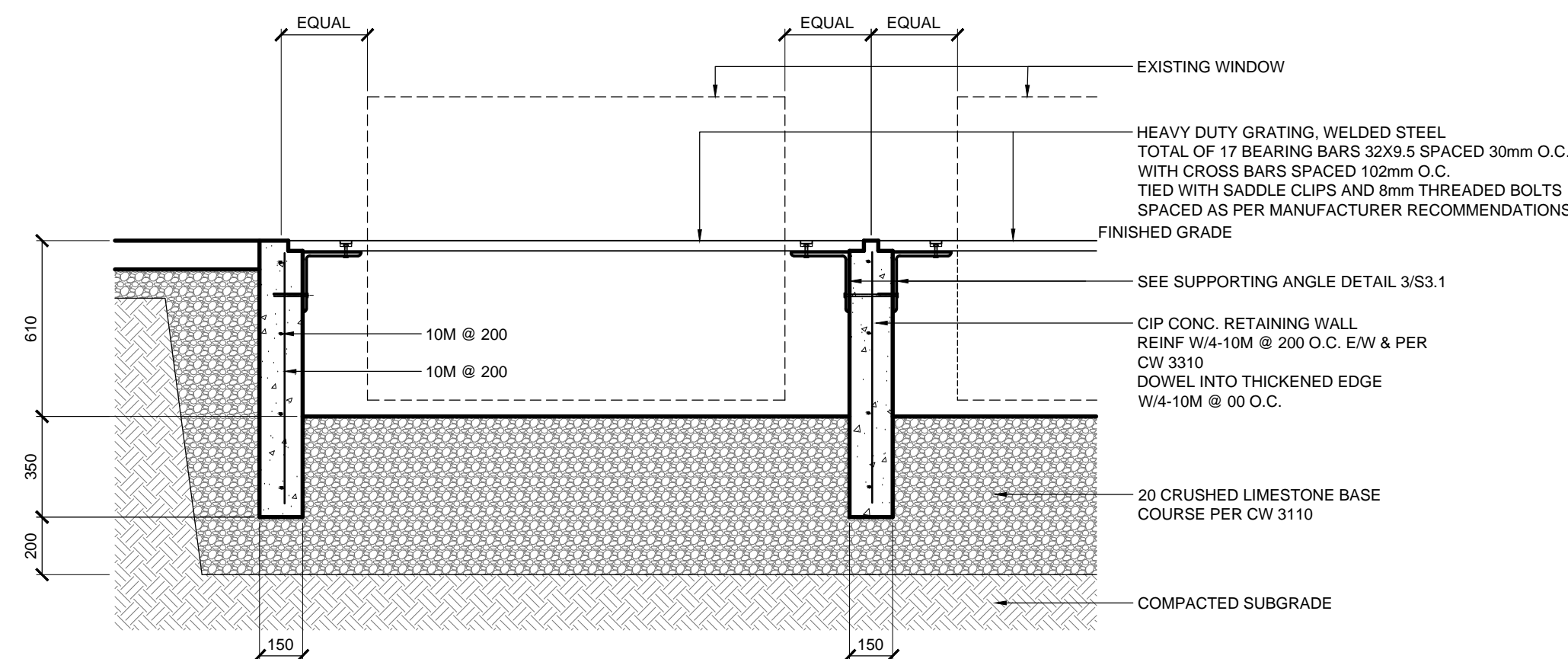
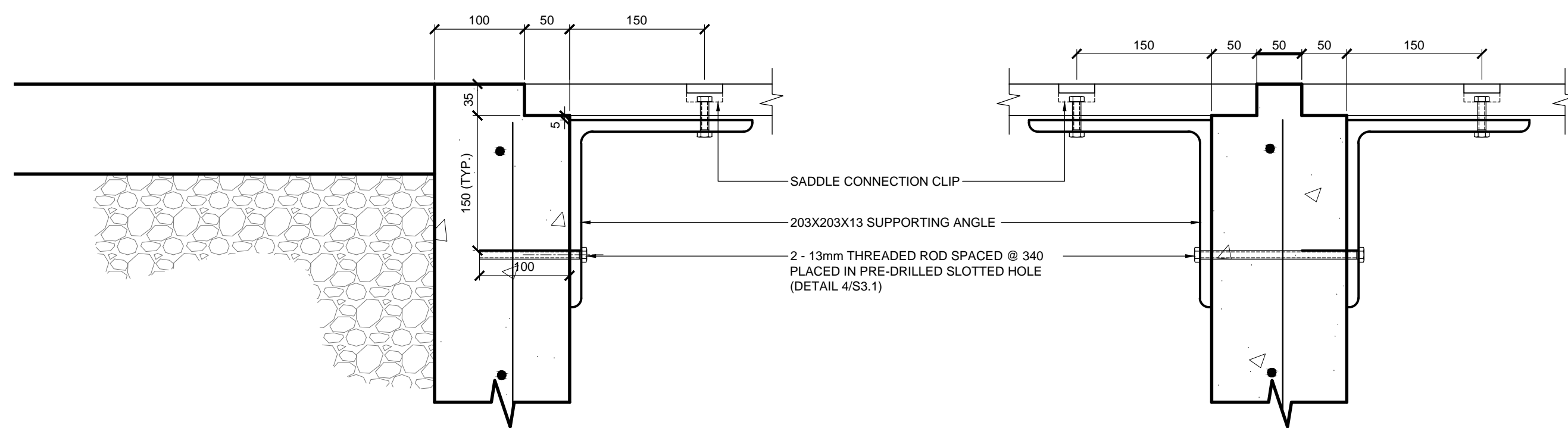


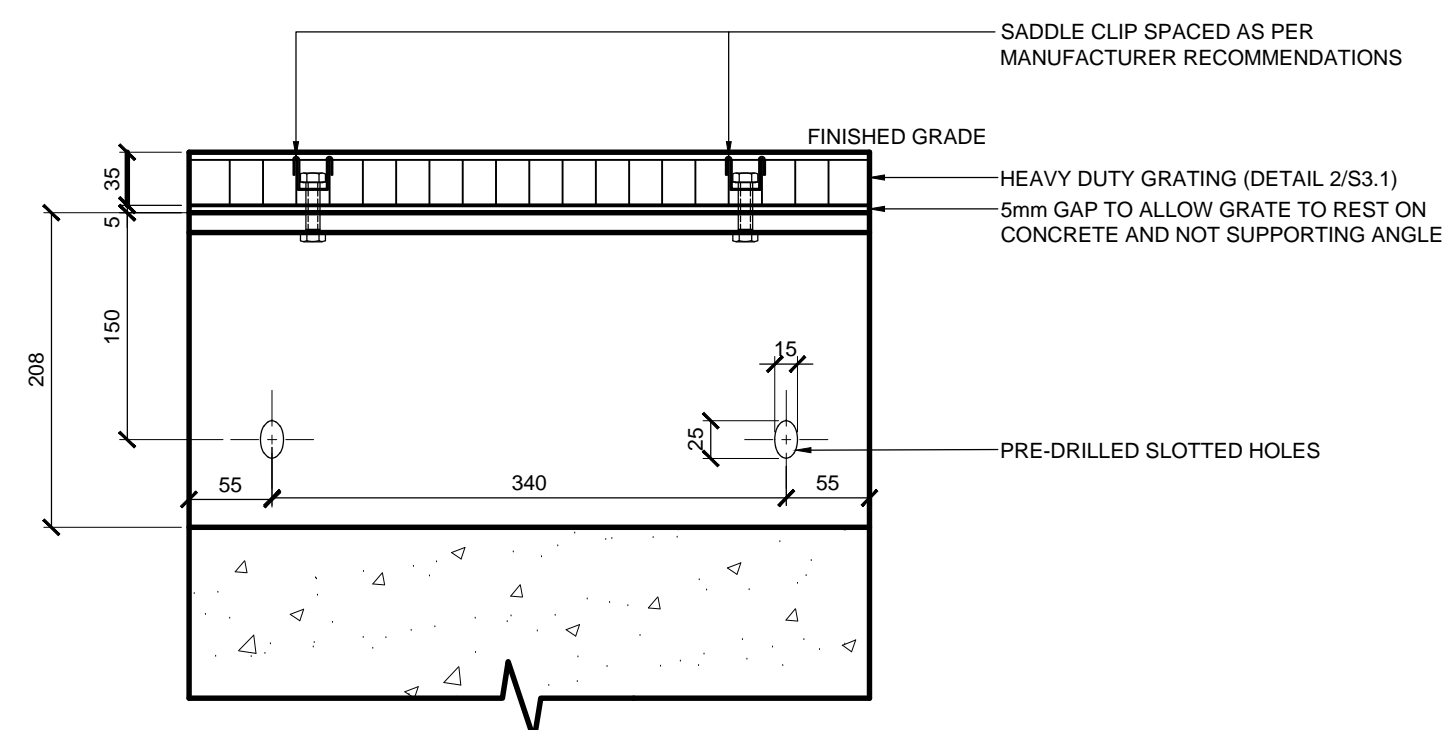
1  
S3.1  
CONC. RETAINING WALL AT BERTHA WINDOW WELL  
SCALE 1:20



2  
S3.1  
SECTION A-A  
SCALE 1:20



3  
S3.1  
SUPPORTING ANGLE DETAIL  
SCALE 1:5



4  
S3.1  
PRE-DRILLED SLOTTED HOLE DETAIL  
SCALE 1:5

#### GENERAL NOTES:

- DESIGN IS IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA, 2005 EDITION PLUS 1998 MANITOBA AMENDMENTS. CONCRETE WALLS ARE DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN ACI 350R FOR WATERTIGHT STRUCTURES.

#### CAST IN PLACE CONCRETE:

- TO BE READ IN CONJUNCTION WITH CW 2160 AND AS AMENDED IN ACCORDANCE WITH THESE NOTES.
- CONCRETE MIX WAS IN ACCORDANCE WITH ALTERNATIVE 1, AND POSSESSED THE FOLLOWING PROPERTIES:
  - CLASS OF EXPOSURE: S-1
  - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 35MPa
  - MAXIMUM SLUMP: 80mm  $\pm$  20mm
  - AIR CONTENT: 5 - 8%
  - MAXIMUM WATER/CEMENT RATIO: 0.40
- CONCRETE COVER = 50mm.
- ALL EXTERIOR CORNERS CHAMFERED 20mm.

#### REINFORCING STEEL:

- TO BE READ IN CONJUNCTION WITH CW 2160 AND AS AMENDED IN ACCORDANCE WITH THESE NOTES.
- ALL REINFORCING STEEL CONFORMS TO CSA G30.18M, GRADE 400W.
- ALL CONCRETE REINFORCING WORK PERFORMED IN ACCORDANCE WITH CSA A23.1.
- LAPS AT LEAST 40 BAR DIAMETERS, REINFORCING SPLICES NOT INDICATED IN THE DRAWINGS LOCATED AT POINTS OF MINIMUM STRESS.
- BEFORE PLACING CONCRETE, REINFORCING WAS CLEAN, FREE OF LOOSE SCALE, DIRT OR OTHER FOREIGN MATTER THAT WOULD REDUCE OR PREVENT BOND TO THE CONCRETE.

#### STRUCTURAL STEEL:

- ALL STRUCTURAL STEEL SHAPES AND PLATES IN ACCORDANCE WITH CSA G40.21-M, GRADE 300W, EXCEPT W, HP AND HSS SECTIONS WHICH SHALL BE GRADE 350W CLASS C.
- ALL GALVANIZING COMPLIES WITH THE LATEST EDITION OF CSA G164, WITH MINIMUM ZINC COATING OF 600g/m<sup>2</sup>. TOUCH UPS MADE WITH GALVALLOY OR GAL-VIZ.
- ALL BOLTS ASTM A316 STAINLESS STEEL, UNLESS OTHERWISE INDICATED.

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES



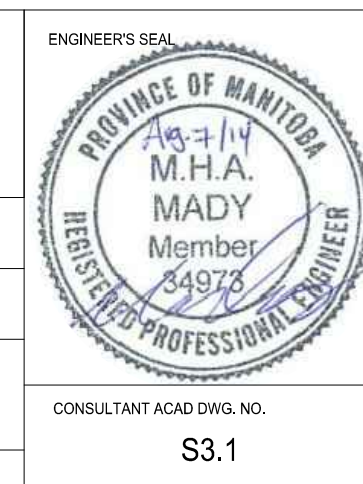
#### LOCATIONS APPROVED UNDERGROUND STRUCTURES

SIGNED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
SUPV U/G STRUCTURES

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 EXISTANCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING

G.B.M. -					
ELEV. -					
F					
E					
D					
C					
B					
A	ISSUED FOR TENDER	07/08/14	MS		
NO.	REVISIONS	DATE	BY	DATE	

		MMM Group Limited. Suite 111 - 93 Lombard Ave. Winnipeg, MB R3B 3B1 t. 204.943.3178 f. 204.943.4948 www.mmm.ca	
DESIGNED BY	JH/MM	CHECKED BY	MM
DRAWN BY	JH/MS	APPROVED BY	WC
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	
VERTICAL	AS NOTED		
DATE	JUL 29/14	DATE	



		<b>THE CITY OF WINNIPEG</b> PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES DIVISION	
CITY OF WINNIPEG		CITY DRAWING NUMBER	
NORTH EAST EXCHANGE DISTRICT ENGINEERING STUDY		BID NO. 742-2014	
BERTHA WINDOW WELL DETAILS			