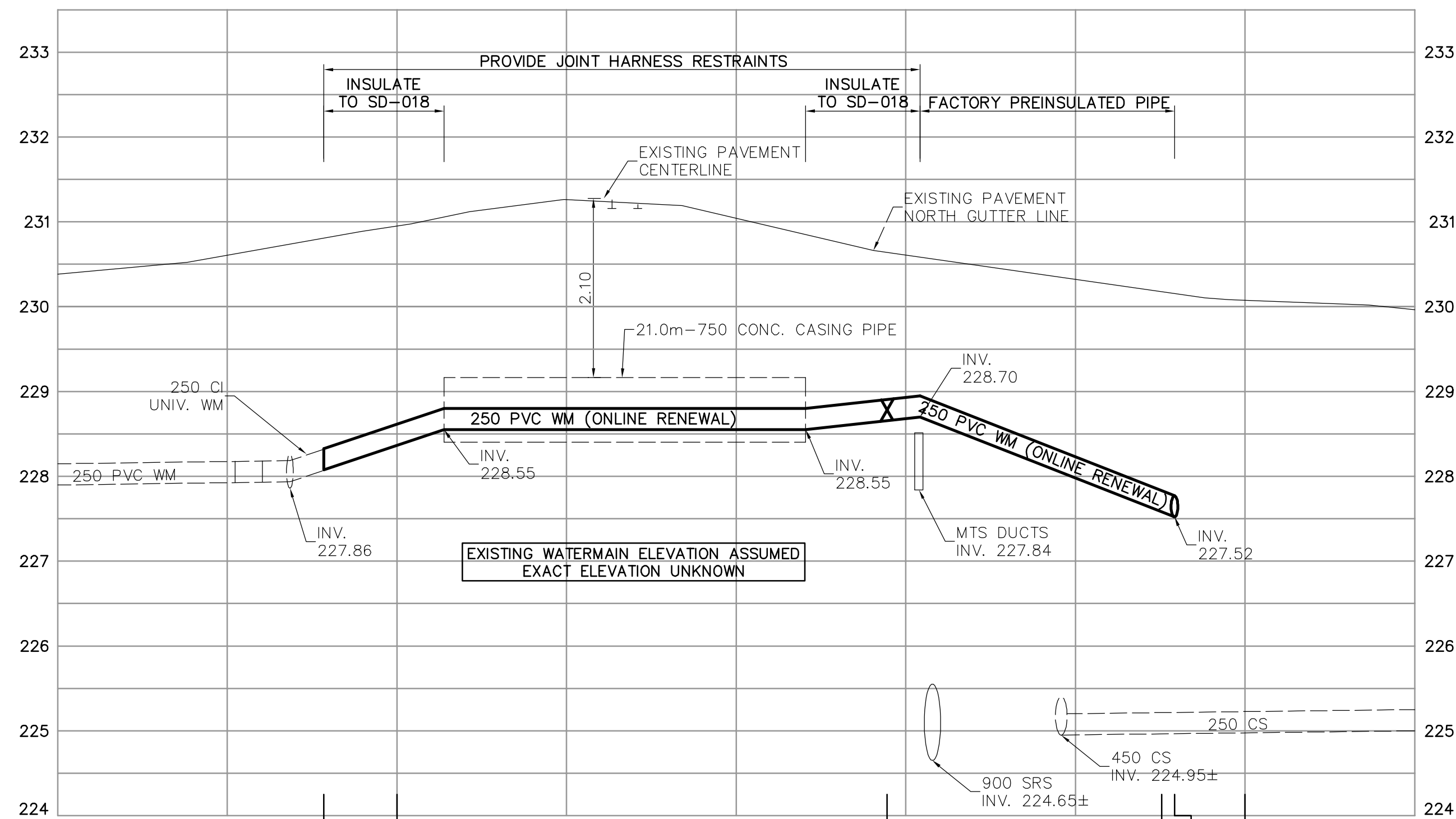


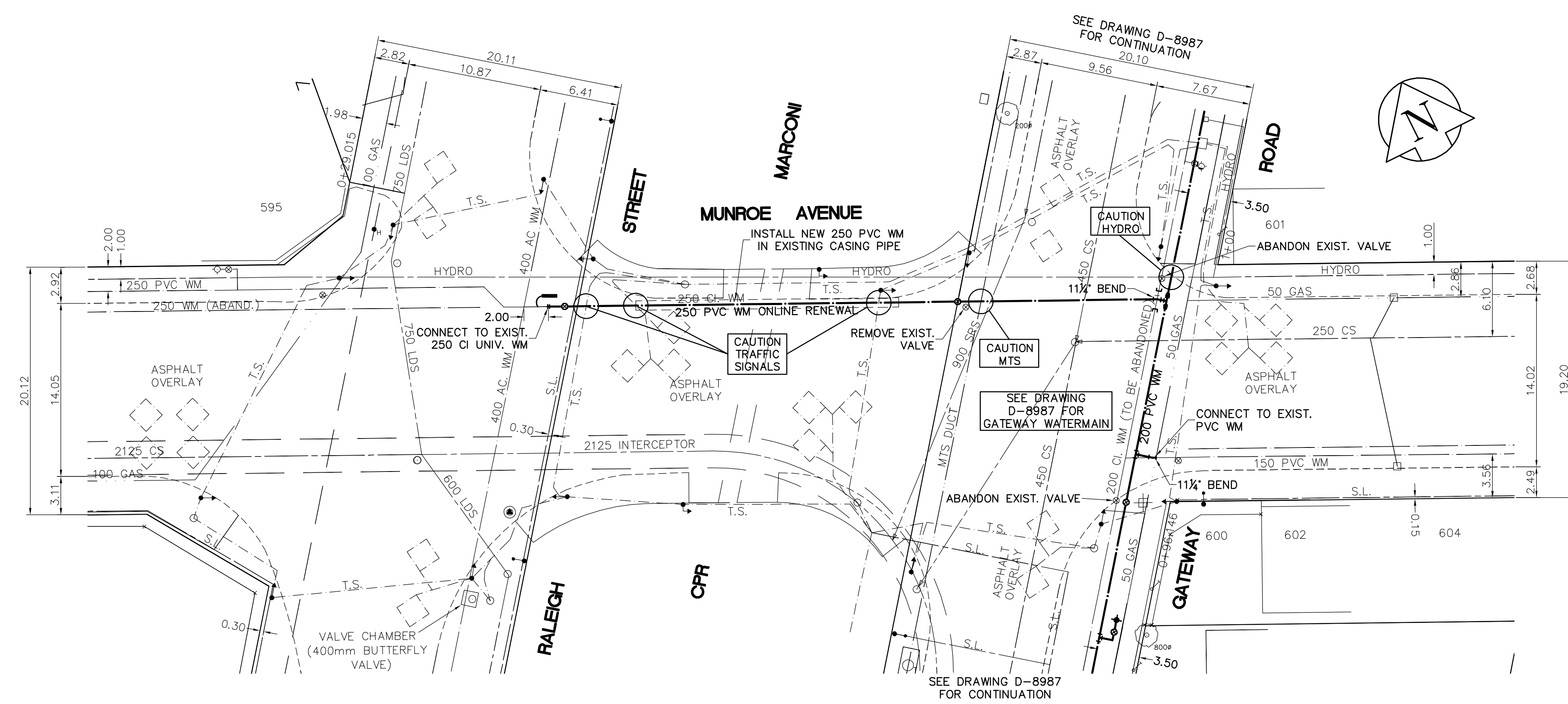
SHEET: COW-WM-A1 (11/2002) FILE NAME: L:\Work\10000\92736\02a-cad\Wm\Wm\92736-02a.dwg LAYOUT NAME: 92736-02a May 08, 2006 - 11:51am PLOTTED BY: michael.kozlowski



- CONSTRUCTION NOTES**
1. EXPOSE WATERMAIN CONNECTIONS AND CONFIRM INVERTS PRIOR TO CONSTRUCTION.
 2. INSTALL WATERMAIN BY TRENCHLESS METHODS.
 3. ALL MATERIALS SHALL CONFORM TO THE CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATIONS.
 4. MINIMUM COVER TO TOP OF PROPOSED WATERMAIN SHALL BE 2.5m FROM STREET CENTERLINE.
 5. INSTALL ALL HYDRANTS WITH FLANGE ELEVATION 50mm-150mm ABOVE FINISHED GRADE.
 6. REPLACE ALL EXISTING LEAD SERVICES FROM THE PROPOSED WATERMAIN TO PROPERTY LINE.
 7. NOTIFY ALL AFFECTED RESIDENTS AND BUSINESSES 24 HOURS IN ADVANCE OF ANY WATER SHUTDOWN OR DISRUPTION OF SERVICE.
 8. LOCATION OF WATER SERVICES SHOWN ON DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE ALL WATER SERVICES PRIOR TO CONSTRUCTION.
 9. ALL VALVES SHALL BE RED TOP (COUNTER CLOCKWISE TO CLOSE).
 10. BACKFILL UNDER MUNROE AVENUE PAVEMENT SHALL BE CLASS 1. BACKFILL UNDER OR WITHIN 1.0m OF OTHER PAVEMENTS INCLUDING SIDEWALKS SHALL BE CLASS 3. BACKFILL IN BOULEVARD SHALL BE CLASS 5.
 11. REMOVE EXISTING WATERMAIN FROM EXISTING CASING. CLEAN AND INSPECT CASING. INSTALL NEW WATERMAIN IN EXISTING CASING.

RAIL CROSSING NOTES:

RAILWAY MILEAGE AND SUBDIVISION:	1.12 MARCONI SPUR OFF OF MILE 122.86 KEEWATIN SUB.
MUNICIPAL DESCRIPTION OF ADJACENT PROPERTIES:	MUNROE AVENUE BETWEEN GATEWAY ROAD AND RALEIGH STREET
NAME OF PIPELINE OWNER:	CITY OF WINNIPEG, WATER AND WASTE DEPARTMENT
CONTENTS TO BE HANDLED:	POTABLE WATER
MAXIMUM OPERATING PRESSURE:	450 KPa (65 psi)
MAXIMUM SURGE AND TEST PRESSURE:	1000 KPa (145 psi)
MAXIMUM OPERATING TEMPERATURE:	20°C
MINIMUM OPERATING TEMPERATURE:	4°C
PIPING MATERIALS	CARRIER CASING
NOMINAL DIAMETER	250 mm 750 mm
OUTSIDE DIAMETER	282 mm 940 mm
MATERIAL	PVC REINFORCED CONCRETE
SPECIFICATION AND GRADE	AWWA C900 DR18 ASTM C76-57 (EXISTING CASING)
WALL THICKNESS	15.7 mm 89 mm
TYPE OF JOINT	RUBBER GASKET UNKNOWN
COATING	BELL AND SPIGOT NA
LOCATION OF SHUT OFF VALVES	NORTH EAST CORNER OF MUNROE AVENUE AND RALEIGH STREET (WEST LINE OF CPR ROW) NORTH WEST CORNER OF GATEWAY ROAD AND MUNROE AVENUE (EAST LINE OF CPR ROW)
METHOD OF INSTALLATION	TRENCHLESS - EXTRACTION OF EXISTING WATERMAIN AND REPLACEMENT WITH NEW WATER MAIN
VENTS:	NA NUMBER: NA
SEALS:	HEIGHT ABOVE GROUND: NA BOTH ENDS: YES TYPE: PERMEABLE GEOTEXTILE FABRIC
BURY:	BASE OF RAIL TO TOP OF CASING 2.1 m NOT BENEATH TRACKS 1.68 m ROADWAY DITCHES NA BASE OF RAIL TO BOTTOM OF JACKING/RECEIVING PITS 2.8 m
EXTENT OF CASING MEASURED PERPENDICULAR TO CENTERLINE OF TRACK	10.44 m
CENTERLINE OF TRACK TO FACE OF JACKING/RECEIVING PITS	10.44 m
TYPE, SIZE, AND SPACING OF INSULATORS OR SUPPORTS	CEDAR PLANKING, CONTINUOUS BETWEEN PIPE BELLS
CATHODIC PROTECTION	NA
GEOTECHNICAL BOREHOLES	NA
SOIL TYPE	NA
BASE OF RAIL TO GROUND WATER	NA
TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH TC -E10	

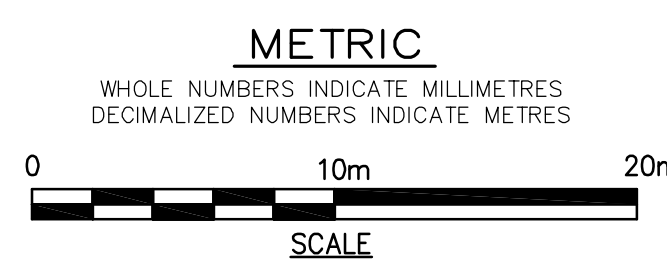


APEGM

 Certificate of Authorization

 Earth Tech Canada Inc.

 No. 730 Expiry: April 30, 2007



150 mm W.M.	WATERMAIN	150 mm W.M.	HYDRO	150 mm W.M.	WATERMAIN
Hydrant symbol	HYDRANT	Hydrant symbol	TELEPHONE	Hydrant symbol	HYDRANT
Valve symbol	VALVE	Valve symbol	CONCRETE	Valve symbol	VALVE
Land Drainage Sewer symbol	LAND DRAINAGE SEWER	Land Drainage Sewer symbol	ASPHALT	Land Drainage Sewer symbol	LAND DRAINAGE SEWER
Waste Water Sewer symbol	WASTE WATER SEWER	Waste Water Sewer symbol	PROPERTY LINE	Waste Water Sewer symbol	WASTE WATER SEWER
Manhole symbol	MANHOLE	Manhole symbol	SURVEY BAR	Manhole symbol	MANHOLE
Catch Basin symbol	CATCH BASIN	Catch Basin symbol	CURB STOP	Catch Basin symbol	CATCH BASIN
Curb Inlet symbol	CURB INLET	Curb Inlet symbol	TREE	Curb Inlet symbol	CURB INLET
Junctions symbol	JUNCTIONS	Junctions symbol	ANODE	Junctions symbol	JUNCTIONS
Culvert symbol	CULVERT	Culvert symbol	CONCRETE SIDEWALK	Culvert symbol	CULVERT
Gas symbol	GAS	Gas symbol	FENCE	Gas symbol	GAS
EXISTING	LEGEND - PLAN	PROPOSED	EXISTING	LEGEND - PLAN	PROPOSED
EXISTING	LEGEND - PROFILE	PROPOSED	EXISTING	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. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M. 27-015	N.W. Cor. Raleigh St. and Neil Ave., 15ft. to top of 0.30m dia. x 2.4m iron pipe, 4m N. of S. wall of No. 615/621 Gateway Rd. and 35m W. of W. rail of railway tracks on C.P.R. (op. by Bionnet Subd. R.O.W.)
ELEV. 230.527	
NO.	REVISIONS
B	ISSUED FOR TENDER 08/05/2006 GSK
A	ISSUED FOR REVIEW 02/05/2006 GSK

EARTH TECH

 A tyco INTERNATIONAL LTD. COMPANY

 Earth Tech (Canada) Inc. Winnipeg, Manitoba 204-477-5381

DESIGNED BY: GDL/GSK	CHECKED BY: GSK
DRAWN BY: MAF	APPROVED BY:
HOR. SCALE: 1:250	RELEASED FOR CONSTRUCTION BY: K. ZUREK
VERTICAL SCALE: 1:50	DATE: 2006/04/12
DATE: 2006/04/12	DATE: 2006/05/08

ENGINEER'S SEAL

 REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG

 Winnipeg WATER AND WASTE DEPARTMENT

2006 WATERMAIN RENEWALS CONTRACT 1	SHEET OF 7 9
MUNROE AVENUE RALEIGH STREET TO GATEWAY ROAD	CITY DRAWING NUMBER D-8989

CONSULTANT DRAWING NO. 92736-C06