

1.1 GENERAL

- CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE MASSACHUSETTS STATE BUILDING CODE, SIXTH EDITION (MSBC).
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DRAWINGS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED WORK. ANY VARIATIONS OR SUBSTITUTIONS OF MATERIALS OR DETAILS FROM THOSE INDICATED ON THE DRAWINGS MAY BE MADE ONLY WITH THE PRIOR APPROVAL OF THE ENGINEER.
- SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER AND APPROVED BEFORE FABRICATION CAN PROCEED.
- STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF DOORS, WINDOWS, WALLS, CHASES, OPENINGS, ETC.
- REFER TO ARCHITECTURAL DRAWINGS FOR LIMITS OF DEMOLITION.
- THE DESIGN AND EXECUTION OF TEMPORARY SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR. REVIEW SHORING TECHNIQUES WITH THE ENGINEER PRIOR TO INITIATING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SAFETY DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, AND COORDINATION OF TRADES.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS. EXISTING INFORMATION SHOWN ON DRAWINGS IS FOR GRAPHICAL PURPOSES AND SHALL BE VERIFIED IN THE FIELD.
- AFTER REMOVAL OF PLASTER AND FINISHES AND PRIOR TO STRUCTURAL DEMOLITION AND CONSTRUCTION, NOTIFY THE ENGINEER FOR A SITE VISIT TO CONFIRM THAT THE EXISTING FRAMING CONDITIONS ARE AS ASSUMED.
- BUILDING DESIGN IS BASED ON THE FOLLOWING LOADS:
 - SNOW LOAD – 35 PSF
 - FLOOR LIVE LOAD – 100 PSF
 - WIND LOAD – 90 MPH, EXPOSURE B, ZONE 3

NOTE: THE STEEL COLUMNS AND SUPPORTING FOOTINGS HAVE BEEN DESIGNED FOR THE VERTICAL LOADS OF A FUTURE SECOND FLOOR.

2.1 FOUNDATION

- CONTRACTOR SHALL CONFIRM THAT FOOTINGS ARE PLACED ON UNDISTURBED MATERIAL OR COMPACTED STRUCTURAL FILL WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 2 TONS PER SQUARE FOOT.
- IF STRUCTURAL FILL IS NEEDED, PLACE STRUCTURAL FILL IN 8-INCH LIFTS AND COMPACT TO 95% DENSITY AS DETERMINED BY MODIFIED PROCTOR TEST – ASTM D1557.
- BOTTOM OF EXTERIOR FOOTINGS SHALL BE SET AT LEAST 4 FEET BELOW FINAL GRADE.

3.1 CONCRETE AND REINFORCING STEEL

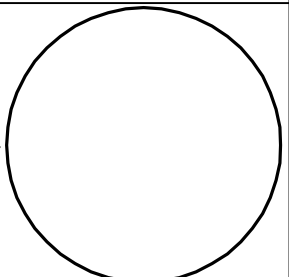
- CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE'S (ACI) "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318), "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING" (ACI 306), AND THE ACI DETAILING MANUAL 315.
- ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 3000 PSI AT 28 DAYS. CONCRETE SHALL CONFORM TO ASTM C-94.
- REINFORCING BARS SHALL CONFORM TO ASTM A615 – GRADE 60.
- REINFORCING BARS SHALL BE PLACED IN ACCORDANCE WITH THE CRSI "RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS."
- CONTINUOUS REINFORCING BARS SHALL LAP A MINIMUM OF 40 BAR DIAMETERS.
- REINFORCING SHALL BE PLACED USING STANDARD BAR SUPPORTS TO HOLD REINFORCEMENT SECURELY IN PLACE.
- NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN SUBGRADE.
- PROTECTIVE COVER FOR REINFORCEMENT:
 - CONCRETE PLACED AGAINST EARTH – 3 INCHES
 - FORMED CONCRETE – 2 INCHES
 - SLABS ON GRADE – 2 INCHES FROM TOP
- GROUT TO BE PLACED UNDER BASE PLATES SHALL BE NON-SHRINK AND NON-METALLIC.
- CAST-IN-PLACE ANCHOR RODS SHALL CONFORM TO ASTM F1554 – GRADE 36 OR ASTM A36.
- FOR BASE PLATES SET ON EXISTING CONCRETE, ADHESIVE ANCHORS SHALL BE USED.

4.1 STRUCTURAL STEEL

- STRUCTURAL STEEL WORK SHALL CONFORM TO "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 1989), "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC), AND "STRUCTURAL WELDING CODE" (AWS D1.1).
- STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH "DETAILING FOR STEEL CONSTRUCTION" (AISC).
- WIDE FLANGE STEEL BEAMS SHALL CONFORM TO ASTM A572 (fy = 50 KSI).
- HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 GRADE B (fy = 46 KSI).
- HSS COLUMNS SHALL BE CONTINUOUS FROM FOOTING TO ROOF LEVEL.
- PLATES AND ANGLES SHALL CONFORM TO ASTM A36.
- HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325. MINIMUM DIAMETER SHALL BE 7/8 INCH.
- WELDS SHALL FULLY DEVELOP THE STRENGTH OF THE MATERIALS BEING WELDED USING E70XX ELECTRODES. FILLET WELDS SHALL BE 1/4 INCH MINIMUM. WELDING SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY. ALL WELDERS SHALL BE CERTIFIED.
- PROVIDE TEMPORARY ERECTION BRACING AS REQUIRED DURING STEEL ERECTION. FRAMING SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.
- ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO STEEL FABRICATION.
- STRUCTURAL STEEL SHALL BE PAINTED IN THE SHOP WITH ONE COAT OF PRIMER.
- PROVIDE THE SERVICES OF A LICENSED INDEPENDENT TESTING LAB FOR THE VISUAL INSPECTION OF FILLET WELDS.

5.1 WOOD

- JOISTS, RAFTERS, AND STUDS SHALL BE SPRUCE-PINE-FIR #2 OR BETTER.
- PROVIDE DOUBLE JOISTS UNDER ALL INTERIOR WALLS RUNNING PARALLEL TO FLOOR JOISTS. PROVIDE BLOCKING BETWEEN FLOOR JOISTS UNDER ALL INTERIOR WALLS RUNNING PERPENDICULAR TO FLOOR JOISTS.
- PROVIDE BLOCKING BETWEEN FLOOR JOISTS WHERE JOISTS ARE CONTINUOUS OVER OF A BEAM.
- PROVIDE SOLID BLOCKING AROUND STEEL COLUMNS WHERE COLUMNS PASS THROUGH THE FLOOR FRAMING.
- PROVIDE BRIDGING AT MID-SPAN OF ALL JOISTS WITHOUT CEILING BELOW.
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE A MODULUS OF ELASTICITY (E) OF 2,000,000 PSI AND AN ALLOWABLE BENDING STRESS (Fb) OF 2,800 PSI.
- CONFORM TO MANUFACTURER'S RECOMMENDATIONS WITH RESPECT TO INSTALLATION, CUTTING, NOTCHING, AND FASTENING OF ALL ENGINEERED LUMBER.
- NEW SILLS IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE.
- ALL STRAPS, TIES, HOLD-DOWNS, HANGERS AND OTHER HARDWARE SHALL BE HOT-DIPPED GALVANIZED.
- PROVIDE ALL NAILING, FASTENERS, ANCHORS, BLOCKING, AND MISC. FRAMING AS REQUIRED BY THE MASSACHUSETTS STATE BUILDING CODE TABLE Z305.2 (UNLESS OTHERWISE INDICATED).
- CONTRACTOR SHALL EXAMINE ALL EXISTING JOISTS AND RAFTERS TO REMAIN. ANY EXISTING MEMBERS WITH MID-SPAN NOTCHES, SPLITS, DETEIORATION, OR OTHER DEFECTS SHALL BE REPLACED BY, OR SISTERED TO, NEW JOISTS OF THE SAME SIZE. NEW OR SISTERED JOISTS SHALL BE SUPPORTED BY JOIST HANGERS AT EXISTING BEAMS OR SILLS. ANY QUESTIONABLE DEFECTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- WHERE EXISTING JOISTS ARE SUPPORTED ON EXISTING BEAMS OR SILLS, A JOIST HANGER SHALL BE INSTALLED IF THE EXISTING JOIST IS NOTCHED MORE THAN 2 1/2 INCHES. USE A SIMPSON U2BN HANGER OR EQUIVALENT.

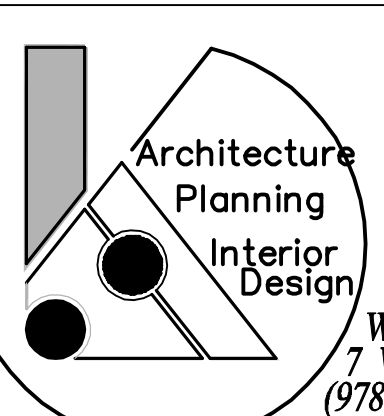
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DRAWING TITLE	STRUCTURAL NOTES
DATE	12/12/07
SCALE	
AS NOTED	
DRAWN BY:	SRI
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REVISIONS:	

JOB TITLE	Renovations Maranatha Christian Church 182 Howard Street Framingham, MA
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