

CONCRETE REINFORCING

- 1. PROVIDE SUITABLE WIRE SPACERS, CHAIRS, TIES, ETC FOR SUPPORTING REINFORCING STEEL IN THE PROPER POSITION WHILE PLACING CONCRETE.
- 2. REINFORCING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60.
- 3. FABRICATION OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE DETAILS OF ACI 315, "DETAILING OF CONCRETE REINFORCEMENT".
- 4. UNLESS OTHERWISE NOTED, LAP SPliced OR EMBEDMENT LENGTHS SHALL CONFORM TO THE FOLLOWING AND ARE BASED ON MINIMUM CONCRETE COVER OF 1 1/2" AND AN AGGREGATE SIZE OF 1" MAXIMUM.

BAR SIZE	TOP BARS*	OTHER
#4	3'-3"	2'-3"
#5	4'-1"	3'-1"
#6	4'-10"	3'-9"
#7	8'-10"	6'-9"
#8	10'-1"	7'-9"
#9	11'-4"	8'-9"

* TOP BARS ARE HORIZONTAL BARS WITH MORE THAN TWELVE INCHES (12") OF CONCRETE CAST BELOW BARS

- 5. UNLESS NOTED OTHERWISE, PROVIDE CONCRETE COVER FOR CAST-IN-PLACE NON-PRESTRESSED STRUCTURAL BUILDING ELEMENTS AS NOTED BELOW:
 - A. FOOTINGS
 - a. BOTTOM 3"
 - b. SIDE 3"
 - c. TOP 2"
 - B. SLAB-ON-GRADE
 - a. SIDE 2"
 - b. TOP 1-1/2"
 - C. STEM WALLS
 - a. SIDE 1-1/2"
 - b. TOP 2"
- 6. UNLESS OTHERWISE NOTED ON DRAWINGS, CONCRETE COVER OVER PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRALS SHALL COMPLY WITH LISTED VALUES. COVER SHALL COMPLY WITH REQUIREMENTS OF ACI 318 FOR ELEMENTS NOT DESCRIBED.
- 7. PROVIDE (1) - #5x4'-0" AT RE-ENTRANT CORNERS AND AROUND RECTANGULAR HOLES IN SLABS UNO. PLACE BAR DIAGONAL TO CORNER WITH 1" CLEARANCE FROM TOP AND THE SIDE OF THE SLAB AT THE CORNER.
- 8. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HOURS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE.
- 9. UNLESS NOTED OTHERWISE CONTINUOUS BOTTOM REINFORCING BARS SHALL BE SPliced AT SUPPORTS AND CONTINUOUS TOP REINFORCING BARS SHALL BE SPliced AT MID-SPAN.

CONCRETE FOOTING FOUNDATIONS

- 1. CONVENTIONAL SHALLOW CAST-IN-PLACE CONCRETE FOOTING FOUNDATIONS HAVE BEEN DESIGNED UTILIZING AN ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER-OF-RECORD.
- 2. FOOTINGS SHALL BEAR AT A MINIMUM OF 2.0 FEET BELOW FINISHED GRADE, OR DEEPER WHERE SHOWN ON THE DRAWINGS, ON NATIVE SOILS OR SELECT FILL AS DESCRIBED IN THE EARTHWORK RECOMMENDATIONS SECTION OF THE GEOTECHNICAL REPORT.
- 3. PREPARE SUBGRADE FOR FOOTINGS AS OUTLINED IN THE GEOTECHNICAL REPORT.
- 4. FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE AND REINFORCING, IN ORDER TO ASSURE THAT THE BEARING SURFACES ARE CONSISTENT WITH DESIGN RECOMMENDATIONS.
- 5. ALL BEARING SURFACES SHALL BE FREE OF SOFT OR LOOSE SOIL PRIOR TO PLACING CONCRETE.
- 6. CONCRETE SHALL BE PLACED THE SAME DAY THE EXCAVATIONS ARE COMPLETED AND BEARING MATERIALS VERIFIED BY THE GEOTECHNICAL ENGINEER-OF-RECORD. IF THE EXCAVATIONS ARE LEFT OPEN FOR AN EXTENDED PERIOD, OR IF THE BEARING SURFACES ARE DISTURBED AFTER THE INITIAL OBSERVATION, THEN THE BEARING SURFACES SHALL BE REEVALUATED PRIOR TO CONCRETE PLACEMENT.
- 7. WATER SHALL NOT BE ALLOWED TO POND IN FOUNDATION EXCAVATIONS PRIOR TO CONCRETE PLACEMENT OR ABOVE THE CONCRETE AFTER THE FOUNDATION IS COMPLETED.
- 8. WHEREVER POSSIBLE, THE FOUNDATION CONCRETE SHALL BE PLACED "NEAT", USING THE SIDES OF THE EXCAVATIONS AS FORMS. WHERE THIS IS NOT POSSIBLE, THE EXCAVATIONS CREATED BY FORMING THE FOUNDATIONS SHALL BE BACKFILLED WITH SUITABLE STRUCTURAL FILL AND PROPERLY COMPACTED.
- 9. PROVIDE PROPER SHORING FOR STRUCTURAL STABILITY AND SAFETY FOR EARTH RETENTION OF EARTH BANKS AND EXISTING STRUCTURES.
- 10. THE BUILDING PAD SHALL BE SLOPED TO DRAIN AWAY FROM THE BUILDING FOUNDATIONS.
- 11. ROOF DRAINS SHALL BE ROUTED AWAY FROM THE FOUNDATION SOILS.
- 12. NO PIPES OR CONDUITS SHALL PASS THROUGH CONCRETE FOOTINGS, UNO.

CONCRETE SLAB-ON-GRADE FLOORS

- 1. SUBGRADE BELOW BUILDING SLAB-ON-GRADE FLOORS SHALL BE PREPARED AS DESCRIBED IN THE GEOTECHNICAL REPORT.
- 2. SUBGRADE SOILS SHALL NOT BE DISTURBED BETWEEN INITIAL SITE GRADING AND SLAB-ON-GRADE CONSTRUCTION.
- 3. UNDER ALL BUILDING SLAB-ON-GRADE FLOORS, PLACE A MINIMUM 4" THICK GRAVEL MATERIAL BASE AS DEFINED IN THE GEOTECHNICAL REPORT, UNLESS OTHERWISE NOTED. THE SUBGRADE SOIL DIRECTLY BELOW THE GRAVEL MATERIAL BASE COURSE SHALL BE PREPARED AS SPECIFIED IN THE GEOTECHNICAL REPORT.
- 4. A MINIMUM 15-MIL THICK VAPOR BARRIER MEETING ASTM E 1745, CLASS A REQUIREMENTS SHALL BE PLACED DIRECTLY BELOW SLAB-ON-GRADE FLOORS. REFER TO ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS FOR ADDITIONAL VAPOR BARRIER REQUIREMENTS.
- 5. SLAB CONTROL JOINTS SHALL BE PROVIDED, EACH WAY, AT A SPACING 24 TO 36 TIMES THE SLAB THICKNESS, BUT NO MORE THAN 15 FEET. REFER TO TYPICAL SLAB CONTROL JOINT DETAIL FOR ADDITIONAL INFORMATION.
- 6. NOTE THAT THE GROUND FLOOR SLAB IS A GROUND SUPPORTED SLAB AT GRADE AS PER THE DESIGN RECOMMENDED IN THE GEOTECHNICAL REPORT. IT IS NOT A STRUCTURAL SLAB AND AS SUCH IS NOT DESIGNED FOR ANY EXTERNAL UPWARD OR DOWNWARD LOADS, IT IS INTENDED TO BE ENTIRELY SUPPORTED BY THE PREPARED GROUND UNDER THE SLAB. THE CONTRACTOR SHOULD NOTE THAT THE PERFORMANCE OF THE SLAB AS DESIGNED AND INTENDED BY THE GEOTECHNICAL ENGINEER IS HIGHLY DEPENDENT ON MANY ENVIRONMENTAL CONDITIONS OVER WHICH THE OWNER HAS CONTROL AFTER THE OCCUPANCY OF THE BUILDING. THE CONTRACTOR AND THE OWNER SHOULD CONSULT WITH THE GEOTECHNICAL ENGINEER IF THERE ARE ANY QUESTIONS CONCERNING CONSTRUCTION, PERFORMANCE AND RISKS INVOLVED IN GROUND SUPPORTED SLAB AT GRADE CONSTRUCTION.

CONCRETE MASONRY UNIT WALLS AND LINTELS

- 1. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 FOR LOAD-BEARING CONCRETE MASONRY UNITS.
- 2. THE NET AREA COMPRESSIVE STRENGTH OF MASONRY, f_m, SHALL BE A MINIMUM OF 2,000 PSI AND THE MINIMUM NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS SHALL BE 2,000 PSI.
- 3. MORTAR SHALL BE TYPE "S" WITH A MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI AT 28-DAYS. MORTAR SHALL CONFORM TO ASTM C270 AND SHALL CONFORM TO ARTICLES 2.1 AND 2.6A OF TMS 602 (LATEST EDITION).
- 4. GROUT FOR MASONRY CONSTRUCTION SHALL CONFORM TO ASTM C476 OR ARTICLE 2.2 OF TMS 602 (LATEST EDITION). PROVIDE FINE GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28-DAYS. GROUT SHALL BE PLACED IN MAXIMUM LIFTS OF 4'-0".
- 5. VERTICAL CELLS TO RECEIVE GROUT SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CONTINUOUS UNOBSTRUCTED VERTICAL CELL NOT LESS THAN 2"x3" IN PLAN DIMENSION.
- 6. VERTICAL REINFORCEMENT SHALL BE AS NOTED ON DRAWINGS. PLACE VERTICAL REINFORCING BARS AT CORNERS, JAMBS OF OPENINGS BELOW BEAM BEARING, AND IN WALLS AS INDICATED ON THE DRAWINGS. VERTICAL WALL REINFORCING BARS SHALL EXTEND CONTINUOUS FROM FOUNDATION TO EMBED AT LEAST 6" INTO TOP BOND BEAM. PROVIDE VERTICAL REINFORCEMENT IN LAST TWO CELLS AT EACH END OF WALL.
- 7. DOWEL VERTICAL REINFORCING BARS OUT OF THE FOUNDATION OR STRUCTURE BELOW WITH BARS OF THE SAME SIZE AND SPACING ABOVE. DOWELS SHALL EXTEND A MINIMUM OF 40 DIAMETERS INTO THE MASONRY WALL. THERE SHALL BE A FOUNDATION DOWEL FOR EACH VERTICAL REINFORCING BAR. PROVIDE A STANDARD 90° HOOK ON THE ENDS OF THE FOUNDATION DOWELS EMBEDDED IN THE FOUNDATION UNLESS NOTED OTHERWISE.
- 8. HORIZONTAL JOINT REINFORCING SHALL BE W1.7 LADDER-TYPE HORIZONTAL JOINT REINFORCEMENT AT 16" OC.
- 9. VERTICAL REINFORCING BARS SHALL BE CENTERED IN CELLS THROUGHOUT THE HEIGHT OF THE WALL UNLESS NOTED OTHERWISE. PROVIDE REBAR POSITIONERS AS REQUIRED TO MAINTAIN VERTICAL ALIGNMENT.
- 10. LAPS OR SPICES OF REINFORCING STEEL IN MASONRY SHALL BE THE GREATER OF 24" OR 40 BAR DIAMETERS.
- 11. PLACE HORIZONTAL BARS IN 8" DEEP BOND BEAM UNITS AT TOPS OF ALL WALLS AND WHERE INDICATED. PROVIDE (2) #5 MINIMUM HORIZONTAL BARS.
- 12. CONTINUE BOND BEAM UNITS AND REINFORCING BARS UNINTERRUPTED AROUND CORNERS AND ACROSS WALL INTERSECTIONS. SEE TYPICAL MASONRY DETAILS FOR ADDITIONAL INFORMATION.
- 13. SUBSTITUTION OF BRICKS OR SOLID MASONRY UNITS INTO CMU WALLS AS SPACERS AND/OR SLOPING BOND BEAMS SHALL NOT BE PERMITTED.
- 14. PRIOR TO START OF LAYING MASONRY, THE CONTACT SURFACE OF ALL FOUNDATIONS AND FLOORS WHICH ARE TO RECEIVE MASONRY WORK SHALL BE ROUGHENED AND CLEANED.
- 15. NO TEMPORARY OPENINGS OR PASSAGES OF ANY KIND SHALL BE ALLOWED IN ANY CMU WALL. CLEANOUTS ARE REQUIRED FOR POUR HEIGHTS GREATER THAN 5'-0".
- 16. SUBMIT SHOP DRAWINGS FOR REVIEW BY STRUCTURAL ENGINEER SHOWING:
 - A. ALL VERTICAL AND HORIZONTAL REINFORCING LOCATIONS AND SPLICE METHODS; LOCATIONS OF BOND BEAMS AND LINTELS
 - B. LOCATIONS OF ALL CORES TO BE FILLED WITH GROUT
 - C. LOCATIONS OF CONTROL JOINTS
 - D. LOCATIONS OF ALL EMBEDDED PLATES AND ANCHORS
- 17. PROVIDE TEMPORARY BRACING FOR ALL MASONRY WALLS CONFORMING TO OSHA REQUIREMENTS UNTIL PERMANENT LATERAL SUPPORT IS COMPLETE.
- 18. THE CONTRACTOR SHALL NOT PLACE LOADS ON BOND BEAMS OR MASONRY CELLS FILLED WITH GROUT UNTIL THE GROUT HAS CURED FOR A MINIMUM OF 3 DAYS.
- 19. GROUT CMU COURSE AT FLOOR LEVEL SOLID.
- 20. GROUT CMU BELOW GRADE SOLID OR AS INDICATED.
- 21. CONCRETE MASONRY VERTICAL CONTROL JOINTS: WHERE NOT INDICATED ON THE STRUCTURAL DRAWINGS, PROVIDE 3/8" VERTICAL CONTROL JOINTS (IN ACCORDANCE WITH TYPICAL MASONRY DETAILS ON TYPICAL MASONRY DETAILS SHEET) AT 12'-0" FROM CORNERS AND 24'-0" MAX IN BETWEEN. THE ARCHITECTURAL DRAWINGS MAY SHOW VERTICAL CONTROL JOINTS IN THE MASONRY VENEER (FACADE) AT EDGE OF WALL AND OPENINGS. HOWEVER, CONTROL JOINTS IN THE BACKUP CMU SHALL NOT BE LOCATED WITHIN WALL OPENINGS, AT THE EDGE OF WALL OPENINGS OR WITHIN THE VERTICAL GROUTED CELLS AT EACH SIDE OF THE WALL OPENINGS, REGARDLESS OF WHERE THE CONTROL JOINTS ARE SHOWN IN THE ARCHITECTURAL DRAWINGS FOR THE MASONRY VENEER (FACADE). THE CONTROL JOINTS IN THE STRUCTURAL CMU WALLS AND THE ARCHITECTURAL MASONRY VENEER (FACADE) DO NOT NEED TO ALIGN. COORDINATE JOINT LOCATIONS TO MISS BEAM CELLS AND JOIST/TRUSS BEARING LOCATIONS. ALL HORIZONTAL REINFORCING AT CONTROL JOINTS SHALL BE CUT, TYPICAL UNO. PROVIDE GROUTED CELLS AND REINFORCING EACH SIDE OF THE JOINT IN ACCORDANCE WITH TYPICAL MASONRY DETAILS ON TYPICAL MASONRY DETAILS SHEET. THE CONTRACTOR SHALL SUBMIT CONTROL JOINT LAYOUT TO THE ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO STARTING CMU WALL CONSTRUCTION.

COLD-FORMED STEEL ROOF TRUSSES

- 1. ALL COLD-FORMED STEEL ROOF TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER FOR ACTUAL ROOF DEAD LOAD (20 PSF MINIMUM) PLUS THE SELF-WEIGHT OF INDIVIDUAL TRUSSES PLUS 20 PSF ROOF LIVE LOAD. INCLUDE ACTUAL DEAD LOAD OF SUPPORTED MATERIALS AT THE BOTTOM CHORD PLUS A 10 PSF COLLATERAL DEAD LOAD AT THE BOTTOM CHORD. ALL COLD-FORMED STEEL TRUSSES SHALL ALSO BE DESIGNED BY THE MANUFACTURER FOR ULTIMATE WIND LOAD PRESSURES SHOWN ON THE ROOF TRUSS WIND LOAD COMPONENTS AND CLADDING DIAGRAM, AND SNOW LOADS SHOWN ON THE SHOW LOAD DIAGRAM AND SHALL BE ANCHORED ACCORDINGLY. TOTAL DEFLECTION SHALL BE LIMITED TO L/240 FOR BOTH INDIVIDUAL MEMBERS AND TRUSSES. LIVE LOAD DEFLECTIONS SHALL BE LIMITED TO L/360.
- 2. ALL COLD-FORMED METAL SHALL BE 18 GAUGE MINIMUM. ALL COLD-FORMED STEEL SHALL BE GALVANIZED.
- 3. EXACT TRUSS WEB AND CHORD SIZES (SEE ABOVE FOR MINIMUMS) AND LAYOUT ARE TO BE DETERMINED BY THE MANUFACTURER. TRUSS MANUFACTURER SHALL DESIGN AND FURNISH ANY PERMANENT TRUSS BRACING REQUIRED FOR STABILITY.
- 4. MANUFACTURER SHALL SUBMIT FOR APPROVAL DESIGN CALCULATIONS WITH SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE IN WHICH THE PROJECT IS LOCATED. SHOP DRAWINGS SHALL CLEARLY INDICATE MEMBER SIZES, GAUGE OF MATERIAL, MEMBER DESIGN FORCES, AND MEMBER END WELD SIZES AND LENGTHS.
- 5. AT BUILDING ENDS, SPECIAL GABLE-END TRUSSES SHALL BE USED. TRUSSES SHALL BE DESIGNED AND FABRICATED WITH VERTICAL STUDS NO MORE THAN 16 INCHES ON CENTER. **//NARROW FACE OF STUD SHALL BE PARALLEL TO FACE OF EXTERIOR WALL OR NARROW FACE OF STUD MAY BE PERPENDICULAR TO EXTERIOR FACE OF BUILDING. STUDS SHALL BE BRACED AS REQUIRED FOR DESIGN WIND LOAD.//**

STRUCTURAL STEEL

- 1. ALL STRUCTURAL STEEL SHALL BE DESIGNED, DETAILED, CONSTRUCTED, AND PLACED IN CONFORMANCE WITH THE LATEST EDITION OF AISC STEEL CONSTRUCTION MANUAL AND THE AISC 303 CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
- 2. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - SHAPE STANDARD [YIELD]
 - A. W-SHAPES ASTM A992 [50 KSI]
 - B. HSS-SHAPES ASTM A500, GRADE C [50 KSI]
 - C. C, L, AND MC SHAPES ASTM A36 [36 KSI]
 - D. PLATES AND BARS ASTM A36 [36 KSI]
 - E. HIGH-STRENGTH BOLTS ASTM F3125, GRADE A325N
 - F. ANCHOR RODS ASTM F1554, GRADE 36 [36 KSI]
- 3. UNLESS NOTED OTHERWISE ON DRAWINGS, STRUCTURAL BOLTS SHALL BE HIGH-STRENGTH 3/4" DIAMETER A325-N, TYPICAL. TIGHTEN BOLTS IN ALL CONNECTIONS TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC UNLESS NOTED OTHERWISE.
- 4. ALL ANCHOR RODS SHALL BE FURNISHED WITH HEAVY HEX NUTS AND WASHERS.
- 5. LEVELING NUTS OR STEEL SHIMS SHALL BE PLACED BENEATH BASE PLATES FOR LEVELING PURPOSES. PROVIDE HIGH-STRENGTH, NON-SHRINK, NON-METALLIC GROUT BELOW BASE PLATES.
- 6. WELDED JOINTS SHALL CONFORM WITH THE PREQUALIFIED JOINT DETAILS AS INDICATED IN THE STRUCTURAL WELDING CODE (AWS D1.1) BY THE AMERICAN WELDING SOCIETY.
- 7. STRUCTURAL STEEL, EXCEPT EXTERIOR EXPOSED AND EMBEDDED ITEMS, SHALL BE PAINTED WITH ONE STANDARD SHOP COAT OF RUST INHIBITIVE PRIMER. DO NOT PAINT TOP FLANGE OF COMPOSITE STEEL BEAMS THAT ARE TO RECEIVE SHEAR STUDS.
- 8. EXTERIOR EXPOSED STEEL (EXTERIOR STEEL WHICH IS NOT COVERED BY ARCHITECTURAL FINISHES) SHALL BE HOT-DIP GALVANIZED WITH G-80 COATING IN ACCORDANCE WITH ASTM A123. ALL FIELD WELDS SHALL BE GROUND SMOOTH AND TOUCHED UP WITH ZINC RICH PAINT.
- 9. ALL MISCELLANEOUS STEEL MEMBERS SHALL, UNLESS NOTED OTHERWISE, BE CONNECTED WITH FILLET WELDS AS REQUIRED TO DEVELOP THE FULL TENSION CAPACITY OF THE SMALLEST MEMBER BEING JOINED. WHERE FILLET WELD SIZE IS NOT SHOWN ON A DETAIL, ITS SIZE SHALL BE ASSUMED TO BE THE PLATE THICKNESS OF THE THINNEST PIECE MINUS 1/16", BUT IN NO CASE SHALL THE FILLET WELD BE LESS THAN 3/16" UNLESS NOTED OTHERWISE.
- 10. UNLESS NOTED OTHERWISE, ALL MOMENT CONNECTIONS SHALL BE MADE WITH FULL PENETRATION WELDS AND SHALL BE DESIGNED TO DEVELOP THE FULL CAPACITY OF THE MEMBER.
- 11. PROVIDE MINIMUM 1/4" THICK CLOSURE PLATES AT THE ENDS OF ALL HOLLOW STRUCTURAL STEEL SECTIONS UNLESS SPECIFICALLY DETAILED WITH A CAP OR BASE PLATE. CLOSURE PLATES SHALL MATCH THE INSIDE DIMENSION OF THE HOLLOW SECTION AND BE WELDED ALL AROUND WITH A GROOVE WELD.
- 12. THE DESIGN OF THE STRUCTURAL STEEL CONNECTIONS, WHICH ARE NOT FULLY DETAILED IN THE CONTRACT DOCUMENTS, IS THE RESPONSIBILITY OF THE CONTRACTOR AND THE STEEL FABRICATOR. THE FABRICATOR'S PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED SHALL DESIGN THE BEAM CONNECTIONS USING THE VERTICAL SERVICE-LOAD LEVEL REACTIONS PROVIDED ON THE FRAMING PLANS. ALLOWABLE STRESS DESIGN (ASD) SHALL BE USED IN THE ANALYSIS, DESIGN, AND DETAILING OF THE CONNECTIONS. IF REACTIONS ARE NOT PROVIDED ON THE FRAMING PLANS, CONNECTIONS SHALL BE DESIGNED FOR THE MAXIMUM BEAM REACTIONS LISTED IN THE STEEL DOUBLE ANGLE CONNECTION SCHEDULE. SEE THE STEEL DOUBLE ANGLE CONNECTION DETAILS AND SCHEDULE INCLUDED IN THE TYPICAL STEEL DETAILS FOR ADDITIONAL CONNECTION REQUIREMENTS AND INFORMATION.
- 13. WHERE INDICATED ON PLAN, DESIGN CONNECTIONS FOR ASD HORIZONTAL FORCES SHOWN AS "H=##K" AT THE MEMBER END IN ADDITION TO THE REQUIRED VERTICAL REACTION. SLOTTED HOLES ARE NOT PERMITTED AT CONNECTIONS WITH HORIZONTAL FORCES.
- 14. BEAMS WITH LATERAL BRACING ATTACHED AND WEB CONNECTIONS OF MOMENT-CONNECTED BEAMS SHALL UTILIZE SLIP CRITICAL BOLTS OR WELDED CONNECTIONS.

STEEL ROOF DECKING

- 1. STEEL ROOF DECK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE CURRENT STEEL DECK INSTITUTE SPECIFICATIONS.
- 2. STEEL ROOF DECK SHALL BE OF THE DEPTH AND GAUGE INDICATED ON PLAN AND COMPRISED OF THE FOLLOWING MINIMUM PROPERTIES:
 - A. 1.5" WIDE RIB (20 GA) 36" WIDE:
 - a. I_p 0.197 IN⁴/FT
 - b. I_n 0.217 IN⁴/FT
 - c. S_p 0.224 IN³/FT
 - d. S_n 0.229 IN³/FT
- 3. STEEL ROOF DECK SHALL BE ASTM A653 STEEL GRADE 50 MINIMUM.
- 4. STEEL ROOF DECK SHALL BE GALVANIZED (G60) CONFORMING TO ASTM A924.
- 5. PUDDLE WELDS SHALL BE 5/8" DIAMETER (MINIMUM). ALL WELDS SHALL BE MADE WITH AWS E70 ELECTRODES IN ACCORDANCE WITH AWS D1.3 PROCEDURES. WELD WASHERS SHALL BE USED ON ALL DECK UNITS WITH A METAL THICKNESS OF .0295 INCHES OR LESS. ALL WELDS SHALL BE OF UNIFORM SIZE AND APPEARANCE AND FREE OF PINHOLES, POROSITY, UNDERCUTTING OR OTHER DEFECTS. METAL AROUND WELDS SHALL BE COMPLETELY INTACT AFTER WELDING.
- 6. SCREWS SHALL BE #10 TEK.
- 7. STEEL ROOF DECK IS DESIGNED TO BE CONTINUOUS OVER THREE OR MORE SPANS. THE DECK SUPPLIER SHALL ADJUST THE THICKNESS OR GAUGE OF THE DECK AT LOCATIONS WHERE SINGLE OR DOUBLE SPAN CONDITIONS ARE PROVIDED. DECK SHALL BE DESIGNED TO PROVIDE EQUIVALENT OR GREATER LOAD CAPACITY AS THE SPECIFIED DECK SUPPORTED OVER THREE CONTINUOUS SPANS.
- 8. INSTALL STEEL DECK ENDS OVER SUPPORTING FRAME WITH A MINIMUM END BEARING OF 1.5", WITH END JOINTS LAPPED 2" MINIMUM.
- 9. COORDINATE STEEL DECK LENGTHS WITH THE FINAL STEEL BEAM LAYOUT.
- 10. DO NOT SUSPEND LIGHT FIXTURES, CEILINGS, DUCTS OR OTHER UTILITIES FROM THE STEEL DECK.
- 11. EACH 1.5" WIDE RIB STEEL ROOF DECKING PANEL SHALL BE ATTACHED TO SUPPORTING MEMBERS AND ADJACENT PANELS AS INDICATED BELOW:
 - A. FIELD ZONE
 - a. INTERIOR AND END SUPPORTS
 - TYPE 5/8" DIA PUDDLE WELDS
 - QUANTITY 4 PER 36" PANEL (36/4 PATTERN)
 - b. SIDE LAP FASTENERS
 - TYPE #10 TEK SCREWS
 - QUANTITY 18" OC MAX
 - B. CORNER AND END ZONES (ZONE WIDTH = 10'-0")
 - a. INTERIOR AND END SUPPORTS
 - TYPE 5/8" PUDDLE WELDS
 - QUANTITY 7 PER 36" PANEL (36/7 PATTERN)
 - b. SIDE LAP FASTENERS
 - TYPE #10 TEK SCREWS
 - QUANTITY 12" OC MAX

APP'D

DESCRIPTION

DATE

REV #

APPROVED

CHIEF ENGINEER
APPROVED

CIVIL ENGINEER

NKAK 22-1076
B718 DORM
LITTLE ROCK AFB

DETAILS (1)

STRUCTURAL GENERAL
NOTES

AIR MOBILITY COMMAND

19TH CIVIL ENGINEER SQUADRON
LITTLE ROCK, ARKANSAS



DATE: SEPT. 2026
DESIGNED BY: JG
DRAWN BY: KNS
BUILDING NO.: 2600756
PROJECT NO.:
SHEET REF.:
S-002
SHEET NO.: 1 OF XX

STATUS:65% PRELIMINARY DESIGN