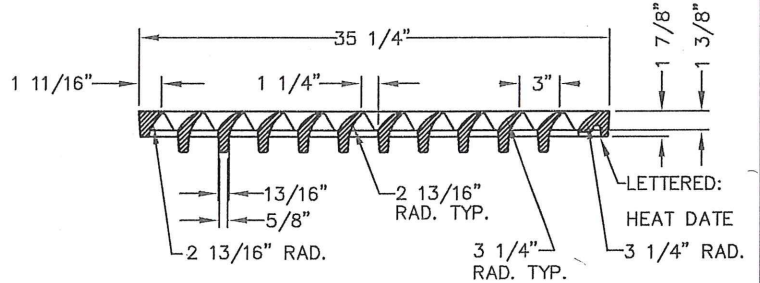
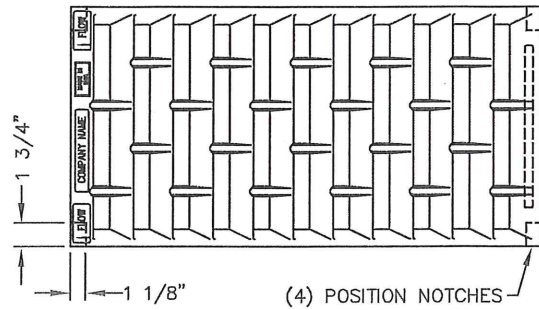
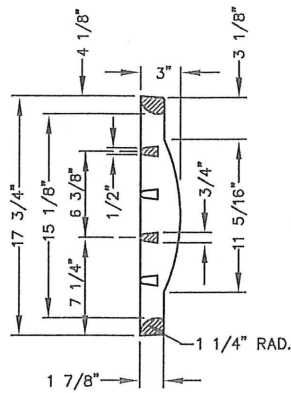


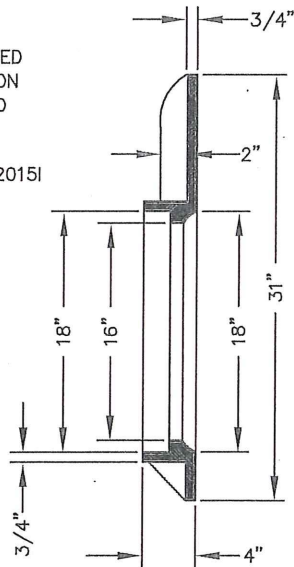
# GRATE DETAIL

FREE OPEN AREA = 308 SQUARE INCHES  
APPROXIMATE WEIGHT: 146#



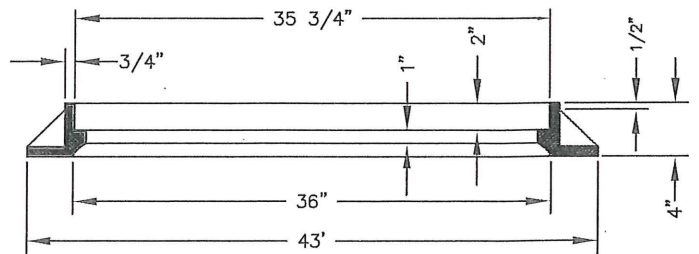
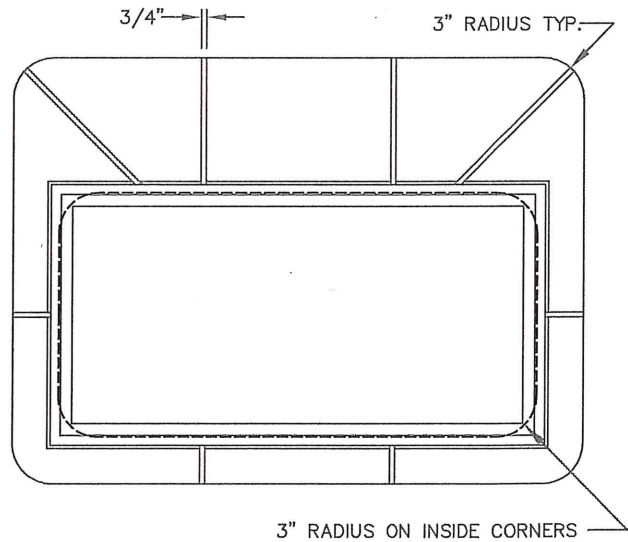
**NOTES:**

1. CASTING SHALL BE CONSTRUCTED OF UNPAINTED GRAY IRON MEETING ASTM A-48, CLASS 35B OR BETTER AND SHALL CONFORM TO AASHTO DESIGNATION M306-89 AND MnDOT SPECIFICATION 3321.
2. EACH CASTING SHALL BEAR AN IDENTIFICATION MARK, RECESSED FLUSH, INDICATING THE SOURCE OF MANUFACTURE, WHICH MARK SHALL EITHER BE A SYMBOL NOT OVER 1 1/2 INCHES IN GREATEST DIMENSION OR IN LETTER FORM NO GREATER THAN 3/4 INCH IN HEIGHT AND 2 INCHES IN LENGTH. LOCATION OF IDENTIFICATION MARKS BY THE ENGINEER.
3. FRAME TO BE USED AT DRIVEWAY LOCATIONS OR WHERE DESIGNATED IN THE PLANS.
4. GRATE SHALL BE AS DETAILED UNLESS NOTED OTHERWISE ON THE PLANS AND DETERMINED TO BE BICYCLE SAFE.
5. SEE STANDARD PLATE NO. 20151 FOR CATCH BASIN STRUCTURE DETAILS.



# FRAME DETAIL

APPROXIMATE WEIGHT: 207#



I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

*Aaron D. Hass*  
AARON D. HASS

Date 01-18-2017 Lic. No. 26424

APPROVED 2-2-2017  
*Paul Kurt*  
CITY ENGINEER

CITY OF ST. PAUL  
DEPARTMENT OF PUBLIC WORKS  
MODIFIED TYPE 7A CATCH  
BASIN CASTING DETAILS

Date of Revision  
JAN.  
2017

Standard Plate No.  
2212A