

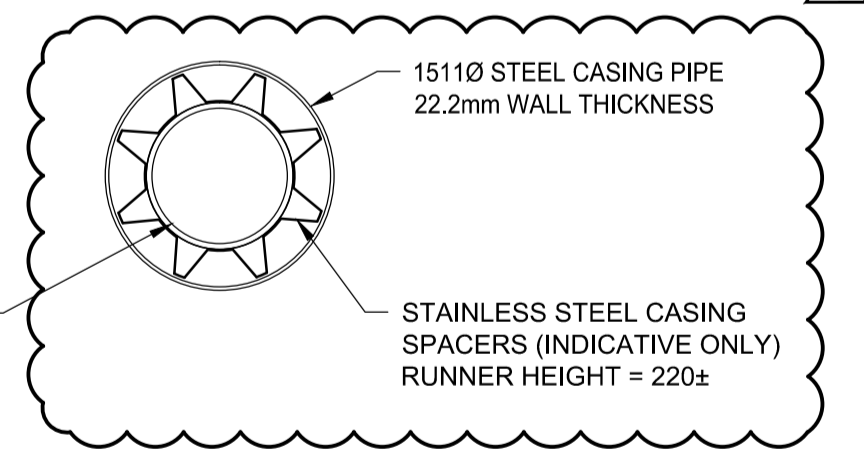
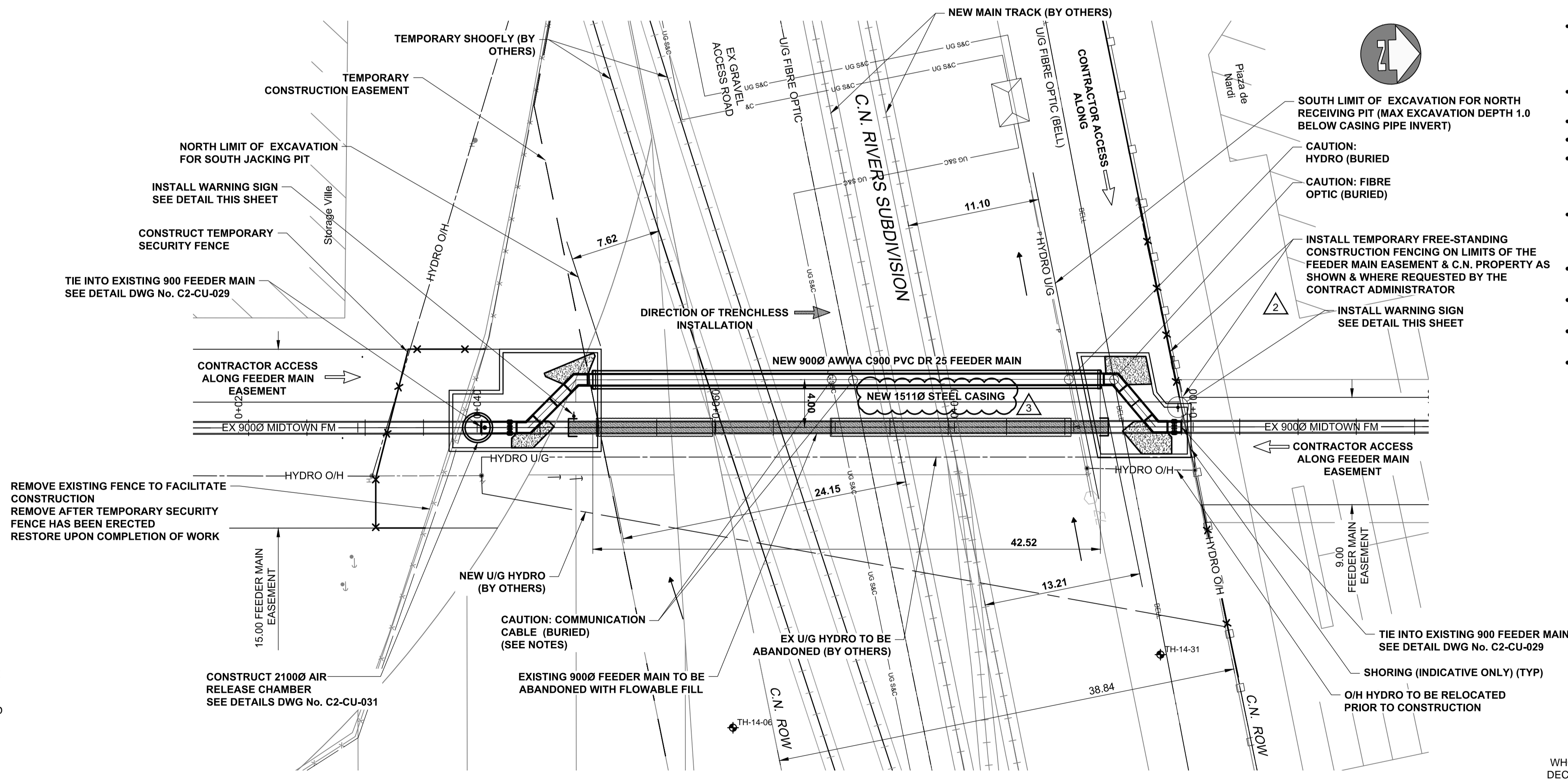
900 FM CROSSING

RAIL CROSSING NOTES

RAILWAY MILEAGE AND SUBDIVISION NAME OF PIPELINE OWNER CONTENTS TO BE HANDLED MAXIMUM OPERATING PRESSURE MAXIMUM SURGE AND TEST PRESSURE MAXIMUM OPERATING TEMPERATURE MINIMUM OPERATING TEMPERATURE PIPING MATERIALS NOMINAL DIAMETER OUTSIDE DIAMETER MATERIAL SPECIFICATION AND GRADE WALL THICKNESS TYPE OF JOINT COATING METHOD OF INSTALLATION VENTS SEALS BURY TOTAL EXTENT OF NEW CASING MEASURED PERPENDICULAR TO CENTRELINE OF TRACK ANGLE OF PIPE / TRACK CROSSING DIRECTION OF FLOW TYPE, SIZE AND SPACING OF INSULATORS OR SUPPORTS CATHODIC PROTECTION GEOTECHNICAL BOREHOLES SOIL TYPE BASE OF RAIL TO GROUND WATER NOTE: INSTALLATION AND MAINTENANCE TO BE IN ACCORDANCE WITH TC E10	MAIN LINE - RIVERS SUBDIVISION - MILE 3.79 CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT POTABLE WATER 551 kPa 827 kPa 20° C 4° C CARRIER 900 973 PVC AWWA C900 DR25 CASING 1500 1511 WELDED STEEL MIN. YIELD STRENGTH 241 MPA 38.9 mm GASKETED BELL & SPIGOT N/A TRENCHLESS NUMBER N/A HEIGHT ABOVE GROUND N/A PSI MODEL W-EPDM 3.172 (PROPOSED MAIN LINE) 1.18 (PROPOSED DITCH) 41.685 72° BIDIRECTIONAL PSI MODEL S METALLIC SPACERS 220 RUNNER HEIGHT 3.05 O.C. (MAX) 8 (TOTAL) - 11.5kg ZINC ANODES SEE PROFILE CLAY N/A
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NOTES:

- ALL PVC FEEDER MAIN JOINTS TO BE RESTRAINED EXCEPT WHERE NOTED
- ALL WORK ON CN PROPERTY SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE BID OPPORTUNITY AND CN REQUIREMENTS.
- SCHEDULE:
 - SHAFTS SHALL BE BACKFILLED PRIOR TO OCTOBER 6th, 2017
 - SHUTDOWN AND DRAINING OF THE MIDTOWN FEEDER MAIN IS REQUIRED TO COMPLETE WORK. COORDINATE WITH THE CONTACT ADMINISTRATOR AS SPECIFIED IN THE BID OPPORTUNITY.
- THE CONTRACTOR SHALL EXPOSE THE FEEDER MAIN TO CONFIRM JOINT LOCATIONS AT EACH TIE-IN PRIOR TO COMMENCING WITH SHORING INSTALLATION.
- EXCAVATIONS AND SHORING TO CONFORM TO CN REQUIREMENTS AS SPECIFIED.
- BED PIPE OUTSIDE OF CASING EXTENTS AS PER DETAIL DRAWING No. C2-CU-030
- THE CONTRACTOR SHALL EXPOSE ALL BURIED COMMUNICATIONS CABLING AT COMMENCEMENT OF THE WORK AND COORDINATE WITH CN & UTILITY OWNERS TO ENSURE CABLES ARE NOT DAMAGED DURING CONSTRUCTION. CABLES CROSSING THE EXCAVATION SHALL BE SUPPORTED ACROSS THE EXCAVATION.
- ISOLATION VALVES LOCATED AT:
 - HURST WAY
 - GRANT AVENUE
- SITE ACCESS THROUGH CN RIGHT-OF-WAY AND FEEDER MAIN EASEMENTS AS SHOWN ON THIS DRAWING.
- KEEP CONSTRUCTION FOOTPRINT WITHIN CN PROPERTY AND FEEDER MAIN EASEMENTS SHOWN ON DRAWINGS.
- INSULATION TO BE INSTALLED DURING RAIL EMBANKMENT CONSTRUCTION. SEE DETAIL DWG No. C2-CU-030
- ANODES TO BE INSTALLED WITHIN SHAFTS, EMBEDDED WITHIN UNDERLYING NATIVE SOILS WITH A 1.5 MINIMUM SEPARATION



WARNING

- IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:
- NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
 - TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.
 - OBTAIN EXCAVATION PERMITS PRIOR TO CONSTRUCTION.

PA:60321148;900-Work\9100-DD CAD;200-SHEETS\Municipal\63353-C2-CO-CU-Midtown FM Offline Replacement.dwg

150 WM	150 WM	150 WM	150 WM	150 WM	150 WM	150 WM	150 WM
HYDRANT	HYDRANT	SURVEY BAR	HYDRANT	HYDRANT	LAND DRAINAGE SEWER	LAND DRAINAGE SEWER	LAND DRAINAGE SEWER
VALVE	VALVE	CURB STOP	VALVE	VALVE	WASTE WATER SEWER	WASTE WATER SEWER	WASTE WATER SEWER
300 LDS	300 LDS	REDUCER	300 LDS	300 LDS	SEWER SERVICE PIPE	SEWER SERVICE PIPE	SEWER SERVICE PIPE
250 WWS	250 WWS	COUPLING	250 WWS	250 WWS	SEWER SERVICE PIPE	SEWER SERVICE PIPE	SEWER SERVICE PIPE
DRAINAGE CONNECTION PIPE	DRAINAGE CONNECTION PIPE	ANODE	ANODE	ANODE	DRAINAGE CONNECTION PIPE	DRAINAGE CONNECTION PIPE	DRAINAGE CONNECTION PIPE
MANHOLE	MANHOLE	HYDRO	HYDRO	HYDRO	MANHOLE	MANHOLE	MANHOLE
CATCH BASIN	CATCH BASIN	MTS	MTS	MTS	CATCH BASIN	CATCH BASIN	CATCH BASIN
CURB INLET	CURB INLET	GAS	GAS	GAS	CURB INLET	CURB INLET	CURB INLET
CULVERT	CULVERT	TESTHOLE	TESTHOLE	TESTHOLE	CULVERT	CULVERT	CULVERT
EXISTING	LEGEND - PLAN	NEW	LEGEND - PLAN	NEW	EXISTING	LEGEND - PROFILE	NEW

UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES DATE

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	DATE
3	ISSUED FOR ADDENDUM 7	17/03/15	WJd	
2	ISSUED FOR ADDENDUM 6	17/03/09	WJd	
1	ISSUED FOR ADDENDUM 5	17/03/02	WJd	
0	ISSUED FOR TENDER	17/01/09	WJd	

AECOM

DESIGNED BY: ADB
 CHECKED BY:
 DRAWN BY: WJd
 APPROVED BY:
 HOR. SCALE: 1:250
 VERTICAL: 1:50

ENGINEER'S SEAL

PROVINCE OF MANITOBA
A. D. BRAUN
 Member
 24453
 REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT NUMBER
 60321148

THE CITY OF WINNIPEG
 PUBLIC WORKS DEPARTMENT

Waverley Street Underpass at CN Mile 3.89 Rivers Sub
 CONTRACT 2: UNDERPASS STRUCTURE, RAILWORKS, ROADWORKS, LAND DRAINAGE SEWER, PUMPING STATION AND LANDSCAPING WORKS

CITY DRAWING NUMBER
 U239-2016-C2-CU-028
 SHEET 28 OF 41

EXISTING MIDTOWN FEEDER MAIN
 FEEDER MAIN OFF-LINE REPLACEMENT
 CONSULTANT DRAWING NUMBER
 C2-CU-028

BID OPPORTUNITY NO. 473-2016