## GENERAL NOTES:

1. THE NOTES ON THESE DRAWINGS ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES. INCONSISTENCIES BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.

2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

3. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.

4. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, OR TIEDOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.

5. SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS.

6. ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

## DESIGN LOADS

1. BUILDING CODE: IBC 2003. (ASCE 7–05 WHERE NOTED)
   FM GLOBAL
2. FLOOR LIVE LOADS:
   A. STAIRS & CORRIDORS– 100 PSF
   B. FLOOR LIVE LOAD – 80 PSF (U.N.O. ON FLOOR FRAMING PLANS)
   C. STORAGE, MECHANICAL & ELECTRICAL ROOMS – 125 PSF
   D. ELEVATOR MACHINE ROOMS – 150 PSF
3. DEAD LOADS:

   ACTUAL WEIGHTS OF COMPONENTS PLUS ALLOWANCE FOR MISCELLANEOUS DUCTWORK, SPRINKLER PIPING AND OTHER HUNG ITEMS U.N.O. ON DRAWINGS.

   @ TYPICAL FLOOR – 10 PSF
   @ MAIN ROOF (DWG. SF106) – 20 PSF
4. SNOW LOADS:

   A. GROUND SNOW LOAD Pg = 50 psf
   B. FLAT ROOF SNOW LOAD Pf = 50 psf
   C. SNOW EXPOSURE FACTOR Ce = 1.0
   D. SNOW LOAD IMPORTANCE FACTOR: I = 1.2
   E. THERMAL FACTOR Ct= 1.0
      level 5: Ct= 1.0
      PENTHOUSE, LOADING DOCK & CANOPY: Ct= 1.2
   F. SNOW DRIFTING IN ACCORDANCE WITH IBC–2003.
5. WIND LOADS

   A. BASIC WIND SPEED: 100 mph
   B. BUILDING CATEGORY: IV
   C. WIND IMPORTANCE FACTOR $I_W$=1.15
   D. WIND EXPOSURE = C
   E. INTERNAL PRESSURE COEFFICIENT: ±0.18

   F. COMPONENTS & CLADDING:
      DESIGN WIND PRESSURE SHALL BE BASED ON IBC 2003 & FM GLOBAL WITH DESIGN CRITERIA SHOWN ABOVE. WIND PRESSURE WILL DEPEND ON COMPONENT'S TRIBUTARY WIND AREA.
6. SEISMIC LOADS
   (SEISMIC DESIGN CATEGORY BASED ON ASCE 7–05)

   A. BUILDING OCCUPANCY CATEGORY: IV
   B. SEISMIC USE GROUP – III (IBC 2003)
   C. SEISMIC IMPORTANCE FACTOR I = 1.50
   D. MAPPED SPECTRAL RESPONSE ACCELERATIONS (ASCE 7–05)
      $S_S$ = 0.310 $S_1$ = 0.076
   E. SPECTRAL RESPONSE COEFFICIENTS:
      $S_{DS}$ =0.321, $S_{D1}$ =0.122
   F. SITE CLASS: D
   G. SEISMIC DESIGN CATEGORY: C (ASCE 7–05)
   H. BASIC SEISMIC–FORCE–RESISTING SYSTEMS:
      SPECIAL STEEL CONCENTRICALLY BRACED FRAMES.
   J. DESIGN BASE SHEAR: V = 521k
      SEISMIC RESPONSE COEFFICIENT: $C_S$ = .051
   K. RESPONSE MODIFICATION FACTOR: R = 6
   L. ANALYSIS PROCEDURE:
      EQUIVALENT LATERAL FORCE PROCEDURE

## QUALITY ASSURANCE/ SPECIAL INSPECTIONS

1. DESIGN OF THE BUILDING'S STRUCTURE IS BASED ON THE INTERNATIONAL BUILDING CODE'S REQUIREMENTS FOR SPECIAL INSPECTION. NO STATEMENTS OF COMPLETION WILL BE ISSUED BY THE STRUCTURAL ENGINEER OF RECORD WITHOUT COMPLETION OF THE SPECIAL INSPECTION REQUIREMENTS.
2. THE SPECIAL INSPECTOR FOR THE PROJECT IS TO BE RETAINED BY THE OWNER AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
3. SPECIAL INSPECTIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF THE SPECIAL INSPECTOR, AND IN ACCORDANCE WITH THE "SCHEDULE OF SPECIAL INSPECTIONS", PREPARED BY THE STRUCTURAL ENGINEER OF RECORD. ONLY PERSONEL AUTHORIZED BY THE APPROVED "LIST OF AGENTS" ARE QUALIFIED TO PERFORM THE TASKS OUTLINED IN THE SCHEDULE.

   IT IS THE CONTRACTOR'S RESPONSIBILTY TO COORDINATE CONSTRUCTION
4. ACTIVITIES AND SEQUENCES WITH THE SPECIAL INSPECTOR AND/OR HIS AGENTS TO PERFORM THE REQUIRED INSPECTION AND TESTING.

## FOUNDATION NOTES:

1. FOUNDATIONS HAVE BEEN DESIGNED BASED ON GEOTECHNICAL REPORT (GEOTECHNICAL DESIGN MEMORANDUM No.1, DATED 01/11/06 & No.2, DATED 02/03/06) FOR PHASE I HOSPITAL–MERCY AT THE FORE DEVELOPMENT, PORTLAND, MAINE, PREPARED BY HALEY & ALDRICH, INC. THE CONTRACTOR SHALL OBTAIN A COPY OF THE REPORT AND COMPLY WITH THE RECOMMENDATIONS STATED THEREIN.
2. BUILDING FOOTINGS HAVE BEEN DESIGNED FOR THE ALLOWABLE SOIL BEARING PRESSURE AS SHOWN ON DIAGRAM.
3. EXTERIOR FOOTINGS SHALL BE FOUNDED A MINIMUM OF 4.5 FEET BELOW FINISHED GRADE, UNLESS SHOWN OTHERWISE.
4. SOIL SUBGRADES SHALL BE PROTECTED AGAINST FREEZING.
5. DO NOT BACKFILL FROZEN GROUND.

## EARTHWORK NOTES:

1. REFER TO THE GEOTECHNICAL REPORT FOR ALL MATERIALS AND REQUIREMENTS. SEE FOUNDATION NOTE #1.
2. BENEATH INTERIOR FLOOR SLABS PROVIDE THE FOLLOWING MATERIALS:

   A. VAPOR RETARDER: VAPOR BLOCK 15 BY RAVEN INDUSTRIES, INC., OR APPROVED EQUAL.

   B. 12" MINIMUM OF COMPACTED GRANULAR FILL.

## CONCRETE NOTES:

1. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 318 AND ACI 301. HOT AND COLD WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 305R AND 306R.
2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE:
   4000 PSI FOR ALL FLOOR SLABS, AND EXTERIOR SLABS–ON–GRADE
   3000 PSI FOR FOUNDATION WALLS, PIERS, AND FOOTINGS
   CEMENT SHALL BE ASTM C150, TYPE I OR II UNLESS NOTED OTHERWISE. AIR ENTRAINING ADMIXTURES SHALL BE USED FOR ALL CONCRETE EXPOSED TO WEATHER. MAXIMUM SIZE AGGREGATE SHALL BE 3/4", UNLESS OTHERWISE NOTED. MAXIMUM SLUMP SHALL BE 4" BEFORE ADDITION OF WATER REDUCING AGENT, IF USED.
3. ALL DEFORMED REINFORCING BARS SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
4. ALL EMBEDDED METALS TO CONFORM TO ASTM A36, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALUMINUM SHALL NOT BE EMBEDDED IN CONCRETE UNLESS SPECIFICALLY APPROVED.
5. PROVIDE 3/4" CHAMFER AT ALL EXPOSED CORNERS U.N.O.
6. UNLESS OTHERWISE NOTED, THE CONCRETE COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS:

| | |
|---|---|
| CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: | 3" |
| CONCRETE EXPOSED TO EARTH OR WEATHER: | |
| WIRE | 1 1/2" |
| #5 AND SMALLER | 1 1/2" |
| #6 THRU #18 | 2" |
| CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH: | |
| SLABS, WALLS, JOISTS | |
| #11 AND SMALLER | 3/4" |
| #14 AND #18 | 1 1/2" |
| BEAMS, COLUMNS | |
| ALL | 1 1/2" |

7. UNLESS OTHERWISE NOTED, TOP BAR SPLICES WILL BE AT MIDSPAN, BOTTOM BAR SPLICES WILL BE AT SUPPORTS, AND SPLICE LENGTHS SHALL BE AS FOLLOWS:

| | |
|---|---|
| #3 BAR = 1'–3" | #8 BAR = 4'–11" |
| #4 BAR = 1'–8" | #9 BAR = 6'–3" |
| #5 BAR = 2'–2" | #10 BAR = 7'–11" |
| #6 BAR = 2'–9" | #11 BAR = 9'–8" |
| #7 BAR = 3'–9" | |

8. MECHANICAL AND WELDED SPLICES, IF USED, SHALL DEVELOP 125% OF BAR YIELD STRENGTH AND SHALL BE QUALIFIED PER AWS D1.4. MECHANICAL SPLICES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
9. LAP SPLICES IN WELDED WIRE FABRIC SHALL BE 12" MINIMUM, UNLESS OTHERWISE NOTED.
10. FOR DOWEL INSTALLATION, NEW CONCRETE TO EXISTING CONCRETE, WHERE NOTED ON DRAWINGS:
    A. DRILL HOLES TO REBAR DIAMETER PLUS 1/2" (MIN.) TO 1" (MAX.) AND TO THE DEPTH INDICATED ON THE DRAWINGS.
    B. CLEAN HOLE THOROUGHLY.
    C. INSTALL NON–METALLIC GROUT IN HOLE. IMMEDIATELY DRIVE DOWEL INTO GROUT TO DEPTH INDICATED ON THE DRAWINGS (4" MIN).
11. HOOKS NOT DIMENSIONED SHALL BE STANDARD ACI HOOKS.
12. AT LOCATIONS WHERE NEW CONCRETE IS BEING PLACED NEXT TO EXISTING CONCRETE, EXISTING CONCRETE SHALL BE SCARIFIED TO A 1/4" AMPLITUDE AND HAVE A BONDING AGENT APPLIED PRIOR TO NEW CONCRETE BEING PLACED.
13. CONCRETE TESTING AND TEST EVALUATION SHALL BE IN ACCORDANCE WITH ACI 318. ONE SET OF TEST CYLINDERS SHALL BE TAKEN FOR EACH DAY'S WORK, OR EACH 100 CY, OR EACH 5000 SF OF SLAB, WHICHEVER IS LESS.

## CONCRETE SLAB–ON–GRADE NOTES:

1. THESE NOTES ARE MODIFICATIONS TO CONCRETE REQUIREMENTS LISTED IN CONCRETE NOTES.
2. THE VAPOR RETARDER SHALL BE AS SPECIFIED IN SECTION 03300. EDGE LAPS AND PENETRATIONS SHALL BE SEALED.
3. BASE MATERIAL UNDER THE SLAB SHALL BE AS NOTED IN THE EARTHWORK NOTES. THE TOP SURFACE OF THE BASE SHALL BE LEVEL TO WITHIN 3/8" OF DESIGN GRADE.
4. UNLESS NOTED OTHERWISE, SLABS–ON–GRADE SHALL BE 5" THICK. CONCRETE SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 1", WITH 90 TO 100 % PASSING A 1" SIEVE. REFER TO FOUNDATION PLANS FOR ADDITIONAL SLAB–ON–GRADE REQUIREMENTS AND REINFORCEMENT.
5. THE DRAWINGS SHOW ONLY MANDATORY CONTROL AND CONSTRUCTION JOINTS. THE CONTRACTOR SHALL LAYOUT REMAINING JOINTS. THE PANELS SHALL BE RECTANGULAR WITH A MAXIMUM JOINT SPACING OF 12.0' FOR 4" & 5" THICK SLABS, 15.0' FOR 6" THICK SLABS & 17.0' FOR 8" THICK SLABS, U.N.O. ON DRAWINGS. THE LONG PANEL DIMENSION SHALL NOT BE MORE THAN 1.5 TIMES THE SHORT PANEL DIMENSION. SAW–CUT JOINTS MAY NOT TERMINATE AT CROSSING SAW–CUT JOINTS. SAW–CUT JOINTS MAY TERMINATE AT CONSTRUCTION JOINTS OR SAW–CUT JOINTS CUT FULL–DEPTH 12" EACH SIDE OF THE INTERSECTION.
6. ALL CONCRETE FLOOR SURFACES SHALL BE STEEL TROWELLED. FLOORS SHALL BE WET–CURED FOR A MINIMUM OF 7 DAYS. FOR THE FIRST 3 DAYS, THE TEMPERATURE OF APPLIED CURING WATER SHALL BE WITHIN 10 TO 15 DEGREES OF THE SLAB TEMPERATURE. COVER SLAB WITH NON–WOVEN GEOTEXTILE FABRIC AND POLYETHYLENE SHEET.
7. AFTER 7 DAYS OF CURING, THE FLOOR SHALL BE CLEANED OF ALL DIRT, OIL, AND OTHER FOREIGN MATTER. FLOORS THAT RECEIVE A SEALER SHALL BE SEALED AT THIS TIME.
8. ISOLATION JOINTS SHALL HAVE 3/8" PREFORMED, CLOSED–CELL FOAM JOINT MATERIAL. THE TOP 1/2" OF THE JOINT SHALL BE FILLED WITH POLYURETHANE SEALANT.
9. SLABS SHALL BE REINFORCED WITH WWF 6x6–W2.9xW2.9, U.N.O. ON DRAWINGS.

## POST–INSTALLED ANCHORS NOTES:

1. ANCHORS INSTALLED AT GROUTED CMU WALLS SHALL BE HILTI HIT HY150 ADHESIVE TYPE ANCHORS OR APPROVED EQUAL. ANCHOR'S SIZE AND EMBEDMENT SHALL BE AS SHOWN ON DRAWINGS. ANCHORS INSTALLED AT HOLLOW CMU WALLS SHALL BE HILTI HIT HY20 ADHESIVE TYPE ANCHORS OR APPROVED EQUAL. MAX ONE ANCHORS SHALL BE INSTALLED PER ONE CMU BLOCK CELL, 12" MIN. FROM WALL FREE EDGE, U.N.O..
2. ANCHORS INSTALLED IN CAST–IN–PLACE CONCRETE SHALL BE HILTI HIT HY150 ADHESIVE TYPE ANCHORS OR APPROVED EQUAL. ANCHORS SIZE, EMBEDMENT, AND LOCATION SHALL BE AS SHOWN ON DRAWINGS.

## STEEL CONNECTION NOTES

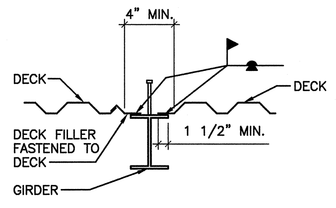
1. STRUCTURAL STEEL CONNECTIONS FOR BEAM–TO–BEAM AND BEAM–TO–COLUMN CONNECTIONS SHALL BE CONSIDERED AS "SIMPLE", (TYPE 2) CONNECTIONS IN ACCORDANCE WITH AISC'S SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS– ALLOWABLE STRESS DESIGN OR TYPE PR CONNECTIONS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN FOR STRUCTURAL STEEL BUILDINGS, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS. DESIGN CONNECTIONS IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, VOLUME II, CONNECTIONS, ASD OR LRFD.
2. AT COMPOSITE FLOOR FRAMING, BEAM REACTIONS ARE INDICATED AT THE BEAM ENDS IN KIPS. REACTIONS ARE FACTORED FOR DESIGN IN LOAD AND RESISTANCE FACTOR DESIGN (LRFD). WHERE REACTIONS ARE PROVIDED AT ONE END ONLY, THE REACTION SHALL BE TAKEN AS TYPICAL @ BOTH ENDS. WHERE NO REACTION IS PROVIDED, ASSUME A MINIMUM FACTORED REACTION = 10 KIPS.
3. AT COMPOSITE FLOOR FRAMING, WHERE REACTIONS ARE NOT PROVIDED, AISC MINIMUM CONNECTION LOADS APPLY: 6 KIPS FOR ASD, 10 KIPS FOR LRFD. WHERE A BEAM REACTION IS PROVIDED AT ONE END ONLY, THAT REACTION SHALL BE TAKEN AS TYPICAL FOR BOTH ENDS.
4. WHERE REACTIONS ARE NOT PROVIDED, DESIGN CONNECTIONS TO RESIST 1/2 WU FROM THE MAXIMUM FACTORED UNIFORM LOAD TABLES OR 1/2 THE TOTAL ALLOWABLE UNIFORM LOAD FROM THE ALLOWABLE UNIFORM LOAD TABLES IN THE 13th EDITION OF THE AISC ASD MANUAL.
5. WHERE STEEL BEAMS FRAME TO TUBULAR STEEL COLUMNS, DESIGN CONNECTIONS IN ACCORDANCE WITH THE AISC MANUAL OF HOLLOW STRUCTURAL SECTIONS, CONNECTIONS MANUAL.
6. WHERE BEAMS FRAME TO BOTH SIDES OF A GIRDER, PROVIDE SINGLE ANGLE CONNECTIONS ARRANGED SO THAT BEAMS ON OPPOSITE SIDES OF THE GIRDER DO NOT SHARE ANY COMMON BOLTS OR USE OTHER DETAILS THAT AVOID ALL BOLTS COMMON TO BOTH MEMBERS.
7. WHERE BEAMS FRAME TO BOTH SIDES OF A COLUMN WEB, AT THE SAME ELEVATION, PROVIDE SEATED CONNECTIONS OR OTHER DETAILS TO AVOID ALL BOLTS BEING COMMON TO BOTH BEAMS.
8. EXCEPT WHERE OTHERWISE DETAILED BRACING CONNECTIONS SHALL BE DESIGNED UTILIZING THE UNIFORM FORCE METHOD IN ACCORDANCE WITH THE THIRD EDITION OF THE AISC LRFD DESIGN MANUAL, UTILIZING WORKING POINTS (W.P.) AS INDICATED.
9. THE FABRICATOR SHALL SUBMIT THE DESIGN CALCULATIONS, STAMPED BY A PROFESSIONAL ENGINEER, FOR ALL BRACING CONNECTIONS AND FOR ANY OTHER CONNECTIONS THAT DO NOT COMPLY WITH THE TYPICAL DETAILS SHOWN IN THE MANUAL. THIS INCLUDES CONNECTIONS WITH DIFFERENT ANGLE SIZES, BOLT GAGES, BOLT EDGE DISTANCES, ETC.
10. ALL CONNECTION DETAILS NOT PROVIDED WITHIN THESE DOCUMENTS SHALL BE DESIGNED BY THE FABRICATOR IN ACCORDANCE WITH THESE NOTES. WHERE DETAIL IS REQUIRED TO SPECIFY FIELD ATTACHMENT, THAT DETAIL SHALL BE PROVIDED ON THE ERECTION DRAWINGS.
11. ALL CONNECTION DETAILS ARE SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

## STRUCTURAL STEEL NOTES:

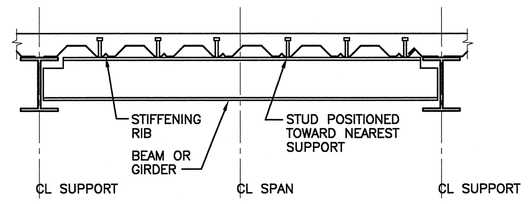
1. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL" – 13th EDITION.
2. STRUCTURAL STEEL SHALL CONFORM TO ASTM A572, GRADE 50 STEEL. STEEL FOR PLATES AND ANGLES SHALL CONFORM TO ASTM A36. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B. STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, GRADE B.
3. FIELD CONNECTIONS SHALL BE BOLTED USING 3/4" DIAMETER A325N HIGH STRENGTH BOLTS EXCEPT WHERE FIELD WELDING IS INDICATED ON THE DRAWINGS.
4. ALL WELDING SHALL CONFORM TO AWS D1.1–LATEST EDITION. ELECTRODES SHALL BE E70XX.
5. STRUCTURAL STEEL BEAMS, COLUMNS AND BRACING SHALL BE FIREPROOFED U.N.O. COORDINATE W/ ARCHITECTURAL DOCUMENTS EXTENT OF FIREPROOFING.
6. STEEL FRAMING TO BE FIREPROOFED SHALL NOT BE PRIMED. DO NOT PRIME TOP OF BEAMS @ FLOOR FRAMING.
7. STEEL FRAMING MEMBERS AND COMPONENTS NOT EXPOSED TO WEATHER, AND NOT TO BE FIREPROOFED, SHALL BE SHOP PRIMED WITH ONE COAT TNEMEC 10–99 OR EQUAL, 2.0–3.5 MILS DRY THICKNESS.
8. STEEL FRAMING MEMBERS AND COMPONENTS EXPOSED TO WEATHER SHALL BE GALVANIZED U.N.O.
9. FABRICATOR QUALIFICATIONS: A QUALIFIED FABRICATOR WHO PARTICIPATES IN THE AISC QUALITY CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC–CERTIFIED PLANT, CATEGORY CBD.
10. INSTALLER QUALIFICATIONS: A QUALIFIED INSTALLER WHO PARTICIPATES IN THE AISC QUALITY CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC–CERTIFIED ERECTOR, CATEGORY CSE.
11. SHOP DRAWINGS DETAILING FABRICATION AND ERECTION OF EACH METAL FABRICATION INDICATED SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR REVIEW PRIOR TO FABRICATION AND CONSTRUCTION.

## SHEAR STUD PLACEMENT REQUIREMENTS

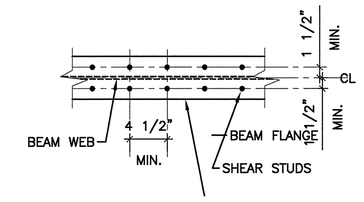
1. SHEAR CONNECTORS SHALL BE HEADED STUD TYPE, (S3L TYPE BY NELSON OR APPROVED EQUAL), 3/4"ø, 5" LONG AFTER INSTALLATION. SHEAR CONNECTORS SHALL BE FSTENED TO BEAM FLANGES WITH NELSON STUD WELDING SYSTEM.
2. NUMBERS IN PARENTHESIS, SHOWN ON FRAMING PLANS, SPECIFY QUANTITIES OF 3/4"ø SHEAR CONNECTORS. LAY OUT QUANTITIES AT UNIFORM SPACING EXCEPT WHERE OTHERWISE INDICATED OR REQUIRED TO COMPLY WITH OTHER POSITIONING NOTES STATED HEREIN.
3. WHERE THE NUMBER OF SHEAR CONNECTORS IS INDICATED TO BE LOCATED WITHIN GIVEN DIMENSION LINES, LAY OUT STUDS AT EQUAL SPACING WITHIN THOSE LIMITS EXCEPT AS REQUIRED TO COMPLY WITH OTHER POSITIONING NOTES STATED HEREIN.
4. ALL SHEAR STUDS SHALL BE PLACED DIRECTLY OVER BEAM AND GIRDER WEBS, EXCEPT AS NOTED IN NOTE #8. STUD SPACING SHALL BE NO MORE THAN 36" O.C. AND NO LESS THAN 4 1/2" O.C.. ADD STUDS WHERE REQ'D TO COMPLY W/MAX SPACING.
5. SEE OTHER DETAILS FOR MINIMUM DECK FASTENING REQUIREMENTS TO SUPPORTS.
6. METAL DECK WITH RIBS PARALLEL TO GIRDER AXIS SHALL BE ADJUSTED SUCH THAT CONCRETE IS FULL DEPTH AT GIRDER FLANGE FOR THE LENGTH OF THE GIRDER IN ACCORDANCE WITH AISC AND STEEL DECK INSTITUTE REQUIREMENTS, SEE BELOW:




7. METAL DECKING WITH RIBS NOT PARALLEL TO BEAM OR GIRDER AXIS SHALL HAVE STUDS LOCATED IN LOWER RIBS OF DECK AND POSITIONED WITH RESPECT TO THE STIFFENING RIB TOWARD THE NEAREST SUPPORT, SEE BELOW:




8. WHERE A SINGLE ROW OF STUDS OVER BEAM AND GIRDER WEBS CANNOT MEET THE ABOVE REQUIREMENT, A DOUBLE ROW MAY BE PLACED AT ENDS OF BEAMS AND GIRDERS SPACED AS SHOWN:




## LIGHT GAGE METAL FRAMING NOTES:

( THESE NOTES ARE APPLICABLE ONLY TO THE EXTERIOR WALL FRAMING. FOR THE INTERIOR WALL FRAMING SEE SPECIFICATION SECTION 09260 )

SEE PROJECT SPECIFICATION SECTION 05400 FOR ADD'L DESIGN CRITERIA

1. THE EXTENT OF THE WORK FOR THE EXTERIOR METAL STUD WALL SYSTEM IS DETAILED ON THE ARCHITECTURAL DRAWINGS. THESE NOTES SHALL BE WORKED IN CONJUNCTION WITH THOSE DRAWINGS AND THE SPECIFICATIONS.
2. THE FOLLOWING SPECIFICATIONS AND PUBLICATIONS (LATEST EDITION) SHALL BE FOLLOWED.

   A. AMERICAN IRON AND STEEL INSTITUTE COLD FORM DESIGN MANUAL, SPECIFICATION FOR THE DESIGN OF COLD FORM STEEL STRUCTURAL MEMBERS.

   B. AMERICAN SOCIETY FOR TESTING AND MATERIALS.

   C. AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL OF STEEL CONSTRUCTION 9TH EDITION.
3. PROVIDE CHANNEL SHAPED STUDS, JOISTS, RUNNERS, TRACKS, BLOCKING, CLIP ANGLES, SHOES, REINFORCEMENTS, FASTENERS, AND OTHER ACCESSORIES RECOMMENDED BY THE MANUFACTURER FOR A COMPLETE FRAMING SYSTEM.
4. FABRICATION OF LIGHT GAGE STEEL SHALL CONFORM WITH REQUIREMENTS OF ASTM A446 WITH THE FOLLOWING MINIMUM YIELD POINTS (Fy):

   A. 16 GA. AND HEAVIER – Fy = 50,000 PSI (GRADE D)
   B. 18 GA. – Fy = 33,000 PSI (GRADE B)
   C. ALL WALL FRAMING MEMBERS AND COMPONENTS SHALL BE 18 GAGE MINIMUM.
5. THE LIGHT GAGE METAL FRAMING SIZES SHOWN ON DRAWINGS ARE PROVIDED FOR THE PRELIMINARY COST ESTIMATE ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN BID COST BASED ON THE LIGHT GAGE DESIGN – SEE NOTE 12 BELOW.
6. THE EXTERIOR WALL SYSTEM SHALL BE DESIGNED FOR A MAXIMUM ALLOWABLE DEFLECTION AS SHOWN IN PROJECT SPECIFICATION 05400. THE SPAN SHALL BE MEASURED FROM POINT OF ATTACHMENT TO STRUCTURAL STEEL OR CONCRETE, INCLUDING EFFECT OF STUDS ONLY, NOT SHEATHING BOARD OR FACING MATERIAL.
7. THE DESIGN WIND PRESSURE SHALL BE IN ACCORDANCE WITH IBC 2003.
8. STUDS SHALL BE INSTALLED AFTER FLOORS AND ROOF CONCRETE DECKS ARE IN PLACE.
9. STUD CONNECTIONS TO THE PERIMETER STEEL FRAMING SHALL ALLOW FOR A MINIMUM OF 3/4" FRAMING DEFLECTION. STUDS SHALL BE INSTALLED AFTER CONCRETE DECKS ARE IN PLACE.
10. ALL FASTENERS CONNECTING LIGHT GAGE MEMBERS AND ACCESSORIES SHALL BE A MINIMUM OF NO. 10 SIZE SCREWS SPACED NOT CLOSER THAN ONE–HALF INCH ON CENTER. NUMBER OF FASTENERS SHALL BE AS SHOWN ON DETAILS. ALL FASTENERS SHALL BE GALVANIZED OR CADMIUM PLATED.
11. ALL FASTENERS CONNECTING LIGHT GAGE MEMBERS TO STRUCTURAL STEEL SHALL BE POWER DRIVEN FASTENERS OF 0.145" DIAMETER MINIMUM. ALL FASTENERS OF LIGHT GAGE MEMBERS TO CONCRETE SHALL BE POWER DRIVEN FASTENERS OF 0.177" DIAMETER MINIMUM WITH A MINIMUM OF 1–7/16 INCH EMBEDMENT.
12. THE LIGHT GAGE METAL FRAMING SUBCONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS ALL AFFIXED WITH THE SEAL OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF MAINE. THESE DRAWINGS SHALL ILLUSTRATE THE DESIGN OF EXTERIOR STUD WALL FRAMING INCLUDING HEADERS, JAMBS, TRACKS, AND ALL NECESSARY STRUCTURAL STEEL STIFFENING AND BRACING.

## DECK NOTES:

1. STEEL FLOOR DECK SHALL BE GALV. COMPOSITE DECK 2VL20 AS MANUFACTURED BY VULCRAFT OR APPROVED ALTERNATE. FLOOR DECK UNITS SHALL BE BUTTED.

   FLOOR DECK SHALL BE FASTENED AS FOLLOWS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS (SEE SF501):

   AT SUPPORTS – 5/8" DIAMETER PUDDLE WELDS AT 36/4 PATTERN AT SIDELAPS FASTEN WITH (1) #10 TEK SCREWS AT 36" O.C. MAX.

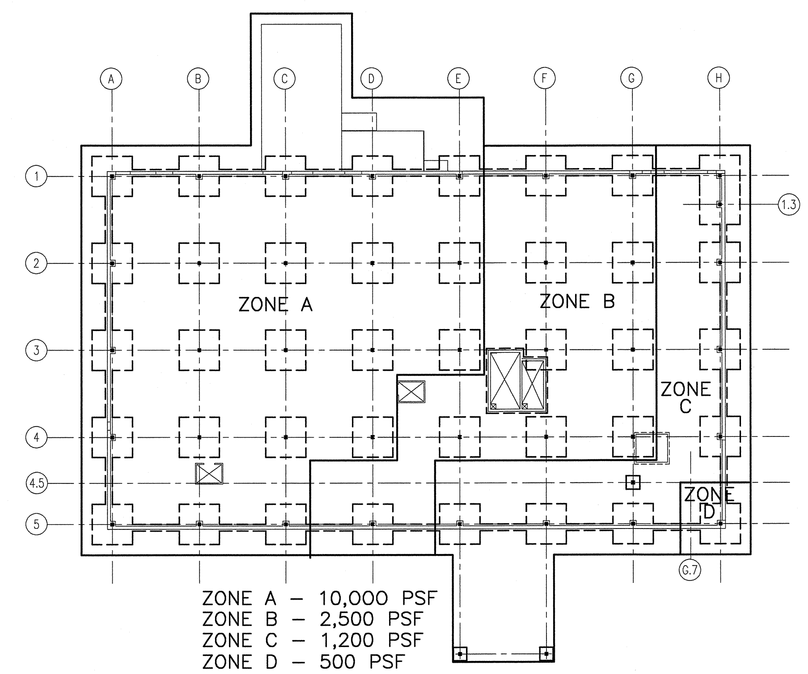
   AT PERIMETER STEEL PARALLEL TO DECK SPAN – 5/8" DIAMETER PUDDLE WELDS AT 18" O.C. MAX.

   SHEAR CONNECTORS CAN BE COUNTED AS REQUIRED PUDDLE WELDS, IF INSTALLED AS SPECIFIED ON DETAIL N14/SF501. SEE SHEAR STUD NOTES FOR ADDITIONAL REQUIREMENTS.

2. STEEL ROOF DECK SHALL BE 1.5B20 GALVANIZED DECK,U.N.O., AS MANUFACTURED BY VULCRAFT OR APPROVED ALTERNATE.

   ROOF DECK SHALL BE FASTENED AS FOLLOWS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS:

   AT SUPPORTS – 5/8" DIAMETER PUDDLE WELDS AT 36/7 PATTERN U.N.O.
   AT SIDELAPS – 1#10 TEK SCREW AT EACH SPAN U.N.O.
   AT PERIMETER STEEL PARALLEL TO DECK SPAN – 5/8" DIAMETER PUDDLE WELDS AT 6" O.C. MAXIMUM




ZONE A – 10,000 PSF
ZONE B – 2,500 PSF
ZONE C – 1,200 PSF
ZONE D – 500 PSF

## DESIGN ALLOWABLE SOIL NET BEARING CAPACITY DIAGRAM

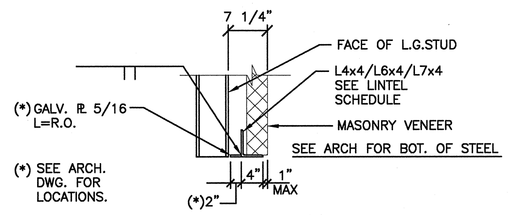
## REINFORCED MASONRY NOTES:

REFER TO DRAWING SF505

| MASONRY/VENEER STEEL LINTEL SCHEDULE | |
|---|---|
| MASONRY OPENING (3) | LINTEL SIZE |
| UP TO 6'–0" | L4x4x5/16 |
| 6'–4" TO 8'–0" | L6x4x5/16 |
| 8'–0" TO 11'–4" | L7x4x3/8 |

NOTES:

1. PROVIDE 8" OF BEARING @ EACH END OF ALL LINTELS.
2. LINTELS AT EXTERIOR WALLS SHALL BE GALVANIZED
3. REFER TO A14/SF105 FOR LINTEL SUPPORT @ COLUMN.




## TYP. LINTEL DETAIL @ MASONRY VENEER U.N.O.

NOTE: SEE ARCH. DETAILS FOR ADD'L LINTEL INFO.

NOTE:
THIS PACKAGE INCLUDES STRUCTURAL DRAWINGS ISSUED FOR BID ONLY, NOT FOR CONSTRUCTION OR FABRICATION

| REV. | DESCRIPTION | DATE |
|---|---|---|
| 0 | ISSUED FOR CONSTRUCTION | 9–19–06 |

**ISSUED FOR CONSTRUCTION**
**9–19–06**

CURRENT ISSUE STATUS:

STATE OF MAINE – Janusz S. Wrzosek – No. 5801 – REGISTERED PROFESSIONAL ENGINEER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PROJECT: MERCY HOSPITAL AT FORE RIVER PROJECT 2
LOCATION

SHEET TITLE: STRUCTURAL GENERAL NOTES

| | | | |
|---|---|---|---|
| SCALE: | NONE | DATE: | 9–19–06 |
| PROJECT MANAGER: | ELB | GRAPHIC SCALE: | 0" 1" |
| JOB CAP/DRAWN: | HCC | | |
| A/E OF RECORD: | JSW | SHEET No. | SG001 |
| SMRT CAD FILE: | SG001–05034 | | |
| PROJECT No. | 05034 | | |