

GENERAL

- THIS IS A METRIC PROJECT. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN MILLIMETERS.
- "WSP-S" REFERS TO WSP CANADA STRUCTURAL CONSULTANT.
- PROVIDE ALL MATERIAL AND LABOUR REQUIRED FOR COMPLETION OF THE WORK.
- PRIOR TO CONSTRUCTION, REVIEW STRUCTURAL DRAWINGS IN CONJUNCTION WITH DRAWINGS PROVIDED BY ALL OTHER CONSULTANTS, AND WITH EXISTING CONDITIONS.
- REPORT DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.
- VERIFY EXISTING DIMENSIONS AND CONDITIONS ON SITE PRIOR TO CONSTRUCTION.
- USE THESE DRAWINGS ONLY FOR THE PURPOSE IDENTIFIED IN THE REVISIONS COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR CONSTRUCTION".
- DO NOT USE INFORMATION ON THESE DRAWINGS FOR ANY OTHER PROJECT OR WORKS.
- DO NOT SCALE THESE DRAWINGS.
- ALL SECTIONS, DETAILS, AND STATEMENTS NOTED AS "TYPICAL" APPLY TO LIKE/SIMILAR CONDITIONS IN THE STRUCTURE.
- SEE ARCHITECTURAL DRAWINGS FOR FIRE RATING AND FIREPROOFING REQUIREMENTS.
- STRUCTURAL DESIGN ASSUMES NON-LOAD RESTRICTED ULC FIRE RATED ASSEMBLIES, AND APPROPRIATE MATERIALS MUST BE USED.
- DRAWINGS SHOW COMPLETED STRUCTURE ONLY. THEY DO NOT SHOW TEMPORARY WORKS FOR WHICH THE CONTRACTOR IS RESPONSIBLE AND WHICH MAY BE REQUIRED FOR EXECUTION OF THE PROJECT. THE CONTRACTOR TO ESTABLISH CONSTRUCTION PROCEDURE AND SEQUENCE TO ENSURE SAFETY OF THE WHOLE STRUCTURE AND ALL ITS COMPONENTS DURING ERECTION.
- MAKE ADEQUATE PROVISIONS FOR ALL LOADS ACTING ON THE STRUCTURE DURING ERECTION. PROVIDE TEMPORARY SHORING AND BRACING TO KEEP THE STRUCTURE PLUMB AND IN TRUE ALIGNMENT DURING CONSTRUCTION.
- DESIGN OF ALL TEMPORARY WORKS TO BE CARRIED OUT BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR, LICENSED IN THE PLACE WHERE THE PROJECT IS LOCATED.
- DESIGN OF NON-STRUCTURAL AND SECONDARY STRUCTURAL ELEMENTS (SUCH AS MISCELLANEOUS STEEL STAIRS, RAILINGS AND GUARDRAILS, PARTITIONS, GLADDING, BULKHEADS, ETC.) IS THE RESPONSIBILITY OF SPECIALTY PROFESSIONAL ENGINEERS ENGAGED BY THE CONTRACTOR OR THE SUPPLIERS. IT IS NOT WITHIN THE SCOPE OF SERVICES PROVIDED BY WSP-S AND WILL NOT BE REVIEWED BY WSP-S.
- CONSTRUCTION LOADS ON COMPLETED STRUCTURE NOT TO EXCEED DESIGN LOADS INDICATED ON DRAWINGS. FULL DESIGN LOADS MAY ONLY BE APPLIED AFTER THE CONCRETE REACHES ITS DESIGN STRENGTH.

DESIGN CRITERIA

- STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE 2012 ONTARIO BUILDING CODE (OBC), SUPPLEMENTED BY THE 2015 NATIONAL BUILDING CODE OF CANADA STRUCTURAL COMMENTARY.
- ALL REFERENCED STANDARDS SHALL BE THE CURRENT EDITION UNLESS DIFFERENT EDITION IS REFERENCED BY THE APPLICABLE BUILDING CODE NOTED ABOVE.
- BASED ON THE USE AND OCCUPANCY, THE BUILDING IS DESIGNED TO THE REQUIREMENTS OF A NORMAL IMPORTANCE CATEGORY.
- SELF WEIGHT (SWT) IS DUE TO THE WEIGHT OF THE STRUCTURE ITSELF. IT VARIES WITH THE STRUCTURAL SYSTEM AND INCLUDES CONCRETE TOPPINGS ON STEEL DECK.
- SUPERIMPOSED DEAD LOADS (SDL) ARE NON-STRUCTURAL DEAD LOADS DUE TO NON-STRUCTURAL TOPPINGS, FINISHES, PARTITIONS, ROOFING MATERIALS, SUSPENDED EQUIPMENT, PAVERS, SOIL, ETC.
- DEAD LOAD (DL) IS THE SELF WEIGHT OF THE STRUCTURE PLUS THE SUPERIMPOSED DEAD LOAD.
- UNLESS OTHERWISE NOTED, DESIGN LOADS SHOWN ON DRAWINGS ARE SPECIFIED (UNFACTORED) LOADS, TO BE USED FOR ULS DESIGN. FOR SLS DESIGN, THESE LOADS CAN BE REDUCED BY MULTIPLYING WITH THE RATIO OF APPROPRIATE IMPORTANCE FACTORS $k_1(SLS) / k_1(ULS)$ GIVEN BELOW.
- IF ONLY ONE VALUE IS GIVEN FOR A LOAD, CONSIDER IT LIVE LOAD.
- FOR CONNECTION LOADS, "+" SIGN INDICATES TENSION AND "-" SIGN INDICATES COMPRESSION. EXCEPT FOR COLUMN LOADS WHERE "+" SIGN INDICATES COMPRESSION AND "-" SIGN INDICATES TENSION.

SHOP DRAWINGS

- SUBMIT 4 HARD COPIES OR PDF'S OF SHOP DRAWINGS FOR REVIEW BEFORE START OF WORK. PACKAGES TO BE SUBMITTED ARE NOTED IN THE RELEVANT SECTIONS BELOW.
- ALL SHOP DRAWINGS ARE TO BE REVIEWED AND STAMPED BY THE CONTRACTOR PRIOR TO DISTRIBUTION TO CONSULTANTS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- REVIEW OF SHOP DRAWINGS BY WSP-S IS ON A SAMPLING BASIS. FOR GENERAL CONFORMITY WITH STRUCTURAL CONTRACT DOCUMENTS. IT IS NOT A DETAILED CHECK AND MUST NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF THE CONTRACTOR'S RESPONSIBILITY TO MAKE THE WORK ACCURATE AND IN CONFORMITY WITH ALL THE CONTRACT DOCUMENTS. TO REVIEW SHOP DRAWINGS AND TO COORDINATE WORK OF INTERFACING TRADES AND MANUFACTURE OF INTERFACING PRODUCTS.
- REVIEW OF SHOP DRAWINGS DOES NOT IMPLY ANY CHANGE IN ANY OTHER CONSULTANTS' OR PROFESSIONALS' RESPONSIBILITIES RELATED TO DESIGN OF SPECIFIC ITEMS AS OUTLINED BY THESE DRAWINGS.
- ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW OF EACH SUBMISSION OF SHOP DRAWINGS IN THE STRUCTURAL CONSULTANT'S OFFICE. ALLOW MORE TIME WHEN LARGE QUANTITIES OF SHOP DRAWINGS ARE SUBMITTED. SUBMIT IN GENERAL CONFORMITY WITH THE SEQUENCE OF CONSTRUCTION INTENDED.
- AFTER REVIEW, SHOP DRAWINGS WILL BE STAMPED AND RETURNED. DO NOT COMMENCE FABRICATION UNTIL RETURNED SHOP DRAWINGS HAVE BEEN EXAMINED.
- SHOP DRAWINGS MARKED "REVIEWED" CAN BE USED FOR FABRICATION.
- SHOP DRAWINGS MARKED "REVIEWED AS NOTED" CAN BE USED FOR FABRICATION AFTER THE REVISIONS NOTED ARE IMPLEMENTED.
- SHOP DRAWINGS MARKED "REVISE AND RESUBMIT" REQUIRE SUBSTANTIAL REVISIONS AND MUST BE RESUBMITTED FOR ADDITIONAL REVIEW PRIOR TO FABRICATION.
- SHOP DRAWINGS MARKED "REVIEWED FOR IMPACT ON BASE STRUCTURE ONLY" SHOW WORKS WHICH ARE NOT WITHIN THE SCOPE OF STRUCTURAL CONSULTING SERVICES BUT AFFECT BEHAVIOUR OF THE BASE STRUCTURE. WSP-S WILL NOT REVIEW THESE WORKS AND ASSUMES THAT THE INDICATED WEIGHTS AND ALL OTHER LOADS IMPOSED ON THE BASE STRUCTURE ARE CORRECTLY IDENTIFIED BY THE DESIGNER / SUPPLIER OF THESE ELEMENTS.
- DRAWINGS MARKED "NOT REVIEWED" SHOW WORKS WHICH ARE NOT WITHIN THE SCOPE OF STRUCTURAL CONSULTING SERVICES.

FIELD REVIEW

- STRUCTURAL CONSULTANT WILL PROVIDE PERIODIC FIELD REVIEW OF A REPRESENTATIVE SAMPLE OF THE STRUCTURAL WORKS DETAILED ON THESE DRAWINGS FOR GENERAL CONFORMANCE WITH CONTRACT DOCUMENTS. THESE REVIEWS DO NOT REPLACE THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT AND MAINTAIN A QUALITY CONTROL PROGRAM, AND DO NOT MAKE WSP-S A GUARANTOR OF THE CONTRACTOR'S WORK.
- ASSIST THE CONSULTANTS DOING FIELD REVIEW, AND PROVIDE SAFE ACCESS TO WORK AREAS AS REQUIRED.
- CHECK THE WORK PRIOR TO FIELD REVIEW TO CONFIRM IT IS COMPLETED AND IN ACCORDANCE WITH CONTRACT DOCUMENTS.
- NOTIFY THE CONSULTANT 48 HOURS PRIOR TO CONCRETE POURS, BACKFILLING, AND COVERING UP THE STRUCTURE WITH FINISHES.

EXISTING STRUCTURE

- EXISTING CONDITIONS ARE ASSUMED. SURVEY THE EXISTING STRUCTURE AFTER REMOVING FINISHES, AND REPORT ANY VARIATIONS TO THE STRUCTURAL CONSULTANT BEFORE PROCEEDING WITH THE WORK.
- TAKE ALL PRECAUTIONS NECESSARY TO PROTECT THE EXISTING STRUCTURE DURING CONSTRUCTION.
- SCHEDULE WORK TO MINIMIZE EFFECT ON THE EXISTING BUILDING OPERATION. USE EQUIPMENT AND PROCEDURES TO MINIMIZE NOISE, DUST AND VIBRATIONS. SUBMIT PROPOSED SCHEDULE FOR REVIEW BY THE CONSULTANT AND THE OWNER.
- DO NOT PERMIT LOADS FROM CONCRETE FORMWORK TO BE TRANSMITTED TO ADJACENT EXISTING STRUCTURES.
- ALL DEMOLITION, SHORING, AND OTHER TEMPORARY WORKS TO BE DESIGNED BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR, LICENSED IN THE PLACE WHERE THE PROJECT IS LOCATED. PREPARE DRAWINGS SIGNED AND SEALED BY THAT ENGINEER SHOWING DEMOLITION PROCEDURE AND SEQUENCE AND ALL THE NECESSARY SHORING.
- UNDERTAKE CHIPPING, CUTTING, CORING, REPAIRS, PATCHING, AND REMOVAL OF DEBRIS. MAKE CUTS WITH THE PROPER SAWS AND BITS WHEN A CLEAN LINE IS REQUIRED.
- DO NOT ALTER MATERIAL PROPERTIES OF THE STRUCTURAL STEEL WHICH IS TO REMAIN BY CUTTING AND DEMOLITION PROCEDURE.
- MAKE GOOD ALL EXISTING WORK DISTURBED BY SHORING OPERATIONS, EXCAVATION AND OTHER CONSTRUCTION PROCEDURES.

FOUNDATIONS

- SET FOUNDATIONS ON HORIZONTAL UNDISTURBED SOIL CAPABLE OF SUPPORTING BEARING PRESSURE OF 115 kPa at ULS AND 75 kPa at SLS.
- PRIOR TO PLACING FOOTINGS, BEARING CAPACITY OF EACH FOOTING TO BE CONFIRMED IN WRITTEN REPORTS BY A GEOTECHNICAL ENGINEER RETAINED BY THE OWNER/CONTRACTOR. GEOTECHNICAL ENGINEER TO CARRY MINIMUM \$1,000,000 IN LIABILITY INSURANCE. SUBMIT EACH REPORT IMMEDIATELY TO WSP-S.
- FOR FROST PROTECTION, REFER TO LATEST GEOTECHNICAL REPORT FOR MINIMUM DISTANCE FROM FINISHED GRADE TO UNDERSIDE OF FOUNDATIONS OR PROVIDE EQUIVALENT INSULATION. WHERE UNDERSIDES OF WALLS, GRADE BEAMS, OR PILE CAPS ARE NOT BELOW THE FROST PROTECTION DEPTH, PROVIDE FROST CUSHION BETWEEN SOIL AND STRUCTURE WHERE FROST ACTION MAY CAUSE UPLIFT.
- UNLESS OTHERWISE NOTED, LAP ALL HORIZONTAL GRADE BEAM REINFORCING WITH CLASS B LAPS. CARRY CONTINUOUSLY THROUGH PIERS AND PILE CAPS WHERE APPLICABLE
- UNLESS OTHERWISE NOTED, CENTRE FOOTINGS, PIERS, PILES, AND PILE CAPS UNDER CENTROID OF COLUMNS. WHERE THERE ARE NO COLUMNS ABOVE, CENTRE INTER WALLS OR GRADE BEAMS.
- LOCATE ALL EXISTING UNDERGROUND SERVICES PRIOR TO EXCAVATION.
- PROTECT FOOTINGS, PIERS, PILE TOPS, PILE CAPS, GRADE BEAMS, FOUNDATION WALLS, SLABS-ON-GRADE AND ADJACENT SOIL AGAINST FREEZING AND FROST ACTION AT ALL TIMES DURING CONSTRUCTION. DO NOT POUR CONCRETE AGAINST FROZEN EARTH.
- DO NOT PLACE CONCRETE IN WATER OR ON FROZEN SOIL.
- UNLESS NOTED OTHERWISE, PROVIDE DRAINAGE WITH WEEPING TILES TIED INTO MECHANICAL DRAINAGE SYSTEM AT ALL WALLS RETAINING EARTH. IF WEEPING TILE IS NOT LOCATED ON THE SIDE OF THE WALL RETAINING EARTH, PROVIDE MIN. 50 (2") DIA. WEEPERS AT MAX 2000 (6'-8") O/C THROUGH THE WALL. LOCATE JUST ABOVE TOP OF FOOTING.
- WHERE SLAB ON GRADE IS USED TO TIE THE TOP OF A WALL RETAINING EARTH, PROVIDE TEMPORARY SHORING OF THE WALL FROM START OF BACKFILLING UNTIL THE SLAB ON GRADE REACHES 75% OF ITS DESIGN STRENGTH.
- FOR ELEMENTS THAT ARE TO BE BACKFILLED ON BOTH SIDES, PLACE BACKFILL SIMULTANEOUSLY ON BOTH SIDES SUCH THAT HEIGHTS DO NOT VARY BY MORE THAN 600 (2') FROM ONE SIDE TO THE OTHER.

CONCRETE

- CONFORM TO CSA A23.1 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION".
- CONCRETE IS SPECIFIED PER ALTERNATIVE 1 - PERFORMANCE SPECIFICATION, AS OUTLINED IN CAN/CSA A23.1. THE CONTRACTOR AND THE CONCRETE SUPPLIER TO MEET ALL CERTIFICATION, DOCUMENTATION, AND QUALITY CONTROL REQUIREMENTS.
- THE CONCRETE SUPPLIER TO BE CERTIFIED BY THE READY MIXED CONCRETE ASSOCIATION OF ONTARIO.
- CONCRETE TO BE NORMAL DENSITY (MIN. 2300 kg/m³) UNLESS NOTED OTHERWISE.
- CEMENT TO BE PORTLAND CEMENT TYPE GU, UNLESS NOTED OTHERWISE OR REQUIRED BY EXPOSURE CLASS. CEMENT TO CONFORM TO CSA A3000.
- AGGREGATE TO CONFORM TO CSA A23.1 / A23.2. DO NOT USE RECYCLED CONCRETE AS AGGREGATE.
- CONCRETE ADMIXTURES SHALL NOT CONTAIN CHLORIDES.
- SUBMIT CONCRETE MIX DESIGNS TO WSP-S FOR REVIEW BEFORE START OF WORK.
- INTERIOR APPLICATIONS:
 - EXPOSURE CLASS: N
 - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 30 MPa
 - NOMINAL SIZE OF COARSE AGGREGATE: 20 (3/4")
- PERIMETER AND EXTERIOR FOUNDATION WALLS AND FOOTINGS:
 - EXPOSURE CLASS: F1
 - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 30 MPa
 - NOMINAL SIZE OF COARSE AGGREGATE: 20 (3/4")
- CONCRETE SUBJECTED TO SULPHATE EXPOSURE:

- EXPOSURE CLASS: S1 S2 S3
- MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 30 MPa
- NOMINAL SIZE OF COARSE AGGREGATE: 20 (3/4")

- ALL OTHER EXTERIOR APPLICATIONS:
 - EXPOSURE CLASS: C1
 - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 35 MPa
 - NOMINAL SIZE OF COARSE AGGREGATE: 20 (3/4")
- PROTECT CONCRETE FROM EXCESSIVE HEAT AND DRYING. USE HOT WEATHER CONCRETING METHODS IN ACCORDANCE WITH CAN/CSA-A23.1 WHENEVER THE OUTDOOR TEMPERATURE IS GREATER THAN 27°C.
- PROTECT CONCRETE FROM FREEZING. USE COLD WEATHER CONCRETING METHODS IN ACCORDANCE WITH CAN/CSA-A23.1 WHENEVER OUTDOOR TEMPERATURE IS LESS THAN +5°C. ALL INSULATED COVERS, HEATERS, AND OTHER MATERIALS NEEDED TO PROTECT CONCRETE TO BE ON HAND PRIOR TO POUR. DELIVER CONCRETE AT A TEMPERATURE BETWEEN +15°C AND +27°C. ENSURE A MINIMUM CONCRETE TEMPERATURE OF 10° IS MAINTAINED THROUGHOUT THE CURING PERIOD (MINIMUM 3 DAYS).
- MAXIMUM OUTSIDE DIAMETER OF ANY CONDUIT OR PIPE EMBEDDED IN SLAB NOT TO EXCEED ONE THIRD OF THE SLAB THICKNESS.
- FORMWORK DESIGN, MATERIAL, FABRICATION, AND ERECTION TO CONFORM TO CSA S269.1
- FORMWORK MATERIAL TO BE NEW EXTERIOR PLYWOOD CONFORMING TO CSA O121, EXCEPT FOR ROUGH CONCRETE IN UNEXPOSED LOCATIONS (SUCH AS FOUNDATIONS) WHERE USED MATERIAL IS ACCEPTABLE.
- USE REMOVABLE INTERNAL FORM TIES OR ADJUSTABLE METAL TIES DESIGNED TO ACT AS SPREADERS, WHICH WILL, WHEN REMOVED, LEAVE NO METAL CLOSER THAN 25 (1") TO CONCRETE SURFACE.
- DO NOT SUPPORT FORMWORK SHORING ON FROZEN SOILS.
- PROVIDE 25 (1") CHAMFER STRIPS ON EXTERNAL CORNERS AND 25 (1") FILLETS AT INTERIOR CORNERS.
- VOID FORM TO BE CELLULAR CARDBOARD WITH A MINIMUM COMPRESSIVE STRENGTH OF 62 kPa (9 psi) DESIGNED TO DISINTEGRATE AND CREATE AN AIR SPACE BELOW THE FULLY HARDENED CONCRETE. IF VOID FORM COLLAPSES DURING CONSTRUCTION, REMOVE AND REPLACE AFFECTED AREA.
- RIGID INSULATION TO BE EXTRUDED POLYSTYRENE BOARD CONFORMING TO ASTM C578, STRUCTURAL GRADE, WITH A COMPRESSIVE STRENGTH OF 275 kPa (40 psi).
- PVC WATERSTOPS TO BE FLEXIBLE, EXTRUDED, HEAT WELDABLE, RIBBED TO CGSB 41-GP-35M. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
- BENTONITE WATERSTOPS TO BE RECTANGULAR, FLEXIBLE, AND SWELLABLE. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
- CONVEY CONCRETE FROM TRUCK TO FINAL LOCATION BY METHODS WHICH WILL PREVENT SEPARATION OR LOSS OF MATERIAL. MAXIMUM FREE FALL NOT TO EXCEED 1.5m (5'-0"). CONSOLIDATE CONCRETE USING MECHANICAL VIBRATORS.
- PROVIDE SLAB-ON-GRADE CONSTRUCTION JOINTS AT MAXIMUM 30m (100 ft) ON CENTER IN BOTH DIRECTIONS. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT 25 TIMES THE SLAB THICKNESS, BUT NOT MORE THAN 5m (15ft) MAXIMUM ON CENTER EACH WAY. 6 TO 18 HOURS AFTER PLACING CONCRETE. SAW CUT DEPTH TO BE EQUAL TO ON QUARTER OF THE CONCRETE THICKNESS. FILL JOINTS WITH SEMI-RIGID TWO COMPONENT EPOXY FILLER AFTER SLAB IS 120 DAYS OLD.
- PROVIDE VERTICAL FOUNDATION WALL AND GRADE BEAM CONSTRUCTION JOINTS AT 30m (100ft) MAXIMUM.
- WALLS IN HEATED AREAS: PROVIDE VERTICAL INTERIOR WALL CONSTRUCTION JOINTS AT 30m (100ft) ON CENTRE. PROVIDE EVENLY SPACED CONTROL JOINTS IN WALLS AT MAXIMUM 7.5m (25ft) ON CENTER.
- OTHER WALLS IN UNHEATED AREAS: PROVIDE VERTICAL CONSTRUCTION JOINTS AT 30m (100ft) MAXIMUM, AND CONTROL JOINTS AT 5m (16ft) MAXIMUM. LOCATE CONTROL JOINTS NOT MORE THAN 2.5m (8ft) FROM EACH SIDE OF CONSTRUCTION JOINTS AND ANY WALL CORNER.
- CURE CONCRETE SURFACES NOT IN CONTACT WITH FORMS IN ACCORDANCE WITH A23.1 / A23.2, BY APPLICATION OF A CURING-SEALING COMPOUND CONFORMING TO ASTM C309 IMMEDIATELY AFTER DISAPPEARANCE OF SURFACE WATER SHEEN. ENSURE CURING-SEALING COMPOUND IS COMPATIBLE WITH APPLIED FINISHES.
- ENSURE THAT SLEEVES AND OPENINGS DO NOT IMPAIR THE REQUIRED STRENGTH OF THE MEMBER, AND UNLESS SHOWN ON THE STRUCTURAL DRAWINGS, ARE ACCEPTED BY THE CONSULTANT FOR SIZE, LOCATION, AND REINFORCEMENT BEFORE CONCRETE IS CAST. NO TRADE SHALL CUT HOLES THROUGH EXISTING CONCRETE UNLESS ACCEPTABLE TO THE CONSULTANT.

CONCRETE REINFORCEMENT

- CONFORM TO CSA A23.1 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION".
- REINFORCEMENT — DEFORMED BAR REINFORCEMENT CONFORMING TO CSA G30.18 GRADE 400R. USE 400W ONLY WHERE NOTED ON DRAWINGS.
- EPOXY-COATED BARS — CONFORM TO ASTM A775/A775M AND ASTM D3963/D3963M. PROVIDE EPOXY-COATED CHAIR-BARS AND BOLSTERS AND PLASTIC-COATED TIE WIRES FOR EPOXY-COATED REINFORCEMENT.
- WELDED WIRE FABRIC — CONFORM TO ASTM A1064/A1064M, YIELD STRENGTH 450 MPa, SUPPLIED IN FLAT SHEETS ONLY.
- LAP WELDED WIRE FABRIC SHEETS BY ONE SPACING OF CROSS WIRES + 50 (2"), MEASURED BETWEEN THE OUTERMOST CROSS WIRES IN EACH SHEET. IN SLABS, PLACE AT 1/3 SLAB THICKNESS BELOW TOP OF SLAB.
- ACCESSORIES, BAR SUPPORTS, AND TIES TO CONFORM TO REINFORCING STEEL INSTITUTE OF CANADA (RSIC) MANUAL OF STANDARD PRACTICE AND CSA A23.1 / A23.2.
- ALL REINFORCING BAR SIZES ARE METRIC; "M" IS NOT NECESSARILY MARKED AFTER A BAR SIZE. FOR EXAMPLE, 10-15B NOTED ON PLAN INDICATES 10 BARS OF 15M DIAMETER, PLACED AT BOTTOM.
- SUBMIT SHOP DRAWINGS FOR REINFORCEMENT DETAILED IN ACCORDANCE WITH THE RSIC MANUAL OF STANDARD PRACTICE. SUBMIT PLANS AND DETAILS NECESSARY TO FABRICATE, PLACE, AND REVIEW REINFORCEMENT.
- ALL REBAR HOOKS TO BE STANDARD LENGTH 90° OR 180° HOOKS. REBAR LENGTHS LISTED ON DRAWINGS DO NOT INCLUDE THE HOOK LENGTH.
- FIELD BENDING OF BARS IS NOT PERMITTED UNLESS INDICATED OR APPROVED BY WSP-S. APPROVED FIELD BENDING TO BE DONE WITHOUT THE USE OF HEAT, THROUGH APPLICATION OF SLOW AND STEADY PRESSURE. REPLACE BARS WITH CRACKS OR SPLITS.
- ALL REINFORCING TO BE CLEAN, FREE OF LOOSE SCALE, OIL, DIRT, RUST, AND ANY OTHER FOREIGN COATING THAT AFFECT BONDING CAPACITY.
- UNLESS OTHERWISE NOTED, LAP ALL HORIZONTAL GRADE BEAM REINFORCING WITH CLASS B LAPS. CARRY CONTINUOUSLY THROUGH PIERS AND PILE CAPS WHERE APPLICABLE
- WHERE CONCRETE IS CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH, MINIMUM CONCRETE COVER TO REINFORCING BARS CLOSEST TO THE CONCRETE SURFACE TO BE 75 (3").

- FOR CLASS N CONCRETE, MINIMUM CONCRETE COVER TO REINFORCING BARS CLOSEST TO THE CONCRETE SURFACE TO BE 40 (1 1/2") FOR BEAMS AND COLUMNS AND 25 (1") FOR SLABS AND WALLS.
- FOR CLASS C-1 CONCRETE, MINIMUM COVER TO BE 60 (2 1/2") EXCEPT FOR SLABS PROTECTED BY MEMBRANE WHERE THE COVER SHALL BE 40 (1 1/2") TO THE TOP BARS AND 30 (1 1/4") TO THE BOTTOM BARS.
- FOR CLASS F-1 AND F-2 CONCRETE, MINIMUM COVER TO BE 40 (1 1/2").
- INCREASE COVER WHERE REQUIRED TO MAINTAIN MINIMUM RATIO OF COVER TO NOMINAL BAR DIAMETER OF 1 FOR CLASS N, 1.5 FOR CLASSES F1 AND C1 (FOR MEMBRANE PROTECTED SLABS ONLY), AND 2 FOR CLASS C1 (ALL OTHER STRUCTURES).
- ENSURE COVER TO REINFORCEMENT IS MAINTAINED DURING CONCRETE POUR.

CONCRETE FINISHING

- ARCHITECTURAL CONCRETE: EXPOSED CONCRETE TO MATCH APPEARANCE OF NEARBY EXISTING EXPOSED ARCHITECTURAL CONCRETE. REFER TO ARCHITECTURAL DRAWINGS FOR AREAS OF EXPOSED CONCRETE.
- POWER STEEL-TROWEL FINISH FLOORS WITH INTERIOR EXPOSED SLABS, AND FLOORS WHICH RECEIVE RESILIENT FLOORING, CARPET, EPOXY BASED FINISHES OR THIN SET TILES. DO NOT USE STEEL TROWEL TO FINISH AIR-ENTRAINED CONCRETE.
- WOOD FLOAT AND BROOM FINISH EXTERIOR SLABS.
- SCREED AND BULL FLOAT FINISH OTHER SLABS AND FOOTINGS.
- FOR SLABS TO RECEIVE RESILIENT FLOORING AND OTHER MOISTURE SENSITIVE FLOOR FINISHES, MONITOR SLAB MOISTURE CONTENT AND DO NOT APPLY FINISHES BEFORE THE MOISTURE CONTENT IS FOUND TO BE WITHIN AN ACCEPTABLE RANGE.

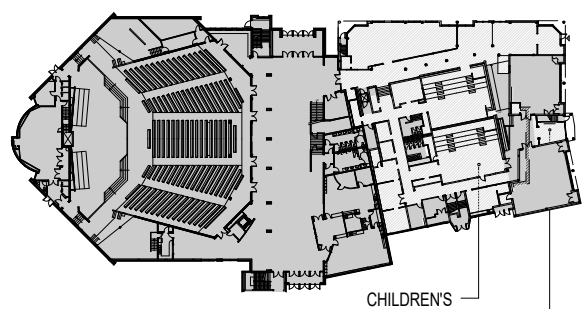
POST-INSTALLED ANCHORS AND DOWELS

- ANCHORS LOCATED OUTSIDE THE BUILDING ENVELOPE'S VAPOUR BARRIER TO BE HOT DIP GALVANIZED.
- CONCRETE TO BE MINIMUM 28 DAYS OLD AT THE TIME OF ANCHOR INSTALLATION.
- USE DRILLING AND INSTALLATION TOOLS AND PROCEDURES PER MANUFACTURERS' RECOMMENDATIONS.
- DO NOT CUT REINFORCEMENT TO ACCOMMODATE DRILLED ANCHORS AND DOWELS.
- A WHEN OBSTRUCTIONS PREVENT DRILLING HOLES IN SPECIFIED LOCATIONS TO THE REQUIRED DEPTH, RELOCATE AT NO EXTRA COST TO THE CONTRACT. OBTAIN WSP-S APPROVAL OF NEW LOCATIONS BEFORE DRILLING HOLES. FILL ALL ABANDONED HOLES WITH MIN. 30MPa GROUT. DO NOT TIGHTEN ANCHORS UNTIL GROUT IN ADJACENT ABANDONED HOLES REACHES 75% fc.

STRUCTURAL STEEL

- CONFORM TO CSA S16 "DESIGN OF STEEL STRUCTURES".
- FABRICATOR TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU UNDER REQUIREMENTS OF CSA W47.1, DIVISION 1 OR 2, AND/OR CSA W55.3.
- WELDERS TO BE CWB CERTIFIED. WELDING TO BE IN ACCORDANCE WITH CSA W59.
- MATERIALS (TO CSA G40.21 UNLESS NOTED OTHERWISE):
 - WIDE FLANGE SECTIONS, CHANNELS AND ANGLES: GRADE 350W
 - PLATES, BARS: GRADE 300W
 - STEEL JOISTS: CSA G40.21, ASTM A1085, OR ASTM A500
 - HOLLOW STRUCTURAL SECTIONS (HSS): 350W CLASS "C" OR "H"; OR ASTM A500 GRADE C; OR ASTM A1085 GRADE 50 (345 MPa)
 - GALVANIZED HSS: 350W CLASS H; OTHER GRADES TO BE STRESS RELIEVED PRIOR TO GALVANIZING
 - PIPE: ASTM A53, 240W
 - BOLTS, NUTS AND WASHERS: ASTM F3125, GRADE A325
 - ANCHOR RODS: GRADE 300W; OR ASTM F1554 GRADE 36
 - SHOP PAINT: CIS/C/CPMA 1-73A
 - SHOP PRIMER PAINT: CIS/C/CPMA 2-75
 - ZINC-RICH PAINT (ZRP) COATING: SSPC PAINT SPECIFICATION NO. 20
 - HOT DIP GALVANIZING: ASTM A123/A123M
 - HEADED STUDS: CSA W59, TYPE B. MIN FY = 350MPa. LENGTHS OF STUDS GIVEN ON DRAWINGS ARE THE LENGTHS AFTER WELDING.
 - WELDING MATERIALS: CSA W48 AND CSA W59
- SHOP DRAWINGS FOR STRUCTURAL STEEL, STEEL CONNECTIONS, AND STEEL JOISTS TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR DESIGN. RETAINED BY THE CONTRACTOR AND REGISTERED IN THE PLACE THE PROJECT IS LOCATED. ENGINEER TO CARRY MINIMUM \$1,000,000 IN LIABILITY INSURANCE.
- CONNECT BEAMS FOR THE FORCES SHOWN ON DRAWINGS USING THE CISC "HANDBOOK OF STEEL CONSTRUCTION". IF NO FORCE IS INDICATED, CONNECT NON-COMPOSITE BEAMS FOR THE REACTION DUE TO MAXIMUM UNIFORMLY DISTRIBUTED LOAD CAPACITY OF THE BEAM IN BENDING, AND CONNECT COMPOSITE BEAMS FOR ONE AND A HALF TIMES THE REACTION DUE TO MAXIMUM UNIFORMLY DISTRIBUTED LOAD CAPACITY OF THE NON COMPOSITE SECTION IN BENDING.
- WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN FOR MOMENT CAPACITY OF THE SMALLER MEMBER IN THE CONNECTION.
- WHERE SLOTTED CONNECTIONS ARE SHOWN ON STRUCTURAL DRAWINGS, FINGER TIGHTEN BOLTS TO A SNUG FIT AND BURR THREADS TO PREVENT NUTS FROM WORKING LOOSE.
- DO NOT SPLICE SECTIONS WITHOUT PRIOR ACCEPTANCE BY THE CONSULTANT AND SUBMISSION OF PERTINENT SHOP DRAWINGS. ACCEPTED SPLICES TO DEVELOP THE FULL MOMENT CAPACITY OF THE SECTION. EACH SPLICE TO BE GIVEN A NON-DESTRUCTIVE TEST BY AN INDEPENDENT INSPECTION COMPANY ACCEPTABLE TO WSP-S. TESTING TO BE AT THE CONTRACTOR'S EXPENSE. EVALUATE RESULTS IN ACCORDANCE WITH CSA W59 AND REPORT TO WSP-S.
- DO NOT CUT HOLES OR OTHERWISE MODIFY STRUCTURAL MEMBERS ON SITE.
- DO NOT OVERSIZE ANCHOR ROD HOLES FOR SITE TOLERANCES. USE HOLE SIZES SUGGESTED IN THE CISC "HANDBOOK OF STEEL CONSTRUCTION".
- PROTECT COMBUSTIBLE MATERIALS AND FINISHES DURING WELDING OPERATIONS.
- DO NOT WELD IN AMBIENT TEMPERATURES BELOW -18°C. PREHEAT MATERIAL ADJACENT TO WELDING AREAS WHEN WELDING TEMPERATURE IS BETWEEN -18°C AND 0°C.
- STEEL JOISTS: CONFORM TO CSA S16 AND CSA S136. DESIGN STEEL JOISTS FOR THE LOADS AND JOIST DEPTHS DESCRIBED ON THE STRUCTURAL DRAWINGS. IN ADDITION, DESIGN TOP AND BOTTOM JOIST CHORDS FOR 1.5 kN POINT LOAD APPLIED ANYWHERE ALONG THEIR LENGTH (UNLESS HIGHER LOAD IS INDICATED ON DRAWINGS). TOTAL LOAD DEFLECTION NOT TO EXCEED 1/240 OF SPAN, AND LIVE LOAD DEFLECTION 1/360 OF SPAN. JOIST SHOES TO HAVE SOLID WEBS. PROVIDE TIE JOISTS AT COLUMNS FOR JOIST ERECTION STABILITY.
- UNLESS OTHERWISE NOTED, CLEAN STEEL TO SSPC SP1 (SOIL REMOVAL) AND APPLY ONE COAT OF SHOP PAINT.
- CLEAN STEEL WHICH WILL RECEIVE A FINISHED COAT OF PAINT ON SITE TO SSPC SP7 (BRUSH OFF BLAST CLEANING) AND APPLY SHOP PRIMER.
- CLEAN STEEL WHICH WILL RECEIVE ZRP TO SSPC SP10 (NEAR WHITE BLAST CLEANING), AND APPLY ZINC RICH PRIMER.

KEY PLAN



REV	DATE	DESCRIPTION	BY
2	2021.11.12	ISSUED FOR 70% PROGRESS	
1	2021.08.24	ISSUED FOR 66%	

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PROJECT/LOCATION:
WOODVALE PENTECOSTAL CHURCH RENOVATION
205 Greenbank Rd, Nepean, ON K2H 8K9

DRAWING TITLE:

DRAWN BY:	DATE:	SCALE:
SS	AUG 2021	AS NOTED
PROJECT: 211-03025-00		
DRAWING NO.:		
S101		
REVISION NO.:		

STEEL DECK

- CONFORM TO CSA S136, CSSBI 10M AND CSSBI 12M.
- MATERIALS:
 - DECK: ASTM A653/A653M (WITH ZF75 OR Z275 COATING), OR ASTM A792/A792A (WITH AZ150 COATING), GRADE 230.
 - ZINC-RICH PAINT (ZRP): PER SSPC PAINT SPECIFICATION NO.20.
- DECK WITH CONCRETE TOPPING TO BE A COMPOSITE PROFILE UNLESS NOTED OTHERWISE. COMPOSITE DECK TO HAVE EMBOSSEMENTS, WHICH ENSURE COMPOSITE ACTION OF STEEL AND CONCRETE. SUBMIT SUBSTANTIATING DATA IF REQUESTED. TOTAL SLAB THICKNESS IS EQUAL TO COVER SLAB THICKNESS NOTED ON DRAWINGS PLUS DECK THICKNESS.
- SHOP DRAWINGS FOR STEEL DECK TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR DESIGN, RETAINED BY THE CONTRACTOR AND REGISTERED IN THE PLACE THE PROJECT IS LOCATED. ENGINEER TO CARRY MINIMUM \$1,000,000 IN LIABILITY INSURANCE.
- DESIGN LOADS, SECTION DEPTHS AND STEEL THICKNESSES ARE GIVEN ON DRAWINGS. CHOOSE DECK PROFILE AND DETAIL IN ACCORDANCE WITH CSA S136, CSSBI 10M AND CSSBI 12M.
- CHOOSE DECK TO CARRY WEIGHT OF WET CONCRETE AND APPROPRIATE CONSTRUCTION LOAD ALLOWANCE WITHOUT SHORING.
- LIMIT LIVE LOAD DEFLECTION TO 1/360 OF SPAN. LIMIT TOTAL ROOF LOAD DEFLECTION TO 1/240. LIMIT SDL+ LL INCREMENTAL LONG TERM FLOOR DEFLECTION TO 1/480.
- UNLESS NOTED OTHERWISE, PROVIDE BUTTON PUNCHED OR SCREWED SIDE LAP CONNECTIONS AT 600 (24") CENTRES MAXIMUM. CONNECT DECK TO TRANSVERSE SUPPORTS AT EVERY OTHER FLUTE OR MAX. 400 (16") (WHICHEVER IS LESS) WITH 19 (3/4") DIAMETER FUSION WELDS OR HILTI DIRECT FASTENERS. CONNECT TO LONGITUDINAL (PERIMETER) SUPPORTS WITH FASTENERS TO MATCH TRANSVERSE FASTENERS SPACED AT 450 (18") ON CENTRE. DO NOT DAMAGE SUPPORTING MEMBERS THROUGH DECK FASTENING PROCESS.
- DECK SUPPLIER TO REINFORCE ALL ROOF DECK OPENINGS BETWEEN 150 AND 450 WIDE. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS. CLEAR SPACING BETWEEN ADJACENT OPENINGS TO BE MIN. 3 TIMES THE WIDTH OF THE LARGER OPENING. FRAME ALL OTHER OPENINGS.
- PROVIDE REQUIRED FLASHING, POUR STOPS AND CLOSURE STRIPS WHERE NEEDED. SHEET STEEL MATERIAL TO BE 0.91 (20 GAUGE) MINIMUM, AND SAME COATING AS DECK MATERIAL.
- TOUCH-UP WITH ZRP WHEREVER PROTECTIVE COATING HAS BEEN DAMAGED DURING ERECTION.
- LAP DECK 50 TO 100 (2" TO 4") OVER SUPPORTS.
- REINFORCE SLAB ON DECK SUPPORTED BY NON-COMPOSITE BEAMS AS FOLLOWS:
 - 89 (3 1/2") SLAB OR LESS: WWF 152x152 - MW 18.7 x MW 18.7
 - MORE THAN 89 (3 1/2") SLAB: 10 @ 400 (16") TEW (PROVIDE CLASS B LAPS)
 - ADD 2-10 x 1200 (48") AT ALL RE-ENTRANCY CORNERS AT DECK PERIMETER AND OPENINGS; CENTER ON CORNERS.
- DO NOT HANG CONCENTRATED LOADS FROM STEEL ROOF DECK UNLESS APPROVED BY THE ENGINEER RESPONSIBLE FOR DESIGN OF THE DECK.
- PRIOR TO CONCRETE PLACEMENT, STEEL DECK TO BE FREE OF SOIL, DEBRIS, STANDING WATER, LOSE MIL SCALE, AND OTHER FOREIGN MATTER.

INSPECTION AND TESTING

- PROVIDE INSPECTION REPORTS PREPARED BY AN INDEPENDENT INSPECTION AND TESTING AGENCY FOR THE SCOPES LISTED BELOW. THE COST OF THE INSPECTION WILL BE BORNE BY THE OWNER.
 - MAKE ONE STANDARD TEST FOR EACH 100 CUBIC METRES OF CONCRETE, BUT NOT LESS THAN ONE TEST FOR CONCRETE CAST EACH DAY. PROVIDE A GROUP OF THREE CONCRETE CYLINDERS FOR EACH STANDARD CONCRETE TEST IN ACCORDANCE WITH CSA A23.1 AND 2.
 - PROVIDE AT LEAST 3 CYLINDERS TO BE TESTED FOR EACH 20 CUBIC METRES OF MASONRY GROUT, IN ACCORDANCE WITH CSA A179. MAKE AT LEAST ONE SET OF CYLINDERS EACH DAY THE GROUT IS PLACED.
- STRUCTURAL STEEL INSPECTION REPORTS TO INCLUDE VERIFICATION OF SPECIFIED MEMBER SIZES AND TOLERANCES AND INSPECTION OF WELDING AND BOLTING. INSPECTOR TO REVIEW WELDERS' CWB CERTIFICATION.
- STEEL DECK INSPECTION REPORTS TO INCLUDE VERIFICATION OF MATERIAL GRADE, DECK PROFILE, DECK BEARING, AND CONNECTIONS.

REJECTED WORK

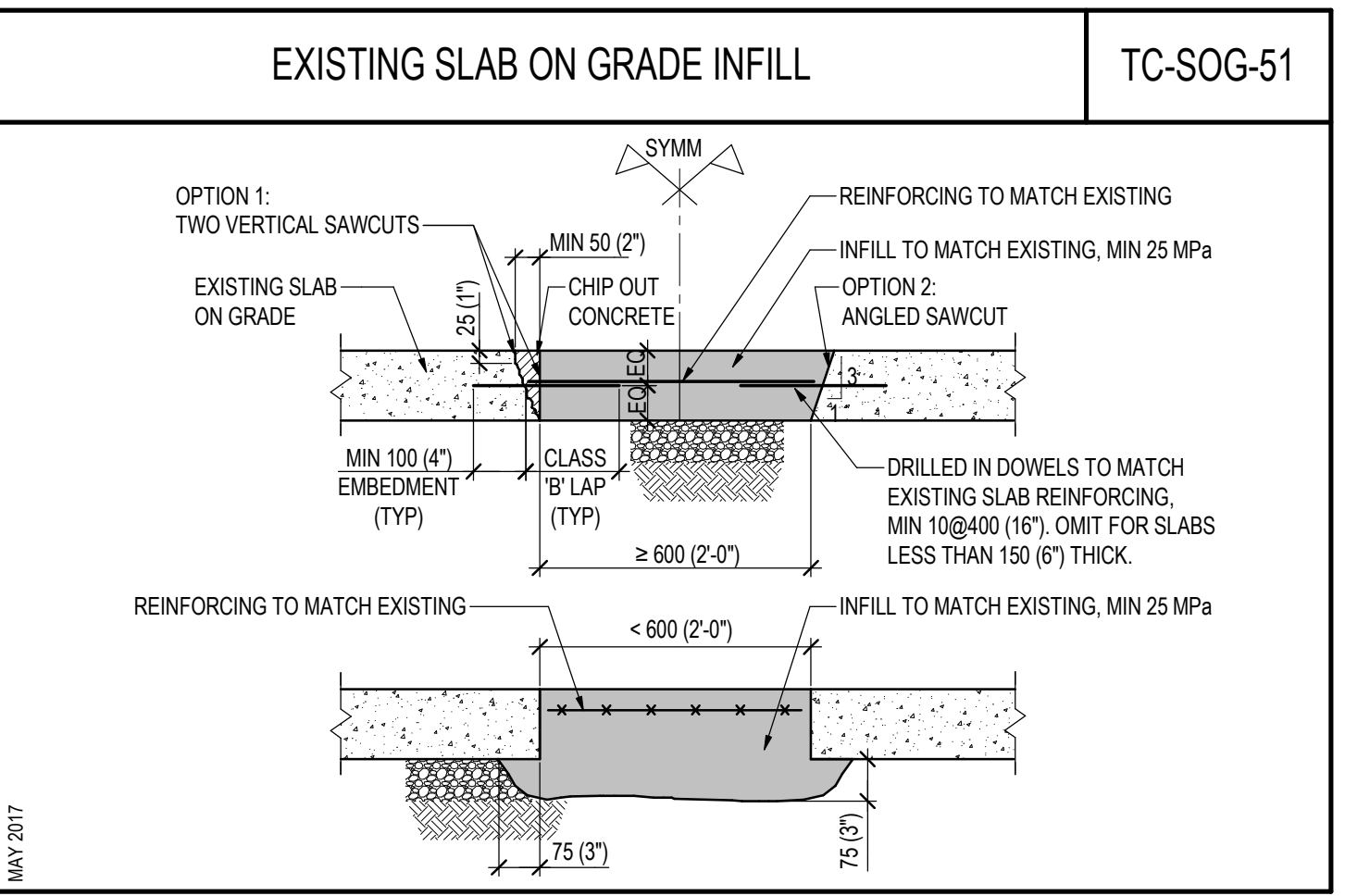
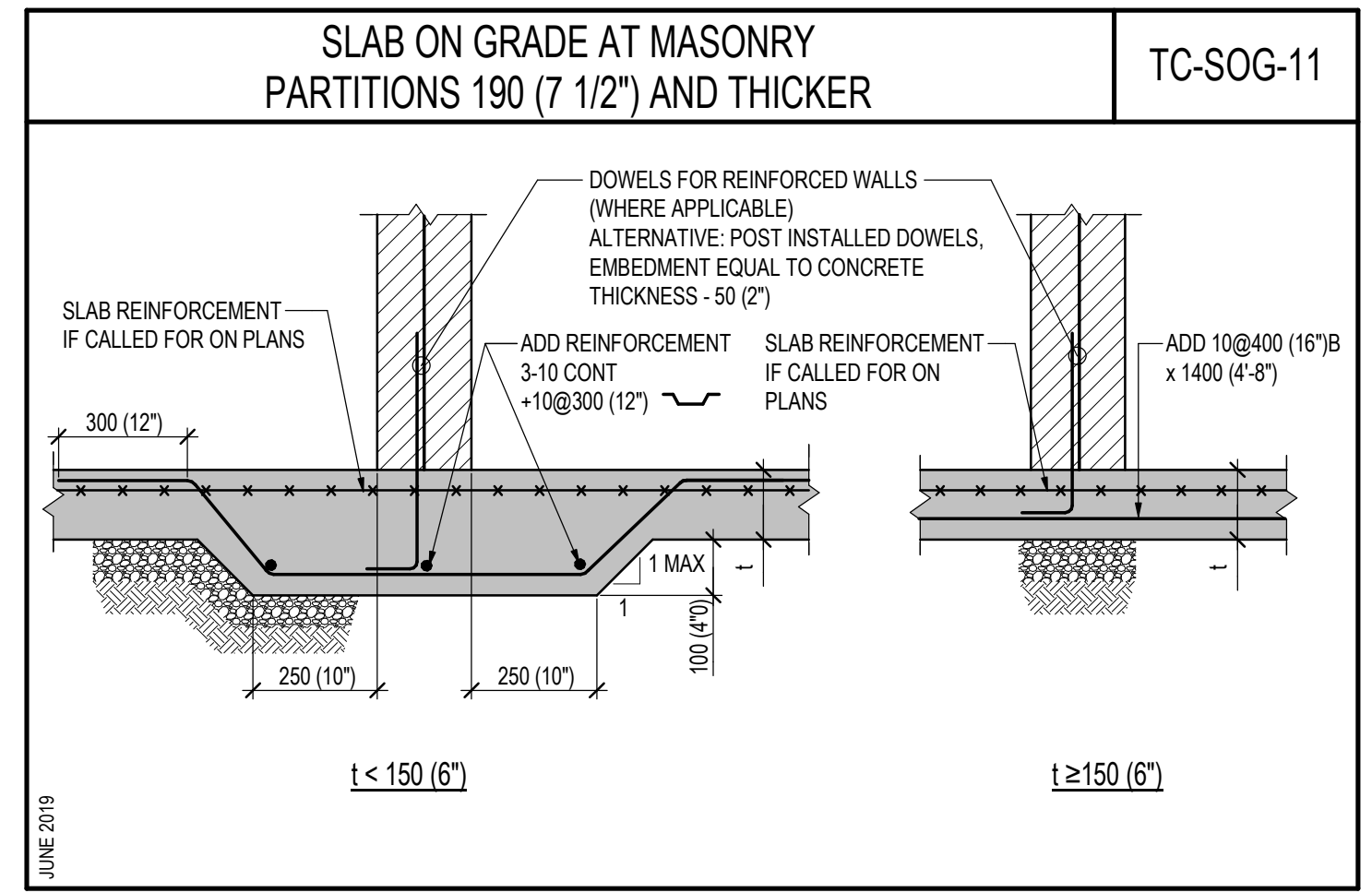
- DO NOT DELIVER MATERIALS WHICH ARE KNOWN NOT TO MEET THE REQUIREMENTS OF THE SPECIFICATIONS. IF REJECTED AFTER DELIVERY, REMOVE IMMEDIATELY FROM SITE.

DRAWING ABBREVIATIONS				TG-ABBR-01			
ABUT	ABUTMENT	DP	DEEP	td	TENSION DEVELOPMENT LENGTH OF REBAR	SPEC	SPECIFICATIONS
ACA	ADHESIVE CONCRETE ANCHORS	DWG	DRAWING	tdc	COMPRESSION DEVELOPMENT LENGTH OF REBAR	SFF	SPRUCE PINE FIR
ADDL	ADDITIONAL	DWL	DOWEL	tdh	TENSION EMBEDMENT LENGTH WITH STANDARD HOOK	SR	STUD RAIL
AEC	ARCHITECTURALLY EXPOSED CONCRETE	EA	EACH	LE	LEFT END	SS	STAINLESS STEEL
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	ECR	EPOXY COATED REINFORCEMENT	LG	LONG	ST	STRAIGHT
AIFB	ASPHALT IMPREGNATED FIBERBOARD	EBF	ECCENTRICALLY BRACED FRAME	LL	LOWER LEVEL	STD	STANDARD
ALT	ALTERNATE	EE	EACH END	LLH	LONG LEG HORIZONTAL	STE	SHEAR TRANSFER ELEMENTS
AMA	ADHESIVE MASONRY ANCHORS	EF	EACH FACE	LLV	LONG LEG VERTICAL	STG	STAGGERED
ARCH	ARCHITECTURAL	EJ, EXP JT	EXPANSION JOINT	LONG	LONGITUDINAL	STR	STRIPP
A-RD	ANCHOR ROD	ELECT	ELECTRICAL	LSH	LONG SIDE HORIZONTAL	STIFF	STIFFENER
ASPH	ASPHALT	ELEV	ELEVATION	LP	LOW POINT	STL	STEEL
AVG	AVERAGE	ELEV	ELEVATOR	LWT	LIGHT WEIGHT	STR	SEISMIC STRAP
B, BOT	BOTTOM	EMBED	EMBEDMENT	MAX	MAXIMUM	STRUCT	STRUCTURAL
BOF	BOTTOM OF FOOTING	ENG	ENGINEER	MC	MOMENT CONNECTION (← →)	SWT	SELF WEIGHT
BOP	BOTTOM OF PILE	EOD	EDGE OF DECK	MECH	MECHANICAL	SYMM	SYMMETRICAL
BCE	BOTTOM CHORD EXTENSION	EOS	EDGE OF SLAB	MEZZ	MEZZANINE	t	THICKNESS
BCP	BORED CONCRETE PILE	ES	EACH SIDE	MF	MOMENT FRAME	TB	TRANSFER BEAM
BEW	BOTTOM EACH WAY	EQ	EQUAL	MIN	MINIMUM	TBB	TOP BASIC BARS
BLL	BOTTOM LOWER LAYER	EW	EACH WAY	MISC	MISCELLANEOUS	T	TOP
BP	BASE PLATE	EX, EXIST	EXISTING	MJ	MOVEMENT JOINT	TDL	TENSION DEVELOPMENT LENGTH
BRG	BEARING	EXT	EXTERIOR	ML	MIDDLE LAYER	TEW	TOP EACH WAY
BRP	BEARING PLATE	FC	FUTURE COLUMN	NF	NEAR FACE	T&G	TONGUE AND GROOVE
BSMT	BASEMENT	FD	FLOOR DRAIN	NIC	NOT IN CONTRACT	TJ	TIE JOIST
BUL	BOTTOM UPPER LAYER	FF	FAR FACE	NOM	NOMINAL	TLL	TOP LOWER LAYER
BUP	BOTTOM OF UNDERPINNING	FIN	FINISHED	NIS	NOT TO SCALE	TIO	TOP OF
C	CAMBER	FL	FLOOR	OIC	ON CENTER	TGB	TOP OF (GRADE) BEAM
CA	COLUMN ABOVE ONLY (NO COLUMN BELOW)	FMC	FULL MOMENT CONNECTION (FOR FULL MOMENT CAPACITY)	OD	OUTSIDE DIAMETER	TOC	TOP OF CONCRETE
CANT	CANTILEVER	FND	FOUNDATION	OF	OUTSIDE FACE	TOF	TOP OF FOOTING
CAT	CATEGORY (FOR AESS)	FTG	FOOTING	OPP	OPPOSITE	TOS	TOP OF STEEL
CB	COLUMN BELOW ONLY (NO COLUMN ABOVE)	GA	GAUGE	OWSJ	OPEN WEB STEEL JOIST	TOP	TOP OF PILE
CDL	COMPRESSION DEVELOPMENT LENGTH	GALV	GALVANIZED	PAF	POWDER ACTUATED FASTENERS	TOW	TOP OF WALL
CEL	OUT OF ELEVATION FOR PILES	GB	GRADE BEAM	PC	PILE CAP	TPC	TOP OF PILE CAP
CIP	CAST-IN PLACE	GEN	GENERAL	PL	PLATE	TRANS	TRANSVERSE
CJ	CONTROL JOINT	GRD	GROUND	PROJ	PROJECT PROJECTION	TSA	TENSION SPlice 'A'
CLR	CLEAR	GRD	GROUND	PS	PIPE SUPPORT	TSB	TENSION SPlice 'B'
CL	CENTRELINE	h	TOTAL THICKNESS, SLAB THICKNESS AWAY FROM DROP PANEL	PT	POST TENSIONED	TUL	TOP UPPER LAYER
CMU	CONCRETE MASONRY UNITS	hd	SLAB OVERALL THICKNESS AT DROP PANEL	PTL	PRESSURE TREATED LUMBER	TYP	TYPICAL
CNT	STEEL DECK CORE NOMINAL THICKNESS	H, HORIZ	HORIZONTAL	R	RADIUS	U-BAR	'U' SHAPED BAR
COMP	COMPOSITE	(H)	HIGH BEAM	RA	ROOF ANCHOR	UDB	UNIFORMLY DISTRIBUTED BARS
COL	COLUMN	HC	HOLLOWCORE	RD	ROOF DRAIN	UJF	UNDERSIDE OF FOOTING
CONC	CONCRETE	HD	HOLD DOWN	RE	RIGHT END	UL	UPPER LEVEL
CONT	CONTINUOUS	HDG	HOT DIPPED GALVANIZED	REINF	REINFORCEMENT	ULS	ULTIMATE LIMIT STATE
CONTD	CONTINUED	HEF	HORIZONTAL EACH FACE	REM	REMAINDER	US	UNDERSIDE
CONST.	CONSTRUCTION JOINT	HIF	HORIZONTAL INSIDE FACE	REQ'D	REQUIRED	UJN, UNO	UNLESS NOTED OTHERWISE
CP	CONNECTION PLATE	HH	HOOK EACH END	REV	REVISION	UPT	UPTURNED
CPL	CAP PLATE	HIC	HORIZONTAL IN CENTRE	RF	RIGID FRAME	V, VERT	VERTICAL, VERTICALS
CS	COMPRESSION LAP SPlice	HOF	HORIZONTAL OUTSIDE FACE	RL	REFERENCE LINE	VB	VERTICAL BRACING
COV	CLEAR COVER	HP	HIGH POINT	RSS	RETAINED SOIL SYSTEM	VEF	VERTICAL EACH FACE
CW	COMPLETE WITH, CONNECT WITH	HSC	HORIZONTAL SLOTTED CONNECTION	RTU	ROOF TOP UNIT	VIF	VERTICAL INSIDE FACE
CWS	CONTINUOUS	IBI	INTEGRITY BARS INTERIOR	RET, WALL	RETAINING WALL	VIC	VERTICAL IN CENTRE
CLS	(SEE GENERAL NOTES)	RWS	REINFORCE WITH	REINFC	REINFORCEMENT	VOF	VERTICAL OUTSIDE FACE
DCA	DRILLED CONCRETE ANCHOR, SEE GENERAL NOTES	IBA	INTEGRITY BARS ADDED	r.w.	REQUIRED WITH	VSC	VERTICALLY SLOTTED CONNECTION
DEMO	DEMOLITION	IBB	INTEGRITY BOTTOM BARS (THROUGHOUT)	SDF	STEP DOWN FOOTING (IN DIRECTION OF ARROW)	WB	WALL BELOW
DET	DETAIL	ID	INSIDE DIAMETER	SEC	SECTION	WC	WIND COLUMN
D.FIR-L	DOUGLAS FIR-LARCH	INT	INTERIOR	SIM	SIMILAR	w/o	WITHOUT
DIA, Ø	DIAMETER	IF	INSIDE FACE	SJ	STEEL JOIST	WP	WORK POINT
DIV	DIVIDER BEAM	JG	JOIST GIRDER	SL	SLAB, SHELF ANGLE	WSP-S	WSP STRUCTURAL
DMA	DRILLED MASONRY ANCHOR, SEE GENERAL NOTES	KB	KNEE BRACING	SLBB	SHORT LEG BACK TO BACK	WWF	WELDED WIRE FABRIC
DN	DOWN	LB	LOW BEAM	SLS	SERVICEABILITY LIMIT STATE	ZRP	ZINC RICH PAINT
DNW	DOUBLE NUT AND WASHER	2L	BACK TO BACK ANGLES	SOG	SLAB-ON-GRADE	yc	CONCRETE DENSITY

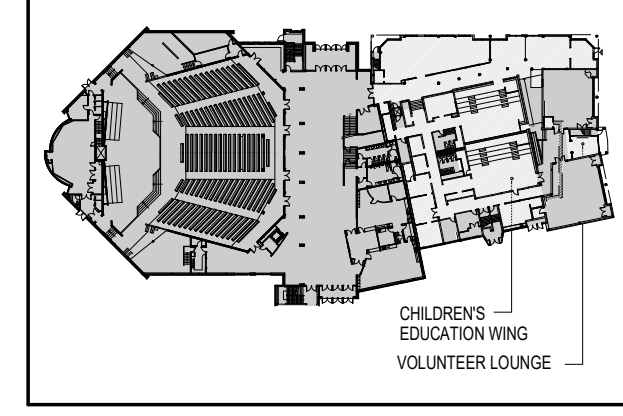
DRAWING LIST	
DRAWING No	DRAWING NAME
S101	GENERAL NOTES
S102	GENERAL NOTES
S200	FOUNDATION PLAN
S201	GROUND FLOOR FRAMING PLAN
S400	SECTIONS
S401	SECTIONS
S402	SECTIONS

LOADING ABBREVIATIONS

LOADING ABBREVIATIONS		TG-ABBR-02
Af	FACTORED AXIAL LOAD IN kN (+ INDICATES TENSION, - INDICATES COMPRESSION)	
Cf	FACTORED COMPRESSION IN kN	
fc	COMPRESSIVE STRENGTH OF CONCRETE, IN MPa	
fy	YIELD STRENGTH IN MPa	
Mf	FACTORED MOMENT IN kN.m	
Mtx	FACTORED MOMENT ABOUT X-X (STRONG) AXES IN kN.m	
Mfy	FACTORED MOMENT ABOUT Y-Y (WEAK) AXES IN kN.m	
MPL	MASONRY PARTITION LOAD IN kN/m	
MTT	FACTORED TORSION IN kN.m	
Rf	FACTORED VERTICAL REACTION IN kN	
RHf	FACTORED HORIZONTAL REACTION IN kN	
P	SPECIFIED (UNFACTORED) POINT LOAD IN kN	
Pf	FACTORED POINT LOAD IN kN	
Vf	FACTORED SHEAR IN kN	
Tf	FACTORED TENSION IN kN	



KEY PLAN



REV	DATE	DESCRIPTION	BY
2	2021.11.12	ISSUED FOR 70% PROGRESS	
1	2021.08.24	ISSUED FOR 66%	

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HOBIN
ARCHITECTURE

PROJECT/LOCATION:
WOODVALE PENTECOSTAL CHURCH RENOVATION
205 Greenbank Rd, Nepean, ON K2H 8K9

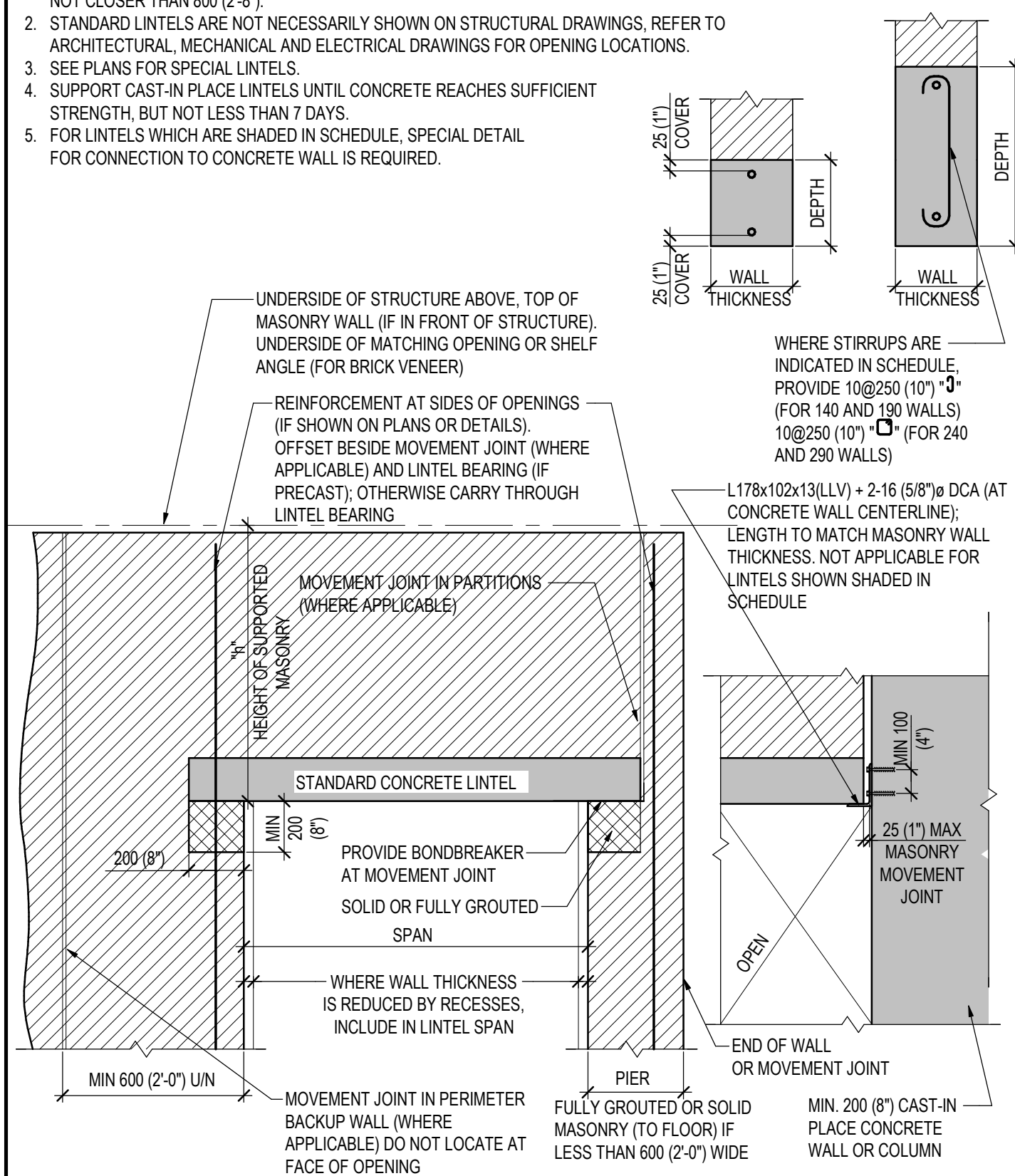
GENERAL NOTES

DRAWN BY: SS	DATE: AUG 2021	SCALE: AS NOTED
PROJECT: 211-03025-00		
DRAWING NO.:		
S102		
REVISION NO.:		

STANDARD CONCRETE LINTELS IN NON LOAD BEARING MASONRY WALLS

TM-WALL-13

- NOTES:**
- THIS DETAIL APPLIES FOR HOLLOW MASONRY WALLS AND FOR MASONRY WALLS WITH GROUTED CORES SPACED NOT CLOSER THAN 800 (2'-8").
 - STANDARD LINTELS ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS, REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENING LOCATIONS.
 - SEE PLANS FOR SPECIAL LINTELS.
 - SUPPORT CAST-IN PLACE LINTELS UNTIL CONCRETE REACHES SUFFICIENT STRENGTH, BUT NOT LESS THAN 7 DAYS.
 - FOR LINTELS WHICH ARE SHADED IN SCHEDULE, SPECIAL DETAIL FOR CONNECTION TO CONCRETE WALL IS REQUIRED.

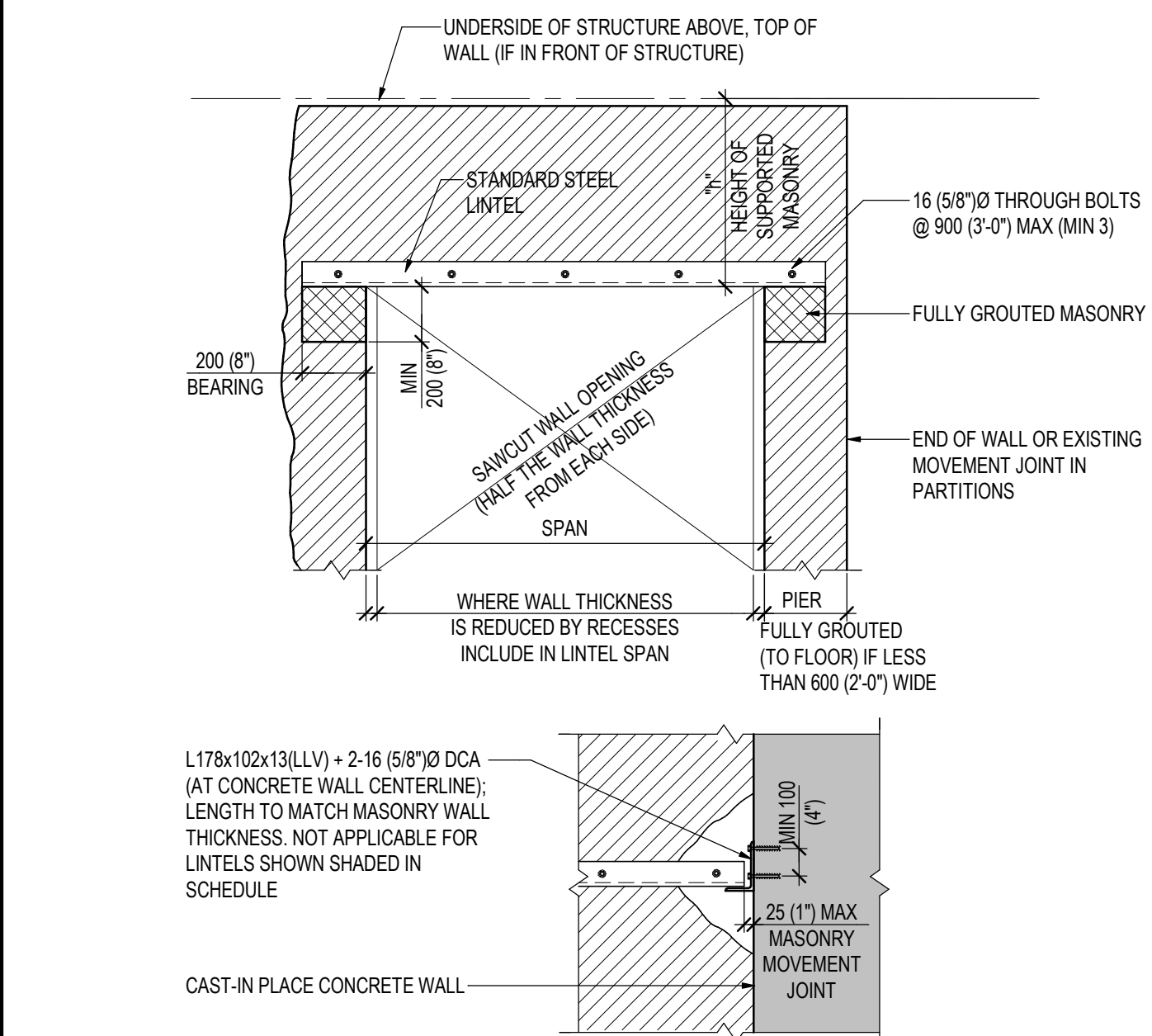


WALL THICKNESS	SPAN	HEIGHT OF SUPPORTED MASONRY "h"					
		h ≤ 1200 (4'-0")		1200 (4'-0") < h ≤ 2600 (8'-4")		2600 (8'-4") ≤ h ≤ 4800 (16'-0")	
		CONC LINTEL DEPTH	REINF: T&B	CONC LINTEL DEPTH	REINF: T&B	CONC LINTEL DEPTH	REINF: T&B
90 (4")	UP TO 1200 (4'-0")	190 (7 1/2")	1-10	190 (7 1/2")	1-10	190 (7 1/2")	1-10
	1200(4'-0") TO 1800(6'-0")	190 (7 1/2")	1-10	190 (7 1/2")	1-10	390 (15 1/2")	1-10
	1800(6'-0") TO 2400(8'-0")	190 (7 1/2")	1-10	390 (15 1/2")	1-10	390 (15 1/2")	1-10
	2400(8'-0") TO 3000(10'-0")	390 (15 1/2")	1-10	390 (15 1/2")	1-10	590 (23 1/2")	1-10
	3000(10'-0") TO 3600 (12'-0")	390 (15 1/2")	1-10	390 (15 1/2")	1-10	590 (23 1/2")	1-10
140 (6")	UP TO 1200 (4'-0")	190 (7 1/2")	1-10	190 (7 1/2")	1-10	190 (7 1/2")	1-10
	1200(4'-0") TO 1800(6'-0")	190 (7 1/2")	1-10	190 (7 1/2")	1-10	390 (15 1/2")	1-15
	1800(6'-0") TO 2400(8'-0")	190 (7 1/2")	1-10	390 (15 1/2")	1-15	390 (15 1/2")	1-15
	2400(8'-0") TO 3000(10'-0")	190 (7 1/2")	1-15	390 (15 1/2")	1-15	590 (23 1/2")	1-20+STIRRUPS
	3000(10'-0") TO 3600 (12'-0")	390 (15 1/2")	1-15	390 (15 1/2")	1-15	590 (23 1/2")	1-20+STIRRUPS
190 (8")	UP TO 1200 (4'-0")	190 (7 1/2")	2-10	190 (7 1/2")	2-10	190 (7 1/2")	2-10
	1200(4'-0") TO 1800(6'-0")	190 (7 1/2")	2-10	190 (7 1/2")	2-10	390 (15 1/2")	2-15
	1800(6'-0") TO 2400(8'-0")	190 (7 1/2")	2-10	190 (7 1/2")	2-15	390 (15 1/2")	2-15
	2400(8'-0") TO 3000(10'-0")	190 (7 1/2")	2-15	390 (15 1/2")	2-15	390 (15 1/2")	2-15
	3000(10'-0") TO 3600 (12'-0")	390 (15 1/2")	2-15	390 (15 1/2")	2-15	590 (23 1/2")	2-15+STIRRUPS
240 (10")	UP TO 1200 (4'-0")	190 (7 1/2")	2-10	190 (7 1/2")	2-10	190 (7 1/2")	2-10
	1200(4'-0") TO 1800(6'-0")	190 (7 1/2")	2-10	190 (7 1/2")	2-10	390 (15 1/2")	2-15
	1800(6'-0") TO 2400(8'-0")	190 (7 1/2")	2-10	190 (7 1/2")	2-15	390 (15 1/2")	2-15
	2400(8'-0") TO 3000(10'-0")	390 (15 1/2")	2-15	390 (15 1/2")	2-15	390 (15 1/2")	2-15
	3000(10'-0") TO 3600 (12'-0")	390 (15 1/2")	2-15	390 (15 1/2")	2-15	590 (23 1/2")	2-15+STIRRUPS
290 (12")	UP TO 1200 (4'-0")	190 (7 1/2")	2-10	190 (7 1/2")	2-10	190 (7 1/2")	2-10
	1200(4'-0") TO 1800(6'-0")	190 (7 1/2")	2-10	190 (7 1/2")	2-10	390 (15 1/2")	2-15
	1800(6'-0") TO 2400(8'-0")	190 (7 1/2")	2-10	390 (15 1/2")	2-15	390 (15 1/2")	2-15
	2400(8'-0") TO 3000(10'-0")	390 (15 1/2")	2-15	390 (15 1/2")	2-15	390 (15 1/2")	2-15
	3000(10'-0") TO 3600 (12'-0")	390 (15 1/2")	2-15	390 (15 1/2")	2-15	590 (23 1/2")	2-20+STIRRUPS

STANDARD STEEL LINTELS IN EXISTING NON LOAD BEARING MASONRY WALLS

TM-WALL-14

- NOTES:**
- THIS DETAIL APPLIES FOR HOLLOW MASONRY WALLS AND FOR MASONRY WALLS WITH GROUTED CORES SPACED NOT CLOSER THAN 800 (2'-8").
 - IF PREFERRED, TYPICAL DETAILS FOR LINTELS IN NEW WALLS CAN BE USED INSTEAD OF THIS DETAIL.
 - STANDARD LINTELS ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS, REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENING LOCATIONS.
 - SEE PLANS FOR SPECIAL LINTELS.
 - IDENTIFY EXISTING MOVEMENT JOINTS, IF LOCATED LESS THAN 800 (3'-0") FROM FACE OF NEW OPENING NOTIFY THE CONSULTANT AND DO NOT CUT BEFORE RECEIVING FURTHER INSTRUCTIONS.
 - GROUT MASONRY AT SUPPORTS PRIOR TO LINTEL INSTALLATION.
 - PROVIDE STEEL PACKING AS REQUIRED TO PROVIDE EVEN BEARING OF STEEL LINTELS.
 - DESIGN AND PROVIDE TEMPORARY SHORING AS REQUIRED.
 - FOR LINTELS WHICH ARE SHADED IN SCHEDULE, SPECIAL DETAIL FOR CONNECTION TO CONCRETE WALL IS REQUIRED.
 - FOR FIRE PROTECTIONS OF LINTELS LONGER THAN 3000 (10'-0"), SEE ARCHITECTURAL DRAWINGS AND SPECS.



WALL THICKNESS	SPAN	HEIGHT OF SUPPORTED MASONRY "h"			DETAIL
		h ≤ 1200 (4'-0")	1200 (4'-0") < h ≤ 2600 (8'-4")	2600 (8'-4") ≤ h ≤ 4800 (16'-0")	
		CONC LINTEL DEPTH	REINF: T&B	CONC LINTEL DEPTH	
140 (6")	UP TO 1200 (4'-0")	2-L64x64x6.4	2-L64x64x6.4	2-L64x64x6.4	
	1200 (4'-0") TO 1800 (6'-0")	2-L64x64x6.4	2-L76x64x7.9	2-L64x64x6.4	
	1800 (6'-0") TO 2400 (8'-0")	2-L76x64x7.9	N/A	N/A	
	2400 (8'-0") TO 3000 (10'-0")	2-L89x64x9.5	N/A	N/A	
	3000 (10'-0") TO 3600 (12'-0")	N/A	N/A	N/A	
190 (8")	UP TO 1200 (4'-0")	2-L89x89x6.4	2-L89x89x6.4	2-L89x89x6.4	
	1200 (4'-0") TO 1800 (6'-0")	2-L89x89x6.4	2-L89x89x6.4	2-L102x89x7.9	
	1800 (6'-0") TO 2400 (8'-0")	2-L89x89x6.4	2-L102x89x7.9	2-L127x89x7.9	
	2400 (8'-0") TO 3000 (10'-0")	2-L102x89x7.9	2-L152x89x7.9	2-L152x89x7.9	
	3000 (10'-0") TO 3600 (12'-0")	2-L127x89x7.9	2-L152x89x7.9	N/A	
240 (10")	UP TO 1200 (4'-0")	2-L102x102x6.4	2-L102x102x6.4	2-L102x102x6.4	
	1200 (4'-0") TO 1800 (6'-0")	2-L102x102x6.4	2-L102x102x6.4	2-L102x102x7.9	
	1800 (6'-0") TO 2400 (8'-0")	2-L102x102x6.4	2-L102x102x9.5	2-L152x102x7.9	
	2400 (8'-0") TO 3000 (10'-0")	2-L102x102x9.5	2-L152x102x7.9	2-L178x102x9.5	
	3000 (10'-0") TO 3600 (12'-0")	2-L152x102x9.5	2-L178x102x9.5	N/A	
290 (12")	UP TO 1200 (4'-0")	2-L152x152x6.4	2-L152x152x6.4	2-L152x152x6.4	
	1200 (4'-0") TO 1800 (6'-0")	2-L152x152x6.4	2-L152x152x6.4	2-L152x152x6.4	
	1800 (6'-0") TO 2400 (8'-0")	2-L152x152x6.4	2-L152x152x6.4	2-L152x152x6.4	
	2400 (8'-0") TO 3000 (10'-0")	2-L152x152x6.4	2-L152x152x6.4	N/A	
	3000 (10'-0") TO 3600 (12'-0")	2-L152x152x6.4	2-L152x152x9.5	N/A	

KEY PLAN

REV	DATE	DESCRIPTION	BY
1	2021.11.12	ISSUED FOR 70% PROGRESS	

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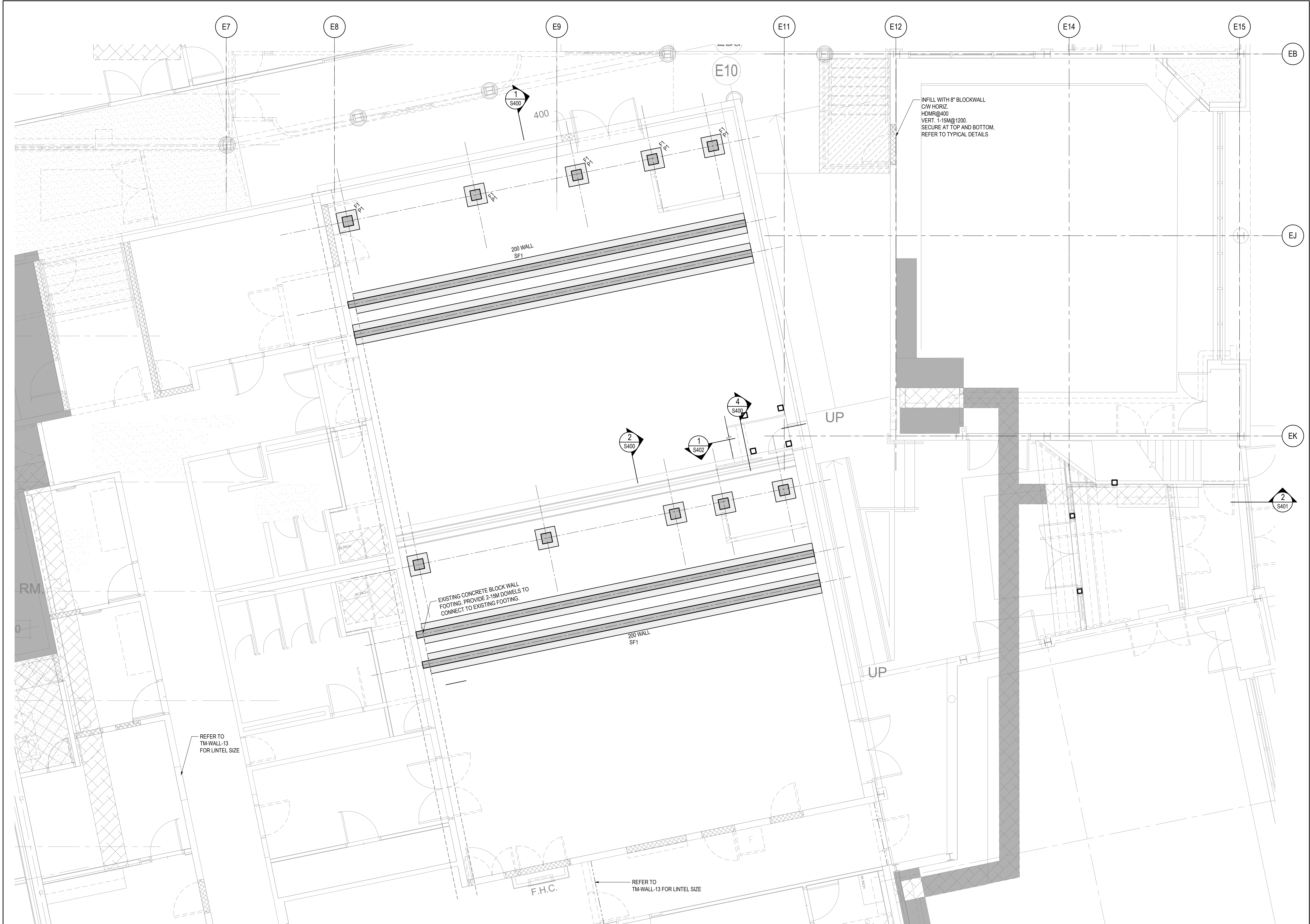
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PROJECT/LOCATION:
WOODVALE PENTECOSTAL CHURCH RENOVATION
205 Greenbank Rd, Nepean, ON K2H 8K9

DRAWING TITLE:
TYPICAL DETAILS

DRAWN BY: SS	DATE: AUG 2021	SCALE: AS NOTED
PROJECT: 211-03025-00		
DRAWING NO.:		
S103		
REVISION NO.:		



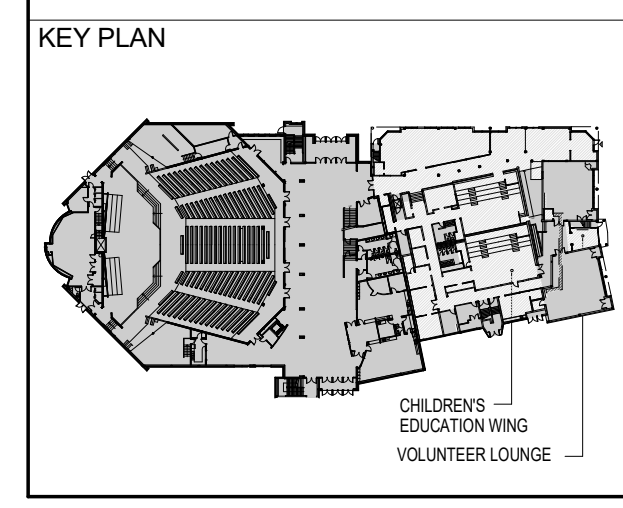
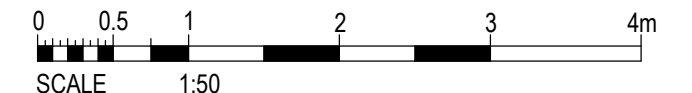
FOUNDATION PLAN

1:50

STRIP FOOTING SCHEDULE				
MARK	WIDTH	DEPTH	REINFORCEMENT	REMARKS
SF1	610	250	REFER TO SECTION S400/1	

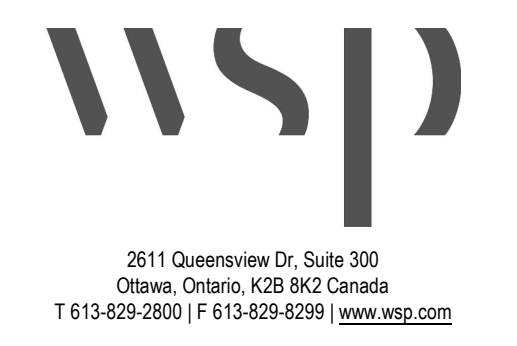
FOOTING SCHEDULE					
MARK	WIDTH	LENGTH	DEPTH	REINFORCEMENT	REMARKS
F1	610	610	250	REFER TO SECTION S400/1	

PIER SCHEDULE				
MARK	a	b	REINFORCEMENT	REMARKS
P1	300	300	REFER TO SECTION S400/1	



REV	DATE	DESCRIPTION	BY
2	2021.11.12	ISSUED FOR 70% PROGRESS	
1	2021.08.24	ISSUED FOR 66%	

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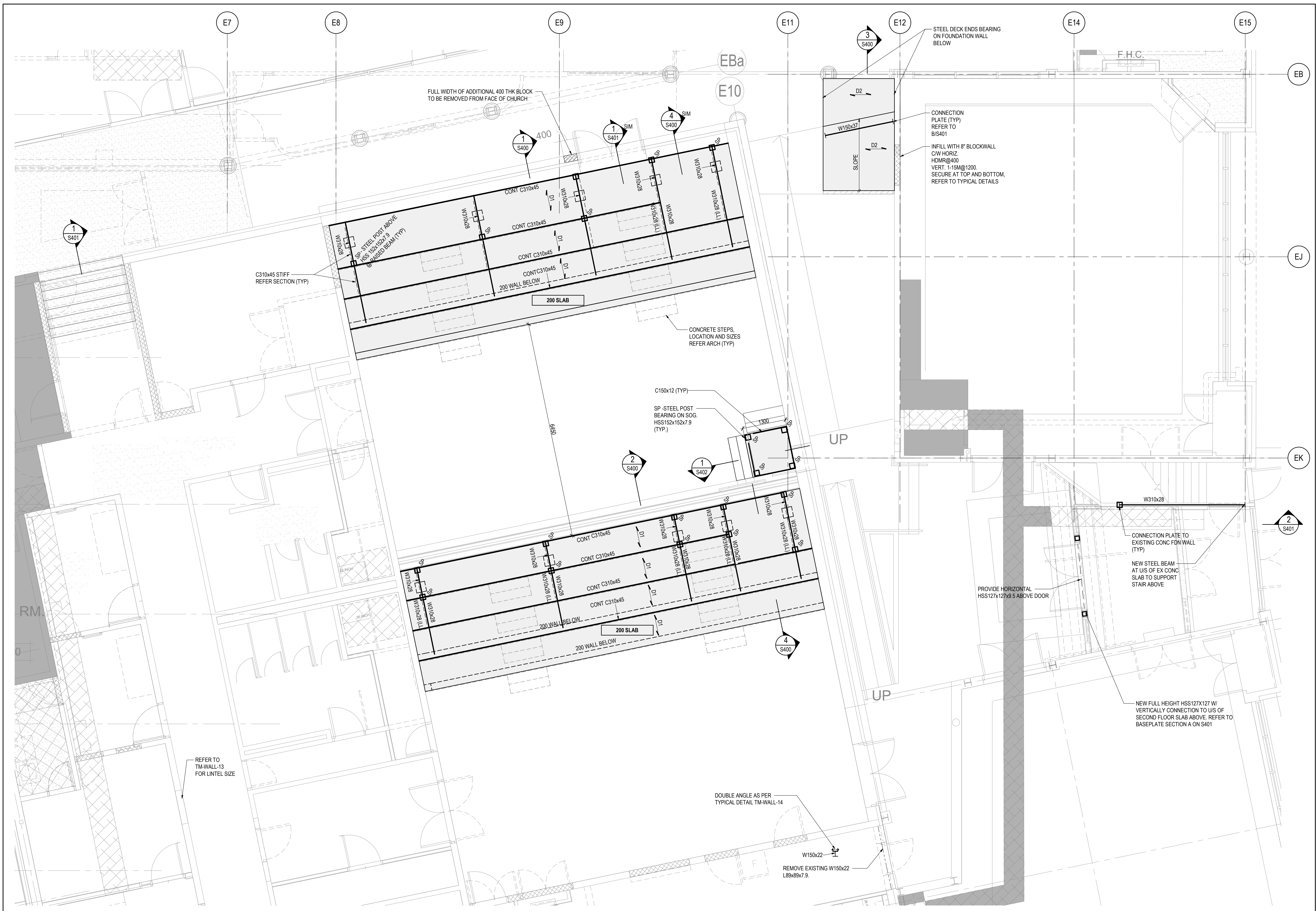
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PROJECT/LOCATION:
WOODVALE PENTECOSTAL CHURCH RENOVATION
205 Greenbank Rd, Nepean, ON K2H 8K9

DRAWING TITLE:
FOUNDATION PLAN

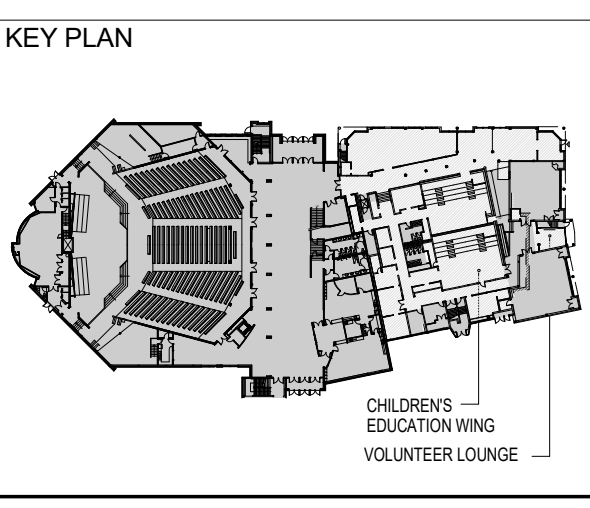
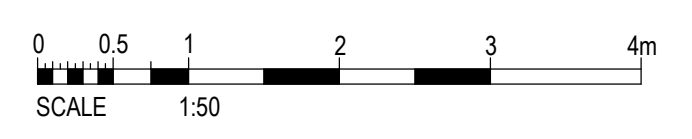
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PROJECT: 211-03025-00		DRAWING NO.:
		S200
		REVISION NO.:

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GROUND FLOOR FRAMING PLAN

- 1:50
- "D1" ON PLAN DENOTES 62 CONC ON 38 x0.91 GALV STEEL DECK
CW HILTI X-EDNK-22 @ 91/44 PATTERN AND #10 SCREWS SIDE LAP @ 300 O/C (TYP)
 - "D2" ON PLAN DENOTES 62 CONC ON 38 x1.21 GALV STEEL DECK
CW HILTI X-EDNK-22 @ 91/44 PATTERN AND #10 SCREWS SIDE LAP @ 300 O/C (TYP)



REV	DATE	DESCRIPTION	BY
2	2021.11.12	ISSUED FOR 70% PROGRESS	
1	2021.08.24	ISSUED FOR 66%	

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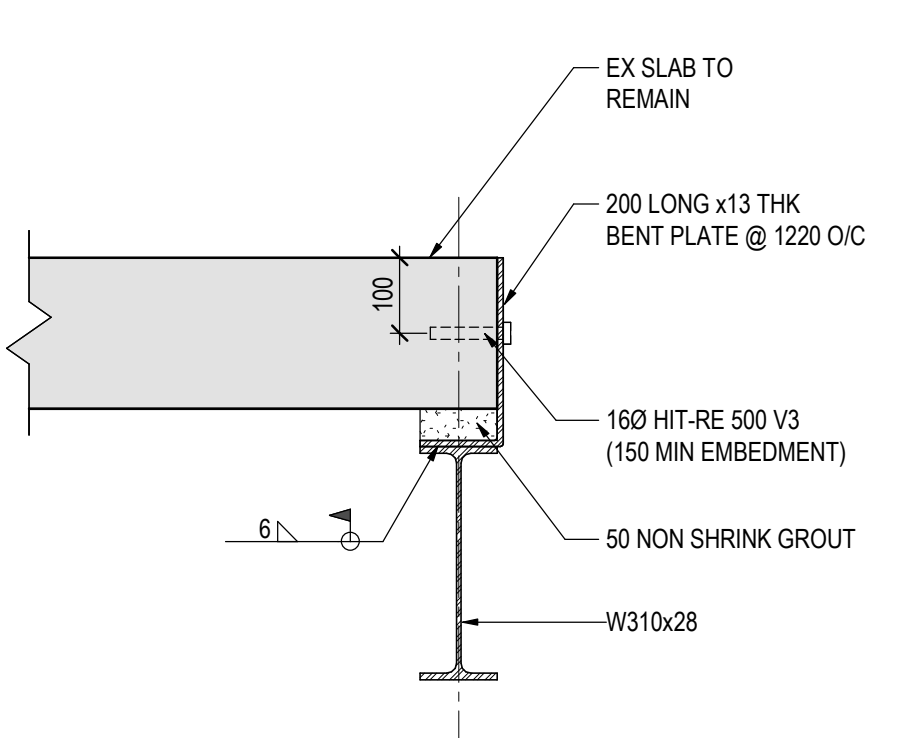
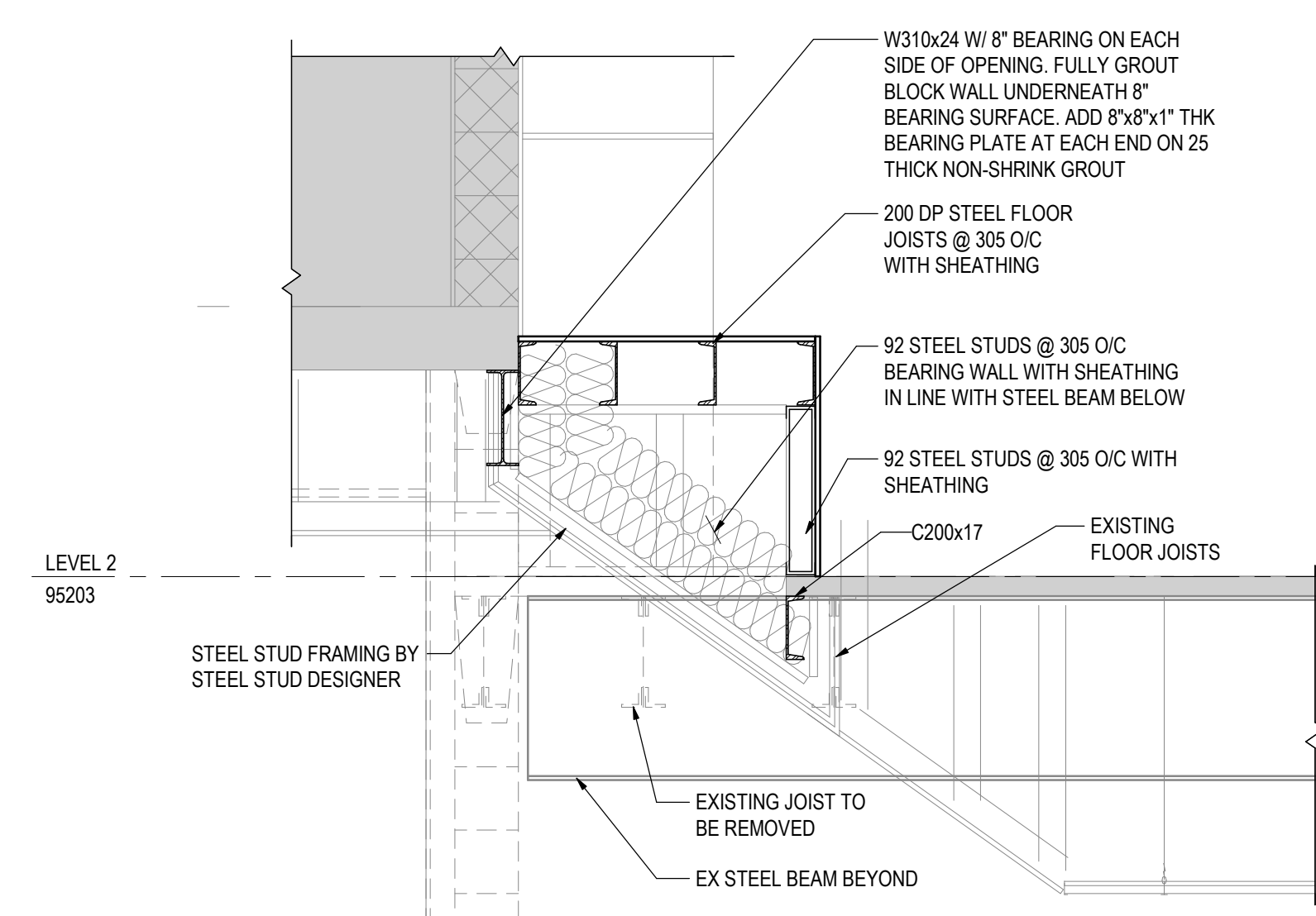
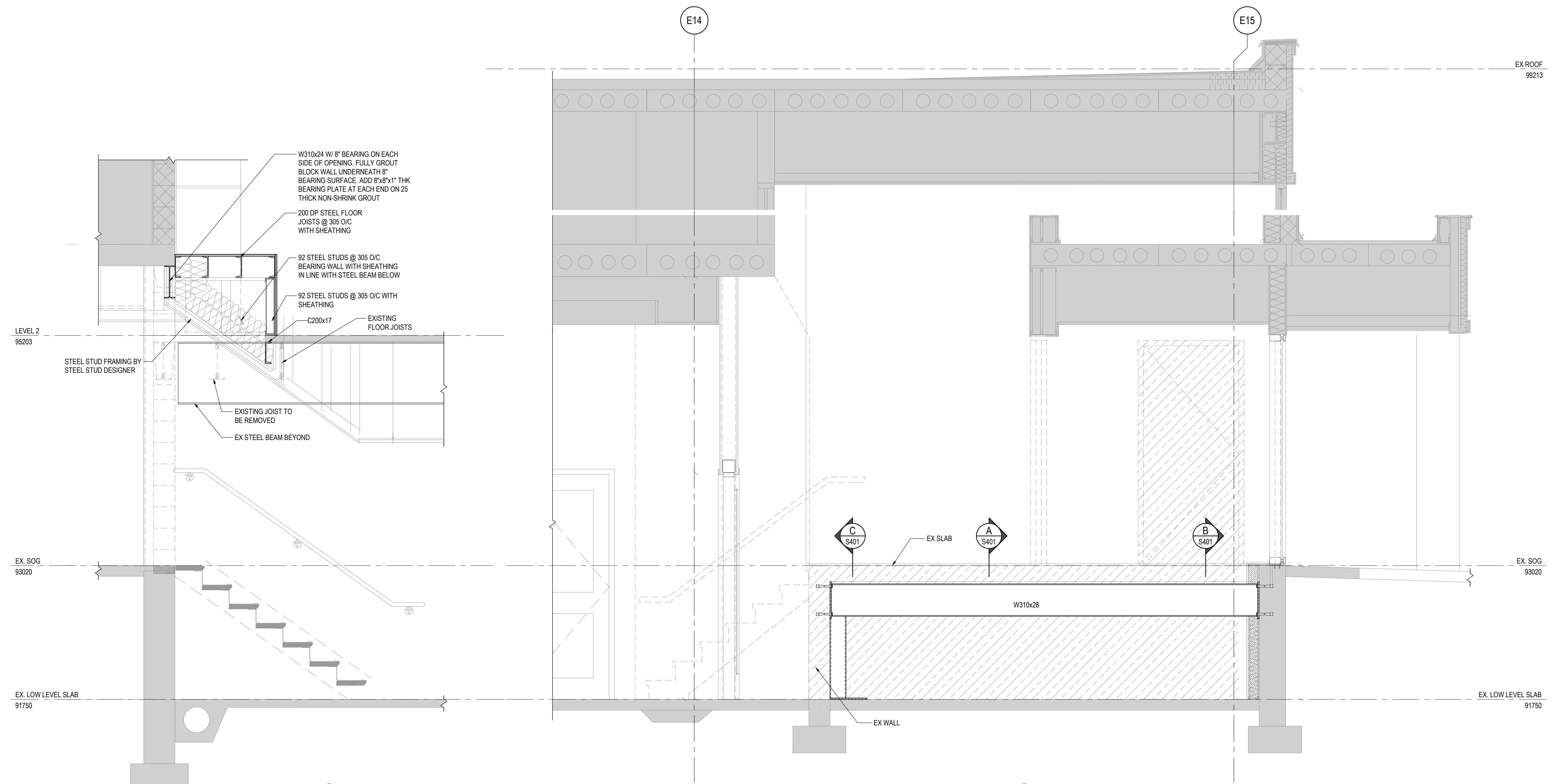
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PROJECT/LOCATION:
WOODVALE PENTECOSTAL CHURCH RENOVATION
205 Greenbank Rd, Nepean, ON K2H 8K9

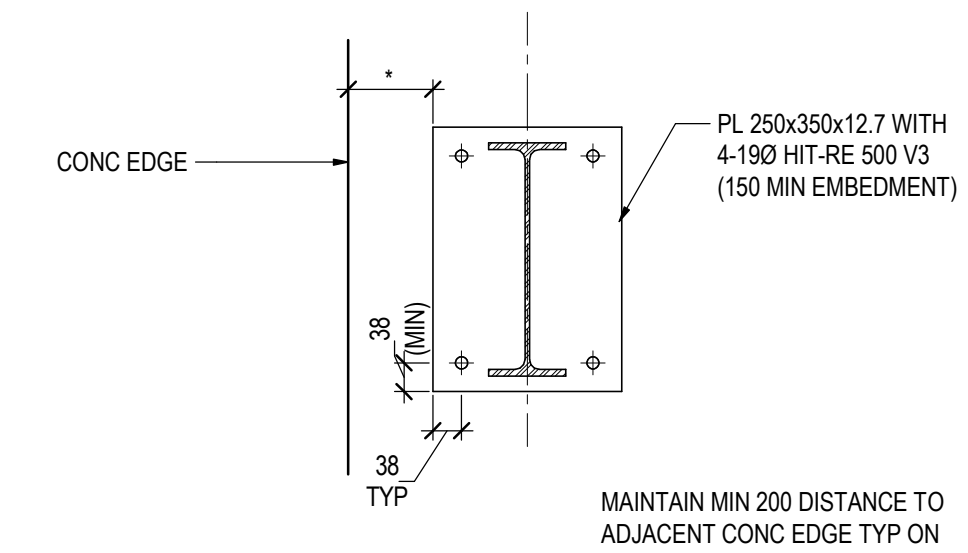
DRAWING TITLE:
GROUND FLOOR FRAMING PLAN

DRAWN BY: SS	DATE: AUG 2021	SCALE: AS NOTED
PROJECT: 211-03025-00		DRAWING NO.:
		S201
		REVISION NO.:

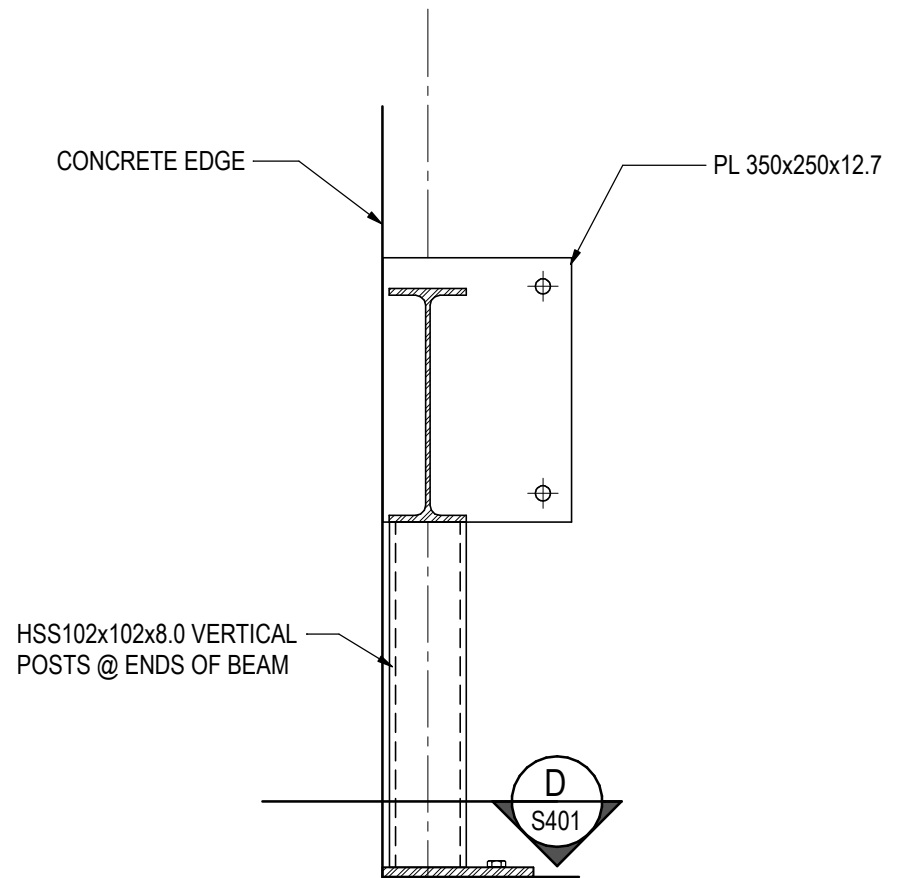
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 15-11-2021 13:31:58



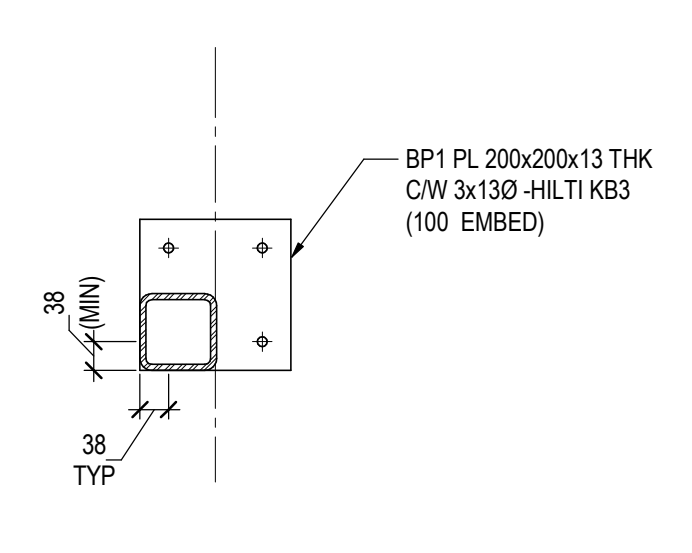
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S401
1:10



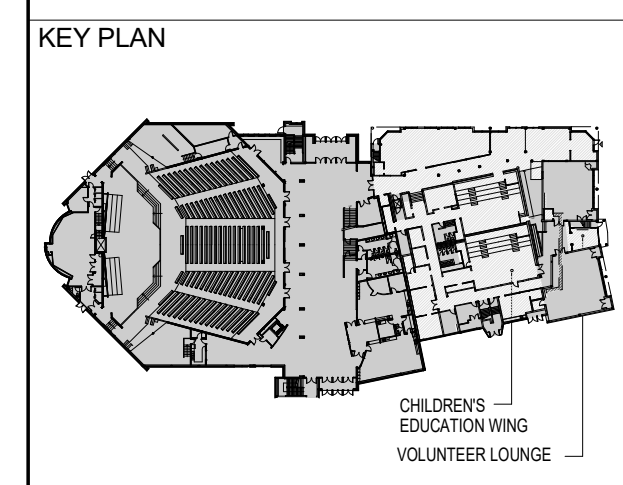
B
S401
1:10



C
S401
1:10



D
S401
1:10



REV	DATE	DESCRIPTION	BY
2	2021.11.12	ISSUED FOR 70% PROGRESS	
1	2021.08.24	ISSUED FOR 66%	

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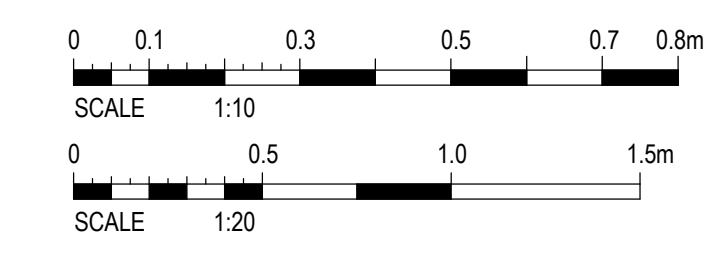


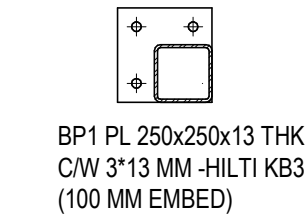
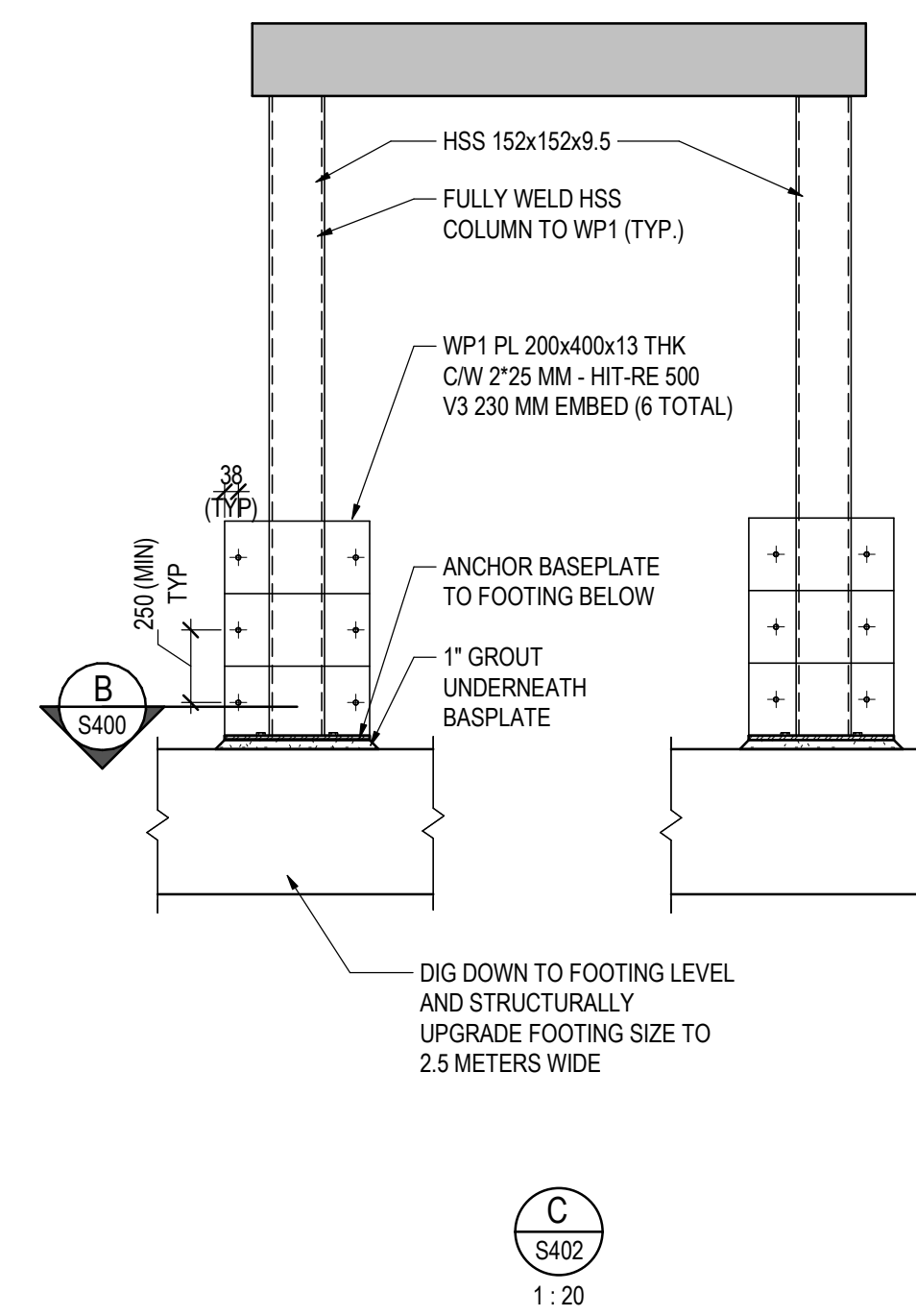
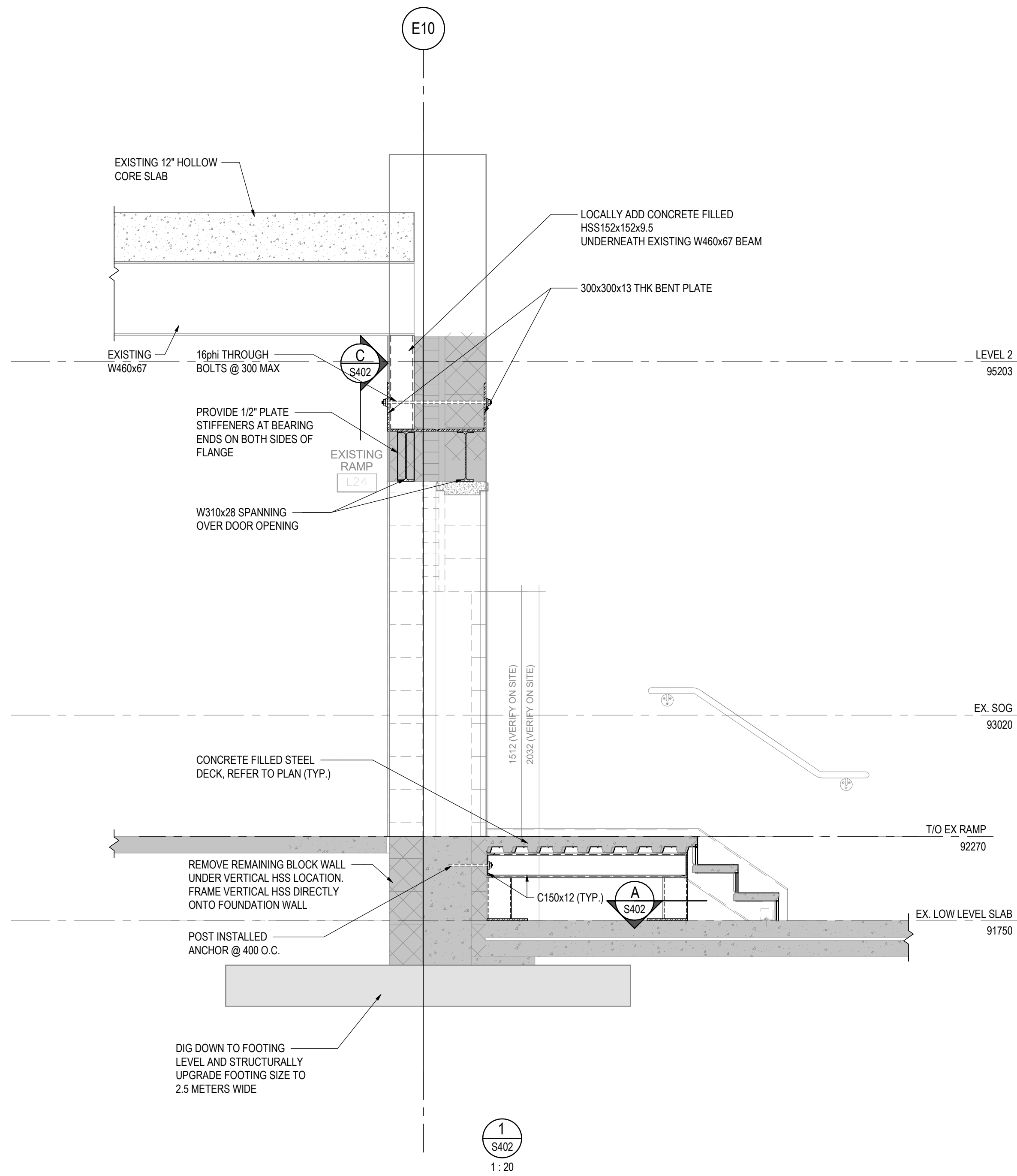
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PROJECT/LOCATION:
WOODVALE PENTECOSTAL CHURCH RENOVATION
 205 Greenbank Rd, Nepean, ON K2H 8K9

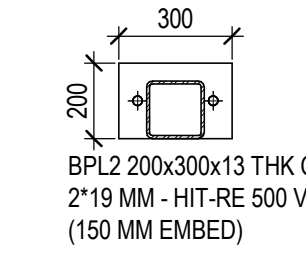
DRAWING TITLE:
SECTIONS

DRAWN BY: SS	DATE: AUG 2021	SCALE: AS NOTED
PROJECT: 211-03025-00		DRAWING NO.: S401
REVISION NO.:		



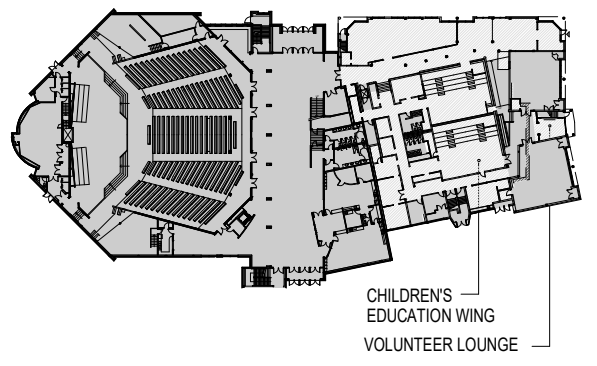


SECTION-A



SECTION-B

KEY PLAN



REV	DATE	DESCRIPTION	BY
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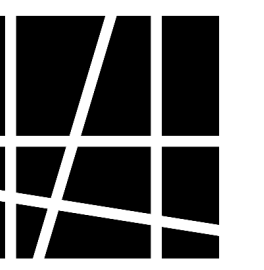


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DRAWING TITLE:

SECTIONS

DRAWN BY: SS DATE: AUG 2021 SCALE: AS NOTED

PROJECT: 211-03025-00

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REVISION NO.:

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