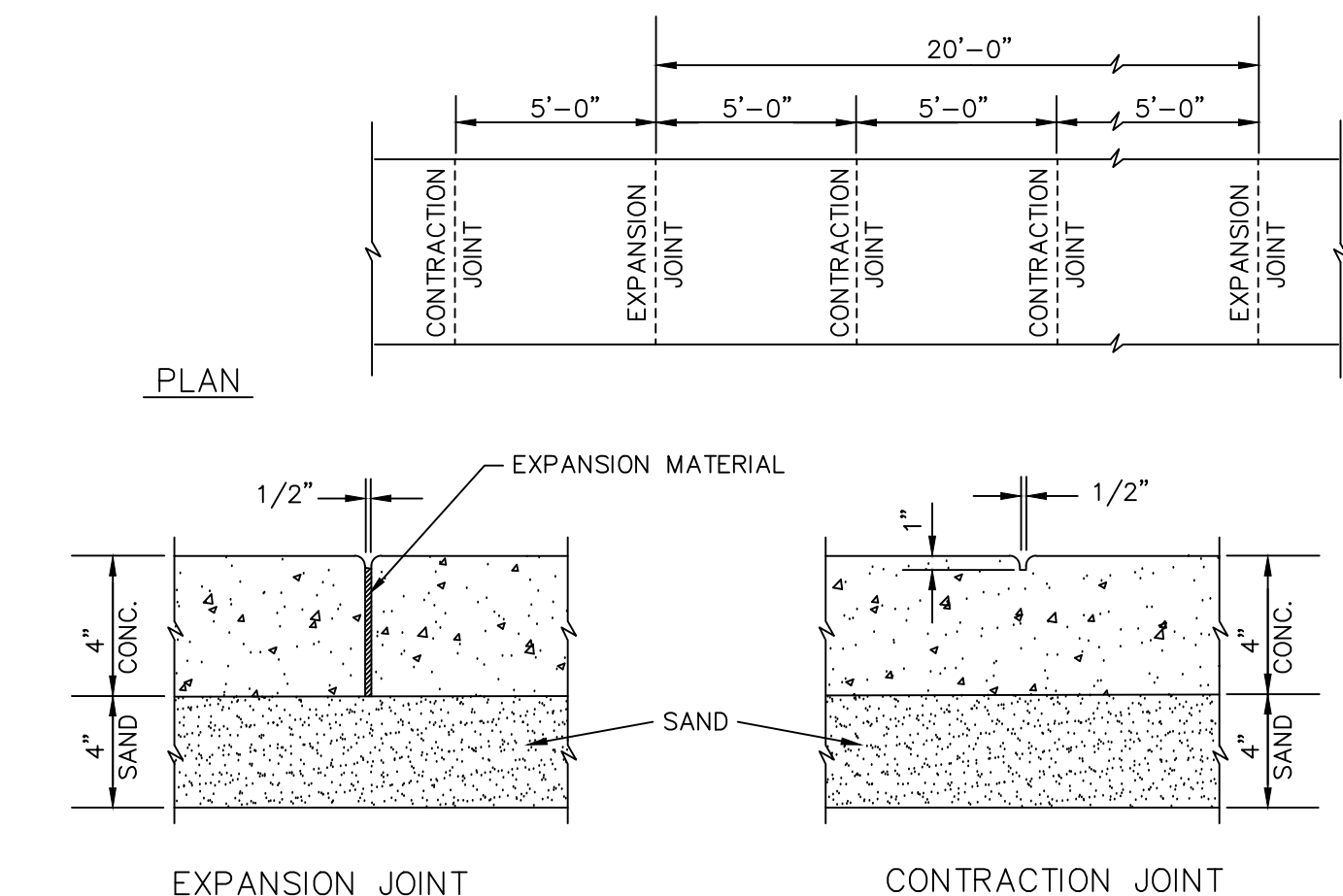
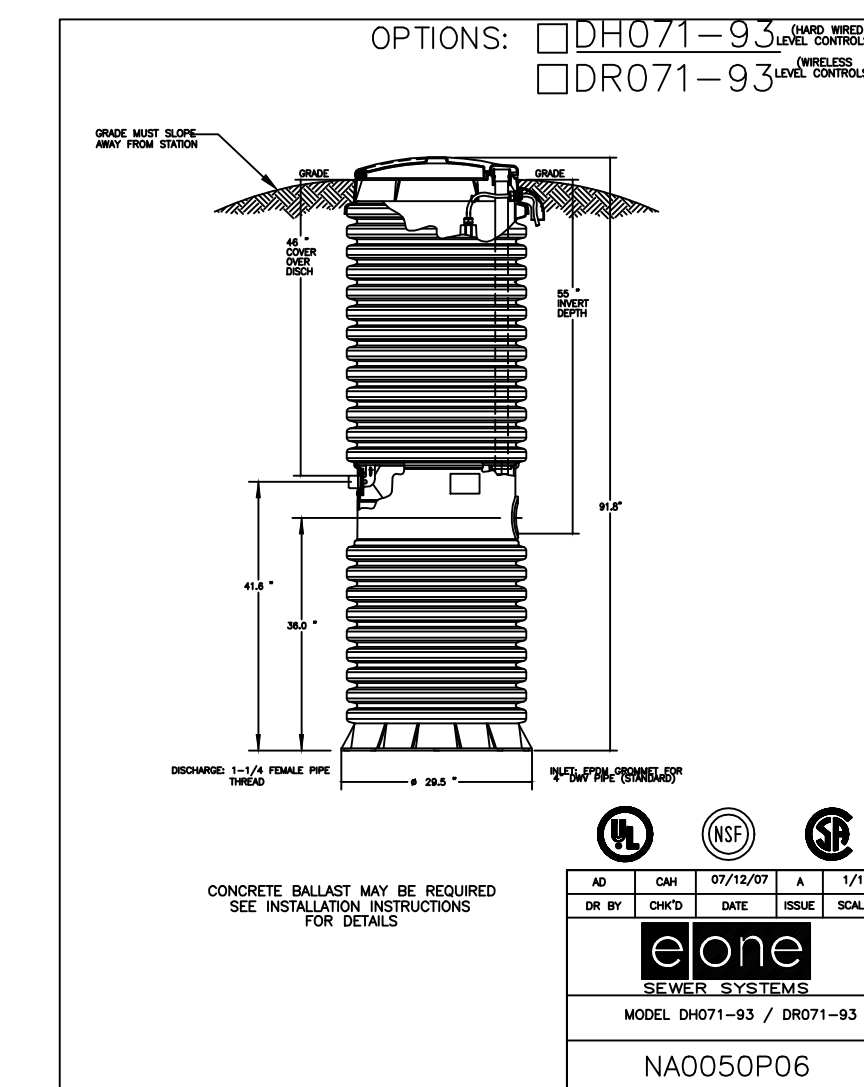
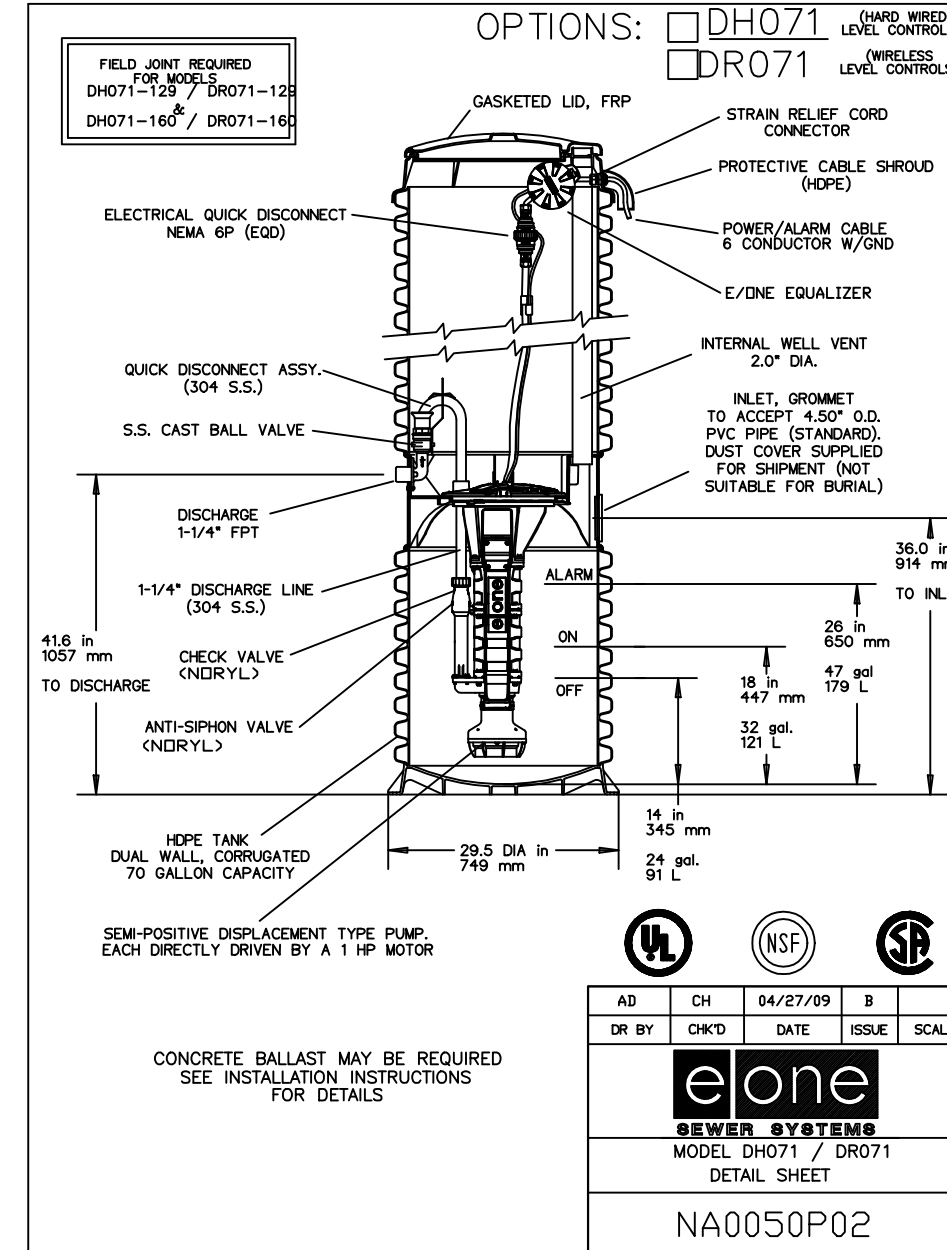
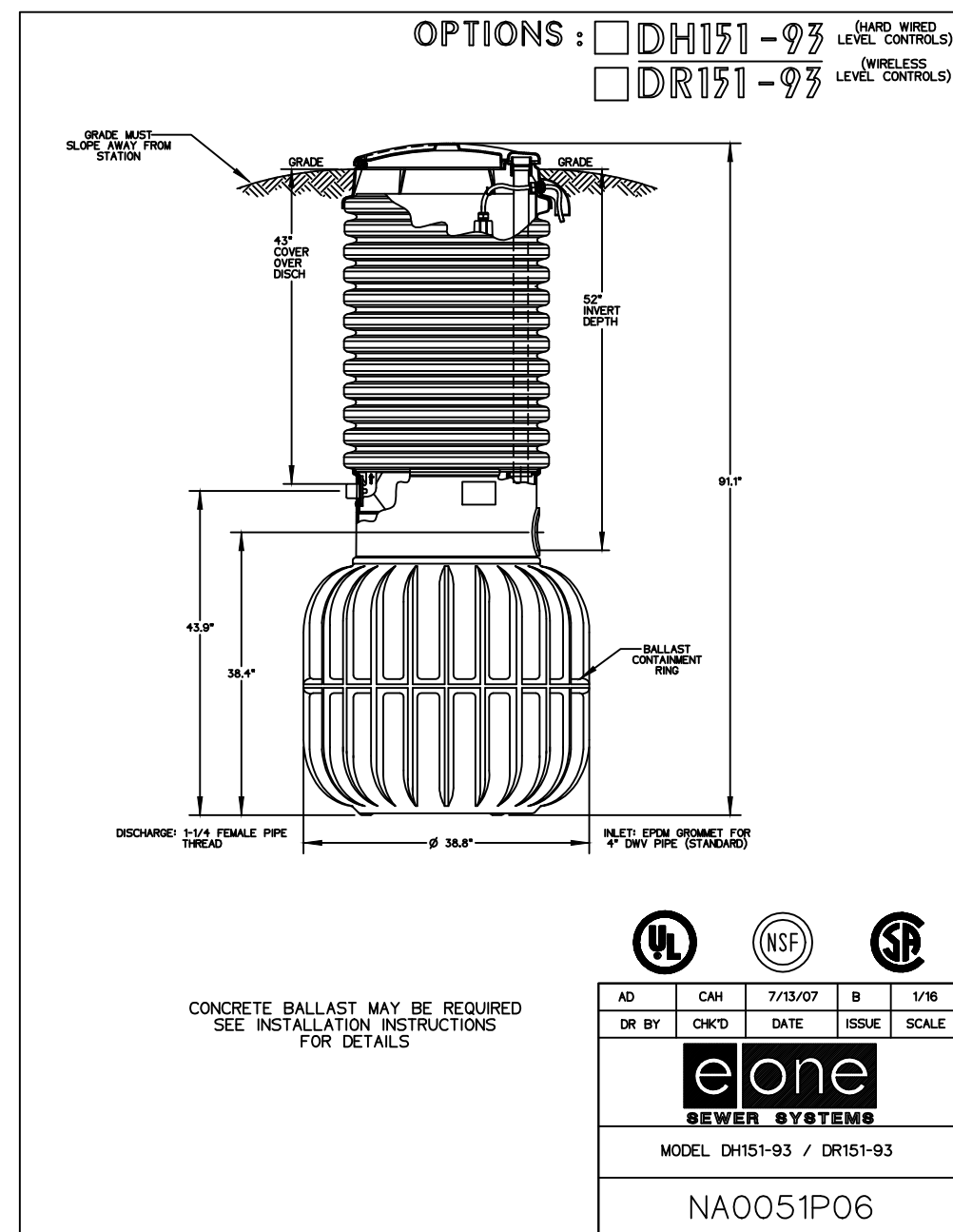
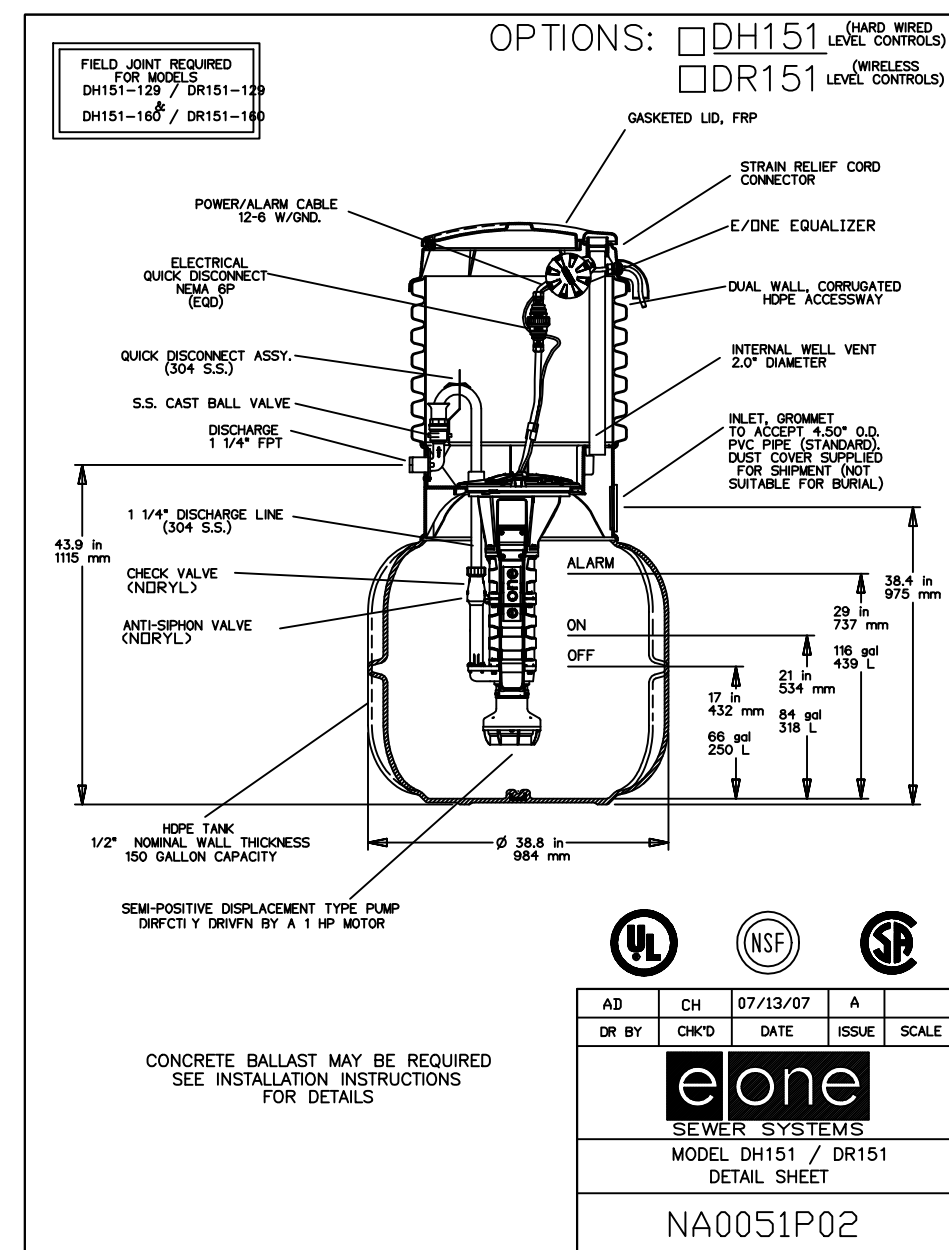
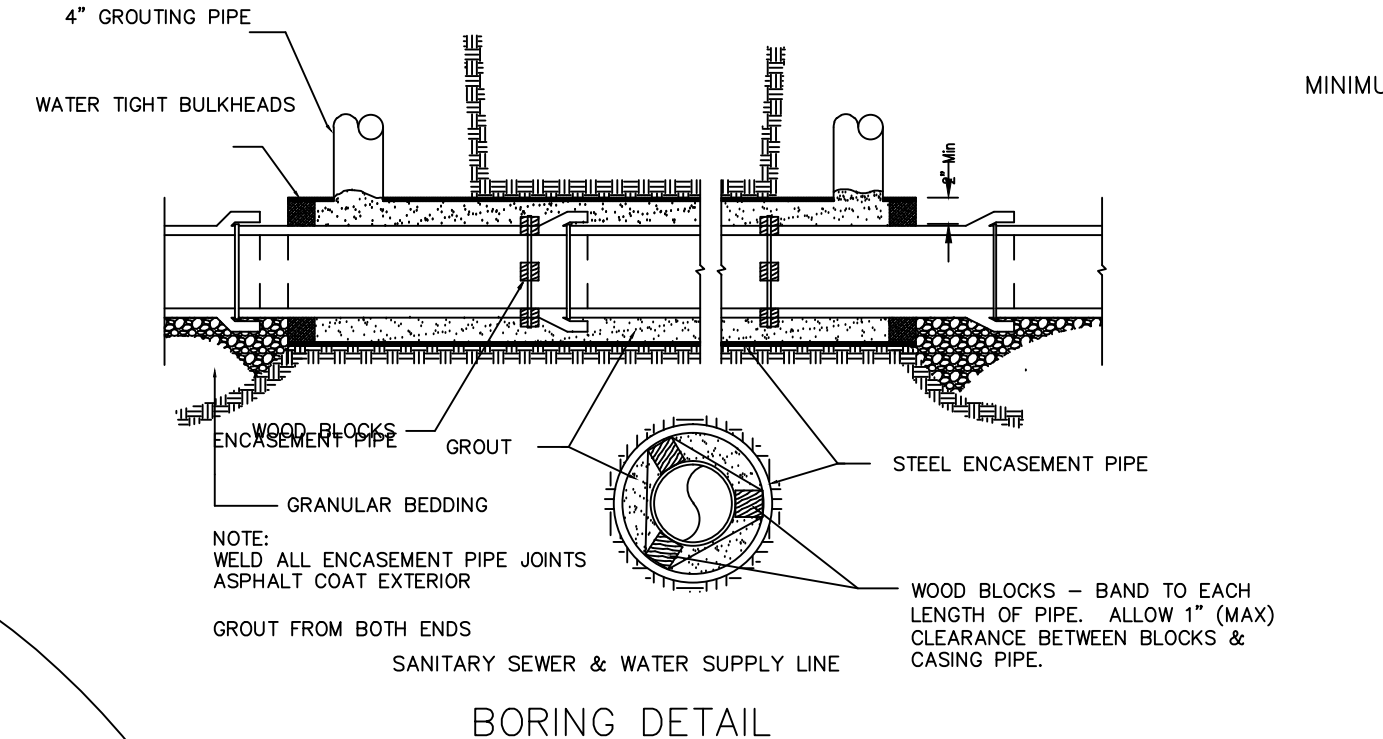


NORTHWESTERN WATER & SEWER DISTRICT GRINDER PUMPING STATION AND FORCEMAIN DETAILS



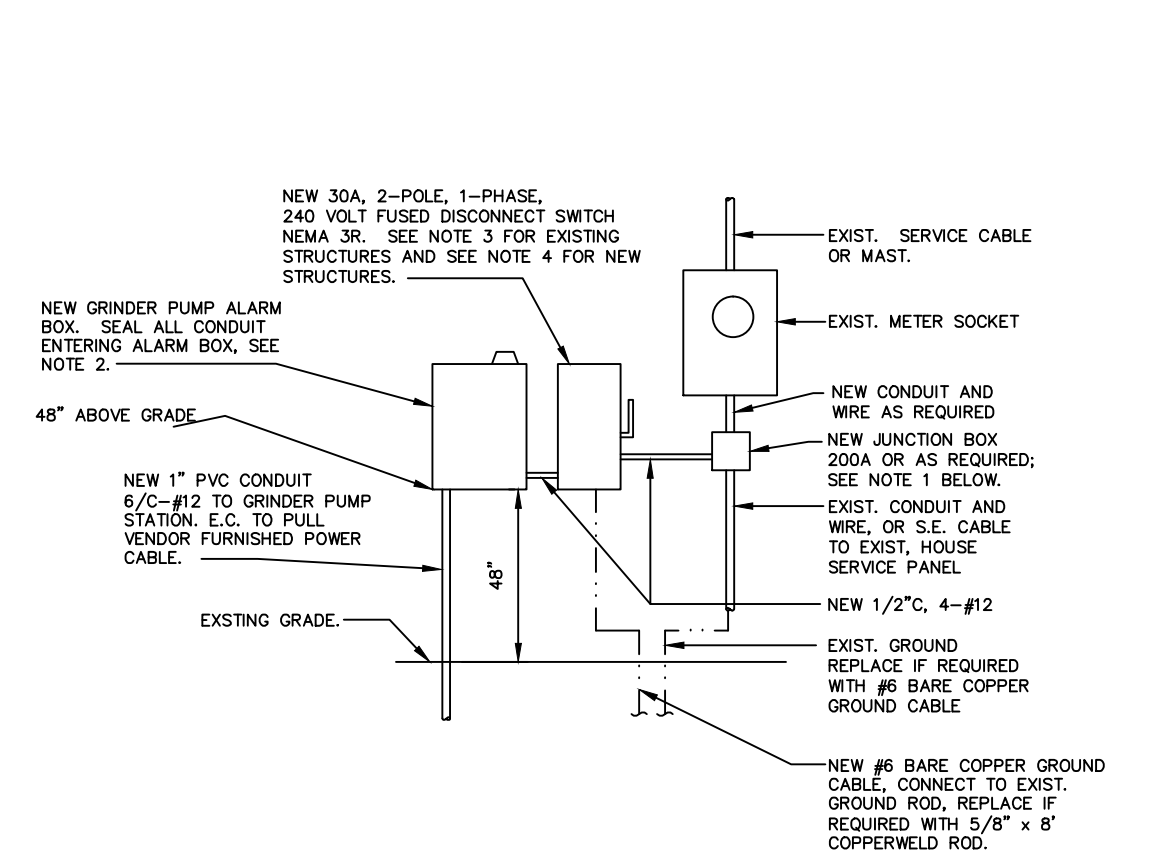
NOTE: THE COST OF THE SAND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 608- 4" CONCRETE SIDEWALK



Nominal diameter (inches)	Uncoated and Unprotected Nominal Thickness (inches)
10 and under	0.188
12 and 14	0.250
16	0.281
18	0.312
20 and 22	0.344
24	0.375
26	0.406
28	0.438
30	0.469
32	0.500
34 and 36	0.532
38	0.562
40	0.594
42	0.625
44 and 46	0.657
48	0.688
50	0.719
52	0.750
54	0.781

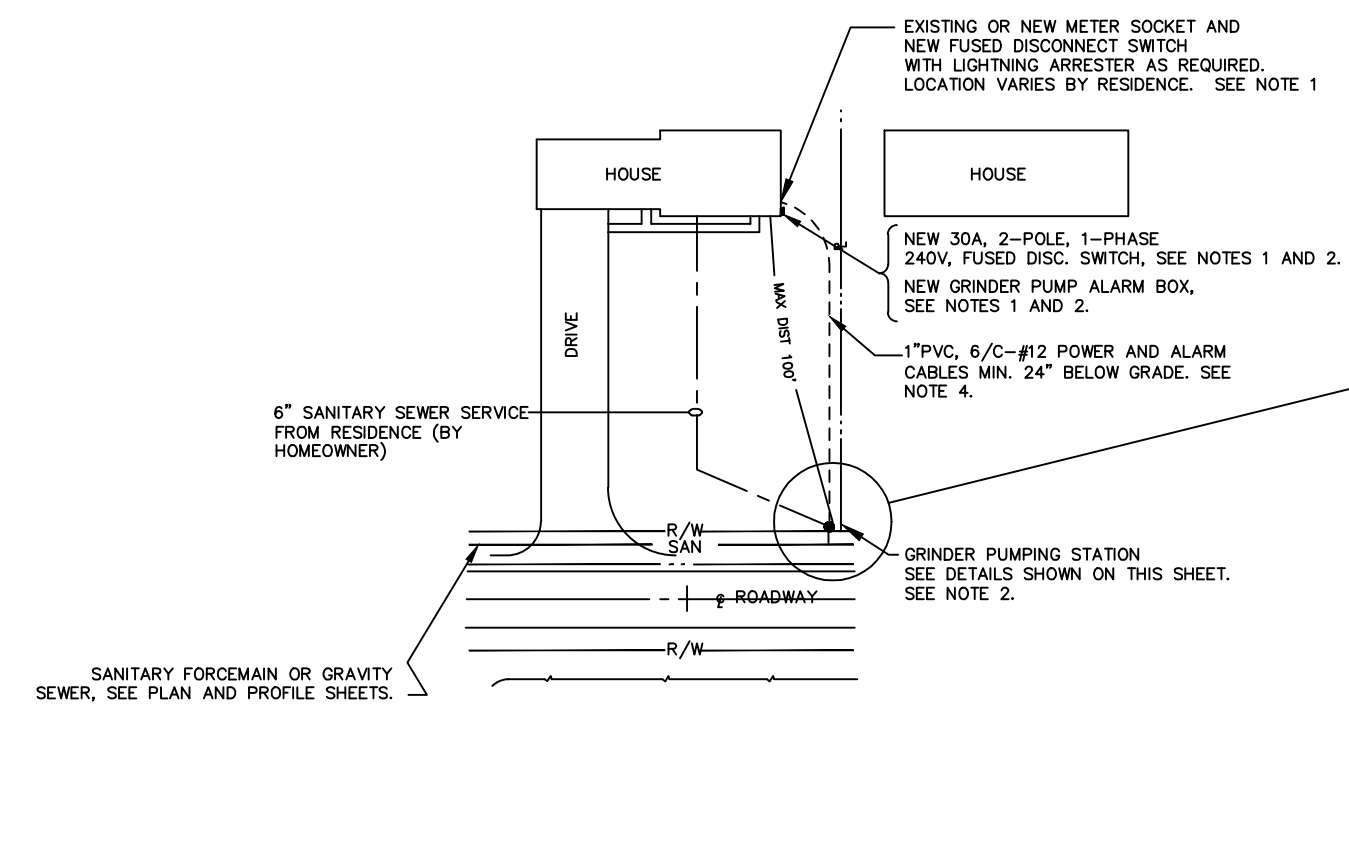
TYPICAL GRINDER PUMP STATION DETAILS

NOT TO SCALE
NOTES:
1.) UNLESS OTHERWISE NOTED, ALL GRINDER PUMPING UNITS SHALL BE E-ONE DH071.



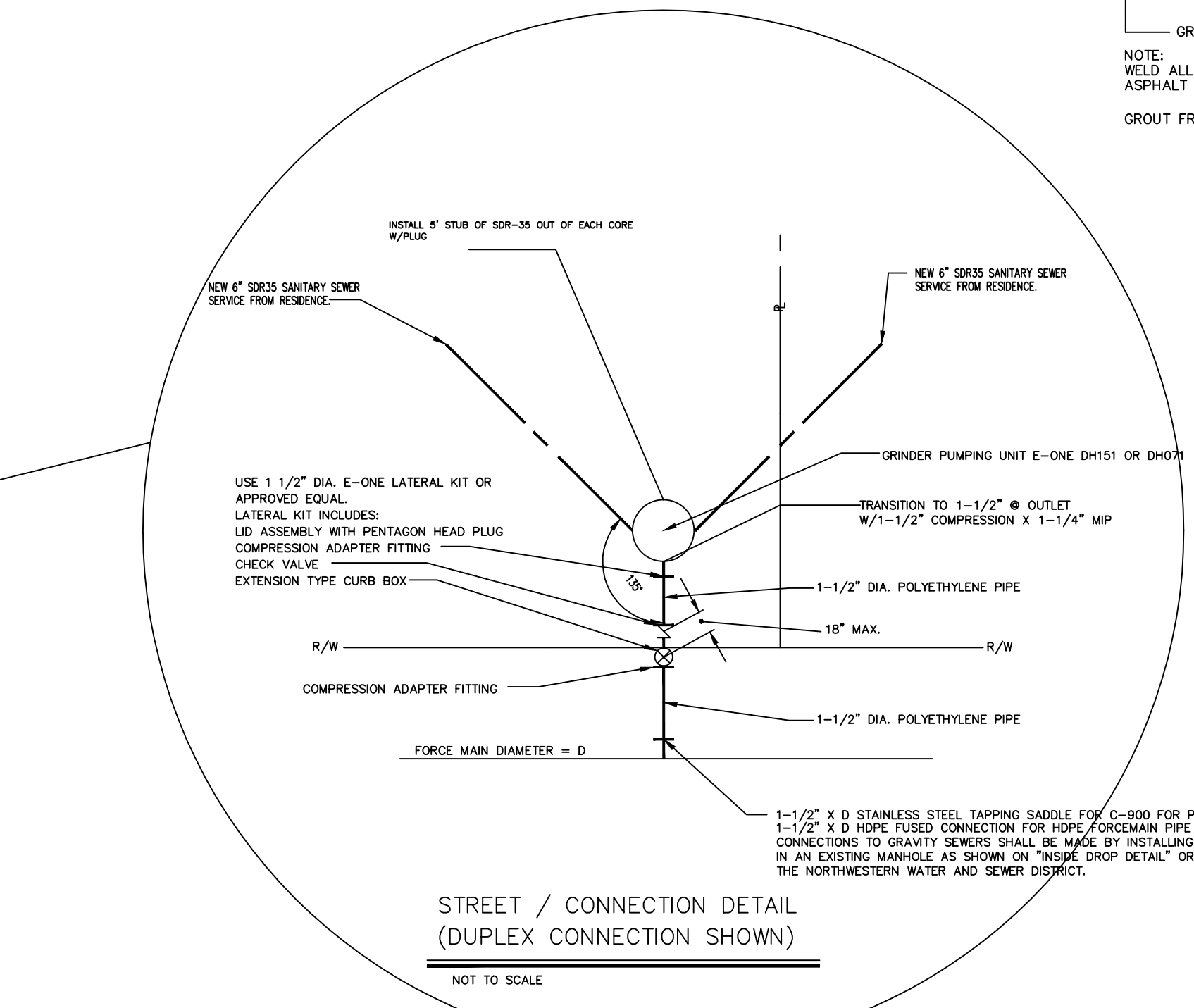
TYPICAL GRINDER PUMP STATION ELECTRICAL SERVICE CONNECTION DETAIL EXISTING HOME

NOT TO SCALE
NOTES:
1.) CONNECT NEW SERVICE FOR GRINDER PUMP TO LOAD SIDE OF METER TERMINALS. PROVIDE JUNCTION BOX AND CONNECTIONS AS REQUIRED. GRINDER PUMP IS 240V, 1 PHASE, 1 HP.
2.) LOCATION OF ALARM BOX PER MANUFACTURER'S STANDARDS. LOCATE AS DIRECTED BY THE NORTHWESTERN WATER AND SEWER DISTRICT.
3.) FOR EXISTING STRUCTURES, THE DISCONNECT SHALL BE LOCATED ADJACENT TO THE METER BASE AS SHOWN ABOVE.
4.) FOR NEW STRUCTURES, CONNECT DISCONNECT SWITCH TO 30A, 2-POLE, 1-PHASE BREAKER IN ELECTRICAL POWER PANEL. CONTRACTOR TO INSTALL ALL ASSOCIATED WIRE AND CONDUIT FROM ELECTRICAL POWER PANEL TO DISCONNECT SWITCH. DISCONNECT TO BE INSTALLED 6" FROM ALARM BOX.
5.) PROVIDE 2' OF ADDITIONAL WIRE AT DISCONNECT, ALARM PANEL AND GRINDER PUMPING STATION LOCATIONS FOR FINAL ELECTRICAL CONNECTIONS.



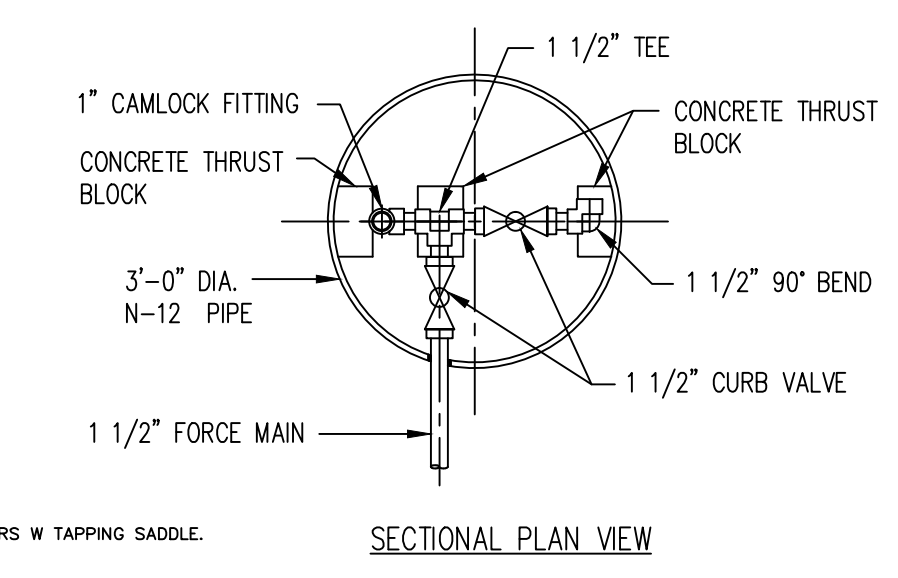
TYPICAL GRINDER PUMP STATION SITE PLAN (SIMPLEX CONNECTION SHOWN)

NOT TO SCALE
NOTES:
1.) INSTALL ALL REQUIRED ELECTRICAL CABLE AND WIRE FROM RESIDENCE TO ALARM BOX. LOCATIONS OF ELECTRICAL EQUIPMENT IS SHOWN ON "ELECTRICAL SERVICE CONNECTION DETAIL" ON THIS SHEET.
2.) COORDINATE LOCATION OF GRINDER PUMP AND SEWER DISTRICT AND HOMEOWNER. ALARM BOX MUST BE INSTALLED IN A LOCATION VISIBLE FROM ROAD AND PUMP STATION.
3.) GRINDER PUMPING STATION STARTUP SHALL BE PERFORMED BY MANUFACTURER'S SERVICE REPRESENTATIVE, OR NORTHWESTERN WATER AND SEWER DISTRICT.
4.) 1" PVC CONDUIT FROM ALARM BOX TO GRINDER PUMP STATION SHALL BE STUBBED UP UNDER HOOD WHERE POWER CABLE ENTERS GRINDER PUMPING STATION AND REMAIN OPEN.

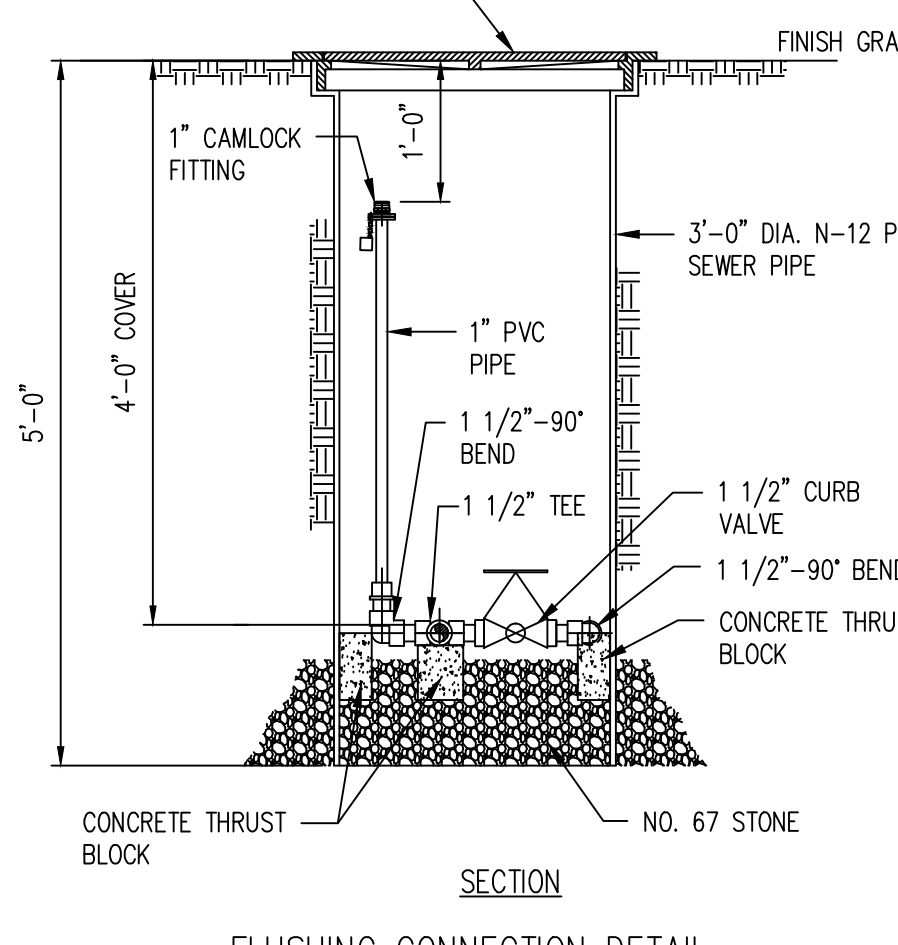


STREET / CONNECTION DETAIL (DUPLIX CONNECTION SHOWN)

NOTE: ALL PRESSURE SIDE FITTINGS TO BE BRASS

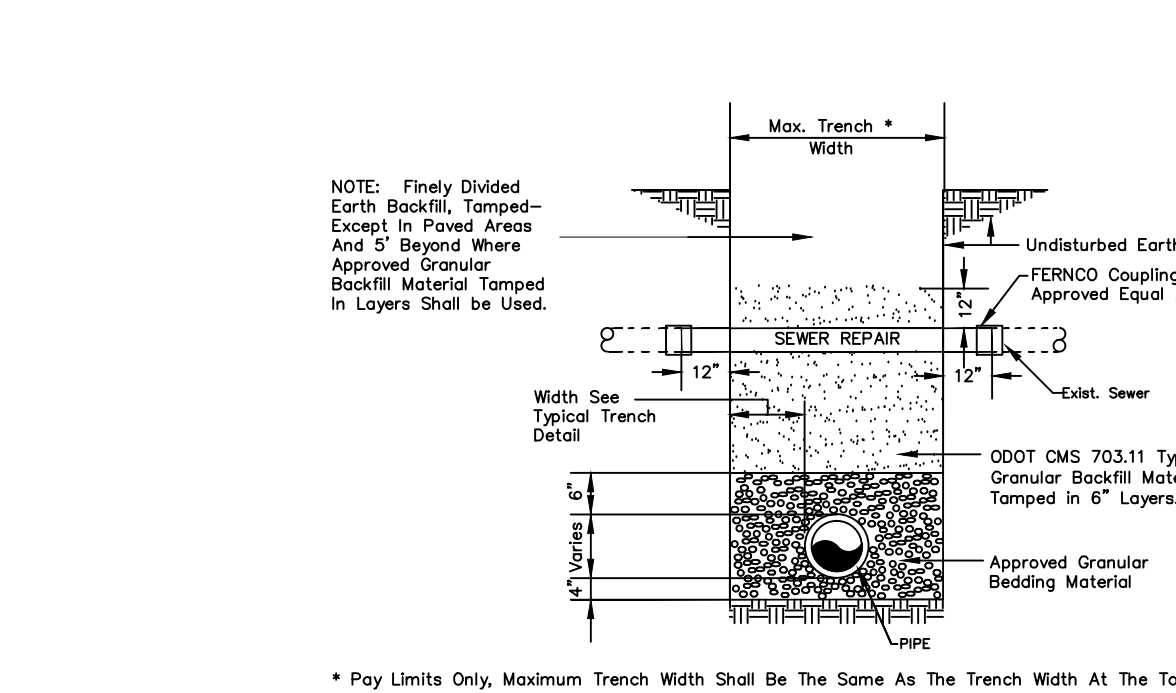


SECTIONAL PLAN VIEW

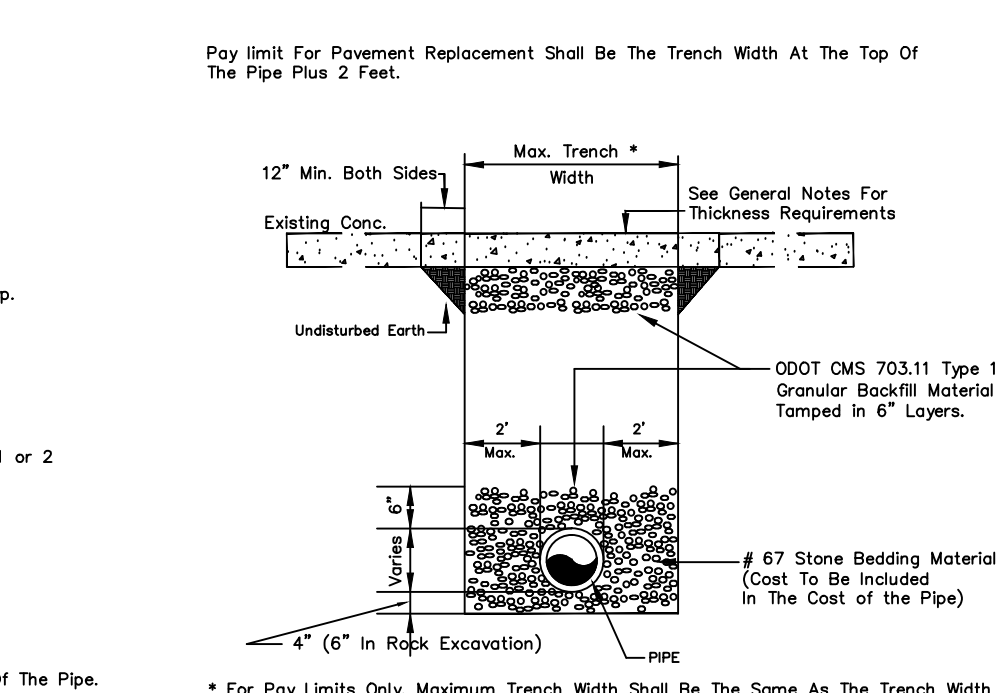


SECTION FLUSHING CONNECTION DETAIL

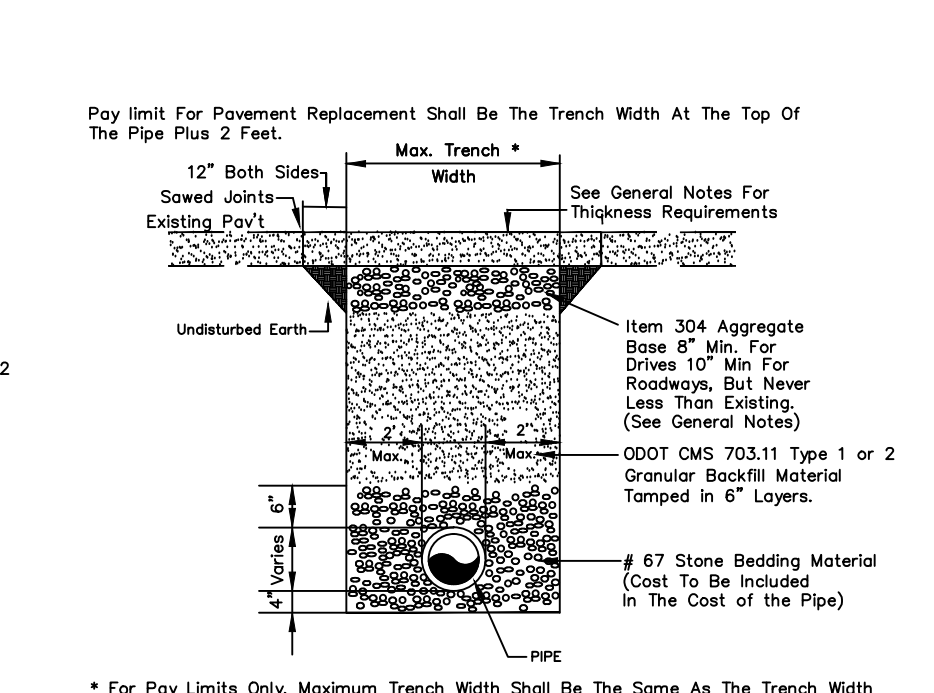
2 WORKING DAYS BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE



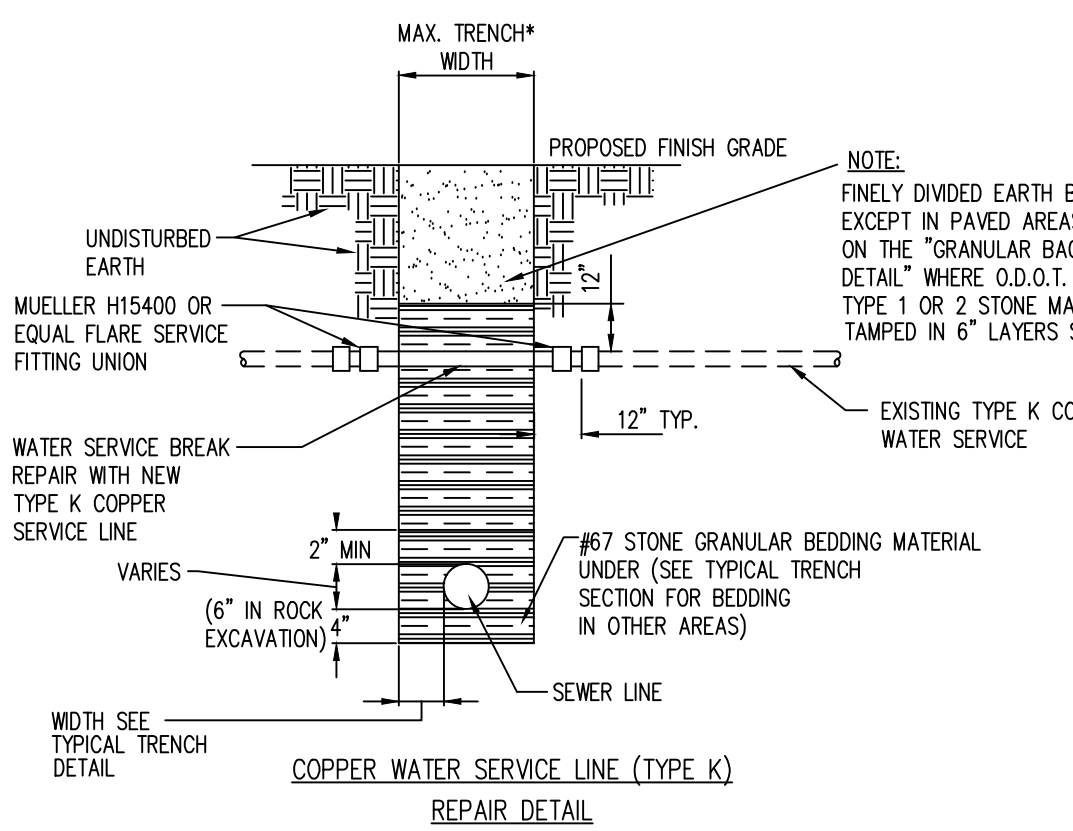
SEWER REPAIR OVER SANITARY SEWER



GRAVITY SANITARY SEWER TRENCH DETAIL IN CONCRETE PAVEMENT



GRAVITY SANITARY SEWER TRENCH DETAIL IN ASPHALT PAVEMENT



COPPER WATER SERVICE LINE (TYPE K) REPAIR DETAIL

* FOR PIPE REPAIR PAY LIMITS, THE MAXIMUM TRENCH WIDTH SHALL BE THE SAME AS THE TRENCH WIDTH AT THE TOP OF THE PIPE. THE WATER LINE REPAIR PAY LENGTH IS THE MAXIMUM TRENCH WIDTH PLUS 2 FT.

NORTHWESTERN WATER & SEWER DIST.
12560 Middleton Pike, Bowling Green, Ohio 43402
PHONE NUMBER: (419) 354-9090

SANITARY SEWER
GRINDER PUMP AND FORCEMAIN DETAILS

DRAWN BY: HB, JS	CHECKED BY: HB, BC
# DATE BY REVISION	
A 04/20/08 TB NWS D REVISIONS	
A 04/20/08 A NWS D REVISIONS	
A 04/20/08 NM NWS D REVISIONS	
A 11/20/08 NM NWS D REVISIONS	
FILENAME:	

NWSD GP1