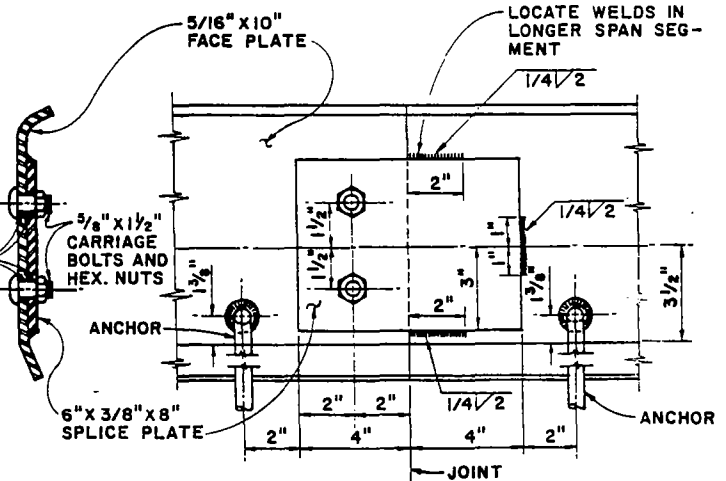
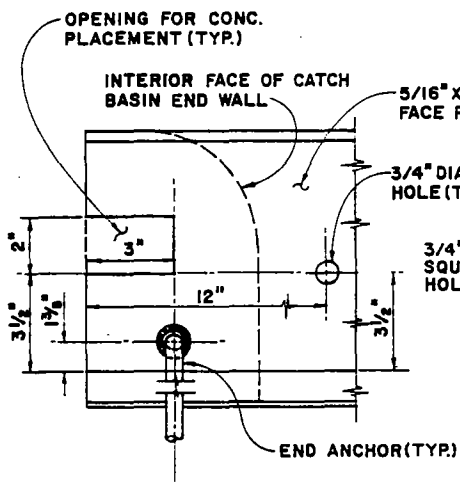
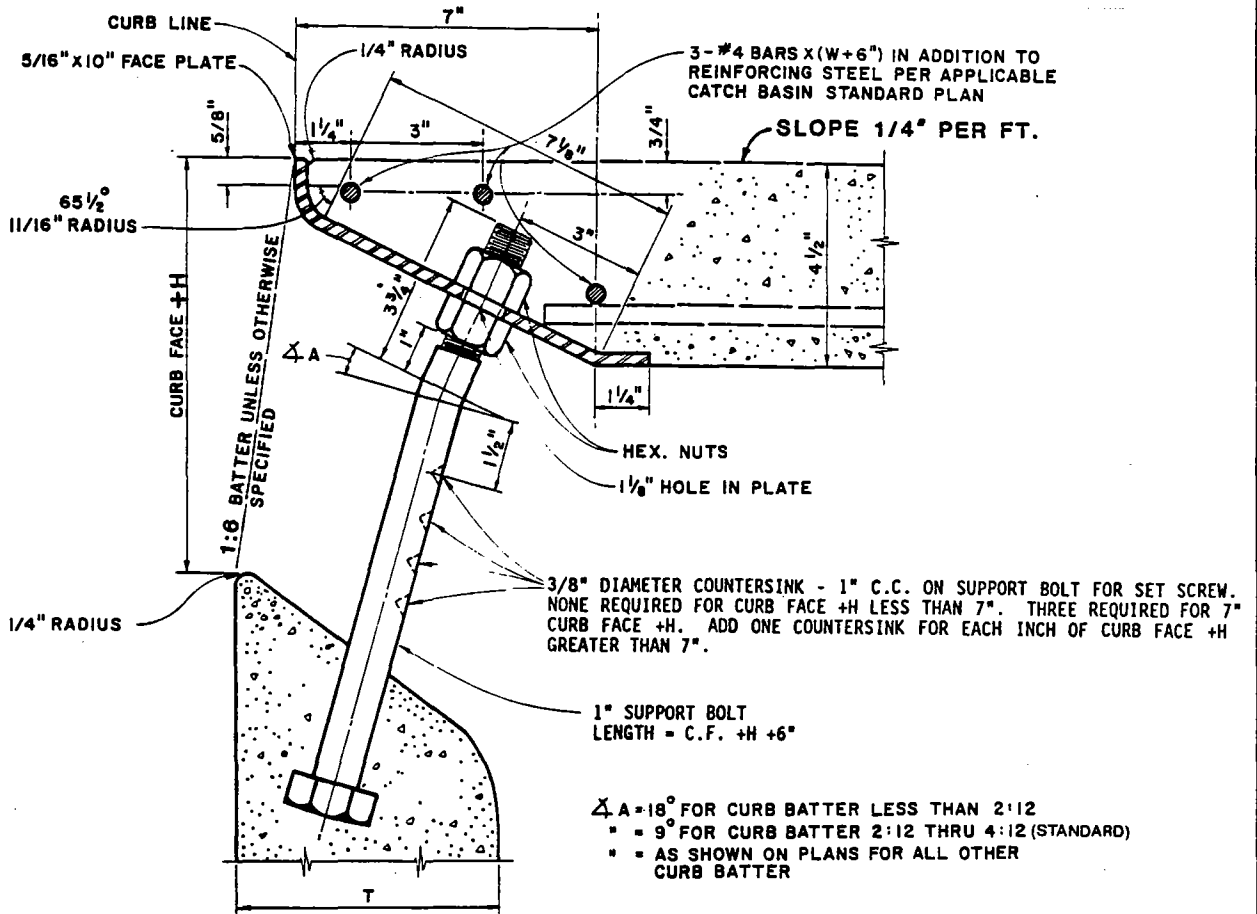
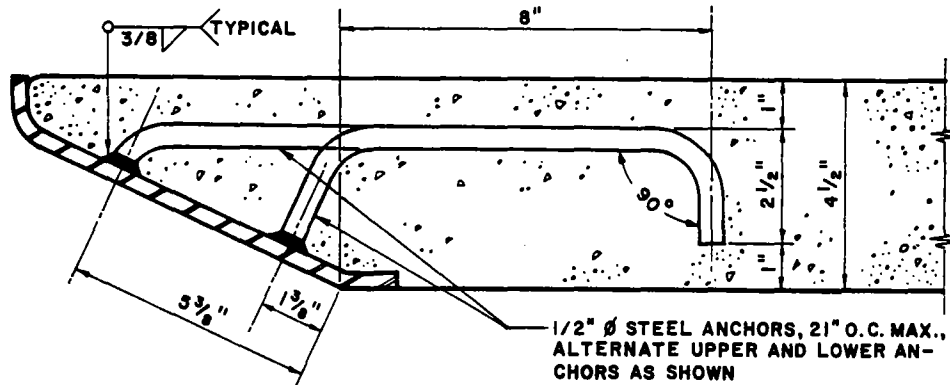


SUPPORT BOLT AND FACE PLATE

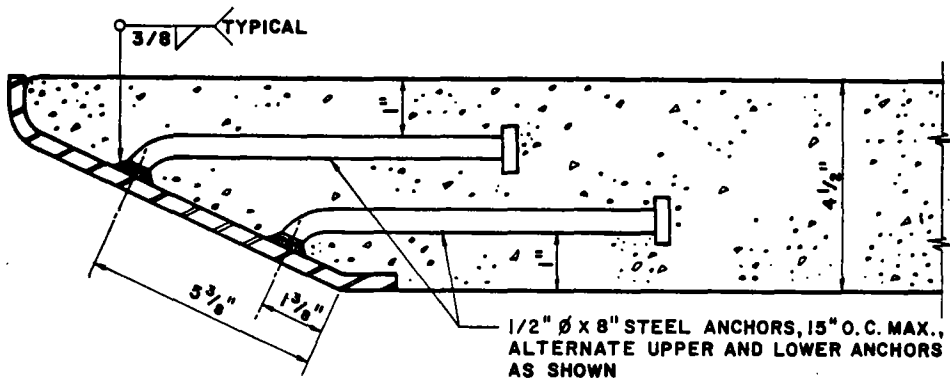


REVISIONS	CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO. DATE	CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR	611
1	APPROVED BY: <i>Edward J. Suty</i>	SHEET
2	CITY ENGINEER R.E. No. 24233	DATE: 6-26-89
3		EX. DATE 12-31-89
4		1 OF 5

FACE PLATE ANCHORS



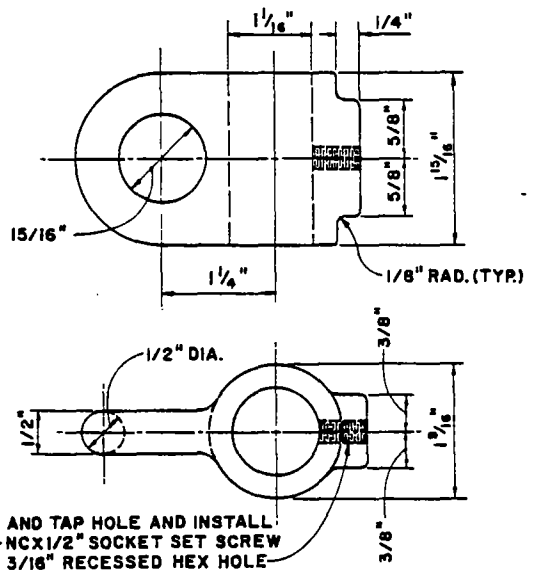
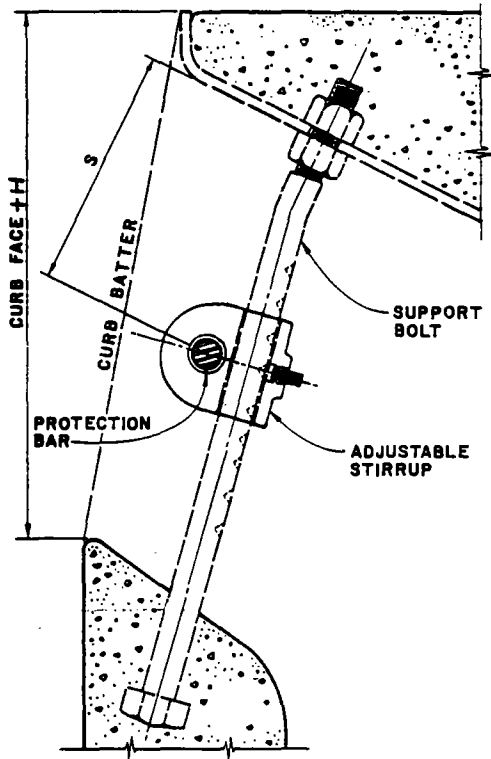
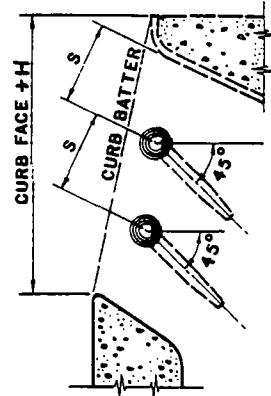
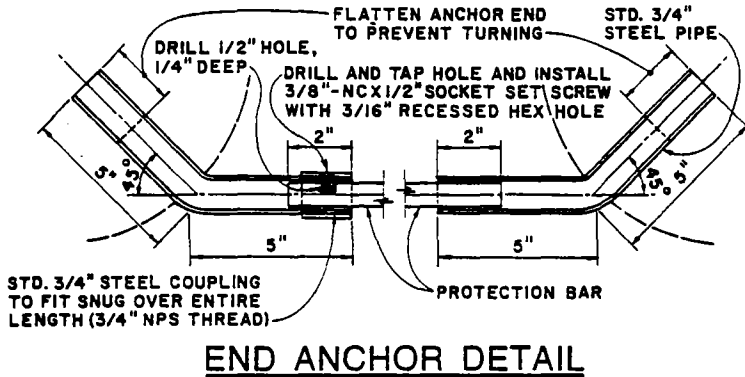
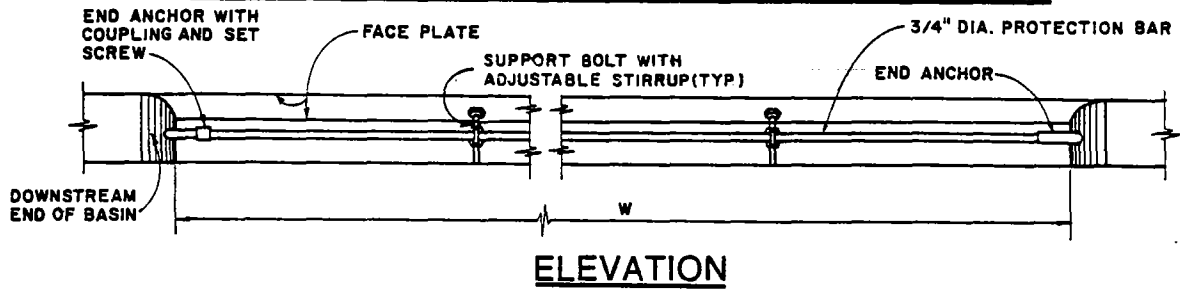
HOOK ANCHOR



ROUND HEAD ANCHOR

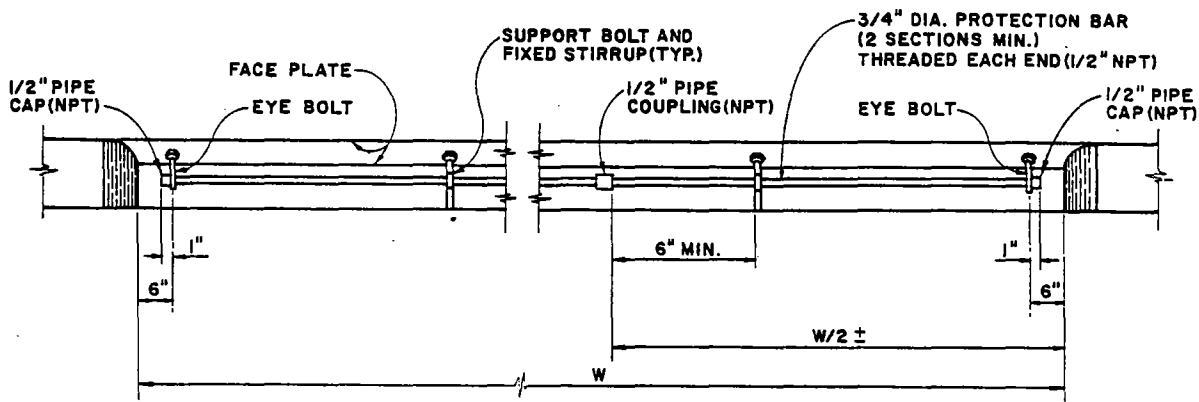
REVISIONS	CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS	STANDARD PLAN NO.
NO. DATE	CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR	611
1		SHEET
2		2 OF 5
3	APPROVED BY: <i>Edward J. Fritz</i>	DATE: 6-26-89
4	CITY ENGINEER R.E. No. 24233	EX. DATE 12-31-89

PROTECTION BAR AND SUPPORT BOLT(S) WITH ADJUSTABLE STIRRUP(S) — (TYPE A)

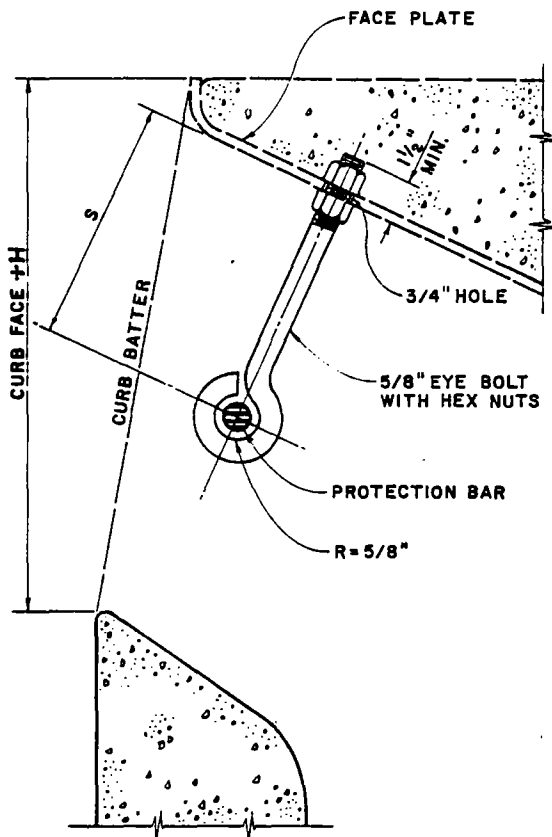


REVISIONS	CITY OF LONG BEACH, CALIFORNIA	STANDARD PLAN NO.
NO. DATE	DEPARTMENT OF PUBLIC WORKS	
1	CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR	611
2		
3	APPROVED BY: <i>Edward J. Kelly</i>	SHEET
4	CITY ENGINEER R.E. No. 24233	DATE: 6-26-89 EX. DATE 12-31-89
		3 OF 5

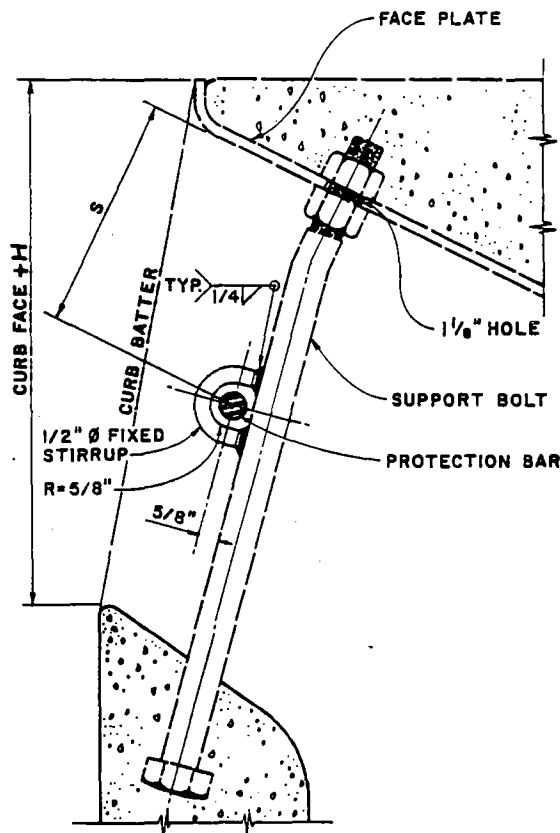
PROTECTION BAR AND SUPPORT BOLT(S) WITH FIXED STIRRUP(S) — (TYPE B)



ELEVATION



EYE BOLT DETAIL



STIRRUP DETAIL

REVISIONS	CITY OF LONG BEACH, CALIFORNIA		STANDARD PLAN NO.
NO.	DATE	DEPARTMENT OF PUBLIC WORKS	
1		CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR	611
2			
3		APPROVED BY: <i>Edward J. Kelly</i>	SHEET
4		CITY ENGINEER R.E. No. 24233	4 OF 5
		DATE: 6-26-89	
		EX. DATE: 12-31-89	

NOTES:

GENERAL

1. ALL PARTS SHALL BE STEEL EXCEPT SET SCREWS, WHICH SHALL BE STAINLESS STEEL OR BRASS.
2. EXCLUDING SET SCREWS, ALL EXPOSED METAL PARTS SHALL BE GALVANIZED AFTER FABRICATION.
3. CURB FACE AND H DIMENSION SHALL BE AS NOTED ON THE PROJECT PLANS.
4. CURB BATTER SHALL BE 1:6 UNLESS OTHERWISE SPECIFIED.

FACE PLATE

5. FACE PLATE LENGTHS SHALL BE CATCH BASIN W PLUS 12 INCHES.
6. WHEN THE LENGTH OF THE FACE PLATE IS BETWEEN 22 FEET AND 43 FEET, 2 SECTIONS MAY BE USED. WHEN THE LENGTH EXCEEDS 43 FEET, 3 SECTIONS MAY BE USED. SECTIONS SHALL BE SPLICED ACCORDING TO THE APPLICABLE SPLICE DETAIL. SPLICE SHALL BE PLACED ONE FOOT FROM A SUPPORT BOLT.
7. WHERE CATCH BASINS ARE TO BE CONSTRUCTED ON CURVES, THE MAXIMUM CHORD LENGTH FOR THE FACE PLATE SHALL BE SUCH THAT THE MAXIMUM PERPENDICULAR DISTANCE TO THE TRUE CURVE SHALL NOT EXCEED ONE INCH. WHERE MORE THAN ONE CHORD IS REQUIRED, CHORD LENGTHS SHALL BE EQUAL. CHORD SECTIONS SHALL BE SPLICED ACCORDING TO THE APPLICABLE SPLICE DETAIL (MODIFIED TO FIT THE CHORD DEFLECTION) AND A SUPPORT BOLT SHALL BE PLACED ONE FOOT FROM THE SPLICE.
8. ROUND HEAD ANCHORS FOR THE FACE PLATE SHALL BE NELSON H-4F SHEAR CONNECTOR, KSM WELDING SYSTEMS DIVISION SHEAR CONNECTOR OR EQUAL.

SUPPORT BOLT

9. SUPPORT BOLTS ARE REQUIRED WHEN THE LENGTH OF THE CATCH BASIN OPENING IS 7 FEET OR GREATER, AND SHALL BE EVENLY SPACED ACROSS THE OPENING. SPACING SHALL NOT BE LESS THAN 3 FEET 6 INCHES ON CENTER NOR GREATER THAN 5 FEET ON CENTER.

STIRRUP

10. FOR TYPE A, THE MATERIAL SHALL BE CAST STEEL.

PROTECTION BAR

11. TYPE A SHALL BE USED UNLESS OTHERWISE SPECIFIED.
12. FOR TYPE A, THE BAR SHALL BE CUT TO FIT IN THE FIELD. WHEN "W" IS OVER 21 FEET, THE PROTECTION BAR SHALL CONSIST OF 2 OR MORE SECTIONS. A SPECIAL CONNECTOR BETWEEN THE PROTECTION BAR PIECES SHALL CONSIST OF A 5-INCH LENGTH OF STANDARD 3/4-INCH PIPE WITH STANDARD COUPLINGS FULLY THREADED ONTO EACH END DRILLED AND TAPPED FOR A SOCKET SET SCREW AS DETAILED FOR THE DOWNSTREAM END ANCHOR.
13. FOR TYPE B, THE BAR SHALL BE TWO PIECES. TWO EYE BOLTS AND A WELDED STIRRUP ON EACH SUPPORT BOLT ARE REQUIRED.
14. NUMBER OF PROTECTION BARS AND LOCATION (S) ARE AS FOLLOWS:

		MAXIMUM CURB FACE +H															
		0'-6"	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'			
CURB BATTER	0:12	0	0	3.5"	3.5"	3.5"	4.5"	4.5"	5.5"	3.5"	3.5"	4.5"	4.5"	4.5"			
	1:12	0	0	3.5"	3.5"	3.5"	4.5"	4.5"	5.5"	3.5"	3.5"	4.5"	4.5"	5.5"			
	2:12	0	0	3.5"	3.5"	4.5"	4.5"	5.5"	3.5"	3.5"	4.5"	4.5"	5.5"	5.5"			
	3:12	0	0	3.5"	3.5"	4.5"	4.5"	5.5"	3.5"	4.5"	4.5"	5.5"	5.5"	4.5"			
	4:12	0	3.5"	3.5"	4.5"	4.5"	5.5"	3.5"	3.5"	4.5"	4.5"	5.5"	4.5"	4.5"			
		0			1				2*					3*			
		NUMBER OF PROTECTION BARS															

FOR OTHER CURB FACE OR BATTER, SEE PROJECT PLANS
 *TYPE A PROTECTION BAR ONLY

REVISIONS		CITY OF LONG BEACH, CALIFORNIA DEPARTMENT OF PUBLIC WORKS CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR	STANDARD PLAN NO. 611
NO.	DATE		
1			
2			
3			
4		APPROVED BY: <u>Edward R. Butz</u> CITY ENGINEER R.E. No. 24233	DATE: <u>6-26-89</u> EX. DATE <u>12-31-89</u>
			SHEET 5 OF 5