

GENERAL NOTES

- DO NOT SCALE DRAWINGS.
- COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO COMMENCING CONSTRUCTION.
- SEE ARCHITECTURAL DRAWINGS FOR ELEVATIONS, SLOPES, ROUGH OPENING DIMENSIONS FOR WINDOWS, DOORS, ETC.
- SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENINGS IN FLOORS, ROOF, WALLS, ETC.
- DO NOT CUT OR DRILL OPENINGS IN ANY STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM BEACH ROCKE ENGINEERING LTD.
- BEACH ROCKE ENGINEERING LTD. SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF REQUIRED SITE INSPECTIONS. (TEL: 1-204-255-7251, FAX: 1-204-257-7229).
- STRUCTURAL DRAWINGS SHOW THE COMPLETED STRUCTURE. THEY DO NOT SHOW COMPONENTS WHICH MAY BE NECESSARY FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SITE SAFETY AND TO ENSURE THAT ALL SUBTRADES CONFORM TO THE LATEST REGULATIONS OF THE PROVINCIAL "BUILDING PROTECTION ACT", TO PROVIDE ALL NECESSARY SAFETY EQUIPMENT AS REQUIRED THEREIN AND TO NOTIFY LOCAL AUTHORITIES AS REQUIRED BY LAW.
- THE CONTRACTOR SHALL CONFORM TO THE COLD WEATHER REQUIREMENTS OF THE LATEST EDITION OF CSA STANDARD A23.1/A23.2 AND THE NATIONAL BUILDING CODE.
- IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO LOCATE ALL SITE SERVICES PRIOR TO CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL DESIGN ALL SHORING, FORM WORK, AND BRACING TO ENSURE PROPER CONSTRUCTION AND ERECTION.
- THE CONTRACTOR SHALL VISIT THE SITE, AND NOTE ALL CHARACTERISTICS AND IRREGULARITIES AFFECTING THE WORK OF THIS SECTION.
- SHOP DRAWINGS NOT STAMPED, SIGNED, AND DATED BY THE CONTRACTOR WILL BE RETURNED AND SHALL BE CONSIDERED REJECTED. SHOP DRAWINGS FOR WORK DESIGNED BY THE CONTRACTOR SHALL BEAR THE SEAL AND SIGNATURE OF A QUALIFIED PROFESSIONAL ENGINEER IN THE PROVINCE.
- THE CONTRACTOR SHALL SUBMIT AT LEAST 3 COPIES OF STAMPED SHOP DRAWINGS FOR ALL PRE-FABRICATED STRUCTURAL ASSEMBLIES, INCLUDING REINFORCING STEEL TO BEACH ROCKE ENGINEERING LTD. FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. ALL SHOP DRAWINGS, EXCEPT REINFORCING STEEL, SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE PROVINCE.

CONCRETE

- CONCRETE SHALL BE MANUFACTURED AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF CSA STANDARDS A23.1 AND A23.2.
- THE CONTRACTOR SHALL PROVIDE ONE SET OF STANDARD CONCRETE CYLINDER TEST RESULTS CONDUCTED BY AN INDEPENDENT TESTING FIRM FOR EACH DAY'S POUR AND AN ADDITIONAL SET OF CYLINDERS FOR EVERY 50 CUBIC METERS POURED AT NO EXTRA COST TO THE OWNER. TEST RESULTS ARE TO BE FORWARDED TO BEACH ROCKE ENGINEERING LTD. IMMEDIATELY UPON RECEIPT FROM THE TESTING FIRM.
- PROVIDE A MINIMUM 152mm (6") VOID UNDER ALL BEAMS, WALLS AND STRUCTURAL SLABS. VOID TO BE SHEARMAT OR APPROVED CARDBOARD VOIDFORM.
- VIBRATE ALL CONCRETE TO ENSURE COMPLETE CONSOLIDATION.
- THE LOCATIONS OF CONSTRUCTION JOINTS IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY BEACH ROCKE ENGINEERING LTD.
- WHEN THE OUTSIDE TEMPERATURE FALLS BELOW 5 DEGREES CENTIGRADE, THE CONTRACTOR SHALL CONFORM TO THE LATEST EDITION OF CSA STANDARD A23.1/A23.2 AND THE NATIONAL BUILDING CODE FOR COLD WEATHER CONCRETING PROCEDURES, AND SHALL RECEIVE WRITTEN APPROVAL FROM BEACH ROCKE ENGINEERING LTD. PRIOR TO COMMENCING CONCRETE CONSTRUCTION.
- PROVIDE 1" x 1" (25mm x 25mm) SAW CUTS AT 20' (6100mm) O.C. BOTH WAYS IN FLOOR SLABS UNLESS OTHERWISE NOTED ON DRAWINGS.
- CONCRETE SHALL CONFORM TO THE FOLLOWING:

8.1. WALLS / FOOTINGS	-	EXPOSURE CLASS F-2 (25MPA AT 28 DAYS)
8.2. INTERIOR SLABS ON GRADE	-	EXPOSURE CLASS N (25MPA AT 28 DAYS)
8.3. INTERIOR STRUCTURAL SLABS	-	EXPOSURE CLASS N (25MPA AT 28 DAYS)
8.4. EXTERIOR SLAB ON GRADE	-	EXPOSURE CLASS C-2 (32MPA AT 28 DAYS)
8.5. EXTERIOR STRUCTURAL SLABS	-	EXPOSURE CLASS C-1 (32MPA AT 28 DAYS)

CONCRETE FOOTINGS

- CONCRETE FOOTINGS SHALL BEAR ON NATIVE GRANITIC BEDROCK SURFACE WITH AN ALLOWABLE BEARING CAPACITY OF 5000 kPa. CONFIRM SOIL CONDITIONS TO THE ENGINEER DURING EXCAVATION CONSTRUCTION.
- THE CONTRACTOR SHALL LOCATE ALL SITE SERVICES PRIOR TO EXCAVATION.
- BEARING SURFACE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THE ALLOWABLE BEARING CAPACITY AND TO ENSURE ALL LOOSE AND DISTURBED MATERIAL HAS BEEN REMOVED AND REPLACED WITH COMPACTED GRANULAR MATERIAL.
- POUR JOINTS IN THE FOUNDATION SHALL BE APPROVED BY THE ENGINEER.

REINFORCING STEEL

- REINFORCING STEEL SHALL BE NEW BILLET DEFORMED BARS MANUFACTURED IN ACCORDANCE WITH CSA G30.18 AND DETAILED IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI MANUAL, WITH MINIMUM YIELD STRENGTH AS FOLLOWS: 10M BARS-300MPA, 15M BARS & LARGER - 400MPA.
- REINFORCING STEEL SHALL BE FREE FROM LOOSE RUST, MUD, OIL OR OTHER COATINGS WHICH MAY REDUCE THE BOND OR HARM THE CONCRETE.
- REINFORCING STEEL SHALL BE HELD IN PLACE AND TIED WITH PROPER ACCESSORIES SUCH AS HI-CHAIRS, SPACERS, TIES, ETC. SUPPLIED BY THE REINFORCING STEEL PROVIDER. APPROPRIATE SUPPORT SHALL BE PROVIDED UNDER ALL SUPPORT ACCESSORIES TO ENSURE THAT THE REINFORCING STEEL IS ACCURATELY POSITIONED.
- LAP TOP BARS AT MID-SPAN AND BOTTOM BARS OVER SUPPORTS.
- BEND ALL HORIZONTAL STEEL 18" (457mm) AROUND CORNERS, OR USE EXTRA 36"x36" (914mmx914mm) CORNER BARS TO MATCH HORIZONTALS.
- PROVIDE 2-15M AROUND ALL SLAB, WALL, & BEAM OPENINGS, UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS.
- CONCRETE COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS:

7.1. CONCRETE CAST IN DIRECT CONTACT WITH SOIL	-	75mm (3")
7.2. FORMED CONCRETE IN CONTACT WITH SOIL 15M OR SMALLER	-	50mm (2")
7.3. FORMED CONCRETE IN CONTACT WITH SOIL 20M OR LARGER	-	40mm (1 1/2")
7.4. FORMED CONCRETE NOT IN CONTACT WITH SOIL (BEAMS AND COLUMNS)	-	40mm (1 1/2")
7.5. FORMED CONCRETE NOT IN CONTACT WITH SOIL (SLABS AND WALLS)	-	20mm (3/4")
- MISCELLANEOUS CONCRETE HOUSEKEEPING PADS AND CURBS SHALL BE REINFORCED WITH A MINIMUM 10M AT 18" (457mm) O.C. EACH WAY UNLESS NOTED. SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

WOOD NOTES:

- ALL LUMBER COMPONENTS SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH THE LATEST EDITION OF CAN/CSA-086.1.
- ALL LUMBER SHALL CONFORM TO "NLGA STANDARD GRADING RULES FOR CANADIAN LUMBER", AND THE GRADE SHALL BE CLEARLY IDENTIFIED ON ALL PRODUCTS.
- ALL DIMENSIONAL LUMBER SHALL BE NO.2 GRADE, OR BETTER, UNLESS NOTED OTHERWISE ON DRAWINGS.
- FRAMED WALLS AND ROOF SYSTEMS SHALL BE FULLY BRACED UNTIL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL SUPPLY AND ERECT ALL BRACING NECESSARY TO PROVIDE STABILITY FOR THE STRUCTURE AS A WHOLE, INCLUDING DURING THE CONSTRUCTION PHASE.
- LOAD BEARING STUD WALLS SHALL HAVE SOLID BLOCKING AT 4'-0" (1220mm) CENTERS.
- SHAEATHING AND STRUCTURAL ACCESSORIES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. SHEATHING SHALL BE CANPLY EXTERIOR GRADE PLYWOOD UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY BEACH ROCKE ENGINEERING LTD.
- LUMBER IN CONTACT WITH SOIL SHALL BE PRESERVATIVE-TREATED IN ACCORDANCE WITH THE LATEST EDITION OF CAN/CSA-0322 AND CAN/CSA-080. ALL TREATED WOOD PRODUCTS SHALL BEAR A CAN/CSA-0322 CERTIFICATION STAMP. THE CUT ENDS AND DRILLED HOLES OF TREATED LUMBER SHALL BE TREATED WITH 3 COATS OF PRESERVATIVE AND CONFORM TO CAN/CSA-0132-1.
- FASTENERS USED FOR FRAMING SHALL BE: HOT-DIPPED AND GALVANIZED FOR LUMBER ABOVE GRADE, AND, STAINLESS STEEL (TYPES 304 AND 316) FOR PRESERVATIVE-TREATED LUMBER.
- JOINTS AND HOLES BELOW GRADE SHALL BE SEALED WITH BUTLY CAULKING COMPOUND OR EQUAL CONFORMING TO CGS8 19-GP-13 OR CGS8 19-GP-14, INSTALLED TO PROVIDE A WATER-TIGHT SEAL.
- PROVIDE 3 SETS OF STAMPED AND SEALED SHOP DRAWINGS FOR ALL ROOF TRUSSES SUPPLIED BY THE TRUSS MANUFACTURER. SUBMIT SHOP DRAWINGS TO BEACH ROCKE ENGINEERING FOR APPROVAL.
- PROVIDE 3 SETS OF STAMPED AND SEALED SHOP DRAWINGS FOR ALL FLOOR JOISTS SUPPLIED BY THE JOIST MANUFACTURER. SUBMIT SHOP DRAWINGS TO BEACH ROCKE ENGINEERING FOR APPROVAL.
- ALL STRUCTURAL ENGINEERED WOOD (TIMBERSTRAND MICRO-LAM PARALLEL GLUE-LAMINATED ETC) PRODUCTS SHALL BE SUPPLIED BY MANUFACTURERS APPROVED BY BEACH ROCKE ENGINEERING LTD. PRODUCTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF CAN/CSA-086-01 TO SATISFY LOADING CONDITIONS NOTED ON THE DRAWINGS AND LOCAL BUILDING CODE REQUIREMENTS. THE MANUFACTURER SHALL PROVIDE 3 SETS OF SHOP DRAWINGS TO BEACH ROCKE ENGINEERING LTD. SEALED BY AND ENGINEER, REGISTERED IN THE PROVINCE OF MANITOBA, FOR ALL COMPONENTS PRIOR TO FABRICATION.
- FASTEN EXTERIOR SHEATHING AT 3" (75mm) O.C. AT EDGES, AND 12" (305mm) O.C. AT INTERMEDIATE MEMBERS.

STEEL STUDS

- STEEL STUDS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE CSA STANDARD CAN/CSA S136-01 NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.
- ALL STEEL STUDS TO MEET THE REQUIREMENTS OF ASTM A446.
- ALL STEEL STUDS AND THEIR ASSOCIATED COMPONENTS SHALL BE GALVANIZED.
- PROVIDE HORIZONTAL BRIDGING COMPLETE WITH CLIP ANGLES AT 4'-0" (1220mm) O.C. TO ALIGN MEMBERS AND TO PREVENT STUD ROTATION ABOUT THE MINOR AXIS.
- STEEL STUDS 18Ga (0.048") OR LIGHTER SHALL BE DESIGNED WITH MINIMUM YIELD STRENGTH 228MPa (33ksi).
- STEEL STUDS 16Ga (0.060") AND HEAVIER SHALL BE DESIGNED WITH MINIMUM YIELD STRENGTH 345MPa (50ksi).
- TOP AND BOTTOM TRACK THICKNESS SHALL BE EQUAL TO OR GREATER THAN THE STUD THICKNESS. BOTH FLANGES OF THE STUD SHALL BE ATTACHED TO THE TRACK.
- SEE ARCHITECTURAL DRAWINGS FOR ALL DOOR AND WINDOW ROUGH OPENING DIMENSIONS.
- REFER TO THE NATIONAL BUILDING CODE FOR LATERAL WIND LOADS AT THE PROJECT LOCATION.
- PROVIDE DOUBLE TOP TRACK, SLOTTED TRACK, OR SLOTTED DEFLECTION CLIP DETAILS TO ACCOMMODATE ANTICIPATED DEFLECTION.
- UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS, PROVIDE:
 - 2 VERTICAL STUDS FOR OPENINGS LESS THAN 42" (1067mm) IN WIDTH.
 - 3 VERTICAL STUDS FOR OPENINGS GREATER THAN 42" (1067mm) BUT LESS THAN 72" (1830mm) IN WIDTH.

METAL DECK

- FLOOR DECK SHALL BE 1" (38mm) DEEP x 22 Ga. (MIN) WITH 6" (152mm) RIB SPACING UNLESS OTHERWISE NOTED ON DRAWINGS.
- FASTEN DECK TO ALL BEARING SURFACES W/ 3/4"x2" (19mm)x51mm PUDDLE WELD @ 6" (152mm) O.C. WITH 1/4" (6mm) TEKS SCREWS AT 6" (152mm) O.C. MECHANICALLY.
- STEEL DECK TO BE CONTINUOUS OVER THREE SPANS.
- DECK SUPPLIER SHALL PROVIDE STAMPED SHOP DRAWINGS TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

STEEL JOISTS

- OPEN WEB STEEL JOISTS TO BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF CSA STANDARD S-16 AND S-136 FOR THE LOADS SHOWN ON THE PLAN.
- VERIFY ALL LOADS IMPOSED FROM MECHANICAL AND ELECTRICAL EQUIPMENT. CONFIRM DIMENSIONS OF EQUIPMENT WITH CONTRACTOR.
- PROVIDE 2" (51.5mm) MINIMUM BEARING.
- ALL OPEN WEB STEEL JOISTS TO HAVE 4" (102mm) JOIST SHOE UNLESS OTHERWISE NOTED ON DRAWINGS.
- ALL JOISTS SHALL BE PRE-CAMBERED.
- MAXIMUM LIVE LOAD JOIST DEFLECTION SHALL NOT EXCEED L/900.
- JOIST SUPPLIER TO ARRANGE JOISTS TO ACCOMMODATE MECHANICAL DUCT WORK.
- PROVIDE TRUSS JOISTS WHERE JOISTS FRAME DIRECTLY INTO COLUMNS.
- SEE ARCHITECTURAL DRAWINGS FOR ANY MASONRY NON-LOAD BEARING WALLS BEARING ON JOISTS.
- NO EXTRAS WILL BE CONSIDERED FOR MISCELLANEOUS LOADS (BRACING, PARAPETS, UPLIFT) NOT SHOWN ON THE STRUCTURAL DRAWINGS. IT IS THE JOIST SUPPLIER RESPONSIBILITY TO CONFIRM ALL LOADS REQUIRED FOR FABRICATION PRIOR TO TENDER.
- BRIDGING AND BRACING OF JOIST TO BE DESIGNED AND SUPPLIED BY JOIST SUPPLIER.
- FOR DECK OPENINGS GREATER THAN 16"x16" (406mm x 406mm) PROVIDE 3" x 3" x 1/2" (75mm x 75mm x 9.5mm) ANGLE, UNVO ON DRAWINGS.
- JOIST SUPPLIER SHALL PROVIDE STAMPED SHOP DRAWINGS TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

STRUCTURAL STEEL

- STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE CAN/CSA-S16-09 BY FULLY CERTIFIED MEMBERS OF THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION.
- ALL STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA G40.21-350W CLASS C TO SIZES AND SHAPES INDICATED ON THE DRAWINGS. NO SUBSTITUTIONS IN GRADES OR SIZES ARE PERMITTED WITHOUT WRITTEN APPROVAL OF BEACH ROCKE ENGINEERING LTD. ALL ANGLES AND PLATES TO BE G40.21-300W.
- ALL FABRICATION SHALL BE CARRIED OUT IN PLANT FACILITIES CERTIFIED BY THE CANADIAN WELDING BUREAU TO CSA S18-09 AND S136, LATEST EDITION. SITE FABRICATION IS NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM BEACH ROCKE ENGINEERING LTD.
- ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF CSA W59 BY WELDERS FULLY CERTIFIED FOR STRUCTURAL WELDING BY THE CANADIAN BUREAU TO CSA W47.1. ALL BASE AND CAP PLATES SHALL BE FULLY WELDED TO COLUMNS.
- STRUCTURAL FASTENERS SHALL BE A325 BOLTS. ANCHOR BOLTS SHALL BE 18" (457mm) LG. C/W 3" (75mm) HOOK (A307) UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. BASE AND CAP PLATES TO BE 1/2" (19mm) THICK. CAP PLATES TO HAVE MIN. 4 BOLT (A325) CONNECTION UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS.
- BRACING TEMPORARY GUYING AND BRACING AS NECESSARY TO PROVIDE STABILITY FOR THE WHOLE STRUCTURE UNTIL DECKING AND PERMANENT BRACING ARE SECURED IN PLACE.
- PROVIDE 1/8" (9.5mm) STIFFENER PLATES IN ALL BEAMS CONTINUOUS OVER SUPPORTS. HOLES ARE NOT PERMITTED IN THE TOP FLANGES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- INTERIOR STEEL SHALL BE PAINTED WITH ONE COAT OF RED OXIDE PRIMER, AFTER HAVING BEEN CLEANED TO SSPC-SP2.
- CLEAN ALL FIELD WELDS AND TOUCH UP WITH PRIMER TO MATCH SHOP COAT.
- DESIGN AND FABRICATE CONNECTIONS FOR THE FULL STRENGTH OF THE MEMBER. SPLICING OF MEMBERS IS NOT PERMITTED UNLESS WRITTEN APPROVAL FROM THE DESIGN ENGINEER HAS BEEN PROVIDED.
- FOR DECK OPENINGS GREATER THAN 16"x16" (406mm x 406mm) PROVIDE 3" x 3" x 1/2" (75mm x 75mm x 9.5mm) ANGLE, UNVO ON DRAWINGS.
- PROVIDE C100x8 CHANNEL BELOW ALL RTU CURBS (4 SIDES). FASTEN CHANNEL TO 4"x4"x1/2" (102mm x 102mm x 6.4mm) CLIP ANGLE ON OPEN WEB STEEL JOIST TOP CHORD, OR DIRECTLY TO STEEL BEAMS.
- PROVIDE 1 1/2" x 1/2" x 10" (38mm x 38mm x 254mm) LONG STRAP ANCHOR AT 32" (812mm) O.C. WHERE MASONRY IS IN CONTACT WITH STRUCTURAL STEEL.
- ALL STEEL EXPOSED TO WEATHER SHALL BE GALVANIZED.
- PROVIDE 6" x 6" x 1/2" (152mm x 152mm x 9.5mm) ANGLE AT HOLLOWCORE OPENINGS TO ENSURE HOLLOWCORE BEARING IS PROVIDED.
- MISCELLANEOUS METALS INCLUDING BUT NOT LIMITED TO STEEL STAIRS, GUARDRAILS AND HANDRAILS ARE DESIGNED BY OTHERS. THE SUPPLIER SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL.
- STRUCTURAL STEEL SUPPLIER SHALL PROVIDE STAMPED SHOP DRAWINGS TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

MASONRY NOTES:

- MASONRY WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CSA-A165-STANDARDS FOR CONCRETE MASONRY UNITS.
- MASONRY WALLS SHALL BE BUILT WITH TYPE "S" MORTAR HAVING A MINIMUM STRENGTH OF 15MPa @ 28 DAYS. NON-LOAD BEARING WALLS MAY BE BUILT WITH TYPE "M" MORTAR.
- CONCRETE INFILL SHALL BE 20MPa @ 28 DAYS.
- ALL CONCRETE MASONRY SHALL BE STANDARD MASONRY UNITS WITH A MINIMUM STRENGTH OF 15MPa.
- TOP OF ALL MASONRY WALLS SHALL BE U-BLOCK. REINF: 1-10M CONTINUOUS, INFILL WITH 20MPa CONCRETE.
- INFILL BOTTOM 3 COURSES WITH 20MPa CONCRETE.
- DOWEL MASONRY WALLS TO CONCRETE FOUNDATION WITH 15m x 36" (914mm) LG. VERTICAL DOWELS TO MATCH VERTICAL WALL REINFORCING.
- CONTRACTOR IS RESPONSIBLE TO BRACE ALL WALLS UNTIL PERMANENT STRUCTURE AND BRACING IS IN PLACE.
- VERTICAL REINFORCING SHALL BE CONTINUOUS. LAP JOINTS 30 BAR DIAMETERS, MIN.
- CONCRETE MASONRY CORES SHALL BE PLACED IN LIFTS NOT EXCEEDING 8' (2440mm).
- PROVIDE 2-15M VERTICAL BARS AT EACH SIDE OF OPENINGS EXCEEDING 4" (1220mm) IN WIDTH. INFILL WITH CONCRETE.
- ALL MASONRY BELOW BASE PLATES SHALL HAVE MINIMUM 2-15M VERTICAL IN 2 VERTICAL CORES FILLED WITH 20MPa CONCRETE.
- PROVIDE 1 1/2" x 6" x 1/2" (38mm x 152mm x 3mm) STRAP ANCHORS @ 24" (610mm) O.C. VERTICALLY WHERE STEEL COLUMNS ARE WITHIN MASONRY WALLS.
- TYPICAL LITELS FOR OPENINGS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE STRUCTURAL DRAWINGS.

14.1. UP TO 4" (1220mm) IN WIDTH	8" (203mm) U-BLOCK, REINF: 1-15M CONT.
14.2. 4"-8" (1220mm - 2440mm) IN WIDTH	16" (406mm) U-BLOCK, REINF: 2-15M CONT.

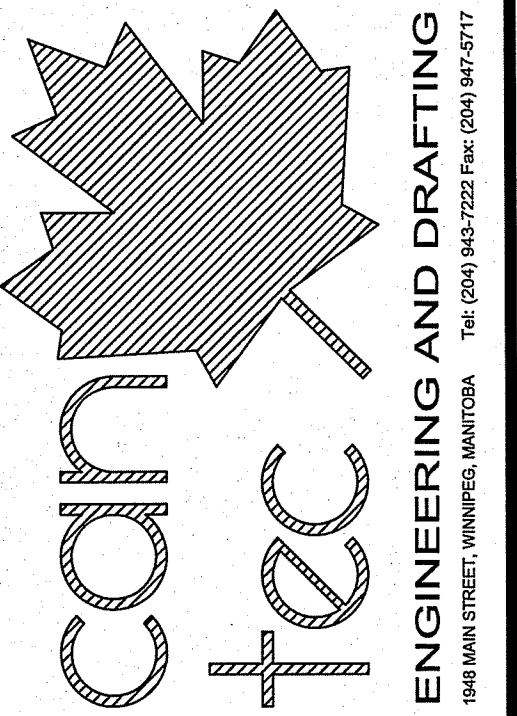
STRUCTURAL DRAWING LIST

S1.1	GENERAL NOTES & TYPICAL DETAILS
S2.1	FOUNDATION PLAN
S2.2	MAIN FLOOR FRAMING PLAN
S2.3	ROOF FRAMING PLAN
S2.4	CELL CEILING SLAB
S5.1	SECTIONS AND DETAILS
S5.2	SECTIONS AND DETAILS
S5.3	SECTIONS AND DETAILS
S6.1	GARAGE PLANS & SECTIONS

REQUIRED SHOP DRAWINGS LIST

- REINFORCING STEEL
- O.W.S.J. (FLOOR JOISTS)
- STRUCTURAL STEEL
- WOOD TRUSSES (ROOF TRUSSES)
- STEEL DECKING
- TIMBER FRAMING (FRONT ENTRY)

THIS DRAWING MUST NOT BE SCALED.
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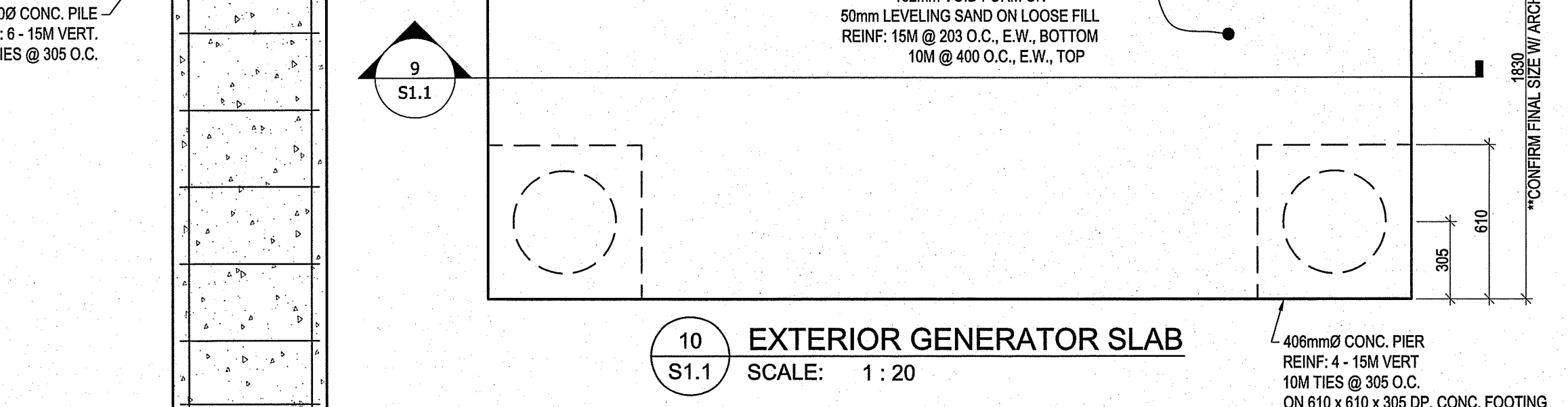
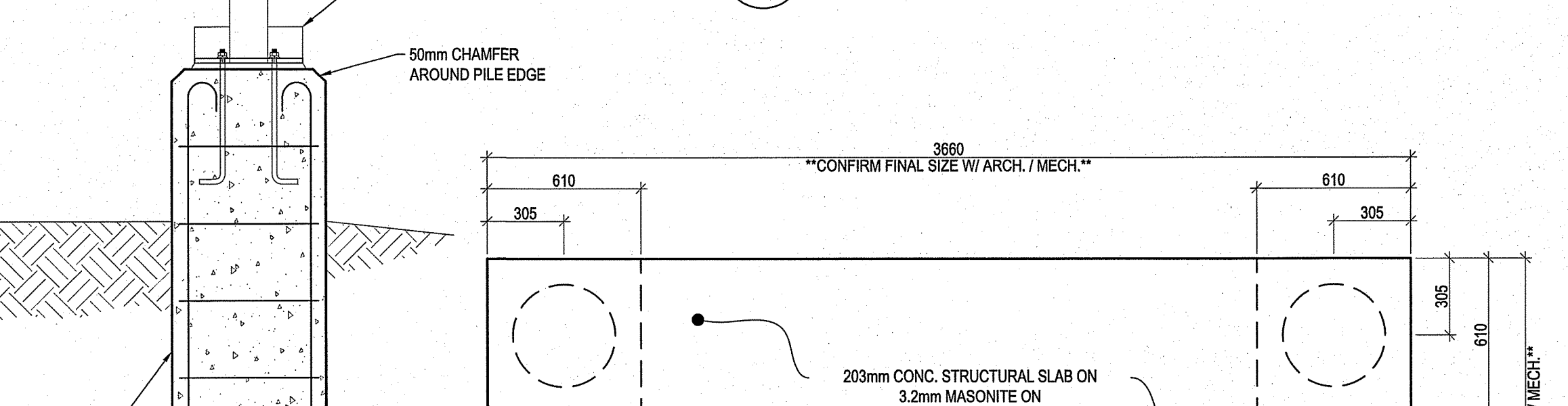
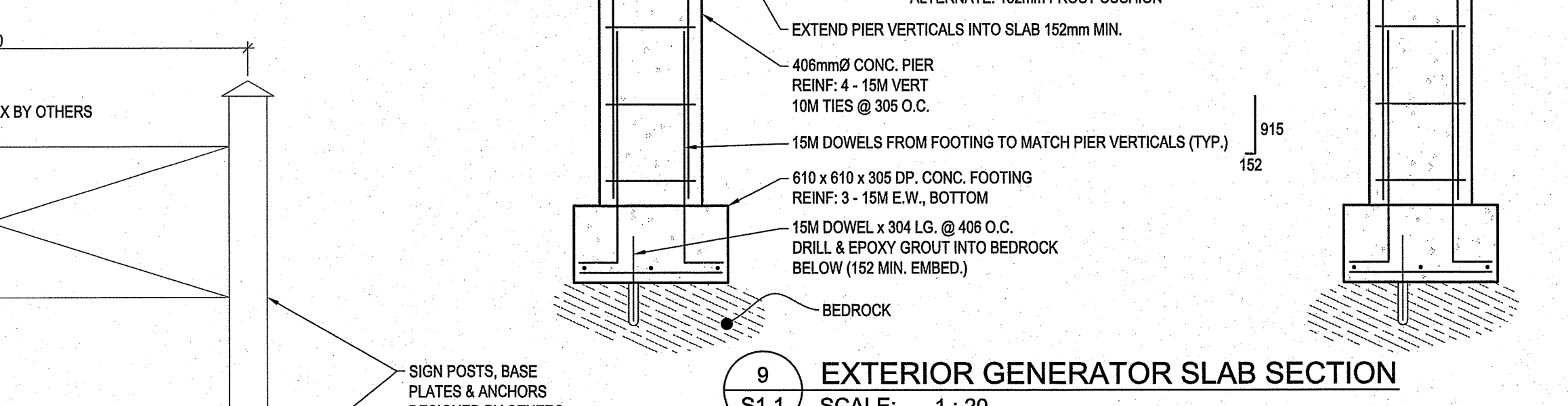
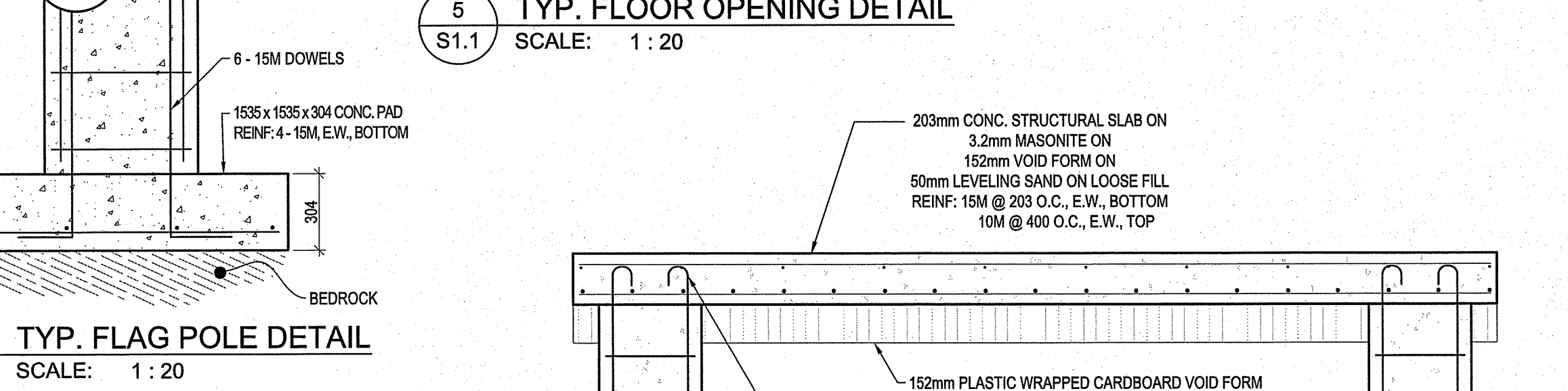
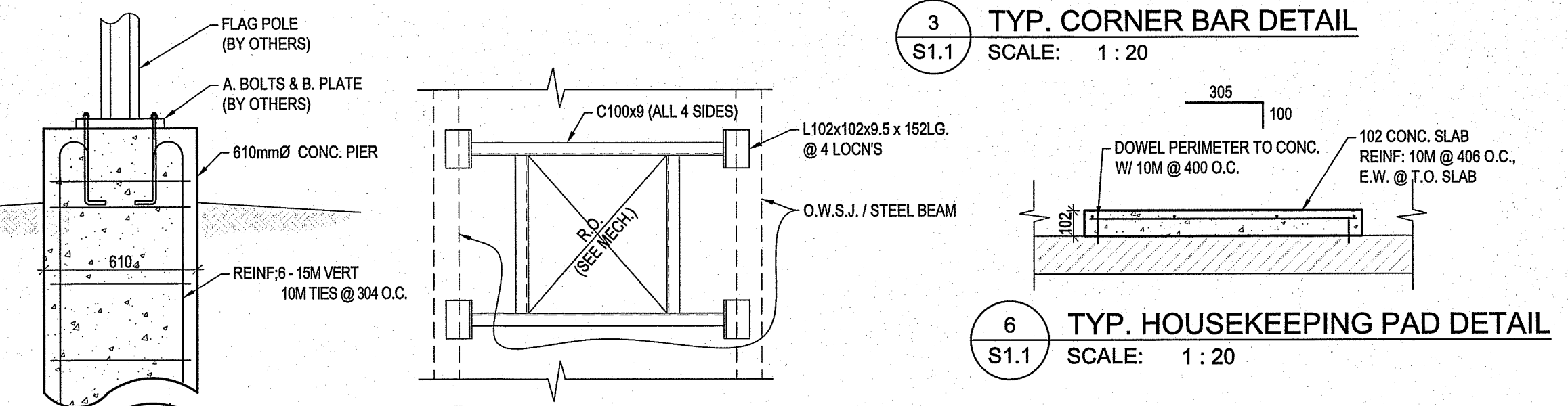
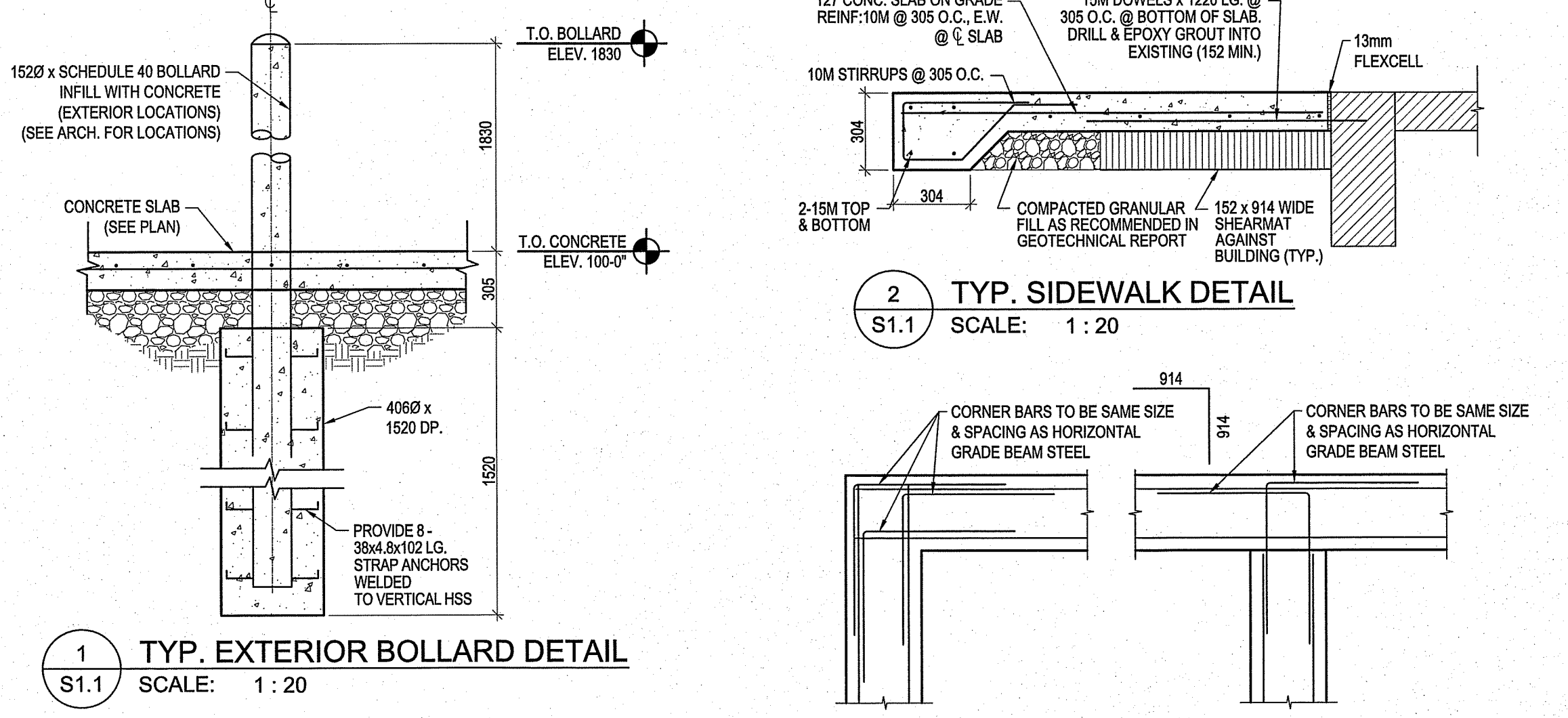
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ISSUED FOR TENDER 14/06/10
ISSUED FOR PERM. REVIEW 14/06/10
ISSUED FOR 90% REVIEW 14/06/10
ISSUED FOR 100% REVIEW 14/06/10
DATE (Y/M/D) 14/06/10
SCALE 1:20



APEGM
Certificate of Authorization
Beach Rocke Engineering Ltd.
No. 4050 Date: JUNE 10, 2014

PROJECT TITLE FACILITY BUILDING
SHEET TITLE GENERAL NOTES & TYP. DETAILS
DATE (Y/M/D) 14/06/10
SCALE AS NOTED
DRAWN BY SAS
CHECKED BY RH
LOCATION ISLAND LAKE, MANITOBA

TENDER
S1.1
REVISION #
JOB NO.
13-1399-CG-246



DESIGN IN ACCORDANCE WITH THE 2011 MANITOBA BUILDING CODE.

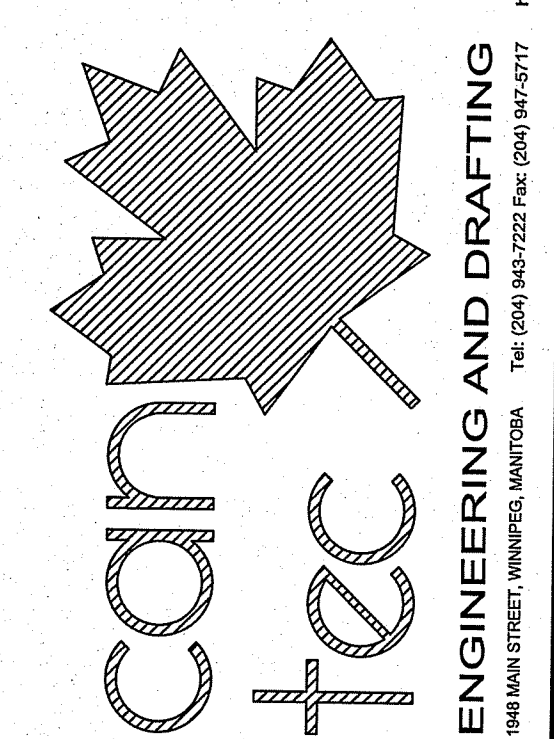
7 ANTENNA FDTN SCALE: 1:20

8 SIGN DETAIL SCALE: 1:20

9 S1.1

10 EXTERIOR GENERATOR SLAB SCALE: 1:20

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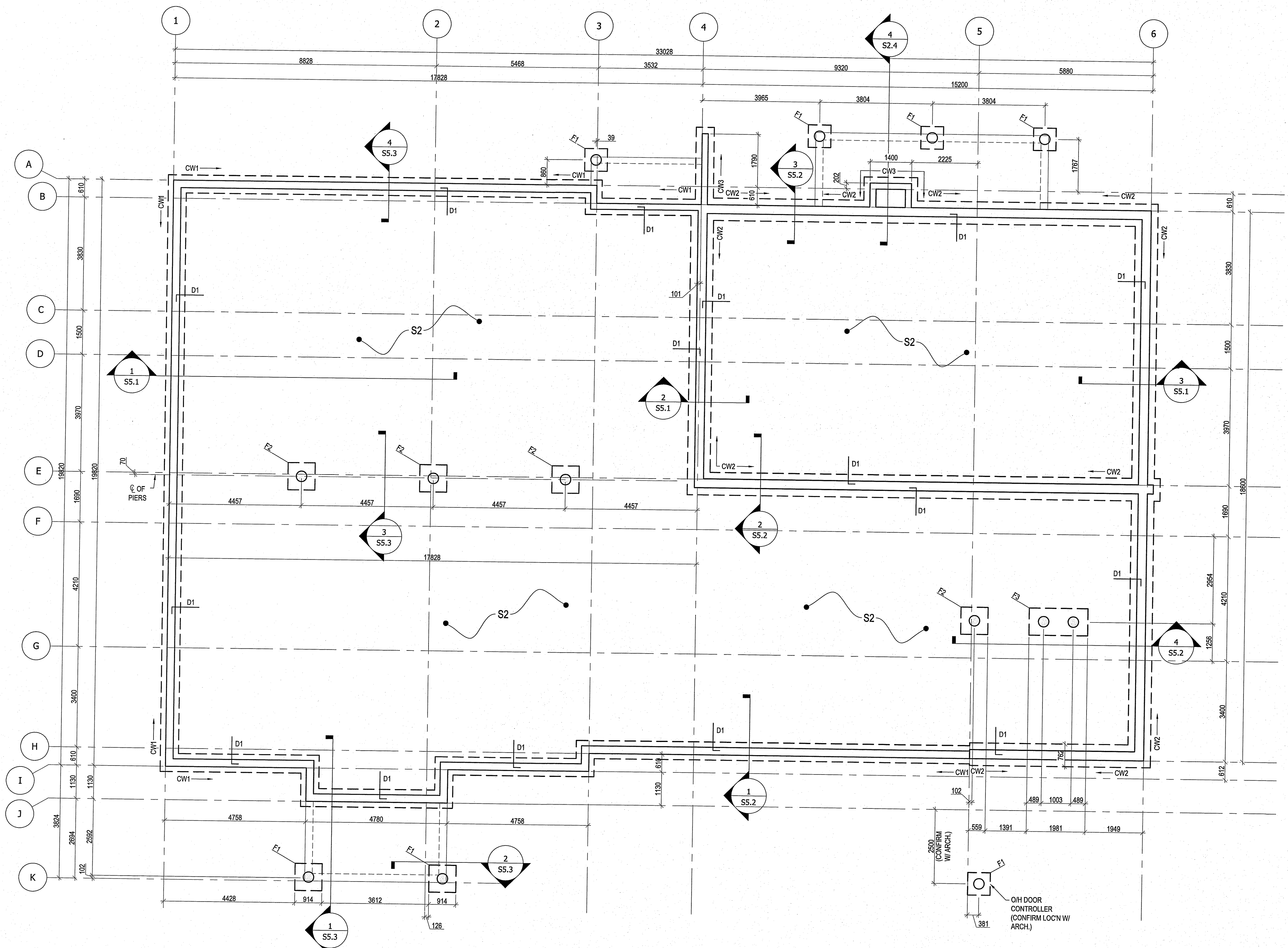


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 ISSUED FOR 90% REVIEW 11/01/10
 ISSUED FOR 95% REVIEW 11/01/10
 ISSUED FOR 99% REVIEW 11/01/10
 ISSUED FOR 100% REVIEW 11/01/10
 REVISION: 1
 SEAL: JUN 10 2014
 R.M. HUDON
 Member
 30094
 REGISTERED PROFESSIONAL ENGINEER

APEGM
 Certificate of Authorization
 Beach Rocke Engineering Ltd.
 No. 4050 Date: JUNE 10, 2014

PROJECT TITLE: **FACILITY BUILDING**
 SHEET TITLE: **FOUNDATION PLAN**
 DATE (YY/MM/DD): 14/06/10
 LOCATION: ISLAND LAKE, MANITOBA
 DRAWN BY: SAS
 CHECKED BY: RH
 SCALE: AS NOTED

TENDER
S2.1
 REVISION #:
 13-1399-CG-246



1 FOUNDATION PLAN
 SCALE: 1 : 75

FOOTING SCHEDULE

F1 - 762 x 762 x 254 DP.
 REINF: 3-15M E.W. BOTTOM

F2 - 914 x 914 x 305 DP.
 REINF: 4-15M E.W. BOTTOM

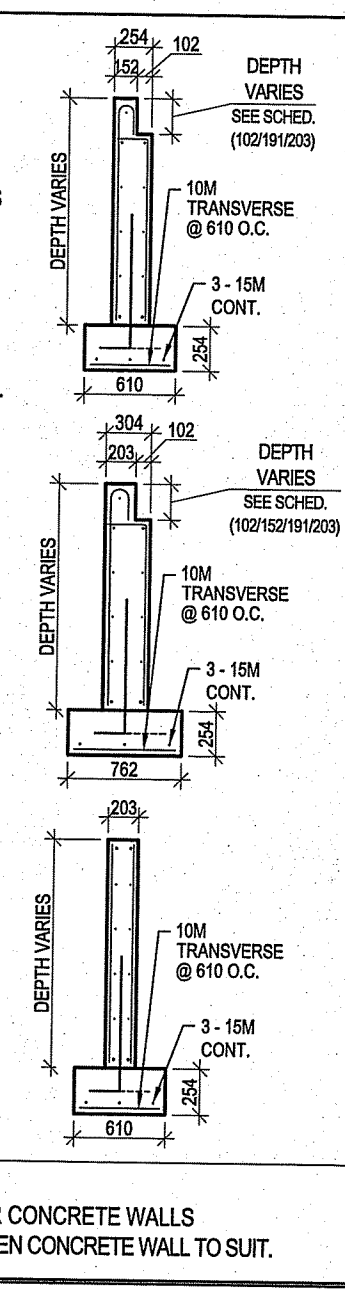
F3 - 1680 x 914 x 305 DP.
 REINF: 10-15M SHORT @ BOTTOM
 4-15M LONG @ BOTTOM

CONCRETE WALL SCHEDULE

CW1 -
 254mm WIDE CONCRETE WALL
 DEPTH VARIES (DETERMINED ON SITE DUE TO BEDROCK)
 CW CONCRETE UPSTAND - 152mm WIDE x VARYING DEPTHS
 REINF:
 1- 15M @ UPSTAND
 2- 15M TOP & BOTTOM
 10M HORIZ. BARS, E.F. @ 304 O.C.
 15M VERT @ 304 O.C. I.F.
 15M VERT @ 406 O.C. O.F.
 CW 15M x 1220 DOWELS W 203 LEG ALTERNATING @ 406 O.C.

CW2 -
 304mm WIDE CONCRETE WALL
 DEPTH VARIES (DETERMINED ON SITE DUE TO BEDROCK)
 CW CONCRETE UPSTAND - 203mm WIDE x VARYING DEPTHS
 REINF:
 1- 15M @ UPSTAND
 2- 15M TOP & BOTTOM
 10M HORIZ. BARS, E.F. @ 304 O.C.
 15M VERT @ 304 O.C. I.F.
 15M VERT @ 406 O.C. O.F.
 CW 15M x 1220 DOWELS W 203 LEG ALTERNATING @ 406 O.C.

CW3 -
 203mm WIDE CONCRETE WALL
 DEPTH VARIES (DETERMINED ON SITE DUE TO BEDROCK)
 REINF:
 2- 15M TOP & BOTTOM
 10M HORIZ. BARS, E.F. @ 304 O.C.
 15M VERT @ 304 O.C. I.F.
 15M VERT @ 406 O.C. O.F.
 CW 15M x 1220 DOWELS W 203 LEG ALTERNATING @ 406 O.C.



SLAB SCHEDULE

S1 - 152mm SUSPENDED CONCRETE STRUCTURAL SLAB
 REINF: 15M @ 304 O.C. E.W. @ BOTTOM OF SLAB

S2 - 102mm CONCRETE SLAB ON GRADE ON 6 MIL POLY V.B. ON 152mm LIFTS OF COMPACTED GRANULAR BASE AS RECOMMENDED BY GEO-TECH REPORT
 REINF: 10M @ 406 O.C. E.W. @ TOP OF SLAB

S3 - 152mm CONCRETE STRUCTURAL SLAB ON 152mm VOID FORM ON 6 MIL POLY V.B. ON 3.2mm MASONITE ON 50mm LEVELING SAND ON LOOSE FILL
 REINF: 15M @ 305 O.C. E.W. @ BOTTOM OF SLAB

S4 - 152mm CONCRETE SLAB ON GRADE ON 6 MIL POLY V.B. ON 152mm LIFTS OF COMPACTED GRANULAR BASE AS RECOMMENDED BY GEO-TECH REPORT
 REINF: 10M @ 305 O.C. E.W. @ C. OF SLAB

S5 - 152mm CONCRETE SLAB ON 38mm x 180A COMPOSITE STEEL FLOOR DECK
 REINF: 10M @ 305 O.C. E.W. BOTTOM OF SLAB
 152x152x10/10 W.W.M. TOP

DOWEL SCHEDULE

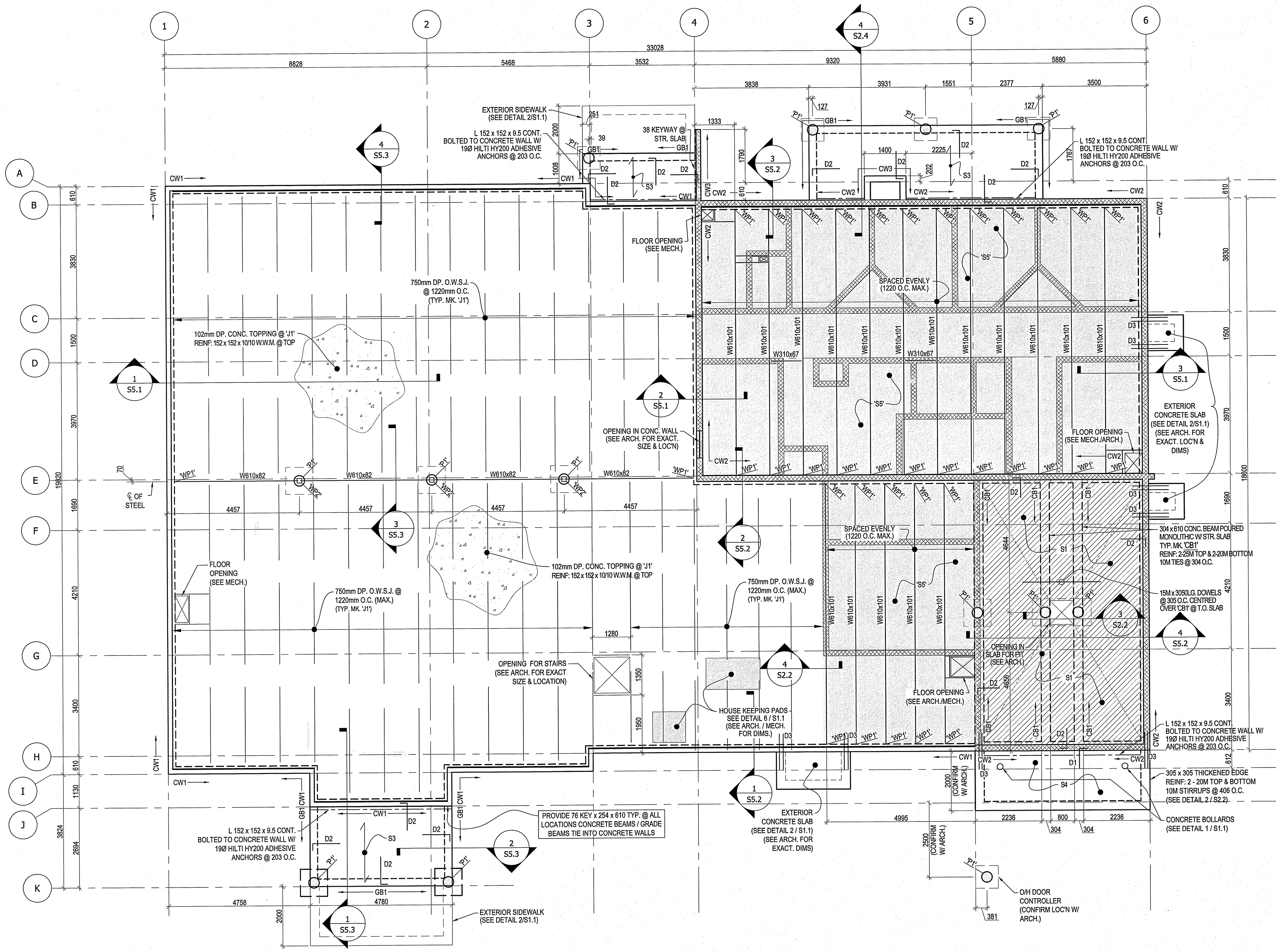
D1 - 10M DOWELS @ 406 O.C. @ C. OF SLAB 152 915

D2 - 10M DOWELS @ 406 O.C. @ TOP OF SLAB 152 915

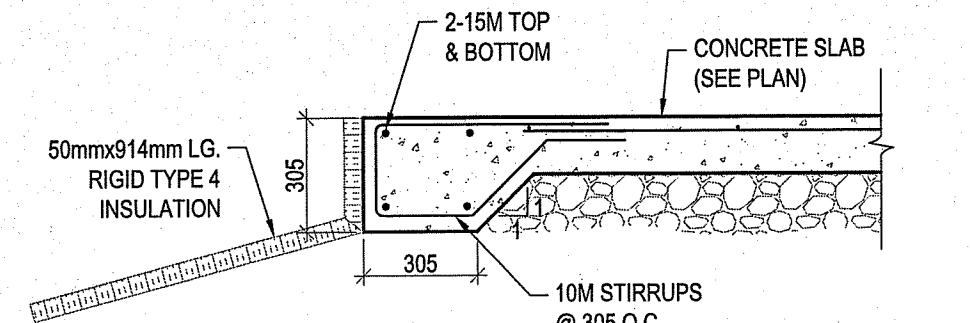
D3 - 2-20M TOP & BOTTOM 1220

D4 - 15M DOWELS x 450 LG @ 406 O.C. FROM STRIP FOOTING INTO BEDROCK DRILL & EPOXY GROUT INTO BEDROCK BELOW (34 MIN. EMBED. MIN. 4 DOWELS @ PER FOOTINGS) 450

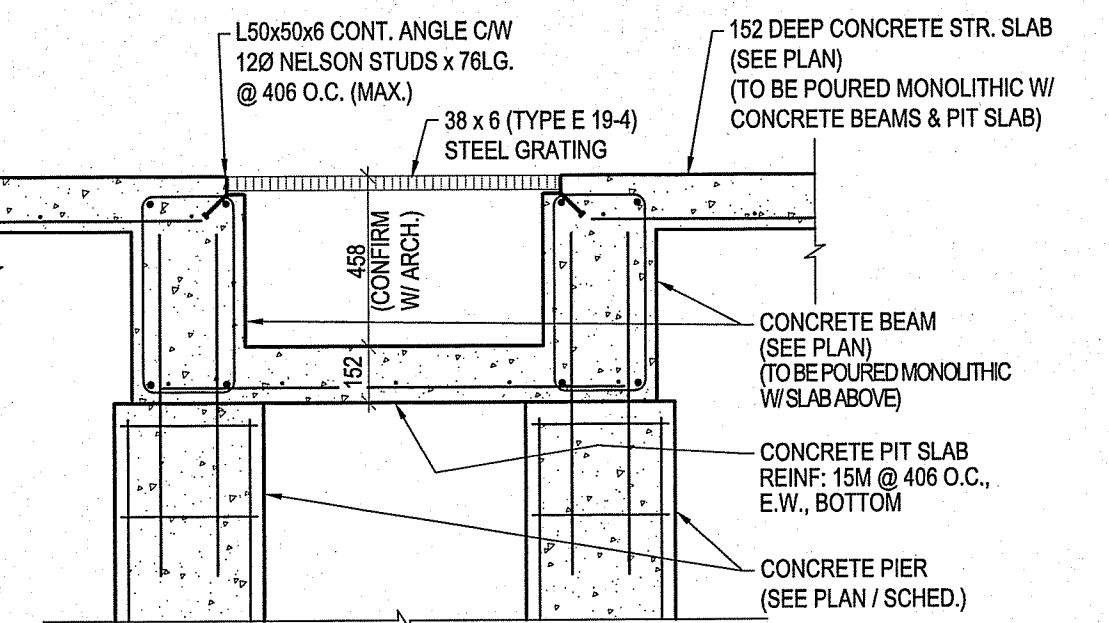
D5 - 15M DOWELS x 1800 @ 305 O.C. @ I.O. SLAB CENTRED OVER INTERIOR BLOCK WALLS 1800



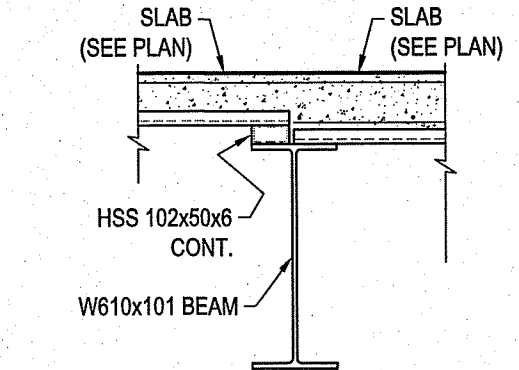
1
S2.2
MAIN FLOOR FRAMING PLAN
SCALE: 1 : 75
DESIGN LOADS:
LIVE LOAD = 4.8 kPa
DEAD LOAD = 3.83 kPa (OFFICE AREA)
= 5 kPa + WT. OF CEILING SLAB AS SHOWN ON S2.4 (SHADED AREA)



2
S2.2
TYP. THICKENED EDGE - EXTERIOR
SCALE: 1 : 20



3
S2.2
PIT DETAIL
SCALE: 1 : 20



4
S2.2
DETAIL
SCALE: 1 : 20

CONCRETE WALL SCHEDULE

CW1' - 254mm WIDE CONCRETE WALL
DEPTH VARIES (DETERMINED ON-SITE DUE TO BEDROCK)
CW CONCRETE UPSTAND - 152mm WIDE x VARYING DEPTHS
REIN: 1-15M @ UPSTAND
2-15M TOP & BOTTOM
10M HORIZ. BARS, E.F. @ 304 O.C.
15M VERT @ 304 O.C. I.F.
15M VERT @ 406 O.C. O.F.
CW 15M x 1220 DOWELS W/ 203 LEG ALTERNATING @ 406 O.C.

CW2' - 304mm WIDE CONCRETE WALL
DEPTH VARIES (DETERMINED ON-SITE DUE TO BEDROCK)
CW CONCRETE UPSTAND - 203mm WIDE x VARYING DEPTHS
REIN: 1-15M @ UPSTAND
2-15M TOP & BOTTOM
10M HORIZ. BARS, E.F. @ 304 O.C.
15M VERT @ 304 O.C. I.F.
15M VERT @ 406 O.C. O.F.
CW 15M x 1220 DOWELS W/ 203 LEG ALTERNATING @ 406 O.C.

CW3' - 203mm WIDE CONCRETE WALL
DEPTH VARIES (DETERMINED ON-SITE DUE TO BEDROCK)
REIN: 2-15M TOP & BOTTOM
10M HORIZ. BARS, E.F. @ 304 O.C.
15M VERT @ 304 O.C. I.F.
15M VERT @ 406 O.C. O.F.
CW 15M x 1220 DOWELS W/ 203 LEG ALTERNATING @ 406 O.C.

CONCRETE GRADE BEAM SCHEDULE

GB1' - 254mm x 610mm CONCRETE GRADE BEAM
CW 38 KEYWAY @ STRUCTURAL SLAB LOCNS
REIN: 2-20M TOP & BOTTOM
10M STIRRUPS @ 305mm O.C. 152 PLASTIC WRAPPED CHAIRS/GRID VOID FORM

WELD PLATE SCHEDULE

WP1' - 610 x 254 x 19 PLATE
CW 4 - 190 NELSON STUDS W/ 203 EMBEDMENT MIN.

WP2' - 304 x 254 x 19 PLATE
CW 4 - 190 NELSON STUDS W/ 152 EMBEDMENT MIN.

SLAB SCHEDULE

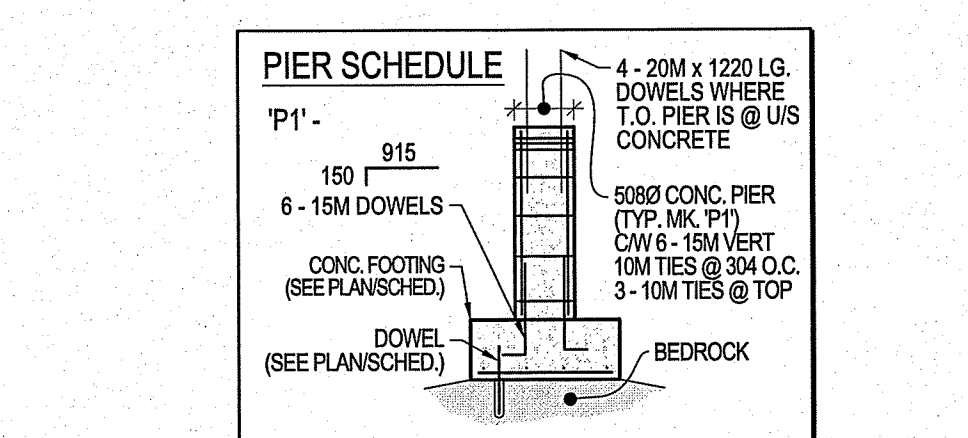
S1' - 152mm SUSPENDED CONCRETE STRUCTURAL SLAB
REIN: 15M @ 304 O.C. E.W., @ BOTTOM OF SLAB

S2' - 102mm CONCRETE SLAB ON GRADE ON 6 MIL POLY V.B. ON 152mm LIFTS OF COMPACTED GRANULAR BASE AS RECOMMENDED BY GEO-TECH. REPORT
REIN: 10M @ 406 O.C., E.W., @ TOP OF SLAB

S3' - 152mm CONCRETE STRUCTURAL SLAB ON 152mm VOID FORM ON 6 MIL POLY V.B. ON 32mm MASONITE ON 50mm LEVELING SAND ON LOOSE FILL
REIN: 15M @ 305 O.C., E.W., @ BOTTOM OF SLAB

S4' - 152mm CONCRETE SLAB ON GRADE ON 6 MIL POLY V.B. ON 152mm LIFTS OF COMPACTED GRANULAR BASE AS RECOMMENDED BY GEO-TECH. REPORT
REIN: 10M @ 305 O.C., E.W., @ TOP OF SLAB

S5' - 152mm CONCRETE SLAB ON 38mm x 180A COMPOSITE STEEL FLOOR DECK
REIN: 10M @ 305 O.C. E.W., BOTTOM OF SLAB
152x50x10 W.W.M. TOP



DOWEL SCHEDULE

D1' - 10M DOWELS @ 406 O.C. @ TOP OF SLAB 152

D2' - 10M DOWELS @ 406 O.C. @ TOP OF SLAB 152

D3' - 2-20M TOP & BOTTOM 1220

D4' - 15M DOWELS x 450 LG @ 406 O.C. FROM STRIP FOOTING INTO BEDROCK DRILL & EPOXY GROUT INTO BEDROCK BELOW COLUMN EMBED. MIN. 4 DOWELS @ PIER FOOTINGS 450

D5' - 15M DOWELS x 1800 @ 306 O.C. @ T.O. SLAB CENTRED OVER INTERIOR BLOCK WALLS 1800

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ISSUED FOR 90% REVIEW 14/06/10
ISSUED FOR 60% REVIEW 14/06/10
ISSUED FOR 30% REVIEW 14/06/10

SEAL OF THE PROVINCE OF MANITOBA
JUNE 10, 2014
R.M. HUDON
Member
300hrs
REGISTERED PROFESSIONAL ENGINEER

AFPM
Certificate of Authorization
Beach Rocke Engineering Ltd.
No. 4050 Date: JUNE 10, 2014

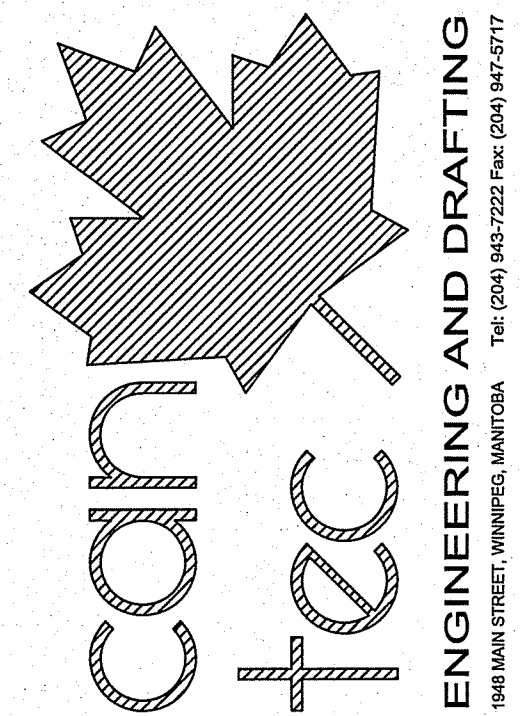
FACILITY BUILDING
MAIN FLOOR FRAMING PLAN

PROJECT TITLE
SHEET TITLE
DATE (Y/M/D)
SCALE
DRAWN BY
CHECKED BY
LOCATION

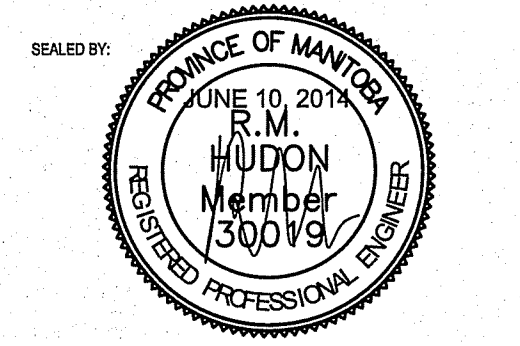
SAS
RH
AS NOTED
14/06/10
ISLAND LAKE, MANITOBA

TECHER S2.2
REVISION #:
JOB NO.
13-1399-CG-246

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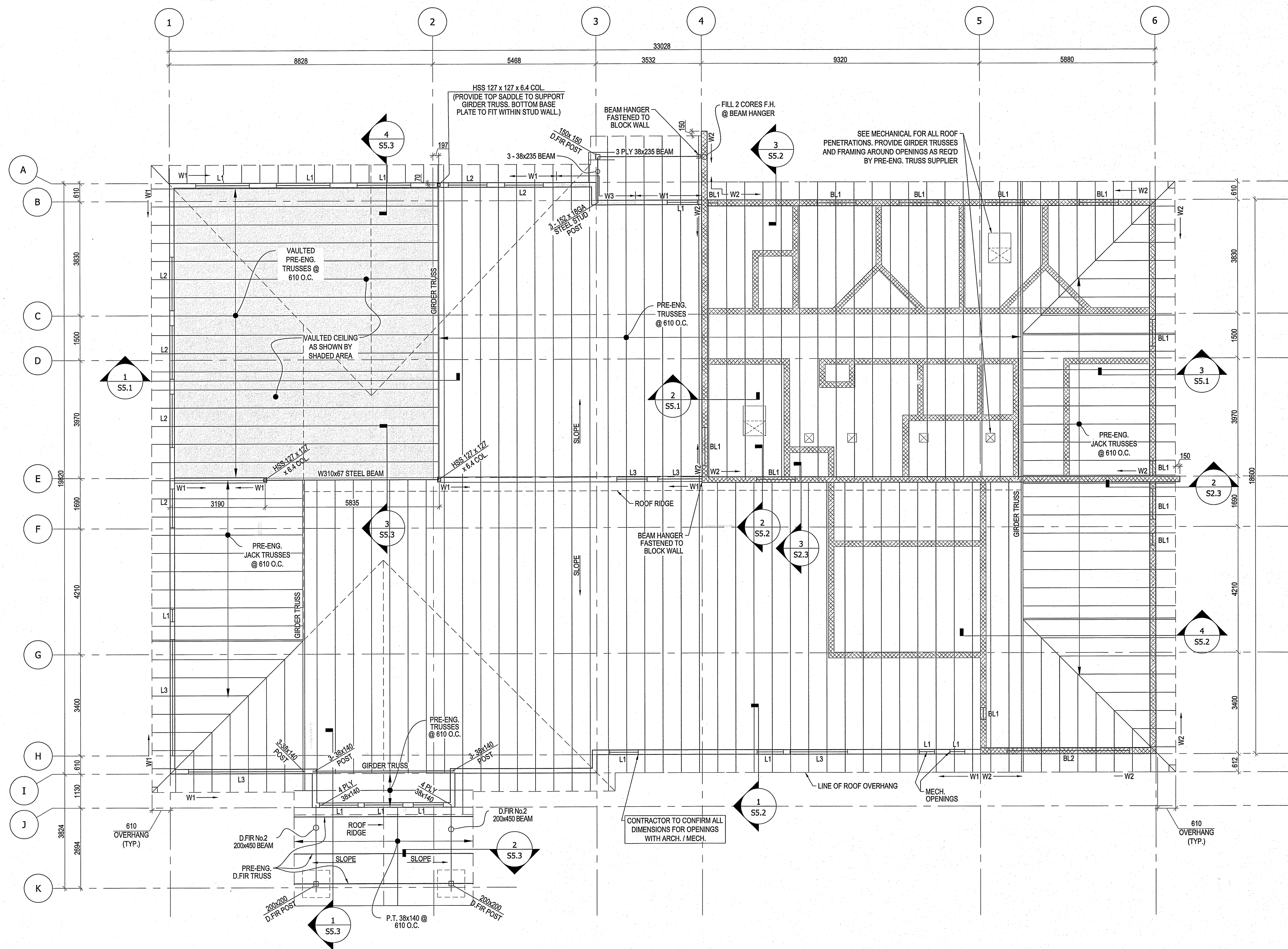
Beach Rocke
 ENGINEERING LTD.
 Professional Engineering Services
 1925 St. Johns Street, Suite 200
 Telephone: (509) 726-1261 Fax: (509) 727-2228
 1988 MAIN STREET, WINNIPEG, MANITOBA Tel: (204) 942-7222 Fax: (204) 947-5717



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 Beach Rocke Engineering Ltd.
 No. 4050 Date: JUNE 10, 2014

PROJECT TITLE: FACILITY BUILDING
 SHEET TITLE: ROOF FRAMING PLAN
 DRAWN BY: SAS
 DATE (BY MECH): 14 / 06 / 10
 SCALE: AS NOTED
 LOCATION: ISLAND LAKE, MANITOBA

TENDER
S2.3
 REVISION #:
 JOB NO.
 13-1399-CG-246



1
S2.3
ROOF FRAMING PLAN
 SCALE: 1 : 75
 DESIGN LOADS:
 LIVE LOAD = 2.85 kPa
 DEAD LOAD = 0.78 kPa

LINTEL SCHEDULE

- L1' - 2 PLY 38 x 235 CW
2 CRIPPLE, 2 KING
- L2' - 3 PLY 38 x 235 CW
2 CRIPPLE, 2 KING
- L3' - 3 PLY 38 x 286 CW
2 CRIPPLE, 2 KING

BLOCK LINTEL SCHEDULE

'BL1'

- 190 x 390, 2 COURSE U-BLOCK CONCRETE LINTEL
- REINF: 1-15M BOTTOM, EXTEND PAST OPENING 408 E.S. PROVIDE 1-15M FULL HEIGHT VERTICAL E.S. OPENING.

'BL2'

- 190 x 610, 3 COURSE U-BLOCK CONCRETE LINTEL
- REINF: 1-25M TOP & BOTTOM, EXTEND PAST OPENING 408 E.S. PROVIDE 1-15M FULL HEIGHT VERTICAL E.S. OPENING.

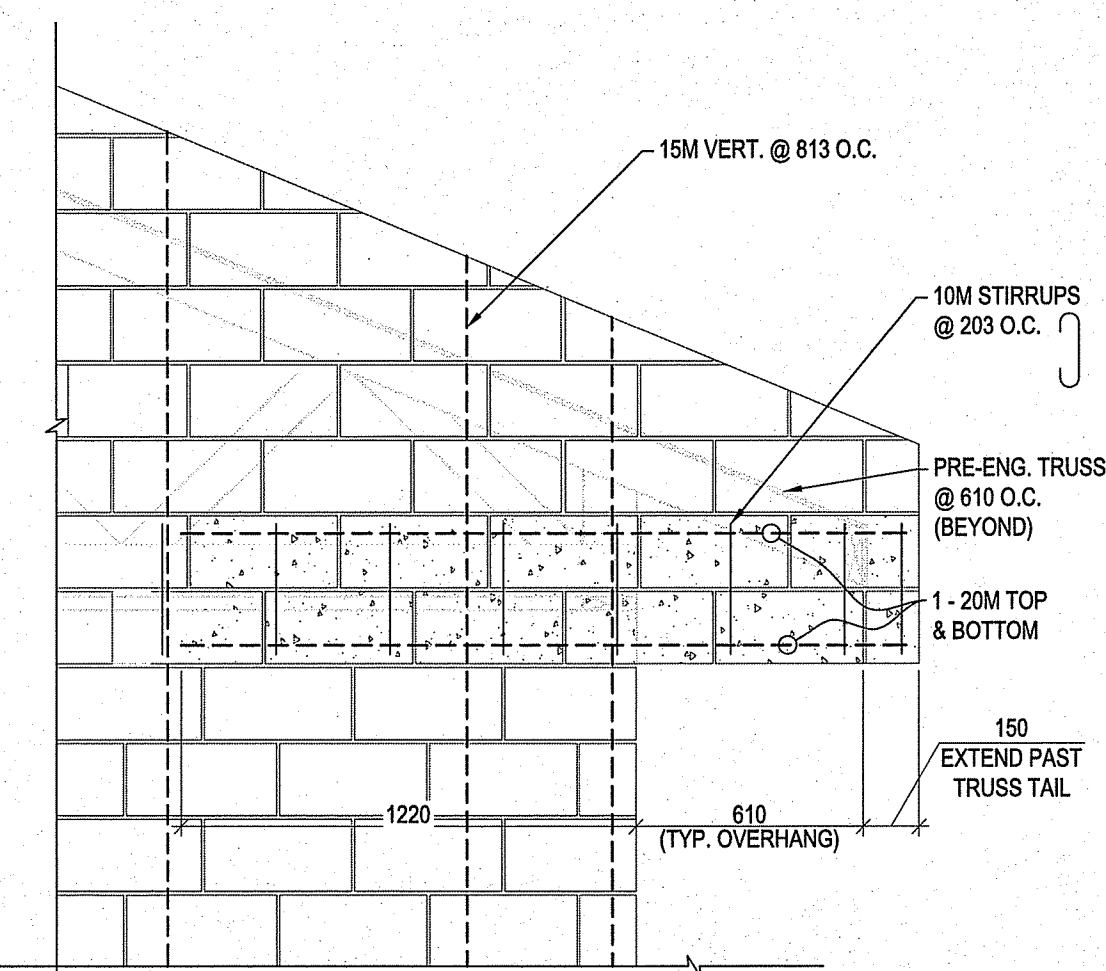
SECTION PLAN SECTION PLAN

WALL SCHEDULE

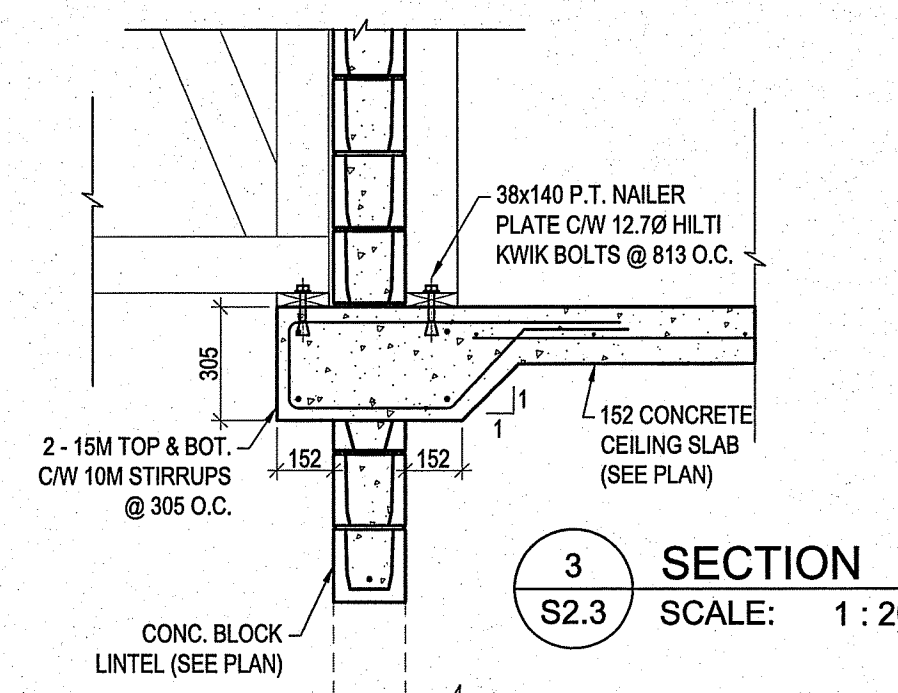
W1' - 38 x 140 @ 406 O.C. (SPF No.12) CW
12.7 OSB PLYWOOD W/ 64mm NAILS SPACED @ 70 O.C. ALONG PANEL EDGES & 305 O.C. @ INTERMEDIATE STUDS.

W2' - 190 CONCRETE MASONRY BLOCK WALL
REINF: 15M @ 813 O.C. VERT. FULL CORE FULL HEIGHT WITH 20MPa CONCRETE WHERE REINFORCING STEEL IS PRESENT.

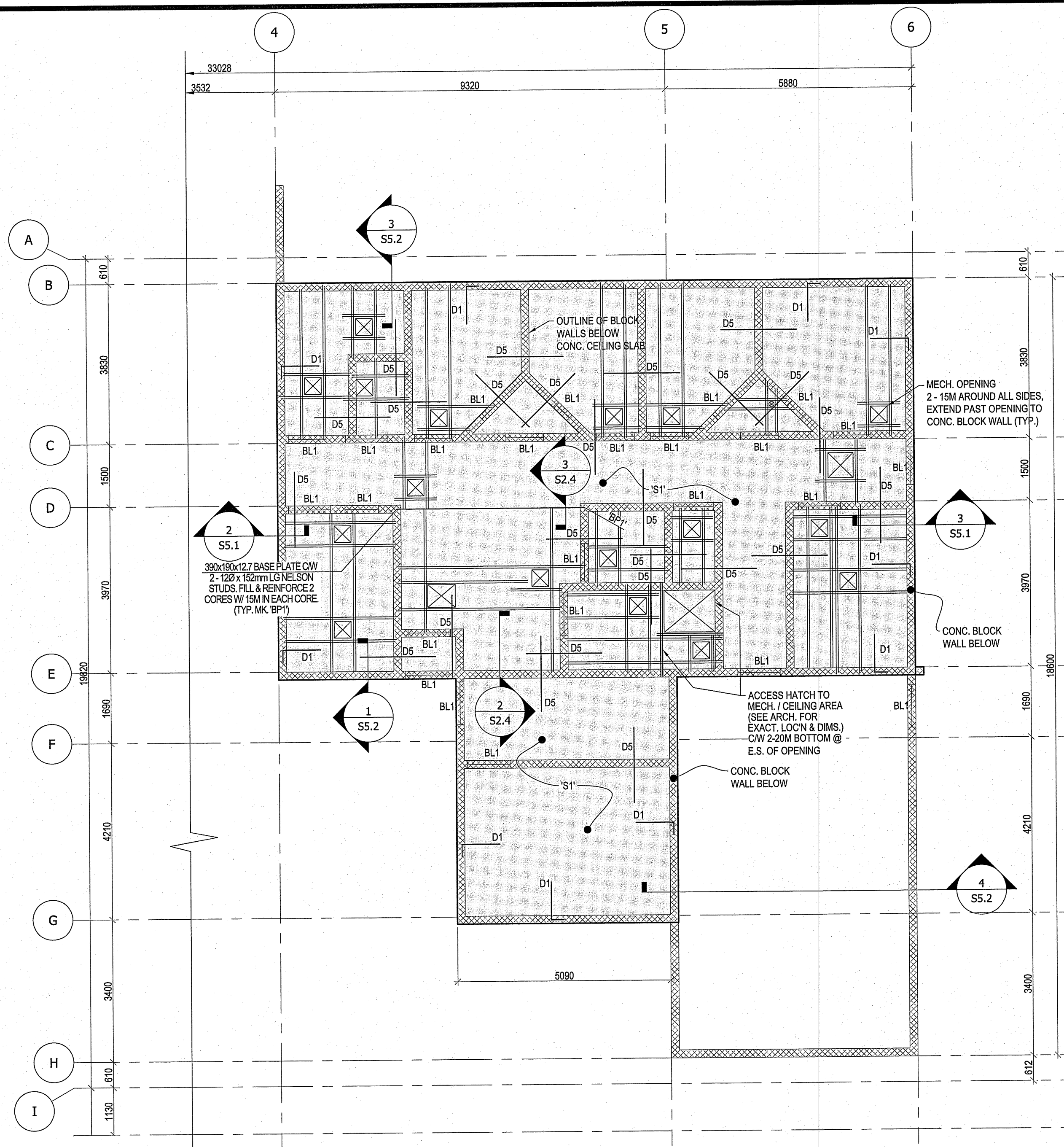
W3' - 152 x 182 STEEL STUD WALL @ 305 O.C. CW 14 GA SHEET METAL SPOT WELDED TO FACE OF STEEL STUD W/ 190 WELD @ 152 O.C. (@ EQUIPMENT ROOM ONLY)



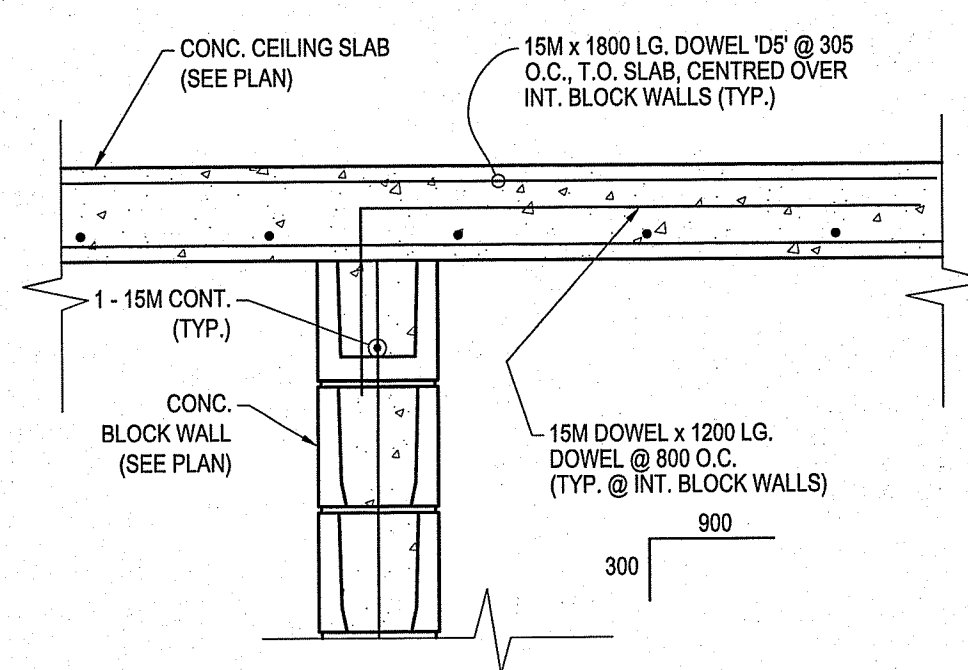
2
S2.3
TYP. FIREWALL OVERHANG
 SCALE: 1 : 20



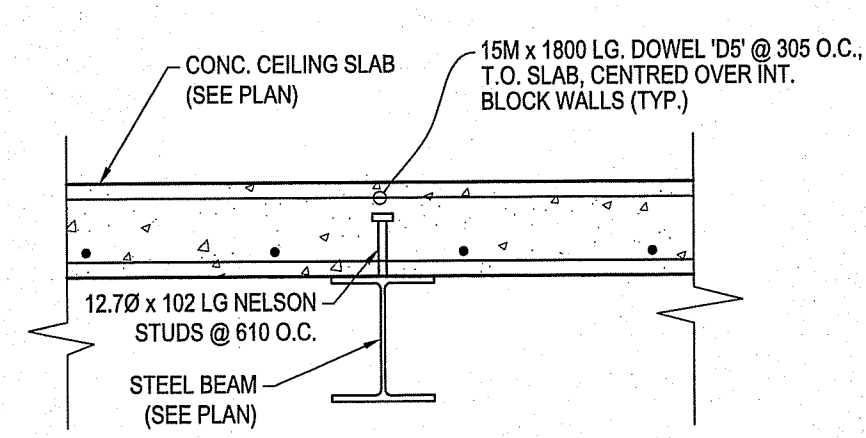
3
S2.3
SECTION
 SCALE: 1 : 20



1 CELL CEILING SLAB PLAN
 SCALE: 1:75
 DESIGN LOADS:
 LIVE LOAD = 3.6 kPa (MECH. ROOM)
 DEAD LOAD = 3.59 kPa



2 TYP. REINF. @ INT. BLOCK WALLS
 SCALE: 1:12



3 SECTION
 SCALE: 1:12

SLAB SCHEDULE

- 'S1' - 152mm SUSPENDED CONCRETE STRUCTURAL SLAB
 REINF: 15M @ 304 O.C., E.W., @ BOTTOM OF SLAB
- 'S2' - 102mm CONCRETE SLAB ON GRADE ON
 6 MIL POLY V.B. ON
 152mm LIFTS OF COMPACTED GRANULAR BASE AS
 RECOMMENDED BY GEO-TECH. REPORT
 REINF: 10M @ 408 O.C., E.W., @ TOP OF SLAB
- 'S3' - 152mm CONCRETE STRUCTURAL SLAB ON
 152mm VOID FORM ON
 6 MIL POLY V.B. ON
 3.2mm MASSONITE ON
 50mm LEVELING SAND ON
 LOOSE FILL
 REINF: 15M @ 305 O.C., E.W., @ BOTTOM OF SLAB
- 'S4' - 152mm CONCRETE SLAB ON GRADE ON
 6 MIL POLY V.B. ON
 152mm LIFTS OF COMPACTED GRANULAR BASE AS
 RECOMMENDED BY GEO-TECH. REPORT
 REINF: 10M @ 305 O.C., E.W., @ 1/2 OF SLAB
- 'S5' - 152mm CONCRETE SLAB ON
 38mm x 18GA COMPOSITE STEEL FLOOR DECK
 REINF: 10M @ 305 O.C., E.W., BOTTOM OF SLAB
 152x152x10 W.W.M. TOP

DOWEL SCHEDULE

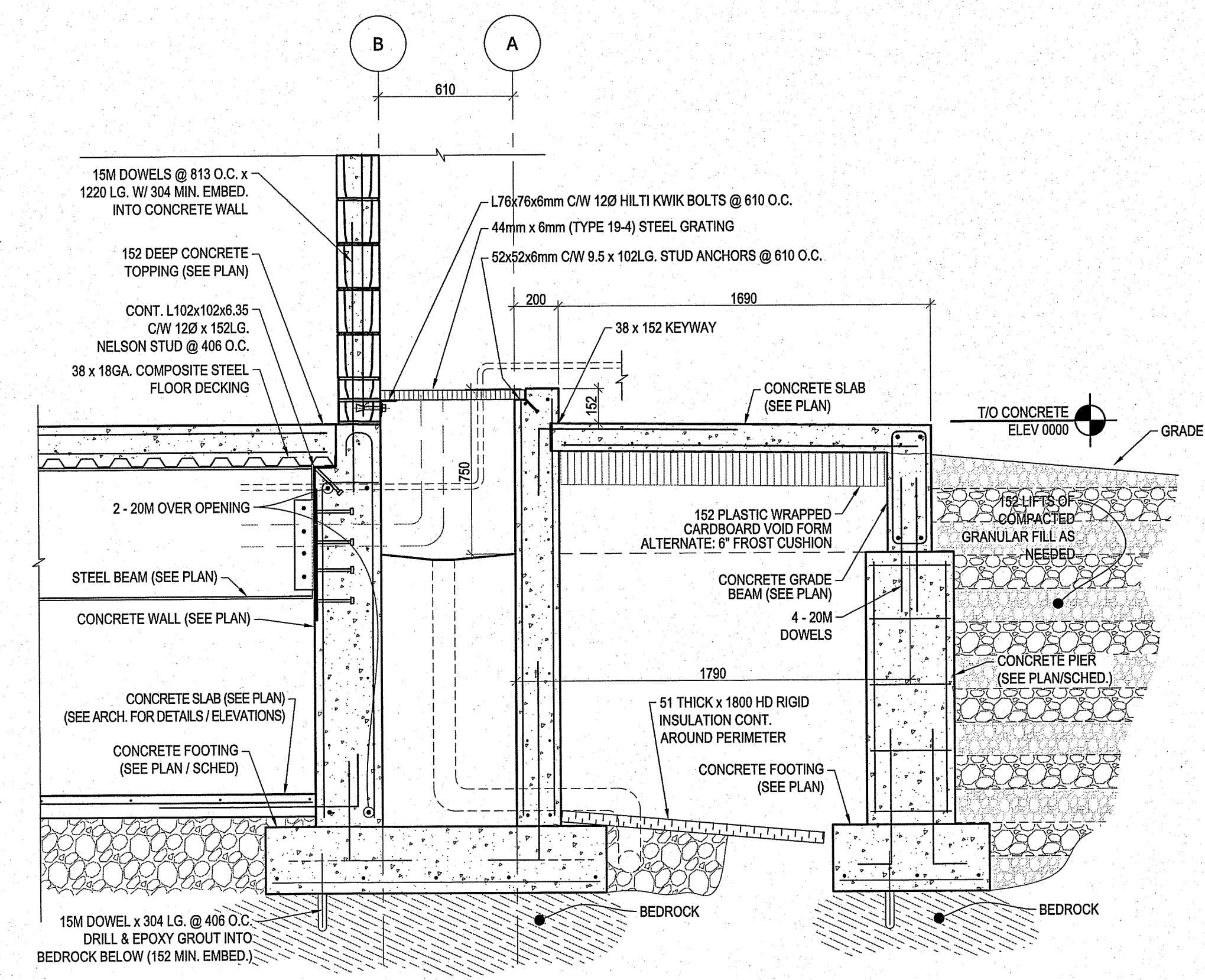
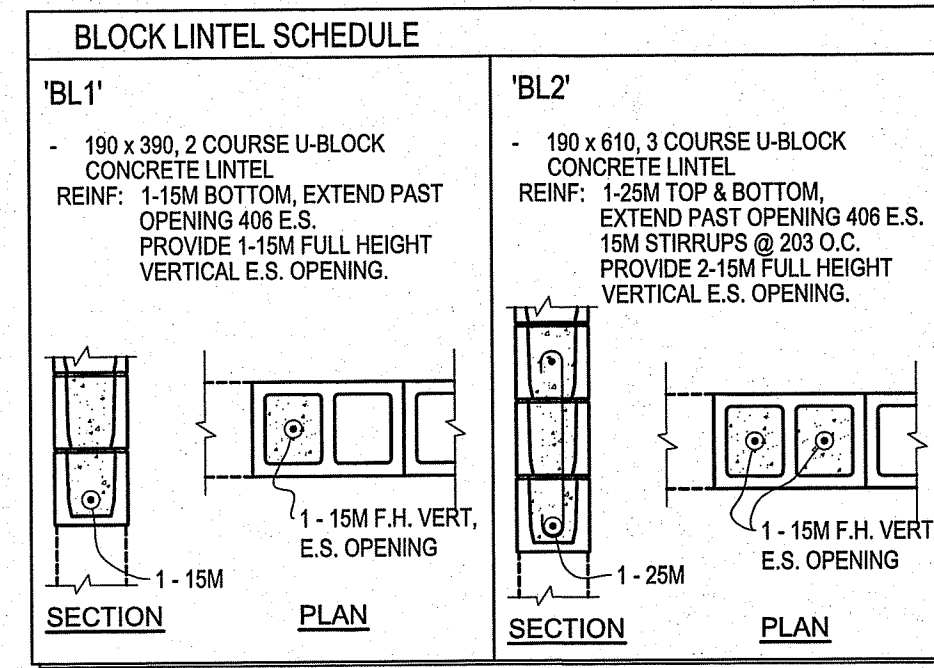
- 'D1' - 10M DOWELS @ 408 O.C.
 @ 1/2 OF SLAB 152 | 915
- 'D2' - 10M DOWELS @ 408 O.C.
 @ TOP OF SLAB 152 | 915
- 'D3' - 2-20M TOP & BOTTOM 1220
- 'D4' - 15M DOWELS x 450 LG @ 408 O.C.
 FROM STRIP FOOTING INTO BEDROCK
 DRILL & EPOXY GROUT INTO BEDROCK BELOW
 304 MIN EMBED. MIN 4 DOWELS @ PIER
 FOOTINGS 450
- 'D5' - 15M DOWELS x 1800 @ 305 O.C.
 @ T.O. SLAB CENTRED OVER
 INTERIOR BLOCK WALLS 1800

WALL SCHEDULE

- 'W1' - 38 x 140 @ 408 O.C. (SPF No.12) CW
 12.7 OSB FLYWOOD W/ 64mm NAILS SPACED
 @ 76 O.C. ALONG PANEL EDGES & 305 O.C.
 @ INTERMEDIATE STUDS.
- 'W2' - 190 CONCRETE MASONRY BLOCK WALL
 REINF: 15M @ 813 O.C. VERT.
 - FILL CORE FULL HEIGHT WITH 20MPa CONCRETE WHERE
 REINFORCING STEEL IS PRESENT.
- 'W3' - 152 x 16GA STEEL STUD WALL @ 305 O.C.
 CW 14 GA. SHEET METAL SPOT WELDED TO FACE OF
 STEEL STUD W/ 180 WELD @ 152 O.C.
 (@ EQUIPMENT ROOM ONLY)

LINTEL SCHEDULE

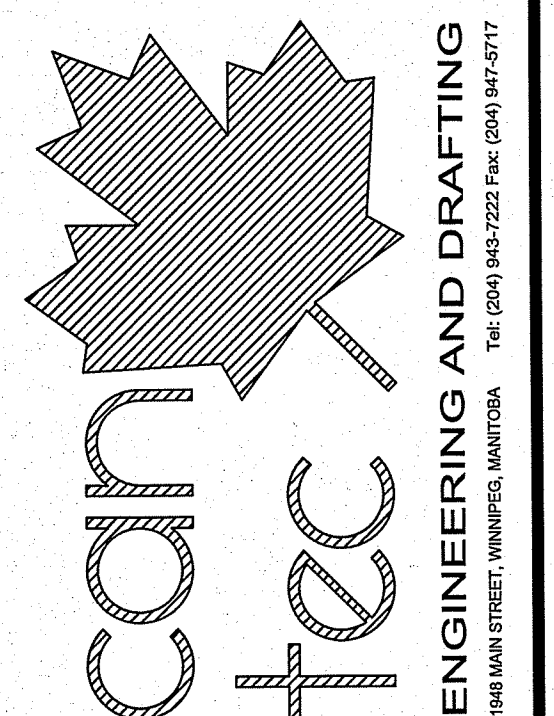
- 'L1' - 2 PLY 38 x 235 CW
 2 CRIPPLE, 2 KING
- 'L2' - 3 PLY 38 x 235 CW
 2 CRIPPLE, 2 KING
- 'L3' - 3 PLY 38 x 288 CW
 2 CRIPPLE, 2 KING



4 TYP. AIR WELL DETAIL
 SCALE: 1:20

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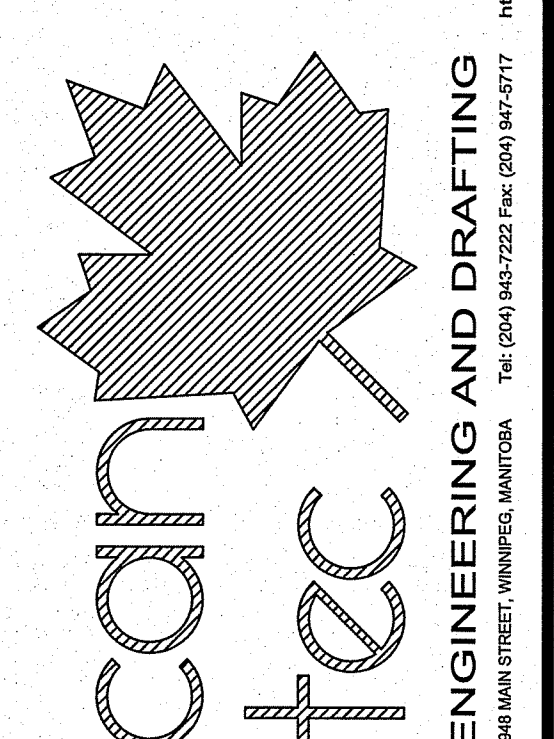


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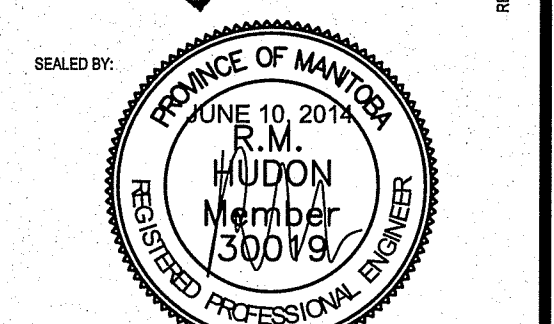
PROJECT TITLE: **FACILITY BUILDING**
 SHEET TITLE: **CELL CEILING PLAN & GARAGE PLANS**
 DATE (Y/M/D): 14 / 06 / 10
 SCALE: AS NOTED
 LOCATION: ISLAND LAKE, MANITOBA

TENDER
S2.4
 REVISION #:
 JOB NO.: 13-1399-CG-246

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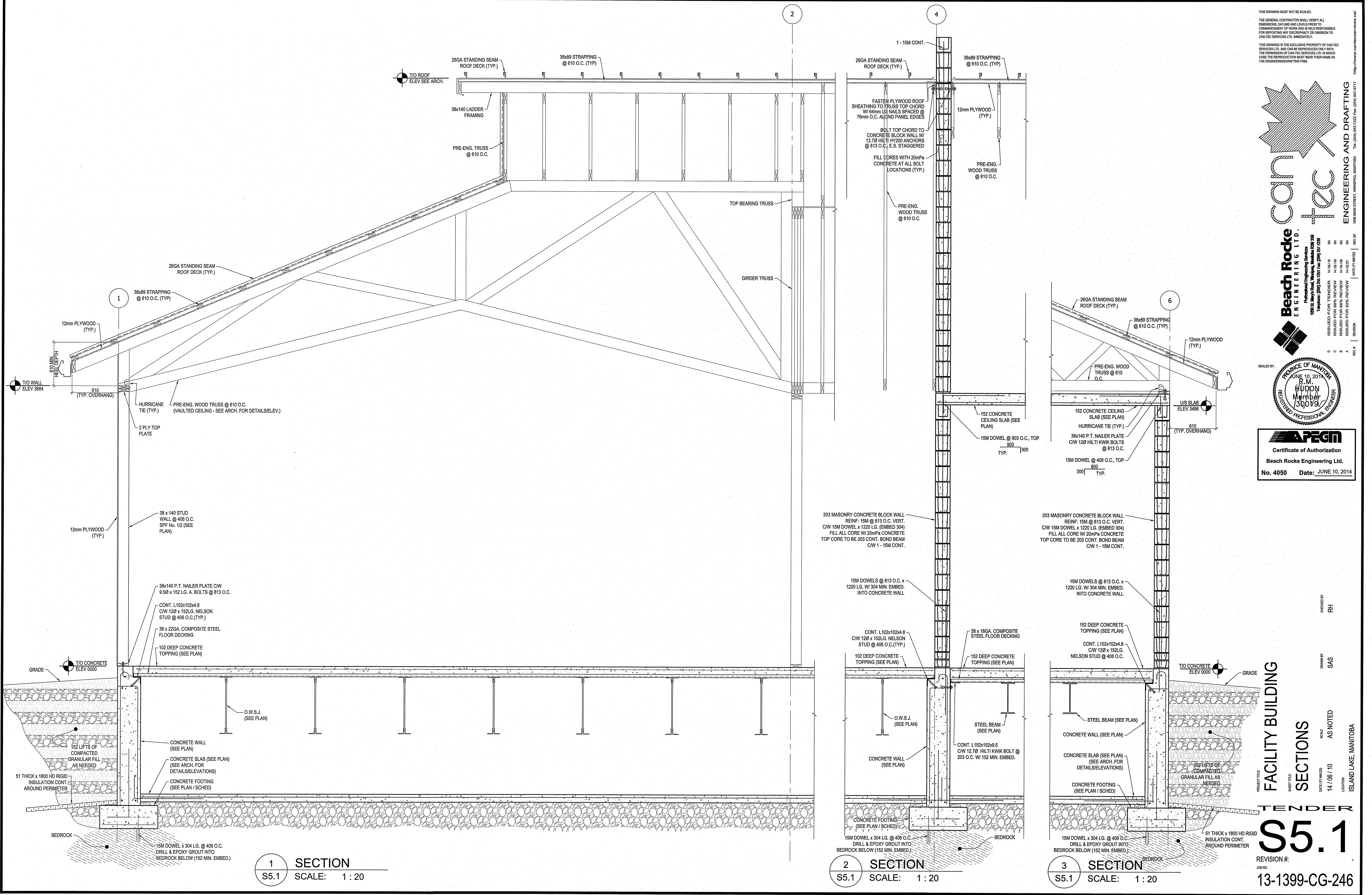


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 ISSUED FOR 90% REVIEW: 14/06/10
 ISSUED FOR 33% REVIEW: 14/06/10
 DATE (Y/M/D): 14/06/10
 REV. #



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 No. 4050 Date: JUNE 10, 2014

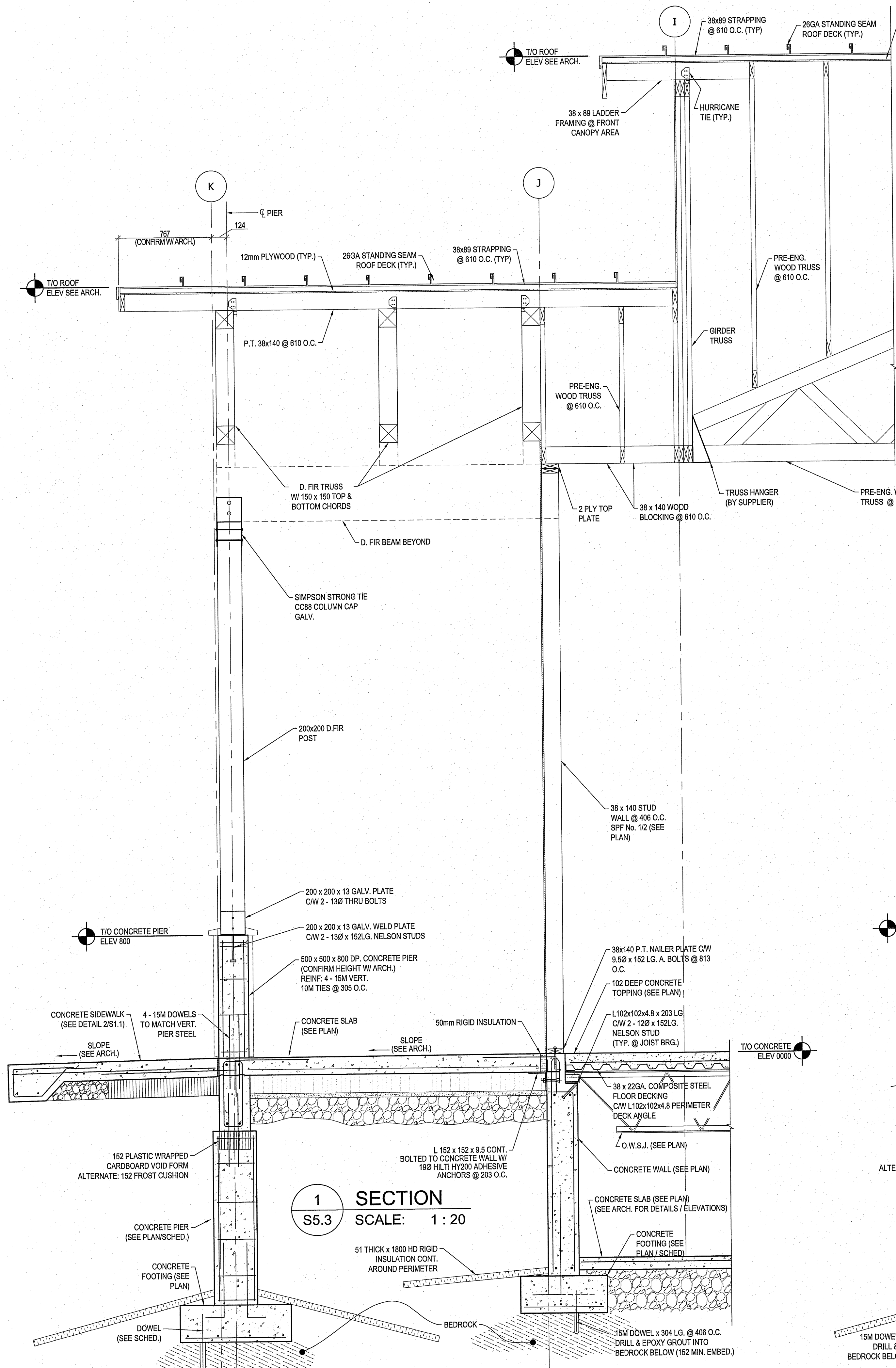
PROJECT TITLE: **FACILITY BUILDING**
 SHEET TITLE: **SECTIONS**
 DATE (Y/M/D): 14/06/10
 SCALE: AS NOTED
 LOCATION: ISLAND LAKE, MANITOBA
 CHECKED BY: RH
 DRAWN BY: SAS
 TENDER **S5.1**
 REVISION #:
 JOB NO: 13-1399-CG-246



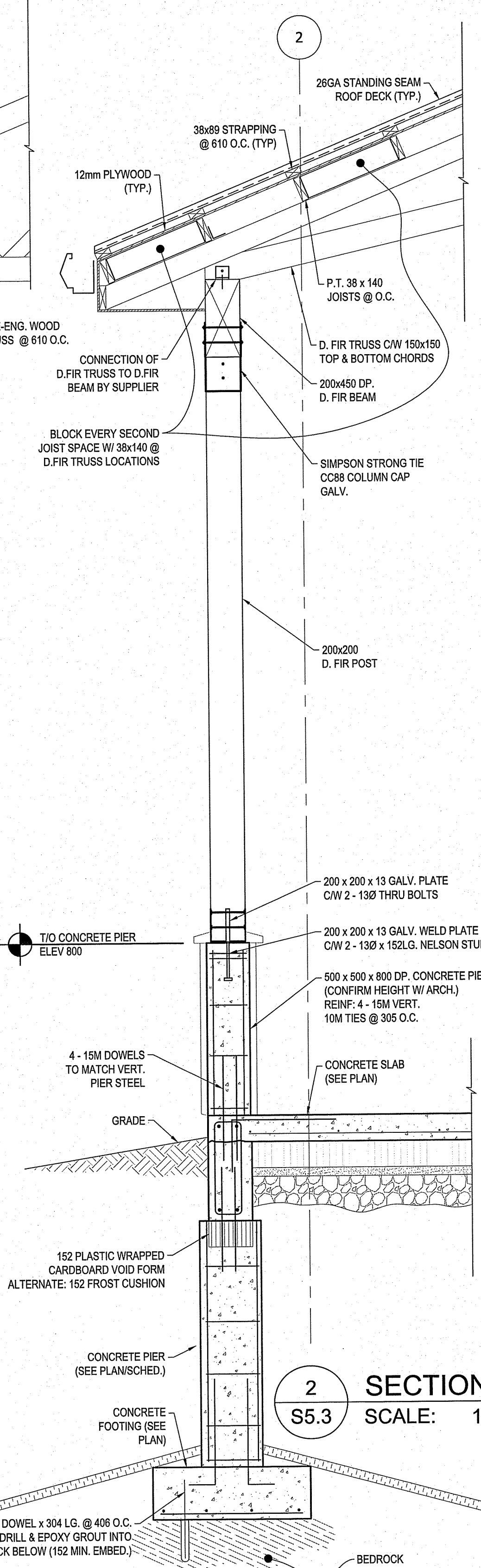
1 SECTION
 S5.1 SCALE: 1:20

2 SECTION
 S5.1 SCALE: 1:20

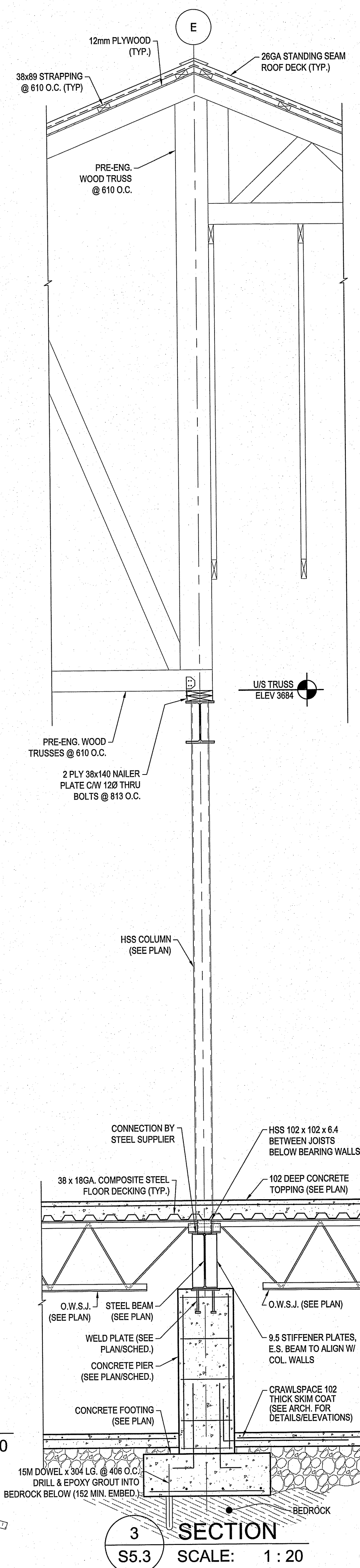
3 SECTION
 S5.1 SCALE: 1:20



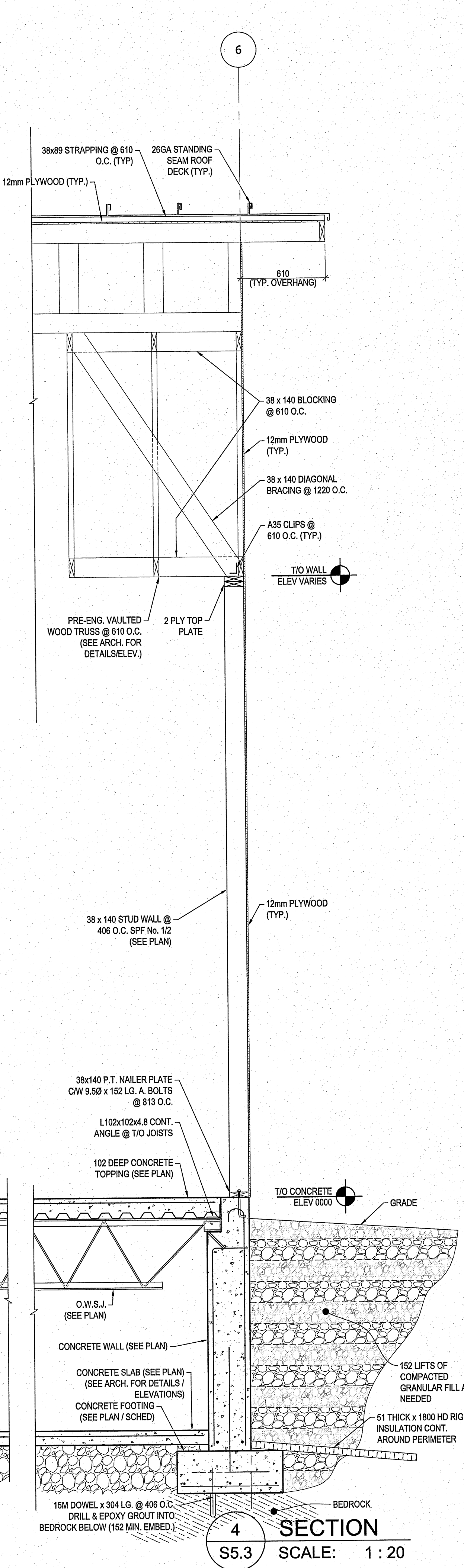
1 SECTION
S5.3 SCALE: 1 : 20



2 SECTION
S5.3 SCALE: 1 : 20



3 SECTION
S5.3 SCALE: 1 : 20



4 SECTION
S5.3 SCALE: 1 : 20

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ISSUED FOR TENDER	11/01/10	RH
ISSUED FOR 90% REVIEW	11/02/10	RH
ISSUED FOR 100% REVIEW	11/02/10	RH
ISSUED FOR 30% REVIEW	11/02/10	RH

DATE: (Y/M/D) REV. BY

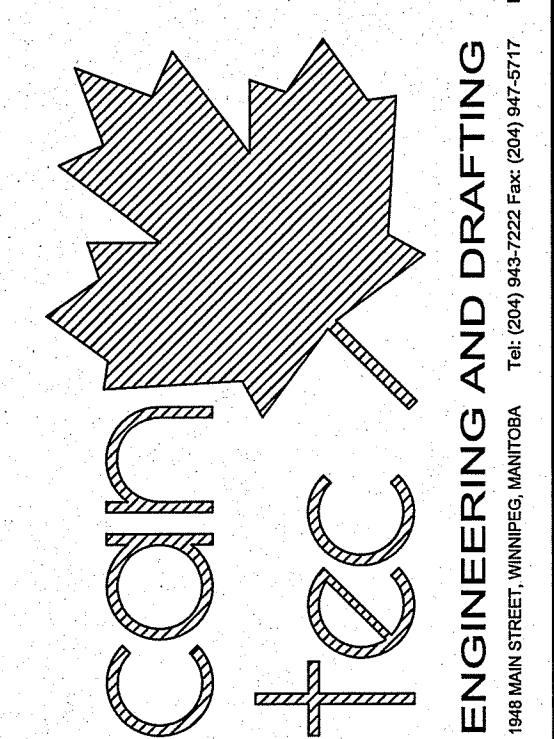
SEALED BY: **PROVINCE OF MANITOBA**
R.M. WILSON
Member
1500hrs
REGISTERED PROFESSIONAL ENGINEER

APEGM
Certificate of Authorization
Beach Rocke Engineering Ltd.
No. 4050 Date: JUNE 10, 2014

FACILITY BUILDING
SECTION
TENDER
S5.3
REVISION #:
JOB NO.
13-1399-CG-246

SCALE: AS NOTED
DATE: 14 / 06 / 10
DRAWN BY: SAS
CHECKED BY: RH
LOCATION: ISLAND LAKE, MANITOBA

THIS DRAWING MUST NOT BE SCALED.
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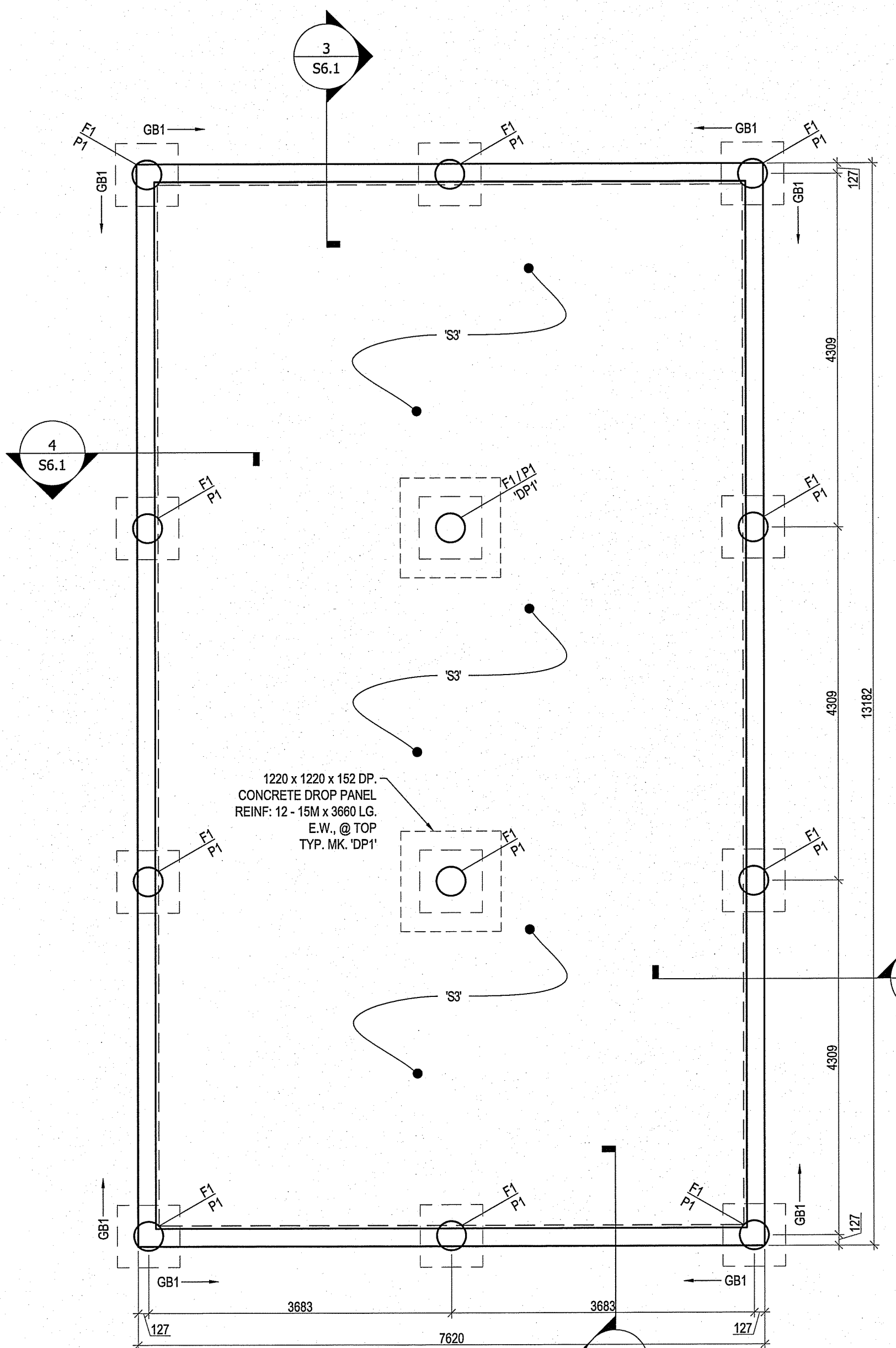


Beach Rocke
 ENGINEERING LTD.
 Professional Engineering Services
 1988 St. Mary Road, Windsor, Michigan 48106-3389
 Telephone: (313) 250-7201 Fax: (313) 250-7298
 ISSUED FOR TENDER 11/01/09
 ISSUED FOR 95% REVIEW 11/01/09
 ISSUED FOR 65% REVIEW 11/01/09
 ISSUED FOR 35% REVIEW 11/01/09
 REV. 1 | REVISION

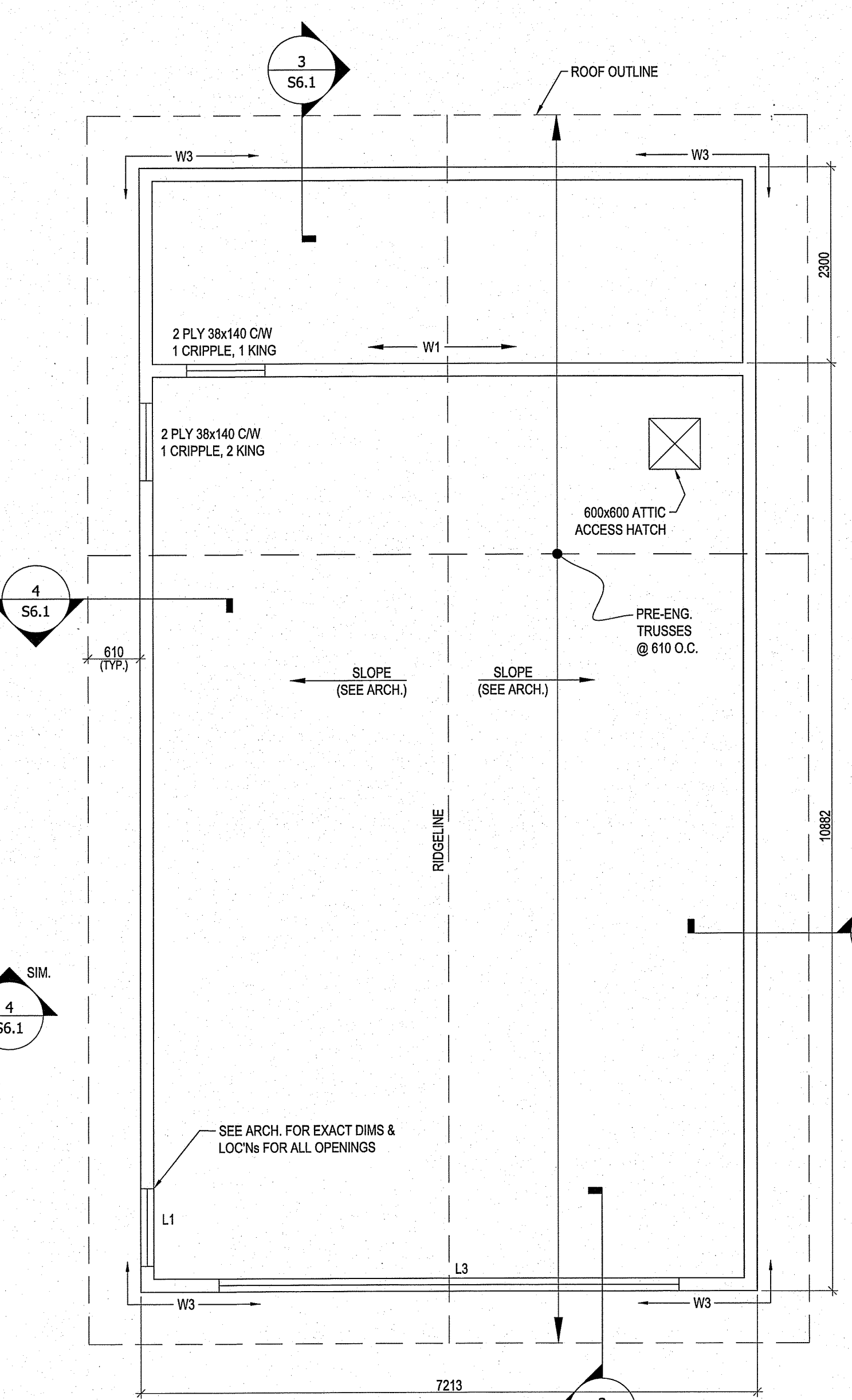


APCGM
 Certificate of Authorization
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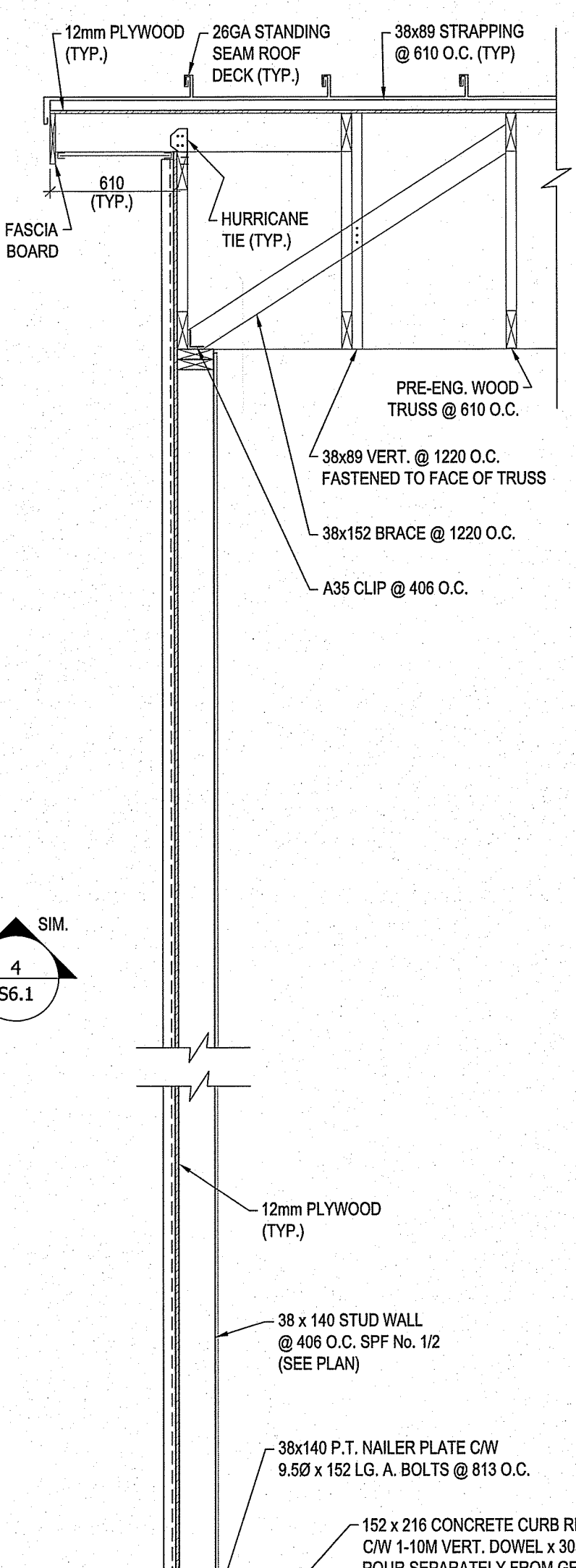
PROJECT TITLE: FACILITY BUILDING
 SHEET TITLE: GARAGE PLANS & SECTIONS
 DRAWN BY: SAS
 CHECKED BY: RH
 DATE OF MAJOR: 14 / 06 / 10
 SCALE: AS NOTED
 LOCATION: ISLAND LAKE, MANITOBA



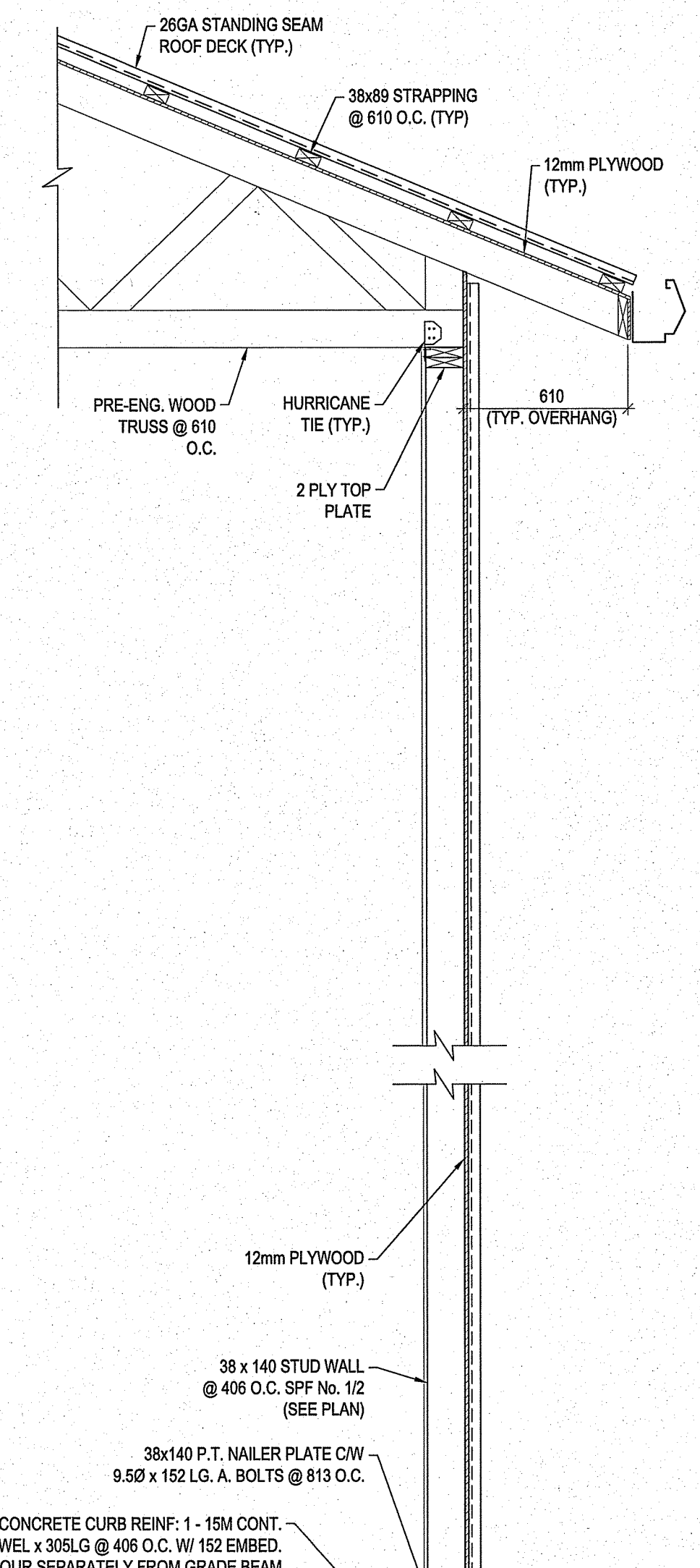
1 GARAGE FOUNDATION PLAN
 S6.1 SCALE: 1 : 50



2 GARAGE FRAMING PLAN
 S6.1 SCALE: 1 : 50



3 GARAGE SECTION
 S6.1 SCALE: 1 : 20



4 GARAGE SECTION
 S6.1 SCALE: 1 : 20

SLAB SCHEDULE

'S1'	152mm SUSPENDED CONCRETE STRUCTURAL SLAB REINF: 15M @ 304 O.C., E.W., @ BOTTOM OF SLAB
'S2'	102mm CONCRETE SLAB ON GRADE ON 6 MIL POLY V.B. ON 152mm LIFTS OF COMPACTED GRANULAR BASE AS RECOMMENDED BY GEO-TECH. REPORT REINF: 10M @ 406 O.C., E.W., @ TOP OF SLAB
'S3'	152mm CONCRETE STRUCTURAL SLAB ON 152mm VOID FORM ON 6 MIL POLY V.B. ON 3.2mm MASONITE ON 50mm LEVELING SAND ON LOOSE FILL REINF: 15M @ 305 O.C., E.W., @ BOTTOM OF SLAB
'S4'	152mm CONCRETE SLAB ON GRADE ON 6 MIL POLY V.B. ON 152mm LIFTS OF COMPACTED GRANULAR BASE AS RECOMMENDED BY GEO-TECH. REPORT REINF: 10M @ 305 O.C., E.W., @ C. OF SLAB
'S5'	152mm CONCRETE SLAB ON 38mm x 18GA COMPOSITE STEEL FLOOR DECK REINF: 10M @ 305 O.C., E.W., @ BOTTOM OF SLAB 152x152x1010 W.W.M. TOP

FOOTING SCHEDULE

'F1'	762 x 762 x 254 DP REINF: 3-15M E.W. BOTTOM
'F2'	914 x 914 x 305 DP REINF: 4-15M E.W. BOTTOM
'F3'	1980 x 914 x 305 DP REINF: 10-15M SHORT @ BOTTOM 4-15M LONG @ BOTTOM

LINTEL SCHEDULE

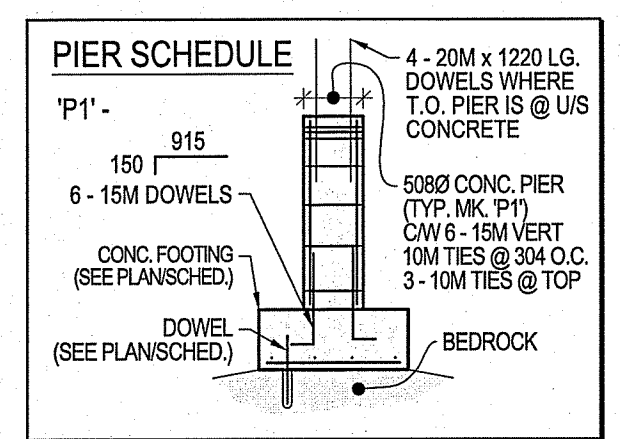
'L1'	2 PLY 38 x 235 CW 2 CRIPPLE, 2 KING
'L2'	3 PLY 38 x 235 CW 2 CRIPPLE, 2 KING
'L3'	3 PLY 38 x 286 CW 2 CRIPPLE, 2 KING

CONCRETE GRADE BEAM SCHEDULE

'GB1'	254mm x 610mm CONCRETE GRADE BEAM C/W 38 KEYWAY @ STRUCTURAL SLAB LOCNS REINF: 2-20M TOP & BOTTOM 10M STIRRUPS @ 305mm O.C. 152 PLASTIC WRAPPED CARDBOARD VOID FORM
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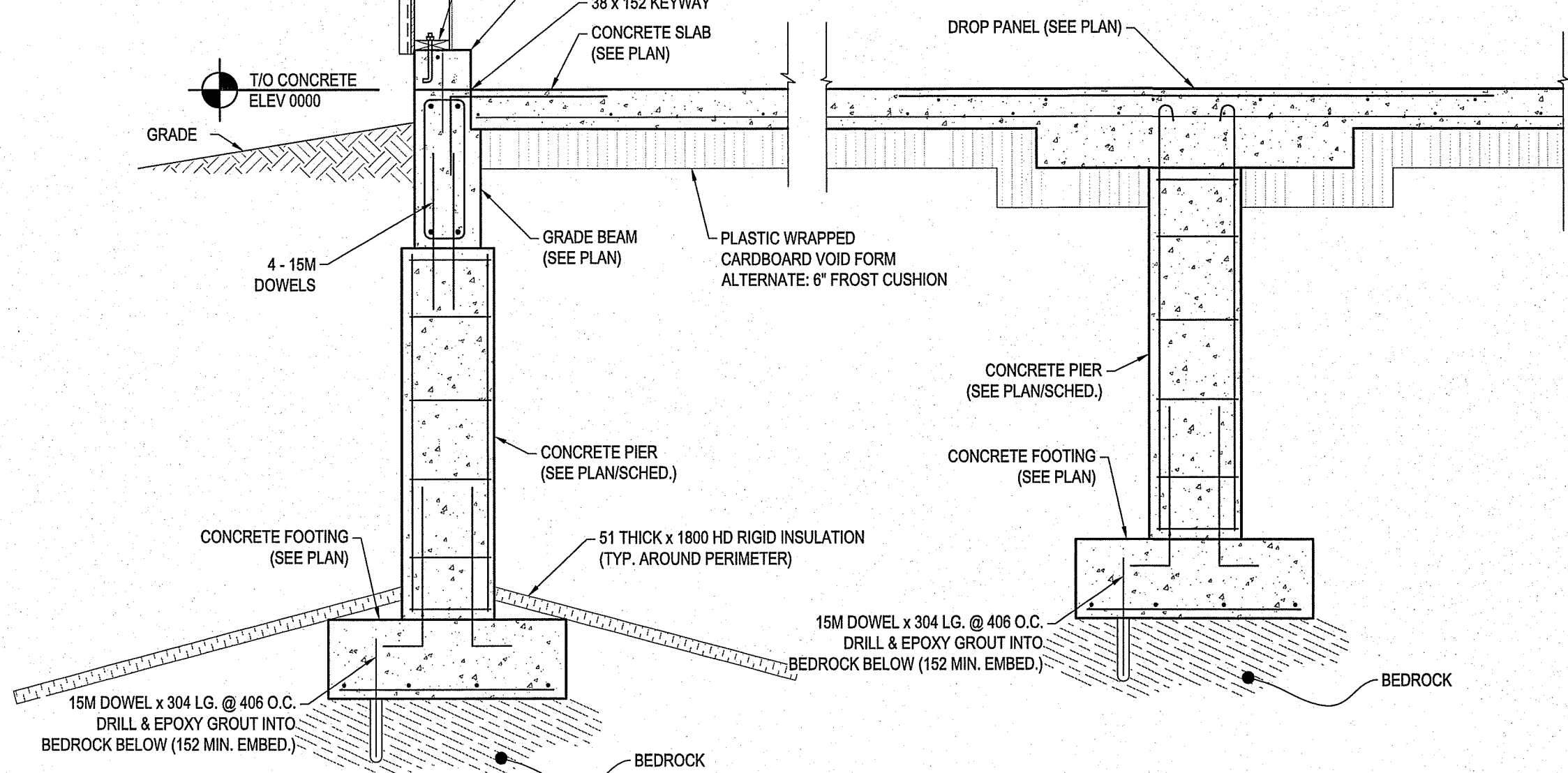
WALL SCHEDULE

'W1'	38 x 140 @ 406 O.C. (SPF No. 12) CW 12.7 OSB PLYWOOD W/ 64mm NAILS SPACED @ 76 O.C. ALONG PANEL EDGES & 305 O.C. @ INTERMEDIATE STUDS
'W2'	190 CONCRETE MASONRY BLOCK WALL REINF: 15M @ 813 O.C. VERT. -FILL CORE FULL HEIGHT WITH 20mpa CONCRETE WHERE REINFORCING STEEL IS PRESENT.
'W3'	152 x 166GA STEEL STUD WALL @ 305 O.C. C/W 14 GA. SHEET METAL SPOT WELDED TO FACE OF STEEL STUD W/ 190 WELD @ 152 O.C. (@ EQUIPMENT ROOM ONLY)



DOWEL SCHEDULE

'D1'	10M DOWELS @ 406 O.C. @ C. OF SLAB	152	915
'D2'	10M DOWELS @ 406 O.C. @ TOP OF SLAB	152	915
'D3'	2-20M TOP & BOTTOM	1220	
'D4'	15M DOWELS x 450 LG @ 406 O.C. FROM STRIP FOOTING INTO BEDROCK DRILL & EPOXY GROUT INTO BEDROCK BELOW (30 MIN. EMBED. MIN. 4 DOWELS @ PIER FOOTINGS)	450	
'D5'	15M DOWELS x 180 @ 305 O.C. @ T.O. SLAB CENTRED OVER INTERIOR BLOCK WALLS	1800	



TENDER
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