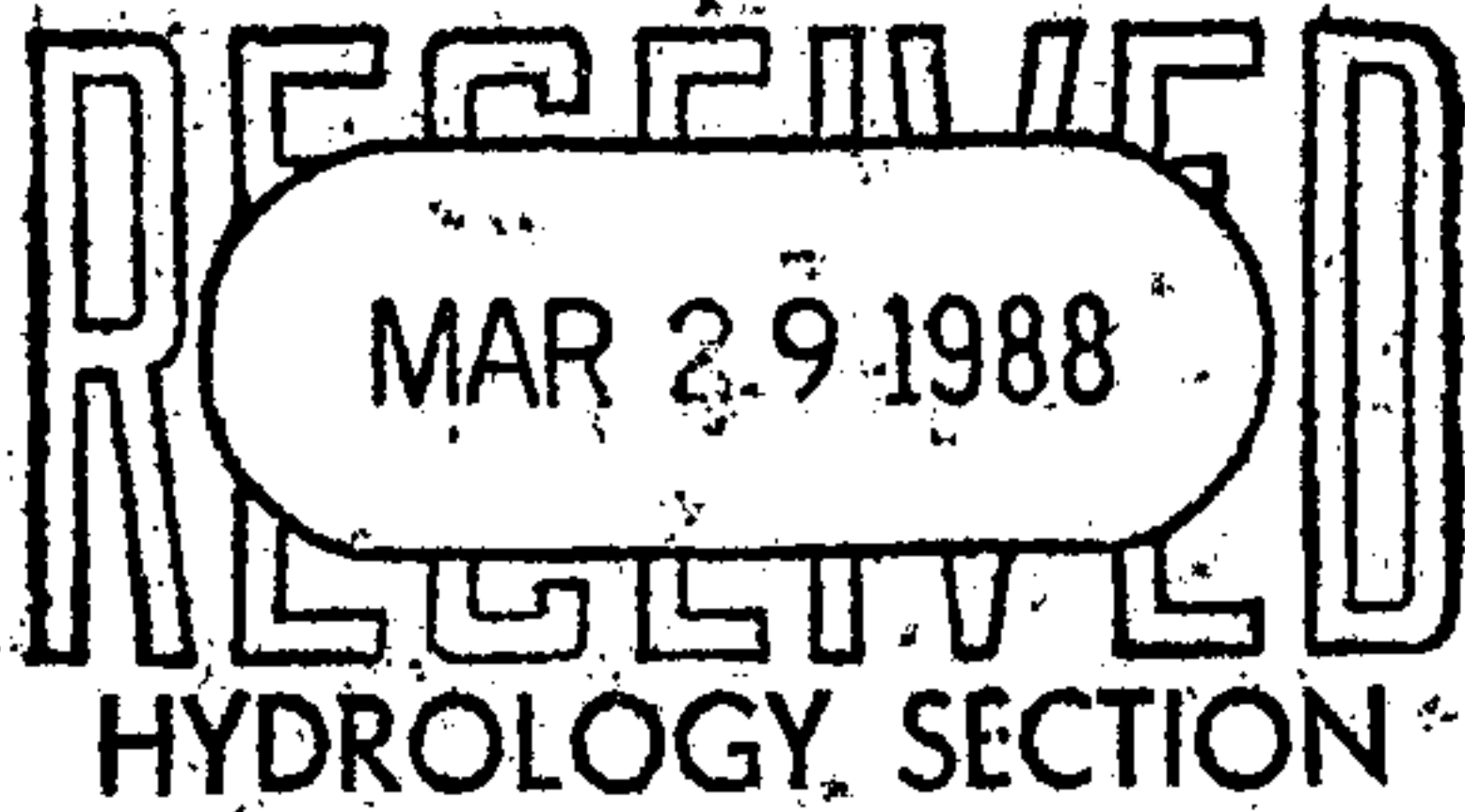




March 28, 1988

Mr. Jessie Ortiz
Project Engineer
Transportation Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: Drainage Analysis for Montgomery/Wyoming Intersection Improvements

Dear Mr. Ortiz:

We have analyzed the existing storm drain system at the intersection of Montgomery Boulevard and Wyoming Boulevard to determine the adequacy of the 21" RCP running southeast through the heart of the intersection. Assuming a half foot depth of flow above the normal gutter grade, the flow for each catch basin was determined. The total flow in the 21" RCP was then established. Based on this total flow and our analysis, we recommend that the 21" RCP be upgraded to a 30" RCP to accommodate the total flow in this section of the storm drain system.

Sincerely,

Melvin H. Dahlberg, P.E.
Project Manager

Enclosures

cc: Mr. Roger Green w/enclosures

CH/cs

Job No. 87402.10

PRINCIPALS

LARRY W. HUSTON

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BOHANNAN-HUSTON INC.



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6713 VISCOUNT BLVD. EL PASO, TEXAS 79925 (915) 778-4491

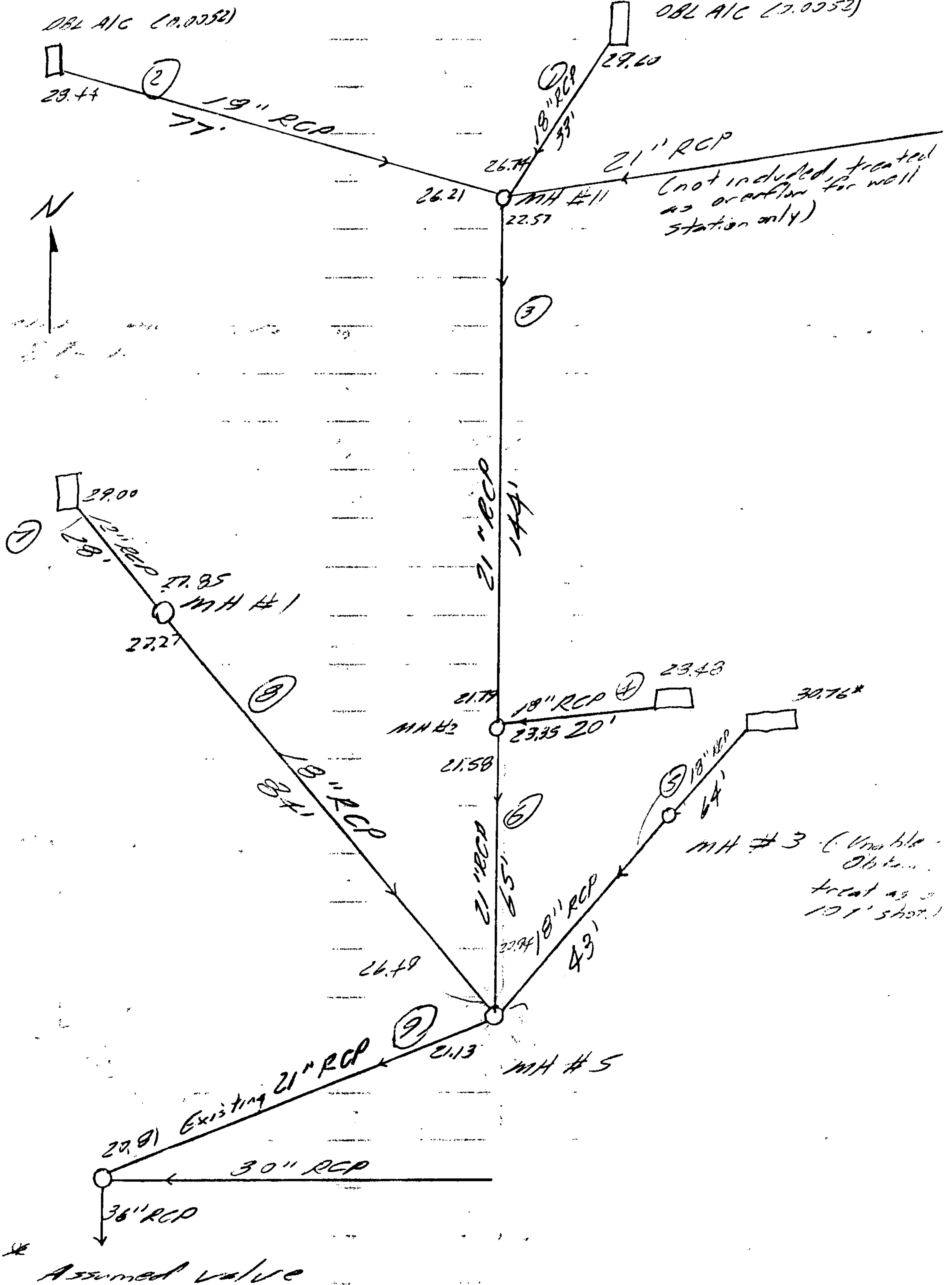
F-20

Montgomery / Wyoming
87-02.10
CWH

3/24/88

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MAR 29 1988
HYDROLOGY SECTION

STORM DRAIN CAPACITY ANALYSIS



Basin Capacity - Assuming .5' depth of flow

Basin No.	Basin Type	Street Slope	Q _{in} cfs
1	DBL A/C *	0.0052	5.3
2	DBL A/C *	0.0054	5.3
4	Single A	0.0054	4.6
5	DBL A/C *	0.0337	10.0
7	Single C	0.0052	4.4

Slopes

Pipe No.	Slope	Q _{out}	Q _{in}	Q _{out} > Q _{in}
1	0.0867	31.03	5.3	Yes
2	0.0290	17.94	5.3	Yes
3	0.0054	11.68	10.6	Yes
4	0.2565	53.34	4.6	Yes
5	0.0918	31.91	10.0	Yes
6	0.0098	15.73	15.2	Yes
7	0.0411	7.24	4.4	Yes
8	0.0023	10.16	4.4	Yes
9	0.0052	29.6		

Size pipe #9 for 29.6 cfs

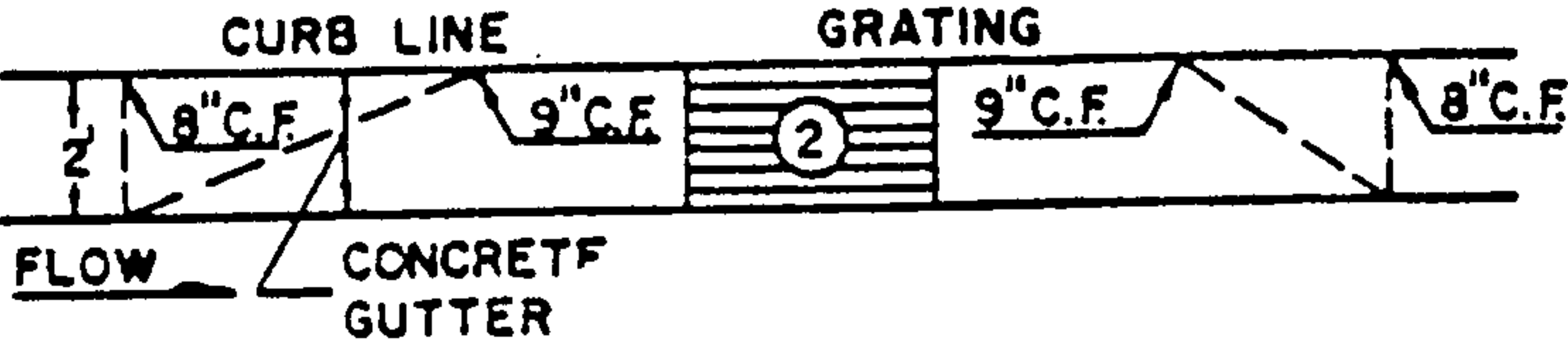
$$29.6 = \left(\frac{1.48}{0.0052} \right) \left(\frac{r}{2} \right)^{2.48} \left(\frac{r}{2} \right)^{2.48} (0.0052)^{1/2}$$

$$1.14 = \left(\frac{r}{2} \right)^{2.48} \Rightarrow r = 1.2491' = 14.9"$$

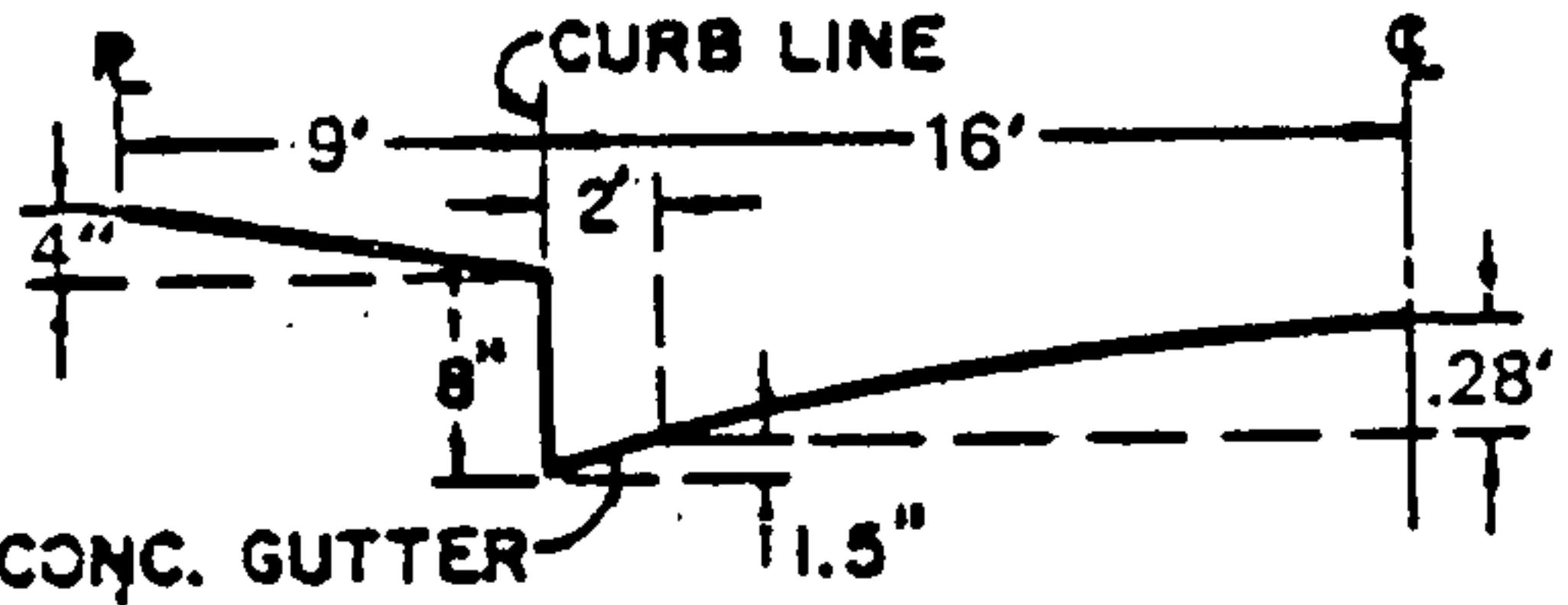
Use min 30" RCP

* Approximated as a DBL "C" for capacity analysis

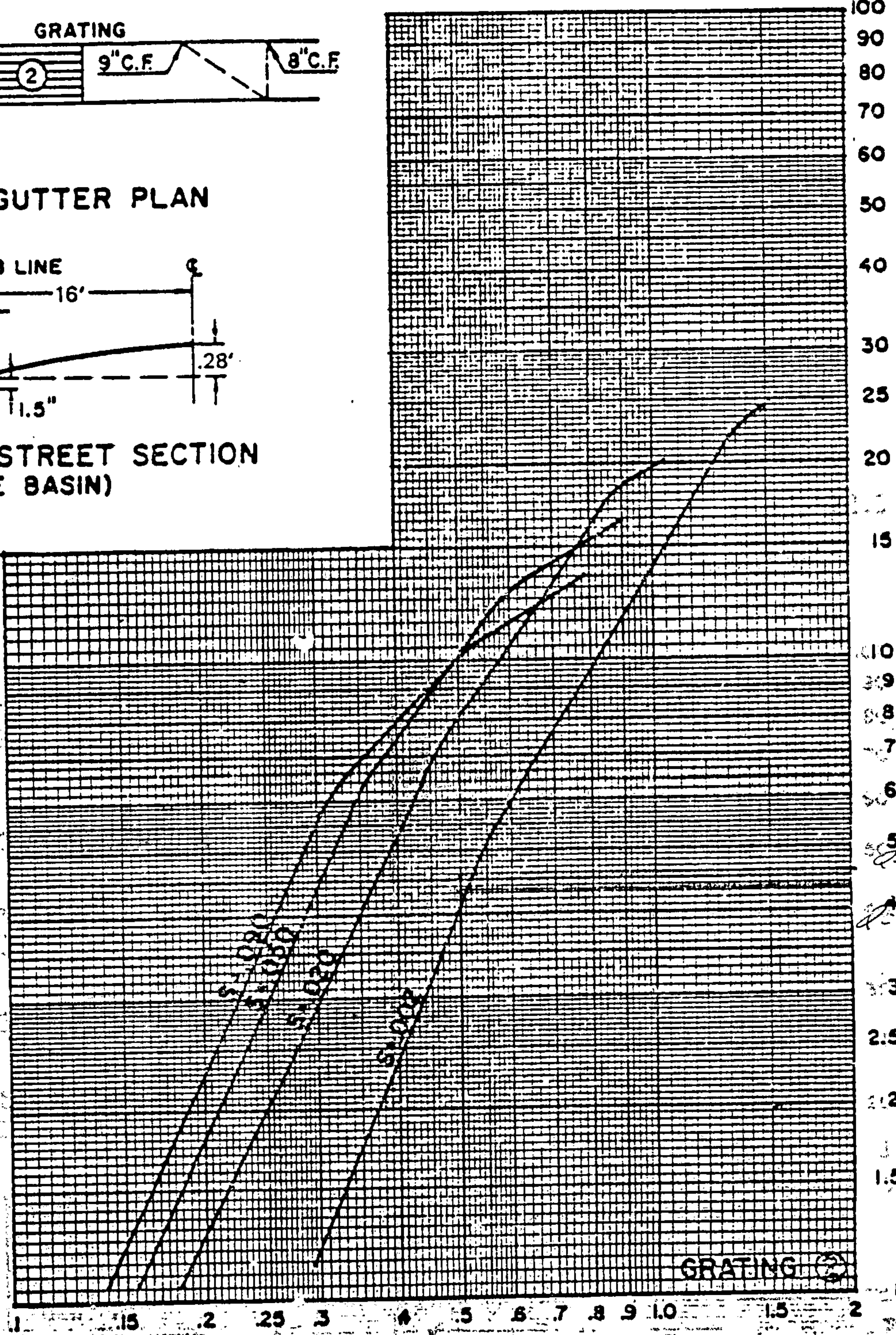
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING & GUTTER PLAN



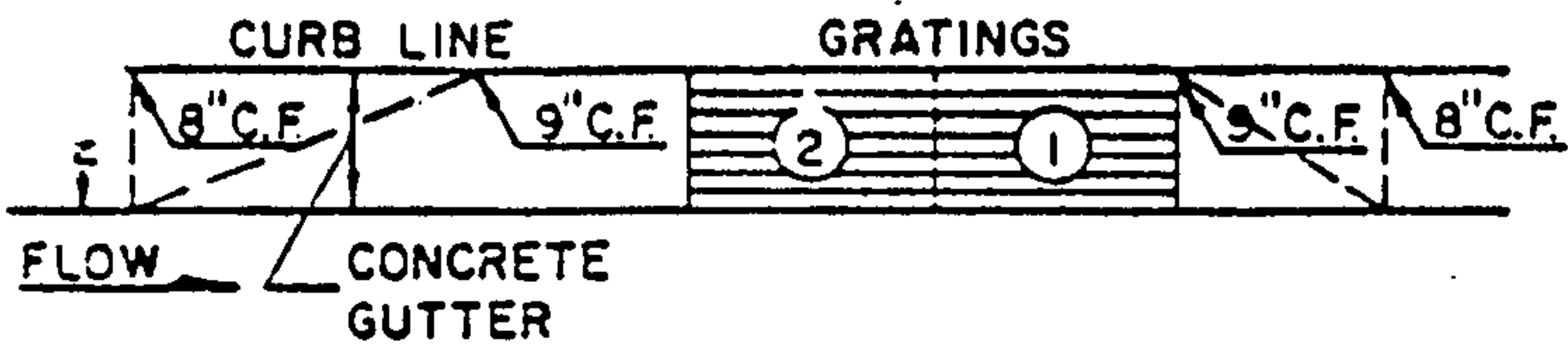
TYPICAL HALF STREET SECTION (ABOVE BASIN)



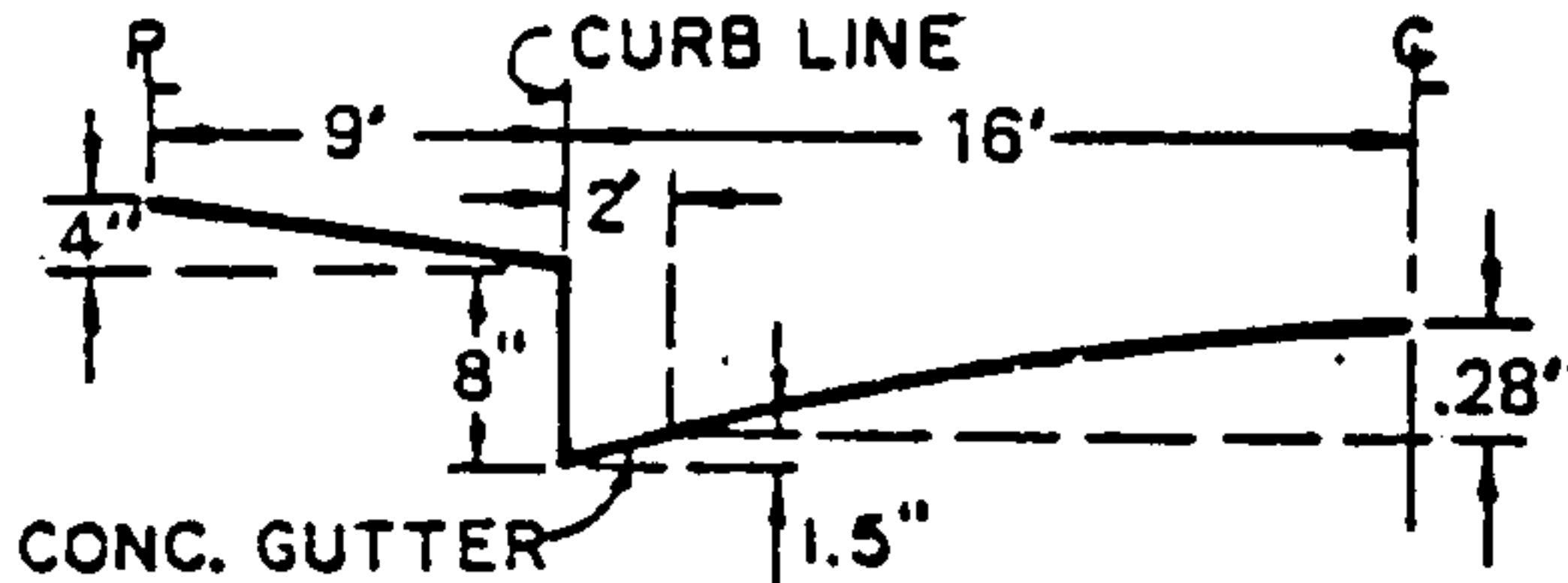
D = DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

GRATING CAPACITIES FOR TYPE DOUBLE

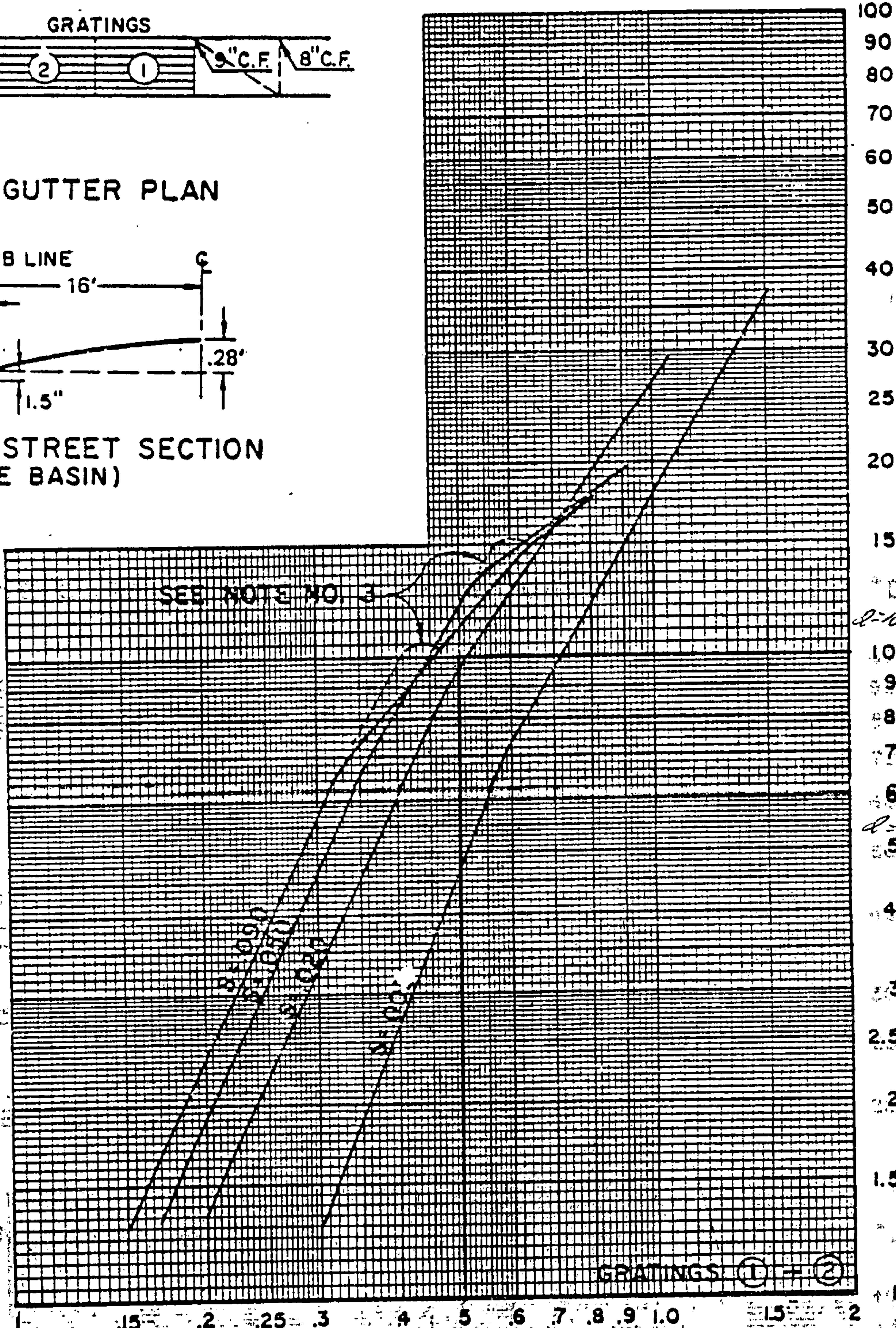
"C," AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



D = DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE