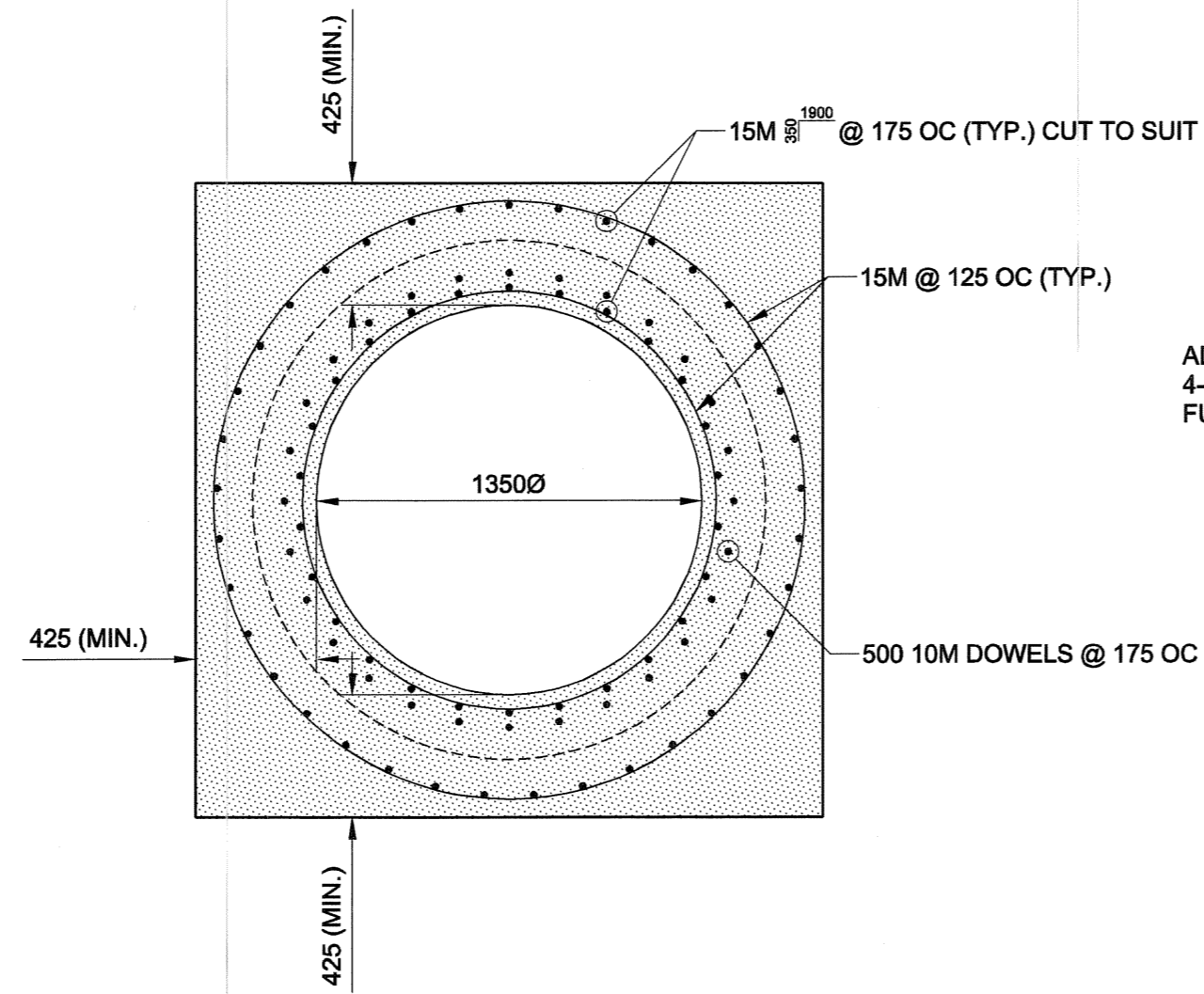


**DETAIL 5**

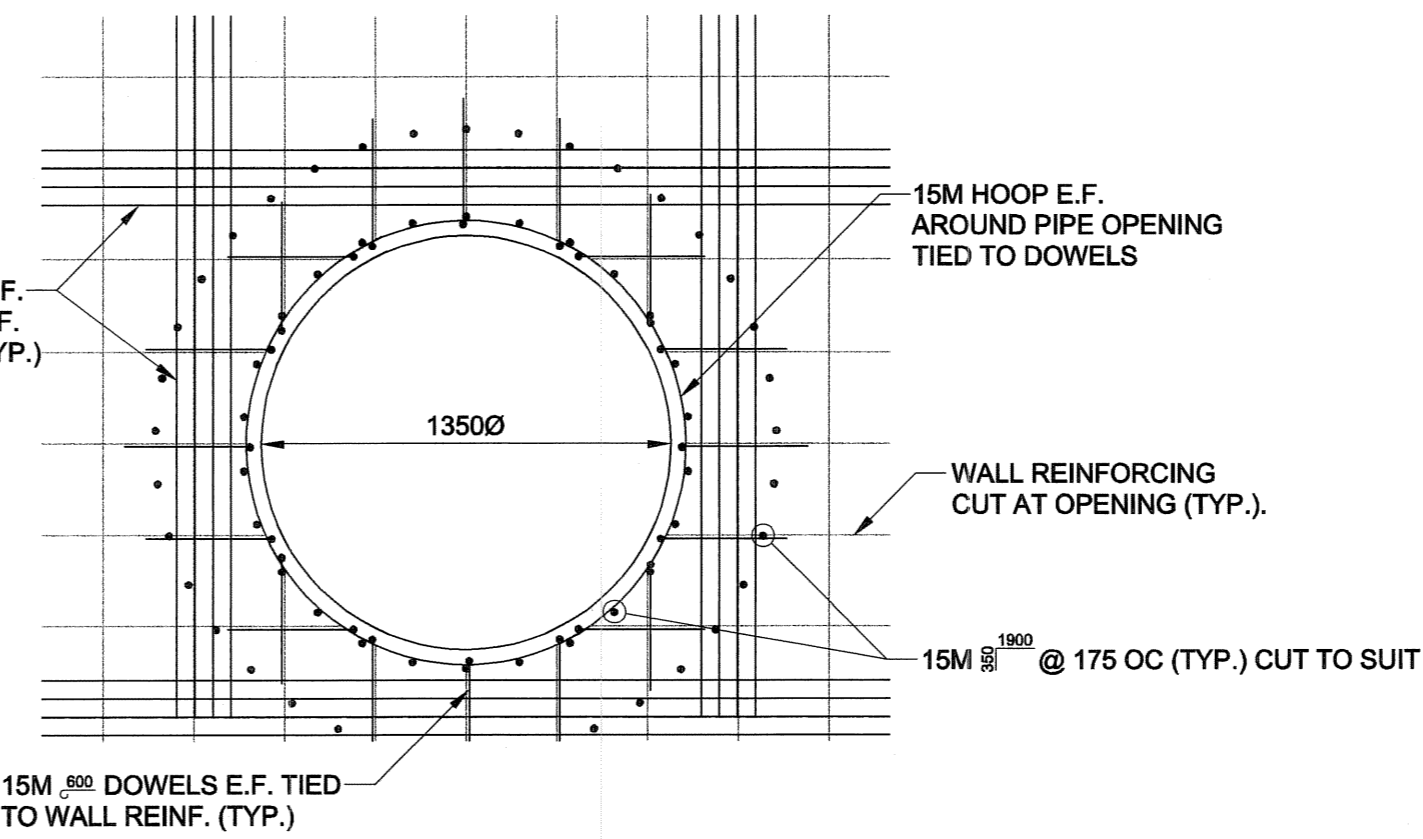
SCALE 1:25

TYPICAL 1350 CONNECTION



**SECTION A**

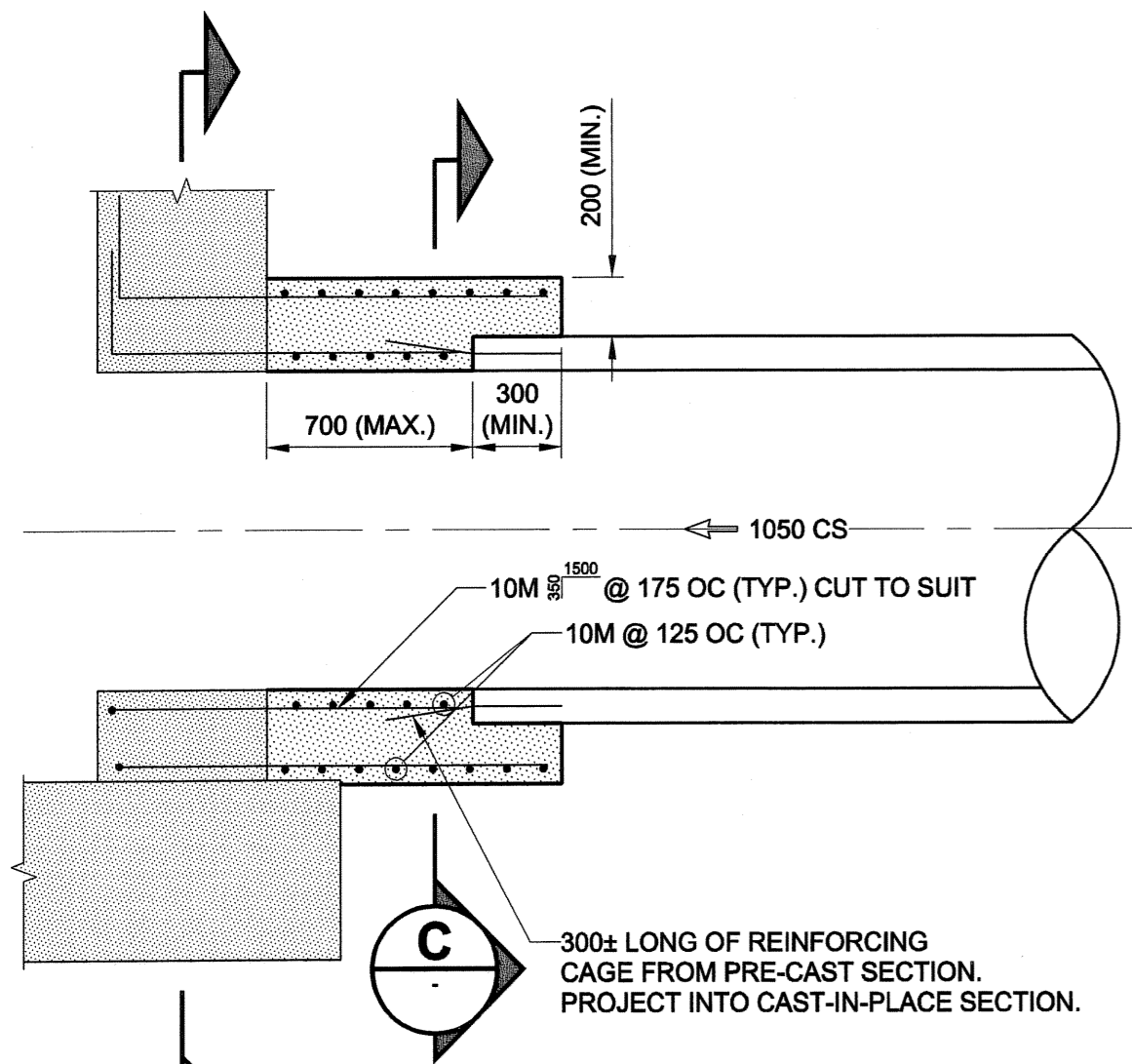
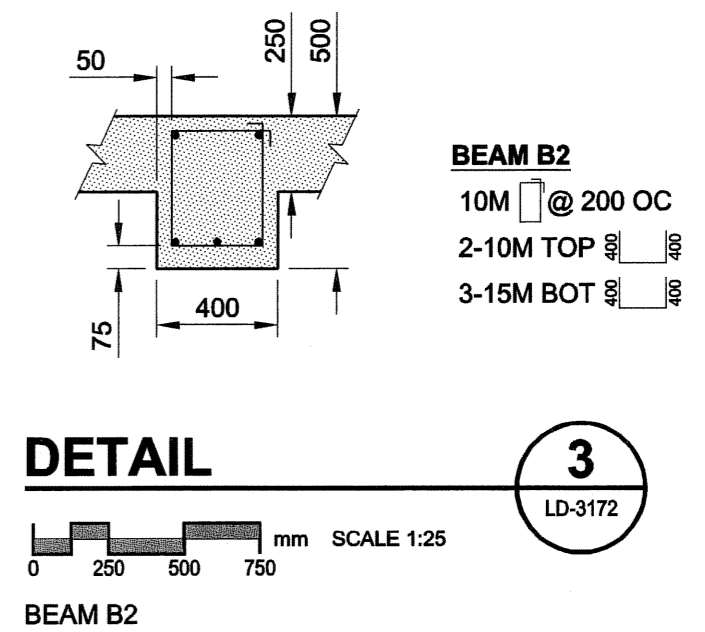
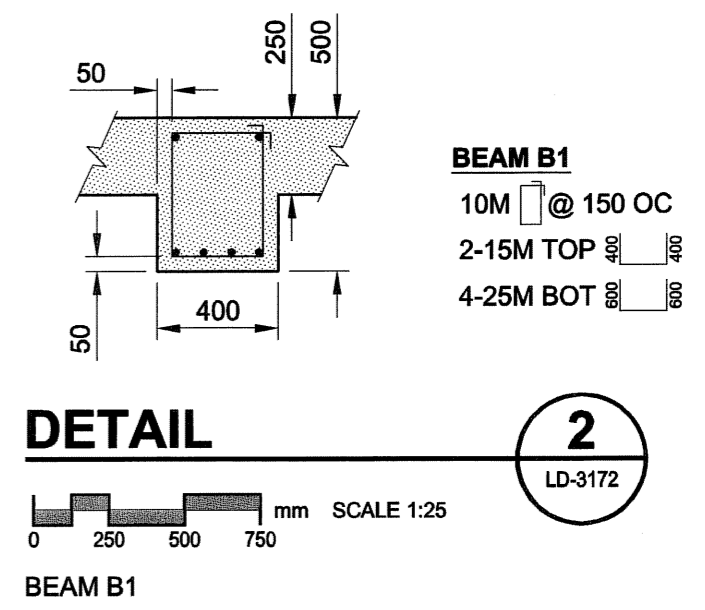
SCALE 1:25



**SECTION B**

SCALE 1:25

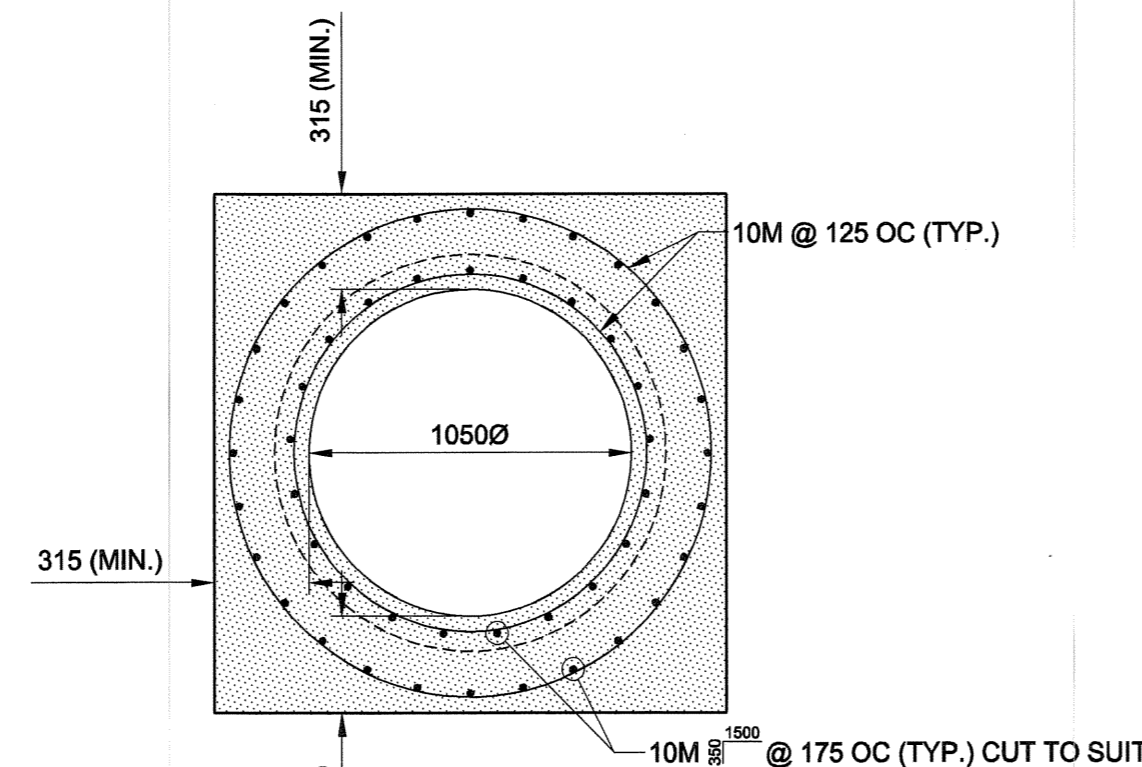
ADDITIONAL REINFORCING AT 1350 PIPE OPENING



**DETAIL 6**

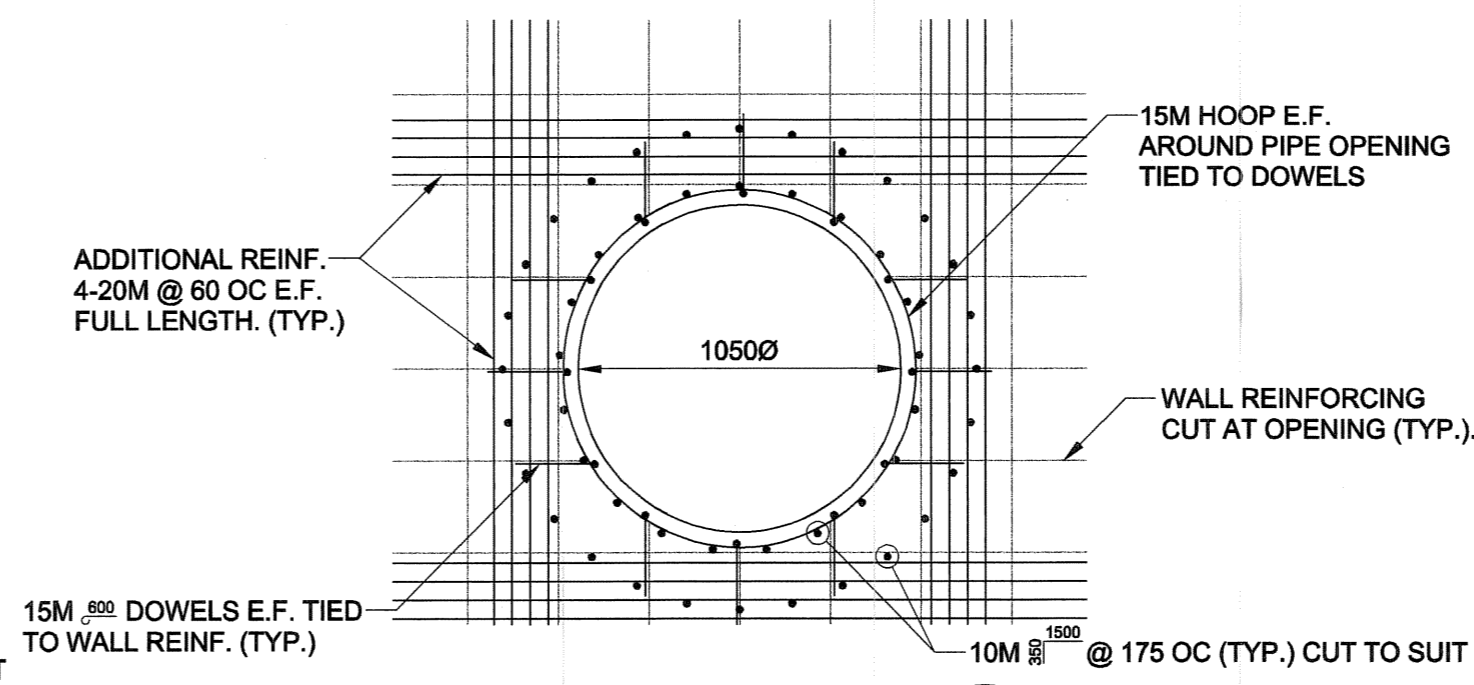
SCALE 1:25

TYPICAL 1050 CONNECTION



**SECTION C**

SCALE 1:25



**SECTION D**

SCALE 1:25

ADDITIONAL REINFORCING AT 1050 PIPE OPENING

HYDRAULIC CEMENT GROUT	EPOXY GROUT
d = BAR DIA. +20mm	d AND Le IN ACCORDANCE WITH MANUFACTURER'S PRINTED SPECIFICATIONS
Le: 10M - 150mm	
15M - 200mm	
20M - 250mm	
25M - 300mm	

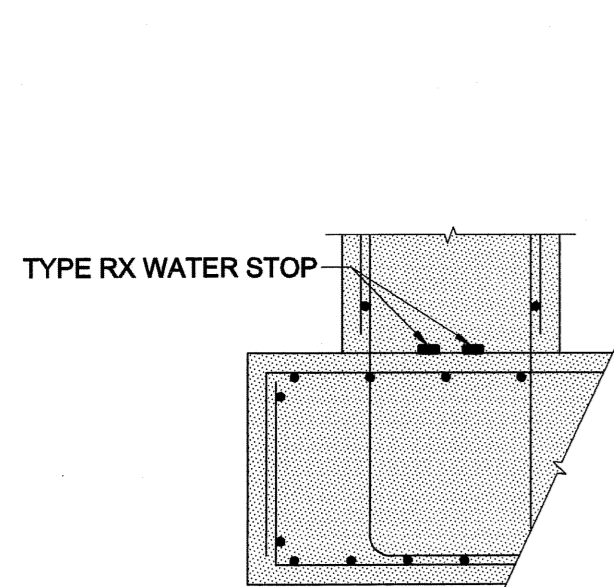
d = REINFORCING BAR DIAMETER  
Le = LENGTH OF REINFORCING BAR

LAP TABLE	
BAR	LAP
10M	500
15M	700
20M	870

**NOTES:**

1. DRILL HOLE OF DIAMETER AND DEPTH AS REQUIRED.
2. CLEAN HOLE OF DUST & DEBRIS.
3. FILL HOLE WITH DOWELLING GROUT.
4. INSTALL REINFORCING BAR & WIPE AWAY GROUT.
5. SECURE DOWEL BAR FIRMLY IN POSITION & DO NOT DISTURB BAR FOR 3 HOURS AFTER INSTALLATION.

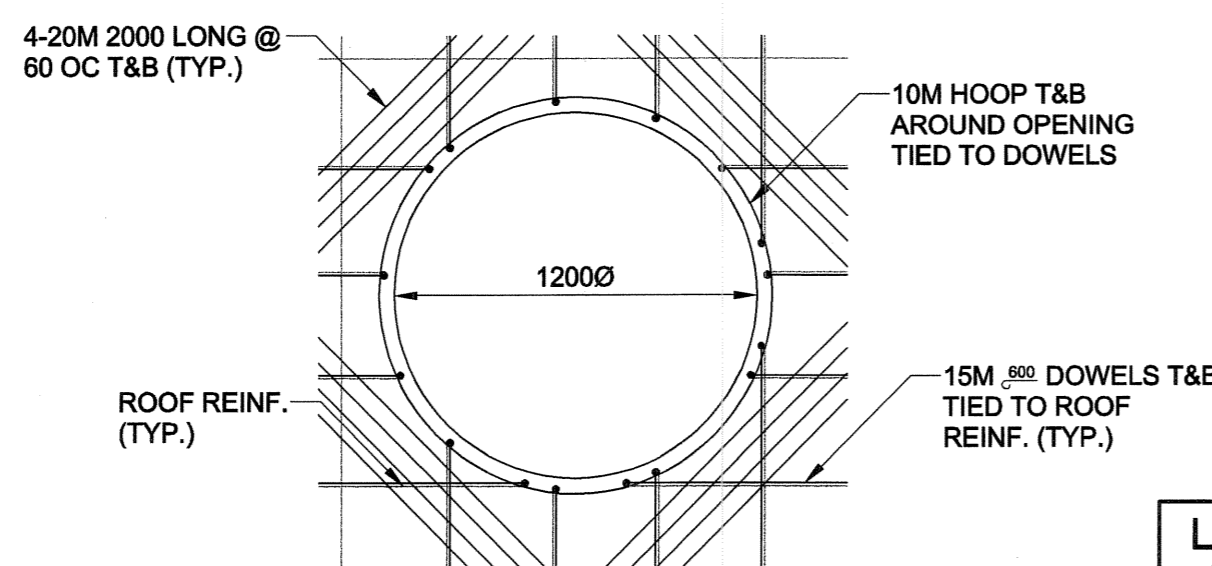
**NOTE:**  
CLEAR COVER TO REINFORCING SHALL BE 50mm ±12mm FOR CAST-IN-PLACE SLABS AND CAST-IN-PLACE BEAMS AND WALLS.



**DETAIL 4**

SCALE 1:20

WATERTIGHT CONSTRUCTION JOINT DETAIL



**DETAIL 1**

SCALE 1:25

MANHOLE OPENING REINFORCING

**LOCATION APPROVED UNDERGROUND STRUCTURES**

SUPR. 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.

BM 35-005 Tbt. In S. wall of Centennial Concert Hall, Market Ave., 2.1m W. of S.E. Cor. of Bldg.  
ELEV 232.623m

NO.	REVISIONS	YYMMDD	BY
0	ISSUED FOR CONSTRUCTION	05/08/29	ADL

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

UMA | AECOM

© 2005 UMA ENGINEERING LTD. ALL RIGHTS RESERVED.

DESIGNED BY	GEB	CHECKED BY	Dr
DRAWN BY	ADL	APPROVED BY	[Signature]
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	[Signature]
VERT. SCALE	N/A	DATE	05/08/29

PROFESSIONAL'S SEAL

Certificate of Authorization  
UMA Engineering Ltd.  
No. 256 Expiry: April 30, 2006

PROVINCE OF MANITOBA  
S.B. BISWANGER  
REGISTERED PROFESSIONAL ENGINEER  
150879

CONSULTANT DRAWING NO. 03  
D265-177-07

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

ALEXANDER/BANNATYNE  
CSO ABATEMENT UPGRADES  
BANNATYNE AVENUE

CONNECTION CHAMBER #1  
STRUCTURAL SECTIONS & DETAILS

SHEET 3 OF 8  
CITY DRAWING NUMBER  
LD-3173

BID OPPORTUNITY NO. 507-2005