

**BASE FOR DESIGN**

GOVERNING BUILDING CODE: NATIONAL BUILDING CODE
2019 ALBERTA EDITION
PROJECT LOCATION: DRUMHELLER, ALBERTA

**GRAVITY DESIGN**

SNOW LOAD DESIGN
GROUND SNOW LOAD (Ss 1/50): 1.2 kPa
ASSOCIATED RAIN LOAD (Sr): 0.1 kPa
IMPORTANCE CATEGORY: NORMAL
IMPORTANCE FACTOR (Iw): 1.0

**SEISMIC LOAD DESIGN**

IMPORTANCE CATEGORY: NORMAL
IMPORTANCE FACTOR (Ie): 1.0
Ss(0.2): 0.122
Ss(0.5): 0.077
Ss(1.0): 0.046
Ss(2.0): 0.028
Ss(5.0): 0.008
Ss(10.0): 0.0037
PGA: 0.075
PGV: 0.055
SITE CLASS: D

**WIND LOAD DESIGN**

HOURLY WIND PRESSURE (q 1/50): 0.44 kPa
EXPOSURE CATEGORY: ROUGH
IMPORTANCE CATEGORY: NORMAL
IMPORTANCE FACTOR (Iw): 1.0

**FOUNDATION DESIGN**

NO SOIL REPORT WAS PROVIDED FOR THIS PROPERTY. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL INVESTIGATION OF THE PROPOSED DRUMHELLER CURLING CLUB LOCATED ACROSS THE PROPERTY.

**REINFORCING STEEL**

- 1. REINFORCING STEEL SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH CANCSA 23.3-04 AND THE LATEST EDITION RSIC'S MANUAL OF STANDARD PRACTICE.
2. REINFORCING STEEL SHALL CONFORM TO CANCSA G30.18-M82 GRADE 400 MPa AND 400Y (FOR ALL REINFORCING TO BE WELDED) AND SHALL BE DEFORMED BARS UNO.
3. WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF CANCSA G30.5-M1983 FOR SMOOTH WIRE FABRIC AND CANCSA G30.15-M1983 FOR DEFORMED WIRE FABRIC. LAPS SHALL BE MADE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRE OF EACH FABRIC SHEET, IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 50mm (2").

EXPOSURE CONDITION: COVER:
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 76mm (3")
EXPOSED TO EARTH OR WEATHER (INCLUDES SLABS ON GRADE) 38mm (1-1/2")
15M AND SMALLER 50mm (2")
20M AND LARGER

NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH
STRUCTURAL WALLS, SLABS, AND JOISTS 35M AND SMALLER 19mm (3/4")
BEAM AND COLUMN PRIMARY REINF., TIES, STIRRUPS, AND SPIRALS 38mm (1-1/2")

- 5. LAP SPLICES OF REINFORCING STEEL IN CONCRETE BEAMS, SLABS AND FOOTINGS SHALL BE ACCORDING TO CANCSA A23.3 OR LAP SCHEDULE BELOW. UNO. STAGGER SPLICES A MIN OF ONE LAP LENGTH. NO TACK WELDING OF REINFORCING BARS ALLOWED. LATEST CANCSA CODE AND DETAILING MANUAL APPLY. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS WHERE PROVIDED. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. SPLICE TOP BARS AT CENTER LINE OF SPAN AND BOTTOM BARS AT THE SUPPORT IN SPANDELS, BEAMS, GRADE BEAMS, ETC. UNO.

**REBAR LAP SCHEDULE:**

Table with 2 columns: BAR SIZE, LAP. Values include 10M (400mm), 15M (600mm), 20M (800mm), 25M (1000mm).

- 6. MECHANICAL SPLICE COUPLERS MAY BE USED AS AN ALTERNATE TO LAP SPLICES. COUPLERS SHALL HAVE CURRENT CSA APPROVAL AND SHALL BE CAPABLE OF DEVELOPING 125% OF THE BAR STRENGTH.
7. WELDING OF REINFORCING BARS, METAL INSERTS, AND CONNECTIONS SHALL CONFORM TO CANCSA W186-M1990 AND SHALL BE MADE ONLY AT LOCATIONS SHOWN ON PLANS OR DETAILS. ALL REINFORCING SHALL BE BENT COLD. BARS SHALL ONLY BE BENT ONCE.
8. REINFORCING BAR SPACING SHOWN ON PLANS ARE MAX ON CENTERS. DO NOT EXCEED ALL VERTICAL REINFORCING INTO FOUNDATION. SECURELY TIE ALL BARS IN LOCATION PRIOR TO CONCRETE PLACEMENT.
9. FOUNDING SURFACE BELOW FOOTINGS SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER TO VERIFY THE ALLOWABLE SOIL BEARING CAPACITY

**FOUNDATION**

- 1. REFER TO FOUNDATION PLANS FOR ADDITIONAL NOTES.
2. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER TO CONFIRM REQUIREMENTS RELATED TO:
- EXCAVATION
- SITE PREPARATION
- BACKFILL MATERIAL
- COMPACTION REQUIREMENTS
- FOUNDING ELEVATION
3. ALL SITE PREPARATION, GRADING, COMPACTION TESTS, INSPECTIONS, ETC. SHALL BE FOLLOWED AND COMPLETED PRIOR TO ANY CONCRETE PLACEMENT.
4. ALL FILL AND BACKFILL BEING USED FOR SLABS OR OTHER STRUCTURAL APPLICATION SHALL BE TESTED FOR SUITABILITY BY A GEOTECHNICAL ENGINEER.
5. NO BACKFILL CONTAINING STONES OVER 76mm (3"), FROZEN MATERIAL, DEBRIS, OR ORGANIC MATTER WILL BE PERMITTED.
6. DO NOT EXCAVATE FOR FOOTINGS BELOW A LINE INCLINED DOWN 30 DEGREES FROM NEARBY FOOTINGS UNLESS THE EXCAVATION IS ADEQUATELY BRACED OR APPROVED BY THE ENGINEER.

**CONCRETE**

- 1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE.
2. CONTRACTOR SHALL COORDINATE WITH WORK OF ALL OTHER TRADES AND WHERE REQUIRED INSTALL ALL BUILT-IN WORK, SLEEVES, INSERTS, ETC. AS REQUIRED.
3. CONCRETE MIXES SHALL BE DESIGNED BY A CERTIFIED LABORATORY AND APPROVED BY THE ENGINEER OF RECORD.
4. PORTLAND CEMENT SHALL CONFORM TO CANCSA A23.1, 23.2 AND 23.3.
5. NO MORE THAN 90 MINUTES SHALL ELAPSE BETWEEN CONCRETE BATCHING AND CONCRETE PLACEMENT, UNLESS APPROVED BY THE ENGINEER OR AUTHORIZED TESTING AGENCY.
6. CONCRETE BATCHING, MIXING, TRANSPORTATION AND PLACEMENT SHALL BE PER CANCSA A23.1 OR A23.4 AS APPLICABLE.
7. CONCRETE CONSOLIDATION SHALL BE PER CANCSA A23.1 OR A23.4.
8. FORM WORK SHALL BE PER CANCSA A23.1 OR A23.4 AS APPLICABLE.
9. REMOVE ALL DEBRIS FROM FORMS, REINFORCING STEEL AND OTHER EMBEDDED ITEMS PRIOR TO PLACING CONCRETE. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (WALLS OR COLUMNS) SO AS TO CAUSE A SEGREGATION OF AGGREGATES. UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 5 FEET. CARE SHALL BE TAKEN IN PLACING SLABS ON GRADE SO FILL MATERIAL IS NOT DISTURBED.
10. ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC. SHALL BE SECURELY POSITIONED IN THE FORMS PRIOR TO PLACING OF CONCRETE.
11. CONCRETE SLAB ON GRADE CONTROL JOINTS SHALL BE SAW-CUT CONTROL JOINTS SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED THAT INDICATED IN TYPICAL DETAIL.
12. EMBEDDED ITEMS SHALL BE PLACED PER CANCSA A23.1 OR A23.4 AS APPLICABLE.
13. PIPE OTHER THAN ELECTRICAL CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY THE ENGINEER. MAX PIPE SIZE SHALL BE 1/3 OF THE SLAB THICKNESS AND LOCATED AT THE MID-DEPTH. MIN SPACING SHALL BE 3 TIMES THE PIPE DIAMETER. PIPES SHALL NOT IMPAIR THE STRENGTH OF THE MEMBER.
14. PROTECT CONCRETE FROM DAMAGE OR REDUCED STRENGTH DUE TO COLD OR HOT WEATHER.
15. CONTRACTOR SHALL SUBMITT CONCRETE MIX REPORT WITH COMPRESSION TEST RESULTS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO START OF FOUNDATION CONSTRUCTION. REPRESENTATIVE TEST CYLINDERS SHALL BE TAKEN FROM THE CONCRETE IN ACCORDANCE WITH CONCRETE CSA SPECIFICATIONS. TESTING SHALL BE PERFORMED AT 7 AND 28 DAYS.
16. RECOMMENDATION TO CONTROL SLAB ON GRADE OR CONCRETE OVER STEEL DECK CRACKING:

- A. 38mm (1-1/2") MAX AGGREGATE SIZE
B. CANCSA A23.1 OR A23.4 AGGREGATE SPECIFICATION TO PROVIDE A WELL GRADED AGGREGATE MIX
C. SLAB ON GRADE TO BE POURED IN STRIPS. CONSTRUCTION OR CONTROL JOINTS SHALL HAVE A SPACING IN EITHER DIRECTION IN ACCORDANCE WITH THE FOLLOWING:
102mm (4") SLAB THICKNESS ..... 500mm (16'-0")
127mm (5") SLAB THICKNESS ..... 550mm (18'-0")
152mm (6") SLAB THICKNESS ..... 600mm (20'-0")
178mm (7") SLAB THICKNESS ..... 670mm (22'-0")
203mm (8") SLAB THICKNESS ..... 730mm (24'-0")
229mm (9") SLAB THICKNESS ..... 800mm (26'-0")
254mm (10") SLAB THICKNESS ..... 850mm (28'-0")
GREATER THAN 254mm (10") SLAB THICKNESS ..... 900mm (30'-0")

**CONCRETE SCHEDULE**

Table with 8 columns: ELEMENT, EXPOSURE CLASS, CEMENT TYPE, MINIMUM STRENGTH, SLUMP, MAXIMUM AGGREGATE SIZE, W/C RATIO, AIR ENTRAINMENT. Rows include PILES, FOOTINGS, GRADE BEAM, INTERIOR COLUMNS, SLAB ON GRADE, STOOPS, PARKING SLABS, SIDEWALKS, INTERIOR ENCASING, UNDERGROUND ENCASING, CONCRETE TOPPING.

**METAL DECK**

- 1. ROOF DECK SHALL BE CANAM P-3615 X 20g OR APPROVED EQUAL.
2. DECK SHALL BE METALLIC COATED TO Z275 AS DESIGNATED BY ASTM A653M.
3. RUN DECK CONTINUOUSLY OVER 4 SUPPORTS.
4. FRAME AROUND OPENINGS LARGER THAN 300 X 300 WITH L127X76X6.4 LONG LEG VERTICAL FRAMED TO STRUCTURE UNLESS NOTED OTHERWISE ON DRAWINGS.
5. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHOWING WORK DESIGNED BY THE FABRICATOR SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER.
6. REFER TO FRAMING PLANS FOR ADDITIONAL REQUIREMENTS.

**MASONRY**

- 1. ALL MASONRY CONSTRUCTION SHALL BE CARRIED OUT TO CSA S304.1-04 AND CSA -A371-04.
2. MINIMUM COMPRESSIVE STRENGTH ON CONCRETE MASONRY BLOCKS IS 20MPa.
3. MORTAR SHALL BE TYPE S PREPARED IN ACCORDANCE WITH CSA-A179-04.
4. GROUT BETWEEN COURSES TO BE MIXED IN ACCORDANCE WITH TABLE 5 OF CSA-A179-04.
5. LINTEL, BOND BEAMS AND PLASTERS TO BE FILLED WITH COARSE GROUT OR CONCRETE HAVING MINIMUM COMPRESSIVE STRENGTH OF 20MPa AT 28 DAYS.
6. FILL ONE VOID ON EACH SIDE OF ALL DOORS, WINDOWS AND MECHANICAL OPENINGS AND ADD 1-15M BAR, EXTEND MINIMUM 400mm (16") BEYOND OPENING U.N.O.
7. ALL LAPS FOR REINFORCING PLASTERS TO BE A MINIMUM OF 300mm (12"). PLASTER REINFORCEMENT TO BE CONTINUOUS THROUGH INTERMEDIATE BOND BEAMS AND ANCHORED INTO CAPPING BOND BEAMS.
8. WALLS ARE TO BE CONSTRUCTED
A. IN STACK BOND WITH FACE-SHELL MORTAR BEDDING.
B. FULL MORTAR BEDDING IN ALL CORES, WHICH ARE TO BE GROUTED.
C. MORTAR JOINTS ARE TO BE CONCAVE.
9. VERTICAL GROUTING OF WALLS SHALL BE DONE ACCORDING TO CLAUSE 8 OF CSA-A371-04. WHEN GROUTING IN LIFTS OVER 6m PROVIDE CLEAN CUTS AT THE BOTTOM OF ALL VERTICAL CELLS TO BE GROUTED. HAVE ALL CLEAN CUTS INSPECTED BY ENGINEER BEFORE CLOSING.
10. REINFORCE EVERY SECOND COURSE WITH CONTINUOUS LADDER TYPE REINFORCING.
11. LINTEL SCHEDULE, EXTEND REINFORCING MINIMUM 600mm (24") BEYOND OPENING U.N.O.
SPAN DEPTH REINFORCING
0 - 900 (0 - 36") 1 COURSE 1-15M TOP & BOTTOM
900 - 1800 (36" - 72") 2 COURSES 1-20M TOP & BOTTOM
>1800 (>72") 3 COURSES 1-20M TOP & BOTTOM
12. BOND BEAMS:
A. TO BE PROVIDED AT THE TOP OF WALLS, MINIMUM 2 COURSES DEEP. REINFORCED WITH 1-15M CONTINUOUS TOP & BOTTOM U.N.O.
B. AT LOCATIONS WHERE FLOOR OR ROOF SUPPORT ANGLES ANCHOR INTO BOND BEAMS, PROVIDE MINIMUM 2 COURSES DEEP REINFORCED WITH 1-20M CONTINUOUS TOP & BOTTOM U.N.O.
13. PROVIDE 1-15M VERTICAL REINFORCEMENT NO GREATER 800mm (32") O/C. ALL REINFORCED CORES TO BE SOLID GROUTED.
14. PROVIDE DOVELS FROM GRADE BEAM, SLAB THICKENING OR CONCRETE LINTELS TO MATCH VERTICAL REINFORCING.
15. SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINTS.
16. LOCATE BLOCK WALL CONTROL JOINTS AT NO GREATER THAN 9m SPACING.
17. ALL CONCRETE BLOCK WALLS PLACED ON TOP OF SLAB THICKENING SHALL BE ISOLATED FROM CONCRETE BLOCK WALLS PLACED ON TOP OF GRADE BEAMS.
18. NO CONDUIT, ELECTRICAL BOXES, RECESSED FIRE EXTINGUISHERS OR ANY OTHER RECESSED APPLIANCE ALLOWED IN MASONRY COLUMNS.

**SUBMITTALS**

- 1. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS TO THE STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION. REQUIRED SHOP DRAWINGS SHALL INCLUDE BUT ARE NOT LIMITED TO:
A. STRUCTURAL STEEL
B. OPEN WEB STEEL JOISTS AND GIRDERS
C. PRECAST CONCRETE MEMBERS
D. METAL STUD FRAMING
2. CONTRACTOR SHALL REVIEW AND STAMP SHOP DRAWINGS PRIOR TO SUBMITTING. CONTRACTOR'S REVIEW SHALL CHECK FOR COMPLETENESS/COMPLIANCE WITH CONTRACT DOCUMENTS.
3. SHOP DRAWINGS ARE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS. REVIEW DOES NOT INDICATE THAT THE SHOP DRAWINGS ARE CORRECT OR COMPLETE. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DRAWINGS SHALL BE CLOUDED. ANY OF THE AFOREMENTIONED SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW UNLESS SPECIFICALLY NOTED ACCORDINGLY. THE SHOP DRAWINGS DO NOT SUPERSEDE OR REPLACE THE ORIGINAL CONTRACT DRAWINGS. ANY ENGINEERING PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN APPROPRIATELY REGISTERED ENGINEER.
4. PREFABRICATED OR SPECIALTY ITEMS, AND THEIR COMPONENTS, WHICH ARE INDICATED BY THE STRUCTURAL DRAWINGS TO BE DESIGNED BY OTHERS, MAY BE SUBMITTED TO THE ARCHITECT AND/OR ENGINEER OF RECORD FOR REVIEW AS A DEFERRED SUBMITTAL, PROVIDED THAT SUCH SUBMITTAL IS AUTHORIZED BY THE BUILDING DEPARTMENT. DEFERRED SUBMITTALS REQD TO BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
A. CONCRETE MIX DESIGNS
B. METAL STUD FRAMING
C. SUPPORT ANCHORAGE OF MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT AND COMPONENTS
D. STAIRS, HANDRAILS, GUARDRAILS, AND THEIR COMPONENTS
E. EXTERIOR SIGNAGE
5. ALL DEFERRED SUBMITTALS SHALL INCLUDE CALCULATIONS AND DRAWINGS PREPARED IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND STAMPED BY AN APPROPRIATELY LICENSED PROFESSIONAL ENGINEER. SUBMITTALS SHALL SHOW LOCATION AND MAGNITUDE OF LOADS, SIZE AND CONFIGURATION OF MEMBERS AND COMPATIBILITY WITH THE PRIMARY STRUCTURAL SYSTEM.
6. DEFERRED SUBMITTALS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER TO DETERMINE THAT THE DRAWINGS AND CALCULATIONS HAVE BEEN PROPERLY SEALED. LOAD CRITERIA IS IN GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND WITH THE REFERENCED BUILDING CODE. THAT CONNECTIONS TO THE PRIMARY STRUCTURE ARE COMPATIBLE WITH THE PRIMARY DESIGN, AND THAT THE PRIMARY STRUCTURE IS CAPABLE OF SUPPORTING THE IMPOSED LOADS.
7. THE STRUCTURAL ENGINEER OF RECORD WILL RELY UPON THE SPECIALTY ENGINEER'S SEAL AS CERTIFICATION THAT THE ITEMS DESIGNED BY THE SPECIALTY ENGINEER COMPLY WITH THE CRITERIA SET FORTH IN THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. THE STRUCTURAL ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF DESIGNS PROVIDED BY OTHERS.
8. ALLOW (5) WORKING DAYS FOR THE ENGINEER'S REVIEW OF SUBMITTALS. CONTRACTOR SHALL PROVIDE A COPY OF EACH SUBMITTAL FOR THE ENGINEER'S RECORDS. ONLY (1) COPY WILL BE RETURNED WITH ANY CORRECTIONS NOTED. CONTRACTOR SHALL BE RESPONSIBLE FOR REPRODUCING ENGINEER'S CORRECTIONS ON ADDITIONAL COPIES REQUIRED.
9. REFER TO APPLICABLE GSN SECTIONS FOR ADDITIONAL REQUIREMENTS SPECIFIC TO INDIVIDUAL SUBMITTALS.
10. ANY EXACT REPRODUCTION OF THE ORIGINAL STRUCTURAL DOCUMENTS ON THE SHOP DRAWINGS IS PROHIBITED AND WILL BE AN AUTOMATIC DISAPPROVAL OF ALL SHOP DRAWINGS INCLUDED WITH THE PACKAGE. ANY SHOP DRAWINGS NOT APPROVED FOR THIS REASON SHALL BE RE-SUBMITTED AS CLEAN COPIES.

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SEAL
PROFESSIONAL ENGINEER ALBERTA
BEAIRSTO & ASSOCIATES
March 30, 2023
ID# 122205

VALIDATION
PERMIT TO PRACTICE
BEAIRSTO & ASSOCIATES ENGINEERING LTD.
RM SIGNATURE:
RM APEGA ID #:
DATE:
PERMIT NUMBER : P243
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

OWNER
DRUMHELLER VALLEY

PROJECT
Drumheller Memorial Arena Dressing Room Addition

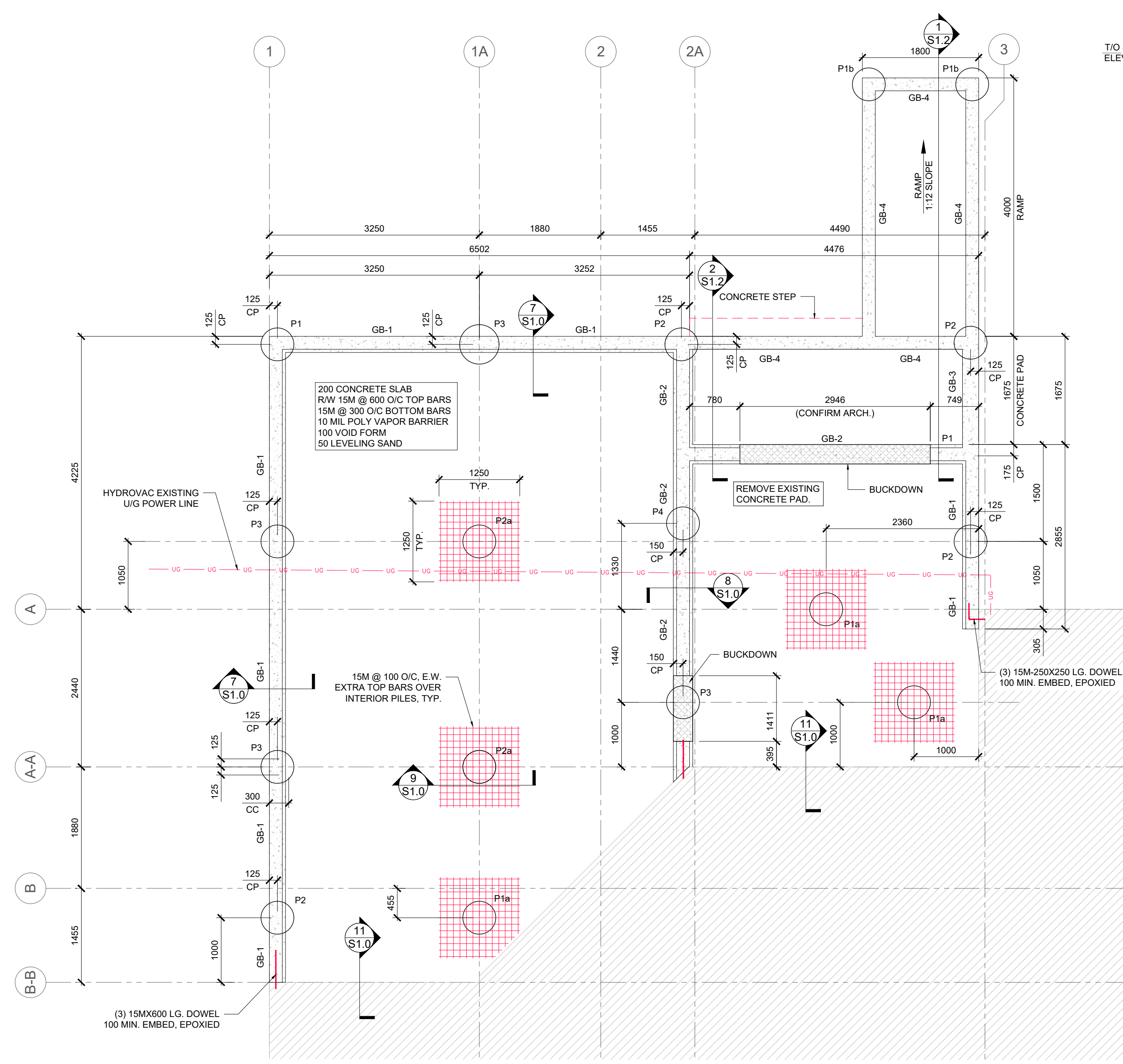
Table with 3 columns: No., Description, Date. Rows include Issued for Tender (Mar. 30, 2023), Issued for Building Permit (Mar. 27, 2023), Issued for Review (Mar. 16, 2023).

NOTES:
1. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED AND SEALED OR ADVISED IN WRITING BY THE ENGINEER. DO NOT SCALE THIS DRAWING.
2. VERIFY ALL DIMENSIONS, DATUMS, AND LEVELS PRIOR TO COMMENCEMENT OF WORK. REPORT ANY DISCREPANCIES OR OMISSIONS TO THE DESIGNER IMMEDIATELY.
3. ALL WORK MUST COMPLY WITH THE MOST RECENT EDITION OF THE APPLICABLE BUILDING CODE AND ANY OTHER GOVERNING AUTHORITY.

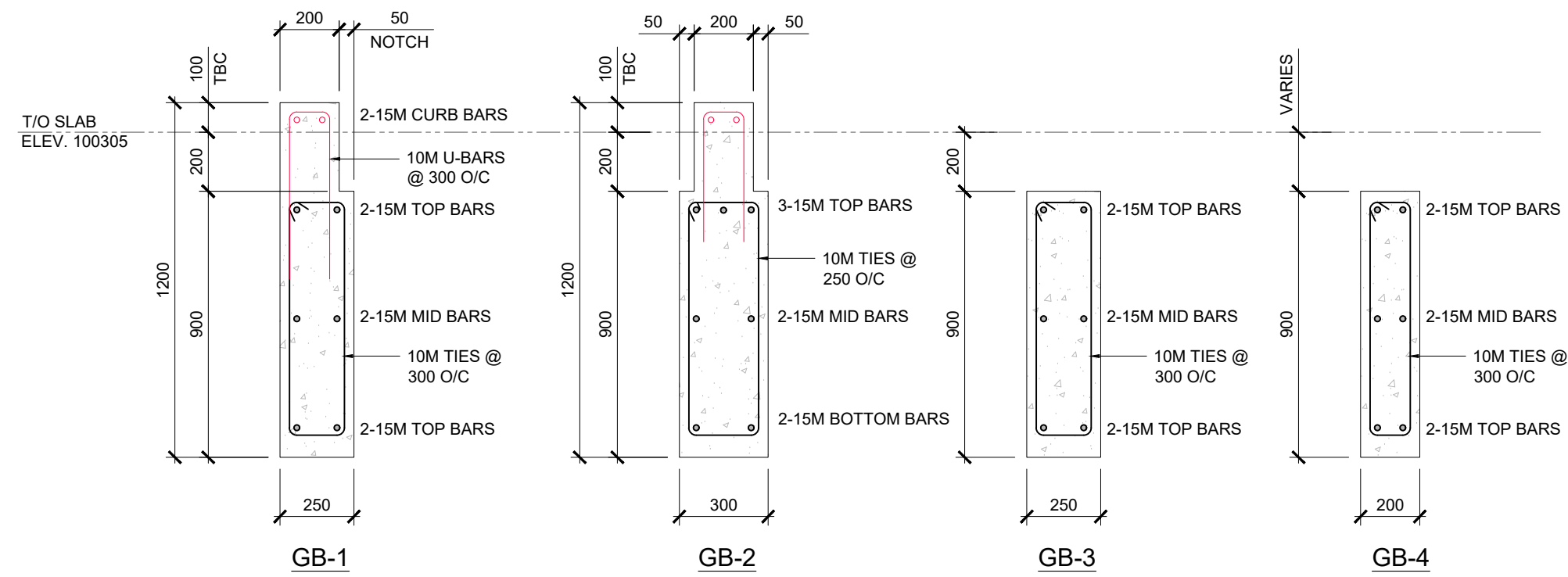
DRAWN BY: D. Dizon, P.Eng.
CHECKED BY: D. Mcgrath, P.Eng.
ENGINEER: D. Dizon, P.Eng.
PROJECT No: 22CEB01000
DATE: March 2023
SCALE: As Indicated

DESCRIPTION
Structural Notes
DRAWING NO. S0.0 SHEET 1/4

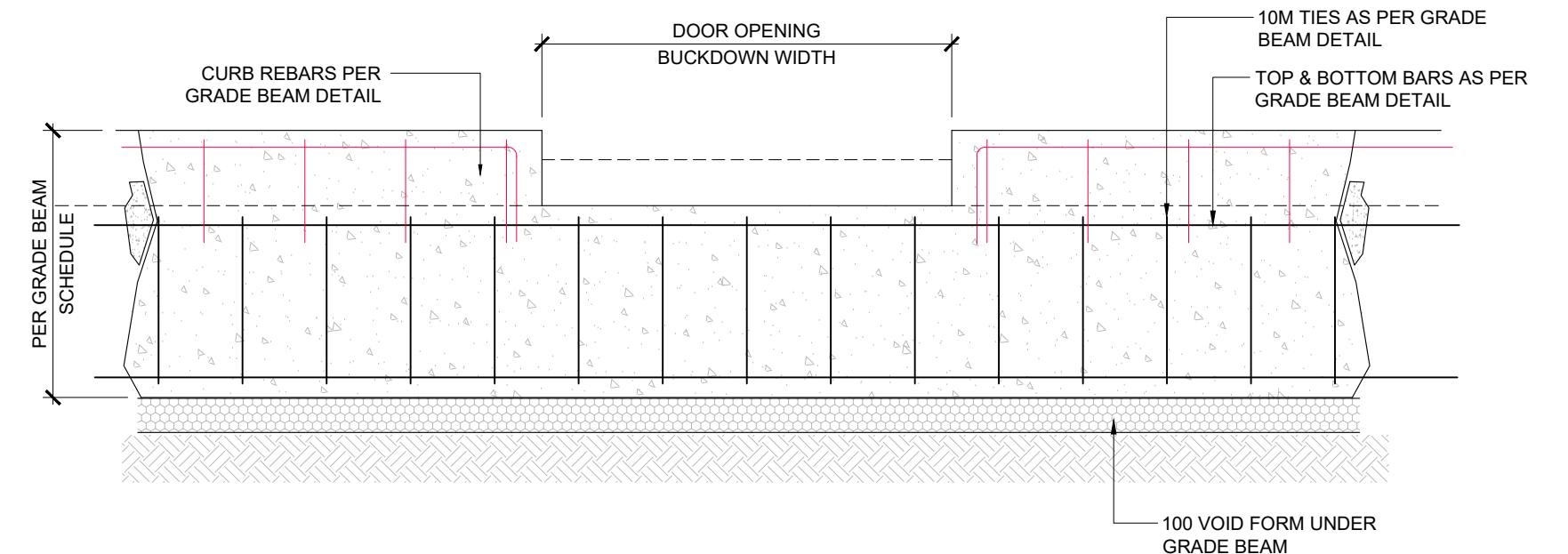




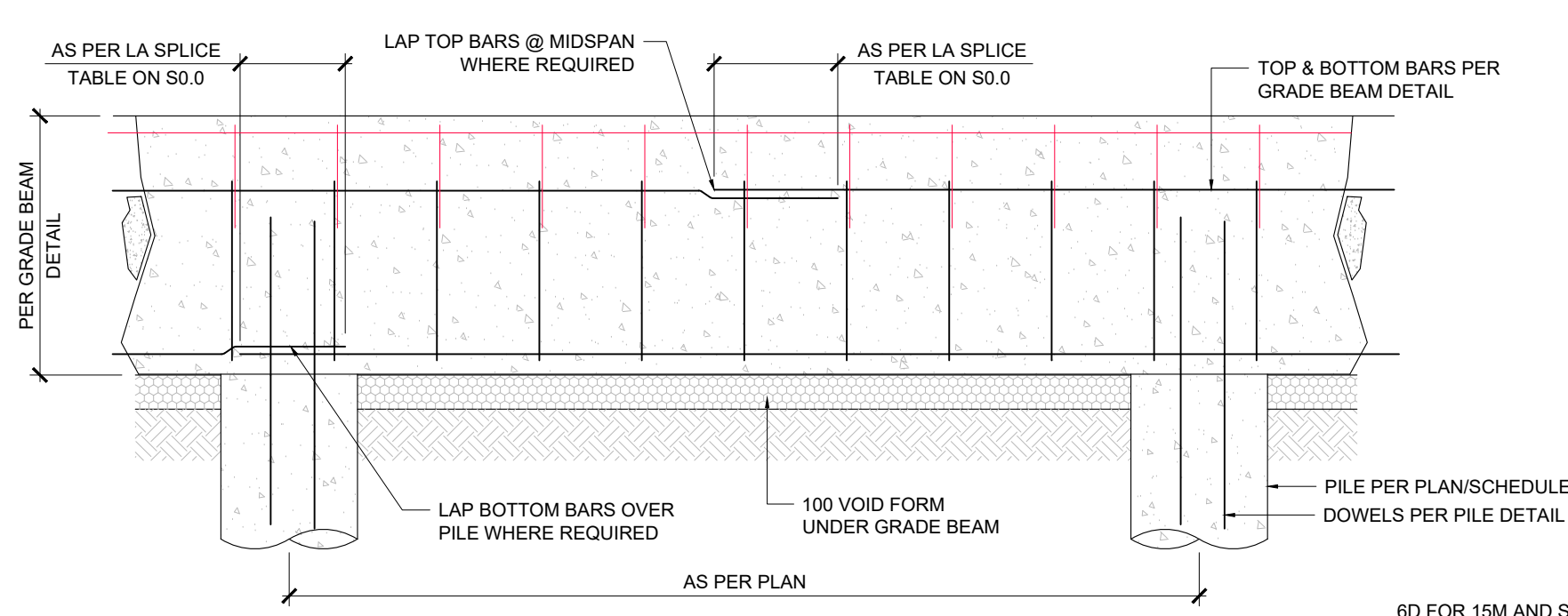
**1 Foundation Plan**  
S1.0 SCALE: 1:50



**2 Typ. Grade Beam Details**  
S1.0 SCALE: NTS



**3 Buckdown Detail**  
S1.0 SCALE: NTS



**4 Buckdown Detail**  
S1.0 SCALE: NTS

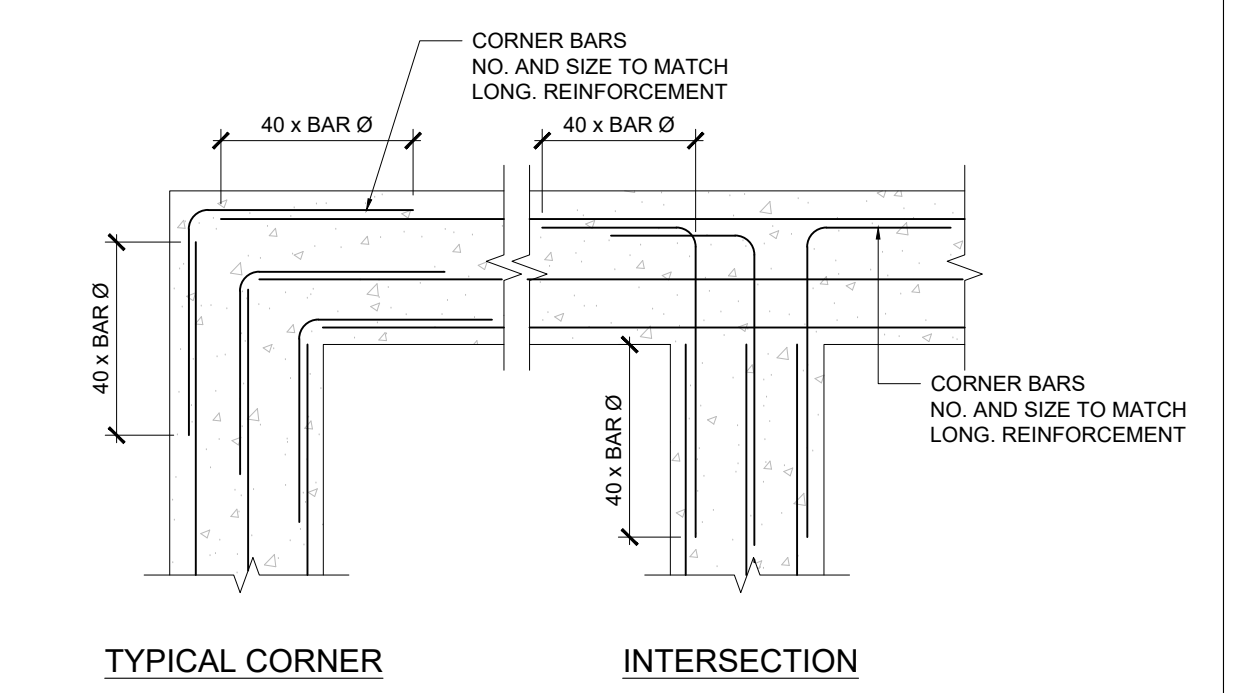
- FOUNDATION PLAN NOTES**
- REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION. TYPICAL DETAILS AND NOTES SHALL APPLY, THOUGH NOT NECESSARILY INDICATED AT A SPECIFIC LOCATION ON PLANS.
  - CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
  - SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, LOCATIONS OF COLUMNS, POSTS, EMBEDDED ITEMS ETC. SHALL BE LOCATED BY COORDINATION BETWEEN APPROVED STRUCTURAL AND ARCHITECTURAL DRAWINGS AND DETAILS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
  - CONTRACTOR TO VERIFY LOCATION OF ALL INSERTS IN SLAB W/ APPROVED MECHANICAL PLUMBING AND ELECTRICAL DRAWINGS PRIOR TO CONSTRUCTION.
  - FOR FURTHER INFORMATION REGARDING SITE PREPARATION REFER TO GEOTECHNICAL REPORT.

- LEGEND**
- P - PILE
  - GB - GRADE BEAM
  - CP - DIMENSIONED TO CENTER OF PILE
  - CC - CENTER OF COLUMN

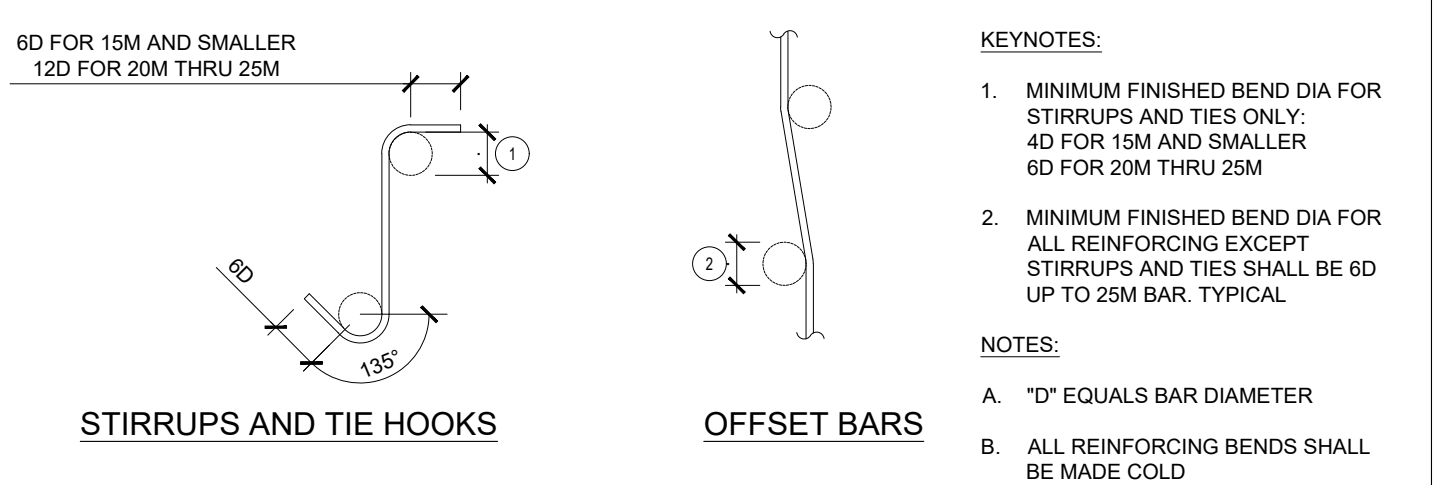
**(P) PILE SCHEDULE**

MARK	SHAFT DIAMETER	SHAFT REINFORCEMENT	TIES	PILE LENGTH (m)	T/O PILE ELEVATION (mm)
P1	508	(6)-15M	(3)-10M @ 50 O/C TOP & BOTTOM REST: 10M @ 400 O/C	6.0	99205
P1a	508	(6)-15M	(3)-10M @ 50 O/C TOP & BOTTOM REST: 10M @ 400 O/C	7.0	100105
P1b	508	(6)-15M	(3)-10M @ 50 O/C TOP & BOTTOM REST: 10M @ 400 O/C	6.0	98888
P2	508	(6)-15M	(3)-10M @ 50 O/C TOP & BOTTOM REST: 10M @ 400 O/C	9.0	99205
P2a	508	(6)-15M	(3)-10M @ 50 O/C TOP & BOTTOM REST: 10M @ 400 O/C	10.0	100105
P3	610	(8)-15M	(3)-10M @ 50 O/C TOP & BOTTOM REST: 10M @ 400 O/C	10.0	99205
P3a	610	(8)-15M	(3)-10M @ 50 O/C TOP & BOTTOM REST: 10M @ 400 O/C	10.0	99205

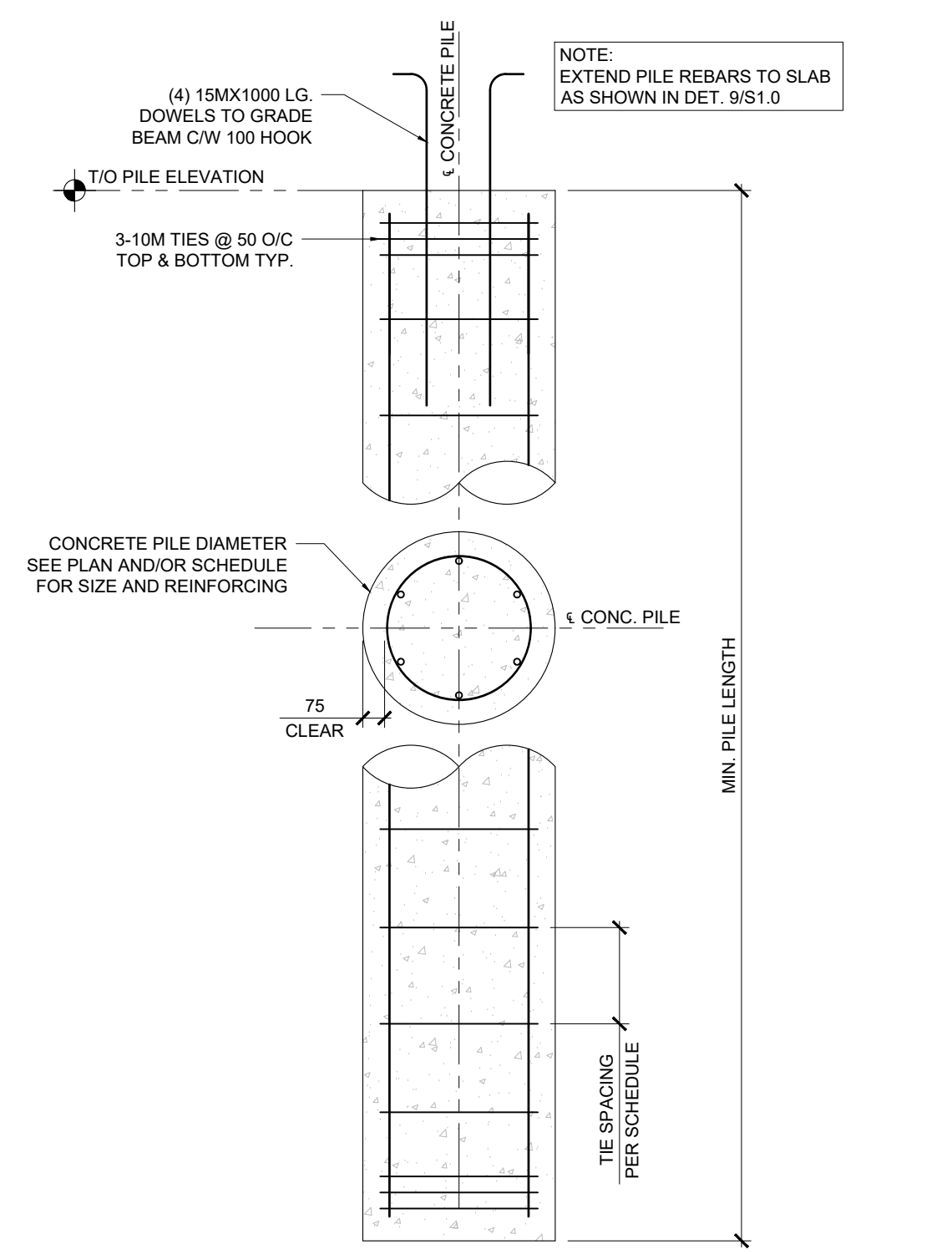
PILE DESIGN IS BASED ON GEOTECHNICAL INVESTIGATION OF PROPOSED DRUMHELLER CURLING CLUB LOCATED ACROSS THE PROPERTY REST: 10M @ 400 O/C



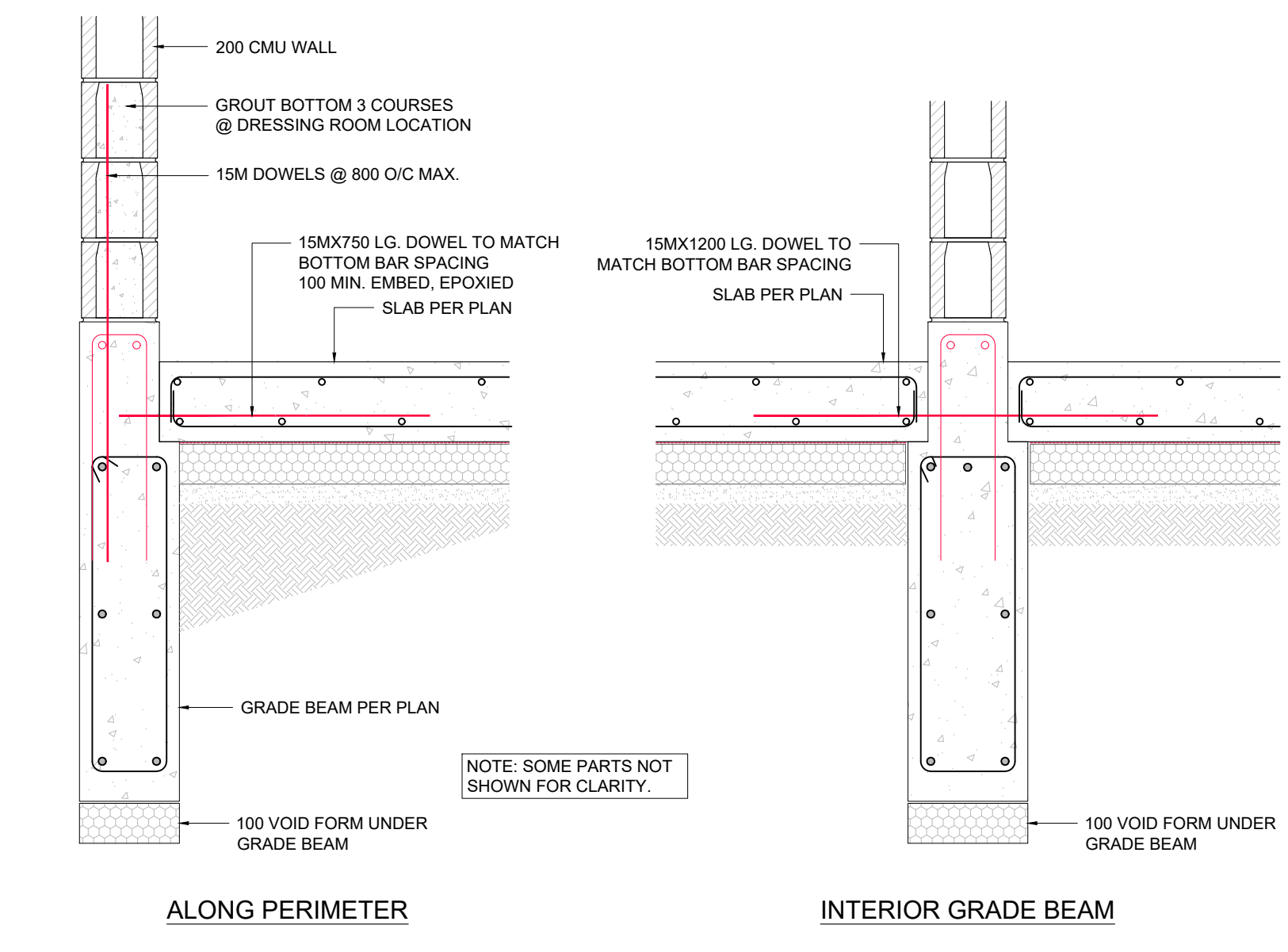
**5 Typ. Reinforcing Bars Lap Detail**  
S1.0 SCALE: NTS



**10 Typ. Reinforcing Bars Bend Detail**  
S1.0 SCALE: NTS

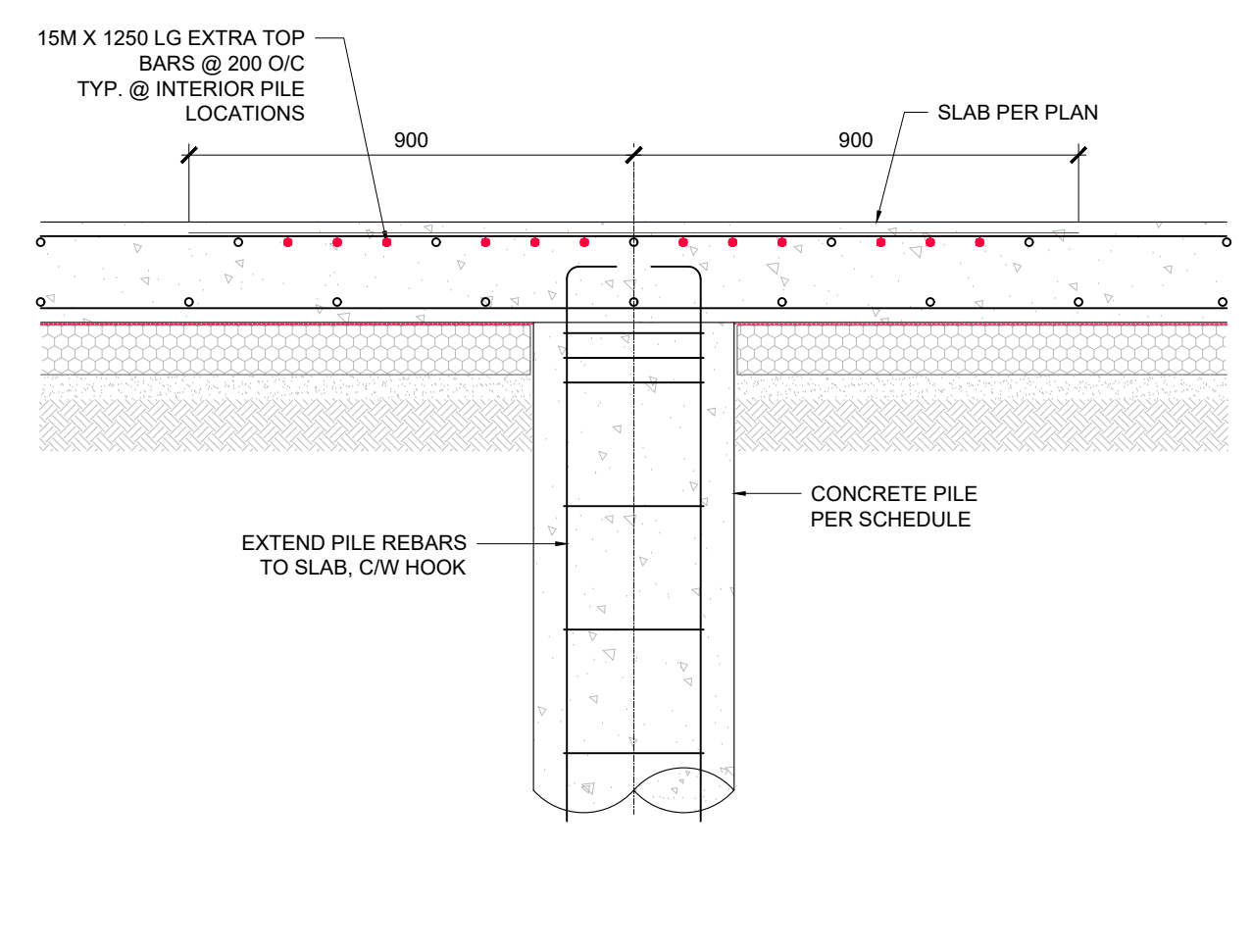


**6 Typ. Pile Detail**  
S1.0 SCALE: NTS

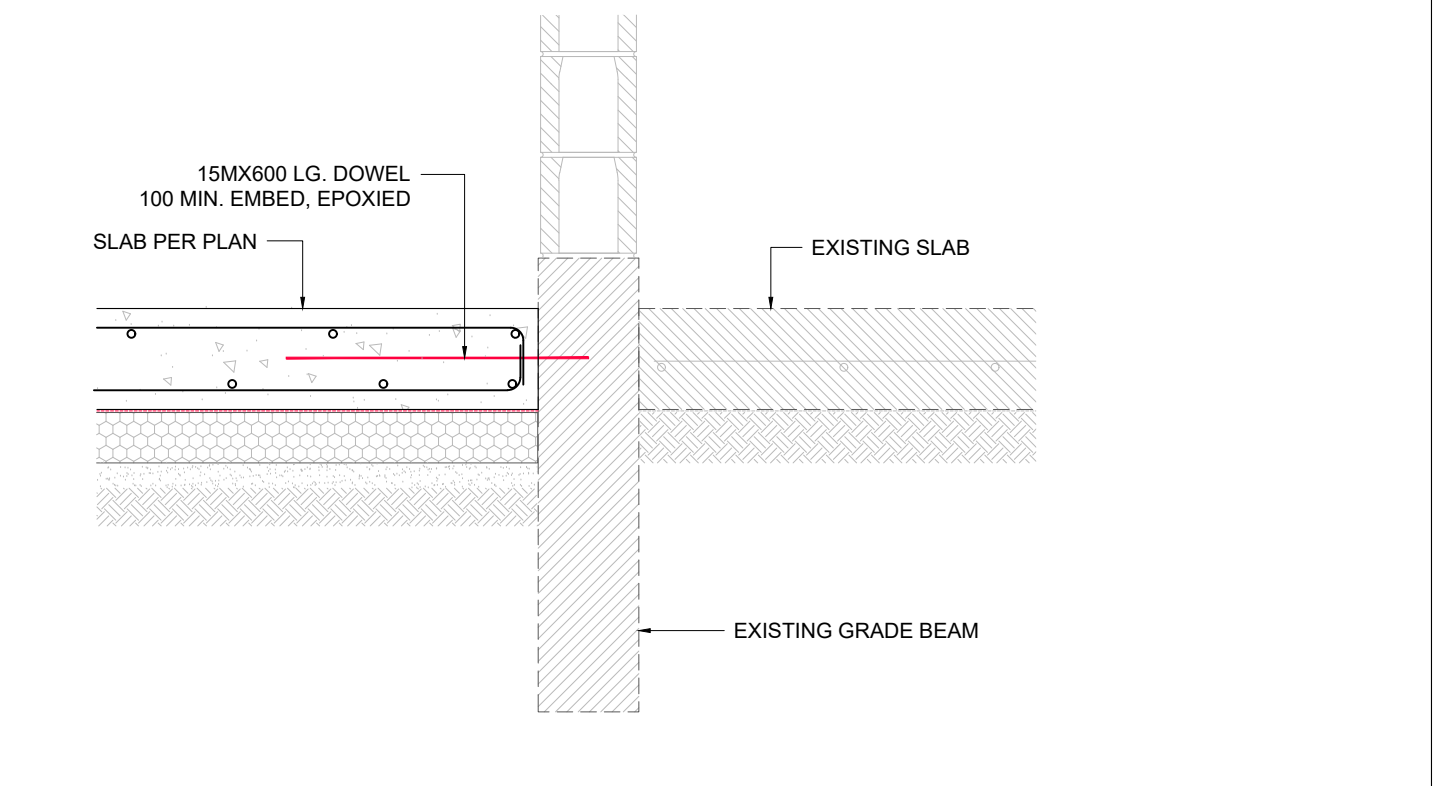


**7 Grade Beam Section**  
S1.0 SCALE: NTS

**8 Grade Beam Section**  
S1.0 SCALE: NTS



**9 Typ. Grade Beam Section**  
S1.0 SCALE: NTS



**11 Typ. Section @ Existing Foundation**  
S1.0 SCALE: NTS

**Beirsto & Associates**  
ENGINEERING & SURVEY

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SEAL

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VALIDATION

**PERMIT TO PRACTICE**  
BEAIRSTO & ASSOCIATES ENGINEERING LTD.

RM SIGNATURE: \_\_\_\_\_  
RM APEGA ID #: \_\_\_\_\_  
DATE: \_\_\_\_\_

**PERMIT NUMBER: P243**  
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

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OWNER

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PROJECT

**Drumheller Memorial Arena Dressing Room Addition**

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No.	Description	Date
3	Issued for Tender	Mar. 30, 2023
2	Issued for Building Permit	Mar. 27, 2023
1	Issued for Review	Mar. 16, 2023

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DRAWN BY: D. Dixon, P.Eng.  
CHECKED BY: D. McGrath, P.Eng.  
ENGINEER: D. Dixon, P.Eng.

PROJECT No: 22CEB01000  
DATE: March 2023  
SCALE: As Indicated

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DESCRIPTION

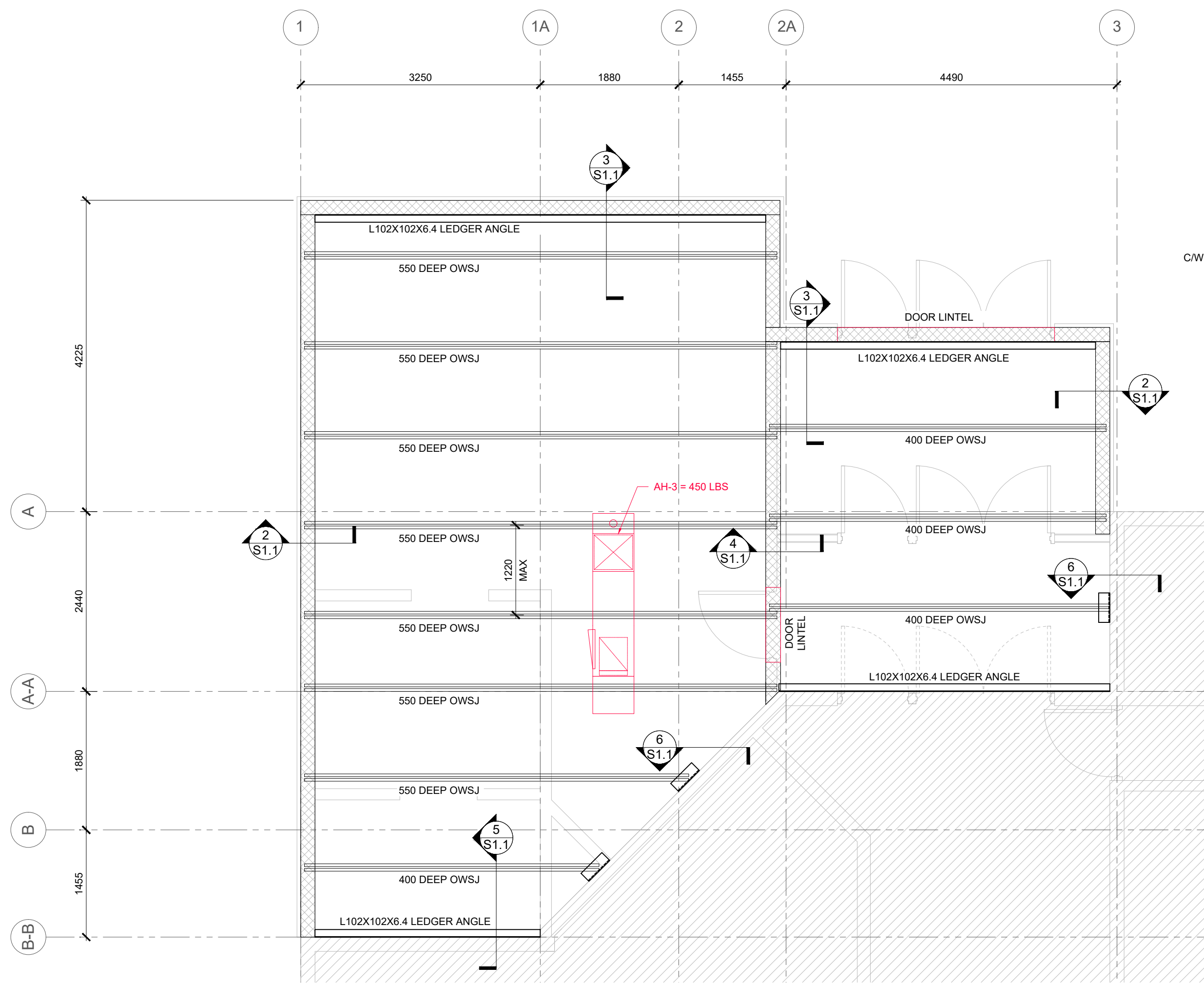
**Foundation Plan & Details**

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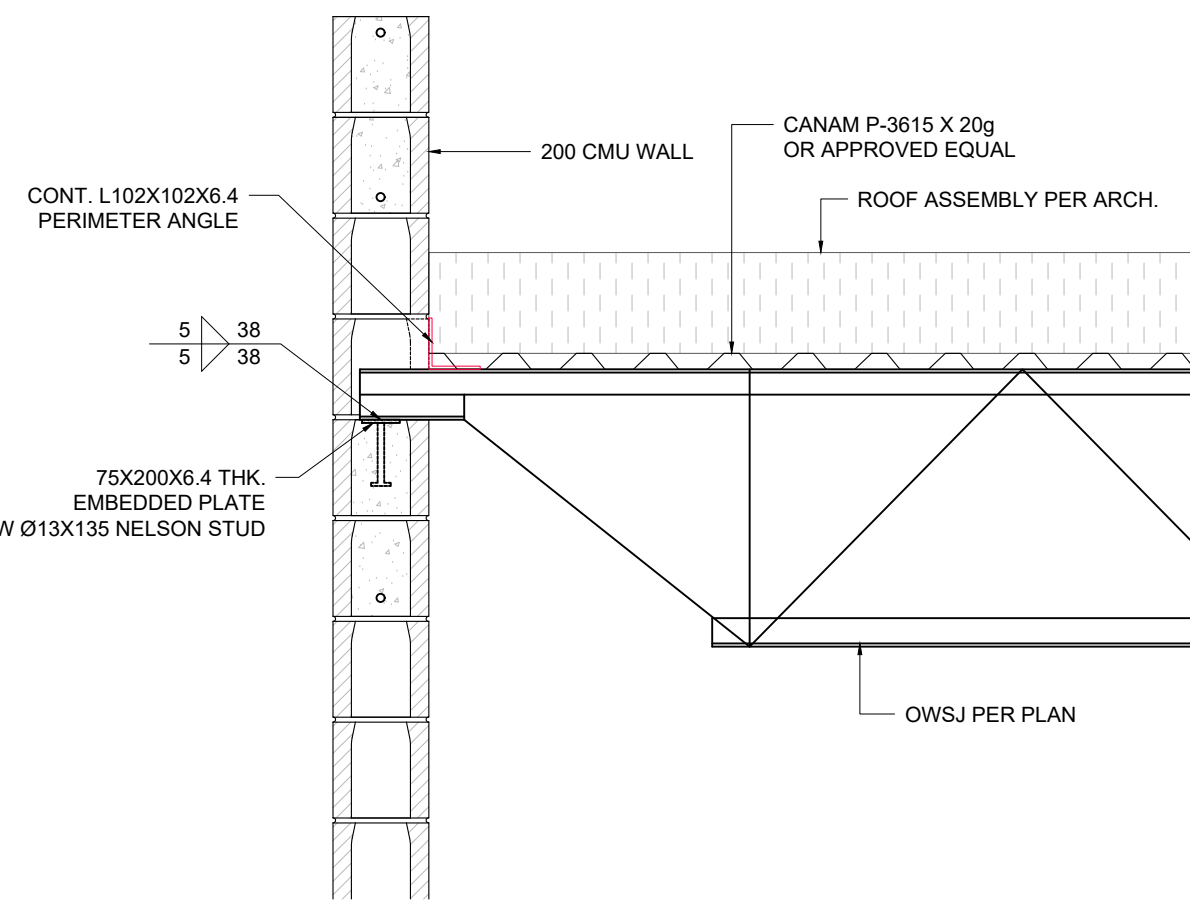
DRAWING NO. **S1.0** SHEET **2** OF **4**

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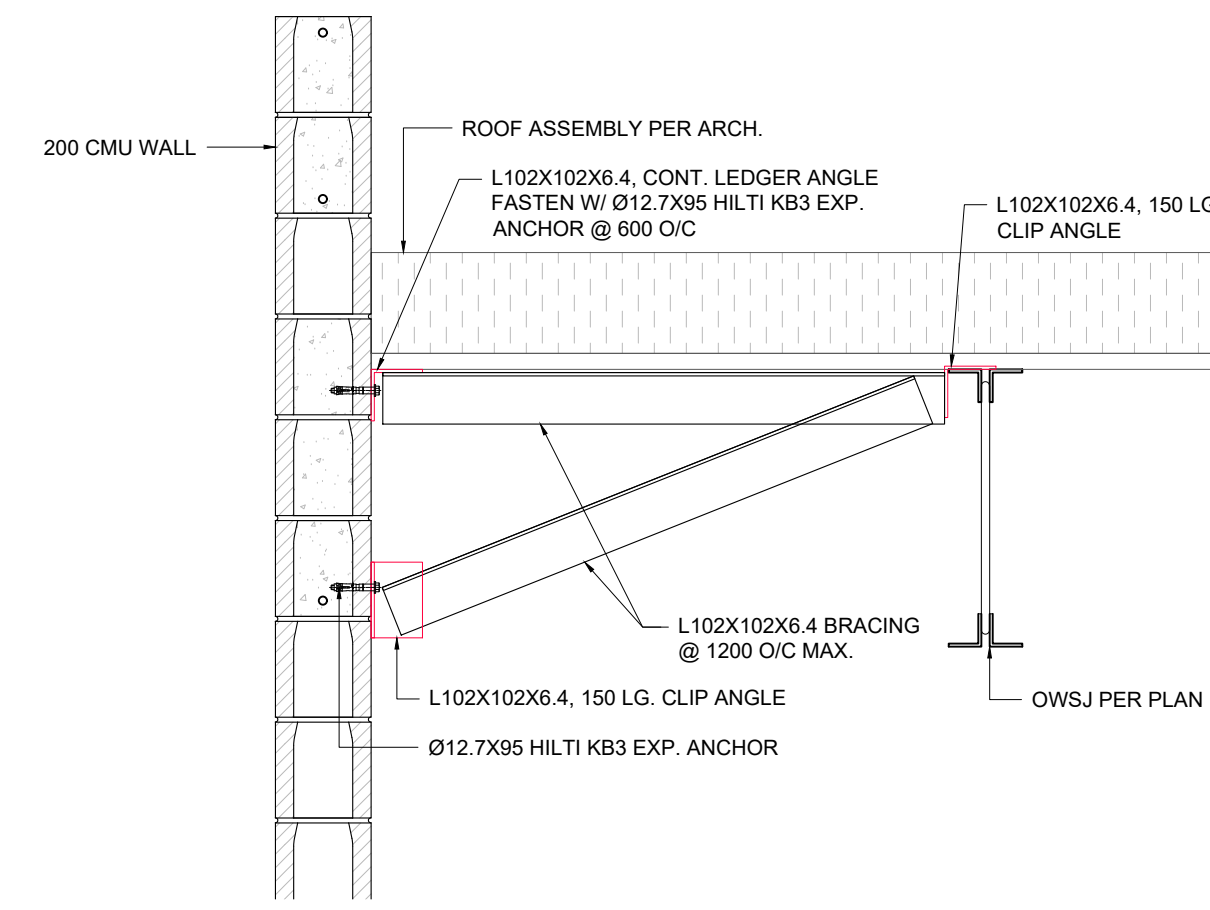




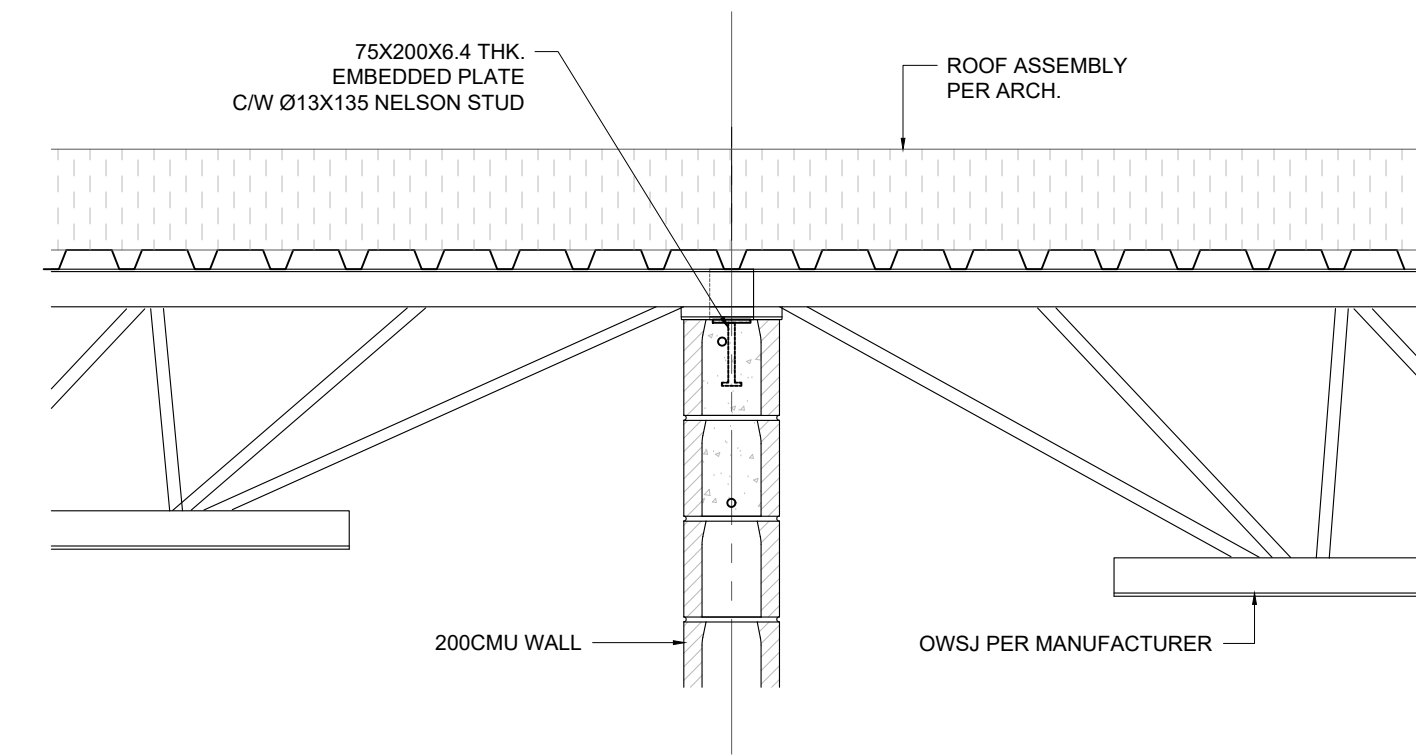
**1 Roof Framing Plan**  
S1.1 SCALE: 1:50



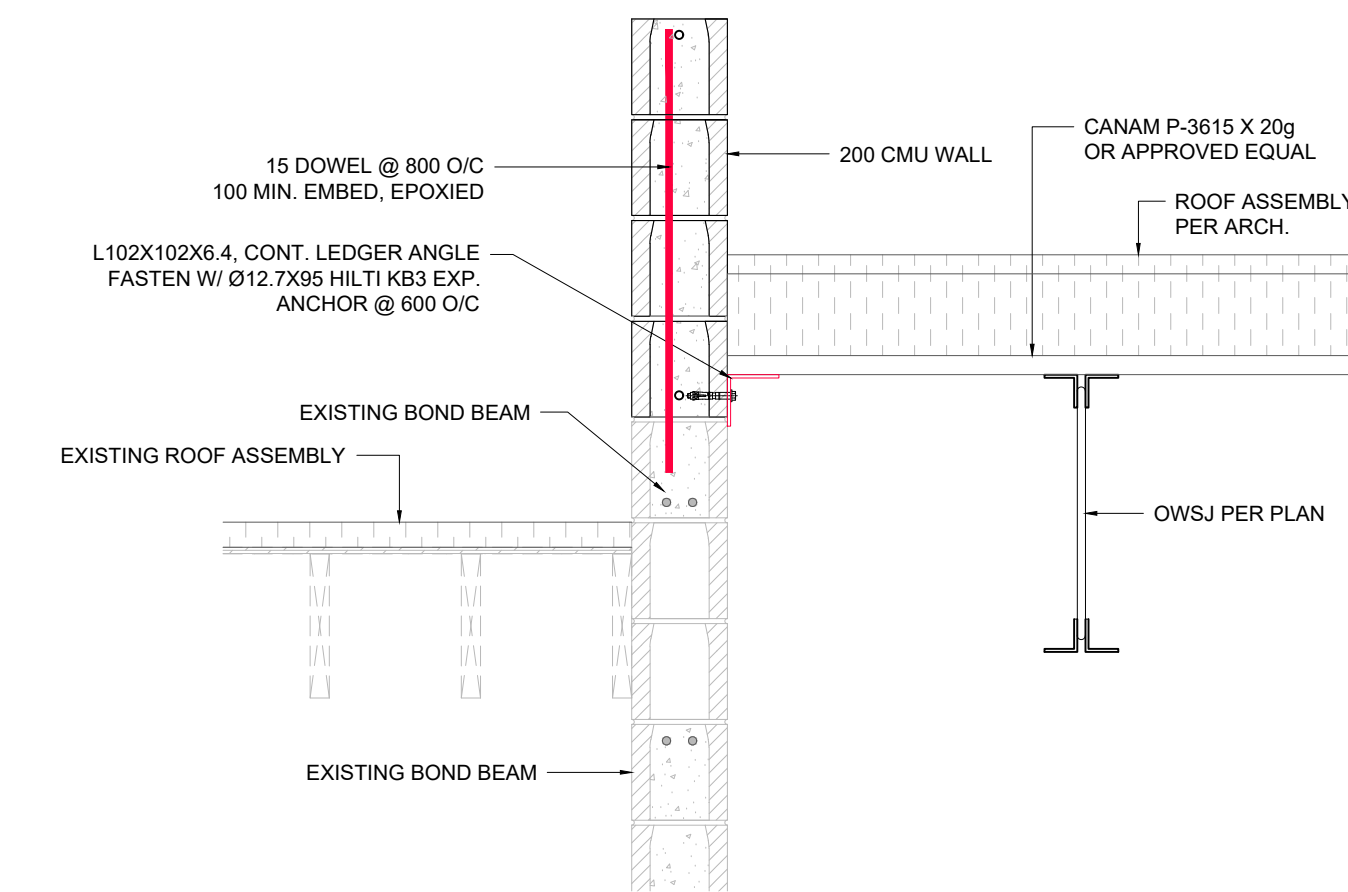
**2 Roof Joist Section**  
S1.1 SCALE: NTS



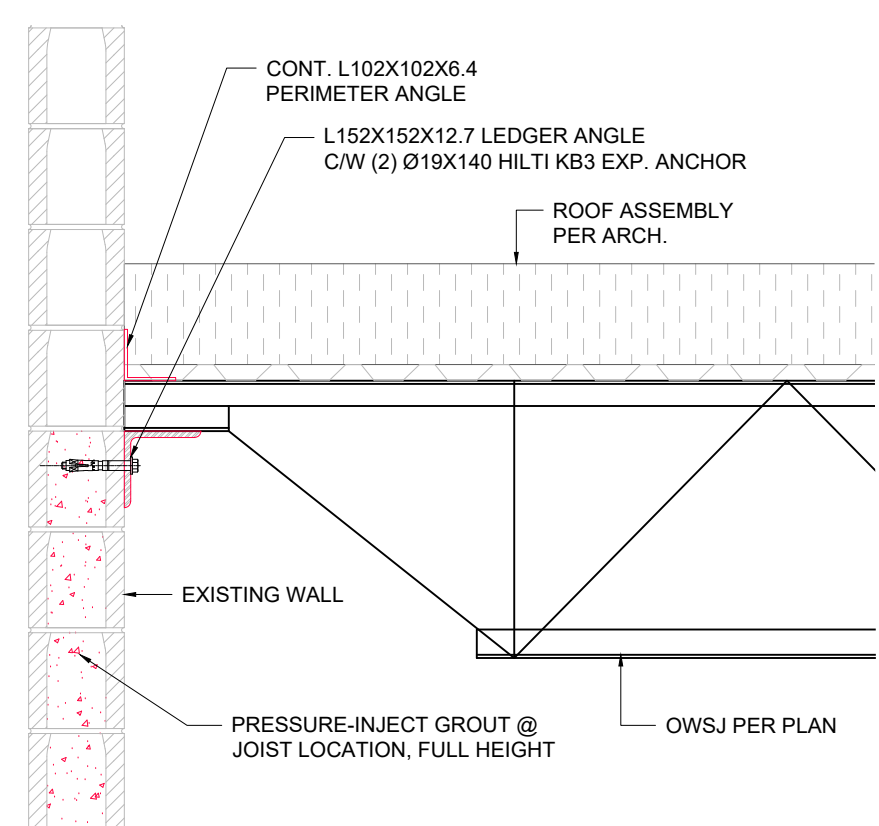
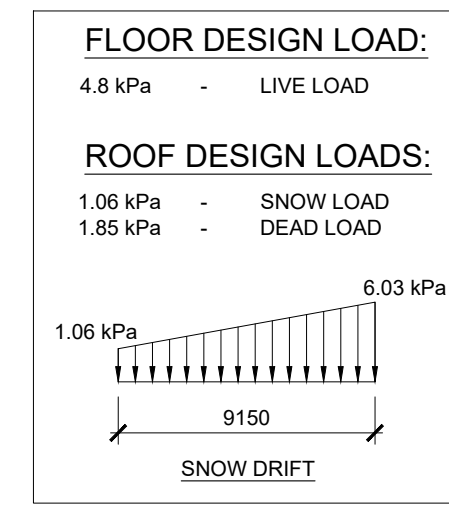
**3 Roof Joist Section**  
S1.1 SCALE: NTS



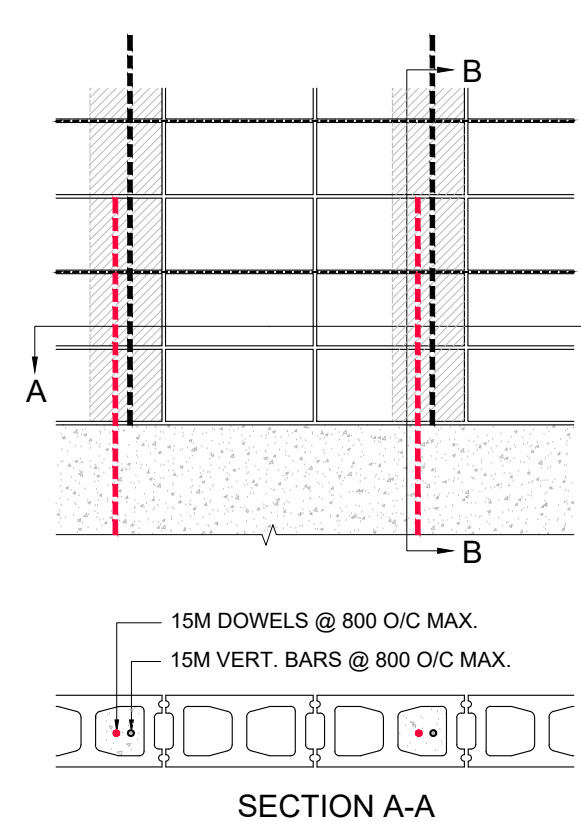
**4 Roof Joist Section**  
S1.1 SCALE: NTS



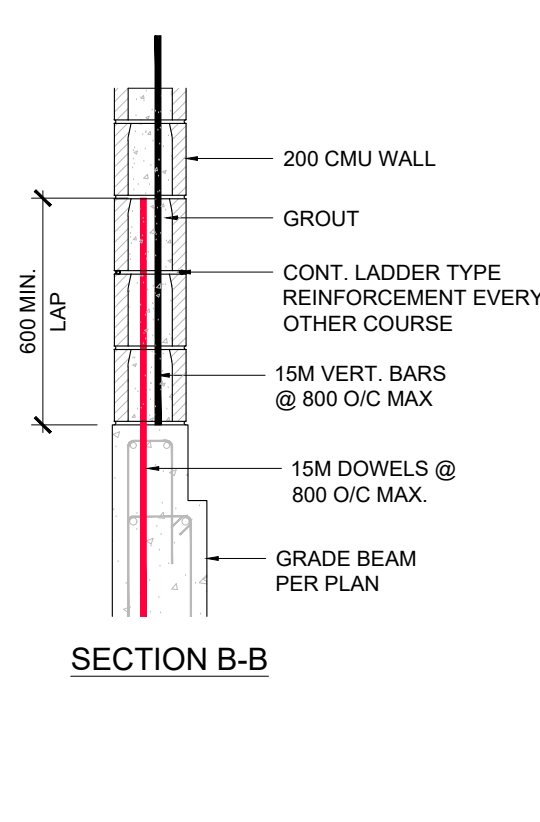
**5 Section @ Existing Wall**  
S1.1 SCALE: NTS



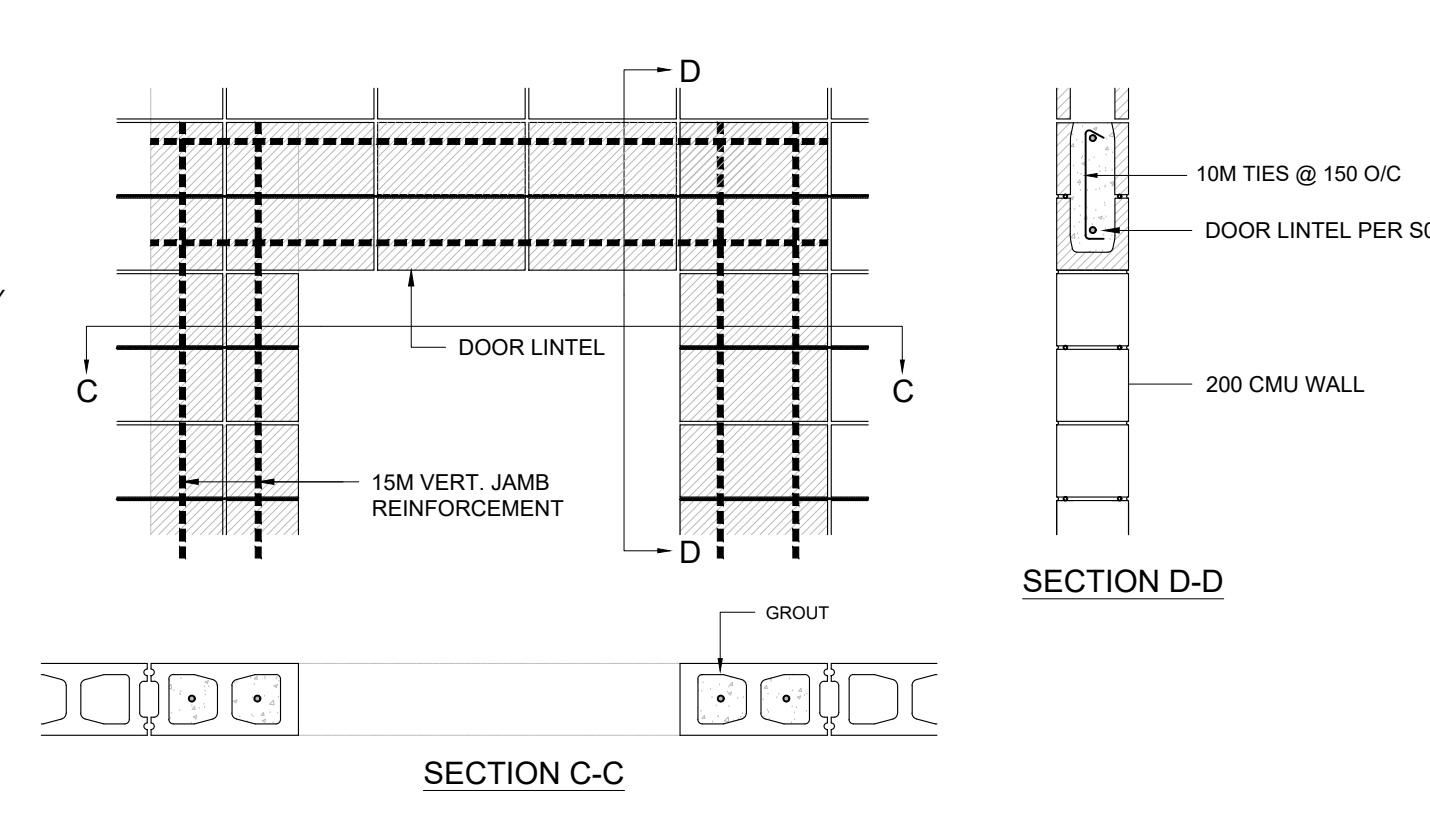
**6 Section @ Existing Wall**  
S1.1 SCALE: NTS



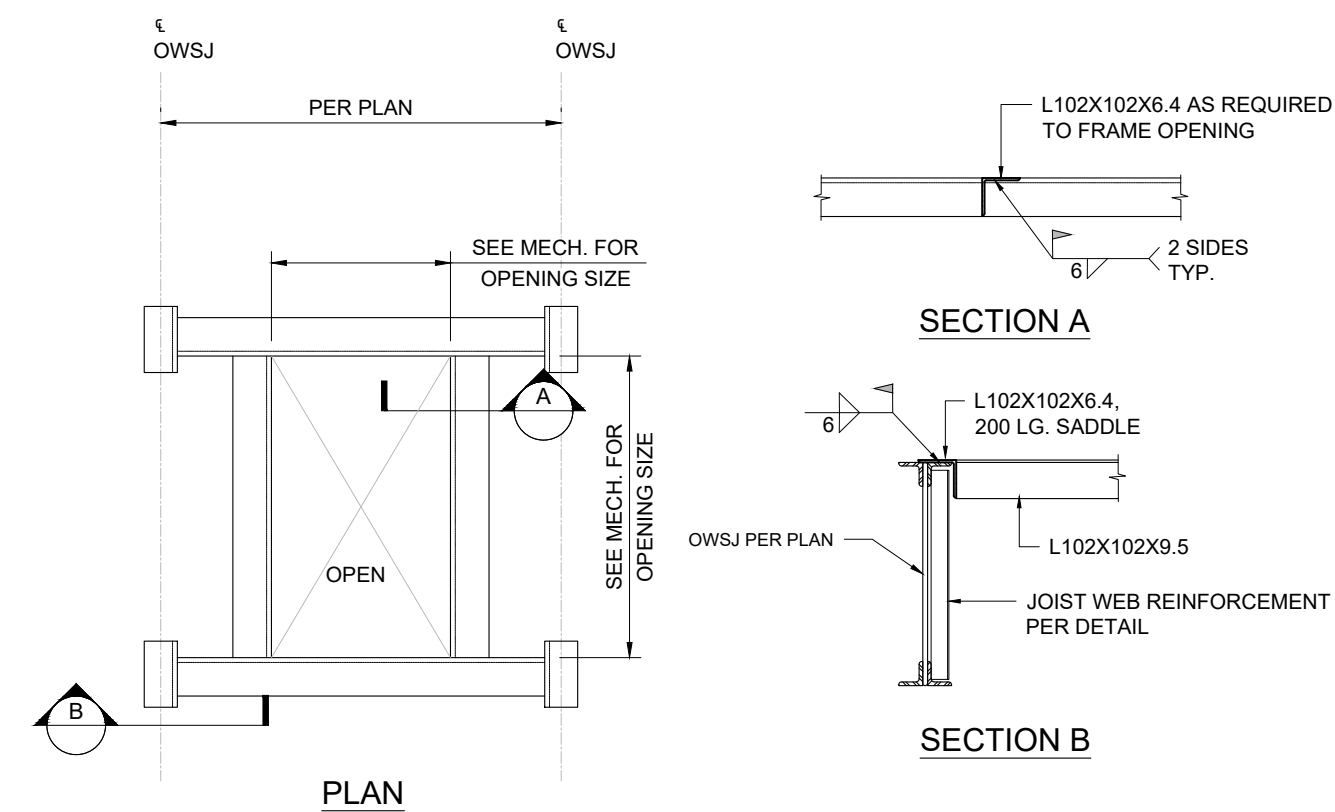
**7 Typ. CMU Wall Detail**  
S1.1 SCALE: NTS



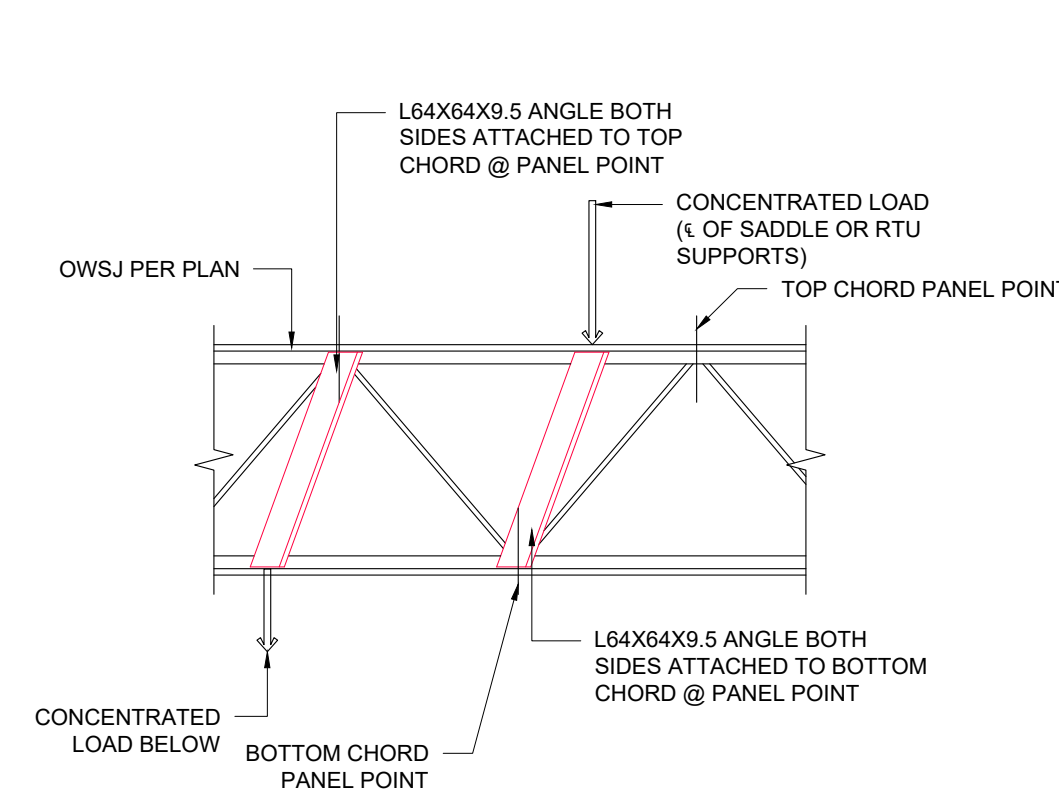
**8 CMU Wall Opening Detail**  
S1.1 SCALE: NTS



**9 Typ. CMU Wall Control Joint Detail**  
S1.1 SCALE: NTS

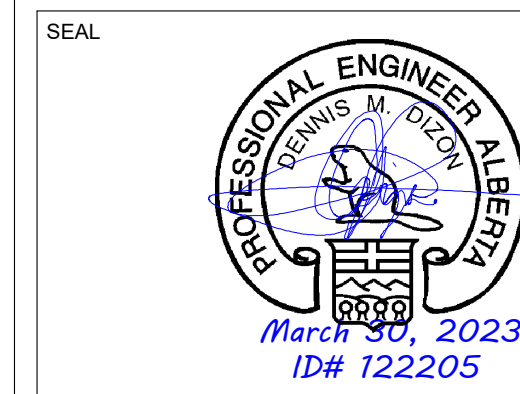


**10 Typ. Deck Opening Detail**  
S1.1 SCALE: NTS



**11 Typ. Joist Web Reinf. Detail**  
S1.1 SCALE: NTS

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PROJECT  
**Drumheller Memorial Arena Dressing Room Addition**

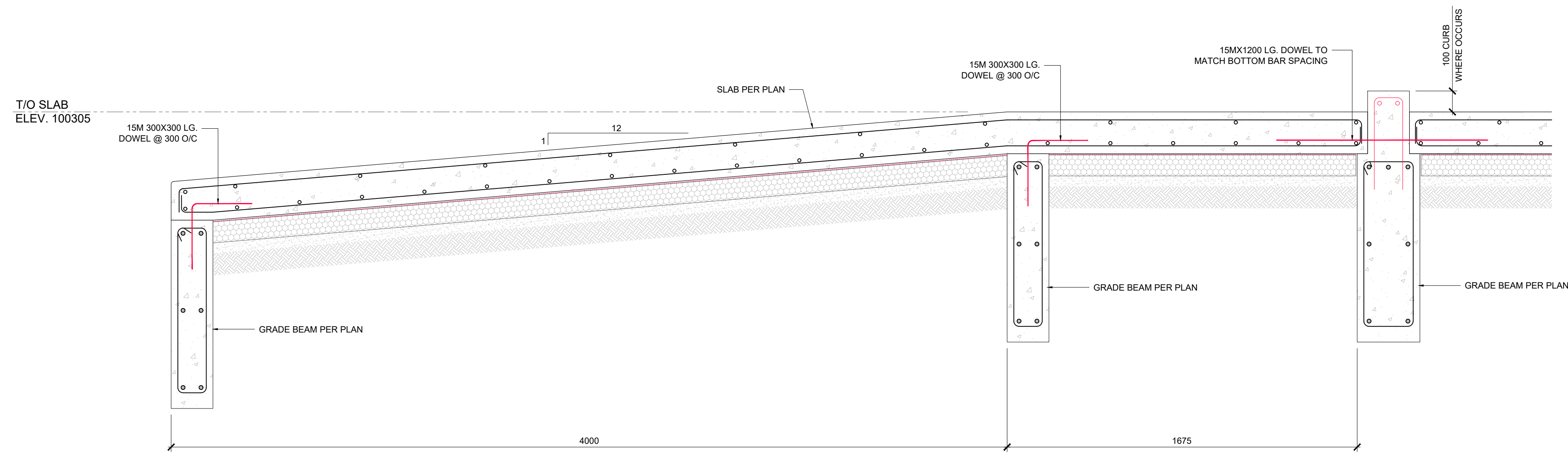
No.	Description	Date
3	Issued for Tender	Mar. 30, 2023
2	Issued for Building Permit	Mar. 27, 2023
1	Issued for Review	Mar. 16, 2023

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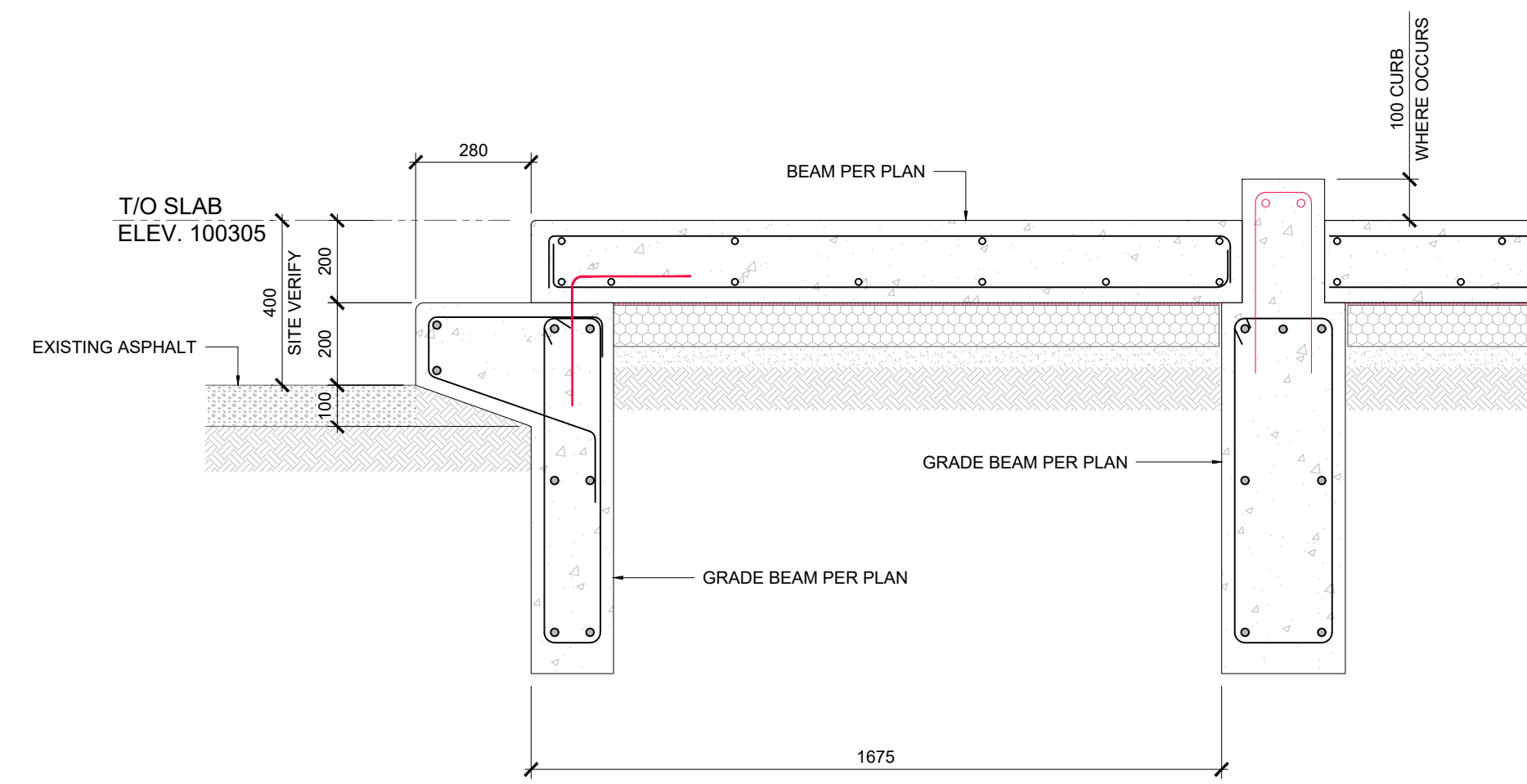
DRAWN BY: D. Dizon, P.Eng.  
CHECKED BY: D. McGrath, P.Eng.  
ENGINEER: D. Dizon, P.Eng.  
PROJECT No: 22CEB01000  
DATE: March 2023  
SCALE: As Indicated

DESCRIPTION  
**Framing Plan & Details**  
DRAWING NO. **S1.1** SHEET **3** OF **4**

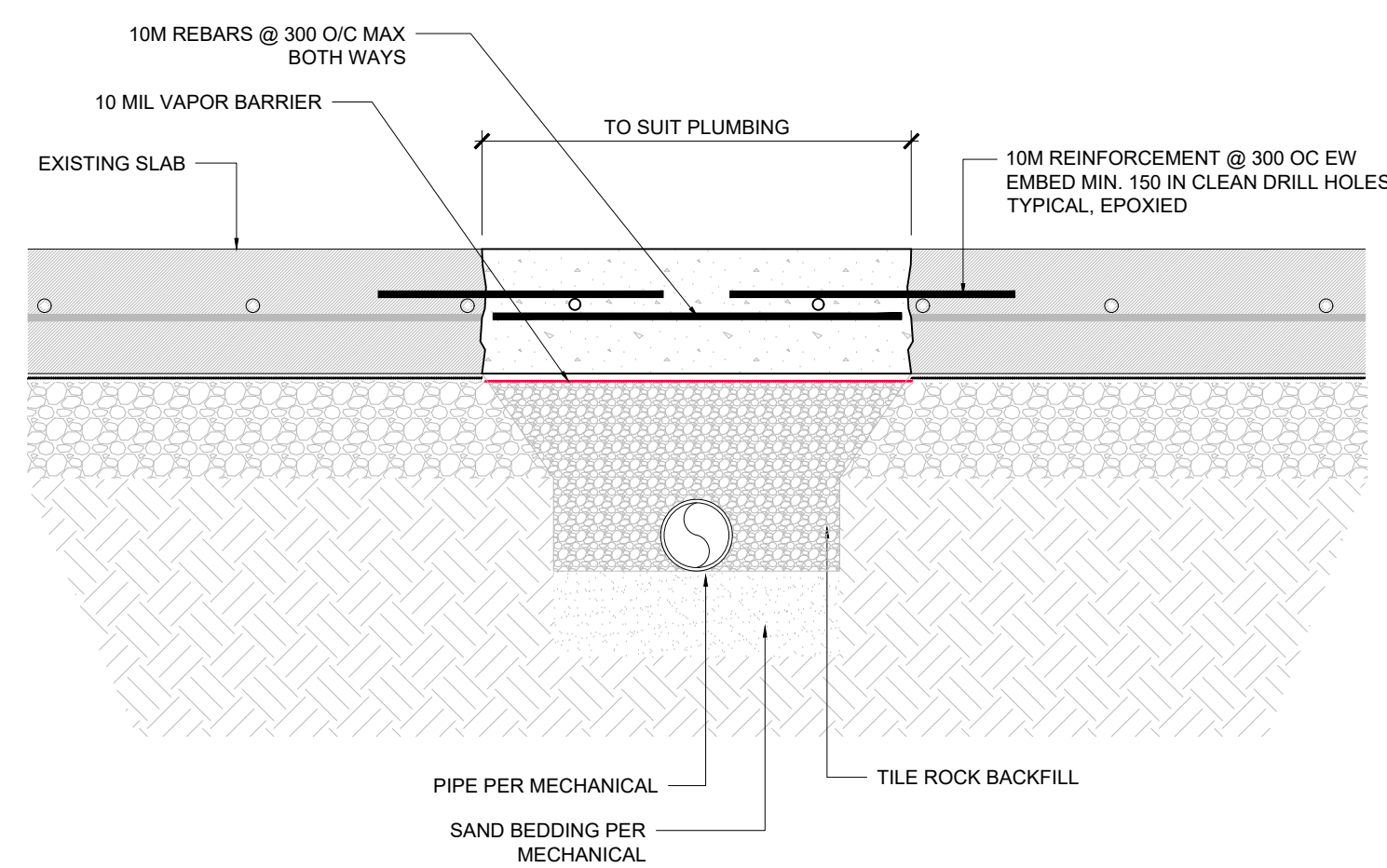




**1** Section @ Ramp  
S1.2 SCALE: NTS



**2** Section @ Concrete Step  
S1.2 SCALE: NTS



**3** Slab Cutting Detail  
S1.2 SCALE: NTS

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**PERMIT NUMBER : P243**  
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

OWNER

**DRUMHELLER VALLEY**

PROJECT

**Drumheller Memorial Arena  
Dressing Room Addition**

No.	Description	Date
3	Issued for Tender	Mar. 30, 2023
2	Issued for Building Permit	Mar. 27, 2023
1	Issued for Review	Mar. 16, 2023

NOTES:

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DRAWN BY: D. Dixon, P. Eng.  
CHECKED BY: D. McGrath, P. Eng.  
ENGINEER: D. Dixon, P. Eng.  
PROJECT No: 22CEB01000  
DATE: March 2023  
SCALE: As Indicated

DESCRIPTION

**Foundation Details**

DRAWING NO. **S1.2** SHEET **4** / **4**