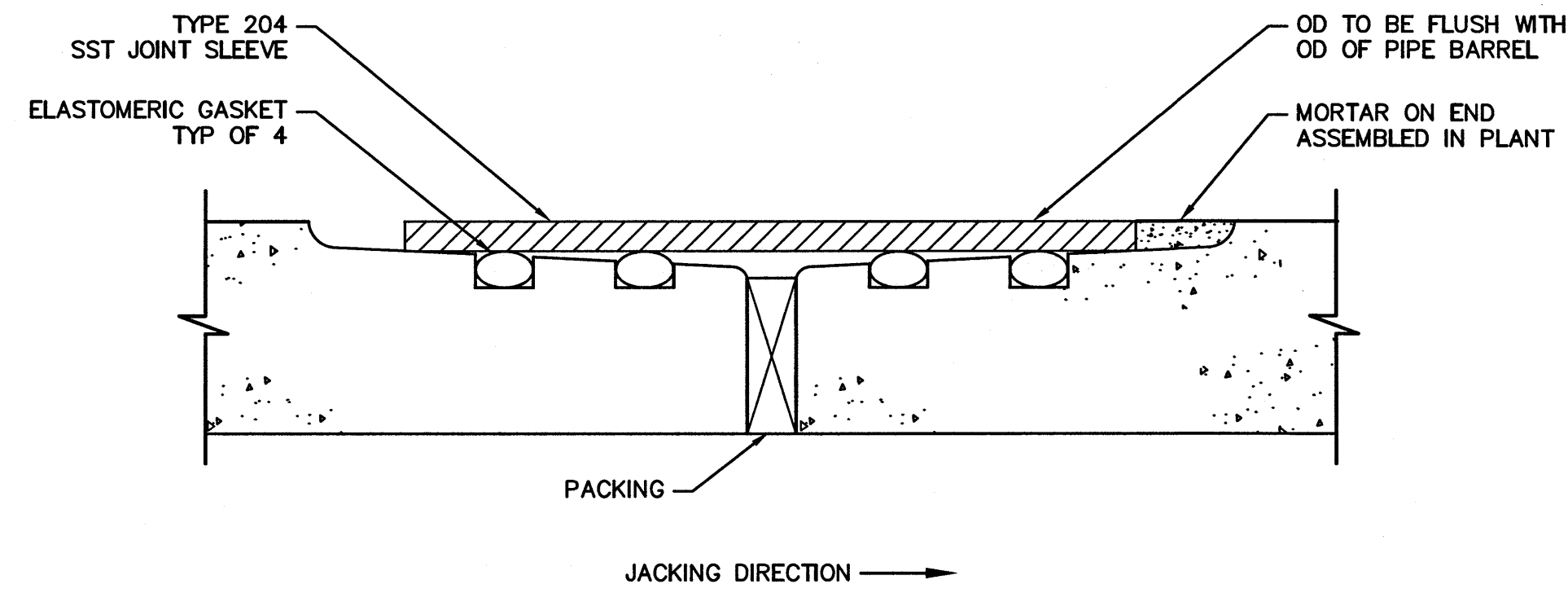


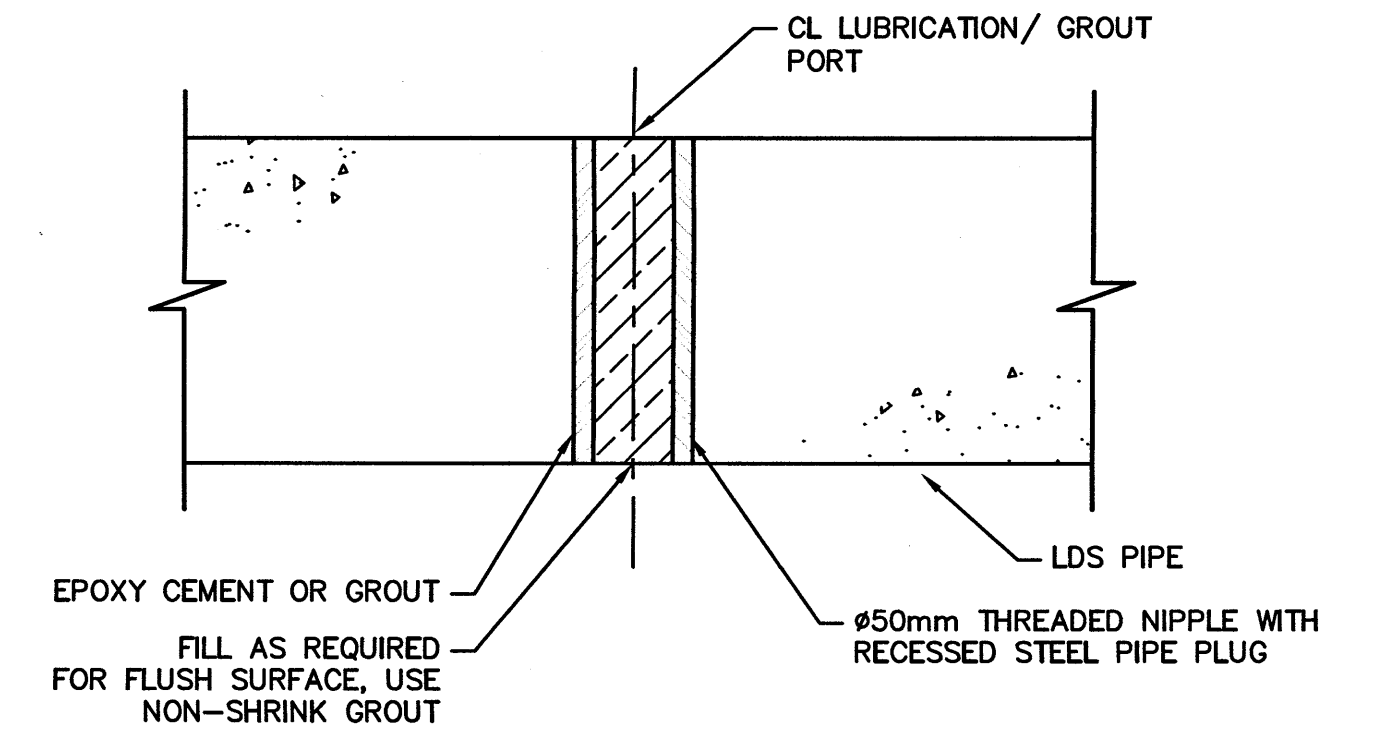
- NOTES:
- PIPE TO BE DESIGNED AS IDENTIFIED IN SPECIFICATION CLAUSE E22.
  - PIPE SUBMITTALS TO BE IN ACCORDANCE WITH SPECIFICATION CLAUSE E22.3

1 DIRECT-JACKED PIPE DETAIL  
1:25



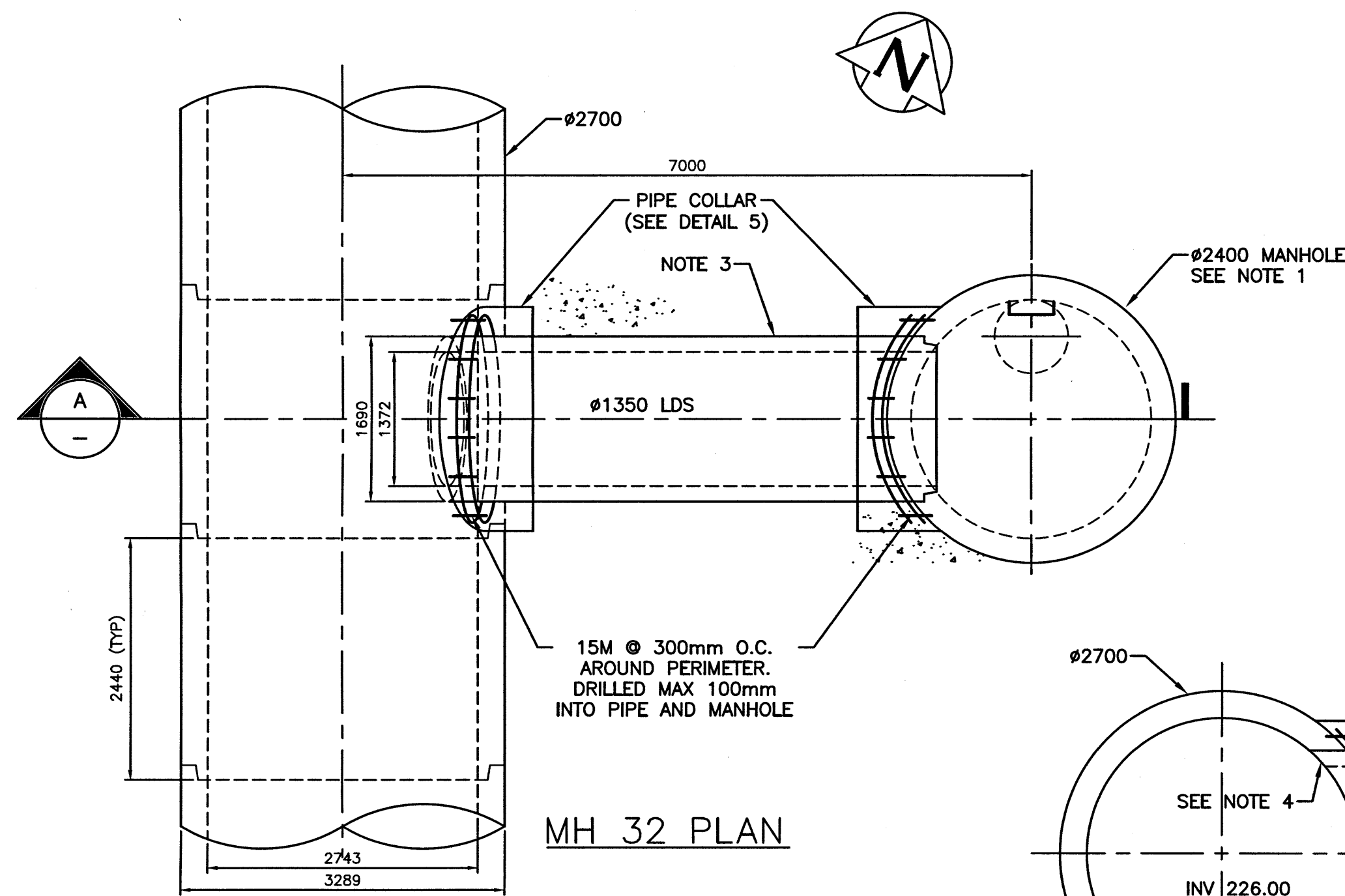
- NOTE:  
CONTRACTOR SHALL SELECT APPROPRIATE PIPE JOINT TO BE COMPATIBLE WITH PLANNED TUNNELING OPERATIONS.

2 SAMPLE JACKING PIPE JOINT DETAIL  
NTS



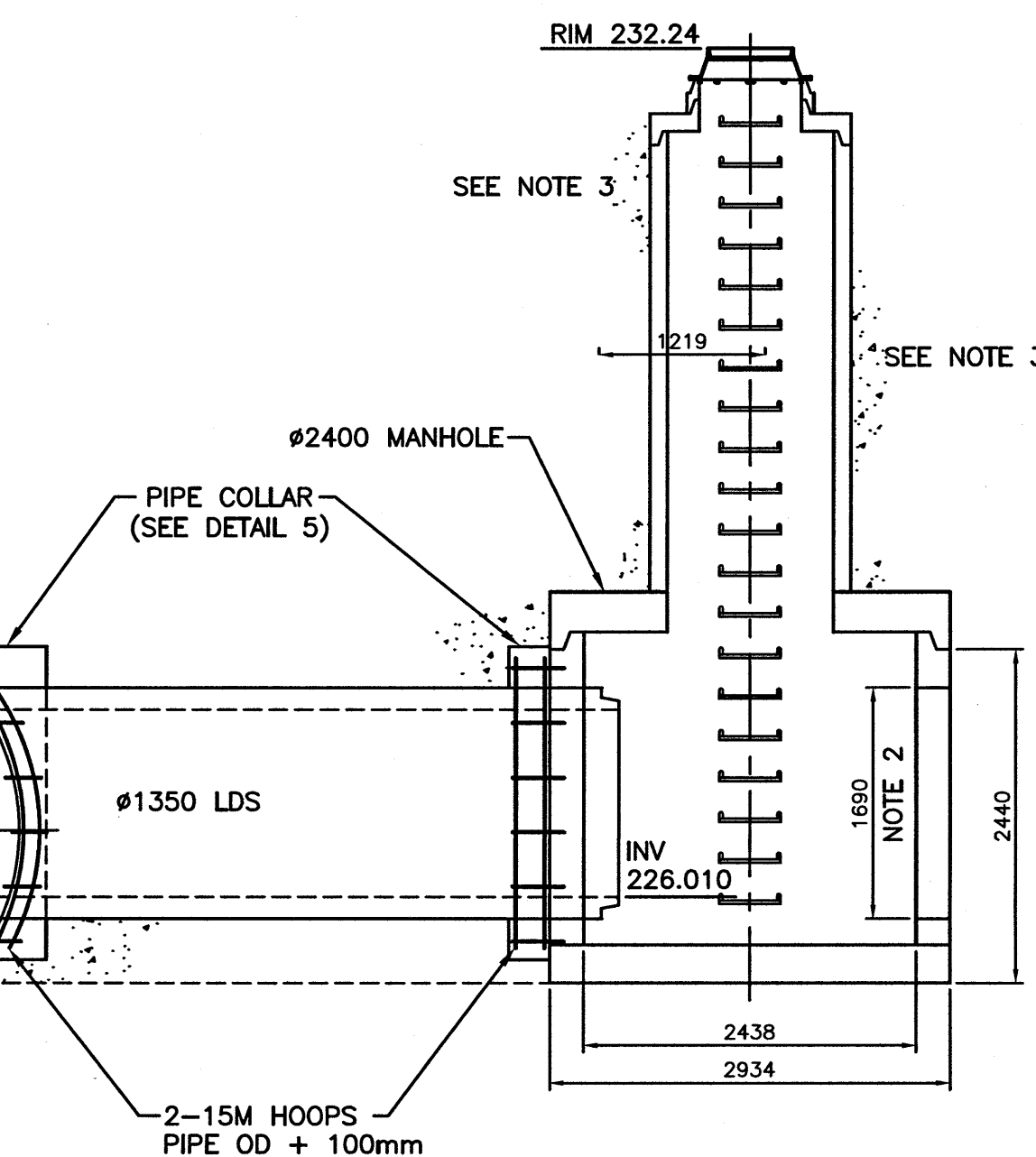
- NOTE:  
AFTER GROUTING, SEAL GROUT HOLE WITH RECESSED PLUG. INSTALL PLUG AND FILL REMAINING VOID FLUSH WITH THE INSIDE OF THE PIPE WITH A MIN. 25mm WITH NON-SHRINK GROUT, IN ACCORDANCE WITH SPECIFICATIONS.

3 LUBRICATION/ GROUT PORT DETAIL  
NTS

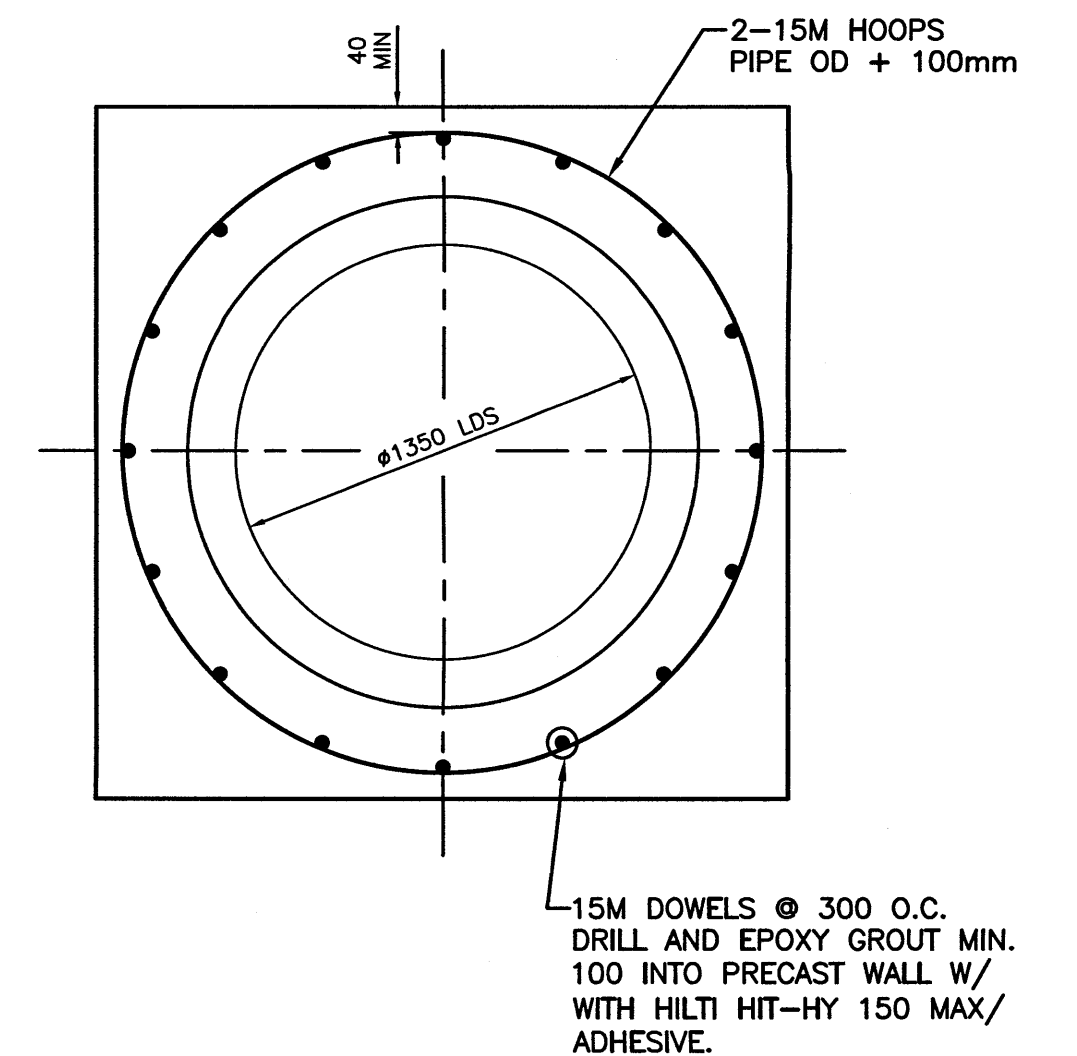
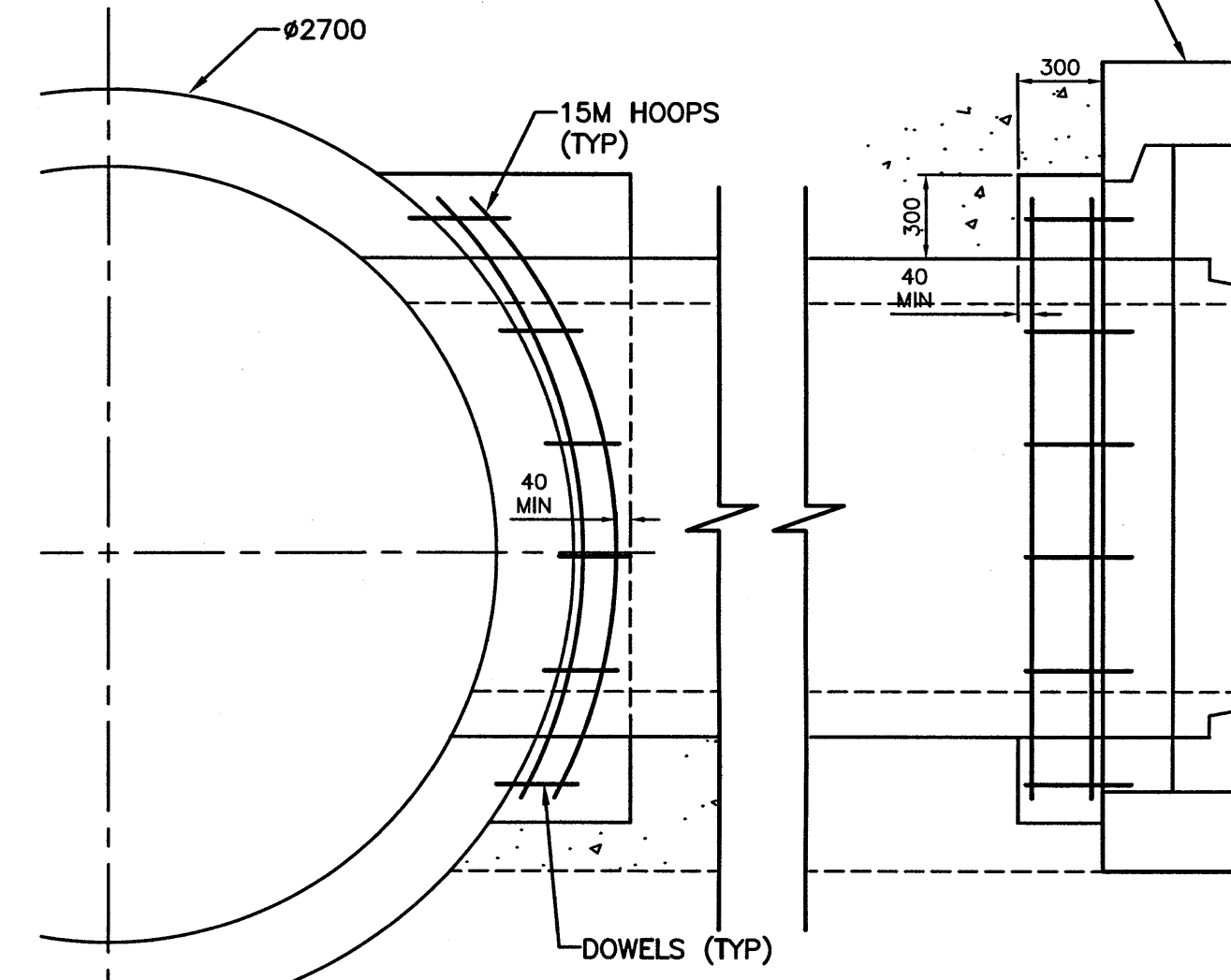


- NOTES:
- MANHOLE TO BE LOCATED EITHER NORTH OR SOUTH OF PROPOSED LOCATION TO ALLOW CONNECTION POINT TO BE ALIGNED TO AVOID PIPE JOINTS BY MINIMUM OF 450mm.
  - INSTALL KNOCKOUT FOR FUTURE 1350 LDS CONNECTION ON THE EAST SIDE OF MH 32 AND PROVIDE WATER TIGHT SEAL.
  - BACKFILL TO BE LOW STRENGTH CONCRETE FILL AROUND PIPE AND MANHOLE (MAX. STRENGTH 1 MPa).
  - 1350 LDS PIPE TO BE CUT FLUSH AND NOT PROTRUDE INTO 2700 LDS PIPE.
  - 300mm THICK PIPE COLLAR IN 35MPa CONCRETE (MIN. 40mm COVER TO REBAR).

4 SPARLING AVENUE CONNECTION (MH 32)  
1:50



5 TYPICAL COLLAR DETAILS  
NTS



SECTION A

File name: C:\p\_w\workdir\ch2mhill\_wbg\cortez\00204776

150 WM	WATER MAIN	150 WM	HYDRO	150 WM	WATER MAIN	150 WM
+	HYDRANT	+	M.T.S.	+	HYDRANT, VALVE	+
⊗	VALVE	⊗	CONCRETE	⊗	LAND DRAINAGE SEWER	⊗
300 LDS	LAND DRAINAGE SEWER	300 LDS	ASPHALT	300 LDS	WASTE WATER SEWER	300 LDS
250 WWS	WASTE WATER SEWER	250 WWS	SIDEWALK	250 WWS	CENTRELINE	250 WWS
○	MANHOLE	○	PLANNING	□	NORTH/WEST GUTTER	□
□	CATCH BASIN	□	PROPERTY LINE	○	SOUTH/EAST GUTTER	○
▽	CURB INLET	▽	SURVEY BAR	◇, ○	N/W, S/E P'S	◇, ○
∩	BEND	∩	GAS			
∩	REDUCER	∩	CURB STOP			
∩		∩	TEE			
EXISTING	LEGEND-PLAN	PROPOSED	LEGEND-PLAN	PROPOSED	LEGEND-PROFILE	PROPOSED

LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES DATE COMMITTEE

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. CONTRIBUTION 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
DATE	BY

**KGS GROUP**  
CONSULTING ENGINEERS

DESIGNED BY: SDG  
DRAWN BY: JBC  
HOR. SCALE: AS NOTED  
VERTICAL: -

**ch2m**

CHECKED BY: MD  
APPROVED BY: [Signature]  
RELEASED FOR CONSTRUCTION: [Signature]  
DATE: JAN 5/17

ENGINEER'S SEAL  
PROVINCE OF MANITOBA  
2017/01/07  
**E. J. SHARP**  
REGISTERED PROFESSIONAL ENGINEER

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

PROJECT TITLE:  
COCKBURN AND CALROSSIE COMBINED SEWER RELIEF WORKS - CONTRACT 4

SHEET OF 12 OF 12  
COMPUTER FILE NAME: C-503.dwg  
CITY DRAWING NUMBER: LD-7898

CONSULTANT DRAWING NO. C-503

SPARLING AVENUE CONNECTION AND JACKING PIPE DETAILS

**APEG**  
Certificate of Authorization  
CH2M HILL Canada Ltd.  
No. 1441