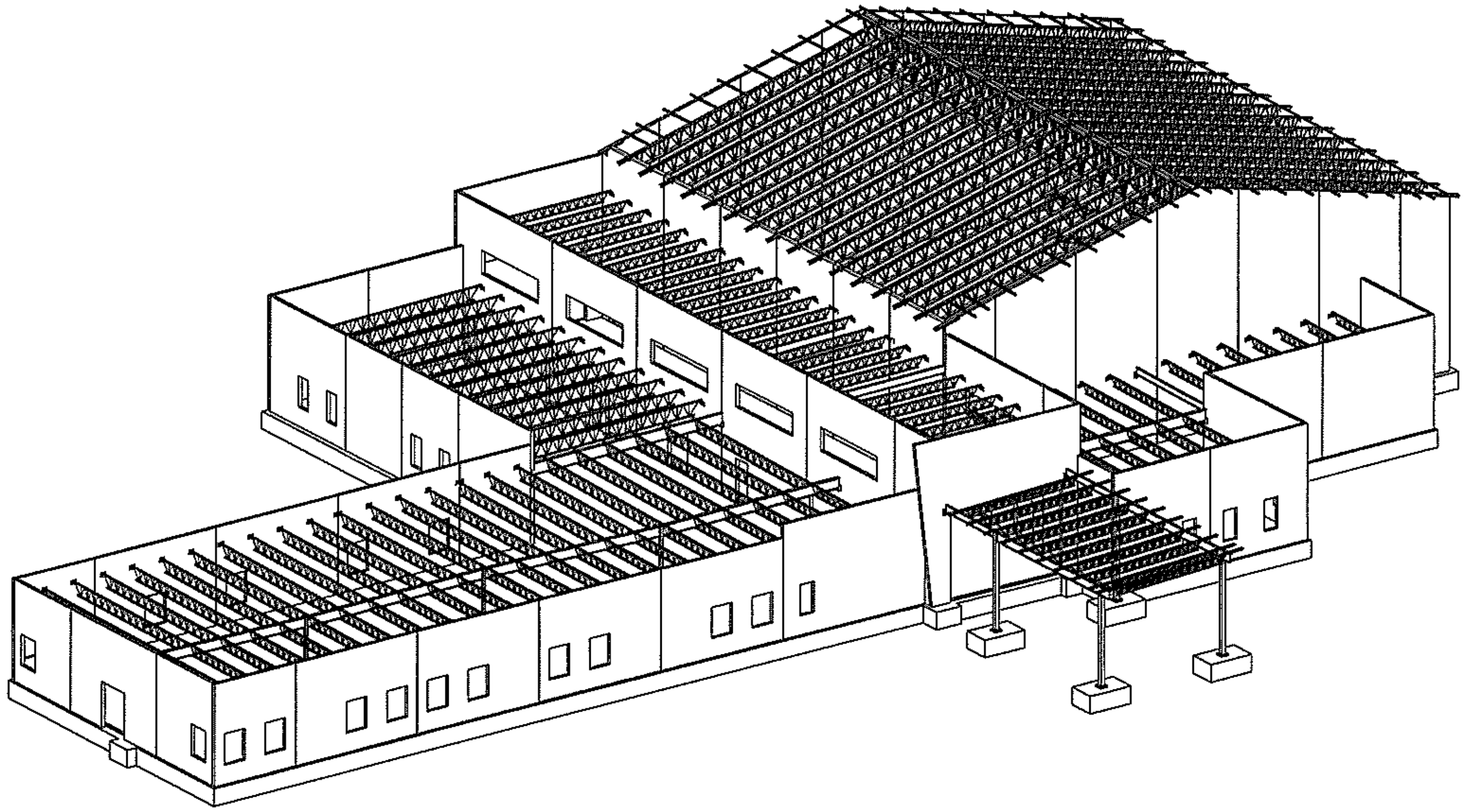

DESIGN DATA

LAT ROOF LOAD

LIVE LOAD	22
1 PLY MEMB. (ADHERED), INSULATION & DECK	8
MECHANICAL ALLOWANCE	7
BAR JOISTS	3
TOTAL TO JOISTS	40 LBS./FT²
BEAMS	2
TOTAL TO BEAMS	42 LBS./FT²

;ABLE ROOF LOAD

LIVE LOAD	22
STANDING SEAM METAL ROOF, INSUL. & DECK	8
MECHANICAL ALLOWANCE	7
BAR JOISTS	4
TOTAL TO JOISTS	41 LBS./FT²
JOIST GIRDER	3
TOTAL TO JOIST GIRDER	44 LBS./FT²

TAGE LOAD

LIVE LOAD (REDUCED IN ACCORDANCE WITH BUILDING CODE PROVISIONS)	150
CONCRETE FLOOR SLAB	47
MECHANICAL ALLOWANCE	3
METAL STUD JOISTS	5
TOTAL TO JOISTS	205 LBS./FT²

UILDING CATEGORY III

OOF SNOW LOAD (DRIFTING SNOW IN ADDITION TO UNIFORM LOAD WHERE APPLICABLE)

P_g = 20 LBS./FT²
P_f = 22 LBS./FT²
C_e = 1.0
I_s = 1.1
C_t = 1.0

ASIC DESIGN WIND LOAD

V = 90 M.P.H. (3-SECOND GUST)
I_w = 1.15
EXPOSURE C
INTERNAL PRESSURE COEFFICIENT = ± 0.18
NON-STRUCTURAL COMPONENTS AND CLADDING SHALL BE DESIGNED FOR:
21.8 LBS./FT²
-24.7 LBS./FT²

LLOWABLE SOIL BEARING 2,500 LBS./FT²

ARTHQUAKE DESIGN DATA

S_S = 0.128
S_1 = 0.062
SITE CLASS B
S_{DS} = 0.085
S_{D1} = 0.041
SEISMIC DESIGN CATEGORY A
BASIC SEISMIC-FORCE-RESISTING SYSTEM = ORDINARY PRECAST SHEAR WALLS
I_E = 1.25
R = 3
V = 0.01W

LEAR HEIGHT

FINISH FLOOR TO BAR JOIST IN AUDITORIUM	24'-0" (MIN.)
FINISH FLOOR TO BAR JOIST IN CLASSROOMS	11'-0" (MIN.)

UILDING FLOOR AREA

SLAB ON GRADE	25,500
STAGE	1,500
TOTAL	27,000 SQ.FT.

GENERAL NOTES

ELEVATION DATUM

SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS.

DESIGN SPECIFICATIONS

2006 INTERNATIONAL BUILDING CODE.

EARTHWORK

EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT BY KLEINFELDER DATED MAY 21, 2008.

FOOTINGS

1. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
2. HORIZONTAL REINFORCING IN FOOTINGS SHALL BE CONTINUOUS AT CORNERS AND INTERSECTIONS. CORNER BARS SHALL BE PROVIDED TO MATCH HORIZONTAL STEEL. REINFORCING STEEL SHALL BE LAPPED AS FOLLOWS WHERE SPLICES ARE REQUIRED:

BAR SIZE	LAP DIMENSION
#4	1'-6"
#5	1'-9"
#6	2'-0"

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WEATHER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
   FOUNDATIONS - 3,000 PSI
   FLOOR SLAB - 3,500 PSI
   WALL PANELS - 3,500 PSI U.N.O.
2. AIR CONTENT FOR WALL PANELS SHALL BE NATURAL AMOUNTS NOT TO EXCEED 4%.
3. CHLORIDE-BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
5. CONCRETE EXPANSION ANCHORS, SIZE AS PER PLAN, SHALL DEVELOP THE FOLLOWING MINIMUM WORKING LOAD CAPACITIES IN 4000 PSI CONCRETE:

DIA.	TENSION	SHEAR
1/2"	1,450#	1,787#
5/8"	2,091#	2,973#
3/4"	2,670#	3,765#

FASTENERS THAT MEET THESE REQUIREMENTS ARE 'POWER-STUD' BY THE POWERS RAWL DIVISION OF POWER FASTENING, INC. AND 'KWIK-BOLT 3' BY HILTI, INC. ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS WITH PARTICULAR ATTENTION TO PROPER TORQUE.
IF SPECIFIC ANCHORS ARE SHOWN ON DRAWINGS, THEY MUST BE USED UNLESS AN ALTERNATE IS APPROVED BY THE ENGINEER.

STRUCTURAL STEEL

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND CURRENT OSHA STANDARDS.
2. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. STRUCTURAL TUBES SHALL CONFORM TO ASTM A500 GRADE B. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
3. BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A325-N, SIZE AS PER PLAN.
4. ANCHOR RODS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM F1554 GRADE 36.
5. SPLICING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT AS DETAILED.
6. ALL STRUCTURAL AND MISCELLANEOUS STEEL ITEMS SHALL RECEIVE ONE COAT OF 'IRONCLAD RETARDO RUST INHIBITIVE PAINT 163' (BENJAMIN MOORE) OR APPROVED EQUAL UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. ALL STEEL SURFACES EMBEDDED IN CONCRETE SHALL NOT BE PAINTED. PREPARATION OF STEEL SURFACES SHALL MEET THE REQUIREMENTS OF THE STEEL STRUCTURES PAINTING COUNCIL (SSPC). THESE INCLUDE THE REMOVAL OF GREASE AND OIL BY SOLVENT CLEANING (SSPC-SP1) AND THE REMOVAL OF MILL SCALE, RUST, WELD FLUX AND SLAG BY HAND TOOL CLEANING (SSPC-SP2). PRIMER SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE BUT NOT LESS THAN ONE GALLON PER 400 SQ. FT. THEREBY DEPOSITING A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS. ANY SCARRED AREAS SHALL BE TOUCHED UP WITH THE SAME PAINT AFTER ERECTION.
7. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS STRUCTURAL WELDING CODE. WELDING ELECTRODES SHALL BE E70XX.
8. ALL ROOF OPENINGS SHALL BE FRAMED WITH STRUCTURAL STEEL, SIZED AS REQUIRED. THE LOCATION AND SIZE OF ROOF OPENINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
9. TEMPORARY VERTICAL CROSS BRACING PER AISC (1/2" ø CABLES) IS REQUIRED ALONG EVERY COLUMN LINE AT EVERY 150' MAX. IF STRUCTURAL STEEL IS ERECTED PRIOR TO PANELS. BRACING IS REQUIRED IN EACH DIRECTION AND SHALL REMAIN IN PLACE UNTIL THE STRUCTURAL STEEL IS CONNECTED TO THE WALL PANELS.

STEEL JOISTS AND JOIST GIRDERS

1. THE DESIGN, FABRICATION AND ERECTION OF STEEL JOISTS AND JOIST GIRDERS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS AND RECOMMENDED CODE OF STANDARD PRACTICE FOR OPEN WEB JOISTS AND JOIST GIRDERS ADOPTED BY THE STEEL JOIST INSTITUTE, AND CURRENT OSHA STANDARDS.
2. NO CONSTRUCTION LOADS SHALL BE PLACED ON JOISTS OR JOIST GIRDERS UNTIL BRIDGING IS INSTALLED AND BEARING CONNECTIONS HAVE BEEN BOLTED OR WELDED.
3. JOIST BRIDGING BUNDLES SHALL NOT EXCEED 1,000 LBS.

ROOF DRAINAGE

PROVISION SHALL BE MADE FOR SECONDARY ROOF DRAINAGE BY MEANS OF OVERFLOW SCUPPERS IN WALLS OR ADDITIONAL INTERIOR DRAINS. (SEE MECHANICAL DRAWINGS.) HEIGHT OF SECONDARY DRAINS ABOVE PRIMARY DRAINS SHALL BE SUCH THAT THE WEIGHT OF PONDED WATER ON THE ROOF DOES NOT EXCEED THE DESIGN LIVE LOAD.

STEEL ROOF DECK

1. THE DESIGN, FABRICATION AND ERECTION OF THE STEEL ROOF DECK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE SDI SPECIFICATIONS AND COMMENTARY FOR STEEL ROOF DECK AND THE SDI DIAPHRAGM DESIGN MANUAL.
2. MINIMUM END LAP SHALL BE 3".
3. THE STEEL ROOF DECK FUNCTIONS AS A STRUCTURAL ELEMENT IN RESISTING LATERAL LOADS AND PROVIDES OVERALL STABILITY FOR THE BUILDING. THEREFORE THE WALL PANEL ERECTION BRACES SHALL NOT BE REMOVED UNTIL ALL STEEL DECK IS COMPLETELY FASTENED IN PLACE.
4. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS SPECIFICATIONS FOR WELDED SHEET STEEL AND ITS COMMENTARY. WELDING ELECTRODES SHALL BE E6022. HOBART #1139, 5/32" DIA. WELDING ELECTRODES MEET THIS REQUIREMENT.
5. ROOF DECK SHALL RECEIVE ONE COAT OF MANUFACTURER'S STANDARD PRIMER. ALL DECK WELDS SHALL BE PAINTED WITH RUST PROHIBITIVE METAL PRIMER PRIOR TO ROOFING.
6. ROOF DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS.
7. ROOF DECK BUNDLES SHALL BE PLACED ON JOISTS WITH EXTREME CAUTION, FOLLOWING THE JOIST MANUFACTURER'S RECOMMENDATIONS FOR PROPER PLACEMENT.
8. DECKING OR DECK ACCESSORY BUNDLES SHALL NOT EXCEED 4,000 LBS.

NON-COMPOSITE STEEL FLOOR DECK

1. THE DESIGN, FABRICATION AND INSTALLATION OF STEEL FLOOR DECK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE SDI SPECIFICATIONS AND COMMENTARIES FOR NON-COMPOSITE STEEL FORM DECK.
2. FLOOR DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS.
3. DECKING OR DECK ACCESSORY BUNDLES SHALL NOT EXCEED 4,000 LBS.

COLD-FORMED METAL FRAMING

1. ALL PRODUCTS TO BE MANUFACTURED BY CURRENT MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION.
2. ALL GALVANIZED STUDS AND JOISTS SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF AISI STANDARDS. F_y = 33 KSI UNLESS NOTED OTHERWISE.
3. ALL STRUCTURAL MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH THE CURRENT AISI SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, AND SHALL CONFORM TO ASTM A1003.
4. FASTENING OF COMPONENTS SHALL BE WITH CORROSION RESISTANT SELF-DRILLING SCREWS, OR WELDS COMPLYING WITH AWS STANDARDS. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED UP WITH ZINC-RICH PAINT. WELDERS SHALL BE QUALIFIED PER AWS D1.3.
5. PROVIDE SHOP DRAWINGS SHOWING LAYOUT, SPACINGS, SIZES, THICKNESSES AND TYPES OF FRAMING. DRAWINGS SHALL INDICATE ALL CONNECTION DETAILS, BRIDGING AND BRACING. DRAWINGS SHALL BE APPROVED BY THE ENGINEER PRIOR TO FABRICATION AND ERECTION.

INDEX OF SHEETS

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Project Description:
Timothy Lutheran Church
HWY. 7 & Wyatt Road
Blue Springs, Missouri 64014

PROJECT #: 0103347
ISSUE DATE: OCT. 17, 2008
DRAWN BY: WLP
CHECKED BY: DFS

REVISIONS:
1. DESIGN DEVELOPMENT
2. 100% CD SET
3. RELEASED FOR PERMIT
4.
5.

SHEET No.:
S100
OF 1