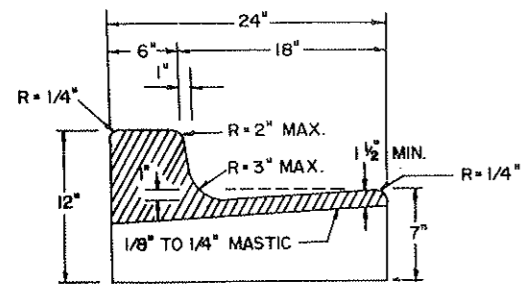


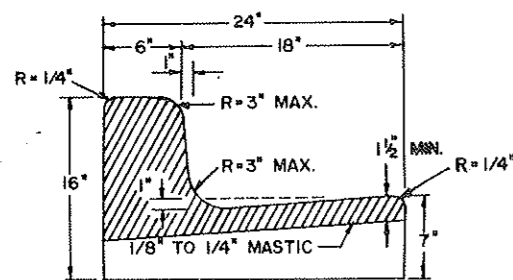
VALLEY GUTTER AND CURB & GUTTER

FHWA REGION	STATE	PROJECT	SHEET NO.
8	N.D.	M-1-988(02)	47

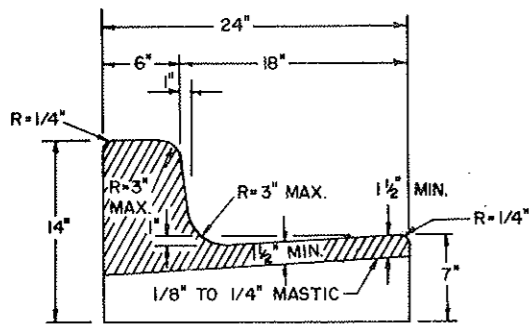
D-708-1



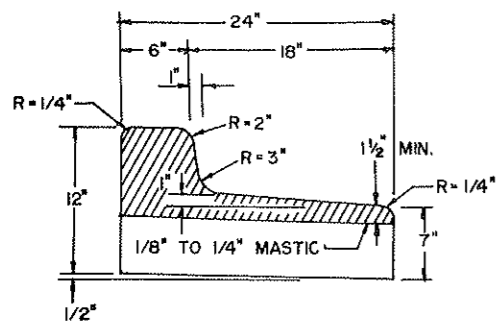
CURB & GUTTER TYPE I (SEC. A)



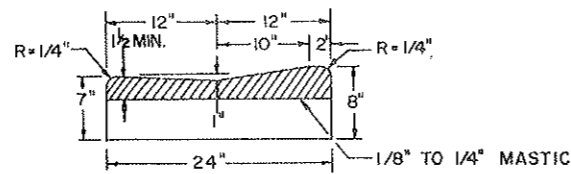
CURB & GUTTER TYPE I (SEC. B)



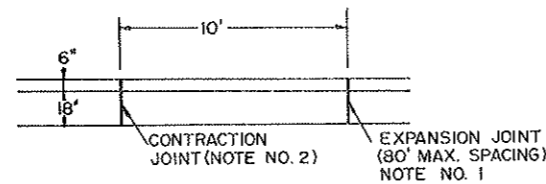
CURB & GUTTER TYPE I (SEC. C)



CURB & GUTTER TYPE I (SEC. D)



MOUNTABLE CURB & GUTTER TYPE I (SEC. A)

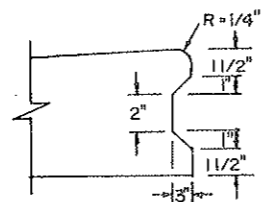


EXPANSION JOINT DETAIL

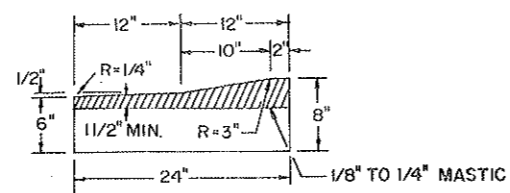
NOTE NO. 1 3/4" PREMOLDED EXPANSION JOINT FULL DEPTH AND SAME SHAPE AS CURB AND GUTTER. ALL JOINTS BE SEALED IN A MANNER AND WITH A MATERIAL APPROVED BY THE ENGINEER.

NOTE NO. 2 CONTRACTION JOINTS: USE 1/8"-1/4" ASPHALTIC MASTIC BOARD EMBEDDED 1 1/2" INTO THE GUTTER AND THROUGH THE CURB. THE CONTRACTOR MAY SCORE THE CURB AND GUTTER TO A DEPTH OF 2" AS AN ALTERNATE TO USING ASPHALTIC MASTIC BOARD UPON APPROVAL OF THE ENGINEER. CONTRACTION JOINTS SPACING SHALL BE AS SHOWN IN ABOVE DETAIL OR MATCH JOINTS ON PCC PAVT.

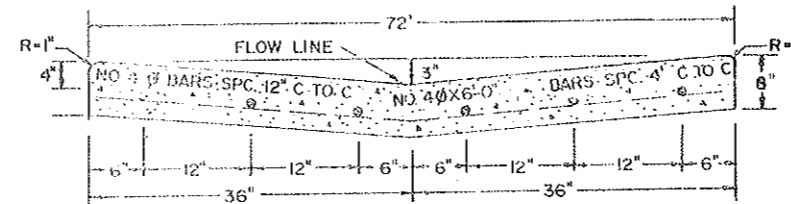
NOTE NO. 3 THE CONTRACTOR MAY USE A 5" TOP OF CURB IN PLACE OF A 6" FOR THE FACE OF THE CURB WILL BE MEASURED 6" FROM THE BACK OF THE CURB IN ALL CASES.



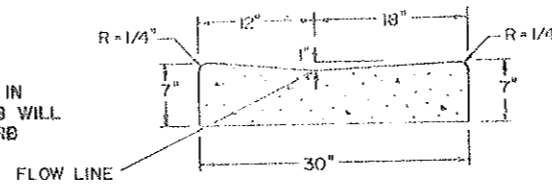
KEYWAY DETAIL FOR CURB & GUTTER (TO BE USED WITH P.C.C. PAVEMENT)



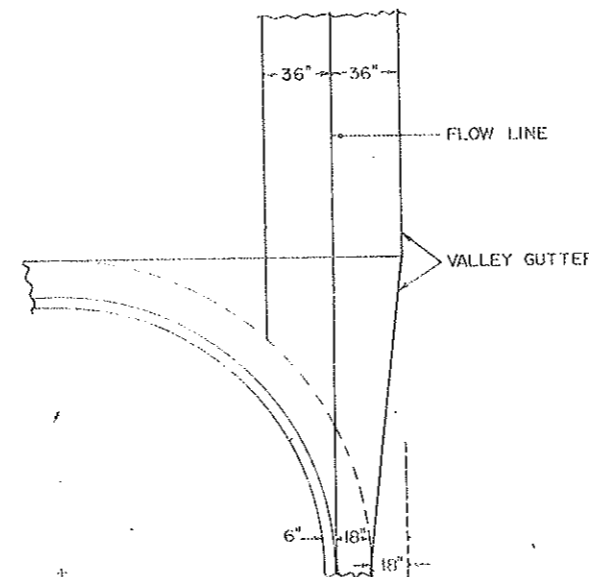
MOUNTABLE CURB & GUTTER TYPE I (SEC. B)



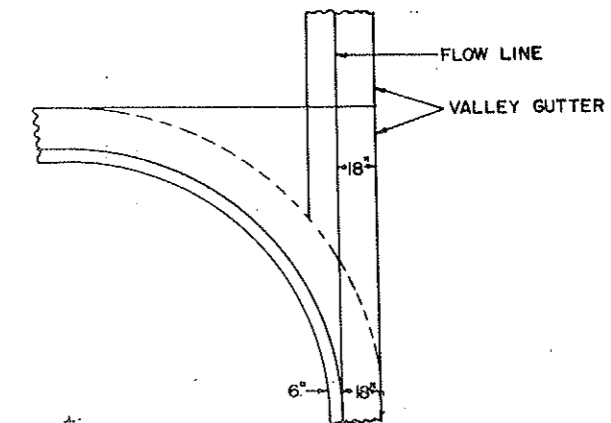
72" CONCRETE VALLEY GUTTER



30" CONCRETE VALLEY GUTTER



72" CONCRETE VALLEY GUTTER



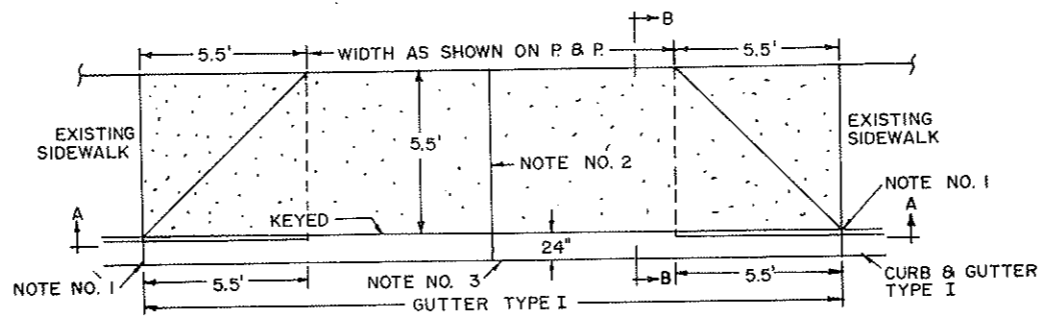
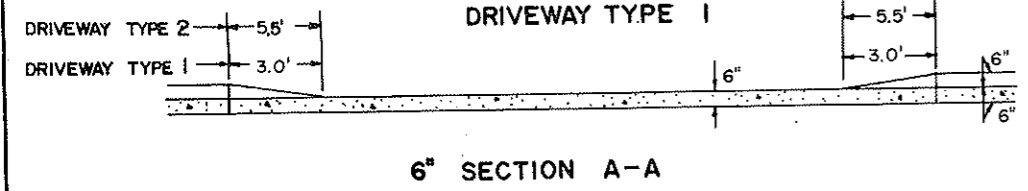
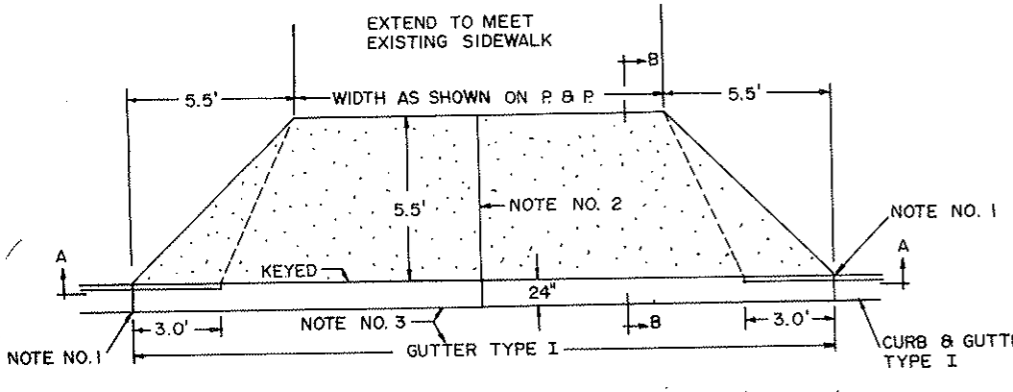
30" CONCRETE VALLEY GUTTER

7-26-77 REVISIONS		NORTH DAKOTA STATE HIGHWAY DEPARTMENT
DATE	CHANGE	
		Submitted: <i>Richard S. Siga</i> Design Engineer
		Recommended: <i>Richard S. Siga</i> Asst. Chief Engineer Pre-Construction
		Approved: <i>Richard S. Siga</i> Chief Engineer

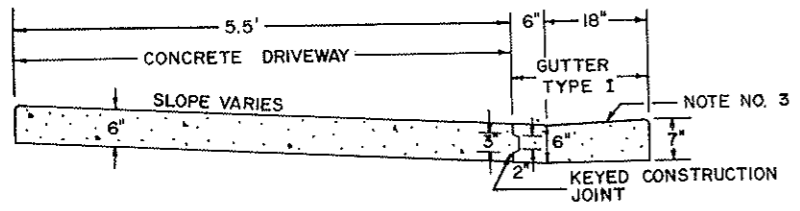
CONCRETE DRIVEWAY (URBAN)

WIDTH	TYPE 1	TYPE 2
10'	9.5	12.8
12'	10.7	14.1
14'	11.9	15.3
16'	13.1	16.5
18'	14.4	17.7
20'	15.6	18.9
22'	16.8	20.2
24'	18.0	21.4
26'	19.3	22.6
28'	20.5	23.8
30'	21.7	25.1

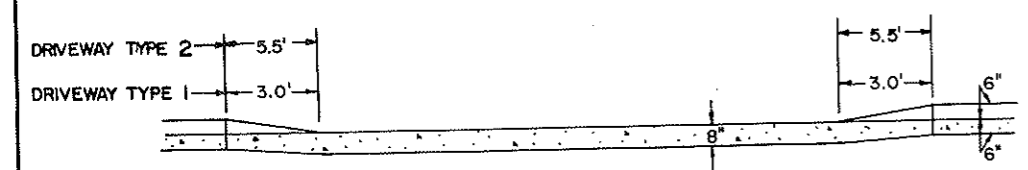
- NOTE NO. 1 3/4" PREMOLDED EXPANSION JOINT FULL DEPTH AND SAME SHAPE AS CURB AND GUTTER.
- NOTE NO. 2 CENTER JOINT SHALL BE USED ON ALL DRIVEWAYS 16' IN WIDTH OR GREATER. JOINTS SHALL BE A KEYED CONSTRUCTION JOINT OR A CONTRACTION JOINT SCORED 1/3 THE DEPTH OF THE CONCRETE. JOINT SHALL BE SEALED IN A MANNER AND WITH A MATERIAL APPROVED BY THE ENGINEER.
- NOTE NO. 3 GUTTER-TYPE I SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "CURB AND GUTTER-TYPE I"
- NOTE NO. 4 6" DRIVEWAY TO BE USED UNLESS OTHERWISE SPECIFIED.



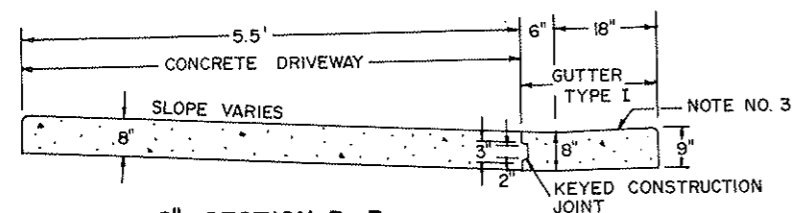
DRIVEWAY TYPE 2



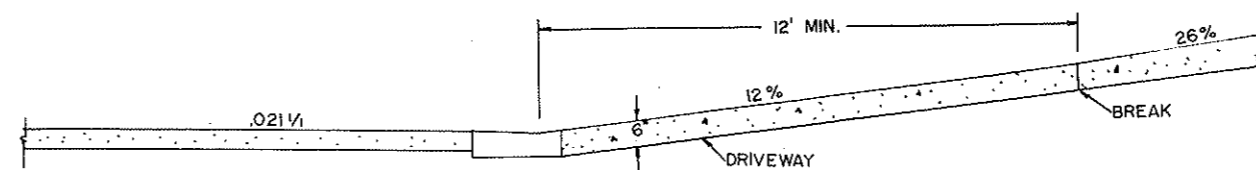
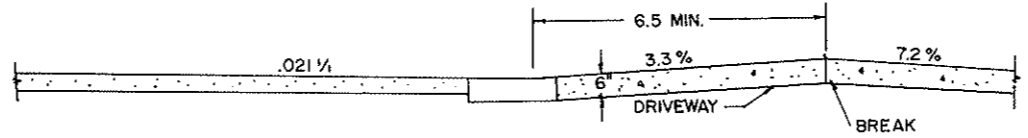
6" SECTION B-B
 CONCRETE DRIVEWAY DETAILS



8" SECTION A-A



8" SECTION B-B
 CONCRETE DRIVEWAY DETAILS



NOTE: ABOVE GRADIENTS ARE MAXIMUM VALUES ONLY. LESSER GRADIENTS ARE DESIRABLE WHERE EXISTING CONDITIONS PERMIT.

7-26-77		NORTH DAKOTA STATE HIGHWAY DEPARTMENT
REVISIONS		
DATE	CHANGE	Submitted: <i>John D. Schaefer</i> Design Engineer
		Recommended: <i>Alfred Bradley</i> Asst. Chief Engineer Pre-Construction
		Approved: <i>Alfred Bradley</i> Chief Engineer