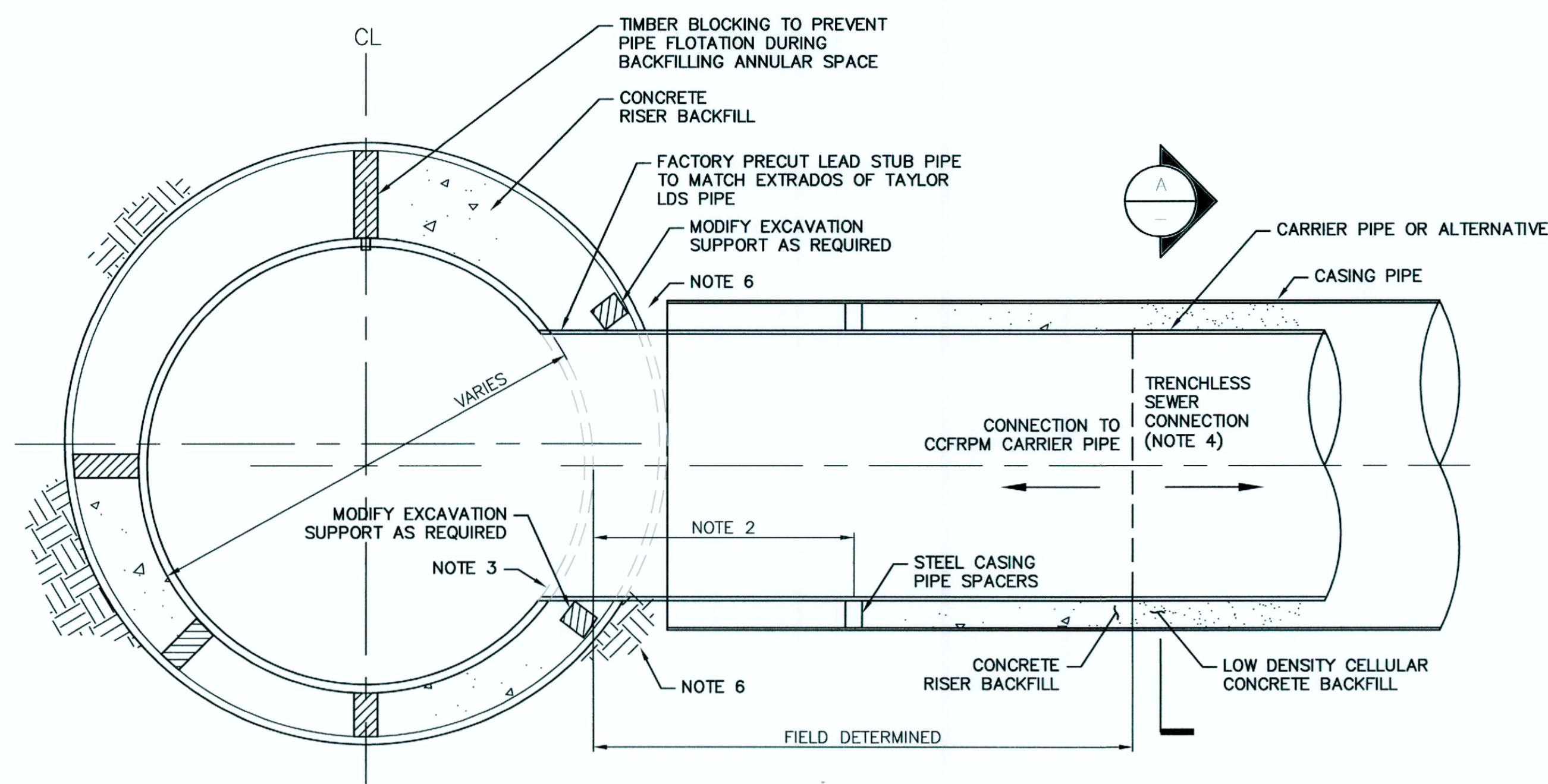


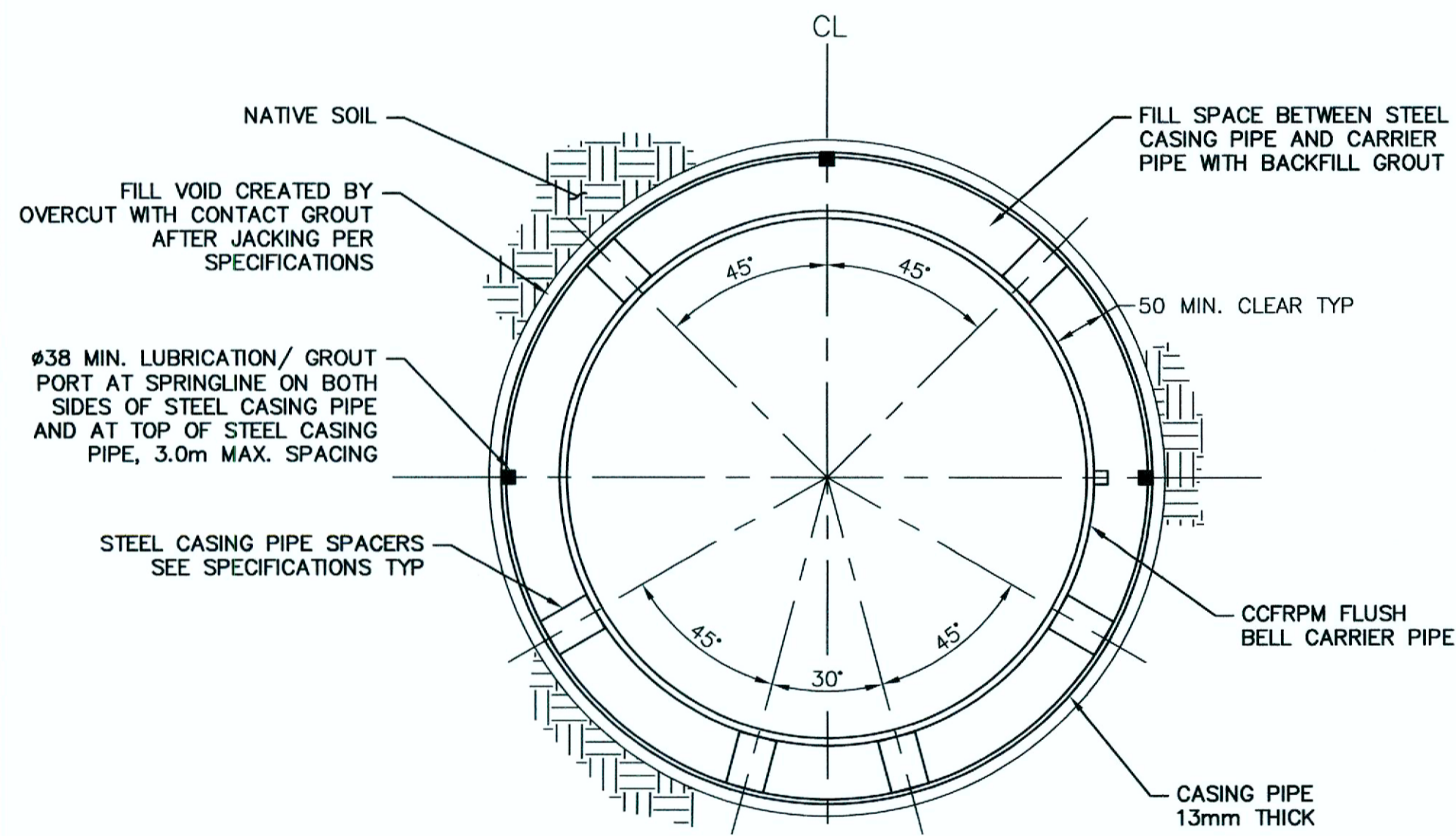
NOTE
1. ADJUST BLOCKING HEIGHTS TO MAINTAIN CARRIER PIPE SLOPE AND INVERTS AS INDICATED ON THE DRAWINGS.

1 TUNNEL DETAIL
NTS



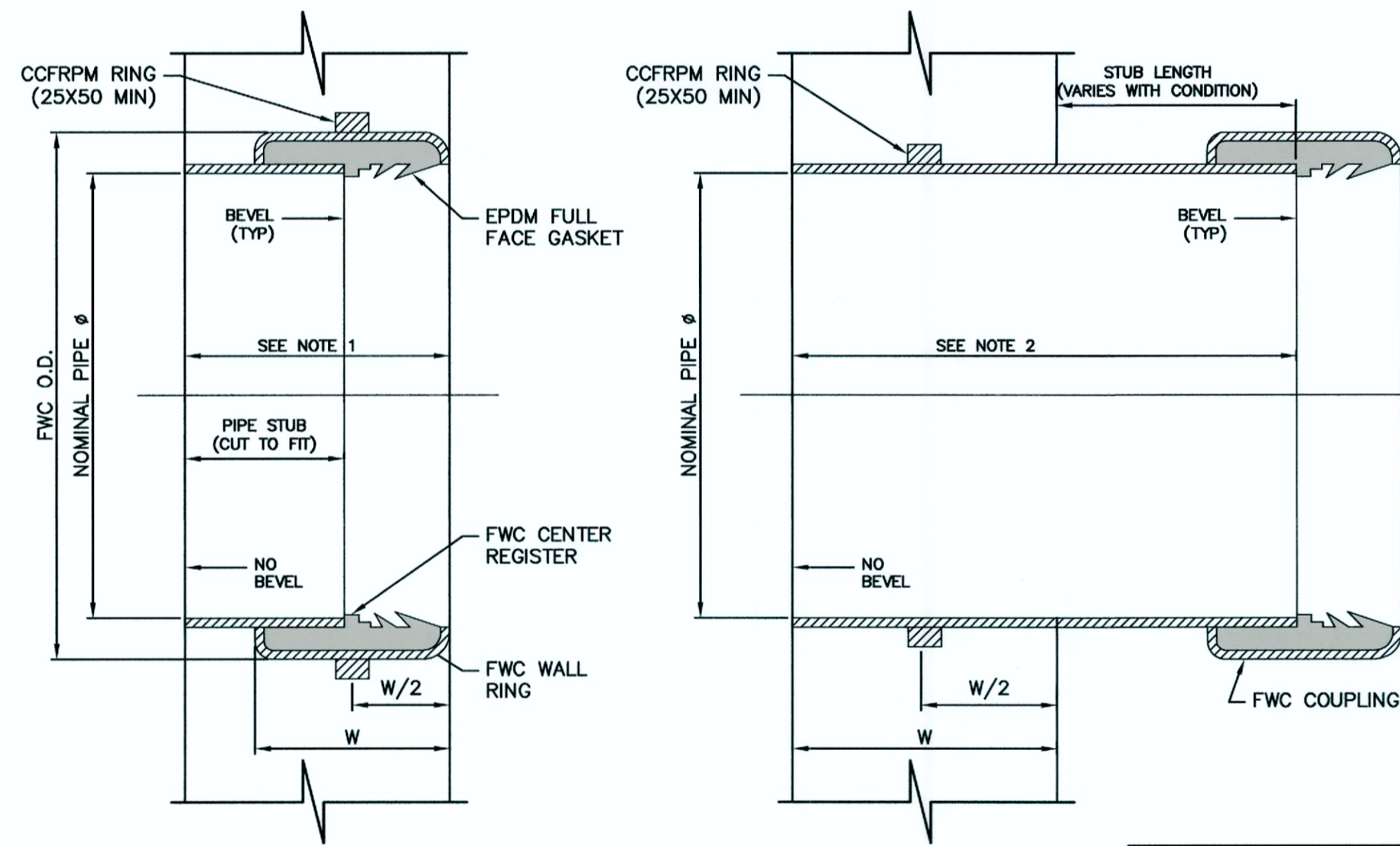
NOTES
1. ONLY ONE STUB SHOWN FOR CLARITY.
2. STEEL CASING PIPE SPACERS PER PIPE MANUFACTURER'S RECOMMENDATIONS.
3. LAMINATE STUB CONNECTION PER CCFRPM PIPE MANUFACTURER'S RECOMMENDATIONS.
4. STUB OUT TO CONTINUE AS CCFRPM PIPE INSIDE STEEL CASING AND EXTEND A MIN. OF 2 METERS FROM TUNNEL AND TRANSITION TO ALTERNATE MATERIAL IN ACCORDANCE WITH B7 OF THE SPECIFICATIONS.
5. METHODS ALTERNATIVE TO AUGER BORING ARE SUBJECT TO ACCEPTANCE IN ACCORDANCE WITH B7 OF THE SPECIFICATION.
6. PROVIDE GROUND SUPPORT AS REQUIRED TO COMPLETE CONNECTION TO LDS TRUNK. SUBMIT PROPOSED METHOD TO CONTRACT ADMINISTRATOR FOR APPROVAL.

2 STUB TUNNEL CONNECTION DETAIL
NTS



NOTE:
ALTERNATIVE CASING DIAMETER MAY BE PROPOSED BY THE CONTRACTOR, SUBJECT TO CONTRACT REQUIREMENTS AND CONTRACT ADMINISTRATOR'S APPROVAL.

A CCFRPM TUNNEL FLUSH BELL PIPE (WITH CASING PIPE)
NTS



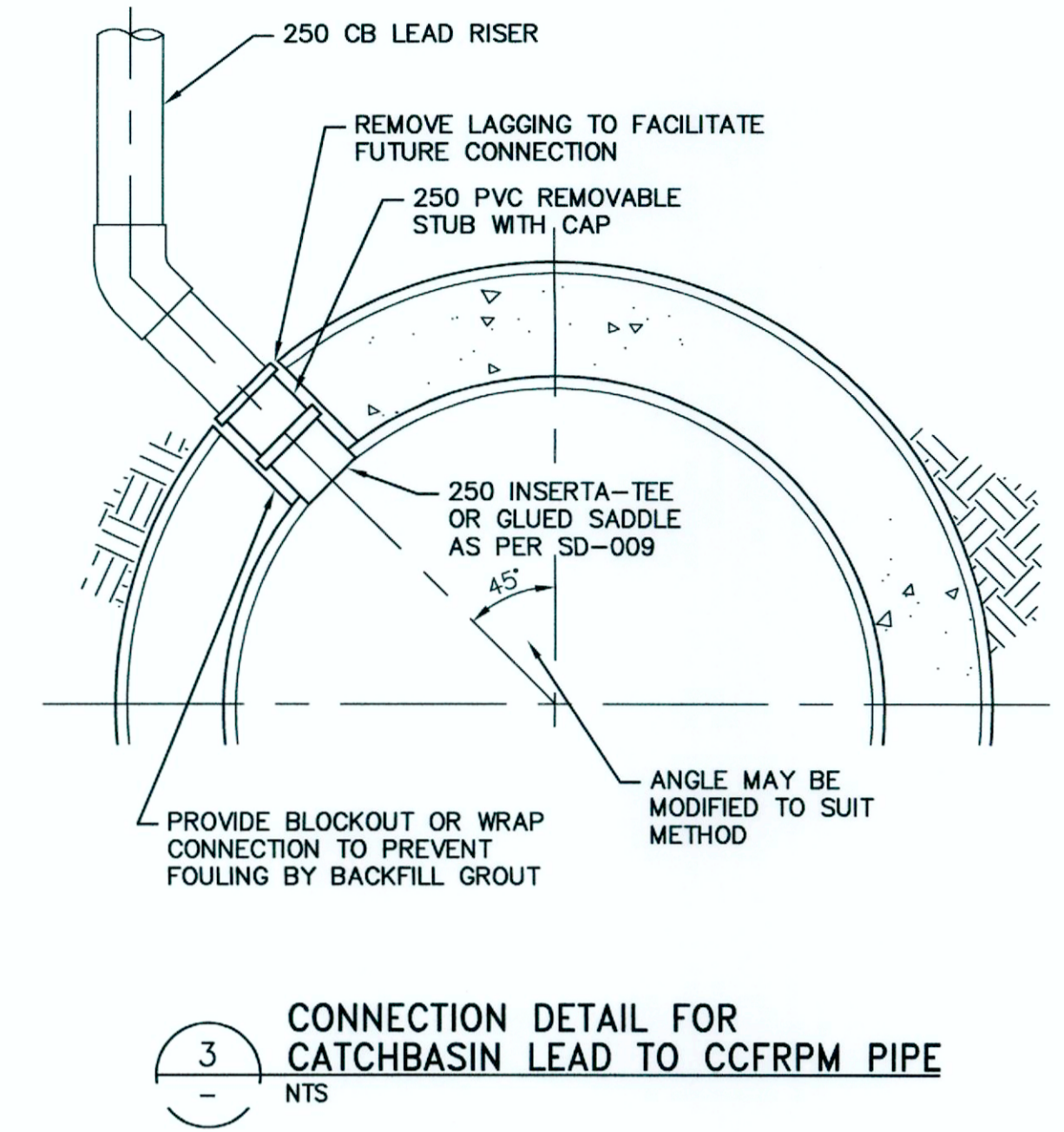
FWC COUPLING WALL FITTING (WITH PIPE STUB)

WALL PIPE FITTING

NOMINAL PIPE Ø	FWC WIDTH (APPROX.)
450-500	200mm
600-1350	250mm
1425-2750	290mm

NOTES:
1. TOTAL WIDTH OF STRUCTURE WALLS GREATER THAN 290mm (AT CONTRACTOR'S OPTION)
2. MINIMUM WALL PIPE LENGTH EQUAL TO STRUCTURE THICKNESS (W) PLUS STUB LENGTH
3. WALL FITTING TO BE CAST IN PLACE ON SITE OR PRECAST BY MANHOLE MANUFACTURER.

4 HOBAS PIPE CONNECTION DETAIL
NTS



3 CONNECTION DETAIL FOR CATCHBASIN LEAD TO CCFRPM PIPE
NTS

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APEGM
Certificate of Authorization
CH2M HILL Canada Ltd.
No. 1441

B.M. ELEV.		KGS GROUP CONSULTING ENGINEERS JACOBS	DESIGNED BY AF	CHECKED BY MD		THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT PROJECT TITLE COCKBURN AND CALROSSIE COMBINED SEWER RELIEF WORKS - CONTRACT 5 TWO-PASS TUNNELLING DETAILS	SHEET OF 13 OF 19
			DRAWN BY JBC	APPROVED BY <i>RBO (KGS Group)</i>			COMPUTER FILE NAME C-511.dwg
0 ISSUED FOR TENDER	01/2019	JBC	HOR. SCALE: AS NOTED	RELEASED FOR CONSTRUCTION: <i>RBO</i>	CONSULTANT DRAWING NO. C-511	TWO-PASS TUNNELLING DETAILS	CITY DRAWING NUMBER LD-8902
NO. REVISIONS	DATE	BY	DATE	DATE <i>01/23/19</i>			