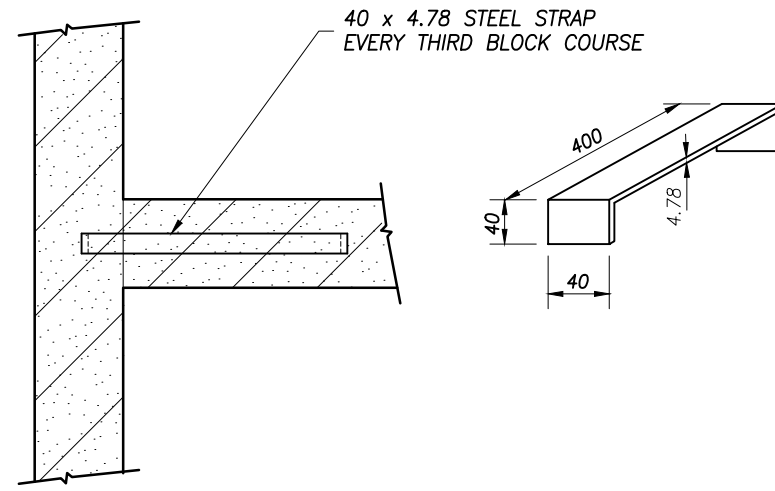
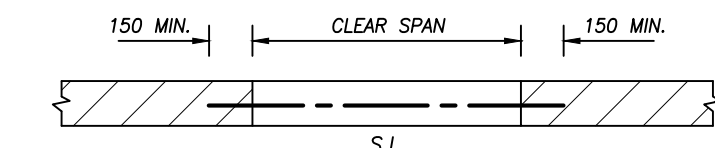
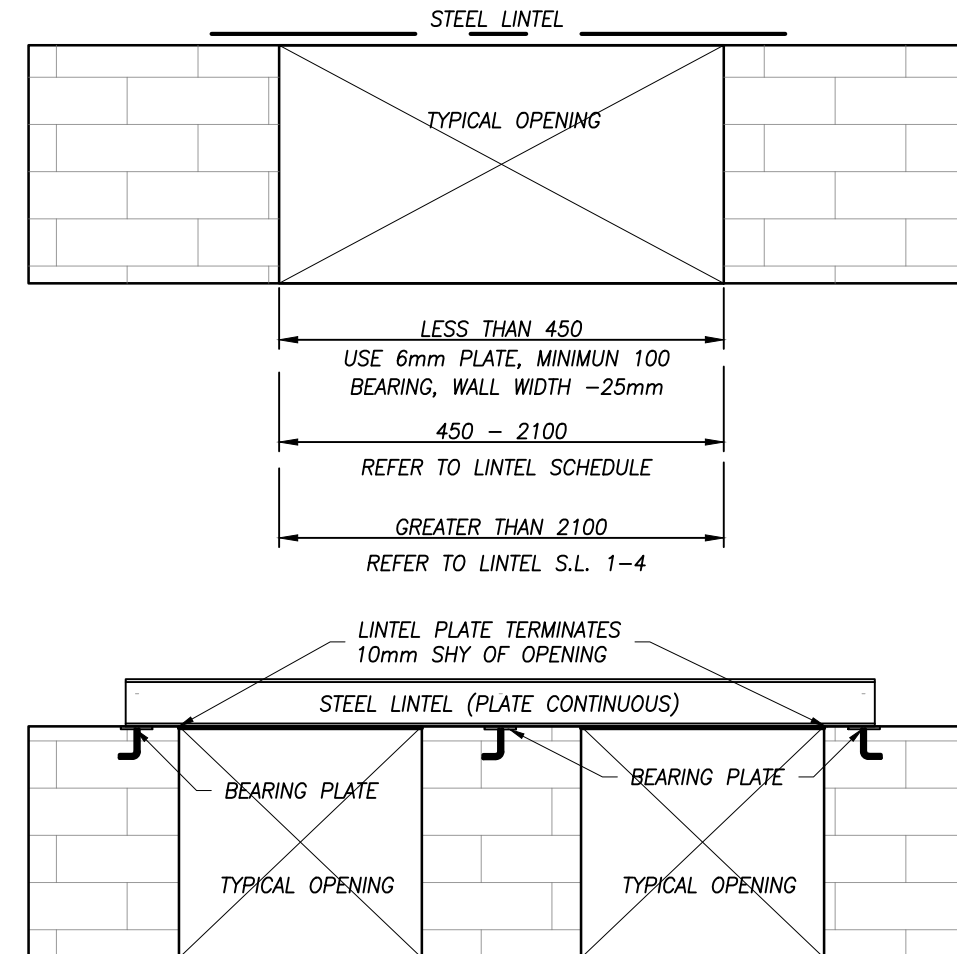


BOND BEAM ON SLAB ON GRADE
NOT TO SCALE



TYPICAL INTERSECTION OF CONCRETE BLOCK WALLS
NOT TO SCALE



CLEAR SPAN	140 WALL	190 WALL
UP to 1200	2Ls 75x65x8	2Ls 90x90x8
1200 to 1800	2Ls 90x65x8	2Ls 125x90x8
1800 to 2100	2Ls 90x65x10	2Ls 150x90x8

CLEAR SPAN	240 WALL	290 WALL
UP to 1200	2Ls 100x100x8	3Ls 90x90x8
1200 to 1800	2Ls 150x100x8	3Ls 125x90x8
1800 to 2100	2Ls 150x100x8	3Ls 150x90x8

FOR LINTELS IN 90 VENEER, USE 1 ANGLE OF THAT NOTED FOR 190 WALL ON SIMILAR SPAN.
DOUBLE ANGLES TO BE STITCH WELDED BACK TO BACK.

TYPICAL STEEL LINTEL DETAIL
NOT TO SCALE
PROVIDE NEW STEEL LINTELS FOR ALL MECH. PENETRATIONS THROUGH MASONRY WALLS.
(REFER TO MECHANICAL FOR OPENING SIZE & LOCATIONS FOR LINTELS ABOVE MECH. PENETRATIONS)

GENERAL NOTES

- CHECK ALL DIMENSIONS ON THESE DRAWINGS WITH ALL OTHER DRAWINGS, INCLUDING BUT NOT LIMITED TO DRAWINGS PREPARED ARCHITECTURAL, MECHANICAL OR ELECTRICAL CONSULTANTS. REPORT ANY INCONSISTENCIES TO THE ENGINEER PRIOR TO COMMENCING WITH THE WORK. DO NOT SCALE THE DRAWINGS.
- THE DESIGN LIVE LOADS ARE INDICATED ON THE DRAWINGS. RENOVATION LOADS SHALL NOT EXCEED THE DESIGN LOADS.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING, SHORING AND ANY OTHER TEMPORARY OR PERMANENT MEASURES AS REQUIRED DURING RENOVATION. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SUPPORT OF EXISTING OR ADJACENT STRUCTURES AS REQUIRED. ALL BRACING AND SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- REFER TO OTHER CONSULTANTS DRAWINGS FOR DETAILS NOT INDICATED ON THE STRUCTURAL DRAWINGS.
- THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND SPECIFICATIONS.
- CLARIFY ANY QUERIES WITH THE ENGINEER REGARDING THE INTERPRETATION OF THE DRAWINGS, PRIOR TO THE COMMENCEMENT OF ANY WORK.

CONCRETE NOTES

- ALL STRUCTURAL CONCRETE ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA STANDARD CAN/CSA A23.3. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH CSA STANDARD CAN/CSA A23.1.
- MINIMUM CONCRETE STRENGTH AT 28 DAYS SHALL BE:
- FOOTINGS 25 MPa TYPE N
- SLAB ON GRADE 25 MPa TYPE N
SLUMP SHALL BE 75mm ± 25mm.
AGGREGATE SHALL BE 20mm MAXIMUM.
AIR ENTRAINMENT TO BE 6% ± 1% WHEN EXPOSED TO EXTERIOR. CONTRACTOR TO SUBMIT CONCRETE MIX DESIGN FOR REVIEW.
- THE DEFORMED REINFORCING STEEL SHALL CONFORM TO CSA STANDARD G30.18M GRADE 300R FOR STIRRUPS AND TIES AND GRADE 400R FOR ALL OTHER REINFORCING. UNLESS OTHERWISE NOTED THE REINFORCING LAP LENGTH SHALL BE CLASS B IN SPLICES. ALL REINFORCING HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH A23.1.
- WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH CSA G30.5. ALL MESH SHALL BE CHAINED PRIOR TO THE CONCRETE POUR. LIFTING OF THE MESH DURING THE CONCRETE POUR WILL NOT BE PERMITTED. ALL SPLICES SHALL BE A MINIMUM OF TWO CROSS WIRE SPACINGS PLUS 50mm.
- THE REINFORCING COVER FOR CONCRETE SHALL BE:
- 75mm FOR CONCRETE AGAINST EARTH
- 40mm FOR FORMED CONCRETE EXPOSED TO EARTH OR WEATHER WHERE THE REINFORCING BAR IS 15M OR SMALLER
- 50mm FOR FORMED CONCRETE EXPOSED TO EARTH OR WEATHER WHERE THE REINFORCING BAR IS 20M OR LARGER
- 25mm FOR INTERIOR CONCRETE. ALL CHAIRS, BOLSTERS, SPACERS AND BAR SUPPORTS SHALL BE IN ACCORDANCE WITH A23.1.
- KEEP EXCAVATIONS DRY BEFORE CONCRETE IS PLACED. REMOVE ALL LOOSE MATERIAL, SOFT SOIL OR WATER PRIOR TO PLACING CONCRETE. PROVIDE A 75mm MUD SLAB FOR ALL FOOTINGS BELOW THE WATER TABLE.
- THE FOOTING DESIGN IS BASED ON INFORMATION AVAILABLE AT THE TIME OF DESIGN. IF THE SITE CONDITIONS WARRANT, BUT ONLY WITH THE EXPRESS PERMISSION OF THE ENGINEER.
- ALL ADHESIVE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE HILTI HIT-HY200 (OR APPROVED EQUAL) PROCEDURES.

MASONRY NOTES

- ALL STRUCTURAL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA STANDARD S304.1. ALL MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CSA STANDARD A371. ALL MASONRY CONNECTIONS, REINFORCING AND TYPING SHALL BE IN ACCORDANCE WITH CSA 4370. ALL MORTAR AND GROUT SHALL BE IN ACCORDANCE WITH A179.
- ALL CONCRETE BLOCKS SHALL BE NORMAL WEIGHT TYPE H/15/A/M UNLESS OTHERWISE NOTED. MORTAR SHALL BE TYPE S FOR LOADBEARING AND TYPE N FOR NON-LOADBEARING.
- VERTICAL CONTROL JOINTS SHALL BE PROVIDED AT A MAXIMUM SPACING OF 6000mm. REFER TO ARCHITECTURAL DRAWING FOR DETAILS AND LOCATIONS.
- TRIM ALL OPENINGS WITH 2-15M BARS.
- GROUT SHALL CONSIST OF ONE PART PORTLAND CEMENT, THREE PARTS SAND (MAXIMUM AGGREGATE SIZE SHALL BE 10mm) WITH WATER TO PROVIDE A MINIMUM 10MPa COMPRESSIVE STRENGTH AT 28 DAYS. SLUMP SHALL BE 200mm TO 250mm.
- ALL CELLS CONTAINING REINFORCING SHALL BE GROUTED SOLID. TWO BLOCK COURSES BELOW BEARING PLATES SHALL BE GROUTED SOLID.
- THE MASONRY SHALL BE CONSTRUCTED EVENLY WITH MAXIMUM LIFTS OF 1200 PER DAY. DO NOT TOOTH AND BOND OR STACK BOND MASONRY. RAKE BACK ENDS OF UNFINISHED WALLS.
- ALL MORTAR JOINTS SHALL BE TOOLED (CONCAVE). A MINIMUM BED JOINT OF 6mm IS REQUIRED FOR THE STARTING COURSE TO A MAXIMUM OF 20mm. THE BED JOINTS SHALL BE 10mm.
- PROVIDE VERTICAL AND HORIZONTAL REINFORCING AS FOLLOWS UNLESS NOTED OTHERWISE ON THE DRAWINGS:
- 140 CONCRETE BLOCK - 10M VERTICAL AT 600 O.C. & HEAVY DUTY TRUSS TYPE HORIZONTAL REINFORCING EVERY SECOND COURSE.
- 190 CONCRETE BLOCK - 15M VERTICAL AT 800 O.C. & HEAVY DUTY TRUSS TYPE HORIZONTAL REINFORCING EVERY SECOND COURSE.
- 240 CONCRETE BLOCK - 20M VERTICAL AT 600 O.C. & HEAVY DUTY TRUSS TYPE HORIZONTAL REINFORCING EVERY COURSE.
- THE HORIZONTAL REINFORCING AT EXTERIOR WALLS SHALL BE GALVANIZED. DO NOT EXTEND HORIZONTAL REINFORCING THROUGH CONTROL JOINTS UNLESS OTHERWISE NOTED.
- PROVIDE A STEEL Lintel OVER ALL OPENINGS OR RECESSES INCLUDING OPENINGS FOR MECHANICAL AND ELECTRICAL COMPONENTS. ALL EXTERIOR LINTELS TO BE HOT DIP GALVANIZED.
- BUILD THE MASONRY SOLID AROUND ALL BEAM, Lintel AND JOIST POCKETS. INSTALL BEARING PLATES AT THE SPECIFIED ELEVATION AND GROUT THE PLATE INTO THE WALL A MINIMUM OF 400mm.
- PROVIDE TEMPORARY BRACING AS REQUIRED TO SUPPORT THE MASONRY WALLS IN CONSTRUCTION. PROTECT THE MASONRY WALLS FROM THE ELEMENTS AT ALL TIMES EXCEPT DURING CONSTRUCTION PROGRESS.

STRUCTURAL STEEL NOTES

- ALL STRUCTURAL STEEL ELEMENTS, INCLUDING DESIGN OF ELEMENTS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH CAN/CSA S16.
- ALL STRUCTURAL STEEL SHALL CONFORM TO CSA G40.21 (300W) EXCEPT IN SECTIONS AND PLATES G40.21 (350W), HSS MEMBERS G40.21 (350W) CLASS C OR ASTM A500 GRADE C. ANCHOR BOLTS ASTM A307. COLD FORMED SECTIONS ASTM A570M GRADE 350W. UNLESS OTHERWISE NOTED, ALL SECTIONS SHALL BE PRIME PAINTED WITH THE SURFACE PREPARATION AND PAINTING PROCEDURES IN ACCORDANCE WITH CAN/CSSB 85.10.
- ALL WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH CAN/CSA W59. THE STEEL FABRICATOR SHALL BE FULLY QUALIFIED UNDER THE REQUIREMENTS BY THE CANADIAN WELDING BUREAU IN CONFORMANCE WITH CAN/CSA W47.1.
- DESIGN ALL MOMENT AND SHEAR CONNECTIONS FOR THE FULL CAPACITY OF THE SMALLER MEMBER IN THE CONNECTION UNLESS OTHERWISE NOTED.
- PROVIDE MINIMUM BEARING LENGTH OF STEEL MEMBERS AS FOLLOWS:
- ON MASONRY - 150mm
- ON STEEL - 90mm
- THE BASE PLATE AND BEARING PLATE GROUT SHALL BE OF THE CEMENTITIOUS NON-SHRINK TYPE.
- DECK SHALL BE EITHER 38mm OR 76mm DEEP IN ACCORDANCE WITH CSA S136 AND SHALL BE FABRICATED FROM ASTM A653 SS GRADE 230 GALVANIZED STEEL WITH A ZP75 GALVANNEAL OR Z275 GALVANIZED ZINC COATING. THE MINIMUM NOMINAL STEEL CORE THICKNESS SHALL BE 0.78mm. STEEL DECK SHALL BE FASTENED TO THE SUPPORT STRUCTURE WITH 20mm SPOT WELDS AT NOT MORE THAN 300mm c/c (150mm AT PERIMETER). CLINCH SIDELAPS AT 600mm c/c. ALL WELDS TO BE TOUCHED UP WITH PRIMER. MECHANICAL FASTENERS MAY ONLY BE USED WITH THE PERMISSION OF THE ENGINEER.
- FULLY WELD THE BASE PLATE TO THE COLUMN TO DEVELOP THE ANCHOR BOLTS. PROVIDE CAP PLATES ON ALL COLUMNS. PROVIDE 6mm CAP PLATES ON ALL COLUMNS.
- PROVIDE MINIMUM 175x10x175 BEARING PLATES FOR ALL STRUCTURAL STEEL c/c - 2-158 ANCHORS UNLESS OTHERWISE NOTED.
- ALL BOLTS SHALL BE TIGHTENED WITH A SUITABLE TORQUE WRENCH IN ACCORDANCE WITH CSA S16.
- ALL STEEL EXPOSED TO THE EXTERIOR TO BE HOT DIP GALVANIZED.
- ERECT STRUCTURAL STEEL IN ACCORDANCE WITH CSA S16 AND IN CONFORMANCE WITH THE APPROVED SHOP DRAWINGS.

SUBMITTALS

- SUBMIT FOR REVIEW BY THE CONSULTANT, DETAILED SHOP DRAWINGS FOR ALL STRUCTURAL WORK INCLUDING, BUT NOT LIMITED TO: TEMPORARY SHORING, STRUCTURAL STEEL, REINFORCING STEEL & COLD-FORMED STEEL STUD.
- THE SCALE OF THE DRAWINGS SHALL BE SUCH THAT THE DETAILS OF THE STRUCTURAL WORK ARE CLEARLY SHOWN, AND IN NO CASE SMALLER THAN 1:50 (1/4"=1'-0").
- THE STRUCTURAL DRAWINGS SHALL NOT BE REPRODUCED, IN WHOLE OR IN PART, FOR USE AS SHOP DRAWINGS.
- EACH SUBMITTAL SHALL BEAR THE SEAL AND SIGNATURE OF A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
- CONTRACTOR SHALL ALLOW FOR A 5 WORKING DAY TURN AROUND TIME FOR STRUCTURAL CONSULTANT TO REVIEW THE SHOP DRAWINGS.

LOADING SUMMARY DESIGN STANDARDS

- ONTARIO BUILDING CODE, 2012, PART 4: STRUCTURAL DESIGN
 - CAN/CSA-A23.3-14, DESIGN OF CONCRETE STRUCTURES
 - CAN/CSA-A23.4-16, DESIGN OF PRECAST CONCRETE STRUCTURES
 - CAN/CSA-S304.1-14, MASONRY DESIGN FOR BUILDINGS
 - CAN/CSA-S16-14, LIMIT STATES DESIGN OF STEEL STRUCTURES
 - CAN/CSA-S136-16, DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS
- SNOW, ICE AND RAIN LOADS**
APPLIED PER OBC, PART 4, SECTION 4.1.6
- IMPORTANCE FACTOR, I_w 0.9 (SL) 1.15 (ULS)
 - GROUND SNOW LOAD, S_g 1.1 kPa (22.97 PSF)
 - ASSOCIATED RAIN LOAD, S_r 0.4 kPa (8.35 PSF)
 - WIND EXPOSURE FACTOR, C_w 1.0
 - ROOF SNOW LOAD, S 1.47 kPa (30.70 PSF)
 - DRIFT LOADS PER CLAUSE 4.1.6.2.8
 - SLOPE FACTORS PER CLAUSE 4.1.6.2.2(5) TO (7)
 - ROOF STRUCTURE TO BE DESIGNED IN ACCORDANCE WITH CLAUSE 7.4.10.4(2)

WIND LOADS

- APPLIED PER OBC, PART 4, SECTION 4.1.7
- IMPORTANCE FACTOR, I_w 0.7 (SL) 1.15 (ULS)
 - REFERENCE VELOCITY PRESSURE FOR STRUCTURAL MEMBERS 0.47 kPa 1/50 YEAR PROBABILITY (9.82 PSF)
 - REFERENCE VELOCITY PRESSURE FOR CLADDING & NON-STRUCTURAL MEMBERS 0.36 kPa 1/10 YEAR PROBABILITY (7.5 PSF)
 - GUST FACTORS C_p 2.0 FOR WHOLE & MAIN STRUCTURAL MEMBERS 2.5 FOR SMALL ELEMENTS INCLUDING CLADDING 2.0 FOR INTERNAL PRESSURES
 - BUILDING INTERNAL PRESSURE CATEGORY 2 PER NBC 2010 STRUCTURAL COMMENTARY (PART B), COMMENTARY B.

SEISMIC LOADS

- APPLIED PER OBC, PART 4, SECTION 4.1.8
- IMPORTANCE FACTOR, I_e 1.3 (ULS)
 - $S_a(0.2)$ 0.260
 - $S_a(0.15)$ 0.129
 - $S_a(1.0)$ 0.062
 - $S_a(2.0)$ 0.029
 - P_GA 0.167
 - SOIL CLASS C (ASSUMED)
 - F_a 1.0

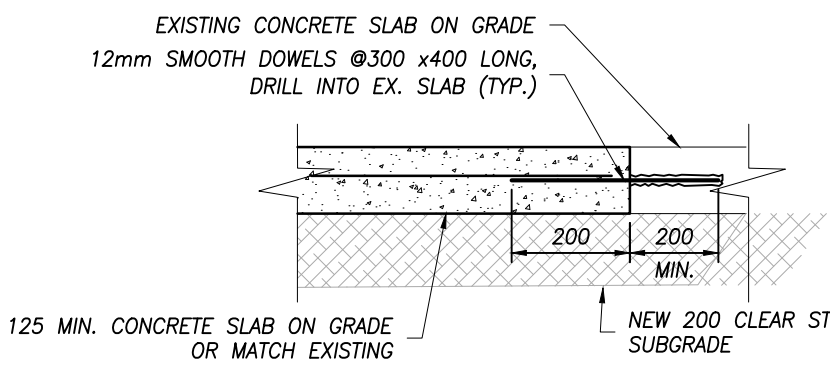
FLOOR LOADS

- APPLIED PER OBC, PART 4, TABLE 4.1.5.3
- STAIRS 4.8 kPa (100 PSF)
 - CORRIDORS 4.8 kPa (100 PSF)
 - CLASSROOMS 2.4 kPa (50 PSF)

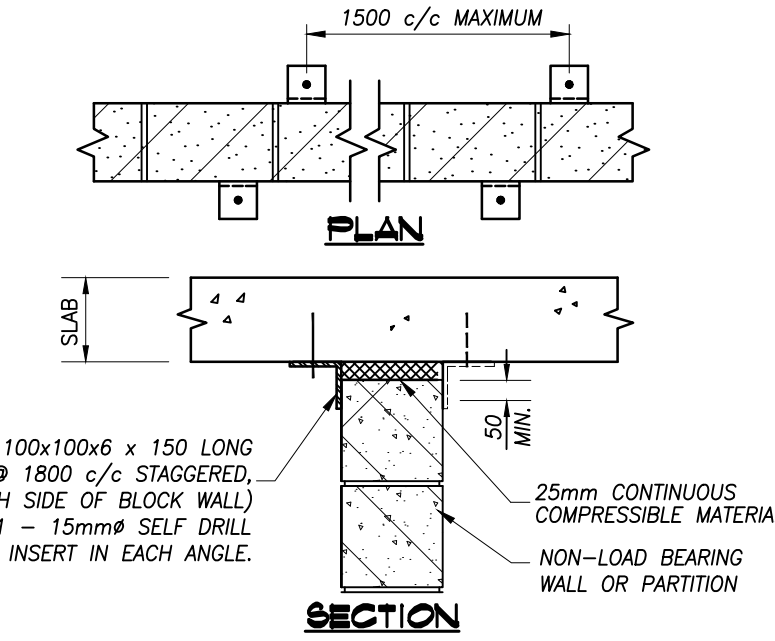
SEISMIC SWAY BRACING

ARTICLE 4.1.8.18(2) OF THE ONTARIO BUILDING CODE NOTES THAT IF THE PRODUCT OF $I_e + F_a + S_a(0.2)$ IS LESS THAN 0.35, THE REQUIREMENTS NOTED ABOVE NEED NOT APPLY. THESE VALUES ARE EXPLORED BELOW. THIS EXEMPTION IS NOT APPLICABLE TO POST-DISASTER BUILDINGS.

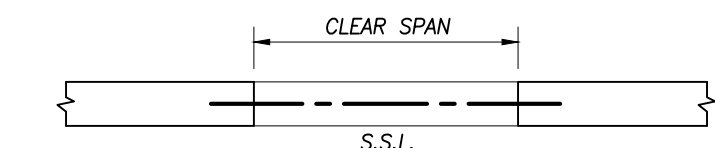
BASED ON THE ABOVE NOTED VALUES, THE PRODUCT OF $I_e + F_a + S_a(0.2) = 1.3 * 1.0 * 0.260 = 0.338$ GIVEN THIS IS LESSER THAN THE THRESHOLD OF 0.35, THE APPLICATION OF THE LATERAL FORCE (P_e) TO ALL ELEMENTS AND COMPONENTS AND SWAY BRACING IS NOT REQUIRED.



TYP. SLAB CONNECTION DETAIL
NOT TO SCALE



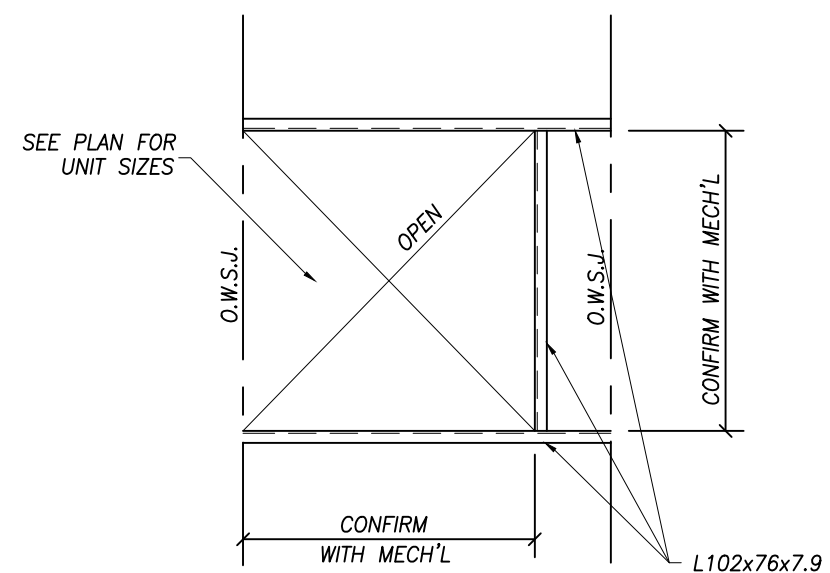
BRACING OF TOP OF WALL AT UNDERSIDE OF CONCRETE SLAB
NOT TO SCALE



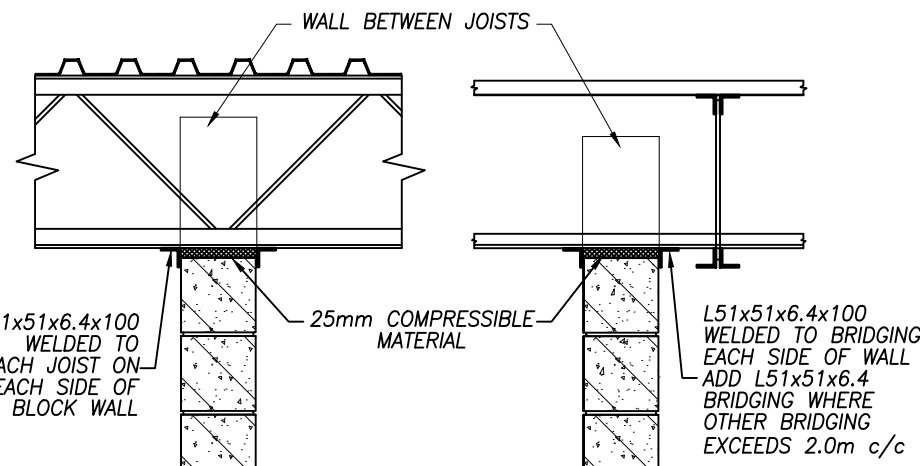
CLEAR SPAN	HEADER SIZE	JAMB
UP to 1800mm	362RH300-33	362RJ300-68
1801 to 2000mm	362RH300-43	362RJ300-97
2001 to 2500mm	362RH300-54	362RJ350-97
2501 to 3150mm	362RH350-68	362RJ350-97

NOTE:
1. PROVIDE BAILEY REDHEADER PRO HEADERS & JAMBS FOR ALL STUD OPENINGS PER THE TABLE PROVIDED.
2. PROVIDE DEFLECTION TRACK AT TOP OF ALL NON-LOAD-BEARING STEEL STUD WALLS TYP.

TYPICAL INTERIOR STEEL STUD HEADER & JAMB DETAIL (92mm STUD)
NOT TO SCALE



TYPICAL REINFORCING AT DUCT ROOF OPENING
NOT TO SCALE
(REFER TO MECHANICAL FOR LOCATIONS)



NOTE : PROVIDE BRACING FOR 90mm WALLS SPANNING MORE THAN 3.6m HORIZONTALLY, FOR 140mm WALLS SPANNING MORE THAN 3.6m HORIZONTALLY, AND FOR 190mm WALLS SPANNING MORE THAN 3.6m HORIZONTALLY.

BRACING OF PARTITION WALLS AT UNDERSIDE OF STEEL JOIST
NOT TO SCALE

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Key Plan N.T.S.



Project North True North

No.	Revisions	Date
2	ISSUED FOR BIDS	2024/04/09
1	ISSUED FOR PERMIT	2024/03/22
No.	Issue	Date

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title:

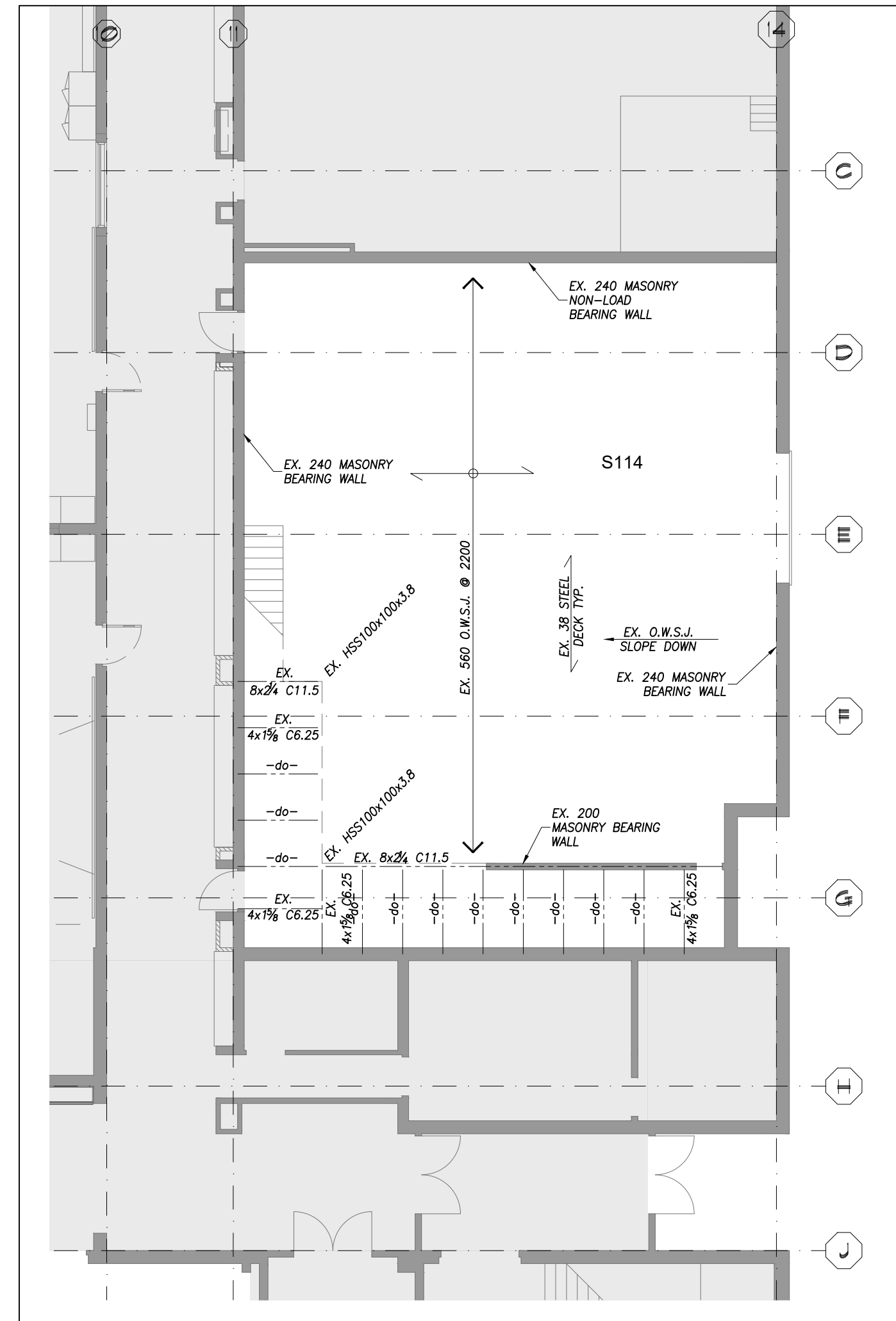
COVER PAGE, GENERAL NOTES & DETAILS

Scale: AS NOTED Date: APRIL 2023

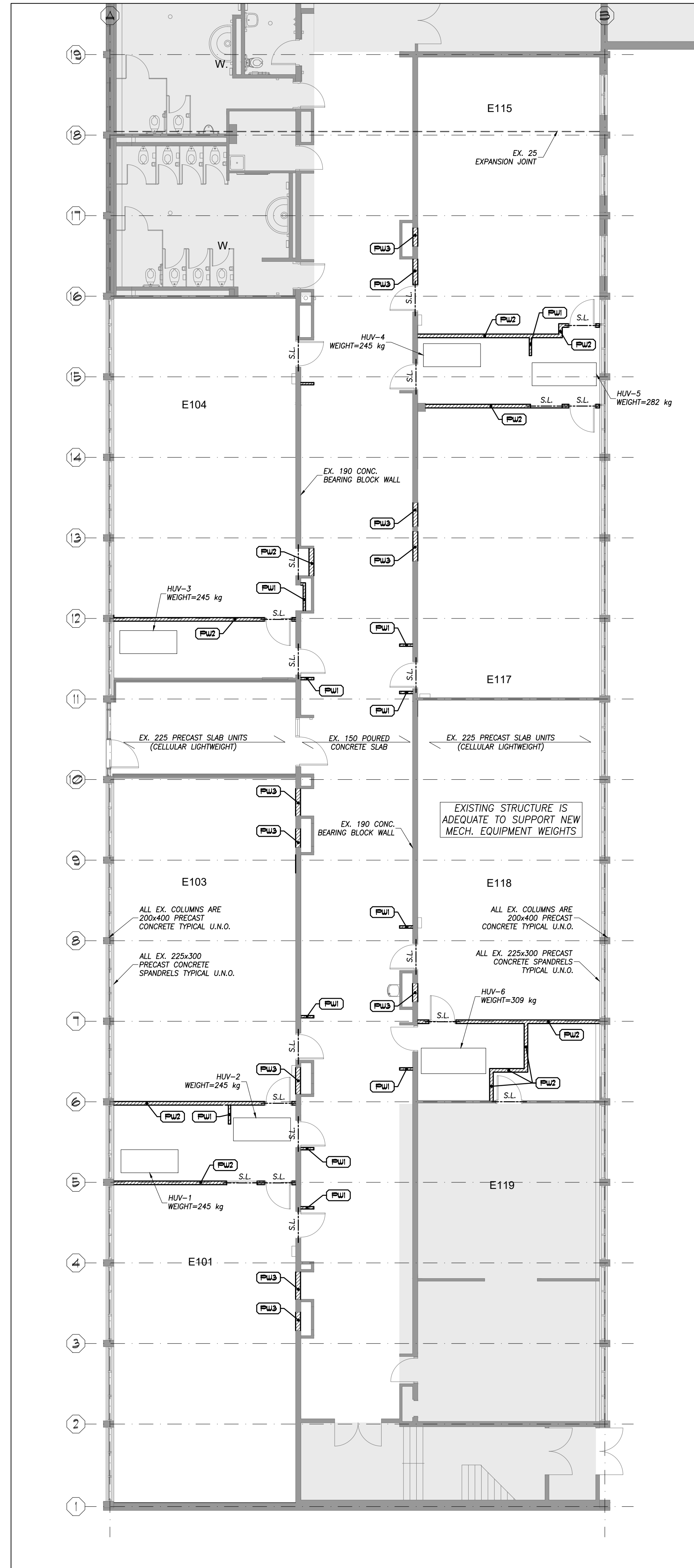
Drawn by: JRD Checked by: EH

Job No. Drawing No.

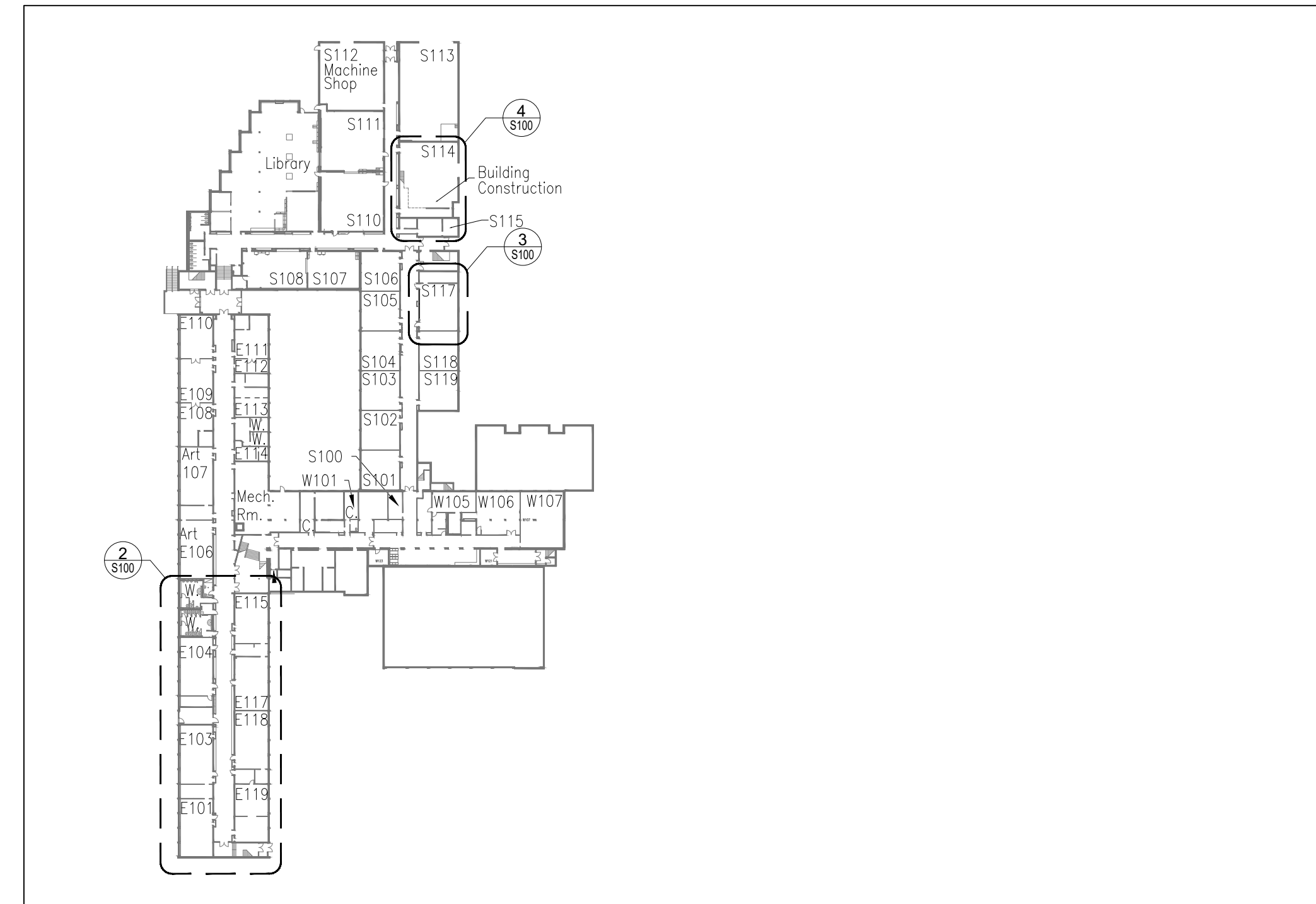
2215-B S001



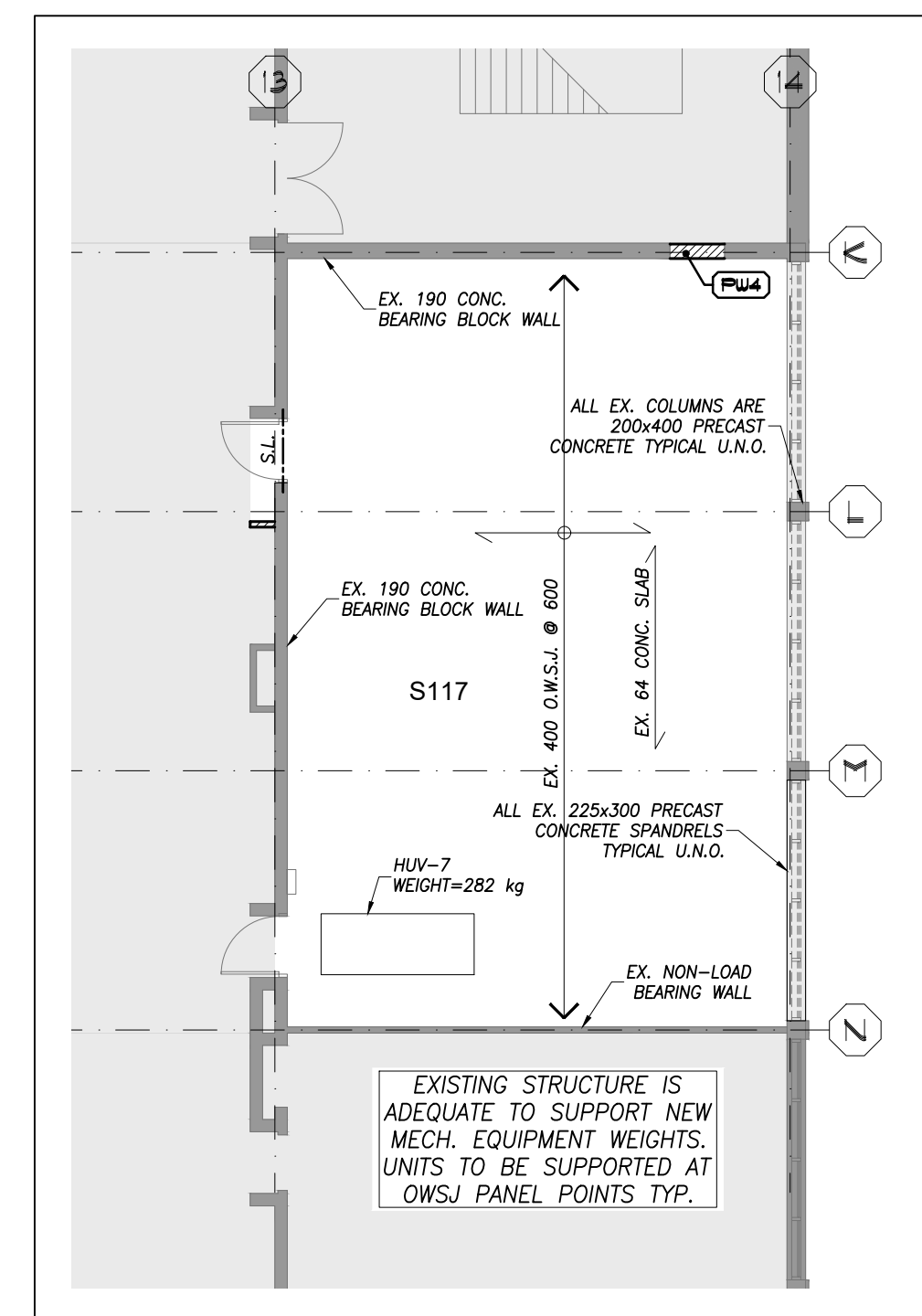
ROOF FRAMING PLAN 4
SCALE: 1:100 S100



2ND FLOOR FRAMING PLAN 2
SCALE: 1:100 S100



KEY PLAN - 2ND FLOOR FRAMING 1a
SCALE: 1:100 S100



2ND FLOOR FRAMING PLAN 3
SCALE: 1:100 S100

NEW WALL AND PARTITION TYPES:

- PW1** 90 CONCRETE MASONRY UNIT WALL
- PW2** 140 CONCRETE MASONRY UNIT WALL
- PW3** 190 CONCRETE MASONRY UNIT WALL
- PW4** 240 CONCRETE MASONRY UNIT WALL

DRAWINGS CREATED USING INFORMATION FROM EX. DRAWINGS PREPARED BY:
(1955 ORIGINAL) SHORE & MOFFAT ARCHITECTS. PROJECT NO. 230 DATED 1956/02/06
(1969 ADDITION #2) SHORE & MOFFAT AND PARTNERS. PROJECT NO. 2300 DATED 1969/10/20

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Key Plan N.T.S.



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Drawing Title:
KEY PLAN
FLOOR PLANS

Scale: AS NOTED Date: 2023 10 05

Drawn by: Checked by:

Job No. Drawing No.

2215-B **S100**

