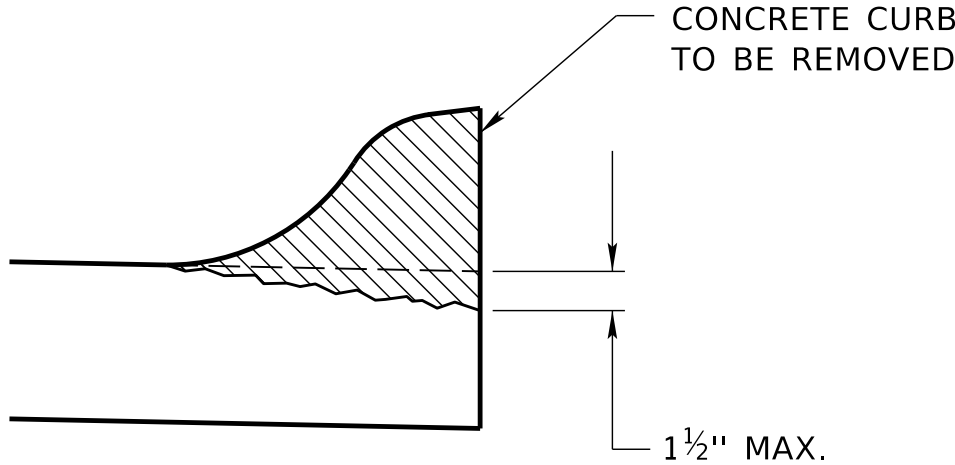
SECTION

OBLITERATION OF EXISTING MAINTENANCE TURNAROUND



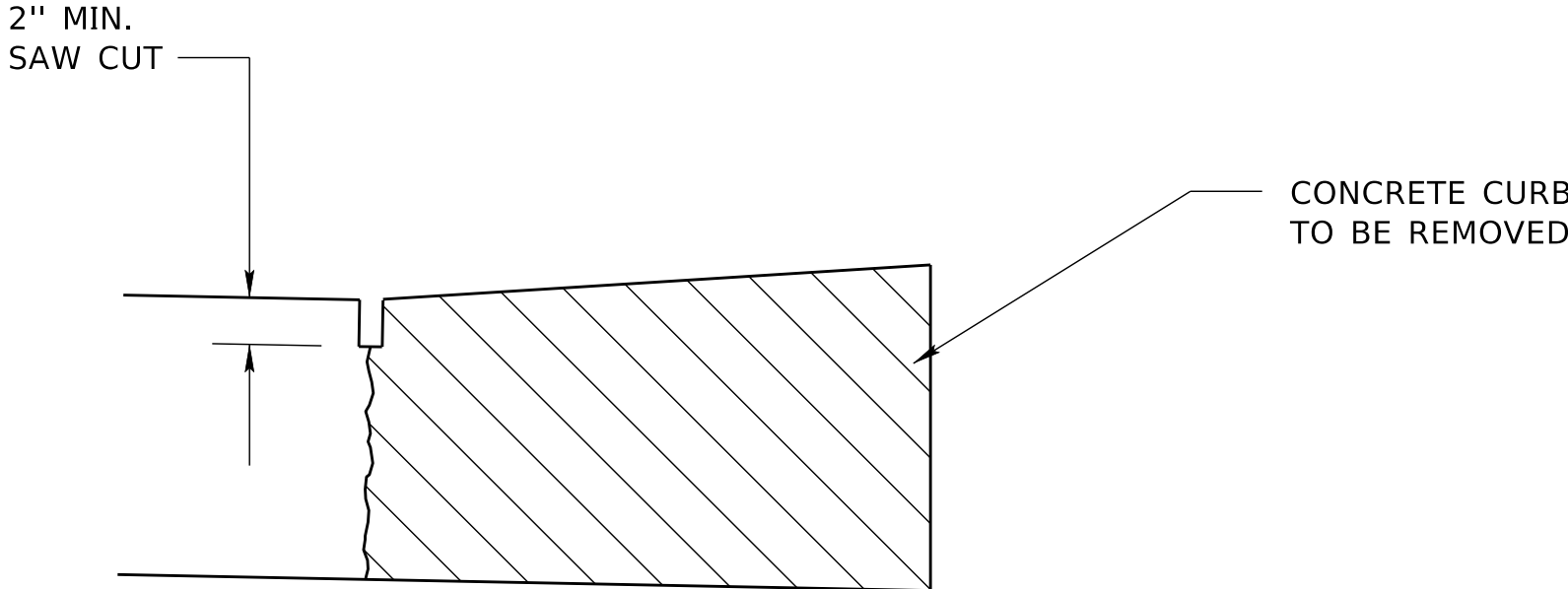
CURB REMOVAL DETAIL  
VIEW 1

(THIS SKETCH IS TO BE USED WHEN  
SURFACE WILL NOT BE OVERLAYED)



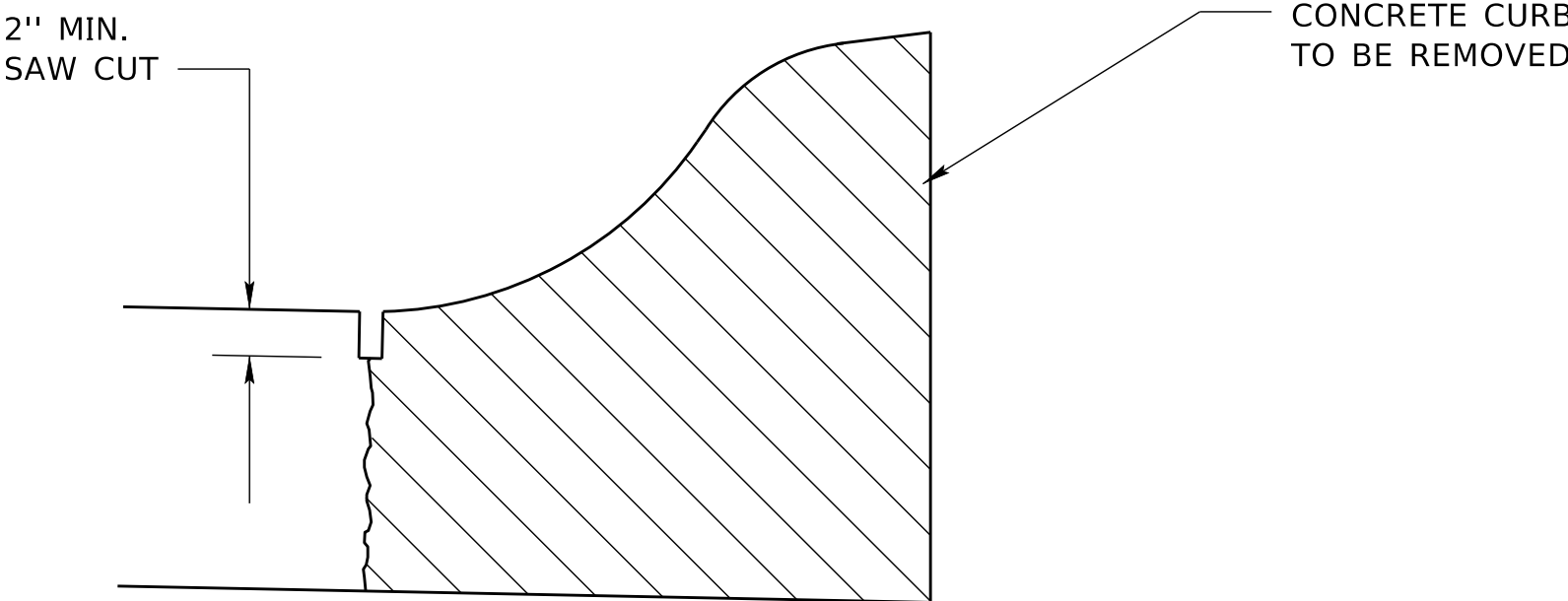
CURB REMOVAL DETAIL  
VIEW 2

(THIS SKETCH IS TO BE USED WHEN  
SURFACE WILL BE OVERLAYED)



CURB REMOVAL DETAIL  
VIEW 3

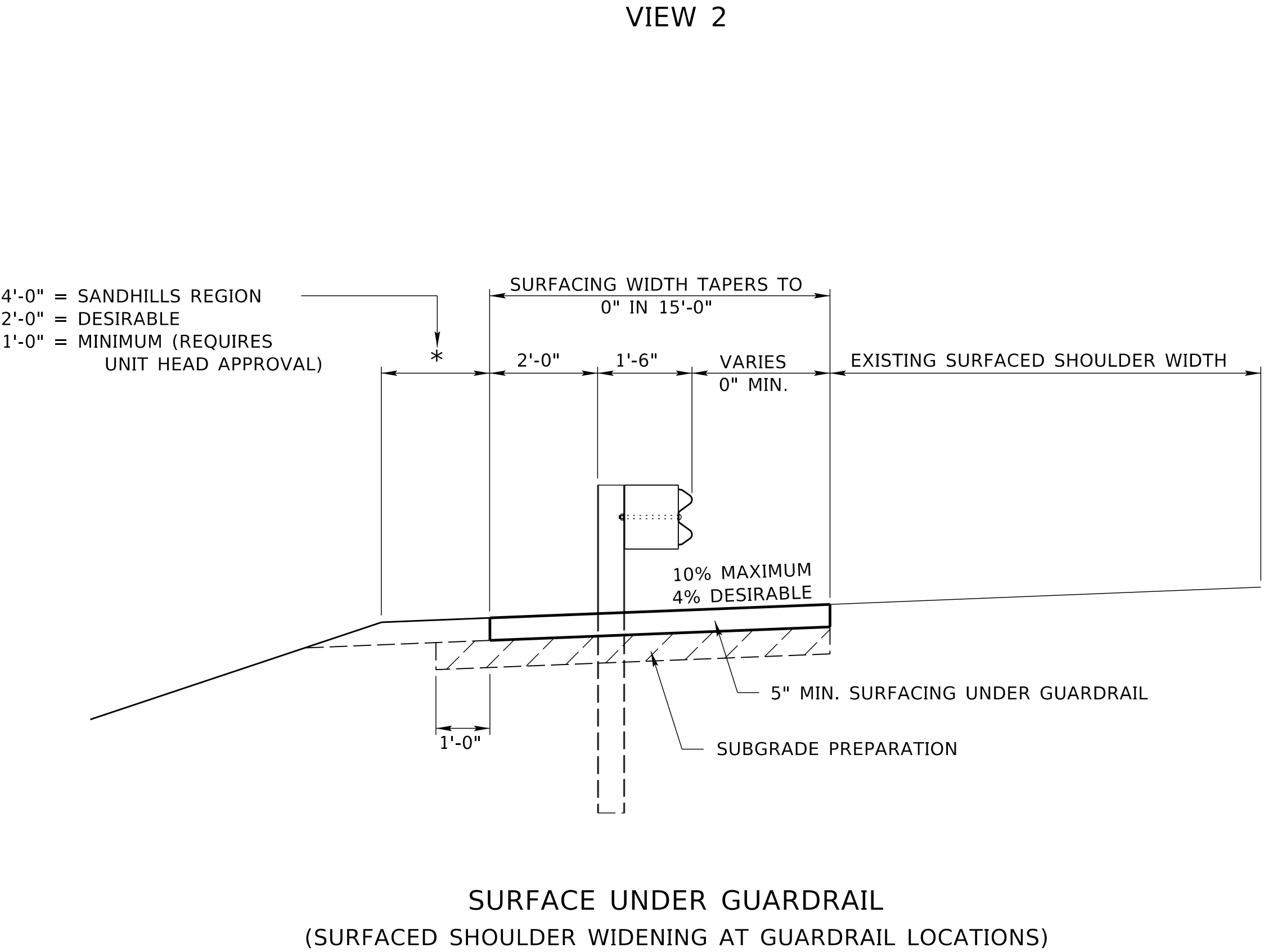
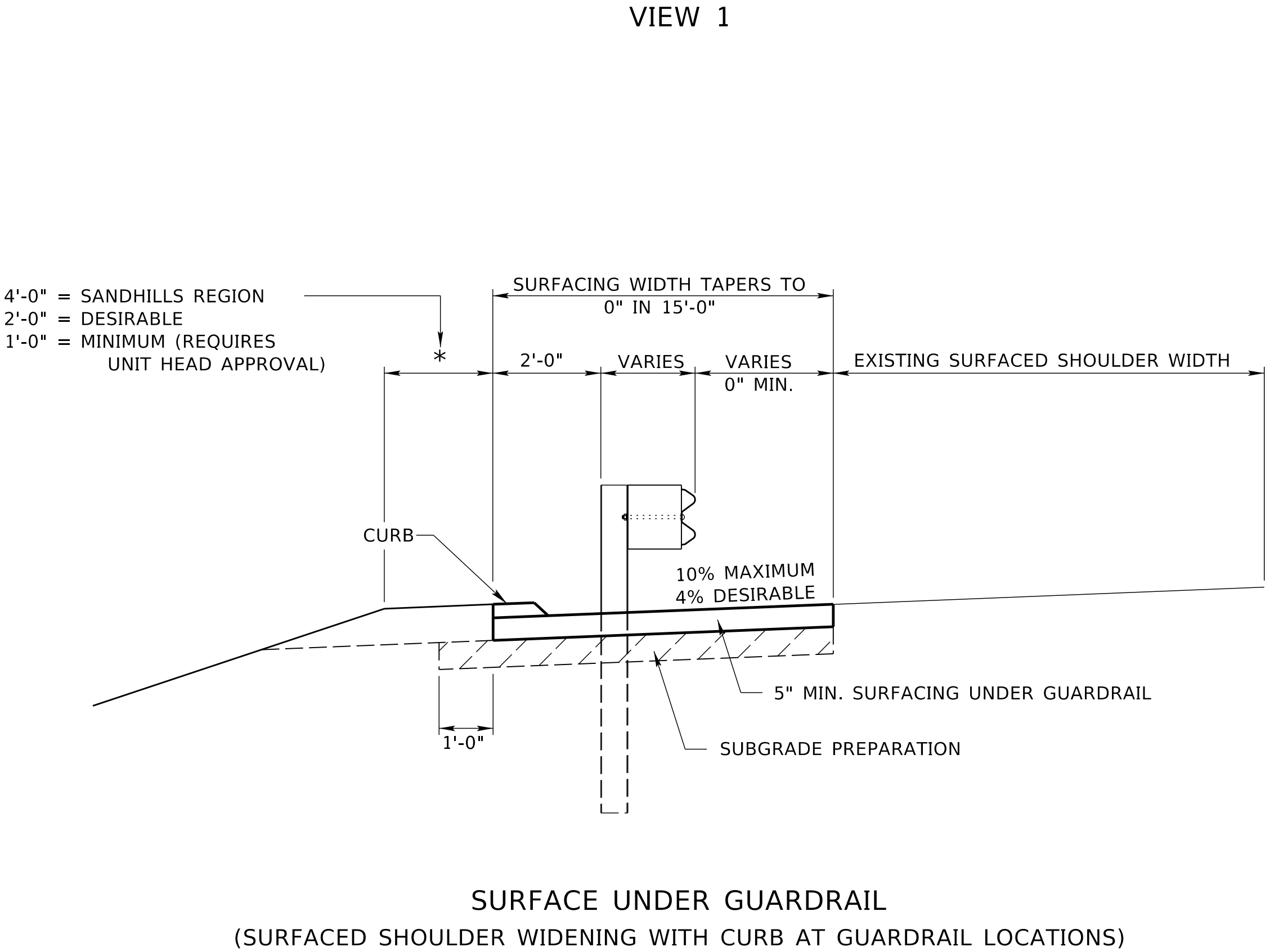
(THIS CAN ALSO BE REMOVED AS PAVEMENT)



CURB REMOVAL DETAIL  
VIEW 4

NOTE:  
THIS SKETCH IS NORMALLY NOT REQUIRED AS IT  
IS COVERED IN THE SPECS. HOWEVER IF THE  
CURB IS TO BE REMOVED MORE THAN 1 WAY ON  
A PROJECT EACH SHOULD HAVE A SKETCH AND  
IDENTIFY WHERE IT IS APPLICABLE

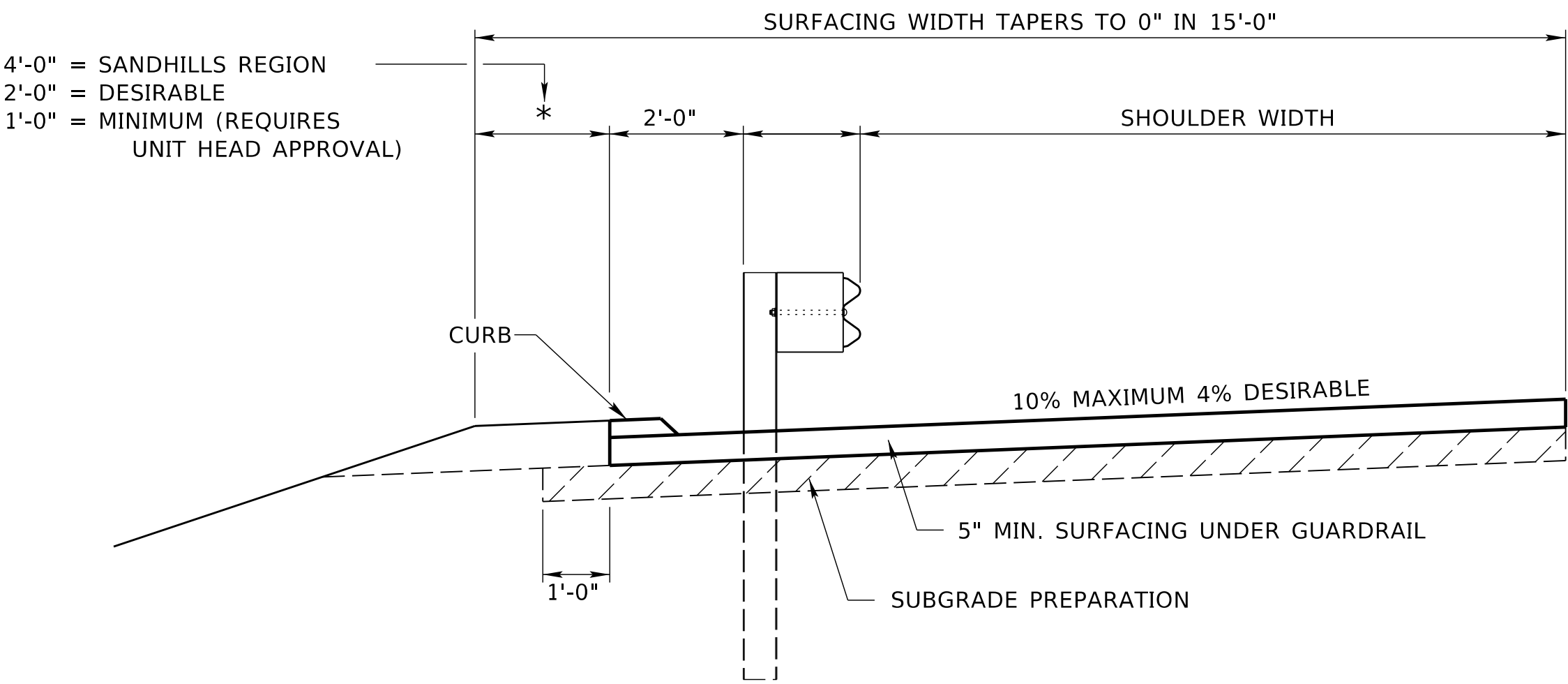
(THIS CAN ALSO BE REMOVED AS PAVEMENT)



SURFACING UNDER GUARDRAIL - 31"  
STANDARD DETAIL

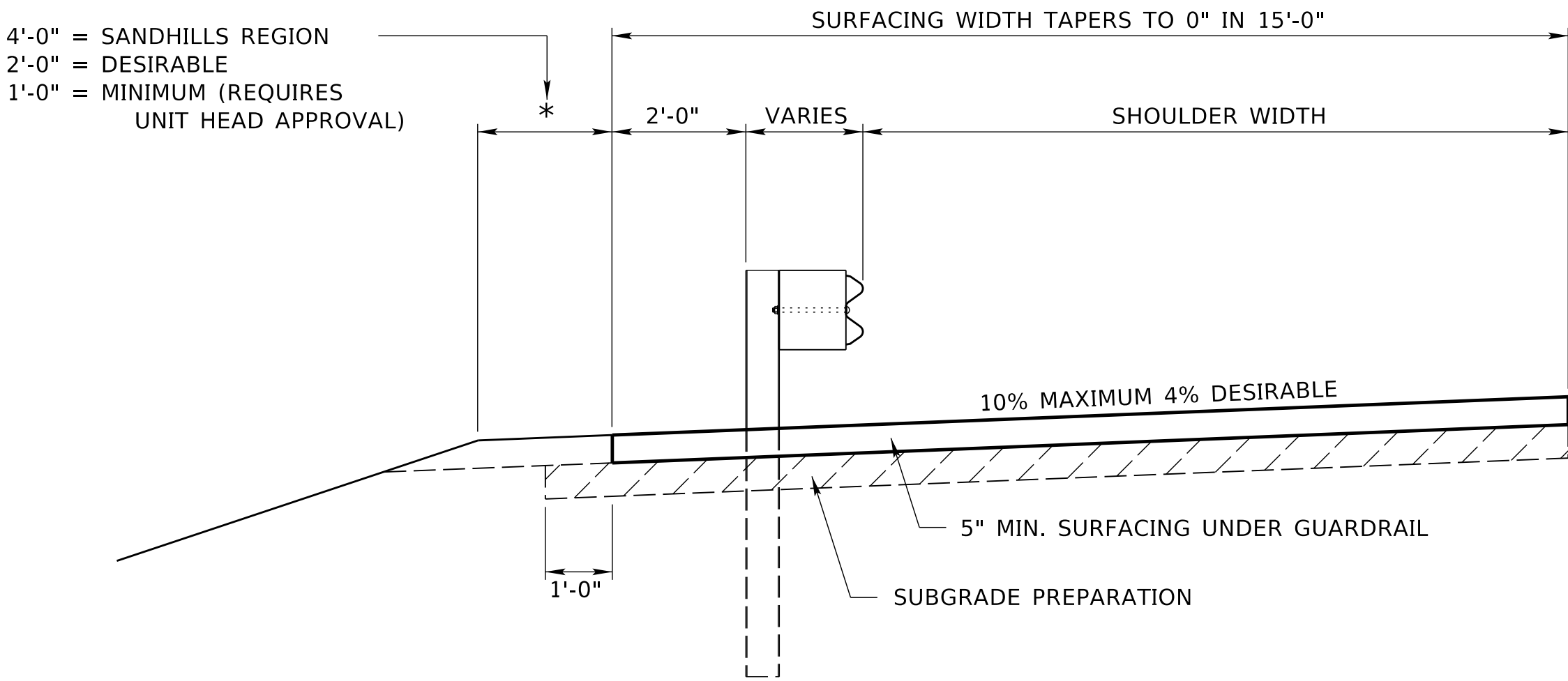
2 OF 4
Project Number
C.N.

VIEW 3



SURFACE UNDER GUARDRAIL  
NON-SURFACED SHOULDER WITH CURB AT GUARDRAIL LOCATIONS

VIEW 4

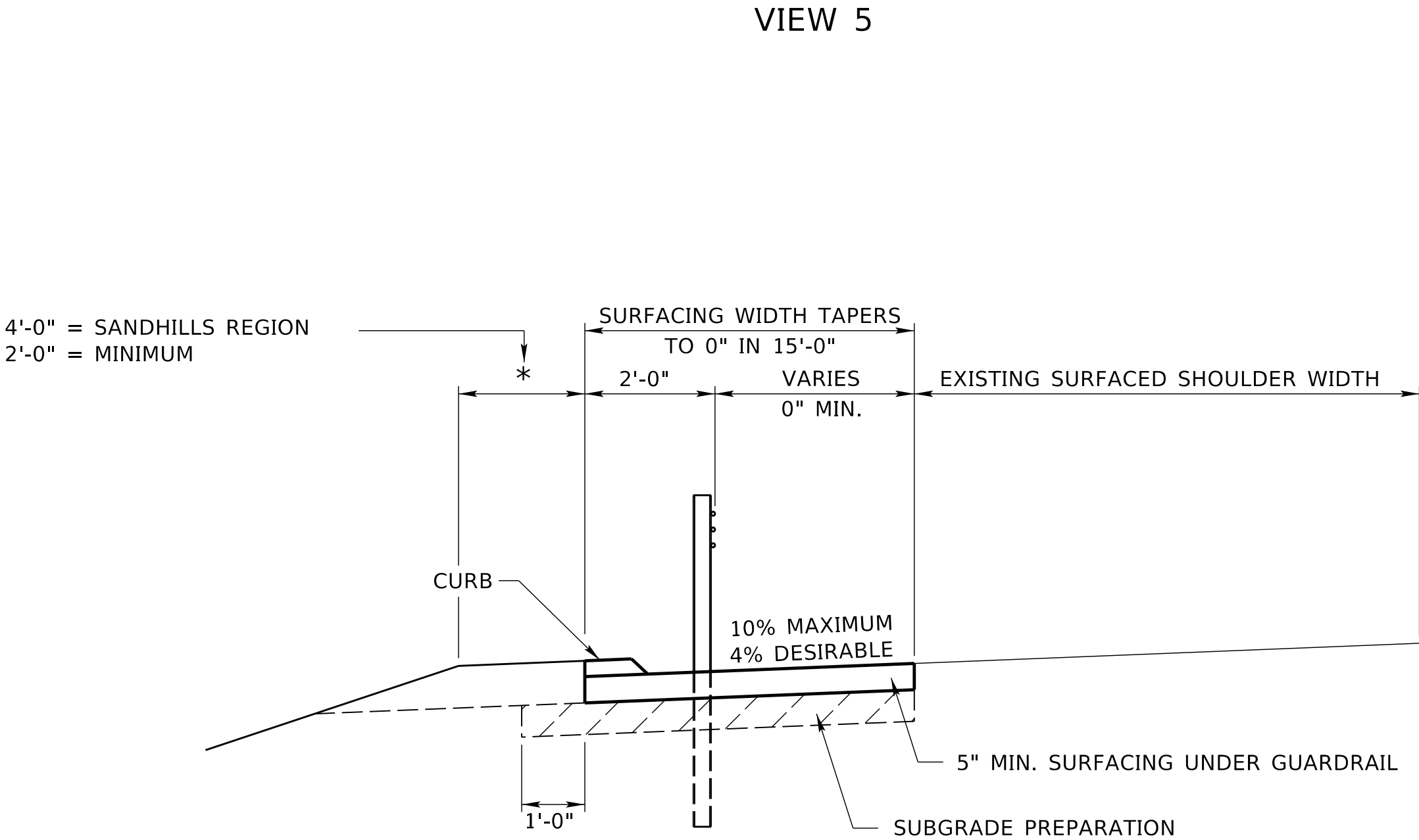


SURFACE UNDER GUARDRAIL  
NON-SURFACED SHOULDER AT GUARDRAIL LOCATIONS

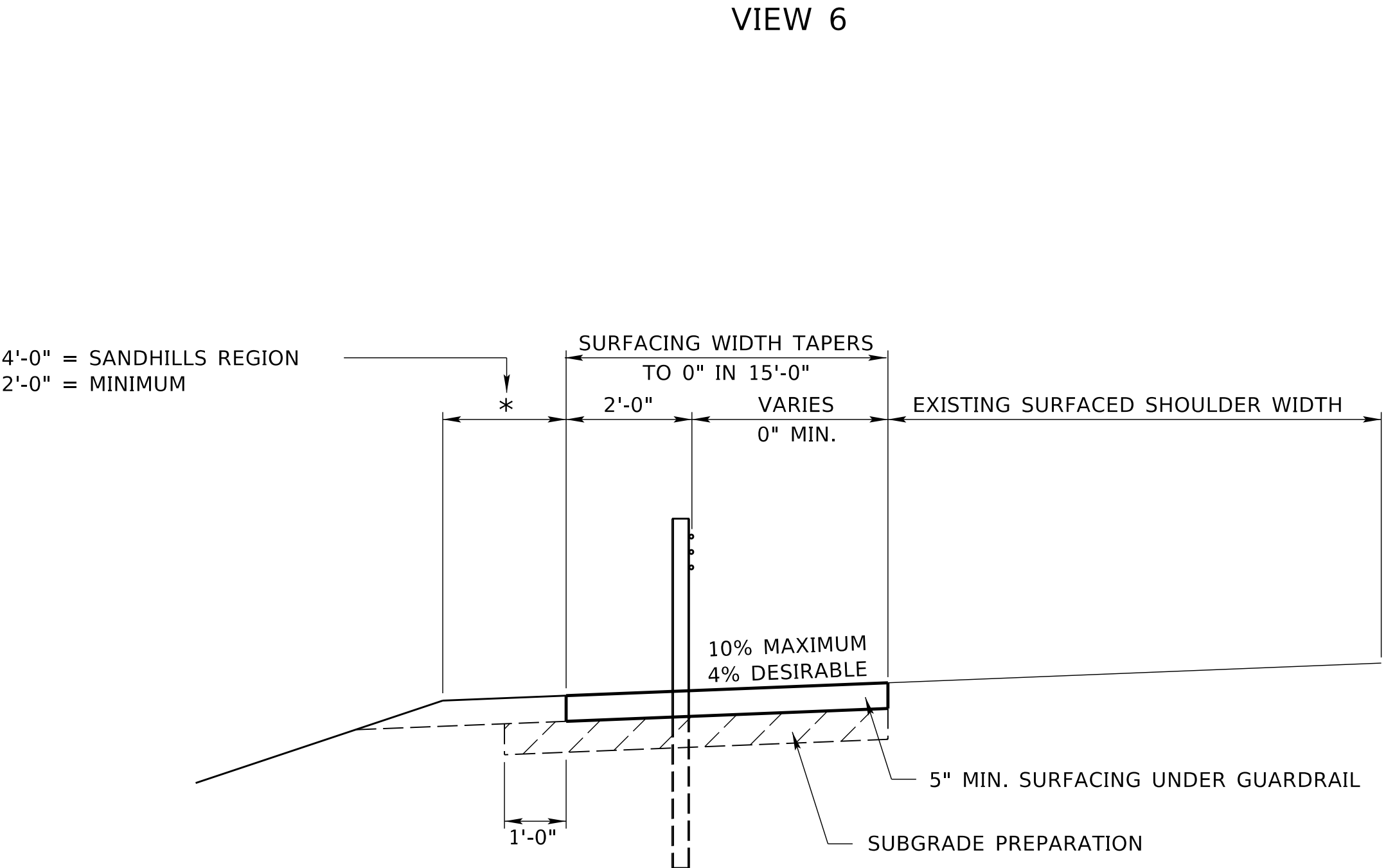
SURFACING UNDER GUARDRAIL - 31"  
STANDARD DETAIL



Roadway  
Design  
Division



SURFACE UNDER GUARDRAIL  
SURFACED SHOULDER WIDENING WITH CURB AT CABLE GUARDRAIL LOCATIONS

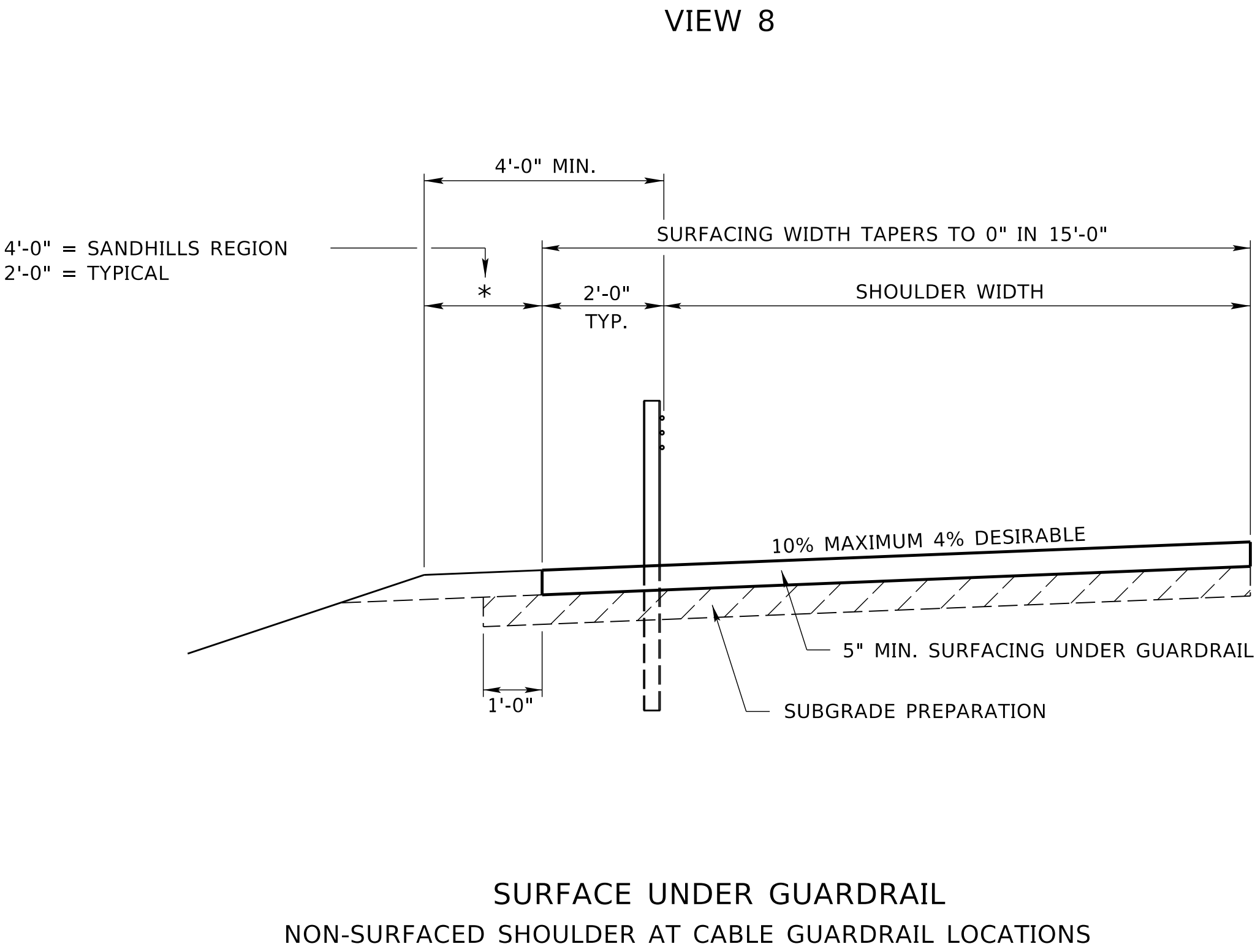
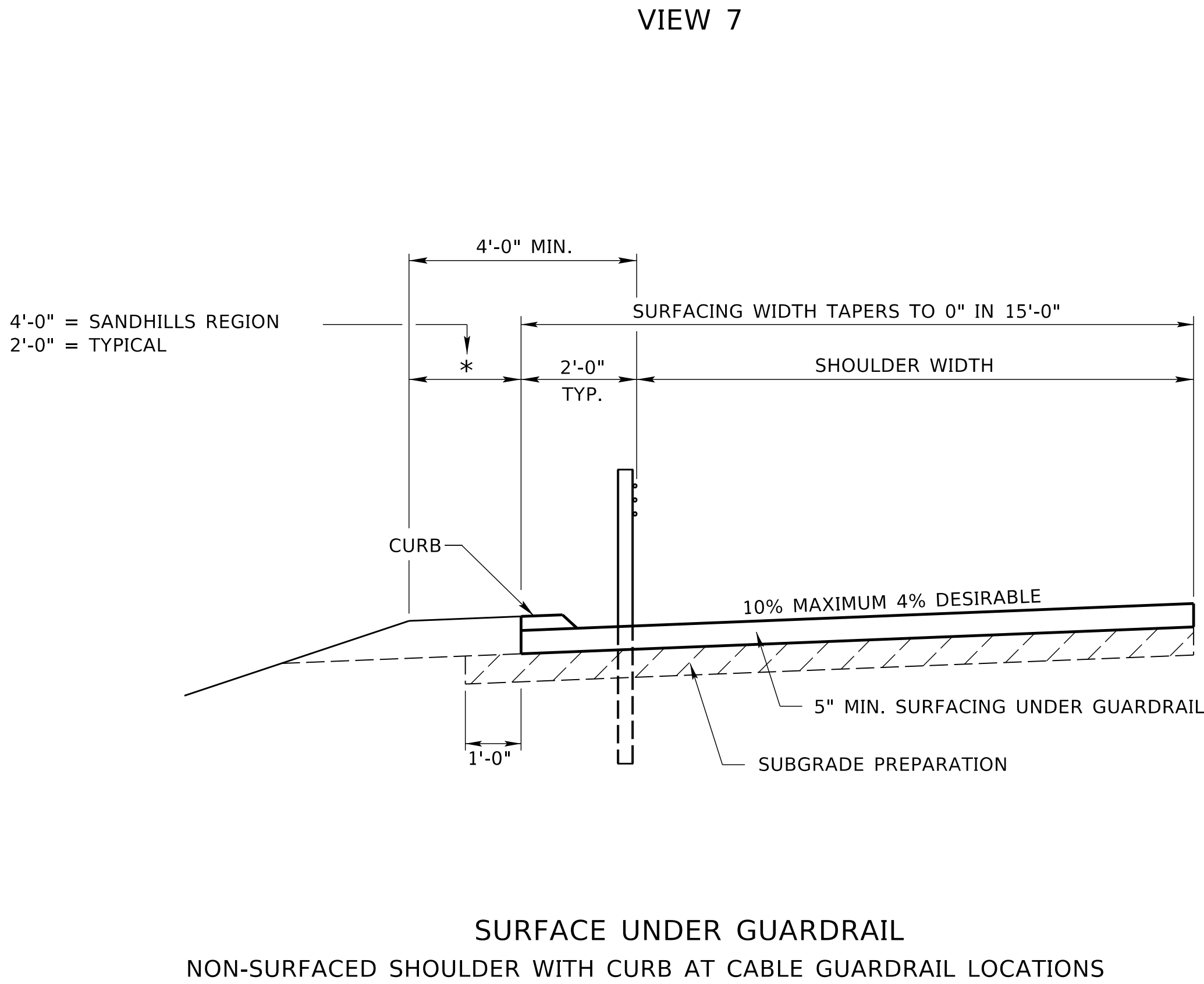


SURFACE UNDER GUARDRAIL  
SURFACED SHOULDER WIDENING AT CABLE GUARDRAIL LOCATIONS

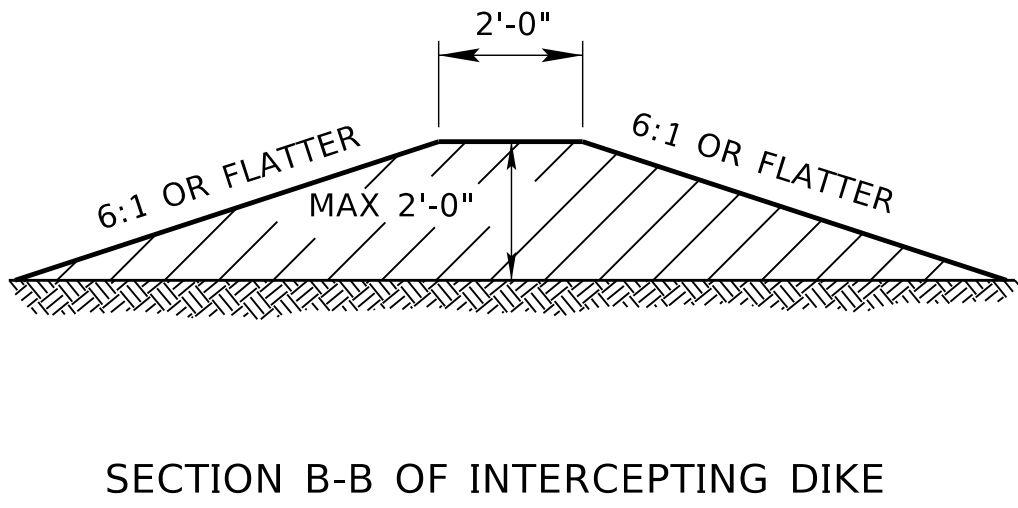
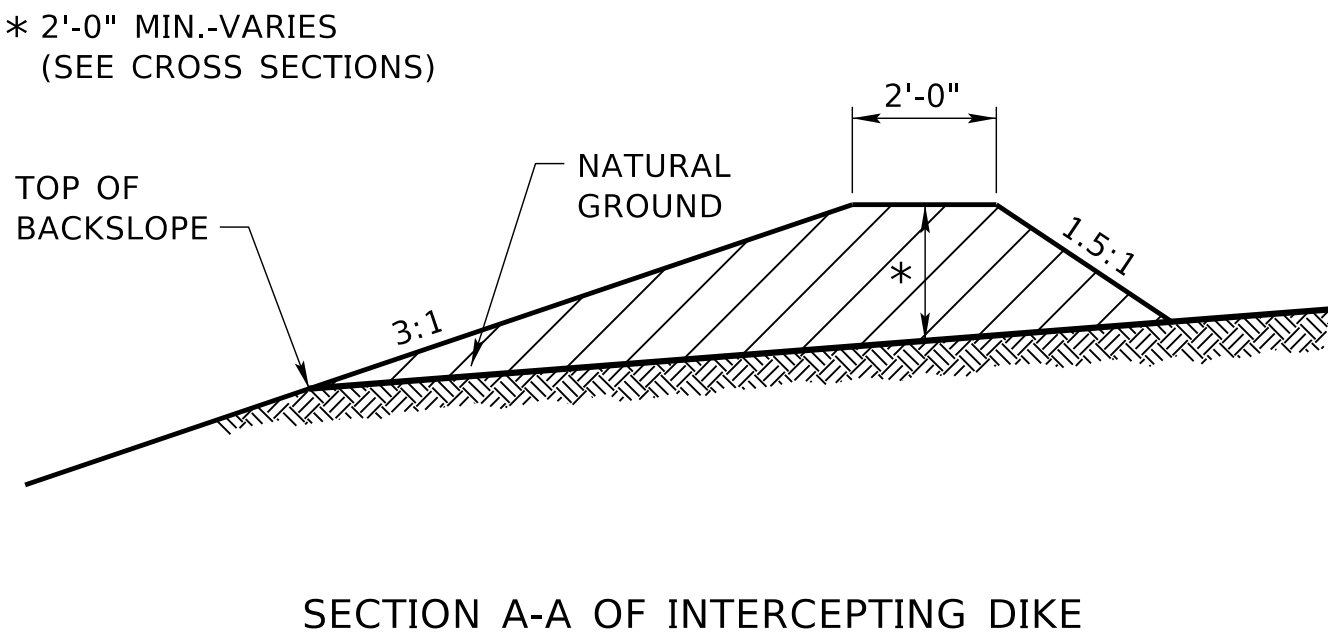
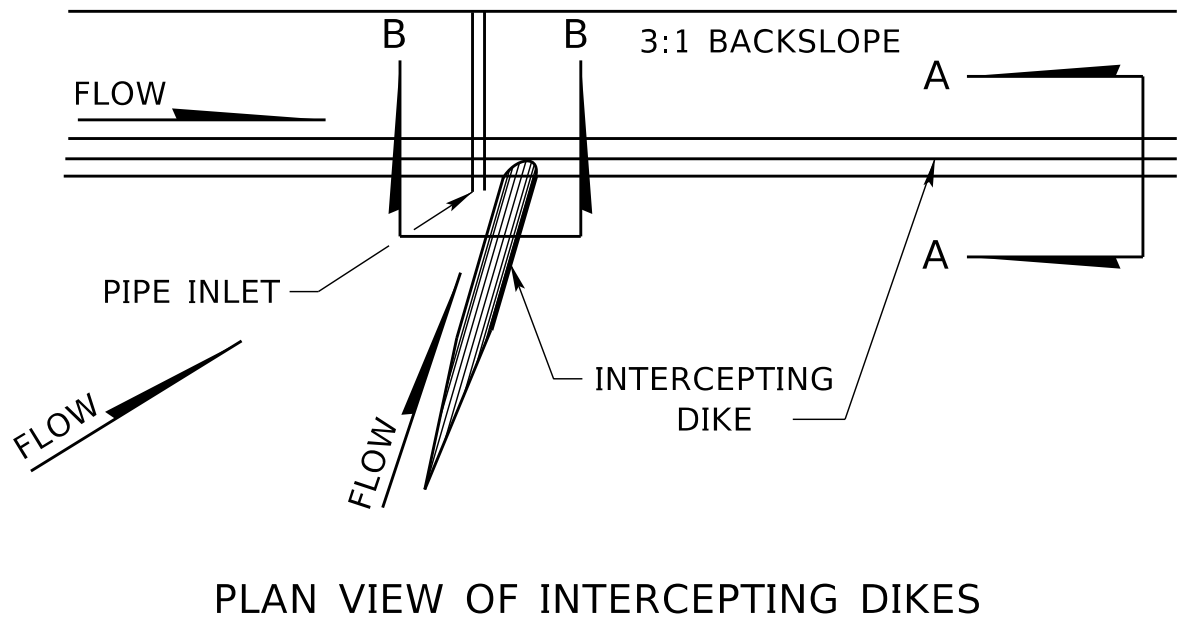
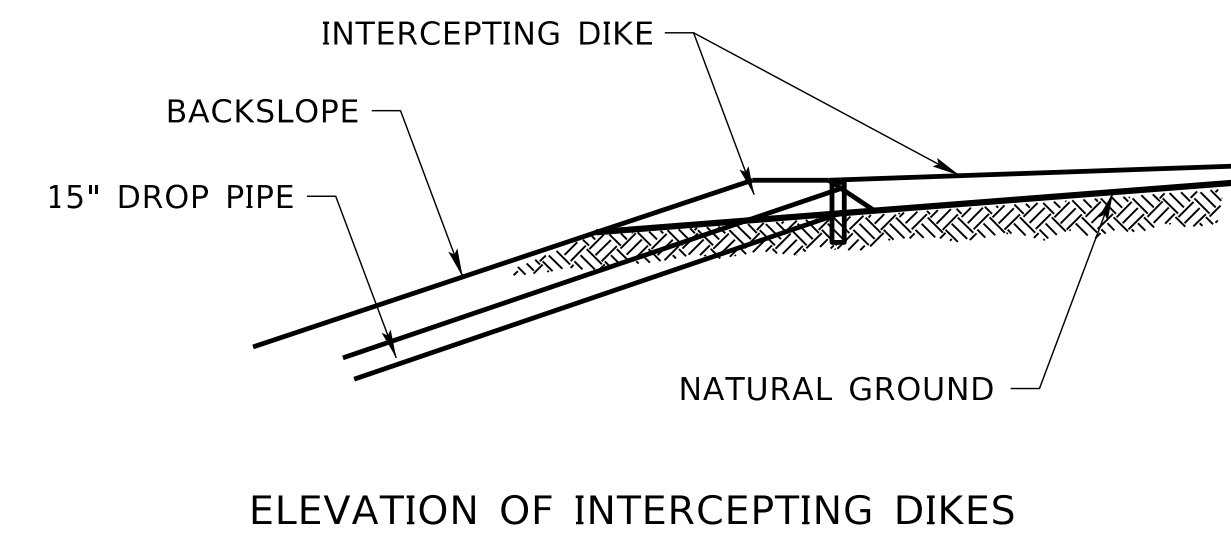
SURFACING UNDER GUARDRAIL - 31"  
STANDARD DETAIL



Roadway  
Design  
Division



SURFACING UNDER GUARDRAIL - 31"  
STANDARD DETAIL



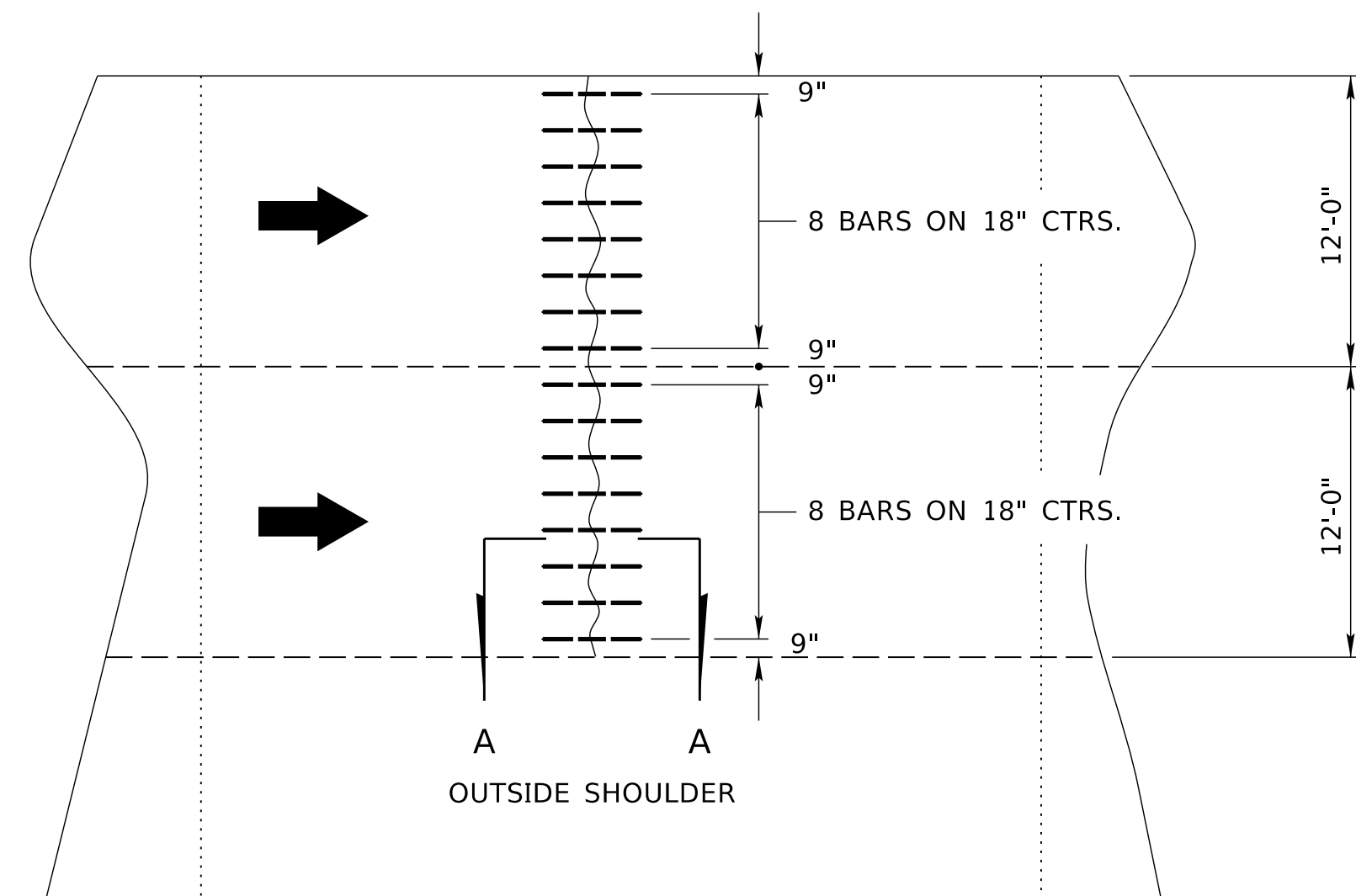
DESIGN OF INTERCEPTING DIKES

DESIGN OF INTERCEPTING DIKES  
STANDARD DETAIL



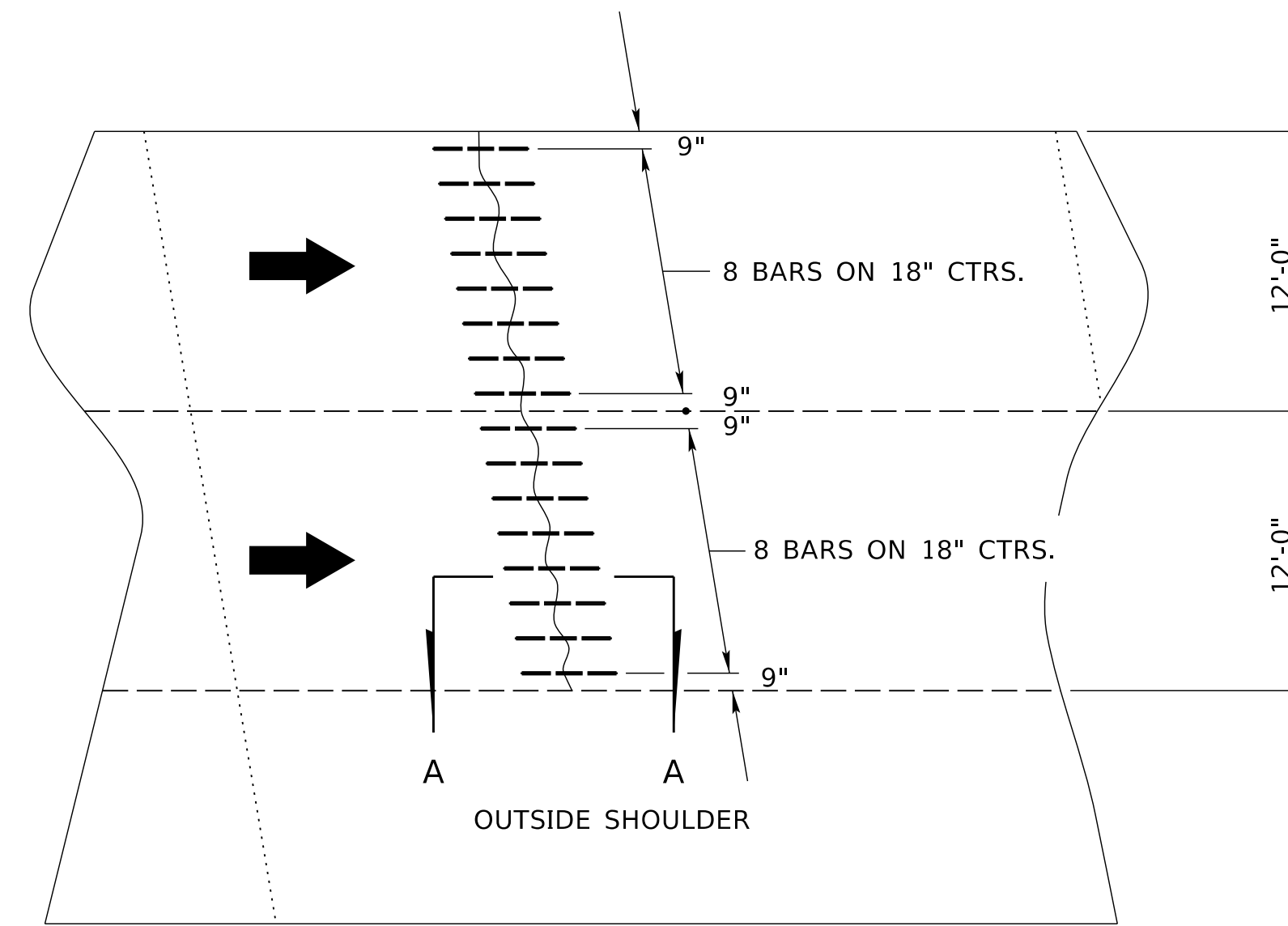
Roadway  
Design  
Division





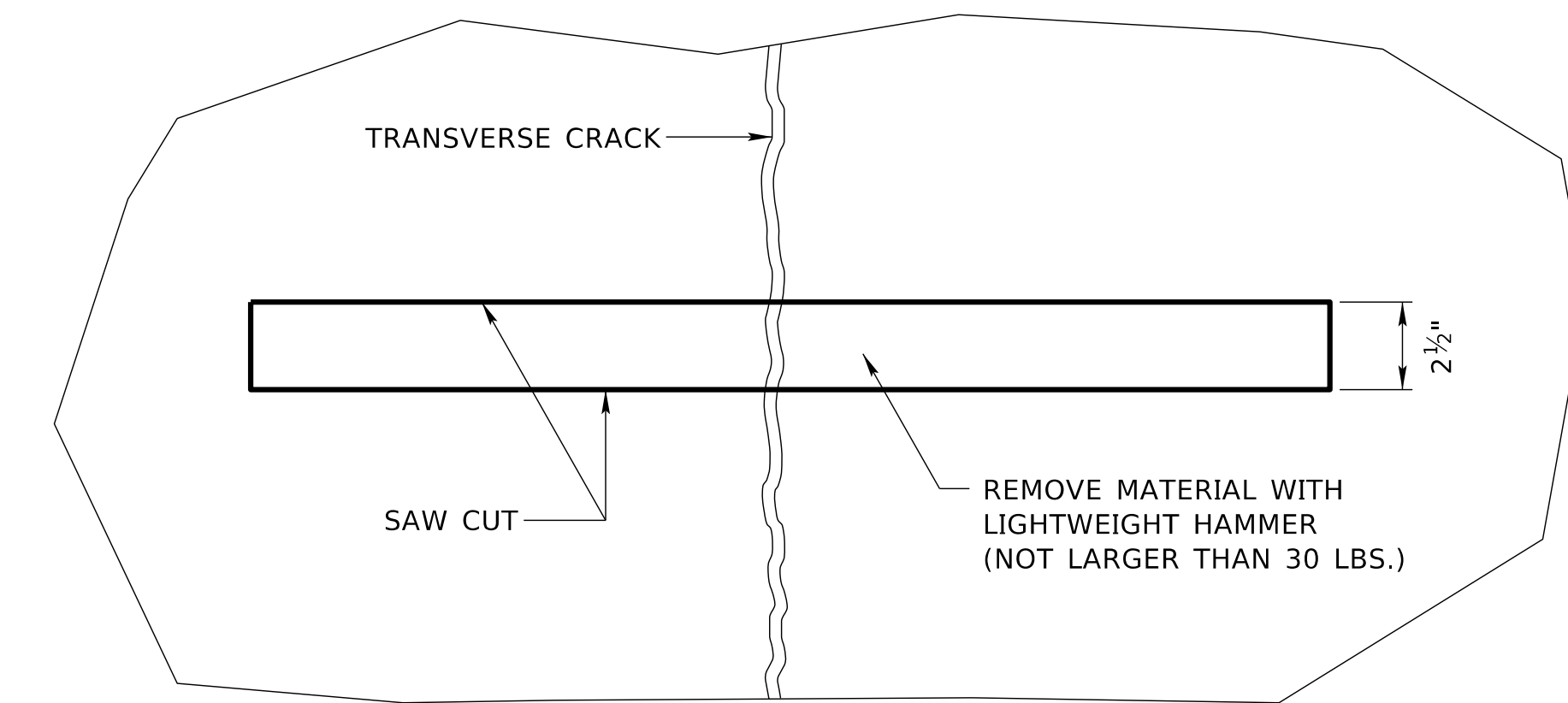
NOTE: TRANSVERSE JOINT SPACING AT 16'-6"

DEFORMED BAR SPACING  
(DOWELED CONCRETE PAVEMENT)

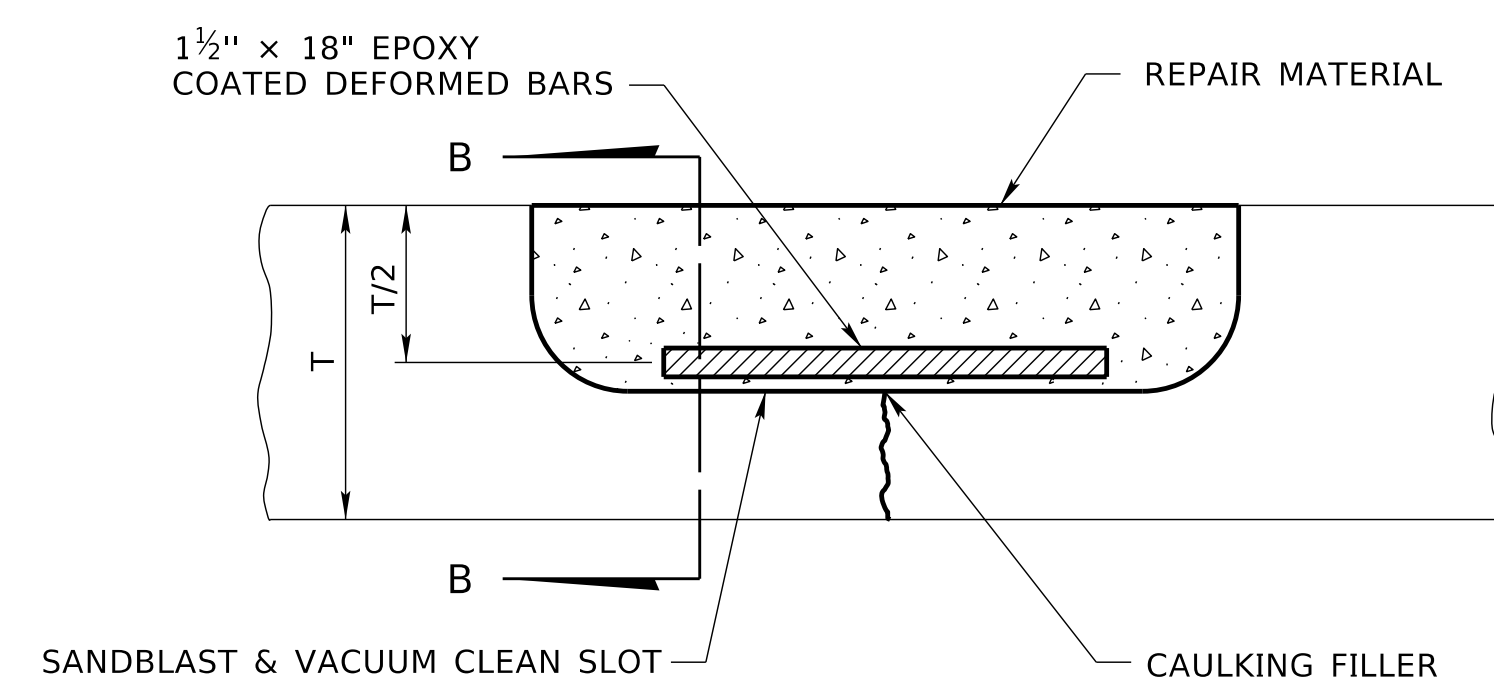


NOTE: SKEWED TRANSVERSE JOINT SPACING AT 16'-6"

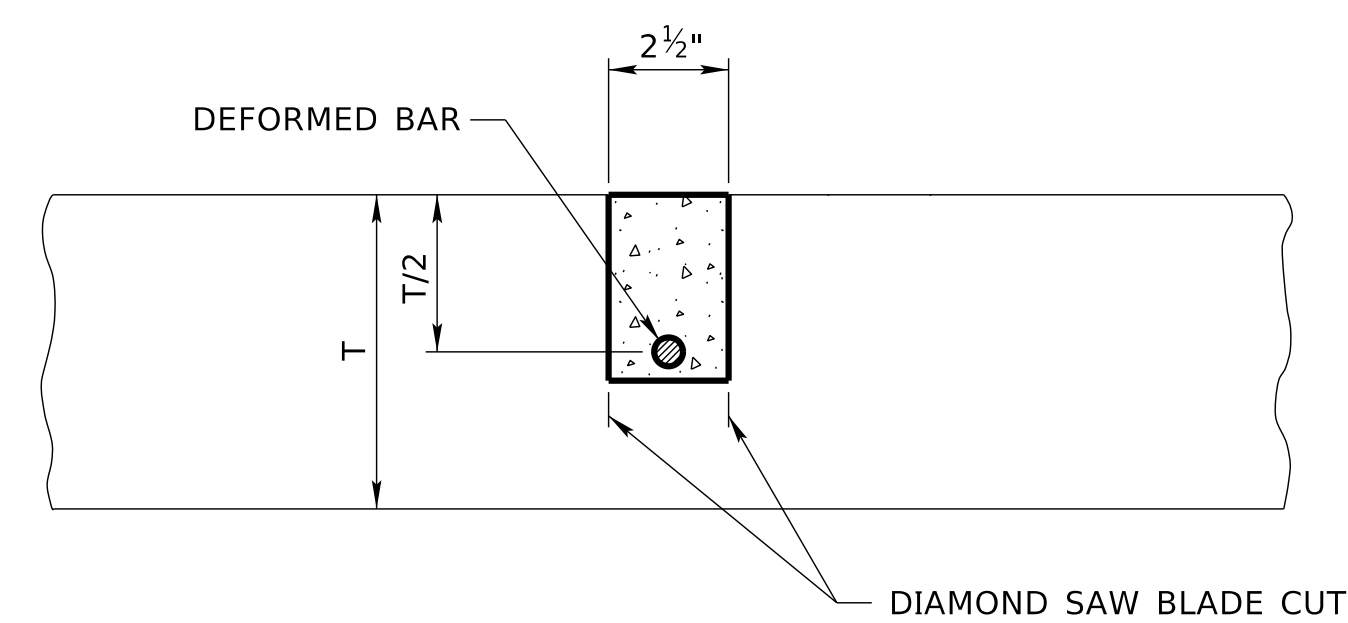
DEFORMED BAR SPACING  
(PLAIN CONCRETE PAVEMENT)



### PLAN VIEW DEFORMED BAR SLOT MATERIAL REMOVAL

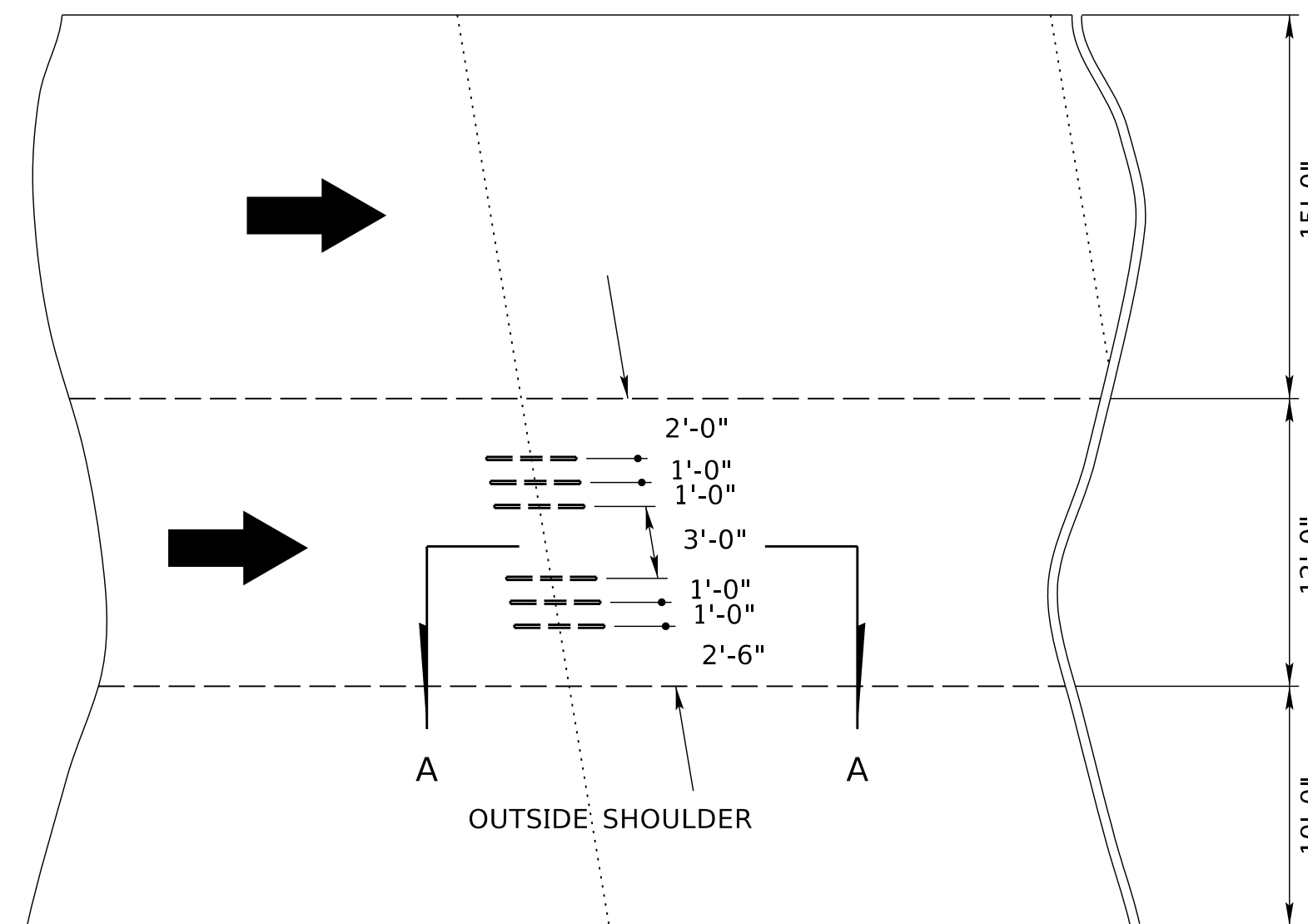


SECTION A-A



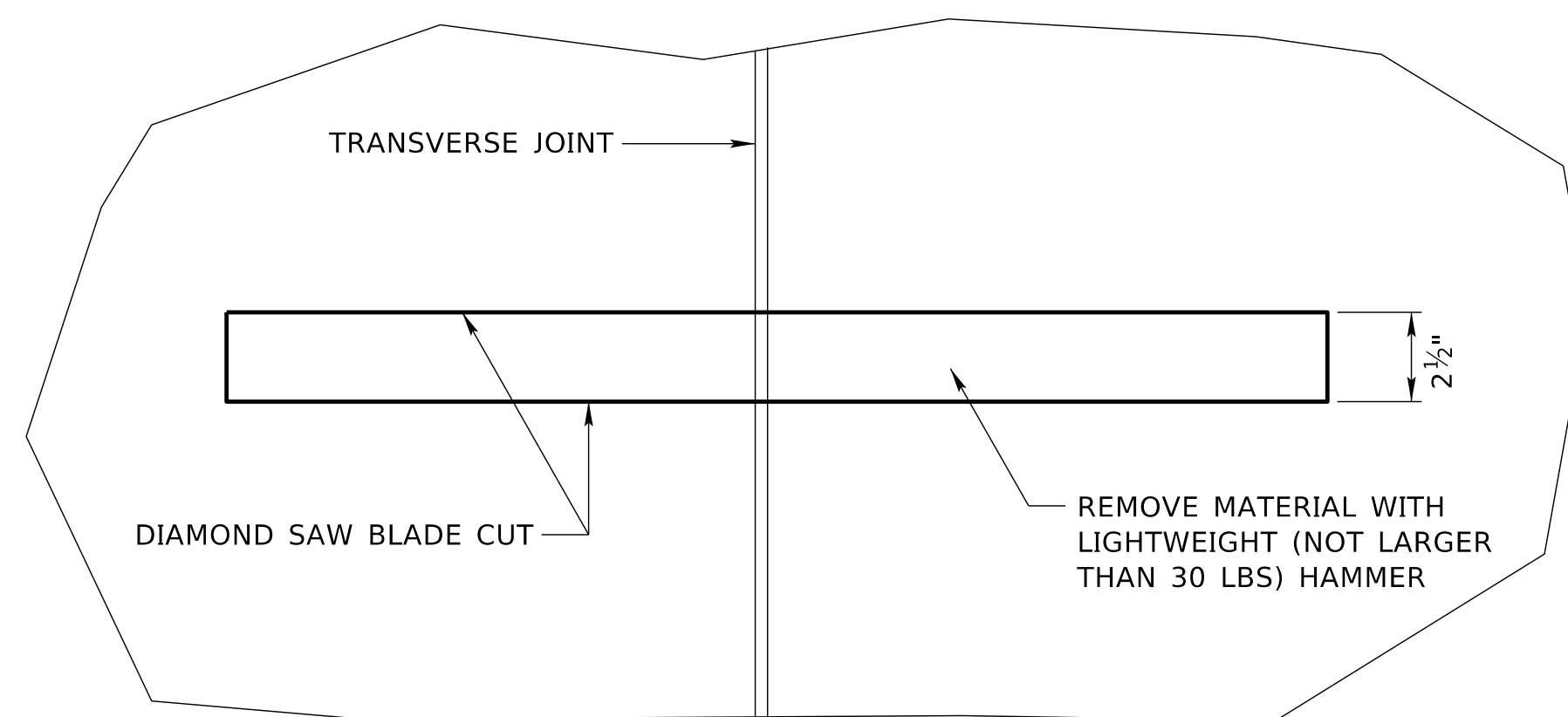
SECTION B-B

## CONCRETE PAVEMENT REPAIR STANDARD DETAIL



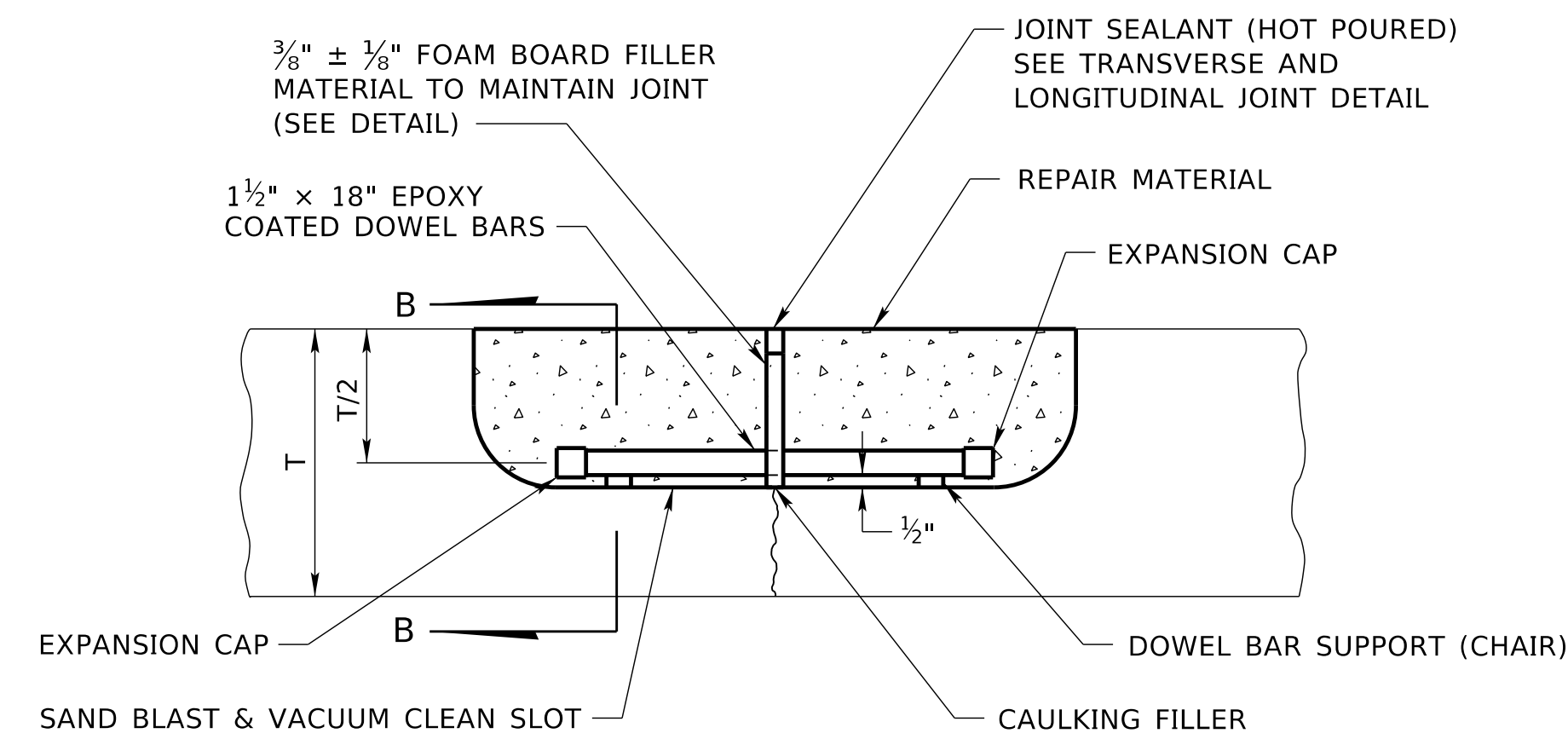
NOTE: SKEWED TRANSVERSE JOINT SPACING AT 16'-6"

## RETROFIT DOWEL BAR SPACING

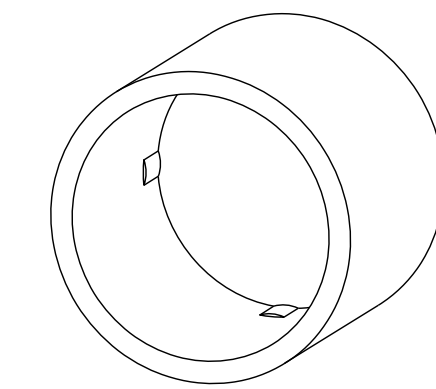


### PLAN VIEW DOWEL BAR RETROFIT SLOT MATERIAL REMOVAL

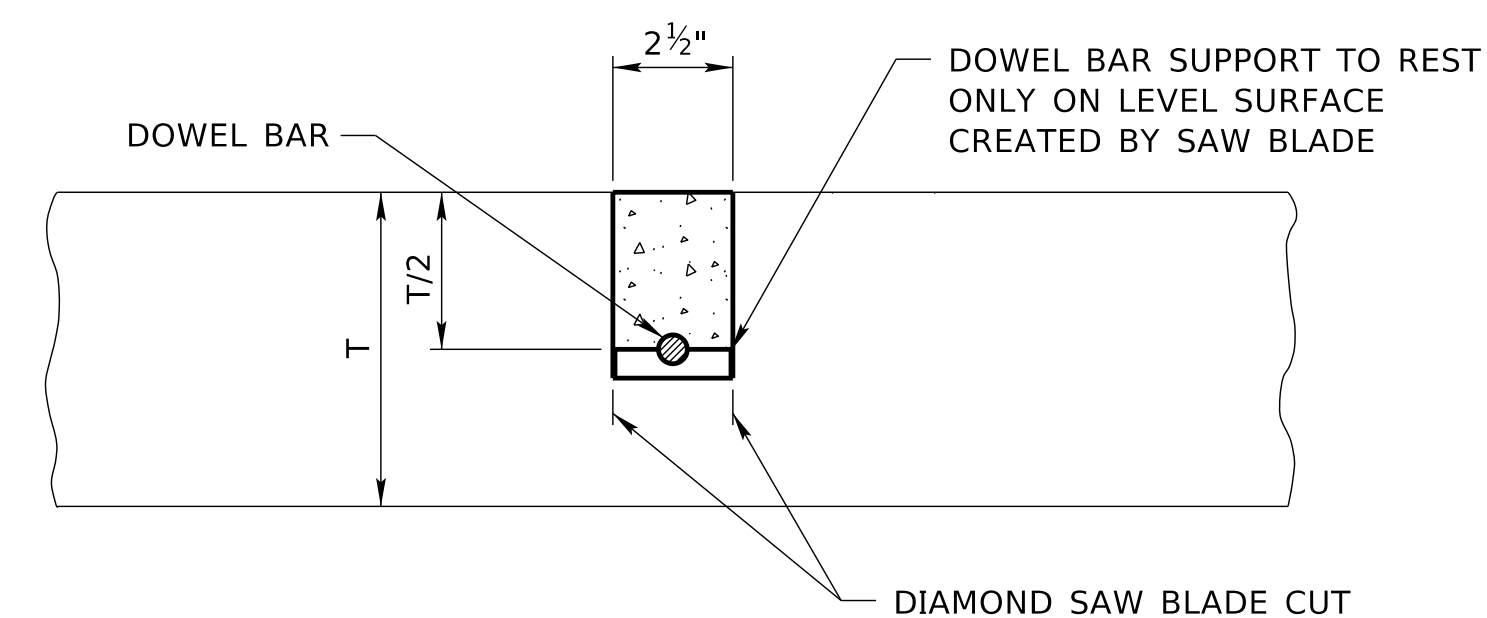
NOTE:  
THE 12'-0" DRIVING LANE WHERE THE DOWEL BAR RETROFIT  
IS PLACED SHALL BE SAWED AND SEALED ACCORDING TO THE  
TRANSVERSE JOINT DETAIL.



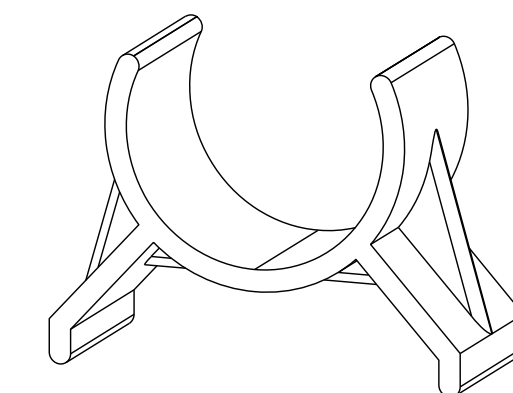
SECTION A-A



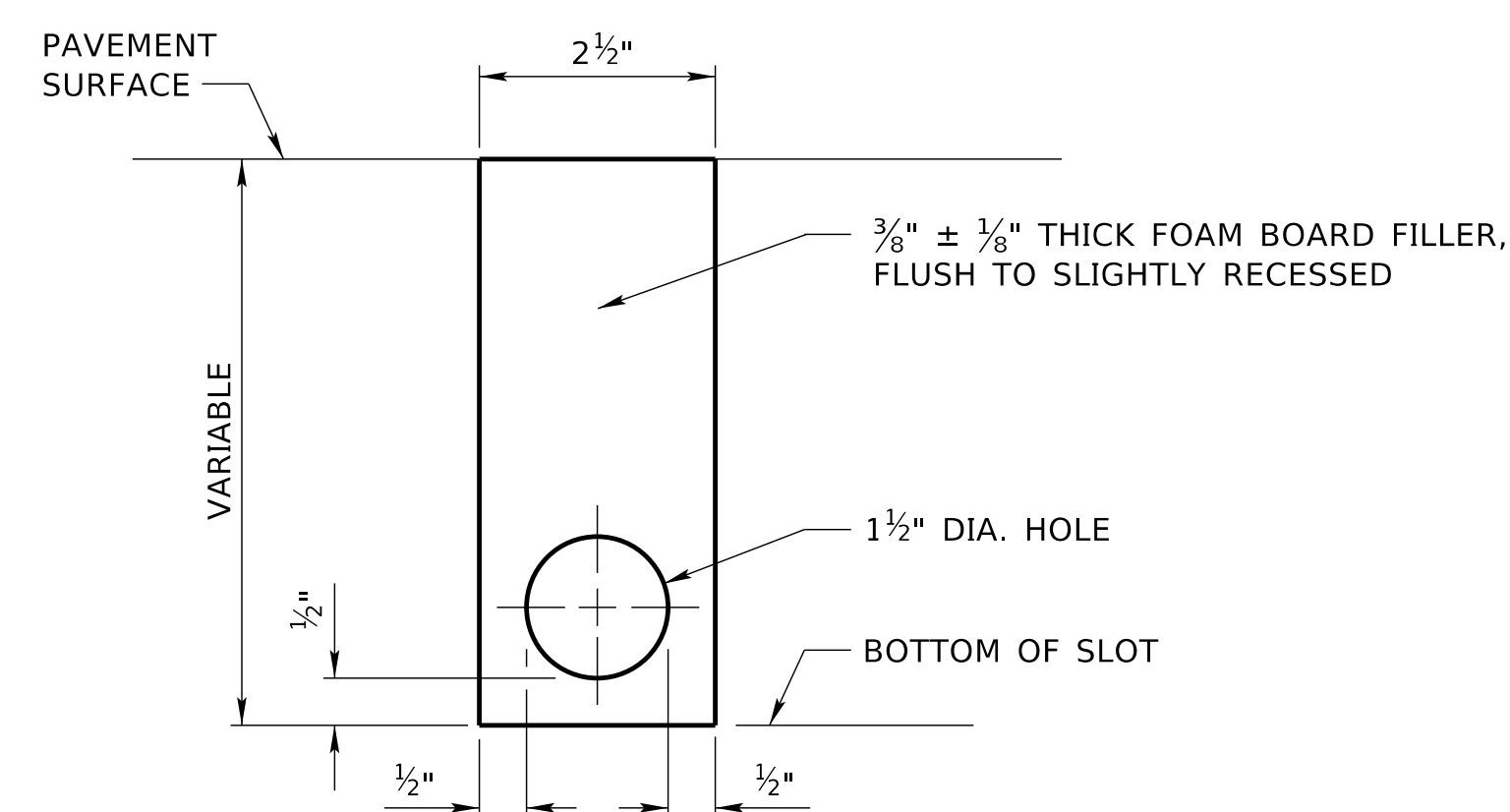
EXPANSION CAP



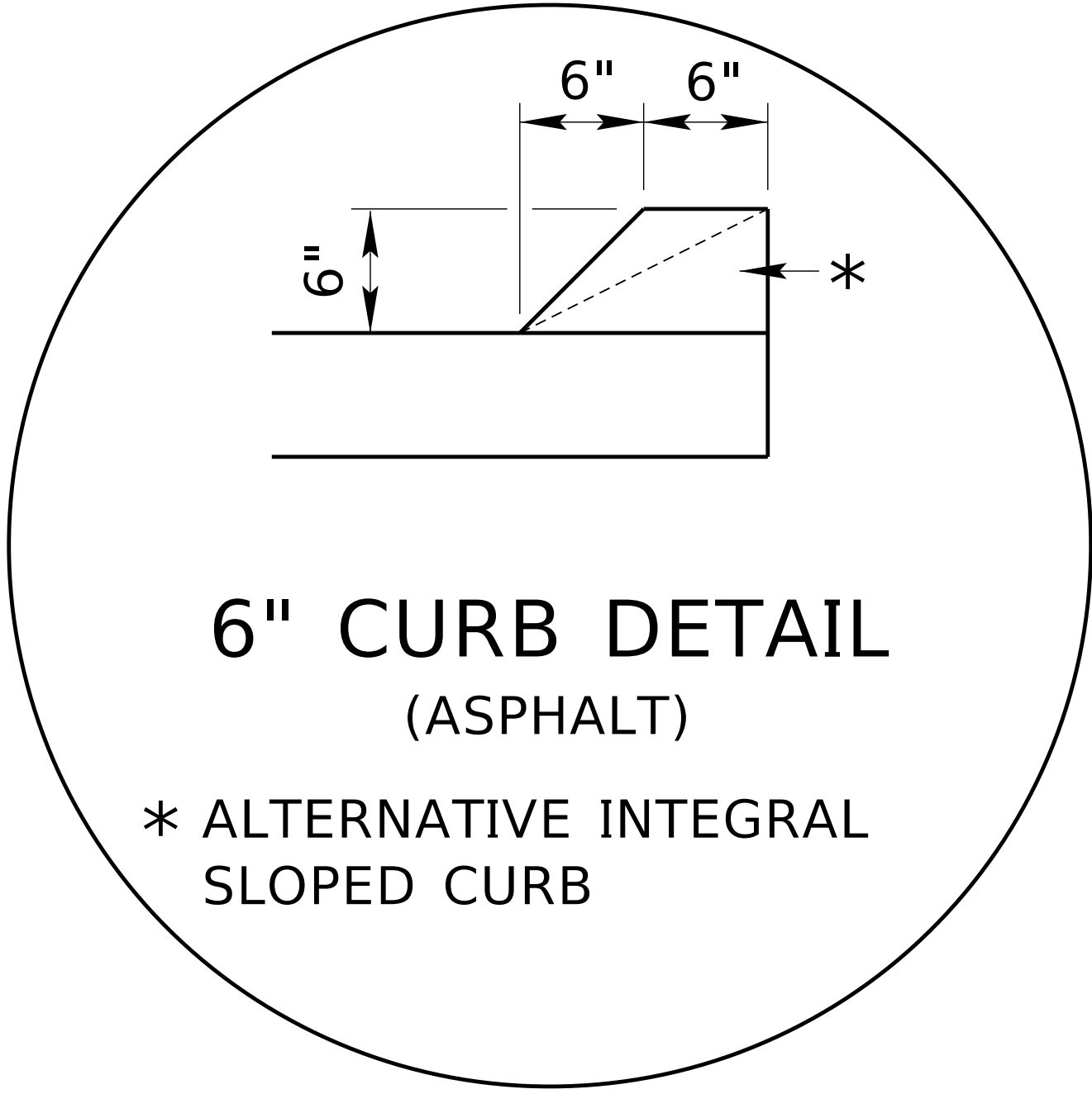
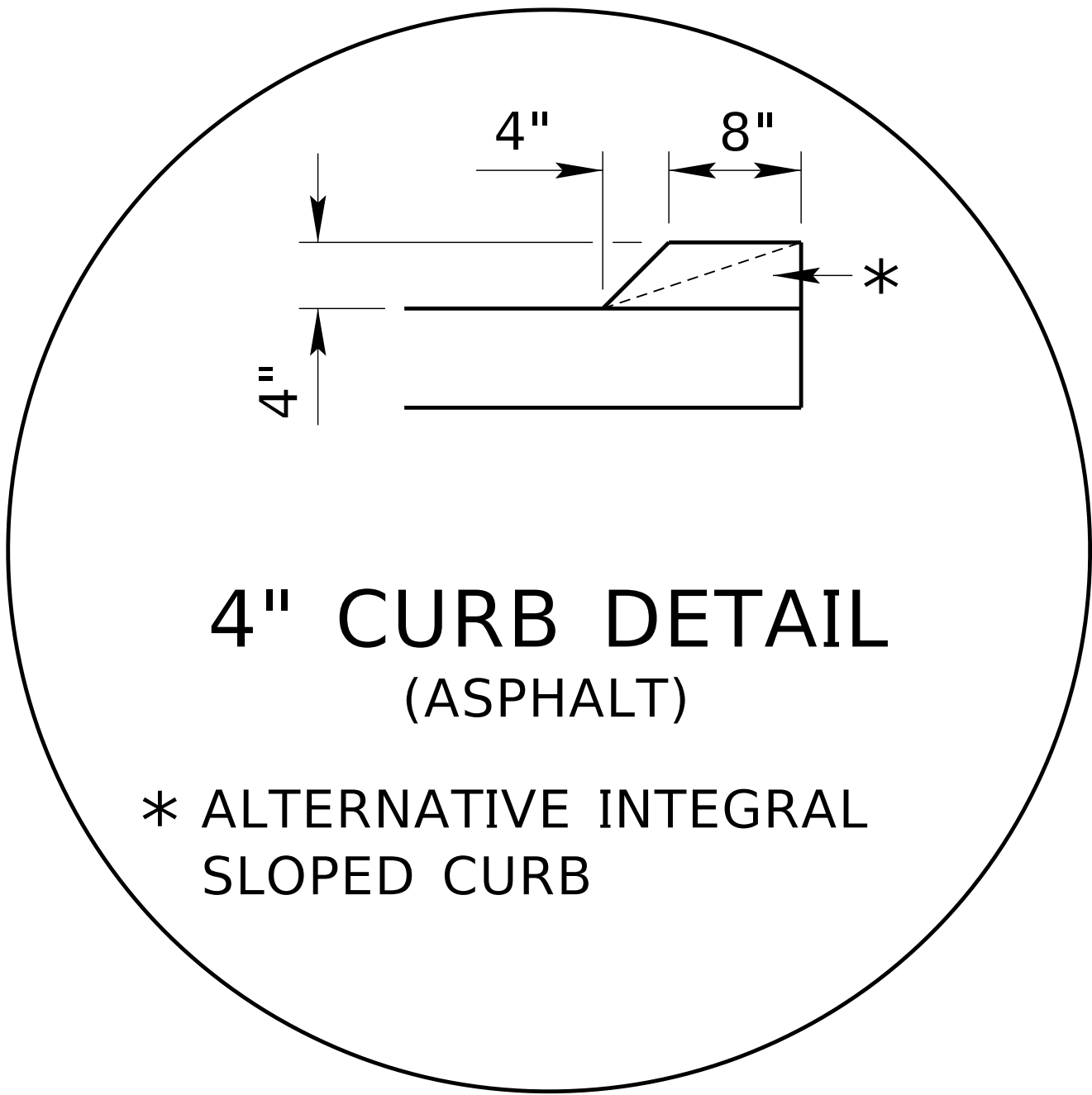
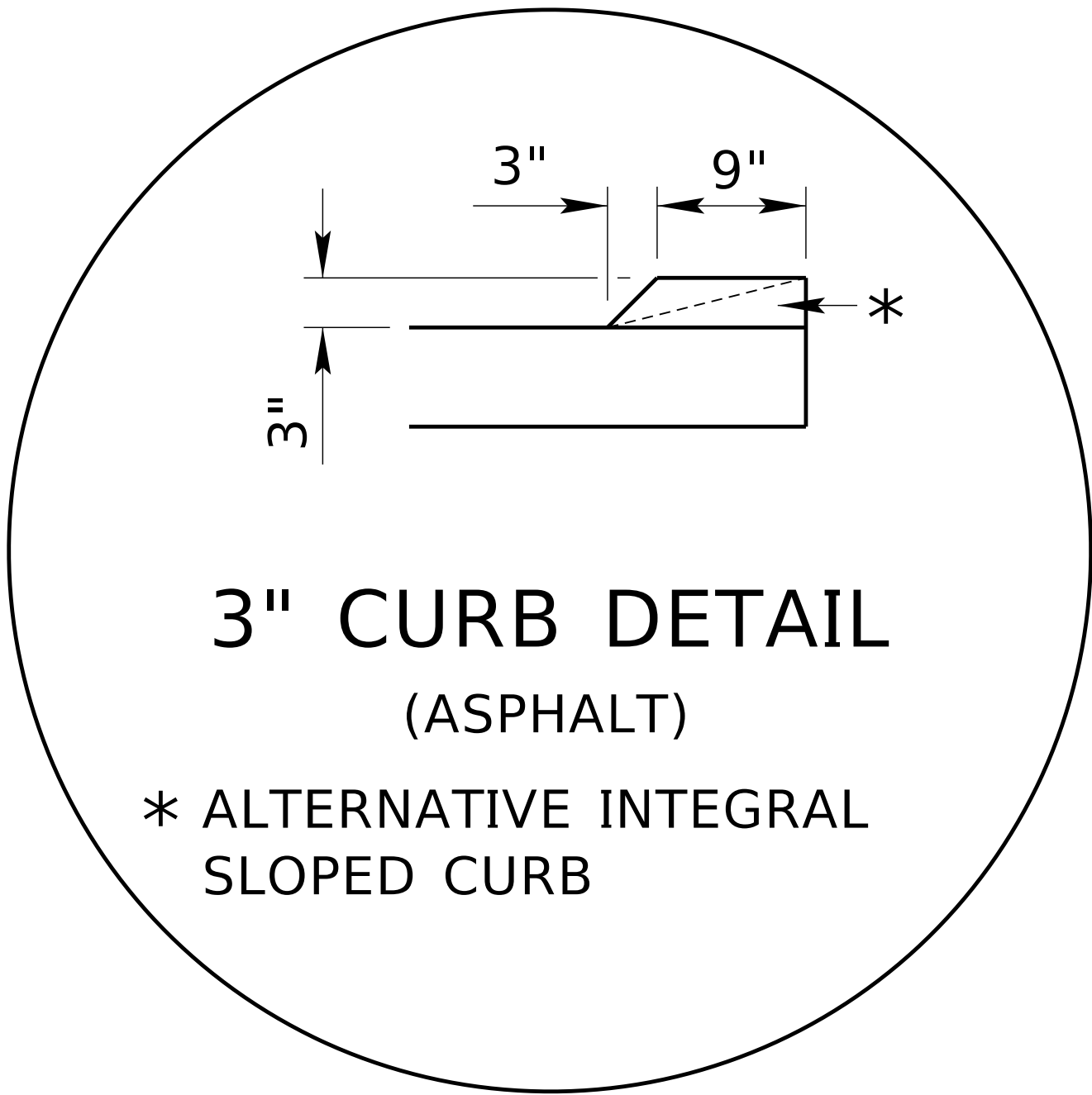
SECTION B-B

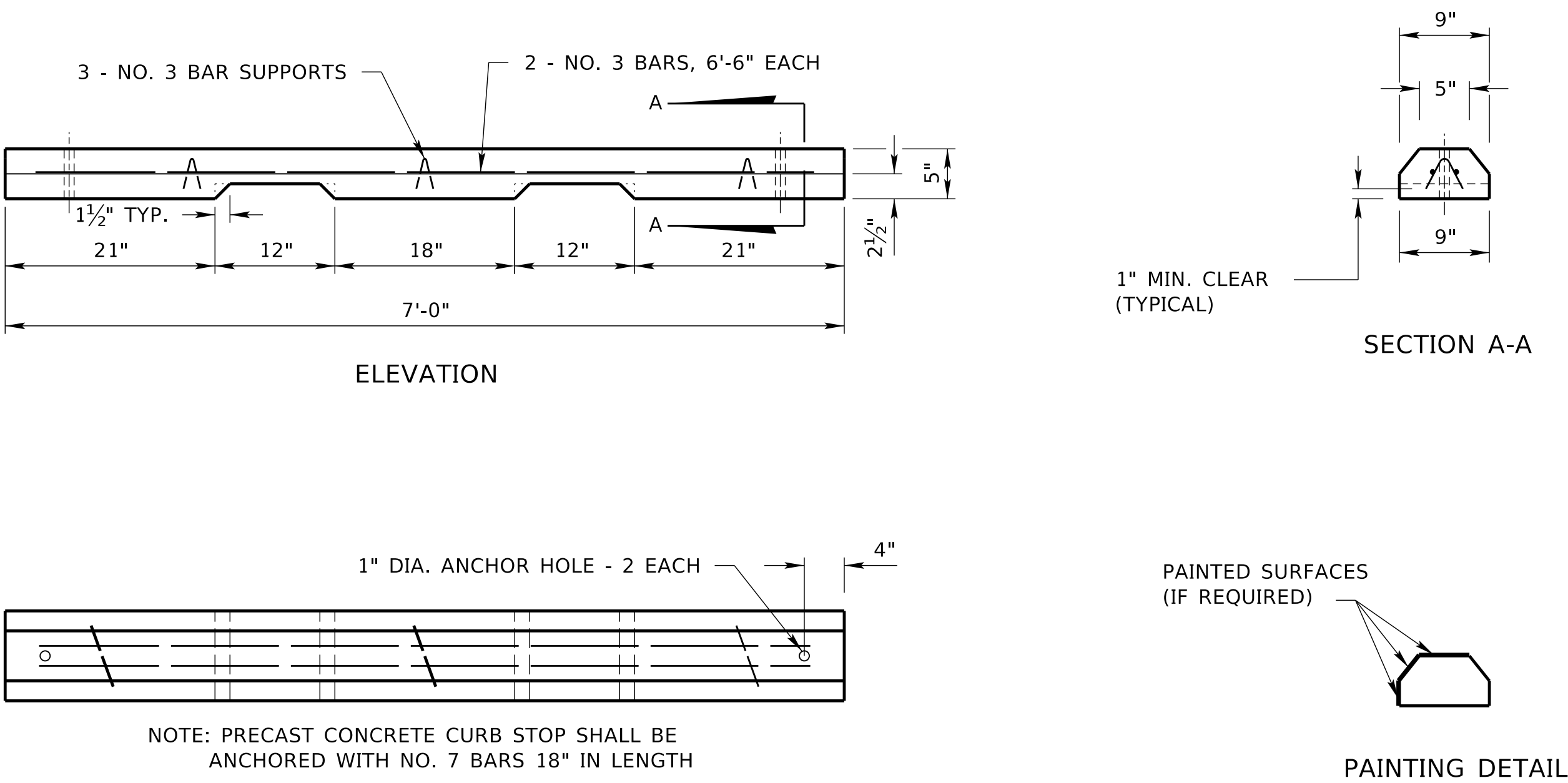


DOWEL BAR SUPPORT (CHAIR)

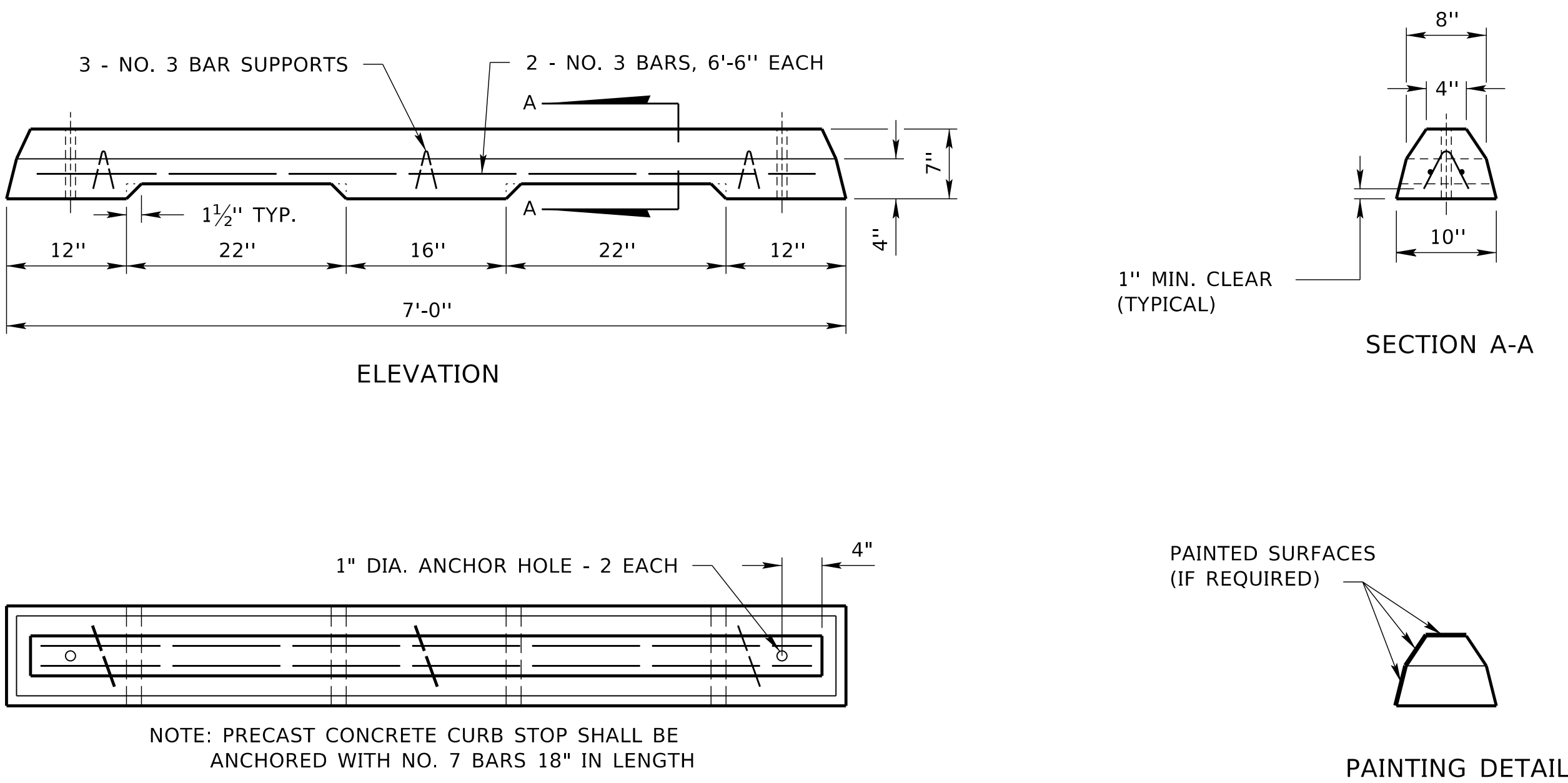


### FOAM BOARD FILLER DETAIL



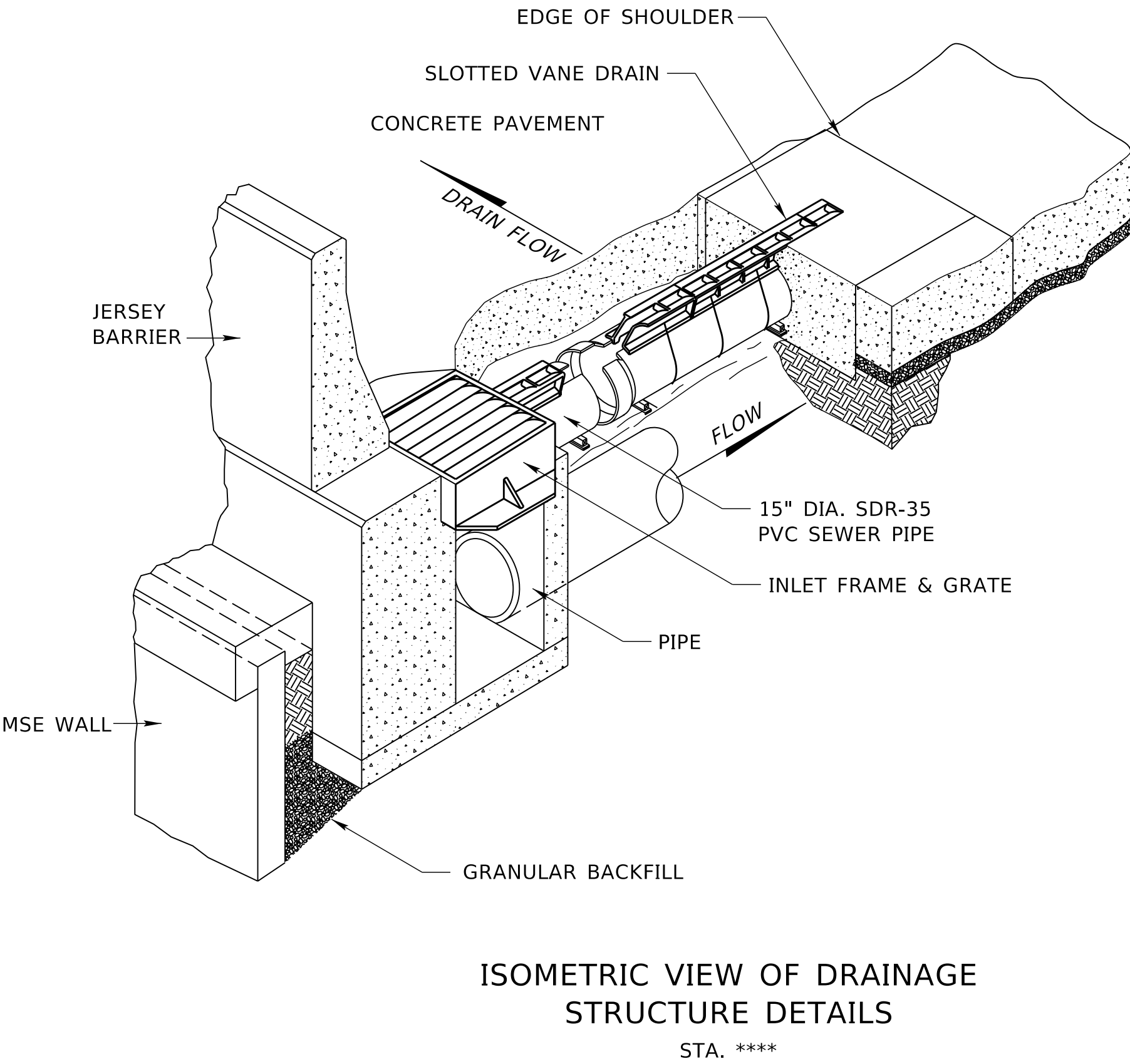
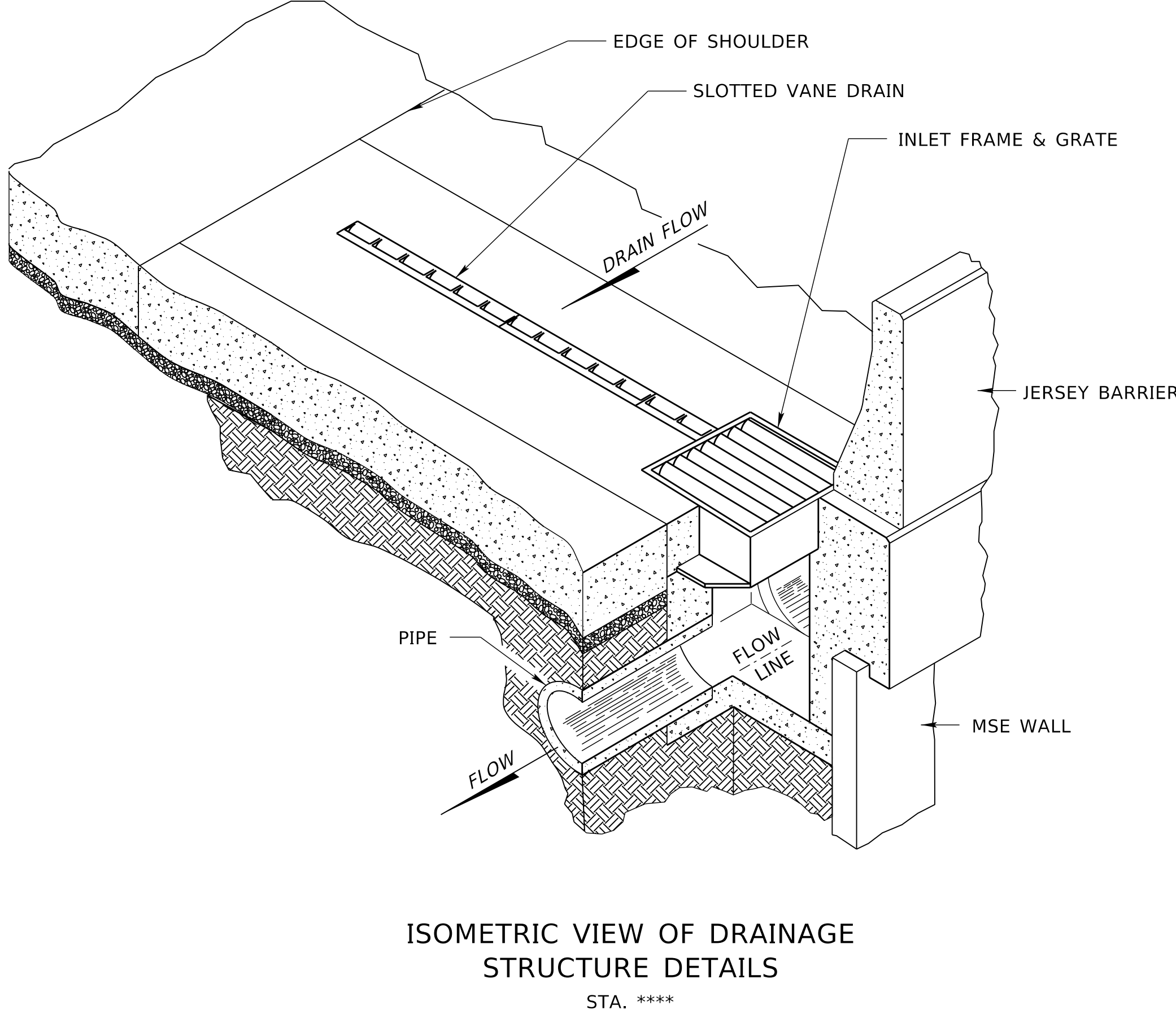
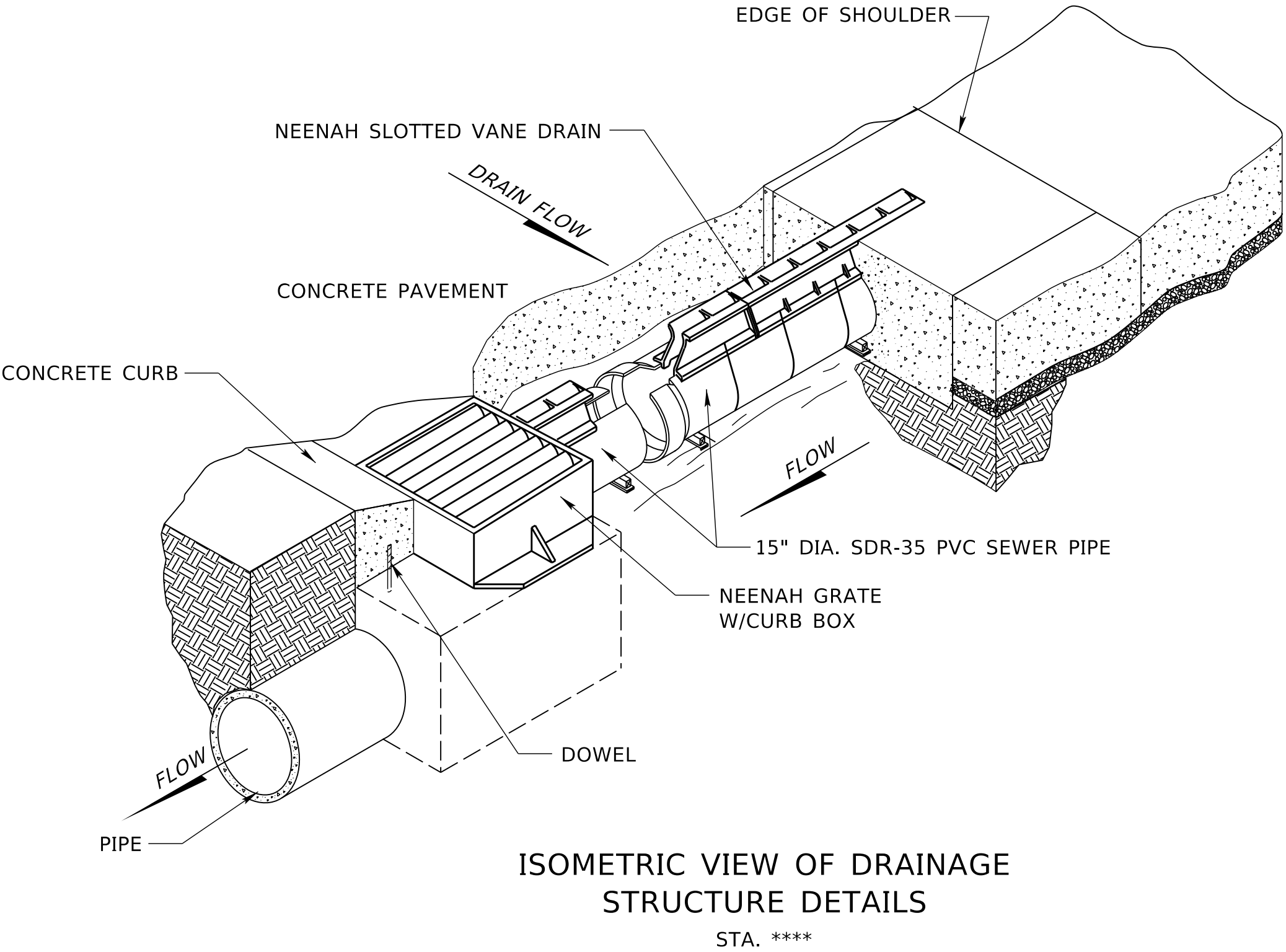
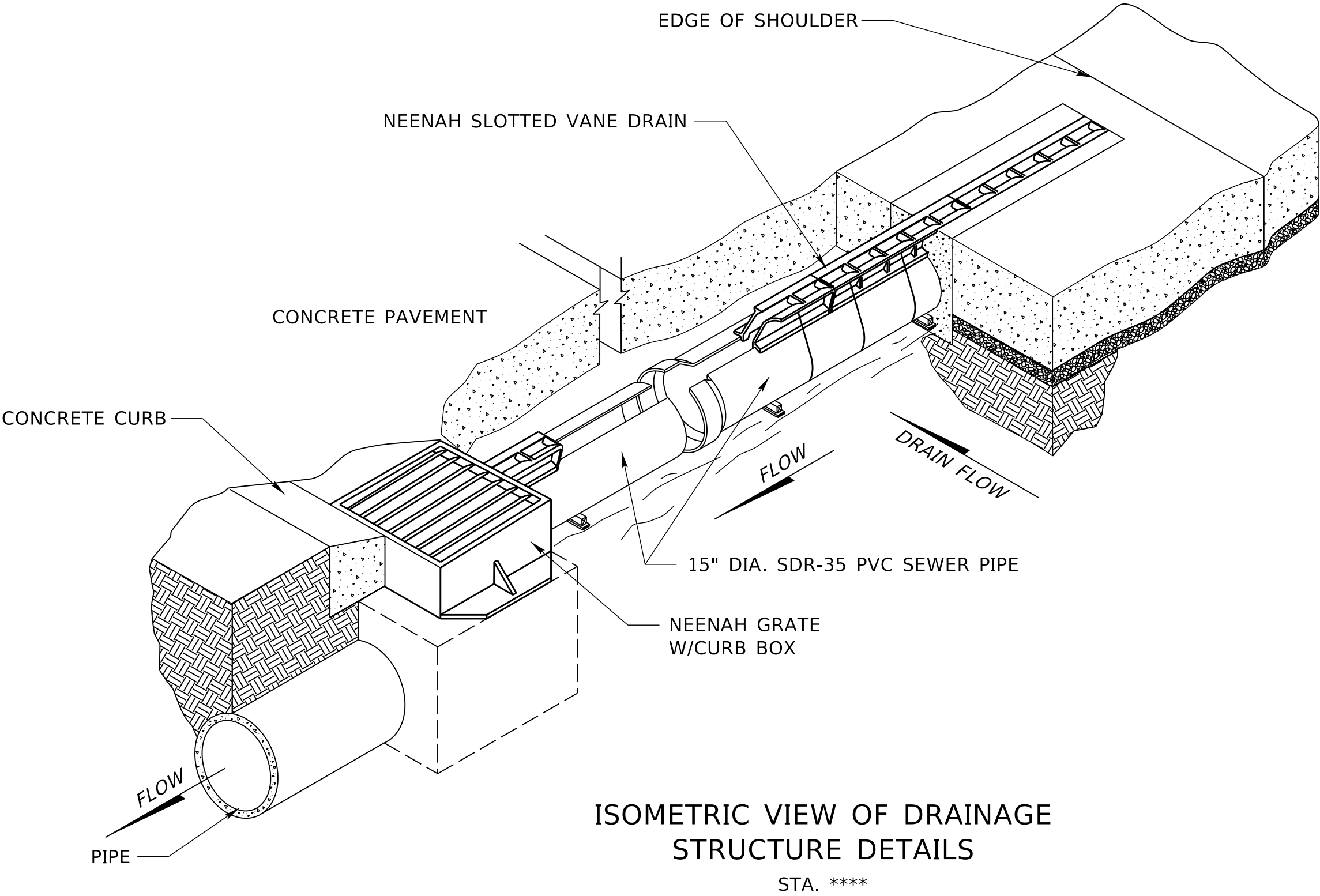


DETAIL OF 5" PRECAST CONCRETE CURB STOP



DETAIL OF 7" PRECAST CONCRETE CURB STOP

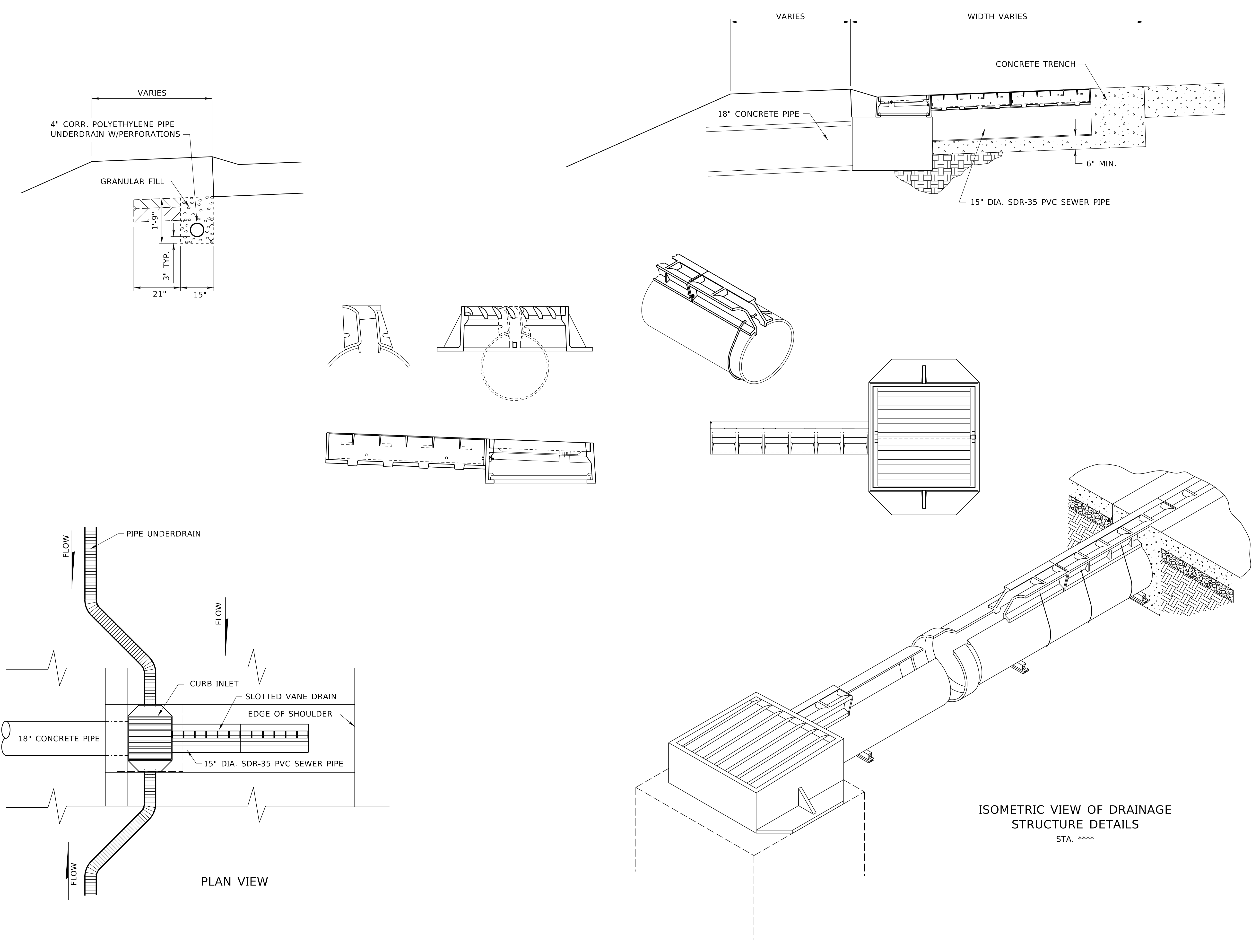
DETAIL OF PRECAST CONCRETE CURB STOP  
STANDARD DETAIL

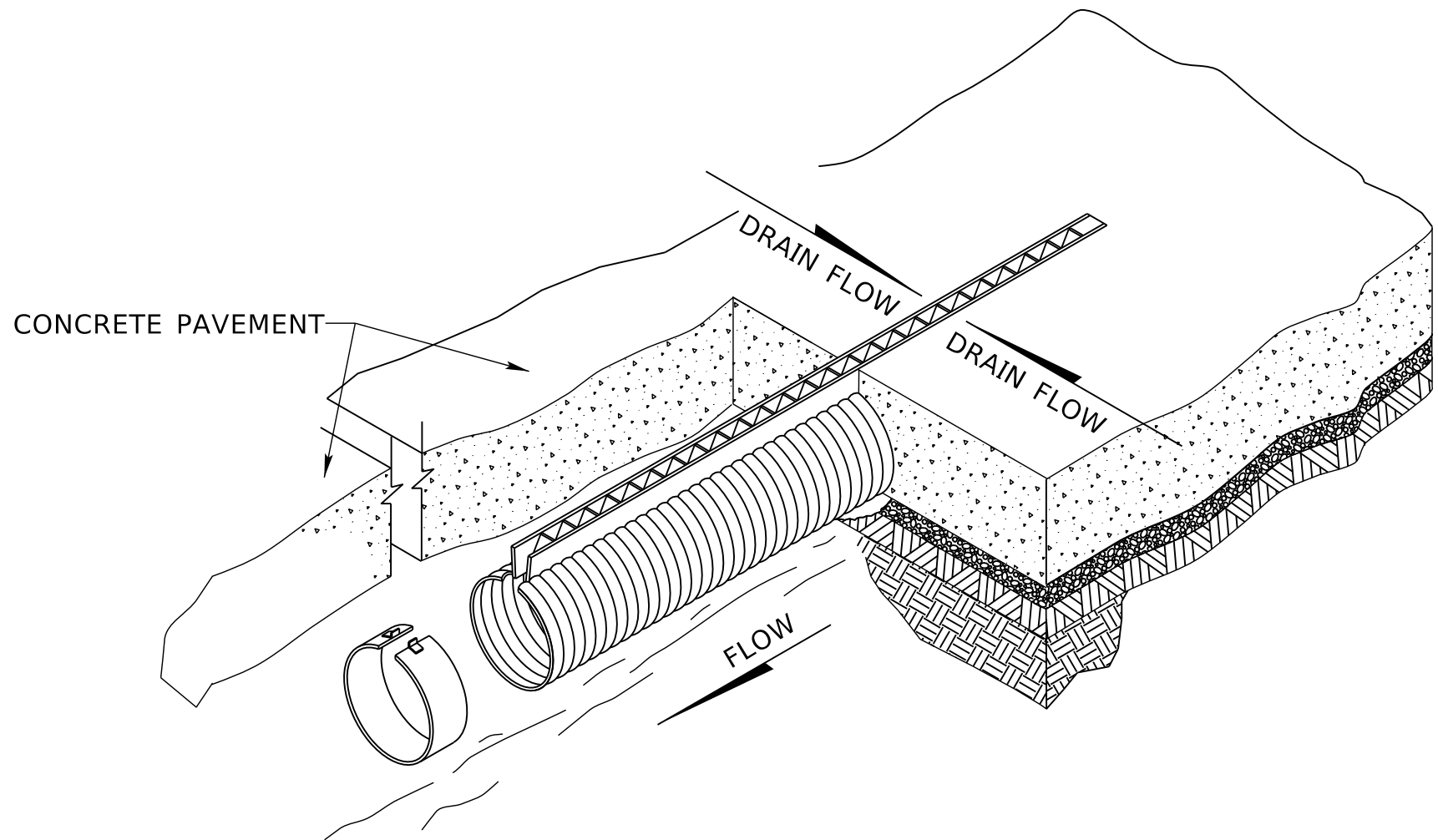


SLOTTED PIPE DETAIL  
STANDARD DETAIL

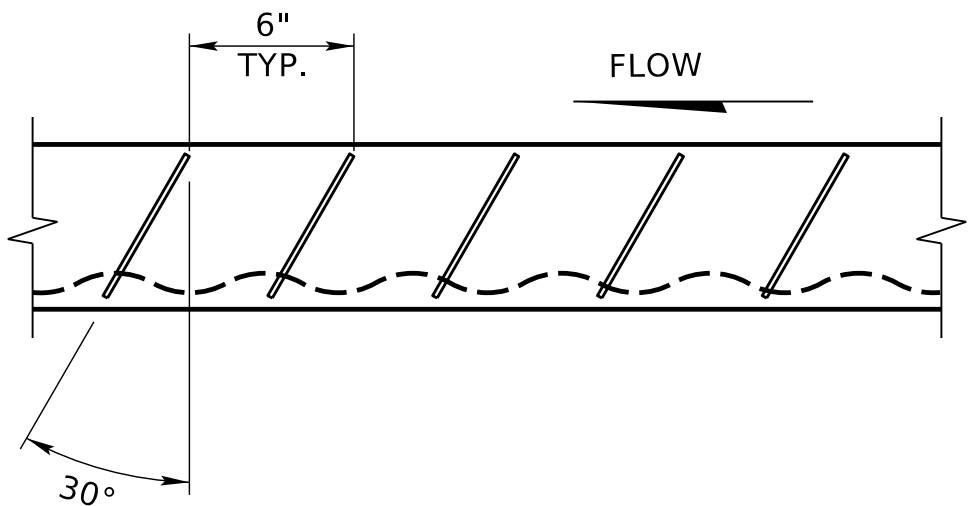
NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway  
Design  
Division

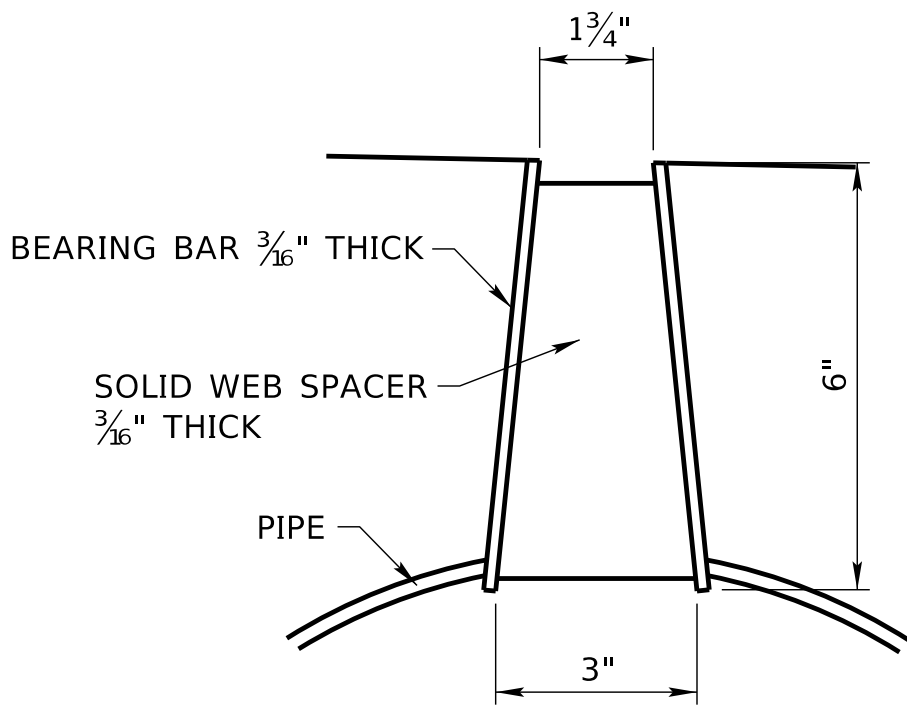




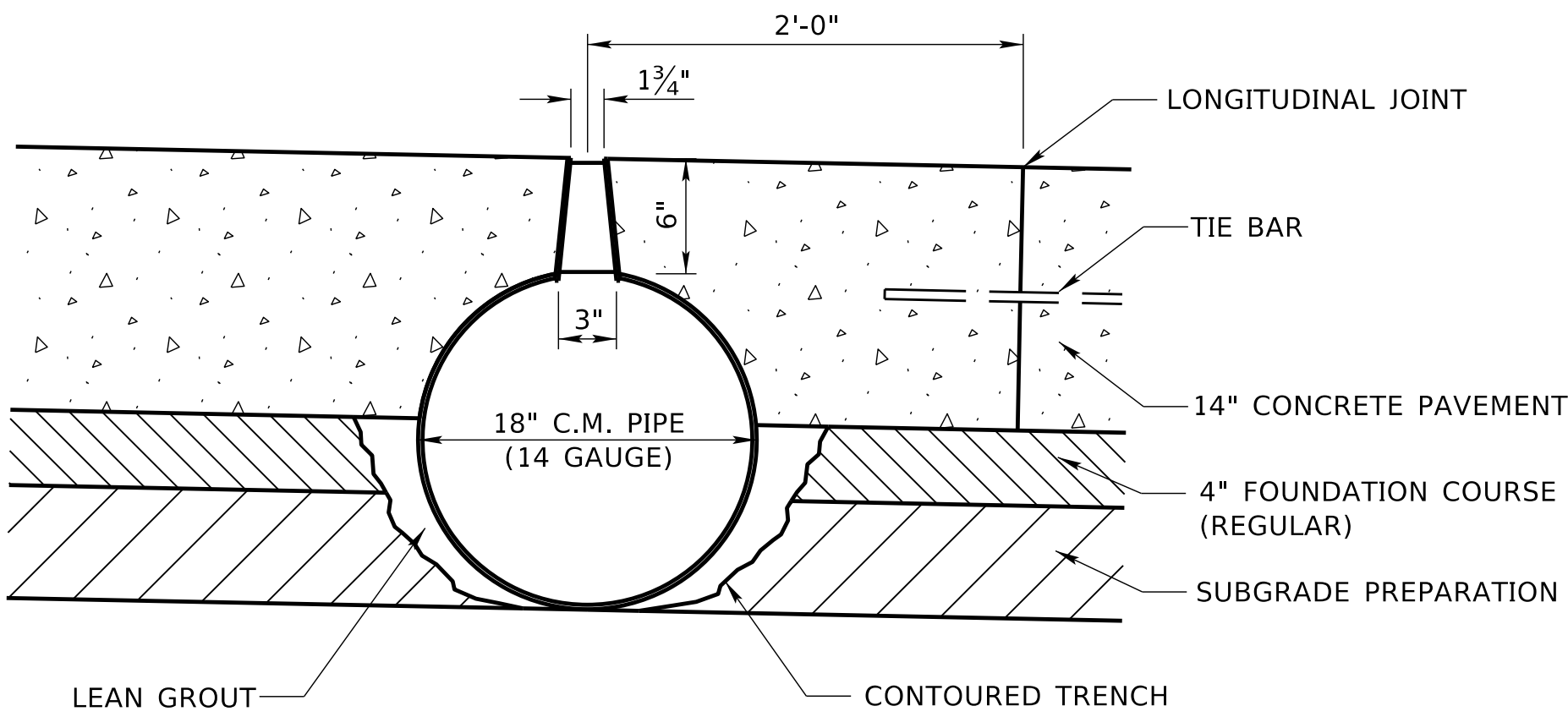
ISOMETRIC VIEW OF DRAINAGE  
STRUCTURE DETAILS  
STA. \*\*\*\*



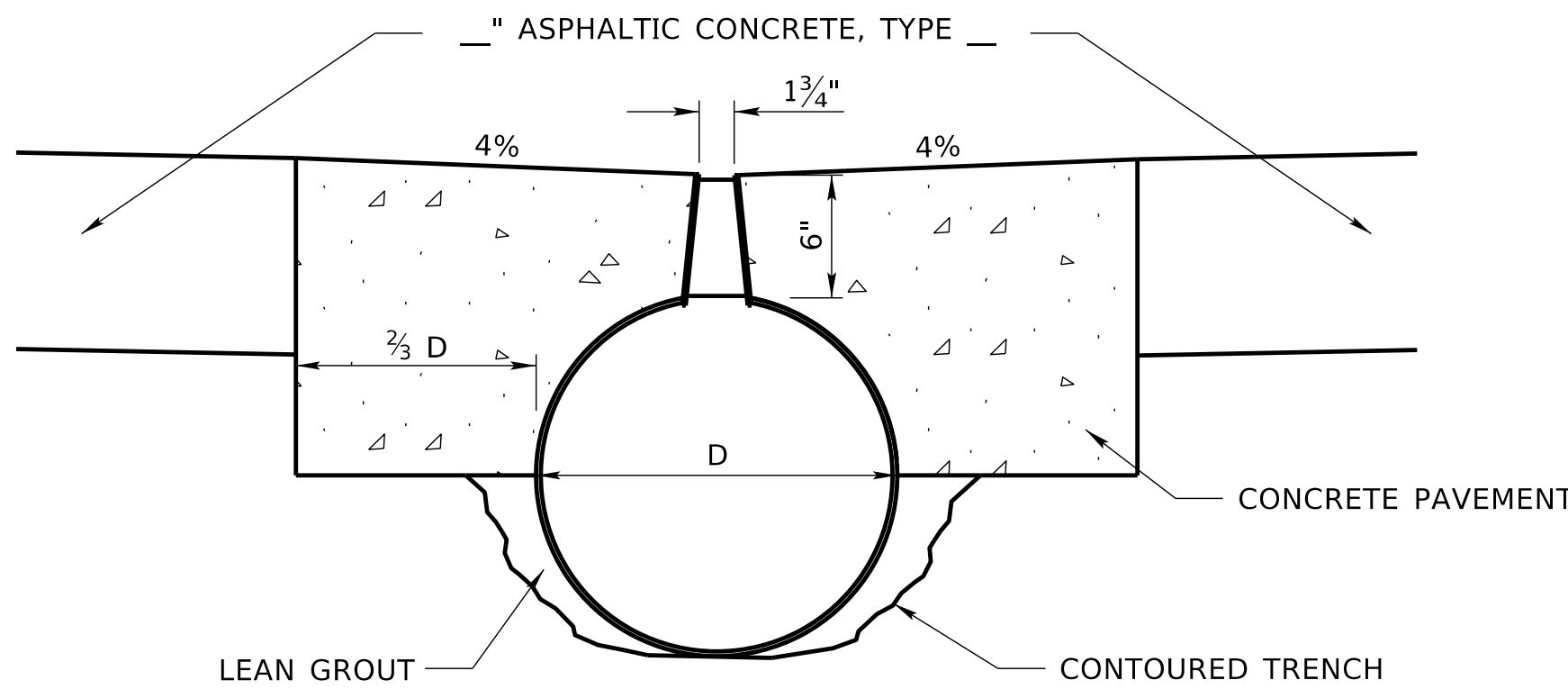
LONGITUDINAL SECTION  
(THRU SLOT)



GRATE DETAIL



CORRUGATED METAL SLOTTED PIPE DETAIL  
(CONCRETE PAVEMENT APPLICATION)



CORRUGATED METAL SLOTTED PIPE DETAIL  
(ASPHALTIC CONCRETE PAVEMENT APPLICATION)

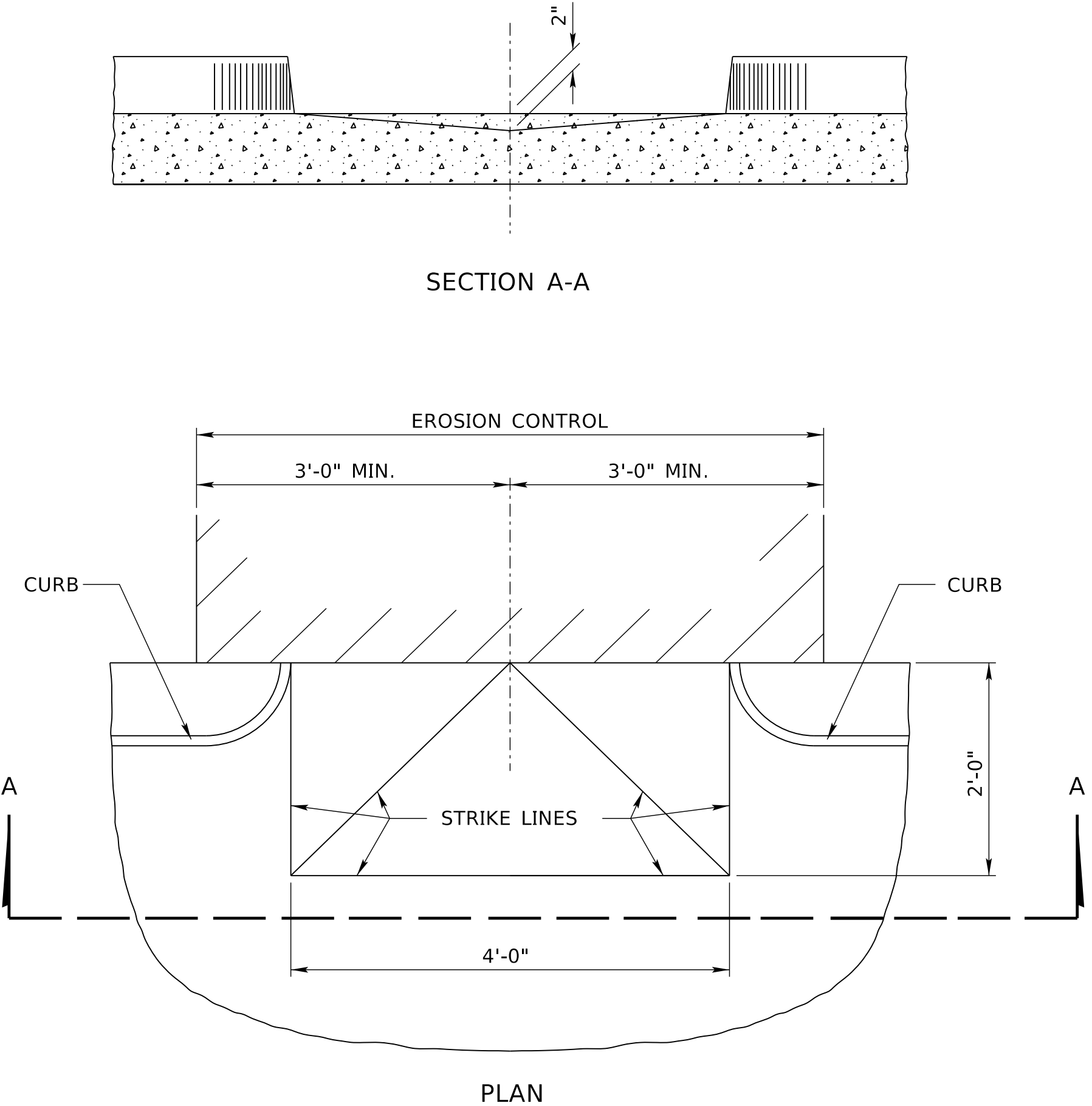
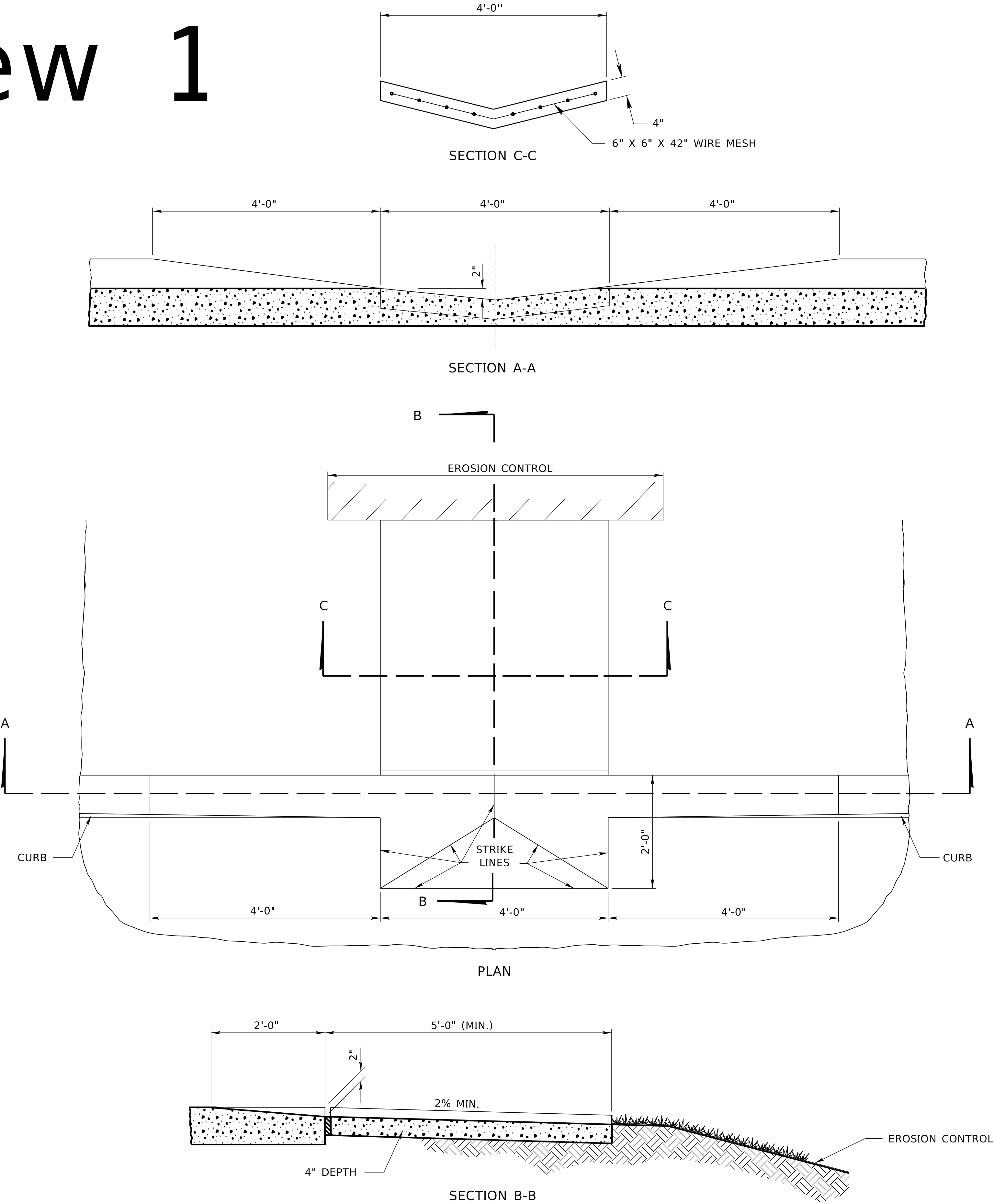
SLOTTED PIPE DETAIL  
STANDARD DETAIL

NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway  
Design  
Division



# View 1

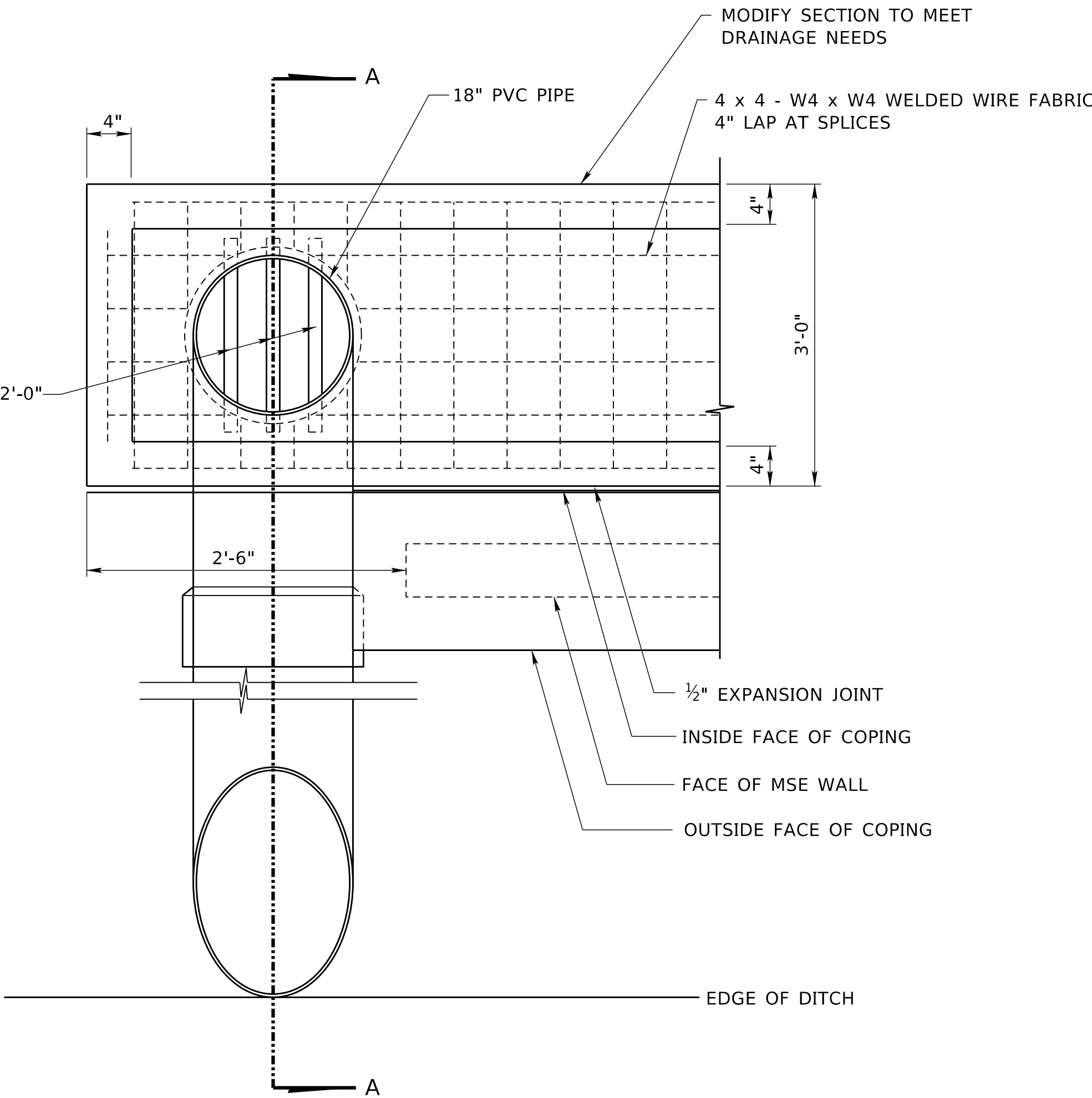


# View 2

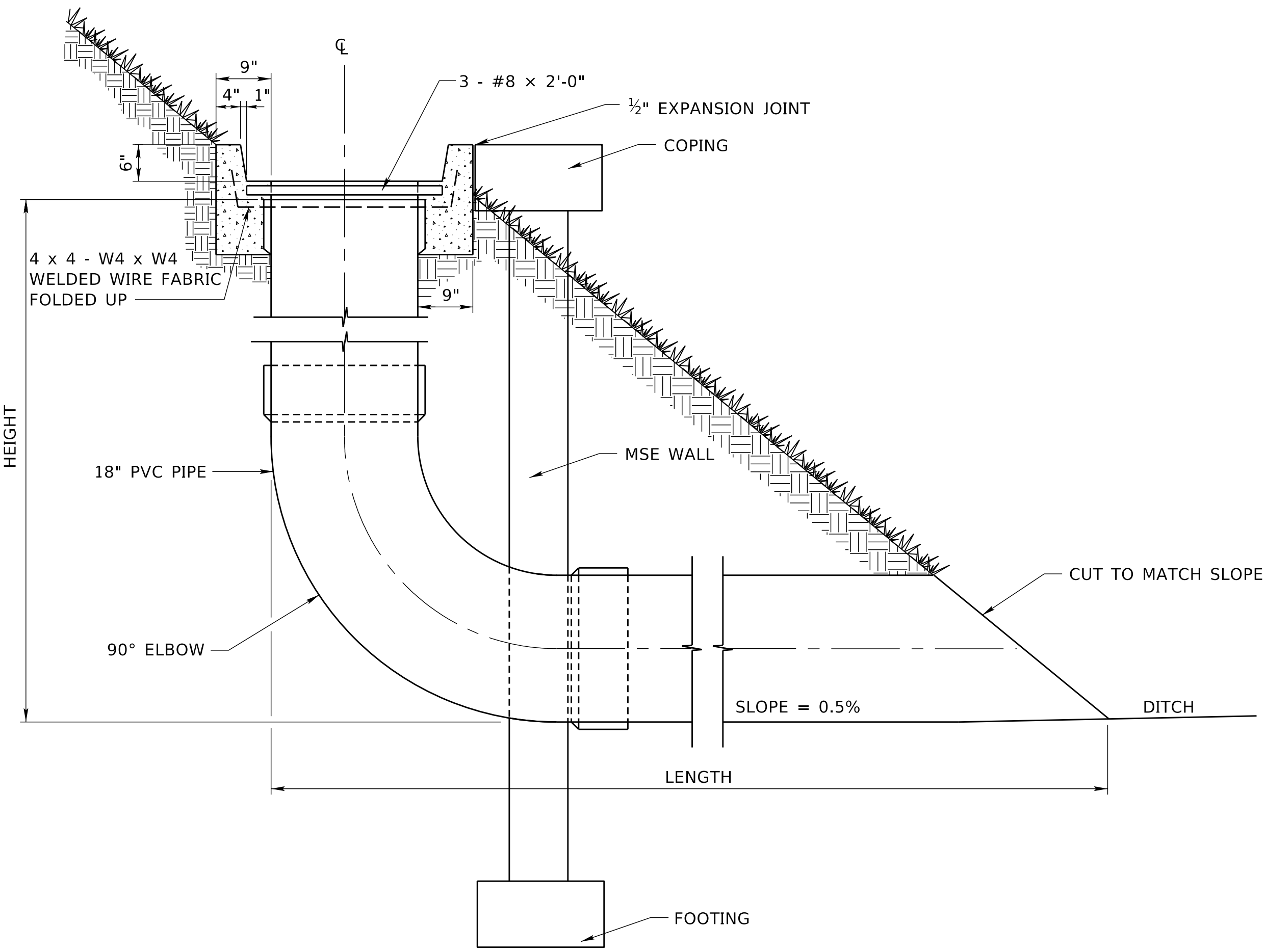
1 OF 1
Project Number
C.N.
DETAILS FOR DROP CURB FOR DRAINAGE STANDARD DETAIL
<div>NEBRASKA Good Life. Great Journey. DEPARTMENT OF TRANSPORTATION</div>
Roadway Design Division

COMPUTER: BG0419M187  
DATE: 10-SEP-2024 11:21  
FILE: 4340 5 R1.dgn

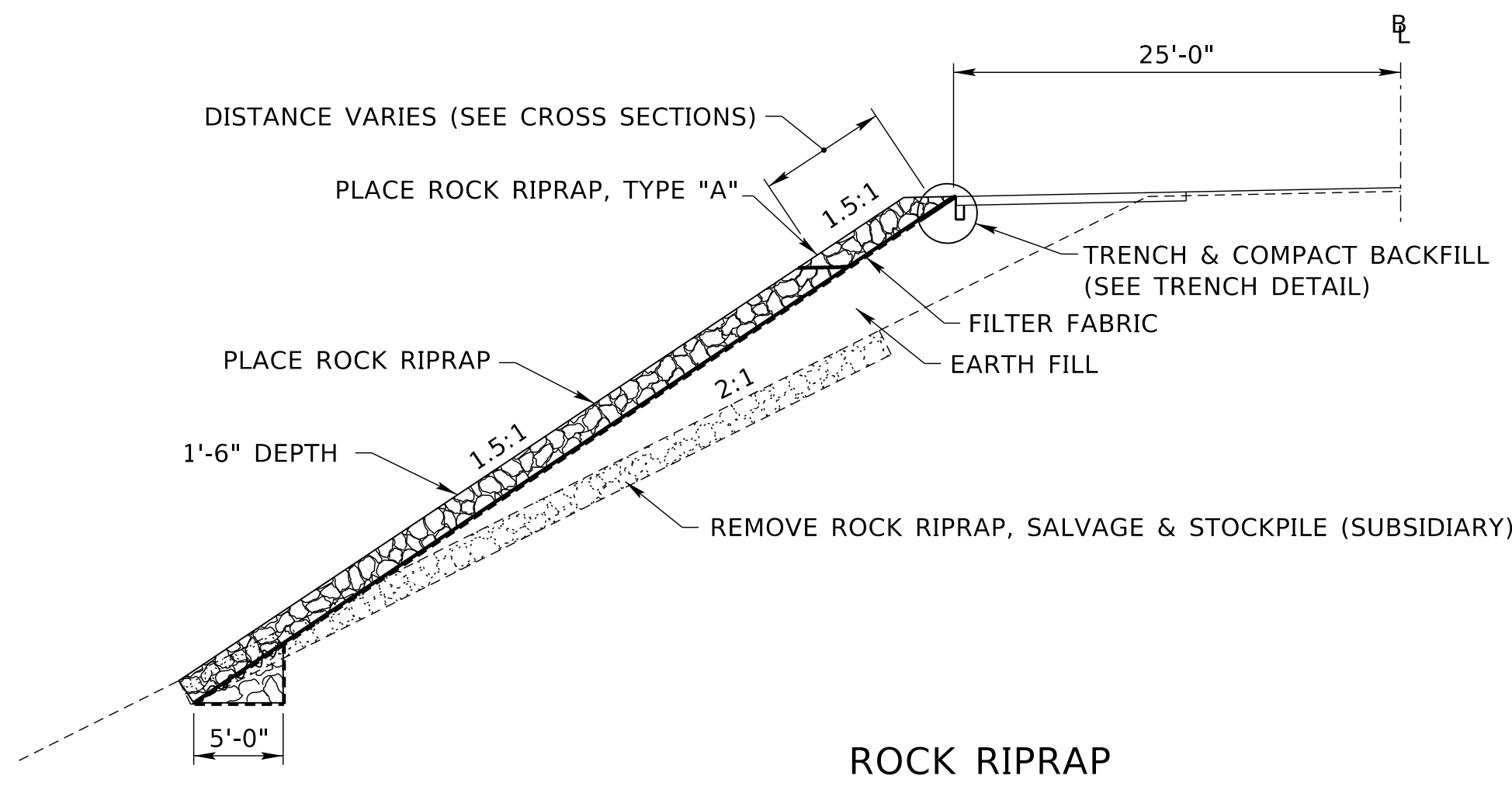




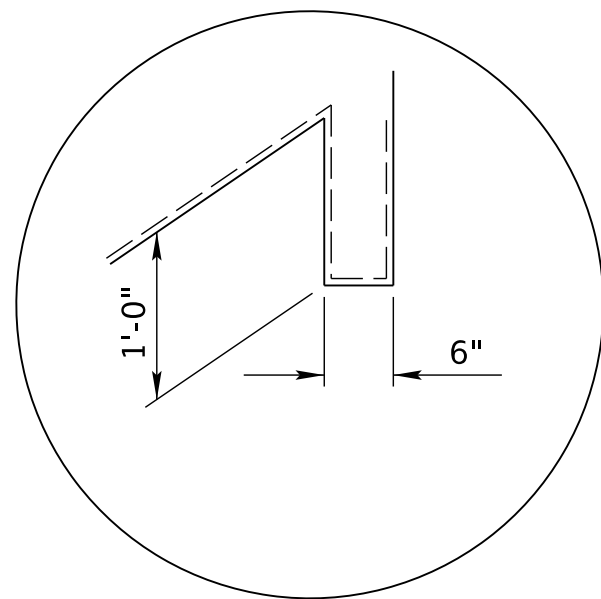
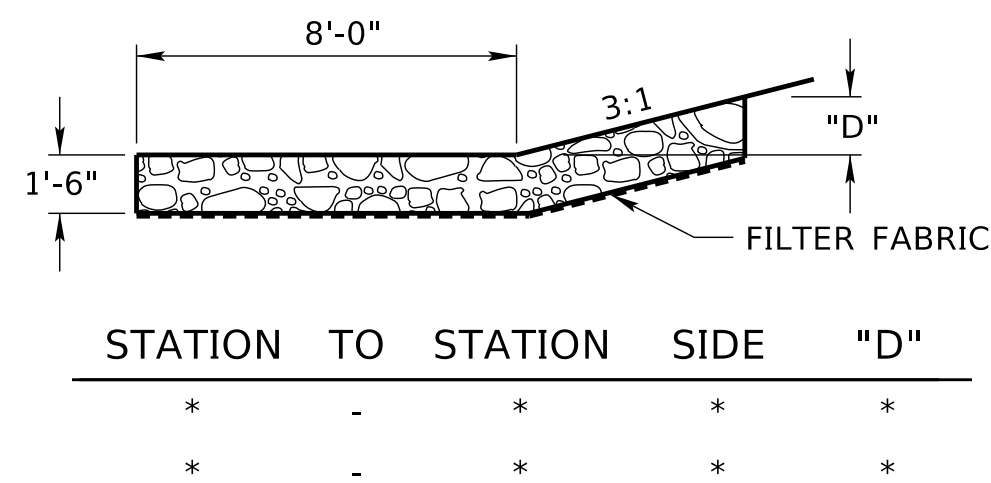
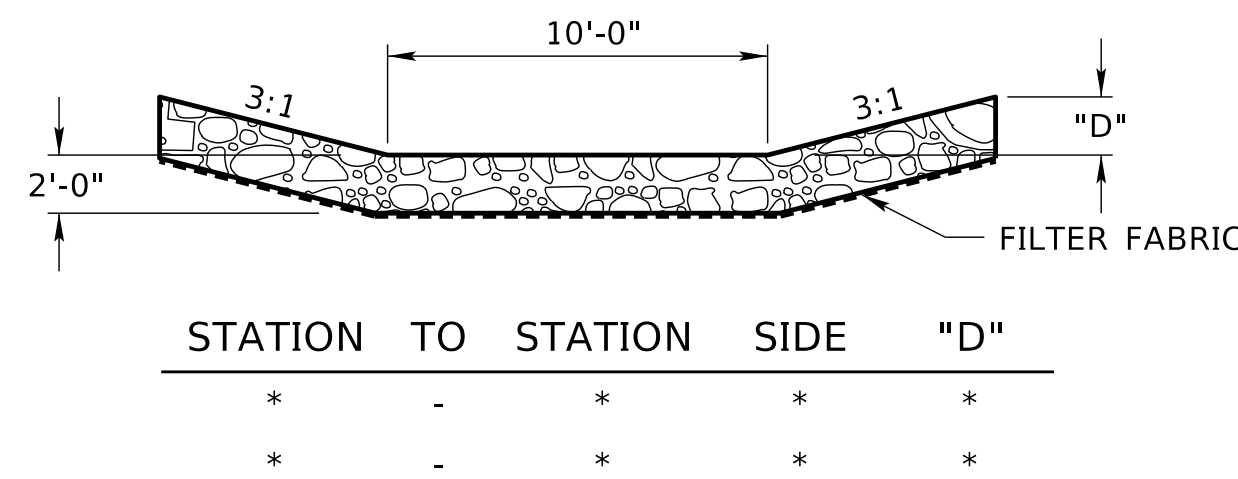
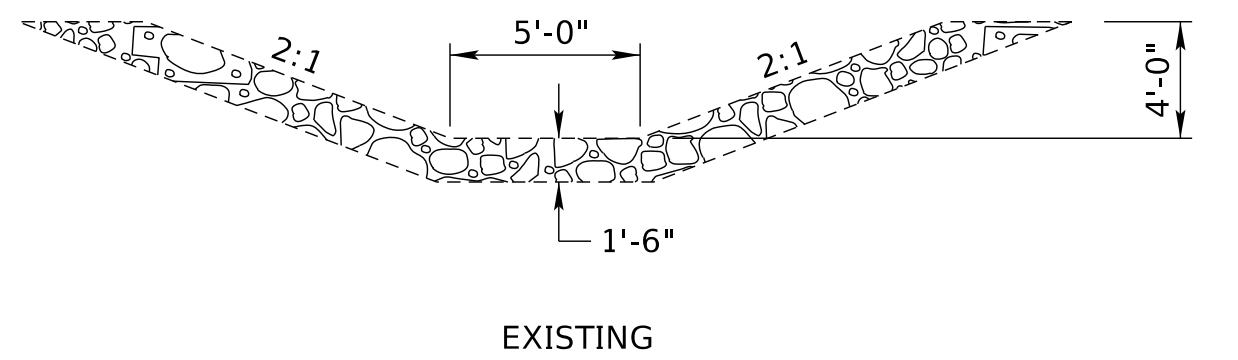
CONCRETE FLUME AT END OF MSE WALL DETAIL



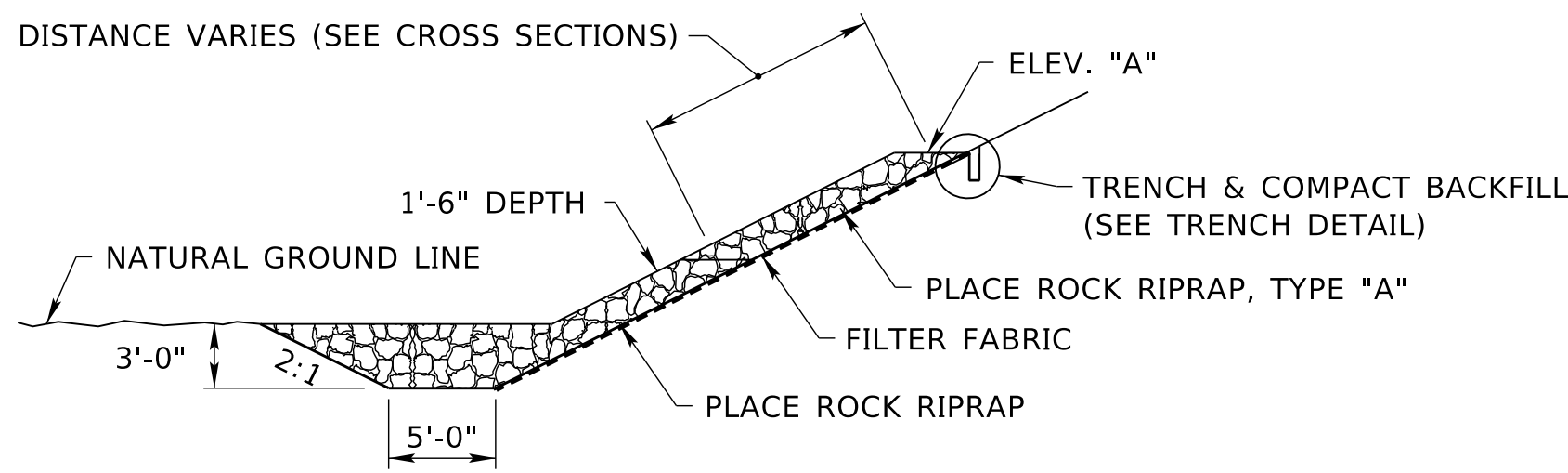
CONCRETE FLUME SECTION A-A



ROCK RIPRAP

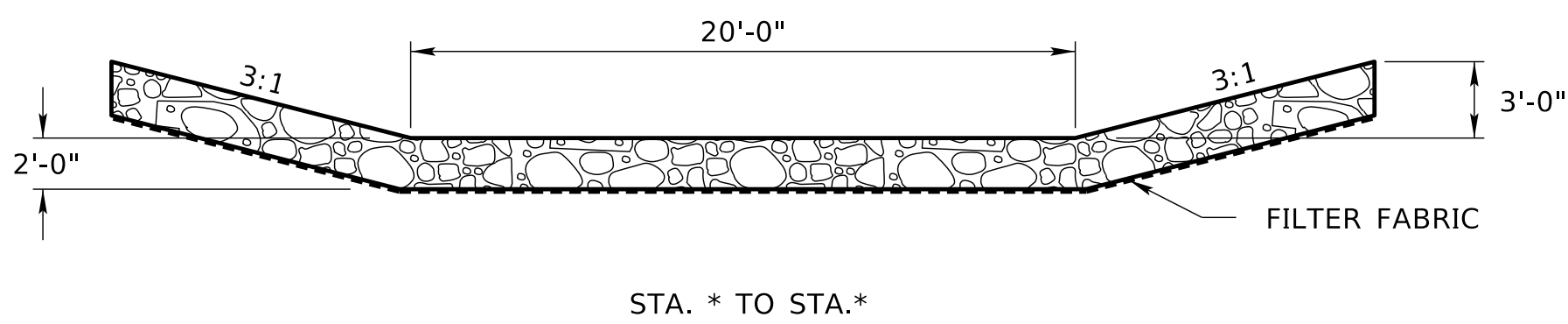
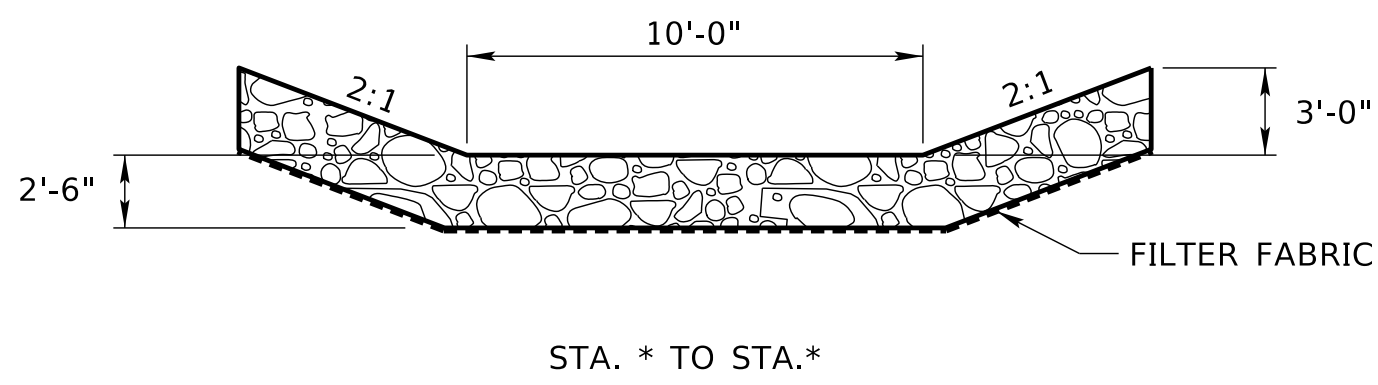
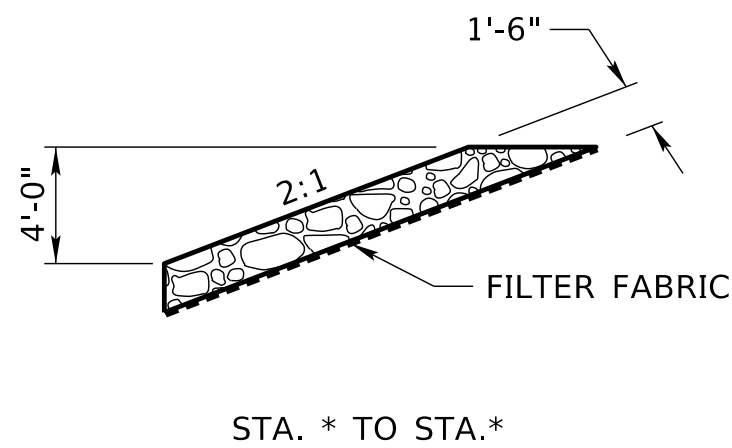


TRENCH DETAIL



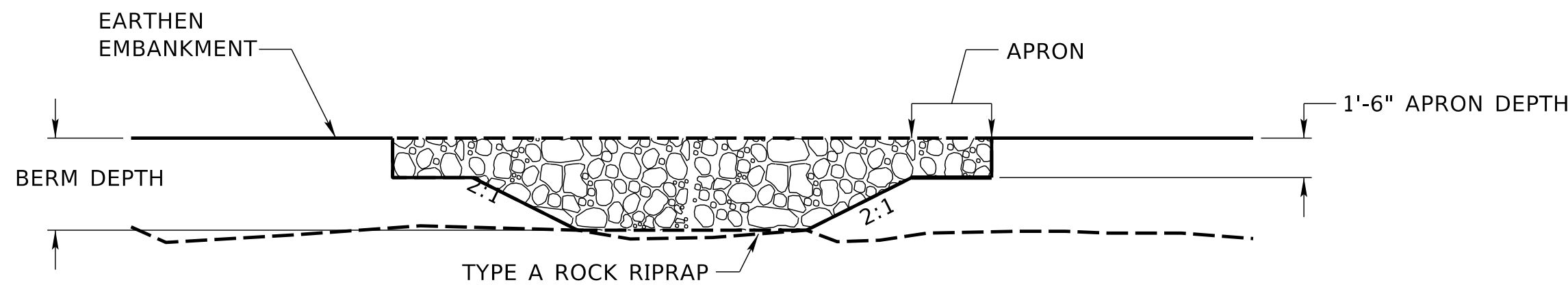
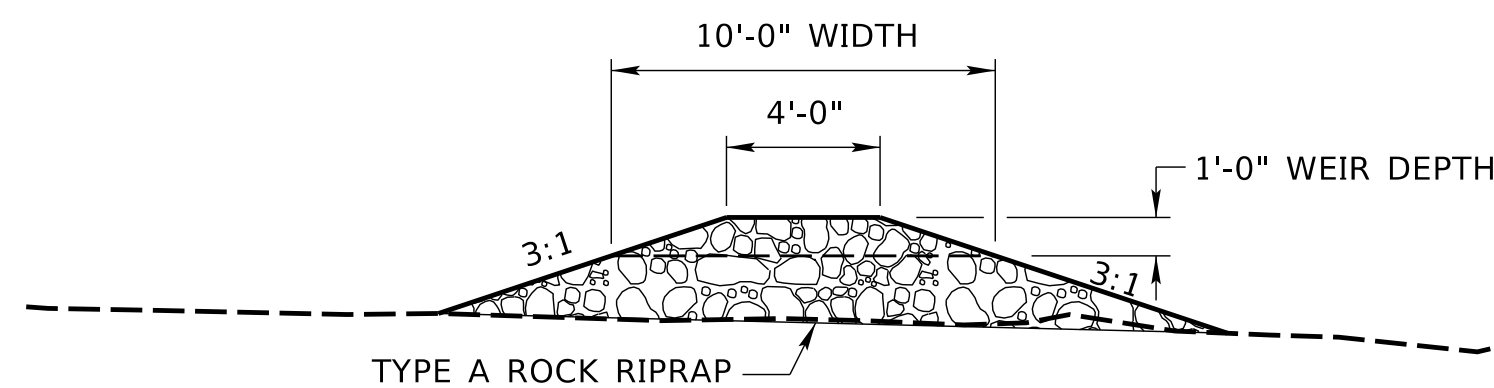
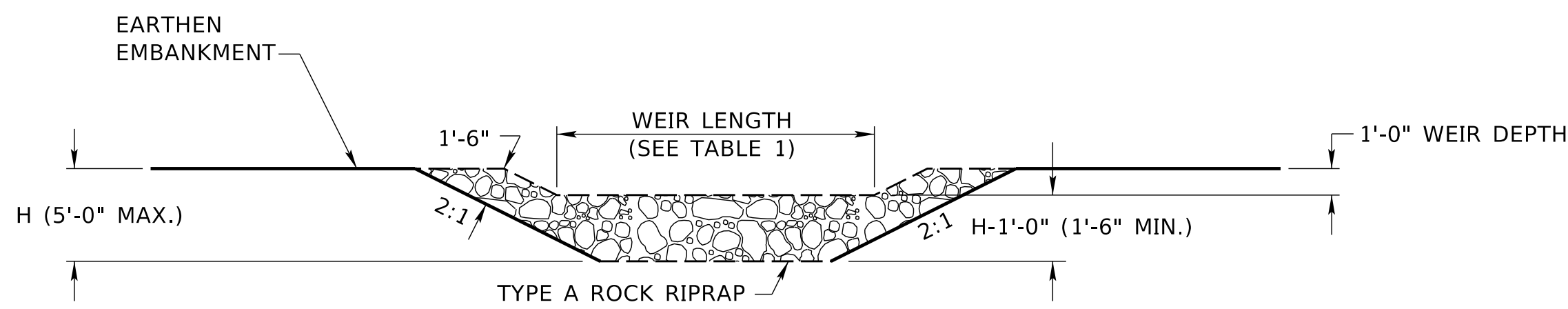
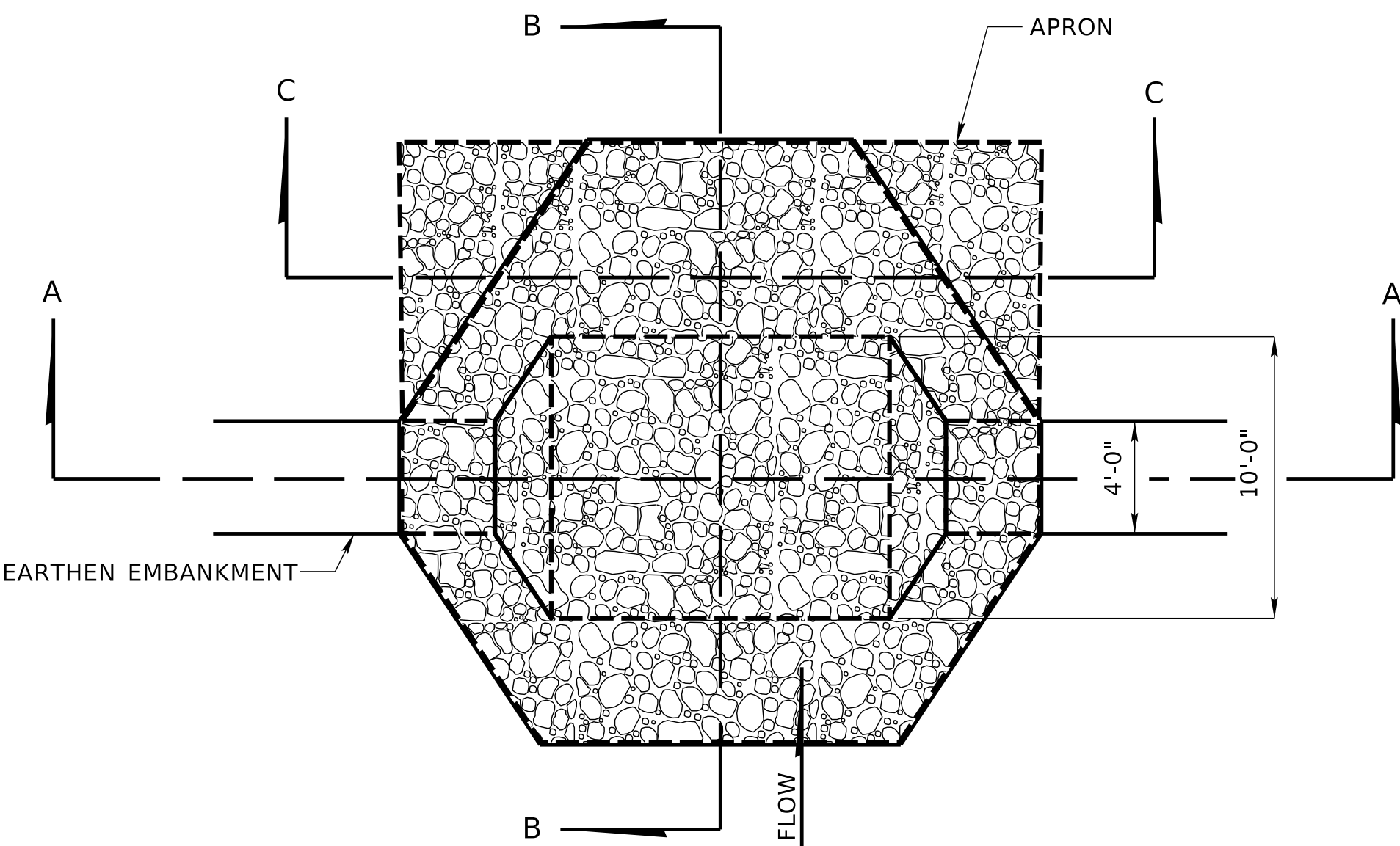
ROCK RIPRAP

STATION	TO	STATION	SIDE	ELEV. "A"
*	-	*	*	*
*	-	*	*	*



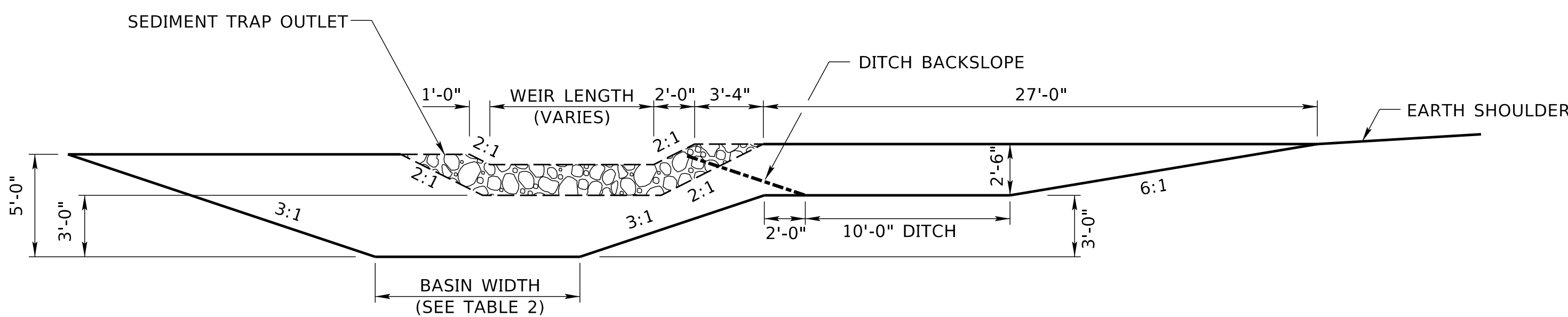
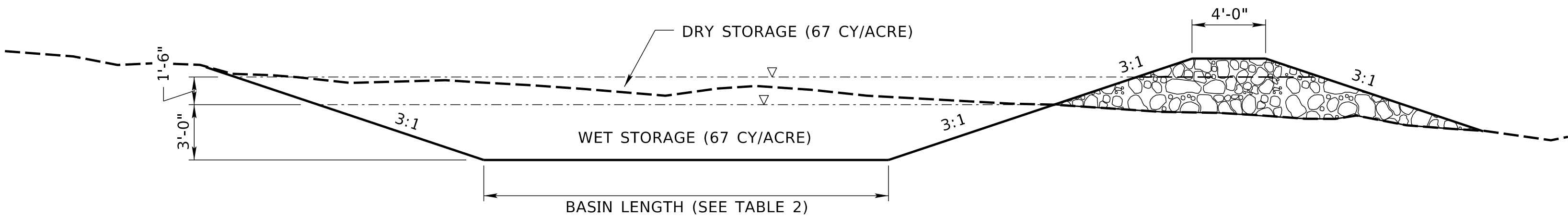
DETAILS OF ROCK RIPRAP

DETAILS OF ROCK RIPRAP  
STANDARD DETAIL



CONTRIBUTING DRAINAGE AREA	WEIR LENGTH (FT.)
1 ACRE	4
2 ACRE	5
3 ACRE	6
4 ACRE	10
5 ACRE	12

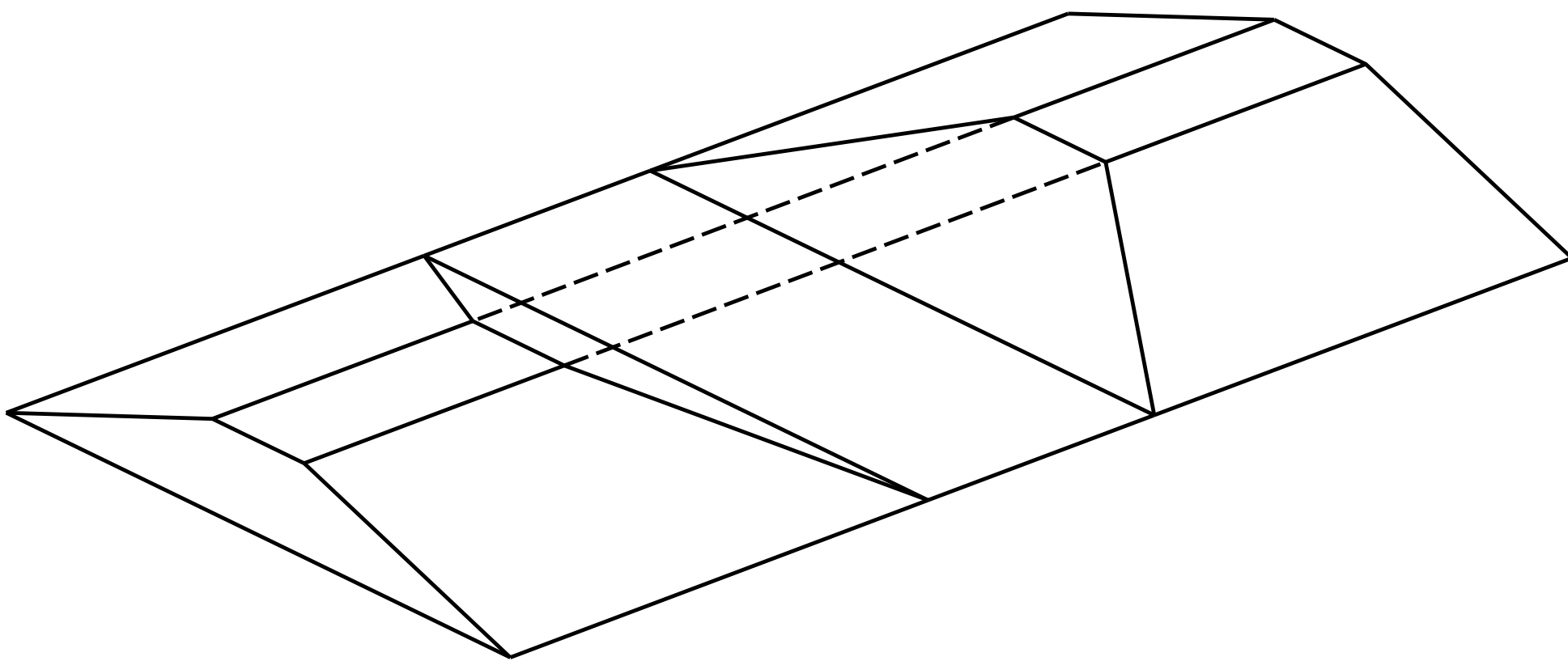
TABLE 1  
SEDIMENT TRAP OUTLET



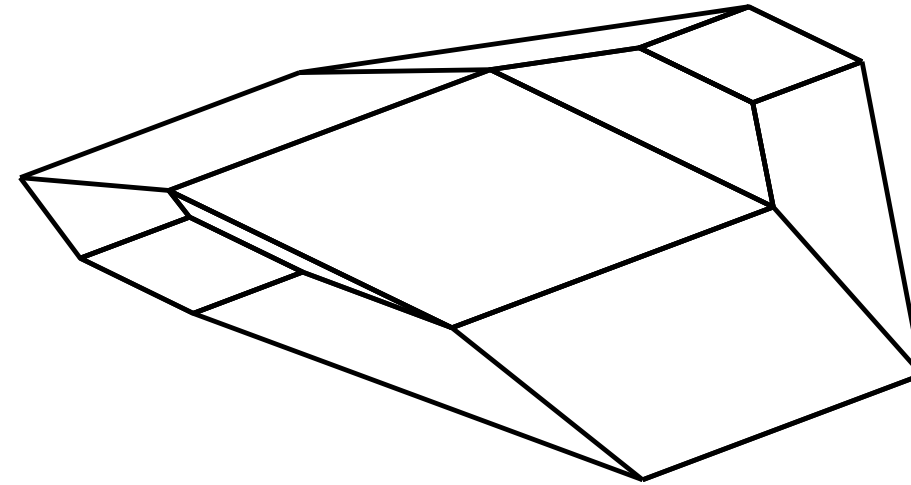
CONTRIBUTING DRAINAGE AREA	BASIN LENGTH (FT.)	BASIN WIDTH (FT.)
1 ACRE	22	10
2 ACRE	40	16
3 ACRE	58	23
4 ACRE	73	28
5 ACRE	85	34

TABLE 2

TYPICAL ROADSIDE DITCH SEDIMENT TRAP BASIN



DITCH DIKE WITH CUTOUT FOR OUTLET

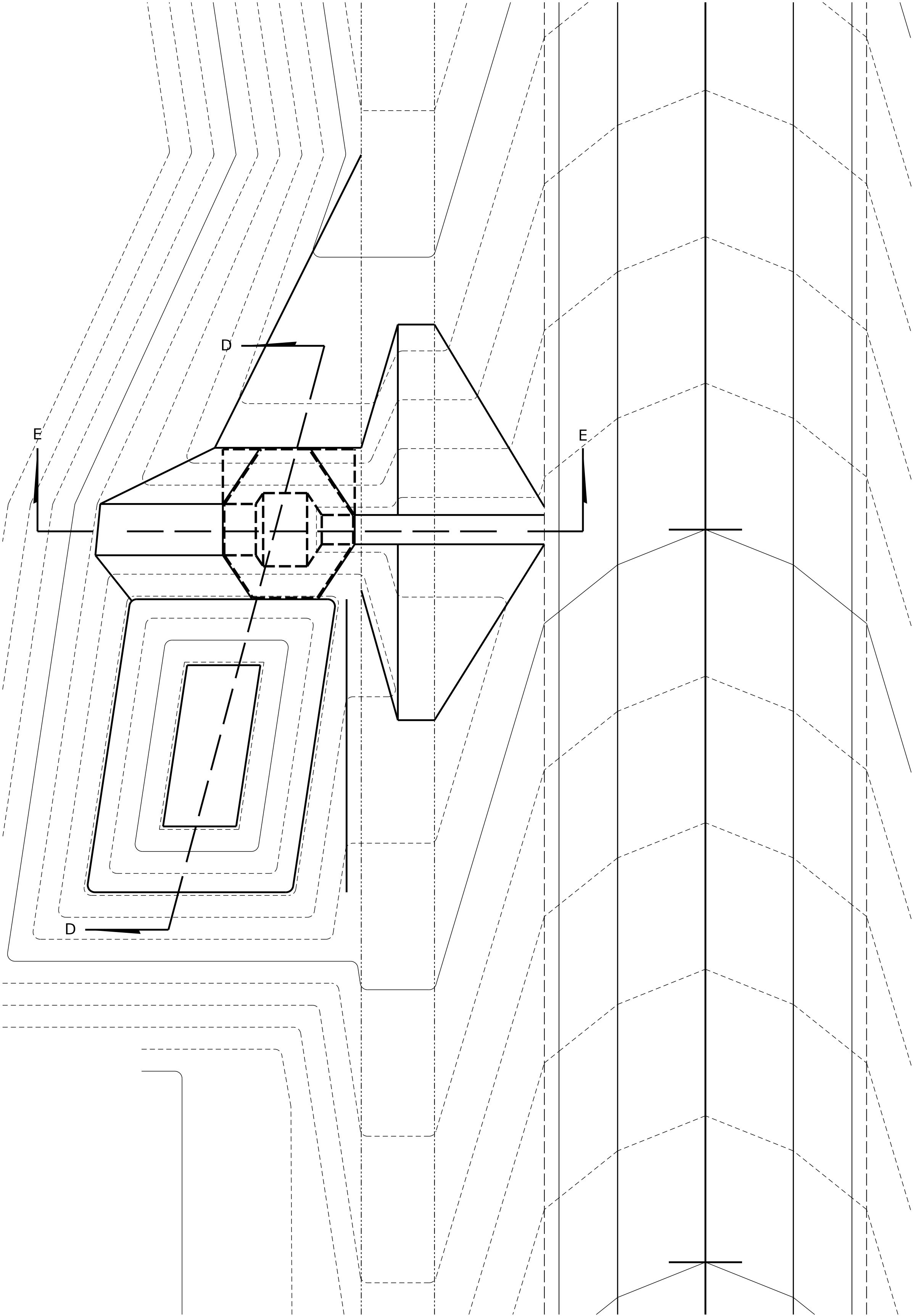


ROCK RIPRAP OUTLET

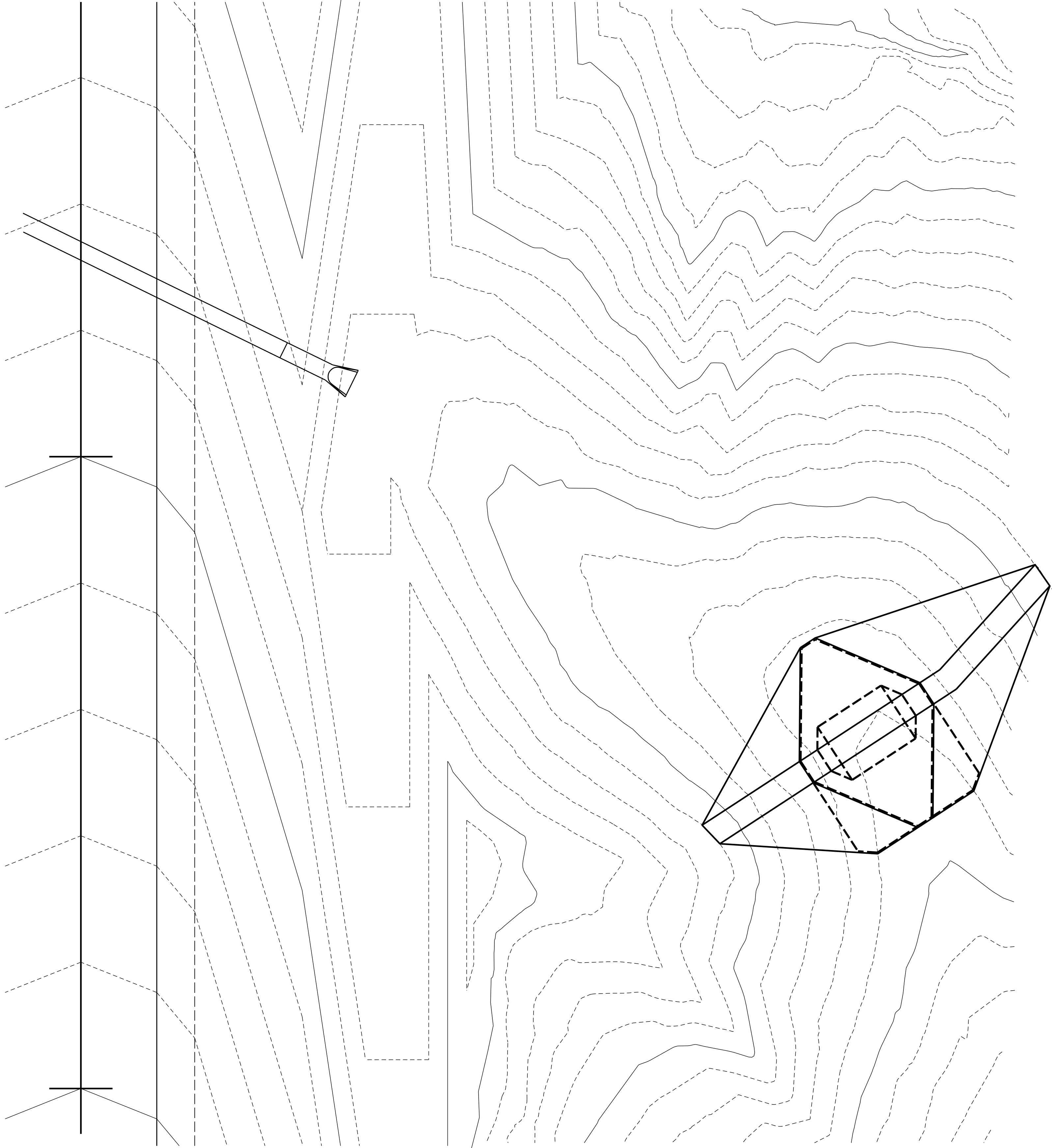
ROADSIDE SEDIMENT TRAP AND OUTLET  
STANDARD DETAIL



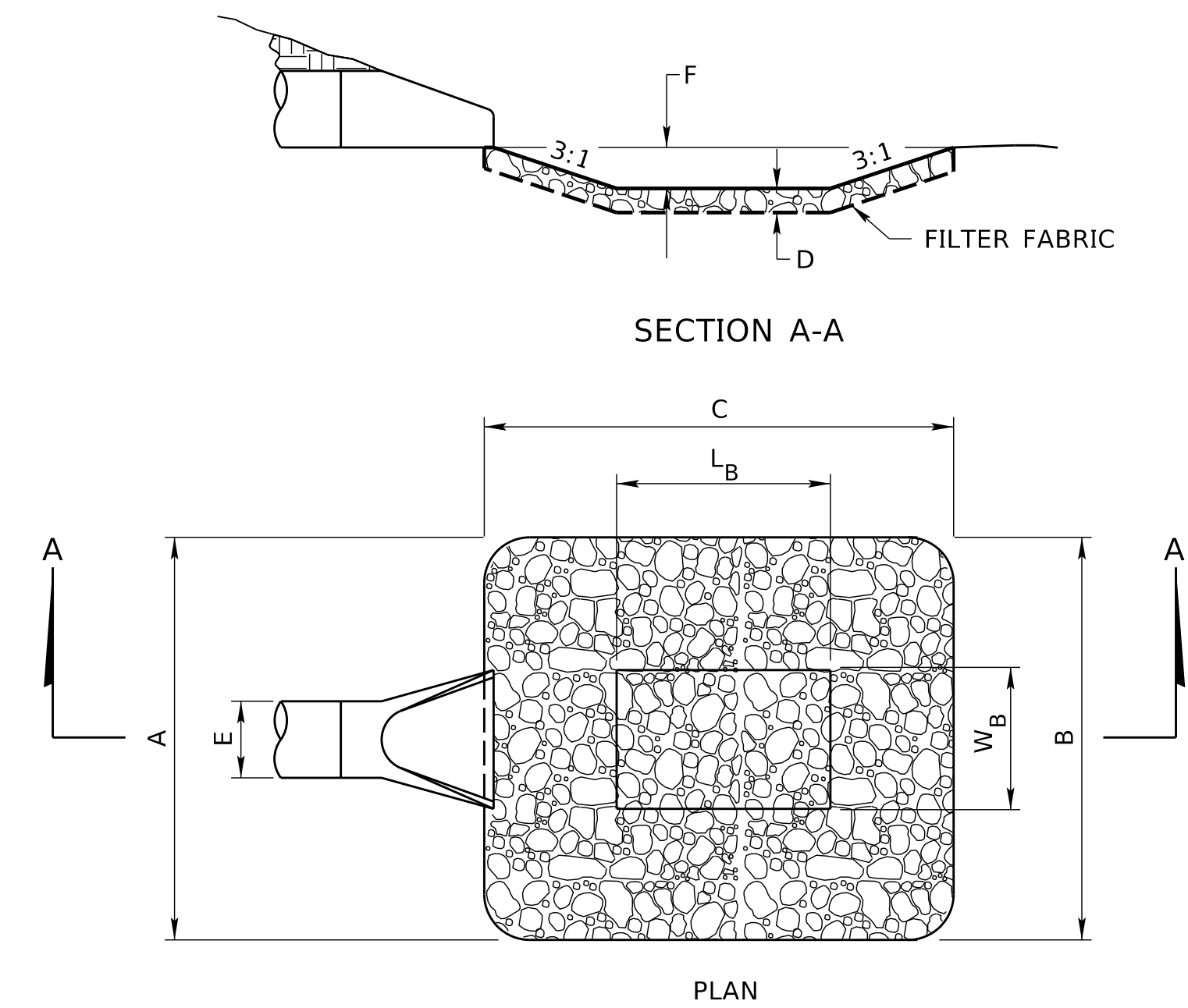
Roadway  
Design  
Division



TYPICAL ROADSIDE DITCH APPLICATION



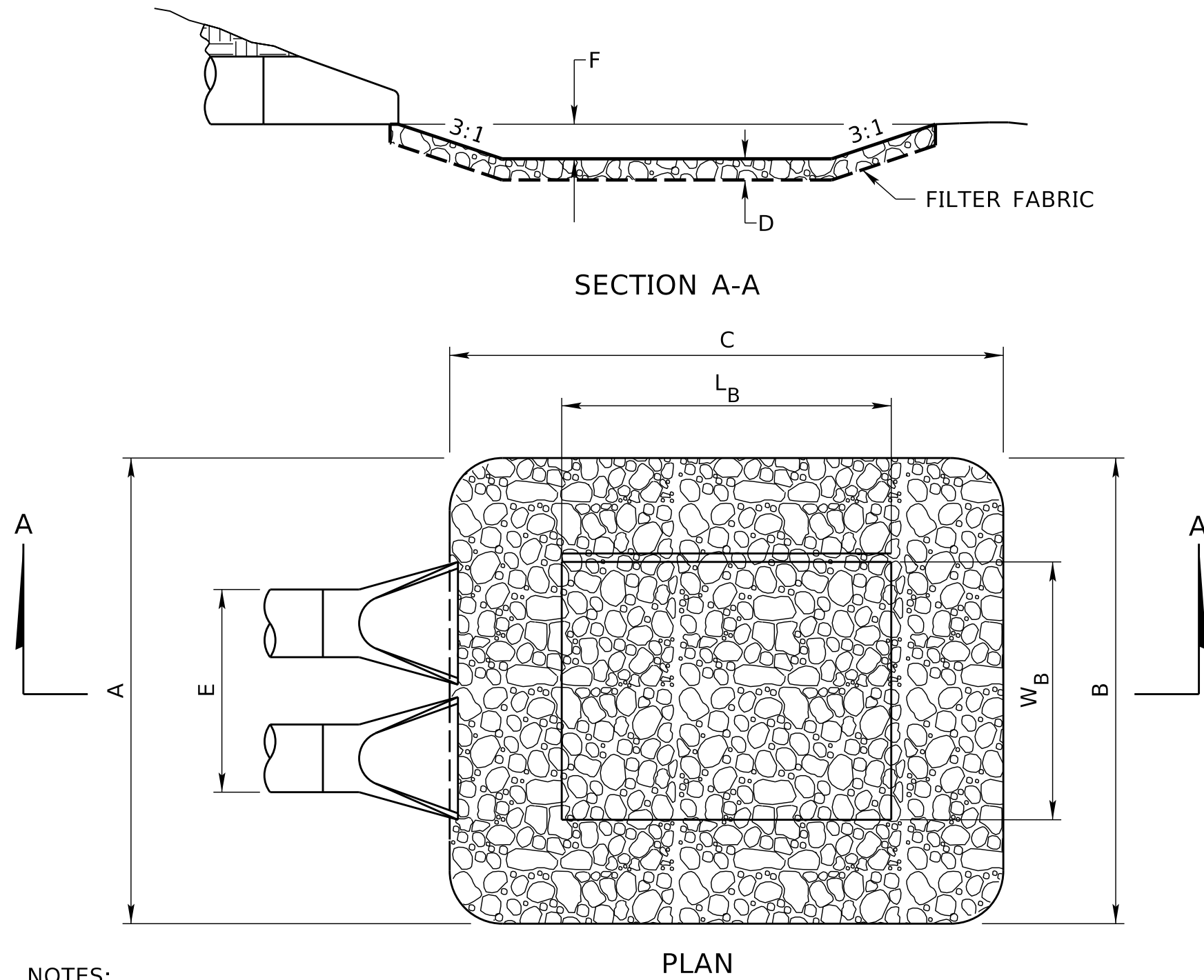
TYPICAL OUTLET SWALE APPLICATION



DETAIL OF ROCK RIPRAP SCOUR HOLE

BUILD ROCK RIPRAP SCOUR HOLE											
STATION	A	B	C	D	E	F	W <sub>B</sub>	L <sub>B</sub>	TONS	RIPRAP TYPE	FILTER FABRIC SQ. YDS.
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*

SINGLE PIPE

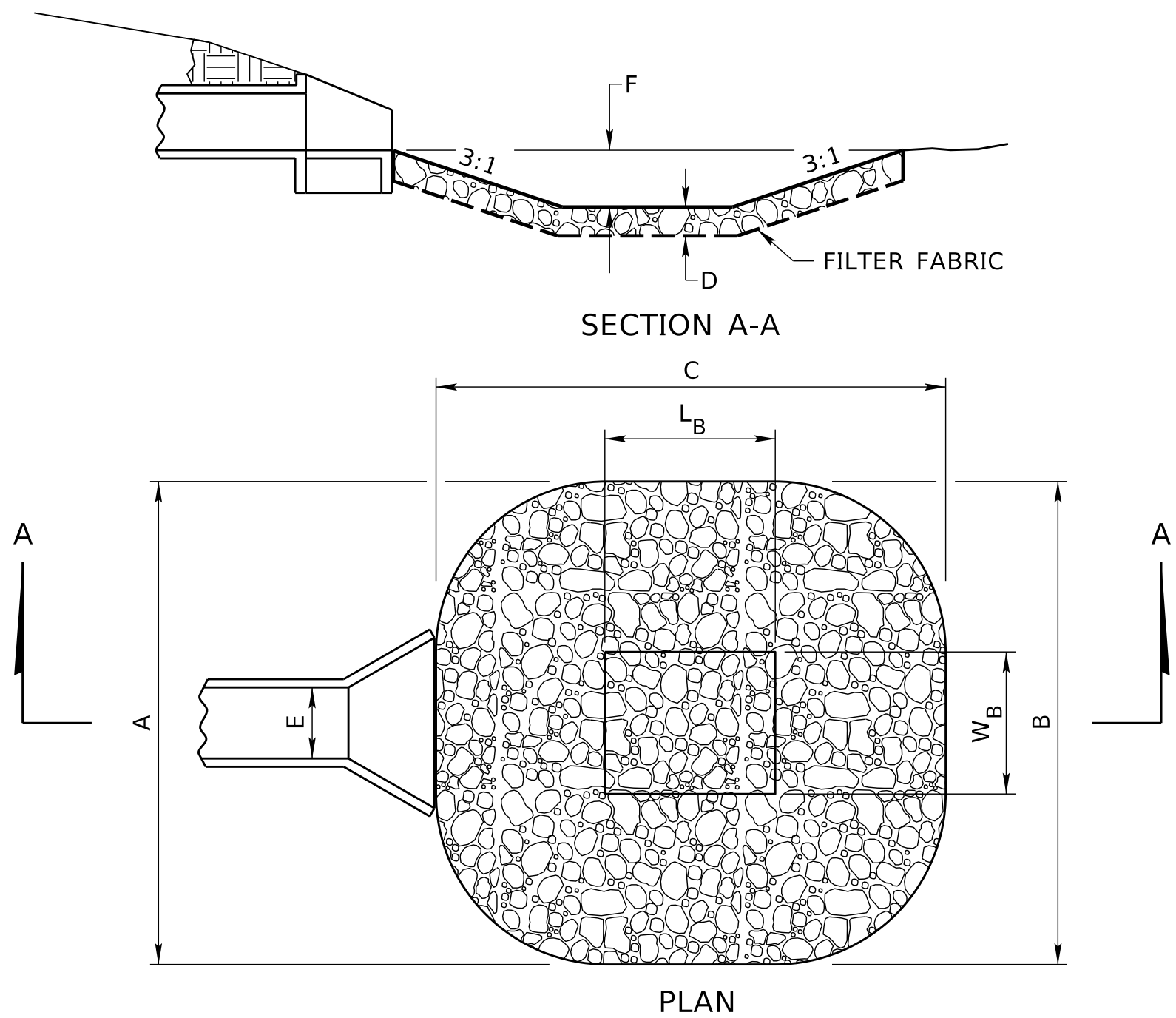


NOTES:  
WHEN MULTIPLE PIPES W/FLARED END SECTIONS ARE USED, WIDTH OF BASIN (W<sub>B</sub>) MUST BE AT LEAST EQUAL TO THE DISTANCE BETWEEN THE OUTSIDE EDGES OF THE FLARED END SECTIONS.

DETAIL OF ROCK RIPRAP SCOUR HOLE

BUILD ROCK RIPRAP SCOUR HOLE											
STATION	A	B	C	D	E	F	W <sub>B</sub>	L <sub>B</sub>	TONS	RIPRAP TYPE	FILTER FABRIC SQ. YDS.
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*

MULTIPLE PIPES



NOTES:  
WHEN PLACING RIPRAP BASIN AT OUTLET OF BOX CULVERT, PAVE THE APRON BETWEEN THE WINGWALLS W/3-5 FOOT CUTOFF WALL/FOOTING.

DETAILS OF ROCK RIPRAP SCOUR HOLE

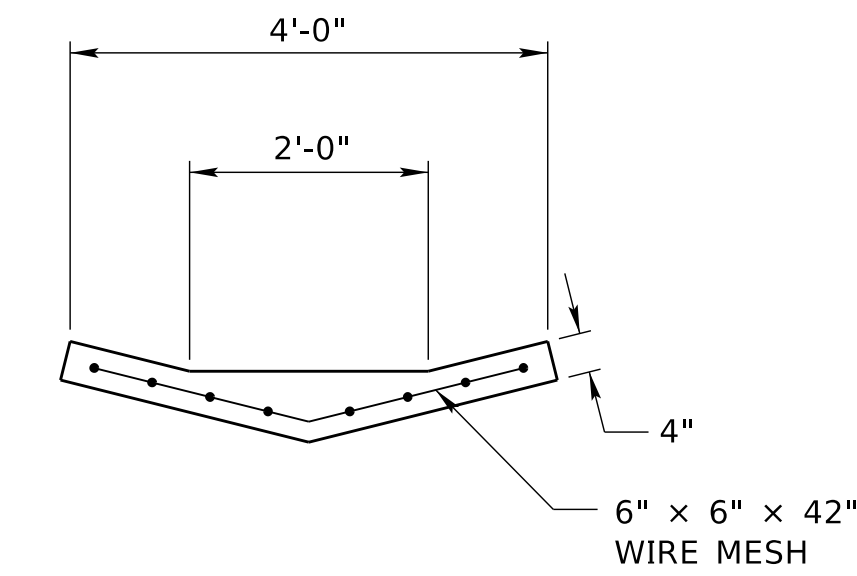
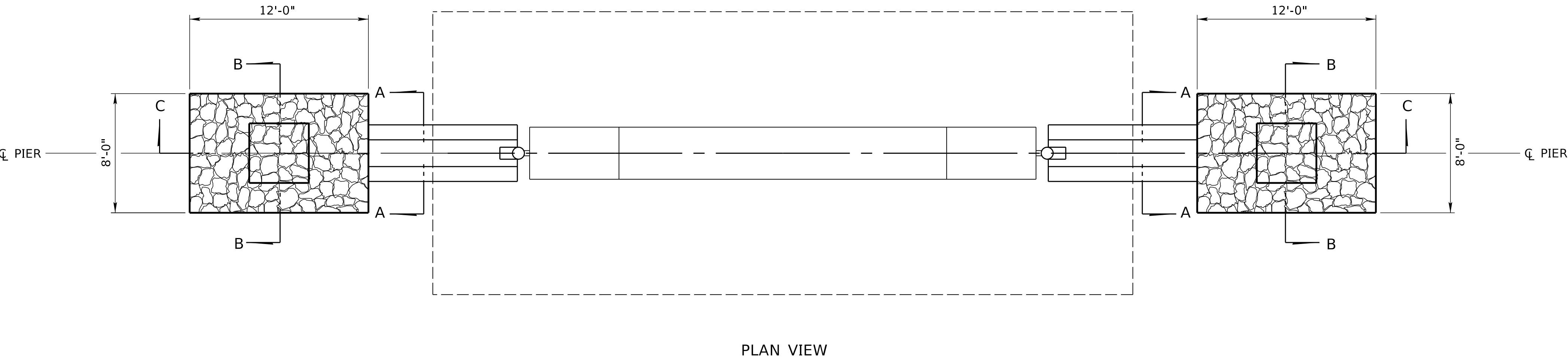
BUILD ROCK RIPRAP SCOUR HOLE											
STATION	A	B	C	D	E	F	W <sub>B</sub>	L <sub>B</sub>	TONS	RIPRAP TYPE	FILTER FABRIC SQ. YDS.
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*

CONCRETE BOX CULVERT

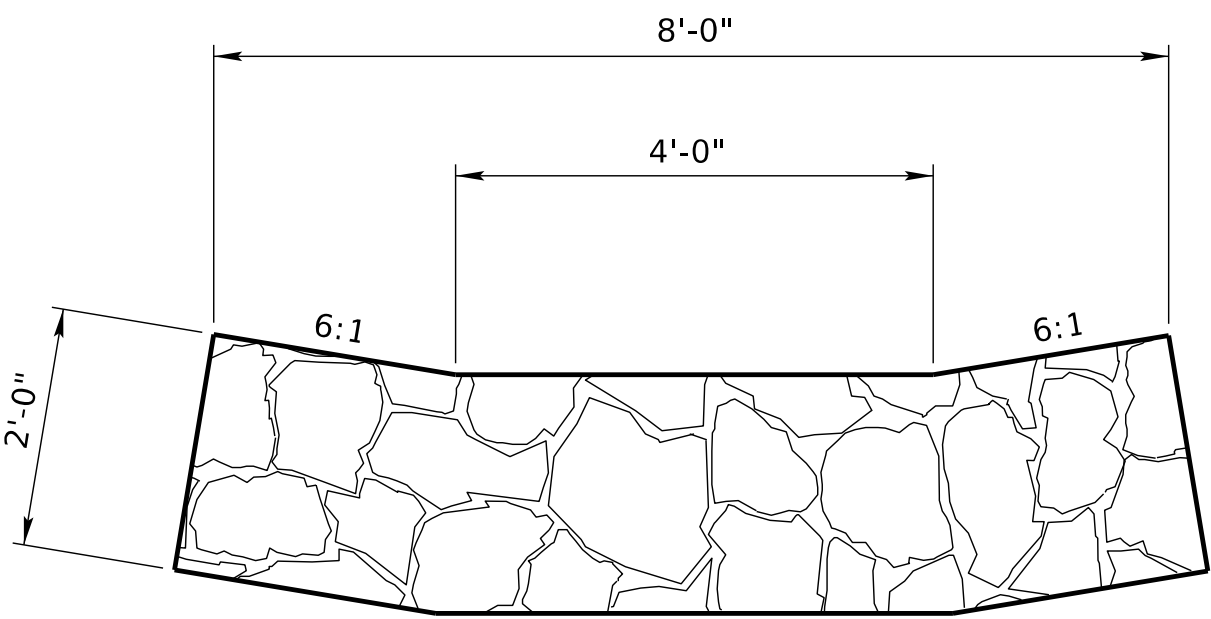
DETAILS OF ROCK RIPRAP SCOUR HOLE  
STANDARD DETAIL



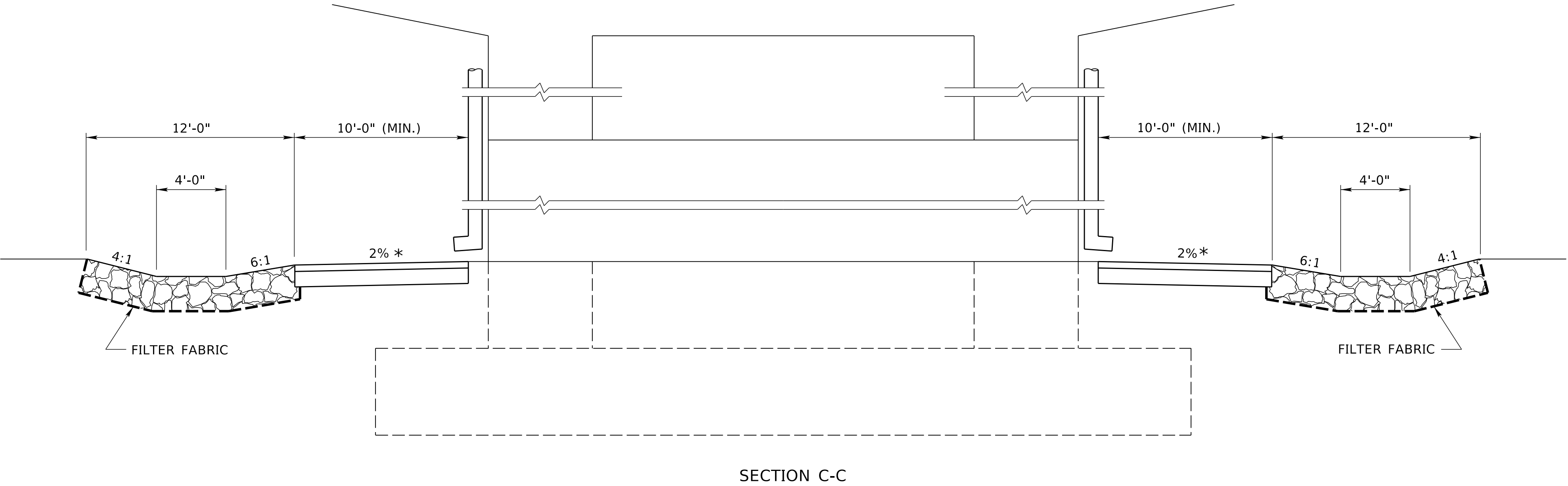
Roadway  
Design  
Division



SECTION A-A  
CONCRETE DITCH LINER



SECTION B-B  
DETAIL OF BROKEN CONCRETE RIPRAP



\* AT SLOPES STEEPER THAN 2% THE  
DITCH LINER WILL EXTEND TO THE  
BREAK IN THE GRADE.

QUANTITIES PER DRAINAGE BASIN  
BROKEN CONCRETE RIPRAP = 9.6 TON

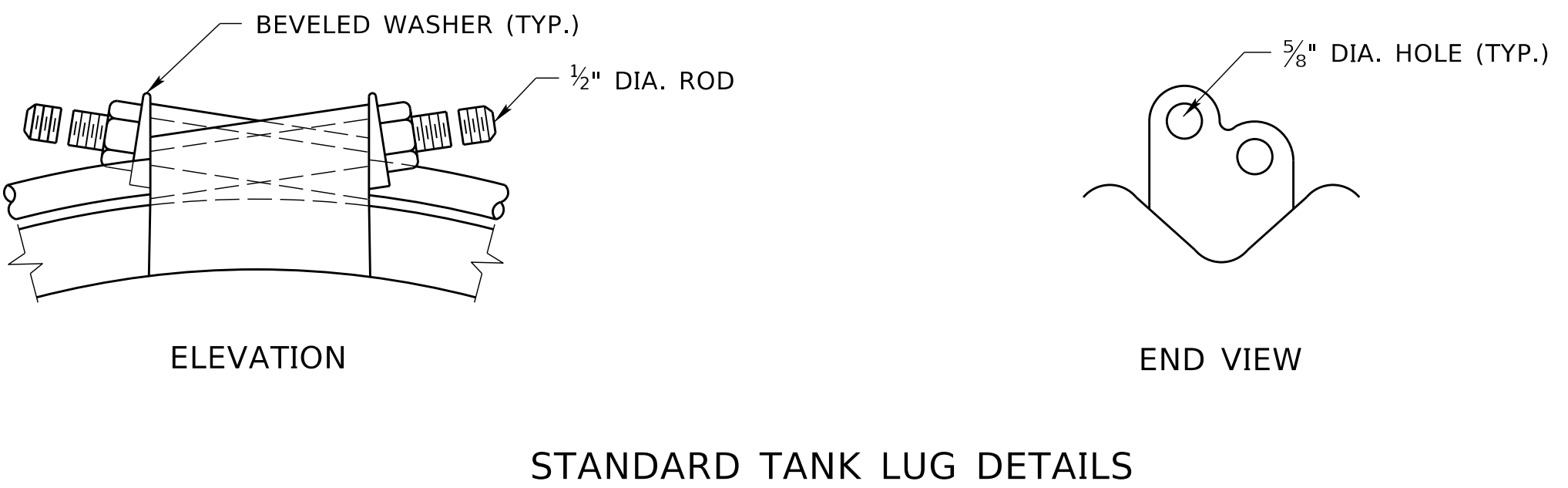
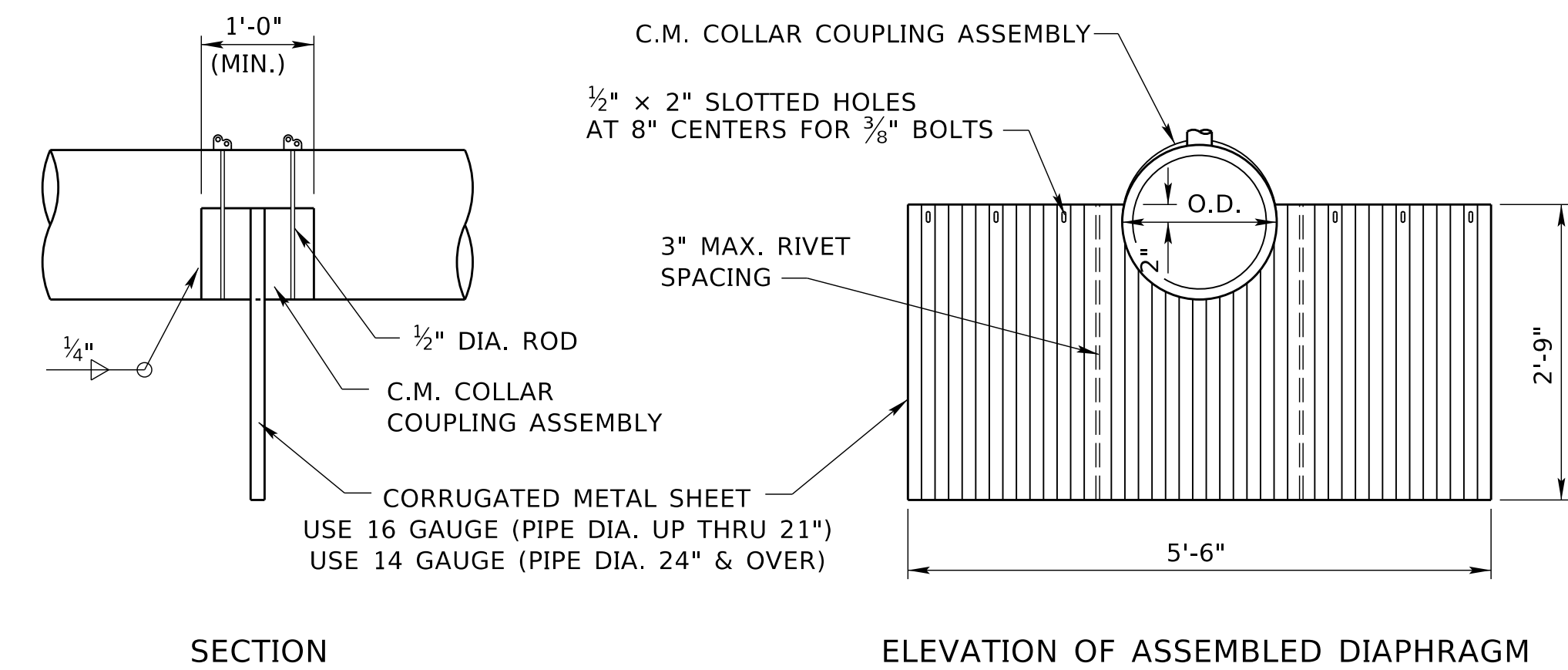
BRIDGE DRAINAGE BASIN  
STANDARD DETAIL

NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway  
Design  
Division



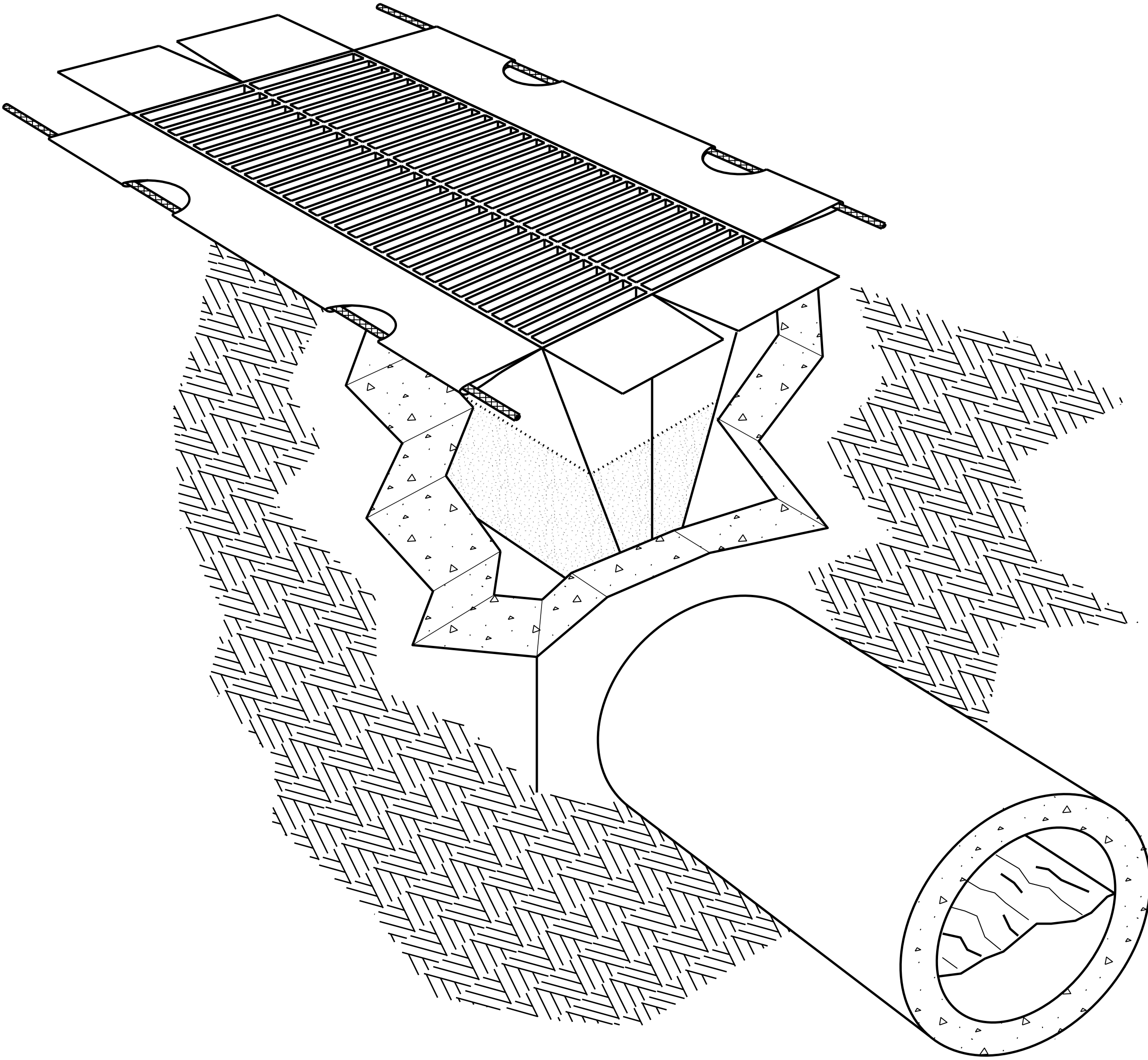
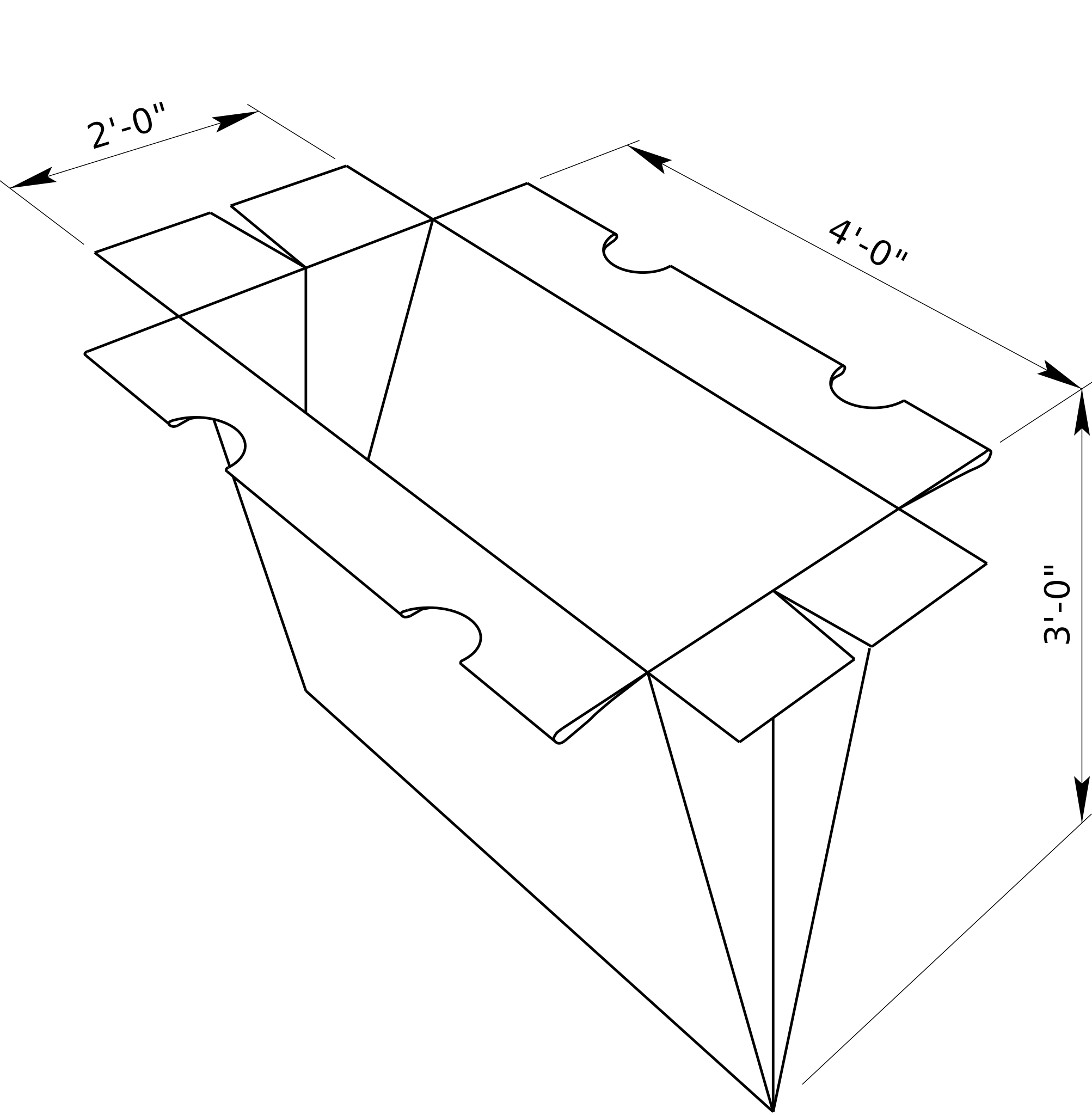
1 OF 1
Project Number
C.N.



METAL DIAPHRAGM DETAILS  
STANDARD DETAIL



Roadway  
Design  
Division



1 OF 1

Project Number

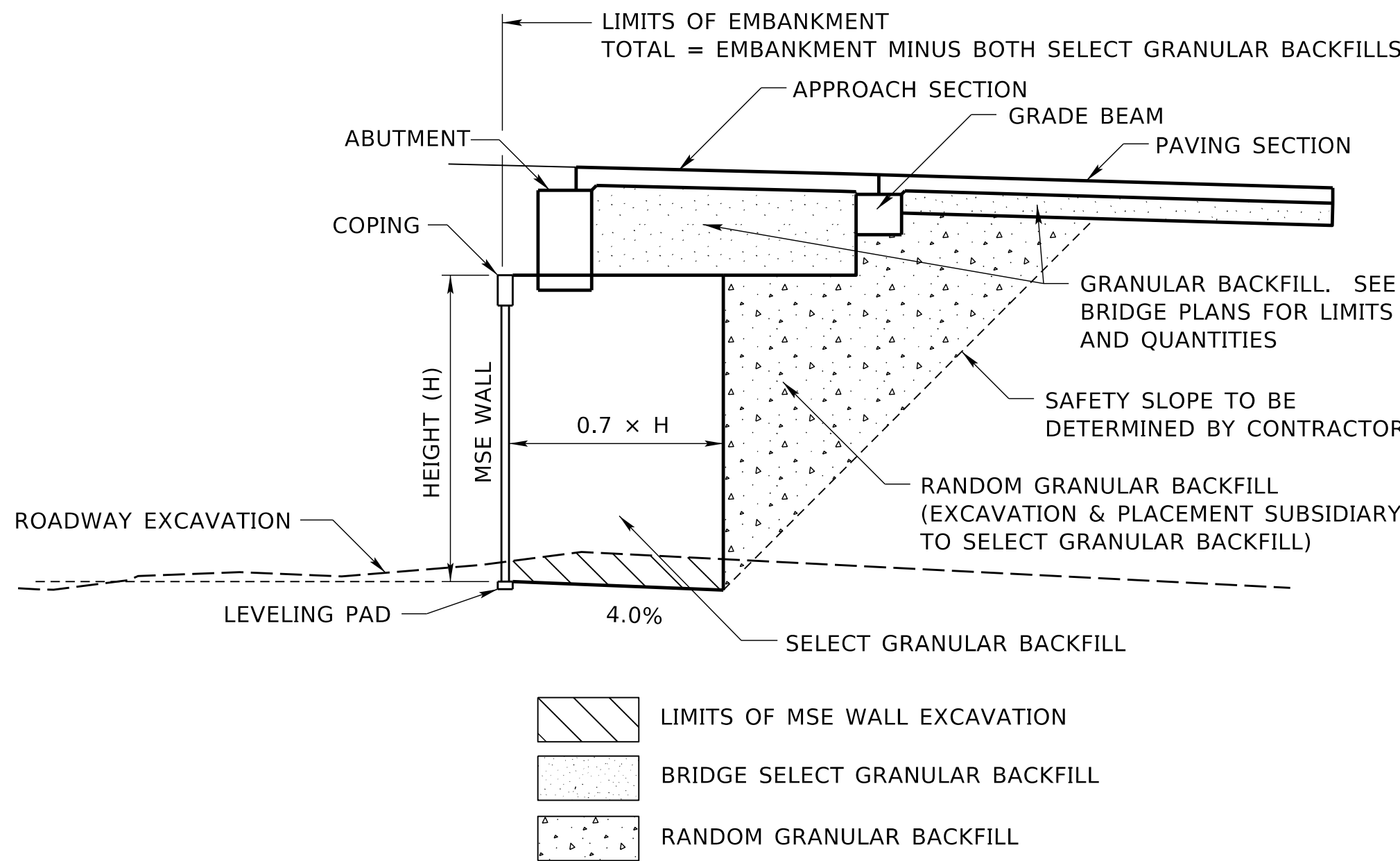
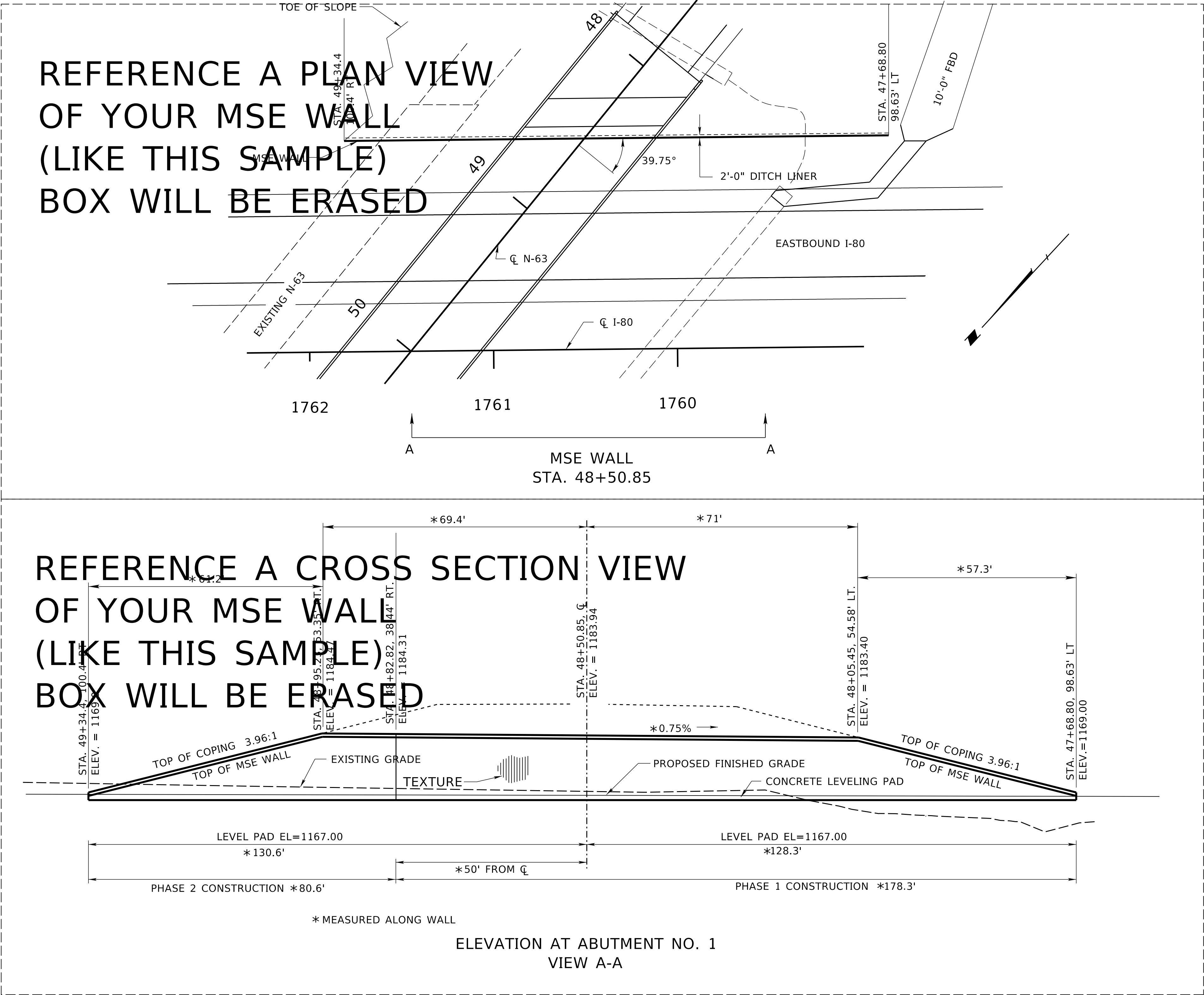
C.N.

INLET LINER DETAILS  
STANDARD DETAIL

NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway  
Design  
Division





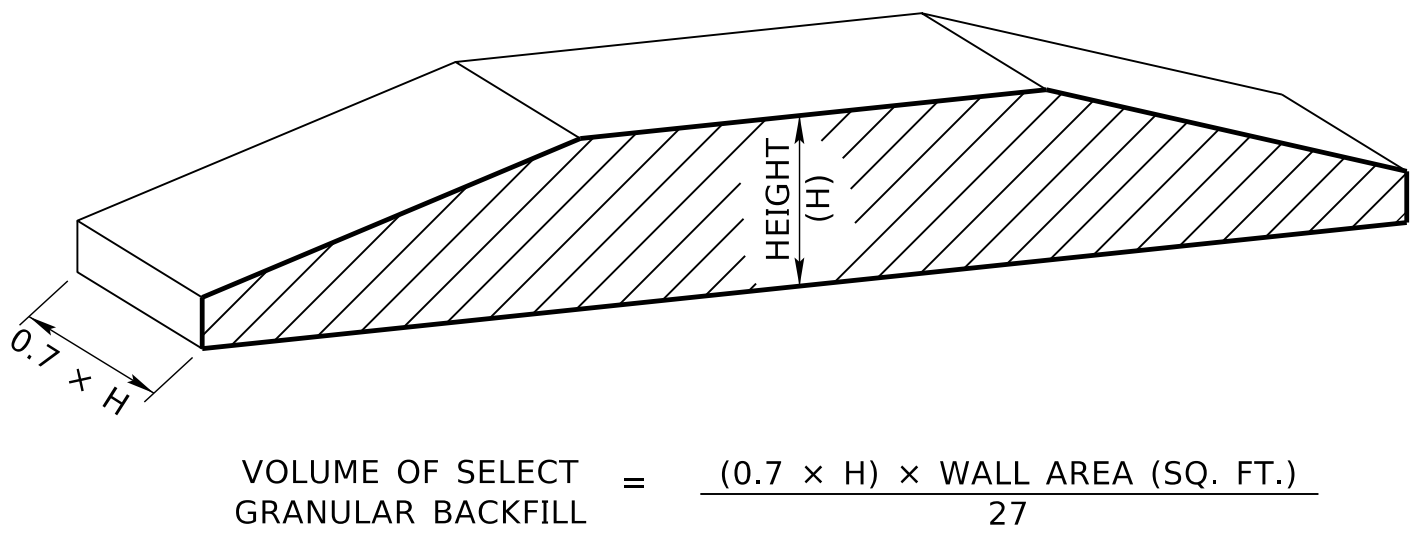
TYPICAL SECTION OF BACKFILL AT ABUTMENT  
(NOT TO SCALE)

WARP FILL SLOPE AROUND BLUNT ENDS OF WALL.

GRANULAR BACKFILL SHALL BE CAPPED WITH 1 FOOT OF COHESIVE SOIL.

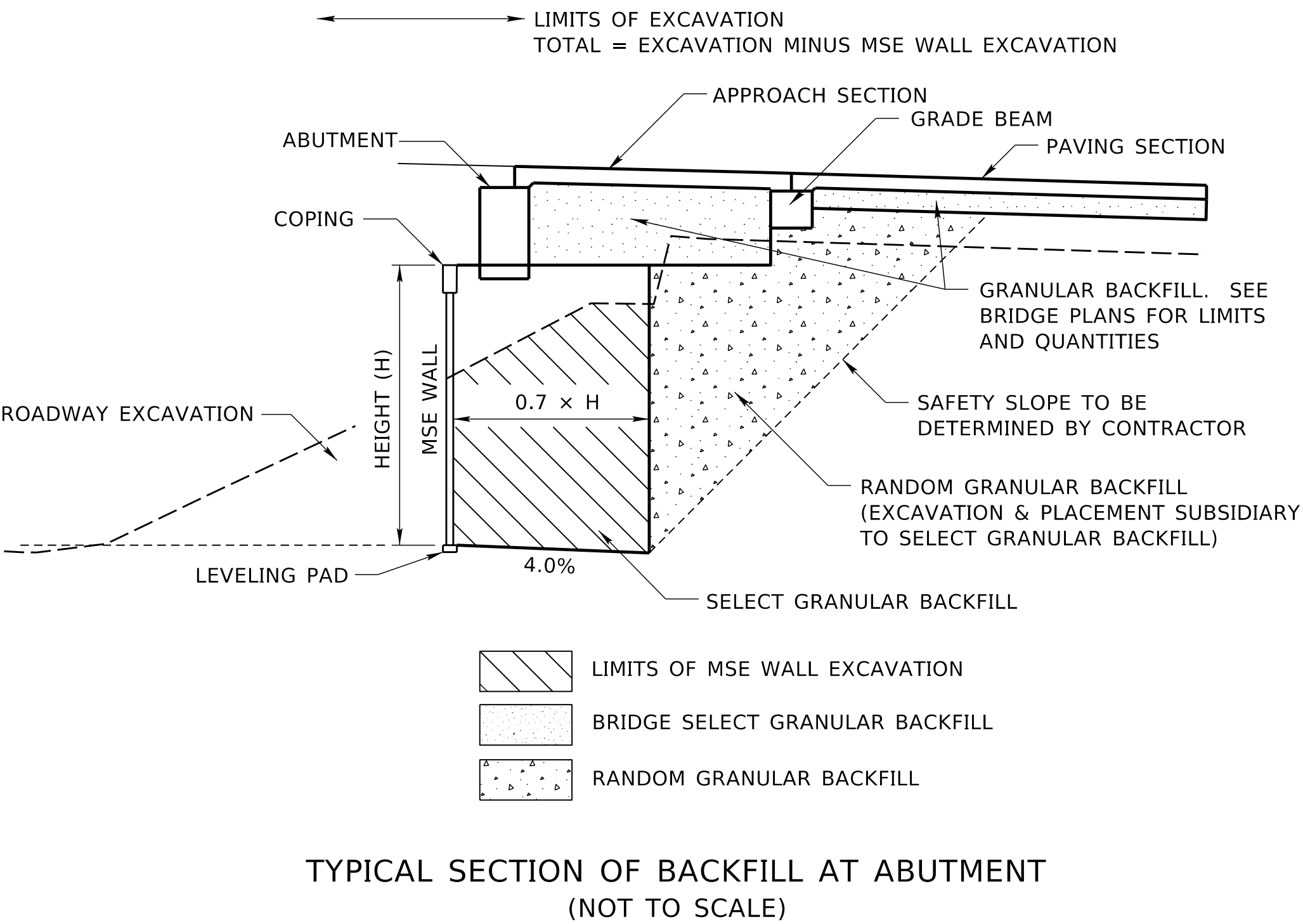
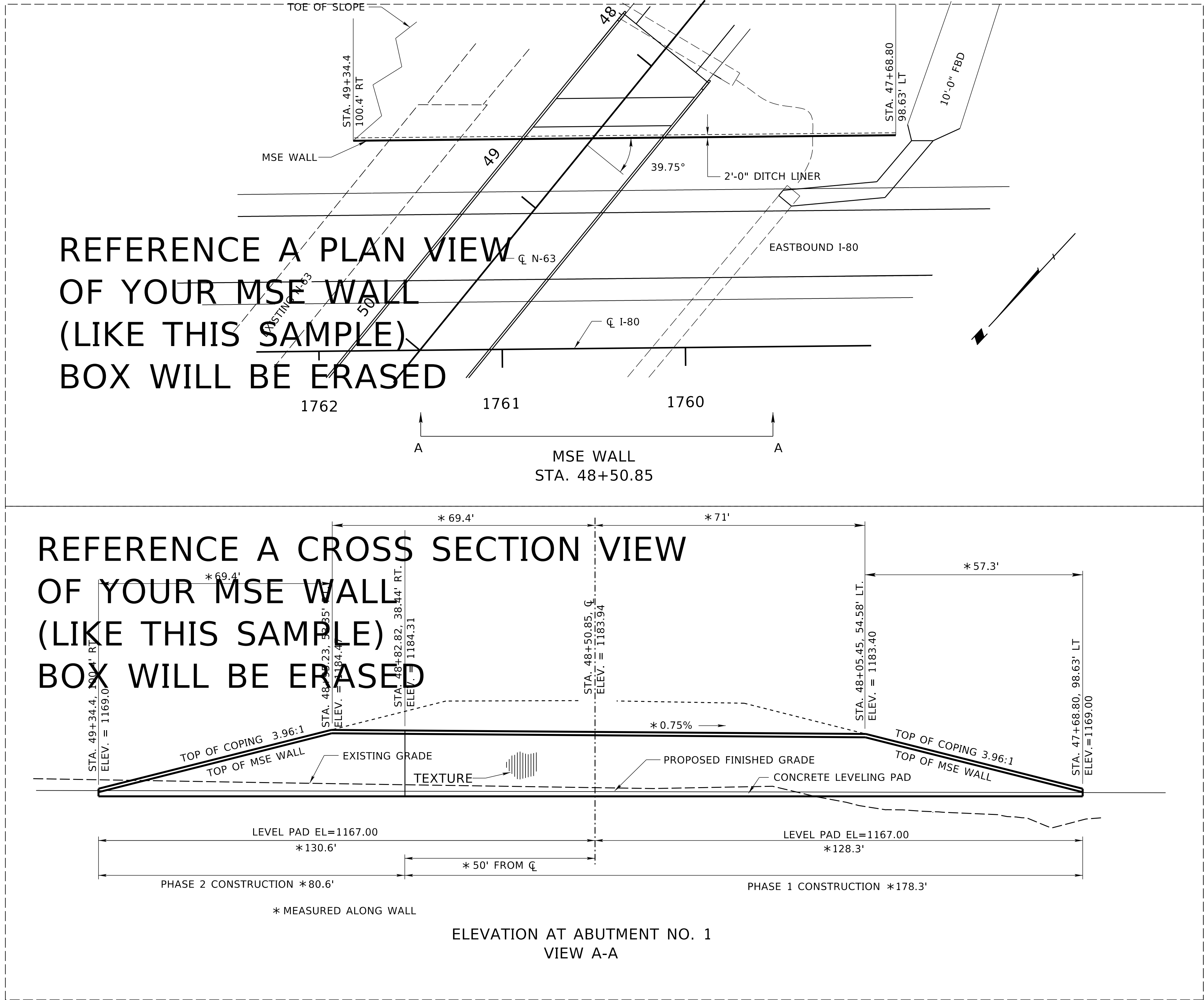
MSE WALL TEXTURE:

THE FRONT FACE OF THE MSE WALL SHALL BE TEXTURED USING SYMONS FORM LINERS FRACTURED GRANITE PATTERN (P/C30611 OR P/C30907), OR FITZGERALD FORM LINERS PATTERN NO. 16980 OR AN APPROVED EQUAL.



SUMMARY OF QUANTITIES						
LOCATION	*CONCRETE FACE PANELS SQ. FT.	SELECT GRANULAR BACKFILL CU. YD.	COPING LIN. FT.	LEVELING PAD LIN. FT.	**24" CORRUGATED METAL PIPE SLEEVES	MSE WALL EXC. CU. YD.
ABUT. #1	*	*	*	*	*	*

\* MEASURED FROM CONCRETE LEVELING PAD TO TOP OF COPING  
\*\*SEE BRIDGE PLANS FOR CORRUGATED METAL PIPE LAYOUT

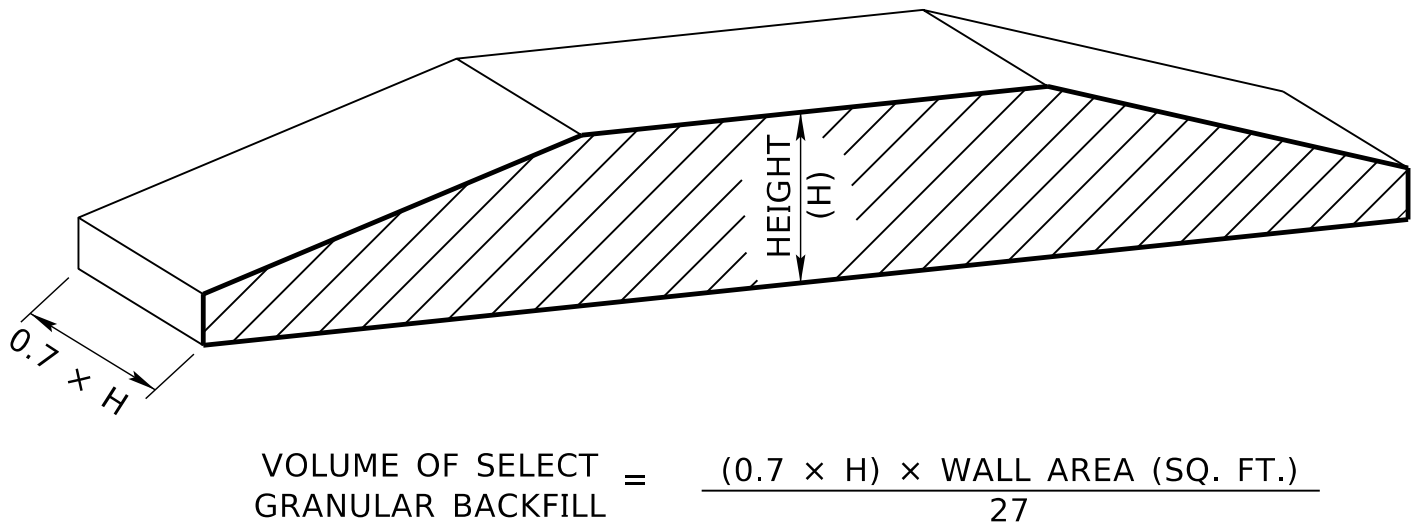


WARP FILL SLOPE AROUND BLUNT ENDS OF WALL.

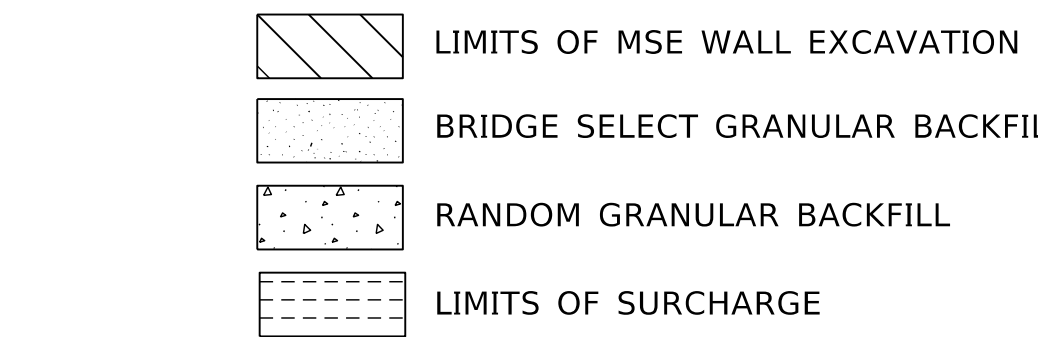
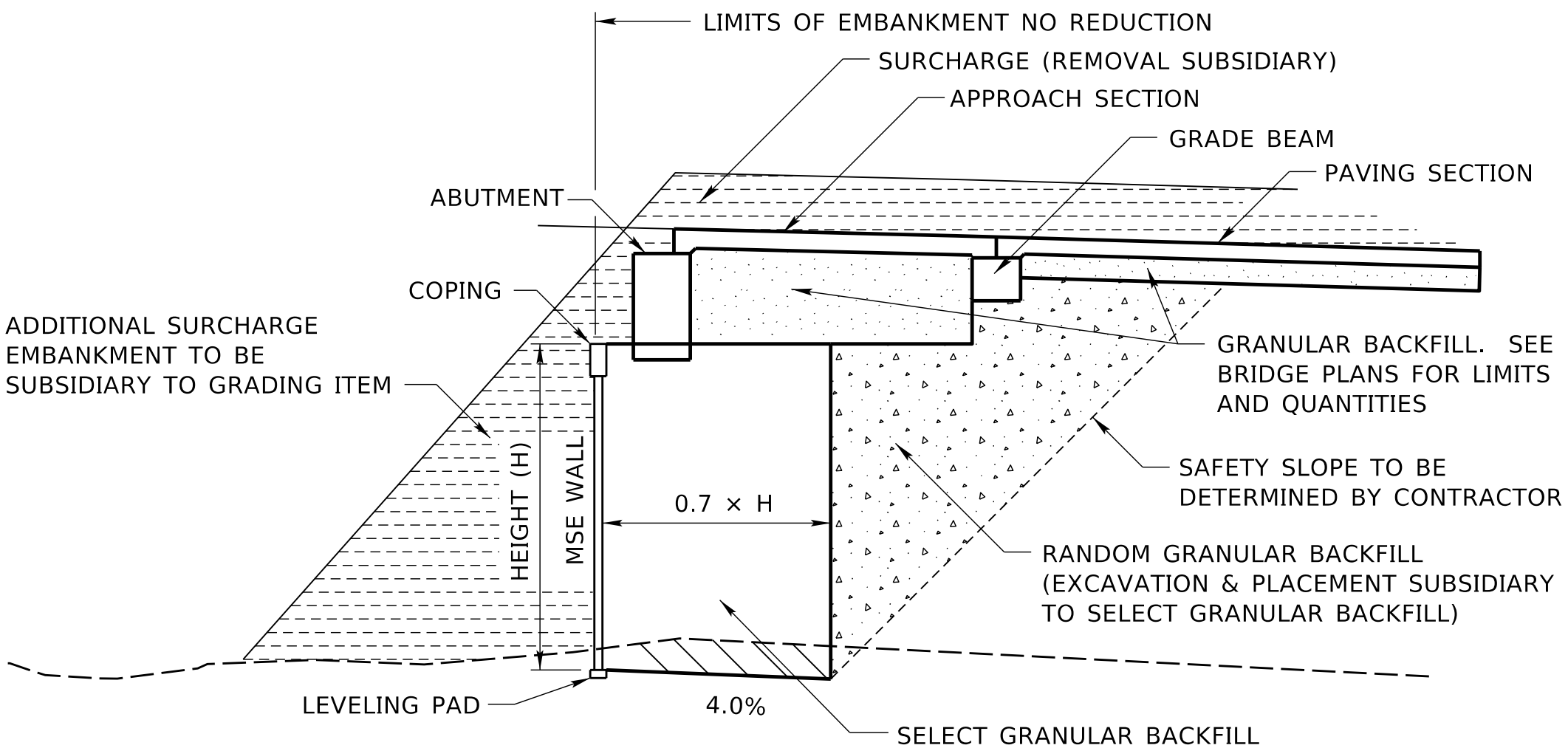
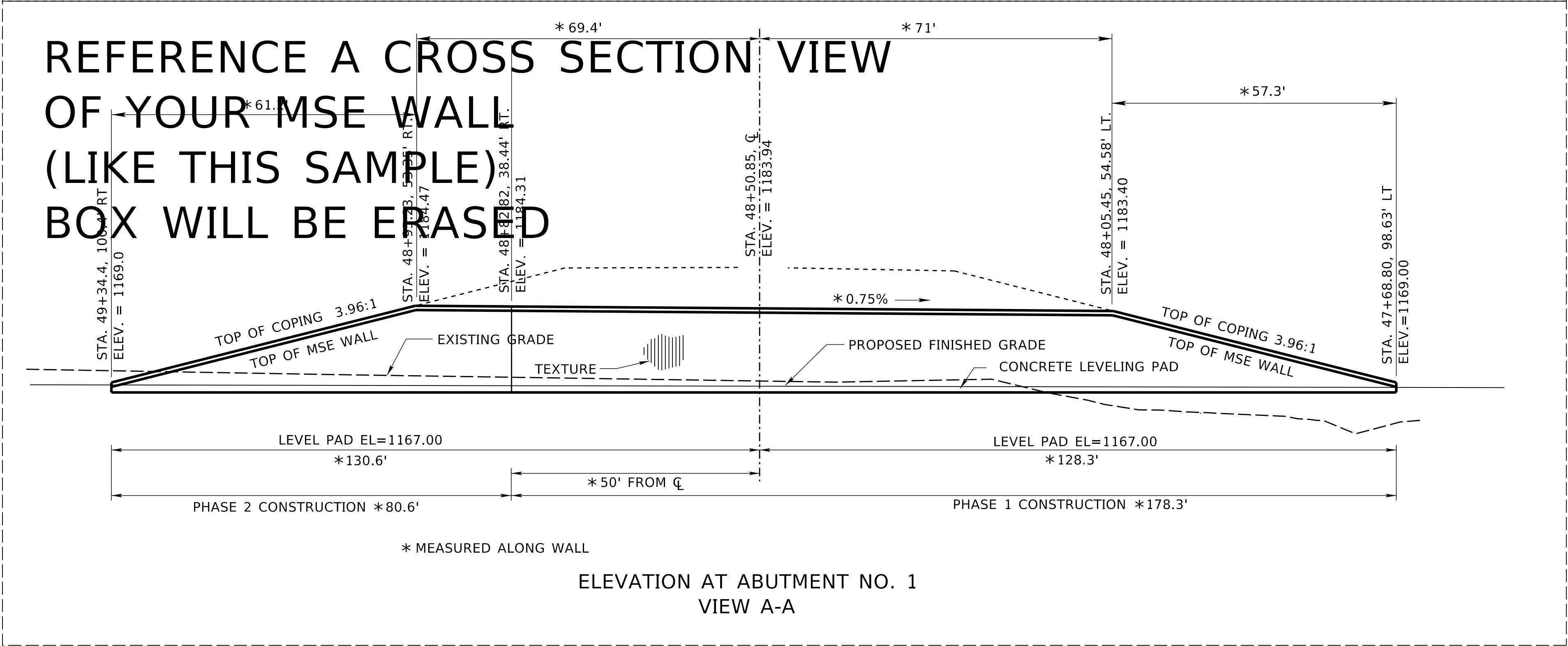
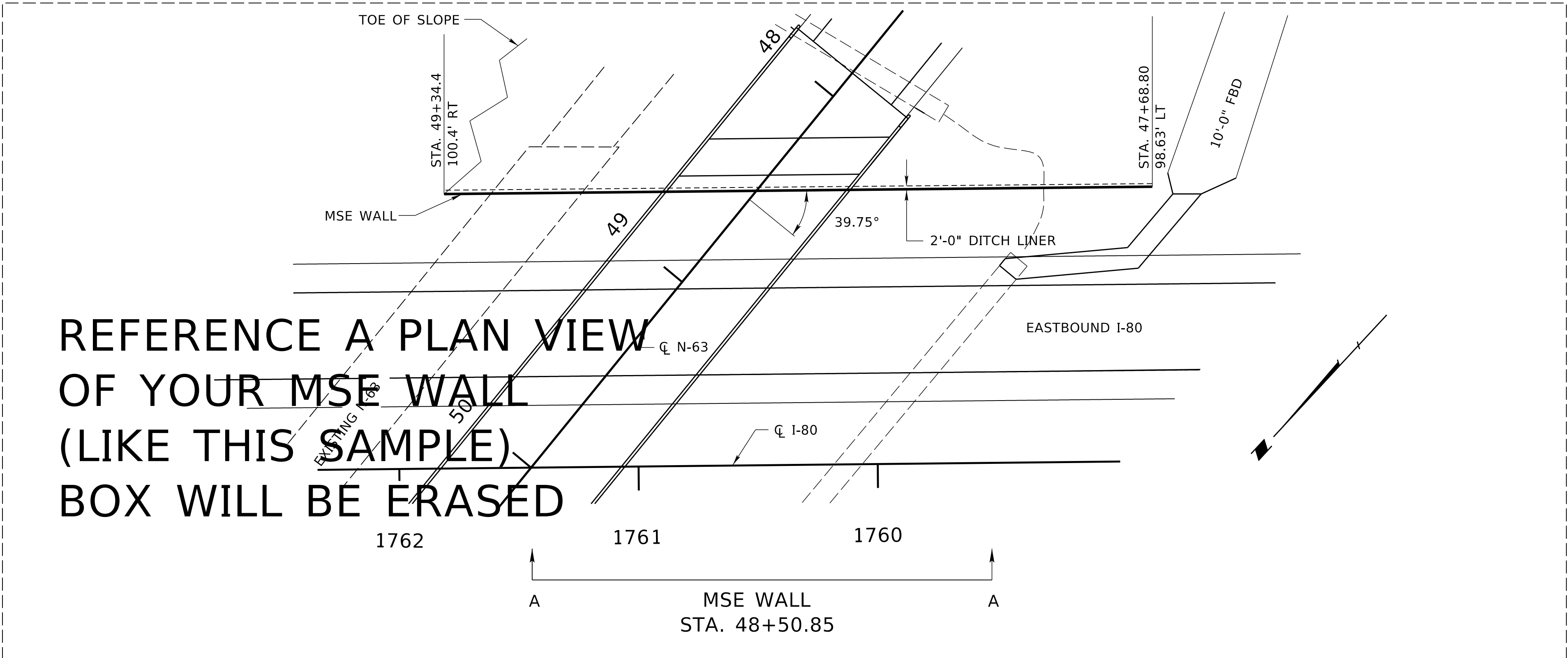
GRANULAR BACKFILL SHALL BE CAPPED WITH 1 FOOT OF COHESIVE SOIL.

MSE WALL TEXTURE:

THE FRONT FACE OF THE MSE WALL SHALL BE TEXTURED USING SYMONS FORM LINERS FRACTURED GRANITE PATTERN (P/C30611 OR P/C30907), OR FITZGERALD FORM LINERS PATTERN NO. 16980 OR AN APPROVED EQUAL.



SUMMARY OF QUANTITIES						
LOCATION	*CONCRETE FACE PANELS SQ. FT.	SELECT GRANULAR BACKFILL CU. YD.	COPING LIN. FT.	LEVELING PAD LIN. FT.	**24" CORRUGATED METAL PIPE SLEEVES	MSE WALL EXC. CU. YD.
ABUT. #1	*	*	*	*	*	*
* MEASURED FROM CONCRETE LEVELING PAD TO TOP OF COPING						
**SEE BRIDGE PLANS FOR CORRUGATED METAL PIPE LAYOUT						



TYPICAL SECTION OF BACKFILL AT ABUTMENT  
(NOT TO SCALE)

WARP FILL SLOPE AROUND BLUNT ENDS OF WALL.

GRANULAR BACKFILL SHALL BE CAPPED WITH 1 FOOT OF COHESIVE SOIL.

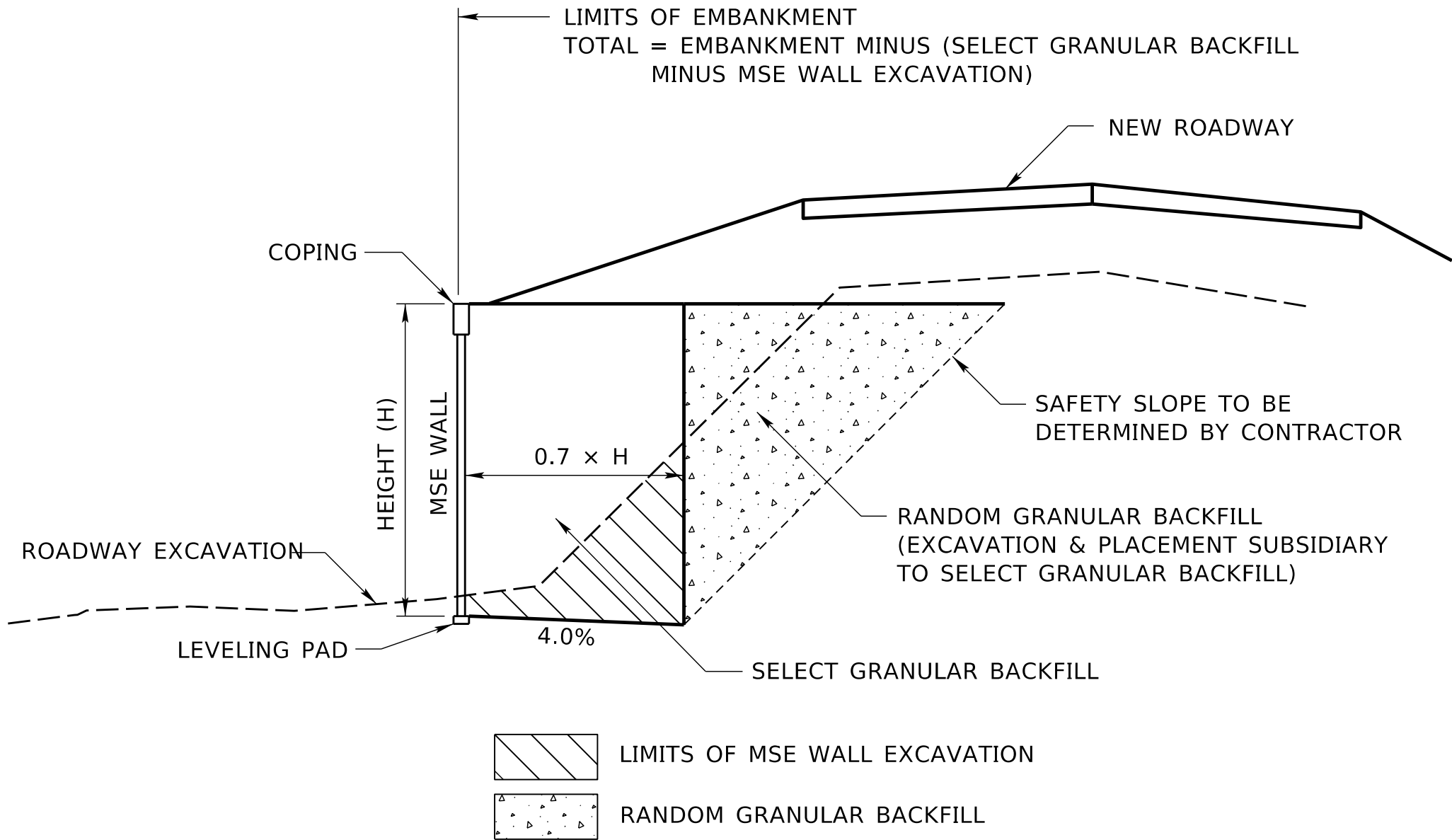
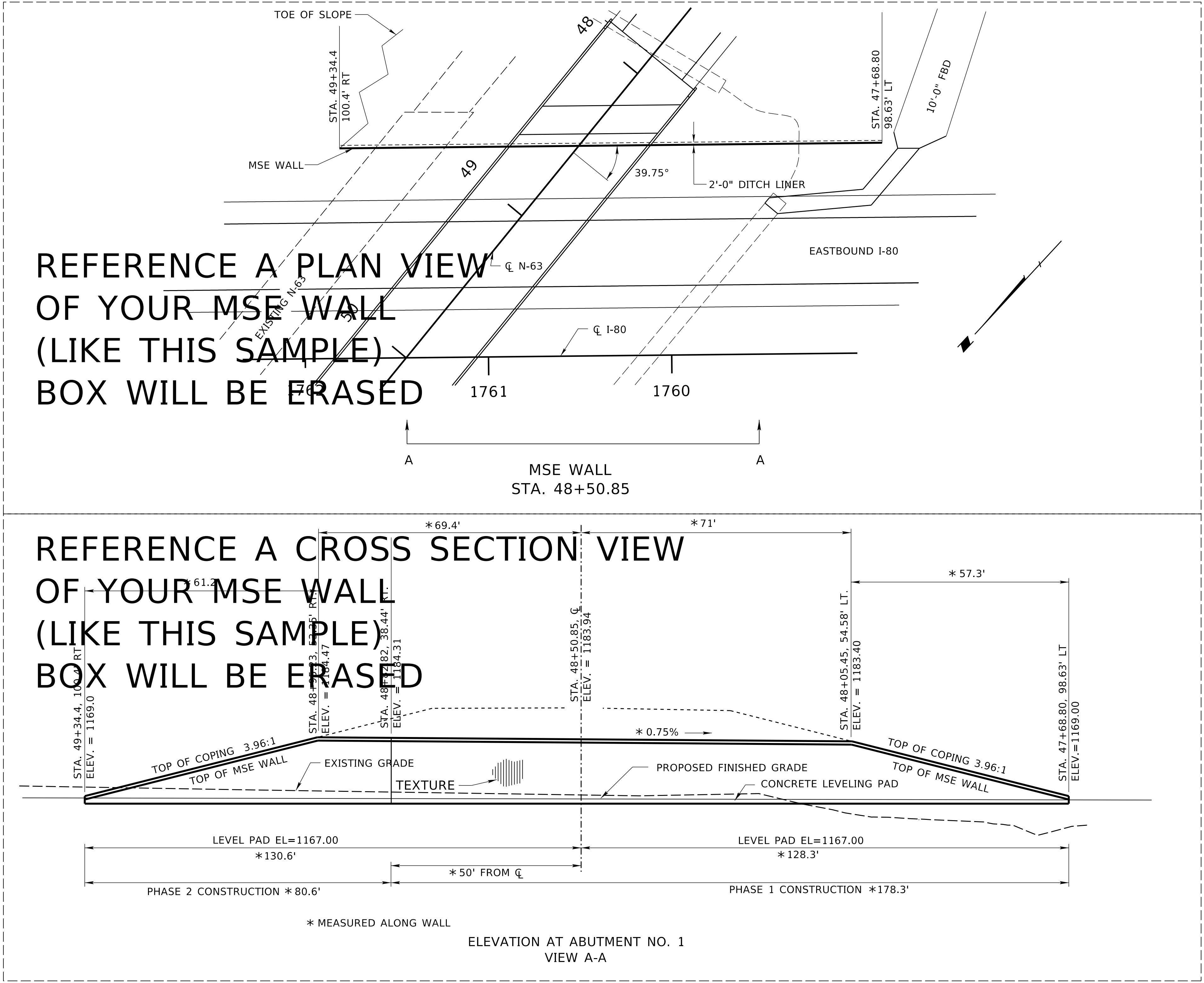
MSE WALL TEXTURE:

THE FRONT FACE OF THE MSE WALL SHALL BE TEXTURED USING SYMONS FORM LINERS FRACTURED GRANITE PATTERN (P/C30611 OR P/C30907), OR FITZGERALD FORM LINERS PATTERN NO. 16980 OR AN APPROVED EQUAL.

VOLUME OF SELECT  
GRANULAR BACKFILL =  $\frac{(0.7 \times H) \times \text{WALL AREA (SQ. FT.)}}{27}$

SUMMARY OF QUANTITIES						
LOCATION	*CONCRETE FACE PANELS SQ. FT.	SELECT GRANULAR BACKFILL CU. YD.	COPING LIN. FT.	LEVELING PAD LIN. FT.	**24" CORRUGATED METAL PIPE SLEEVES	MSE WALL EXC. CU. YD.
ABUT. #1	*	*	*	*	*	*

\* MEASURED FROM CONCRETE LEVELING PAD TO TOP OF COPING  
\*\*SEE BRIDGE PLANS FOR CORRUGATED METAL PIPE LAYOUT



TYPICAL SECTION OF BACKFILL  
(NOT TO SCALE)

WARP FILL SLOPE AROUND BLUNT ENDS OF WALL.

GRANULAR BACKFILL SHALL BE CAPPED WITH 3 FEET OF SOIL.

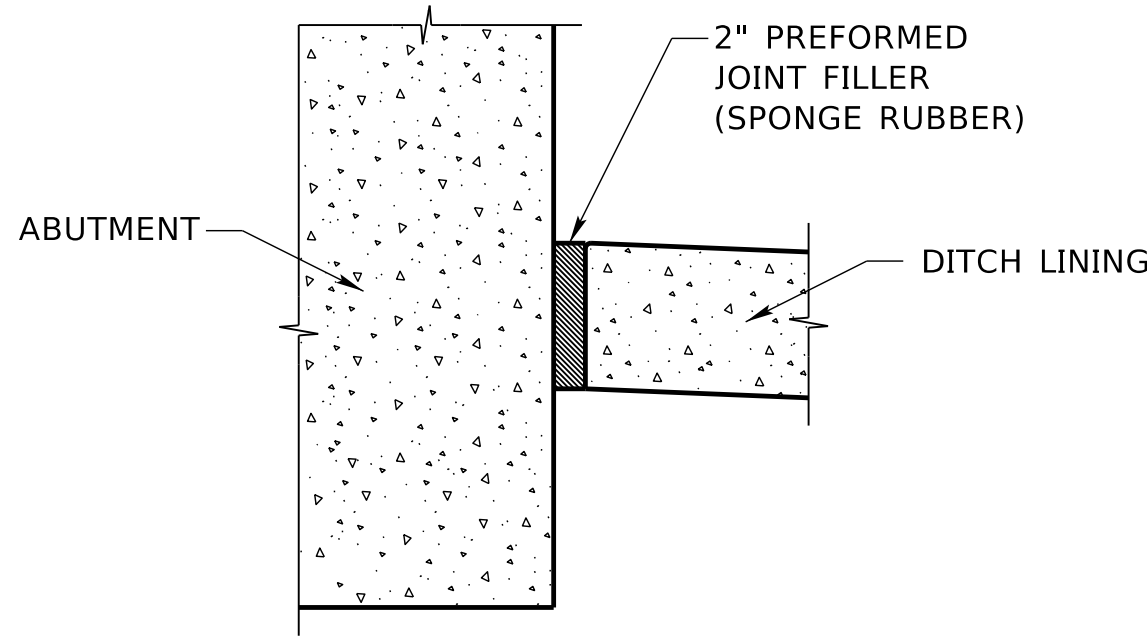
MSE WALL TEXTURE:

THE FRONT FACE OF THE MSE WALL SHALL BE TEXTURED USING SYMONS FORM LINERS FRACTURED GRANITE PATTERN (P/C30611 OR P/C30907), OR FITZGERALD FORM LINERS PATTERN NO. 16980 OR AN APPROVED EQUAL.

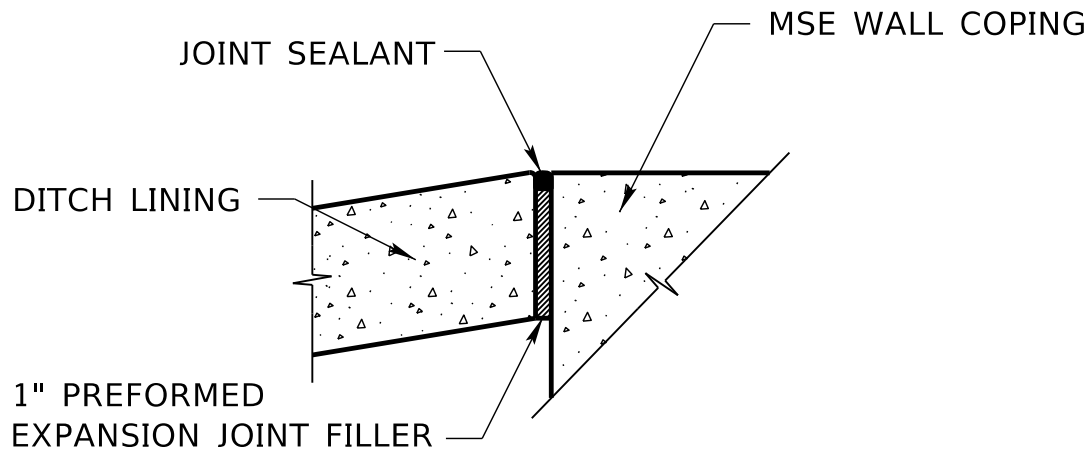
VOLUME OF SELECT GRANULAR BACKFILL =  $\sum \left( \frac{(0.7 \times H1) \times A1 \text{ (SQ. FT.)}}{27} \right) + \left( \frac{(0.7 \times H2) \times A2 \text{ (SQ. FT.)}}{27} \right) + \left( \frac{(0.7 \times H3) \times A3 \text{ (SQ. FT.)}}{27} \right) + \left( \frac{(0.7 \times H4) \times A4 \text{ (SQ. FT.)}}{27} \right)$

SUMMARY OF QUANTITIES						
LOCATION	*CONCRETE FACE PANELS SQ. FT.	SELECT GRANULAR BACKFILL CU. YD.	COPING LIN. FT.	LEVELING PAD LIN. FT.	** 24" CORRUGATED METAL PIPE SLEEVES	MSE WALL EXC. CU. YD.
ABUT. #1	*	*	*	*	*	*

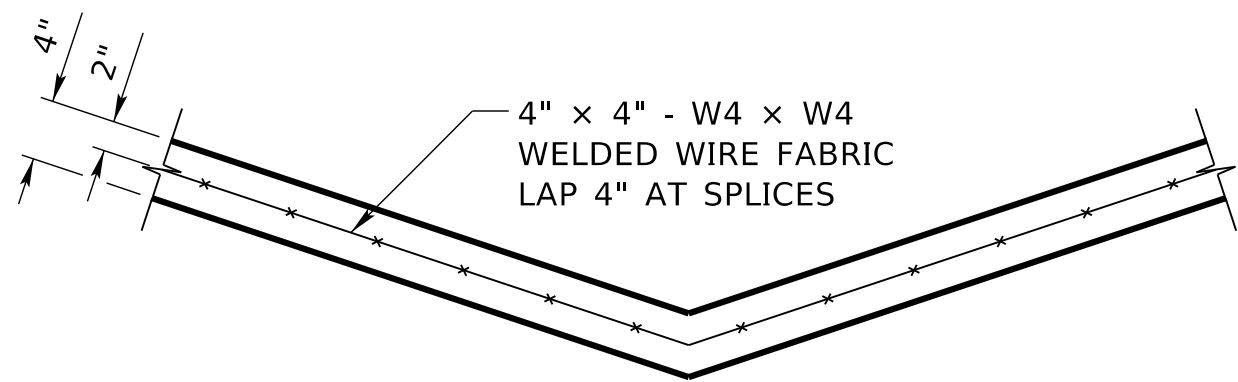
\* MEASURED FROM CONCRETE LEVELING PAD TO TOP OF COPING  
\*\*SEE BRIDGE PLANS FOR CORRUGATED METAL PIPE LAYOUT



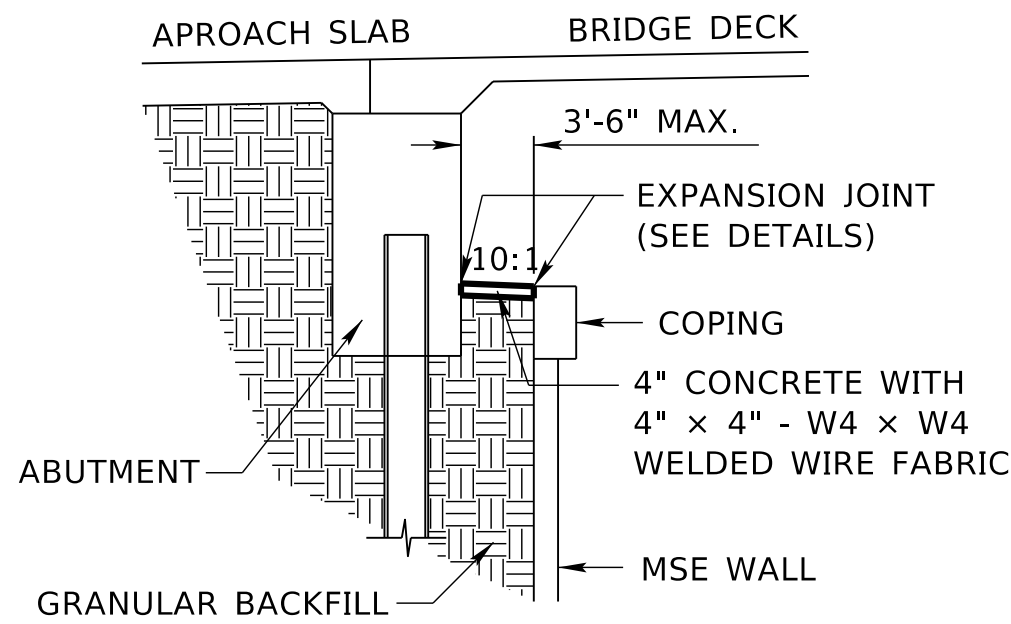
EXPANSION JOINT DETAIL



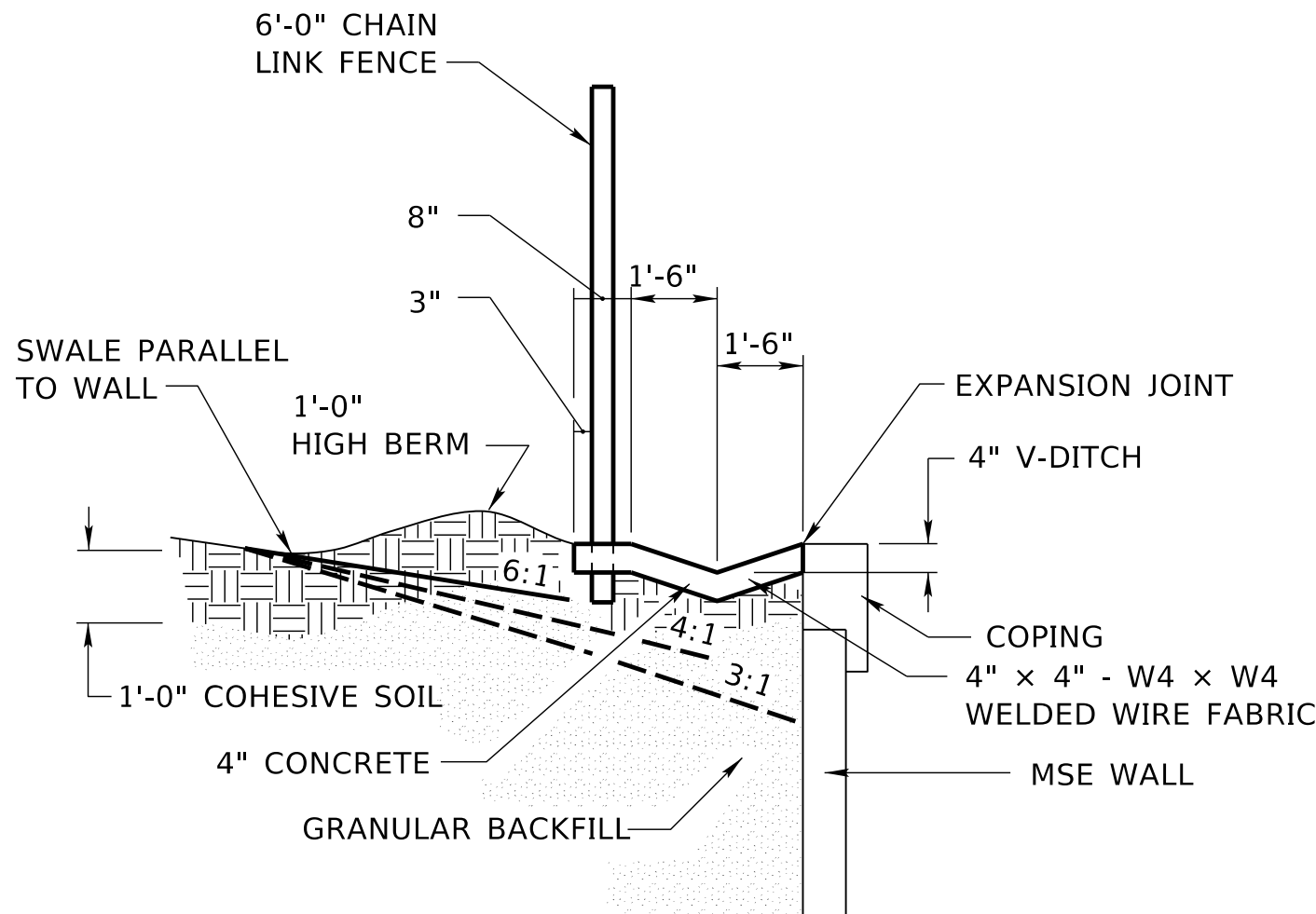
EXPANSION JOINT DETAIL



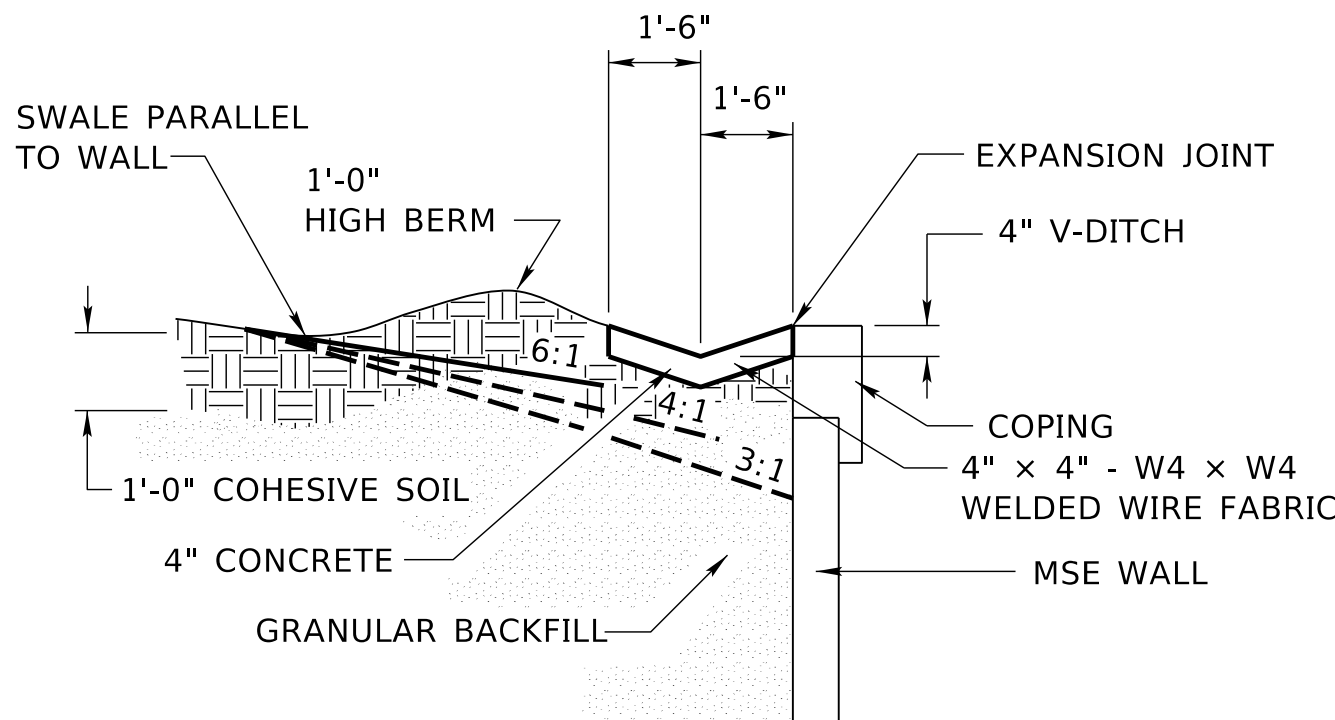
WELDED WIRE FABRIC DETAIL



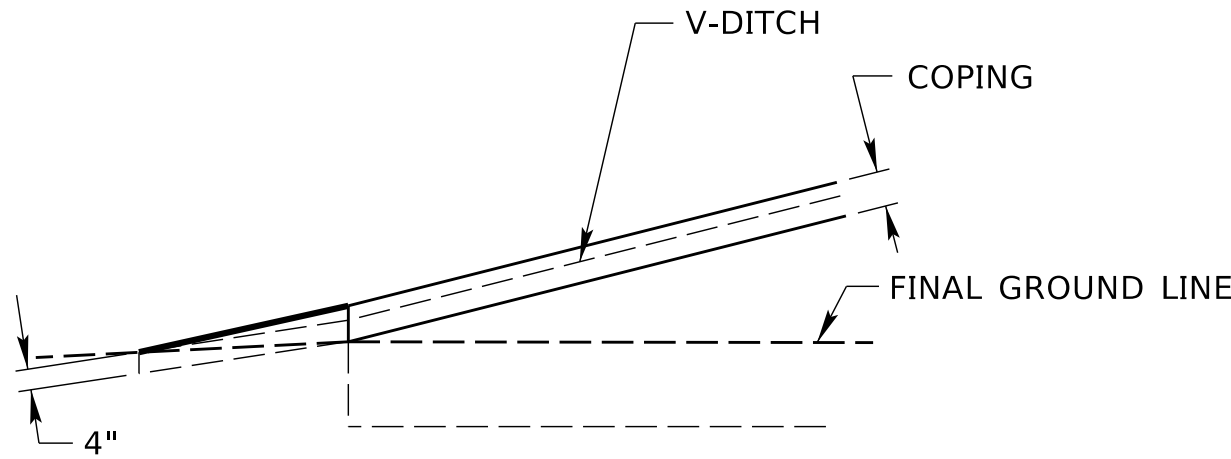
CONCRETE COPING/DITCH LINER DETAIL  
(ADJACENT TO ABUTMENT)



CONCRETE DITCH LINER DETAIL WITH FENCE  
(ALONG FORESLOPES)

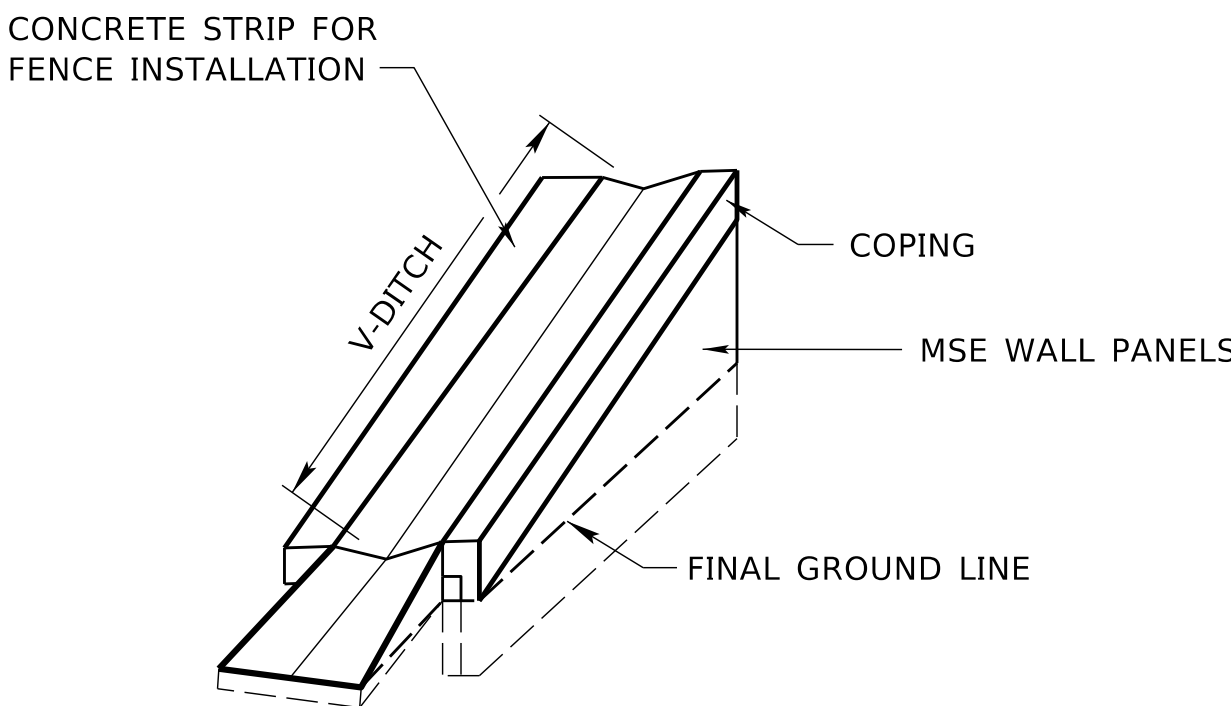


CONCRETE DITCH LINER DETAIL  
(ALONG FORESLOPES)



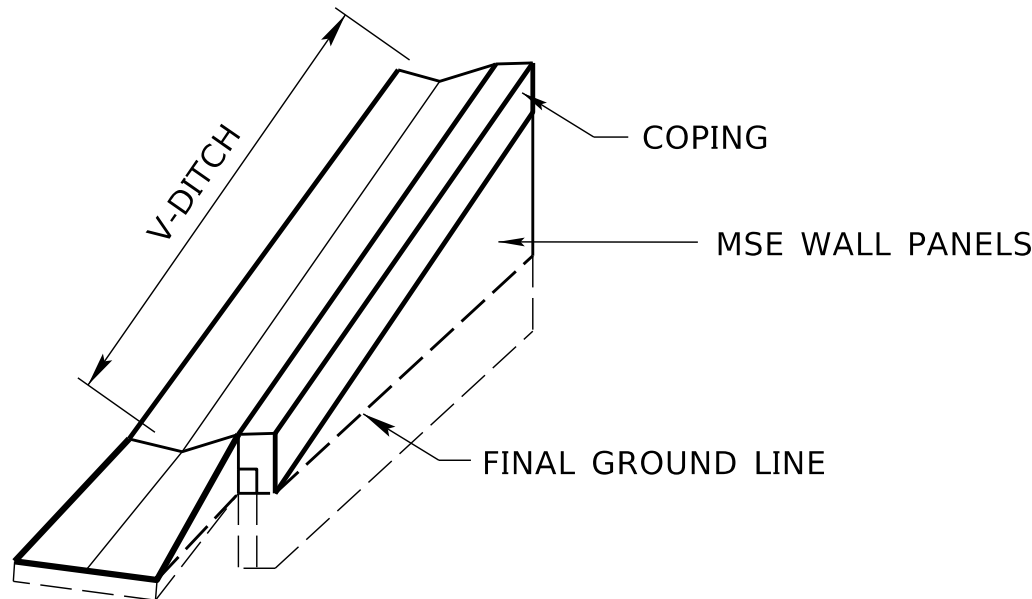
NOTE:  
FIELD ENGINEER TO  
PLACE AS NEEDED

PLAN  
CONCRETE DITCH FLUME DETAIL  
(SUBSIDIARY)



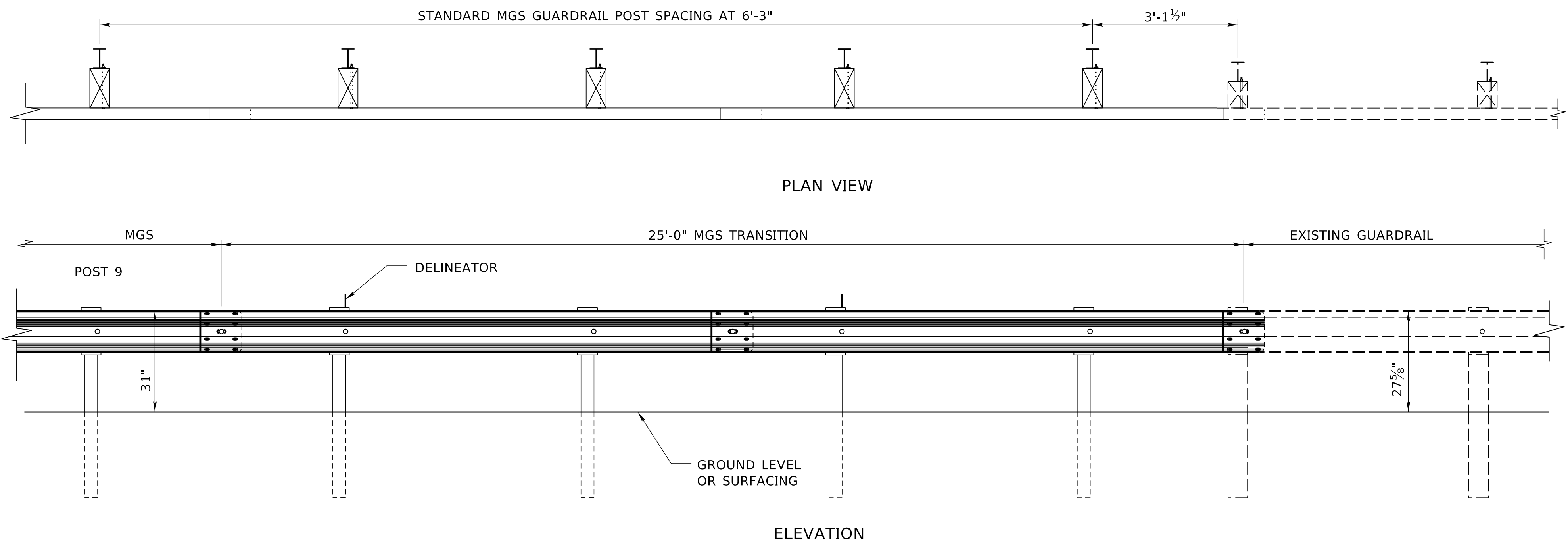
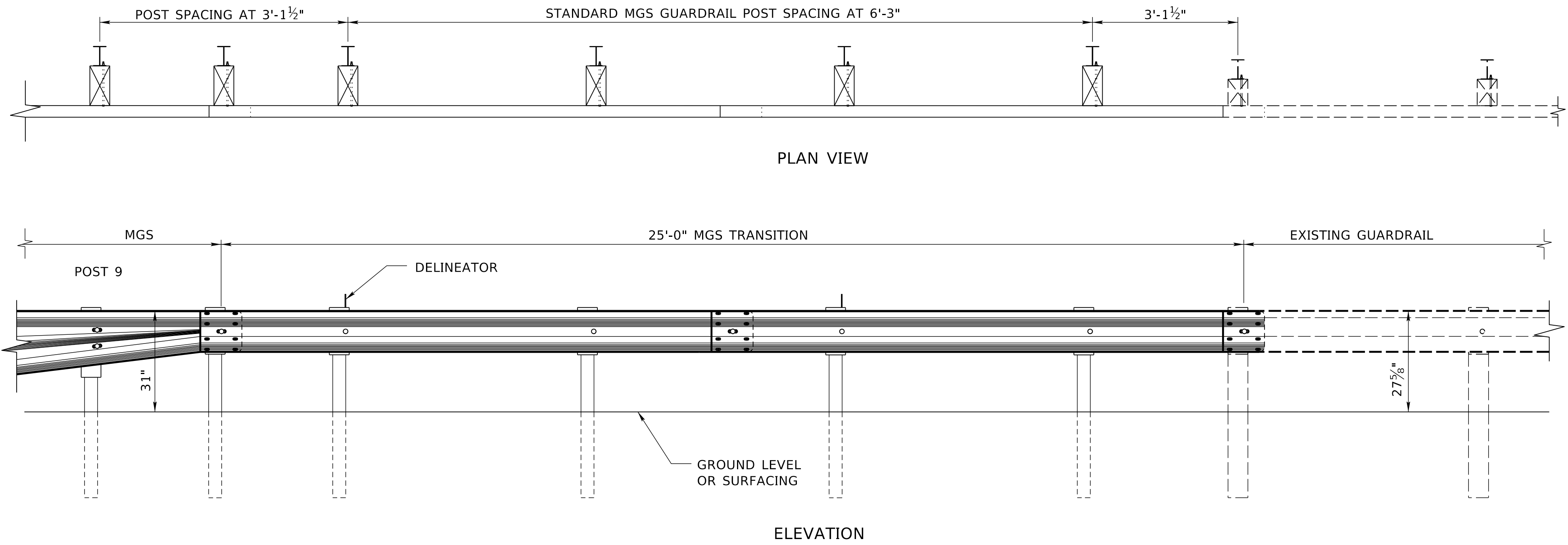
NOTE:  
FIELD ENGINEER TO  
PLACE AS NEEDED

ELEVATION  
CONCRETE DITCH FLUME  
DETAIL WITH FENCE  
(SUBSIDIARY)



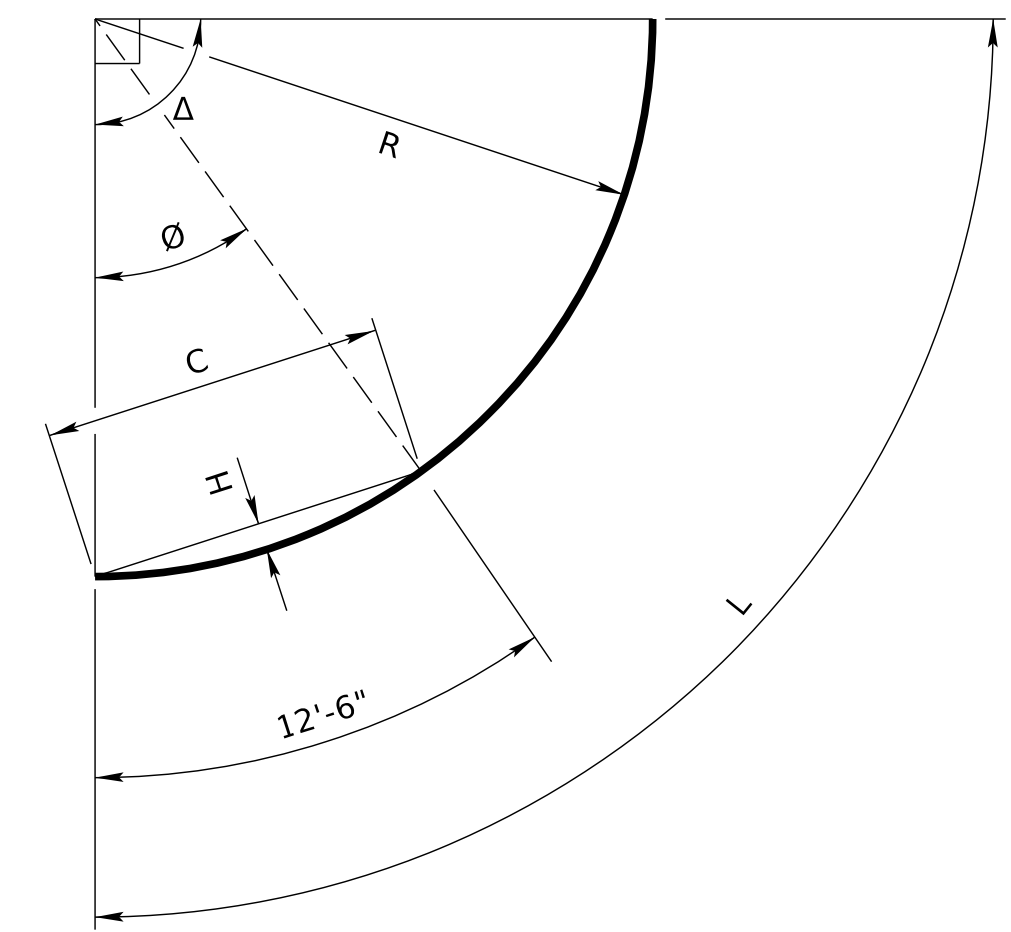
NOTE:  
FIELD ENGINEER TO  
PLACE AS NEEDED

ELEVATION  
CONCRETE DITCH FLUME DETAIL  
(SUBSIDIARY)



31" TRANSITION TO 27-5/8" GRAUDRAIL  
STANDARD DETAIL





DETAIL OF CURVED BEAM

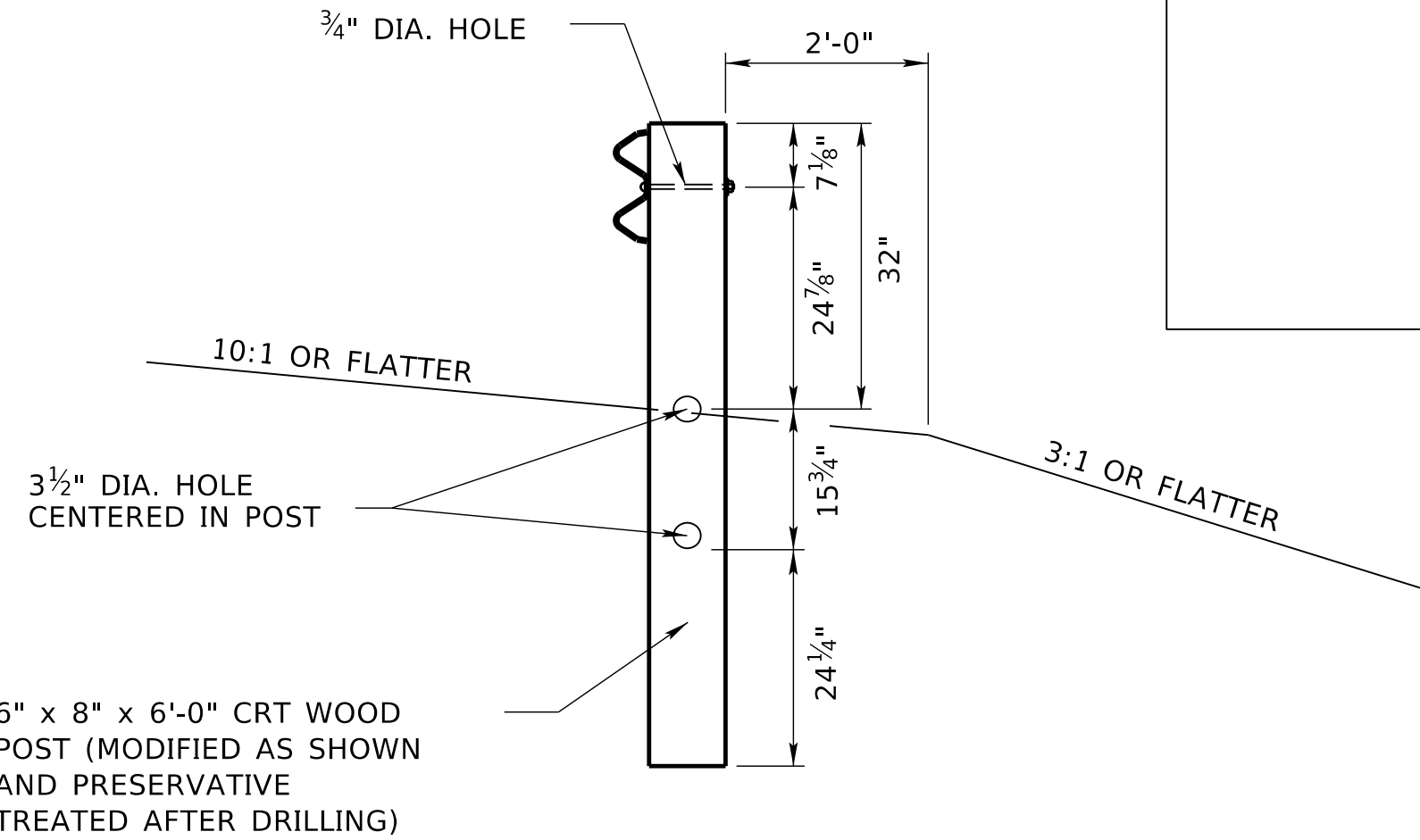
RADIUS (R) @ BACK OF RAIL	NUMBER OF CRT POSTS		CURVED BEAM INFORMATION			
	ON CURVE (Δ=90°)	ON TANGENT	L	C	H	Ø
15.92'	5	2	25.00'	12.18'	1.21'	45°
19.89'	6	2	31.25'	12.30'	0.97'	36°
27.85'	8	2	43.75'	12.40'	0.70'	25°45"
35.81'	10	2	56.25'	12.44'	0.54'	20°

NOTE:  
SHOP BEND GUARDRAIL WHEN RADIUS IS SHARPER THAN 150'.

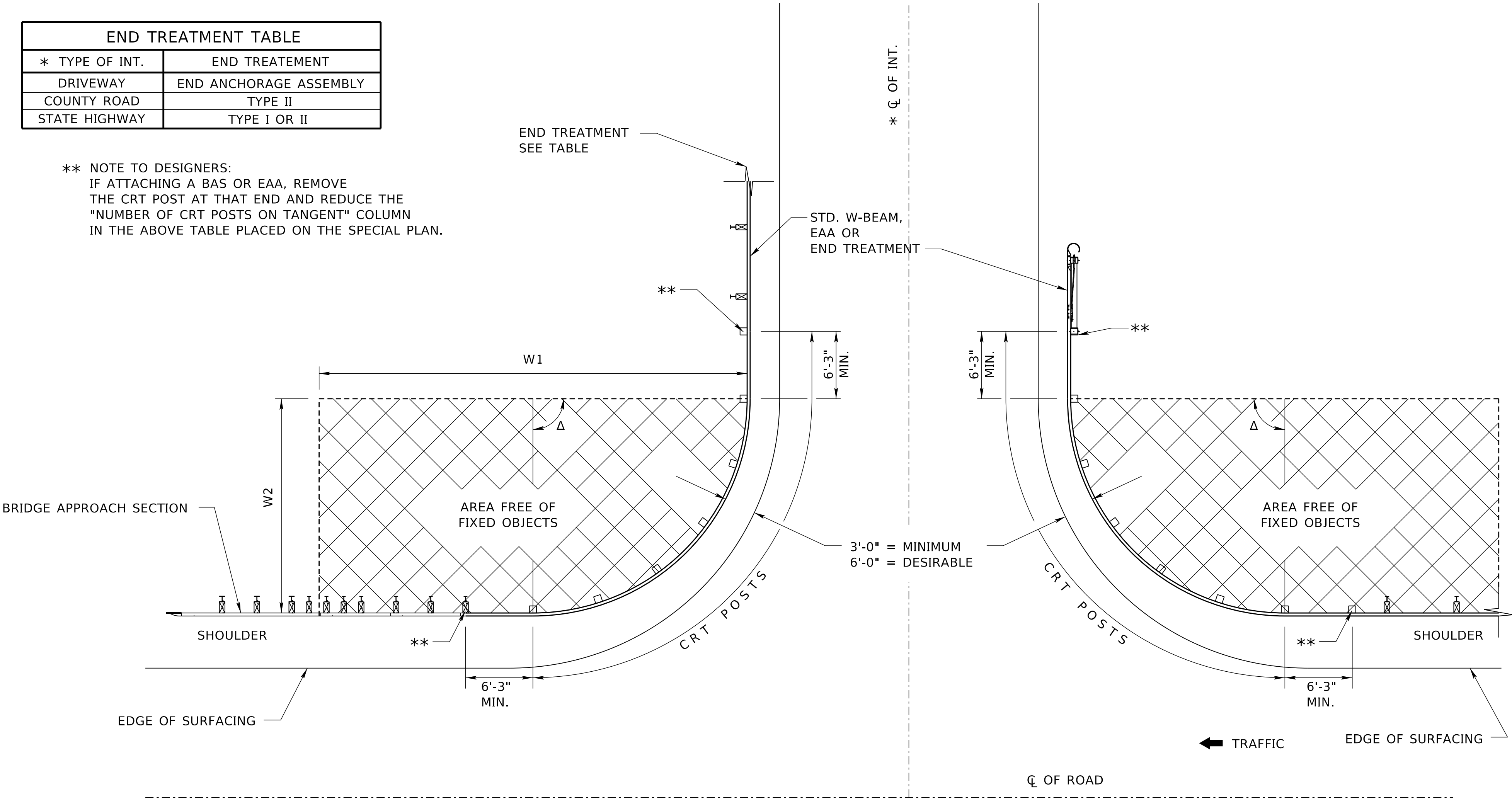
NOTE TO DESIGNERS:  
THIS SYSTEM DOES NOT MEET MASH COMPLIANCE, BUT IT IS THE ONLY OPTION FOR CURVED BEAM.  
IT IS COMMON PRACTICE TO USE THIS SYSTEM AS A LAST OPTION. USE THIS  
SYSTEM WITH DISCRETION UNTIL ANOTHER SYSTEM IS DEVELOPED.

END TREATMENT TABLE	
* TYPE OF INT.	END TREATMENT
DRIVEWAY	END ANCHORAGE ASSEMBLY
COUNTY ROAD	TYPE II
STATE HIGHWAY	TYPE I OR II

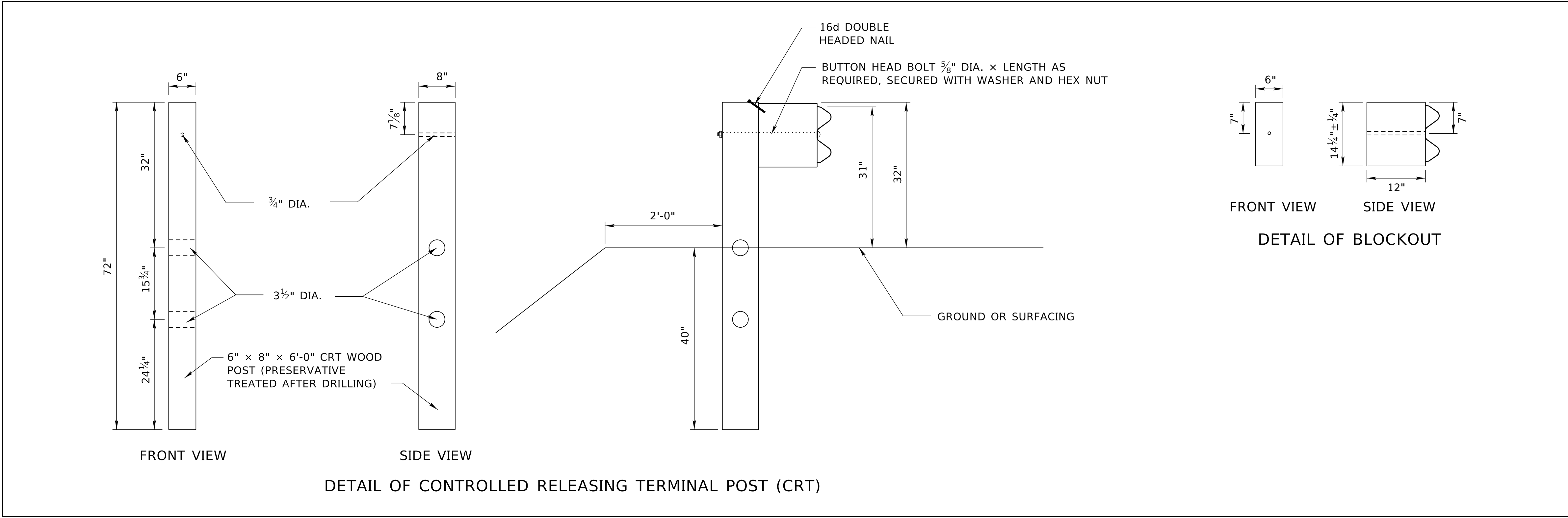
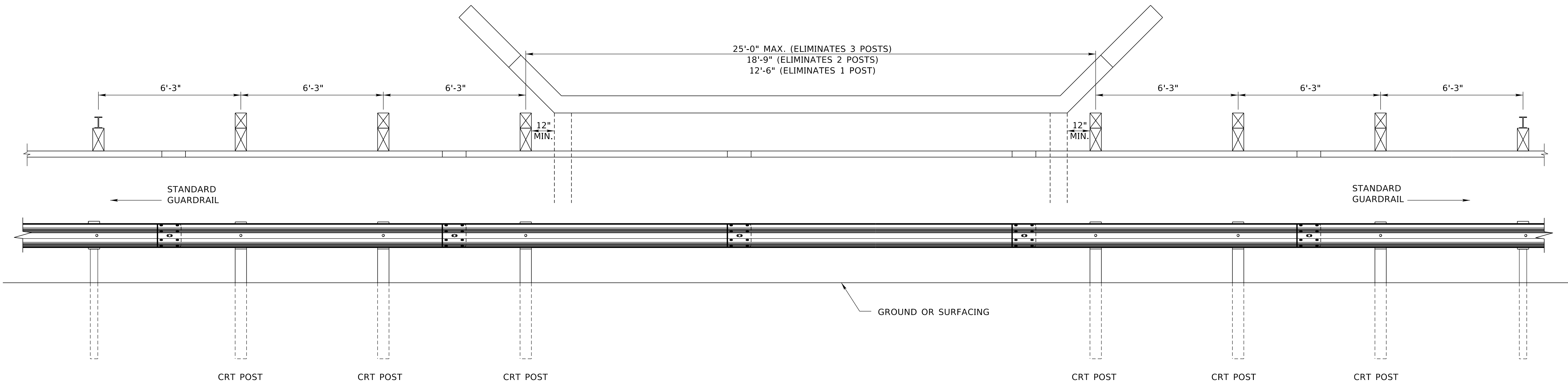
\*\* NOTE TO DESIGNERS:  
IF ATTACHING A BAS OR EAA, REMOVE  
THE CRT POST AT THAT END AND REDUCE THE  
"NUMBER OF CRT POSTS ON TANGENT" COLUMN  
IN THE ABOVE TABLE PLACED ON THE SPECIAL PLAN.



DETAIL OF CONTROLLED RELEASING  
TERMINAL POST (CRT)



EXAMPLE OF CURVED BEAM INSTALLATION



MGS FOR LONG SPAN  
STANDARD DETAIL

NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway  
Design  
Division



