



ISSUANCES		
No.	Drawing Issue Description	Date
1	ISSUED FOR B.D.	11/04/19

1. ANCHOR BOLT PLANS: SUBMIT ANCHOR BOLT PLANS AND TEMPLATES BEFORE FOUNDATION FABRICATION. PROVIDE DETAIL FOR ANCHOR BOLT PLACEMENT AND CONNECTIONS. ANCHOR BOLTS REQUIRED TO ATTACH METAL BUILDING TO FOUNDATION. INDICATE COLUMN REINFORCEMENT AT EACH LOCATION.

2. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

3. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

4. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

5. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

6. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

7. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

8. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

9. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

10. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

11. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

12. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

13. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

14. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

15. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

16. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

17. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

18. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

19. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

20. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

21. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

22. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

23. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

24. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

PEBBLEBROOK HS S5B007 - FIELDHOUSE  
DOE Facility Code 7010  
FTE = 2787  
IU = 143  
991 OLD ALABAMA ROAD  
MAPLETON, GA 30126  
COBB COUNTY SCHOOL DISTRICT  
GENERAL NOTES

STRUCTURAL SHEET LIST	
SF1.00	GENERAL NOTES
SF1.01	GENERAL SCHEDULES
SF2.01	FOUNDATION PLAN
SF3.01	CONCRETE WALL SECTIONS & DETAILS
SF3.02	FOUNDATION SECTIONS & DETAILS
SF3.03	FOUNDATION SECTIONS & DETAILS

Designer	20190224.01
Design/Charge	
Approver	08/10/19
Issue Manager	
Checker	
Project Architect	
Author	
Staff Architect	

SF1.00

PES STRUCTURAL ENGINEERS  
ADDRESS: 1832 Century Plaza NE, Suite 2011, Atlanta, Georgia 30345  
PHONE: 770-457-5293 FAX: 770-457-9890 WEB: www.pesengineers.com  
PES PROJECT NUMBER: 0212128

PRE-ENGINEERED METAL BUILDING SYSTEMS

- A. PROVIDE A COMPLETE, INTEGRATED SET OF MUTUALLY DEPENDENT COMPONENTS AND ASSEMBLIES THAT FORM A METAL BUILDING SYSTEM CAPABLE OF WITHSTANDING STRUCTURAL AND OTHER LOADS, THERMALLY INDUCED MOVEMENT AND EXPOSURE TO WEATHER WITHOUT FAILURE. PROVIDE METAL BUILDING SYSTEM OF SIZE AND WITH BAY SPACING, ROOF SLABS, AND SPANS INDICATED IN THE CONSTRUCTION DOCUMENTS.
- B. DELEGATED DESIGN: DESIGN METAL BUILDING SYSTEM, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A REGISTERED DESIGN PROFESSIONAL LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.
- C. COMPLY WITH AISI 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" FOR DESIGN REQUIREMENTS AND ALLOWABLE STRESSES FOR STRUCTURAL STEEL.
- D. COLLATERAL LOAD (UNIFORM): 7 PSF
- E. COLLATERAL LOAD (POINT): ADDITIONAL LOAD FROM SUSPENDED PIPING, HVAC AND OTHER EQUIPMENT LOADS SUPPORTED BY THE SUPERSTRUCTURE AS INDICATED IN THE CONSTRUCTION DOCUMENTS.
- F. 4. ROOF LIVE LOAD: 20 PSF
- G. 5. SNOW LOAD: PER DESIGN LOADS SECTION
- H. 6. SEISMIC LOAD: PER DESIGN LOADS SECTION
- I. 7. WIND LOAD: PER DESIGN LOADS SECTION
- J. DESIGN METAL BUILDING SYSTEM ASSEMBLIES TO WITHSTAND DESIGN LOADS WITH DEFLECTION NO GREATER THAN THE FOLLOWING:
  - 1. METAL BUILDING SYSTEMS SHALL WITHSTAND THE EFFECTS OF EARTHQUAKE MOTIONS.
  - 2. EXTERIOR WALL MEMBERS: HORIZONTAL DEFLECTION OF LOU OF THE SPAN (TRANSIENT LOAD); DRIFT LIMIT DUE TO EXPOSED INTERIOR CMU AGAINST INTERIOR FACE OF PEMB WALL PANELS; GIRTS PER ARCH DRAWINGS.
  - 3. METAL ROOF AND WALL PANEL LAYOUT DRAWINGS: SHOW METHODS OF SUPPORT, INCLUDING DETAIL OF EDGE CONNECTIONS, ANGLES, PANEL PROFILES, CORNERS, ANCHORAGES, TRIM FLASHINGS, CLOSURES, ETC. DISTINGUISH BETWEEN FACTORY AND FIELD WELDED WORK; SHOW CONNECTIONS AND FASTENERS.
  - 4. DELEGATED DESIGN SUBMITTAL: FOR METAL BUILDING SYSTEMS DESIGNED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN ANALYSIS, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THEIR PREPARATION.
- K. GENERAL CONTRACTOR SHALL PROVIDE THAT PRE-ENGINEERED METAL BUILDING SYSTEMS ARE ESTIMATED AND SHALL BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION OF FOUNDATION. PER ENGINEER'S BUILDING SHOP DRAWINGS SHOWING THE ACTUAL COLUMN BASE REVISIONS. SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AND ARCHITECTURAL FOR REVIEW AND CONFIRMATION. SHALL FOOTING SIZES PRIOR TO INSTALLATION OF FOUNDATIONS. SHALL NOT BE INSTALLED BY THE ARCHITECT AND STRUCTURAL ENGINEER UNLESS THE PRE-ENGINEERED METAL BUILDING SYSTEMS SHOP DRAWINGS ARE REVIEWED AND APPROVED.
- L. ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS, INCLUDING THEIR SUPPORT AND ATTACHMENTS, SHALL BE DESIGNED TO RESIST SEISMIC FORCES IN SHEAR PLANE, UNLESS NOTED OTHERWISE. ALL BOLTS NOTED AS PRETENSILE SHALL BE CRITICAL IN THE DRAWINGS SHALL BE TIGHTENED TO THE MINIMUM PRETENSILE VALUE SHOWN IN TABLE 3.1.1 OF THE AISI STEEL MANUAL, USING CALIBRATED WRENCHES. DIRECT TENSION INDICATOR DEVICES CONFORMING TO ASTM F1037 SHALL BE USED FOR HIGH STRENGTH BOLT-NUT-WASHER ASSEMBLIES CONFORMING TO ASTM F1554.
- M. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- N. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- O. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- P. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- Q. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- R. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- S. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- T. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- U. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- V. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- W. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- X. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- Y. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- Z. SEISMIC BRACING OF ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS NOT SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED.

CONCRETE MASONRY

- A. ALL MASONRY WORK SHALL BE IN ACCORDANCE WITH DIVISION 04 SPECIFICATIONS.
- B. MASONRY GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28-DAYS. REPORT OF SUBSURFACE INVESTIGATION BY GEOTECHNICAL ENGINEERING GROUP, INC. NO. MEQ-30212 DATED AUGUST 28, 2019. THE GENERAL CONTRACTOR SHALL OBTAIN A COPY OF THE REPORT AND REVIEW THE REQUIREMENTS AND REQUIREMENTS INDICATED THEREIN FOR THE SELECTED FOUNDATION SYSTEM IN THE CONSTRUCTION DOCUMENTS. A QUALIFIED GEOTECHNICAL ENGINEER SHALL VERIFY ALL ASSUMPTIONS AND REPORT TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD ANY VARIATIONS.
- C. CONCRETE MASONRY UNITS SHALL BE OUT BELOW BEAMS, LINTELS, OR BOND BEAMS AS REQUIRED IN ORDER TO GET CONTINUOUS BEAM LINTEL, OR BOND BEAMS AT THE PROPER ELEVATION.
- D. ALL CELLS BELOW GRADE AND SLAB ON GROUND SHALL BE FULLY GROUTED.
- E. JOINT REINFORCING SHALL BE LADDER TYPE, 3 GAUGE SPACED VERTICALLY AT 16" UNLESS NOTED OTHERWISE. PROVIDE JOINT REINFORCING SPACED AT 8" AT TOP AND BOTTOM OF OPENINGS EXTENDING 24" EACH SIDE. PROVIDE 2 ROWS OF JOINT REINFORCING SPACED AT 8" AT BOND BEAMS.
- F. THE FOLLOWING CRITERIA REGARDING PIPES AND CONDUITS EMBEDDED IN MASONRY SHALL BE ADHERED TO USE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR LOCATION OF SLEEVES, PIPES, CONDUIT, ACCESSORIES, ETC). THIS CRITERIA WILL BE STRICTLY ENFORCED.
  - 1. CONDUITS, PIPES, AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO MASONRY AND MEETING THE CRITERIA BELOW SHALL BE PERMITTED TO BE EMBEDDED IN MASONRY. ALL OTHER CONDUITS, PIPES, AND SLEEVES SHALL NOT BE EMBEDDED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
  - 2. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL MASONRY.
  - 3. CONDUITS, PIPES, AND SLEEVES PASSING THROUGH A WALL SHALL NOT SIGNIFICANTLY IMPAIR THE STRENGTH OF THE CONSTRUCTION. CONDUITS, PIPES, AND SLEEVES SHALL NOT PASS THROUGH JAMBS, LINTELS, BOND BEAMS, OR SHEAR WALL WITHOUT APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.
  - 4. CONDUITS AND PIPES SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER.
  - 5. CONDUITS AND PIPES SHALL BE SO FABRICATED AND INSTALLED THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED.
  - 6. CONDUITS AND PIPES, WITH FITTINGS, EMBEDDED WITHIN A COLUMN OR WALL SHALL NOT DISTURBE MORE THAN 2 PERCENT OF THE NET SECTION OR AS REQUIRED BY FIRE PROTECTION.
- G. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- H. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- I. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- J. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- K. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- L. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- M. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- N. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- O. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- P. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- Q. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- R. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- S. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- T. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- U. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- V. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- W. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- X. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- Y. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- Z. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL

- A. ALL STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS.
- B. SLOTTED HOLES FOR BEAM END CONNECTIONS ARE NOT ALLOWED FOR BEAMS ASSOCIATED WITH DECK THICKNESS OR 22 GAUGE OR MORE, FRAME, OR NOTED WITH A REQUIRED AXIAL CONNECTION FORCE, UNLESS NOTED OTHERWISE.
- C. GUSSET PLATES AND STIFFENER PLATES SHALL BE 3/16" MINIMUM, WELDED BOTH SIDES CONTINUOUSLY, UNLESS NOTED OTHERWISE.
- D. MEMBERS SUPPORTING DECK AT THE PERIMETER OF THE BUILDING SHALL BE CONTINUOUS EXCEPT AT EXPANSION JOINTS. SQUARE GROOVE WELD (BUTT JOINT) CONTINUOUS MEMBERS PLACED END TO END UNLESS NOTED OTHERWISE.
- E. STEEL COLUMNS AND BASE PLATES SHALL HAVE MINIMUM 3" CONCRETE COVER PROTECTION. F. POWDER ACTUATED FASTENERS (OR POWDER DRIVEN FASTENERS) SHALL BE ANCHORED IN STEEL WITH MINIMUM FASTENER SPACING OF 1 1/2" AND MINIMUM EDGE DISTANCE OF 1 1/2". G. STEEL UNDER BEARING PLATES SHALL BE MINIMUM 6,000 PSI COMPRESSIVE STRENGTH. LOADING OF STRUCTURE SHALL NOT OCCUR UNTIL GROUT IS INSTALLED UNDER BASE PLATES AND PROPERLY CURED.
- H. 1. W-SHAPES: ASTM A 992
- I. 2. CHANNELS, ANGLES, M-S-SHAPES: ASTM A 36
- J. 3. PLATE AND BAR: ASTM A 36
- K. 4. COLD FORMED HOLLOW STRUCTURAL SECTIONS: ASTM A 500, GRADE C, STRUCTURAL TUBING
- L. 5. STEEL PIPE: ASTM A 53, TYPE E OR S, GRADE B
- M. 6. HIGH-STRENGTH BOLTS, NUTS, AND WASHERS: ASTM A 325, TYPE 1 OR ASTM A 490 TYPE 1 HEAVY HEX STEEL STRUCTURAL BOLTS ASTM A 563, GRADE DH, HEAVY HEX CARBON-FINISH NUTS; AND ASTM F 436, TYPE 1, HARDENED CARBON-STEEL WASHERS WITH PLAIN FINISH
- N. 7. SHEAR CONNECTORS: ASTM A 108, GRADES 1010 THROUGH 1020; HEADED-STRUT TYPE, COLD-FINISHED CARBON STEEL, AWS D1.1, TYPE B
- O. 8. UNHEADED ANCHOR RODS: ASTM F 1554, GRADE 36. CONFIGURATION TO BE THE STRAIGHT.
- P. 9. PLATE WASHERS: ASTM A 36 CARBON STEEL
- Q. 10. WASHERS: ASTM F 436, TYPE 1, HARDENED CARBON STEEL
- R. 11. THREADED RODS: ASTM A 36
- S. 12. NONMETALLIC, SHRINKAGE-RESISTANT GROUT: ASTM C 1107, FACTORY-PACKAGED, NONMETALLIC AGGREGATE GROUT, NONCORROSIVE AND NONSTAINING, MIXED WITH WATER TO CONSISTENCY SUITABLE FOR APPLICATION AND 3-MINUTE WORKING TIME.
- T. CONNECTIONS:
  - 1. WHERE COMPLETE CONNECTION DESIGN IS NOT INDICATED IN THE STRUCTURAL DRAWINGS, CONNECTIONS SHALL BE COMPLETED BY THE STRUCTURAL STEEL FABRICATOR IN ACCORDANCE WITH DIVISION 05 PERFORMANCE SPECIFICATION REQUIREMENTS.
  - 2. CONNECTIONS SHALL BE DESIGNED AS SMUG-TIGHT CONNECTIONS UNLESS SHOWN OTHERWISE. ALL BOLTS NOTED AS PRETENSILE SHALL BE TIGHTENED TO THE MINIMUM PRETENSILE VALUE SHOWN IN TABLE 3.1.1 OF THE AISI STEEL MANUAL, USING CALIBRATED WRENCHES. DIRECT TENSION INDICATOR DEVICES CONFORMING TO ASTM F1037 SHALL BE USED FOR HIGH STRENGTH BOLT-NUT-WASHER ASSEMBLIES CONFORMING TO ASTM F1554.
- U. ALL METAL FABRICATION WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS.
- V. ALL HOT-DIP GALVANIZATION WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS. ALL BOLTS USED FOR CONNECTIONS AT GALVANIZED STEEL MEMBERS SHALL BE GALVANIZED PER AISI 153, NOTED OTHERWISE.
- W. REFER TO ASTM A 143, A 3084 and D-6386 FOR ADDITIONAL STANDARD PRACTICES RELATED TO SPECIAL CONNECTIONS PER HOT-DIP GALVANIZING.
- X. CONDUITS AND PIPES SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER. CONCRETE COVER FOR PIPES, CONDUITS AND FITTINGS SHALL NOT BE LESS THAN 1 1/2" FOR CONCRETE EXPOSED TO EARTH OR WEATHER, NOR 3/4" FOR CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR IN CONTACT WITH GROUND.
- Y. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.
- Z. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB OR WALL THICKNESS UNLESS NOTED OTHERWISE.

WELDING

- A. MINIMUM WELD SIZE SHALL BE 3/16" FILLET WELD UNLESS NOTED OTHERWISE.
- B. WELD FILLER METALS SHALL COMPLY WITH AWS REQUIREMENTS FOR THE APPLICABLE WELD PROCESS AND BASE MATERIAL, AND AS FOLLOWS:
  - 1. USE 70KS1870XX MINIMUM ELECTRODES FOR WELDING COLD FORMED STEEL FRAMING, AND FOR PUDDLE WELDS OF COMPOSITE DECK, ROOF DECK AND NON-COMPOSITE DECK TO SUPPORTS WHEN DECK THICKNESS IS 22 GAUGE OR GREATER.
  - 2. USE 70KS1870XX ELECTRODES FOR WELDING AT COLD FORMED STEEL FRAMING, AND FOR PUDDLE WELDS OF COMPOSITE DECK, ROOF DECK AND NON-COMPOSITE DECK TO SUPPORTS WHEN DECK THICKNESS IS 22 GAUGE OR GREATER.
  - 3. USE 70KS1870XX ELECTRODES FOR PUDDLE WELDS OF COMPOSITE DECK, ROOF DECK AND NON-COMPOSITE DECK TO SUPPORTS WHEN DECK THICKNESS IS LESS THAN 22 GAUGE AND WELDS ARE MADE THROUGH WELD WASHERS.
- C. FIELD WELDING SHALL BE SHOWN ON SHOP DRAWINGS AND ERECTION DRAWINGS.
- D. REFER TO ARCHITECTURAL DOCUMENTS FOR EXPOSED STEEL AND JOINT LOCATIONS AND REQUIREMENTS. ALL EXPOSED WELDED CONNECTIONS SHALL BE GROUND SMOOTH AND SUBJECT TO ARCHITECT APPROVAL. FABRICATOR SHALL ALTER JOINT DETAILING AS REQUIRED TO ENSURE THAT EFFECTIVE THROAT SPECIFIED IN WELD DETAIL IS MAINTAINED AFTER GRINDING OF WELD SURFACE.
- E. WELDS INDICATED IN STRUCTURAL DETAILS ARE INTENDED AS THE BASIS OF DESIGN. FABRICATOR AND ERECTOR HAVE THE OPTION TO PROPOSE THE USE OF ALTERNATIVE WELDING PROCEDURES. ALTERNATIVE WELDS SHALL BE INDICATED ON SHOP DRAWINGS FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD.
- F. REINFORCING STEEL WELDING SHALL CONFORM TO AWS D1.4, STRUCTURAL WELDING CODE - REINFORCING STEEL BY AMERICAN WELDS SOCIETY FOR COMPLIANCE WITH AISC 308, SECTION 3.5.2.

SUSPENDED LOADS AT STRUCTURE

- A. ATTACHMENT TO ROOF DECK FOR ANY SUSPENDED LOADS IS PROHIBITED WITHOUT WRITTEN APPROVAL FROM ARCHITECT/STRUCTURAL ENGINEER OF RECORD.
- B. PIPE HANGERS SHALL BE RIGIDLY SUPPORTED TO BOTTOM FLANGES OF JOISTS OR BEAMS WITH APPROVED CLAMPS/CONNECTORS.
- C. ALL MULTIPLE TIE CABLE TRAYS, PIPE RACKS OR GROUPS OF PIPES OR DUCTS SHALL BE RESISTED FROM EACH ROOF FLOOR MEMBER WHERE THE GROUP CROSSES THE MEMBER OR AT 8'-0" O.C. MAX. WHERE GROUP IS ORIENTED PARALLEL TO THE MEMBER, UNLESS NOTED OTHERWISE ON DRAWINGS.
- D. HANGERS SHALL BE RIGIDLY SUPPORTED AT ALL PIPE VALVE AND FITTING LOCATIONS.
- E. CONTRACTORS AND SUBCONTRACTORS SUSPENDING LOADS FROM STRUCTURE SHALL ACCOUNT FOR AND PROVIDE ALL CONNECTIONS, STRUTS, TIES AND RIGGING REQUIRED FOR COMPLETE INSTALLATION AND SHALL FURNISH DRAWINGS SHOWING POINTS OF SUPPORT, SUPPORT LOADS AND ALL REQUIRED SUPPLEMENTAL BRACING, PROVIDE SUPPORTS AND HANGERS AS REQUIRED FOR PIPING AND EQUIPMENT SO THAT ALL COMBINED LOADING SHALL NOT EXCEED ALLOWABLE LOADINGS OF STRUCTURE AS SHOWN ON STRUCTURAL DRAWINGS. SUPPORT LOCATIONS SHALL BE COORDINATED WITH OTHER TRADES AND SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS OF THE ITEMS SUPPORTED.
- F. EXPENSE RESULTING FROM IMPROPER COORDINATION OR LOCATION OF ANCHOR BOLTS, OPENINGS, SLEEVES, INSERTS, HANGERS OR OTHER SUPPORTS REQUIRED FOR PIPING AND EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- G. FOR EVERY VERTICAL OR HORIZONTAL BAR DISCONTINUED BY AN OPENING, ONE BAR (MIN. OF 2 BARS) SHALL BE ADDED AT SIDE OF OPENING TO MAINTAIN ORIGINAL CROSS SECTION MEMBER OR PROVIDE DOWELS FROM FOUNDATIONS, THE SAME SIZE AND NUMBER AS THE VERTICAL WALL OR COLUMN REINFORCING, UNLESS NOTED OTHERWISE.

REINFORCING STEEL

- A. REINFORCING STEEL AND ACCESSORIES WORK SHALL BE IN ACCORDANCE WITH DIVISION 03 SPECIFICATIONS.
- B. REINFORCEMENT SHALL BE SPICED ONLY AT LOCATIONS SHOWN OR NOTED IN THE STRUCTURAL DOCUMENTS. EXCEPT REINFORCING STEEL "COUPLERS" WHICH CAN BE SPICED AT LOCATIONS DETERMINED BY THE GENERAL CONTRACTOR. SPICES AT OTHER LOCATIONS SHALL BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD.
- C. LONGITUDINAL REINFORCING BARS IN FOOTINGS SHALL BE PLACED CONTINUOUS AT CORNERS AND INTERSECTIONS.
- D. FOR EVERY VERTICAL OR HORIZONTAL BAR DISCONTINUED BY AN OPENING, ONE BAR (MIN. OF 2 BARS) SHALL BE ADDED AT SIDE OF OPENING TO MAINTAIN ORIGINAL CROSS SECTION MEMBER OR PROVIDE DOWELS FROM FOUNDATIONS, THE SAME SIZE AND NUMBER AS THE VERTICAL WALL OR COLUMN REINFORCING, UNLESS NOTED OTHERWISE.

SOILS, SHALLOW FOUNDATIONS, & RETAINING WALLS

- A. THE SITE SHALL BE PREPARED IN ACCORDANCE WITH SPECIFICATIONS AND THE CIVIL DRAWINGS. THE STRUCTURAL DESIGN IS BASED ON RECOMMENDATIONS CONTAINED IN THE REPORT OF SUBSURFACE INVESTIGATION BY GEOTECHNICAL ENGINEERING GROUP, INC. NO. MEQ-30212 DATED AUGUST 28, 2019. THE GENERAL CONTRACTOR SHALL OBTAIN A COPY OF THE REPORT AND REVIEW THE REQUIREMENTS AND REQUIREMENTS INDICATED THEREIN FOR THE SELECTED FOUNDATION SYSTEM IN THE CONSTRUCTION DOCUMENTS. A QUALIFIED GEOTECHNICAL ENGINEER SHALL VERIFY ALL ASSUMPTIONS AND REPORT TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD ANY VARIATIONS.
- B. DESIGN SOIL BEARING PRESSURE IS 2500 PSF.
- C. DESIGN SOIL LATERAL PRESSURES ON STRUCTURE ARE DUE TO THE FOLLOWING EQUIVALENT FLUID DENSITIES:
  - 1. AT REST CONDITION: 64 PCF
  - 2. ACTIVE CONDITION: 44 PCF
  - 3. PASSIVE CONDITION: 166 PCF
- D. COEFFICIENT OF FRICTION FOR SLIDING: 0.4
- E. ALL EXCAVATIONS AND GRADES PREPARED FOR BEARING SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THE DESIGN ASSUMPTIONS AND REPORT NONCONFORMING CONDITIONS.
- F. WHERE FILL IS REQUIRED, IT SHALL BE SELECTED AND PLACED IN ACCORDANCE WITH INSTRUCTIONS OF A QUALIFIED GEOTECHNICAL ENGINEER TO MAINTAIN DESIGN BEARING PRESSURE.
- G. FROST DEPTH FOR THIS PROJECT IS 18" BELOW GRADE. FINISHED GRADE SHALL BE MAINTAINED A MINIMUM OF 18" ABOVE BOTTOM OF FOUNDATIONS.
- H. TOP OF FOOTING ELEVATIONS PROVIDED ON CONSTRUCTION DRAWINGS ARE FOR PURPOSES OF DESIGN NOTIFY THE STRUCTURAL ENGINEER OF RECORD IF TOP OF FOOTING ELEVATIONS NEED TO BE ADJUSTED BASED ON CONTRACTOR'S FIELD COORDINATION.
  - 1. GENERAL CONTRACTOR SHALL COORDINATE REQUIRED ADJUSTMENT OF FOOTING ELEVATIONS TO AVOID INTERFERENCE BETWEEN FOUNDATIONS AND BURIED UTILITIES. ALL REQUIRED ADJUSTMENTS SHALL BE FORWARDED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW. SEE "TYPICAL FOOTING ADJUSTMENT TO TRENCH" DETAIL.
  - 2. DO NOT EMBED PIPING WITHIN OR PASS PIPING VERTICALLY OR HORIZONTALLY THROUGH FOUNDATIONS WITHOUT REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD. PIPING MAY PASS BELOW CONTINUOUS FOOTINGS WHERE INSTALLED IN ACCORDANCE WITH TYPICAL "PIPE UNDER FOOTING" DETAIL.
  - 3. FOOTINGS SHALL BE CENTERED ABOUT COLUMN LINES UNLESS NOTED OTHERWISE.
  - 4. THE DESIGN OF WALLS RETAINING EARTH ASSUMES DRAINAGE SYSTEM IS IN PLACE, AND DOES NOT INCLUDE HYDROSTATIC PRESSURE LOADS UNLESS SPECIFICALLY NOTED ON THE STRUCTURAL DRAWINGS. THE GENERAL CONTRACTOR SHALL PROVIDE DRAINAGE SYSTEM IN ALL BACKFILL CONDITIONS (SEE CIVIL/ARCHITECTURAL DRAWINGS FOR DRAINAGE SPECIFICATIONS).
  - 5. THE DESIGN OF WALLS RETAINING EARTH DOES NOT INCLUDE SURCHARGE LOADS THAT MAY BE INDUCED FROM CONSTRUCTION ACTIVITIES. SEE GENERAL NOTES SECTION REGARDING GENERAL CONTRACTOR'S RESPONSIBILITIES FOR TEMPORARY ERECTION BRACING AND SHORING.
  - 6. BACKFILL SHALL NOT BE PLACED AGAINST WALLS UNTIL THE WALLS HAVE ACHIEVED SPECIFIED DESIGN STRENGTH. BACKFILL AGAINST WALLS SHALL BE DEPOSITED EVENLY IN 12" TO 18" LIFTS AGAINST BOTH SIDES UNTIL THE LOWER FINISH ELEVATION IS REACHED.
    - 1. UNLESS SPECIFICALLY NOTED AS "CANTILEVERED" ON STRUCTURAL DRAWINGS, WALLS RETAINING EARTH SHALL NOT BE BACKFILLED AGAINST UNTIL STRUCTURAL SLABS PROVIDING EQUAL RESTRAINT FOR THE WALLS HAVE BEEN INSTALLED AND HAVE REACHED SPECIFIED DESIGN STRENGTH WHERE THIS CANNOT BE ACCOMMODATED THE WALL SHALL BE SHORED CONTINUALLY.

SLAB-ON-GRADE

- A. CONCRETE SLAB CONTROL JOINTS SHALL BE CUT INTO THE SLABS AT A DEPTH OF 1/3 TIMES THE THICKNESS OF THE SLAB FOR FIBER REINFORCED SLABS, 1/4 TIMES THE THICKNESS OF THE SLAB FOR ALL OTHER SLABS USING CONVENTIONAL WET-CUT SAW, AND 1/5 TIMES THE THICKNESS OF THE SLAB FOR ALL OTHER SLABS USING EARLY-ENTRY DRY-CUT SAW OR WITHIN 12 HOURS USING WET-CUT SAW. MAXIMUM SPACING OF INTERIOR SLAB CONTROL JOINTS, UNLESS NOTED OTHERWISE, SHALL BE 12'-0" (MAX.) IN EACH DIRECTION. CONSTRUCTION OF CONTROL JOINTS SHALL BE SUCH THAT THE AREA CONTAINED HAS A MAXIMUM RATIO OF LONG SIDE TO SHORT SIDE OF 1.5 TO 1, OR AS SHOWN ON THE CONSTRUCTION DRAWINGS.
- B. SLAB CONSTRUCTION JOINTS SHALL BE USED IN PLACE OF CONTROL JOINTS WHERE NEEDED TO INTERRUPT A CONTINUOUS POUR.
- C. PLACEMENT OF WELDED WIRE REINFORCEMENT IN SLAB, WHERE SPECIFIED, SHALL BE AT A CONSISTENT DEPTH OF 1 1/2" FROM TSLAB. WELDED WIRE REINFORCEMENT SHALL BE PROPERLY CHAINED ABOVE GRADE.
- D. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DOCUMENTS FOR SLAB FINISHES, SLAB DEPRESSIONS, THICKENED SLABS (IN ADDITION TO THICKENED SLABS NOTED ON STRUCTURAL DRAWINGS), ELEVATIONS, AND ENCASED OR EMBEDDED ITEMS.
- E. PLUMBING AND ELECTRICAL CONDUITS SHALL BE PLACED BELOW THE SLAB AND NOT WITHIN THE SLAB. VERTICAL PENETRATIONS ARE ALLOWED.
- F. COLUMN BOX-OUTS SHALL BE USED TO ISOLATE AN ADEQUATE AREA AROUND COLUMN BASE PLATES TO PROVIDE FOR COLUMN PLACEMENT AND LEVELING. BOX-OUTS SHALL BE KEPT CLEAN AND FREE OF DEBRIS TO TOP OF FOOTING PRIOR TO FILLING WITH CONCRETE.

CONCRETE

- A. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH DIVISION 03 SPECIFICATIONS.
- B. COORDINATE CONCRETE MIXTURES WITH THE SCHEDULE ON SF1.01.
- C. THE GENERAL CONTRACTOR SHALL SUBMIT TO STRUCTURAL ENGINEER OF RECORD PROPOSED CONSTRUCTION JOINT LOCATIONS FOR APPROVAL. NO HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED EXCEPT THOSE SHOWN ON THE STRUCTURAL DRAWINGS. WHERE NEW CONCRETE IS TO BE POURED ONTO EXISTING CONCRETE, BONDING IS REQUIRED AS NOTED IN ACI 301.
- D. THE FOLLOWING CRITERIA REGARDING PIPES AND CONDUITS EMBEDDED IN CONCRETE SHALL BE ADHERED TO (SEE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR LOCATION OF SLEEVES, PIPES, CONDUIT, ACCESSORIES, ETC). THIS CRITERIA WILL BE STRICTLY ENFORCED.
  - 1. CONDUITS, PIPES, AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO CONCRETE SHALL BE PERMITTED TO BE EMBEDDED IN CONCRETE WITH THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
  - 2. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE.
  - 3. CONDUITS, PIPES, AND SLEEVES PASSING THROUGH A SLAB, WALL, OR BEAM SHALL NOT SIGNIFICANTLY IMPAIR THE STRENGTH OF THE CONSTRUCTION.
  - 4. CONDUITS AND PIPES SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, WALL, OR BEAM IN WHICH THEY ARE EMBEDDED.
  - 5. CONDUITS AND PIPES SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER. CONCRETE COVER FOR PIPES, CONDUITS AND FITTINGS SHALL NOT BE LESS THAN 1 1/2" FOR CONCRETE EXPOSED TO EARTH OR WEATHER, NOR 3/4" FOR CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR IN CONTACT WITH GROUND.
  - 6. CONDUITS AND PIPES SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT. CONDUITS AND PIPES SHALL