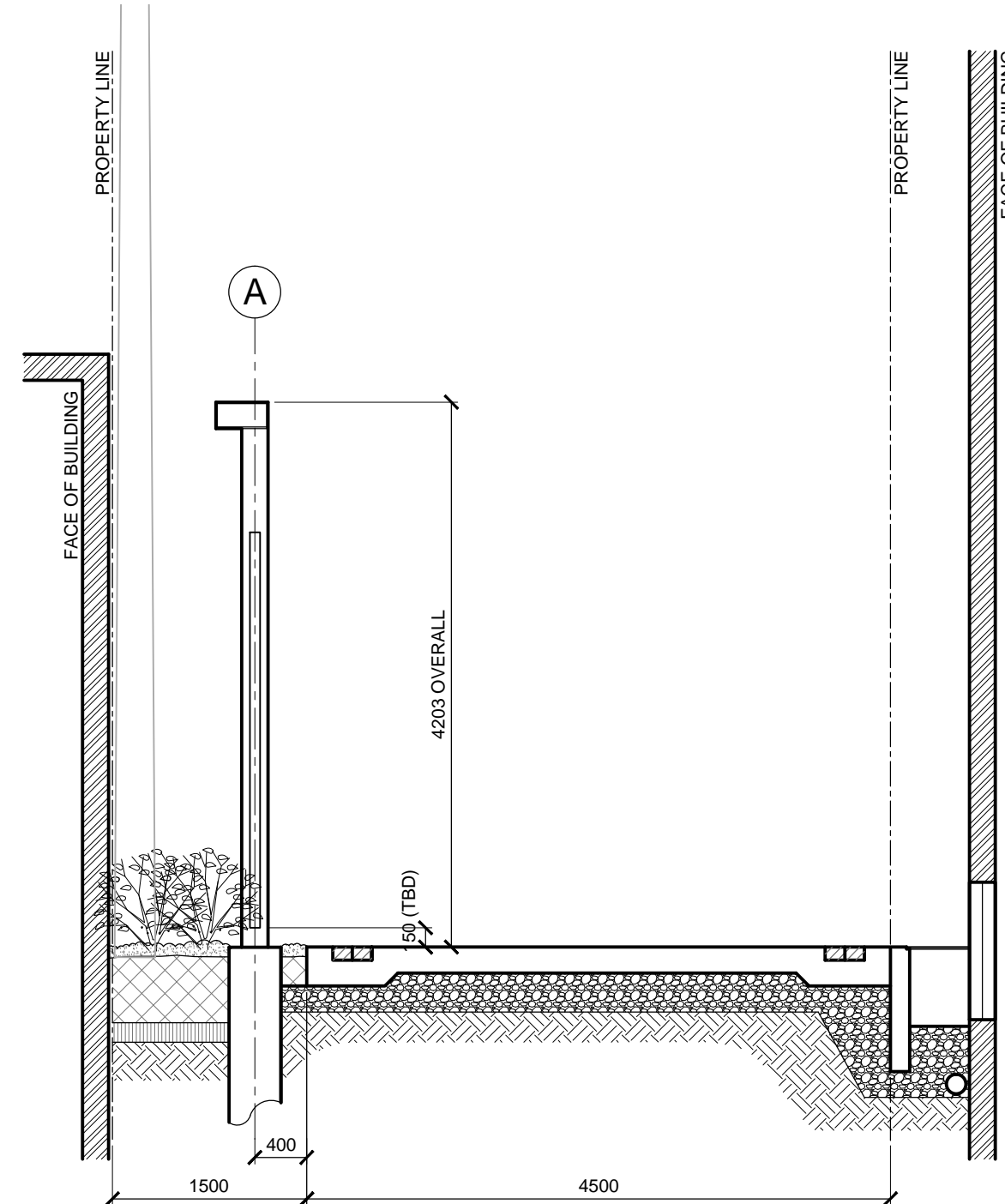


1 PLAN  
S2.1 SCALE 1:50



2 SECTION A-A  
S2.1 SCALE 1:50

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 ± 20mm
  - AIR CONTENT: 5 - 8%
  - MAXIMUM WATER/CEMENT RATIO: 0.40
- CONCRETE COVER = 50mm.
- ALL EXTERIOR CORNERS CHAMFERED 20mm.

REINFORCING STEEL:

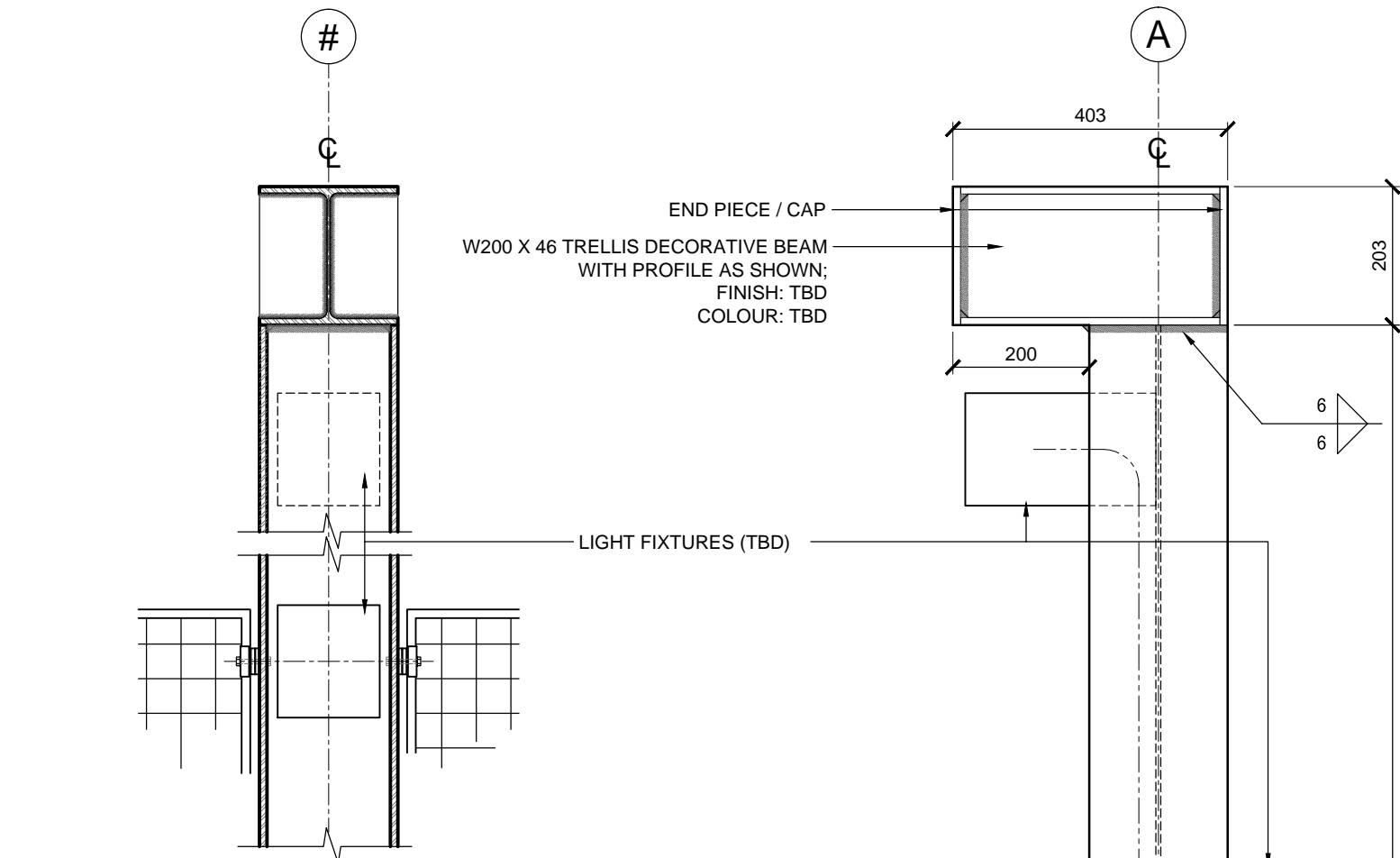
- TO BE READ IN CONJUNCTION WITH CW 2160 AND AS AMENDED IN ACCORDANCE WITH THESE NOTES.
- ALL REINFORCING STEEL CONFORMS TO CSA G30.18M, GRADE 400W.
- ALL CONCRETE REINFORCING WORK PERFORMED IN ACCORDANCE WITH CSA A23.1.
- LAPS AT LEAST 40 BAR DIAMETERS, REINFORCING SPLICES NOT INDICATED IN THE DRAWINGS 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:

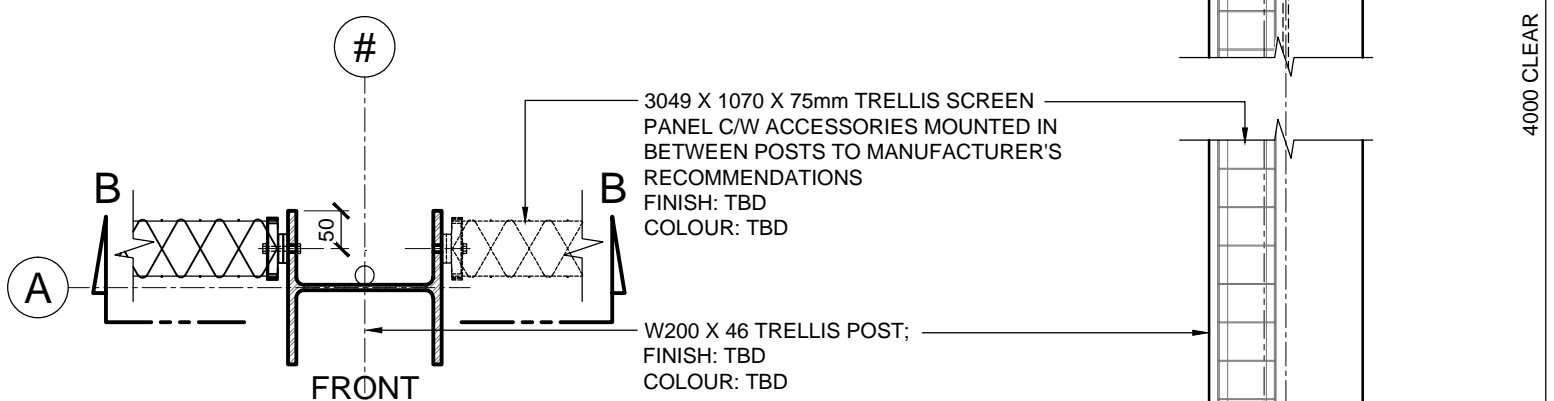
- ALL STRUCTURAL STEEL SHAPES AND PLATES IN ACCORDANCE WITH CSA G40.21-M, GRADE 300W, EXCEPT W, HP AND HSS SECTIONS WHICH SHALL BE GRADE 350W CLASS C.
- ALL GALVANIZING COMPLIES WITH THE LATEST EDITION OF CSA G184, WITH MINIMUM ZINC COATING OF 600g/m<sup>2</sup>. TOUCH UPS MADE WITH GALVALLOY OR GAL-VIZ.
- ALL BOLTS ASTM A316 STAINLESS STEEL, UNLESS OTHERWISE INDICATED.

OTHER NOTES:

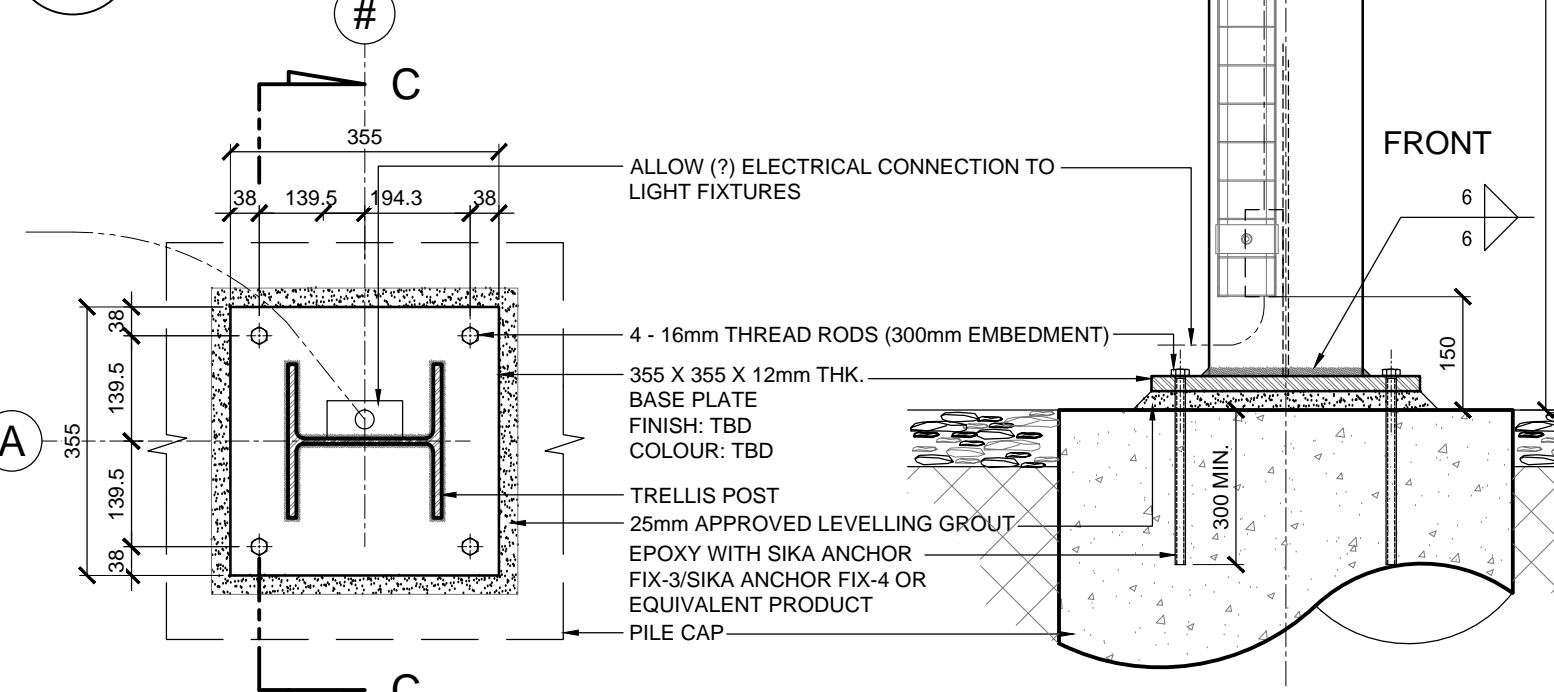
- ALL ALUMINUM IN CONTACT WITH CONCRETE PAINTED WITH BITUMINOUS ISOLATION COATING AT THE ALUMINUM / CONCRETE INTERFACE.
- CONTRACTOR TO VERIFY UNDERGROUND UTILITIES AND STRUCTURES.



4 SECTION B-B  
S2.1 SCALE 1:10

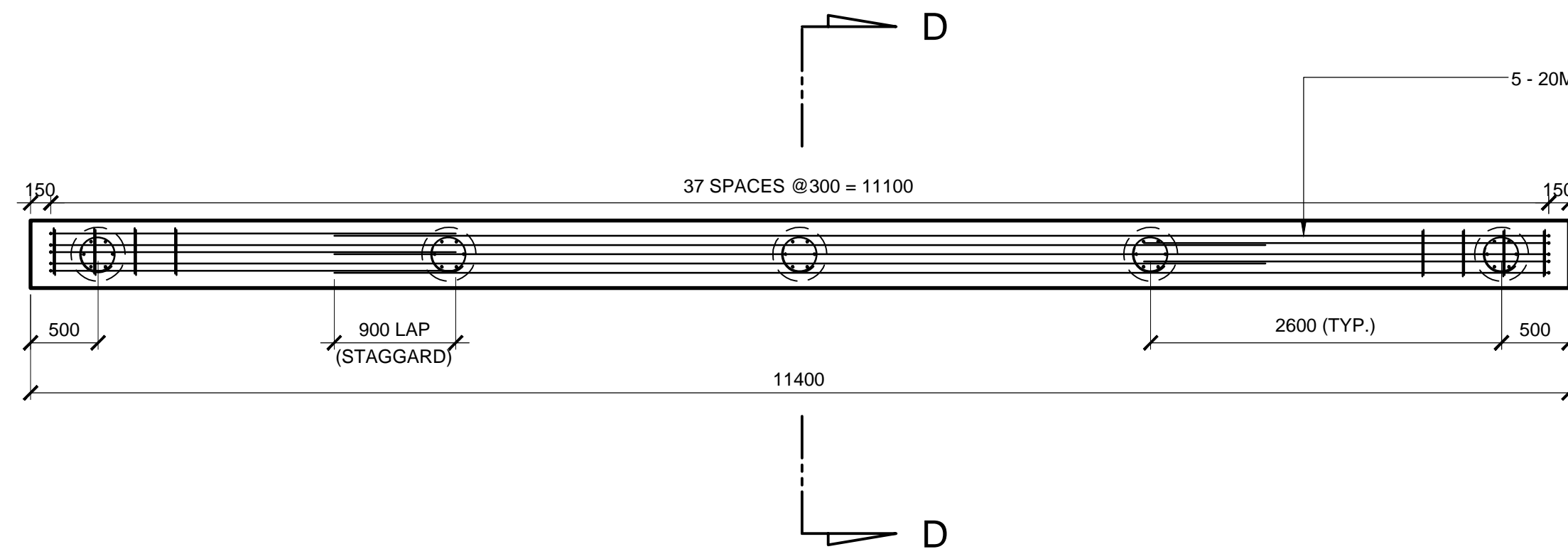


5 TRELLIS POST (TYP.)  
S2.1 SCALE 1:10

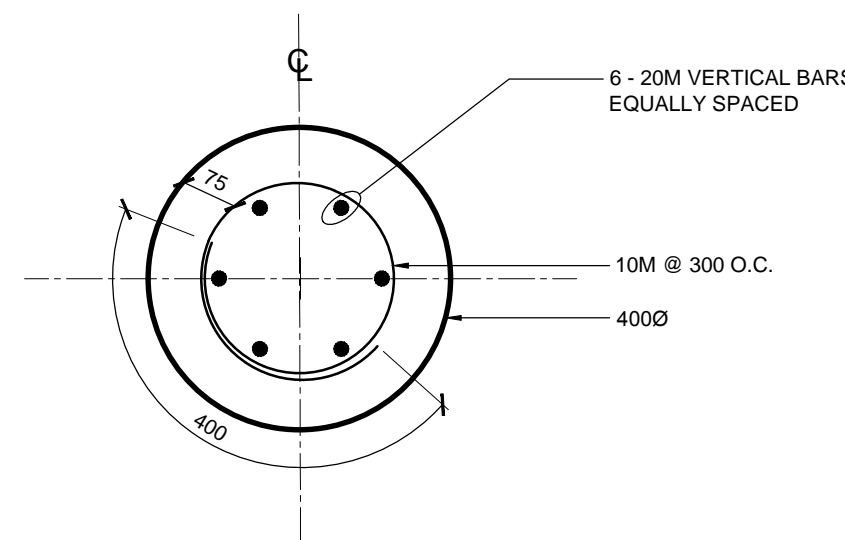


6 TRELLIS POST BASE PLATE (TYP.)  
S2.1 SCALE 1:10

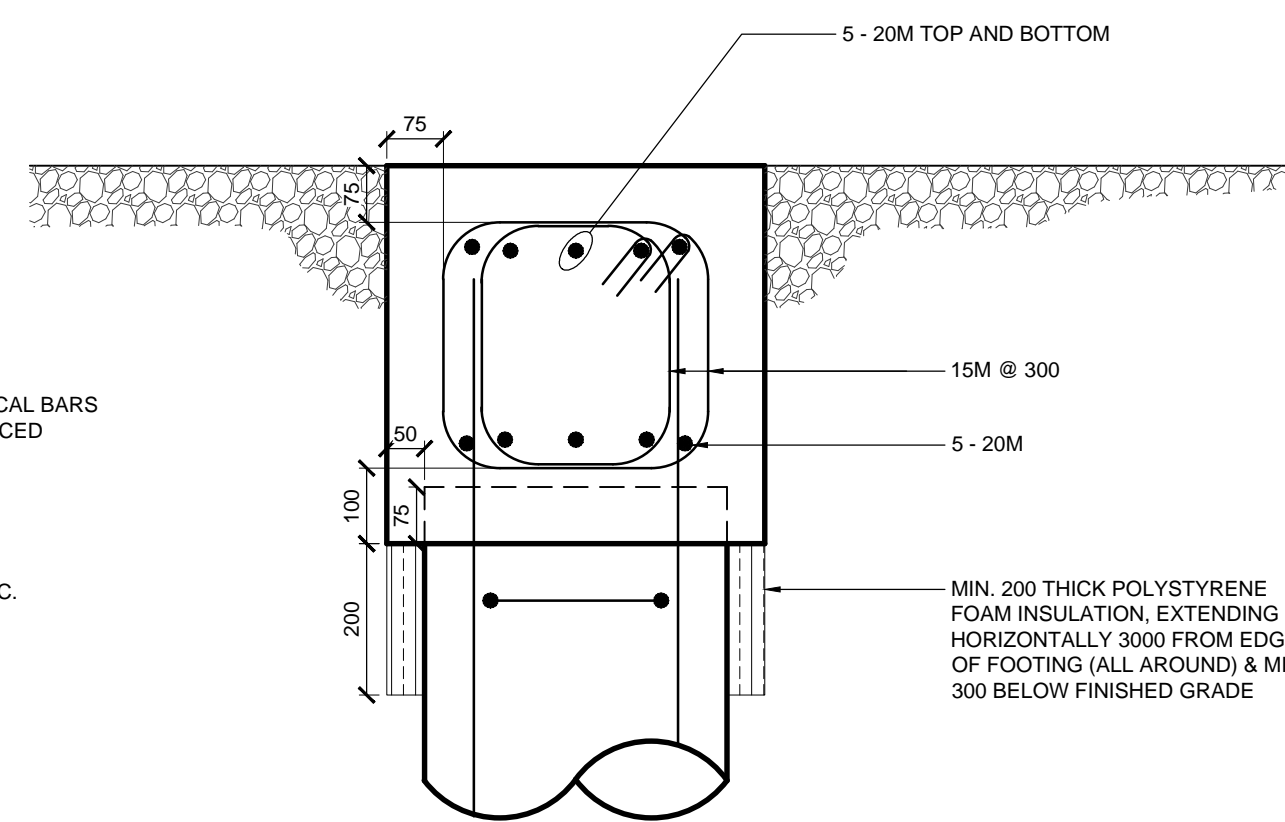
3 SECTION C-C  
S2.1 SCALE 1:10



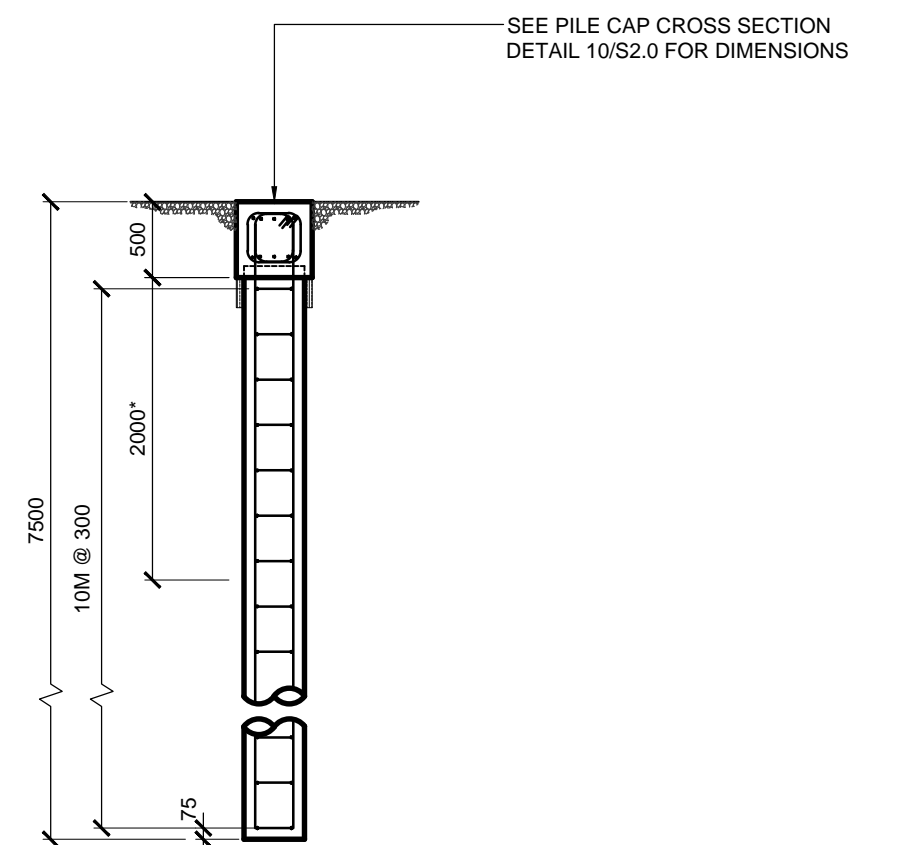
7 TRELLIS BEAM - PLAN  
S2.1 SCALE 1:50



9 CONCRETE PILE (TYP.)  
S2.1 SCALE 1:10



10 PILE CAP CROSS SECTION (TYP.)  
S2.1 SCALE 1:10



8 TRELLIS BEAM - D-D  
S2.1 SCALE 1:50

CONTRACTOR TO VERIFY UNDERGROUND UTILITIES AND STRUCTURES.  
"C.I.P. CONCRETE PILE IN 4000 CYLINDRICAL POLY WRAPPED GREASED COMMERCIAL GRADE SONOTUBE CONCRETE FORM

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

**APEGM**  
Certificate of Authorization  
MMM Group Limited  
No. 4531

LOCATIONS APPROVED  
UNDERGROUND STRUCTURES

SIGNED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
SUPERVISOR OF UNDERGROUND 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 EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING

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

<b>MMM GROUP</b>		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	

ENGINEER'S SEAL <b>PROVINCE OF MANITOBA</b> M.H.A. MADY Member 54978 REGISTERED PROFESSIONAL ENGINEER	CONSULTANT ACAD DWG. NO. S2.1
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<b>THE CITY OF WINNIPEG</b> PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES DIVISION	CITY DRAWING NUMBER
<b>CITY OF WINNIPEG</b>	
NORTH EAST EXCHANGE DISTRICT ENGINEERING STUDY	
BERTHA TRELLIS DETAILS	
BID NO. 742-2014	