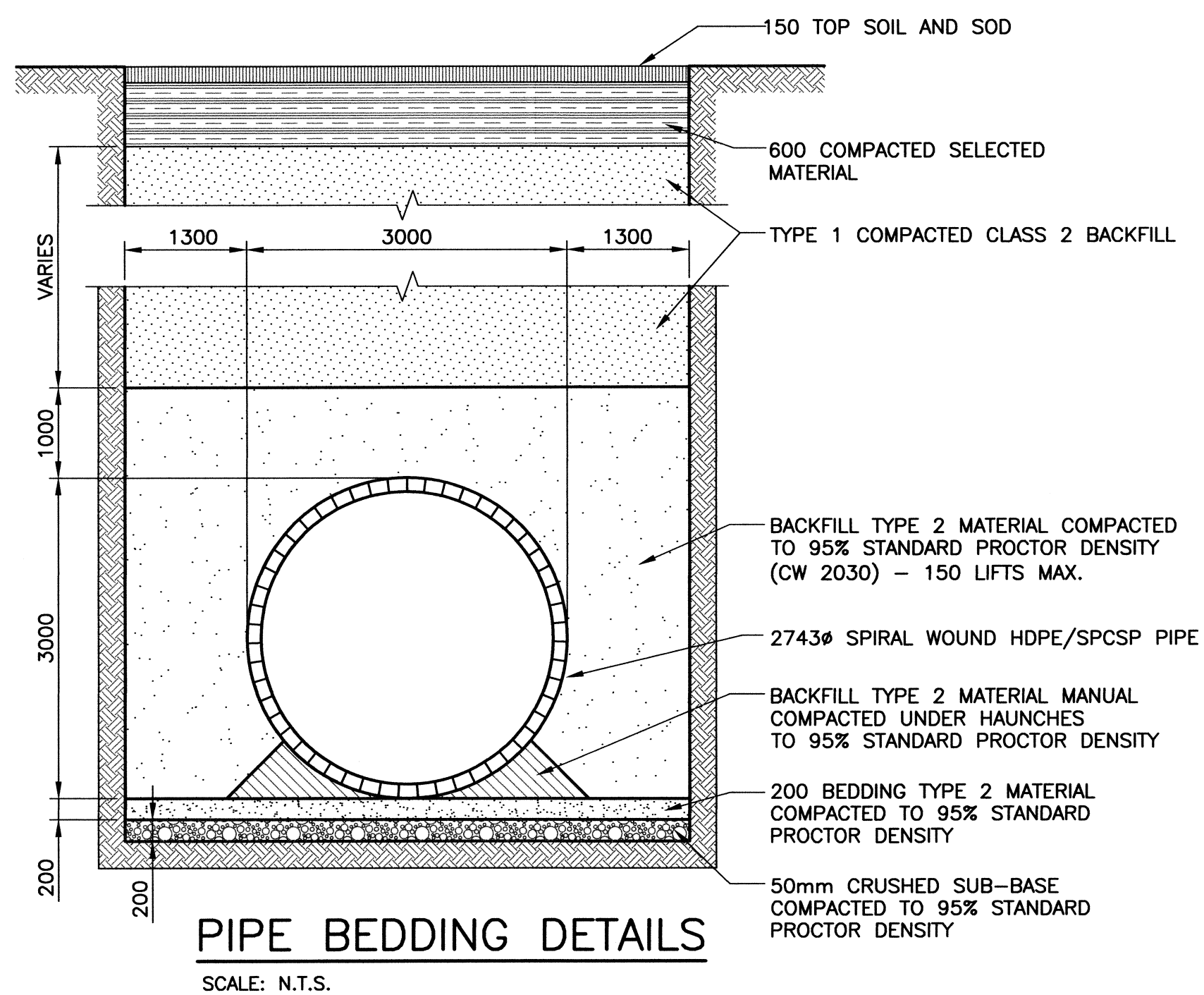


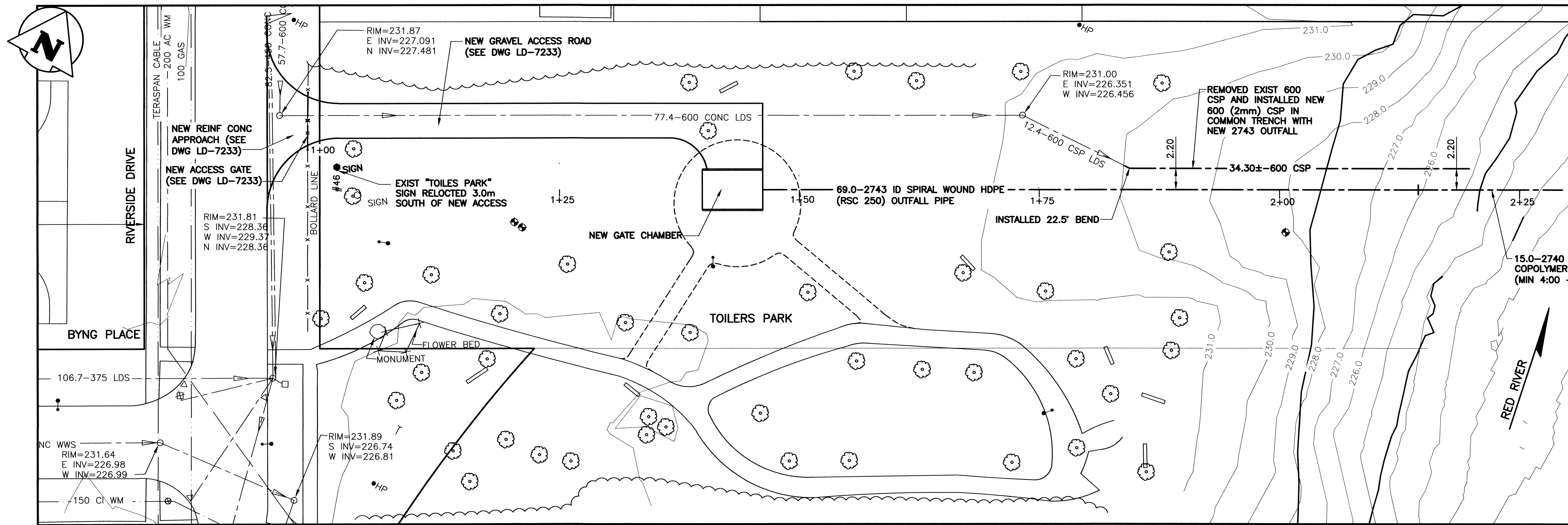
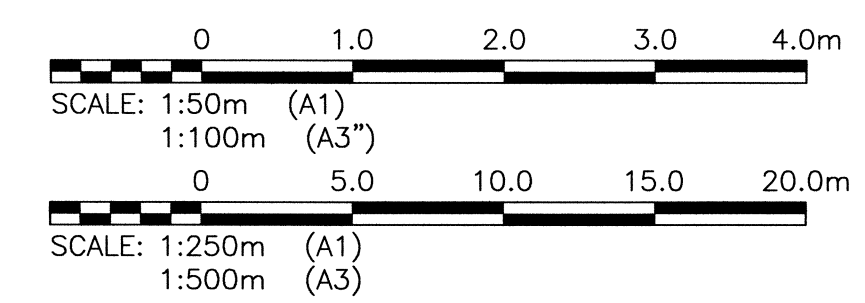
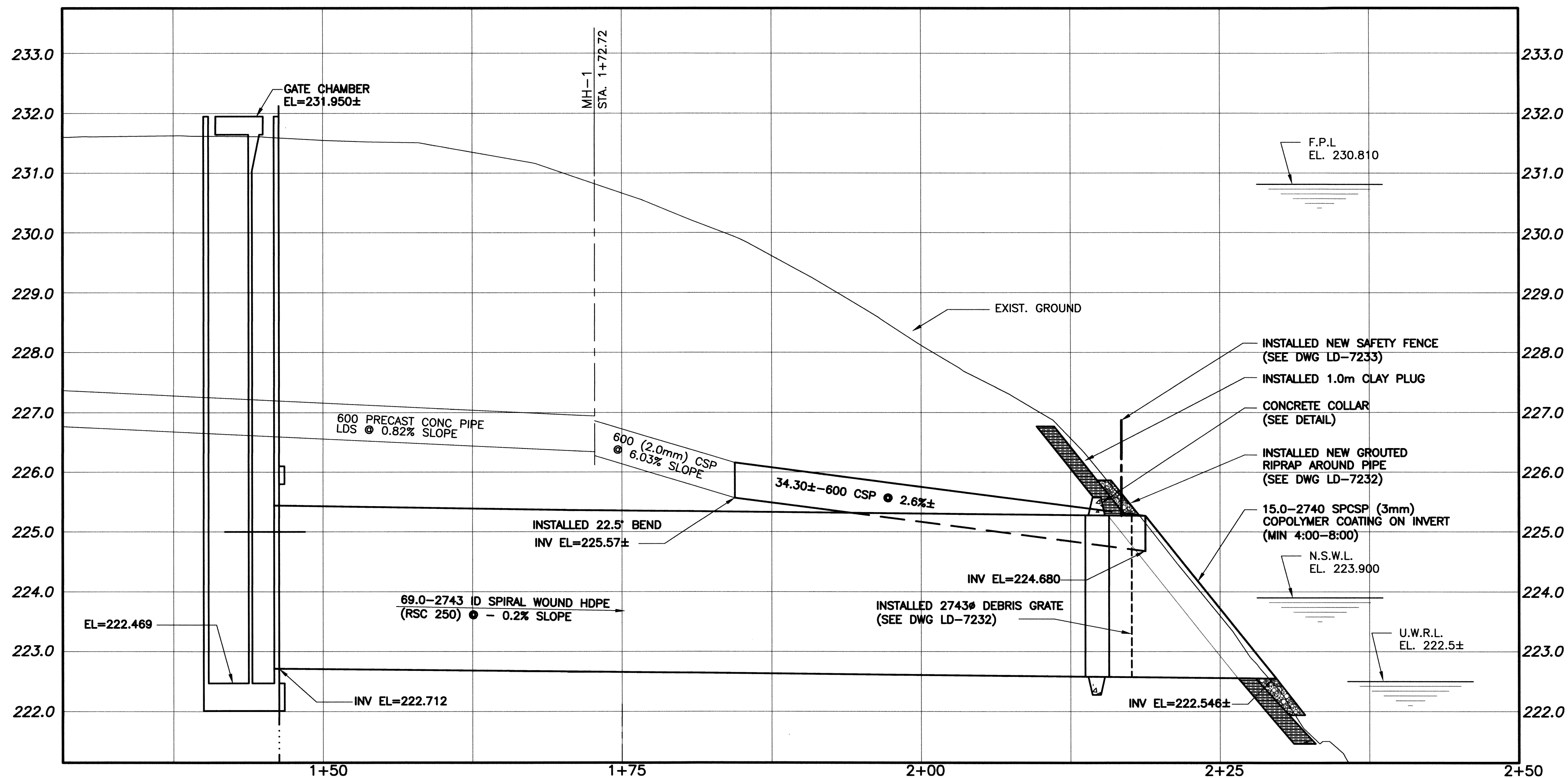
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PIPE BEDDING DETAILS
SCALE: N.T.S.

RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE: 2014/11/07
CONTRACTOR: TRI-CORE PROJECTS MANITOBA LTD.



MATERIAL LIST		
ITEM	MANUFACTURER	REMARKS
2743 ID HDPE	KWH WEHOLITE	-
2740 SPCSP	ATLANTIC INDUSTRIES INC.	-
600 CSP	ATLANTIC INDUSTRIES INC.	-

PROPERTY LIMITS DELINEATION
DELINEATION OF PROPERTY LIMITS AS SHOWN ON THIS DWG DOES NOT REPRESENT A "LEGAL SURVEY". KGS GROUP MAKES NO REPRESENTATION OR WARRANTY AS TO THE ACCURACY OF PROPERTY LIMITS DELINEATED ON THIS DWG, NOR ON THE DIMENSIONAL ACCURACY OF DWG FEATURES RELATIVE TO THOSE PROPERTY LIMITS.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

BYNG PLACE OUTFALL RR-37B

150 WM	WATERMAIN	150 WM	HYDRO	M.T.S.	LOCATION APPROVED UNDERGROUND STRUCTURES
+	HYDRANT VALVE	+	PROPERTY LINE	---	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.
⊙	LAND DRAINAGE SEWER	⊙	SURVEY BAR	---	
⊙	WASTE WATER SEWER	⊙	LIGHT STANDARD	---	
○	MANHOLE	○	HYDRO POLE	---	
□	CATCH BASIN	□	GUY WIRE	---	
▽	CURB INLET	▽	SIGN	---	
+	JUNCTIONS	+	BUSH LINE	---	
+	CULVERT	+	FENCE	---	
+	GAS	+	ELEVATION	---	
---	EXISTING	---	LEGEND-PLAN	---	
---	PROPOSED	---	PROPOSED	---	
---	EXISTING	---	LEGEND-PROFILE	---	
---	PROPOSED	---	PROPOSED	---	

NO.	REVISIONS	DATE	BY
2	RECORD DRAWING	15/07/10	RBO
1	ISSUED FOR CONSTRUCTION	14/01/07	RBO
0	ISSUED FOR TENDER	13/11/06	RBO

DESIGNED BY	CHECKED BY
RBO	RJH
DRAWN BY	APPROVED BY
DMW	
DATE	DATE
13/10/31	

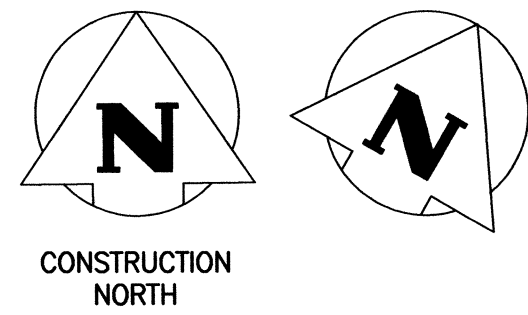
ENGINEER'S SEAL

 CONSULTANT DRAWING NO.
 11-0107-18_LD-7231

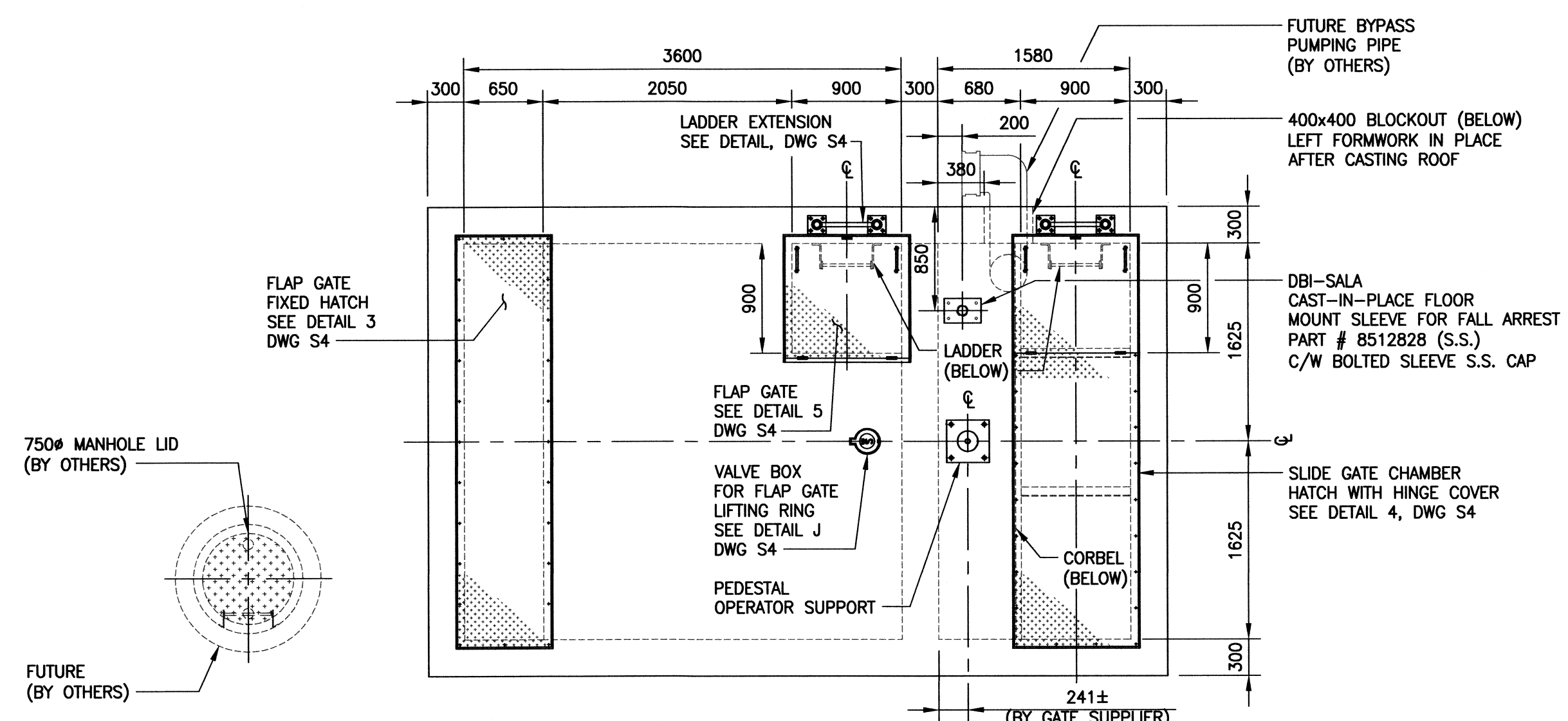
THE CITY OF WINNIPEG
WATER & WASTE DEPARTMENT

COCKBURN CALROSSIE
COMBINED SEWER RELIEF WORKS
NEW BYNG OUTFALL (RR-37B)
PLAN AND PROFILE

SHEET **01** OF **01**
 CAD FILE DRAWING NUMBER
CALROSSIE OUTFALL PLOT
 CITY DRAWING NUMBER
LD-7231

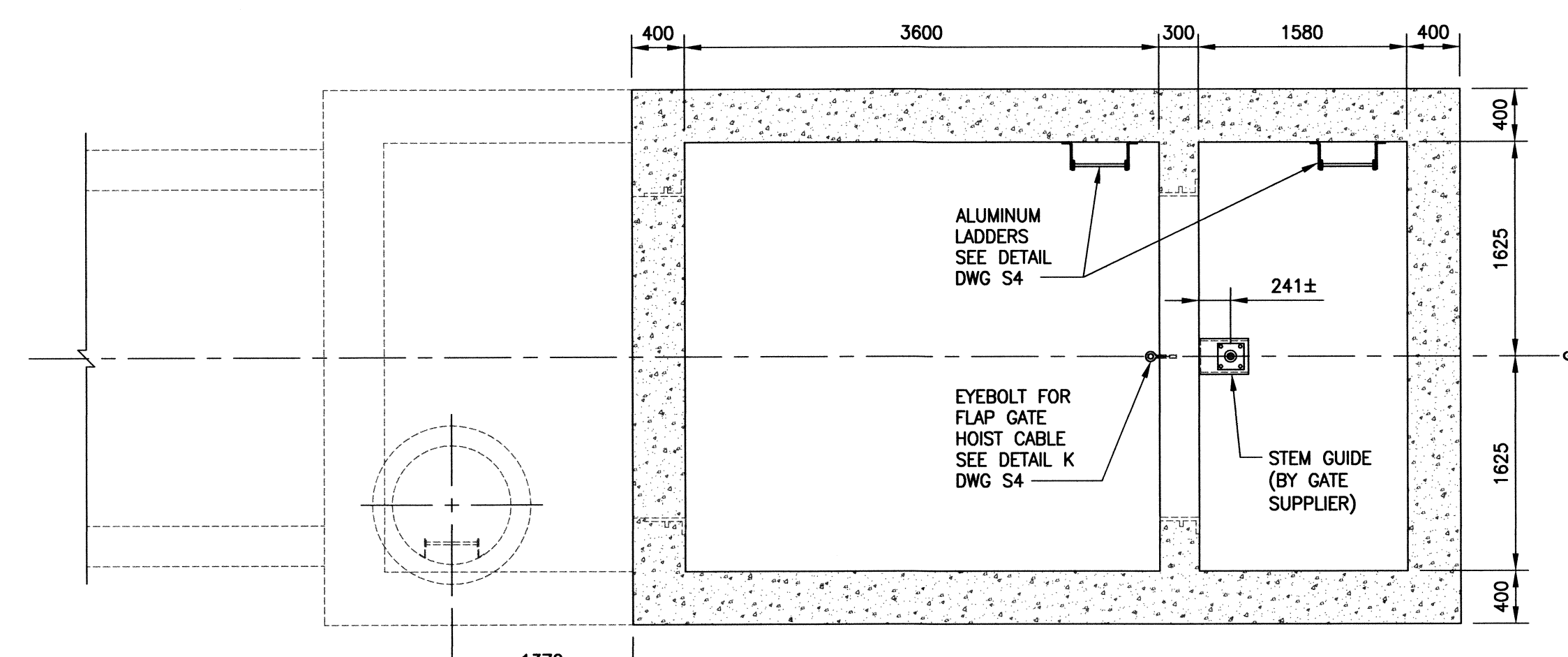


CONSTRUCTION NORTH



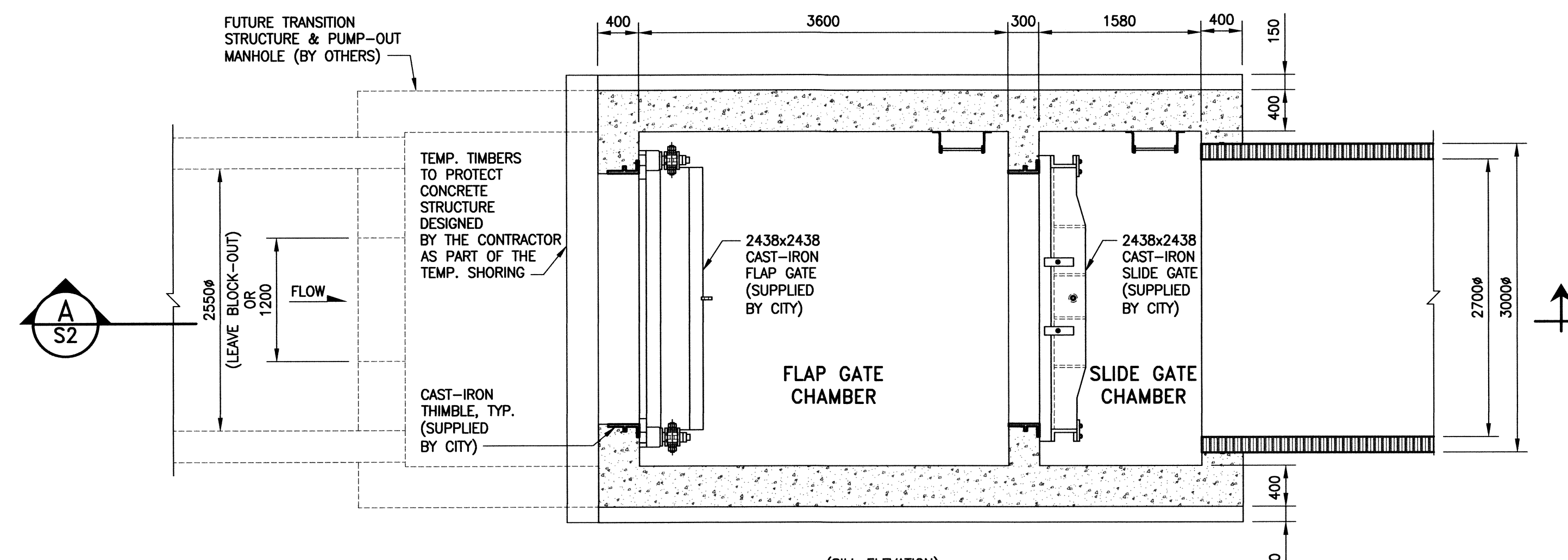
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SCALE: 1:40



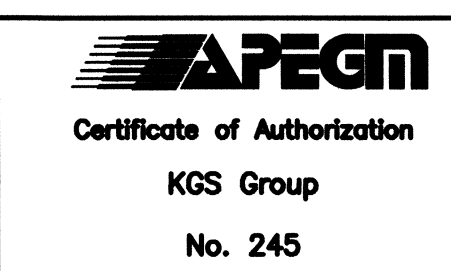
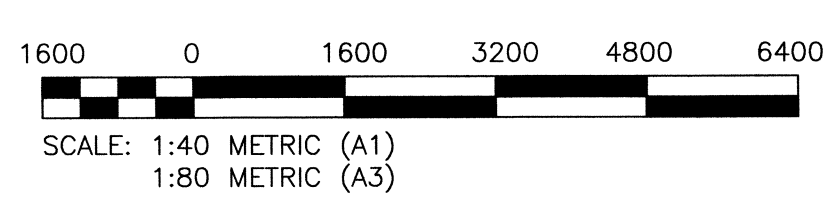
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SCALE: 1:40



PLAN - EL. 222.712

SCALE: 1:40



LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:
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B.M. KGS BASE ELEV. -	DWGS BASED ON C.S.R.S. NAD 83 SYSTEM, UTM GRID		
NO.	REVISIONS	DATE	BY
2	RECORD DRAWING	15/07/10	CMS
1	ISSUED FOR CONSTRUCTION	14/01/17	CMS
0	ISSUED FOR TENDER	13/11/06	CMS
NO.	REVISIONS	DATE	BY
		13/10/16	

KGS GROUP
CONSULTING ENGINEERS

DESIGNED BY: KRD
CHECKED BY: CMS
DRAWN BY: FBV
APPROVED BY: [Signature]
SCALE: AS NOTED
RELEASED FOR CONSTRUCTION: [Signature]
DATE: 13/10/16

ENGINEER'S SEAL
C.M. SIEPMAN
Member 20813
CONSULTANT DRAWING NO. 11-0107-18_S1

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PROJECT TITLE: COCKBURN/CALROSSIE COMBINED SEWER RELIEF WORKS
NEW BNYG PLACE GATE CHAMBER (RR37B)
STRUCTURAL PLANS

SHEET 01 OF 01
COMPUTER FILE NAME: 11-0107-18_S1
CITY DRAWING NUMBER: LD-7236

GENERAL NOTES:

- THIS STRUCTURE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 9 OF THE NATIONAL BUILDING CODE (LATEST).
- ALL SPECIFICATIONS AND CODES SPECIFIED ARE THE LATEST REVISION AVAILABLE.
- DESIGN LOADS ARE AS FOLLOWS:
FLOOR LIVE LOADS: 3.60 kPa
SNOW LOAD: 1.90 kPa
FOUNDATION WALL LOADS:
LIVE LOAD: $q = 6.0 \text{ kPa}$ (SURCHARGE LOAD)
SOIL LOAD: $\gamma_{soil} = 18 \text{ kN/m}^3$
AT REST LATERAL EARTH PRESSURE COEFFICIENT: $K_0 = 0.70$
LATERAL PRESSURE ON WALL, $P = K_0(\gamma_{soil}xH + q)$, WHERE H = HEIGHT OF SOIL
- DESIGN FLOOD LEVEL 1/700 YEAR EVENT: 230.810m.

SURVEY NOTES:

- REFER TO MUNICIPAL DWG LD-7231 FOR SURVEY DETAILS.

REINFORCING STEEL:

- REINFORCING STEEL IS NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18 (LATEST). GRADE TO BE 400 MPa.
- BENT ALL HORIZONTAL REINFORCING 305mm AROUND CORNERS OR PROVIDE ADDITIONAL 610mm X 610mm ANGLE BARS.
- PROVIDED MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:
BASE SLAB (EXTERIOR FACES) 75mm
BASE SLAB (INTERIOR FACES) 50mm
FOUNDATION WALLS (EXTERIOR FACE) 75mm
FOUNDATION WALLS (INTERIOR FACE) 50mm
CHAMBER ROOF SLAB (TOP & BOTTOM) 50mm
INTERIOR WALLS 50mm

STRUCTURAL AND MISCELLANEOUS STEEL:

- STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION ARE IN ACCORDANCE WITH CAN/CSA S16 (LATEST).
- STRUCTURAL STEEL MET THE REQUIREMENTS OF CAN/CSA G40.20/G40.21 (LATEST).
ROLLED SHAPES & PLATES CSA G40.21-300W
- WELDING IS IN ACCORDANCE WITH CSA W59 (LATEST), BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.1 (LATEST). ALL WELDS ARE 6mm UNLESS NOTED OTHERWISE.
- STRUCTURAL AND MISCELLANEOUS IS FINISHED AS INDICATED BELOW, UNLESS OTHERWISE NOTED, OR APPROVED EQUAL:
GALVANIZED STEEL
- SURFACE PREP. TO SP8 (PICKLING)
- HOT DIPPED GALVANIZED TO CAN/CSA G164 (LATEST).

CONCRETE:

- CONCRETE MATERIALS AND WORKMANSHIP ARE IN ACCORDANCE WITH CSA A23.1 (LATEST). SEE BELOW FOR MIX REQUIREMENTS.
- DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CAN/CSA-S269.3 (LATEST).
- CONCRETE FINISHING MET THE REQUIREMENTS OF CSA A23.1 (LATEST).
- FORM RELEASE AGENT IS BIODEGRADABLE, NON-STAINING AND NON-VOLATILE.
- PLACED AND SECURED ALL EMBEDDED ANCHORS, WELD PLATES, SLEEVES, BUCKS, DOWELS, INSERTS, WATERSTOPS, ETC., PRIOR TO PLACING CONCRETE.
- LOCATED AND FABRICATED ALL CONSTRUCTION JOINTS, CONTROL JOINTS AND EXPANSION JOINTS AS DETAILED ON THE DRAWINGS. JOINTS NOT SHOWN WERE APPROVED BY THE DESIGN ENGINEER PRIOR TO THE PLACEMENT OF CONCRETE.
- WATERSTOP IS HYDROTITE CJ-0725-3K OR APPROVED ALTERNATE NON-BENTONITE WATERSTOP.
- ALL EXPOSED CORNERS HAVE 25mm CHAMFER FILLET UNLESS NOTED.
- ADHESIVE ANCHORS ARE HILTI HAS RODS COMPLETE WITH HY150 ADHESIVE OR APPROVED EQUAL, UNLESS NOTED.
- THE CONCRETE SUPPLIER WAS CERTIFIED TO MEET THE REQUIREMENTS OF CSA A23.1.

CONCRETE MIX DESIGNS:

CONCRETE MIX DESIGN WAS PROPORTIONED TO MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

EXPOSURE CLASS	S-1
MIN. 28 DAY COMP. STRENGTH	35 MPa
CEMENT TYPE	TYPE 50 (HS)
MAX. W/C RATIO	0.40
MAX. AGGREGATE SIZE	20mm
ENTRAINED AIR CONTENT	5% TO 8%
MAXIMUM SLUMP	80mm±20mm

ALUMINUM:

- ALUMINUM IS IN ACCORDANCE WITH CAN/CSA S517 AND THE ALUMINUM ASSOCIATION "SPECIFICATION FOR ALUMINUM STRUCTURES". ALUMINUM FOR PLATES AND EXTRUDED SHAPES SHALL BE TYPE 6061-T651.
- ALUMINUM WELDING IS IN ACCORDANCE WITH CSA W59.2 (LATEST) BY WELDERS CERTIFIED AND QUALIFIED IN ACCORDANCE WITH CSA W47.2 (LATEST). ALL WELDS ARE 6mm UNLESS OTHERWISE NOTED.
- INSTALLED NYLITE ELECTROCHEMICAL ISOLATION GASKETS TO ELECTRICALLY ISOLATE DISSIMILAR METALS (SUPPLIER: SPAENAUR).
- ALL ALUMINUM IN CONTACT WITH CONCRETE OR CAST INTO CONCRETE HAS BITUMINOUS ISOLATION COATING.
- ALL NUTS, BOLTS AND WASHERS ARE STAINLESS STEEL & TYPE 316. MEETING ASTM F593/F738M.

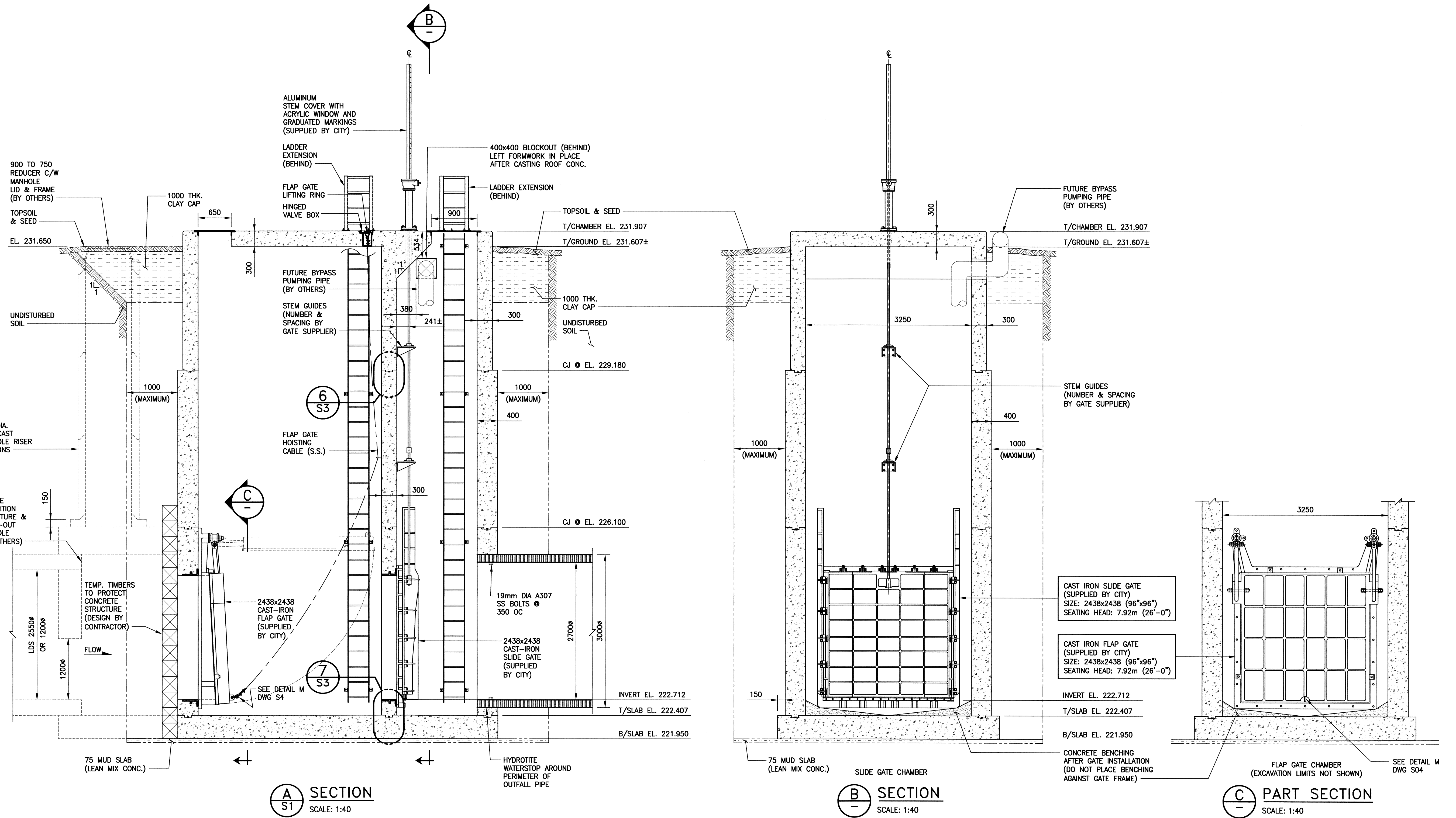
RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE: 2014/11/07
CONTRACTOR: TRI-CORE PROJECTS MANITOBA LTD.

ITEM	MANUFACTURER	REMARKS
GATE CHAMBER	J.C. PAVING LTD.	
CONTROL GATES	POWER AND MINE SUPPLY LTD	UNDER CITY OF WINNIPEG BID OPPORTUNITY 651-2013
LADDER	A-POST ALUMINUM FABRICATORS INC.	
HATCH	A-POST ALUMINUM FABRICATORS INC.	

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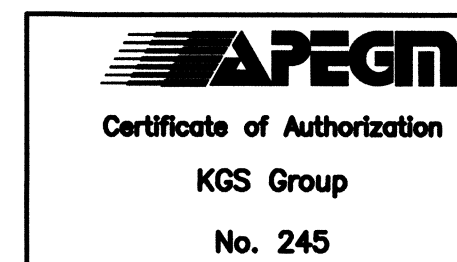
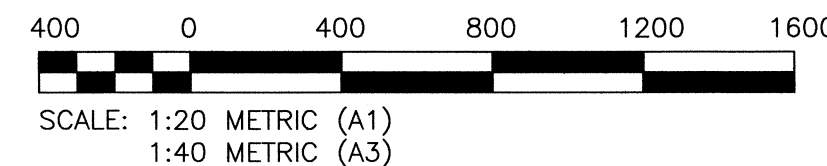
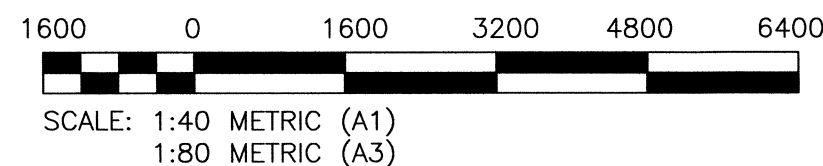
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RECORD DRAWING
WATER & WASTE DEPARTMENT

PROJECT COMPLETION DATE: 2014/11/07
CONTRACTOR: TRI-CORE PROJECTS MANITOBA LTD.

MATERIAL LIST		
ITEM	MANUFACTURER	REMARKS
GATE CHAMBER	J.C. PAVING LTD.	
CONTROL GATES	POWER AND MINE SUPPLY LTD	UNDER CITY OF WINNIPEG BID OPPORTUNITY 651-2013
LADDER	A-POST ALUMINUM FABRICATORS INC.	



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.

NO.	REVISIONS	DATE	BY	DATE
1	ISSUED FOR CONSTRUCTION	14/01/17	CMS	
0	ISSUED FOR TENDER	13/11/06	CMS	
2	RECORD DRAWING	15/07/10	CMS	

KGS GROUP
CONSULTING ENGINEERS

DESIGNED BY: KRD
DRAWN BY: FBV
SCALE: AS NOTED

CHECKED BY: CMS
APPROVED BY: [Signature]
RELEASED FOR CONSTRUCTION: [Signature]
DATE: 13/10/16

ENGINEER'S SEAL
C.M. SIEPMAN
Member 20813
CONSULTANT DRAWING NO. 11-0107-18_S2

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

PROJECT TITLE: COCKBURN/CALROSSIE COMBINED SEWER RELIEF WORKS
NEW BNYG PLACE GATE CHAMBER (RR37B)
STRUCTURAL SECTIONS

SHEET 01 OF 01
COMPUTER FILE NAME: 11-0107-18_S2
CITY DRAWING NUMBER: LD-7237

METRIC
DECIMALIZED NUMBERS INDICATE METRES