

STANDARD ABBREVIATIONS			A01	GENERAL NOTES	A02	CAST-IN-PLACE CONCRETE NOTES	A03.1	CAST-IN-PLACE CONCRETE NOTES	A03.2					
@ -Alt AJB ARCH A ROD(R) ASL	-Adjustable Asphalt Impregnated Fibre Board Alternate Architectural Anchor Rod Accumulated Snow Loading	H (HOR) HEF HIF HOF HSC HSS	-Horizontal Horizontal Each Face Horizontal Inside Face Horizontal Outside Face Horizontally Slotted Connection Hollow Structural Section	S SDF SDL SECT SL SQ SOG S.P.F. SPEC ST STD STR STRUCT	-Standard Beam Step Down Footing Superimposed Dead Load Section Slab Square Slab on Grade Spruce/Pine/Fir Specifications Steel Standard Straight Structural	1. GENERAL 1.1. DESIGN AND CONSTRUCTION IS TO CONFORM TO THE REQUIREMENTS OF THE 2012 ONTARIO BUILDING CODE, AND ANY APPLICABLE REQUIREMENTS OR BY-LAW OF THE AUTHORITY HAVING JURISDICTION. REFER ALSO TO TYPICAL DETAILS, NOTES UNDER PLANS AND SCHEDULES ON THE STRUCTURAL DRAWINGS, AND TO THE SPECIFICATION, ALL CODES, MANUALS, STANDARDS AND SPECIFICATIONS REFERRED TO SHALL BE THE SPECIFIC EDITION REFERENCED IN APPLICABLE BUILDING CODE INCLUDING ALL REVISIONS AND ADDENDA. ALL DIMENSIONS, OTHER THAN PILES & STRUCTURAL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS MUST BE CHECKED AGAINST THE ARCHITECTURAL DRAWINGS AND ANY INCONSISTENCIES REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. STRUCTURAL DRAWINGS MUST NOT BE SCALED. 1.2. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS, TRENCHES, PITS, SUMPS, EQUIPMENT, SLEEVES, DEPRESSIONS, GROOVES AND CHAMFERS NOT INDICATED ON THE STRUCTURAL DRAWINGS. UNLESS SPECIFICALLY NOTED OTHERWISE, THE ABOVE ITEMS WHERE SHOWN ON THE STRUCTURAL DRAWINGS ARE INDICATED ONLY APPROXIMATELY AS TO SIZE AND LOCATION. 1.3. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISION HAS BEEN MADE IN THE DESIGN FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACING AND SHORING REQUIRED FOR STRESSES AND INSTABILITY OCCURRING FROM ANY CAUSE DURING CONSTRUCTION. THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR ALL SUCH MEASURES. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY BRACING, SHORING, STEEL PILING OR OTHER TEMPORARY SUPPORTS OF SAFEGUARD ALL EXISTING OR ADJACENT STRUCTURES AFFECTED BY THIS WORK. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR CONSULTANTS REVIEW.	2. SHOP DRAWINGS, PLACING DRAWINGS AND BAR LISTS 2.1. FOR ALL STRUCTURAL COMPONENTS SHOWN ON THE STRUCTURAL DRAWINGS, SUBMIT COPIES OF SHOP DRAWINGS AS DIRECTED FOR REVIEW BY THE STRUCTURAL CONSULTANT. SHOP DRAWINGS TO SHOW COMPLETE INFORMATION FOR THE FABRICATION AND ERECTION OF THE STRUCTURAL COMPONENTS. 2.2. REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL CONSULTANT IS ONLY TO ASSESS THAT THE SUBMITTED SHOP DRAWINGS REFLECT THE INTENT OF THE STRUCTURAL DESIGN. 2.3. REVIEW BY THE STRUCTURAL CONSULTANT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR SEEING THAT THE WORK IS COMPLETE, ACCURATE AND IN CONFORMITY WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.	3. INSPECTION AND TESTING 3.1. A SOILS CONSULTANT AND AN INDEPENDENT INSPECTION AND TESTING COMPANY ARE TO BE ENGAGED TO CARRY OUT THE FOLLOWING SERVICES 3.1.1. BEARING SOIL - REFER TO NOTES ON STRUCTURAL DRAWINGS AND ALSO TO THE SOIL REPORT. 3.1.2. FILL UNDER SLAB-ON-GRADE - CONFORM THAT FILL MATERIAL USED IS SATISFACTORY AND THAT THE REQUIRED DEGREE OF COMPACTION HAS BEEN ATTAINED. 3.1.3. CAST-IN-PLACE AND PRECAST CONCRETE - ROUTINE INSPECTION OF MATERIALS, INCLUDING SLUMP, CYLINDER AND AIR ENTRAINMENT TESTS AND REINFORCING ROD TESTS WHEN REQUIRED OR DIRECTED IN ACCORDANCE WITH CSA STANDARD A23.2. 3.1.4. THE PROJECT SUPERINTENDENT IS TO ADVISE THE STRUCTURAL CONSULTANT A MINIMUM OF 24 HOURS IN ADVANCE OF A CONCRETE POUR FOR A REVIEW OF PREPARATIONS. 3.1.5. STRUCTURAL STEEL AND WWSJ - ROUTINE SHOP AND FIELD INSPECTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS CSA S16. 3.1.6. STEEL DECK - SEE STEEL DECK NOTES. 3.1.7. MASONRY - WHEN REQUIRED OR DIRECTED, CONCRETE BLOCKS SHALL BE TESTED IN ACCORDANCE WITH ASTM C140 BRICKS IN ACCORDANCE WITH CANCSA A82 AND MORTAR AND JOINT GROUT IN ACCORDANCE WITH CSA A179. 3.2. ALL INSPECTION AND TESTING SERVICES ARE TO BE PERFORMED BY COMPANIES CERTIFIED BY THE CANADIAN STANDARDS ASSOCIATION AND FOR WELDING, INSPECTORS ARE TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU.	4. FOUNDATIONS 4.1. REFER TO NOTES UNDER FOUNDATION PLANS. ALL EXTERIOR FOOTINGS OR OTHER FOOTINGS EXPOSED TO FREEZING IN THE FINISHED BUILDING SHALL BE FOUNDED AT A MINIMUM OF 1200mm (4'-0") BELOW FINISHED GRADE. UNLESS OTHERWISE NOTED, FOOTINGS EXPOSED TO FROST ACTION DURING CONSTRUCTION SHALL BE PROTECTED BY A MINIMUM OF 1200mm (4'-0") OF EARTH OR ITS EQUIVALENT SUFFICIENT TO PREVENT FREEZING. 4.2. THE LINE OF SLOPE BETWEEN ADJACENT EXCAVATIONS FOR FOOTINGS OR ABOVE STEPPED FOOTINGS SHALL NOT EXCEED A RISE OF 7 IN A RUN OF 10, MAXIMUM STEP AND FOOTING 600mm (2'-0"). 4.3. PIER DEPTHS AND FOOTING ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE BASED UPON INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THE STRUCTURAL DRAWINGS. 4.4. IF ACTUAL JOB SITE OR SOIL CONDITIONS VARY FROM THOSE ASSUMED, THEN WRITTEN DIRECTIONS MUST BE OBTAINED FROM THE STRUCTURAL CONSULTANT BEFORE PROCEEDING WITH THE WORK. 4.5. KEEP EXCAVATIONS CONTINUOUSLY DRY BEFORE CONCRETE IS PLACED. IF THE SOIL IS SOFTENED BY WATER, THE EXCAVATION SHALL BE EXTENDED BELOW THE SOFTENED MATERIAL AND THE BOTTOM OF THE FOOTINGS LOFTED TO SUIT.	5. BACKFILLING AND COMPACTION 5.1. SLABS-ON-GRADE AND ALL STRUCTURAL ELEMENTS FRAMING INTO WALLS WHICH RETAIN EARTH MUST BE IN PLACE BEFORE BACKFILLING. 5.2. AT FOUNDATION WALLS WITH GRADE BOTH SIDES, UNLESS ADEQUATELY SHORED, BACKFILL AND COMPACT EACH SIDE OF WALL SIMULTANEOUSLY. 5.3. UNDER SLAB-ON-GRADE, REMOVE SOFT SPOTS, ORGANIC AND FOREIGN MATTER IN THE SUB-GRADE, (WHERE SUB-GRADE CONSISTS OF COMPACTED FILL, REFER TO SPECIFIC NOTES ON THE DRAWINGS). 5.4. BACKFILL UNDER SLAB-ON-GRADE, IN FOOTING EXCAVATIONS AND IN TRENCHES ONLY WITH APPROVED MATERIAL. UNLESS SPECIFICALLY NOTED OTHERWISE, BACKFILLING SHALL BE CARRIED OUT IN MAXIMUM OF 200mm (8") THICK LIFTS OF LOOSE FILL EACH COMPACTED TO A MINIMUM OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY. 5.5. UNLESS OTHERWISE NOTED IN GEOTECHNICAL REPORT, PROVIDE IMMEDIATELY UNDER SLABS-ON-GRADE A MINIMUM OF 200mm (8") OF COMPACTED (MTC) GRANULAR 'B' MATERIAL. COMPACTION TO ACHIEVE A MINIMUM OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.	1. GENERAL 1.1. PROVIDE ALL LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO CARRY OUT THE WORK. 1.2. REFER ALSO TO GENERAL NOTES, NOTES UNDER PLANS AND SCHEDULES, TYPICAL DETAILS AND SPECIFICATION. 2. PRODUCTS 2.1. PORTLAND CEMENT, WATER AND AGGREGATES SHALL CONFORM TO CSA STANDARD A23.1. 2.2. PROVIDE AN APPROVED WATER REDUCING ADDITIVE IN ALL CONCRETE. PROVIDE AN APPROVED AIR ENTRAINING ADDITIVE IN ALL CONCRETE WHICH WILL BE EXPOSED TO A FREEZE/THAW CYCLE AND/OR THE ACTION OF DE-ICING SALT. ADMIXTURES SHALL CONFORM TO CSA STANDARD A23.1. 2.3. FORMWORK SHALL CONFORM TO CSA STANDARD A23.1 AND CSA STANDARD S289.1 AND FALSEWORK SHALL CONFORM TO CSA S289.1. 2.4. IF SO INSTRUCTED, THE DESIGNS FOR THE FORMWORK SHALL BE SUBMITTED FOR REVIEW BEFORE CONSTRUCTION. FORMWORK DRAWINGS AND DESIGN SHALL BEAR THE STAMP OF A LICENSED PROFESSIONAL ENGINEER. 2.5. PROVIDE SLAB AND BEAM FORMS WITH AN UPWARD CAMBER AS INDICATED ON PLANS THUS $\frac{1}{8}$ " WHERE CAMBERS ARE NOT NOTED ON PLANS, CAMBER SLABS AND BEAMS FOR SPANS/20 AT INTERIOR BAYS, AND CANTILEVER LENGTH/260 AT CANTILEVER. CAMBER BOTH THE UNDERSIDE AND TOP OF CONCRETE IN A PARABOLIC PROFILE, WHILE MAINTAINING THE INDICATED STRUCTURAL THICKNESS OF MEMBERS. 2.6. PROVIDE STANDARD ADJUSTABLE MASONRY ANCHOR SLOTS FOR ALL MASONRY WALLS OR ABUTTING CONCRETE FACES. 2.7. PROVIDE AND/OR INSTALL STANDARD ADJUSTABLE INSERTS AND ALL OTHER CAST-IN INSERTS AS REQUIRED BY THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATION. 2.8. REINFORCING STEEL UNLESS SPECIFICALLY NOTED, SHALL BE DEFORMED BARS CONFORMING TO CANCSA - G30 18-MI GRADE 400 (80000 PSI). WELDED WIRE FABRIC TO BE SUPPLIED IN FLAT SHEETS ONLY, UNLESS APPROVED OTHERWISE. 2.9. REINFORCING SHALL BE DETAILLED, BENT, PLACED AND SUPPORTED TO CONFORM TO A40 DETAILING MANUAL AND THE MANUAL OF STANDARD PRACTICE PUBLISHED BY THE REINFORCING STEEL INSTITUTE OF CANADA. 2.10. DRY-PACK GROUT TO BE 1 PART PORTLAND CEMENT TO 1 1/2 PARTS SAND TO 2 PARTS OF 3 mm PEA GRAVEL WITH ONLY SUFFICIENT WATER TO DAMPEN MIXTURE. COMPRESSIVE STRENGTH 50MPa AT 28 DAYS. 2.11. NON-SHRINK GROUT TO BE AN APPROVED, PRE-MIXED PROPRIETARY PRODUCT. 2.12. PROVIDE APPROVED EXTRUDED PVC WATERSTOPS OF SIZE AND STYLE INDICATED, WITH PRE-WELDED CORNERS AND INTERSECTIONS. SEE ALSO TYPICAL DETAILS. 2.13. CURING AND SEALING COMPOUNDS WHERE APPROVED FOR USE TO CONFORM TO ASTM STANDARD C309. GENERALLY ALL CONCRETE SURFACES ARE TO BE SEALED UNLESS NOTED OTHERWISE. COMPOUNDS ARE TO BE COMPATIBLE WITH APPLIED FINISHES. 2.14. SHEAR REINFORCEMENT AT SLAB CONNECTION AS SHOWN ON DRAWINGS AND DETAILS, SHALL BE STUDRAL® AS MANUFACTURED BY DECON®. THE COMPLETE AND FINISHED STUDRAL® SHALL BE ICC E5 EVALUATED AND WELDING SHALL TAKE PLACE IN A ICC E5 APPROVED AND AUDITED FACILITY. STUDRAL®S SHALL CONFORM TO THE LATEST UPDATE OF ASTM A1094.	3. EXECUTION 3.1. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE @ 28 DAYS SHALL BE AS NOTED ON THE DRAWINGS (20MPa MINIMUM). 3.2. SLUMP AT THE POINT OF DISCHARGE SHALL BE CONSISTENT AT 80 mm ±30mm (3" ± 1 1/8") UNLESS NOTED OTHERWISE. GREATER SLUMPS ARE NOT ACCEPTABLE. 3.3. CONCRETE MIXING, TRANSPORTATION, HANDLING AND PLACING SHALL CONFORM TO CSA STANDARD A23.1. 3.4. CONSTRUCTION JOINTS FOR WALLS ARE BASED UPON VERTICAL JOINTS AT A MAXIMUM SPACING OF 1000mm (30'-0") UNLESS CONTROL JOINTS ARE PROVIDED AS PER DETAIL CFW2. TOTAL LENGTH OF POUR TO BE DISCUSSED WITH ENGINEER PRIOR TO PROCEEDING. 3.5. CONSTRUCTION JOINTS FOR WALLS, SLABS, AND BEAMS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE CONSTRUCTION. GENERALLY JOINTS IN SLABS SHALL BE AT RIGHT ANGLES TO THE SPANS, AT MID-SPAN IF POSSIBLE AND CLEAR OF SUPPORTS AND POINT LOADS. 3.6. INSERTS, FRAMITS, SLEEVES, BRACKET, CONDUITS AND FASTENING DEVICES, SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF THE SYSTEM, BE SO INSTALLED THAT THEY SHALL NOT REQUIRE THE CUTTING, BENDING, OR DISPLACEMENT OF THE REINFORCING OTHER THAN AS SHOWN ON THE TYPICAL DETAILS. 3.7. ELECTRICAL CONDUIT SHALL NOT PASS THROUGH A COLUMN, SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 SLAB THICKNESS OR WALL OR BEAM IN WHICH IT IS EMBEDDED, SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTRE UNLESS APPROVED AND HAVE A MINIMUM CONCRETE COVER OF 25 mm (1") AND UNLESS SPECIFICALLY PERMITTED OTHERWISE, SHALL NOT RUN HORIZONTALLY IN A CONCRETE WALL. 3.8. OPENINGS AND DRIVEN FASTENERS REQUIRED IN THE CONCRETE AFTER THE CONCRETE IS PLACED SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE PROCEEDING. 3.9. FINISHING, REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED FINISH TO EXPOSED CONCRETE. ALL HONEYCOMBING SHALL BE CUT OUT AND FILLED. FLOOR FINISHES SHALL BE AS REQUIRED BY THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND SHALL CONFORM TO CSA STANDARD A23.1. 3.10. TOLERANCES FOR PLACING STRUCTURAL CONCRETE, REINFORCING STEEL, CAST-IN HARDWARE AND FOR FLOOR AND ROOF FINISHES SHALL BE AS SPECIFIED IN CSA STANDARD A23.1. 3.11. MINIMUM REINFORCING FOR ANY CONCRETE WALL TO BE AS SHOWN ON TYPICAL DETAIL FOR CONCRETE WALLS. 3.12. MINIMUM REINFORCING FOR ANY SUSPENDED SLAB SHALL BE TEMPERATURE BARS BOTTOM EACH WAY PLUS 10M @ 400 (16") DOWELS @ 600x20 (2'-0") TOP AROUND PERIMETER TO TYPICAL DETAIL FOR TYPICAL DETAIL OF ONE WAY SLAB. 3.13. PERFORM SURVEYS OF SLABS AS INDICATED IN SPECIFICATIONS.	3.14. GENERAL REQUIREMENTS FOR CUTTING AND DRILLING INTO CONCRETE (A) DO NOT DRILL INTO, CORE THROUGH, SNAI CUT OR CHIP THE CONCRETE STRUCTURE WITHOUT WRITTEN AUTHORIZATION BY THE STRUCTURAL CONSULTANT. (B) UNLESS NOTED OTHERWISE, PRIOR TO CUTTING, CORING OR DRILLING INTO THE CONCRETE STRUCTURE, LOCATE EXISTING CONCRETE REINFORCEMENT AND EMBEDDED SERVICES AT THAT LOCATION USING SUITABLE SCANNING DEVICE (I.E. X-RAYS, GROUND PENETRATION RADAR (GPR), LOCAL CHIPPING OF SLAB - ONLY WHERE APPROVED BY THE STRUCTURAL CONSULTANT, ETC), AS AUTHORIZED BY PROPERTY MANAGER IF APPLICABLE. (C) GPR SCANNING MUST BE DONE BY TRAINED TECHNICIANS WITH AT LEAST 5 YEARS OF EXPERIENCE AS SUCH. (D) GPR SCANNING DEVICES MUST BE CAPABLE OF ACCURATELY LOCATING REBAR IN A CONCRETE SLAB TO A MINIMUM DEPTH OF 300 mm, WITH A HORIZONTAL TOLERANCE OF + 25 mm and a VERTICAL (DEPTH) TOLERANCE OF THE LARGER OF +25 mm OR + 15% OF THE REBAR DEPTH. (E) AFTER ALL THE EXISTING REINFORCEMENT AND SERVICES HAVE BEEN LOCATED, NOTIFY THE STRUCTURAL CONSULTANT, WHO WILL REVIEW AND APPROVE THE PROPOSED LOCATION OF OPENINGS, CORES OR DRILLED HOLES. MAKE ANY NECESSARY ADJUSTMENTS TO THE HOLE LOCATIONS AS DIRECTED BY THE STRUCTURAL CONSULTANT. (F) THE REVIEW BY THE STRUCTURAL CONSULTANT IS LIMITED ONLY TO THE LOCATION OF THE PROPOSED CORES OR DRILLED HOLES THROUGH THE EXISTING STRUCTURE AND IT IS BASED ON THE ASSUMPTION THAT THE X-RAY OR SCAN RESULTS LOCATING SLAB REINFORCEMENT AND EMBEDDED SERVICES ARE COMPLETE AND ACCURATE. STEPHENSON ENGINEERING LTD. TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE X-RAY OR SCAN RESULTS. (G) CORE DRILL NEW HOLES FOR PIPES TO A DIAMETER NOT LARGER THAN THE OUTSIDE PIPE DIAMETER PLUS 25MM. DO NOT CUT EXISTING REINFORCEMENT OR SERVICES WITHOUT PRIOR APPROVAL OF THE CONSULTANT. (H) WHERE RECTANGULAR OPENINGS ARE TO BE CUT, PRE-DRILL THE CORNERS USING A 100 MM DIAMETER CORE DRILL OR DRILL A SERIES OF HOLES TO PREVENT OVER CUTTING OF THE CORNERS.	4. QUALITY CONTROL 4.1. FOR INSPECTION AND TESTING, SEE GENERAL NOTES AND/OR SPECIFICATION.

STANDARD LAP ABBREVIATIONS

CLS

Compression Lap Splice

CDL

Compression Development Length

HEL

Hook Embedment Length

TLS

Tension Lap Splice

TDL

Tension Development Length

1. GENERAL

1.1. DESIGN AND CONSTRUCTION IS TO CONFORM TO THE REQUIREMENTS OF THE 2012 ONTARIO BUILDING CODE AND ANY APPLICABLE REQUIREMENTS OR BY-LAW OF THE AUTHORITY HAVING JURISDICTION. REFER ALSO TO TYPICAL DETAILS, NOTES UNDER PLANS AND SCHEDULES ON THE STRUCTURAL DRAWINGS, AND TO THE SPECIFICATION. ALL CODES, MANUALS, STANDARDS AND SPECIFICATIONS REFERRED TO SHALL BE THE SPECIFIC EDITION REFERENCED IN APPLICABLE BUILDING CODE INCLUDING ALL REVISIONS AND ADDENDA.

1.2. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS, TRENCHES, PITS, SUMPS, EQUIPMENT, SLEEVES, DEPRESSIONS, GROOVES AND CHAMFERS NOT INDICATED ON THE STRUCTURAL DRAWINGS. UNLESS SPECIFICALLY NOTED OTHERWISE, THE ABOVE ITEMS WHERE SHOWN ON THE STRUCTURAL DRAWINGS ARE INDICATED ONLY APPROXIMATELY AS TO SIZE AND LOCATION.

1.3. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISION HAS BEEN MADE IN THE DESIGN FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACING AND SHORING REQUIRED FOR STRESSES AND INSTABILITY OCCURRING FROM ANY CAUSE DURING CONSTRUCTION. THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR ALL SUCH MEASURES. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY BRACING, SHORING, SHEET PILING OR OTHER TEMPORARY SUPPORTS OF SAFEGUARD ALL EXISTING OR ADJACENT STRUCTURES AFFECTED BY THIS WORK. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR CONSULTANTS REVIEW.

2. SHOP DRAWINGS, PLACING DRAWINGS AND BAR LISTS

2.1. FOR ALL STRUCTURAL COMPONENTS SHOWN ON THE STRUCTURAL DRAWINGS, SUBMIT COPIES OF SHOP DRAWINGS AS DIRECTED FOR REVIEW BY THE STRUCTURAL CONSULTANT. SHOP DRAWINGS TO SHOW COMPLETE INFORMATION FOR THE FABRICATION AND ERECTION OF THE STRUCTURAL COMPONENTS.

2.2. REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL CONSULTANT IS ONLY TO ASSESS THAT THE SUBMITTED SHOP DRAWINGS REFLECT THE INTENT OF THE STRUCTURAL DESIGN.

2.3. REVIEW BY THE STRUCTURAL CONSULTANT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR SEEING THAT THE WORK IS COMPLETE, ACCURATE AND IN CONFORMITY WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.

3. INSPECTION AND TESTING

3.1. A SOILS CONSULTANT AND AN INDEPENDENT INSPECTION AND TESTING COMPANY ARE TO BE ENGAGED TO CARRY OUT THE FOLLOWING SERVICES

3.1.1. BEARING SOIL - REFER TO NOTES ON STRUCTURAL DRAWINGS AND ALSO TO THE SOIL REPORT.

3.1.2. FILL UNDER SLAB-ON-GRADE - CONFORM THAT FILL MATERIAL USED IS SATISFACTORY AND THAT THE REQUIRED DEGREE OF COMPACTION HAS BEEN ATTAINED.

3.1.3. CAST-IN-PLACE AND PRECAST CONCRETE - ROUTINE INSPECTION OF MATERIALS, INCLUDING SLUMP, CYLINDER AND AIR ENTRAINMENT TESTS AND REINFORCING ROD TESTS WHEN REQUIRED OR DIRECTED IN ACCORDANCE WITH CSA STANDARD A23.2.

3.1.4. THE PROJECT SUPERINTENDENT IS TO ADVISE THE STRUCTURAL CONSULTANT A MINIMUM OF 24 HOURS IN ADVANCE OF A CONCRETE POUR FOR A REVIEW OF PREPARATIONS.

3.1.5. STRUCTURAL STEEL AND OWSJ - ROUTINE SHOP AND FIELD INSPECTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF CSA S16.

3.1.6. STEEL DECK - SEE STEEL DECK NOTES.

3.1.7. MASONRY - WHEN REQUIRED OR DIRECTED, CONCRETE BLOCKS SHALL BE TESTED IN ACCORDANCE WITH ASTM C140 BRICKS IN ACCORDANCE WITH CANCSA A82 AND MORTAR AND/OR GROUT IN ACCORDANCE WITH CSA A193.

3.2. ALL INSPECTION AND TESTING SERVICES ARE TO BE PERFORMED BY COMPANIES CERTIFIED BY THE CANADIAN STANDARDS ASSOCIATION AND FOR WELDING, INSPECTORS ARE TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU.

4. FOUNDATIONS

4.1. REFER TO NOTES UNDER FOUNDATION PLANS. ALL EXTERIOR FOOTINGS OR OTHER FOOTINGS EXPOSED TO FREEZING IN THE FINISHED BUILDING SHALL BE FOUND AT A MINIMUM OF 1200mm (4'-0") BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED. FOOTINGS EXPOSED TO FROST ACTION DURING CONSTRUCTION SHALL BE PROTECTED BY A MINIMUM OF 1200mm (4'-0") OF EARTH OR ITS EQUIVALENT SUFFICIENT TO PREVENT FREEZING.

4.2. THE LINE OF SLOPE BETWEEN ADJACENT EXCAVATIONS FOR FOOTINGS OR ALONG STEPPED FOOTINGS SHALL NOT EXCEED A RISE OF 7 IN A RUN OF 10. MAXIMUM STEP APPROX. 600mm (2'-0").

4.3. PIER DEPTHS AND FOOTING ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE BASED UPON INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THE STRUCTURAL DRAWINGS.

4.4. IF ACTUAL JOB SITE OR SOIL CONDITIONS VARY FROM THOSE ASSUMED, THEN WRITTEN DIRECTIONS MUST BE OBTAINED FROM THE STRUCTURAL CONSULTANT BEFORE PROCEEDING WITH THE WORK.

4.5. KEEP EXCAVATIONS CONTINUOUSLY DRY BEFORE CONCRETE IS PLACED. IF THE SOIL IS SOFTENED BY WATER, THE EXCAVATION SHALL BE EXTENDED BELOW THE SOFTENED MATERIAL AND THE BOTTOM OF THE FOOTINGS LOWERED TO SUIT.

5. BACKFILLING AND COMPACTION

5.1. SLABS-ON-GRADE AND ALL STRUCTURAL ELEMENTS FRAMING INTO WALLS WHICH RETAIN EARTH MUST BE IN PLACE BEFORE BACKFILLING.

5.2. AT FOUNDATION WALLS WITH GRADE BOTH SIDES, UNLESS ADEQUATELY SHORED, BACKFILL AND COMPACT EACH SIDE OF WALL SIMULTANEOUSLY.

5.3. UNDER SLAB-ON-GRADE, REMOVE SOFT SPOTS, ORGANIC AND FOREIGN MATERIAL IN THE SUB-GRADE. (WHERE SUB-GRADE CONSISTS OF COMPACTED FILL, REFER TO SPECIFIC NOTES ON THE DRAWINGS).

5.4. BACKFILL UNDER SLAB-ON-GRADE, IN FOOTING EXCAVATIONS AND IN TRENCHES ONLY WITH APPROVED MATERIAL. UNLESS SPECIFICALLY NOTED OTHERWISE, BACKFILLING SHALL BE CARRIED OUT IN MAXIMUM OF 200mm (8") THICK LIFTS OF LOOSE FILL EACH COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.

5.5. UNLESS OTHERWISE NOTED IN GEOTECHNICAL REPORT, PROVIDE IMMEDIATELY UNDER SLABS-ON-GRADE A MINIMUM OF 200mm (8") OF COMPACTED (MTC) GRANULAR "B" MATERIAL. COMPACTION TO ACHIEVE A MINIMUM OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.

1. GENERAL

1.1. THE FOLLOWING NOTES INDICATE ONLY THE MINIMUM REQUIREMENTS APPLICABLE TO STRUCTURAL WOOD CONSTRUCTION. SEE ALSO ARCHITECTURAL DRAWINGS AND THE SPECIFICATION (IF APPLICABLE) FOR REQUIREMENTS FOR NON-STRUCTURAL WOOD FRAMING.

1.2. WOOD CONSTRUCTION SHALL CONFORM TO CSA-086 AND TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE.

1.3. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS OF AIR SPACES, INSULATION, FLOORING, FLOOR AND WALL FINISHES.

1.4. DUE TO THE CUSTOMIZED DETAILING AND ENGINEERING CHARACTERISTICS OF THE FRAMING ASSEMBLY, MICROLAM LVL, PARALLAM PSL AND WOOD JOISTS BY TRUSS JOIST MacMillan HAVE BEEN USED AS A BASE AND ARE SHOWN ON THE DRAWINGS. ALTERNATIVE PRODUCTS MAY BE PROPOSED WHEN ACCOMPANIED BY PERTINENT DESIGN CRITERIA AND NO ALTERNATIVE MAY IMPEDE THE BASE BUILDING STRUCTURE. ACCEPTANCE OF ALTERNATIVE PRODUCT SHALL ONLY BE IN WRITING ISSUED SOLELY BY THE ARCHITECT.

2. MATERIALS

2.1. LUMBER - UNLESS OTHERWISE NOTED TO BE SPECIFIC PINE-FIR (SPF) SPECIES, GRADE NO. 2 CONFORMING TO CSA-0141 WITH A MAXIMUM MOISTURE CONTENT OF 19% AT THE TIME OF INSTALLATION. LUMBER SHALL BEAR THE GRADING STAMP OF AN AGENCY APPROVED BY THE CANADIAN LUMBER STANDARDS ADMINISTRATION BOARD.

2.2. COMPLY WITH THE REQUIREMENTS OF ONTARIO BUILDING CODE FOR:-

2.2.1. SUB-FLOORING IN ARTICLE 9.23.14

2.2.2. ROOF SHEATHING IN ARTICLE 9.23.15

2.2.3. WALL SHEATHING IN ARTICLE 9.23.16

(* REFER ALSO TO NOTES & DETAILS ON DRAWINGS AND TO ALL OTHER TYPICAL NOTES.)

2.3. NAILS, SPIKES, AND STAPLES:

2.3.1. TO CSA STANDARD B111; GALVANIZED FOR EXTERIOR WORK, OR HIGHLY HUMID AREAS AND FOR TREATED LUMBER; PLAIN ELSEWHERE.

2.3.2. NAILING OF FRAMING UNLESS OTHERWISE NOTED, SHALL CONFORM TO ARTICLE 9.23.3 IN THE ONTARIO BUILDING CODE.

2.4. ROUGH HARDWARE:

2.4.1. BOLTS, NUTS, WASHERS, LAGS, PINS, SCREWS, ALL TO BE HOT DIP GALVANIZED.

2.5. WOOD PRESERVATIVES (PRESSURE TREATED):

2.5.1. WHERE REQUIRED TO CONFORM TO CSA-080 SERIES

2.6. FRAMING ANCHORS:

2.6.1. FRAMING ANCHORS, JOIST HANGERS, BEAM HANGERS, POST CAPS, POST ANCHORS, BACK-UP CLIPS AND ANGLES, UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DRAWINGS, ARE ALL TO BE AS MANUFACTURED BY AN APPROVED MANUFACTURER.

2.6.2. ALL ANCHORS, JOIST HANGERS, BEAM HANGERS, POST CAPS, POST ANCHORS, BACK-UP CLIPS AND ANGLES, UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DRAWINGS, ARE ALL TO BE AS MANUFACTURED BY AN APPROVED MANUFACTURER.

2.7. SHEATHING - PLYWOOD TO CONFORM TO CSA STANDARD 0121, OR 0151.

2.8. WAFERBOARD AND STRANDBOARD TO CONFORM TO CSA-0437 SERIES.

3. EXECUTION

3.1. STUD WALLS:

3.1.1. SEE LOAD BEARING WOOD STUD WALL FRAMING NOTES.

3.1.2. NON-LOAD BEARING STUD WALLS TO CONFORM TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE.

3.2. FLOOR AND ROOF JOISTS:-

3.2.1. PROVIDE JOISTS OF SIZE, SPACING AND SPAN AS NOTED ON THE STRUCTURAL DRAWINGS. UNLESS OTHERWISE NOTED, JOISTS SHALL BE CONTINUOUS IN ANY 1 SPAN WITH NO SPICE.

3.2.2. WHERE JOISTS FRAME INTO THE SIDE OF A STEEL BEAM, JOISTS SHALL BE SUPPORTED ON THE BOTTOM FLANGE OF THE BEAM OR ON NOT LESS THAN 38665 (2x6) LAMINATED LVL TO THE WEB WITH MINIMUM 6mm (1/4") DIAMETER BOLTS AT MAXIMUM 600 mm (24") CENTRES.

3.3. BRIDGING OR BLOCKING:

3.3.1. PROVIDE CROSS-BRIDGING OR SOLID BLOCKING OR APPROVED PROPRIETARY METAL STRAPS IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.

3.3.2. PROVIDE CONTINUOUS WOOD STRAPPING ACROSS BOTTOM OF JOISTS AS WHEN REQUIRED BY THE ONTARIO BUILDING CODE.

3.3.3. SPACING OF BRIDGING TO BE AT 2100 mm (6'-10") MAXIMUM CENTRES.

3.4. SUB-FLOORING AND ROOF SHEATHING:-

3.4.1. TO BE TYPE AND THICKNESSES SHOWN ON THE STRUCTURAL DRAWINGS, INSTALLED WITH END JOINTS STAGGERED.

3.4.2. AT EDGES OF PANELS, PROVIDE NOT LESS THAN 39mmx39mm (2x2) BLOCKING SECURELY NAILED BETWEEN FRAMING MEMBERS, UNLESS OTHERWISE APPROVED.

3.4.3. FOR ROOF SHEATHING PROVIDE AT LEAST A 2 mm (1/16") GAP BETWEEN SHEETS.

3.4.4. EXTERIOR TYPE PLYWOOD USED AS ROOF AND/OR WALL SHEATHING SHALL BE LEGIBLY IDENTIFIED THAT THE MATERIAL IS OF EXTERIOR TYPE.

3.5. SUB-FLOORING SHALL BE GLUED AND NAILED TO ALL JOISTS. GLUE TO BE A HIGH SOLIDS, RUBBER CONTACT TYPE SUPPLIED IN CARTRIDGES. USE A CONTINUOUS GLUE BEAD AND RUN A THIN BEAD INTO GROOVES JUST BEFORE INSERTING GROOVES OF 1 & G PLYWOOD.

3.6. NAILS TO BE 44 mm (13/4") SPIRAL OR RING THREAD AT 600 mm (24") ON CENTRES MAXIMUM.

3.7. MAKE BUTT JOINTS ON SOLID MATERIAL.

1. GENERAL

1.1. PROVIDE ALL LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO CARRY OUT THE WORK.

1.2. REFER ALSO TO GENERAL NOTES, NOTES UNDER PLANS AND SCHEDULES, TYPICAL DETAILS AND SPECIFICATION.

2. PRODUCTS

2.1. PORTLAND CEMENT, WATER AND AGGREGATES SHALL CONFORM TO CSA STANDARD A23.1.

2.2. PROVIDE AN APPROVED WATER REDUCING ADDITIVE IN ALL CONCRETE. PROVIDE AN APPROVED AIR ENTRAINING ADDITIVE IN ALL CONCRETE WHICH WILL BE EXPOSED TO A FREEZE/THAW CYCLE AND/OR THE ACTION OF DE-ICING SALT. ADMIXTURES SHALL CONFORM TO CSA STANDARD A23.1.

2.3. FORMWORK SHALL CONFORM TO CSA STANDARD A23.1 AND CSA STANDARD S289.1 AND FALSEWORK SHALL CONFORM TO CSA S289.1.

2.4. IF SO INSTRUCTED, THE DESIGNS FOR THE FORMWORK SHALL BE SUBMITTED FOR REVIEW BEFORE CONSTRUCTION. FORMWORK DRAWINGS AND DESIGN SHALL BEAR THE STAMP OF A LICENSED PROFESSIONAL ENGINEER.

2.5. PROVIDE SLAB AND BEAM FORMS WITH AN UPWARD CAMBER AS INDICATED ON PLANS THIS $\frac{1}{8}$ mm WHERE CAMBERS ARE NOT NOTED ON PLANS, CAMBER SLABS AND BEAMS FOR SPAN/50 AT INTERIOR BAYS, AND CANTILEVER LENGTH/250 AT CANTILEVER. CAMBER BOTH THE UNDERSIDE AND TOP OF CONCRETE IN A PARABOLIC PROFILE, WHILE MAINTAINING THE INDICATED STRUCTURAL THICKNESS OF MEMBERS.

2.6. PROVIDE STANDARD ADJUSTABLE MASONRY ANCHOR SLOTS FOR ALL MASONRY FACING OR ABUTTING CONCRETE FACES.

2.7. PROVIDE AND/OR INSTALL STANDARD ADJUSTABLE INSERTS AND ALL OTHER CAST-IN INSERTS AS REQUIRED BY THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATION.

2.8. REINFORCING STEEL UNLESS SPECIFICALLY NOTED, SHALL BE DEFORMED BARS CONFORMING TO CANCSA-G30.18-M GRADE 400 (S8000 PSI).

2.9. WELDED WIRE FABRIC TO BE SUPPLIED IN FLAT SHEETS ONLY, UNLESS APPROVED OTHERWISE.

2.10. REINFORCING SHALL BE DETAILED, BENT, PLACED AND SUPPORTED TO CONFORM TO A01 DETAILING MANUAL AND THE MANUAL OF STANDARD PRACTICE PUBLISHED BY THE REINFORCING STEEL INSTITUTE OF CANADA.

2.11. DRY-PACK GROUT TO BE 1 PART PORTLAND CEMENT TO 1 1/2 PARTS SAND TO 2 PARTS OF 8 mm FEA GRAVEL WITH ONLY SUFFICIENT WATER TO DAMPEN MIXTURE. COMPRESSIVE STRENGTH 50MPa AT 28 DAYS.

2.12. NON-SHRINK GROUT TO BE AN APPROVED, PRE-MIXED PROPRIETARY PRODUCT.

2.13. PROVIDE APPROVED EXTRUDED PVC WATERSTOPS OF SIZE AND STYLE INDICATED, WITH PRE-WELDED CORNERS AND INTERSECTIONS. SEE ALSO TYPICAL DETAILS.

2.14. CURING AND SEALING COMPOUNDS WHERE APPROVED FOR USE TO CONFORM TO ASTM STANDARD C309, GENERALLY ALL CONCRETE SURFACES ARE TO BE SEALED UNLESS NOTED OTHERWISE. COMPOUNDS ARE TO BE COMPATIBLE WITH APPLIED FINISHES.

2.15. SHEAR REINFORCEMENT AT SLAB CONNECTION AS SHOWN ON DRAWINGS AND DETAILS, SHALL BE STUORAL58 AS REQUIRED BY THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATION.

2.16. THE COMPLETE AND FINISHED STUORAL58 SHALL BE ICC ES EVALUATED AND WELDING SHALL TAKE PLACE IN A ICCC ES APPROVED AND AUDITED FACILITY. STUORAL58 SHALL CONFORM TO THE LATEST UPDATE OF ASTM A1044.

3. EXECUTION

3.1. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE @ 28 DAYS SHALL BE AS NOTED ON THE DRAWINGS (20MPa MINIMUM).

3.2. SLUMP AT THE POINT OF DISCHARGE SHALL BE CONSISTENT AT 80 mm \pm 30mm (3" \pm 1") UNLESS NOTED OTHERWISE. GREATER SLUMPS ARE NOT ACCEPTABLE.

3.3. CONCRETE MIXING, TRANSPORTATION, HANDLING AND PLACING SHALL CONFORM TO CSA STANDARD A23.1.

3.4. CONSTRUCTION JOINTS FOR WALLS ARE BASED UPON VERTICAL JOINTS AT A MAXIMUM SPACING OF 1000mm (30'-0") UNLESS CONTROL JOINTS ARE PROVIDED AS PER DETAIL 01W02. TOTAL LENGTH OF POUR TO BE DISCUSSED WITH ENGINEER PRIOR TO PROCEEDING.

3.5. CONSTRUCTION JOINTS FOR WALLS, SLABS, AND BEAMS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE CONSTRUCTION. GENERALLY JOINTS IN SLABS SHALL BE AT RIGHT ANGLES TO THE SPANS, AT MID-SPAN IF POSSIBLE AND CLEAR OF SUPPORTS AND POINT LOADS.

3.6. INSERTS, FRAME-OUTS, SLEEVES, BRACKETS, CONDUITS AND FASTENING DEVICES, SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF THE SYSTEM, BE SO INSTALLED THAT THEY SHALL NOT REQUIRE THE CUTTING, BENDING OR DISPLACEMENT OF THE REINFORCING OTHER THAN AS SHOWN ON THE TYPICAL DETAILS.

3.7. ELECTRICAL CONDUIT SHALL NOT PASS THROUGH A COLUMN, SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 SLAB THICKNESS OR WALL OR BEAM IN WHICH IT IS EMBEDDED, SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTRE UNLESS APPROVED AND HAVE A MINIMUM CONCRETE COVER OF 25 mm (1") AND UNLESS SPECIFICALLY PERMITTED OTHERWISE, SHALL NOT RUN HORIZONTALLY IN A CONCRETE WALL.

3.8. OPENINGS AND DRIVEN FASTENERS REQUIRED IN THE CONCRETE AFTER THE CONCRETE IS PLACED SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE PRESENTATION.

3.9. FINISHING, REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED FINISH TO EXPOSED CONCRETE. ALL HONEYCOMBING SHALL BE CUT OUT AND FILLED. FLOOR FINISHES SHALL BE AS REQUIRED BY THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND SHALL CONFORM TO CSA STANDARD A23.1.

3.10. TOLERANCES FOR PLACING STRUCTURAL CONCRETE, REINFORCING STEEL, CAST-IN HARDWARE AND FOR FLOOR AND ROOF FINISHES SHALL BE AS SPECIFIED IN CSA STANDARD A23.1.

3.11. MINIMUM REINFORCING FOR ANY CONCRETE WALL TO BE AS SHOWN ON TYPICAL DETAIL FOR CONCRETE WALLS.

3.12. MINIMUM REINFORCING FOR ANY SUSPENDED SLAB SHALL BE TEMPERATURE BARS BOTTOM EACH WAY PLUS 10M @ 400 (16") DOWELS 600x600 (2'-0" x 2'-0") TOP AROUND PERIMETER. REFER TO TYPICAL DETAIL OF ONE WAY SLABS.

3.13. PERFORM SURVEYS OF SLABS AS INDICATED IN SPECIFICATIONS.

3.14. GENERAL REQUIREMENTS FOR CUTTING AND DRILLING INTO CONCRETE

(A) DO NOT DRILL INTO, CORE THROUGH, SAW-CUT OR CHIP THE CONCRETE STRUCTURE WITHOUT WRITTEN AUTHORIZATION BY THE STRUCTURAL CONSULTANT.

(B) UNLESS NOTED OTHERWISE, PRIOR TO CUTTING, CORING OR DRILLING INTO THE CONCRETE STRUCTURE, LOCATE EXISTING CONCRETE REINFORCEMENT AND EMBEDDED SERVICES AT THAT LOCATION USING SUITABLE SCANNING DEVICE (I.E. X-RAYS, GROUND PENETRATION RADAR (GPR), LOCAL CHIPPING OF SLAB - ONLY WHERE APPROVED BY THE STRUCTURAL CONSULTANT, ETC), AS AUTHORIZED BY PROPERTY MANAGER IF APPLICABLE.

(C) GPR SCANNING MUST BE DONE BY TRAINED TECHNICIANS WITH AT LEAST 5 YEARS OF EXPERIENCE AS SUCH.

(D) GPR SCANNING DEVICES MUST BE CAPABLE OF ACCURATELY LOCATING REBAR IN A CONCRETE SLAB TO A MINIMUM DEPTH OF 300 mm.

(E) A HORIZONTAL TOLERANCE OF \pm 25 mm AND A VERTICAL (DEPTH) TOLERANCE OF THE LARGER OF \pm 25 mm OR \pm 15% OF THE REBAR DEPTH.

(F) AFTER ALL THE EXISTING REINFORCEMENT AND SERVICES HAVE BEEN LOCATED, NOTIFY THE STRUCTURAL CONSULTANT, WHO WILL REVIEW AND APPROVE THE PROPOSED LOCATION OF OPENINGS, CORES OR DRILLED HOLES. MAKE ANY NECESSARY ADJUSTMENTS TO THE HOLE LOCATIONS AS DIRECTED BY THE STRUCTURAL CONSULTANT.

(G) THE REVIEW BY THE STRUCTURAL CONSULTANT IS LIMITED ONLY TO THE LOCATION OF THE PROPOSED CORES OR DRILLED HOLES THROUGH THE EXISTING STRUCTURE AND IT IS BASED ON THE ASSUMPTION THAT THE X-RAY OR SCAN RESULTS LOCATING SLAB REINFORCEMENT AND EMBEDDED SERVICES ARE COMPLETE AND ACCURATE. STEPHENSON ENGINEERING LTD. TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE X-RAY OR SCAN RESULTS.

(H) CORE DRILL NEW HOLES FOR PIPES TO A DIAMETER NOT LARGER THAN THE OUTSIDE PIPE DIAMETER PLUS 25MM. DO NOT CUT EXISTING REINFORCEMENT OR SERVICES WITHOUT PRIOR APPROVAL OF THE CONSULTANT.

(I) WHERE RECTANGULAR OPENINGS ARE TO BE CUT, PRE-DRILL THE CORNERS USING A 100 MM DIAMETER CORE DRILL OR DRILL A SERIES OF HOLES TO PREVENT OVER CUTTING OF THE CORNERS.

4. QUALITY CONTROL

4.1. FOR INSPECTION AND TESTING, SEE GENERAL NOTES AND/OR SPECIFICATION.

3.5. WALL SHEATHING SHALL BE INSTALLED SO THAT ALL ENDS ARE SUPPORTED WITH END JOISTS STAGGERED. A GAP OF NOT LESS THAN 2mm (1/16") SHALL BE LEFT BETWEEN SHEETS OF PLYWOOD, WAFER BOARD OR FBRE BOARD.

3.6. NOTCHING AND DRILLING:

ONLY ALLOWED WITHIN THE LIMITATIONS SET OUT IN THE ONTARIO BUILDING CODE.

3.7. BRICK VENER:

1. UNLESS OTHERWISE NOTED, BRICK VENER IS TO BE TIED TO WOOD STUDS WITH A MIN. 0.76x22 mm (22 GAUGE x 7/8") GALVANIZED CORRUGATED STRIP TIES SPACED AT MAX. 400x60 (16"x24") CENTRES, ON EVERY STUD. STRIP TIES TO CONFORM TO CSA-A370.

2. IF BRICK VENER EXCEEDS 1100mm (36'-0") HIGH, CORRUGATED STRIP TIES ARE NOT TO BE USED. OBTAIN DIRECTIONS BEFORE PROCEEDING.

4. LAMINATED VENEER LUMBER (LVL), PARALLEL STRAND LUMBER (PSL), GLUED-LAMINATED TIMBER (GLULAM)

4.1. SEE NOTE #14 ABOVE. ACCEPTANCE OF ALTERNATIVE PRODUCTS SHALL ONLY BE IN WRITING ISSUED SOLELY BY THE ARCHITECT.

4.2. BEAMS, LINTELS AND JOISTS SHALL BE AS SUPPLIED BY AN APPROVED MANUFACTURER.

4.3. WOOD VENEERS & ADHESIVES:

SHALL BE IN ACCORDANCE WITH APPROVED MANUFACTURER'S STANDARDS AND APPLICABLE CSA STANDARDS.

4.4. ALL MEMBERS SHALL BEAR IDENTIFICATION MARKS OF THE MANUFACTURER.

4.5. EXECUTION:

1. MINIMUM END BEARING SHALL BE 75mm (3") UNLESS NOTED.

2. FOR SINGLE SPANS LVL SHALL NOT BE SPLICED BUT SHALL BE CONTINUOUS BETWEEN SUPPORTS.

3. WHERE INDIVIDUAL MEMBERS ARE BUTTED TOGETHER, JOINTS SHALL OCCUR OVER SUPPORTS, EXCEPT THAT WHERE BEAMS ARE CONTINUOUS OVER MORE THAN ONE SUPPORT, JOINTS MAY BE LOCATED WITHIN 150mm (6") OF THE QUARTER POINTS OF THE CLEAR SPANS. SUCH JOINTS SHALL BE STAGGERED END FOR END.

4. NAILING AND/OR BOLTING:

OF MULTI-PLY'S SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND IN NO CASE LESS THAN 2 ROWS OF 16d (3 1/2") NAILS AT 300mm (12") CENTRES, EACH ROW.

5. NAILS INTO EDGES OF LVL SHALL BE SPACED AT A MINIMUM OF 75mm (3") FOR 8d (2 1/2") NAILS AND 100 (4") FOR 16d (3 1/2") NAILS.

6. LVL BEARING ONTO MASONRY OR CONCRETE AT OR BELOW GRADE LEVEL, SHALL BE PRESSURE TREATED (PT) TO PREVENT DECAY OR PROTECTED AT THE BEARING WITH A MIN. OF 0.05 POLYETHYLENE FILM.

7. NOTCHING & DRILLING:

PERMITTED ONLY WITH APPROVAL AND WITHIN THE LIMITATIONS SPECIFIED IN THE ONTARIO BUILDING CODE.

4.6. LVL SHALL BE RESTRICTED TO DRY SERVICE LOCATIONS, AND SHALL NOT BE USED DIRECTLY EXPOSED TO WEATHER OR IN HIGH HUMIDITY AREAS WHEN A MOISTURE CONTENT EXCEEDING 19% CAN RESULT.

4.7. GLULAM TIMBER PRODUCTS SHALL CONFORM TO CSA-086, CSA-0122 AND BE MANUFACTURED IN ACCORDANCE WITH CSA-0177.

4.8. CONNECTIONS TO CONFORM TO CSA-040.20(C40.21), PRIMED OR GALVANIZED AS NOTED TO CGS8-1.40 OR CSA-6164. WELDING TO CSA-W59 AND W47.

4.9. SUBMIT SHOP DRAWINGS AS DIRECTED.

5. WOOD JOISTS

5.1. SEE NOTE #14 ABOVE.

5.2. ALL MATERIALS AND ADHESIVES SHALL BE IN ACCORDANCE WITH APPROVED MANUFACTURER'S STANDARDS AND APPLICABLE CSA STANDARDS.

5.3. WOOD JOISTS SHALL BE FABRICATED WITH A STRUCTURAL CONNECTION OF THE CHORDS TO THE WEB MATERIAL UTILIZING A PRESSURE GLUED TONGUE AND GROOVE JOINT.

5.4. SHOP DRAWINGS:

SHOWING DIMENSIONS, TYPICAL DETAILS, PLANS, INSTALLATION PROCEDURES AND IDENTIFICATION MARKS SHALL BE SUBMITTED FOR REVIEW WHEN REQUESTED. SHOP DRAWINGS TO BEAR THE STAMP OF A LICENSED PROFESSIONAL ENGINEER.

5.5. ALL MEMBERS TO BEAR IDENTIFICATION MARKS OF THE APPROVED MANUFACTURER.

5.6. EXECUTION:

1. MINIMUM END BEARING SHALL BE 75mm (3") UNLESS NOTED.

2. HANDLING, INSTALLATION, ANCHORAGE, BRACING AND BLOCKING OF WOOD JOISTS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REVISED SHOP DRAWINGS AND DIRECTIONS.

3. HOLES THROUGH WEBS PERMITTED ONLY WITHIN THE LIMITS PERMITTED BY THE MANUFACTURER.

4. NO CUTTING, NOTCHING OR DRILLING OF THE TOP AND BOTTOM CHORD IS PERMITTED WITHOUT THE SPECIFIC APPROVAL OF THE MANUFACTURER.

5.7. WOOD JOISTS BEARING ONTO MASONRY OR CONCRETE AT OR BELOW GRADE SHALL BE PROTECTED AT THE BEARING WITH A MIN. OF 0.05 POLYETHYLENE FILM.

5.8. WOOD JOISTS SHALL NOT BE USED DIRECTLY EXPOSED TO WEATHER OR IN HIGH HUMIDITY AREAS WHEN A MOISTURE CONTENT EXCEEDING 19% CAN RESULT.

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APPROVAL STAMP

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DEC/01/23


PROJECT :

CITY OF VAUGHAN


FIRE STATION 7-12

9511 WESTON ROAD, VAUGHAN

CLIENT


VAUGHAN

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT.


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PROFESSIONAL SEAL

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GENERAL NOTES

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