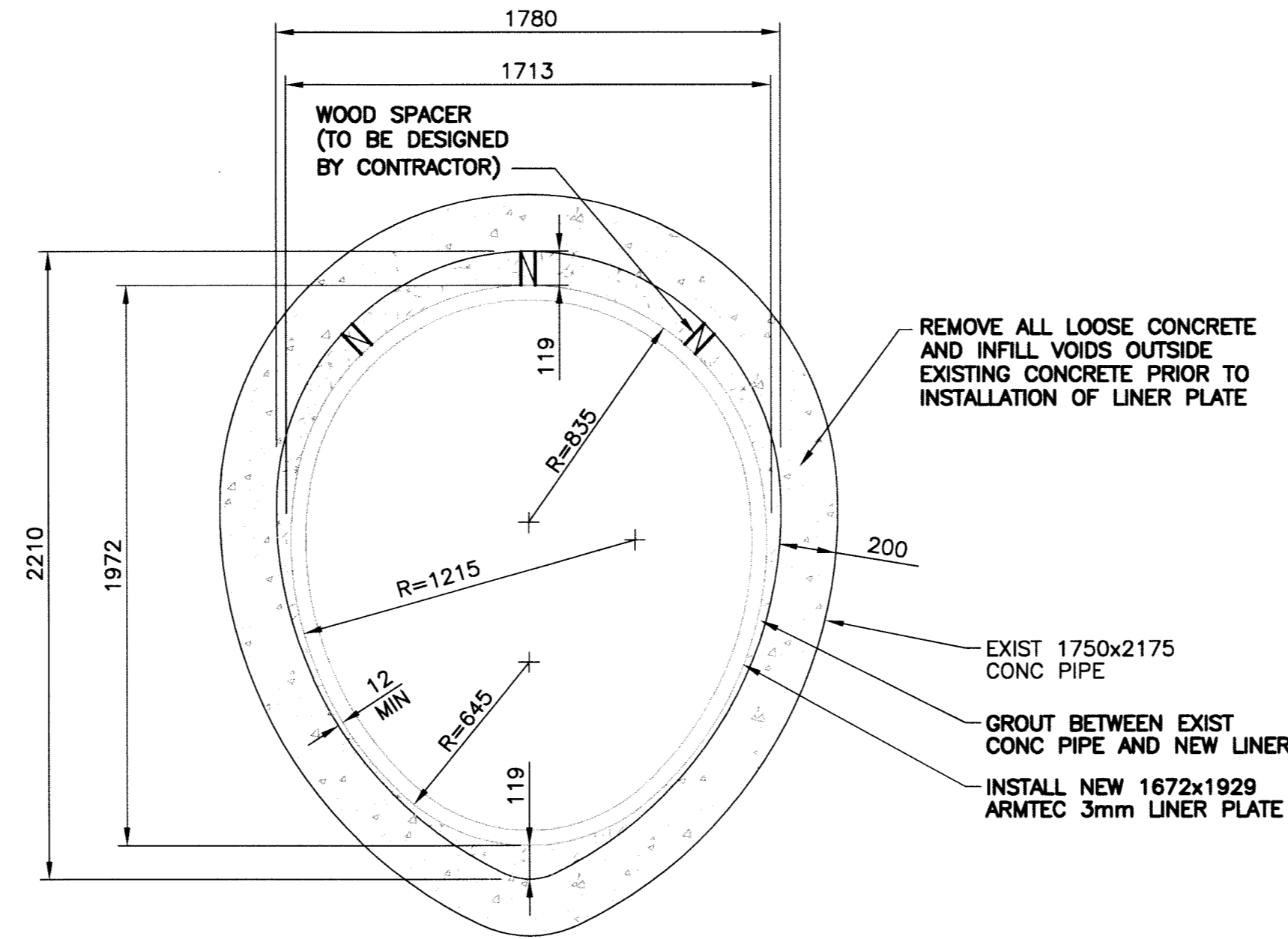


REQUIRED FOR ACCESS—SAW CUT OPENING THRU EXIST. CONCRETE ALONG EXIST. OUTLINE OF PREVIOUS OPENING BEING CAREFULL NOT TO OVER CUT PAST EXIST. CORNERS OF PREVIOUS OPENING. REPLACE WITH NEW SLAB. DEPTH TO MATCH EXISTING. PROVIDE 15M DOWELS (4 PER SIDE); DRILL & EPOXY GROUT TO EXIST. CONG. REINFORCE SLAB WITH 4-10M E.W., T & BOT.

PLAN

**PUMPING STATION CONSTRUCTION ACCESS DETAIL**  
SCALE: 1:20

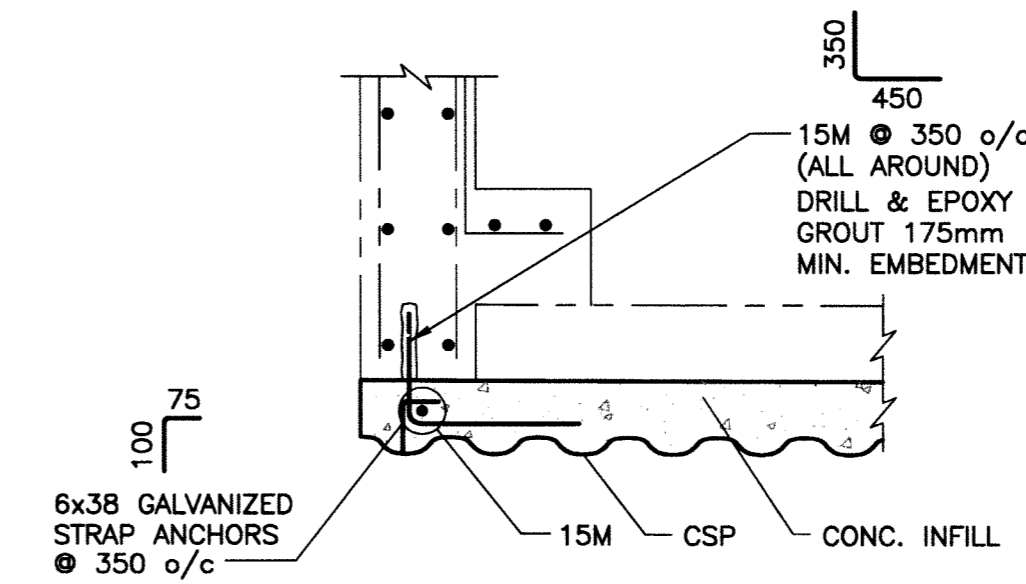


REMOVE ALL LOOSE CONCRETE AND INFILL VOIDS OUTSIDE EXISTING CONCRETE PRIOR TO INSTALLATION OF LINER PLATE

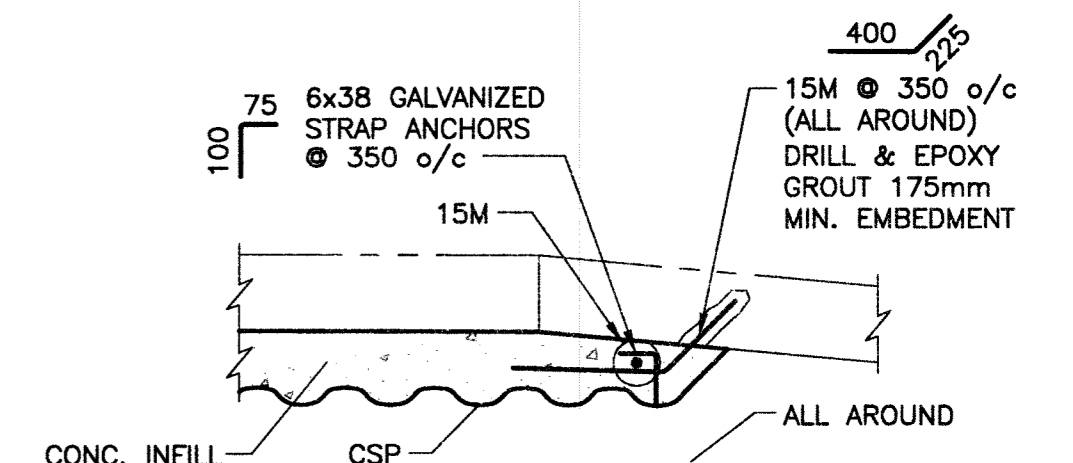
EXIST 1750x2175 CONG PIPE  
GROUT BETWEEN EXIST CONG PIPE AND NEW LINER  
INSTALL NEW 1672x1929 ARMTEC 3mm LINER PLATE

- NOTE:**
- CONTRACTOR TO FIELD CONFIRM EXISTING 2175 CONCRETE PIPE CROSS SECTION MEASUREMENTS AND PIPE LENGTH BEFORE ORDERING LINER PLATES.
  - INSTALLATION OF LINER PLATES REQUIRES SPACERS TO INSURE THE DESIGN POSITION OF THE LINER PLATES. (SPACERS TO BE DESIGNED BY THE CONTRACTOR.)

**PIPE LINER DETAIL**  
SCALE: 1:20



**A DETAIL**  
SCALE: 1:10



**B DETAIL**  
SCALE: 1:10

- NOTES:**
- GENERAL CONCRETE NOTES:**
- CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CAN/CSA-A23.1/A23.2 (LATEST). SEE SPECIFICATIONS FOR MIX REQUIREMENTS.
  - CONCRETE MATERIALS, FORMING, PLACING, FORM REMOVAL, REINFORCING, ETC. TO ACI RECOMMENDATIONS AND ACCEPTABLE PRACTICE.
  - MIX WATER SHALL BE POTABLE. CALCIUM CHLORIDE SHALL NOT BE USED.
  - PROVIDE ADEQUATE PROTECTION FOR CONCRETE DURING CURING PERIOD.
- REINFORCING STEEL**
- REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CAN/CSA G30.18-M92. GRADES TO BE; 400 MPa FOR 15M BARS AND LARGER; 300 MPa FOR 10M BARS.
  - REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH CONCRETE.
  - PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING AS SHOWN ON DRAWINGS.

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**METRIC**  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

**APEGM**  
Certificate of Authorization  
KGS Group  
No. 245 Date: Dec 10, 2010

LOCATION APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.	
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.			

1	RE-ISSUED FOR TENDER	10/12/10	RBO
0	ISSUED FOR TENDER	10/12/08	RBO
NO.	REVISIONS	DATE	BY

**KGS GROUP**  
CONSULTING ENGINEERS

DESIGNED BY: RBO	CHECKED BY: RJH
DRAWN BY: DMW	APPROVED BY:
HOR. SCALE: 1:250	RELEASED FOR CONSTRUCTION: DATE
VERTICAL: 1:50	DATE: 10/10/01

ENGINEER'S SEAL

PROVINCE OF MANITOBA  
REGISTERED PROFESSIONAL ENGINEER  
R.B. OFFMAN  
Member 24701

CONSULTANT DRAWING NO. 10-0107-18\_05

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

2010 OUTFALL REPAIRS

**POLSON AVENUE LINING SECTIONS AND MISCELLANEOUS DETAILS**

SHEET 04 OF 05  
CAD FILE DRAWING NUMBER POLSON RR-83  
CITY DRAWING NUMBER LD-5585