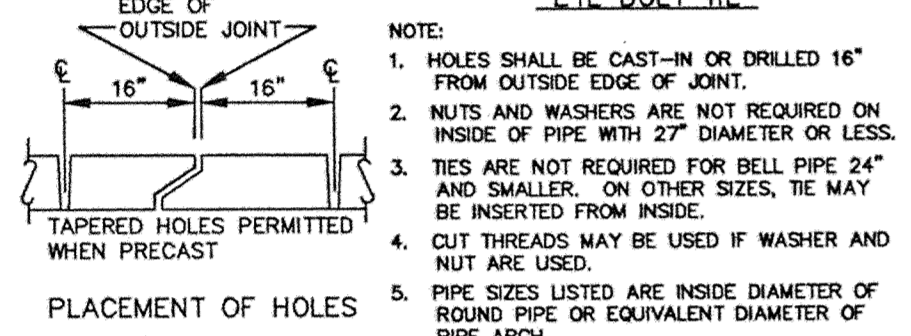
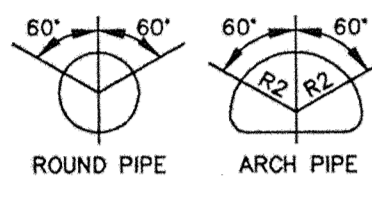
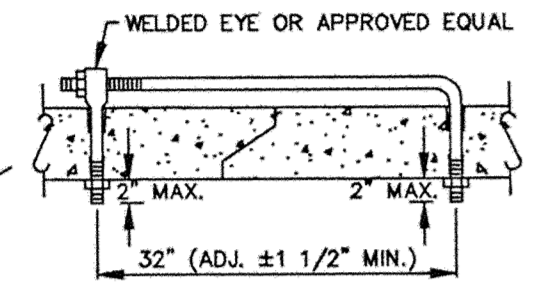
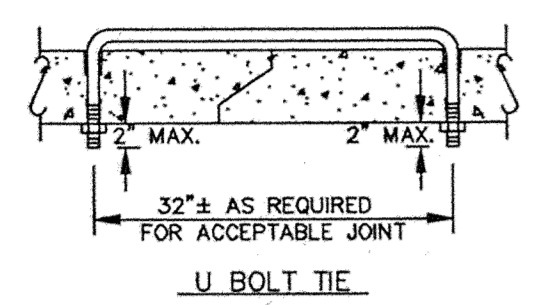
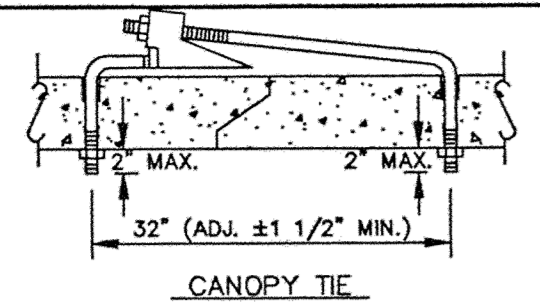


PIPE SIZE	THREAD DIAMETER
12	
15	
18	5/8"
21	ROLLED THREADS (SEE NOTE 4)
24	
27	
30	
33	
36	
42	3/4"
48	CUT OR ROLLED
54	
60	
66	
72	
78	
84	
90	
96	
102	1"
108	CUT OR ROLLED
120	
132	



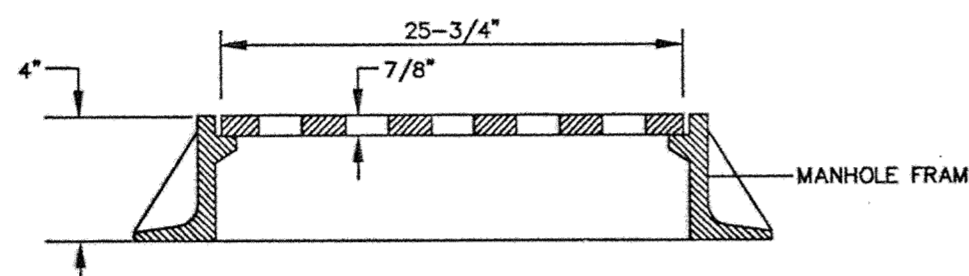
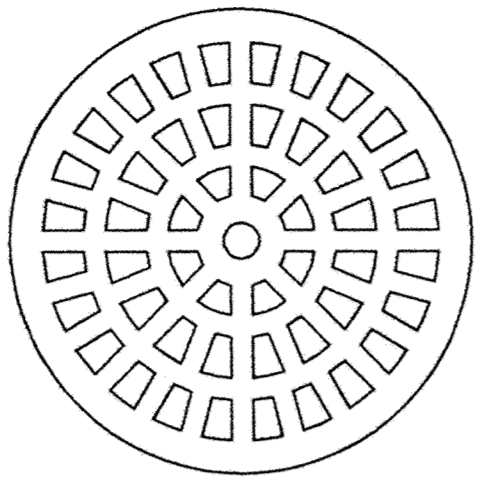
- NOTE:
- HOLES SHALL BE CAST-IN OR DRILLED 16" FROM OUTSIDE EDGE OF JOINT.
 - NUTS AND WASHERS ARE NOT REQUIRED ON INSIDE OF PIPE WITH 27" DIAMETER OR LESS.
 - TIES ARE NOT REQUIRED FOR BELL PIPE 24" AND SMALLER. ON OTHER SIZES, TIE MAY BE INSERTED FROM INSIDE.
 - CUT THREADS MAY BE USED IF WASHER AND NUT ARE USED.
 - PIPE SIZES LISTED ARE INSIDE DIAMETER OF PIPE ARCH.

ERSTD-SM

CONCRETE PIPE JOINT TIES

City of Elk River

STANDARD PLATE NO. 2503



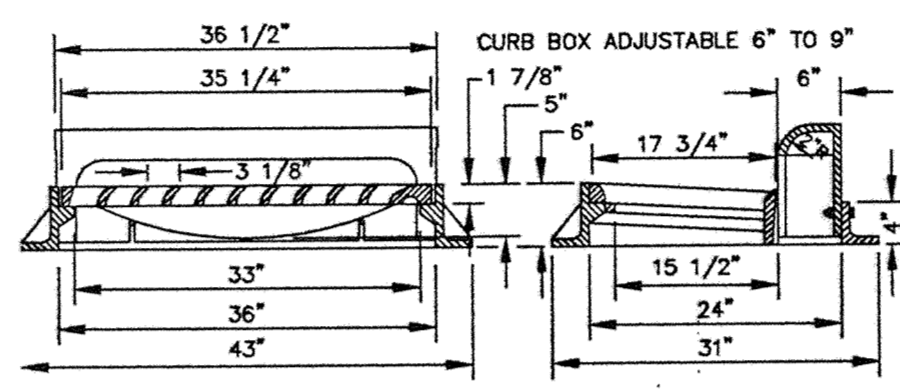
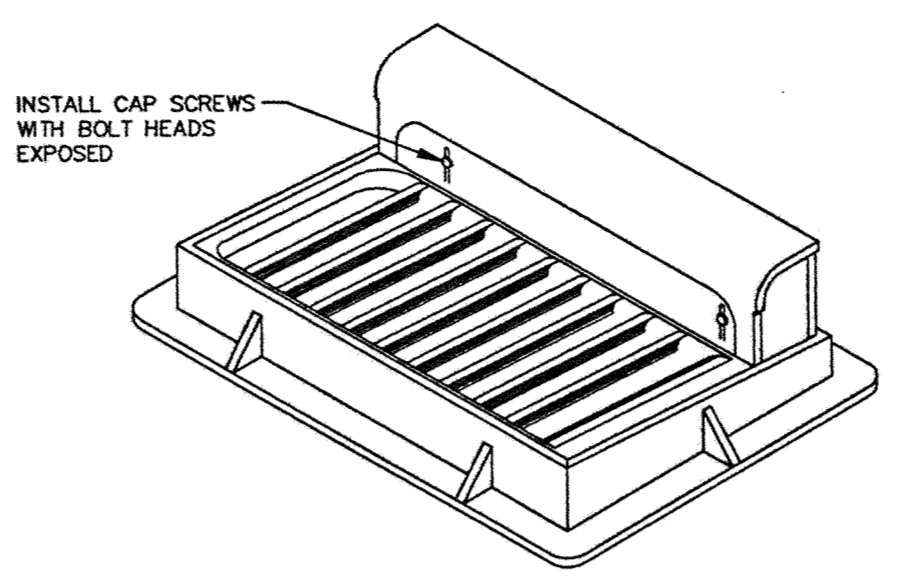
CASTING SHALL BE NEENAH R-1733-1 TYPE C OR EQUAL FOR YARDS
CASTING NEENAH R-4342 TYPE C FOR DITCHES

ERSTD-SM

GRATE CASTING

City of Elk River

STANDARD PLATE NO. 2509



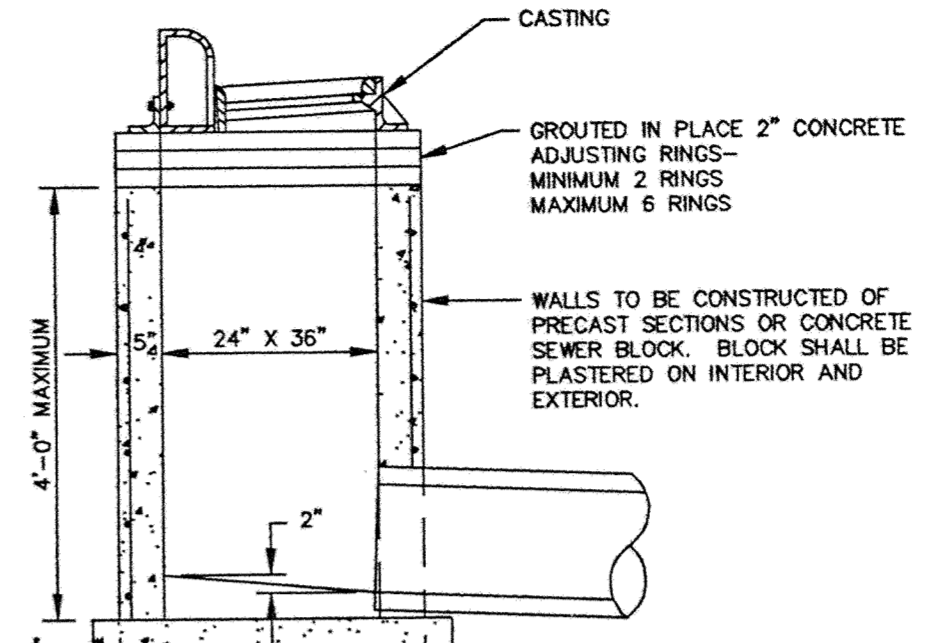
CASTINGS SHALL BE NEENAH R-3067-V OR EQUAL

ERSTD-SM

STANDARD INLET CASTING

City of Elk River

STANDARD PLATE NO. 2507



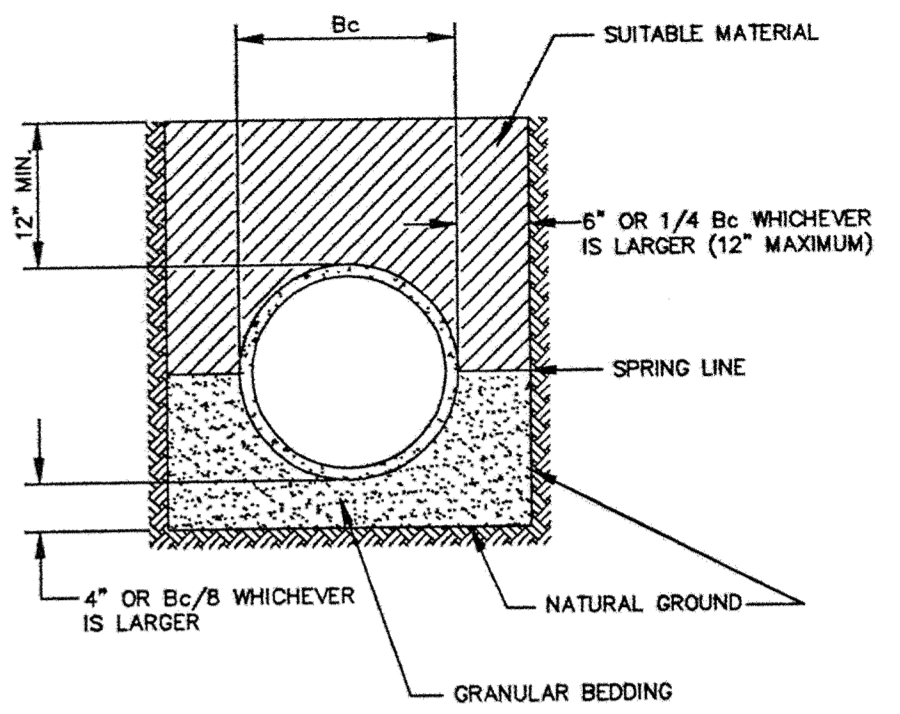
NOTE: REINFORCING SHALL CONSIST OF A SINGLE LINE OF STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.17 SQ. IN. PER FOOT OF HEIGHT.

ERSTD-SM

SHALLOW CATCH BASIN

City of Elk River

STANDARD PLATE NO. 2500



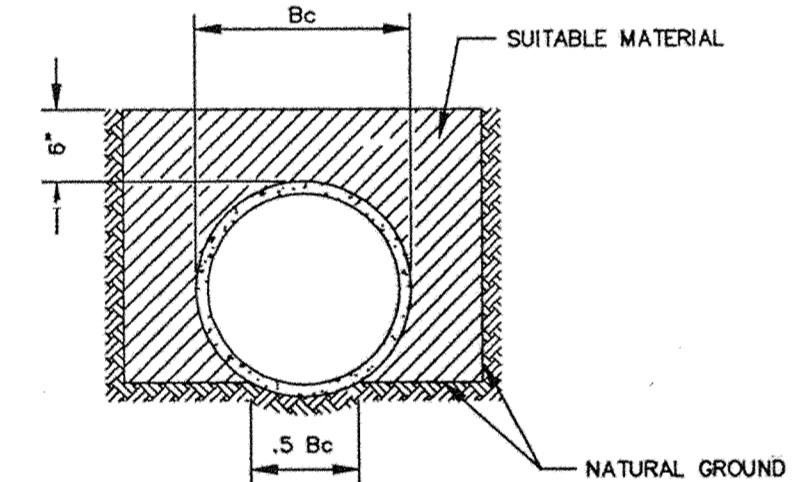
NOTE: ALL COSTS OF EXCAVATION BELOW GRADE AND PLACEMENT OF GRANULAR BEDDING SHALL BE INCLUDED IN THE BID PRICES FOR PIPE ITEMS.

ERSTD-WM

CLASS B PIPE BEDDING

City of Elk River

STANDARD PLATE NO. 3406



THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO FIT THE PIPE BARREL FOR AT LEAST 50% OF THE OUTSIDE DIAMETER. THE REMAINDER OF THE PIPE IS SURROUNDED TO A HEIGHT OF AT LEAST 6" ABOVE ITS TOP BY SELECT FILL MATERIALS, PLACED BY HAND TOOLS AND COMPACTED TO COMPLETELY FILL ALL SPACES UNDER AND ADJACENT TO THE PIPE.

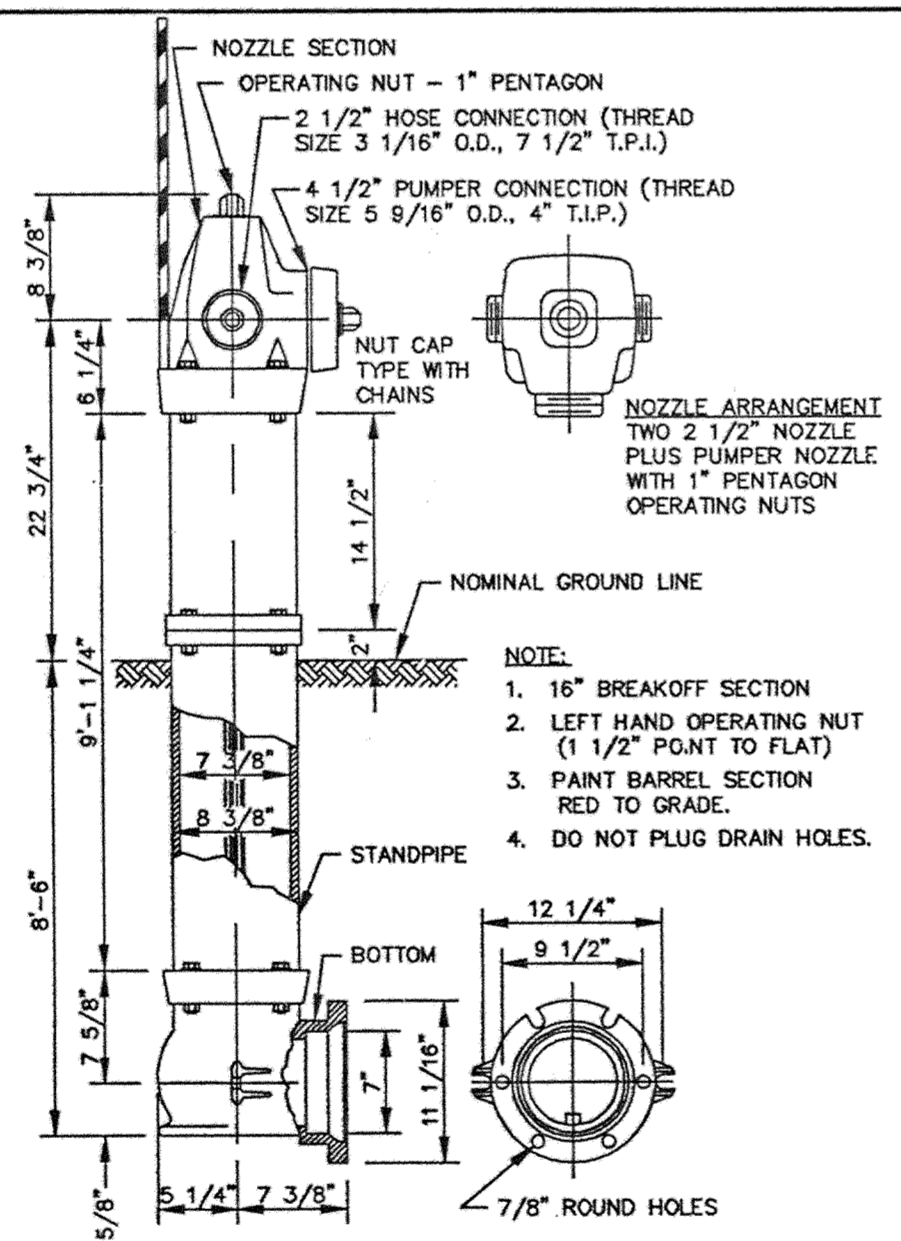
NOTE: ALL COSTS OF EXCAVATION BELOW GRADE AND PLACEMENT OF GRANULAR BEDDING SHALL BE INCLUDED IN THE BID PRICES FOR PIPE ITEMS.

ERSTD-WM

CLASS C PIPE BEDDING

City of Elk River

STANDARD PLATE NO. 3405



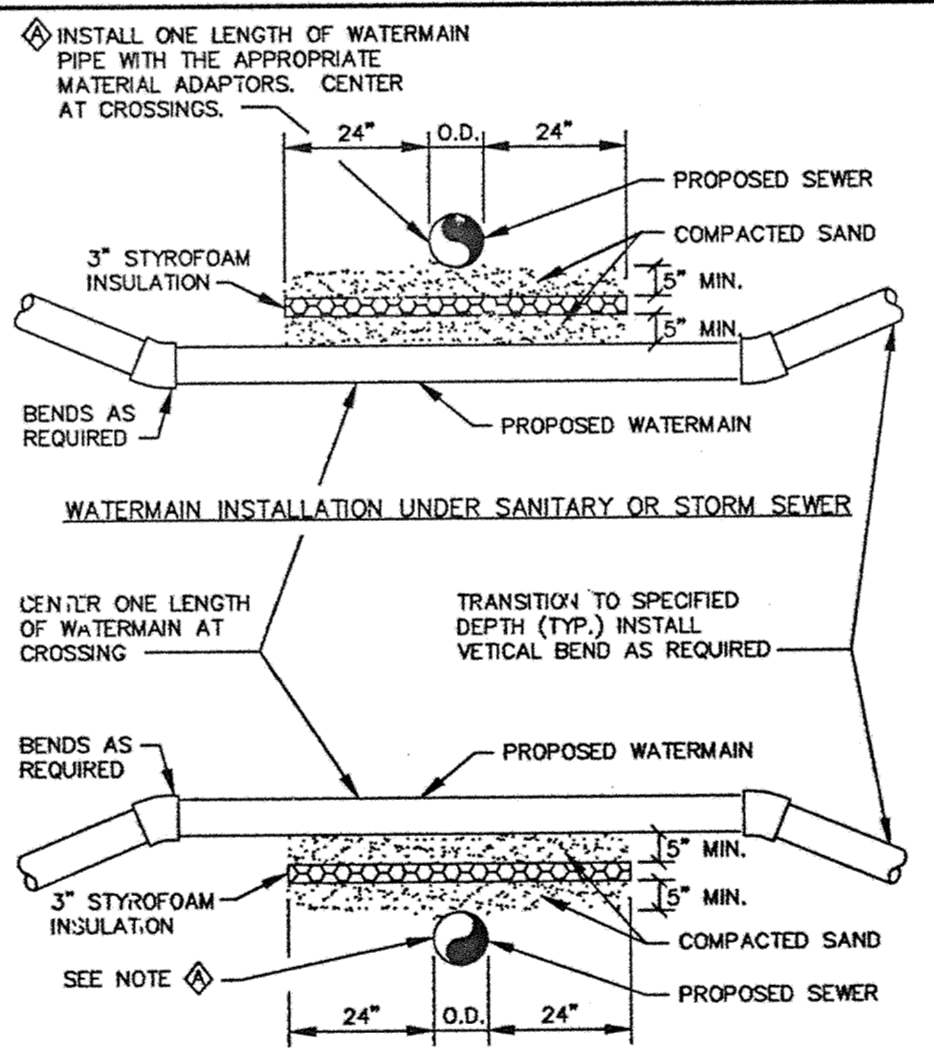
ERSTD-WM

NOTE: HYDRANT LOCATING DEVICES REQUIRED - SEE SPECIFICATIONS.

PACER HYDRANT DETAIL

City of Elk River

STANDARD PLATE NO. 3401

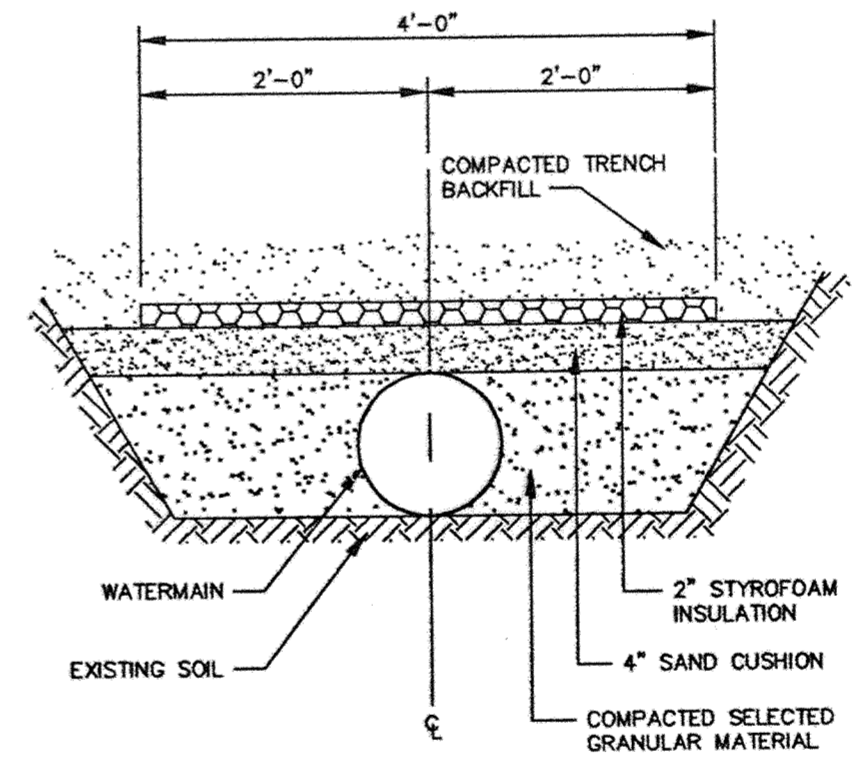


ERSTD-WM

WATERMAIN CROSSING

City of Elk River

STANDARD PLATE NO. 3404



ERSTD-WM

PIPE INSULATION DETAIL

City of Elk River

STANDARD PLATE NO. 3407