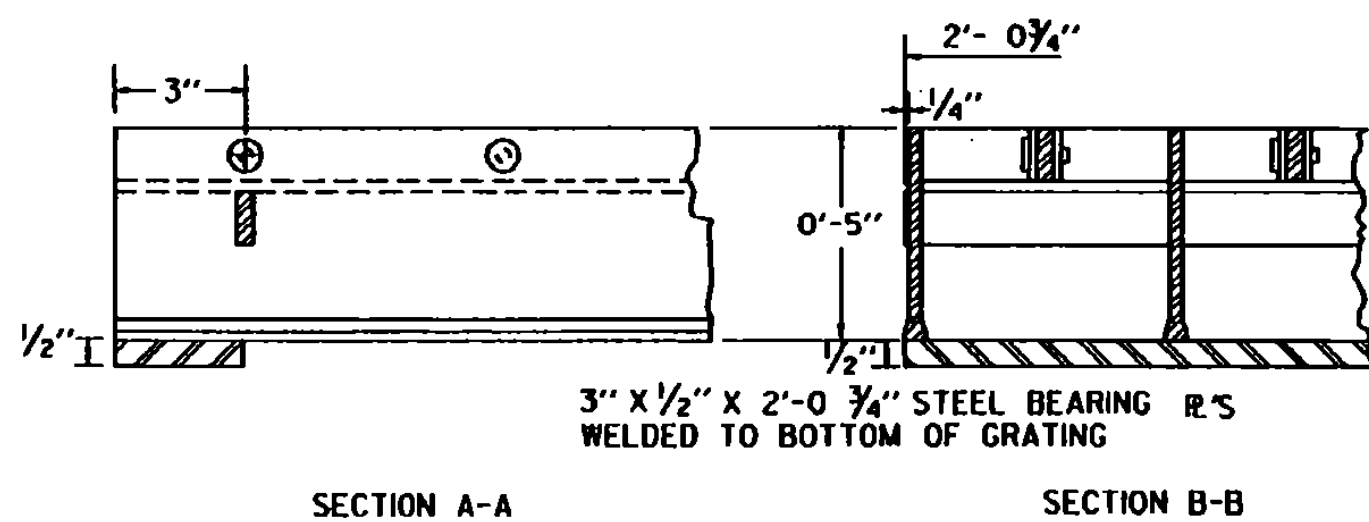


GRATE SIZE SINGLE 24 3/4" X 30"  
DOUBLE 24 3/4" X 54"

WEIGHT 95 LBS OR MORE  
GRATES SHALL BE CAPABLE OF SUPPORTING H-20 (32,000 LB. AXLE LOAD) INCLUDING 30% IMPACT.

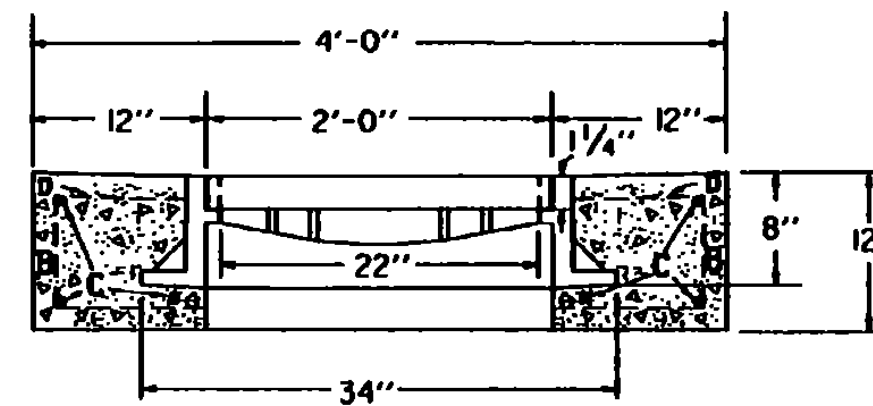
UNIT STRESSES (LBS PER SQ. IN.)	18,000	20,000
MAIN BAR PARALLEL TO TRAFFIC H-20	49"	53"
MAIN BAR PERPENDICULAR TO TRAFFIC H-20	39"	42"



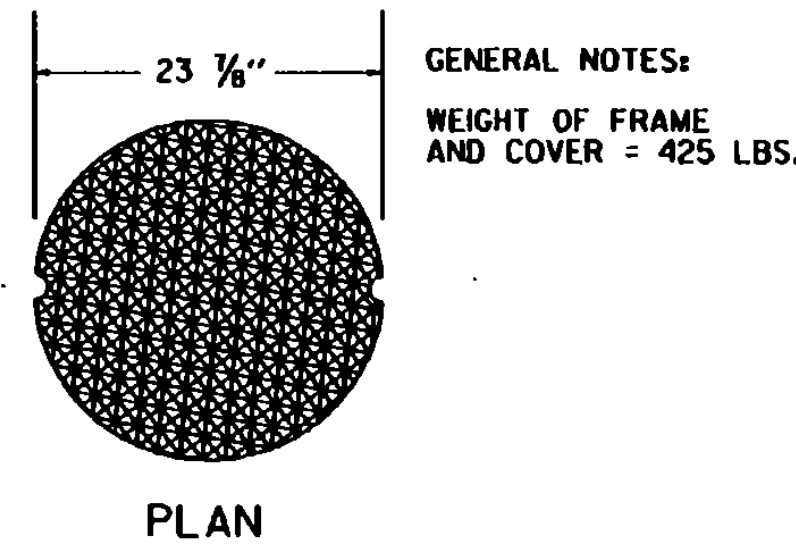
### CAST IRON COVER WITH FRAME

BAR NO.	NO.	LENGTH	
B	4	8' 3'-8"	8"
C	6	3'-8"	STRAIGHT
D	4	3'-8"	STRAIGHT

ALL REINFORCING STEEL TO BE NO. 5 DEFORMED BARS

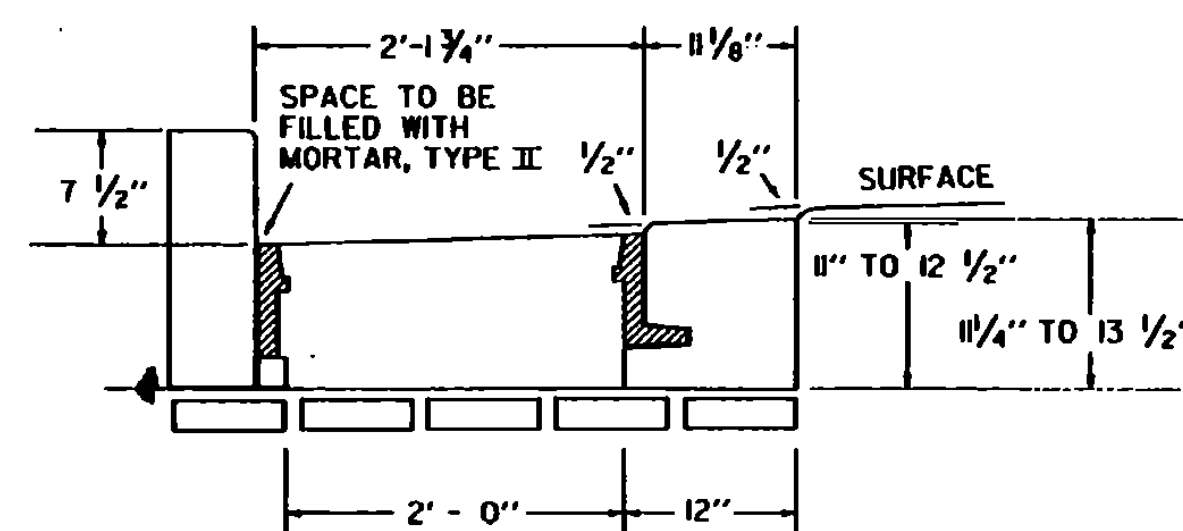


### ELEVATION



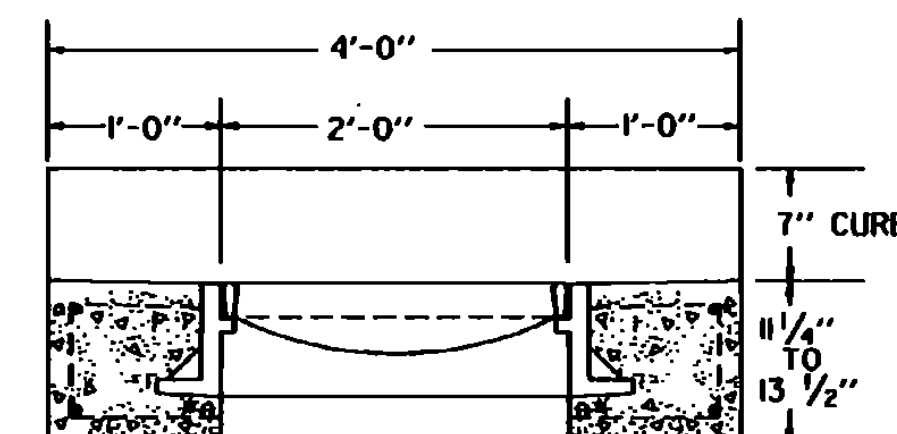
### PLAN

### CAST IRON GRATE WITH FRAME



ELEVATION OF REINFORCED CONCRETE DROP INLET WITH VERTICAL GRANITE CURB AND 3 FLANGE CAST IRON FRAME FOR CAST IRON GRATE

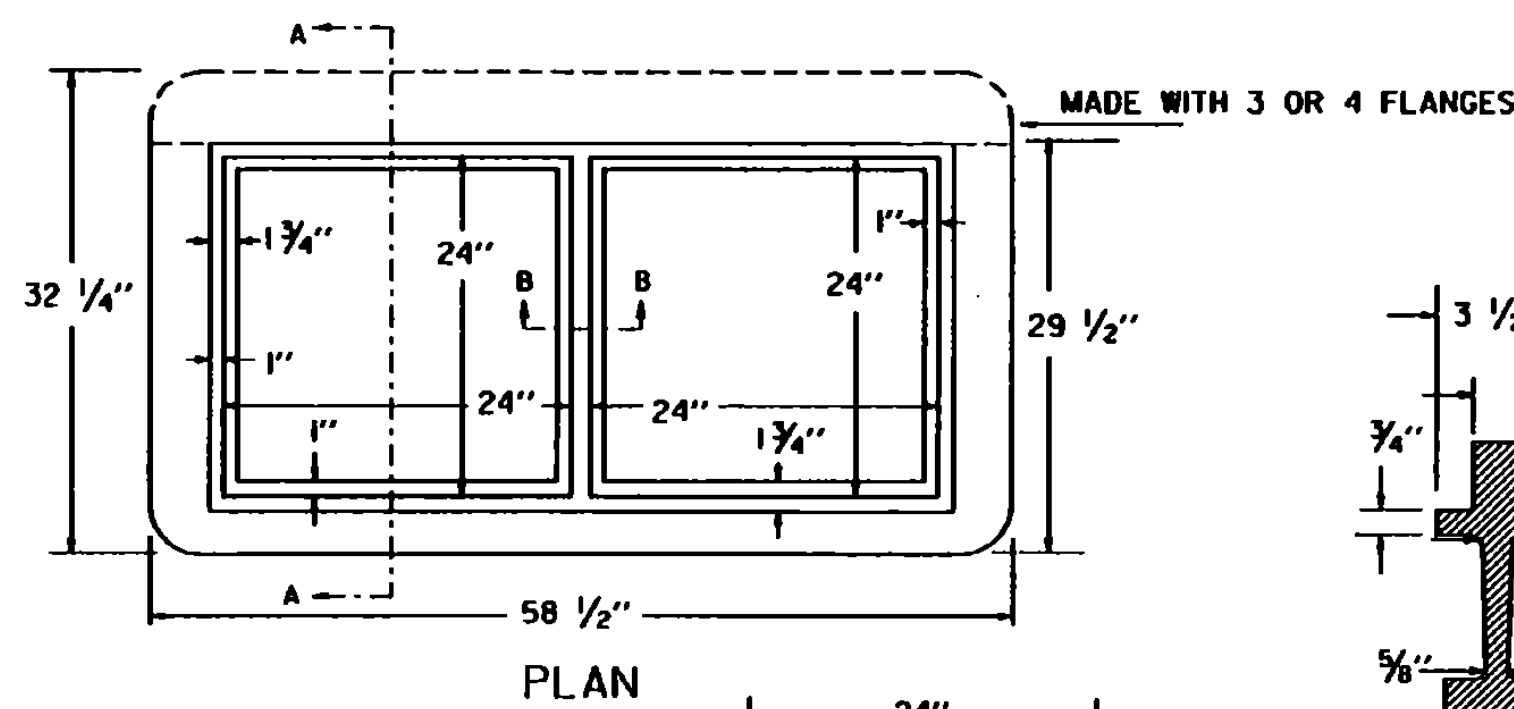
SEE STANDARD D-9 FOR CONCRETE VOLUME, REINFORCING STEEL SCHEDULE, AND CURB JOINT DETAIL.



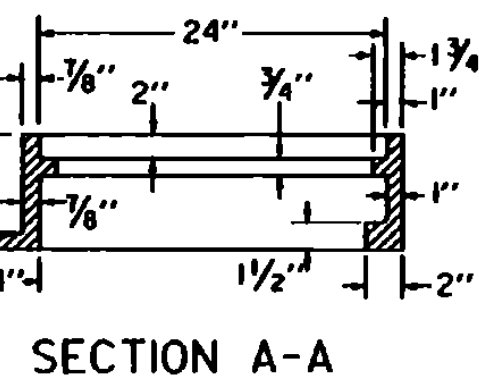
### ELEVATION

WEIGHT OF 3 FLANGED FRAME AND GRATE

GRATE	220 LBS
FRAME	260 LBS
TOTAL	480 LBS

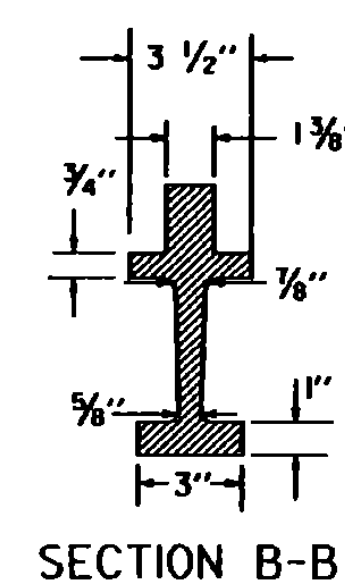


### PLAN

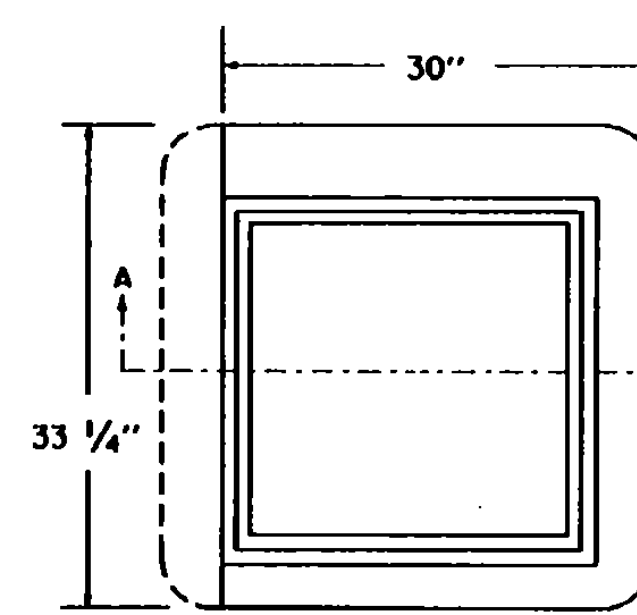


### SECTION A-A

RECTANGULAR CAST IRON FRAME FOR TWO 24" SQUARE CAST IRON GRATES



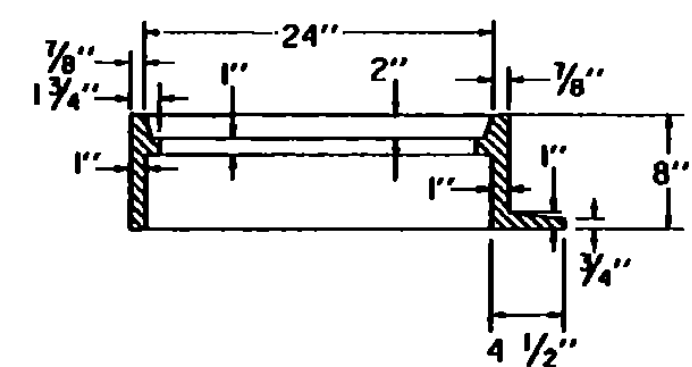
### SECTION B-B



### PLAN

SQUARE CAST IRON FRAME FOR CAST IRON GRATE TYPE A

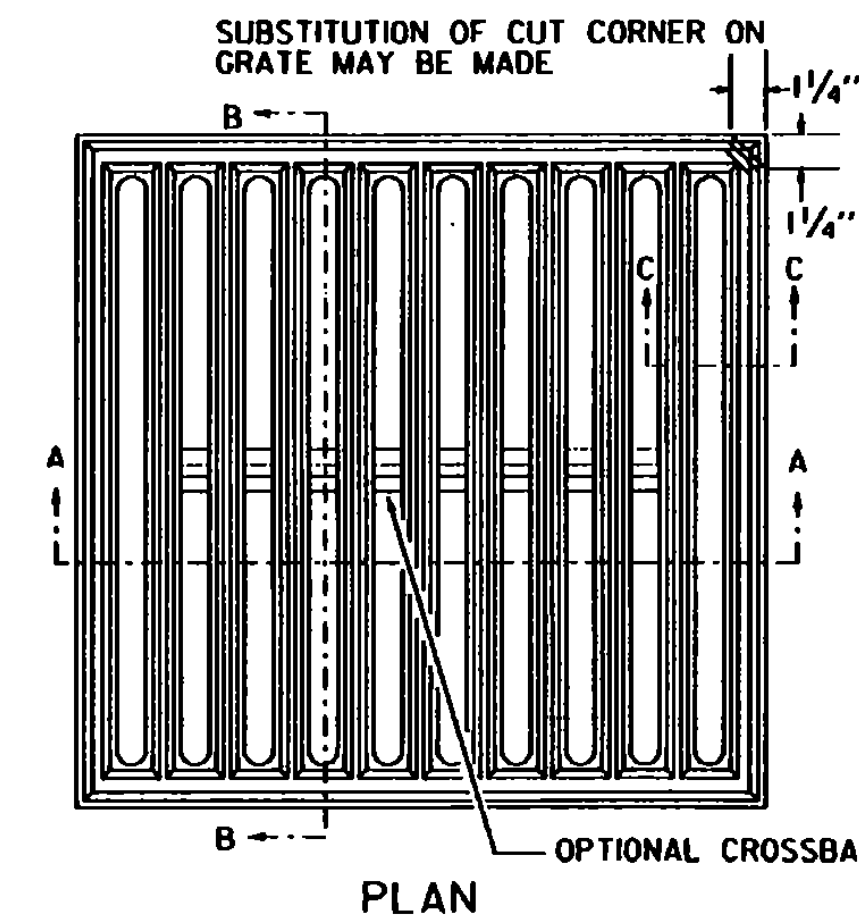
MADE WITH 3 OR 4 FLANGES



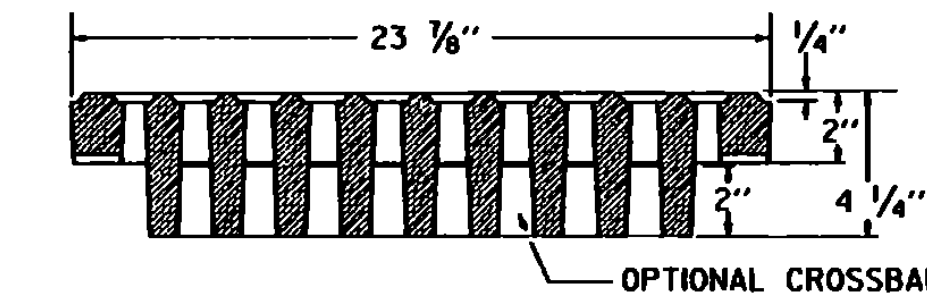
### SECTION A-A

\* NOTE: FRAME DEPTH TO BE "6" WHEN USED IN CONJUNCTION WITH DROP INLET DETAILED ON STANDARD D-6.

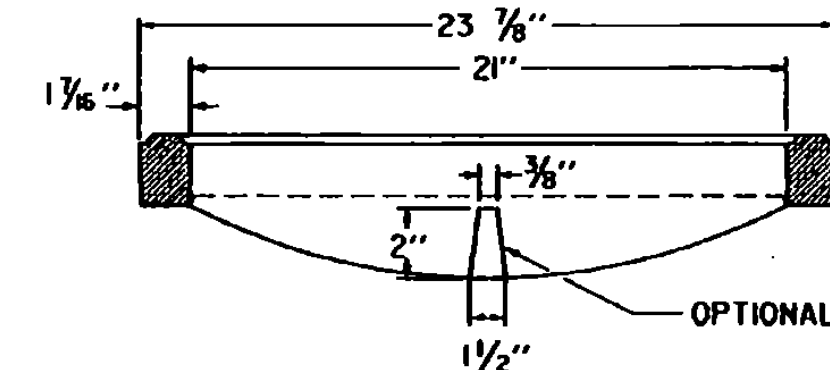
### CAST IRON GRATE, TYPE A



### PLAN

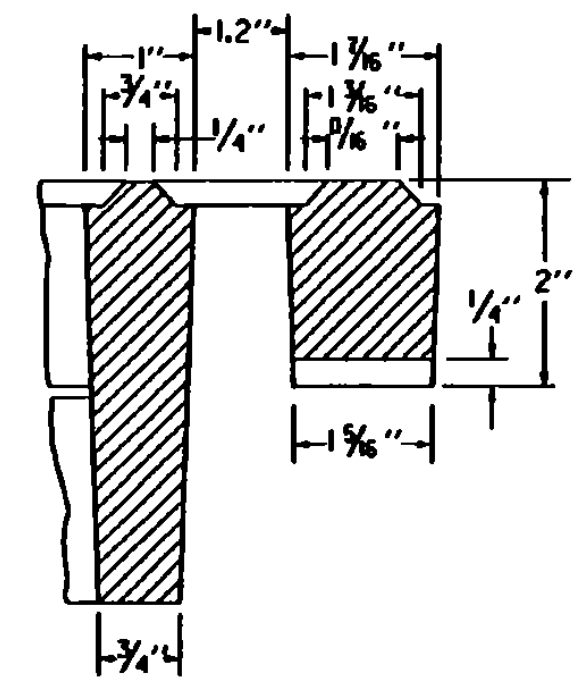


### SECTION A-A



### SECTION B-B

USE OF THE TYPE A GRATE IS PROHIBITED WHERE BICYCLE TRAFFIC IS EXPECTED



### SECTION C-C

THIS FRAME TO BE PLACED IN DROP INLET TOP BEFORE CONCRETE IS POURED.

4 FLANGES UNLESS OTHERWISE INDICATED. FRAMES TO BE FURNISHED WITH 3 FLANGES WHEN USED IN CONJUNCTION WITH CURB OR AS DIRECTED BY THE ENGINEER.

### REVISIONS AND CORRECTIONS

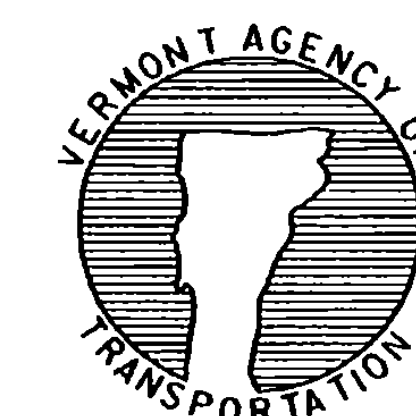
DEC. 6, 1971 - ORIGINAL APPROVAL  
APR. 25, 1972 - CAST IRON COVER CHANGED FROM SQUARE TO CIRCULAR  
SEPT. 4, 1980 - OPTIONAL CROSSBAR ADDED TO A GRATE; NOTE ADDED TO A GRATE FRAME DETAIL  
AUG. 25, 1981 - NOTE ADDED RESTRICTING USE OF TYPE A GRATE  
JUNE 4, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

### APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION BY THE FINAL APPROVAL POWERS

*Robert M. Murphy, PE*  
DIRECTOR OF ENGINEERING  
DESIGN ENGINEER

## STEEL GRATE CAST IRON GRATE TYPE A CAST IRON COVER



# STANDARD D-11