

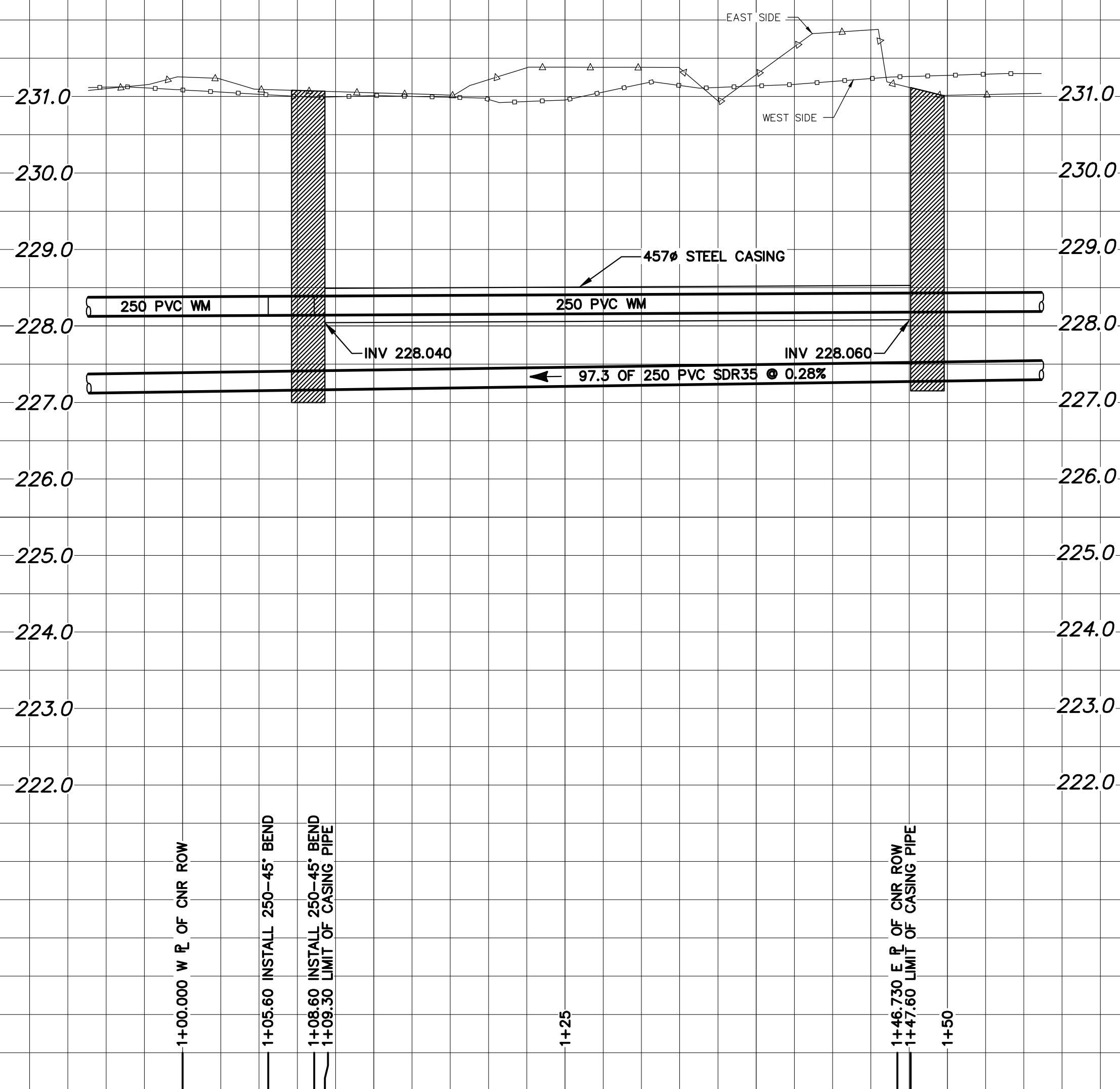
DETAIL "B"  
WARNING SIGN DETAIL  
N.T.S.

**WATER CARRIER PIPE INFORMATION**

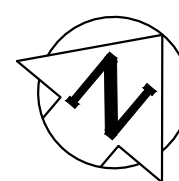
DIAMETER - 250mm (285mm O.D.)  
 MATERIAL - PVC  
 WALL THICKNESS - 18.6 mm  
 PIPE CLASS - AWWA C900 DR18  
 SURGE PRESSURE - 300 PSI (2.0MPa)  
 OPERATING PRESSURE - 60 PSI (0.4 MPa)  
 TEST PRESSURE - 150 PSI (1.0 MPa)  
 INSTALLATION METHOD  
 - HORIZONTAL DIRECTIONAL DRILLING (HDD)  
 - JOINT BELL & SPIGOT W/RUBBER GASKET

**ENCASEMENT PIPE INFORMATION**

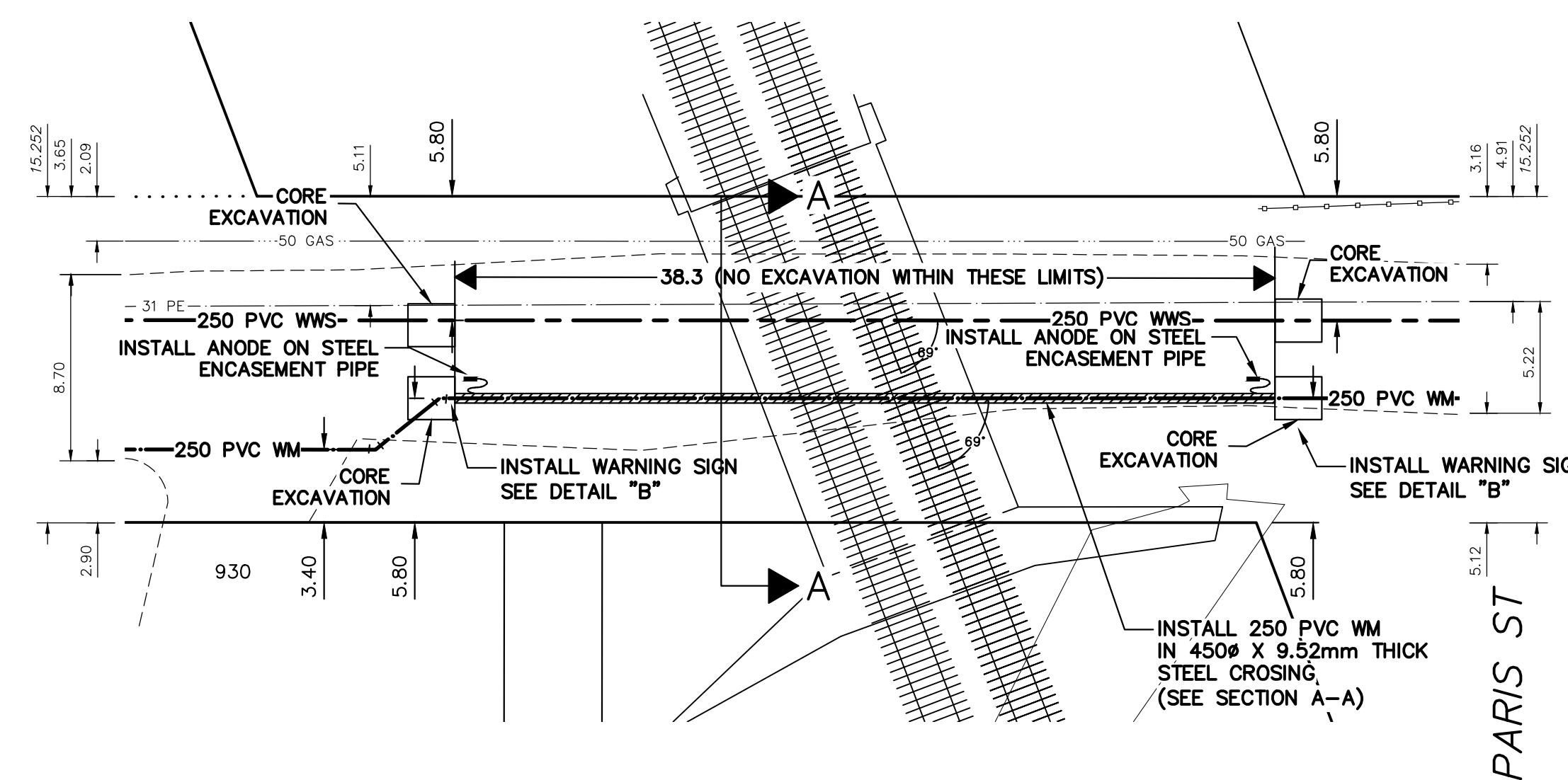
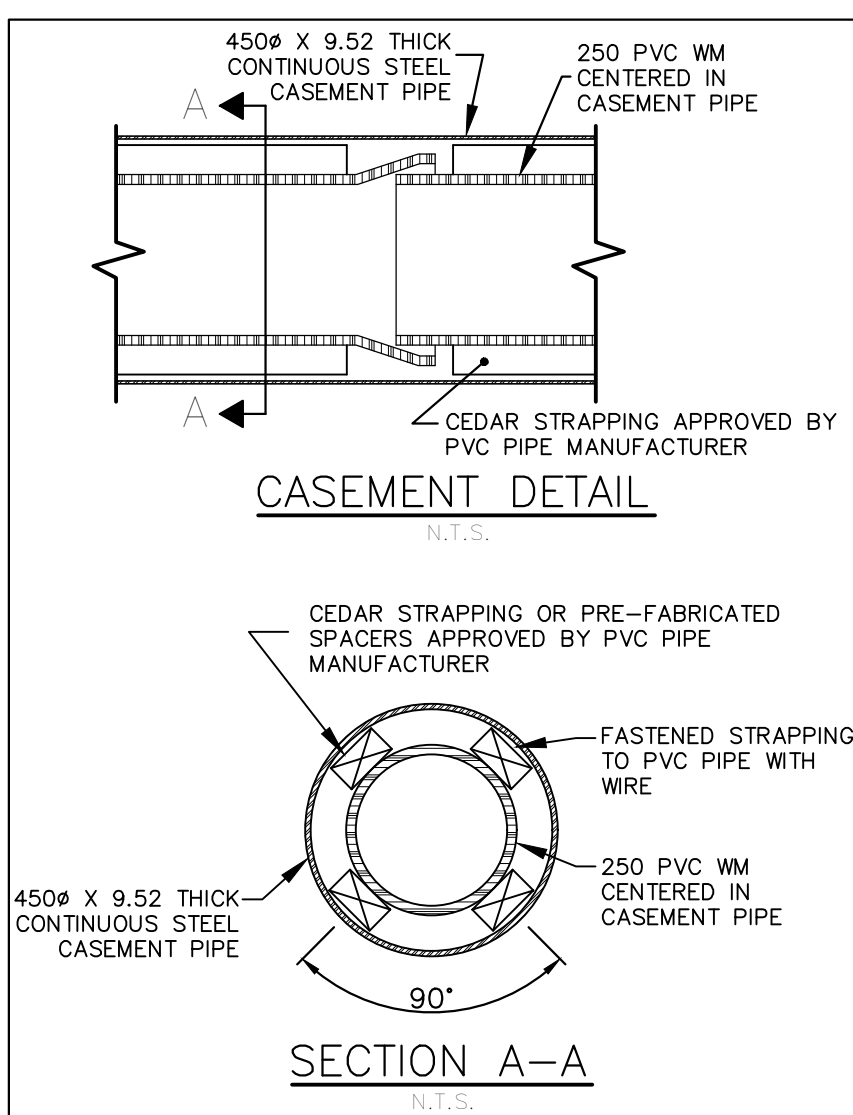
DIAMETER - 457 mm  
 MATERIAL - STEEL - ASTM A53  
 WALL THICKNESS - 9.52 mm MIN.  
 YIELD STRENGTH - 241 MPa  
 LENGTH - 38.3m  
 JOINT - WELDED



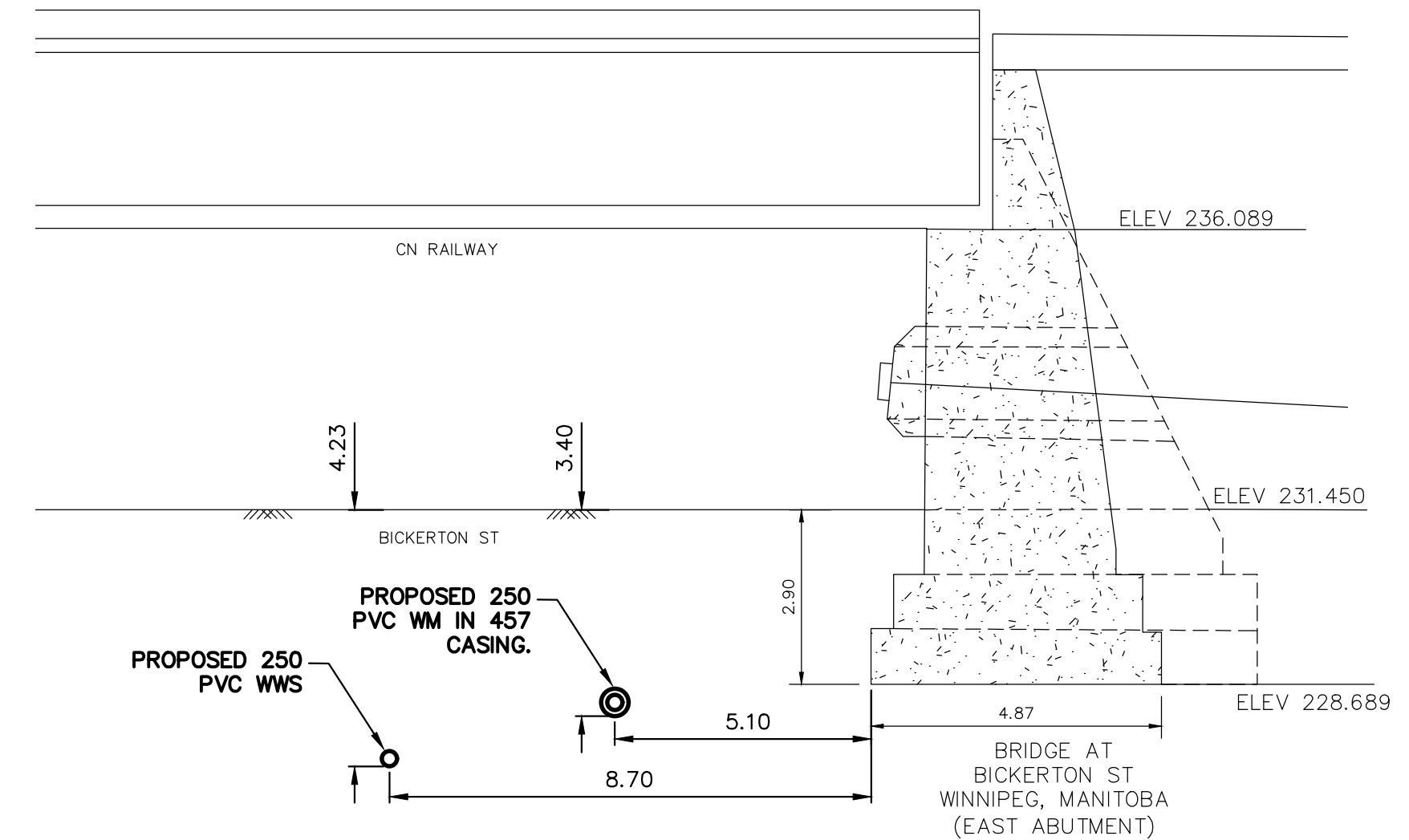
NOTE: CHAINAGES SHOWN ARE ALONG S/N  $\bar{L}$  OF BICKERTON ST



BICKERTON STREET



NOTE: ALL VALVES TO BE INSTALLED CLOCKWISE TO CLOSE



Section A-A  
SCALE 1:100

**WASTE WATER SEWER INFORMATION**

DIAMETER - 250mm (266.70mm O.D.)  
 MATERIAL - PVC  
 WALL THICKNESS - 7.62 mm  
 PIPE CLASS - CAN/CSA B182.2 SDR 35  
 INSTALLATION METHOD  
 - HORIZONTAL DIRECTIONAL DRILLING (HDD)  
 - JOINT, BELL & SPIGOT W/RUBBER GASKET  
 MAX OPERATING PRESSURE - GRAVITY  
 FLOW DIRECTION: NORTH TO SOUTH

**CONSTRUCTION MONITORING PLAN**

1. CONSTRUCTION MONITORING PLAN OUTLINED IN TENDER AND SUMMARIZED BELOW MUST BE FOLLOWED.
2. MONITORING POINTS INSTALLED AT BASE AND MID-HIGHT OF EAST ABUTMENT AND PEIR
3. ALL MONITORING POINTS SURVEYED EVERY 12 HOURS BEGINNING 12 HOURS BEFORE WORK, FINISHING 3 DAYS AFTER WORK IS COMPLETE.
4. SURVEY METHOD TO CAPTURE MOVEMENTS IN 3 DIMENSIONS TO AN ACCURACY LESS THAN 5mm.
5. 5mm DISPLACEMENT - CONSTRUCTION STOPS, CN RAIL TO BE NOTIFIED FOR ASSESSMENT. WORK DOES NOT CONTINUE UNTIL APPROVED BY CN.
6. 10mm IN DISPLACEMENT - CONSTRUCTION HALTED, CN NOTIFIED IMMEDIATELY. DETAILED ASSESSMENT OF CAUSE FOR DISPLACEMENT UNDERTAKEN

**RAILWAY NOTES**

1. RAILWAY CROSSING WILL BE CONSTRUCTED, MAINTAINED AND OPERATED IN ACCORDANCE TO TRANSPORT CANADA E-10 (STANDARDS RESPECTING PIPELINE CROSSINGS UNDER RAILWAYS).
2. EXCAVATIONS SHALL NOT BE CLOSER TO THE RAIL TRACKS THAN NOTED ON THE DRAWING. DISTANCES MEET CN GUIDELINES.
3. NO RAILWAY CROSSING CONSTRUCTION SHALL BE PERMITTED UNTIL THE CONTRACTOR IS IN RECEIPT OF APPROVAL FROM CNR.

**CONSTRUCTION NOTES**

1. EXPOSE EXISTING WATER MAIN & CONFIRM INVERTS PRIOR TO CONSTRUCTION.
2. LOCATION OF ALL SERVICES TO BE CONFIRMED IN THE FIELD.
3. INSTALL WATER MAIN BY TRENCHLESS METHODS.
4. TRENCHES AND EXCAVATIONS WITHIN 1 METRE OF A PAVED AREA INCLUDING SIDEWALKS SHALL BE CLASS 3 BACKFILL.
5. ALL MATERIALS SHALL CONFORM TO THE CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATIONS.
6. MINIMUM COVER TO TOP OF WATER MAIN SHALL BE 2.4 m.
7. REPLACE ALL EXISTING LEAD SERVICES FROM PROPOSED WATER MAIN TO  $\bar{L}$ .
8. NOTIFY ALL AFFECTED RESIDENTS AND BUSINESSES 24 HOURS IN ADVANCE OF ANY WATER SHUTDOWNS OR DISRUPTION OF SERVICE.
9. A GEOTECHNICAL ENGINEER HAS REVIEWED THE PROPOSED INSTALLATION WORK AND HAS PROVIDED CONSTRUCTION RECOMMENDATIONS THAT THE CONTRACTOR SHALL IMPLEMENT AS PER THE GEOTECHNICAL REPORT. THE GEOTECHNICAL ENGINEER WILL BE ONSITE DURING THE INSTALLATION.
10. THE INSTALLATION AND MAINTENANCE TO BE IN ACCORDANCE WITH TC E10, AND THE LATEST EDITION OF APPLICABLE CSA STANDARD Z-662

METRIC  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES



LOCATION APPROVED  
UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:  
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M. ELEV.

NO.	REVISIONS	DATE	BY
2	ADDED NEW CN REQUIREMENTS	2019/6/12	RS
1	ADDED NOTES	2018/11/28	RS

DESIGNED BY	TP	CHECKED BY	SC
DRAWN BY	RS	APPROVED BY	KZ

SCALE:	HORIZONTAL	1:250	
VERTICAL	1:50		
DATE	2019 08 08	DATE	2019 06 12

ENGINEER'S SEAL

ORIGINAL SIGNED BY S.R.J COURNOYER 19/06/12

CONSULTANT DRAWING NUMBER

**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT  
ENGINEERING DIVISION

2019 BICKERTON LOCAL IMPROVEMENTS  
CONTRACT  
BICKERTON STREET  
CN RAIL CROSSING

SHEET 4 OF 4

CITY DRAWING NUMBER

D-15309