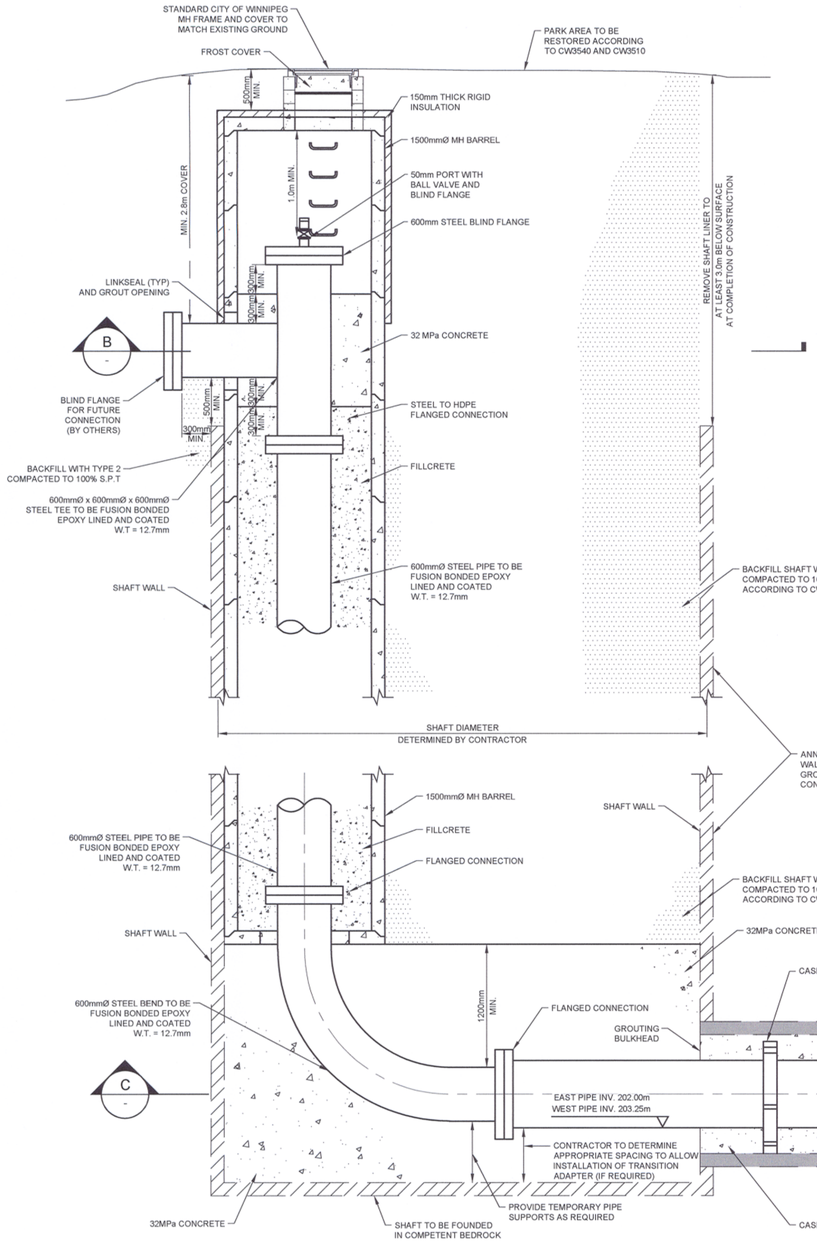
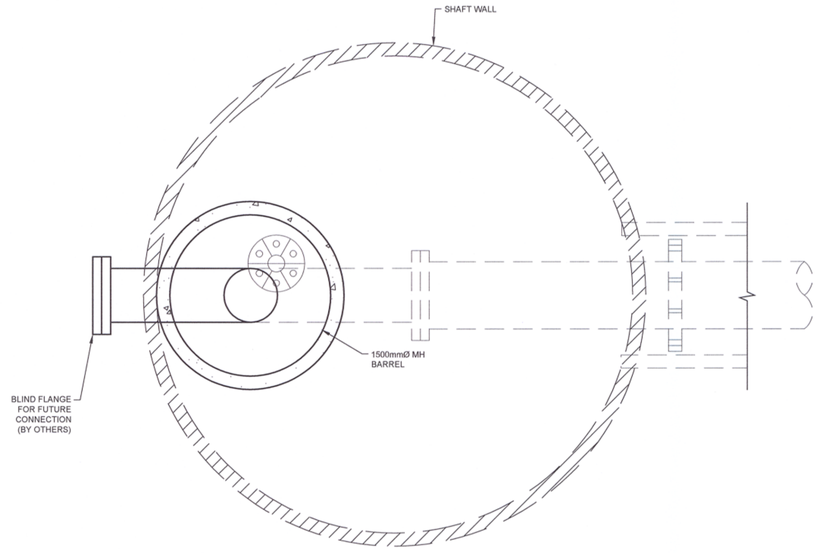
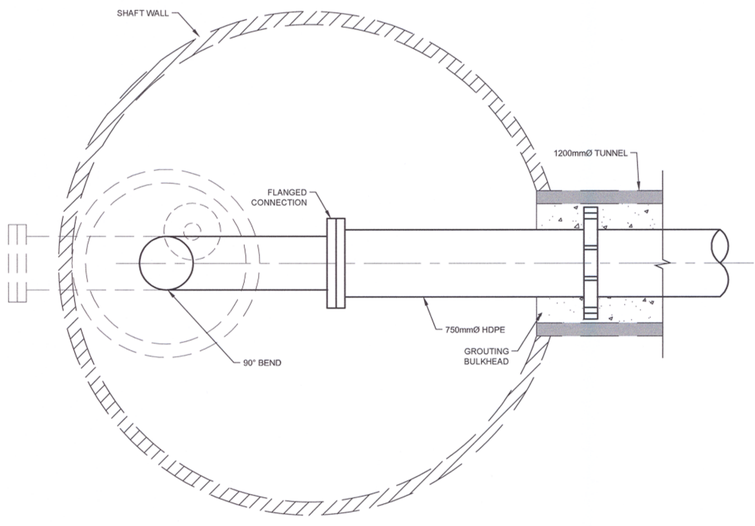


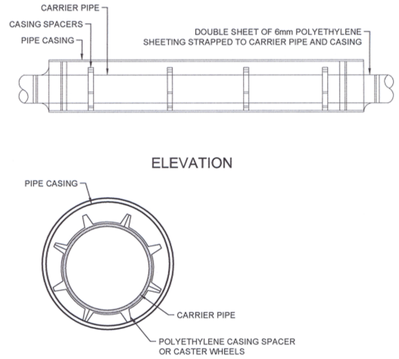
A - SECTION N.T.S.
SHAFT DETAIL (TYP)



B - PLAN NTS
UPPER SHAFT DETAIL (TYP)



C - PLAN NTS
LOWER SHAFT DETAIL (TYP)



D - DETAIL NTS
CASING PIPE WITH INSULATOR

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. CASING MATERIAL AND THICKNESS TO BE DETERMINED BY CONTRACTOR.
3. CASING SPACER SPACING TO BE DETERMINED BY THE MATERIAL AND JOINT TYPE OF CARRIER PIPE BEING USED.
4. CASING COATING AND CATHODIC PROTECTION REQUIREMENTS TO BE DESIGNED BY CONTRACTOR IF REQUIRED.
5. CONTRACTOR TO SUBMIT SHOP DRAWING FOR REVIEW OF SPACER DETAILS

NOTES:

1. CONTRACTOR RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY WORKING SHAFTS. CONTRACTOR TO SUBMIT SHAFT DESIGN DRAWING SEALED BY AN ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA FOR APPROVAL PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL PROTECT EXISTING FEEDERMAIN AND ALL OTHER UTILITIES AND INFRASTRUCTURE FROM DAMAGE.
3. CONTRACTOR'S GROUTING PLAN SHALL BE STAGED TO ALLOW PRESSURE TEST OF CARRIER PIPE SEGMENTS PRIOR TO GROUTING AND BACKFILL. CARRIER PIPES MAY NOT BE GROUTED WITHOUT CONFIRMATION OF SUCCESSFUL PRESSURE TEST.
4. HDPE PIPE WILL BE FILLED WITH WATER DURING ANY GROUT INSTALLATION. HDPE PIPE WILL BE PRESSURIZED DURING GROUTING TO A PRESSURE THAT IS EQUAL TO OR EXCEEDS THE EXPECTED GROUTING PRESSURE. PRESSURE TO BE HELD UNTIL GROUT IS CURED.
5. CARRIER PIPE MUST BE RESTRAINED FROM FLOATING DURING GROUT INSTALLATION.
6. GROUT DESIGN MUST CONSIDER HEAT OF HYDRATION DURING CURE SO THAT THE CARRIER PIPE IS NOT DAMAGED. CONTRACTOR SHALL SUBMIT GROUTING PLAN THAT ACCOUNTS FOR HEAT DEVELOPED DURING CURE.

METRIC
WHOLE NUMBERS INDICATE MILLIMETERS
DECIMALIZED NUMBERS INDICATE METERS
0.0 10.0 20.0 30.0 40.0 50.0

APEGM Certificate of Authorization
Associated Engineering (Sask.) Ltd.
No. 396 Date: FEBRUARY 20, 2015

WARNING

IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:

1) NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.

2) TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS.

SEE PROVINCIAL REGULATION 210/72 FOR DETAILS

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.
CONSTRUCTION COMPLETION DATE: YYYY MM DD

NO.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	15-FEB-20	KG

Associated Engineering

DESIGNED BY	CL	CHECKED BY	JL
DRAWN BY	KG	APPROVED BY	JL
SCALE: HORIZONTAL	AS SHOWN	RELEASED FOR CONSTRUCTION	
VERTICAL	AS SHOWN		
DATE	2015 02 20	DATE	

PLOT DATE: 2015 02 20

ENGINEER'S SEAL
PROVINCE OF MANITOBA
J.S. LUEKE
Member
36827
REGISTERED PROFESSIONAL ENGINEER
FEB 20 2015

CONSULTANT DRAWING NUMBER
20134376

BID OPPORTUNITY: 89-2015
CONTRACT NUMBER:

Winnipeg

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

NORTH KILDONAN FEEDERMAIN

MICROTUNNELLING DETAILS

SHEET 4 OF 4

CITY DRAWING NUMBER
D-13762

FILE PATH: \\s-wpg-fs-01\projects\20134376\00_NK_Feedermain\Working_Dwgs\100_Civil\
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